Stormwater Management Plan

MOR04C038: 2021-2026

Revision Date: December 30, 2021

This document describes the stormwater control practices that are implemented by the City of St. Joseph within the MS4 area and are consistent with permit requirements to minimize the discharge of pollutants into Waters of the State from the storm sewer system.

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Contact Information (3.1.B):

Primary Contact and Primary Person Responsible for all MCMs:
Colleen Armstrong, Stormwater Quality Coordinator
Phone: 816-596-8006 / Email: carmstrong@stjoemo.org

Secondary Contact and Secondary Person Responsible for all MCMs:
Katie Bruegge, Technical Services Manager
Phone: 816-596-8008 / Email: kbruegge@stjoemo.org

Regulatory and Background Information:

The federal Clean Water Act, Phase II rule requires operators of communities with a population less than 100,000 and greater than 10,000 to obtain a permit to discharge stormwater to waters of the state under the National Pollutant Discharge Elimination System (NPDES). The Missouri Department of Natural Resources (MDNR) is the regulatory agency having the Phase II NPDES oversight authority for the State of Missouri. The City of St. Joseph, Missouri (City) was previously regulated under MO-R040057 and currently under MOR04C038 (Permit) to discharge stormwater to the One Hundred and Two River (102 River), Candy Creek, and Contrary Creek.

The 102 River is approximately 80 miles long, located in northwestern Missouri, with its source tributaries rising in southwestern Iowa. The 102 River is the largest tributary of the Platte River, which flows into the Missouri River, south of Platte City. The One Hundred and Two River is a 6^{th} order stream. In the early 1900s much of the river was channelized, resulting in a 19% reduction of total stream miles, and an overall loss of riffle and pool habitats. Channelization has also caused a widening of the stream channel, and reduction in low flow conditions. The riparian corridor is less than 100 feet wide throughout much of the stream length. This loss of woody vegetation has resulted in destabilized banks that are highly susceptible to erosion and elevated water temperatures.

MDNR and U.S Environmental Protection Agency (EPA) routinely schedule compliance inspections and program audits to ensure compliance with the Permit. In November 2014, the City underwent a compliance inspection by MDNR. The inspection documented several areas where the City's Stormwater Management Program (Program) did not meet the minimum requirements of the Permit. The City of St. Joseph submitted a compliance schedule in 2016 to MDNR. A revised Stormwater Management Plan (SWMP) was submitted in 2018 as a direct reflection of the City's effort for Program compliance. The City received MDNR's Evaluation in 2020, which determined the SWMP to be "satisfactory with contingencies." Those contingencies related to the anticipated changes to the MS4 permit(s) that went into affect in 2021, mainly the need to have Clear, Specific, and Measurable details. The MDNR strongly

recommended using the SWMP Template in order for the City's Plan to be more clear, and this document follows the template provided.

TMDL Information:

Not Applicable

Co-Permittee Information (3.2):

Not Applicable

Stormwater Program Review and BMP Iterative Process (3.3):

The City evaluates the Stormwater Management Program and all BMPs in the SWMP annually for effectiveness and to identify areas for improvement. The information collected is included in the City's annual report which can be found on the City's Stormwater Webpage (https://www.stjoemo.info/949/Stormwater-Protection).

MCMs

MCM 1. Public Education and Outreach of Stormwater Impacts

The permittee shall implement a public education program to distribute educational materials to the community and/or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

4.1. A Target specific audiences who are likely to have significant stormwater impacts.

4.1. B Target specific pollutants and/or sources of pollution that the permittee's education program is designed to address and how those pollutants/ sources relate to the specific target audience(s); and

4.1.C Develop or utilize appropriate educational resources to be used as BMPs (materials, events, activities, etc.) to be used in conjunction with the target pollutants and target audiences. Explain opportunities about the BMPs and how the BMPs inform and educate target audiences to reduce pollutants in stormwater runoff.

Target Audiences:	Why audience was chosen:	Target Pollutants:	Sources of Pollution:	Educational BMP(s)	Goal of BMP
City employees	City employees should be aware of the work the City is doing to meet SWMP/MS4 Permit requirements and how their jobs relate to the 6 MCMs.	Street sweepings, de-icing products/rock salt, sediment from construction projects, fluids from vehicles, floatables	City operations, fleet management	1. In-house training created through HR training platform, Paycor.	To inform specific City staff of BMPS and good-housekeeping practices, improve overall knowledge and buy-in.
Residents	Improperly managed home care activities can increase stormwater pollution.	fertilizers (nutrients), chemicals/ toxics, yard/pet waste, salt or other de-icing products	homeowners, pets,	1. City Stormwater webpage with educational materials. 2. Peachjar flyers to School District Parents containing seasonally appropriate messages 3. Stormdrain stenciling	Educate homeowners on the importance of proper application of fertilizers and chemicals, proper disposal of yard/pet waste, and proper application of de-icing products to reduce target pollutants in runoff.
Business Owners	Improperly managed business activities can increase stormwater pollution.	Restaurant waste (FOG) fertilizers (nutrients), chemicals	lawn care workers, restaurants	4. FOG handouts supplied to restaurants 5. City Stormwater Webpage	Educate restaurant owners on proper FOG management, educate business owners on proper fertilizer application.

Contractors Developers	Improperly managed land disturbance sites lead to sediment runoff, chemical/toxics spills, trash/waste/floatables leaving the site.	Sediment/ Suspended Solids, chemicals/ toxics, floatables	Construction workers	1. Targeted educational campaign -Handouts on proper site management given out during permitting (Appendix A) 2. Site management discussion during pre-construction meeting (Appendix B)	Educate construction workers on the importance of proper installation of site BMPS and site management to reduce target pollutants in runoff.

4.1.D Provide opportunities, or support activities that are coordinated by citizen groups, for residents and others to become involved with the Stormwater Management Program. The activities, (BMPs) must have an effort to impact stormwater runoff by improving water quality.

Water protection participates in the Missouri Stream Team program as team #4260. Through this program, we utilize the training provided by Missouri Stream Team as a way to educate community members on the importance of water quality and how to preform water quality monitoring.

4.1.D MCM 1 Involvement BMPs

BMPs	Measurable goals (The quantity or frequency required to count as a full BMP)	Tracking & Adaptive Management
Stream/lake or Watershed clean-up events; Litter clean-up events such as Missouri Stream Team, Adopt-A-Spot, Adopt-A-Street, Adopt-A-Stream;	To be considered an event, the land area cleaned must be at minimum 2 acres, or 400 yards of stream/ streambank/ watershed, or 2 miles of road side. (These may be combined such as 1 acre of land and 200 yards of stream.)	Track the area or distance cleaned (by acre, yard or lane miles), the amount of waste removed (by tonnage, cubic yard, or Stream Team bag count) and the attendance. Use the waste measurements to determine if there are priority areas for litter entering stormwater, or areas for illegal dumping.
Volunteer water quality monitoring;	Water quality monitoring will be completed 1 time per year, on the same stream to assess if educational efforts are	Record the sites for the volunteers, what parameters were measured/monitored, and the dates of the monitoring.
Ongoing yard waste collection, designated yard waste collection area, household hazardous waste collection, or street sweeping program.	Provide the service as an annual occurrence or at readily accessible location. For street sweeping, this shall be conducted at minimum twice a year.	Track the amount collected. If educational information is being used in conjunction with this activity track for changes due to the education. Tracking can be used with illicit discharge tracking, to determine if the rate of this type of discharges or dumping were reduced.

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4.1.E The MS4 Operator shall create or support the involvement BMP(s) in Section 4.1.D. To be considered support given to the coordinating groups the MS4 Operator shall at minimum conduct the following or similar:

- Plan, or assist with planning, the event or activity;
- Contribute supplies, materials, tools, or equipment;
- Provide assistance from MS4 staff during the activity;
- Provide assistance with recruiting volunteers for events;
- Make a space available for projects, meetings, or events;
- Advertisement for the events;
- Supply disposal services;
- Arrange land or stream access;
- Financial support; and
- In-kind donations such as food.

4.1.F Using adaptive management as required in parts 4.1.A.3.d and 4.1.B.1.c, all MS4 Operators shall review their Public Education and Outreach on Stormwater Impacts Program, at minimum, annually and update implementation procedures and/or BMPs as necessary within the requirements of this permit.
This may be conducted when preparing the MS4 Stormwater Management Program Report for submittal to the Department.

4.1.F – MCM 1 Measurable Goals:

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success?	Y	N
MCM1 4.1.A	1	Target Audience Identification	Target identified audiences that have impact on stormwater quality in St. Joseph.	Stormwater Quality Coordinator, Permitting Office	Have a list of businesses, contractors, developers, HOAs, and City departments to target with educational materials.	Update/review lists annually and determine if the lists should include other audiences. Tracking will include flyers dropped off at City Hall and participation at events. Flyers will be developed in 1st yr.	Update/review lists annually and determine if the lists should include other audiences. Tracking will include flyers dropped off at City Hall and participation at events.	Update/review lists annually and determine if the lists should include other audiences. . Tracking will include flyers dropped off at City Hall and participation at events.	Update/review lists annually and determine if the lists should include other audiences. Tracking will include flyers dropped off at City Hall and participation at events.	Update/review lists annually and determine if the lists should include other audiences. Tracking will include flyers dropped off at City Hall and participation at events.	Annual review to evaluate whether the City is seeing increased audience participation and decreased reports of pollution concerns. If this BMP is not successful, reevaluation of target audiences should be done.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM1 4.1.B	2	Target Pollutant Identification	Identify pollutants of concern specific to St. Joseph. This list will inform messaging to target audiences.	Stormwater Quality Coordinator	See reduction in pollutants of concern entering local waterbodies during Dry Weather Screening (Appendix D).	Evaluate previously identified pollutants of concern annually to determine if the City should target other pollutants.	Evaluate previously identified pollutants of concern annually to determine if the City should target other pollutants.	Evaluate previously identified pollutants of concern annually to determine if the City should target other pollutants.	Evaluate previously identified pollutants of concern annually to determine if the City should target other pollutants.	Evaluate previously identified pollutants of concern annually to determine if the City should target other pollutants.	Annual review to evaluate decreased reports of pollution concerns. If this BMP is not successful, reevaluation of target pollutants should be done. Other pollutants of concern may be identified during this process.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM1 4.1.C	3	City Staff Training	Provide New Employee and Annual Training for City Staff who work in municipal operations that impact stormwater.	Stormwater Quality Coordinator, HR Staff, and Department Heads	Prevent and reduce stormwater pollution from municipal operations.	Training materials exist. Transition to Paycor in first year of permit cycle. Training will include a test: track test scores to see improvement.	Maintain Paycor training for new employees and annual training. Training will include a test: track test scores to see improvement.	Maintain Paycor training for new employees and annual training. Training will include a test: track test scores to see improvement.	Maintain Paycor training for new employees and annual training. Training will include a test: track test scores to see improvement.	Maintain Paycor training for new employees and annual training. Training will include a test: track test scores to see improvement.	Review test scores and analyze if material is teaching staff thoroughly. If this BMP is not successful, reevaluation of training materials and platform should be done.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
	4	Residents & businesses Educational Program - Stormwater Webpage	The webpage allows for 24/7/365 access to stormwater information.	Stormwater Quality Coordinator and Communications Specialist	Provide online resources specific to St. Joseph residents and businesses about stormwater. The goal is to see increased web traffic to the webpage and a decrease in pollutants of concern.	Review webpage content annually. Create/update educational materials. Quantify participation of audience through number of visits to the site.	Review webpage content annually. Create/update educational materials. Quantify participation of audience through number of visits to the site.	Review webpage content annually. Create/update educational materials. Quantify participation of audience through number of visits to the site.	Review webpage content annually. Create/update educational materials. Quantify participation of audience through number of visits to the site.	Review webpage content annually. Create/update educational materials. Quantify participation of audience through number of visits to the site.	The number of hits shall be tracked. Use this information to see which messages get reactions, and if certain messages need more education.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
	5	Publish articles in local newsletter. Residents Educational Program - Flyer Distribution via PeachJar	Increased awareness about how citizens can have an impact on stormwater pollution. Distributing flyers via PeachJar will reduce paper use and improve tracking capabilities.	Stormwater Quality Coordinator	Educate School District parents (residents) and students about stormwater. Increased participation in flyers will be tracked.	Develop topics that are group specific and address activities or a pollutant of concern. distributed via PeachJar to School District Parents. Two (2) flyers per year will be sent out.	Develop topics that are group specific and address activities, or a pollutant of concern distributed via PeachJar to School District Parents. Two (2) flyers per year will be sent out	Develop topics that are group specific and address activities, or a pollutant of concern distributed via PeachJar to School District Parents. Two (2) flyers per year will be sent out	Develop topics that are group specific and address activities, or a pollutant of concern distributed via PeachJar to School District Parents. Two (2) flyers per year will be sent out	Develop topics that are group specific and address activities, or a pollutant of concern distributed via PeachJar to School District Parents. Two (2) flyers per year will be sent out	Evaluate pollutant before the article, and after to see if there has been a change. Track “clicks” to see if article is effective.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
	6	Concept review and preconstruction meetings to educate Contractors and Developers	This BMP will increase awareness of contractors and developers about their impact of stormwater pollution.	Stormwater Quality Coordinator and Commercial Development Review Coordinator	Contractors and developers will learn about proper ESC BMPs. ESC Inspectors will note fewer permit violations over the life of this SWMP. See a decrease in sediment leaving the site.	Update handouts on proper site management given out with ALL permits and conduct site management discussions during pre-construction meetings.	Update handouts on proper site management. ESC Inspectors should document fewer land disturbance permit violations than previous year.	Update handouts on proper site management. ESC Inspectors should document fewer land disturbance permit violations than previous year.	Update handouts on proper site management. ESC Inspectors should document fewer land disturbance permit violations than previous year.	Update handouts on proper site management. ESC Inspectors should document fewer land disturbance permit violations than previous year.	Annual review of educational program for contractors and developers will be based on permit violations. If this BMP is not successful, reevaluation of training materials should be done. See a decrease in sediment leaving construction sites.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success?	Y	N
MCM1 4.1.C	7	Mark storm inlet with "No-"Dumping-Drains to Stream"	Educate residents and business owners on illegal dumping to storm drains.	Stormwater Quality Coordinator	See a reduction in illegal illicit discharges.	Placard, stencil, or paint, a minimum of 10% of all known stormwater inlets in MS4 area per year.	Placard, stencil, or paint, a minimum of 10% of all known stormwater inlets in MS4 area per year.	Placard, stencil, or paint, a minimum of 10% of all known stormwater inlets in MS4 area per year.	Placard, stencil, or paint, a minimum of 10% of all known stormwater inlets in MS4 area per year.	Placard, stencil, or paint, a minimum of 10% of all known stormwater inlets in MS4 area per year.	Number of inlets, the location of inlets, and how they are marked shall be tracked. These areas shall be noted on MCM 3 dry weather screenings, and IDD investigations as a method to determine if the markings are effective or if areas benefit from the markings.	Year 1 Year 2 Year 3 Year 4 Year 5		
	8	Targeted Education Campaign, FOG Handouts to restaurants	Educate businesses on proper FOG management and containment.	Stormwater Quality Coordinator, Environmental Compliance Technician	See a reduction in FOG related spills and issues, see an increase in restaurant owner awareness on the important of proper FOG management.	Track number of handouts to restaurants per year. Follow up with restaurants that are not incompliance with FOG permits.	Track number of handouts to restaurants per year. Follow up with restaurants that are not incompliance with FOG permits.	Track number of handouts to restaurants per year. Follow up with restaurants that are not incompliance with FOG permits.	Track number of handouts to restaurants per year. Follow up with restaurants that are not incompliance with FOG permits.	Track number of handouts to restaurants per year. Follow up with restaurants that are not incompliance with FOG permits.	Annual review of educational program for restaurant owners will be based on permit violations. If this BMP is not successful, reevaluation of training materials should be done. Track number of handouts per year.	Year 1 Year 2 Year 3 Year 4 Year 5		
MCM1 4.1.D	9	Stream or Watershed clean-up events; Litter clean-up events such as Missouri Stream Team	Get community members involved in with Stormwater Management Program effort to improve water quality.	Stormwater Quality Coordinator	See an increase in volunteer participation and a reduction in litter near stream.	Determine site location, host volunteer event, and clean up or 400 yards of stream/ streambank/ watershed or 2 miles of roadside (site determinate) (These may be combined such as 1 acre of land and 200 yards of stream.)	Host volunteer event, and clean up or 400 yards of stream/ streambank/ watershed or 2 miles of roadside (site determinate) (These may be combined such as 1 acre of land and 200 yards of stream.)	Host volunteer event, and clean up or 400 yards of stream/ streambank/ watershed or 2 miles of roadside (site determinate) (These may be combined such as 1 acre of land and 200 yards of stream.)	Host volunteer event, and clean up or 400 yards of stream/ streambank/ watershed or 2 miles of roadside (site determinate) (These may be combined such as 1 acre of land and 200 yards of stream.)	Host volunteer event, and clean up or 400 yards of stream/ streambank/ watershed or 2 miles of roadside (site determinate) (These may be combined such as 1 acre of land and 200 yards of stream.)	Track the area or distance cleaned (by acre, yard or lane miles), the amount of waste removed (by tonnage, cubic yard, or Stream Team bag count) and the attendance. Use the waste measurements to determine if there are priority areas for litter entering stormwater, or areas for illegal dumping.	Year 1 Year 2 Year 3 Year 4 Year 5		
	10	Volunteer water quality monitoring;	Get community members involved in with Stormwater Management Program, effort to impact stormwater runoff by improving water quality.	Stormwater Quality Coordinator	See an increase in volunteer participation. Citizens will learn about the importance of good water quality and what can have negative/positive impacts on water quality.	Water quality monitoring will be completed 1 time per year on the same stream to assess if educational efforts are improving water quality.	Water quality monitoring will be completed 1 time per year, on the same stream to assess if educational efforts are improving water quality.	Water quality monitoring will be completed 1 time per year, on the same stream to assess if educational efforts are improving water quality.	Water quality monitoring will be completed 1 time per year, on the same stream to assess if educational efforts are improving water quality.	Water quality monitoring will be completed 1 time per year, on the same stream to assess if educational efforts are improving water quality.	Record the sites for the volunteers, what parameters were measured/monitored, and the dates of the monitoring. See an increase in volunteers and citizen awareness on the importance of water quality. See a decrease in pollutants in the water source being sampled.	Year 1 Year 2 Year 3 Year 4 Year 5		
	11	Ongoing yard waste collection, designated yard waste collection area, household hazardous waste collection, or street sweeping program.	Get community members involved in with Stormwater Management Program, effort to impact stormwater runoff by improving water quality.	Stormwater Quality Coordinator, landfill Operator, and Streets Department	See an increase in tonnage of waste collected and citizen participation with events.	Provide the service as an annual occurrence or at readily accessible location. For street sweeping, this shall be conducted at minimum twice a year.	Provide the service as an annual occurrence or at readily accessible location. For street sweeping, this shall be conducted at minimum twice a year.	Provide the service as an annual occurrence or at readily accessible location. For street sweeping, this shall be conducted at minimum twice a year.	Provide the service as an annual occurrence or at readily accessible location. For street sweeping, this shall be conducted at minimum twice a year.	Provide the service as an annual occurrence or at readily accessible location. For street sweeping, this shall be conducted at minimum twice a year.	Track the amount collected. If educational information is being used in conjunction with this activity track for changes due to the education. Tracking can be used with illicit discharge tracking, to determine if the rate of this type of discharges or dumping were reduced.	Year 1 Year 2 Year 3 Year 4 Year 5		

MCM 2. Public Involvement/Participation in Program Development

The permittee shall implement a public involvement/participation program that reaches out and engages the public in the development and implementation of the permittee's Stormwater Management Program.

This program must provide opportunities for public participation of the permittee's permit renewal and shall, at a minimum, comply with any state and local public notice requirements. Additionally, the program must provide opportunities for public participation in activities related to developing and implementing the Stormwater Management Program.

4.2.A The permittee shall hold a public notice period for a minimum of thirty (30) days to allow the public to review the draft permit and the draft SWMP prior to the submission of the renewal application to the Department.

All public notices shall be posted in the office of the City Clerk along with 3 copies of the entire proposed rule, regulation or request for public input with an explanation of the change in the rule, regulation or the need for input. Each notice shall include a statement that any person may provide comments in support of or in opposition to the document with the director or assigned staff.

Notice of the rule or regulation change shall be published in a newspaper of general circulation in the City. Publication shall be on the same day of the week and over at least a 30 day period. The advertisement in the local newspaper directs the readers to the City's website to review the draft SWMP. Public comments to SWMP revision will be received on the City website's form center (https://www.stjoemo.info/FormCenter/Public-Works-and-Transportation-9/Stormwater-Management-Plan-SWMP-Public-C-94).

All comments must be received either by email via the form center, or postmarked by 5:00 on the date specified on the public notice. Stormwater staff will consider all comments in the revision of the Stormwater Management Plan for the City of St. Joseph.

The City held a public notice period for the draft SWMP February 25, 2021 – March 30, 2021. The City did not receive any comments during the public notice period, as a result there were no responses from the City, or any records to retain for the required three year period.

4.2.B As part of the public notice, if the MS4 Operator has a public website, the required items shall be posted on their website with a way to submit comments, along with the standard public notice methods for the MS4. The permittee shall respond to public comments received during the public notice period. The permittee shall retain copies of any public comments and responses, for a minimum of three years.

The City utilizes a web-based public comment submission platform located on the City's stormwater web page here (https://www.stjoemo.info/formcenter). The City also provides a customer comment drop box in the lobby of the City hall building for hand written comments/concerns/inquiries. Both the submission options are monitored by City staff daily.

The most common way for St. Joseph citizens to voice concerns is to call City Hall. In this case, phone calls or phone messages are directed to the Stormwater Quality Coordinator. The City's policy is to respond to all comments/concerns/inquiries within 30 days of receipt, but in practice the response is made within 5 business days.

4.2.C The permittee shall hold a public information meeting regarding the proposed Stormwater Management Program and Plan within the MS4 service area. Public notice of the public information meeting shall be given at least thirty (30) days before the meeting. As part of the public notice, if the MS4 Operator has a public website, the required items shall be posted on their website with a way to submit comments, along with the standard public notice methods for the MS4.

The City's policy is to hold a public information meeting for the proposed SWMP. Public notice to announce the meeting will be posted on the City's website, on the City's Facebook page, in the City Clerk's office, and in the City's local paper 30 days prior to the hearing. The meeting announcement will remain posted on the website the entire 30 days. The meeting announcement in the City's local paper will run in each issue until the hearing date is past. Public notice for the meeting was posted with the proposed SWMP public notice as described above in 4.2.A.

The City held a public hearing for the proposed SWMP on March 30, 2021. The hearing was held from 6pm-6:30pm at City Hall and there were no attendees. In the 30 days leading up to the hearing, no comments were submitted via email or mail. As a result of the lack of attendees there is no meeting agenda, summary notes available to view, or records to retain regarding comments.

4.2.D The permittee shall have a publicly available method to accept public inquiries or concerns, and to take information provided by the public about stormwater and stormwater related topics. This method, or a combination of methods, shall cover all MCMs. All reports shall be tracked, recording the topic, location, and concern. This information can help identify pollutants of concern, priority areas, pollutant sources, educational needs, and other information the MS4 Operator may use to evaluate the Stormwater Management Program.

The City utilizes a web-based public comment submission platform located on the City's stormwater web page here (https://www.stjoemo.info/formcenter). The City also provides a customer comment drop box in the lobby of the City hall building for hand written comments/concerns/inquiries. Both the submission options are monitored by City staff daily. The most common way for St. Joseph citizens to voice concerns is to call City Hall. In this case, phone calls or phone messages are directed to the Stormwater Quality Coordinator. The City's policy is to respond to all comments/concerns/inquiries within 30 days of receipt, but in practice the response is made within 5 business days. All reports are tracked via a spreadsheet that is utilized to identify pollutants of concern.

4.2.E If the permittee utilizes a stormwater management panel or committee, the permittee shall provide opportunities for citizen representatives on the panel or committee.

The City does not utilize a formal stormwater management committee. However, in 2020 a Stormwater Subcommittee of the Sustainable Environment Advisory Committee (SEAC) to the Mayor was formed. The committee meets at least quarterly to participate in green infrastructure maintenance, trash clean ups (as part of Stream Team 4260), water quality surveys, stormwater inlet maintenance, or other community service projects. Membership to the committee is open, with the Stormwater Quality Coordinator as the chair.

4.2.F If the permittee has a governing board such as; County Council, City Council, or Board of Curators, a representative of the MS4 Operator, who is familiar with the MS4 Stormwater Program, shall provide an update to the governing board. This shall be conducted at minimum, annually with the status of, or updates on, the Stormwater Management Program, and compliance with the Stormwater Management Program.

An annual update to the City Council is given by the Stormwater Quality Coordinator, covering the status of, or any updates of, the Stormwater Management Program, and compliance with the Stormwater Management Program. This is noted in the annual report.

4.2.G **Existing permittees**: Shall evaluate their current program to ensure it is in compliance with this permit and promoted to the community. Existing permittees shall modify their program as necessary, and develop and implement elements, as necessary, to continue reducing the discharge of pollutants from the MS4 to the maximum extent practicable, following the requirements of Section 4.2 of this permit.

4.2.I Tracking mechanisms shall be used for tracking attendance, inquiries or concerns per the requirements of Section 4.2 of this permit. Using adaptive management, all MS4 Operators shall review their Public Participation Program, at minimum, annually and update implementation procedures as necessary within the requirements of this permit. This shall be used to review how to best reach the public, the effectiveness of the mechanisms, the effectiveness of reaching the public and the MS4 Governing board and if the community and MS4 government are working together for water quality. Any additional events and/or BMPs shall be acknowledged in the Stormwater Management Program report.

4.2.I– MCM 2 Measurable Goals:

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success?	Y	N
MCM2 4.2.A	1	30-day Public Notice Period Required items posted on public website	Post SWMP on City's website for at least 30 days to provide time for the public to review changes to the SWMP. Announce the SWMP is available using local newspaper, City Link newsletter, and email to Stormwater Subcommittee of SEAC.	Stormwater Quality Coordinator, Communications Specialist	Increase awareness of the Stormwater program and to get more involvement in Public Notice and Public Meeting next permit renewal	Revised SWMP posted on City's website for at least 30 days during permit renewal.	Only necessary for significant changes to the SWMP or during permit renewal.	Only necessary for significant changes to the SWMP or during permit renewal.	Only necessary for significant changes to the SWMP or during permit renewal.	Only necessary for significant changes to the SWMP or during permit renewal.	Platforms for public notice will be evaluated based on public participation.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM2 4.2.C	2	Public Meeting with 30-day notice	Provide at least 30 days advanced notice of a meeting for the public to express comments regarding the updated SWMP. Provide information on SWMP to community.	Stormwater Quality Coordinator, Communications Specialist	Comply with permit requirement and the public will share their comments about the updated SWMP. The public will receive feedback from the City. Increase awareness of Stormwater Program and gain involvement.	Public notice of the public meeting for at least 30 days before meeting. Posted on City's website during permit renewal.	Only necessary for significant changes to the SWMP or during permit renewal.	Only necessary for significant changes to the SMWP or during permit renewal.	Only necessary for significant changes to the SMWP or during permit renewal.	Only necessary for significant changes to the SMWP or during permit renewal.	Platforms for public comment regarding SWMP updates will be evaluated based on public participation.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM2 4.2.D	3	Public Comments submitted via email to Stormwater Quality Coordinator	Provide a platform for the public to provide comments on stormwater concerns and issues. Encompass all MCMs.	Stormwater Quality Coordinator, Communications Specialist, City Clerk	Contact information for the Stormwater Quality Coordinator (phone number and email address) can be found on the City's stormwater webpage, the public is able to contact them directly.	The Stormwater Quality Coordinator will track communication with the public. Correspondence will be divided into different categories: concerns, ideas for improvement, general questions.	The Stormwater Quality Coordinator will track communication with the public. Correspondence with concerns and ideas for improvement will decrease while correspondence with general questions will stay the same or increase.	The Stormwater Quality Coordinator will track communication with the public. Correspondence with concerns and ideas for improvement will decrease while correspondence with general questions will stay the same or increase.	The Stormwater Quality Coordinator will track communication with the public. Correspondence with concerns and ideas for improvement will decrease while correspondence with general questions will stay the same or increase.	The Stormwater Quality Coordinator will track communication with the public. Correspondence with concerns and ideas for improvement will decrease while correspondence with general questions will stay the same or increase.	The platform for general public comments will be evaluated every year. New methods of comment will be introduced if the Stormwater Quality Coordinator feels that the public is not contacting them from the webpage.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM2 4.2.E	4	Stormwater Subcommittee of SEAC	Provide opportunity for citizens to become involved in stormwater projects throughout the City.	Stormwater Quality Coordinator	There will be increased awareness about stormwater and increased participation from the public. At least 4 public service work days will be hosted every year.	Participation in the subcommittee will be monitored, membership will be tracked from year to year. Also, the number of non-members participating at events will be tracked.	Member and non-member participation will be tracked every year either on the subcommittee or at events. Participation will increase from last year.	Member and non-member participation will be tracked every year either on the subcommittee or at events. Participation will increase from last year.	Member and non-member participation will be tracked every year either on the subcommittee or at events. Participation will increase from last year.	Member and non-member participation will be tracked every year either on the subcommittee or at events. Participation will increase from last year. By the end of permit year 5, the City will have a stormwater inlet maintenance program developed.	The subcommittee will be evaluated every year. If participation is not increasing, advertising for the subcommittee and events will be increased.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM2 4.2.F	5	Update to City Council	Provide opportunity to update City Council on status of Stormwater Management Plan	Stormwater Quality Coordinator	There will be increased awareness about Stormwater Management Plan and support from the Council.	Questions, attendance, and suggestions will be tracked.	Questions, attendance, and suggestions will be tracked.	Questions, attendance, and suggestions will be tracked.	Questions, attendance, and suggestions will be tracked.	Questions, attendance, and suggestions will be tracked. maintenance program developed.	Increased support from the City Council for Stormwater Projects.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success?		
													Y	N
MCM2 4.2.G	6	Evaluate program	Develop and implement elements to continue reducing discharge of pollutants	Stormwater Quality Coordinator	There will be a decrease of pollutants discharged to the MS4 through an increase in public participation.	Evaluate tracking to modify program as needed	Evaluate tracking to modify program as needed	Evaluate tracking to modify program as needed	Evaluate tracking to modify program as needed	Evaluate tracking to modify program as needed	Increased support from the community while seeing a decrease of pollutants being discharged.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM2 4.2.I	7	Tracking mechanisms to track attendance, inquires, or concerns	Review Public Participation Program to ensure public is being reached and evaluate mechanics.	Stormwater Quality Coordinator	There will be increased awareness about stormwater and increased participation from the public.	Participation and communication from the public will be tracked. See increase in public participation in the SW program.	Participation and communication from the public will be tracked. See increase in public participation in the SW program.	Participation and communication from the public will be tracked. See increase in public participation in the SW program.	Participation and communication from the public will be tracked. See increase in public participation in the SW program.	Participation and communication from the public will be tracked. See increase in public participation in the SW program.	Participation and pollutant discharge will be monitored. If participation is not increasing, strategies will be reevaluated and adjusted to better reach the public.		Y	N
												Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		

MCM 3. Illicit Discharge Detection and Elimination

The permittee shall implement and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200 at 40 CFR 122.26(b)(2)) into the permittee's regulated MS4.

