STORMWATER MANAGEMENT PLAN

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CITY OF

ORONOGO, MISSOURI

MOR04C061

OCTOBER 2026- SEPTEMBER 2031

PERMIT CYCLE

PREPARED BY:

ALLGEIER, MARTIN AND ASSOCIATES, INC.

Stormwater Management Plan

City of Oronogo, Missouri

Permitting Period: Oct. 2026-Sept. 2031

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Part 1 - Facility Information

1.A. GENERAL INFORMATION:

NPDES #:	**MOR04C061**
Facility Name:	Oronogo Phase II MS4
Facility Mailing Address:	653 E Central St, Oronogo, MO 64855
Owner's Name:	**City of Oronogo, Missouri**
Owner's Physical Address:	653 E Central St, Oronogo, MO 64855
Owner's Mailing Address:	653 E Central St, Oronogo, MO 64855
Primary Contact:	**Tony Cantrell, Public Works Superintendent** *
Phone Number:	417-673-4541
Email:	publicworks1@oronogomo.org
Facility Region:	Southwest Region (Main Office in Springfield, Satellite Office in Neosho)
Facility County:	Jasper County, MO
Facility Type:	Small MS4
Facility SIC Code:	9511
Facility NAICS Code:	924110
Facility Description:	Discharges from Regulated Small MS4
Total MS4 Area (acres):	2.5 sq. miles

* If name of Primary Contact changes, that may be updated on the next Stormwater Management Program Report and/or via email to the Department at MS4@dnr.mo.gov.

1.B. ADJACENT WATERWAYS:

The permittee discharges to one permanently flowing stream (Class P), Center Creek.
The permittee is not within 100 feet of waters classified as public drinking water supply lakes (L1) or major reservoirs (L2).
The permittee does not discharge to any Wild and Scenic Riverways, Outstanding State Resource Waters, or streams designated for cold-water habitat. Therefore, the permittee is implementing no additional specific provisions for their continued integrity
The permittee does not discharge within two stream miles upstream of any biocriteria reference locations as defined in 10 CSR 20-7.031.
Some of the Permittee's areas are defined as wetlands in the National Wetlands Inventory.
The permittee's MS4 area is within 100 feet waters listed as Impaired on the 303(d) List (approved 2022). See Table 1.B for detailed list of streams.

- A TMDL was approved in 2022 for Cadmium, Lead, and Zinc in three stream segments (Section MO_3203 of Center Creek, Section MO_5003 of Center Creek Tributary, and Section MO_3980 of Ben's Branch). The ARAP requirements have been waived for the 2022 TMDL. See Section 6 of this SWMP for details.

Table 1.B. 303(d) Listed Waterbodies in Oronogo (from 2022 Approved List)

WBID	Waterbody	Year Listed	WB Class	Pollutant	Pollutant Source	TMDL Approved/ WLA Assigned
3203	Center Cr.	Delisted in 2022, due to TMDL	P	Cadmium (S)	Tri-State Mining District	2022. WLA shared by all MS4s in Watershed. ARAP waived. (See SWMP Section 6.)
			P	Lead (S)	Tri-State Mining District	
5003	Center Creek Trib		C	Cadmium (W)	Oronogo/Duenweg Mining Belt	
			C	Lead (W)	Mill Tailings	
			C	Zinc (W)	Oronogo/Duenweg Mining Belt	
3203	Center Cr.	2012	P	Escherichia coli (W)	Nonpoint Source	No/No

Waterbody Classification: P = Perennial Stream; C = Intermittently Flowing Stream
Pollutant: (W) = Pollutant is in water; (S) Pollutant is in sediment

1.C. CRITICAL AREAS:

There are threatened or endangered species in the area. (See table below.) The Permittee has met eligibility criteria for protection of threatened or endangered species.
There are critical habitats in the area. (See table below.) The Permittee has met eligibility criteria for protection of critical habitats.
There are no historic properties in the area.

Table 1.C. Endangered Species/Critical Habitats

County	Species	Status	Habitat
Jasper	Gray Bat (Myotis grisescens)	Endangered	Caves
Jasper	Arkansas Darter (Eteostoma cragini)	Candidate	Rivers
Jasper	Neosho Madtom (Noturus placidus)	Threatened	Rivers
Jasper	Ozark Cavefish	Threatened	Caves in the Boone & Burlington limestone formations of the Ozark Mountains

Part 2 – Outfalls

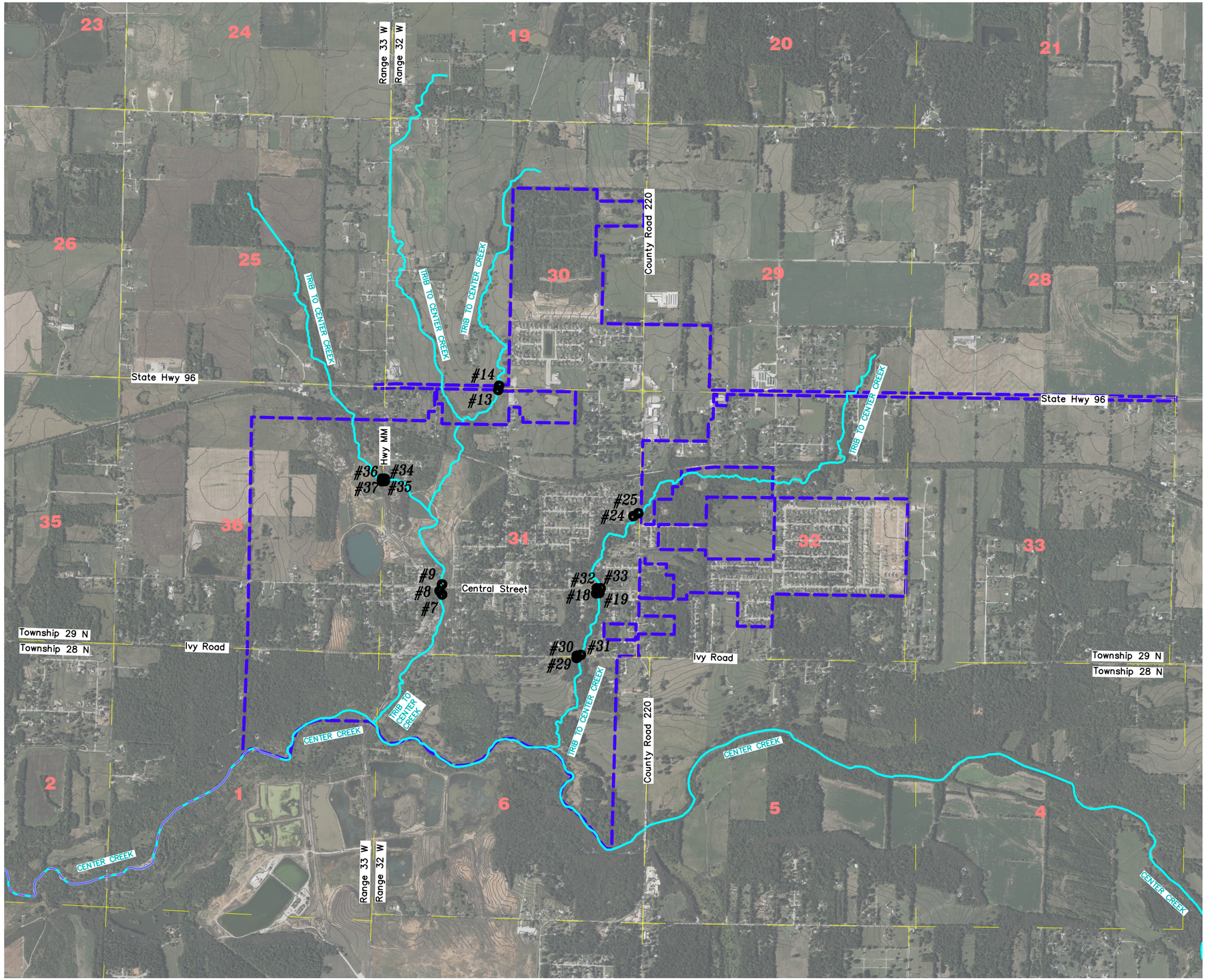
A map and descriptions of Stormwater Outfalls are required under Minimum Control Measure 3. Outfalls locations and descriptions can be found in the following table and a copy of the Outfall map is attached.

Oronogo MS4 Stormwater Outfalls

Last updated Jan. 2026

Outfall No.	UTM Coordinates (m) Zone 15 Easting	Northing	Latitude (NAD83)	Longitude (NAD83)	Legal Description	Receiving Stream Name	Receiving Stream Classification	Date Added	Date Last Verified	Outfall Type and Notes
7	369639.70 E	4116757.14 N	37.188171 °N	94.468700 °W	SW 1/4 SW 1/4 Sec 31 T 28N R 32W	Trib to Center Creek	C	Feb. 2021		Open conveyance coming into main stream from east, approx. 125' south of Central St. Ditch comes from SW corner of Central St/ Dewey St intersection.
8	369623.00 E	4116781.00 N	37.188391 °N	94.468891 °W	SW 1/4 SW 1/4 Sec 31 T 28N R 32W	Trib to Center Creek	C	Feb. 2021		Open conveyance coming into main stream from WEST, approx. 35' from exit of 36" pipe, on south side of Central St.
9	369641.70 E	4116817.37 N	37.188714 °N	94.468688 °W	NW 1/4 SW 1/4 Sec 31 T 28N R 32W	Trib to Center Creek	C	Feb. 2021		Open conveyance coming into main stream from EAST, approx. 35' north of Central St. Ditch comes from NW corner of Central St/ Dewey St intersection.
13	369994.00 E	4117982.00 N	37.199259 °N	94.464914 °W	NE 1/4 NW 1/4 Sec 31 T 29N R 32W	Trib to Center Creek		Feb. 2021		Open conveyance (SOUTH road ditch) entering main stream from east, along of State Hwy 96, approx. 200' west of Grant St.
14	370003.00 E	4118007.00 N	37.199486 °N	94.464817 °W	SE 1/4 SW 1/4 Sec 30 T 29N R 32W	Trib to Center Creek	C	Feb. 2021		Open conveyance (NORTH road ditch) entering main stream from east, along of State Hwy 96, approx. 170' west of Grant St.
18	370570.00 E	4116754.00 N	37.188257 °N	94.458216 °W	SE 1/4 SE 1/4 Sec 31 T 29N R 32W	Trib to Center Creek	C	Feb. 2021		Open conveyance. SOUTH road ditch entering main stream from WEST, along of Central St.
19	370592.00 E	4116753.00 N	37.188268 °N	94.457973 °W	SE 1/4 SE 1/4 Sec 31 T 29N R 32W	Trib to Center Creek	C	Feb. 2021		Open conveyance. SOUTH road ditch entering main stream from EAST, along of Central St.
20	370414.00 E	4116845.00 N	37.189071 °N	94.459994 °W	NW 1/4 SE 1/4 Sec 31 T 29N R 32W	Trib to Center Creek	C	Feb. 2021		Pipe culvert exit on east side of Tiffney Ln.
24	370799.66 E	4117206.89 N	37.192385 °N	94.455713 °W	SE 1/4 NE 1/4 Sec 31 T 29N R 32W	Trib to Center Creek	C	Feb. 2021		Open conveyance. Concrete-lined chute coming off of Alexandra Dr cul-de-sac.
25	370830.68 E	4117232.27 N	37.192618 °N	94.455368 °W	SE 1/4 NE 1/4 Sec 31 T 29N R 32W	Trib to Center Creek	C	Feb. 2021		Open conveyance. WEST road ditch entering main stream from NORTH, along of State Hwy D, approx. 250' south of Amber Dr.
29	370455.13 E	4116375.69 N	37.184841 °N	94.459451 °W	NW 1/4 NE 1/4 Sec 6 T 29N R 32W	Trib to Center Creek	C	Jan. 2026		Open conveyance. NORTH road ditch entering main stream from WEST, along of Ivy Rd, approx. 1450' west of Hwy D.
30	370470.54 E	4116378.77 N	37.184870 °N	94.459282 °W	SW 1/4 SE 1/4 Sec 31 T 29N R 32W	Trib to Center Creek	C	Jan. 2026		Pipe exit entering main stream from EAST, north side of Ivy Rd, approx. 1350' west of Hwy D.
31	370451.00 E	4116360.00 N	37.184705 °N	94.459493 °W	SE 1/4 SE 1/4 Sec 31 T 29N R 32W	Trib to Center Creek	C	Jan. 2026		Open conveyance. SOUTH road ditch entering main stream from WEST, along of Ivy Rd, approx. 1450' west of Hwy D.
32	370572.80 E	4116776.07 N	37.188471 °N	94.458203 °W	NE 1/4 SE 1/4 Sec 31 T 29N R 32W	Trib to Center Creek	C	Jan. 2026		Open conveyance. NORTH road ditch entering main stream from WEST, along of Central St.
33	370588.98 E	4116776.15 N	37.188473 °N	94.458022 °W	NE 1/4 SE 1/4 Sec 31 T 29N R 32W	Trib to Center Creek	C	Jan. 2026		Open conveyance. NORTH road ditch entering main stream from EAST, along of Central St.
34	369307.00 E	4117457.00 N	37.194431 °N	94.472570 °W	SW 1/4 NW 1/4 Sec 31 T 29N R 32W	Trib to Center Creek	C	Jan. 2026		Open conveyance. EAST road ditch entering stream from NORTH, along Hwy MM.
35	369288.00 E	4117443.00 N	37.194310 °N	94.472552 °W	SW 1/4 NW 1/4 Sec 31 T 29N R 32W	Trib to Center Creek	C	Jan. 2026		Open conveyance. EAST road ditch entering stream from SOUTH, along Hwy MM.
36	369289.65 E	4117457.47 N	37.194428 °N	94.472772 °W	SE 1/4 NE 1/4 Sec 36 T 29N R 33W	Trib to Center Creek	C	Jan. 2026		Open conveyance. WEST road ditch entering stream from NORTH, along Hwy MM.
37	369288.00 E	4117443.00 N	37.194302 °N	94.472781 °W	SE 1/4 NE 1/4 Sec 36 T 29N R 33W	Trib to Center Creek	C	Jan. 2026		Open conveyance. WEST road ditch entering stream from SOUTH, along Hwy MM.

WATERSHED NOTE:
HUC8 Watershed for all outfalls = 11070207
HUC12 Watershed for all outfalls = 11070207_0607



(FEET)
500 0 500 1000 2000

SCALE: 1"=2000'
CONTOUR INTERVAL: TEN FEET

#6 STORMWATER OUTFALL

Corporate Boundaries

Streams (Waters of the State)

Gaining Stream

SECTION LINE (approx.)

3 SECTION NUMBER

ALLGEIER, MARTIN and ASSOCIATES, INC.
CONSULTING ENGINEERS · HYDROLOGISTS · SURVEYORS
7231 EAST 24th STREET JOPLIN, MISSOURI 64804 (417) 680 - 7200

CERTIFICATE OF AUTHORITY
MISSOURI NO. 000427
OKLAHOMA NO. 675

DATE	REVISION

Oronogo_Stormwater Map 2026.dwg

DWN. BY:	sms
CKD. BY:	sms
APPD. BY:	sms
DATE :	Jan. 2026

OUTFALL MAP
Oronogo MS4 Permit Renewal Application
City of Oronogo, Missouri

DWG. NO. 1

Part 3 – Stormwater Management Program and Plan

Background

The Municipal Separate Storm Sewer System (MS4) Permit requires each permittee to develop and implement a Stormwater Management Program. Each permittee creates and maintains a written Stormwater Management Plan (SWMP) for the permit cycle. The SWMP is a document describing the Program and is created to ensure consistency and continuity in the implementation of the Program.

The City of Oronogo has chosen to participate in the "Comprehensive" version of the MS4 permit (MO-RO4C000) for the October 2026-September 2031 permit cycle. Oronogo is a traditional MS4 with a population of less than 10,000. According to the table below, Oronogo fits Group A. All BMPs in this SWMP have been chosen to correspond with the requirements for Group A.