4.3.A A current storm sewer system map that shall be updated as needed to include features which are added, removed, or changed.

1. The location of all outfalls. The map shall be detailed enough that the outfalls can be accurately located.
2. The names and location of all waters of the state that receive discharges from those outfalls.
3. The boundary of the regulated MS4 area.
4. The map shall be readily available and used by field staff as needed
5. The permittee shall make the map and any accompanying necessary information available to the Department upon request.

The City has a completed storm sewer system map. GIS and a contract with SAM, LLC (formerly Midland GIS) is utilized to maintain and update the map as needed. By the end of the first permit year, the City will have finalized the mapping procedure for adding new stormwater BMPs to the storm sewer system map during final inspections for development projects. The map is available upon request.

4.3.B The MS4 Operator must record the sources of information used for the map and track, at minimum:

1. A numbering or naming system of all outfalls;
2. Dates that the outfall locations were verified/or last field survey; and
3. For newly added outfalls, the date that it was added to the storm sewer system.

The City utilizes the outfalls GPS location as the numbering system for our MS4 outfalls. The City is working with SAM, LLC (formerly Midland GIS) to add additional details to our mapping system, such as: field survey dates, creating a numbering system, and the dates that newly added outfalls were incorporated into the stormwater system.

4.3.C The MS4 shall effectively prohibit non-stormwater discharges into the permittee's storm sewer system and implement appropriate enforcement procedures and actions.
This prohibition shall be through ordinance or other regulatory mechanism, to the extent allowable under state or local law. This may be accomplished by more than one ordinance or mechanism.
This may be done through a "nuisance code" however it must be certain that non-stormwater discharges are covered in this code. Such non-stormwater discharges may include, but are not limited to:

- Litter;
- Household hazardous waste disposal;
- Leaf disposal;

- Use of soaps & detergents with discharge to stormsewer;
- Illegal dumping of solid waste;
- Vehicle fluid disposal;
- Grass clippings;
- Pet waste; and
- Sewage.

The City has a completed Illicit Discharge Ordinance in place (Chapter 25: Sec. 25-98), including enforcement actions (Chapter 25: Sec. 25-98 and 25-99). The ordinance is accessible on the City's website (https://www.stjoemo.info/206/Code-of-Ordinances). The ordinance states "*No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the stormwater conveyance system any pollutants or waters containing any pollutants, other than stormwater. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited*." The ordinance is reviewed every permit cycle and updates are made as needed.

4.3.D A dry weather field screening strategy.

1. The MS4 Operator shall conduct (or have conducted on their behalf) outfall field assessments. The screening shall be conducted during dry weather conditions (a minimum of 72 hours after the last precipitation event) to check for the presence of a discharge.

Existing permittees:

a) A minimum of 60% of all outfalls shall be screened during the permit cycle.
b) Priority areas, such as those listed in 4.3.H, shall be screened each year.

2. This screening shall include a checklist or other tracking device to; ensure a complete inspection of each outfall, enhance consistency, and to track the field screening. This shall be used regardless of the presence of dry weather flow.

When discharge is present, the checklist or tracking device shall note the following general observations and physical characteristics at a minimum:

- Date and time;
- Weather conditions and temperature (air & water);
- Color of discharge;
- Estimate of flow rate (this may be noted qualitatively);
- Odor;
- Surface scum, algal bloom, floatables or oil sheen present;
- Deposits or stains (note the color);
- Turbidity (may be noted qualitatively);
- Stream impact including vegetation, fish, wildlife;
- Length of impacted stream; and
- Notes of an obvious source of flow (such as lawn irrigation, etc.)

The City has an SOP in place for implementation of a dry weather field screening strategy for unauthorized non-stormwater flows. A copy of the Dry Weather Field Screening SOP (1.4.002) is attached to the SWMP as Appendix D. The SOP is reviewed annually, and updates are made as needed.

4.3.E The MS4 Operator shall maintain diagnostic monitoring procedures to detect and investigate unknown non-stormwater flows as part of the dry weather screening program. These procedures are for possible illicit discharges, and may be collected, and analyzed by a contracted lab, or similar agreement with another entity who is equipped and experienced in sample collect and analysis.

1. This diagnostic monitoring shall include sampling unknown discharge from MS4 outfalls that are found to be flowing or ponding more than 72 hours after the last precipitation event and considered to be an illicit discharge.
2. The samples shall be analyzed for relevant parameters to determine if a pollutant is involved.

a) Relevant parameters will need to be determined on a case by case basis depending on the nature of the discharge and what the potential sources may be.

b) The MS4 Operator shall have the ability to sample for and analyze the samples.

c) Possible parameters sampled for and analyzed when deemed applicable include but are not limited to:

- pH;
- Oil and grease;
- *E.coli* or fecal coliform;
- Surfactants or fluorescence concentration;
- Specific conductivity;
- Ammonia;
- Chlorine;
- Dissolved oxygen; and
- Fluoride/ hardness.

The City has an SOP in place for implementation of a dry weather field screening strategy for unauthorized non-stormwater flows. A copy of the Dry Weather Field Screening SOP (1.4.002) is attached to the SWMP as Appendix D. The SOP is reviewed annually and updates are made as needed.

4.3.F The MS4 Operator shall maintain procedures for tracing the source of an illicit discharge. If initial screening indicates that a dry weather discharge contains pollutants, or if an illicit discharge is suspected from another reporting method, the source shall be traced. These procedures shall include mechanisms to locate and follow stormwater infrastructure. A variety of investigative tools may be used as appropriate for each situation, such as, but not limited to;

- Visually following the flow;

- Storm sewer system sampling;
- Full storm sewer map;
- Closed circuit television;
- Smoke or dye tracing; and
- Tunnel entry.

The City has an SOP in place for detecting and addressing unauthorized non-stormwater discharges, including illegal dumping, into the City's MS4. A copy of the Illicit Discharge Detection and Elimination SOP (1.4.001) is attached to the SWMP as Appendix C. Response time are addressed in Section 7.1.2.1 of the SOP, tracing illicit discharges is addressed in Section 7.2.1.1, and removing the illicit discharge is addressed in Section 7.3.5. The SOP is reviewed annually and updates are made as needed.

4.3.G The MS4 Operator shall maintain procedures for removing the source of the discharge. After locating the source, the pollutant and source must be removed. While the exact procedure will depend on the source and the circumstances, The MS4 Operator must maintain any necessary contacts with appropriate entities that may be needed for these procedures (such as an environmental cleaning company). This information shall be made available to the responsible staff.
The MS4 Operator is encouraged to work with the source of the illicit discharge to remedy the situation. Possible remedies shall include:

1. Implement source control or treatment BMPs to prevent reoccurrence of the violation;
2. Remediation or restoration of affected property.

The City has an SOP in place for detecting and addressing unauthorized non-stormwater discharges, including illegal dumping, into the City's MS4. The SOP lists out the parameters that can be tested for at the City's in-house lab, these are determined on a case by case basis. A copy of the Illicit Discharge Detection and Elimination SOP (1.4.001) is attached to the SWMP as Appendix C. Response time are addressed in Section 7.1.2.1 of the SOP, tracing illicit discharges is addressed in Section 7.2.1.1, and removing the illicit discharge is addressed in Section 7.3.5. This SOP will be updated during the year one (1) of the permit cycle to include procedures for removing source of the discharge, remediation actions, and necessary contacts. The SOP is reviewed annually and updates are made as needed.

4.3.H In order to prevent further illicit discharge, the MS4 Operator shall identify priority areas such as, but not limited to:

- Areas with evidence of ongoing illicit discharges;
- Areas with a past history of illicit discharges;
- Certain land use influencing stormsewer/ proximity of potential pollutant sources;
- Areas of higher population density;
- Neighborhoods with onsite sewage systems;

- Areas with known litter or dumping issues;
- Areas with large or increased number of citizen complaints; and
- Industrial areas

Annually, the MS4 Operators shall evaluate this priority area list and/or map and update as necessary to reflect changing priorities.

The City is in the process of developing a tracking mechanism to identify priority areas to prevent and decrease illicit discharges. This tracking mechanism will be developed in year one (1) of the permit cycle and evaluated annually. This list will be evaluated annually to assess if education efforts need to be implemented in different areas.

4.3.I The MS4 Operator shall maintain written procedures for implementing the IDDE Program, including those components described within this section, to ensure program continuity and consistency.

1. This shall include a description of this dry weather field screening strategy and implementation schedule to detect and address non-stormwater discharges, including discharges from illegal dumping and spills, to the permittee's system.
2. This shall include a description of how the discharge is evaluated and the possible parameters that are tested.
3. If contracted to another entity, the contact information shall be listed.

The City has an SOP in place for detecting and addressing unauthorized non-stormwater discharges, including illegal dumping, into the City's MS4. A copy of the Illicit Discharge Detection and Elimination SOP (1.4.001) is attached to the SWMP as Appendix C. Response time are addressed in Section 7.1.2.1 of the SOP, tracing illicit discharges is addressed in Section 7.2.1.1, and removing the illicit discharge is addressed in Section 7.3.5. The SOP is reviewed annually and updates are made as needed.

4.3.J The MS4 Operator must conduct investigations in response to field screening discoveries, spills, or in response to complaints from the public, municipal staff, or adjacent MS4s. The investigation must work to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection. Responses shall meet the following investigation timelines:

1. Immediately respond to all illicit discharges, including spills, which are determined to constitute a threat to human health, welfare, or the environment.
2. Investigate (or refer to the appropriate agency with the authority to act) within five (5) business days, on average, any complaints, reports or monitoring information that indicates a potential illicit discharge which does not constitute a threat to human health, welfare or the environment.
3. If illicit connections or illicit discharges are observed related to, discharging to, or discharging from, an adjacent MS4 Operator's municipal storm sewer system, the MS4 Operator must notify the other MS4's Operator within 24 hours of discovery or as soon as practicable.

The City has an SOP in place for detecting and addressing unauthorized non-stormwater discharges, including illegal dumping, into the City's MS4. A copy of the Illicit Discharge Detection and Elimination SOP (1.4.001) is attached to the SWMP as Appendix C. The IDDE SOP will be updated within year one (1) of the permit cycle to include these permit requirements.

4.3.K The MS4 Operator shall have procedures for appropriate enforcement, this may include fines, the ability to collect cleanup and abatement costs, and actions to ensure that the permittee's illicit discharge ordinance (or other regulatory mechanism) is being implemented.

1. The MS4 Operator shall maintain a written description of the enforcement procedure. This shall include a copy of or link to the ordinance and/or other regulatory mechanism that the MS4 Operator will use to enforce the prohibition of illicit discharges into the MS4.

The City has a completed Illicit Discharge Ordinance which includes enforcement procedures in place. The relevant excerpts of the ordinance to address the permit requirements are included below. An Enforcement Response Plan will be added to the Illicit Discharge Detection and Elimination SOP within year one (1) of the permit cycle. The ordinance is reviewed annually and updates are made as needed.

(j) *Compensatory action*. In lieu of enforcement proceedings, penalties, and remedies authorized by this article, the director may impose upon a violator alternative compensatory action, including but not limited to:

(1) Storm drain stenciling;
(2) Attendance at compliance workshops;
(3) Creek cleanup; or
(4) Other actions that serve to promote and further the goals of the city's MS4 program.

(k) *Remedies not exclusive*. The remedies listed in this article are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the director to seek cumulative remedies. The director may recover all attorneys' fees, court costs and other expenses associated with enforcement of this article, including sampling and monitoring expenses.

Violations remedies.

(a) *Violations*. Violations of provisions of this division (*Division 4. Stormwater Management*) may be enforced in any manner described in this section.

(b) *Fine*. Any person violating any provision of this division shall be, upon conviction or a plea of guilty, subject to a fine not to exceed $500.00, or the maximum amount allowed by state law.

(c) *Enforcement by administrative building citation*. Any violation of any section of this article shall be deemed a building code violation that may be enforced by the issuance of an administrative building citation in accordance with the provisions set forth in Chapter 2.

(d) *Stop work order—issuance*. Where work regulated by this division is being performed in a manner contrary to the provisions of this division or in a dangerous or unsafe manner, the director of public works and transportation, or his or her designee, may issue a written stop work order. The stop work order shall be given to the owner of the property on which the work has been performed, the owner's authorized agent, or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work will be permitted to resume.

(e) *Stop work order—violations*. Any work performed in violation of a stop work order, except work that is directed by the issuer of the stop work order to remove a violation or unsafe condition, shall constitute a separate violation of this division.

4.3.L The MS4 Operator shall maintain a database, or other centralized system, to track dry weather field screenings, spills, incidents, and investigations.

1. Tracking mechanisms shall be used for incidents, investigations, enforcement and follow up. This data shall be used to continuously evaluate the effectiveness of the IDDE program. This data shall be reviewed to determine if there is a new priority area.
The MS4 Operator shall record annually at a minimum:
   a) Number of outfalls screened;
   b) Number of complaints received and investigated; and
   c) Number of illicit discharges removed.
2. The MS4 Operator shall document all investigations to track at a minimum:
   a) The date(s) the illicit discharge was observed and investigated;
   b) Summary of procedures used to investigate the illicit discharge;
   c) The outcome of the investigation including sample results and findings;
   d) Any follow-up of the investigation including cleanup, enforcement actions, visits to confirm the illicit discharges have been removed; and
   e) The date the investigation or issue was closed or resolved.

The City is in the process of developing and implementing a tracking database, to track dry weather field screenings, spills, incidents, and investigations. This tracking mechanism will be implemented within year one (1) of the permit cycle.

4.3.M The MS4 Operator shall inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste, this may work with part 4.1 and part 4.6 of this permit (MCM #1 and MCM #6).

The City's plan for informing public employees, businesses and the general public of hazards associated with illegal discharges and the improper disposal of waste is to use MCM 1 BMPs.

MCM 1 – BMP 3: The City's in-house training created through the HR training platform, Paycor, addresses the topic of illicit discharge detection and elimination. In addition to being trained on how to identify and report illicit discharges, the module describes the hazards associated with illegal discharges and the improper disposal of waste.

MCM 1 – BMP 4: The City's Stormwater webpage (https://www.stjoemo.info/949/Stormwater-Protection) specifically addresses the public and businesses. Information on the webpage describes the hazards associated with illegal discharges and the improper disposal of waste.

MCM 1 – BMP 5: Of the seasonal topics addressed using PeachJar, one of the rotating topics is the hazards associated with illegal discharges and the improper disposal of waste.

MCM 1 – BMP 6: The Contractor and Developer Educational Program will coordinate with MCM #4. Handouts given to contractors during the planning and permitting phase, along with information discussed during pre-construction meetings will address the hazards that can be associated with illegal discharges and the improper disposal of waste.

In addition, the City will use the twice annual Household Hazardous Waste and Clean Sweep events to promote proper waste disposal practices. The City conducts a Clean Sweep program where citizens with proper ID are allowed free tipping charges at the Landfill for a full week in the spring and again in the fall.

Coordination with MCM #1: See MCM 1 – BMP 3-6 above

Coordination with MCM #2: The Stormwater Sub-committee of SEAC will participate in litter clean-ups and other events that will demonstrate the overall issue of illicit discharges and the hazards that can be associated with illegal discharges and the improper disposal of waste.

Coordination with MCM #4: See MCM 1 – BMP 6 above

Coordination with MCM #5: During the Commercial and Subdivision Review process (SOP 1.4.004, Appendix F), the Stormwater Quality Coordinator and City Engineer ensure sites will meet the APWA/MARC's BMP Manual requirements for stormwater quality. This criteria addresses the post-construction illicit discharge potential at new development sites.

Coordination with MCM #6: See MCM 1 – BMP 3 above

Coordination with monitoring: Dry-weather screening (4.3.E) demonstrates to staff involved the hazards that can be associated with illegal discharges and the improper disposal of waste.

How the permittee's plan coordinates with Integrated Planning: N/A

How the City's plan coordinates with TMDL Implementation: N/A

4.3.N All MS4 Operators shall review their IDDE Program, at minimum, annually and update implementation procedures as necessary.

4.3.O **Existing permittees:** Shall evaluate their current program to ensure that it is in compliance with this permit.

1. Any revisions to the ordinance or regulatory mechanism shall be complete in the first year of the permit cycle.
2. Maintain an updated map with the items listed above. Items not included in the current map must be added within the first 2 years of the permit cycle.

Updates needed to current program are listed above to ensure compliance with permit requirements.

4.3.Q The MS4 Operator must develop and implement or maintain a training program for all municipal field staff, who, as part of their normal job responsibilities, may come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system. This shall include staff who may handle materials which may become an illicit discharge. This shall include discharges through spills, improper disposal, mismanagement, improper vehicle or equipment washing or rinsing. This training may be conducted with resources online and may be focused for what topics are relevant to their position.

1. Each staff shall take this training at minimum within one year of a new employee being hired.
2. The applicable staff may include the following; (unless the MS4 Operator does not have the listed department under their jurisdiction). Additional staff or departments shall be included if appropriate;
    - Fleet maintenance staff;
    - Staff at facilities with fuel, chemicals, washing of vehicles or equipment;
    - Road maintenance staff;
    - Road salt/de-icing staff; and
    - Parks, swimming pool, or golf course staff who encounter spills, equipment or vehicle washing, fueling, chemicals, etc.
3. The training dates, topics and the attendance shall be recorded.
4. Reviews of the training effectiveness shall be considered after municipal site inspections or after an incident occurs. If a certain department or facility did not perform the way they were trained, or if an issue arises that was not handled properly, the MS4 Operator should consider if the training is enough or is ineffective. The MS4 Operator shall consider ways to survey or test staff to see if the training is effective.

Training program for municipal field staff will receive annual training that is applicable to their position. The training materials and its effectiveness will be reviewed annually.

4.3.R Using adaptive management the MS4 Operator shall review their IDDE Program, at minimum, annually and update implementation procedures as necessary. This data shall be

used to continuously evaluate the effectiveness of each BMP and the implementation of each BMP.
Any additional BMPs shall be acknowledged in the Stormwater Management Program report.

Additional BMPs conducted for MCM 3 is a twice-yearly household hazardous waste drop off and clean sweep events, hosted by the City. Use HHW and Clean Sweep events to inform citizens about the hazards associated with illegal discharges and the improper disposal of waste. Participation and amounts will be reported on in the annual report.

4.3.R– MCM 3 Measurable Goals:

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success?	Y	N
MCM3 4.3.A, 4.3.B	1	Maintain storm sewer map in GIS system showing MS4 outfalls, waters of the state, and boundary of the MS4 area.	A system to clearly view outfalls in MS4 area.	Stormwater Quality Coordinator, SAM	Maintain permit compliance, use map for IDDE, Dry Weather Screening, and enforcement.	Maintain map of constructed outfalls on GIS through contract with SAM, LLC. One local watershed will be updated each year.	Maintain map of constructed outfalls on GIS through contract with SAM, LLC. One local watershed will be updated each year.	Maintain map of constructed outfalls on GIS through contract with SAM, LLC. One local watershed will be updated each year.	Maintain map of constructed outfalls on GIS through contract with SAM, LLC. One local watershed will be updated each year.	Maintain map of constructed outfalls on GIS through contract with SAM, LLC. One local watershed will be updated each year.	Annual review to evaluate success of this BMP.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
	2	Update post-construction stormwater BMPs in GIS during final inspections. Create numbering system for outfalls, include date for outfall surveyed in field, and date that new outfalls are added to system.	Add to the storm sewer mapping as new BMPs are added. Add dates for when outfalls are surveyed. Will be used to track BMPs for MCM 5.	Stormwater Quality Coordinator, ESC Inspectors	Maintain permit compliance, use map for IDDE, Dry Weather Screening, and enforcement.	Finalize inspection procedures and GIS layers. Add all new stormwater BMPs in GIS as development projects are completed.	Add all new stormwater BMPs in GIS as development projects are completed.	Add all new stormwater BMPs in GIS as development projects are completed.	Add all new stormwater BMPs in GIS as development projects are completed.	Add all new stormwater BMPs in GIS as development projects are completed.	Annual review to evaluate success of this BMP.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM3 4.3.C	3	Illicit discharge ordinance (Chapter 25: Sec. 25-98)	Provides the City legal authority to address illicit discharges.	Stormwater Quality Coordinator	Maintain permit compliance, enforce Illicit Discharge ordinance.	Review Illicit Discharge Ordinance. Enforce City ordinance and record all enforcement actions.	Enforce City ordinance and record all enforcement actions.	Enforce City ordinance and record all enforcement actions.	Enforce City ordinance and record all enforcement actions.	Enforce City ordinance and record all enforcement actions.	Ordinance is reviewed every permit cycle. See a reduction in Illicit Discharges due to appropriate enforcement actions.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM3 4.3.D	4	Outfall field assessments Dry Weather Field Screening SOP 1.4.002 (Appendix D)	Field screening provides for illicit source identification and elimination.	Stormwater Quality Coordinator	Provides tools to identify illicit discharges and take enforcement action as necessary. Screen 60% of outfalls during permit cycle.	Review and update Dry Weather Field Screening SOP. Conduct screening at 12% of outfalls. Use enforcement actions when needed. Determine priority areas to be screened annually.	Conduct screening at 12% identified locations. Use enforcement actions when needed. Priority areas screened annually. Update priority area list.	Conduct screening at 12% identified locations. Use enforcement actions when needed. Priority areas screened annually. Update priority area list.	Conduct screening at 12% identified locations. Use enforcement actions when needed. Priority areas screened annually. Update priority area list.	Conduct screening at 12% identified locations. Use enforcement actions when needed. Priority areas screened annually. Update priority area list.	Review screening results and enforcement actions. Determine if changes need to be made to SOP 1.4.002.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM3 4.3.E, 4.3.F	5	Illicit Discharge Detection and Elimination SOP 1.4.001 (Appendix C) Dry Weather Field Screening SOP 1.4.002 (Appendix D)	Detect, trace, and eliminate illicit discharges.	Stormwater Quality Coordinator	Identify illicit discharges, trace back to source, and take enforcement action as necessary. See a reduction of illicit discharges.	Review IDDE SOP. Respond to reports of illicit discharges and illegal dumping. Identify illicit discharges and the source, take enforcement actions when needed. Record all responses.	Respond to all reports of illicit discharges and illegal dumping. Identify illicit discharges and take enforcement actions when needed. Record all responses.	Respond to all reports of illicit discharges and illegal dumping. Identify illicit discharges and take enforcement actions when needed. Record all responses.	Respond to all reports of illicit discharges and illegal dumping. Identify illicit discharges and take enforcement actions when needed. Record all responses.	Respond to all reports of illicit discharges and illegal dumping. Identify illicit discharges and take enforcement actions when needed. Record all responses.	Annual review of illicit discharge concern responses, response times, and enforcement actions.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM3 4.3.G	6	Maintain procedures for removing the source of an illicit discharge. Work with source of illicit discharge to remedy situation.	Implement source control or treatment BMPs to prevent reoccurrence of the violation. Remediation of property.	Stormwater Quality Coordinator	Identify and remove source of illicit discharge, prevent reoccurrence of the violation.	Review and update IDDE SOP to include details on how to remedy the situation. Identify illicit discharges and the source. Work with source to remove the discharge. Record all responses.	Identify illicit discharges and the source. Work with source to remove the discharge. Record all responses.	Identify illicit discharges and the source. Work with source to remove the discharge. Record all responses.	Identify illicit discharges and the source. Work with source to remove the discharge. Record all responses.	Identify illicit discharges and the source. Work with source to remove the discharge. Record all responses.	Annual review of remedy solutions and sources of discharges.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success?	Y	N
MCM3 4.3.H	7	Identify illicit discharge priority areas.	Detect, trace, and eliminate illicit discharges.	Stormwater Quality Coordinator	See a reduction in illicit discharges from priority areas.	Identify priority areas and create list/map.	Evaluate priority areas and update as necessary to reflect changing priorities.	Evaluate priority areas and update as necessary to reflect changing priorities.	Evaluate priority areas and update as necessary to reflect changing priorities.	Evaluate priority areas and update as necessary to reflect changing priorities.	Evaluate change in priority areas and strategies for eliminating illicit discharges.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM3 4.3.I	8	Maintain written procedures for implementing IDDE program. Illicit Discharge Detection and Elimination SOP 1.4.001 (Appendix C) Dry Weather Field Screening SOP 1.4.002 (Appendix D)	Ensure continuity and consistency across program.	Stormwater Quality Coordinator	See a decrease number of illicit discharges.	Implement dry weather screening program and implement schedule to address all non-stormwater discharges.	Review and update written procedures as needed.	Review and update written procedures as needed.	Review and update written procedures as needed.	Review and update written procedures as needed.	Evaluate effectiveness of program at identifying and eliminating illicit discharges.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM3 4.3.J	9	Conduct investigations in response to field screening discoveries, spills, or complaints from public, or municipal staff. Illicit Discharge Detection and Elimination SOP 1.4.001 (Appendix C)	Respond to reports in a timely manner. Determine the source, nature, and volume of discharge.	Stormwater Quality Coordinator	Discover the source of discharge and eliminate	Update Dry Weather Screening and IDDE SOP to reflect permit requirements. Conduct investigations regarding all discovered and reported spills.	Conduct investigations regarding all discovered and reported spills.	Conduct investigations regarding all discovered and reported spills.	Conduct investigations regarding all discovered and reported spills.	Conduct investigations regarding all discovered and reported spills.	Review SOPs, number of reported illicit discharges, and response times.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM3 4.3.K	10	Appropriate enforcement procedures for illicit discharge ordinance	Ensure ordinance is being enforced and is adequate for program.	Stormwater Quality Coordinator	Elimination and remediation of illicit discharges.	Enforce City ordinance and record all enforcement actions.	Enforce City ordinance and record all enforcement actions.	Enforce City ordinance and record all enforcement actions.	Enforce City ordinance and record all enforcement actions.	Enforce City ordinance and record all enforcement actions.	Review ordinance to ensure that it is meeting the needs of the program. Ordinance is reviewed every permit cycle.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM3 4.3.L	11	Create and maintain database for tracking dry weather screenings, spills, incidents, and investigations.	Use tracking data to evaluate the effectiveness of the IDDE program	Stormwater Quality Coordinator	Data will help determine if new priority areas need to be added to the program.	Review data to determine if there are new priority areas for the IDDE program and ways to eliminate them.	Review data to determine if there are new priority areas for the IDDE program and ways to eliminate them.	Review data to determine if there are new priority areas for the IDDE program and ways to eliminate them.	Review data to determine if there are new priority areas for the IDDE program and ways to eliminate them.	Review data to determine if there are new priority areas for the IDDE program and ways to eliminate them.	Review investigation procedures, sampling results, remediation actions to assess if additional steps need to be taken.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success? (Y / N)
MCM3 4.3.M	12	Education and Outreach Strategies in MCM 1 and MCM 6 reagrding the hazards of illegal discharges and improper disposal of waste.	Inform public employees, public, and businesses of the hazards associated with illegal discharges and the improper disposal of waste.	Stormwater Quality Coordinator, HR Staff, Dept. Heads, Communications Specialist, Commercial Development Rev. Coordinator	Provide education and increase awareness and positive behavior change. See an increase in reports of illicit discharge from city employees and less non-compliant LD sites.	Review training and educational materials. Conduct annual City staff training about IDDE. Record public presentations regarding IDDE and enforcement procedures. Provide illicit discharge materials to all open land disturbance site managers.	Conduct annual City staff training about IDDE. Record public presentations regarding IDDE and enforcement procedures. Provide illicit discharge materials to all open land disturbance site managers.	Conduct annual City staff training about IDDE. Record public presentations regarding IDDE and enforcement procedures. Provide illicit discharge materials to all open land disturbance site managers.	Conduct annual City staff training about IDDE. Record public presentations regarding IDDE and enforcement procedures. Provide illicit discharge materials to all open land disturbance site managers.	Conduct annual City staff training about IDDE. Record public presentations regarding IDDE and enforcement procedures. Provide illicit discharge materials to all open land disturbance site managers.	Annual review of educational programs (See MG Table for MCM 1). If this BMP is not successful, reavaluation of materials and platforms should be done.	Year 1 Year 2 Year 3 Year 4 Year 5
MCM3 4.3.N, 4.3.O	13	Review program annually and update implementation procedures as necessary	Ensure program is in compliance, update program as necessary.	Stormwater Quality Coordinator	Program will evolve as needs change.	Revisions to ordinance completed in 1st yr of permit cycle, update map to include permit requirements. Review program and update implementation procedures. Ensure program is in compliance with permit. Maintain an updated map with all items in MCM3.	Review program and update implementation procedures. Ensure program is in compliance with permit. Maintain an updated map with all items in MCM3. Any items not in map must be added by end of 2nd year of the permit cycle.	Review program and update implementation procedures. Ensure program is in compliance with permit. Maintain an updated map with all items in MCM3.	Review program and update implementation procedures. Ensure program is in compliance with permit. Maintain an updated map with all items in MCM3.	Review program and update implementation procedures. Ensure program is in compliance with permit. Maintain an updated map with all items in MCM3.	Evaluate program annually to ensure compliance with permit requirements.	Year 1 Year 2 Year 3 Year 4 Year 5
MCM3 4.3.Q	14	Develop and implement training program for all municipal field staff, who may come in contact with an illicit discharge. Training will be in conjunction with MCM 1 training.	Inform City employees of the hazards associated with illegal discharges and the improper disposal of waste.	Stormwater Quality Coordinator	See an increase in reported illicit discharges from City staff and a decrease of on the job illicit discharges.	Review and update training and educational materials. Conduct annual City staff training about IDDE. Record training dates, topics, and attendance.	Conduct annual City staff training about IDDE. Record training dates, topics, and attendance.	Conduct annual City staff training about IDDE. Record training dates, topics, and attendance.	Conduct annual City staff training about IDDE. Record training dates, topics, and attendance.	Conduct annual City staff training about IDDE. Record training dates, topics, and attendance.	Annual review of training effectiveness after municipal site inspections. If this BMP is not successful, reevaluation of materials and platforms should be done.	Year 1 Year 2 Year 3 Year 4 Year 5

MCM 4. Construction Site Stormwater Runoff Control

The permittee shall develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must 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.

4.4.A The MS4 Operator shall have a law, ordinance and/or other regulatory mechanism to require construction site runoff control BMPs at construction/land disturbance sites greater than or equal to one (1) acre or less than one acre if the construction activity is part of a larger common plan or development or sale that would disturb one acre or more. The mechanism shall include sanctions which are designed to ensure compliance, to the extent allowable under State, or local law.

The City has a completed Land Disturbance Construction Ordinance in place. The ordinance, Chapter 25: Section 25-9, is accessible on the City's website (https://www.stjoemo.info/206/Code-of-Ordinances). under the City's Administrative Code Chapter 2: Section 2-319 and 2-320 the Director of Public Works has the authority to enforce such rules and regulations as he/she may deem necessary for the use, operation, and maintenance of property under his/her control, management and supervision. Such rules and regulations, when established and published and filed in the office of the city clerk, shall have the same effect as though incorporated in this code, and violations thereof shall be punished as other violations. The ordinance is reviewed annually, and updates are made as needed.

4.4.B The MS4 Operator shall review pre-construction plans. These reviews at a minimum shall:

1. Incorporate the consideration of potential water quality impacts through procedures for site plan review. The site plan review procedures shall evaluate threats to water quality shall by considering, at minimum, the following factors:
    a) Soil erosion potential;
    b) Site slope;
    c) Project size and type;
    d) Sensitivity of receiving waterbodies;
    e) Discharge flow type (pipe or sheet flow);
    f) Location of discharge point in relation to receiving water;
    g) Proximity of the site to receiving waterbodies; and
    h) Other factors relevant to the MS4 service area.
2. Use a checklist, or other listed criteria, to ensure consistency and completeness.
3. Include requirements for construction site operators to select, install, implement, and maintain appropriate stormwater control measures.

a) This includes; temporary BMPs throughout the life of the land disturbance, and permanent BMPs which remain on site as required by local codes and ordinances.

4. Consider ways to minimize disturbed areas through actions such as, phased construction requirements, temporary seeding or sodding, or erosion mats to exposed areas.

5. Include requirements for construction site operators to control construction-site waste that may cause adverse impacts to water quality.
This shall include at a minimum:
a) Discarded building materials;
b) Concrete truck, and mortar mix washout;
c) Chemicals (such as fertilizer, paint, oils, herbicides, pesticides);
d) Litter; and
e) Sanitary waste.

The City has an SOP in place for maintaining and applying procedures for review of all pre-construction site plans for consideration of potential water quality impacts. A copy of the Commercial and Subdivision Review SOP (1.4.004) is attached to the SWMP as Appendix F. The SOP is reviewed annually and updates are made as needed.

The City has required provisions for all land development in St. Joseph, found in the City of St. Joseph Land Disturbance Requirements (PDF) (https://www.stjoemo.info/952/Development-and-Construction). Furthermore, the City has an SOP for Land Disturbance Inspections. A copy of the Land Disturbance Inspection SOP (1.4.003) is attached to the SWMP as Appendix E. Both the Land Disturbance Requirements and the Land Disturbance Inspection SOP are reviewed annually and updates are made as needed.

4.4.C The MS4 Operator shall establish authority for site inspections and enforcement of control measures. To the extent allowable by state, federal, and local law, all MS4 Operators shall implement procedures for inspecting construction/land disturbance projects.
The construction site runoff control program shall implement at a minimum:
1. Identify priority sites for inspection based on nature of the construction activity, topography, disturbed area, and the characteristics of soils and sensitivity of, or proximity to, receiving water;
2. Construction site inspections shall include assessment of compliance with the MS4 Operator's construction site stormwater runoff control ordinance or regulatory mechanism, and other applicable ordinances;
3. The inspections shall evaluate any structure that functions to prevent pollution of stormwater or to remove pollutants from stormwater and use enforcement polices to require BMPs are implemented and effective;
4. Final inspection, upon completion of the land disturbance and prior to final approval of construction project. Ensure all disturbed areas have been stabilized, that all temporary erosion and sediment control measures are removed.
5. The inspections conducted by the MS4 Operator shall be documented with a checklist. The checklist must include structural BMPs and check on the self-inspection which are conducted by the construction site operator. These MS4 Operator checklists may be electronic.

The City utilizes an SOP and inspection report for site inspections and enforcement control measures. The City's Land Disturbance Inspection SOP (1.4.003) is provided in Appendix E. The

SOP covers the City's inspection report, inspection schedule, site prioritization factors, BMP implementation and effectiveness evaluation, and references the City's Land Disturbance and Sediment Control ordinance for enforcement control measures. The SOP is reviewed annually, and updates are made as needed

4.4.D The construction site runoff control program shall include an established, escalating enforcement policy that clearly describes the action to be taken for violations.
The program shall have written procedures to ensure compliance with the MS4 Operator's construction site runoff control regulatory mechanism. This shall include the sanctions and enforcement mechanisms the permittee will use to ensure compliance and procedures for when certain penalties, injunctions or other measures will be used.

1. The MS4 Operator must have the authority to initiate a range of enforcement actions to address the variability and severity of noncompliance.
2. Enforcement responses to violations must consider the following criteria at minimum:
a) Degree and duration of the violation;
b) Effect the violation has on the receiving water;
3. Enforcement actions shall be timely in order to ensure the actions are effective. These procedures and actions must be written and available for MS4 staff for consistency and training purposes.
4. The MS4 Operator must have a minimum of two (2) enforcement actions they are able to use.

Possible enforcement actions include, but are not limited to:

a) Stop Work orders;
b) Verbal education or educational materials given to the construction site operator;
c) Written warnings or notice of violation;
d) Bonding or escrow requirements;
e) Fines/ penalties; and
f) Denials for previous non-compliance or current non-compliance at other sites.

The City has a completed Land Disturbance Construction Ordinance in place. The ordinance, Chapter 25, Section 25-9, is accessible on the City's website (https://www.stjoemo.info/206/Code-of-Ordinances). Also, the City has required provisions for all land development in St. Joseph, found in the City of St. Joseph Land Disturbance Requirements (PDF) (https://www.stjoemo.info/952/Development-and-Construction). Any violations of the Land Disturbance Construction Ordinance or the City's Land Disturbance Requirements will result in the violations remedies discussed in Section 4.3.G of this SWMP. An Enforcement Response SOP (1.4.005) is included in Appendix G.

Per the City's Land Disturbance requirements for enforcement procedures:

2.6 ENFORCEMENT - Failure to comply with the provisions of this regulation promulgated under the authority of Section 25- 90 of the St. Joseph City Code shall subject the permittee to the fines and corrective actions authorized in Chapter 25 and related sections of the St. Joseph

City Code. The City may suspend or revoke any permit associated with the site or any permit associated with the person(s) holding the permit(s) for the site for noncompliance with the Land Disturbance Permit or Stormwater Discharge Permit.
Procedure: Upon discovery of a violation of this article, the contractor will be notified and given up to fourteen (14) days to remedy the violation(s) in a Land Disturbance Permit. Extensions of time may be granted in the Director's sole discretion.
If the violation has not been remedied within the time frame set forth in the notice, a stop work order may be issued and the permit(s) will be suspended. The stop work order shall state the reason for the order and the conditions under which the order and suspension will be lifted.
Any person, who shall continue to engage in activity for which a permit is required after having been served with a stop work order, except in such work as that person is directed to perform to remove a violation or unsafe condition, shall be a violation of this ordinance.
After two (2) stop work orders of a permit for the same site for similar violations, the permit(s) shall be revoked. All applicable procedures will have to be followed for re-issuance of the permit(s). Additionally, any remediation or abatement costs will be required to be paid prior to re-issuance.
If the stop work order has not been lifted through compliance with its terms within thirty (30) days from the date of its issuance, the permit shall be revoked. All applicable procedures will have to be followed for re-issuance of the permit(s). Additionally, any remediation or abatement costs will be required to be paid prior to re-issuance. Engaging in activity requiring a permit without first obtaining such permit shall be a violation of this section

4.4. E The MS4 Operator shall require the construction site operator to conduct inspections at minimum:

1. Every fourteen (14) days, when construction is active.
2. Within 72 hours of any storm event, and within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm has ceased.

Checklists used for these inspections conducted by construction site operators shall either be submitted to the MS4 Operator, or the MS4 Operator shall verify that these inspections are being conducted by the construction site operator checklists during MS4 Operator inspections.

The City utilizes an SOP and inspection report for site inspections and enforcement control measures. The City's Land Disturbance Inspection SOP (1.4.003) is provided in Appendix E. The SOP covers the City's inspection report, inspection schedule, site prioritization factors, BMP implementation and effectiveness evaluation, and references the City's Land Disturbance and Sediment Control ordinance for enforcement control measures. The SOP is reviewed annually, and updates are made as needed. It is requirement for all land disturbance sites that are greater than an acre or a part of a larger common plat, to conduct regular site inspections by the construction site operator. These inspection reports are reviewed during each site inspection by certified inspectors. This requirement is a part of the MS4 inspector site inspection checklist that is filled out during the inspection.

4.4.F The MS4 Operator shall maintain an inventory of active public and private land disturbance sites, as defined in Section 4.4 of this permit. This may be supplemented with records such as a plan review checklist and email correspondence.
The inventory must contain:

1. Relevant contact information for each project (e.g., tracking number, name, address, phone, etc.);
2. Size of the project/ area of disturbance;
3. If the site is a priority site/ how high of priority;

The City maintains a running list of all active land disturbance sites that are located within the city. This list contains the land disturbance permit number, point of contact for the project, location, size, MORA number, and a ranking scale for the site. All documents relating to the individual projects are stored in the Stormwater Quality Coordinators folders, including but limited to, plans, correspondence, inspection forms and photos.

4.4.G The MS4 Operator shall track their oversite inspections. This may be done by retaining copies of records such as inspection checklists and email correspondence. The MS4 Operator must make these inventories available to the Department upon request.
The tracking must contain at a minimum:

1. Inspection dates and time;
2. Inspector name;
3. Inspection findings; and,
4. Follow up actions and dates, including corrective actions and enforcement actions.

The City is already meets this requirement through documentation for each land disturbance site is saved within the land disturbance project folders located in the Stormwater Quality Coordinator folder. These folders are kept on a maintained City network.

4.4.H Existing permittees: Review the Stormwater Management Program including ordinances, permitting procedures, review procedures, inspection procedures and enforcement procedures to ensure compliance with these requirements. Any changes necessary to be in compliance with this permit shall be completed within the first year of this permit issuance. The inventory of active sites must be updated as new projects are reviewed and projects are completed. If the MS4 Operator needs to develop this inventory, it shall be completed within one (1) year of this permit issuance.

The City already meets this requirement.

4.4.J The Stormwater Management Program must include procedures for the MS4 Operator to receive and consider information submitted by the public about land disturbance sites. This may be in combination with 4.2.D of this permit.

The City utilizes a web-based public comment submission platform located on the City's Form Center (https://www.stjoemo.info/formcenter). The City also provides a customer comment

drop box in the lobby of the City hall building for hand written comments/concerns/inquiries. Both the submission options are monitored by City staff daily. The City's policy is to respond to all comments/concerns/inquires within 30 days of receipt. In addition, citizens can use the "Report a Spill" link found on the City's Stormwater webpage (https://www.stjoemo.info/954/Pollution-Prevention).

The City also has a procedure in place for review and consideration of all environmental concerns, complaints, or comments received by the public which includes deadlines of review of each submission within 24 hours of receipt, and investigative response to submission, if deemed necessary, within 48 hours of submission (72 hours if submission occurred over a weekend or holiday). The procedure requires follow up response within 24 hours to the submitter if the submitter indicated they want to be contacted on the submission form.

4.4.K The MS4 Operator shall provide, or support access to, construction site runoff control training for MS4 inspectors and plan reviewers at minimum once during this permit cycle. This education shall be tracked or documented.

Certified Stormwater Inspector training conducted by the National Stormwater Center (https://npdes.com/) is provided to each inspector. This training is good for five years. This training certifies the inspectors to inspect industrial, municipal, and construction sites. Completion of this training offers access to monthly webinars that cover different stormwater and land disturbance topics.

4.4.L The MS4 Operator must provide written procedures outlining the local inspection and enforcement procedures to their inspectors to ensure consistency among the inspections.

The City has a Land Disturbance Inspection SOP 1.4.003, listed under Appendix E that outlines the required inspection procedures.

4.4.M Using adaptive management, all MS4 Operators shall review, at minimum annually, their Construction Site Stormwater Runoff Control Program and evaluate the ordinances, review procedures, inspection procedures, enforcement procedures, receipt of public information procedures, and effectiveness of training procedures to ensure compliance with these requirements and determine if changes are needed. This annual review may include but is not limited to:

1. Evaluating the most common violations, how the violations are handled, how many are escalated;
2. If the education program can assist in reducing violations;
3. Determining if the site plans match the sites when violations arise or if additional items need to be evaluated at plan review;
4. Assessing public complaints being addressed in a timely manner; and
5. Evaluating if the inspections thorough and consistent across different sites.

4.4.M – MCM 4 Measurable Goals:

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success?	Y	N
MCM4 4.4.A	1	Land Disturbance and Sediment Control Ordinance (Chapter 25: Section 25-9)	Regulatory mechanism to require construction site operators to implement erosion and sediment control BMPs.	Stormwater Quality Coordinator	Ensure compliance with LD permit requirements.	Review and update ordinance as needed. Track all enforcement actions.	Review and update ordinance as needed. Track all enforcement actions.	Review and update ordinance as needed. Track all enforcement actions.	Review and update ordinance as needed. Track all enforcement actions.	Review and update ordinance as needed. Track all enforcement actions.	Annual evaluation of Land Disturbance and Sediment Control Ordinance. Analyze enforcement action trends to assess if the enforcement actions are stringent enough to ensure that sites are incompliance.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM4 4.4.B	2	Commercial and Subdivision Review SOP 1.4.004 (Appendix F)	Review all pre-construction plans to assess water quality impacts and effectiveness of BMPs chosen.	Stormwater Quality Coordinator	Decrease potential water quality impacts from land disturbance sites.	Develop pre-construction plan review checklist to ensure consistency during review. Review all pre-construction plans and document.	Review and update development review procedures. Track the number of reviews completed and whether they were approved or not approved.	Review and update development review procedures. Track the number of reviews completed and whether they were approved or not approved.	Review and update development review procedures. Track the number of reviews completed and whether they were approved or not approved.	Review and update development review procedures. Track the number of reviews completed and whether they were approved or not approved.	Annual evaluation of development review process. Analyze the number of reviews completed and their status.		Y	N
												Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM4 4.4.C, 4.4.L	3	City of St. Joseph Land Disturbance Requirements and LD Inspection SOP 1.4.003 (Appendix E)	Identify priority sites for land disturbance activities. Prevent land disturbance related waste from leaving the land disturbance site.	Stormwater Quality Coordinator, ESC Inspectors	Assess compliance with open LD sites, evaluate BMPs, and decrease pollutants leave construction sites.	Review and update LD Requirements and LD Inspection procedures. Track inspections and enforcement actions.	Review and update LD Requirements and LD Inspection procedures. Track inspections and enforcement actions.	Review and update LD Requirements and LD Inspection procedures. Track inspections and enforcement actions.	Review and update LD Requirements and LD Inspection procedures. Track inspections and enforcement actions.	Review and update LD Requirements and LD Inspection procedures. Track inspections and enforcement actions.	Annual evaluation. Analyze inspection frequency and enforcement action trends.		Y	N
												Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM4 4.4.D	4	Land Disturbance and Sediment Control Ordinance (Chapter 25: Section 25-9), City LD Requirements, Enforcement Response Plan SOP 1.4.005 (Appendix G)	Ensure compliance with ESC ordinances and LD permit requirements.	Stormwater Quality Coordinator	Written procedures to ensure compliance with construction site runoff control regulatory mechanism. City staff will follow enforcement procedures when needed.	Record all enforcement actions taken by the City.	Record all enforcement actions taken by the City.	Record all enforcement actions taken by the City.	Record all enforcement actions taken by the City.	Record all enforcement actions taken by the City.	Review enforcement actions. Update Enforcement Response Plan if needed.		Y	N
												Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM4 4.4.E	5	City of St. Joseph Land Disturbance Requirements and LD Inspection SOP 1.4.003 (Appendix E).	Ensure site operators are incompliance with site inspections and BMPs are operating correctly.	Stormwater Quality Coordinator, ESC Inspectors	Decrease potential water quality impacts from land disturbance sites. Increase awareness of how well BMPs are working on the operator's site.	During each LD inspection, ESC inspectors verify that inspections are occurring. Track and use enforcement measures when necessary.	During each LD inspection, ESC inspectors verify that inspections are occurring. Track and use enforcement measures when necessary.	During each LD inspection, ESC inspectors verify that inspections are occurring. Track and use enforcement measures when necessary.	During each LD inspection, ESC inspectors verify that inspections are occurring. Track and use enforcement measures when necessary.	During each LD inspection, ESC inspectors verify that inspections are occurring. Track and use enforcement measures when necessary.	Review number of sites out of compliance annually to assess if different enforcement actions need to be taken.		Y	N
												Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM4 4.4.F, 4.4.G	6	Inventory of active LD sites, including all relevant info regarding the site and inspection details.	Retain all records regarding LD sites to ensure compliance with permit.	Stormwater Quality Coordinator, ESC Inspectors	Ensure that all documentation related to each site is together and accessible to staff.	Create inventory with all required details. Update inventory as new LD sites become active.	Update list as new LD sites become active.	Update list as new LD sites become active.	Update list as new LD sites become active.	Update list as new LD sites become active.	Annually review tracking and inventory list.		Y	N
												Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success?		
													Y	N
MCM4 4.4.H	7	Review & update Stormwater Program (ordinances, permitting procedures, review procedures, inspection procedures, & enforcement procedures)	Ensure compliance with ESC ordinances, stormwater program, and LD permit requirements.	Stormwater Quality Coordinator	Ensure compliance and uniformity across all land disturbance sites.	Review Stormwater Management Program and complete inventory of active land disturbance sites	NA: Complete in 1st year of permit cycle.	NA: Complete in 1st year of permit cycle.	NA: Complete in 1st year of permit cycle.	NA: Complete in 1st year of permit cycle.	Review Stormwater Program and update within 1st year of permit cycle	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
													Y	N
MCM4 4.4.J	8	Web-based comment submission platform, customer comment drop box in City Hall lobby, "Report a Spill" form on SW webpage. (Combination with MCM 2 - 4.2.D)	Provide response to complaints/comments related to land disturbance sites.	Stormwater Quality Coordinator	Reduce pollution leaving land disturbance sites by responding to citizen concerns and complaints.	Record all complaints and responses.	Record all complaints and responses.	Record all complaints and responses.	Record all complaints and responses.	Record all complaints and responses.	Review complaints and responses annually. Update response procedure if needed.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
													Y	N
MCM4 4.4.K	9	Provide construction site runoff control training to all ESC inspectors and plan reviewers, once per permit cycle.	Ensure all inspectors and plan reviewers are knowledgeable about construction site runoff control.	Stormwater Quality Coordinator	Ensure compliance and uniformity across all land disturbance site inspections and plan review.	Provide training to inspectors when current training expires. Track and document.	Provide training to inspectors when current training expires. Track and document.	Provide training to inspectors when current training expires. Track and document.	Provide training to inspectors when current training expires. Track and document.	Provide training to inspectors when current training expires. Track and document.	Track and document training for all inspectors.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		

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

The permittee shall develop, implement, and enforce a program to address storm water 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 would disturb one acre or more, and that discharge into the permittee's regulated MS4.

4.5.A The MS4 Operator shall maintain and utilize an ordinance(s) or other regulatory mechanism(s) to address post-construction runoff from new development and redevelopment projects to the extent allowable under state or local law for sites equal to or greater than one acre including projects less than one acre that are part of a larger common plan of development or sale. The goal of this approach is to arrive at designs that protect sensitive areas, minimize the creation of stormwater pollution, utilize BMPs that effectively remove stormwater pollution, and attempt to maintain predevelopment runoff conditions.

The MS4's program shall ensure that controls are in place that have been designed and implemented to prevent or minimize water quality impacts from stormwater, after construction.

1. If adopting a set of standards from another MS4 or other established standards, the MS4's ordinance may incorporate by reference, therefore the MS4 does not need to incorporate the entire guidance into their codes.
2. This program may be accomplished through one or multiple ordinances or regulatory mechanisms.

The City has adopted APWA/MARC's BMP Manual and provided a Stormwater Pollution Prevention Plan (SWPPP) template (https://www.stjoemo.info/952/Development-and-Construction) to protect sensitive areas, minimize the creation of stormwater pollution, utilize BMPs that effectively remove stormwater pollution, and attempt to maintain predevelopment runoff conditions. During the plan review stage of a project, the Stormwater Quality Coordinator and the City Engineer review the submittals for these requirements. The SWPPP template is reviewed annually and updates are made as needed.
The City has a completed Post-Construction Stormwater Treatment Ordinance in place, Chapter 25, Sect. 25-97. The ordinance is accessible on the City's website (https://www.stjoemo.info/206/Code-of-Ordinances). The ordinance is reviewed annually and updates are made as needed.

4.5.B The MS4 Operator shall continue or develop a strategy to minimize water quality impacts. This shall include a combination of structural and/or non-structural controls (BMPs) appropriate for the permittee's community.

1. Structural controls include but are not limited to; extended detention basins, grass swales, bio-retention, permeable surfaces, sand filter basins, stormwater planters, proprietary BMPs.

The ordinance or regulatory mechanism for structural post-construction controls, or water quality facilities, shall include:

a) Adoption or development of numeric or technical performance and/or design standards to control post-construction stormwater discharges.
These post-construction stormwater standards are for designing, installing, implementing, and maintaining stormwater control measures which may include, but are not limited to BMPs that; infiltrate, evapo-transpire, harvest, detain, retain, and/or reuse stormwater.
The MS4 Operator must adopt or maintain local stormwater discharge design standards that consider parameters such as; site discharge volume, rate, duration, and frequency for new development and redevelopment sites with the intent to minimize the impact of stormwater runoff on water quality.
2. Non-structural controls include but are not limited to; stream buffers, no mow zones, preservation of open spaces, tree preservation, impervious cover reduction, land use planning, and low impact development.
The ordinance(s) or regulatory mechanism(s) for non-structural post-construction controls, shall include:

a) Adoption or development of preventative actions that involve management and source controls such as, but not limited to:

- Policies and ordinances that provide requirements and standards to direct development to identified areas;
- Protection of sensitive areas such as wetlands and riparian areas;
- Maintain and/or increase open space (which may include a dedicated funding source for open space acquisition);
- Maintain requirements for buffer zones along water bodies;
- Require minimizing impervious surfaces;
- Require minimizing disturbance of soils and vegetation;
- Policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure;
- Programs which incentivize the use of green infrastructure;
- Requirements for minimization of directly connected impervious areas; and
- Tree preservation ordinances.

The City has adopted APWA/MARC's BMP Manual and provided a Stormwater Pollution Prevention Plan (SWPPP) template (https://www.stjoemo.info/952/Development-and-Construction) to protect sensitive areas, minimize the creation of stormwater pollution, utilize BMPs that effectively remove stormwater pollution, and attempt to maintain predevelopment runoff conditions. During the plan review stage of a project, the Stormwater Quality Coordinator and the City Engineer review the submittals for these requirements. The SWPPP template is reviewed annually and updates are made as needed.
The City has a completed Post-Construction Stormwater Treatment Ordinance in place, Chapter 25, Sect. 25-97. The ordinance is accessible on the City's website

(https://www.stjoemo.info/206/Code-of-Ordinances). The ordinance is reviewed annually, and updates are made as needed.

4.5.C Pre-construction plan review shall be conducted by the MS4 Operator to assess site characteristics at the beginning of the construction site design phase to ensure adequate planning for stormwater program compliance.
The structural or non-structural controls chosen shall; protect sensitive areas, minimize the creation of stormwater pollution, and effectively reduce stormwater pollution. This can be achieved by reasonably mimicking pre-construction runoff conditions on all affected new development projects, or the permittee may achieve this goal through a method more appropriate for its community.

1. The plan review process shall use a checklist. This may be part of the same plan review in MCM 4.
2. The plan review process shall evaluate non-structural BMP selection first, such as comprehensive plans, zoning ordinances, buffer strips, and/or maximization/preservation of open space. Non-structural BMPs primarily prevent stormwater runoff from a site, which could influence the options for structural BMPs which help mitigate the stormwater related impacts after they have occurred.

The City utilizes a checklist for plan review (Appendix O: Plan Review Checklist for Stormwater Management) to assess site characteristics at the beginning of the construction site design phase to ensure adequate planning for stormwater program compliance. This checklist will be updated in year one (1) of the permit cycle, to ensure compliance with permit requirements.

4.5.D The MS4 Operator shall have ordinances or similar enforcement mechanisms to ensure adequate long-term operation and maintenance (O&M) of the selected BMPs, including, as appropriate, agreements between the MS4 Operator and other parties such as post-development landowners or regional authorities.

1. Long term O&M shall be addressed during the plan review and approval process.
2. Copies of O&M manuals shall be retained by the party responsible for the post-construction BMP, and with the MS4 Operator. This may be done electronically.

The City's Post-Construction ordinance (Chapter 25, Sect. 25-97) includes a specific section dedicated to the long-term maintenance of Post-Construction BMPs. The ordinance also details the City's inspection plan and implementation schedule of post-construction BMPs to ensure all BMPs are implemented and effective. This ordinance will be update within year one (1) of the permit cycle to match permit requirements for inspection frequencies. The enforcement process is reviewed annually along with the rest of the ordinance and updates are made as needed

4.5.E The MS4 Operator shall inspect, or require inspection of, each water quality structural and non-structural water post-construction BMP according to the following at minimum:

1. A minimum of one (1) inspection shall be conducted during construction, and one (1) inspection before the site is finalized, to verify water quality facilities are built as

designed and any applicable boundaries or practices for non-structural BMPs are being observed. This may be conducted in combination with MCM 4 inspections.

a) The MS4 inspector shall have access to the approved plans to ensure proper installation.

2. A minimum of once in the first three years after the installation by, the MS4 Operator.
3. Annually by the owner or operator of the post-construction BMP, or by the MS4 Operator. If completed by the BMP owner or operator, this inspection report shall be submitted to the MS4 Operator for evaluation and review.
4. The MS4 Operator shall inspect a minimum of 60% of all water quality post-construction BMPs within the five year permit cycle. This must include installations with ongoing or open enforcement issues.

The City's Post-Construction ordinance (Chapter 25, Sect. 25-97) includes a specific section dedicated to the long-term maintenance of Post-Construction BMPs. The ordinance also details the City's inspection plan and implementation schedule of post-construction BMPs to ensure all BMPs are implemented and effective. This ordinance will be update within year one (1) of the permit cycle to match permit requirements for inspection frequencies. The enforcement process is reviewed annually along with the rest of the ordinance and updates are made as needed. Relevant excerpts from the ordinance is provided below:

(e) *Stormwater treatment facility registration and maintenance*.

(1) *Stormwater treatment facility registry*. The director shall create and sustain a registry of all stormwater treatment facilities required under this section. The registry shall include the location, description, ownership, and inspection and maintenance history of each facility and other information as the director deems necessary. The owner of each stormwater treatment facility required under this section shall register that facility with the director and shall update the director of changes in contact information and transfers of any facility to another owner. The owner of a stormwater treatment facility that is not installed as part of development or redevelopment may elect to register the facility with the director.

(2) *Owner inspection and maintenance*. At intervals identified in the approved maintenance schedule (but in no case less frequently than every two years) each stormwater treatment facility owner shall inspect all stormwater treatment facilities under his control. The stormwater treatment facility owner shall promptly remove all sediment and other sequestered pollutants and make all modifications, repairs, restoration, replanting, and media replacement identified in the inspection report. The owner shall provide a copy of the inspection report and certification of subsequent maintenance standards in effect at the time of inspection.

(3) *City of St. Joseph operational inspections*. The director may inspect any stormwater treatment facility required under this section as necessary to ensure that it is correctly installed and effectively maintained and is performing its intended function.

4.5.F The MS4 Operator must maintain a plan designed to ensure compliance with the MS4's post-construction water quality regulatory mechanism. This plan shall include escalating enforcement mechanisms the MS4 Operator will use to ensure compliance.

The MS4 Operator must have the authority to initiate a range of enforcement actions to address the variability and severity of noncompliance.

1. Enforcement responses to violations must consider at minimum:
    a) Degree and duration of the violation;
    b) Effect the violation has on the receiving water;
    c) Compliance history of the post-construction BMP owner or operator;
    d) Cooperation of the owner or operator with compliance efforts.

The City has an ordinance in place, Chapter 25: Section 25-99 that gives the authority to the City to use a range of enforcement actions for violations (See 4.5.G for enforcement actions per City Code).

4.5.G Enforcement actions shall be timely in order to ensure the actions are effective. The MS4 Operator shall begin enforcement actions within thirty (30) days of discovering a violation.

The MS4 Operator shall maintain a minimum of two possible sanctions. These include, but are not limited to:

1. Education regarding the BMP and verbal warnings;
2. Written warnings or notice of violation (this includes email notification);
3. Property lien; and
4. Fines.

The City begins enforcement actions via a letter of warning within thirty (30) days of discovering a violation. If the violation is not remedied in the time specified in the letter of warning, a fine is issued to the owner/operator responsible for the violation. City Code Chapter 25: Section 25-99 referenced below, gives the City authority to issue sanctions for enforcement.

(a) Violations. Violations of provisions of this division may be enforced in any manner described in this section.

(b) Fine. Any person violating any provision of this division shall be, upon conviction or a plea of guilty, subject to a fine not to exceed $500.00, or the maximum amount allowed by state law.

(c) Enforcement by administrative building citation. Any violation of any section of this article shall be deemed a building code violation that may be enforced by the issuance of an administrative building citation in accordance with the provisions set forth in Chapter 2.

(d) Stop work order—issuance. Where work regulated by this division is being performed in a manner contrary to the provisions of this division or in a dangerous or unsafe manner, the

director of public works and transportation, or his or her designee, may issue a written stop work order. The stop work order shall be given to the owner of the property on which the work has been performed, the owner's authorized agent, or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work will be permitted to resume.

(e) Stop work order—violations. Any work performed in violation of a stop work order, except work that is directed by the issuer of the stop work order to remove a violation or unsafe condition, shall constitute a separate violation of this division.

4.5.H The MS4 Operator shall maintain an inventory tracking the water quality post-construction BMPs. This inventory must contain, at a minimum:

1. Relevant contact information for the responsible person(s) or entity (e.g., tracking number, name, address, phone, etc.);
2. The type of post-construction BMP;
3. Applicable operations and maintenance documents;
4. Date the MS4 Operator approved the construction site plan; and,
5. If the water quality facility is owned or operated by the MS4, the tracking shall also include any maintenance, such as sediment clean-out or replanting.

The City is in the process of developing an inventory to track water quality post BMPs and will be completed within the first two (2) years of the permit cycle. The City will be utilizing Cartiograph as a tracking tool and will explore this as an option when it is implemented. All new post construction BMPs are added to the inventory as the projects are completed. The City is working to update the post construction BMP map to show the location of all BMPs in the city.

4.5.I The MS4 Operator shall also track the post-construction BMP inspections. This may be done by retaining copies of records such as inspection checklists and email correspondence. The MS4 Operator must make these inventories available to the Department upon request.

The MS4 Operator shall track at a minimum:

1. Inspection dates/ times;
2. Inspector name(s);
3. Inspection findings; and,
4. Follow up actions including all enforcement actions.

All inspection reports and documents pertaining to the inspection are saved in the local drive under that project name.

4.5.J **Existing permittees:** Evaluate the ordinances, permitting procedures, review procedures, inspection procedures and enforcement procedures to ensure compliance with these requirements and determine if changes are needed. Any changes necessary to be in compliance with this permit shall be completed within the first two (2) years of permit issuance.

The inventory of water quality facilities must be updated as new facilities are added and projects are completed. If the MS4 Operator needs to develop this inventory, it shall be completed within two (2) years of this permit issuance.