NOTE: Throughout this SWMP document, permit language is denoted in *italics*.

Categories of Regulated Small MS4s under this comprehensive permit.

This comprehensive permit categorizes MS4s by the following categories, or Groups, based on the population served as determined by the most the recent Decennial Census at the time of permit issuance, the type of Regulated MS4, and the co-permittee situation.

Group A	***Group B***	***Group C***
Traditional Small MS4s (cities) that serve a population of less than 10,000 within a UA; **Oronogo fits this category.**	*Traditional Small MS4s that serve a population of at least 10,000 but less than 40,000; OR*	*Traditional Small MS4s that serve a population of 40,001 or more; OR*
Class 2 counties; Non-traditional such as Universities, Federal facilities.	*Class 1 counties*	*Co-permit Small MS4s*

The MS4 Operator may add supplemental items to the SWMP. These items include but are not limited to:

- *Maps;*
- *Standard operating procedures (SOPs);*
- *Inspection forms;*
- *Sample data;*
- *Operations and Maintenance Manual;*
- *Website or social media account tracking;*
- *Stream Team Activity Reports;*
- *Tracking and evaluation documents; and*
- *Documentation of agreements for co-permittees and/or cooperative agreements.*

The MS4 Operator may replace or modify ineffective BMPs with effective BMPs

Part 4 – Minimum Control Measures

4.0 Entities under coverage of the MOR04C general permit shall develop and implement a Stormwater Program that includes the following six (6) Minimum Control Measures (MCMs).

4.1 MCM#1: Public Education and Outreach on Stormwater Impacts

4.2 MCM#2: Public Participation

4.3 MCM#3: Illicit Discharge Detection and Elimination

4.4 MCM#4: Construction Site Stormwater Runoff Control

4.5 MCM#5: Post-Construction Stormwater Management in New Development & Redevelopment

4.6 MCM#6: Pollution Prevention/Good Housekeeping for Municipal Operations

NOTE: BMP = Best Management Practice

4.1 MCM 1. Public Education and Outreach (PEO) on Stormwater Impacts

Oronogo has implemented a public education and outreach program to distribute educational materials to the community and conduct outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

The public education and outreach program shall, at a minimum include the following:

4.1.A Target Audience

The MS4 Operator shall target specific audiences who are likely to have significant stormwater impacts.

The City of Oronogo is a considered a traditional MS4 and is primarily a residential community. The primary audience for the City's Public Education program will be residents. With a population under 10,000, Oronogo is in Group A, so no additional target audiences are required.

4.1.B Target Pollutants

The MS4 Operator shall target specific pollutant(s) in the permittee's education program. Each MS4 shall have a minimum of one target pollutant for each target audience from Section 4.1.A of this permit.

Oronogo has chosen target pollutants for the residential audience that will vary seasonally to coincide with the annual yard waste. These target pollutants will include, but are not limited to, grass clippings & leaf litter.

4.1.C Best Management Practices (BMPs) for Outreach and Education

The MS4 Operator must utilize appropriate educational resources to be used as BMPs (materials, events, activities, etc.) in conjunction with the selected pollutants for the selected target audiences.

The MS4 Operator may change BMPs during the permit cycle if determined appropriate through tracking and adaptive management reviews show a different BMP may be more effective for the MS4. Any changes shall be reflected in the SWMP and explained in the MS4 Stormwater Management Program Report.

The City of Oronogo, as part of Group A, must choose a minimum of two Outreach and Education BMPs from Table III of the MS4 General.

Oronogo has chosen the following Outreach and Education BMPs:

❖ **Utility Bill Inserts**
- Continue to send out quarterly newsletters as inserts with water bills. The newsletters contain seasonally appropriate information about stormwater impacts, practices, and education for the public.
- Measurable Goals: The number of inserts sent out per year shall be at minimum equal to the most recent U.S. Census Bureau decennial housing units value for the permit area.
- Tracking and Adaptive Management: The applicable U.S. Census housing units value shall be recorded (821), and the number of inserts sent out per year shall be recorded.
- Target Audience: Residents
- Target Pollutants: Include, but are not limited to, grass clippings & leaf litter. Should be seasonally appropriate.

❖ **Media Posts**
- Post Stormwater Information page on the City's News page.
- Measurable Goals: Post a minimum of four (4) times a year. The messages will address ways attendees can minimize or avoid adverse stormwater impacts or practices to improve the quality of stormwater runoff. Messages will be seasonally appropriate. Posting will be continued for at least one full year.
- Tracking and Adaptive Management: The number of views will be tracked. The City will use this to see which messages get reactions, and if certain messages may need more education.
- Target Audience: Residents
- Target Pollutants: Include, but are not limited to, grass clippings & leaf litter. Should be seasonally appropriate.
- Website Address: https://www.oronogomo.org/

4.1.D Best Management Practices (BMPs) for Involvement

The MS4 Operator must create 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.

The City of Oronogo, as part of Group A, must choose a minimum of one Involvement BMP from Table IV of the MS4 General Permit.

Oronogo has chosen the following Involvement BMP:

❖ **Yard Waste Collection/Disposal**
- The City provides curbside yard waste collection each December and provides a year-round yard waste collection site at the Center Creek Wastewater Facility.
- Measurable Goals: Curbside pickup service is provided annually in December. Drop-off service is provided year-round at the Center Creek Wastewater Facility.
- Tracking and Adaptive Management: Track the amount collected.
- Target Audience: Residents
- Target Pollutants: Grass clippings & leaf litter.

4.1.E *The MS4 Operator shall create or support the involvement BMP(s) in Section 4.1.D.*

The City of Oronogo provides the Yard Waste disposal BMPs in Section 4.1.D.

4.1.F Adaptive Management

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 annual MS4 Stormwater Management Program Report for submittal to the Department.

Annual Review of MCM 1			
Year reviewed	Date of review	Reviewer(s)	Were changes made and noted?
2026			
2027			
2028			
2029			
2030			

Table MCM1. Public Education and Outreach Program BMPs

Stormwater BMP	Target* Audience	Target Pollutant	Implementation Date	Update Frequency	Responsible Party	Measurable Goal	Tracking
Outreach and Education BMPs (min. 2)							
Send out quarterly newsletters as inserts with water bills. Newsletters contain seasonally appropriate information about stormwater impacts, practices, and education for the public.	R	Include, but not limited to, grass clippings & leaf litter.	Ongoing.	Quarterly	City Clerk	The number of inserts sent out per year shall be at minimum equal to the most recent U.S. Census Bureau decennial housing units value for the permit area.	The applicable U.S. Census housing units value will be recorded (821), and the number of inserts sent out per year will be recorded.
Media Posts: Post Stormwater Information page on the City's News page.	R	Include, but not limited to, grass clippings & leaf litter.	Ongoing.	Quarterly (by season)	City Clerk	Post a minimum of four (4) times a year. The messages will address ways attendees can minimize or avoid adverse stormwater impacts or practices to improve the quality of stormwater runoff. Messages will be seasonally appropriate. Posting will be continued for at least one full year.	The number of views will be tracked.
Involvement BMPs (min. 1)							
Yard Waste Curbside Collection	R	Grass Clippings & Leaf Litter	Annual Fall Curbside Collection	As needed	Public Works Superintendent	Curbside yard waste pickup service provided annually in the fall.	Track amount Collected
Yard Waste Disposal Site	R		Ongoing.	As needed	Public Works Superintendent	Yard Waste drop-off service provided year-round, at Center Creek Wastewater Treatment Facility	Track amount Collected
Other Items of Note							
Post link to 2026-2031 SWMP document on City website	R	All pollutants addressed by SWMP	Feb 2026	As needed	City Clerk	Post one link to SWMP	1 link posted
Annual Review of MCM 1	n/a	n/a	Each January	Each January	Public Works Superintendent	Perform annual review of MCM 1 BMPs.	Note review date and any changes in section 4.1.F of SWMP document.

R = Residents

4.2 MCM 2. Public Participation

Oronogo has implemented a comprehensive public participation program that provides opportunities for public participation in the development and oversight of the City's Stormwater Program. This program provides opportunities for public participation in the permittee renewal process and complies with state and local public notice requirements. Additionally, the program provides opportunities for public participation in activities related to developing and implementing the Stormwater Management Program.

The public participation program shall, at a minimum include the following:

4.2.A Public Notice Period

At the time of renewal, or issuance of a new permit, the MS4 Operator shall hold a public notice period for a minimum of thirty (30) days to allow the public to review the description of the MS4s Stormwater Management Program (this may be the SWMP) prior to the submission of the renewal application to the Department.

Dates of public notice: Feb 2, 2026 – March 9, 2026
(Posted in the local newspaper, and on the City's website, https://Oronogomo.org/.)

4.2.B Items to be Posted on Website

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.

1. *The permittee shall respond to comments received during the comment period.*
2. *The MS4 Operator shall retain copies of any public comments and records of information submitted by the public received as part of the public notice process. These comments and responses shall be made available to the public or the Department upon request.*

The permit renewal application, public notice, and related information were posted on the City's website, https://Oronogomo.org/.

4.2.C Public Meeting

The MS4 Operator shall hold a public information meeting to provide information on, or describe the contents of, the proposed Stormwater Management Program. This meeting shall be advertised at least thirty (30) days prior to the public meeting.

1. *As part of the notice of public meeting, if the MS4 Operator has a public website, the MS4 Operator shall post on that site, along with the standard public notice methods for the MS4. The notice of the public informational meeting, including the date, time and location.*
2. *The meeting must be held within the service area of the MS4. Co-permittees may hold one joint meeting to cover all co-permittee service areas.*

Dates of public notice:	Feb 2, 2026 – Mar 9, 2026
Dates of notice of meeting:	Feb 2, 2026 – Mar 9, 2026
Date of meeting:	Mar 9, 2026, during Board Meeting
Location (or virtual):	City Hall

4.2.D Public Comments

The MS4 Operator 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.

Written comments can be submitted in person, by mail, or by email to the Mayor, at City Hall (mayor@oronogomo.org). Comments are to be tracked electronically or on paper by the Mayor.

4.2.E Stormwater Management Panel or Committee

If the MS4 Operator utilizes a stormwater management panel or committee, the MS4 Operator shall provide opportunities for citizen representatives on the panel or committee. The attendance of the meeting shall be recorded.

The City of Oronogo does not utilize a stormwater management panel or committee.

4.2.F Annual Updates to Governing Board

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. Co-permittees shall hold a meeting for each co-permittee's governing body.

An update will be given annually to the Board of Aldermen, after the completion of the annual Stormwater Report.

Annual Updates to Board of Aldermen			
Year to be Reported Upon	Date of update	Method used to update the Board	Name of MS4 representative(s)
2026			
2027			
2028			
2029			
2030			

4.2.I Adaptive Management

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.

Annual Review of MCM 2			
Year reviewed	Date of review	Reviewer(s)	Were changes made and noted?
2026			
2027			
2028			
2029			
2030			

Table MCM2. Public Involvement and Participation Program BMPs

Stormwater BMP	Target* Audience	Implementation Date	Responsible Party	Measurable Goal	Tracking
Permit Renewal Process					
Provide Public Notice for Draft Permit Renewal Application and Associated Mapping	R	Feb-2-2026 to Mar-9-2026	City Clerk	30 days minimum Public Notice provided so public could view and comment on the draft Permit Renewal Application	Proof of notice dates and methods.
Above noted items posted on City Website	R	Feb-2-2026	City Clerk	Items Posted for public viewing and comment	Proof of posting dates and methods.
Provide Public Notice for Public Meeting about Stormwater Management Program	R	Feb-2-2026 to Mar-9-2026	City Clerk	30 days minimum Public Notice provided	Proof of notice dates and methods.
Host Public Meeting about the Stormwater Management Program	R	Mar-9-2026	Public Works Superintendent	Host minimum of one public meeting to inform the public about the Stormwater Management Program and provide opportunities for community input.	Record meeting dates and attendance.
Provide Method for Public Comment. Record and address comments.	R	Feb-2-2021 to Mar-8-2021	Public Works Superintendent	Provide Method for Public Comment. Record and address comments.	Comment method provided for Permit Renewal Process? Record comments received & addressed. If other comments come in about the Stormwater Program, address them when received.
Ongoing BMPs					
Annual MS4 Program Update to City Council	City Council	Each Feb. or Mar., after completion of Stormwater Annual Report	Public Works Superintendent	Annual update to CIty Council. Include status and progress of MS4 Stormwater Management Program.	One update per year. Record when update was given each year in section 4.2.F of SWMP
Annual Review of MCM 2	n/a	Each January	Public Works Superintendent	Perform annual review of MCM 2 BMPs.	Note review date and any changes in section 4.2.I of SWMP document.

R = Residents

4.3 MCM 3. Illicit Discharge Detection and Elimination (IDDE)

The City of Oronogo is in the process of developing and implementing 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 regulated MS4.

The illicit discharge detection and elimination program shall at minimum, include the following:

4.3.A Stormwater & Outfall Mapping

IDDE program will include a current storm sewer system map that shall be updated as needed to include features which are added, removed, or changed. This map may be paper or electronic.

Oronogo maintains a storm sewer map that contains:

- the location of All MS4 Outfalls,
- the names and locations of all Waters of the State receiving discharges from the City's MS4 Outfalls, and
- the boundary of the regulated MS4 area (City Limits).

A simplified copy of the existing map is included in section 2.0 of this SWMP. More-detailed, electronic and paper copies are readily available for use by City field staff as needed.

4.3.B Outfall Information Tracking

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

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

The City's Outfall Mapping utilizes a numbering system for all Outfalls. If additional Outfalls are added during this permit period, the dates will be noted on the mapping. Outfall locations will be verified during IDDE inspections, and the dates will be recorded on the inspection forms.

4.3.C Regulatory Mechanism for Illicit Discharge Prevention

The MS4 shall effectively prohibit non-stormwater discharges into the permittee's storm sewer system and implement appropriate enforcement procedures and actions.

The City of Oronogo uses Chapter 425 Article III of City Code to effectively prohibit illicit discharges to the MS4. This "Illicit Discharge Ordinance" gives the City authority to inspect for illicit discharges and includes enforcement measures. This City Code can be found online at: https://ecode360.com/38830305 .

4.3.D Dry Weather Field Screening

IDDE program will include 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.

   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. *Dry weather 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. When discharge is present, the checklist or tracking device shall note the following general observations and physical characteristics at a minimum:*
   a. Date and time;
   b. Weather conditions and temperature (air & water);
   c. Color of discharge;
   d. Estimate of flow rate (this may be noted qualitatively);
   e. Odor;
   f. Surface scum, algal bloom, floatables or oil sheen present;
   g. Deposits or stains (note the color);
   h. Turbidity (may be noted qualitatively);
   i. Stream impact including vegetation, fish, wildlife;
   j. Length of impacted stream; and
   k. Notes of an obvious source of flow (such as lawn irrigation, etc.)

Oronogo has implemented an IDDE Inspection program that utilizes dry-weather field screening to detect and address non-stormwater discharges, including discharges from illegal dumping and spills.

Procedures for inspection are contained within the City's "Illicit Discharge Detection & Elimination Field Investigation Guide," dated 2020. During field inspections, the City will use an inspection checklist, called the "Illicit Discharge Inspection Field Sheet," that includes the above-listed minimum observations and physical characteristics.

Physical copies of the IDDE Field Guide and Inspection Field Sheet are used in the field by inspection staff. A copy of the Inspection Field Sheet is included under Appendix MCM 3. A digital copy of the IDDE Field Guide can be made available upon request.

Once the program is implemented, each outfall will be inspected a minimum of once per permit cycle. Additional inspections may occur if there is a complaint or if a priority area is designated.

Number of IDDE inspections for each year are recorded in the table below.

IDDE Inspections for the Year		
	Amount (% or #) per year of permit cycle	Any specific priority areas included: (See also 4.3.H)
2026		
2027		
2028		
2029		
2030		

4.3.E Diagnostic Monitoring Procedures

The MS4 Operator shall maintain diagnostic monitoring procedures to detect and investigate unknown non-stormwater flows as part of the dry weather screening program.

Procedures for Illicit Discharge Inspection are contained within the City's "Illicit Discharge Detection & Elimination Field Investigation Guide," dated 2020. During field inspections, the City will use an inspection checklist, called the "Illicit Discharge Inspection Field Sheet."

Physical copies of the IDDE Field Guide and Inspection Field Sheet are used in the field by inspection staff. A copy of the Inspection Field Sheet is included under Appendix MCM 3. A digital copy of the IDDE Field Guide can be made available upon request.

4.3.F Tracing the Source

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.

Procedures for tracing the source of an Illicit Discharge are contained within the City's "Illicit Discharge Detection & Elimination Field Investigation Guide," dated 2020.

Physical copies of the IDDE Field Guide and Inspection Field Sheet are used in the field by inspection staff. A digital copy of the IDDE Field Guide can be made available upon request.

4.3.G Removing the Source

The MS4 Operator shall maintain procedures for removing the source of the discharge. After locating the source, the pollutant and source must be removed. The exact procedure will depend on the source and the circumstances.

Procedures for removing the source may vary widely, depending on the source and circumstances. Removal procedures may be as simple as a friendly conversation with a property owner. Or a public education campaign may be indicated, if the source is determined to be more widespread. Chapter 425 Article III of City Code authorizes additional, specific enforcement measures for illicit discharge issues. Enforcement procedures in the ordinance include: Notice of Violation, fines, abatement of the problem by the City (or its agent), cost of abatement to be paid by violator, and possible civil action and/or criminal charges, as the situation requires. Appeal procedures are also included in the ordinance. (This City Code can be found online at: https://ecode360.com/38830305.)

4.3.H Priority Areas

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*
- *Areas with known illegal encampments*

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

Record IDDE Inspection Priority Areas on the following table.

	IDDE Inspection Priority Area(s)
2026	
2027	
2028	
2029	
2030	

4.3.I Written Procedures for IDDE Program Implementation

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.

Procedures for implementation of the IDDE Program are contained within the City's "Illicit Discharge Detection & Elimination Field Investigation Guide," dated 2020. Physical copies of the IDDE Field Guide and Inspection Field Sheet are used in the field by inspection staff. A digital copy of the IDDE Field Guide can be made available upon request.

A standard operating procedure (SOP) has also been developed specifically for field response when a possible spill or illicit discharge has been reported. A copy has also been included in Appendix MCM3.

4.3.J Investigation Timeline

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.

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 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 of Oronogo will:

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 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. Notify adjacent MS4 Operators if illicit connections or illicit discharges are observed related to, discharging to, or discharging from, that Operator's municipal storm sewer system. Notification will take place within 24 hours of discovery or as soon as practicable.

Adjacent MS4	Contact person(s)	Phone number/ email
City of Webb City	Public Works	417.673.4651
Jasper County	Debbie Darby Health Department	417.358.3111

4.3.K Enforcement Procedures

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.

Enforcement procedures for illicit discharge issues are laid out in Chapter 425 Article III of City Code. Procedures in the ordinance include: Notice of Violation, fines, abatement of the problem by the City (or its agent), cost of abatement to be paid by violator, and possible civil action and/or criminal charges, as the situation requires. Appeal procedures are also included in the ordinance. (This City Code can be found online at: https://ecode360.com/38830305.)

A standard operating procedure (SOP) has been developed for IDDE enforcement procedures. A copy has been included in Appendix MCM3.

4.3.L Database for Tracking IDDE Actions

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

The City of Oronogo tracks all field screenings, spills, incidents, and investigations. Paper records are to be kept at City Hall for the entire MS4 permit cycle. Records may be kept longer if deemed necessary.

4.3.M IDDE Education

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).

Public education, for residents and businesses, is covered under part 4.1 of this SWMP. For education of City staff, see section 4.3.Q and 4.6 of this SWMP.

4.3.N Review/Update of IDDE Program

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

4.3.O Review/Update of IDDE Program for Existing Permittees

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.

4.3.P The City of Oronogo is not a new permittee, so 4.3P is not applicable.

4.3.Q IDDE Training Program for Field Staff

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.

Reviews of the training effectiveness shall be considered after municipal site inspections or after an illicit discharge 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

The City of Oronogo will provide Illicit Discharge training to all inspection staff and staff who may handle materials which may become an illicit discharge. Training may be conducted in person or using online resources.

1. Each applicable staff member will be trained at minimum within one year of being hired.
2. Applicable staff include:
    a. IDDE inspection staff;
    b. Building inspection staff;
    c. Fleet maintenance staff;
    d. Staff at facilities with fuel, chemicals, washing of vehicles or equipment;

e. Road maintenance staff;
f. Road salt/de-icing staff; and
g. Parks, swimming pool, or golf course staff who encounter spills, equipment or vehicle washing, fueling, chemicals, etc.

Reviews of the training effectiveness will 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 City will consider if the training is enough or is ineffective.

Records of IDDE Training will be kept with other staff training records under section 4.6 of this SWMP. Reviews of training effectiveness will also be kept under section 4.6.

4.3.R Adaptive Management

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.

List any additional programmatic BMPs and when they were added to the Stormwater Management Program. (Examples of programmatic BMPs include: mapping of entire stormsewer system, adopting a standard operating procedure for dry weather screening, etc.)

Annual Review of MCM 3			
Year reviewed	Date of review	Reviewer(s)	Were changes made and noted?
2026			
2027			
2028			
2029			
2030			

Table MCM3. Illicit Discharge Detection and Elimination Program BMPs

Stormwater Goal (BMP)	Permit Section	Implementation Date	Update Frequency	Responsible Party	Measurable Goal	Tracking
Mapping						
Stormwater System & Outfall Mapping	4.3.A	Completed, other than updates	As needed	Public Works Superintendent	Maintain map with storm sewer system & outfalls. Update as needed	Are any updates needed? If so, have they been added?
Outfall Information Tracking	4.3.B	Completed, other than updates	As needed	Public Works Superintendent	Maintain outfall information (4.3.B) and update as needed, including dates when any outfall locations are surveyed.	Are any updates needed? If so, have they been added?
Regulatory Mechanism and Enforcement						
Regulatory Mechanism - Illicit Discharge Ordinance	4.3.C 4.3.J 4.3.K	Completed	As needed	Public Works Superintendent	Maintain and Enforce Illicit Discharge Ordinance. Maintain enforcement procedures (included in ordinance).	Completed
Inspection						
Dry-weather Inspection of Each Outfall	4.3.D	Ongoing	As needed	Public Works Superintendent	Inspect all Outfalls (and any new ones) once per permit cycle.	Inspections tracked by keeping Inspection Sheets on file.
Fill Out Inspection Field Sheet for each Outfall Inspected	4.3.D	On day of inspection	As needed	Public Works Superintendent	Use the Inspection Field Sheet as a checklist to ensure complete inspection of each outfall.	Use Inspection Field Sheet for each inspection. Keep on File.
Identify Priortiy Areas for Inspection	4.3.H	Annual	Annual	Public Works Superintendent	Identify priority areas for IDDE Inspection, according to Permit section 4.3.H.	Record any priority areas in section 4.3.H of the SWMP
Maintain Written Procedures for Inspection and Tracing the Source	4.3.D-4.3.F	Completed	As needed	Public Works Superintendent	Maintain the IDDE Field Guide, which contains the required written procedures for Permit sections 4.3.D-4.3.F	Completed
Education/Training/Review						
IDDE Information to Public	4.3.M	See MCM#1	See MCM#1	See MCM#1	See MCM#1	See MCM#1
IDDE Training for Field Staff	4.3.Q	2027	Annual	Public Works Superintendent	IDDE Training forInspectors and all staff who handle materials that may become an illicit discharge. Initial training for all, then within 1 year of hire for new employees	Track names/number of employees/departments trained in section 4.6.A & 4.6.B of the SWMP
Annual Review of MCM 3	4.3.R	Each January	Each January	Public Works Superintendent	Perform annual review of MCM 3 BMPs.	Note review date and any changes in section 4.3.R of SWMP document.

4.4 MCM 4. Construction Site Stormwater Runoff Control

Oronogo is in the process of developing, implementing, and enforcing a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre are to 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 Regulatory Mechanism

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 of Oronogo uses Chapter 425 Articles I & II of City Code as the regulatory mechanism requiring appropriate erosion and sediment controls on construction sites. The City regulates sites that disturb one or more acres of land, as well as those sites that disturb less than one acre if the disturbance is part of a larger common plan of development or sale that would disturb one acre or more. Articles I & II accomplish the following:

- Adopt the Stormwater Management Design Manual;
- Lay out procedures for acquiring a Land Disturbance Permit;
- Establish legal authority for the City to inspect permitted construction sites;
- Establish legal authority for the City to enforce the regulations through denial of permit, stop-work orders, revocation of permit, and criminal charges, with associated fines and other penalties.

This City Code can be found online at: https://ecode360.com/38830305. A digital copy of the Stormwater Management Design manual is available upon request.

4.4.B Pre-Construction Plan Review

The MS4 Operator shall review pre-construction plans.

The City of Oronogo performs pre-construction plan review for developments covered under Chapter 425 of City Code. During review, the City, or its agent:

1. Evaluates threats to water quality, taking into account:
    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. Will utilize a checklist to ensure consistency and completeness. (Copy of checklist will be included in Appendix MCM 4, once developed.)

3. Requires construction site operators to select, install, implement, and maintain appropriate stormwater control measures. 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. Considers ways to minimize disturbed areas through actions such as, phased construction requirements, temporary seeding or sodding, or erosion mats to exposed areas.
5. Requires construction site operators to control construction-site waste that may cause adverse impacts to water quality. (Trash, concrete wash-out, etc.)

4.4.C Authority to Inspect and Enforce

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.

Chapter 425 Articles I & II of Oronogo City Code establish authority for site inspection and enforcement of control measures. The City has implemented procedures for inspecting construction/land disturbance projects.

The construction site runoff control program includes the following.

1. Identification of 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 include assessment of compliance with the City's Stormwater Regulations and other applicable ordinances.
3. The inspections evaluate any structure that functions to prevent pollution of, or remove pollutants from, stormwater. Inspectors use enforcement polices to require BMPs to be implemented and effective.
4. Final inspections (upon completion of the land disturbance and prior to final approval of construction project) ensure all disturbed areas have been stabilized and all temporary erosion and sediment control measures are removed.
5. The inspections conducted by the City's inspector are documented with a checklist. The checklist includes structural and non-structural BMPs. A copy of the inspection sheet is included in Appendix MCM 4.

4.4.D Enforcement Procedures

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. The MS4 Operator must have a minimum of two (2) enforcement actions.

Enforcement procedures for construction site runoff problems are laid out in Chapter 425 Articles I & II of City Code. Procedures in the ordinance include: Stop-Work Orders, revocation of permit, fines, abatement of the problem by the City (or its agent), cost of abatement to be paid by violator, and possible civil action and/or criminal charges, as the situation requires. Appeal procedures are also included in the ordinance. (This City Code can be found online at: https://ecode360.com/38830305 .)

4.4.E Construction Site Self-Inspection Procedures

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.

Each construction site covered under the proposed regulatory mechanism is also covered under the Missouri Land Disturbance Permit MO-RA00000. The state permit requires construction site operators to conduct inspections as listed above. When the City performs an inspection on a construction site, the City's inspectors check these self-inspection records. Construction site operator shall keep self-inspection records onsite for City review.

Note: The 2-year, 24-hour storm event for Oronogo has a rainfall depth of 3.86 inches, according to NOAA's Atlas 14, Volume 8, Version 2.

4.4.F Inventory of Active Construction Sites

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 City of Oronogo maintains an inventory of active public and private land disturbance sites covered under this permit. Inventory paperwork is kept at City Hall.

Inventory information for each active site contains the following:

1. Relevant contact information for each project (e.g., tracking no., name, address, phone, etc.);
2. Size of the project/ area of disturbance;
3. If the site is a priority site/ how high of priority.

4.4.G Tracking of Oversight Inspections

The MS4 Operator shall track their oversight 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 City of Oronogo tracks oversight inspections (from 4.4.E) by retaining copies of records of inspection checklists. These inventories are available to the Department upon request.
Tracking contains:

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

4.4.H Review/Update of Construction Site Runoff Control Program for 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 will develop a plan review checklist by September 2027.

4.4.I The City of Oronogo is not a new permittee, so 4.4.I is not applicable.

4.4.J Public Comment About Land Disturbance Sites

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.

Construction plans are available at Oronogo's City Hall for review by the public. Any citizen of Oronogo may submit written comments relating to the plans. Written comments can be submitted in person or by mail, or email to the Public Works Superintendent, at City Hall (publicworks1@oronogomo.org). Comments are to be tracked electronically or on paper by the Public Works Superintendent. Comments are to be addressed by the City within 30 days of receipt.

4.4.K Training for Inspection Staff

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.

The City of Oronogo will provide construction site runoff control (including erosion and sediment control) training to all construction inspection staff and plan reviewers at least once during the permit cycle. Records of this training will be kept with other staff training records under section 4.6 of this SWMP. Reviews of training effectiveness will also be kept under section 4.6.

4.4.L Inspection Procedures

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

An erosion control inspection is provided during each and every inspection requested by the owner, contractor, or subcontractor. A checklist is used for these stormwater inspections. The completed inspection checklists are kept at City Hall. The City has developed a Standard Operating Procedure for Stormwater Construction Inspection. Copies of the checklist and SOP are included in Appendix MCM4.

Enforcement procedures for construction site runoff problems are laid out in Chapter 425 Articles I & II of City Code. Procedures in the ordinance include: Stop-Work Orders, revocation of permit, fines, abatement of the problem by the City (or its agent), cost of abatement to be paid by violator, and possible civil action and/or criminal charges, as the situation requires. Appeal procedures are also included in the ordinance. (This City Code can be found online at: https://ecode360.com/38830305 .)

4.4.M Adaptive Management

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 the follow.

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 are thorough and consistent across different sites.*

Annual Review of MCM 4			
Year reviewed	Date of review	Reviewer(s)	Were changes made and noted?
2026			
2027			
2028			
2029			
2030			

Table MCM4. Construction Site Stormwater Runoff Control Program BMPs

Stormwater Goal (BMP)	Permit Section	Implementation Date	Update Frequency	Responsible Party	Measurable Goal	Tracking
Regulatory Mechanism and Enforcement						
Regulatory Mechanism - Erosion & Sediment Control Ordinance & Stormwater Mgmt. Design Manual	4.4.A 4.4.D	Completed	As needed	Public Works Superintendent	Update, then enforce the required Stormwater Regulations. Maintain enforcement procedures included in Ordinance & Manual.	Completed
Pre-Construction Plan Review						
Pre-Construction Plan Reviews	4.3.A	Ongoing	As needed	Public Works Superintendent	Review all qualifying site plans for compliance with Stormwater Regulations.	Track # of plans reviewed and # approved.
Adopt Plan Review Checklist and Use for Future Construction Projects	4.4.B	Sept 2027	As needed	Public Works Superintendent	Adopt & use a checklist to ensure consistency and completeness during Plan Review process.	Keep copies of checklists used for each plan review.
Public Comments	4.4.J	Ongoing	As needed	Public Works Superintendent	Make all active plans available at City Hall for review by public. Accept written comments submitted and address within 30 days.	Keep records of comments submitted and addressed.
Inspection						
Construction Site Inspection by City	4.4.C	Ongoing	As needed	Building Inpector	Inspect all permitted, active construction sites for compliance with Stormwater Regulations and site's SWPPP (including self-inspections).	Inspections tracked by keeping Inspection Sheets on file.
Use Stormwater Inspection Checklist during Construction Site Inspections	4.4.C	On day of inspection	As needed	Building Inpector	Use Stormwater Inspection Sheet to ensure complete, consistent inspection of each permitted construction site.	Use Inspection Sheet for each inspection. Keep on file.
City Oversight of Self-Inspection by Construction Site Operators	4.4.E	Ongoing	As needed	Building Inpector	Provide oversight to check that self-inspections are properly completed by the construction site operators for all permitted sites. (See 4.4.E above for details.)	Keep copies of oversight records, whether submitted by operator or verified by City inspection.
Create and Maintain Inventory of Active Construction Sites	4.4.F	Ongoing	As needed	Public Works Superintendent	Maintain Inventory of all Active Construction Sites. (Include Contact Info, Size of disturbance area, priority level.)	Are all regulated active construction sites included in inventory?
Education/Training/Review						
Erosion & Sediment Control Training for Inspection Staff & Plan Reviewers	4.4.K	2027	As needed	Public Works Superintendent	Provide Erosion & Sediment Control Training for Inspection Staff & Plan Reviewers at least once per permit cycle.	Track names/number of staff trained in section 4.6.A & 4.6.B of the SWMP.
Annual Review of MCM 4	4.3.R	Each January	Each January	Public Works Superintendent	Perform annual review of MCM 4 BMPs.	Note review date and any changes in section 4.4.M of SWMP document.