The City will update ordinances to reflect permit requirements within the first two (2) years of the permit cycle. Inventory of water quality facilities is updated as new projects are completed. Any facilities that are already constructed and not currently documented will be added to the inventory within the first two (2) years of the permit cycle.

4.5.L The MS4 Operator shall provide appropriate training for MS4 inspectors at minimum once every permit cycle. This may include Green Infrastructure training, or specific operation of proprietary post-construction BMPs. The MS4 shall provide overall training to explain the function of both structural and non-structural post-construction water quality BMPs.

All Erosion and Sediment Control Inspectors are required to take the Certified Stormwater Inspector course conducted by the National Stormwater Center. Training is also provided in the form of stormwater conferences, that offer Green Infrastructure training. Additional training opportunities will be offered as they become available and will be documented in the annual report. The City is involved in the Stormwater Committee through the Missouri Water Environment Association.

4.5.M Using adaptive management, all MS4 Operators shall review, at minimum annually, their Post-Construction Site Stormwater Management in New Development and Redevelopment Program and evaluate effectiveness of the overall program and determine if changes are needed. This annual review may include but is not limited to:

1. Reviewing the number and types of developments;
2. How many BMPs were installed/inspected;
3. The amount of watershed area being treated;
4. The types of violations found and how frequently; and
5. How education could improve the effectiveness of the program.

4.5.M – MCM 5 Measurable Goals:

Permit Section		BMP Description	BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success?	Y	N
MCM5 4.5.A, 4.5.B, 4.5.C	1	Post-Construction Stormwater Ordinance (Chapter 25: Sect. 25-97)	Regulatory mechanism to require site designers to implement post-construction stormwater BMPs.	Stormwater Quality Coordinator	Ensure compliance with stormwater ordinance requirements.	Review and update ordinance as needed. Track document reviews.	Review and update ordinance as needed. Track document reviews.	Review and update ordinance as needed. Track document reviews.	Review and update ordinance as needed. Track document reviews.	Review and update ordinance as needed. Track document reviews.	Annual evaluation of post-construction stormwater ordinance. Analyze enforcement action trends.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
	2	APWA/MARC's BMP Manual, SWPPP template, Pre-construction plan review.	Requires plan reviewers to implement strategies to ensure adequate planning for stormwater program compliance and to minimize water quality impacts.	Stormwater Quality Coordinator, City Engineer	New and redevelopment projects that are greater than or equal to one acre will implement stormwater BMPs.	Enforce APWA/MARC manual requirements for all plan reviews over one acre. Document plan reviews.	Enforce APWA/MARC manual requirements for all plan reviews over one acre. Document plan reviews.	Enforce APWA/MARC manual requirements for all plan reviews over one acre. Document plan reviews.	Enforce APWA/MARC manual requirements for all plan reviews over one acre. Document plan reviews.	Enforce APWA/MARC manual requirements for all plan reviews over one acre. Document plan reviews.	Annual review of SWPPP template and plan reviews from the last year.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM5 4.5.D, 4.5.E,	3	Stormwater Treatment Facility Registration and Maintenance as listed in Post-Construction Stormwater Ordinance (Chapter 25: Sect. 25-97)	Long-term operation and maintenance of BMPs will be achieved.	Stormwater Quality Coordinator	BMPs will be constructed and maintained to function properly. Long term O&M addressed during plan review and approval process.	Create stormwater treatment facility registry. Track all enforcement actions. Require O&M manuals for the close out of the project.	Develop City inspection requirements and track all enforcement actions. Require O&M manuals for the close out of the project.	Track all enforcement actions. Require O&M manuals for the close out of the project.	Track all enforcement actions. Require O&M manuals for the close out of the project.	Track all enforcement actions. Require O&M manuals for the close out of the project.	Annual evaluation of post-construction stormwater ordinance and registry. Analyze enforcement action trends.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
	4	Inspection of each water quality structural and non-structural water post-construction BMP. Conducted in combination with MCM 4.	Ensure water quality facilities built as designed. Long-term operation and maintenance of BMPs will be achieved.	Stormwater Quality Coordinator	BMPs will be constructed and maintained to function properly.	Inspect all post-construction BMPs during construction and once during first 3 years post construction. Inspect 12% of all post-con BMPs, including ongoing enforcement cases. Update SW ordinance to meet compliance.	Inspect all post-construction BMPs during construction and once during first 3 years post construction. Inspect 12% of all post-con BMPs, including ongoing enforcement cases.	Inspect all post-construction BMPs during construction and once during first 3 years post construction. Inspect 12% of all post-con BMPs, including ongoing enforcement cases.	Inspect all post-construction BMPs during construction and once during first 3 years post construction. Inspect 12% of all post-con BMPs, including ongoing enforcement cases.	Inspect all post-construction BMPs during construction and once during first 3 years post construction. Inspect 12% of all post-con BMPs, including ongoing enforcement cases.	Inspect 60% of all post-construction BMPs during permit cycle. Review annual inspection reports of post-con BMPs provided by operator. Annual evaluation of post-construction stormwater ordinance and registry.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM5 4.5.F, 4.5.G	5	Post-Construction Stormwater Ordinance (Chapter 25: Sect. 25-97 25-99)	Maintain a plan designed to ensure compliance with regulatory mechanism. Timely enforcement actions to ensure actions are effective.	Stormwater Quality Coordinator	Ensure that BMPs are being maintained properly and functioning correctly to prevent water quality impacts.	Update ERP to match enforcement actions noted in permit. Evaluate and update ordinance as needed. Record all enforcement actions taken.	Update ERP to match enforcement actions noted in permit. Evaluate and update ordinance as needed. Record all enforcement actions taken.	Start enforcement actions within 30 days of discovery, track all enforcement actions.	Start enforcement actions within 30 days of discovery, track all enforcement actions.	Start enforcement actions within 30 days of discovery, track all enforcement actions.	Annual evaluation of ordinances and enforcement actions. Determine if current enforcement actions are effective.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM5 4.5.H, 4.5.I	6	Stormwater Treatment Facility Registration and Maintenance as listed in Post-Construction Stormwater Ordinance (Chapter 25: Sect. 25-97)	Inventory tracking for water quality post-construction BMPs and inspections of BMPs.	Stormwater Quality Coordinator	Tracking post construction BMPs and inspections to ensure compliance.	Create inventory list of all post construction BMPs and inspections. Test Cartiograph for tracking functions. Update post-construction BMP inventory as new BMPs are constructed. Track all BMP inspections.	Create inventory list of all post construction BMPs. Inventory must be created within first 2 years of permit cycle. Update post-construction BMP inventory as new BMPs are constructed. Track all BMP inspections.	Update post-construction BMP inventory as new BMPs are constructed. Track all BMP inspections.	Update post-construction BMP inventory as new BMPs are constructed. Track all BMP inspections.	Update post-construction BMP inventory as new BMPs are constructed. Track all BMP inspections.	Annual review of inventory list to ensure all details are present and is being updated as needed. Ensure all BMPs are being inspected as required.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP Success?		
													Y	N
MCM5 4.5.J	7	Evaluate post-construction stormwater management program.	Ensure compliance with permit.	Stormwater Quality Coordinator	Program meeting permit requirements	Review ordinances, permitting procedures, review process, inspection procedures, and enforcement procedures to ensure compliance with permit requirements.	Review ordinances, permitting procedures, review process, inspection procedures, and enforcement procedures to ensure compliance with permit requirements.	NA – to be completed in first 2 years of permit cycle.	NA – to be completed in first 2 years of permit cycle.	NA – to be completed in first 2 years of permit cycle.	Annual review to ensure that program is meeting permit requirements.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
													Y	N
MCM5 4.5.L	8	Provide training for ESC inspectors once per permit cycle; must include structural and non-structural BMPs, can include GI training, or specific operation of proprietary post-construction BMPs.	Ensure ESC inspectors are knowledgeable about function of structural and non-structural post-construction BMPs.	Stormwater Quality Coordinator	Post-construction BMPs inspections being completed by knowledgeable ESC staff.	Provide training at minimum once during permit cycle. Document training, attendance, and date.	Provide training at minimum once during permit cycle. Document training, attendance, and date.	Provide training at minimum once during permit cycle. Document training, attendance, and date.	Provide training at minimum once during permit cycle. Document training, attendance, and date.	Provide training at minimum once during permit cycle. Document training, attendance, and date.	Annual review to ensure that staff are receiving adequate training. Search for new or additional training opportunities if staff are not gaining new knowledge.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		

MCM 6. Pollution Prevention/Good Housekeeping for Municipal Operations

The permittee shall develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

4.6.A The MS4 Operator shall maintain and utilize an employee training program for MS4 municipal operations staff. The training shall be given at minimum annually to all MS4 staff who work with material handling, at MS4 owned or operated vehicle/equipment maintenance areas, storage yards, and material storage facilities. This may be broken up into staff units, or by applicable topics.

The City has a training program for all municipal operations staff. The City utilizes multiple sources for training materials on identifying illicit discharges when they are in the field; proper management of municipal vehicle and equipment maintenance areas and storage yards (Strata Environmental Service); proper land disturbance site management; long-term BMP installation and maintenance; and proper material handling at storage facilities. Training materials will be transitioned to the online HR training platform, Paycor. Trainings are conducted for each new hire with annual refreshers for each applicable department.

The City's training program coordinates with all other MCMs as follows:

- MCM #1 - By providing education/training to municipal staff this in itself satisfies how the training program coordinates with MCM #1.
- MCM #2 - By municipal staff participating in the training, this in itself satisfies how the training program coordinates with MCM#2.
- MCM #3 – Staff training will discuss how to recognize, address, prevent, trace illicit discharges. This training will target City staff who are in the field, including inspectors, street and sewer line maintenance crews, and all Water Protection staff.
- MCM #4 – Training will educate erosion and sediment control inspection staff on proper land disturbance site management. Plan review staff will be trained on the proper land disturbance permit application process.
- MCM #5 – Training will educate inspection staff on proper installation of post-construction BMPs. Plan review staff will be trained on the requirements of a plan submittal.
- MCM #6 – Training for municipal facilities is site specific and discusses pollution prevention and good housekeeping practices.

Streets/Sewer Line Maintenance Training: The City of St. Joseph Sewer Maintenance Sewer Cleaning Procedures (Appendix H), Sanitary Sewer and Overflow Response Plan (SSORP), and Policy Definitions of SSO and Bypass (Appendix I).

Transit Training: Strata Environmental Services (Waste Management, Storm Water, Fuel Tank Management, General Environmental Awareness, Hazard Communication).

Monitoring, integrated planning, or TMDL implementations are not applicable at this time. The City's training program is reviewed annually and modified as new, updated material becomes available or as the needs of the City change.

4.6.B The training shall be used to prevent and reduce stormwater pollution.
The training shall cover a minimum of the following topics/ activities (if applicable to the MS4):

1. Vehicle and equipment washing;
2. Fluid disposal and spills;
3. Fleet, equipment, and building maintenance;
4. Park and open space maintenance procedures (including fertilizer, herbicide, pesticide application);
5. New construction, road maintenance, and land disturbances;
6. Stormwater system maintenance;
7. MS4 operated salt and de-icing operations;
8. Fueling;
9. Solid waste disposal;
10. Street sweeper operations; and
11. Illicit Discharges.

The city will update and implement staff training in year one (1) of the permit cycle. It will be offered to all employees through Paycor.

4.6.C The MS4 Operator shall:

1. Maintain material to use in the training program, such as those available from the EPA, the state, or other organizations.
2. Maintain written procedures for the training program. Include a description of how this training will coordinate with all other minimum control measures (such as Illicit Discharge), monitoring and TMDL implementations where applicable.
3. Maintain a written schedule to offer topic specific training when it is appropriate. Such as, swimming pool discharges in the summer, leaf disposal in the fall, proper salt clean-up and usage in the winter.

4.6.D The MS4 Operator shall maintain a list of all municipal operations/facilities that are impacted by this operation and maintenance program.
This shall include a minimum of the following if owned and operated by the MS4 and if applicable to the MS4:

1. Maintenance yards;
2. Fleet or maintenance shops, including parks department;
3. Storage yards;
4. Parks, golf courses, swimming pools, and splash pads;
5. Municipal parking lots;
6. Salt/sand storage locations;
7. Snow disposal areas; and

8. Other locations expected to contribute floatables and/or pollutants.

A list of Municipal Facilities is included as Appendix J.

The City has five (5) City-owned and operated municipal facilities impacted by the City's operation and maintenance program (highlighted in Appendix J). The facility's include:

Fire Station 4
Fire Station 5
Fire Station 8
Rosecrans Memorial Airport
Rosecrans Wastewater Treatment Facility

Fire Station 8 is in the process of being built and will be added to the Municipal Facilities List when it is in operation. The City's list of facilities is reviewed annually and updated as needed.

4.6.E The MS4 Operator shall maintain a list of industrial facilities the MS4 Operator owns or operates which are subject to NPDES permits for discharges of stormwater associated with industrial activity. The list shall include the permit number or a copy of the No Exposure Exemption Certification (if applicable) for each facility.
This includes; municipal projects with a land disturbance permit, wastewater facilities, airports, etc.
NPDES permitted facilities not owned or operated by the permittee are not required to be part of the list; however, the MS4 Operator should be familiar with all such facilities in their MS4 service area as they may signify a priority area for the IDDE program.

Of the five (5) City-owned and operated municipal facilities that discharge to the MS4, the City has two (2) City-owned and operated municipal facilities subject to a NPDES permit. The facilities are:

Rosecrans Memorial Airport (MO-0118656)
Rosecrans Wastewater Treatment Facility (MO-0023051)

Rosecrans Memorial Airport's stormwater sampling and SWPPP development and implementation requirements under permit MO-0118656 are met by the 139AW Missouri Air National Guard (ANG). This is made official in the Memorandum of Agreement (MOA) between the ANG and the City signed most recently in March 2019 (Appendix K). The cover page and table of contents for the SWPPP are included in the SWMP in Appendix L. A full copy of the SWPPP had been left out of this document but can be provided upon request.

According to permit MO-0023051, the City is not required to develop and implement a SWPPP for the Rosecrans Wastewater Treatment Facility. There are no operations that occur at that facility that would introduce pollutants to stormwater.

The City's other permitted facilities discharge stormwater to the combined sewer system or are outside of City Limits:

St. Joseph Landfill (MO-0109878)
St. Joseph Water Protection Facility (MO-0023043)

Permit MO-0023043, issued in December of 2020, requires a SWPPP for the St. Joseph Water Protection Facility. The SWPPP is currently in development, but will be in place by June 1, 2021.

The City does not have any owned and operated No Exposure facilities. St. Joseph is required to have an approved Industrial Pretreatment Program (IPP). The IPP monitors NPDES permitted facilities not owned by the City during annual inspections and sampling events. The City's list of facilities is reviewed annually and updated as needed.

4.6.F The MS4 Operator shall develop or maintain controls for reducing or eliminating the discharge of floatables and pollutants from municipal facilities listed in Section 4.6.D and 4.6.E. These controls shall include at a minimum, where applicable:

1. A list of potential pollutant sources at each facility, such as materials used and stored on site;
2. A minimum of annual inspections of all municipally owned or operated facilities for stormwater issues;
    a) Records shall be kept for inspections and follow up. This may be a checklist, and may be electronic;
3. Use of structural controls/BMPs to reduce or prevent pollutants from entering waters of the state or into another MS4 where needed.
    a) A map with descriptions of these BMPs shall be maintained for each facility;
4. All paints, solvents, petroleum products, and petroleum waste products (except fuels) under the control of the permittee shall be stored so these materials are not exposed to stormwater;
5. Sufficient practices of spill prevention, control, and/or management shall be provided to prevent any spill of these pollutants from entering waters of the state;
    a) This shall include spill kits when liquid product is stored at a facility; and
    b) Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination of groundwater.
6. Tracking of rock salt/brine or other deicer usage;
7. Maintaining municipal salt storage area(s) after use of rock salt, at minimum:
    a) Sweep and/or shovel spillage in loading area and storage area, and
    b) Unload salt hoppers or keep under cover when salt is in the hopper.

In recent years, street sweeping was increased with a goal of sweeping each street a minimum of four times a year. City owned parking lots and garages are now swept a minimum of four times a year as well; surface lots are swept a minimum of once a year. The wastes from the street sweeping program is collected and taken to the landfill.

As noted above in 4.6.B, maintenance and storage yards, waste transfer stations, fleet or maintenance areas, along with salt/sand storage locations discharge stormwater to the combined sewer system. Even though these areas discharge stormwater to the combined sewer, the controls are reviewed annually.

City bus stations have been identified as sources of blowable trash/floatables. Clean-up and trash removal at the downtown bus station as well as the extended transfer stations at both Wal-Marts and HyVee are completed at least daily and additionally as needed by Transit employees. The downtown transfer station is cleaned nightly by Veterans janitorial service. Veterans also cleans the outlying transfer centers on a weekly basis. The janitorial schedule is attached as Appendix M. City buses travel in both the separate sewer area and combined sewer area. The buses have preventative maintenance (PM) performed every 3000-6000 miles. Included in the PM is an inspection for leaks of fuel, oil, coolant and other fluids.

The Police Department fleet also travels in and out of the separate sewer area in St. Joseph. The Department employs two (2) mechanics. The Master Mechanic's job description is attached as Appendix N. Preventative maintenance of fleet vehicles is part of the daily duties of the mechanics.

Each municipal facility maintains their own chemical storage and spill prevention procedures. The Fire Department does inspections upon request of City Facilities that include chemical storage and spill response plans. New employee training and subsequent annual training will include material about proper chemical storage.

Chemical storage at the four (4) facilities identified in the MS4 area (4.6.B):

No chemicals are stored at the Rosecrans Wastewater Treatment Facility or Fire Stations 4 and 5.

Rosecrans Memorial Airport – addressed in the SWPPP described in 4.6.C.

4.6.G The MS4 Operator shall have procedures for proper disposal of waste removed from the MS4 structures and areas of jurisdiction.
This waste, shall include at minimum, if applicable to the permittee:

1. Street sweeper spoils and washout;
2. Accumulated sediment;
3. Dredged materials;
4. Floatables, trash and litter;
5. Leaves, other organic matter; and
6. Other debris.

Within the *City of St. Joseph, MO Capacity, Management, Operations, and Maintenance (CMOM) Comprehensive Index* are the Sewer Maintenance Sewer Cleaning Procedures (Appendix H). Also in the CMOM plan is the Sanitary Sewer Overflow Response Plan (SSORP) which contains information about the containment and clean-up of SSOs. The entire SSORP is not included in this SWMP (can be provided upon request), but a relevant excerpt from page 8, Section D is included below. The SSORP contains DNR Training for *Policy Definitions of SSO and Bypasses* (Appendix I) that goes over the proper response to an SSO.

D. ***Overflow Correction, Containment, and Clean-Up***
This section describes specific actions to be performed by City personnel during an SSO. The objectives of these actions are:

- *To protect public health, environment and property from sewage overflows, and to restore the surrounding public area back to normal as soon as possible;*
- *To establish perimeters and control zones with appropriate traffic cones and barricades, vehicles or use of natural topography (e.g., hills, berms);*
- *To promptly notify the MDNR with preliminary overflow information and potential impacts;*
- *To contain the sewer overflow to the maximum extent possible including preventing the discharge of sewage into surface waters; and*
- *To minimize the City of St. Joseph's exposure to any regulatory agency penalties and fines.*
- *To restrict all maintenance and restoration to exterior, public areas and to not involve any private structural or interior spaces.*

All waste removed from the separate storm sewers and areas of jurisdiction is disposed of at the St. Joseph Landfill. This includes waste from street sweeping, dredging, and floatables.

4.6.H The MS4 Operator shall maintain and utilize the following procedures, at minimum, for the washing of all municipal vehicles and equipment (if applicable to the MS4):

1. Use of any soap or detergent shall only be where there is connection to sanitary sewer or equivalent treatment; and
2. Any wash or rinse water that contains pollutants such as salt, oils, grease, sediment, grass clippings, lawn chemicals, or pesticides shall not be discharged to waters of the state or the MS4 system without appropriate treatment.
3. Any washing or rinsing activities shall be conducted in an appropriate area so the water is treated. This area(s) shall be marked on the map of the facility.

Each municipal facility maintains their own fleet washing procedures. Of the four (4) facilities identified in the MS4 area (4.6.B), only the Fire Stations and Rosecrans Memorial Airport staff wash vehicles at those locations. Airport vehicle washing is addressed in the SWPPP described in 4.6.C.

Five of the nine Fire Stations (4, 5, 9, 11, and 12) have oil water separators protecting the sewer system from fleet washing operations. As noted above, Fire Station 4 and 5 are the only Fire Stations in the MS4 area.

Additionally, the Police Department maintains a contract with East Ridge II Car Wash for the washing of all of their fleet vehicles. East Ridge II is in the MS4 area of St. Joseph with all wash water directed into the sanitary sewer.

4.6. I The MS4 Operator shall maintain written explanation of the controls, procedures, inspection schedules, and explanation of tracking of these controls. Tracking may be done by retaining inspection reports or checklists.
Individual Stormwater Pollution Prevention Plans or one overarching Operations and Maintenance Manual for all applicable MS4 facilities may be used to comply with this requirement. If a unified document is used, each individual site shall be familiar with the document, and a copy shall be present on each site referenced in the document or available electronically.
Annually, the MS4 Operator shall evaluate the results, controls, and inspection procedures to ensure compliance with these requirements and determine if changes are needed. This evaluation may also aid in finding priority areas or pollutants in relation to MCM 3, or adding more education in relation to MCM 1.

4.6.J The MS4 Operator shall maintain procedures to determine if there are impacts to water quality for new flood management projects, if applicable. Any flood management projects shall require the protection of water quality in the standards that are used to plan, design, build, and maintain stormwater infrastructure.
Flood management projects are those projects developed or designed to reduce flooding.

The City does not have new flood management projects.

4.6.K Existing permittees: Shall evaluate the current Stormwater Management Program including training, inspection procedures, and other municipal operation procedures to ensure compliance with these requirements. Any changes necessary to be in compliance with this permit shall be completed within one (1) year of this permit issuance.

4.6.M Using adaptive management, all MS4 Operators shall review their Municipal Operations Program, at minimum, annually and update implementation procedures as necessary within the permit requirement. Any additional BMPs shall be acknowledged in the Stormwater Management Program Report.

4.6.M – MCM 6 Measurable Goals:

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success?	Y	N
MCM6 4.6.A, 4.6.B	1	City Staff Training (MCM 1 BMP 3) to prevent and reduce stormwater pollution.	Provide New Employee and Annual Training for City Staff who work in municipal operations that impact stormwater.	Stormwater Quality Coordinator, Hr Staff, and Department Heads	Prevent and reduce stormwater pollution from municipal operations.	Training materials exist. Transition to PayCor in first year of permit cycle. Training will include a test: track test scores to see improvement. m	Maintain PayCor training for new employees and annual training. Training will include a test: track test scores to see improvement.	Maintain PayCor training for new employees and annual training. Training will include a test: track test scores to see improvement.	Maintain PayCor training for new employees and annual training. Training will include a test: track test scores to see improvement.	Maintain PayCor training for new employees and annual training. Training will include a test: track test scores to see improvement.	Review test scores and analyze if material is teaching staff thoroughly. If this BMP us not successful, reevaluation of materials and platform should be done.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM6 4.6.C	2	Maintain training materials for City staff used to reduce stormwater pollution.	provide and maintain training materials, written procedures for training program, and offer topic specific training to staff.	Stormwater Quality Coordinator	Prevent and reduce stormwater pollution from municipal operations.	Maintain materials used in training program, including those from other organizations. Create and maintain written procedures for training program. Create a schedule to offer for specific training (must be completed 1st yr permit cycle)	Maintain materials used in training program, including those from other organizations. Maintain written procedures for training program. Offer topic specific training for employees.	Maintain materials used in training program, including those from other organizations. Maintain written procedures for training program. Offer topic specific training for employees.	Maintain materials used in training program, including those from other organizations. Maintain written procedures for training program. Offer topic specific training for employees.	Maintain materials used in training program, including those from other organizations. Maintain written procedures for training program. Offer topic specific training for employees.	Annual review of materials, written procedures, and schedule for topic specific training to evaluate if it is still effective.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM6 4.6.D	3	Maintain a list of all municipal ops/facilities impacted by operation and maintenance program	Identify municipal operations and facilities that could have stormwater impacts.	Stormwater Quality Coordinator	Facilities listed in SWMP.	Update municipal operations and facilities list as needed. Review O&M program. Staff at these facilities will be specifically targeted by MCM 1 BMP3/MCM 6 BMP 1.	Update municipal operations and facilities list as needed. Review O&M program. Staff at these facilities will be specifically targeted by MCM 6 BMP 1.	Update municipal operations and facilities list as needed. Review O&M program. Staff at these facilities will be specifically targeted by MCM 6 BMP 1.	Update municipal operations and facilities list as needed. Review O&M program. Staff at these facilities will be specifically targeted by MCM 6 BMP 1.	Update municipal operations and facilities list as needed. Review O&M program. Staff at these facilities will be specifically targeted by MCM 6 BMP 1.	Annual review of municipal facilities and O&M program.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM6 4.6.E	3	Maintain a list of industrial facilities owned and operated by the City that discharge to the MS4.	Identify industrial facilities that are subject to NPDES permits for discharges of stormwater associated with industrial activity. Including municipal projects with LDPs.	Stormwater Quality Coordinator	Facilities listed in SWMP, help identify priority areas in IDDE program (MCM 3).	Update industrial facilities list as needed. Staff at these facilities will be specifically targeted by MCM 6 BMP 1.	Update industrial facilities list as needed. Staff at these facilities will be specifically targeted by MCM 6 BMP 1.	Update industrial facilities list as needed. Staff at these facilities will be specifically targeted by MCM 6 BMP 1.	Update industrial facilities list as needed. Staff at these facilities will be specifically targeted by MCM 6 BMP 1.	Update industrial facilities list as needed. Staff at these facilities will be specifically targeted by MCM 6 BMP 1.	Annual review of industrial facilities list.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM6 4.6.F	4	Policies for trash reducing and eliminating floatables and pollutants from permittee owned or operated municipal sites listed in 4.6.D & 4.6.E.	Reduce or eliminate the discharge of floatables and pollutants from permittee owned or operated municipal sites.	Stormwater Quality Coordinator, Department Heads	Written procedures included in SWMP to reduce pollution from municipal sites.	Compile different department policies on floatables and pollutant elimination. Create policies in SWMP. Annual inspections of all municipal facilities.	Maintain written policies in SWMP, update as needed. Annual inspections of all municipal facilities.	Maintain written policies in SWMP, update as needed. Annual inspections of all municipal facilities.	Maintain written policies in SWMP, update as needed. Annual inspections of all municipal facilities.	Maintain written policies in SWMP, update as needed. Annual inspections of all municipal facilities.	Annual review of City policies for floatable and pollution reduction/elimination.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM6 4.6.G	5	Procedures for the proper disposal of waste removed from separate storm sewers and areas of jurisdiction	Waste from MS4 area disposed of properly.	Stormwater Quality Coordinator, Department Heads	Written procedures included in CMOM Comprehensive Index and SWMP to dispose of waste from MS4 area properly.	Review procedures in CMOM and SWMP annually. Track waste disposed of from MS4 area.	Review procedures in CMOM and SWMP annually. Track waste disposed of from MS4 area.	Review procedures in CMOM and SWMP annually. Track waste disposed of from MS4 area.	Review procedures in CMOM and SWMP annually. Track waste disposed of from MS4 area.	Review procedures in CMOM and SWMP annually. Track waste disposed of from MS4 area.	Annual review of CMOM and SWMP procedures for waste disposal. Quantify trends in waste from year to year.	Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		

Permit Section	BMP Description		BMP Purpose	Responsible Person	Goal/Expected Result of BMP	Measurable Goals/Milestones Permit Year 1	Measurable Goals/Milestones Permit Year 2	Measurable Goals/Milestones Permit Year 3	Measurable Goals/Milestones Permit Year 4	Measurable Goals/Milestones Permit Year 5	BMP Evaluation	Is this BMP a Success?	Y	N
MCM6 4.6.H	6	Procedures for the washing of municipal vehicles and equipment	Prevent pollutants from fleet washing procedures from entering the storm sewer system.	Stormwater Quality Coordinator, Department Heads	Written summary included in the SWMP of fleet washing procedures.	Create inspection procedures.	Review procedures in SWMP annually. Update as needed. Inspect all BMPs once per year.	Review procedures in SWMP annually. Update as needed. Inspect all BMPs once per year.	Review procedures in SWMP annually. Update as needed. Inspect all BMPs once per year.	Review procedures in SWMP annually. Update as needed. Inspect all BMPs once per year.	Annual review of SWMP procedures for vehicle washing.	**Year 1**		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM6 4.6.I	7	Maintain written explanation of the controls, procedures, inspection schedules, and explanation of tracking of these controls.	Ensure compliance and prevent stormwater pollution from municipal sites. Find priority areas for MCM3 and MCM1.	Stormwater Quality Coordinator, Department Heads	Meet permit requirements.	Create and maintain explanation of the controls, procedures, inspection schedules, and explanation of tracking of these controls. Create tracking mechanism for inspections. (Must be completed 1st yr permit cycle)	Maintain explanation of the controls, procedures, inspection schedules, and explanation of tracking of these controls.	Maintain explanation of the controls, procedures, inspection schedules, and explanation of tracking of these controls.	Maintain explanation of the controls, procedures, inspection schedules, and explanation of tracking of these controls.	Maintain explanation of the controls, procedures, inspection schedules, and explanation of tracking of these controls.	Annual review of controls, results, and inspection procedures to ensure compliance with permit requirements and determine if changes need to be made.		Y	N
												Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		
MCM6 4.6.K	8	Evaluate current Stormwater Management Program (training, inspection procedures, and other municipal operation procedures)	Ensure program meets permit requirements	Stormwater Quality Coordinator	Updates to program accomplished in 1st year of permit cycle	Any changes necessary must be completed in 1st year of permit cycle.	NA	NA	NA	NA	Complete all updates within one year of permit cycle.		Y	N
												Year 1		
												Year 2		
												Year 3		
												Year 4		
												Year 5		

APPENDICES

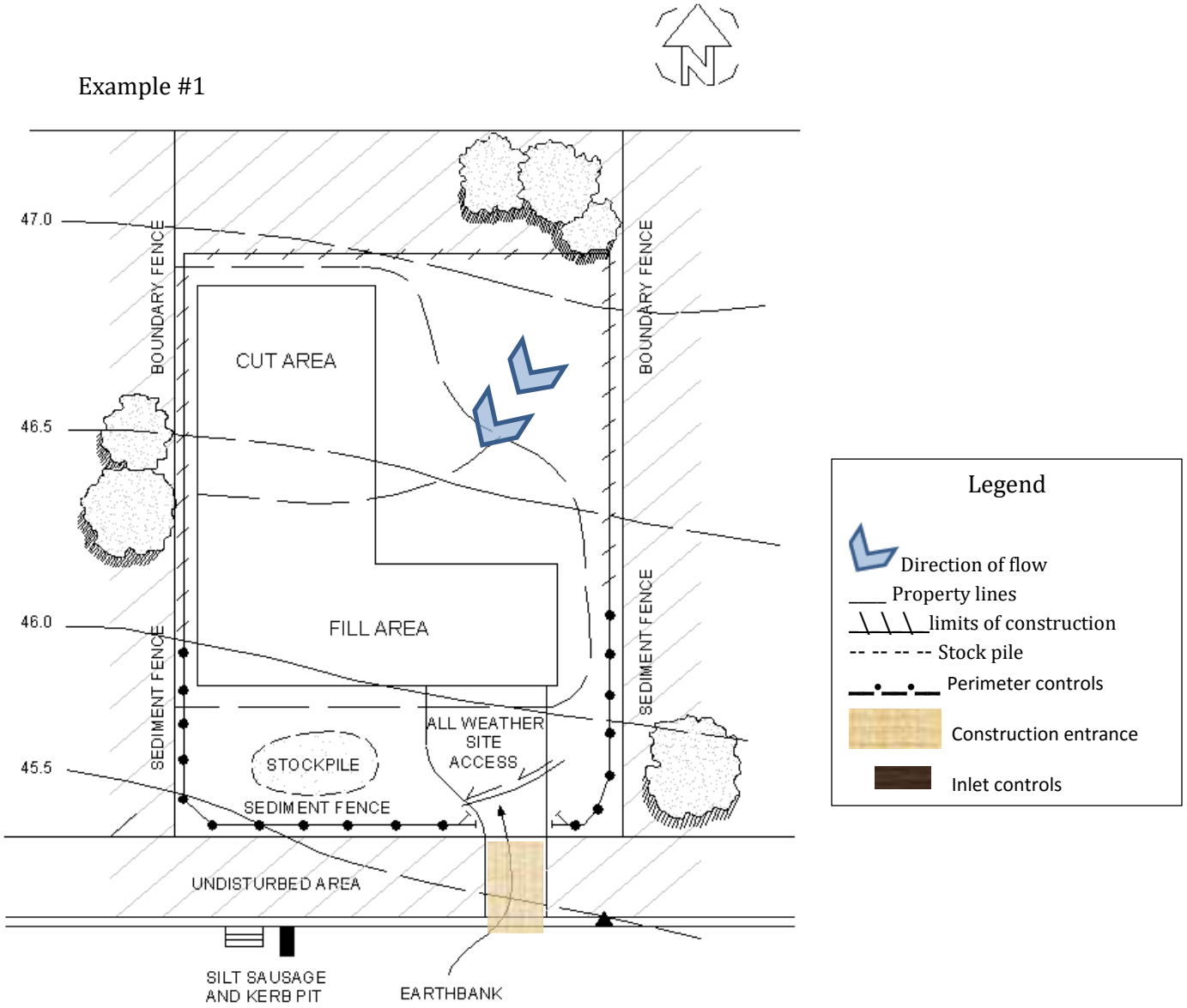
Appendix A: Erosion and Sediment Control Plan

EROSION AND SEDIMENT CONTROL PLAN FOR **SITES LESS THAN 1 ACRE:**

Label the following:

1. Property lines
2. Contours, and direction of water flow
3. Streams or drainage features
4. Stormdrains and stormdrain protection
5. Track out control location
6. Stockpile location
7. Perimeter controls (silt fence, waddles, etc.)