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

Oronogo continues to implement and enforce a program to address the water quality of long-term stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan or sale. The City accomplishes this goal through a stormwater management ordinance requiring any such development project to obtain a Land Disturbance Permit, discussed below, before construction may begin.

The City's stormwater program ensures that permanent controls have been designed and implemented to prevent or minimize water quality impacts.

4.5.A Regulatory Mechanism

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 City of Oronogo uses Chapter 425 Articles I, II & IV of City Code as the regulatory mechanism requiring appropriate permanent controls to prevent or minimize long-term water quality impacts. The City regulates sites that disturb one or more acres of land, as well as those sites that disturb less than one acre if the disturbance is part of a larger common plan of development or sale that would disturb one acre or more. Articles I, II, & IV accomplish the following:

- Adopt the Stormwater Management Design Manual;
- Lay out procedures for acquiring a Land Disturbance Permit;
- Require long-term maintenance of permanent BMPs.
- Establish legal authority for the City to inspect permitted construction sites and long-term, permanent BMPs;
- Establish legal authority for the City to enforce the regulations through denial of permit, stop-work orders, revocation of permit, and criminal charges, with associated fines and other penalties.

This City Code can be found online at: https://ecode360.com/38830305. A digital copy of the Stormwater Management Design manual is available upon request.

4.5.B Minimization of Water Quality Impacts

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:

   The Stormwater Management Design Manual contains provisions for structural stormwater controls. These structural controls include extended detention basins, grass swales, permeable surfaces, sand filter basins, and other structural BMPs. The Manual includes design standards and guidance for designing, installing, implementing, and maintaining

stormwater control measures that are designed to infiltrate, evapotranspire, harvest, detain, retain, and/or reuse stormwater. Design standards in the Manual include regulation of site discharge volumes, rates, durations, 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:

   The Stormwater Management Design Manual will contain guidelines and rules for non-structural stormwater controls. Through this mechanism, the City will adopt preventative actions that involve management and source controls. Specific measures/policies/ include:

   - 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);
   - Encourage buffer zones along water bodies;
   - Minimization of disturbance of soils and vegetation;
   - Use of green infrastructure; and
   - Minimization of directly connected impervious areas.

4.5.C Pre-Construction Plan Review

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.

The City of Oronogo performs pre-construction plan review for developments covered under Chapter 425 of City Code. This review is performed in conjunction with the review required under MCM 4. During review, the City, or its agent, will utilize a checklist (once developed) to ensure consistency and completeness. Non-structural BMPs (such as comprehensive plans, zoning ordinances, buffer strips, and/or maximization/preservation of open space) are evaluated first. (Copy of the checklist will be included under Appendix MCM 4, once developed.)

4.5.D Long-Term Maintenance of Permanent Stormwater BMPs

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.

The City of uses Chapter 425 Articles I, & IV of City Code as the regulatory mechanism requiring appropriate long-term operation and maintenance of permanent BMPs. (This City Code can be found online at: https://ecode360.com/38830305.)

Long-term O&M is addressed during the plan review and approval process. Copies of O&M information are to be retained by the party responsible for the post-construction BMP and by the City.

4.5.E Long-Term BMP Inspections

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. (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 of Oronogo has already implemented item 1 above and will be implementing items 2, 3, and 4 throughout this permit cycle. Annual inspections will primarily be completed by the City or its agent. Inspections checklists have been developed for each type of BMP. Completed inspection checklists will be kept as records of inspection. (Copies of the BMP inspection checklists are included under Appendix MCM 5.)

4.5.F Enforcement Procedures

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

Enforcement procedures for Long-Term O&M problems are laid out in Chapter 425 Article IV of City Code. (https://ecode360.com/38830305) This ordinance establishes legal authority for the City to enforce the regulations through notices of violation, criminal charges, with associated fines and other penalties. If necessary, the City may perform maintenance work at the owner's expense. Appeal procedures are also included in the ordinance.

Specific procedures for enforcement are laid out in sections 425.500-425.560 (See excerpt below.) The range of enforcement actions available to the City allow it to address the variability and severity of the noncompliance. Any enforcement response by the City takes into account the:

1. Degree and duration of the violation;
2. Effect the violation has on the receiving water;
3. Compliance history of the post-construction BMP owner or operator; and
4. Cooperation of the owner or operator with compliance efforts.

The enforcement procedures may start with verbal notice, and education regarding the BMP, before continuing to the Notice of Violation. Enforcement actions will begin within 30 days of discovery of the violation.

EXCERPT FROM CHAPTER 425, ARTICLE IV.

Section 425.500. Notification of Violation. [Ord. No. 22-14, 4-11-2022]

A. Whenever the Public Works Director finds that a person has violated a prohibition or failed to meet a requirement of this Article, the Public Works Director may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:
   1. The performance of maintenance work;
   2. The violating practices or operations shall cease and desist;
   3. Payment of a fine to cover administrative costs.

B. If maintenance work is required, the notice shall set forth a deadline within which such work must be completed. Said notice shall further advise that, should the violator fail to perform the work with the established deadline, the work will be done by the City, a designated agency or a contractor and the expense thereof shall be charged to the violator.

Section 425.510. Appeal of Notice of Violation.

Any person receiving a Notice of Violation may appeal the determination of the Public Works Director. The notice of appeal must be received within ten (10) days from the date of the Notice of Violation. Hearing on the appeal before the Board of Aldermen shall take place within sixty (60) days from the date of receipt of the notice of appeal. The decision of the municipal authority or their designee shall be final except on appeal to the Circuit Court of Jasper County, Missouri.

Section 425.520. Enforcement Measures After Appeal.

If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or, in the event of an appeal, within fifteen (15) days of the decision of the municipal authority upholding the decision of the authorized enforcement agency, then representatives of the authorized enforcement agency shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner and/or agent of person in possession of any premises to refuse to allow the City of Oronogo or designated agent or contractor to enter upon the premises for the purposes set forth above.

Section 425.530. Cost of Abatement of Violation.

Within thirty (30) days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of assessment within ten (10) days. If the amount due is not paid within a timely manner, determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment. Any person violating any of the provisions of this Article shall become liable to the City by reason of such violation. The liability shall be paid in not more than twelve (12) equal payments. Interest at the rate of nine percent (9%) per annum shall be assessed on the balance beginning on the 1st day following the discovery of the violation.

Section 425.540. Injunctive Relief.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Article. If a person has violated or continues to violate the provisions of

this Article, the City of Oronogo may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

Section 425.550. Violations Deemed Public Nuisance.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this Article is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated, or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

Section 425.560. Criminal Prosecution.

A. Any person that has violated or continues to violate this Article shall be liable to criminal prosecution to the fullest extent of the law, and shall be subject to criminal penalty of five hundred dollars ($500.00) per violation per day and/or imprisonment for a period of time not to exceed thirty (30) days.
B. The City of Oronogo may recover all attorneys' fees court costs and other expenses associated with enforcement of this Article, including sampling and monitoring expenses.

Section 425.570. 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 City of Oronogo to seek cumulative remedies.

4.5.G Enforcement Timeline

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.

Specific procedures for enforcement, including timelines, are laid out in sections 425.500-425.560 (See excerpt in section 4.5.F above.) The enforcement procedures may start with verbal notice, and education regarding the BMP, before continuing to the Notice of Violation stage, but the actions will begin within 30 days of discovery of the violation.

4.5.H Inventory of BMPs

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 of Oronogo will develop an inventory of BMPs within two years of permit issuance (by September 2028). The inventory will be updated as new facilities are added and projects are completed.

4.5.I Tracking Post-Construction BMP Inspections

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 tracking must contain at a minimum:

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

The City of Oronogo will track BMP inspections by keeping completed inspection checklists on file at City Hall. This will begin as the City implements the Post-Construction BMP Inspection Program from 4.5.E. Inspections will begin in 2028 and then continue throughout the permit period.

4.5.J Review/Update of Post-Construction BMP Program for 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 of Oronogo will develop/implement the missing items from 4.5.E, 4.5.H, and 4.5.I above by September 2028.

4.5.K The City of Oronogo is not a new permittee, so 4.5.K is not applicable.

4.5.L Training for Inspection Staff

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.

The City of Oronogo will provide post-construction BMP inspection training to all relevant inspection staff at least once during the permit cycle. Records of this training will be kept with other staff training records under section 4.6 of this SWMP. Reviews of training effectiveness will also be kept under section 4.6.

4.5.M Adaptive Management

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 the following.

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. *Evaluating how education could improve the effectiveness of the program.*

Any additional programmatic BMPs shall be acknowledged in the Stormwater Management Program Report. (Examples of programmatic BMPs include; educational meetings with HOAs, onsite educational visits, adopting a standard operating procedure for enforcement measures.)

Annual Review of MCM 5			
Year reviewed	Date of review	Reviewer(s)	Were changes made and noted?
2026			
2027			
2028			
2029			
2030			

Table MCM5. Post-Construction Stormwater Management Program BMPs

Stormwater Goal (BMP)	Permit Section	Implementation Date	Update Frequency	Responsible Party	Measurable Goal	Tracking
Regulatory Mechanism and Enforcement						
Regulatory Mechanism - Stormwater Management Design Manual & Long-Term Maintenance Stormwater Ordinance	4.5.A 4.5.B 4.5.D 4.5.F 4.5.G	Completed	As needed	Public Works Superintendent	Maintain & enforce existing Stormwater Regulations. Maintain enforcement procedures included in Ordinance & Manual. Regs include minimization of Water Quality Impacts and Long-Term Maintenance of Permanent BMPs.	Completed
Pre-Construction Plan Review						
Pre-Construction Plan Reviews	4.5.C	Ongoing	As needed	Public Works Superintendent	Review all qualifying site plans for compliance with Stormwater Regulations.	Track # of plans reviewed and # approved.
Adopt Plan Review Checklist and Use for Future Construction Projects	4.5.C	Sept 2027	As needed	Public Works Superintendent	Adopt & use a checklist to ensure consistency and completeness during Plan Review process.	Keep copies of checklists used for each plan review.
Construction Phase						
Construction Site Inspection by City	4.5.E	Ongoing	As needed	Building Inspector	Inspect all permitted, active construction sites for compliance with Stormwater Regulations and approved plans.	Inspections tracked by keeping Inspection Sheets on file.
Long-Term Maintenance of Permanent Stormwater BMPs						
Develop and Maintain Inventory of Permanent Stormwater BMPs	4.5.H	Sept 2028	At close of Construction	Public Works Superintendent	Develop & maintain Inventory of all Permanent Stormwater BMPs. (Include Contact Info, Size of disturbance area, priority level.)	Are all regulated active construction sites included in inventory?
During O&M Inspections, Use Inspection Checklists for Each Type of Permanent BMP	4.5.C 4.5.I	Sept 2028	As needed	Public Works Superintendent	Develop or adopt checklists for each type of Permanent Stormwater BMP.	Inspections sheets developed. Add to SWMP.
Initial Post-Construction Inspection by City	4.5.E 4.5.I	Sept 2028	As needed	Building Inspector	Inspection by City of all Permanent Stormwater BMPs within first 3 years after construction is complete. (After checklists are developed.)	Inspections tracked by keeping Inspection Sheets on file.
Annual Inspections of Permanent Stormwater BMPs, by City or Owner	4.5.E 4.5.I	Sept 2028	Repeat Annually	Public Works Superintendent	Annual Inspections of each Permanent BMP by Owner or City (depending on agreement). City to provide Inspections checklists to Owner.	Inspections tracked by keeping Inspection Sheets on file. Owner to submit completed Inspection Sheets to City.
Education/Training/Review						
Post-Construction BMP Inspection Training for Inspection Staff	4.5.L	2027	As needed	Public Works Superintendent	Provide Post-Construction BMP Inspection Training for relevant Inspection Staff at least once per permit cycle.	Track names/number of staff trained in section 4.6.A & 4.6.B of the SWMP.
Annual Review of MCM 5	4.5.M	Each January	Each January	Public Works Superintendent	Perform annual review of MCM 5 BMPs.	Note review date and any changes in section 4.5.M of SWMP document.

4.6. MCM 6. Pollution Prevention/Good Housekeeping for Municipal Operations

The City of Oronogo is in the process of developing a municipal Operation and Maintenance (O&M) Program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

4.6.A Employee Training Program

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 of Oronogo has updated its training program and schedule to meet the requirements of the new MS4 permit and is in the process of implementing those updates. See updated Training Program Schedule below.

Training Program Record			
Staff & Department	Date	Topic(s)	Training Provider/Method

Training Program Record (cont.)			
Staff & Department	Date	Topic(s)	Training Provider/Method

Stormwater Program Training Schedule

1. In-Depth Training for Pollution Prevention/Good Housekeeping (PPGH) – MCM6
    a. Frequency: ANNUAL
    b. Topics: See table in section 4.6.B.
    c. Applicable Staff :
        i. Building maintenance/custodial staff
        ii. Fleet maintenance staff;
        iii. Staff at facilities with fuel, chemicals, washing of vehicles or equipment;
        iv. Road maintenance staff;
        v. Road salt/de-icing staff; and
        vi. Parks, swimming pool, or golf course staff who encounter spills, equipment or vehicle washing, fueling, chemicals, etc.

2. General Training for Pollution Prevention/Good Housekeeping – MCM6
    a. Frequency:
        i. Existing Employees: Initial training
        ii. New Employees: Within one year of being hired
        iii. Additional training as needed.
    b. Applicable Staff: All employees not listed in number 1 above.

3. Illicit Discharge Detention and Elimination (IDDE) Training – MCM3
    a. Frequency:
        i. Existing Employees: Initial training
        ii. New Employees: Within one year of being hired
    b. Applicable staff include:
        i. IDDE inspection staff;
        ii. Building inspection staff;
        iii. Construction inspection staff;
        iv. Fleet maintenance staff;
        v. Staff at facilities with fuel, chemicals, washing of vehicles or equipment;
        vi. Road maintenance staff;
        vii. Road salt/de-icing staff; and
        viii. Parks, swimming pool, or golf course staff who encounter spills, equipment or vehicle washing, fueling, chemicals, etc.
        ix. Police

4. Training for Construction Site Runoff Control & Post-Construction Stormwater Management – MCM4 & MCM5
    a. Frequency: Once per permit cycle (Oct 2026-Sept 2031)
    b. Applicable staff include:
        i. Construction Inspection staff;
        ii. Inspection staff for Long-Term BMP inspections

4.6.B Minimum Topics Covered

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):

The table below provides a breakdown of topics to be covered in the In-Depth Training for PPGH and the IDDE Training (#1 & #3 of the updated Training Program Schedule). As training is provided, records will be kept in the table.