Example #1



Appendix B: Pre-Construction Inspection Form

Pre-Construction Inspection of For Land Disturbance Sites

Project Name:_____ Project Address:_____

LDP Number:_____ Date:_____

Contractor/Representative:_____ City Inspector:_____

A. Project Overview

- How Many Acres Total Does the Project Disturb? _____
- Project Start Date: _____ Project End Date:_____

B. Paperwork

• *Does the project have a DNR Land Disturbance Permit?	Yes	No	N/A
• *Does the project have a City Land Disturbance Permit?	Yes	No	N/A
• *Is the SWPPP Notebook onsite?	Yes	No	N/A

C. Site Preparation (*Must be "Yes" or "N/A" for inspection to be satisfactory.)

• *Has the contractor installed temporary construction entrance(s) and are the vehicles using it?	Yes	No	N/A
• *Is there a place for concrete wash-out, is it clearly marked and do concrete trucks appear to be using it?	Yes	No	N/A
• *Is the site largely free of construction trash? (cups, lunch, material packaging, etc.)	Yes	No	N/A
• *Have perimeter sediment controls been installed?	Yes	No	N/A
• *Have pre-construction controls been installed?	Yes	No	N/A
• *Have easily recognizable indications of the construction limits been installed? (fencing, staking, physical barriers)	Yes	No	N/A

D. Approval

City staff initial for approval:

_____Land disturbance work **may** proceed, as this site has met all the initial standard requirements of the City of St. Joseph Erosion and Sediment Control measures.

_____Land disturbance work **may not** proceed as this site has not met all the initial standard requirements of the City of St. Joseph Erosion and Sediment Control measures. The deficiencies below must be corrected to have a satisfactory inspection:

1._____

2._____

3._____

4._____

5._____

Appendix C: Illicit Discharge Detection and Elimination (SOP 1.4.001)

City of St. Joseph, MO
Water Protection Division
Stormwater Management Program

Standard Operating Procedure 1.4.001

Illicit Discharge Detection and Elimination

Implementation Date: February 24, 2021

Revision Date: N/A

Prepared By: Kathleen Bruegge Date: 2/24/2021

Name and Title: Katie Bruegge, Technical Services Manager

Approved By: Kathleen Bruegge Date: 2/24/2021

Name and Title: Katie Bruegge, Technical Services Manager

Approved By: Colleen Armstrong Date: 2/25/2021

Name and Title: Colleen Armstrong, Stormwater Quality Coordinator

1. SCOPE AND APPLICABILITY

1.1 This Standard Operating Procedure (SOP) provides guidance for Water Protection (WP) personnel on how to detect and address unauthorized non-stormwater discharges, including illegal dumping, to any drainage system, whether Combined Sewer System or MS4.

1.2 The objectives of this SOP are to provide applicable response timelines, procedures for tracing the source of an illicit discharge, and removing the illicit discharge.

2. HEALTH AND SAFETY

2.1. Physical Hazards

- 2.1.1. Overhead hazard: Hard hat must be worn
- 2.1.2. Slip, trip, or fall hazards: Do not enter channels during periods of high flow.
- 2.1.3. Loud Noises: Hearing protection may be required if loud noised are present
- 2.1.4. Manhole removal and placement
- 2.1.5. Weather and seasonal hazards: Wear weather appropriate clothing and be aware of seasonal hazards like ticks and poison ivy.

2.2. Atmospheric Hazards: Do not enter confined spaces without the proper training and permits.

- 2.2.1. Oxygen deficiency
- 2.2.2. Explosive atmosphere
- 2.2.3. Toxic atmosphere

2.3. PPE: There is a risk to health when working with any polluted waters in the field. Proper precautions should be taken. Necessary personal protective equipment (PPE) should be worn.

- 2.3.1. Hard hat
- 2.3.2. Coveralls
- 2.3.3. Nitrile gloves
- 2.3.4. Safety shoes
- 2.3.5. Ear plugs
- 2.3.6. Safety glasses
- 2.3.7. Safety vest
- 2.3.8. Personal digital gas detector

2.4. Traffic Control: Be aware of traffic if sampling next to a roadway. Coordinate with the Streets Department if road closures or additional signage is needed.

3. PERSONNEL QUALIFICATIONS

3.1. Professional/Ethical

3.1.1. All Water Protection Staff are expected to perform their job duties in a professional and ethical manner.

3.2. Knowledge

3.2.1. City Staff should be thoroughly trained on this and all other relevant SOPs before attempting to complete any duties included in this procedure. Staff should at minimum refresh themselves on this content once per year or as needed before responding to a potential illicit discharge.

3.2.2. Any confined space entries must be completed by personnel who have received multi-day confined space entry training. A Confined Space Entrance Permit must be completed prior to entering a confined space.

4. GENERAL DISCUSSION

4.1 The City of St. Joseph is a Municipal Separate Storm Sewer System (MS4) and is required to design a stormwater management program to meet the requirements of its permit. This SOP is constructed to meet the requirements of Minimum Control Measure (MCM) 3 written in the MS4 Permit. Areas under the City's jurisdiction for the purposes of this plan include any area within the City of St. Joseph municipal boundaries and all City owned facilities.

4.2 The most common sources of illicit discharges are:

- Illegal dumping
- Broken sanitary sewer line
- Cross-connections with a sewer line
- Connection of floor drains to storm sewer
- Sanitary sewer overflows
- Straight pipe sewer discharge
- Improper RV waste disposal
- Pump station failure

4.3 City staff use information gathered from mapping outfalls and field monitoring, infrastructure and watershed profile data, citizen complaints, and service reports from the Sewer Line Maintenance Division to identify the areas with the highest chance of illegal discharges to the storm sewer system.

4.4 Because there are various sources of illicit discharges to the storm sewer system, there are different kinds of actions the City may take to remove those sources and prevent future illicit discharges. Those actions fall into two categories:

4.4.1 Voluntary compliance assistance and enforcement

There is a range of ways in which the City may approach the removal of illegal connections between homes or businesses and the storm sewer system. Typically, the City will respond to the discovery of an illegal connection in an intensifying manner, beginning with efforts to obtain voluntary compliance and escalating to increasingly severe enforcement actions if compliance is not obtained.

4.4.2 Municipal construction and maintenance of MS4s

Some illicit discharge problems may be the responsibility of the City. These problems include cross-connections between the sanitary and storm sewer systems or infiltration into damaged and deteriorating storm sewer pipes. Cross-connections exist by mistake, because of deterioration over time, or as part of the original design. To help prevent this both MS4 and sanitary sewer systems are inspected periodically and maintained properly to keep them in good repair.

5. ABBREVIATIONS/DEFINITIONS

BMP – Best Management Practice.

Conditionally Exempt Discharge – Non-storm water discharge that may not qualify as an illicit discharge, as defined by the US EPA (EPA 833-F-00-007). City of St. Joseph may identify these discharges as significant contributors of pollutants to its MS4.

CSO- Combined Sewer Overflow

Exempt Discharge – Non-storm water discharge that does not qualify as an illicit discharge, as defined by the US EPA (EPA 833-F-00-007).

IDDE – Illicit Discharge Detection and Elimination.

Illicit Discharge – Any discharge to an MS4 that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. This includes all non-storm water discharges except discharges pursuant to an NPDES permit and discharges that are exempt or conditionally exempt (see Section 7.1.2.2.a). Illegal dumping of hazardous/solid waste is considered an illicit discharge.

Illicit Connection – Any manmade conveyance that is connected to the MS4 without a permit or through which prohibited non-storm water flows are discharged.

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains).

Non-Storm Water Discharge – Any discharge to the storm drain system that is not composed entirely of storm water.

NPDES – National Pollutant Discharge Elimination System.

Outfall – A point source at the point where an MS4 discharges to receiving waters, or to other MS4s.

Pollutant – Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive of any kind.

ROW – Right-of-way.

Storm Water Management Plan (SWMP) – A compilation of BMPs to address the six MCMs and other provisions of the MS4 permit, that is designed and managed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable.

6. EQUIPMENT AND SUPPLIES

Sampling equipment listed in SOPs 1.1.001-1.1.005

Camera

GIS maps or GIS mapping device

Necessary PPE listed in Section 2.3

7. ILLICIT DISCHARGE DETECTION, INSPECTION, AND RESPONSE

7.1. Detection

7.1.1. At any time, citizens identifying or suspecting a potential illicit discharge may report the incident anonymously. Individuals are encouraged to report potential illicit discharges by calling the City of St. Joseph's 24/7 Sewer Line Maintenance Division Dispatch number at 816-271-4848. Citizens can also use the "Report a Spill" button on the City's Stormwater webpage (https://www.stjoemo.info/954/Pollution-Prevention).

7.1.2. At minimum, all City employees are encouraged to report suspicious dumping or discharges to their supervisor. All supervisors receive annual training on how to report potential illicit discharges.

7.1.2.1. Potential illicit discharges get reported to Water Protection. Available Water Protection staff are then assigned the task to do an inspection and investigation at the location within one (1) business day.

7.2. Inspection

7.2.1. When a problem area or discharge is found, additional efforts are necessary to determine the source of the discharge. Water Protection staff will determine the best method of searching for the source of discharge based on the situation.

7.2.1.1. Methods to find the source of illicit discharges include thorough inspections by trained Water Protection staff, water sampling/testing, dye-testing, smoke-testing, tracing the discharge upstream in the storm sewer, and using video to inspect storm sewers. During this process, inspectors will use a copy of the Collection Field Sheet (Appendix A).

7.2.2. Suspected or observed illicit discharges will be investigated to determine the source and nature of the discharge. The context of illicit discharges used in this plan includes the following categories:

7.2.2.1. Category 1: Incidental spills or disposal of pollutants and other prohibited non-stormwater discharges to the MS4. These may be intentional, unintentional, or accidental and could enter the MS4 through drain inlets, catch basins, manholes, or be otherwise deposited in the City ROW such that runoff may potentially reach the MS4.

7.2.2.2. Category 2: Continuous or intermittent discharges of sanitary sewage to the MS4 due to the failure or leakage of an Onsite Sewage Treatment System.

7.2.2.3. Category 3: Continuous or intermittent disposal of pollutants or other prohibited non-storm water discharges to the MS4 other than through an illicit connection. These could occur as surface runoff from outside the City ROW (e.g., wash-down area from an industrial site).

7.2.2.4. Category 4: Continuous or intermittent disposal of pollutants or other prohibited non-storm water discharges to the MS4 through an illicit connection. Detection of illicit discharges will be accomplished as outlined below.

7.3. Response

7.3.1. All illicit discharges that fall outside normal City responsibilities will be directed to the adjacent jurisdiction's stormwater manager within 24 hours of detection.

7.3.2. When illicit discharges in Categories 1-3 are documented, Water Protection will work with the discharger to find a solution to the problem, including offering limited technical assistance for restoration activities.

7.3.3. When an illicit discharge in Category 4 is documented, Water Protection will direct the discharger to remove/correct the illicit connection. Water Protection and other agencies may offer technical assistance to the discharger to ensure that the problem is corrected.

7.3.4. In all cases the discharger will be notified of an illicit discharge violation and referred to local, state, and federal agencies with jurisdiction.

7.3.5. Removing the illicit discharge:

7.3.5.1. The responsible party will remove as much of the illicit discharge as possible from the storm sewer system or effected waterway.

7.4. Enforcement

7.4.1. The City has an ordinance in place that defines illicit discharges and the enforcement actions that can be put in place to respond to said illicit discharges. Excerpts from the ordinance are included below.

7.4.2. City Code, Chapter 25: Sec. 25-98. Illicit Discharge

7.4.2.1. *(b) Application. This section shall apply to all water entering the stormwater conveyance system or waters of the state, generated on any developed and undeveloped lands unless explicitly exempted by the director.*

7.4.2.2. *(d)(1) No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge into the stormwater conveyance system any pollutants or waters containing any pollutants, other than stormwater. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:*

a. The following discharges are exempt from discharge prohibitions established by this article: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water.

7.4.2.3 *(e)(1) The construction, use, maintenance or continued existence of illicit connections to the stormwater conveyance system is prohibited.*

7.4.2.4 *(f) Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.*

7.4.2.5 *(i) Notwithstanding other requirements of law, as soon as any person responsible for a premise or operation, or responsible for emergency response for a premise or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into stormwater, the stormwater conveyance system, or waters of the United States, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the director in person or by phone or facsimile within 24 hours of becoming aware of the release. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the director within five business days of the phone notice.*

If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years. Failure to provide notification of a release as provided above is a violation of this article.

7.4.2.6 *(j) Compensatory action. In lieu of enforcement proceedings, penalties, and remedies authorized by this article, the director may impose upon a violator alternative compensatory action, including but not limited to:*

(1) Storm drain stenciling;
(2) Attendance at compliance workshops;
(3) Creek cleanup; or
(4) Other actions that serve to promote and further the goals of the City's MS4 program.

7.4.3 City Code, Chapter 25: Sec. 25-99. Violations remedies

7.4.3.3 *(a) Violations. Violations of provisions of this division may be enforced in any manner described in this section.*

7.4.3.4 *(b) Fine. Any person violating any provision of this division shall be, upon conviction or a plea of guilty, subject to a fine not to exceed $500.00, or the maximum amount allowed by state law.*

7.4.3.5 *(c) Enforcement by administrative building citation. Any violation of any section of this article shall be deemed a building code violation that may be enforced by the issuance of an administrative building citation in accordance with the provisions set forth in Chapter 2.*

7.4.3.6 *(d) Stop work order—issuance. Where work regulated by this division is being performed in a manner contrary to the provisions of this division or in a dangerous or unsafe manner, the director of public works and transportation, or his or her designee, may issue a written stop work order. The stop work order shall be given to the owner of the property on which the work has been performed, the owner's authorized agent, or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work will be permitted to resume.*

7.4.3.7 *(e) Stop work order—violations. Any work performed in violation of a stop work order, except work that is directed by the issuer of the stop work order to remove a violation or unsafe condition, shall constitute a separate violation of this division.*

7.5 Documentation

7.5.1 All actions relating to illicit discharge elimination are recorded on the secure network in the Environmental Services>Stormwater Quality Coordinator>MS4 Program>3. IDDE folder administered by the City of St. Joseph Water Protection. The database contains information such as the number of outfalls inspected, any complaints received and the response to those complaints, and the number of dye or smoke tests conducted.

7.5.1.1 Sewer Line Maintenance Division uses Cartegraph, a GIS based asset management platform, to track maintenance activities and citizen reports.

APPENDIX A – Illicit Discharge Detection Inspection Form

Illicit Dicharge Detection Inspection Form

City of St. Joseph, MO Water Protection

Date: _____ Location: _____

Investigator(s): _____

Time: _____

Land use in drainage area (circle all that apply):

Industrial	Commercial
Residential	Open Space
Institutional	Other:

Type of illicit discharge (circle all that apply):

Category 1 - incidental spill or disposal	Category 3 - continuous spill or disposal
Category 2 - failure/leakage of sewage treatment	Category 4 - illicit connection

Observations: _____

Quantitative Characterization (optional)

Temperature (C): _____ pH: _____ D.O. (mg/L): _____

Conductivity: _____

Sample collected to take back to the lab? Y or N
(If taking sample back to lab, fill out necessary Chain of Custody form)

Follow up actions:

_____

_____

_____

_____

_____

_____

_____

_____

Appendix D: Dry Weather Field Screening (SOP 1.4.002)

City of St. Joseph, MO
Water Protection Division
Stormwater Management Program

Standard Operating Procedure 1.4.002

Dry Weather Field Screening

Implementation Date: February 24, 2021

Revision Date: N/A

Prepared By: Kathleen Bruegge Date: 2/24/2021

Name and Title: Katie Bruegge, Technical Services Manager

Approved By: Kathleen Bruegge Date: 2/24/2021

Name and Title: Katie Bruegge, Technical Services Manager

Approved By: Colleen Armstrong Date: 2/25/2021

Name and Title: Colleen Armstrong, Stormwater Quality Coordinator

1. SCOPE AND APPLICABILITY

1.1 This Standard Operating Procedure (SOP) provides guidance for Water Protection (WP) personnel conducting dry weather field screening activities. Dry weather screening is part of the Illicit Discharge Detection and Elimination (IDDE) program that is required in Water Protection's Municipal Separate Storm Sewer System (MS4) Permit # MOR040057 (Permit). Per Permit Section 4.2.3.1, "*The permittee shall develop, implement, and enforce a program to detect and eliminate illicit discharges, as defined in 10 CSR 20-6.200 and 40 CFR 122.34(b)(3), into the permittee's regulated Small MS4.*"

Section 4.2.3.1.4 goes on to require, "*A dry weather field screening plan for non-stormwater flows and field tests of selected chemical parameters as indicators of discharge sources. The plan shall also address on-site sewage disposal systems that flow into the permittee's storm drainage system.*"

2. HEALTH AND SAFETY REQUIREMENTS

2.1. Physical Hazards

2.1.1. Overhead hazard: Hard hat must be worn
2.1.2. Slip, trip, or fall hazards: Do not enter channels during periods of high flow.
2.1.3. Loud Noises: Hearing protection may be required if loud noised are present
2.1.4. Manhole removal and placement
2.1.5. Weather and seasonal hazards: Wear weather appropriate clothing and be aware of seasonal hazards like ticks and poison ivy.

2.2. Atmospheric Hazards: Do not enter confined spaces without the proper training and permits.

2.2.1. Oxygen deficiency
2.2.2. Explosive atmosphere
2.2.3. Toxic atmosphere

2.3. PPE: There is a risk to health when working with any polluted waters in the field. Proper precautions should be taken. Necessary personal protective equipment (PPE) should be worn.

2.3.1. Hard hat
2.3.2. Coveralls

2.3.3. Nitrile gloves
2.3.4. Safety shoes
2.3.5. Ear plugs
2.3.6. Safety glasses
2.3.7. Safety vest
2.3.8. Personal digital gas detector

2.4. Traffic Control: Be aware of traffic if sampling next to a roadway. Coordinate with the Streets Department if road closures or added signage is needed.

3. PERSONNEL QUALIFICATIONS

3.1. Professional/Ethical

3.1.1. All Water Protection Staff are expected to perform their job duties in a professional and ethical manner.

3.2. Knowledge

3.2.1. Staff must read and understand this and all other relevant SOPs before attempting to conduct any of the work described below.

4. GENERAL DISCUSSION

4.1. The objective of dry weather field screening is to identify areas where illicit discharges are occurring. When screening is done during dry weather, pollutants are easier to identify in waterbodies.

4.2. Examples of illicit discharges include but are not limited to: cross-connections of sewer services to the storm sewer, leaking septic systems, intentional discharge of pollutants to catch basins, combined sewer overflows, connected floor drains, and sump pumps connected to the system.

4.3. Outfalls from an engineered storm drain system can be in the form of pipes or ditches. During a dry weather period, it is anticipated that minimal flow from stormwater outfalls will be observed. Therefore, dry weather inspections aim to characterize any/all flow observed during this period and identify potential source(s) of an illicit discharge through qualitative testing. For visual observations of discharge from a stormwater outfall, further investigation into the pollution source should occur, but the following are often true:

4.3.1. Foam: indicator of upstream vehicle washing activities, or an illicit discharge.

4.3.1.1. Foam can also form when the physical characteristics of water are altered by the presence of organic materials. Foam is typically found in waters with high organic content such as bog lakes, streams that originate from bog lakes, productive lakes, wetlands, or woody areas.

4.3.2. Oil sheen: result of a leak or spill.

4.3.2.1. Both bacteria and petroleum can create a sheen on the water's surface. The source of the sheen can be differentiated by disturbing it, such as with a pole. A sheen caused by oil will remain intact and move in a swirl patter; a sheen caused by bacteria will separate and appear "blocky." Bacterial or naturally occurring sheens are usually silver or relatively dull in color and will break up into several small patches of sheen. The cause may be presence of iron, decomposition of organic material or presence of certain bacteria. Bacterial sheen is not a pollutant but should be noted.

4.3.3. Cloudiness: indicator of suspended solids such as dust, ash, powdered chemicals and ground up materials.

4.3.4. Color or odor: Indicator of raw materials, chemicals, or sewage.

4.3.5. Excessive sediment: indicator of disturbed earth or of unpaved areas lacking adequate erosion control measures.

4.3.6. Sanitary waste and optical enhancers (fluorescent dyes added to laundry detergent): indicators of illicit discharge.

4.3.7. Orange staining: indicator of high mineral concentrations.

4.4. If a suspect illicit discharge is flowing from an outfall, an upstream investigation shall commence using the City storm system mapping and other tools.

4.4.1. The source of the illicit discharge should be identified. Once identified, staff should report their findings to their supervisor. The response will then be put into place: contact the person responsible with a phone call or email and educate them on the hazards of illicit discharges. Explain to them that they must cease all illegal discharges. Further enforcement action may be taken as described in City Code, Chapter 25: Sect. 25-98

5. ABBREVIATIONS/DEFINITIONS

5.1. Dry weather period: a time interval during which less than 0.1 inch of rain is observed across a minimum of 48-72 hours.

5.2. Illicit discharge: Any direct or indirect non-stormwater discharge to the storm drain system, except as exempted in Section 25-98 of the City of St. Joseph Code.

5.3. PPE: Personal Protective Equipment: The necessary clothing or other gear worn to conduct work in a safe manner (See Section 2.3).

6. EQUIPMENT AND SUPPLIES

Coolers of various sizes

Ziploc bags

Ice

Garbage bags

Sample containers according to relevant SOP

MS4 Maps

Digital camera

Inspection Form (Appendix A)

Battery operated automated sampler or sampling rod

Calibrated multi-parameter probe and meter

Hanna Instruments (DO, pH, temperature, conductivity)

Flow meter

Measuring tape

Reagents necessary for proper calibration of field instruments

Reagents necessary for preservation according to relevant SOP

7. PROCEDURE

Field screening activities as described in this SOP and stream assessment should cover the entire drainage network at least once over the course of each five-year permit cycle.

7.1. Acquire necessary mapping, equipment, and staff

7.1.1. At minimum, field crews should have maps (Appendix B) with labeled streets and hydrologic features so they can orient themselves and record their findings spatially.

7.1.2. Field crews must have the designated field work sheet to record descriptive and quantitative information about each outfall inventoried in the field. A field sheet can be found in Appendix A of this SOP.

7.2. Determine when to conduct field screening

7.2.1. In general, spring and fall are the best seasons to perform dry weather field screening. Other seasons typically have challenges such as over-grown vegetation or frozen water that mask illicit discharges or make field screening data hard to interpret.

7.3. Identify where to conduct field screening

7.3.1. Analysis of the MS4 drainage area has been conducted and ten (10) screening areas have been identified that are representative of the whole drainage area, easy and safe to access, and with sub-watersheds that enable potential illicit discharge tracing. See Appendix B for field screening site maps.

7.4. Conduct field screening using Appendix A.

7.4.1. Section 1: complete the background data section of the field screening form. This will usually stay the same, but changes to the sub-watershed may have occurred since the last screening.

7.4.2. Section 2: complete the outfall description section of the field screening form. The physical characteristics of the outfall should largely stay the same. If there are obvious changes from the last inspection, this could be an indicator of a current or previous illicit discharge, or an indicator that maintenance should be done at the outfall. (If no flow is present, skip to Section 5).

7.4.3. Section 3: complete the quantitative characterization section of the field screening form. Place the flow meter in the middle of the flow and measure the depth where you are taking the flow measurement. Use the multiparameter field meter to measure temperature and pH.

7.4.4. Section 4: complete the physical indicators for flowing outfalls section of the field screening form.

7.4.5. Section 5: complete the physical indicators for flowing and non-flowing outfalls section of the field screening form.

7.4.6. Section 6: complete the overall outfall characterization section of the field screening form.

7.4.7. Section 7: complete data collection section of the field screening form. If a sample is collected to be analyzed in the lab, be sure to complete a chain of custody (COC) form for the sample. When collecting the sample, follow guidance found in Section 7.6.5. Further testing information can be found in Table 1 of Section 7.6.2.

7.4.8. Section 8: complete the non-illicit discharge concern section of the field screening form.

7.5. Analyze field screening data to determine whether there are illicit discharges to investigate further.

7.6. Field Sample Collection, Preservation and Storage:

7.6.1. Follow all applicable SOPs for collection, preservation, and storage instructions.

7.6.2. Additional testing of the parameters listed below in Table 1 may be necessary depending on the situation.

Table 1. Water Quality Test Parameters, SOP Reference, and Source Indicators

Parameter	SOP Reference	Use of Water Quality Test	Possible Source
Ammonia	1.2.003	0.2 to 1.0 mg/L and greater is suspect of an illicit discharge	Fertilizers, failing sewer lines, industrial discharges

Chlorine		The presence of chlorine indicates treated water entering the storm sewer	Failing sewer lines, swimming pools, irrigation
Conductivity	Hanna SOP	> 1000 µS/cm is suspect of an illicit discharge	Industrial discharges, failing sewage lines, washwater
E. coli	1.2.004	Presence indicates potential illicit discharges	Failing sewage lines, damaged septic systems, pet or farm animal waste
Dissolved Oxygen	Hanna SOP	< 3 mg/L indicates nutrients entering the storm sewer and/or increased temperatures	Fertilizers, failing sewer lines, disturbed land areas
Hardness			Failing sewer lines, washwater, industrial discharges
Nitrates	1.2.013	3 to 10 mg/L and greater is suspect of an illicit discharge	Failing sewer lines, pet or farm animal waste, industrial discharges
pH	Hanna SOP		Washwater or industrial discharges
Temperature	Hanna SOP	Large variation from ambient temperature and/or receiving stream could indicate illicit discharge	Industrial discharges
Total Suspended Solids (TSS)	1.2.002	Compared to historic data	Disturbed land areas

7.6.3. Coordinate with the Laboratory Supervisor at least a day in advance of when sampling will occur so lab personnel can be prepared for testing.

7.6.4. Each sample must have a unique sample identification number or name.

7.6.4.1. Example: 20200101 Outfall Name

7.6.4.2. The name on the sample container must match the name that is written on the COC form.

7.6.5. Dry weather monitoring typically involves the collection of grab samples only. The following procedures apply:

7.6.5.1. Do not eat, drink, or smoke during sample collection and processing.

7.6.5.2. Do not collect or process samples near a running vehicle. Do not park vehicles in the immediate sample collection area, including both running and non-running vehicles.

7.6.5.3. Always wear clean gloves when handling sample containers and lids. Never touch the inside surface of a sample container or lid, even with gloved hands. Never allow the inner surface of a sample container or lid to be contacted by any material other than the sample water.

7.6.5.4. If practical, collect the sample at about 60% of the stream depth (from the surface) in an area of maximum turbulence. Avoid stagnant pools near the edge of flowing streams unless sampling stagnant pools. Enter the channel downstream of the sampling location and move upstream, disturbing as little of the bottom material as possible.

7.6.5.5. Record all qualitative observations and field-testing results on the COC or inspection form. Estimate the flow rate as described on the back of the field data sheet. Also note any changes to standard procedures (for whatever reason) and describe any unusual or noteworthy conditions or results in detail on the bottom of the sheet.

7.6.5.6. Dispose of all spent reagents, reacted samples, and rinse solutions in the appropriate waste containers. Upon returning to the office or laboratory, decant these wastes into the sewer system of the office or laboratory unless otherwise instructed by Water Protections Environmental Services. Be sure to clean all equipment (recheck calibration if any results were questionable) and restock reagents (if necessary).

7.6.5.7. Samples collected for laboratory analysis should be submitted to the laboratory as soon as possible after collection.

7.7. Equipment maintenance:

7.7.1. All water quality meters and probes must be calibrated in the laboratory or office before field use. Calibration solutions should remain uncontaminated and not be used after their expiration dates.

7.7.2. Field meters and cameras must be in proper working order. Recharge or replace batteries as necessary and keep extras in the instrument case. Probes should be inspected, cleaned, and reconditioned regularly.

7.7.3. Clean and rinse all other sampling equipment after returning from the field. Store clean equipment in storage cases. DO NOT leave or store field meters in vehicles.

7.7.4. Glassware used in the field (e.g. graduated cylinders for sample dilutions, test kit flasks and/ or beakers) should be cleaned immediately after usage. Use laboratory detergent, a brush, and hot tap water. Rinse three to four times with deionized water and dry in an inverted position.