Training Program – Minimum Topic Breakdown			
Topic	Years covered in training	Departments trained	Number of staff trained
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			
11. Illicit Discharges			

4.6.C Training Materials & Procedures

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.*

The City of Oronogo has updated its training program and schedule to meet the requirements of the new MS4 permit and is in the process of implementing those updates. Training will be provided either in-person or by electronic methods. Training materials have been identified and recorded in Appendix MCM6. Coordination with other MCMs is shown in the updated Training Program Schedule above. Seasonally appropriate topics for employees may be covered through email or in-person training, as deemed necessary.

4.6.D List of Municipal Operations/Facilities

The MS4 Operator shall maintain a list of all municipal operations/facilities that are impacted by this operation and maintenance program.

The following is a list of all municipal operations and facilities that are impacted by the O&M program.

- Public Works Building – 166 Grant Street
- Oronogo City Park - 653 E Central Street (Adjacent to Public Works & City Hall)
- West Well Storage Building – 851 W Central Street

Stormwater Pollution Prevention Plans (SWPPP) will be created to help minimize pollutant runoff from these facilities. SWPPPs may be combined by facility type or location. The SWPPPs will contain, at a minimum, the items listed in Section 4.6.F below.

4.6.E List of Industrial Facilities Owned and/or Operated by the City

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.

The following are industrial facilities owned and/or operated by City of Oronogo.

- Oronogo Public Water System – MDNR MO-5010606

4.6.F Controls for Reducing or Eliminating Floatables and Pollutant Discharge

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.

The City of Oronogo is in the process of developing one or more Stormwater Pollution Prevention Plans (SWPPP) for the facilities covered under the County's MS4 permit. (See 4.6.D above for list of facilities.)

This SWPPP(s) will act as a guide for the prevention and reduction of pollution in stormwater runoff those County facilities and operations. Once completed, the SWPPP(s) will include the following, at a minimum:

1. A list of potential pollutant sources at each facility, such as materials used and stored on site.
2. Minimum of annual inspections of all municipally owned or operated facilities for stormwater issues are to begin once checklists are developed for each facility.
    a. Records will be kept for inspections and follow up. This will mostly be checklists, once they are developed.
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 will be maintained for each facility, once it is developed.
4. All paints, solvents, petroleum products, and petroleum waste products (except fuels) under the control of the City are stored so these materials are not exposed to stormwater.
5. Sufficient practices of spill prevention, control, and/or management are provided to prevent any spill of these pollutants from entering waters of the state;
    a. This includes spill kits when liquid product is stored at a facility; and
    b. Any containment system used to implement this requirement is constructed of materials compatible with the substances contained and also prevents 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.

By September 2027, Oronogo will develop the following items:

- Stormwater Pollutions Prevention Plan(s) for the listed facilities. SWPPP(s) will include, along with other required material:
    - Inspection Checklist for the applicable facility.
    - Maps of BMPs at the applicable facility.

Once completed, copies of the applicable SWPPP will be kept at each facility listed under 4.6.D above. Digital copies will be kept at City Hall.

4.6.G Procedures for Proper Disposal of Waste

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.*

The above topics will be included in the proposed SWPPP(s). Once completed, copies of the applicable SWPPP will be kept at each facility listed under 4.6.D above. Digital copies will be kept at City Hall.

4.6.H Washing of Municipal Vehicles and Equipment

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.*

Vehicle and equipment washing will be addressed in the proposed SWPPP(s). Once completed, copies of the applicable SWPPP will be kept at each facility listed under 4.6.D above. Digital copies will be kept at City Hall.

4.6.I Written Controls, Procedures, Inspection Schedules, Tracking, Annual Review

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 (SWPPP) or one overarching Operations and Maintenance Manual (O&M Manual) for all applicable MS4 facilities may be used to comply with this requirement.

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.

Written explanations of controls, procedures will be included in the proposed SWPPP(s). Once completed, copies of the applicable SWPPP will be kept at each facility listed under 4.6.D above. Digital copies will be kept at City Hall.

Facility inspections checklists will be developed as part of the SWPPP(s) and initial inspections of all facilities will be conducted after SWPPP completion. After this, annual inspections will continue throughout the permit period. Tracking will be accomplished by retaining inspection checklists.

The City will perform an annual review of the Pollution Prevention/Good Housekeeping Program to ensure MS4 compliance and determine if changes are needed. This review will take place during the preparation of the annual MS4 Stormwater Report. Annual reviews will be recorded in the following table.

Annual Reviews of Facility Inspections				
Date(s) of review	Location(s) inspected	Were issues found?	Were changes made?	Is follow-up needed?

4.6.J Flood Management Projects

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.

Any new flood management projects will be subject to the water quality standards in the Stormwater Management Design Manual discussed in 4.5.A. All projects will undergo the pre-construction review for water quality impacts.

Flood management projects in the Plan Area can include:

- Regional storm water control (retention basins, detention basins);
- Flood control levees and associated pump stations;
- Storm water drainage conveyance capacity improvements;
- Projects involving land buyouts; and
- Designated uses of floodplain land.

Have there been any such flood management projects to review?		
Year	Yes/no	If yes, the location(s)
2026		
2027		
2028		
2029		
2030		

4.6.K Review/Update of Pollution Prevention/Good Housekeeping Program for Existing Permittees

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.

The City of Oronogo will develop/implement the missing items from section 4.6.D, F, H, and I within one year of permit issuance (by September 2027).

4.6.L The City of Oronogo is not a new permittee, so 4.6.L is not applicable.

4.6.M Adaptive Management

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 programmatic BMPs shall be acknowledged in the Stormwater Management Program Report. (Examples of programmatic BMPs include: new training program, adopting a standard operating procedure for equipment cleaning, etc.)

Additional programmatic BMPs for the PPGH Program	
Date Added	Programmatic BMP Added – with Brief Description

Annual Review of MCM 6			
Year reviewed	Date of review	Reviewer(s)	Were changes made and noted?
2026			
2027			
2028			
2029			
2030			

Table MCM6. Pollution Prevention/Good Housekeeping Program BMPs

Stormwater Goal (BMP)	Permit Section	Implementation Date	Update Frequency	Responsible Party	Measurable Goal	Tracking
O&M Manual						
Create & Utilize Stormwater Pollution Prevention Plan (SWPPP)for each City Facility	4.6.D 4.6.E 4.6.F 4.6.G 4.6.H 4.6.I 4.6.J	Sept 2027	As needed	Public Works Superintendent	Create an Operation & Maintenance Manual for Municipal Operations as a guide for the prevention and reduction of pollution in stormwater runoff from municipal facilities and operations.	Is O&M Manual complete?
Facility Inspections						
Develop PPGH Inspection Checklists and BMP Maps for Each Municipal Facility	4.6.I	Sept 2027	As needed	Public Works Superintendent	Develop PPGH Inspection Checklists for each municipal facility. Develop map of each facility's BMPs.	Add Inspection Checklists and Maps to O&M Manual.
PPGH Inspections for Each Municipal Facility	4.6.1	Sept 2027	Repeat Annually	Building Inspector	Use PPGH Inspection Checklists & maps to perform annual inspections of each municipal facility.	Inspections tracked by keeping Checklists on file.
Education/Training/Review						
Maintain Staff Training Material for MCMs 3, 4, 5, & 6. Keep records of material used for later reuse.	4.6.A 4.6.B 4.6.C 4.3.Q 4.4.K 4.5.L	Complete	As needed	Public Works Superintendent	Maintain Appropriate Staff Training Material for MCMs 3, 4, & 5. (See listed SWMP sections.) Keep records of material used for later reuse.	Has training material changed? (To be recorded in Appendix MCM6 of this SWMP document.)
PPGH Staff Training Program	4.6.A 4.6.B 4.3.Q 4.4.K 4.5.L	Ongoing	As needed	Public Works Superintendent	Provide stormwater training for City staff according to the Stormwater Program Training Schedule (Part 4.6-MCM 6-page 3 of this SWMP). Training frequency and topics are listed on the Schedule.	Track names/number of staff trained in sections 4.6.A & 4.6.B of the SWMP. Record Topics covered and material used.
Annual Review of MCM 6	4.6.M	Each January	Each January	Public Works Superintendent	Perform annual review of MCM 6 BMPs.	Note review date and any changes in section 4.6.M of SWMP document.

Part 5 – Monitoring, Recordkeeping, and Reporting

5.2 Recordkeeping

All records required by this permit may be maintained electronically, as long as they are accessible upon request by the Department. If a non-electronic version is kept, the permittee shall retain the most recent versions of the records and shall be accessible to the Department upon request.

5.3 MS4 Stormwater Management Program Report

A. *A report to the Department on the status of the MS4's program is **due annually on** or before **February 28th**. This report shall cover the previous year from **January 1st to December 31st**. The report shall be submitted on the Department approved, MS4 Stormwater Management Program Report form. If approved by the Department, permittees may submit the MS4 Stormwater Management Program Report using an alternative report format.*

B. *The annual reports must be submitted through the eDMR system. This is accessible through the Missouri Gateway for Environmental Management (MoGEM): https://dnr.mo.gov/mogem/*

Which City Staff have access to the eDMR system?	
NAME	Role in the eDMR system
Anthony Cantrell	Organization Official
	Certifier
Sarah Simon (Allgeier, Martin and Associates, Inc.)	Preparer

Part 6 – Special Conditions for Total Maximum Daily Loads

6.1 MS4s Subject to Total Maximum Daily Loads (TMDL)

6.1.A MS4s Subject to Wasteload Allocation (WLA)

Any regulated MS4 identified in an EPA approved or established TMDL with an applicable Wasteload Allocation (WLA) shall implement steps toward the attainment of applicable WLAs in accordance with 40 CFR 122.44(k)(2) and (3).

6.2.B TMDL Assumptions and Requirement Attainment Plan (ARAP)

The MS4 Operator shall develop a TMDL ARAP to address the TMDL's assumptions and requirements where applicable.

The City of Oronogo is subject to the 2022 TMDL for Center Creek, with a single, aggregated Wasteload Allocation number assigned collectively to all MS4s in the watershed. However, the Missouri Department of Natural Resources has determined that this TMDL **does not** trigger the MS4 ARAP requirement. In an email sent on February 6, 2025, Aaron Nickolotsky (Stormwater Coordinator for the Water Protection Program/Water Pollution Control Branch) stated:

> *"… the Center Creek, Bens Branch, and Center Creek Tributary TMDL does not trigger the ARAP requirement found in MS4 permits due to the following language that is included in the Approved TMDL: "The permit conditions of the MS4 contain BMPs that are designed to reduce pollutant loads to the maximum extent practicable. The WLA for the MS4 is therefore set at current conditions plus inclusion of the BMPs."*

So, the City of Oronogo does not need to prepare an ARAP or submit annual ARAP reports.

APPENDIX **MCM 1**

PUBLIC EDUCATION & OUTREACH

SUPPORTING DOCUMENTS

This space reserved, as needed, for documentation of Public Education activities listed in Table MCM 1.

APPENDIX **MCM 2**

PUBLIC PARTICIPATION

SUPPORTING DOCUMENTS

This space reserved, as needed, for documentation of Public Participation activities.

This documentation includes, but is not limited to:

- Proof of public notice period dates.
    - Receipts for newspaper postings,
    - Dated screenshots of website postings,
    - etc.
- Proof of annual update to County Commission.
    - Copy of agenda (with date), etc.

APPENDIX **MCM 3**

ILLICIT DISCHARGE DETECTION & ELIMINATION

CHECKLISTS AND SUPPORTING DOCUMENTS

Illicit Discharge Inspection Field Sheet

Section 1: Background Data

Outfall ID:		
Today's date:		Time:
Investigators:		Form completed by:
Temperature (°F):	Rainfall (in.): Last 24 hours:	Last 48 hours:
Camera:		Photo #s:
Notes (e.g., origin of outfall, if known):		

Section 2: Outfall Description

LOCATION	MATERIAL	CROSS-SECTION (SHAPE)		DIMENSIONS (IN.)	SUBMERGED
☐ **Closed Pipe**	☐ Concrete ☐ Corrugated Metal ☐ Plastic ☐ Other: _____	☐ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☐ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: _____	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ **Open channel**	☐ Concrete ☐ Earthen ☐ Rip-Rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
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 #1	Volume		Liter	Bottle
	Time to fill		Sec	Stop watch
☐Flow #2	Flow depth		In	Tape measure
	Flow width	_____' (Top) _____" (Bottom)	Ft	Tape measure
	Measured length	_____' _____"	Ft	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

Illicit Discharge Inspection Field Sheet

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 (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 ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 – Few/slight; origin not obvious	☐ 2 – Some; indications of origin (e.g., possible suds or oil sheen)	☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

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

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

Section 7: Data Collection

1. Sample for the lab?	☐ Yes	☐ No
2. If yes, collected from:	☐ Flow	☐ Pool

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

STANDARD OPERATING PROCEDURES FOR FIELD RESPONSE TO SPILLS & REPORTS OF ILLICIT DISCHARGE

CITY OF

ORONOGO, MISSOURI

December 2023

Standard Operating Procedures
for
Field Response
to Spills & Reports of Illicit Discharge

In-Office Activities:

1) Gather pertinent information:
- Responsible Party - name, title, Phone #, location.
- Complainant - name, title, Phone #, location.
- Water body, incident location, suspected source.
- Details of what happened & when.
- Contact info for Environmental Response
    - Police – (417) 673-1916 (non-emergency)
    - MDNR Environmental Emergency Response 573-638-2436 (Must report if there is contamination of Waters of the State, a fish kill, or a fuel spill of more than 50 gallons.)

2) Gather Equipment:
- Spill response kit (sampling equipment-bottles, equipment, gloves, chain of custody, SOP etc…)
- Phone,
- Camera,
- GPS,
- Boots/ waders / field gear,
- Copy of name/numbers of people that you may need to contact.

On-Site Activities:

NOTE: Do not touch the discharge unless you know it is safe.

1) Determine leading edge of discharge in order to evaluate extent of damage.

2) Locate source and work to get discharge stopped (if applicable). Use "Tracing the Source" procedures found on page 17 of the Field Investigation Guide for Illicit Discharge Detection & Elimination.

3) Require mitigation activities as needed such as dams, diversions, booms, etc. When possible (considering terrain and amount of discharge), require vacuum trucks, or other physical removal of the discharge.

4) Collect samples if possible. Sample locations:
- Area where discharge entered stream,
- Upstream of discharge,
- Any storm system where contaminants were discharged,
- Area where discharge is at time of investigation,
- Area downstream of discharge.

5) Take notes of other life in stream, such as macroinvertebrates, algae, and fish. Note their size and behavior.

6) Isolate source with samples, photos, and other evidence. Eliminate other possible sources through sampling and photos.

7) If rainfall is a factor, determine duration, amount, and intensity.

8) Interview neighbors/employees as necessary to determine any other pertinent information on incident.

9) Request that the responsible party post public notice signs if there is possible impact for human health and is in a public access area.

10) Collect Field Notes:
- Arrival time,
- Sample collection times,
- Departure time,
- Contacts,
- Others involved,
- Document any actions by responsible party, and
- Time spent on investigation.

STANDARD OPERATING PROCEDURES FOR ILLICIT DISCHARGE ENFORCEMENT

CITY OF

ORONOGO, MISSOURI

December 2023

Summary of Enforcement Procedures for Illicit Discharge

Upon discovery of an illicit discharge and determination of its source, the City and/or designee shall follow the procedures below. City Code references are from Chapter 425, Article III, (located at https://ecode360.com/38830305#38830305).

NOTE: If the violation constitutes an immediate danger to public health or public safety, the Department of Public Works and/or designee is authorized to enter upon the subject private property, without giving prior notice, to take any and all measures necessary to abate the violation and/or restore the property. (Skip to Item 8 below.)

1) NOTICE OF VIOLATION: (City Code, Sections 425.320 & 330)

Upon discovery of an illicit discharge and determination of its source, the City and/or designee may order compliance by written notice of violation to the responsible person. The notice shall contain:

a. The name and address of the alleged violator;
b. The address, when available, or a description of the building, structure, or land upon which the violation is occurring, or has occurred;
c. A statement specifying the nature of the violation;
d. A description of the remedial measures necessary to restore compliance with Chapter 425 of City Code and a time schedule for the completion of such remedial action;
e. A statement of the penalty or penalties that shall or may be assessed against the person to whom the notice of violation is directed;
f. A statement that the determination of violation may be appealed to the City by filing a written notice of appeal within ten (10) days of service of notice of violation;
g. A statement specifying that, should the violator fail to restore compliance within the established time schedule, the work will be done by a designated agency or contractor and the expense thereof shall be charged to the violator.
h. The notice of violation may require without limitation:
    i. The performance of monitoring, analyses, and reporting
    ii. The elimination of illicit connections or discharges;
    iii. That violating discharges, practices, or operations shall cease and desist;
    iv. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
    v. Payment of a fine to cover administrative and remediation costs; and
    vi. The implementation of source control or treatment BMPs.

Compensatory Action: In lieu of enforcement proceedings, penalties, and remedies authorized by Chapter 425 of City Code, the City and/or designee may impose upon violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc. (City Code, Section 425.370)

2) PERMITTEE'S RESPONSE TO WRITTEN NOTICE: (City Code, Section 425.320)

a. The permittee should investigate immediately and take any action required to cease the illicit discharge. Such actions are to be taken within seventy-two (72) hours, or within a reasonable time after receipt of notice. All actions taken are to be reported to the City within the designated time period.
b. Time may be extended if weather conditions or other factors beyond the control of the permittee prevent immediate remedial action.

3) NOTICE OF COMPLIANCE:

Upon satisfactory cessation of discharge and any required remedial work the City should issue a Notice of Compliance.

4) FAILURE TO COMPLY WITH NOTICE OF VIOLATION: (City Code, Section 425.340, 350, & 390)

If the violation has not been corrected pursuant to the requirements set forth in the notice of violation:

a. *Remedial Action by City:* The City and/or designee shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property.
b. *Denial of Entrance to Property*: It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the government agency or designated contractor to enter upon the premises for the purposes set forth above.
c. *Cost of Abatement:*
    i. Within thirty (30) days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs.
    ii. The property owner may file a written protest objecting to the amount of the assessment within ten (10) days. If the amount due is not paid within a timely manner as determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment. (The amount shall be paid in not more than twelve (12) equal payments. Interest at a rate of percent per annum shall be assessed on the balance beginning on the first day following the discovery of the violation.)
    iii. The City and/or designee may recover all attorneys' fees court costs and other expenses associated with enforcement of Chapter 425 of City Code , including sampling and monitoring expenses.

5) APPEALS: (City Code, Section 425.330)

Any person receiving a notice of violation may appeal the determination of the City and/or designee.

a. The notice of appeal must be received within ten (10) days from the date of the notice of violation.
b. Hearing on the appeal before the appropriate authority, or their designee, shall take place within sixty (60) days from the date of receipt of the notice of appeal.
c. The decision of the municipal authority, or their designee, shall be final.

6) ENFORCEMENT MEASURES AFTER APPEAL: (City Code, Section 425.340)

In the event of an appeal, if the violation has not been corrected within sixty (60) days of the decision of the municipal authority upholding the decision of the City and/or designee, then Item 4 above will apply.

7) CRIMINAL PROSECUTION: (City Code, Section 425.390 & 380)

a. *Criminal Prosecution:* Any person that has violated, or continues to violate, Chapter 425 of City Code shall be liable to criminal prosecution to the fullest extent of the law. The City and/or designee may recover all attorneys' fees court costs and other expenses associated with enforcement of Chapter 425 of City Code, including sampling and monitoring expenses.
b. *Violations Deemed a Public Nuisance:* In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of

Chapter 425 of City Code is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

FOR EMERGENCY SITUATIONS AND/OR CONTINUING VIOLATIONS:

8) SUSPENSION OF MS4 ACCESS: (City Code, Section 425.270)

a. *Suspension due to Illicit Discharges in Emergency Situations.* The City and/or designee may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or waters of the United States. If the violator fails to comply with a suspension order issued in an emergency, the City and/or designee may take such steps as deemed necessary to prevent or minimize damage to the MS4 or waters of the United States, or to minimize danger to persons.

b. *Suspension due to the Detection of Illicit Discharge.* Any person discharging to the MS4 in violation of Chapter 425 of City Code may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The City and/or designee will notify a violator of the proposed termination of its MS4 access. The violator may petition the City for a reconsideration and hearing. A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to Chapter 425, without the prior approval of the City and/or designee.

APPENDIX **MCM 4**

CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

CHECKLISTS AND SUPPORTING DOCUMENTS

STORMWATER CONSTRUCTION INSPECTION CHECKLIST

City of Oronogo

653 East Central Street · Oronogo, MO 64855 · (417) 673-4541

This form is to be used for stormwater inspections by City of Oronogo inspection staff. A copy of this form is to be left with the development's responsible party, on-site if feasible. *Form updated Dec. 2023*

Date of Inspection:_____ **City Land Disturbance Permit #:**_____ **Building Permit # (if applicable):** _____

Project Name/Location:_____ **Contractor/Owner:**_____

Inspection Type: ☐ Regular ☐ Rain Event (Amt._____) ☐ Complaint ☐ Drive-By ☐ Final

Inspected by:_____

	SWPPP Review	Adequate	Needs Maintenance	Comply By	Comments
1	SWPPP is on site and updated with records attached?	☐	☐		
2	Permit sign/notice is posted at construction site?	☐	☐		
3	Inspections performed every 14 days and after rain events?	☐	☐		

	Best Management Practices (BMPs)	Adequate	Needs Maintenance	Comply By	Comments
4	Streets & other property free of sediment & trash?	☐	☐		
5	Construction debris & trash properly covered/disposed?	☐	☐		
6	Perimeter controls properly installed & maintained?	☐	☐		
7	Inlet protection properly installed & maintained?	☐	☐		
8	Washout facilities available, marked, & maintained?	☐	☐		
9	Construction entrance properly constructed/maintained/ utilized?	☐	☐		
10	Disturbed areas stabilized after activity has ceased for 14 days?	☐	☐		
11	Discharge points & receiving waters free of sediment?	☐	☐		
12	Other erosion & sediment controls properly installed/constructed/maintained according to SWPPP?	☐	☐		
13	Stockpiles stabilized or contained by a BMP?	☐	☐		
14	Are permanent stormwater controls being implemented?	☐	☐		
15	Temporary BMPs no longer needed are removed?	☐	☐		
16	Fuel storage areas have secondary containment?	☐	☐		
17	Solvents, paints, fertilizers, etc. stored in a manner prohibiting exposure to rain or runoff?	☐	☐		
18	Dewatering operations filtering sediment/pollutants?	☐	☐		
19	Dust control practices utilized?	☐	☐		
20	Are natural resource areas (streams, wetlands, mature trees, stream buffers, etc.) protected with barriers or similar BMPs?	☐	☐		

Action Taken: ☐ Verbal Warning ☐ Written Warning ☐ Stop Work Notice

Additional Comments:

☐ See photos.

Additional Comments:

"I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete."

Inspector's Signature:_____ **Date:**_____

STANDARD OPERATING PROCEDURES FOR STORMWATER CONSTRUCTION INSPECTION AND ENFORCEMENT

CITY OF

ORONOGO, MISSOURI

December 2023

Inspection Procedures Overview

An on-site construction site inspection will usually consist of the following components, followed by the development of an inspection report:

- Pre-Inspection Preparation
- Entry
- Records Review
- Site Inspection
- Exit Interview

Pre-Inspection Preparation

Prioritize your sites

- With stream buffers or environmentally sensitive areas
- Contractors with a history of non-compliance or frequent violations
- Projects on steep slopes or with major grading plans
- Commercial/Industrial or high density subdivisions

Review available files

- Permits (City Land Disturbance, City Building Permits, State Land Disturbance Permits)
- Stormwater Pollution Prevention Plan (SWPPP) or Erosion and Sediment Control (ESC) plans
- Past inspection reports
- Monitoring/assessment reports
- Maintenance records

Identify significant pollutant sources and Best Management Practices (BMPs) you want to inspect

- Silt fence, sediment basins/silt traps, slope stabilization, etc.

Gather any items needed to perform the inspection

- Personal protective equipment
- Inspection checklists (copies will be needed for both the City and for the permittee)

Entry

Before entering the site

- Observe surroundings and various stages of construction
- Look at the construction exit locations and perimeter controls
- Enter date/time and weather conditions on the inspection form

When entering the site

- Review all postings
- Public Notification Sign in place and visible from construction entrance?
- Announce yourself to the person in charge

Records Review

Ask to see a copy of the SWPPP, permit, and inspection reports

- Specific items to review:
  - SWPPP
    - Date and preparer
    - Primary ESC BMPs used on-site
      - Are all BMPs required by the SWPPP in place?
      - Have BMPs been installed correctly and maintained?
        - Amendments to design, construction, or maintenance

          * If a SWPPP is not available for review, note the lack of an on-site SWPPP on the inspection form.
  - Inspection and maintenance records
    - Operator is required to inspect the site:
      - Once every fourteen days,
      - Within 72 hours of any rain event, and
      - Within 48 hours of any storm event of 3.89" or more in 24 hours.
    - Permanent stormwater management practices
    - Pollution prevention practices
    - Discharge points
    - Amendments to design, construction, maintenance, weather or seasonal conditions
- Site Map
  - Should be up to date with construction activities
  - Should be red-lined and dated

Site Inspection

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

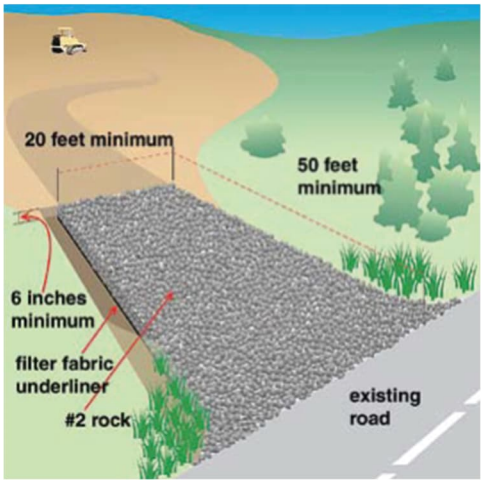
- If sediment is leaving the site, walk downstream and document the extent of travel and impact on receiving
- waters or storm drains.
- Inspect down-slope inlets

Inspect Perimeter Controls

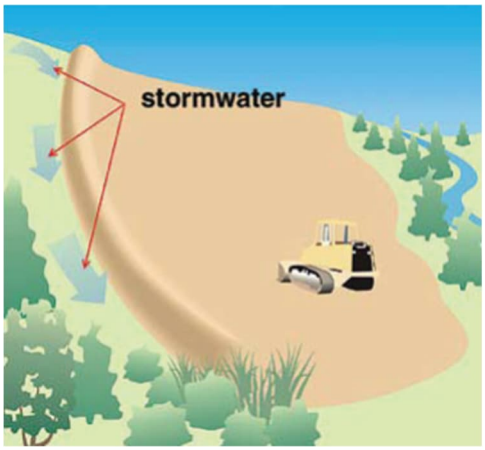
- Note what controls are being used and if they're installed correctly and being maintained
- Inspect the construction entrance to determine of there is excessive tracking
- Check sediment controls and make sure inlets are protected.

Stabilized Construction Entrance

- If there is track-off from the entrance, the operator has 12 hours to clean it up.
- Are vehicles leaving the site from other locations and not using the designated entrance/exit?
- Does the rock need to be replaced, replenished, or raked?
- Is the entrance/exit long enough to remove mud from tires?
- Is the site graded away from the entrance/exit to prevent runoff from leaving the site?

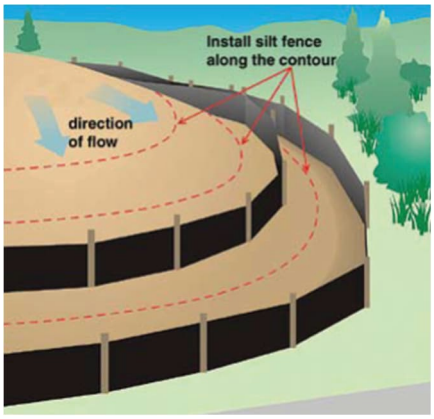


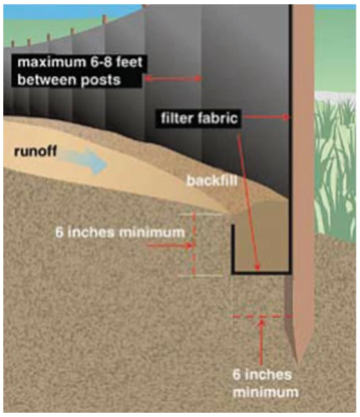
Diversion Berms



- Make sure the diversion discharges to a stable outlet or channel.
- Make sure diversion ditches and berms have been seeded.
- Is the diversion eroding? (channel grades should be relatively flat)
- Check dams may be necessary if high velocity flows are present.

Silt Fence





- Is the silt fence installed along the contour (on a level horizontal plane)?
- Are the ends turned up to help pond the water behind the filter? – J-hooks
- Is the filter trenched in with the stakes on the downhill side (6" deep by 6"wide)? • Has the sediment been removed when it reached 1/3 the height of the barrier?
- Filters should not be installed where concentrated flow is expected
  - Inadequate installation
    - Soil should be compacted after trenching
    - Stakes should be on the downhill side
  - Improper placement
    - Should not be used for steep, long slopes
    - Drainage area should be no greater than ¼ acre per 100 ft. of fence
      - Should be spaced 60-110 ft. apart on long slopes
  - Maintenance
    - Torn or degraded silt fence fabric should be replaced immediately
    - Sediment should be removed after reaching 1/3 the height of the fence

Temporary Silt Traps

- Check the location of the silt trap to make sure if it fails that it doesn't pose a risk to life or property • Silt should be removed after it reaches 1/3 the design volume
- The trap should not be installed in a mainstream or near culvert outlets
- Check the outlet for needed maintenance

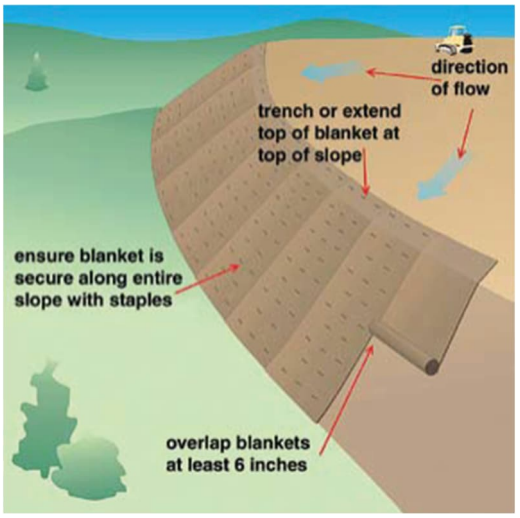
Vegetative Stabilization

- Are all exposed soil areas stabilized?
- Check for signs of erosion in vegetated areas
- Concentrated flows should not be allowed across newly seeded slopes
- If late in the year, the slope may need to be mulched versus seeded

Compare BMPs in the SWPPP with construction site conditions

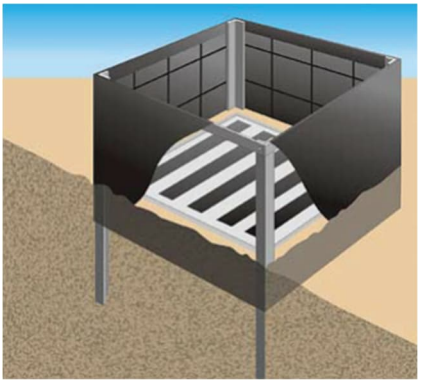
- Are additional BMPs needed? Look for areas where BMPs are needed, but are missing
- Describe potential violations and their locations.