7.8. Quality Assurance/Quality Control:

7.8.1. Follow all COC protocols as per SOP 1.1.005 for internal COCs.

7.8.2. QA samples for this screening include replicates, field blanks and trip blanks. These various types of QA/QC samples assess the accuracy and precision of the field and laboratory analyses performed for their dry weather monitoring programs.

7.8.2.1. Replicate samples are used to assess laboratory or field precision. They should be collected in the field in one container and split into two samples for analysis.

7.8.2.2. A field blank is prepared by filling a sample container in the field with Type II$^+$ pure water and submitting it with a normal batch of samples.

7.8.2.3. A trip blank is prepared by filling a sample container in the laboratory/office with Type II$^+$ pure water and transporting it on a routine monitoring assignment and submitting it with a normal batch of samples.

8. REFERENCES

8.1 Brown, E., Carco, D., & Pitt, R. (2004). *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*. Washington, D.C.: Water Permits Division, Office of Water and Wastewater, U.S. Environmental Protection Agency.

8.2 City of Alcoa Stormwater Program (2016). *Dry Screening Standard Operating Procedure.* Alcoa, TN.

APPENDIX A – Dry Weather Field Screening Form

APPENDIX B – Sample Location Maps


5.73 Ac(c)
5301 COOK RD
4001 N RIVERSIDE RD
30
PARK
Cook Road
Upstream Screening
Location – DWS.001
NE C
2
47.6
4.001
45.91 Ac(c)
N RIVERSIDE RD
3509 N RIVERSIDE RD
5
92.12 Ac(c)
5802 COOK RD
4
54.54 Ac(c)
31
PARK
N Riverside Screening
Location – DWS.002
NE RIVE
3
56.9
RSIDE RD
Ac(c)
N RIVERSIDE RD
6
64.54 Ac(c)
3140 NE RIVER
3.029
23.89 Ac(c)


2507 N Riverside Screening Location – DWS.003
PARK
2507 N Riverside Screening Location – DWS.004
PARK
5401 GENE FIELD RD
3.030
9.75 Ac(c)
102 RIVER
101.98 Ac(c)
102 RIVER
7.001
5.23 Ac(c)
NE RIVER RIDGE RD
1.002
43.42 Ac(c)
RIVERSIDE RD
1
56.84 Ac(c)
NE RIVER RIDG
302 GENE FIELD RD
1.002
59.92 Ac(c)
1
57.54 Ac(c)
2507 N RIVER
NE STATE RT 6
5811 FREDERICK BLVD
2.006
20.17 Ac
2090 NE RIVER
3
23.05 Ac(c)
NE STATE RT 6
7
16.79 Ac(c)
4
22.81 Ac(c)
NE STATE RT 6
5805 FREDERICK BLVD
6131 NE STATE RT
6
12.78 Ac(c)
6291 N
N RIVERSIDE RD
5
4.95 Ac(c)
805 N RIVERSIDE RD
1
24.55 Ac(c)
FREDERICK BLVD
FREDERICK AVE
4.001
12.28 Ac(c)
NE STATE RT 6
8
31.52 Ac(c)
5502 FREDERICK AVE
4
17.11 Ac(c)
1
58.83 Ac(c)
NE STATE RT 6
6


Mosaic N Riverside Screening Location – DWS.005
PARK
1.001
3.08 Ac(c)
902 N RIVERSIDE RD
AC
RIVERSIDE RD
St. Joseph
1
5.4 Ac(c)
901 N RIVERSIDE R
2.001
1.84 Ac(c)


5412 FARAON ST
1
27.6 Ac(c)
St. Joseph
417 S Riverside
Screening Location –
DWS.006
PARK
Ac(c)
SSANIE ST
ST
MESSANIE ST
1.004
1.003
3.67 Ac(c)
600 S RIVERSIDE RD
RIVERSIDE RD
S RIVERSIDE RD


105 S RIVERSIDE RD
76.01 Ac(c)
PARK
417 S RIVERSIDE RD
54.82 Ac(c)
Faraon Street Pump Station Screening Location – DWS.007
20.3 Ac(c)
S RIVERSIDE RD
9.82 Ac(c)
S RIVERSIDE RD
9.74 Ac(c)
SE MITCHELL RD
RIVERSIDE RD
5703 MITCHELL AVE
49.03 Ac(c)
26.43 Ac(c)
1015 S RIVERSIDE RD
40.07 Ac(c)
5807 MITCHELL AVE
5807 MITCHELL AVE
MITCHELL AVE


6615 SE MITCHELL RD
5
8.34 Ac(c)
4.010
5.81 Ac(c)
1301 S 59TH ST
5906 MITCHELL AVE
4.013
6.23 Ac(c)
5910 MITCHELL AVE
4.007
8.81 Ac(c)
5912 MITCHELL AVE
4.020
3.3 Ac(c)
4.026
5914 MITCHELL AVE
5912 A MITCHELL AVE
6
6.52 Ac(c)
SE MITCHELL RD
1305 S 59TH ST
4.021
2.09 Ac(c)
307 S 59TH ST
S 59TH ST
4.012
2.13 Ac(c)
CORPORATE DR
4.025
4.31 Ac(c)
5915 CORPORATE DR
CORPORATE DR
4.027
2.37 Ac(c)
5909 CORPORATE DR
4.023
7.83 Ac(c)
PARK
CORPORATE DR
6.002
52.05 Ac(c)
17
North of 5810 Corporate Drive Screening Location – DWS.008
4.022
8.1 Ac(c)
5917 CORPORATE DR
4.024
13.79 Ac(c)
5810 CORPORATE DR
PARK
Southeast of 5810 Corporate Drive Screening Location – DWS.009
4.014
5920 CORPORATE DR 14.21 Ac(c)


SE Riverside Screening Location – DWS.010
PARK
2
29.44 Ac(c)
5507 EASTON RD
1
40.33 Ac(c)
RIVERSIDE TER
2.003
11.11 Ac(c)
4401 SE
6001 SE SAXTON EASTON RD
30
EASTON RD
5910 EASTON RD
SE SAXTON EASTON RD
EASTON RD
5804 EASTON RD
5826 EASTON RD
5735 EASTON RD
5902 EASTON RD
5734 EASTON RD
4801 SE RIVERSIDE TER
3
42.82 Ac(c)
5628 EASTON RD
5814 EASTON RD
5002 SE RIVERSIDE TER
2.001
108.27 Ac(c)
5004 SE RIVERSIDE TER
5006 S RIVERSIDE TER
2 VICTORIAN CT
SE 169 HWY
1 VICTORIAN CT
5705 SE 169 HWY
5050 SE RIVERSIDE TER
169 HWY
3 VICTORIAN CT
5.002
12.17 Ac(c)
1
64.52 Ac(c)
5251 SE RIVERSIDE TER
5
10.82 Ac(c)
5122 SE RIVERSIDE TER
7.011
11.26 Ac(c)
5602 SE 169 HWY
69
5700 SE 169 HWY
31
5322 SE RIVERSIDE TER
5391 SE RIVERSIDE TER
15 SUMMERHILL DR
5704 SE 169 HWY
4
9.47 Ac(c)
SUMMERHILL DR
13 SUMMERHILL DR
5800 SE 169 HWY
SE RIVERSIDE TER
11 SUMMERHILL DR
2 SUMMERHILL DR
5461 SE RIVERSIDE TER
3

City of St. Joseph, MO
Water Protection
Dry Weather Field Screening Form

Section 1: Background Data

Sub-watershed:		Outfall ID:	
Date:	Time (24 hour Time):		
Inspectors:			Form completed by:
Ambient Temperature (°F):	Rainfall (in.):	Last 24 hours:	Last 48 hours:

Land use in drainage area (check all that apply):

- ☐ Industrial
- ☐ Ultra-Urban Residential
- ☐ Suburban Residential
- ☐ Commercial
- ☐ Open Space
- ☐ Institutional
- ☐ Other:
- ☐ Known Industries:

City of St. Joseph, MO
Water Protection
Dry Weather Field Screening Form

Section 2: Outfall Description

Location	Material	Shape	Dimensions (in.)	Submerged
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Single ☐ Elliptical ☐ Double ☐ Box ☐ Triple ☐ Other: _____ ☐ Other: _____	Diameter (circle): _____ Dimensions (other): _____	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ Open Drainage	☐ Concrete ☐ Earthen ☐ Rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____	Depth: _____ Top Width: _____ Bottom Width: _____	

□ In-Stream	(applicable when collecting samples)		
Flow Present?	□ Yes	□ No	*If no, skip to Section 5*
Flow Description (If Present)	□ Trickle	□ Moderate	□ Substantial

Section 3: Quantitative Characterization

Field Data for Flowing Outfalls				
Parameter		**Result**	**Unit**	**Equipment**
	Flow Depth		In	Tape Measure
	Flow Velocity		ft/sec	Flow Meter
Temperature			°C	Thermometer
pH			pH Units	Probe

City of St. Joseph, MO
Water Protection
Dry Weather Field Screening Form

Section 4: Physical Indicators for Flowing Outfalls Only

Are any physical indicators present in the flow? □ Yes □ No *(If no, skip to section 5)*

Indicator	Check if Present	Description	Relative Severity Index M (1-3)		
Odor	□	□ Sewage □ Rancid/sour □ Petroleum/gas □ Sulfide □ Other:	□ 1 - Faint	□ 2 - Easily Detected	□ 3 - Noticeable from a distance
Color	□	□ Clear □ Brown □ Gray □ Yellow □ Green □ Orange □ Red □ Other	□ 1 - Faint colors in sample bottle	□ 2 - Clearly visible in sample bottle	□ 3 - Clearly visible in outfall flow
Turbidity	□	See severity	□ 1 - Slight Cloudiness	□ 2 - Cloudy	□ 3 - Opaque
Floatables - Does not include trash!	□	□ Sewage (toilet paper, etc.) □ Suds □ Oil & Grease (oil sheen) □ Other:	□ 1 - Few/ slight; origin not obvious	□ 2 - Some; indications of origin (e.g., suds or oil sheen)	□ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

City of St. Joseph, MO
Water Protection
Dry Weather Field Screening Form

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? □ Yes □ No *(If no, skip to Section 6)*

Indicator	Check if present	Description	Comments
Outfall Damage	□	□ Spalling, Cracking or Chipping □ Peeling Paint □ Corrosion	
Deposits/Stains	□	□ Oily □ Flow line □ Paint □ Other:	
Abnormal Vegetation	□	□ Excessive □ Inhibited	
Poor Pool Quality	□	□ Odors □ Colors □ Floatables □ Oil Sheen □ Suds □ Excessive Algae □ Other:	
Pipe benthic growth	□	□ Brown □ Orange □ Green □ Other:	

Section 6: Overall Outfall Characterization

Is there evidence of a current or previous illicit discharge?

□ Unlikely	□ Potential (presence of two or more indicators)	□ Suspect (one or more indicators with a severity of 3)	□ Obvious

City of St. Joseph, MO
Water Protection
Dry Weather Field Screening Form

Section 7: Data Collection

1. Sample for the lab?	□ Yes	□ No			
2. If yes, collected from:	□ Flow	□ Pool			
3. Intermittent flow trap set?	□ Yes	□ No	If yes, type:	□ OBM	□ Caulk dam

Section 8: Any non-illicit discharge concerns? (e.g., trash or needed infrastructure repairs?)

Appendix E: Land Disturbance Inspection (SOP 1.4.003)

City of St. Joseph, MO
Water Protection Division
Stormwater Management Program

Standard Operating Procedure 1.4.003

Land Disturbance Inspection

Implementation Date: April 4, 2018

Revision Date: August 8, 2020

Prepared By: Katie Bruegge Date: 8/8/20

Name and Title: Kathie Bruegge, Stormwater Quality Coordinator

Approved By: Kathie Bruegge Date: 2/12/21

Name and Title: Technical Services Manager

Approved By: Colleen Armstrong Date: 2/17/21

Name and Title: Colleen Armstrong, Stormwater Quality Coordinator

1. GENERAL DISCUSSION

1.1 The purpose of an inspection at a land disturbance site is to determine its compliance with permit requirements and to document any potential or detrimental impacts upon surface waters and city infrastructure. By nature of the work, the most effective and telltale inspections should be conducted during or very shortly after wet weather events. Larger construction sites and sites with a history of compliance issues should be on a routine inspection schedule.

1.1.1 All erosion and sediment controls should be designed and installed to withstand a 2-year, 24-hour storm event. A 2-year, 24-hour storm event shall be determined for the project location using the National Oceanic and Atmospheric Administration's National Weather Service Atlas 14, located at https://hdsc.nws.noaa.gov/hdsc/pfds/.

1.2 This Standard Operating Procedure (SOP) describes the specific steps that are required of any staff member of the Water Protection Division that is conducting or assisting with a formal compliance inspection of a land disturbance site, whether permitted or not, that meets the one (1) acre or more threshold specified in the City's Municipal Separate Storm Sewer System (MS4) Permit. For informal or abbreviated inspections, technical assistance visits, or sites under the 1-acre threshold, staff must still review this SOP and adhere to any sections that may be applicable to the scope of their site visit.

1.2.1 Keep in mind that if a site is not yet permitted, there will likely be no documents (SWPPP, ESC plan, grading plans, etc.) to review to prepare for an inspection. See Section 5.3.6.7.

1.3 Personnel Qualifications

1.3.1 Water Protection Staff conducting land disturbance inspections require a significant amount of training and regulatory and field experience to be able to conduct a thorough inspection, identify site deficiencies, and to aid the permittee to resolve issues. To ensure that qualified personnel conduct inspections, the City of St. Joseph sends staff to multiple day training through the National Stormwater Center to become Certified Stormwater Inspectors. Additional forms of training in the following categories is highly recommended:

- Compliance and Enforcement Training
- City of St. Joseph Erosion and Sediment Control Regulations
- General Missouri State Operating Permit for Land Disturbance Conditions and Requirements
- Common Sediment and Erosion Control Best Management Practices

1.4 Announced versus Unannounced Inspection

1.4.1 Inspections may be announced or unannounced. Each method has its own advantages and disadvantages. Announced inspections are preferred because many job sites are not continuously manned, or not always staffed by someone who is familiar with the SWPPP. Water Protection staff almost always schedule inspection in advance unless unable to do so.

1.5 Types of Inspections

- Pre-construction or Baseline Inspection (*Section 5.2*)
- Routine Inspection (*Section 5.3*)
- Follow-up Inspection (*Section 5.4*)
- Post Construction Inspection (*Section 5.5*)

1.6 An on-site construction site inspection will typically consist of the following components:

- Pre-Inspection Preparation (*Section 5.1*)
- Entry (*Sections 5.3.2-5.3.4*)
- Site Inspection (*Section 5.3.6*)
- On-site Records Review (*Section 5.3.6*)
- Exit Interview (*Section 5.3.7*)
- Documentation (*Section 5.6*)

2. HEALTH AND SAFETY

2.1 Land Disturbance inspections are mostly conducted at active construction sites. The minimum level of Personal Protective Equipment (PPE) that must always be worn during an inspection are safety toe boots and high visibility clothing. Additional PPE, like hard hats, may be required for individual sites depending on the site-specific conditions.

2.2 Land Disturbance inspections are often conducted during inclement weather or immediately after storms when site conditions can be muddy, when the ground may be unstable, and when receiving waters may be swollen and dangerous to be around. If site conditions are dangerous or cannot be adequately assessed, the inspection should be postponed until safe entry can be verified. It is a good idea to have more than one staff person conduct the site visit as an extra measure of safety.

3. ABBREVIATIONS

BMP – Best Management Practice(s)
USACE – United States Army Corps of Engineers
ECB – Erosion Control Blanket
ESC – Erosion and Sediment Control
LOW – Letter of Warning
MDNR – Missouri Department of Natural Resources
MS4 – Municipal Separate Storm Sewer System
NOV – Notice of Violation
QA/QC – Quality Assurance/Quality Control
RECP – Rolled Erosion Control Product
SWO – Stop Work Order
SWPPP – Stormwater Pollution Prevention Plan
TRM – Turf Reinforcement Mat
USEPA – United States Environmental Protection Agency

4. EQUIPMENT AND SUPPLIES

- Extra copies of relevant documents (permit, application form, construction stormwater permit overview fact sheet, SWPPP, ESC Plan, grading plan, Division III Standard Drawings APWA, etc.)
- Land Disturbance Inspection Forms
- Digital Camera with time and date stamp enabled
- Standard and Site-Specific PPE
- Field Notebook
- Distance Measuring Wheel

5. PROCEDURE

5.1 Pre-Inspection procedures –

5.1.1 Plan your inspections by targeting construction sites in priority areas, large construction sites, complaints from the public, and sites with a history of compliance problems.

5.1.2 Obtain any available file information from Accela or an existing Land Disturbance Inspection Folder in the appropriate server location. Check for compliance history, contact information, owner/responsible party/onsite contact.

5.1.2.1 Information to be gathered and documented before inspection or while on the inspection:

- Contractor/Operator
- Contact person and Phone number
- City and State Permit numbers
- SWPPP reviewed/Approved by City
- Size of disturbance
- Drainage basin
- Unique features (wetlands, streams, etc)
- Phase of construction
- Pre-Con or previous inspections conducted
- Past compliance issues

5.1.3 Review the GIS map of the area to familiarize yourself with the streets, topography, and proximity of land disturbance to streams, lakes, ponds, or storm sewer infrastructure (inlets, outfalls, culverts, pipes, open conveyances).

5.1.4 Review technical references for constructing and maintaining BMPs (Division III Standard Drawings APWA). Take copies of sheets of the most used practices such as silt fence, curb inlet, drop inlet, sediment traps, temporary construction entrance, etc., for technical assistance and instruction on proper installation, operation, and maintenance of BMPs. It may be helpful to keep laminated copies of these in a field binder for repeated use.

5.1.5 Organize and inspect any field equipment that you will take on the inspection. Make sure a recent QA/QC calibration of field equipment has been performed

per the approved Water Protection SOP for that piece of equipment if applicable. If sampling may be conducted, review the appropriate SOPs for sampling (WP SOP# 1.1.001, *General Sampling Considerations Including the Collection of Grab, Composite, and Modified Composite Samples from Stream and Wastewater Flows*; WP SOP# 1.1.002, *Recommended Container Volumes, Preservatives, Holding Times, and Special Sampling Considerations*; WP SOP# 1.1.003, *Field Documentation*; WP SOP# 1.1.004, *Sample Handling, Field Handling, Transportation, and Delivery to the Water Protection Laboratory*; WP SOP# 1.1.005, *Chain of Custody and Analytical Request Form*; and WP SOP# 1.1.006, *Quality Assurance/Quality Control for Environmental Data Collection*).

5.1.6 A sampling kit should be in each Water Protection field vehicle to be used when an unplanned sampling event occurs.

5.1.7 If any construction sites are locked, call the contractor/owner to schedule time to meet for the inspection. Prioritize the remaining inspections to minimize wasted time for you and the contractors. Assemble inspections by geographic area. Map the route for the construction sites that require inspections that day.

5.2 Pre-construction or Baseline Inspection Procedures –

5.2.1 The Pre-construction meeting is an opportunity to visit the site, meet the on-site contractors and ensure all basic requirements are in place. Include in your notes a general narrative of the construction activity (e.g., Construction of a large parking lot for the adjacent factory on 2.5 acres).

5.2.2 When a LD Permit is issued by the City, the owner/operator of the construction activity must install all perimeter erosion and sediment controls described in their ESC Plan. Upon installation of these initial control measures, the contractor must schedule a Pre-Construction Inspection by calling or emailing the Stormwater Quality Coordinator. Within two (2) business days of the call, an inspector shall visit the site and review the installation of the initial ESC measures for compliance with the approved plans and the SWPPP. If the site does not meet these basic requirements, land disturbance activities may not proceed until the site receives a satisfactory inspection.

5.2.3 Each site over 1 acre must have a pre-construction inspection. Sites under 1 area are prioritized by slopes, proximity to waterways, and contractor history.

5.2.4 Inspector(s) will use the Pre-construction Checklist and the Pre-construction Inspection sheet to prepare for and guide the inspection.

5.2.4.1 Document the Project/LDP Number, the date of inspection, name and contact information of the contractor/representative present and the name of the inspector.

5.2.4.2 Document the project start date and estimated project completion date.

5.2.4.3 Check that all paperwork and permits are in order and on-site.

5.2.4.4 Is the temporary construction entrance installed? Is the concrete washout area installed and clearly identified?

5.2.4.5 Is the site free of trash?

5.2.4.6 Are perimeter sediment controls installed?

5.3 Routine Inspection Procedures –

5.3.1 Use the Land Disturbance Inspection Form as a tool to work through the inspection.

5.3.2 Before entering the construction site, observe the surroundings and stages of construction. Take note of any safety concerns such as overhead power-line work, borrow pits and large equipment movements. Note areas for in-depth review and any clear violations. This is also a good time to view construction site vehicle exit locations and perimeter controls. Indicate on the inspection form the date/time and weather conditions (e.g., light rain, sunny, some rain in previous 24 hours).

5.3.3 When entering the site, review all postings including the DNR Land Disturbance Permit. Put on required minimum PPE. Ask to speak with the applicant. If not available, ask to speak with someone who is familiar with the construction site's

SWPPP. Always note the names of the individuals with whom you meet. Present your credentials and explain the purpose of your inspection. Inform the individual of the typical sequence of events for the inspection (introductions, site tour, file review, exit interview, report preparation, delivery, and follow-up). Ensure that the construction operator participates during the records review and accompanies you during the inspection. Ask if there are any specific safety issues or requirements for this site.

5.3.4 What if denied entry? Stay calm and explain that the permit provides the city representatives with the authority to conduct inspections. Carry a copy of City Code with you, specifically the section that discusses Right of Entry. Inquire as to why you are denied entry and record this information in your notes. Explain that you will need this information so that you can accurately portray their reasons for denial to your supervisor. Evaluate what they said and determine if there are ways you can mitigate their concerns.

5.3.4.1 Section 25-97(c)(3) *City of St. Joseph's right to enter.* The director is authorized to enter the premises for the purposes of inspecting compliance with this section and regulations adopted thereto and for performing any work necessary to bring the site into compliance with this section and regulations thereto. When entering premises the director shall carry identification as an agent or employee of the City of St. Joseph. In the event that the owner or occupant refuses entry after a request to enter has been made, the City of St. Joseph is hereby empowered to seek assistance from a court of competent jurisdiction in obtaining such entry.

5.3.4.2 If still denied entry, the inspector must immediately contact his or her supervisor prior to leaving the premises if possible to receive instructions on how to proceed.

5.3.5 Site Inspection

5.3.5.1 Plan your inspection

Review the site map and plan how you will conduct the inspection (this is particularly important for large construction sites). Identify the significant pollutant sources and BMPs you want to inspect (silt fence installation,

sediment basins, slope stabilization, material storage areas, etc.). Consider the direction stormwater will flow as you plan the inspection.

Begin your inspection at the low point on the construction site, observing all discharge points and walk up the slope to inspect the rest of the site. Consider the current sequence of construction phasing when planning your inspection.

5.3.5.2 The keys to effective construction site inspection include understanding the construction sequencing process and accurate documentation. Walk or drive the whole site, as appropriate, observing all areas that are disturbed and will be disturbed as part of the construction activities. If a permit has been issued, make sure that the land disturbance locations match the site information described on the permit. Use the site map and inspection form and take notes regarding the location and condition of BMPs, discharge points, and inlets. Use photos to document concerns/violations and indicate on a rough diagram where the photos were taken. Keep a written log of preliminary findings during your inspection to facilitate your exit interview.

5.3.5.3 Inspect discharge points and downstream, off-site areas for signs of impact

When inspecting discharge points from the site, if it appears that sediment is leaving the site, walk downstream to document the extent of travel and the impact on receiving waters or storm drain systems. Make sure you walk "down the street" if necessary, to inspect off-site areas for signs of discharge. This is particularly important in areas with existing curbs and gutters. Inspect down-slope municipal catch basin inlets to ensure that they are adequately protected. Note on the inspection form all environmental impacts and document with photographs when possible.

In some limited situations, it may be useful to collect samples of stormwater discharges from construction sites. Be sure to use proper sample collection techniques and fill out the necessary Chain of Custody paperwork. If possible, call Water Protection Laboratory staff to make them aware that samples are on the way to the lab for analysis.

5.3.5.4 Inspect perimeter controls

Note the type of perimeter controls installed at the site, and whether these have been properly installed and maintained.

Inspect the construction exit to determine if there is excessive tracking of sediment from the site. Is street sweeping being used? If so, what is the frequency? Is there evidence of additional construction exits being used that are not in the SWPPP or are not stabilized?

Check all sediment controls. All storm drains must be protected; temporary stockpiles must have sediment controls and cannot be placed in surface water, including stormwater conveyances.

5.3.5.5 Compare BMPs in the SWPPP with construction site conditions.

Are all BMPs required by the SWPPP in place? Are additional BMPs needed? Evaluate whether BMPs have been adequately installed and maintained. Use plan drawings for more details on proper installation.

BMP	Inspection	Possible Maintenance
Sediment Containment Systems	Constructed to specifications?	List what action is required.
	Functional outlet structure?	Repair or replace.
	Accumulated sediment?	Remove, place upstream, and stabilize.
	Long flow-path length?	Install baffles.
Temporary Construction Entrance	Installed correctly using proper materials?	If not, remove and replace.
	Functioning properly?	If not, add or rework rock.
Silt Fence Barriers	Proper placement of stakes?	If not, reinstall.
	Toed-in properly?	If not, reinstall.
	Accumulated sediment?	Remove, place upstream, and stabilize.
Rock Check Structures	Correct rock diameter?	If wrong diameter, replace.
	Water flowing around the end?	Extend rock.
Inlet Protection	Installed correctly using proper materials?	If not, remove and replace.
	Filled with sediment?	Remove, place upstream, and stabilize.
Vegetation Establishment	Has the specified mixture been used?	If not, reseed.
	Inadequate growth?	Evaluate time of year; plant again.

	Spotty growth?	Soil conditions, excess moisture, or need to apply more seed.
	Intrusion of noxious weeds?	Implement weed control.
Dry Mulch	Coverage 80% to 100%	If not, reapply.
	Movement of material?	Need to anchor to the ground by crimping or tackifier.
Hydraulic Mulch and Other Products	Adequate coverage?	If not, reapply.
	Deterioration?	If not evident, do nothing. If evident and vegetation is not evident, repair and reapply. If evident but vegetation is occurring, wait and complete another inspection at a later date.
	Is vegetation becoming established?	If no, evaluate whether climatic conditions have been adequate for establishment. If no, reapply. If yes, do nothing.
RECP for Slope Protection	Improper installation at top?	Put in trench or extend onto flat area.
	Inadequate number of staples?	Add more staples.
	Side not in trench or stapled?	Install staples or place in a trench.
	Has seeding been completed?	If not, remove product and spread seed.
ECB and TRM for Channel Protection	Proper material used?	Work with the designers to ensure proper selection has occurred.
	Improper installation at top?	Repair or use riprap check.
	Lack of staple checks?	Install staple or riprap checks.

Describe in your notes the potential violations and their location. Look for areas where BMPs are needed but are missing and are not included in the SWPPP.

5.3.5.6 Inspect disturbed areas not currently being worked

Disturbed areas need temporary or permanent cover when they are not being actively worked. All exposed soil areas must be stabilized immediately to limit soil erosion whenever any construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed no later

than 14 calendar days after the construction activity in that portion of the site has temporarily or permanently ceased.

5.3.5.7 Taking Photographs:

A digital camera is extremely useful during an inspection. Take digital photographs to document your findings and provide a site overview as you write your report. Take photos of the site entry sign, all potential violations, and a general view(s) of the construction site. Be certain to photograph impacts to waters of the state and try to document with photos that the construction project is the only source of the impact (not other upstream sources). Take shots above and below the project at the impacted waterbody. Remember that you do not need to incorporate all the photos you take into your inspection report.

On the site map, indicate approximate locations of where you took photos, and the direction of the photograph. Keep notes for each photograph you take, as you need to describe the potential violation in your report. When taking a photograph, make sure you keep perspective in mind. If the viewer will have difficulty understanding how large something is (for example, a rill/gully), then use a prop such as a person, hardhat or other object for perspective.

5.3.5.8 Common compliance problems at a construction site:

Problem #1 – No temporary or permanent cover
All exposed soil areas must have stabilization initiated immediately to limit soil erosion whenever any construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Ask the contractor when exposed soils were last worked to help you determine if there are compliance requirements.

Problem #2 – No sediment controls on site
The permit requires established sediment control practices (e.g., sediment traps/ basins, down-gradient silt fences or sediment barriers, check dams,

etc.) on down-gradient perimeters before up-gradient land disturbing activities begin.

Problem #3 – No sediment control for temporary stockpiles
Temporary stockpiles must have silt fence or other effective sediment controls and cannot be placed in surface waters (or curb and gutter systems).

Problem #4 – No inlet protection
All storm drain inlets that receive a discharge from the construction site must be protected before construction begins and must be maintained until the site is stabilized. Inlet protection may be removed for a particular inlet if a specific safety concern has been identified. Written correspondence must be documented in the SWPPP or available within 72 hours upon request.

Problem #5 – No BMPs to minimize vehicle tracking on to the road
Vehicle exits must use BMPs such as stone pads, concrete or steel wash racks, or equivalent systems to prevent vehicle tracking of sediment. This is a human safety issue. Mud on city streets can increase stopping distances.

Problem #6 – Sediment on the road
If BMPs are not adequately keeping sediment off the street, then the permit requires tracked sediment to be removed (e.g., street sweeping) within 24 hours of notification.

Problem #7 – Improper hazardous materials management
Hazardous materials (including oil, gasoline, and paint) must be properly stored. This should include protected from rainfall and secondary containment.

Problem #8 – Dewatering at the construction site
Typically dewatering occurs where building footings are being constructed. Have measures been taken to ensure that the pumped discharge is not causing erosion? Is the discharge turbid and if so is it treated before discharging from the site? Has ditching been used to dewater and if so is that water resulting in the discharge of sediment and causing water quality impairments?

Problem #9 – Improper waste controls

Solid waste must be disposed of properly. Check locations of port-a-johns to make sure potential leaks do not drain off site. All dumpsters should contain a lid, and the lid should be closed at the end of the day. The site should be free of trash to prevent floatables such as empty bottles from washing downstream.

5.3.6 On-site Records Review

5.3.6.1 Ask to see a copy of their SWPPP, ESC Plan/drawings, any applicable Federal 404 permit from the US Army Corp of Engineers (COE) or 401 Water Quality Certification letter from the MDNR, and all construction site inspections (i.e. the owners/operators are required to make weekly or biweekly inspections as well as post rain event). Specific items in the SWPPP to review and record in your notes include:

- The most recent date of the SWPPP, and who prepared it.
- Primary erosion prevention and sediment control BMPs used on-site.
- Inspection and maintenance records, which are required to be kept with the SWPPP.
- Operator is required to inspect the site once every 7 days and within 48 hours after a 2-year rainfall event, or every 14 days and within 24 hours after a 0.25-inch storm event. The SWPPP should be clear on the inspection frequency.
- Permanent stormwater management practices.
- Pollution prevention practices (especially for fueling, solid waste, hazardous materials, and vehicle washing).
- Discharge points from the project to surface waters and wetlands.
- Stockpile locations

5.3.6.2 **The SWPPP must be on-site.** "...the SWPPP (original or copy), all changes to it, inspections and maintenance records must be kept at the site during construction by the Permittee who has operational control of that portion of the site." The SWPPP can be kept in either the field office or in an on-site vehicle. If the SWPPP is not available, ask why and note the response in your report. There are no legitimate excuses for not having stormwater paperwork on-site and available for review. Inform the construction operator that the permit requires the SWPPP to be on-site and available for review. If issues on-site indicate an in-depth review of the SWPPP is necessary, request

that a copy of the SWPPP be submitted to the Water Protection office in the corrective actions.