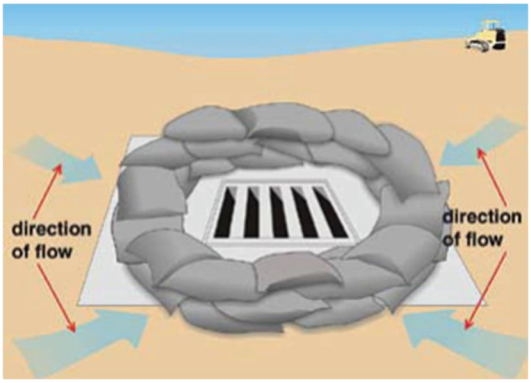
Mats, mulches, and blankets

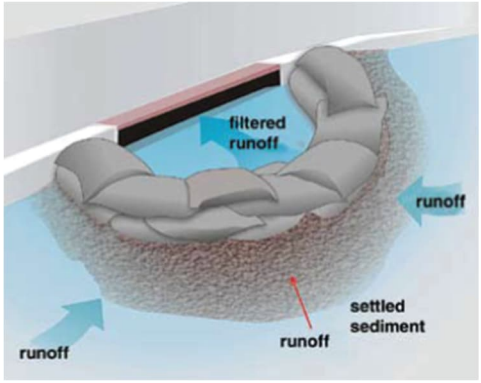


- Should come into complete contact with the soil.
- The top of the blanket should be trenched in – water shouldn't flow underneath it.
- Mulch should not be placed in concentrated flow areas.
- If erosion is occurring in mulched areas, more mulch may need to be applied.
- Check blankets and mats to see if sections are overlapped 4-6 inches and staples are 12 inches apart on tops and 24 inches apart down the sides and in the middle.

Storm drain inlet protection







- Inlet protection is a secondary BMP. Additional controls are also needed.
- Should not block the storm drain or cause flooding
- Should be in place immediately following storm drain installation, or prior to any land disturbance for existing inlets
- Sediment should be removed after each storm event
- Make sure unfiltered stormwater cannot enter the inlet
- If there's a specific safety concern, the BMP can be removed temporarily.

Inspect disturbed areas not currently being worked.

- All exposed soil areas must be stabilized no later than 14 days after the construction activity in that area has temporarily or permanently ceased.
- Temporary seed or straw, permanent seed or straw.

Inspect areas with final stabilization.

- Inspect stabilized areas to ensure that excessive erosion isn't occurring.
- If an area has uniform perennial vegetative cover (100%) with 70% density of the entire area, temporary BMPs need to be removed.

Taking Photographs

Take photos of

- Public notification sign
- All potential violations
- General views of the site
- Impacts to receiving waters.

Exit Interview

- Ask to speak to the responsible party for the ESC. If they're not on site, ask to speak to whomever is in charge.
- Let them know what findings you have (deficiencies, areas of concern, SWPPP not updated, inspections not being done, etc.).
- Leave a completed copy of the inspection checklist/report. (Keep one for City records.)
- Don't tell them what BMPs to use! You can tell them what typically works/doesn't work and refer them to the Best Management Practices (BMP) Manual for Land Disturbance Activity located on the City's stormwater website.

Summary of Enforcement Procedures

1) VERBAL NOTICE:
   If there is no immediate threat of contaminants being released into the stormwater system (streams, ditches, pipes, inlets, street gutters, etc.), then enforcement often can start with verbal communication during the inspection and exit interview.
   a. Discuss any deficiencies or areas of concern (as listed above, under Exit Interview).
   b. Education as to rules, regulations, and proper procedures may be appropriate here. Refer to the Best Management Practices (BMP) Manual for Land Disturbance Activity.

2) WRITTEN NOTICE: (City Code, Section 425.090)
   If there is immediate threat of contaminants being released into the stormwater system, or if deficiencies are not, or cannot, be immediately remedied, the City, or designated agent, will immediately issue written notice to the permittee:
   a. Include the nature and location of the alleged non-compliance.
   b. Include documentary evidence demonstrating non-compliance.
   c. Specify what remedial work is necessary to bring the project into compliance.

3) PERMITTEE'S RESPONSE TO WRITTEN NOTICE:
    a. The permittee should take the required remedial action within seventy-two (72) hours, or within a reasonable time after receipt of notice.
    b. Time may be extended if weather conditions or other factors beyond the control of the permittee prevent immediate remedial action.

4) NOTICE OF COMPLIANCE:
    Upon satisfactory completion of the remedial work the City Building Inspector will issue a Notice of Compliance and the development may proceed.

5) REVOCATION OF PERMIT & STOP WORK ORDERS: (City Code, Section 425.100)
    a. The Building Inspector may revoke the drainage permit if:
        i. The permittee has not agreed to perform the required remedial action, or
        ii. The permittee has not completed the required remedial action within the allotted time.
    b. Upon revocation of a drainage permit the City shall issue a Stop Work Order.
        i. Stop Work Order shall be directed to the permittee, and he/she shall immediately notify persons owning the land, the developer, and those persons or firms actually performing the physical work of clearing, grading, and developing the land.
        ii. The Stop Work Order shall direct the parties involved to cease and desist all or any portion of the work on the development or a portion thereof which is not in compliance, except such remedial work necessary to bring the project into compliance.
    c. If, after revocation of permit and issuance of the Stop Work Order, the permittee satisfactorily completes the remedial work, the City will issue a Notice of Compliance and the development may proceed.

6) APPEALS: (City Code, Section 425.330)
    The permittee may appeal any order, requirement, decision, or determination made by the City:
    a. Any person receiving a Notice of Violation may appeal the determination of the City.
    b. The notice of appeal must be received within ten (10) days from the date of the Notice of Violation.
    c. Hearing on the appeal before the City Council shall take place within sixty (60) days from the date of receipt of the notice of appeal.
    d. The decision of the City Council shall be final, except on appeal to the Circuit Court of Jasper County, Missouri.

APPENDIX **MCM 5**

POST-CONSTRUCTION STORMWATER MANAGEMENT

CHECKLISTS AND SUPPORTING DOCUMENTS

BMP Inspection Checklist for Long Term O&M of

Detention Basins

This form is to be used for long term BMP inspections by inspection staff. A copy of this form is to be left with the development's responsible party, on-site if feasible.

Project:	**Inspection Date:** ____/____/_____	**Plan/Permit Number:**
Inspector:		**Date Placed in Service:** __/___/_____
Location:		
Date of Last Inspection: / /	**Owner/ Representative:**	
As-built Plans Available: Y / N	**Rain in last 48 hrs.? Y / N** **If Y, Amount Rain:**	

Type of detention basin: ☐Wet ☐Dry ☐Extended Dry

	Best Management Practice (BMPs)	Needs Maintenance? Y/N	Investigated Previously? Y/N	Repaired? Y/N	Date Maintenance Must Be Completed By:	Corrective Action Needed
	General					
1	Is there trash and/or debris present?					
2	Is there evidence of contamination and/or pollutants? (ex. Oil, gasoline, paint, etc.)					
3	Is there evidence of pests? (ex. mosquitos, wasp/hornet nests, rodent holes, beaver dams)					
4	Is there insufficient, or unhealthy, cover vegetation?					
5	Is there excessive growth of vegetation? (ex. brush, nuisance trees, other woody veg., etc.)					
6	If BMP has a planting plan, does the vegetation match the plan?					
	Side Slopes of Basin					
7	Is there evidence of erosion?					
8	Is there excessive growth of vegetation? (ex. brush, nuisance trees, other woody veg., etc.)					
	Storage Area					
9	Is there an accumulation of sediment?					
10	Is the liner (if applicable) visible and have more than three 1/4 inch hole in it?					
	Embankment and Abutments					
11	Is there discernable water flow through the berm(s)?					
12	Has any part of the berm settled four (4) inches lower than the design elevation?					
13	Is there encroachment on the basin or easement by buildings or other structures?					
	Outlet					
14	Is there evidence of erosion around outlet or in receiving stream?					
15	Are there trash, debris, or other obstructions in the outlet structure, overflow, and/or channel?					
16	Is the outlet structure in good condition and operating properly?					

Additional Comments: ☐ See photos #_____

Overall conditions of Facility: ☐Acceptable ☐Unacceptable

Action Taken: ☐Verbal Warning ☐Written Warning ☐Notice of Violation

"I certify that the information submitted is, to the best of my knowledge and belief, true, and complete."

Signature: Date:

BMP Inspection Checklist for Long Term O&M of

Grass Swales

This form is to be used for long term BMP inspections by inspection staff. A copy of this form is to be left with the development's responsible party, on-site if feasible.

Project:	**Inspection Date:** ____/____/_____	**Plan/Permit Number:**
Inspector:		**Date Placed in Service:** ___/___/_____
Location:		
Date of Last Inspection: / /	**Owner/ Representative:**	
As-built Plans Available: Y / N	**Rain in last 48 hrs.? Y / N** **If Y, Amount Rain:**	

Grass swales should annually be inspected in the Spring.

	Best Management Practice (BMPs)	Needs Maintenance? Y/N	Investigated Previously? Y/N	Repaired? Y/N	Date Maintenance Must Be Completed By:	Corrective Action Needed
	General, Contributing Drainage Area, Pre-Treatment, and Filter Media/Soil					
1	Is there adequate access to the pre-treatment facility?					
2	Is there trash, debris, and/or landscaping waste present?					
3	Is there evidence of contamination and/or pollutants? (ex. Oil, gasoline, paint etc.)					
4	Is there landscaping waste present?					
5	Is there evidence of erosion?					
6	Is there evidence of mosquito proliferation?					
7	Is there evidence of clogging such as standing water, foul odors, water stains, algae or floating aquatic vegetation?					
8	Is there evidence of chemicals or undesirable fertilizers present?					
	Inlets and Outlets					
9	Are inlets/outlets obstructed? Is erosion evident around or below the inlet/outlet?					
10	Does the inlet provide stable conveyance into the swale?					
	Underdrains					
11	Is there evidence of the underlying soil media being clogged? (i.e. soil crusting, standing water and lack of dewatering between storms)					
12	Is the perforated pipe conveying water as designed? Are pipes clogged with debris or roots that have					
13	Is there evidence of slumping, cracking, or ither indicators of surface deterioration?					
	Vegetation					
16	Is grass cover dense enough or dead/dying?					
17	Are invasive species or weeds contributing to more than 10% of the facilities vegetation?					
18	Do trees form an overhead canopy that may drop materials (leaves or fruit) that may cause clogging?					
	Check Dams					
14	Is there evidence of undercutting or side cutting on either the up stream or down stream side of check dam?					
15	Is there a large accumulation of sediment or trash/debris behind the check dam?					

BMP Inspection Checklist for Long Term O&M of

Grass Swales

Additional Comments: ☐ See photos #_____

Overall conditions of Facility: ☐Acceptable ☐Unacceptable

Action Taken: ☐Verbal Warning ☐Written Warning ☐Notice of Violation

"I certify that the information submitted is, to the best of my knowledge and belief, true, and complete."

Signature: Date:

BMP Inspection Checklist for Long Term O&M of

Rooftop Disconnection

This form is to be used for long term BMP inspections by inspection staff. A copy of this form is to be left with the development's responsible party, on-site if feasible.

Project:	**Inspection Date:** ____/____/_____	**Plan/Permit Number:**
Inspector:		**Date Placed in Service:** ___/___/_____
Location:		
Date of Last Inspection: / /	**Owner/ Representative:**	
As-built Plans Available: Y / N	**Rain in last 48 hrs.? Y / N** **If Y, Amount Rain:**	

	Best Management Practice (BMPs)	Needs Maintenance? Y/N	Investigated Previously? Y/N	Repaired? Y/N	Date Maintenance Must Be Completed By:	Corrective Action Needed
	Piping, Gutters, Drains and Pre-Treatment Sumps					
1	Is fluid from another source being piped near pervious areas?					
2	Is there sediment and/or debris accumulation?					
3	Is there evidence of mosquitos proliferation?					
4	Is runoff entering the receiving pervious area?					
5	Is the downspout disconnected?					
	Manufactured Products					
6	Is the downspout broken or not functioning correctly?					
	Downstream Treatment					
7	Have the receiving treatment units been maintained?					
8	Is there ponding at the point of disconnect?					
9	Is there erosion evident at the disconnection, bioretention/rain gardens, filter paths, or foundation planter?					
10	Is the disconnection discharge being disturbed?					
11	Do the receiving pervious area(s) have original dimensions as shown on plans?					
12	Is there encroachment on the receiving pervious area(s) or easement by buildings or other structures?					
13	If planter is used, is the planter structurally sound? Is there evidence of rot or cracks?					

Additional Comments: ☐ See photos #_____

Overall conditions of Facility: ☐Acceptable ☐Unacceptable

Action Taken: ☐Verbal Warning ☐Written Warning ☐Notice of Violation

"I certify that the information submitted is, to the best of my knowledge and belief, true, and complete."

Signature: Date:

BMP Inspection Checklist for Long Term O&M of

Sheet Flow to Vegetated Filter Strip

This form is to be used for long term BMP inspections by inspection staff. A copy of this form is to be left with the development's responsible party, on-site if feasible.

Project:	**Inspection Date:** ____/____/_____	**Plan/Permit Number:**
Inspector:		**Date Placed in Service:** ___/___/_____
Location:		
Date of Last Inspection: / /	**Owner/ Representative:**	
As-built Plans Available: Y / N	**Rain in last 48 hrs.? Y / N** **If Y, Amount Rain:**	

These facilities should be inspected and cleaned annually during the non-growing season when it is easier to observe the flow path. Filter strips require routine maintenance scheduled to address typical vegetation growth and degradation. (i.e. mowing, weeding, erosion repair, pruning etc.).

	Best Management Practice (BMPs)	Needs Maintenance? Y/N	Investigated Previously? Y/N	Repaired? Y/N	Date Maintenance Must Be Completed By:	Corrective Action Needed
	General					
1	Is there trash and/or debris present?					
2	Is there evidence of contamination and/or pollutants? (ex. Oil, gasoline, paint etc.)					
3	Is there evidence of erosion?					
4	Is there evidence of mosquito proliferation?					
5	Are there complaints from local residents?					
6	Is there encroachment on the receiving pervious area(s) or easement by buildings or other					
	Vegetation					
7	Are invasive plants or weeds present?					
8	Are there indications of diseased or infested trees and/or shrubs?					
9	Are there signs of erosion or preferential flow paths present?					
10	Has drainage time significantly decreased? Soil aeration may be needed					
11	Is there vegetation damage due to foot or vehicle traffic?					

Additional Comments: ☐ See photos #_____

Overall conditions of Facility: ☐Acceptable ☐Unacceptable

Action Taken: ☐Verbal Warning ☐Written Warning ☐Notice of Violation

"I certify that the information submitted is, to the best of my knowledge and belief, true, and complete."

Signature: Date:

BMP Inspection Checklist for Long Term O&M of

Bioretention and Rain Gardens

This form is to be used for long term BMP inspections by inspection staff. A copy of this form is to be left with the development's responsible party, on-site if feasible.

Project:	**Inspection Date:** ____/____/_____	**Plan/Permit Number:**
Inspector:		**Date Placed in Service:** ___/___/_____
Location:		
Date of Last Inspection: / /	**Owner/ Representative:**	
As-built Plans Available: Y / N	**Rain in last 48 hrs.? Y / N If Y, Amount Rain:**	
Underdrain? Y / N	**Hydraulic Configuration: On-line facility / Off-line facility**	
Filtration Media:	**Type of Pre-Treatment Facility:**	

Bioretention facilities should be inspected and cleaned annually during the Spring. In the initial 6 months after installation, the site should be inspected at least twice after storm events that exceed 1/2-inch of rainfall. During the first two months following installation weekly watering is necessary. After the first two months, watering should be done as needed during the first growing season (April-October). If vegetation needs to be replaced, one-time spot fertilization may be needed. If possible, use an organic fertilizer rather than a chemical fertilizer. Each bioretention facility should have a customized routine maintenance schedule to address typical vegetation growth and degradation. (i.e. mowing, weeding, erosion repair, pruning etc.)

	Best Management Practice (BMPs)	Needs Maintenance? Y/N	Investigated Previously? Y/N	Repaired? Y/N	Date Maintenance Must Be Completed By:	Corrective Action Needed
	General					
1	Is there trash and/or debris present?					
2	Is there evidence of contamination and/or pollutants? (ex. Oil, gasoline, paint etc.)					
3	Is there evidence of erosion?					
4	Is there evidence of mosquito proliferation?					
5	Are there complaints from local residents?					
6	Is there encroachment on the receiving pervious area(s) or easement by buildings or other structures?					
	Contributing Drainage Area and Pre-Treatment					
7	Is ponding present? Is there evidence of clogging of the inlets/outlets/ bypass?					
8	Is there dead vegetation or exposed soil?					
9	Is there dead vegetation or exposed soil?					
	Inlets					
10	Is there sediment build-up near inlets that prevent flow from getting into the bed?					
11	Is there trash or debris entering inlet?					
	Vegetation					
12	Are invasive plants or weeds present?					
13	Are there indications of diseased or infested trees and/or shrubs?					
	Underdrains and Outflow					
14	Are outlet structures clogged or obstructed?					
15	Are cleanouts capped and properly connected to underdrain?					

BMP Inspection Checklist for Long Term O&M of

Bioretention and Rain Gardens

	Filter Media					
16	Are there signs of erosion, settlement (depressions in media), or compaction?					
17	Bioretention soil media can become clogged when runoff carries high quantities of sediment. Is there evidence of crusting, standing water or the facility not dewatering between storms or longer than 48 hour after a storm?					
18	Is there dead vegetation or exposed soil?					
19	Evaluate the topsoil condition. Is the pH level appropriate (6-7) and composition (loamy sand or sandy loam) appropriate?					

Additional Comments: ☐ See photos #_____

Overall conditions of Facility: ☐Acceptable ☐Unacceptable

Action Taken: ☐Verbal Warning ☐Written Warning ☐Notice of Violation

"I certify that the information submitted is, to the best of my knowledge and belief, true, and complete."

Signature: Date:

BMP Inspection Checklist for Long Term O&M of

Permeable Pavement

This form is to be used for long term BMP inspections by inspection staff. A copy of this form is to be left with the development's responsible party, on-site if feasible.

Project:	**Inspection Date:** ____/____/_____	**Plan/Permit Number:**
Inspector:		**Date Placed in Service:** ___/___/_____
Location:		
Date of Last Inspection: / /	**Owner/ Representative:**	
As-built Plans Available: Y / N	**Rain in last 48 hrs.? Y / N** **If Y, Amount Rain:**	

Permeable pavement should annually be inspected in the Spring at a minimum.

	Best Management Practice (BMPs)	Needs Maintenance? Y/N	Investigated Previously? Y/N	Repaired? Y/N	Date Maintenance Must Be Completed By:	Corrective Action Needed
	General, Contributing Drainage Area, Treatment Cells, and Flow Diversion Structures					
1	Is there trash, debris, and/or landscaping waste present?					
2	Is there evidence of contamination and/or pollutants? (ex. Oil, gasoline, paint etc.)					
3	Is there landscaping waste present?					
4	Is there evidence of erosion?					
5	Is there evidence of mosquito proliferation?					
6	Is there encroachment on the receiving pervious area(s) or easement by buildings or other structures?					
	Adjacent Vegetation					
7	Are roots of adjacent (within 5 ft) trees and shurbs penetrating and clogging the pavement?					
	Pavement Surface and Structural Integrity					
8	Is loose material (e.g., bark, soil/sand, gravel, etc.) stored on the pavement surface?					
9	Is pavement stained, clogged, and/or ponding					
10	Is there evidence of slumping, cracking, or other indicators of surface deterioration?					
	Underdrains and Outflow					
11	Are outlet structures clogged or obstructed?					
12	Is there erosion and soil exposure evident below the outlet?					
13	Is each observation well or cleanout still capped?					

Additional Comments: ☐ See photos #_____

Overall conditions of Facility: ☐Acceptable ☐Unacceptable

Action Taken: ☐Verbal Warning ☐Written Warning ☐Notice of Violation

"I certify that the information submitted is, to the best of my knowledge and belief, true, and complete."

Signature: Date:

APPENDIX **MCM 6**

POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

SUPPORTING DOCUMENTS

Stormwater Program Training Schedule

1. In-Depth Training for Pollution Prevention/Good Housekeeping (PPGH) – MCM6
    a. Frequency: ANNUAL
    b. Topics: See table in section 4.6.B.
    c. Applicable Staff :
        i. Building maintenance/custodial staff
        ii. Fleet maintenance staff;
        iii. Staff at facilities with fuel, chemicals, washing of vehicles or equipment;
        iv. Road maintenance staff;
        v. Road salt/de-icing staff; and
        vi. Parks, swimming pool, or golf course staff who encounter spills, equipment or vehicle washing, fueling, chemicals, etc.

2. General Training for Pollution Prevention/Good Housekeeping – MCM6
    a. Frequency:
        i. Existing Employees: Initial training
        ii. New Employees: Within one year of being hired
        iii. Additional training as needed.
    b. Applicable Staff: All employees not listed in number 1 above.

3. Illicit Discharge Detention and Elimination (IDDE) Training – MCM3
    a. Frequency:
        i. Existing Employees: Initial training
        ii. New Employees: Within one year of being hired
    b. Applicable staff include:
        i. IDDE inspection staff;
        ii. Building inspection staff;
        iii. Construction inspection staff;
        iv. Fleet maintenance staff;
        v. Staff at facilities with fuel, chemicals, washing of vehicles or equipment;
        vi. Road maintenance staff;
        vii. Road salt/de-icing staff; and
        viii. Parks, swimming pool, or golf course staff who encounter spills, equipment or vehicle washing, fueling, chemicals, etc.
        ix. Police

4. Training for Construction Site Runoff Control & Post-Construction Stormwater Management – MCM4 & MCM5
    a. Frequency: Once per permit cycle (Oct 2026-Sept 2031)
    b. Applicable staff include:
        i. Construction Inspection staff;
        ii. Inspection staff for Long-Term BMP inspections

Staff Training Resources

 Last updated Dec 2023 City of Oronogo, MO

Subject	Type	Source	Resource Title	Link	Est. Time	Training Category (from SW Program Training Schedule p 4.6.7 of SWMP): In-Depth PPGH Training	General PPGH Training	IDDE Inspector Training	Constr. Site SW Inpector Training	Post-Const. SW Mgmt	Specific In-Depth Topics (from Table 4.6.B): 1	2	3	4	5	6	7	8	9	10	11
In-Depth PPGH - for all City staff listed as needing In-Depth PPGH training (under number 1 of the SW Program Training Schedule (p 4.6.3 of SWMP))																					
In-Depth PPGH Playlist	YouTube Video	Wyoming Valley Sanitary Authority	Stormwater Training for Municipal Employees" (Playlist, includes the following 7 videos)	https://www.youtube.com/playlist?list=PLPSDayYOwbrdhFazirsTjuX7YMu3B1gsI	70 min total	x															
PPGH Training Introduction			Stormwater Training for Municipal Emplolyees - Part 6	https://www.youtube.com/watch?v=9dw7YLgK8d0&list=PLPSDayYOwbrdhFazirsTjuX7YMu3B1gsI&index=6	10 min		x														
Fleet Mainenance & Materials Handling			Stormwater Training for Municipal Emplolyees - Part 1	https://www.youtube.com/watch?v=TQXOK0b5MZc&list=PLPSDayYOwbrdhFazirsTjuX7YMu3B1gsI&index=1	9 min	x					x	x	x					x			
Construction Activities and Land Disturbance			Stormwater Training for Municipal Emplolyees - Part 2	https://www.youtube.com/watch?v=rnTg_Jlz98&list=PLPSDayYOwbrdhFazirsTjuX7YMu3B1gsI&index=2	9 min	x									x						
Parks and Grounds Maintenance			Stormwater Training for Municipal Emplolyees - Part 3	https://www.youtube.com/watch?v=dVGrLaPxZ7Y&list=PLPSDayYOwbrdhFazirsTjuX7YMu3B1gsI&index=3	9.5 min	x			x			x		x	x	x			x		x
Solid Waste Management (Floatables, Trash Collection, Transfer Stations, Mulching Operations, Landfill and Composting Operations)			Stormwater Training for Municipal Emplolyees - Part 4	https://www.youtube.com/watch?v=rNhhI9RcFxQ&list=PLPSDayYOwbrdhFazirsTjuX7YMu3B1gsI&index=4	9.5 min	x					x	x	x						x		x
Streets and Drainage Maintenance			Stormwater Training for Municipal Emplolyees - Part 5	https://www.youtube.com/watch?v=kWqgQb6pVr8&list=PLPSDayYOwbrdhFazirsTjuX7YMu3B1gsI&index=5	9.5 min	x					x	x	x		x	x					x
General IDDE			Illicit Discharge Detection and Elimination (IDDE) Training	https://www.youtube.com/watch?v=5bUIeWbL1XI	7 min	x		x													x
General PPGH - for all City staff not listed as needing In-Depth PPGH training under number 1 of the SW Program Training Schedule (p 4.6.3 of SWMP)																					
PPGH Training Introduction	YouTube Video	Wyoming Valley Sanitary Authority	Stormwater Training for Municipal Emplolyees - Part 6	https://www.youtube.com/watch?v=9dw7YLgK8d0&list=PLPSDayYOwbrdhFazirsTjuX7YMu3B1gsI&index=6	10 min		x														
Illicit Discharge Inspection Staff - MANDATORY ADDITIONAL TRAINING - Subject-specific resources, to be used in addition to In-Depth PPGH videos above.																					
General IDDE	YouTube Video	Wyoming Valley Sanitary Authority	Illicit Discharge Detection and Elimination (IDDE) Training	https://www.youtube.com/watch?v=5bUIeWbL1XI	7 min			x													x
IDDE Field Guide	Document	Oronogo	Illicit Discharge Field Guide	Physical copies on file at City Hall	n/a			x													x

Staff Training Resources

 Last updated Dec 2023 City of Oronogo, MO

Subject	Type	Source	Resource Title	Link	Time	Training Category (from SW Program Training Schedule p 4.6.7 of SWMP): In-Depth PPGH Training	General PPGH Training	IDDE Inspector Training	Constr. Site SW Inpector Training	Post-Const. SW Mgmt	Specific In-Depth Topics (from Table 4.6.B): 1	2	3	4	5	6	7	8	9	10	11
Construction Site Inspection Staff - MANDATORY ADDITIONAL TRAINING - Subject-specific resources, to be used in addition to In-Depth PPGH videos above.																					
Online Construction Inspection Course	Videos and Exam	Environmental Protection Agency	EPA's Construction Inspection Course (5 Modules, plus Final Exam, with certification available upon completion)	https://www.epa.gov/npdes/construction-inspection-training-course	6.5 hours				x												
SOP for Construction Site Inspection	Document	Oronogo	Standard Operating Procedure for Construction Inspection and Enforcement	Located in Appendix MCM4 of City's Stormwater Management Plan, located at City Hall. To be distributed to construction inspection staff.	n/a				x												
Land Disturbance BMP Types, Installation, and Maintenance	Document	Neosho, MO (originally from Springfield, MO)	BMP Manual for Land Disturbance Activity	https://neoshomo.gov/DocumentCenter/View/186/Best-Management-Practices-PDF	n/a				x												
Construction Site Inspection - Quick Overview	Youtube Video	Tippecanoe County Partnership for Water Quality	Stormwater Quality: Inspection	https://www.youtube.com/watch?v=HOgtUyWUzRE	8 min				x												
Parks Staff - Subject-specific resources, to be used in addition to In-Depth PPGH videos above.																					
Fueling Operations - Vehicles and Portable Gas Cans	Youtube Video	Tippecanoe County Partnership for Water Quality	Proper Refueling - Keeping our Waterways Clean	https://www.youtube.com/watch?v=IGpuWxNVCLM	6 min	x												x			
Parks and Grounds Maintenance	YouTube Video	MN Stormwater	Parks Maintenance and Stormwater Protection Employee Training	https://www.youtube.com/watch?v=6eD29UBINqE	12 min	x								x	x						x
Roads & Maintenance Staff - Subject-specific resources, to be used in addition to In-Depth PPGH videos above.																					
Maintenance & Storage Facilities	Youtube Video	countysandiego	Stormwater Strategies: Housekeeping	https://www.youtube.com/watch?v=UxOam2GEVgQ	14 min	x	x				x	x	x					x			
Fueling Operations - Vehicles and Portable Gas Cans	Youtube Video	Tippecanoe County Partnership for Water Quality	Proper Refueling - Keeping our Waterways Clean	https://www.youtube.com/watch?v=IGpuWxNVCLM	6 min	x												x			
Post-Construction BMP Inspection Staff (Long-Term O&M Inspections) - Subject-specific resources, to be used in addition to In-Depth PPGH videos above.																					
Bioretention Maintenance	Youtube Video	CenterforWatershed	Stormwater BMP & LID Maintenance	https://www.youtube.com/watch?v=coFbdMB-q0U	15 min					x											
Rain Garden Maintenance	Youtube Video	MN Stormwater	Rain Garden Maintenance Employee Training	https://www.youtube.com/watch?v=SM9sI9wQgz0	8.5 min					x						x					
PPGH Inspections of City Facilities - Subject-specific resources, to be used in addition to In-Depth PPGH videos above.																					
PPFH Facility Inspections	YouTube Video	West Valley Clean Water Authority	Module 3 - Performing Stormwater Inspections: Facility Inspection	https://www.youtube.com/watch?v=2klhSLPxe0o	13 min	x								x	x						x

Staff Training Resources

 Last updated Dec 2023 City of Oronogo, MO

Subject	Type	Source	Resource Title	Link	Time	Training Category (from SW Program Training Schedule p 4.6.7 of SWMP): In-Depth PPGH Training	General PPGH Training	IDDE Inspector Training	Constr. Site SW Inpector Training	Post-Const. SW Mgmt	Specific In-Depth Topics (from Table 4.6.B): 1	2	3	4	5	6	7	8	9	10	11
Extra Resources - Use as needed, in addition to In-Depth PPGH videos above.																					
General IDDE	Youtube Video	Washington Conservation District	Illicit Discharge Detection and Elimination (IDDE) - *For General Staff Education*	https://www.youtube.com/watch?v=5bUIeWbL1XI	3.5 min	x		x													x
Salt & De-icing Operations	Youtube Video	IowaDOT	Anti-Icing and Deicing - Winter Operations Training Series 12 of 15	https://www.youtube.com/watch?v=HZI_ZbWybIU	7.5 min	x											x				
Salt & De-icing Operations	Document	APWA	Brine Fact Sheet	https://sicop.transportation.org/wp-content/uploads/sites/36/2017/07/5.6-APWA-03-Salt-Brine-Fact-Sheet.pdf#:~:text=BRINE%20APWA%20Winter%20Maintenance%20Sub-Committee%20FACT%20SHEET%20Anti-icing,bond%20after%20snow%20has%20frozen%20to%20the%20road.	10 min	x											x				
Salt & De-icing Operations	Various	Minnesota	Smart Salt Training	https://www.pca.state.mn.us/business-with-us/smart-salting-training	n/a	x											x				
Additional Resources - Add as needed																					

PPGH = Pollution Prevention/Good Housekeeping for municipal operations
IDDE = Illicit Discharge Detection and Elimination
SW = Stormwater
Const. = Construction

In-Depth Topics from SWMP Table 4.6.B

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
11 = Illicit Discharges