5.3.6.3 Questions to ask the contractor as you review the SWPPP.

- How large is the project, how long has construction been underway, and when do you plan to complete construction?
- Do you store or use any hazardous materials or waste fluids on-site? Do you refuel vehicles or equipment on-site?
- Does this project include concrete pouring? How are concrete trucks washed out?
- Does the project have a rain gage, and how do you track rainfall amounts?
- What procedures do you institute in advance of forecasted rain events?
- Where are the critical areas of protection?
- Where does is the construction site drain?

5.3.6.4 The SWPPP must include a narrative describing the timing for installation of all erosion prevention and sediment control BMPs. The SWPPP must also address phasing.

5.3.6.5 Ask for a copy of the ESC plan (site map and the BMP list) to determine if it is specific to the construction site you are inspecting. The site map and BMP list can be marked up during your inspection to indicate locations of potential violations and as a reminder to ensure that BMPs are implemented. Remember that these items are enforceable and that the permit requires them to fully implement their SWPPP.

5.3.6.6 SWPPPs are dynamic documents; they should be updated when:

- There is a change in design, construction, operation, maintenance, weather, or seasonal conditions that has a significant effect on stormwater discharges,
- Inspections indicate the SWPPP is not effective, or
- The SWPPP is not consistent with the state or city permit.

5.3.6.7 **What if the site does not have a permit?** If a construction site disturbing more than one-acre has not applied for a land disturbance permit, explain to the site representative the requirement to apply for a land disturbance

permit, continue the inspection, and leave compliance assistance materials such as a copy of the permit and application. Note the violation on the inspection form. A Stop Work Order should be issued until the site is properly permitted. Leave contact information for commercial development staff as well as contact commercial development staff to either fill them in on the status of the project or get information from them.

5.3.7 Exit Interview

5.3.7.1 Prior to conducting your exit interview, take a couple of moments to break away from the group to gather your thoughts and prepare a list of preliminary findings. Complete the inspection form and determine the severity of any identified deficiencies.

5.3.7.2 Debrief the person in charge. Explain that the results of the inspection are preliminary and are not final until all documents and photos have been reviewed and a supervisor has reviewed your report. Explain the identified deficiencies and any areas of concern (parts of SWPPP are missing, inspections are not being done, silt fence was down, etc.). Where possible, cite the section of the permit that requires these missing practices. While it is important that you provide a comprehensive site assessment, it is acceptable to indicate that you are uncertain about certain deficiencies/points and that additional review is required.

5.3.7.3 If there are track out issues, or potential for sediment to leave the site, the site operator will need to address these issues prior to receiving a written report as soon as possible – by the end of business that day. Share information on permit compliance, and direct them to technical guidance materials. Lastly, do not tell the construction operator which BMP to use. Explain the problem or the permit requirement that must be met and describe how other construction sites have addressed typical problems. It is OK to tell the construction operator about what typically works and what doesn't work in the field, but don't specify the BMP to use (especially if it is a proprietary BMP). Ultimately, it is up to the construction operator to decide which BMPs to use. If necessary, the inspector can direct the operator to the KC Metro APWA Erosion and Sediment Control specifications.

5.3.7.4 The inspector should discuss any noncompliance issues and needed actions with the facility representative before the inspector leaves the site. If the facility representative is not available for the post-inspection discussion or if other violations are identified, the inspector should contact the facility representative as soon as practical. Review noncompliance issues and actions that need to be taken to address the violations. Provide the manager with a deadline date if different from the usual 14-day timeline. Follow up with an email restating the noncompliance findings and schedule a follow-up inspection time and date.

5.3.7.5 After the debrief, give a copy of the inspection form to the site representative for their files.

5.3.7.6 Field Notebook – informal narrative of site conditions, contacts, inspection date and time, photos, and other miscellaneous information. Keep in mind this notebook is a legal document and can be used in enforcement actions (see SOP 1.1.003).

5.4 Follow-up Inspection

5.4.1 Before inspection, review findings from the last inspection. Conduct the inspection like a routine inspection but pay special attention to areas of concern from the previous inspection.

5.4.2 If areas of concern or noncompliance have not been fixed since the previous inspection, the inspector must inform their supervisor. It will be up to the discretion of the supervisor whether further enforcement actions need to be taken (SOP 1.4.002).

5.5 Post-Construction Inspection – Site Closeout

5.5.1 Inspect areas with final stabilization

5.5.1.1 Inspect any stabilized areas to ensure that excessive erosion is not occurring. Estimate whether the site has been stabilized with uniform perennial vegetative cover with a density of 70% over the entire pervious area.

5.5.1.2 Do a final comparison of what has been done and what is on the plans. Are all permanent BMPs installed per plans?

5.5.1.3 Temporary BMPs in areas with final stabilization must be removed and sediment must be cleaned out of all conveyances and temporary sediment basins that will be used as permanent water quality management basins. Areas where temporary BMPs have been removed must be stabilized and seeded.

5.5.1.4 For sites over 1-acre that have state permits, Form H must be completed and turned in.

5.6 Documentation and Filing Land Disturbance Correspondence

5.6.1 A paper copy of the Land Disturbance Inspection Form will serve as the report of site inspection indicating compliance status and will be either given to the operator onsite at the exit interview or, if the responsible person is not onsite at the time of the exit interview, mailed to the owner at the owners address and copied to the general contractor and their business address within 7 days of the onsite inspection. If a letter needs to be sent as specified by Water Protection's Enforcement Escalation Policy for Land Disturbances, the letter will be saved and filed in the original electronic folder created for the site using the Official Written Correspondence & Filing SOP (1.3.002) naming convention.

5.6.2 Any land disturbance site with deficiencies that require actions further than an initial and subsequent follow-up inspection must be addressed according to Water Protection's Enforcement Escalation Policy for Land Disturbances. No enforcement actions should be taken against an owner/operator unless all of the steps on the policy's decision tree have been fully completed and documented. It is important that the appropriate management notifications up the chain of command be made for each of the actions on the policy's decision tree that require such. This ensures that the inspector is aware of any knowledge or insight that management may have, and that management is prepared for any potential feedback that might be received from the permitted entity.

5.6.3 Official Inspection Report – written report compiled in the office after the inspection when noncompliance is observed. Inspection reports consist of inspection forms, photo log, and an official letter (LOW, NOV, SWO). Remember that your inspection report is a legal document. Write accurately and objectively. Report all violations observed at the site, and always cite the section of the permit that was violated. Be careful not to include any information that you are unsure of (i.e., product names). The inspection report may be the first step in a compliance process that could reasonably be expected to be contentious.

Factual errors in the report will bring the entire report and inspection into question and will hurt the inspector's credibility. Therefore, if there is any doubt about the information, it should be left out and verified later.

5.6.3.1 When writing the description of violations, items that were stated to occur but were not observed should always be attributed to the construction operator or their representative. For example, the representative may state that the street is swept daily, but you do not know this as an observed fact.

5.6.3.2 Be consistent when writing your inspection reports. Identify potential violations in such a way that another inspector can take your report and locate the problem area(s) easily. Be specific when you describe your observations. Do not write "a discharge was entering the storm drain" but rather "a discharge was entering the storm drain on the east side of the project below the construction entrance." As a rule, descriptions of potential violations should be in past tense, i.e., "the silt fence was installed without being toed-in."

5.6.3.3 Photo Log – official compilation of photos captured during the inspection.

The photo log provides an important visual link between the written inspection report and the actual inspection. The photo log will also help determine the severity of potential violations. The inspection report should reference the photo log. Photo log should include:

Photo(s) that illustrates general construction site conditions. A macro level shot provides insight into whether the site is generally in good shape or poorly maintained. For a site that is generally in compliance, the general construction site conditions photo may be the only picture in the log.

Provide photos for all potential violations. The photo serves as a record that the findings occurred and provides a means of comparing future site conditions with those on the day of inspection. Also, it is easier to resolve potential disputes with the construction operator if findings are documented with photographs.

Photo captions should briefly describe what is observed in the picture. Avoid references to the "normal" conditions in that area ("per the construction operator" statements); these are better discussed in the inspection report. Captions should also include the date taken and name of the inspector who took the photo.

Include in the header: the construction site name, City and State permit number, date, and inspector names. Create a new photo log for each construction site; problems seem to arise when inspectors recycle photo logs by erasing the photos from one site and add those from another.

5.6.4 File locations and Nomenclature

WPC(\\streets-server1\data)\Environmental Services\MS-4\Land Disturbance Inspections

For Sites with DNR (MORA) permit numbers, save the file with the following nomenclature:

Folder Name: MORA XXXXXX Acme
- 20200215 Inspection
- 20200215 Photo Log
- Enforcement letters
- Site Map

For land disturbance on sites less than 1-acre that do not have a MoDNR (MORA) permit number, use the city project or land disturbance number, and project name as the file name. Additional files should be saved under that folder using the date to sort inspections and photos. See the following nomenclature:

Folder Name: LDYR-XXXX Acme
- 20200215 Inspection
- 20200215 Photo Log
- Enforcement letters
- Site Map

City of St. Joseph Water Protection Division
Land Disturbance Inspection Form

Site Address: _____ Date: _____

Owner: _____ Inspector: _____

Contractor: _____ City Permit#: _____

Onsite 24 Hour Contract: _____ MSOP#: _____

Phone: _____ Watershed: _____

1. Permit # Displayed	Yes No	8 Deficiencies from previous inspection	Yes No
2. Permit Onsite	Yes No	9 Are previous deficiencies corrected	Yes No
3. SWPP Onsite	Yes No	10 Days since defieciecies noted _____	Yes No
4. Site Map Representative	Yes No	11 Area not disturbed for 14 days	Yes No
5. BMP's Maintained/Effective	Yes No	12 Site stablized and permit terminated	Yes No
6. Inspection Logs kept up-to-date	Yes No	13 Are tempory BMP's removed	Yes No
7. Sediment off site/Rainfaill	Yes No	14 Termination date_____	Yes No

Comments_____

_____

_____

_____

_____

_____

_____

_____

Inspector Signature_____

FINAL Inspection of Land Disturbance Sites

Project Name:_____ Project Address:_____

LDP Number:_____ Date:_____

Contractor/Representative:_____ City Inspector:_____

A. Project Overview

Land disturbance activities have ceased with no further activities planned. The project manager is calling for a final inspection of the site to terminate City and/or State Land Disturbance Permit(s).

B. Paperwork

- Does the project have a Missouri DNR Land Disturbance Permit? Yes No
- If answered "Yes" above, Missouri Department of Natural Resources (DNR) Request for Termination of Operating Permit (replaces Form H and J) must be completed and turned in to the DNR.

C. Site Closeout (*Must be "Yes" or "N/A" for inspection to be satisfactory.)

- *Is the site stabilized? (Perennial vegetation, pavement, buildings or other permanent structures cover all areas that have been disturbed.) Yes No N/A
- *Is all building construction completed? Yes No N/A
- *Are all temporary BMPs removed? Yes No N/A
- *Is all construction equipment removed from site? Yes No N/A
- *For vegetated areas, does the vegetation cover at least 70% over 100% of the site not covered in impervious material? Yes No N/A
- *Are all permanent stormwater BMPs installed per plans and mapped in the City's GIS platform (Integrity)? Yes No N/A
- *Is all grading and landscaping completed per plans? Yes No N/A

D. Approval

City staff initial for approval:

_____Land disturbance permit **may** be terminated, as this site has met all the requirements of the City of St. Joseph Final Inspection.

_____Land disturbance permit **may not** be terminated as this site has not met all the requirements of the City of St. Joseph Final Inspection. The deficiencies below must be corrected:

1._____

2._____

3._____

4._____

5._____

*****This inspection sheet is for INTERNAL use only and is provided as a courtesy to list site deficiencies*****

Appendix F: Commercial and Subdivision Review (SOP 1.4.004)

City of St. Joseph, MO
Water Protection Division
Stormwater Management Program

Standard Operating Procedure 1.4.004

Commercial and Subdivision Review

Implementation Date: August 29, 2018

Revision Date: February 8, 2021

Prepared By: Kathleen Bruggé Date: 2/12/21

Name and Title: Katie Bruggé, Technical Services Manager

Approved By: Kathleen Bruggé Date: 2/12/21

Name and Title: Katie Bruggé, Technical Services Manager

Approved By: Colleen Armstrong Date: 2/17/21

Name and Title: Colleen Armstrong, Stormwater Quality Coordinator

1. SCOPE AND APPLICABILITY

1.1 A concept review is required for all new development and redevelopment projects that require zoning or platting, pre-treatment, stormwater, are located within a floodplain, or submit variance requests. The developer and the design engineer will have an opportunity to meet with city officials and discuss the requirements for zoning, subdivisions, permitting and construction design.

2. PROCESS

2.1 To schedule a concept review meeting, the developer or engineer must submit the requirements on the Concept Review Checklist one week in advance. If all items are included, then a meeting will be scheduled the following week. The developer, owner and design professional should attend. After the meeting, the notes of the meeting will be sent to the participants and kept on file. These notes/criteria will be valid for one year, even if ordinances or policies change. If the project is not developed during that year, a new concept review will be required. The concept review meeting is required by the City's MS4 Permit (Construction Site Stormwater Runoff Control Section 4.2.4.1.3).

i. During this meeting, the following items will be discussed with the developer/owner and design professional:

- Zoning/Plat/Annex (existing and required changes)
  - Variance from standards
- Floodplain requirements
- Stormwater requirements
- Land disturbance permitting process
- Pretreatment requirements and permitting process
  - An Industrial Wastewater Survey Questionnaire will be provided for businesses that may require pretreatment. This questionnaire must be completed and returned to Water Protection within 2 weeks.
- Fire suppression requirements
- Utility connections
- Road access and sidewalk requirements
- Maintenance agreements, deeds, existing easements, and proposed easements

- Benefit Districts that the customer/developer is requesting and benefit districts that the city may require for long-term maintenance of features. These include: CID, NID, TDD, 353, Ch. 100, EEZ, and Tax credits state/federal type and county incentives.

2.2 Preliminary Site Plan/Preliminary Plat/PUD –

2.2.1 Submittal of 60% complete site plans prepared by the design engineer is required. This will be the first chance for city staff to see and review the site plan. This review could take up to 21 working days to complete, depending on workload and complexity of the project review. The team will review the notes from the concept review meeting, as well as criteria for floodplain development, pretreatment, stormwater engineering and design to ensure local and federal requirements are met. This set of plans must include phased development and estimated timeframes for the phases.

2.2.1.1 Required submittals at this stage

- Floodplain certification
- Stormwater basin criteria and hydraulic analysis
- Stormwater Pollution Prevention Plan
- Erosion and sediment control plan
- Traffic study
- Sidewalk layout
- Signage and lighting plan
- Utility easements and connections
- Fire prevention and suppression
- Pretreatment – Completed Wastewater Contribution Permit application (if deemed necessary by Water Protection) and engineering report
- Existing or new/proposed easements or covenants and restrictions on the property
- Benefit District applications and associated documents

2.2.1.2 Once the review is complete, a list of required changes will be sent to the design professional.

2.3 Final construction site plans –

2.3.1 Submittal of 100% complete site plans by the design engineer. This review will take up to 15 working days. During this review, the team will check to make sure the list of required changes sent to the design professional during the preliminary plan review are completed as requested. The following reviews will also be completed at this time:

- Land Disturbance Permit application
- Stormwater Management Plan
- Maintenance Agreements and Improvement Districts
- Water Protection approval of pre-treatment equipment and design

2.4 Approval of Construction Site Plans –

2.4.1 Once the plans are reviewed and approved, a land disturbance permit can be issued, and a pre-construction meeting can be scheduled at the site. Submittal of plans does not constitute approval nor give the developer or contractor authorization to proceed. *This approval is for the site work only, and not an approval for the building plans.*

2.5 Post Construction –

2.5.1 2 weeks prior to requesting a Certificate of Occupancy permit, the contractor must schedule the following inspections with Public Works:

- Sidewalk inspection
- Final sediment control inspection
- Stormwater facility inspection
- Driveway inspection
- Pre-treatment facility inspection

2.5.2 Additional documents/requirements that may be needed prior to obtaining a Certificate of Occupancy

- As-Built drawings, stamped by a Registered Professional Engineer
- Final elevation certificate for floodplain
- Easements and recorded documents
- Deeds and gifts,
- Maintenance agreements

- Pre-treatment inspection and issuance of Wastewater Contribution Permit, if necessary.

2.5.3 Once these items are approved and completed, legal and public works will sign off on the project. Next, the contractor can work with Building Development to request the final trade inspections to receive the Certificate of Occupancy.

Appendix G: Enforcement Response Plan for Land Disturbances (SOP 1.4.005)

City of St. Joseph, MO
Water Protection Division
Stormwater Management Plan

Standard Operating Procedure 1.4.005

Enforcement Response Plan for Land Disturbances

Implementation Date: September 1, 2020

Revision Date: February 8, 2021

Prepared By: Kathrin Bruegge Date: 2/24/2021

Name and Title: Katie Bruegge, Technical Services Manager

Approved By: Kathrin Bruegge Date: 2/24/2021

Name and Title: Katie Bruegge, Technical Services Manager

Approved By: Colleen Armstrong Date: 2/25/2021

Name and Title: Colleen Armstrong, Stormwater Quality Coordinator

1. SCOPE AND APPLICABILITY

1.1 This Enforcement Response Plan (ERP) applies to actions and events which to do not comply with the City of St. Joseph and State of Missouri Land Disturbance Permit Requirements. All such actions and events, which are referred to generally as "violations" throughout this ERP, will receive responses in accordance with this ERP and other applicable ordinances, regulations, and laws. This ERP does not *limit* the actions that may be taken; it merely outlines the typical response to violations.

1.2 The purpose of this Standard Operating Procedure (SOP) is to have a written Enforcement Response Plan for Land Disturbances to ensure that all enforcement cases are handled in the same manner.

1.3 No enforcement actions should be taken against an owner/operator unless the steps on the policy's decision tree have been fully completed and documented. It is important that the appropriate management notifications up the chain of command be made for each of the actions on the policy's decision tree that require such. This ensures that the inspector is aware of any knowledge or insight that management may have, and that management is prepared for any potential feedback that might be received from the permitted entity.

2. PERSONNEL QUALIFICATIONS

2.1 Professional/Ethical: All enforcement actions taken by Water Protection personnel will follow escalation procedures detailed in this SOP. No permit holders shall receive any special treatment because of their relationship with City staff, nor should any permit holders be held to a higher standard due to violations on a separate and unrelated project. Each case will be dealt with individually – this is not to say that previous violations on the same project should be overlooked.

2.2 Knowledge: Land disturbance inspections are conducted by Certified Stormwater Inspectors who are familiar with City and State Land Disturbance Permit Requirements. All permit violations are to be taken to the Stormwater Quality Coordinator to follow the enforcement procedures described below.

3. ABBREVIATIONS/DEFINITIONS

BMP – Best Management Practice(s)
USACE – United States Army Corps of Engineers
ESC – Erosion and Sediment Control
LOW – Letter of Warning
MDNR – Missouri Department of Natural Resources
MS4 – Municipal Separate Storm Sewer System
NOV – Notice of Violation
QA/QC – Quality Assurance/Quality Control
RAI – Request for Additional Information
SWO – Stop Work Order
SWPPP – Stormwater Pollution Prevention Plan
USEPA – United States Environmental Protection Agency

4. ENFORCEMENT PROCEDURE

4.1 If work is occurring without the proper permits, a SWO should be issued until the proper permits are obtained.

4.2 Upon discovery of a Land Disturbance Permit violation, the contractor will be notified in writing and given up to fourteen (14) days to remedy the violation(s). Extensions of time may be granted in the Director's sole discretion. Any and all responses (including a lack of response) are considered by the City of St. Joseph for future enforcement for the violations discovered.

4.2.1 A written notification can be in the form of an inspection report form, a RAI, or a LOW.

4.2.1.1 RAIs, LOWs, and NOVs shall be sent on official Water Protection letterhead and follow the *Official Written Correspondence & Filing* SOP (1.3.002).

4.2.1.2 Request for Additional Information (RAI)

This is a written notice to the responsible party requiring additional information. Occasionally additional information is needed to determine the status of compliance or a response to violations discovered during the

inspection. This information can be used to determine if elevated enforcement (including penalties) is appropriate.

4.2.1.3 Letter of warning (LOW)

A minor violation discovered during an inspection, complaint follow-up or review of submittals. The LOW typically includes a reference of the statute, rule, permit condition or checklist that has been violated. A warning letter is issued to achieve voluntary compliance and establish prior notice. The LOW typically requires the regulated party to complete specific corrective actions to return the facility to compliance. The warning letter usually gives a regulated party between 7-30 days to complete required corrective actions.

4.2.2 If the violation has not been remedied within the time frame set forth in the notice, a NOV will be issued.

4.2.2.1 Notice of Violation (NOV)

All required Notices of Violation (NOVs) must be sent within 7 days of detection of an uncorrected violation.

Requirements to correct field conditions and to come into compliance with the permit, statute or rules and must be responded to in the period noted in the NOV.

4.2.3 After a NOV has been issued and the violations have still not been resolved, a SWO may be issued and the permit(s) will be suspended. The SWO shall state the reason for the order and the conditions under which the order and suspension will be lifted.

4.2.4 Stop Work Order (SWO)

4.2.4.1 A SWO is a necessary escalation in for the following instances:

Once the above enforcement actions have been worked through, a SWO should be issued if no actions to come into compliance have been done.

If there is work being done at the site, or sediment/runoff is leaving the site and poses an immediate safety risk to workers or the general public, a SWO should be issued.

4.2.4.2 Any work which shall continue to occur under a stop work order, except such work as is directed to perform to remove a violation or unsafe condition, shall be a violation. Continued work under a stop work order shall result in a municipal ticket.

4.2.4.3 After two (2) SWOs of a permit for the same site for similar violations, the permit(s) shall be revoked. All applicable procedures will have to be followed for re-issuance of the permit(s). Additionally, any remediation or abatement costs will be required to be paid prior to re-issuance.

4.2.4.4 If the SWO has not been lifted through compliance with its terms within thirty (30) days from the date of its issuance, the permit shall be revoked. All applicable procedures will have to be followed for re-issuance of the permit(s). Additionally, any remediation or abatement costs will be required to be paid prior to re-issuance in the form of a performance bond.

5. REFERENCES

City of St. Joseph, Missouri: Enforcement Response Plan.

SOP 1.3.002: *Official Written Correspondence & Filing*. City of St. Joseph, Water Protection.

Appendix H: The City of St. Joseph Sewer Maintenance Sewer Cleaning Procedures

The City of St. Joseph Sewer Maintenance
Sewer Cleaning Procedures

Truck Operation and Preparation for before Cleaning

Operator needs to make sure that the truck cab is kept clean.

Crew members need to examine for any frayed or worn hose lines on cleaning vehicles they also need to check all valves and hose connections for signs of leakage.

Properly secure all equipment and miscellaneous items before leaving yard or job site.

When operating swinging boom, us extreme caution when changing directions.

Only one qualified person operates the boom while one person signals and assists the operator.

When positioning the truck to work operator needs to be extra cautious of other personnel and equipment in the area.

Do not load dump body beyond rated capacity.

Be aware of possible load surge when turning or braking.

Check to see that tail gate is properly secured.

When working under raised dump body make use of the safety stand.

Use all protect ant equipment that is provided such as: safety glasses, gloves, hardhat, safety vest, ear plugs, and steel toed leather work boots.

Crews are to make use of **All** traffic control devices at their work locations, flaggers if needed. If they have any questions regarding traffic control they should call the Traffic Control Supervisor.

The City of St. Joseph Sewer Maintenance
Sewer Cleaning Procedures

Cleaning Method to Remove Blockage

Stoppages can be caused by a wide variety of circumstances from hydraulic bottle necks in the system, failed or broken sewer pipes, roots, grease, cans, bottles, and debris deposits.

As a caution when using a flushing machine to relieve stoppages, always start the jetting process from the downstream manhole. If this is not possible use extreme caution if you jet from the surcharged manhole. It is difficult to determine if the nozzle is in the pipe and if it not it can exit the manhole under pressure surprisingly fast striking and or penetrating anything in its path, including the operator or other crew members causing severe injury or even death.

If you are forced to operate from a surcharged manhole, use a long poled tool to insure the nozzle is in the pipe. Apply minimum pressure while using the long tool to feeling the nozzle to make sure it enters the sewer pipe. Remember this is a dangerous practice and is not recommended unless all other options have been exhausted.

Normal operating procedure should be to determine the nearest dry manhole from the stoppage. Then set up for the stoppage removal should be done from this location.

A penetrator nozzle should be used to clear the line. This nozzle has a small head designed to penetrate the material and create an even widening hole though it.

Set up the sewer hose in the pipe, using the proper hose protection and /or easement rollers. Make sure that your debris trap is placed in the manhole to stop any material from flowing downstream causing another blockage.

Use the reel control to back the nozzle up and return to the mass repeatedly. If this fails to relieve the blockage, a common practice is to physically hold the hose, using gloves for protection, pull the nozzle back and abruptly let go, ramming the debris.

After the blockage is relieved, the pipe should be cleaned using the proper nozzle to remove any additional materials.

The City of St. Joseph Sewer Maintenance
Sewer Cleaning Procedures

Routine Cleaning

Normal operating practices are to always work from the downstream manhole unless this is not possible. This enables gravity to help in the cleaning process. You also need to have on hand a method for removing debris, such as a spoon shovel, handi-claim, or air conveyance such as a vacuum truck. This is to prevent the materials from going downstream. Operator needs to make sure he has all the proper nozzles on hand, each location is different. There may be grease or roots in the line and these situations require special nozzles.

A debris trap is also recommended to be placed in the downstream invert to prevent large amounts of debris from getting past the access point.

Operator needs to make use of all rollers and tiger tails to prevent damage to the hose. The nozzle needs to be placed into the upstream manhole and proceed with the jetting process. The operator needs to clean in short bursts of 10' to 30' depending on amount of debris build up. It is also important to pay close attention to the leader hose as you don't want the nozzle exiting out of the pipe and or manhole causing injury or damage.

After several passes have been made with the nozzle you will be able to tell the amount of debris build up in the pipe and determining on that you may be able to increase the segment sections of pipe you are cleaning from 30' to 50' or even larger.

Once enough material has gathered in the manhole, then stop operation of the nozzle until the materials can be removed. Under no circumstances should an operator be in the manhole when the flusher nozzle is working. An unexpected release of water in the pipe can quickly fill the manhole, or airborne rocks, needles, and or objects can cause injuries.

Appendix I: Policy Definitions of SSO and Bypasses

INVESTIGATE AND ASSESS SSO SITE

- Is SSO causing traffic hazard?
- Is SSO impacting a structure?
- Has SSO reached a stormwater structure?
- Has the SSO reached a waters-of-the-state?
- Does the SSO involve a private connection?
- Determine initial cause of overflow
- Take pictures of SSO
- Initial estimate of overflow rate

SSO CORRECTION, CONTAINMENT, AND CLEAN UP

- Steps to be taken at site
  - Initiate traffic control
  - Investigate and assess
  - Contain SSO
  - Correct cause of SSO
  - Post warning signs
  - Clean up contaminated area

Remember it is extremely important to obtain a sample whenever possible and get it to the Lab within 2 hours

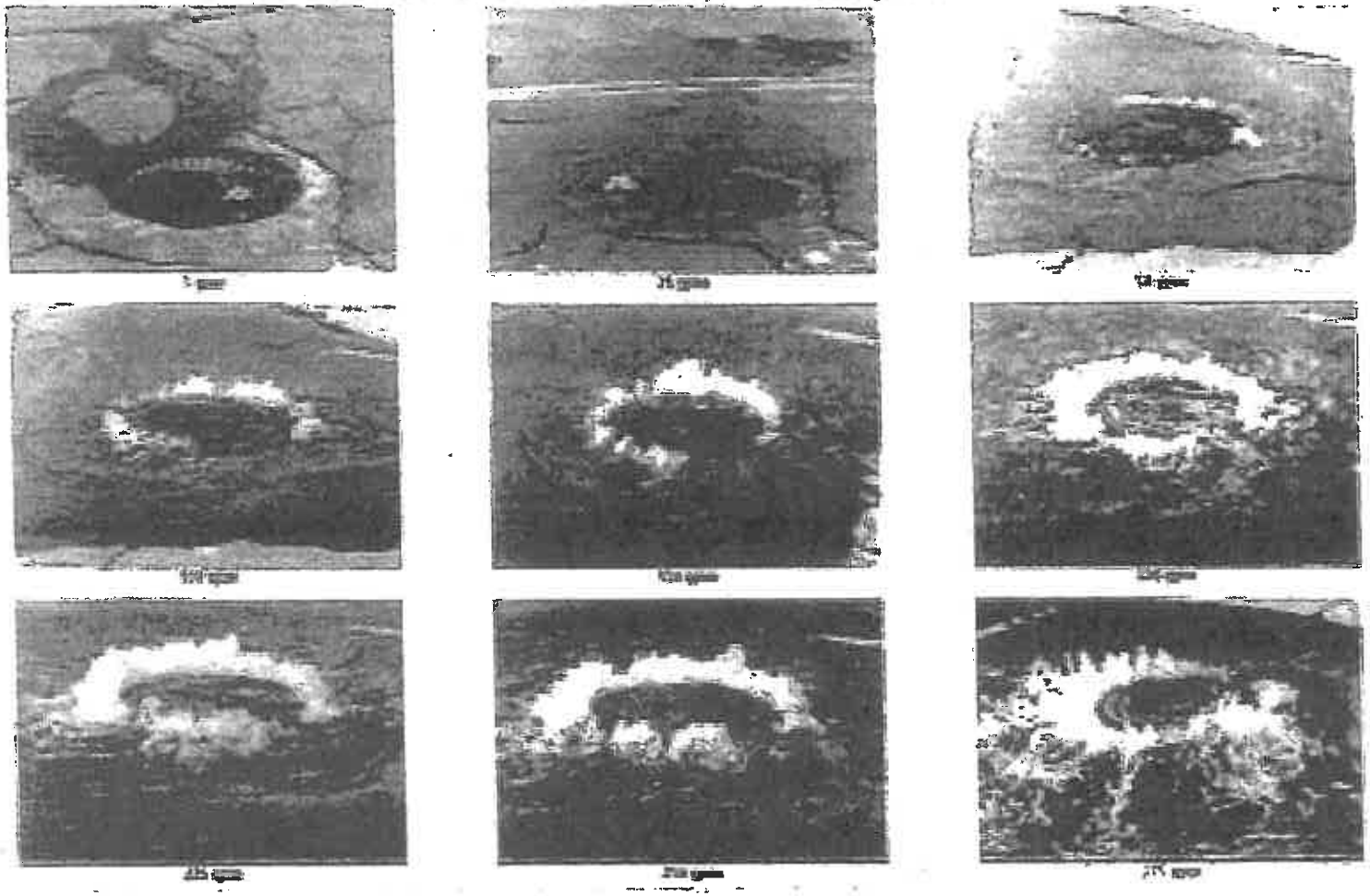
INITIATE TRAFFIC CONTROL

- Immediate need for traffic control
- Prevent vehicles and public into SSO area
  - Set up cones around area
  - Put taping around area
  - Place maintenance vehicles around area
  - Place flames around area
  - Direct traffic around area

INITIAL ESTIMATE OF OVERFLOW RATE

- Information to gather:
  - Spill start and stop time
  - Discharge rate
  - Dimensions of overflow
- Estimate overflow volume

ESTIMATING OVERFLOW RATE



Drawing was developed by California County Sanitation District 1

CONTAIN SSO

- Options
  - Plug storm drain (during dry weather only)
  - Rubber mats, sand bags, plastic sheeting
  - Earthen trench
  - Trace overflow to downstream endpoint

A person works to prevent a spill from entering a storm sewer (RWWG, 2000)

CLEAN UP CONTAMINATED AREA

- Common clean up procedures
  - Waterway
    - Pump out flow into sewer system
    - Remove debris
    - Wash, contain wash water, and pump into sewer system
    - Remove contaminated soil and plants
  - Street
    - Remove debris
    - Wash, contain wash water, and pump into sewer system
    - Sodium Hypochlorite (household bleach) Solution
  - Soil
    - Wash, contain wash water, and pump into sewer system
    - Remove contaminated soil and plants
    - Apply Hydrated Lime

If procedures cannot be completed by dispatch personnel then specialty clean up contractors should be called to help with the clean up of the area. Wash water can be contained using sandbags, and trenches.

Note, these are recognized as industry practices for overflow clean up and killing pathogens. Lime will also help absorb liquids and control odors. Caution should be used when applying chemicals near a permanent flowing stream.

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POST WARNING SIGNS

- When overflow is exposed or enters a waterway
- If overflow involves industrial or hazardous waste

Missouri Department of
Natural Resources

Policy Definitions of SSO and Bypasses

- Bypasses – Usually associated with discharge **at the plant before appropriate treatment** which results in a violation of permits limits or conditions are prohibited
  (10 CSR 20-7 and NPDES Permit General Conditions)

- Sanitary Sewer Overflow - Bypassing or release of raw sewage from the sanitary sewer system **prior to discharge of the raw sewage to** a wastewater treatment facility for appropriate treatment.
  (Sanitary Sewer Overflow Policy Implementation 4/4/2007)

- Constructed SSO's should be eliminated as soon as possible. (i.e. pipe to stream at lift stations, treatment plant or anywhere in the system, and peak flow clarifier outfalls)

SSO REPORTING

- Call MDNR as soon as possible and report to a live person within 24 hrs
- Complete field data collection form
- Complete 24-hr and 5-day reporting forms
- Send completed reporting forms to MDNR
- Determine preventive actions

Have dispatch notify WPC EMEDIDATLY This reporting is done by them

Appendix J: Municipal Facility List

Municipal Facility List - City of St Joseph
revised 3/2021

Facility type and services	Contact Person	Street address	YEAR	SQ FT	Location Identifier
Maintenance/ Fleet/Transportation					
Municipal yard - garage, storage Shed, Carpenter shop, oil and Tire, salt storage, sign shop Paint storage, truck shed, truck wash, sweeper barn	Kevin Schneider, Superintendent Steven Kendall, Senior Field Supervisor Wiley Gardner, Chief Master Mechnic	2316 S. 3RD	1930	6438	LOCATION 027
Transit Station/Cub Foods		201 1/2 BELT HWY.	1996		LOCATION 022
Transit Station/Walmart		4201 N. BELT HWY.	1998		LOCATION 052
Transit Station		6TH & ANGELIQUE	1998	1809	LOCATION 060
Parking Structures					
Parking Structure		5TH & FELIX	1977		LOCATION 058
Parking Structure		6TH & JULES	1977		LOCATION 062
Parks and Recreational area					
Lions Ballfield		11TH & GRAND			LOCATION 011
College Hill Park		12TH & HENRY	1975	324	LOCATION 013
Remigton Nature Center	Andrea McCoy, Manager	1502 MCARTHUR DRIVE	2008	17790	LOCATION 016
Heritage park		2202 WATERWORKS ROAD	2002	6000	LOCATION 024
Bode Ice Arena		2500 S.W. PARKWAY	1973	33541	LOCATION 029
Corby Grove Park		2600 S.W. PARKWAY	1950		LOCATION 030
Noyes Park		28TH & EDMUND			LOCATION 033
Golf Storage		33RD & PACIFIC/FAIRVIEW	1990	2500	LOCATION 038
Bartlett Park		BARTLETT PARK			LOCATION 078
Fairview Golf, Maintenance Shed	Penny Wingard, Golf Course Manager Gregg Ezzell, Superintendent	3302 Pacific Maintenance 2402 S 26th Street	1945	1152	LOCATION 090
Hochman Park		HOCHMAN PARK	1980		LOCATION 096
Wyeth Park		HOUSTON WYETH PARK	1945	460	LOCATION 097
Hyde Park		HYDE PARK	1981	500	LOCATION 098
Krug Park		KRUG PARK			LOCATION 101
Lucas Park		LUCAS PARK	1971	442	LOCATION 105
Marion Ballfield		MARION PARK	2017		LOCATION 107
Krug Park		NORTHSIDE COMPLEX	1965		LOCATION 108
Noyes Park		NOYES TENNIS COMPLEX			LOCATION 109
Patee Park		PATEE PARK			LOCATION 110
Rec Center	Jami Guck, Manager	2701 SW PARKWAY	2012	30000	LOCATION 114
Riverfront Park		RIVERFRONT PARK			LOCATION 115
South Park		SOUTH PARK	1975		LOCATION 126
Noyes Pool		WATER PARK 26TH & MESSANIE	2005		LOCATION 130
Pool, Pump house, chemical storage					
Felix Street Square		625 FELIX ST	2016	1661	LOCATION 143

Municipal Facility List - City of St Joseph
revised 3/2021

Admin Buildings/offices					
City Hall		1100 FREDERICK			LOCATION 007
Airport		ROSECRANS AIRPORT	1952	2463	LOCATION 116
Transit Admin		702 S. 5TH ST.	1998	8675	LOCATION 064
Park Admin - Storage shed, Plumbing and Welding, Vehicle Storage	Chuck Kempf, Director Charlie Simon, Superintendent of Parks	1920 GRAND AVENUE	1930	4826	LOCATION 021
Municipal court		411 JULES			LOCATION 050
Law Enforcement		501 FARAON	2006		LOCATION 056
WWTP					
Sewage Treatment Plant		3500 State Route 759	1965	4720	LOCATION 121
Rosecrans Wastewater Treatment Facility		0.3 MILES SE OF LOGAN AND NW AIRPORT			
Lift station		SHERWOOD	1975		LOCATION 123
Lift station		WHEATRIDGE SATION	1993		LOCATION 131
Lift station		ZIMMERMAN	1967		LOCATION 132
Lift station		ROYS BRANCH	1972		LOCATION 117
Pump Station		S. ST. JOSEPH	1978	2340	LOCATION 120
Lift station		PHILLIPS & SHERMAN	1974		LOCATION 111
Pump Station		R.R. #6	1968	4386	LOCATION 112
Lift station		LAKE FRONT	1996		LOCATION 102
Lift station		JAMESPORT & DIAGNOL	1996		LOCATION 099
Pump Station		2611 S. 759 HWY.	1965	8880	LOCATION 031
Lift station		WAREHOUSE ROAD #13	1984		LOCATION 129
Lift station		GAS STATION #14-AIR GUARD SHACK	1985		LOCATION 094
Lift station		CAMBRIDGE	1977		LOCATION 080
Lift station		CASINO STATION	2001		LOCATION 081
Pump Station		EAST FARAON ST.	1979	8064	LOCATION 087
Generator		EAST RDS. LIFT STATION	1979	200	LOCATION 088
Chemical Storage		FARAON STREET STATION	2000	598	LOCATION 091
Fire Stations					
Fire Station #10	Michael Dalsing, Chief	101 ILLINOIS	1901	5536	LOCATION 004
Fire Station #11		18TH & WALNUT	1903	2570	LOCATION 020
Fire Station #9		3202 FARAON	2018	3266	LOCATION 028
Fire Station #12		2807 ST. JOSEPH	1904	5990	LOCATION 032
Fire Station #8		33RD & MITCHELL	1905	2548	LOCATION 037
Fire Station #4		3418 ASHLAND	1976	5340	LOCATION 041
Fire Station #6		3505 PEAR	1977	4817	LOCATION 043
Fire Station #5		4810 FREDERICK	1976	5830	LOCATION 055
Fire Station #1		7TH & SYLVANIE	1923	14672	LOCATION 067
Services					
Senior Center	Ann Toloso-Salanky, Manager	100 S 10TH	1978	19380	LOCATION 003
Head Start		18TH & ANGELIQUE	1929	30336	LOCATION 019
Recycling Center	Doug Duncan, Laborer	3405 S. BELT HIGHWAY	1980	4000	LOCATION 040
Animal Shelter	Holly Bowie, Manager	701 LOWER LAKE ROAD	1980	7000	LOCATION 063
Landfill	Rod McQuerrey, Superintendent	9431 SE 50TH ROAD	1991	4000	LOCATION 074
Civic Arena	Kathy Brock CFAC Manager	100 N. 4TH	1980	73984	LOCATION 002
Airport	Abraham Forney	140 NW ROSECRANS BLVD	1988	3750	LOCATION 014

Appendix K: Memorandum of Agreement (MOA) between 139AW Missouri Air National Guard and City of St. Joseph Missouri March 2019

MEMORANDUM OF AGREEMENT (MOA)
BETWEEN
139AW MISSOURI AIR NATIONAL GUARD
AND
CITY OF ST. JOSEPH MISSOURI
MARCH 2019

I. PURPOSE of MOA
The purpose of this MOA is to document the 139AW's and the city of St. Joseph's (City) commitment to provide National Pollutant Discharge Elimination System (NPDES) outfall monitoring to ensure compliance with applicable environmental law. The 139AW and the City both agree that a collaborative approach is the most workable solution to addressing protecting water quality standards for tributaries contributing to Browning Lake. Other purposes of this MOA are to:

(a) adopt a coordinated and cooperative approach to sampling, monitoring and reporting water quality for Outfall #001 (described below) :

(b) promote cooperation between the 139AW and the City; and

(c) delineate management responsibilities between the 139AW and the City to ensure compliance with all permit requirements and to meet quarterly reporting deadlines to the Missouri Department of Natural resources (MDNR).

II. BACKGROUND: Because of activities conducted and materials stored at the St. Joseph Rosecrans Memorial Airport (Airport) with the potential for exposure to stormwater, the Airport is required to maintain a NPDES Industrial Stormwater Permit. Permit #MO-0118656 was issued by MDNR to the City on May 1, 2018 with an expiration date of March 31, 2023. The 139AW is the largest tenant of the Airport.

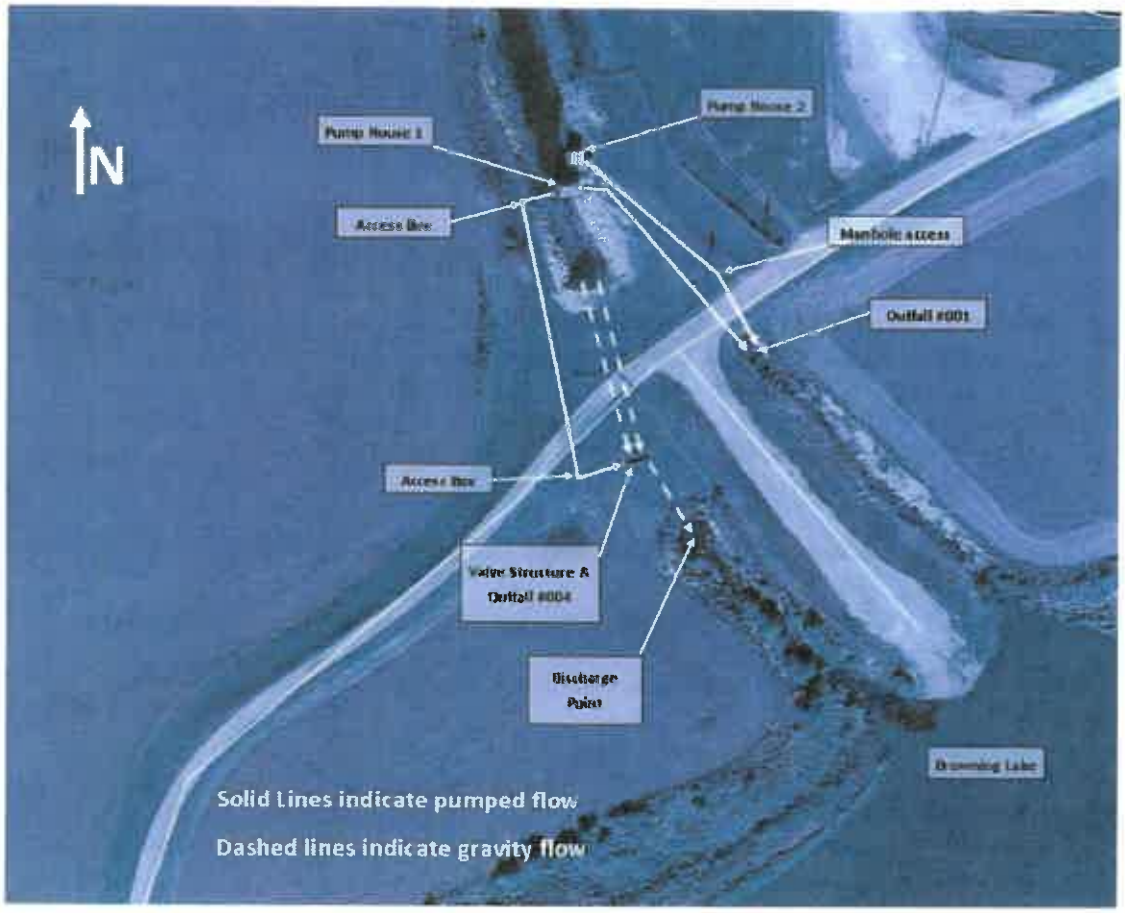
III. OBJECTIVE: The 139AW and the City share a single objective of ensuring NPDES quality sampling, monitoring and reporting to the MDNR for two outfalls; both of which are located on city property. To achieve this objective both the 139AW and the City agree that water sampling and reporting excellence must be achieved.

The 139AW will conduct water sampling and reporting (to the City) for Outfall #001. Outfall #004 will not be sampled except in the event of excessive flooding. If discharge from Outfall #004 is required, the 139AW and the City will coordinate at that time as needed.

Per NPDES Permit #MO-0118656 the two permitted outfalls are described as follows:

Outfall #001-Airport-SIC #4581; NAICS #488119
Storm Water Retention Basin/Pump House
#1 or Pump House #2
Drainage area is approximately 74 acres

Outfall #004- Airport-SIC #4581; NAICS #488119
Stormwater Retention/Pumping Basin/Pumphouse #1 to valve structure which remains closed.
Emergency flooding use only



IV. MONITORING PROGRAM

Sampling will take place the first month of each quarter as long as there is adequate volume in the basin and a qualifying precipitation event of greater than 0.1 inches that occurs at least 72 hours from the previously measurable precipitation event. If a sample is not collected in the first month of the quarter, sampling will be conducted as soon as possible in the following weeks to ensure it is completed by the end of the quarter. During the winter months when the basin is frozen, if a sample cannot be taken, sampling may be delayed until the water is thawed. If the basin remains frozen during the entire first calendar quarter, the 139_AW report to the City will be submitted with "no sample, outfall frozen."

During extended dry periods a qualifying precipitation event may not occur during the times when 139_AW personnel are available to collect samples. If the 139_AW believes it will be unable to collect samples during a calendar quarter for this reason or for any other reason, it must contact City personnel as far in advance of the end of the calendar quarter to ensure that the City can assist with sample collection.

Samples collected for NPDES Stormwater Permit compliance should be comprised of water that is actually being discharged to the receiving stream. When the pumps that discharge to Outfall #001 are turned on, it is neither safe nor practical to collect a sample from the end of the pipe at Outfall #001. As such, samples will be collected from the stormwater basin at the bottom of the

stairs when a pump is turned on and a discharge is occurring. Because the pumps are activated by floats, it is unpredictable when the equipment will turn on and City personnel may need to activate one of them manually during or after a qualifying precipitation event so the 139AW can collect the samples. 139AW personnel should coordinate with City personnel to be onsite during sample collection and City personnel will make themselves available to assist whenever possible. If a pump is activated manually, the daily flow measurement to be reported to MDNR will be calculated by run time of the pump multiplied by the pumping rate of the large pump in Pump House #1 (15,500gpm). If the pump has already been activated by the floats during sample collection, the reported daily flow will be estimated with the rational method using the inches of precipitation for the day of sampling, a runoff coefficient of 0.7, and 74 acres of drainage area. A calculator for the rational method calculation can be found at www.lmnoeng.com/hydrology/rational.php. City personnel will be responsible for all flow measurements.

To satisfy the monitoring requirements of the NPDES permit, qualified sampling staff will collect samples for the following analyses from Outfall #001 in the containers and with the preservatives specified below:

- Chemical Oxygen Demand (COD) – One (1) plastic or glass bottle at least 100mL preserved with Sulfuric Acid to a pH of less than 2.
- Oil & Grease (O&G) – Two (2) 1-Liter wide mouth amber glass bottles preserved with Hydrochloric Acid to a pH of less than 2.
- Total Suspended Solids (TSS) – One (1) plastic or glass bottle at least 200mL with no preservatives.

Additional sampling and testing may be conducted by the 139AW for informational purposes (i.e. Chlorides, Aluminum ,etc…) if desired. It should be noted, however, that if sampling and analyses for any of the parameters required by the NPDES permit is conducted more than once per quarter, all data must be reported to the MDNR. All samples will be collected utilizing standard protocols established by the U.S. Environmental Protection Agency (USEPA) and MDNR.

Field-measured parameters will include temperature, pH and specific conductance. pH will be measured within fifteen (15) minutes of sample collection using a hand-held field meter that has been properly calibrated with at least two calibration standards. Any time City personnel are requested to be present at sampling, either to activate the pumps or for any other reason, they will bring a calibrated pH meter to collect data. If the 139AW conducts sampling without City personnel, they are responsible for bringing a properly calibrated pH meter.

The sampling staff is responsible for collecting, preserving and documenting representative samples and maintaining chain-of-custody until samples are officially transferred and/or shipped to a certified laboratory for analysis. Quality is paramount during this process and every precaution will be taken to maintain the surety (validity) of the samples being submitted for analysis. The samples will be shipped to and analyzed by a NELAP and DOD ELAP approved analytical laboratory.

V. MONITORING FREQUENCY AND REPORTING REQUIREMENTS

Sample Discharge at Least Once for the Months of:	Quarter	Report is due to MDNR:
January, February and March	1st	28th April
April, May and June	2nd	28th July
July, August and September	3rd	28th October
October, November and December	4th	28th January

VI. SAMPLE COLLECTORS

The following 139AW Environmental and Bioenvironmental office staff are charged with the responsibility of conducting sampling and delivering findings report:

Title	Phone
Environmental Manager	(816) 236-3559
Bioenvironmental Engineer	(816) 236-3245
State Environmental Specialist	(816) 236-3604

VII. DOCUMENTATION AND REPORTING

The 139_AW _findings report will be submitted_at least one week prior to the listed deadlines for each reporting quarter to the designee of the Water Protection Superintendent. The City personnel receiving the report will provide a "received" receipt to the Environmental Manager for tracking purposes. If any problems arise with sampling, the laboratory or the report contact will be made as soon as possible with one of the City personnel listed above. The final report generated by the 139AW will include the following documents:

(a) Memorandum of conditions at time of sampling to include: flow/no flow, pH, manways containing measurable amounts of water and any concerns; and

(b) NPDES monitoring report for non-municipal wastewater discharges form; and

(c) Laboratory analytical results; and

(d) Analytical request forms; and

(e) Chain-of-custody forms.

City personnel will be responsible for submitting the Discharge Monitoring Report electronically on MDNR's eDMR reporting site. A copy of the eDMR submission confirmation file will be sent to the 139AW Environmental Manager upon submission.

VIII. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

The 139AW will be responsible for development, implementation, and maintenance of the SWPPP required by Special Condition #6 of the NPDES Permit. Included as an element of implementation and maintenance, are monthly inspections and reports (to be kept on file), ongoing revisions in response to site condition changes or noted deficiencies, annual

comprehensive site inspections, and five-year review and updates. A copy of the SWPPP will be provided to City personnel upon major updates and revisions.

VIV. PERMIT LIMIT AND BENCHMARK EXCEEDANCES

If the analytical results from sampling indicate that an effluent limitation or benchmark stipulated in the NPDES permit was exceeded, 139AW personnel will notify City personnel within 24-hours of becoming aware of the exceedance. 139AW personnel will then complete a review of the SWPPP and Best Management Practices (BMP) and a Corrective Action Report (CAR) as specified by Special Condition #7 of the NPDES Permit. A copy of the CAR will be submitted to City personnel per Section VII above along with the analytical report. City personnel will be responsible for providing required notifications to MDNR when applicable.

X. PERMIT FEE

The current annual cost for maintaining a NPDES permit is $2800.00 and will be divided equally between the 139AW and the City. The annual cost for maintaining a NPDES permit will be borne equally by the 139 AW and the City, subject to the 139 AW's ability, in its sole discretion, to bear its share of the cost upon receipt of an invoice from the City and with the approval of congressionally appropriated funds issued to the 139 AW. The 139 AW's and the City's share of the annual cost will be collected two months prior to the due date to ensure timely payment is made.

XI. LABORATORY ANALYTICAL FEES

Quarterly NPDES samples submitted for analysis with Pace Analytical in Lenexa, KS currently cost approximately $165.00. These costs may fluctuate, based on analytical results, which could require additional sampling and incurred costs. All sampling fees are paid for by the 139AW Environmental Office subject to the 139AW's ability, in it's sole discretion, to bear the cost with the approval of congressionally appropriated funds issued to the 139AW.

XII. ANNUAL REVIEW

This MOA will be reviewed annually for accuracy and forwarded to representatives of the 139AW and the City to ensure comment can be provided for required changes and/or amendments, if any.

XIII. TERMINATION

This MOA will be automatically terminated upon replacement of NPDES Permit #MO-0118656 with a renewed permit or upon termination of the permit. This MOA can also be terminated within 30 days upon notice by the 139AW or the City. If this MOA is terminated while there is still an effective NPDES permit with responsibilities shared between the 139AW and the City, a new MOA must be in place within 30 days of termination.

Edward E. Black 20 Jun 19

EDWARD E. BLACK, Colonel, ANG
Commander

Date:

Mr. Andy Clements, Director of Public Works
St. Joseph, Missouri

Date:

ROGER R. BODENSCHATZ, COL, NGB
USPFO for Missouri

Date:

Appendix L: Final Storm Water Pollution Prevention Plan: 139th Airlift Wing Missouri Air National Guard St. Joseph, Missouri

FINAL STORM WATER POLLUTION PREVENTION PLAN

139TH AIRLIFT WING
MISSOURI AIR NATIONAL GUARD
ST. JOSEPH, MISSOURI

EnSafe Project Number:
0888821705/1.04

Prepared for:

Defense Logistics Agency Installation Operations Energy
8725 John J. Kingman Road, Suite 2828
Fort Belvoir, Virginia 22060-6222

Air National Guard Readiness Center
3501 Fetchet Avenue
Joint Base Andrews, Maryland 20762-5157

139th Airlift Wing
Missouri Air National Guard
705 Memorial Drive
St. Joseph, Missouri 64503-9307

Defense Logistics Agency Installation Operations Energy
Contract Number/Task Order/Subtask
SP0600-13-D-5312/0068/A

5724 Summer Trees Drive
Memphis, Tennessee 38134
901-372-7962 | 800-588-7962
www.ensafe.com

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March 2018

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Appendix M: Veterans Janitorial Services Schedule

Transit Michelle Schultz

From: Transit Scott Butcher
Sent: Tuesday, March 2, 2021 3:05 PM
To: Transit Michelle Schultz
Subject: eterans

Veteans RF Below

ATTACHMENT A
COST PROPOSAL

For janitorial services provided to St. Joseph Transit, under the terms of the attached proposal, the price will be:

Location/Cleaning Event	**Cost Per Cleaning**		**Approximate Annual Cost[i]**
Transit Center 6th and Anglique			
Daily Cleaning		× 312[ii]	
Weekly Cleaning		× 52	
Semi-Annual Cleaning		× 2	
Transfer Stations			
North Wal-Mart Weekly Cleaning		× 52	
HyVee Foods Weekly Cleaning		× 52	
Bus Shelters			
Weekly Cleaning of locations with two shelters (currently 3 locations)		× 156[iii]	
Weekly Cleaning locations with only one shelter (currently 9 locations)		× 468[iv]	

[i] Based on locations and cleaning events at time of execution of Agreement.
[ii] 6 days per week multiplied by 52 weeks
[iii] 3 locations multiplied by 52 weeks
[iv] 9 locations multiplied by 52 weeks

Appendix N: Master Mechanic Job Description

CITY OF ST. JOSEPH, MISSOURI **Job Description**

March 2018 **JD# POL G12-12**

Identification

Position Title:	**Master Mechanic**
Department:	**Police**
Division:	**Police - Civilian**
Immediate Supervisor:	**Sergeant**
FLSA Status:	**Non-Exempt**

Job Summary/Scope

Develops and implements a program of preventive maintenance and repair for police department vehicles. Performs major repairs to all vehicles. Plans, organizes and controls the work of assigned employees. Assists in preparing divisional budget.

Essential Duties and Responsibilities

- Performs preventive maintenance and repair to all Police department vehicles.
- Maintains daily records of fuel, repairs, preventive maintenance, parts and supplies used in conjunction with the operation of vehicle maintenance.
- Order and receives parts and supplies used in daily operation.
- Supervises work of Auto Mechanic.
- Writes specifications for purchase of vehicles, parts and supplies.
- Schedules work to be performed by self and Auto Mechanic. Determines what parts, supplies and materials will be needed.
- Diagnoses problems with vehicles and makes necessary recommendations for repair.
- Determines and coordinates outside repair of vehicles.

Other Duties and Responsibilities

- Assists in preparing divisional budget.
- Performs all other related duties as assigned.

Employee Behavior and Conduct

City employees shall conduct themselves in a professional manner and shall exhibit and extend such professional conduct appropriate for the circumstances to those with whom they come into contact both internally and externally during the performance of their duties. Examples of professional conduct include, but are not limited to, being communicative, informative, fair, honest, and respectful.

Required Knowledge, Skills and Abilities

- Skills in all systems of vehicles and the use of specialized tools to diagnose and repair vehicles.
- Skills in management, time management, inventory control, and using a typewriter and computer.
- Skills in planning, diagnosis and supervision.

Required Knowledge, Skills and Abilities (cont.)

- Must be able to troubleshoot complicated systems and repair.
- Must be able to communicate effectively both orally and in writing.
- Valid driver's license required.
- Missouri Vehicle Inspector License required.
- Five years or more prior experience in related field required.

Material and Equipment Directly Used

Uses a variety of equipment in the maintenance and repair of vehicles including test equipment, hand and power tools, computer and office equipment such as telephone and typewriter.

Working Environment/Physical Requirements

This work requires the regular exertion of up to 25 pounds of force, frequent exertion of up to 50 pounds of force and occasional exertion of over 100 pounds of force; work regularly requires speaking or hearing, using hands to finger, handle or feel, reaching with hands and arms, pushing or pulling, lifting and repetitive motions, frequently requires standing, walking, sitting, climbing or balancing and tasting or smelling and occasionally requires stooping, kneeling, crouching or crawling; work has standard vision requirements; vocal communication is required for expressing or exchanging ideas by means of the spoken word; hearing is required to perceive information at normal spoken word levels; work requires preparing and analyzing written or computer data, visual inspection involving small defects and/or small parts, using of measuring devices, assembly or fabrication of parts within arm's length, operating machines, operating motor vehicles or equipment and observing general surroundings and activities; work frequently requires working near moving mechanical parts, exposure to fumes or airborne particles and exposure to toxic or caustic chemicals and occasionally requires wet, humid conditions (non-weather), exposure to outdoor weather conditions, exposure to extreme cold (non-weather), exposure to extreme heat (non-weather), exposure to the risk of electrical shock, exposure to vibration and exposure to blood borne pathogens and may be required to wear specialized personal protective equipment; work is generally in a moderately noisy location (e.g. business office, light traffic).

Education

High school diploma or equivalent required. Associate's degree in Automotive Technology or related field preferred.

Appendix O: Plan Review Checklist for Stormwater Management

City of St. Joseph **Phase I - Concept Plan Checklists**

The purpose of the concept review meeting is to review the City's adopted ordinances and requirements with the applicant, discuss and review the expectations for site development and appearance, and to set project expectations on all sides before detailed construction plans are developed.

Concept Plan Requirements for Stormwater Management: Review considerations for potential water quality impacts during preliminary site plan review. Evaluate threats to water quality by considering the following factors:

I. **General Project Information**

_____1. Address or parcel number and legal description of site.
_____2. Vicinity map
- _____a) Scale
- _____b) North arrow
- _____c) Surrounding street names
- _____d) Tract boundaries
- _____e) Adjacent municipal boundaries, if applicable

_____3. **Project narrative**
- _____a) Purpose of project, with detailed description of operation
- _____b) Zoning District of the proposed site
- _____ c) Zoning District of all the property within 200 feet of the proposed site
- _____ d) Is the property located in a historic district or Downtown Precise Plan Area?
- _____e) Expected variances from standards

II. **Design Considerations**

_____1. Existing site topography (Minimum 2-foot contours or best available)
_____2. Predominate soils (Hydrologic Soil Group of infiltration/permeability)
_____3. Drainage boundaries
- _____a) Identification of natural streams
- _____b) Arrows showing direction of water flow

_____4. Stream buffers and flood plain limits
_____5. Wetlands
_____ 6. Watershed (receiving waterway)
_____7. Existing stormwater outfalls

III. **Infrastructure**

_____1. Existing roads and utilities including easements
_____2. Proposed lot lines-with lots consecutively numbered or building placement
_____3. Proposed road placement

Applicant:_____
Contact Name:_____
Phone Number:_____
Email:_____
Fax:_____

Project Name:_____
Location:_____
File Number:_____
Date of Submittal:_____

Concept Plan Review Meeting Date:_____
Attended By:

ZONING NOTES:

PUBLIC WORKS NOTES:

Infrastructure

Traffic study?

Floodplain

Stormwater

Land Disturbance

Wastewater/pretreatment

LEGAL REQUIREMENTS:

Deeds, easements, agreements.

PLAN REVIEW PROCESS AND EXPECTATIONS:

Plan submittals needed:

Permits needed: