



Stormwater Pollution Prevention Plan 2023



City of Richfield
6700 Portland Avenue
Richfield, MN 55423

CITY OF RICHFIELD STORMWATER POLLUTION PREVENTION PLAN

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1. MS4 PERMIT

Instructions: Submitting this application confirms your intent to receive authorization to discharge stormwater under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) MS4 General Permit (MNR040000). This application is due within 150 days from the issuance date of the MS4 General Permit (MNR040000). Throughout this application there are text fields with a typical maximum limit of four lines. If you need to provide information in a text field that exceeds the maximum limit, please submit an attachment(s) with supplemental information that is labeled with the corresponding field number (e.g., 9.J.).

Submittal: This application form and any associated documents (i.e., total maximum daily load (TMDL) application, any supplemental information) must be submitted electronically. To submit this form electronically, open the form using Internet Explorer Web browser or Adobe Acrobat Reader in order for the submit button to work properly. (If you do not have Acrobat Reader, you can download a free version at <https://get.adobe.com/reader/>.) Send the form to the Minnesota Pollution Control Agency (MPCA) by clicking the submit button at the end of the form (a "send email" window should open with the form attached), you can click on "Send" and then close the form. If you do not see a "send email", save the form to your computer and attach the form to an email message, using "MS4 Part 2 Permit Application" as the subject line to ms4permitprogram.pca@state.mn.us.

Review/Public Notice process: The MPCA will review the application for completeness. Incomplete applications will be returned. If the MPCA determines the application is complete, the MPCA will make a preliminary determination to issue permit coverage and place the application on public notice for 30 days. Once the applicant addresses any applicable comments or hearing requests, the MPCA will make a final determination to issue permit coverage to the applicant.

Please note, this application is intended to provide information about an applicant's existing SWPPP. An applicant that receives permit coverage is responsible for complying with all new applicable requirements set forth in the MS4 General Permit (MNR040000) by deadlines specified in Appendix B of the reissued permit.

Questions: If you have any questions, need additional information, contact MPCA staff. To find the staff assigned to your MS4, refer to the https://stormwater.pca.state.mn.us/index.php?title=MS4_staff_contact_information_and_staff_assignments; or see the staff contact information on the MPCA's MS4 webpage at <https://www.pca.state.mn.us/water/municipal-stormwater-ms4>.

Note: All questions with an asterisk(*) are **required** fields, and the form will not submit without the fields completed.

General contact information

1. MS4 Owner (with ownership or operational responsibility, or control of the MS4)

*MS4 permittee name: 1.A. City of Richfield *County: 1.B. Hennepin
(City, county, municipality, government agency or other entity)

*Mailing address: 1.C. 1901 E. 66th Street

*City: 1.D. Richfield *State: 1.E. MN *Zip code: 1.F. 55423

2. MS4 General contact (with SWPPP implementation responsibility)

*Last name: 2.A. Petersen *First name: 2.B. Mike
(Department head, MS4 coordinator, consultant, etc.)

*Title: 2.C. Assistant Utilities Superintendent

*Mailing address: 2.D. 6221 Portland Ave S

*City: 2.E. Richfield *State: 2.F. MN *Zip code: 2.G. 55423

*Phone (including area code): 2.H. (612) 861-9798 *Email: 2.I. mpetersen@richfieldmn.gov

3. Preparer information (complete if SWPPP application is prepared by a party other than MS4 General contact)

Last name: 3.A. First name: 3.B.
(Department head, MS4 coordinator, consultant, etc.)

Title: 3.C. Organization: 3.D.

Mailing address: 3.E.

City: 3.F. State: 3.G. Zip code: 3.H.

Phone (including area code): 3.I. Email: 3.J.

4. **Certification** (All fields are required)

☒ *Yes - I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted.

I certify that based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of civil and criminal penalties.

I have read, understood, and accepted all terms and conditions of the NPDES/SDS MS4 General Permit.

This certification is required by Minn. Stat. §§ 7001.0070 and 7001.0540. The authorized person with overall, MS4 legal responsibility must certify the application (principal executive officer or a ranking elected official).

By typing/signing my name below, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing my application.

*Signature: 4.A. Michael Petersen

(This document has been electronically signed)

*Title: 4.B. Assistant Utilities Superintendent

*Date: 4.C. 05/14/2021

*Mailing address: 4.D. 6221 Portland Ave S

*City: 4.E. Richfield

*State: 4.F. MN

*Zip code: 4.G. 55423

*Phone (including area code): 4.H. (612) 861-9798

*Email: 4.I. mpetersen@richfieldmn.gov

Note: The application will not be processed without certification.

*5. **Which type of MS4 do you represent?** (Check one)

- 5.A. ☒ City
- 5.B. ☐ County
- 5.C. ☐ Corrections
- 5.D. ☐ Education
- 5.E. ☐ Healthcare
- 5.F. ☐ Township
- 5.G. ☐ Transportation (i.e., Minnesota Department of Transportation [MnDOT])
- 5.H. ☐ Watershed District

*6. **Permit item 12.3:** Do you have any partnerships with another regulated small MS4(s) to satisfy one or more requirements of the General Permit?

- ☒ Yes
- ☐ No (skip to Q8)

7. **If yes in Q6, provide a description of the partnership(s):** (Maximum 10 lines of text)

Nine Mile Creek Watershed District: Coordinates educational efforts to provide focused outreach to stakeholders including residents, local businesses and developers.

Minnesota Department of Transportation: Agreement #89989 (September 25, 2006) for the City to maintain a stormwater pond (west of TH 77, north of 63rd St., west of Cedar Ave.) on MnDOT Right-of-way.

MCM 1: Public education and outreach

- *8. **Permit item 16.3:** Do you distribute educational materials or equivalent outreach focused on at least two (2) specifically selected stormwater-related issues of high priority? (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)

☒ Yes

☐ No (skip to Q11)

9. **If yes in Q8, what are your high-priority topics?** (Check all that apply)

9.A. ☒ Specific TMDL reduction targets

9.B. ☐ Changing local business practices

9.C. ☐ Promoting adoption of residential best management practices (BMPs)

9.D. ☐ Lake improvements through lake associations

9.E. ☐ Household chemicals

9.F. ☒ Yard waste

9.G. ☐ Construction activities

9.H. ☐ Post-construction activities

9.I. ☒ Other (describe below):

9.J. Chlorides

Additional information for checked items (optional):

9.K.

10. **If yes in Q8, how do you educate the public about stormwater-related issues?** (Check all that apply)

10.A. ☐ Brochure

10.B. ☐ Newsletter

10.C. ☒ Utility bill insert

10.D. ☐ Newspaper ad

10.E. ☐ Radio ad

10.F. ☐ Television ad

10.G. ☐ Cable access channel

10.H. ☒ Website

10.I. ☒ Stormwater-related event

10.J. ☒ Other (describe below):

10.K. Social media, Annual CCR water report

Additional information for checked items (optional):

10.L.

- *11. **Permit item 16.4:** At least once each calendar year, do you distribute educational outreach focused on illicit discharge recognition and reporting illicit discharges? (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)

☒ Yes

☐ No (skip to Q13)

12. **If yes in Q11, how do you educate the public about illicit discharge recognition and reporting?** (Check all that apply)

12.A. ☐ Brochure

12.B. ☐ Newsletter

12.C. ☒ Utility bill insert

- 12.D. ☐ Newspaper ad
- 12.E. ☐ Radio ad
- 12.F. ☐ Television ad
- 12.G. ☐ Cable access channel
- 12.H. ☒ Website
- 12.I. ☒ Stormwater-related event
- 12.J. ☒ Other (describe below):
 - 12.K. Social media

Additional information for checked items (optional):

12.L.

If you represent a city or township, please answer questions 13-16; if you do not represent a city or township, skip to question 17.

13. **Permit item 16.5:** At least once each calendar year, do you distribute educational materials or equivalent outreach to residents, businesses, commercial facilities, and institutions, focused on deicing salt use? (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)
- ☐ Yes
 - ☒ No (skip to Q15)

14. **If yes in Q13, what does your education or outreach cover?** (Check all that apply)

- 14.A. ☐ The impacts of salt use on receiving waters
- 14.B. ☐ Methods to reduce salt use
- 14.C. ☐ Proper storage of salt or other deicing materials
- 14.D. ☐ Other (describe below):
 - 14.E.

Additional information for checked items (optional):

14.F.

15. **Permit item 16.6:** At least once each calendar year, do you distribute educational materials or equivalent outreach focused on pet waste? (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)
- ☐ Yes
 - ☒ No (skip to Q17)

16. **If yes in Q15, what do your educational materials or equivalent outreach on pet waste include?** (Check all that apply)

- 16.A. ☐ Impacts of pet waste on receiving waters
- 16.B. ☐ Proper management of pet waste
- 16.C. ☐ Any existing regulatory mechanism(s) for pet waste
- 16.D. ☐ Other (describe below):
 - 16.E.

Additional information for checked items (optional):

16.F.

*17. **Permit item 16.7:** Do you have an education and outreach plan?

☒ Yes

☐ No (skip to Q19)

18. **If yes in Q17, which components does your education and outreach plan include?** (Check all that apply)

18.A. ☒ Target audience(s) (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**) If checked, specify your target audiences:

18.A.1. ☒ Residents

18.A.2. ☒ Businesses

18.A.3. ☐ Commercial facilities

18.A.4. ☐ Institutions

18.A.5. ☐ Local organizations

18.A.6. ☐ Low income residents

18.A.7. ☐ People of color

18.A.8. ☐ Non-native English speaking residents

18.A.9. ☒ Other (describe below):

18.A.10. City employees, Richfield schools students

18.B. ☒ Name or position title of responsible person(s) for overall plan implementation.

18.B.1. If checked, specify the name(s) or position title(s):

Water Resources Engineer

18.C. ☒ Specific activities and schedules to reach each target audience.

18.C.1. If checked, provide any additional information (optional):

We have an educational calendar laying out when to distribute materials for certain topics.

18.D. ☒ A description of any coordination with and/or use of stormwater education and outreach programs implemented by other entities, if applicable.

18.D.1. If checked, provide any additional information (optional):

*19. **Permit item 16.8:** Do you document information relating to MCM 1?

☒ Yes

☐ No (skip to Q21)

20. **If yes in Q19, what do you document?** (Check all that apply)

20.A. ☐ A description of all specific stormwater-related issues you identified in item 16.3

20.B. ☐ All information required under your education and outreach plan in item 16.7

20.C. ☒ Activities held, including dates, to reach each target audience

20.D. ☒ Quantities and descriptions of educational materials distributed, including dates distributed

20.E. ☒ Estimated audience (e.g., number of participants, viewers, readers, listeners, etc.) for each completed education and outreach activity (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)

- *21. **Permit item 12.4:** Who is responsible for implementation of this MCM? List name(s) or position title(s):
Water Resources Engineer
22. **Provide any additional information about your current education and outreach program that you would like to share (optional): (Maximum 10 lines of text)**

MCM 2: Public participation/involvement

- *23. **Permit item 17.3:** Do you provide a minimum of one (1) annual opportunity for the public to provide input on the adequacy of the SWPPP?
☒ Yes
☐ No (skip to Q25)
24. **If yes in Q23, describe the opportunity(ies):**
We hold an event at the Farmers Market or Penn Fest. There is opportunity for the public to provide comment on the SWPPP and relay any water quality concerns.
- *25. **Permit item 17.4:** Do you provide access to the SWPPP Document, annual reports, and other documentation that supports or describes the SWPPP (e.g., regulatory mechanism(s), etc.) for public review, upon request?
☒ Yes
☐ No (skip to Q27)
26. **If yes in Q25, how can the public access this information? (Check all that apply)**
26.A. ☒ Hardcopy upon request
26.B. ☒ Our website
26.C. ☒ Available at public event
26.D. ☐ Other (describe below):
26.E.
- *27. **Permit item 17.5:** Do you consider oral and written input regarding the SWPPP submitted by the public?
☒ Yes
☐ No
- *28. **Permit item 17.6:** Each calendar year, do you provide a minimum of one (1) public involvement activity that includes a pollution prevention or water quality theme? (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)
☒ Yes
☐ No (skip to Q30)
29. **If yes in Q28, what are the themes of your public involvement activity/activities? (Check all that apply)**
29.A. ☒ Rain barrel distribution event
29.B. ☐ Rain garden workshop
29.C. ☐ Cleanup event
29.D. ☐ Storm drain stenciling

- 29.E. ☐ Volunteer water quality monitoring
29.F. ☒ Adopt a storm drain program
29.G. ☐ Household hazardous waste collection day
29.H. ☐ Other (describe below):
29.I.

Additional information for checked items (optional):
29.J.

***30. Permit item 17.7:** Do you document information relating to MCM 2?

- ☒ Yes
☐ No (skip to Q32)

31. If yes in Q30, what do you document? (Check all that apply)

- 31.A. ☒ All relevant written input submitted by persons regarding the SWPPP
31.B. ☒ All of your responses to written input received regarding the SWPPP, including any modifications made to the SWPPP as a result of the written input received
31.C. ☒ Date(s), location(s), and estimated number of participants at events held for purposes of compliance with permit item 17.3
31.D. ☒ Notices provided to the public of any events scheduled to meet permit item 17.3, including any electronic correspondence (e.g., website, email distribution lists, notices, etc.)
31.E. ☒ Date(s), location(s), description of activities, and estimated number of participants at events held for the purpose of compliance with permit item 17.6 (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)

***32. Permit item 12.4:** Who is responsible for implementation of this MCM? List name(s) or position title(s):

Water Resources Engineer

33. Provide any additional information about your current public participation/involvement program that you would like to share (optional): (Maximum 10 lines of text)

MCM 3: Illicit Discharge Detection and Elimination (IDDE)

***34. Permit item 18.3:** Do you maintain a storm sewer system map?

- ☒ Yes
☐ No (skip to Q36)

35. If yes in Q34, which of the following does your storm sewer map include? (Check all that apply)

- 35.A. ☒ All pipes 12 inches or greater in diameter, including stormwater flow direction in those pipes
35.B. ☒ Outfalls, including a unique identification (ID) number, and an associated geographic coordinate
35.C. ☒ Structural stormwater BMPs that are part of your small MS4
35.D. ☒ All receiving waters

*36. **Permit item 18.4:** Do you have a regulatory mechanism(s) that prohibits non-stormwater discharges into your MS4?

☒ Yes

☐ No (skip to Q39)

37. **If yes in Q36, what does your regulatory mechanism(s) consist of?** (Check all that apply)

37.A. ☐ Contract language

37.B. ☒ Ordinance

37.C. ☐ Permits

37.D. ☐ Standards

37.E. ☐ Written policies

37.F. ☐ Operational plans

37.G. ☐ Legal agreements

37.H. ☐ Other mechanism(s) (describe below):

37.I.

38. **If yes in Q36, provide a website address to the regulatory mechanism(s).** If the regulatory mechanism is not available online, briefly describe how a copy of the regulatory mechanism can be obtained:

https://library.municode.com/mn/richfield/codes/code_of_ordinances?nodeId=CHVIIPUUT_S721CODISTSY

If you represent a **city, township, or county** please answer question 39. **If you do not represent a city, township, or county skip to question 42.**

39. **Permit item 18.5:** Do you have a regulatory mechanism(s) that requires owners or custodians of pets to remove and properly dispose of feces from permittee owned land areas? (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)

☐ Yes

☒ No

If you represent a **city or township**, please answer questions 40-41. **If you do not represent a city or township, skip to question 42.**

40. **Permit item 18.6:** Do you have a regulatory mechanism(s) that requires proper salt storage at commercial, institutional, and non-NPDES permitted industrial facilities? (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)

☐ Yes

☒ No (Skip to Q42)

41. **If yes in Q40, what does your regulatory mechanism(s) require?** (Check all that apply)

41.A. ☐ Designated salt storage areas must be covered or indoors

41.B. ☐ Designated salt storage areas must be located on an impervious surface

41.C. ☐ Implementation of practices to reduce exposure when transferring material in designated salt storage areas (e.g., sweeping, diversions, and containment)

41.D. ☐ Other (describe below):

41.E.

*42. **Permit item 18.7:** Do you incorporate illicit discharge detection into all inspection and maintenance activities conducted in permit items 21.9, 21.10, and 21.11?

☒ Yes

☐ No (Skip to Q44)

43. **If yes in Q42:** where feasible, do you conduct illicit discharge inspections during dry-weather conditions (e.g., periods of 72 or more hours of no precipitation)?

☒ Yes

☐ No

- *44. **Permit item 18.8:** At least once each calendar year, do you train all field staff in illicit discharge recognition (including conditions which could cause illicit discharges), and reporting illicit discharges for further investigation?
(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)
☒ Yes
☐ No (Skip to Q47)
45. **If yes in Q44, which field staff do you train?** (Check all that apply)
 45.A. ☐ Police
 45.B. ☐ Fire department
 45.C. ☒ Public works
 45.D. ☐ Parks staff
 45.E. ☐ Other (describe below):
 45.F.
46. **If yes in Q44, how do you train staff?** (Check all that apply)
 46.A. ☐ Videos
 46.B. ☒ In-person presentations
 46.C. ☐ Webinars
 46.D. ☐ Training documents
 46.E. ☐ Emails
 46.F. ☐ Other (describe below):
 46.G.
- *47. **Permit item 18.9:** Do you ensure that individuals receive training commensurate with their responsibilities as they relate to your IDDE program? Individuals includes, but is not limited to, individuals responsible for investigating, locating, eliminating illicit discharges, and/or enforcement. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
☒ Yes
☐ No (Skip to Q50)
48. **If yes in Q47, how are these individuals trained?** (Check all that apply)
 48.A. ☐ Videos
 48.B. ☒ In-person presentations
 48.C. ☒ Webinars
 48.D. ☒ Training documents
 48.E. ☐ Emails
 48.F. ☐ Other (describe below):
 48.G.
49. **If yes in Q47, do previously trained individuals attend a refresher-training every three (3) calendar years following the initial training?**
☒ Yes
☐ No
- *50. **Permit item 18.10:** Do you maintain a written or mapped inventory of priority areas you identify as having a higher likelihood for illicit discharges? **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
☐ Yes
☒ No

- *51. **Permit item 18.11:** To the extent allowable under state or local law, do you conduct additional illicit discharge inspections in priority areas?
- ☐ Yes
- ☒ No (Skip to Q53)
52. **If yes in Q51,** how often do you conduct illicit discharge inspections in priority areas:
- *53. **Permit item 18.12:** Do you have written procedures for investigating, locating, and eliminating the source of illicit discharges? *(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)*
- ☒ Yes
- ☐ No (Skip to Q55)
54. **If yes in Q53, what do your procedures include? Check all that apply:** *(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)*
- 54.A. ☐ A timeframe in which you will investigate a reported illicit discharge
- 54.A.1. If checked, describe:
- 54.B. ☒ Use of visual inspections to detect and track the source of an illicit discharge
- 54.C. ☒ Tools to investigate and locate an illicit discharge
- If checked, what tools do you use? (Check all that apply)
- 54.C.1. ☒ Mobile cameras
- 54.C.2. ☒ Collecting and analyzing water samples
- 54.C.3. ☒ Smoke testing
- 54.C.4. ☒ Dye testing
- 54.C.5. ☐ Other (describe below):
- 54.C.6
- 54.D. ☐ Cleanup methods to remove an illicit discharge or spill:
- 54.D.1. If checked, describe:
- 54.E. ☐ Name or position title of responsible person(s) for investigating, locating, and eliminating an illicit discharge
- 54.E.1. If checked, specify the name(s) or position title(s):
- *55. **Permit item 18.13:** Do you have written procedures for responding to spills, including emergency response procedures to prevent spills from entering the MS4?
- ☒ Yes
- ☐ No (Skip to Q57)
56. **If yes in Q55, do your written procedures include the immediate notification of the Minnesota Department of Public Safety Duty Officer at 1-800-422-0798 (toll free) or 651-649-5451 (Metro area), if the source of the illicit discharge is a spill or leak as defined in Minn. Stat. § 115.061?**
- ☒ Yes
- ☐ No

- *57. **Permit item 18.14:** Do you maintain written enforcement response procedures (ERPs) to compel compliance with your regulatory mechanism(s) in Section 18? *(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)*
- ☒ Yes
☐ No (Skip to Q60)
58. **If yes in Q57, which of the following enforcement tools are available to you?** (Check all that apply)
- 58.A. ☒ Verbal warning
58.B. ☒ Notice of violation
58.C. ☐ Fine
58.D. ☐ Criminal action
58.E. ☒ Civil penalty
58.F. ☐ Other (describe below):
58.G.
59. **If yes in Q57, do your ERPs include the following?** (Check all that apply)
- 59.A. ☒ Timeframes to complete corrective actions
59.B. ☐ Name or position title of responsible person(s) for conducting enforcement
- *60. **Permit item 18.15:** Do you document information relating to MCM 3?
- ☒ Yes
☐ No (Skip to Q62)
61. **If yes in Q60, what do you document?** (Check all that apply)
- 61.A. ☒ Date(s) and location(s) of IDDE inspections conducted in accordance with permit items 18.7 and 18.11
61.B. ☒ Reports of alleged illicit discharges received, including date(s) of the report(s), and any follow-up action(s) you take
61.C. ☒ Date(s) of discovery of all illicit discharges
61.D. ☒ Identification of outfalls, or other areas, where illicit discharges have been discovered
61.E. ☒ Sources (including a description and the responsible party) of illicit discharges (if known)
61.F. ☒ Action(s) you take, including date(s), to address discovered illicit discharges
- *62. **Permit item 18.16:** Do you document training relating to permit item 18.8 and 18.9?
- ☒ Yes
☐ No (Skip to Q64)
63. **If yes in Q62, what training information do you document?** (Check all that apply)
- 63.A. ☒ General subject matter covered
63.B. ☐ Names and departments of individuals in attendance
(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)
63.C. ☒ Date of each event
- *64. **Permit item 18.17:** Do you document enforcement conducted pursuant to the ERPs in item 18.14, including verbal warnings?
- ☒ Yes
☐ No (Skip to Q66)
65. **If yes in Q64, what do you document relating to ERPs for MCM 3?** (Check all that apply)
- 65.A. ☒ Name of the person responsible for violating the terms and conditions of your regulatory mechanism(s)
65.B. ☒ Date(s) and location(s) of the observed violation(s)
65.C. ☒ Description of the violation(s)
65.D. ☒ Corrective action(s) (including completion schedule) that you issued
65.E. ☐ Referrals to other regulatory organizations (if any)
65.F. ☒ Date(s) violation(s) resolved
- *66. **Permit item 12.4:** Who is responsible for implementation of this MCM? List name(s) or position title(s):
Water Resources Engineer

67. **Provide any additional information about your current illicit discharge detection and elimination program that you would like to share (optional): (Maximum 10 lines of text)**

MCM 4: Construction site stormwater runoff control

- *68. **Permit item 19.3:** Do you have a regulatory mechanism(s) that establishes requirements for erosion, sediment, and waste controls?
- ☒ Yes
- ☐ No (skip to Q73)
69. **If yes in Q68, what does your regulatory mechanism(s) consist of?** (Check all that apply)
- 69.A. ☐ Contract language
- 69.B. ☒ Ordinance
- 69.C. ☐ Permits
- 69.D. ☐ Standards
- 69.E. ☐ Written policies
- 69.F. ☐ Operational plans
- 69.G. ☐ Legal agreements
- 69.H. ☐ Other mechanism(s) (describe below):
- 69.I.
70. **If yes in Q68, provide a website address to the regulatory mechanism(s). If the regulatory mechanism is not available online, briefly describe how a copy of the regulatory mechanism can be obtained:**
- https://library.municode.com/mn/richfield/codes/code_of_ordinances?nodeId=CHIVBUHOCORE_S428ERSECORE
71. **If yes in Q68, is your regulatory mechanism(s) at least as stringent as the MPCA's most current Construction Stormwater General Permit (MNR100001) for erosion, sediment, and waste controls by incorporating the Construction Stormwater General Permit by reference, or by incorporating all items in Q72?**
- ☒ Yes (skip to Q73)
- ☐ No
72. **If no in Q71, which of the following requirements are incorporated into your regulatory mechanism(s)?** (Check all that apply)
- 72.A. Erosion prevention practices:**
- 72.A.1. ☐ Before work begins, owner(s)/operator(s) must delineate the location of areas not to be disturbed.
- 72.A.2. ☐ Owner(s)/operator(s) must minimize the need for disturbance of portions of the project with steep slopes. When steep slopes must be disturbed, owner(s)/operator(s) must use techniques such as phasing and stabilization practices designed for steep slopes (e.g., slope draining and terracing).
- 72.A.3. ☐ Owner(s)/operator(s) must stabilize all exposed soil areas, including stockpiles. Stabilization must be initiated immediately to limit soil erosion when construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed no later than 14 calendar days after the construction activity has ceased. Stabilization is not required on constructed base components of roads, parking lots and similar surfaces. Stabilization is not required on temporary stockpiles without significant silt, clay or organic components (e.g., clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles) but owner(s)/operator(s) must provide sediment controls at the base of the stockpile.

- 72.A.4. ☐ For Public Waters that the Minnesota Department of Natural Resources (DNR) has promulgated “work in water restrictions” during specified fish spawning time frames, owner(s)/operator(s) must complete stabilization of all exposed soil areas within 200 feet of the water’s edge, and that drain to these waters, within 24 hours during the restriction period.
- 72.A.5. ☐ Owner(s)/operator(s) must stabilize the normal wetted perimeter of the last 200 linear feet of temporary or permanent drainage ditches or swales that drain water from the site within 24 hours after connecting to a surface water or property edge. Owner(s)/operator(s) must complete stabilization of the remaining portions of temporary or permanent ditches or swales within 14 calendar days after connecting to a surface water or property edge and construction in that portion of the ditch temporarily or permanently ceases.
- 72.A.6. ☐ Temporary or permanent ditches or swales that are being used as a sediment containment system during construction (with properly designed rock-ditch checks, bio rolls, silt dikes, etc.) do not need to be stabilized. Owner(s)/operator(s) must stabilize these areas within 24 hours after their use as a sediment containment system ceases.
- 72.A.7. ☐ Owner(s)/operator(s) must not use mulch, hydromulch, tackifier, polyacrylamide or similar erosion prevention practices within any portion of the normal wetted perimeter of a temporary or permanent drainage ditch or swale section with a continuous slope of greater than two percent.
- 72.A.8. ☐ Owner(s)/operator(s) must provide temporary or permanent energy dissipation at all pipe outlets within 24 hours after connection to a surface water or permanent stormwater treatment system.
- 72.A.9. ☐ Owner(s)/operator(s) must not disturb more land (i.e., phasing) than can be effectively inspected and maintained.

72.B. Sediment control practices:

- 72.B.1. ☐ Owner(s)/operator(s) must establish sediment control BMPs on all down gradient perimeters of the site and downgradient areas of the site that drain to any surface water, including curb and gutter systems. Owner(s)/operator(s) must locate sediment control practices upgradient of any buffer zones. Owner(s)/operator(s) must install sediment control practices before any upgradient land-disturbing activities begin and must keep the sediment control practices in place until they establish permanent cover.
- 72.B.2. ☐ If the downgradient sediment controls are overloaded, based on frequent failure or excessive maintenance requirements, owner(s)/operator(s) must install additional upgradient sediment control practices or redundant BMPs to eliminate the overloading and amend the site plans to identify these additional practices.
- 72.B.3. ☐ Temporary or permanent drainage ditches and sediment basins designed as part of a sediment containment system (e.g., ditches with rock-check dams) require sediment control practices only as appropriate for site conditions.
- 72.B.4. ☐ A floating silt curtain placed in the water is not a sediment control BMP to satisfy perimeter control requirements in this part except when working on a shoreline or below the waterline. Immediately after the short term construction activity (e.g. installation of rip rap along the shoreline) in that area is complete, owner(s)/operator(s) must install an upland perimeter control practice if exposed soils still drain to a surface water.
- 72.B.5. ☐ Owner(s)/operator(s) must re-install all sediment control practices adjusted or removed to accommodate short-term activities such as clearing or grubbing, or passage of vehicles, immediately after the short-term activity is completed. Owner(s)/operator(s) must re-install sediment control practices before the next precipitation event even if the short-term activity is not complete.
- 72.B.6. ☐ Owner(s)/operator(s) must protect all storm drain inlets using appropriate BMPs during construction until they establish permanent cover on all areas with potential for discharging to the inlet.
- 72.B.7. ☐ Owner(s)/operator(s) may remove inlet protection for a particular inlet if a specific safety concern (e.g., street flooding/freezing) is identified by owner(s)/operator(s) or the jurisdictional authority (e.g., city/county/township/ MnDOT engineer). Owner(s)/operator(s) must document the need for removal in the site plans.
- 72.B.8. ☐ Owner(s)/operator(s) must provide silt fence or other effective sediment controls at the base of stockpiles on the downgradient perimeter.
- 72.B.9. ☐ Owner(s)/operator(s) must locate stockpiles outside of natural buffers or surface waters, including stormwater conveyances such as curb and gutter systems unless there is a bypass in place for the stormwater.
- 72.B.10. ☐ Owner(s)/operator(s) must install a vehicle tracking BMP to minimize the track out of sediment from the construction site or onto paved roads within the site.
- 72.B.11. ☐ Owner(s)/operator(s) must use street sweeping if vehicle tracking BMPs are not adequate to prevent sediment tracking onto the street.
- 72.B.12. ☐ In any areas of the site where final vegetative stabilization will occur, owner(s)/operator(s) must restrict vehicle and equipment use to minimize soil compaction.
- 72.B.13. ☐ Owner(s)/operator(s) must preserve topsoil on the site, unless infeasible.
- 72.B.14. ☐ Owner(s)/operator(s) must direct discharges from BMPs to vegetated areas unless infeasible.
- 72.B.15. ☐ Owner(s)/operator(s) must preserve a 50 foot natural buffer or, if a buffer is infeasible on the site, provide redundant (double) perimeter sediment controls when a surface water is located within 50 feet of the project’s earth disturbances and stormwater flows to the surface water. Owner(s)/operator(s) must install

perimeter sediment controls at least 5 feet apart unless limited by lack of available space. Natural buffers are not required adjacent to road ditches, judicial ditches, county ditches, stormwater conveyance channels, storm drain inlets, and sediment basins. If preserving the buffer is infeasible, owner(s)/operator(s) must document the reasons in the site plans. Sheet piling is a redundant perimeter control if installed in a manner that retains all stormwater.

- 72.B.16. ☐ Owner(s)/operator(s) must use polymers, flocculants, or other sedimentation treatment chemicals in accordance with accepted engineering practices, dosing specifications and sediment removal design specifications provided by the manufacturer or supplier. Owner(s)/operator(s) must use conventional erosion and sediment controls prior to chemical addition and must direct treated stormwater to a sediment control system for filtration or settlement of the floc prior to discharge.

72.C. Dewatering and basin draining:

- 72.C.1. ☐ Owner(s)/operator(s) must discharge turbid or sediment-laden waters related to dewatering or basin draining (e.g., pumped discharges, trench/ditch cuts for drainage) to a temporary or permanent sediment basin on the project site unless infeasible. Owner(s)/operator(s) may dewater to surface waters if they visually check to ensure adequate treatment has been obtained and nuisance conditions (see Minn. R. 7050.0210, subp. 2) will not result from the discharge. If owner(s)/operator(s) cannot discharge the water to a sedimentation basin prior to entering a surface water, owner(s)/operator(s) must treat it with appropriate BMPs such that the discharge does not adversely affect the surface water or downstream properties.
- 72.C.2. ☐ If owner(s)/operator(s) must discharge water that contains oil or grease, owner(s)/operator(s) must use an oil-water separator or suitable filtration device (e.g. cartridge filters, absorbents pads) prior to discharge.
- 72.C.3. ☐ Owner(s)/operator(s) must discharge all water from dewatering or basin-draining activities in a manner that does not cause erosion or scour in the immediate vicinity of discharge points or inundation of wetlands in the immediate vicinity of discharge points that causes significant adverse impact to the wetland.
- 72.C.4. ☐ If owner(s)/operator(s) use filters with backwash water, they must haul the backwash water away for disposal, return the backwash water to the beginning of the treatment process, or incorporate the backwash water into the site in a manner that does not cause erosion.

72.D. Inspection and maintenance:

- 72.D.1. ☐ Owner(s)/operator(s) must ensure that a trained person will inspect the entire construction site at least once every seven (7) days during active construction and within 24 hours after a rainfall event greater than one-half inch in 24 hours.
- 72.D.2. ☐ Owner(s)/operator(s) must inspect and maintain all permanent stormwater treatment BMPs.
- 72.D.3. ☐ Owner(s)/operator(s) must inspect all erosion prevention and sediment control BMPs and Pollution Prevention Management Measures to ensure integrity and effectiveness. Owner(s)/operator(s) must repair, replace, or supplement all nonfunctional BMPs with functional BMPs by the end of the next business day after discovery unless another time frame is specified below. Owner(s)/operator(s) may take additional time if field conditions prevent access to the area.
- 72.D.4. ☐ During each inspection, owner(s)/operator(s) must inspect surface waters, including drainage ditches and conveyance systems but not curb and gutter systems, for evidence of erosion and sediment deposition. Owner(s)/operator(s) must remove all deltas and sediment deposited in surface waters, including drainage ways, catch basins, and other drainage systems and restabilize the areas where sediment removal results in exposed soil. Owner(s)/operator(s) must complete removal and stabilization within seven (7) calendar days of discovery unless precluded by legal, regulatory, or physical access constraints. Owner(s)/operator(s) must use all reasonable efforts to obtain access. If precluded, removal and stabilization must take place within seven (7) calendar days of obtaining access. Owner(s)/operator(s) are responsible for contacting all local, regional, state and federal authorities and receiving any applicable permits, prior to conducting any work in surface waters.
- 72.D.5. ☐ Owner(s)/operator(s) must inspect construction site vehicle exit locations, streets and curb and gutter systems within and adjacent to the project for sedimentation from erosion or tracked sediment from vehicles. Owner(s)/operator(s) must remove sediment from all paved surfaces within one (1) calendar day of discovery or, if applicable, within a shorter time to avoid a safety hazard to users of public streets.
- 72.D.6. ☐ Owner(s)/operator(s) must repair, replace, or supplement all perimeter control devices when they become nonfunctional or the sediment reaches one-half of the height of the device.
- 72.D.7. ☐ Owner(s)/operator(s) must drain temporary and permanent sedimentation basins and remove the sediment when the depth of sediment collected in the basin reaches one-half of the storage volume.
- 72.D.8. ☐ Owner(s)/operator(s) must ensure that at least one individual present on the site (or available to the project site in three (3) calendar days) is trained in the job duties of overseeing the implementation of, revising and/or amending the site plans and performing inspections for the project.
- 72.D.9. ☐ Owner(s)/operator(s) may adjust the inspection schedule as follows:
- inspections of areas with permanent cover can be reduced to once per month, even if construction activity continues on other portions of the site; or
 - where construction sites have permanent cover on all exposed soil areas and no construction activity is occurring anywhere on the site, inspections can be reduced to once per month and, after 12 months, may be suspended completely until construction activity resumes. The MPCA may require inspections to resume if conditions warrant; or

- c. where construction activity has been suspended due to frozen ground conditions, inspections may be suspended. Inspections must resume within 24 hours of runoff occurring, or upon resuming construction, whichever comes first.
- 72.D.10 ☐ Owner(s)/operator(s) must record all inspections and maintenance activities within 24 hours of being conducted and these records must be retained with the site plans. These records must include:
- a. date and time of inspections; and
 - b. name of person(s) conducting inspections; and
 - c. accurate findings of inspections, including the specific location where corrective actions are needed; and
 - d. corrective actions taken (including dates, times, and party completing maintenance activities); and
 - e. date of all rainfall events greater than one-half inch in 24 hours, and the amount of rainfall for each event. Owner(s)/operator(s) must obtain rainfall amounts by either a properly maintained rain gauge installed onsite, a weather station that is within one (1) mile of owner(s)/operator(s) location, or a weather reporting system that provides site specific rainfall data from radar summaries; and
 - f. if owner(s)/operator(s) observe a discharge during the inspection, they must record and should photograph and describe the location of the discharge (i.e., color, odor, settled or suspended solids, oil sheen, and other obvious indicators of pollutants); and
 - g. any amendments to the site plans proposed as a result of the inspection must be documented within seven (7) calendar days.

72.E. Inspection and maintenance:

- 72.E.1. ☐ Owner(s)/operator(s) must place building products and landscape materials under cover (e.g., plastic sheeting or temporary roofs) or protect them by similarly effective means designed to minimize contact with stormwater. Owner(s)/operator(s) are not required to cover or protect products which are either not a source of contamination to stormwater or are designed to be exposed to stormwater.
- 72.E.2. ☐ Owner(s)/operator(s) must place pesticides, fertilizers and treatment chemicals under cover (e.g., plastic sheeting or temporary roofs) or protect them by similarly effective means designed to minimize contact with stormwater.
- 72.E.3. ☐ Owner(s)/operator(s) must store hazardous materials and toxic waste, (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) in sealed containers to prevent spills, leaks or other discharge. Storage and disposal of hazardous waste materials must be in compliance with Minn. R. ch. 7045 including secondary containment as applicable.
- 72.E.4. ☐ Owner(s)/operator(s) must properly store, collect, and dispose of solid waste in compliance with Minn. R. ch. 7035.
- 72.E.5. ☐ Owner(s)/operator(s) must position portable toilets so they are secure and will not tip or be knocked over. Owner(s)/operator(s) must dispose of sanitary waste in accordance with Minn. R. ch. 7041.
- 72.E.6. ☐ Owner(s)/operator(s) must take reasonable steps to prevent the discharge of spilled or leaked chemicals, including fuel, from any area where chemicals or fuel will be loaded or unloaded including the use of drip pans or absorbents unless infeasible. Owner(s)/operator(s) must ensure adequate supplies are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials. Owner(s)/operator(s) must report and clean up spills immediately as required by Minn. Stat. § 115.061, using dry clean up measures where possible.
- 72.E.7. ☐ Owner(s)/operator(s) must limit vehicle exterior washing and equipment to a defined area of the site. Owner(s)/operator(s) must contain runoff from the washing area in a sediment basin or other similarly effective controls and must dispose of waste from the washing activity properly. Owner(s)/operator(s) must properly use and store soaps, detergents, or solvents.
- 72.E.8. ☐ Owner(s)/operator(s) must provide effective containment for all liquid and solid wastes generated by washout operations (e.g., concrete, stucco, paint, form release oils, curing compounds and other construction materials) related to the construction activity. Owner(s)/operator(s) must prevent liquid and solid washout wastes from contacting the ground and must design the containment so it does not result in runoff from the washout operations or areas. Owner(s)/operator(s) must properly dispose of liquid and solid wastes in compliance with Minn. R. ch. 7035. Owner(s)/operator(s) must install a sign indicating the location of the washout facility.

72.F. Temporary sediment basins:

- 72.F.1. ☐ Where ten (10) or more acres of disturbed soil drain to a common location, owner(s)/operator(s) must provide a temporary sediment basin to provide treatment of the runoff before it leaves the construction site or enters surface waters. Owner(s)/operator(s) may convert a temporary sediment basin to a permanent basin after construction is complete. The temporary basin is no longer required when permanent cover has reduced the acreage of disturbed soil to less than ten (10) acres draining to a common location.
- 72.F.2. ☐ The temporary basin must provide live storage for a calculated volume of runoff from a two (2)-year, 24-hour storm from each acre drained to the basin or 1,800 cubic feet of live storage per acre drained, whichever is greater.

- 72.F.3. ☐ Where owner(s)/operator(s) have not calculated the two (2)-year, 24-hour storm runoff amount, the temporary sediment basin must provide 3,600 cubic feet of live storage per acre of the basin's drainage area.
- 72.F.4. ☐ Owner(s)/operator(s) must design basin outlets to prevent short-circuiting and the discharge of floating debris.
- 72.F.5. ☐ Owner(s)/operator(s) must design the outlet structure to withdraw water from the surface to minimize the discharge of pollutants. Owner(s)/operator(s) may temporarily suspend the use of a surface withdrawal mechanism during frozen conditions. The basin must include a stabilized emergency overflow to prevent failure of pond integrity.
- 72.F.6. ☐ Owner(s)/operator(s) must provide energy dissipation for the basin outlet within 24 hours after connection to a surface water.
- 72.F.7. ☐ Owner(s)/operator(s) must locate temporary basins outside of surface waters and any required buffer zones.
- 72.F.8. ☐ Owner(s)/operator(s) must construct temporary basins prior to disturbing (10) or more acres of soil draining to a common location.
- 72.F.9. ☐ Where a temporary sediment basin meeting the requirements of this part is infeasible, owner(s)/operator(s) must install effective sediment controls such as smaller sediment basins and/or sediment traps, silt fences, vegetative buffer strips or any appropriate combination of measures as dictated by individual site conditions. In determining whether installing a sediment basin is infeasible, owner(s)/operator(s) must consider public safety and may consider factors such as site soils, slope, and available area on-site. Owner(s)/operator(s) must document this determination of infeasibility in the site plans.

72.G. Termination conditions:

- 72.G.1. ☐ Owner(s)/operator(s) must complete all construction activity and must install permanent cover over all areas. Vegetative cover must consist of a uniform perennial vegetation with a density of 70 percent of its expected final growth. Vegetation is not required where the function of a specific area dictates no vegetation, such as impervious surfaces or the base of a sand filter.
- 72.G.2. ☐ Owner(s)/operator(s) must clean the permanent stormwater treatment system of any accumulated sediment and must ensure the system meets all applicable requirements and is operating as designed.
- 72.F.3. ☐ Owner(s)/operator(s) must remove all sediment from conveyance systems.
- 72.G.4. ☐ Owner(s)/operator(s) must remove all temporary synthetic erosion prevention and sediment control BMPs. Owner(s)/operator(s) may leave BMPs designed to decompose on-site in place.
- 72.G.5. ☐ For residential construction only, permit coverage terminates on individual lots if the structure(s) are finished and temporary erosion prevention and downgradient perimeter control is complete and the residence sells to the homeowner.
- 72.G.6. ☐ For construction projects on agricultural land (e.g., pipelines across cropland), owner(s)/operator(s) must return the disturbed land to its preconstruction agricultural use.

72.H. If applicable, additional requirements for discharges to special and impaired waters:

- 72.H.1. ☐ Owner(s)/operator(s) must immediately initiate stabilization of exposed soil areas, and complete the stabilization within seven (7) calendar days after the construction activity in that portion of the site temporarily or permanently ceases.
- 72.H.2. ☐ Owner(s)/operator(s) must provide a temporary sediment basin for common drainage locations that serve an area with five (5) or more acres disturbed at one time.
- 72.H.3. ☐ Owner(s)/operator(s) must include an undisturbed buffer zone of not less than 100 linear feet from a special water (not including tributaries) and must maintain this buffer zone at all times, both during construction and as a permanent feature post construction, except where a water crossing or other encroachment is necessary to complete the project. Owner(s)/operator(s) must fully document the circumstance and reasons the buffer encroachment is necessary in the site plans and include restoration activities. Owner(s)/operator(s) must minimize all potential water quality, scenic and other environmental impacts of these exceptions by the use of additional or redundant (double) BMPs and must document this in the site plans for the project.
- 72.H.4. ☐ Owner(s)/operator(s) must conduct routine site inspections once every three (3) days for projects that discharge to prohibited waters.

*73. **Permit item 19.5:** Does your regulatory mechanism(s) require that owners and operators of construction activity develop site plans that must be submitted to you for review and confirmation that regulatory mechanism(s) requirements have been met, prior to the start of construction activity?

- ☒ Yes
☐ No

*74. **Permit item 19.6:** Do you have written procedures for site plan reviews to ensure compliance with requirements of the regulatory mechanism(s)? (*Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.*)

- ☒ Yes
☐ No (Skip to Q76)

75. **If yes in Q74, do your procedures include the following?** (Check all that apply)
- 75.A. ☐ Written notification to owners and operators of the need to apply for and obtain coverage under the CSW Permit.
- 75.B. ☒ Use of a written checklist, consistent with the requirements of the regulatory mechanism(s), to document the adequacy of each site plan required.
- *76. **Permit item 19.7:** Do you have written procedures for conducting site inspections to determine compliance with your regulatory mechanism(s)?
- ☒ Yes
- ☐ No
- *77. **Permit item 19.8:** Do you maintain written procedures for identifying high-priority and low-priority sites for inspection?
(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)
- ☐ Yes
- ☒ No (Skip to Q79)
78. **If yes in Q77, do your procedures include the following?** (Check all that apply)
- 78.A. ☐ A detailed explanation describing how sites will be categorized as either high-priority or low-priority.
 If checked, how do you prioritize sites for inspection? (Check all that apply)
- 78.A.1. ☐ Site topography
- 78.A.2. ☐ Soil characteristics
- 78.A.3. ☐ Types of receiving water(s)
- 78.A.4. ☐ Stage of construction
- 78.A.5. ☐ Compliance history
- 78.A.6. ☐ Weather conditions
- 78.A.7. ☐ Citizen complaints
- 78.A.8. ☐ Project size
- 78.A.9. ☐ Other (describe below):
- 78.A.10.
- 78.B. ☐ A frequency at which you will conduct inspections for high-priority sites.
 If checked, how often will you inspect high-priority sites? (Check only one)
- 78.B.1. ☐ More than once every seven (7) days
- 78.B.2. ☐ Once every seven (7) days
- 78.B.3. ☐ Once every 14 days
- 78.B.4. ☐ Once every 21 days
- 78.B.5. ☐ Once every 30 days
- 78.B.6. ☐ Other (describe below):
- 78.B.7.
- 78.C. ☐ A frequency at which you will conduct inspections for low-priority sites.
 If checked, how often will you inspect low-priority sites? (Check only one)
- 78.C.1. ☐ More than once every seven (7) days
- 78.C.2. ☐ Once every seven (7) days
- 78.C.3. ☐ Once every 14 days
- 78.C.4. ☐ Once every 21 days
- 78.C.5. ☐ Once every 30 days
- 78.C.6. ☐ Other (describe below):
- 78.C.7.

78.D. ☐ The name(s) of individual(s) or position title(s) responsible for conducting site inspections:

- *79. **Permit item 19.9:** Do you use a written checklist to document each site inspection when determining compliance with your regulatory mechanism(s)? *(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)*

☒ Yes

☐ No (Skip to Q82)

80. **If yes in Q79, are the following items incorporated in your written checklist?** (Check all that apply)

80.A. ☒ Stabilization of exposed soils (including stockpiles)

80.B. ☐ Stabilization of ditch and swale bottoms

80.C. ☒ Sediment control BMPs on all downgradient perimeters of the project and upgradient of buffer zones

80.D. ☒ Storm drain inlet protection

80.E. ☒ Energy dissipation at pipe outlets

80.F. ☒ Vehicle tracking BMPs

80.G. ☐ Preservation of a 50 foot natural buffer or redundant sediment controls where stormwater flows to a surface water within 50 feet of disturbed soils

80.H. ☒ Owner/operator of construction activity self-inspection records

80.I. ☒ Containment for all liquid and solid wastes generated by washout operations (e.g., concrete, stucco, paint, form release oils, curing compounds, and other construction materials)

80.J. ☒ BMPs maintained and functional

81. **Provide any additional information on your process to document site inspections (optional):**

- *82. **Permit item 19.10:** Do you have written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted to you by the public?

☐ Yes

☒ No (Skip to Q84)

83. **If yes in Q82, please provide your procedures or a description of your procedures (e.g., how the public may submit concerns, typical timeframe for you to investigate reports):**

- *84. **Permit item 19.11:** Do individuals receive training commensurate with their responsibilities as they relate to your Construction Site Stormwater Runoff Control program? Individuals includes, but is not limited to, individuals responsible for conducting site plan reviews, site inspections, and/or enforcement.

☒ Yes

☐ No (Skip to Q87)

85. **If yes in Q84, do previously trained individuals attend a refresher-training every three (3) calendar years following the initial training? (Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
☒ Yes
☐ No
86. **If yes in Q84, what training do your staff who perform site inspections receive? (Check all that apply)**
 86.A. ☒ University of Minnesota Erosion and Stormwater Management Certification Program
 86.B. ☐ Qualified Compliance Inspector of Stormwater
 86.C. ☐ Minnesota Laborers Training Center Stormwater Pollution Prevention Plan Installer or Supervisor
 86.D. ☐ Minnesota Utility Contractors Association Erosion Control Training
 86.E. ☐ Certified Professional in Erosion and Sediment Control
 86.F. ☐ Certified Professional in Stormwater Quality
 86.G. ☐ Certified Erosion Sediment and Storm Water Inspector
 86.H. ☐ Other (describe below):
 86.I.
- *87. **Permit item 19.12:** Do you maintain written ERPs to compel compliance with your regulatory mechanism(s) in Section 19? (Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)
☒ Yes
☐ No (Skip to Q89)
88. **If yes in Q87, which enforcement tools are included in your ERPs? (Check all that apply)**
 88.A. ☒ Verbal warning
 88.B. ☒ Notice of violation
 88.C. ☐ Administrative order
 88.D. ☒ Stop work order
 88.E. ☐ Fine
 88.F. ☐ Forfeit of security bond money
 88.G. ☒ Withholding of certificate of occupancy
 88.H. ☒ Criminal action
 88.I. ☐ Civil penalty
 88.J. ☐ Other (describe below):
 88.K.
- *89. **Please specify name or position title of responsible person(s) for conducting enforcement:**
 Water Resources Engineer
- *90. **Permit item 19.13:** Do you document each site plan review you conduct?
☒ Yes
☐ No (Skip to Q92)
91. **If yes in Q90, what do you document in your site plan review process? (Check all that apply)**
 91.A. ☒ Project name
 91.B. ☒ Location
 91.C. ☒ Total acreage to be disturbed
 91.D. ☒ Owner and operator of the proposed construction activity
 91.E. ☒ Proof of notification to obtain coverage under the CSW Permit or proof of coverage under the CSW Permit
 (Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)
 91.F. ☒ Any stormwater related comments and supporting completed checklist, to determine project approval or denial
 (Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)

- *92. **Permit item 19.14:** Do you document training related to permit item 19.11?
☒ Yes
☐ No (Skip to Q94)
93. **If yes in Q92, what do you document?** (Check all that apply)
 93.A. ☒ General subject matter covered
 93.B. ☐ Name(s) and departments of individuals in attendance
(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)
 93.C. ☒ Date of each event
- *94. **Permit item 19.15:** Do you document enforcement conducted pursuant to your ERPs in item 19.12, including verbal warnings?
☒ Yes
☐ No (Skip to Q96)
95. **If yes in Q94, what do you document relating to ERPs for MCM 4?** (Check all that apply)
 95.A. ☒ Name of the person responsible for violating the terms and conditions of your regulatory mechanism(s)
 95.B. ☒ Date(s) and location(s) of the observed violation(s)
 95.C. ☒ Description of the violation(s)
 95.D. ☒ Corrective action(s) (including completion schedule) that you issued
 95.E. ☐ Referrals to other regulatory organizations (if any)
 95.F. ☒ Date(s) violation(s) resolved
- *96. **Permit item 12.4: Who is responsible for implementation of this MCM? List name(s) or position title(s):**
 Water Resources Engineer
97. **Provide any additional information about your current construction site stormwater runoff control program that you would like to share (optional): (Maximum 10 lines of text)**

MCM 5: Post-construction stormwater management

- *98. **Permit item 20.3:** Do you have a post-construction stormwater management regulatory mechanism(s)?
☒ Yes
☐ No (skip to Q102)
99. **If yes in Q98, what does your regulatory mechanism(s) consist of?** (Check all that apply)
 99.A. ☐ Contract language
 99.B. ☒ Ordinance
 99.C. ☐ Permits
 99.D. ☐ Standards
 99.E. ☐ Written policies
 99.F. ☐ Operational plans
 99.G. ☐ Legal agreements
 99.H. ☐ Other mechanism(s) (describe below):
 99.I.

100. If yes in Q98, provide a website address to the regulatory mechanism(s). If the regulatory mechanism is not available online, briefly describe how a copy of the regulatory mechanism can be obtained:

https://library.municode.com/mn/richfield/codes/code_of_ordinances?nodeId=CHIVBUHOCORE_S429WAREMARE

101. If yes in Q98, which of the following requirements are incorporated into your regulatory mechanism? (Check all that apply)

- 101.A. ☒ **Permit item 20.4:** You must require owners of construction activity to submit site plans with post-construction stormwater management BMPs designed with accepted engineering practices to you for review and confirmation that regulatory mechanism(s) requirements have been met, prior to start of construction activity.
- 101.B. ☒ **Permit item 20.5:** You must require owners of construction activity to treat the water quality volume on any project where the sum of the new impervious surface and the fully reconstructed impervious surface equals one or more acres. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
- 101.C. ☒ **Permit item 20.6:** For construction activity (excluding linear projects), the water quality volume must be calculated as one (1) inch times the sum of the new and the fully reconstructed impervious surface. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
- 101.D. ☐ **Permit item 20.7:** For linear projects, the water quality volume must be calculated as the larger of one (1) inch times the new impervious surface or one-half (0.5) inch times the sum of the new and the fully reconstructed impervious surface. Where the entire water quality volume cannot be treated within the existing right-of-way, a reasonable attempt to obtain additional right-of-way, easement, or other permission to treat the stormwater during the project planning process must be made. Volume reduction practices must be considered first, as described in item 20.8. Volume reduction practices are not required if the practices cannot be provided cost effectively. If additional right-of-way, easements, or other permission cannot be obtained, owners of construction activity must maximize the treatment of the water quality volume prior to discharge from the MS4. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
- 101.E. ☒ **Permit item 20.8:** Volume reduction practices (e.g., infiltration or other) to retain the water quality volume on-site must be considered first when designing the permanent stormwater treatment system. This permit does not consider wet sedimentation basins and filtration systems to be volume reduction practices. If this permit prohibits infiltration as described in item 20.9, other volume reduction practices, a wet sedimentation basin, or filtration basin may be considered.
- 101.F. ☒ **Permit item 20.9:** Infiltration systems must be prohibited when the system would be constructed in areas:
- That receive discharges from vehicle fueling and maintenance areas, regardless of the amount of new and fully reconstructed impervious surface. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
 - Where high levels of contaminants in soil or groundwater may be mobilized by the infiltrating stormwater. To make this determination, the owners and/or operators of construction activity must complete the MPCA's site screening assessment checklist, which is available in the Minnesota Stormwater Manual, or conduct their own assessment. The assessment must be retained with the site plans. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
 - Where soil infiltration rates are more than 8.3 inches per hour unless soils are amended to slow the infiltration rate below 8.3 inches per hour. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
 - With less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock.
 - Of predominately Hydrologic Soil Group D (clay) soils. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
 - In an Emergency Response Area (ERA) within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, Subp. 13, classified as high or very high vulnerability as defined by the Minnesota Department of Health. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
 - In an ERA within a DWSMA classified as moderate vulnerability unless you perform or approve a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
 - Outside of an ERA within a DWSMA classified as high or very high vulnerability unless you perform or approve a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
 - Within 1,000 feet up-gradient or 100 feet down gradient of active karst features. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**

- j. That receive stormwater runoff from these types of entities regulated under NPDES for industrial stormwater: automobile salvage yards; scrap recycling and waste recycling facilities; hazardous waste treatment, storage, or disposal facilities; or air transportation facilities that conduct deicing activities.
- 101.G. ☒ **Permit item 20.10:** For non-linear projects, where the water quality volume cannot cost effectively be treated on the site of the original construction activity, you must identify, or may require owners of the construction activity to identify, locations where off-site treatment projects can be completed. If the entire water quality volume is not addressed on the site of the original construction activity, the remaining water quality volume must be addressed through off-site treatment and, at a minimum, ensure the requirements of permit items 20.11 through 20.14 are met.
- 101.H. ☒ **Permit item 20.11:** You must ensure off-site treatment project areas are selected in the following order of preference:
- Locations that yield benefits to the same receiving water that receives runoff from the original construction activity
 - Locations within the same DNR catchment area as the original construction activity
 - Locations in the next adjacent DNR catchment area up-stream
 - Locations anywhere within your jurisdiction
- 101.I. ☒ **Permit item 20.12:** Off-site treatment projects must involve the creation of new structural stormwater BMPs or the retrofit of existing structural stormwater BMPs, or the use of a properly designed regional structural stormwater BMP. Routine maintenance of structural stormwater BMPs already required by this permit cannot be used to meet this requirement.
- 101.J. ☐ **Permit item 20.13:** Off-site treatment projects must be completed no later than 24 months after the start of the original construction activity. If you determine that more time is needed to complete the treatment project, you must provide the reason(s) and schedule(s) for completing the project in the annual report.
- 101.K. ☒ **Permit item 20.14:** If you receive payment from the owner of a construction activity for off-site treatment, you must apply any such payment received to a public stormwater project, and all projects must comply with permit items 20.11 through 20.13.
- 101.L. ☒ **Permit item 20.15:** You must include the establishment of legal mechanism(s) between you and owners of structural stormwater BMPs not owned or operated by you, that have been constructed to meet the requirements in Section 20. The legal mechanism(s) must include provisions that, at a minimum:
- Allow you to conduct inspections of structural stormwater BMPs not owned or operated by you, perform necessary maintenance, and assess costs for those structural stormwater BMPs when you determine the owner of that structural stormwater BMP has not ensured proper function.
 - Are designed to preserve your right to ensure maintenance responsibility, for structural stormwater BMPs not owned or operated by you, when those responsibilities are legally transferred to another party.
 - Are designed to protect/preserve structural stormwater BMPs. If structural stormwater BMPs change, causing decreased effectiveness, new, repaired, or improved structural stormwater BMPs must be implemented to provide equivalent treatment to the original BMP.
- *102. **Permit item 20.16:** Do you maintain a written or mapped inventory of structural stormwater BMPs that you do not own or operate that meet all of the following criteria? (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)
- The structural stormwater BMP includes an executed legal mechanism(s) between you and owners responsible for the long-term maintenance, as required in item 20.15; and
 - The structural stormwater BMP was implemented on or after August 1, 2013.
- ☒ Yes
☐ No
- *103. **Permit item 20.17:** Do you have written procedures for site plan reviews to ensure compliance with requirements of your regulatory mechanism(s)?
- ☒ Yes
☐ No
- *104. **Permit item 20.18:** Do individuals receive training commensurate with their responsibilities as they relate to your Post-Construction Stormwater Management program? Individuals include, but is not limited to, individuals responsible for conducting site plan reviews and/or enforcement.
- ☒ Yes
☐ No (Skip to Q106)
105. **If yes in Q104,** do previously trained individuals attend a refresher training every three (3) calendar years following the initial training? (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)
- ☒ Yes
☐ No
- *106. **Permit item 20.19:** Do you maintain written ERPs to compel compliance with your regulatory mechanism(s) required in Section 20? (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)
- ☐ Yes
☒ No (Skip to Q108)

107. **If yes in Q106, what enforcement tools are included in your ERPs?** (Check all that apply)

- 107.A. ☐ Verbal warning
- 107.B. ☐ Notice of violation
- 107.C. ☐ Administrative order
- 107.D. ☐ Fine
- 107.E. ☐ Criminal action
- 107.F. ☐ Civil penalty
- 107.G. ☐ Other (describe below):
- 107.H.

*108. **Please specify name or position title of responsible person(s) for conducting enforcement:**

Assistant Utility Superintendent

*109. **Permit item 20.20:** Do you document each site plan review you conduct?

- ☒ Yes
- ☐ No (Skip to Q111)

110. **If yes in Q109, what do you document in your site plan review process?** (Check all that apply)

- 110.A. ☒ Supporting documentation used to determine compliance, including any calculations for the permanent stormwater treatment system.
- 110.B. ☒ The water quality volume that will be treated through volume reduction practices compared to the total water quality volume required to be treated. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
- 110.C. ☒ Documentation associated with off-site treatment projects you authorize, including rationale to support the location of permanent stormwater treatment projects in accordance with items 20.10 and 20.11. **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
- 110.D. ☒ Payments received and used in accordance with permit item 20.14.
- 110.E. ☒ All legal mechanisms drafted in accordance with permit item 20.15, including date(s) of the agreement(s) and name(s) of all responsible parties involved.

*111. **Permit item 20.21:** Do you document training related to your Post-Construction Stormwater Management program?

- ☒ Yes
- ☐ No (Skip to Q113)

112. **If yes in Q111, what are you documenting?** (Check all that apply)

- 112.A. ☒ General subject matter covered
- 112.B. ☐ Names and departments of individuals in attendance **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
- 112.C. ☒ The date of each event

*113. **Permit item 20.22:** Do you document enforcement conducted pursuant to your ERPs in item 20.19, including verbal warnings?

- ☐ Yes
- ☒ No (Skip to Q115)

114. **If yes in Q113, what do you document relating to ERPs for MCM 5?** (Check all that apply)

- 114.A. ☐ The name of the person responsible for violating the terms and conditions of your regulatory mechanism(s)
- 114.B. ☐ The date(s) and location(s) of the observed violation(s)
- 114.C. ☐ A description of the violation(s)
- 114.D. ☐ Corrective action(s) issued
- 114.E. ☐ Referrals to other regulatory organizations
- 114.F. ☐ The date(s) violation(s) are resolved

- *115. **Permit item 12.4:** Who is responsible for implementation of this MCM? List name(s) or position title(s):

Assistant Utility Superintendent

116. **Provide any additional information about your current post-construction stormwater management program that you would like to share (optional): (Maximum 10 lines of text)**

We enforce this section using our regulatory mechanism but we do not have documented ERPs. ERPs for this MCM will be developed during this permit cycle.

MCM 6: Pollution prevention/Good housekeeping for municipal operations

- *117. **Permit item 21.3:** Do you maintain a written or mapped inventory of your owned/operated facilities that contribute pollutants to stormwater discharges?

☒ Yes

☐ No (skip to Q119)

118. **If yes in Q117, which of the following facilities do you own and/or operate? (Check all that apply)**

118.A. ☐ Composting

118.B. ☐ Equipment storage and maintenance

118.C. ☐ Hazardous waste disposal

118.D. ☐ Hazardous waste handling and transfer

118.E. ☐ Landfill(s)

118.F. ☐ Solid waste handling and transfer

118.G. ☒ Park(s)

118.H. ☐ Pesticide storage

118.I. ☒ Public parking lot(s)

118.J. ☐ Public golf course(s)

118.K. ☒ Public swimming pool(s)

118.L. ☒ Public works yard(s)

118.M. ☐ Recycling

118.N. ☒ Salt storage

118.O. ☐ Snow storage

118.P. ☐ Vehicle storage and maintenance (e.g., fueling and washing) yard(s)

118.Q. ☒ Materials storage yard(s)

118.R. ☐ Other (describe below):

118.S.

- *119. **Permit item 21.4:** Do you implement BMPs to prevent or reduce pollutants in stormwater discharges from municipal operations?

☒ Yes

☐ No (Skip to Q121)

120. **If yes in Q119, provide additional information on the BMPs you implement to address stormwater discharges from municipal operations (e.g., waste disposal, management of stockpiles, road maintenance):**
- We utilize proper salt storage, perform annual street sweeping, practice proper disposal of waste (hazardous and non-hazardous), manage stockpiles at the yard facility.
- *121. **Permit item 21.5:** Do you implement BMPs at your owned/operated salt storage areas?
(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)
- ☒ Yes
☐ No (Skip to Q123)
122. **If yes in Q121, what BMPs do you have in place at salt storage areas?** (Check all that apply)
- 122.A. ☒ Salt is covered or stored indoors
122.B. ☒ Salt stored on an impervious surface
122.C. ☒ Implementation of practices to reduce exposure when transferring material from salt storage areas
122.D. ☐ Other (describe below):
122.E.
- *123. **Permit item 21.6:** Do you implement a written snow and ice management policy for individuals that perform winter maintenance activities for you? *(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)*
- ☒ Yes
☐ No (Skip to Q125)
124. **If yes in Q123, what practices and procedures for snow and ice control operations are included?**
(Check all that apply)
- 124.A. ☒ Plowing or other snow removal practices
124.B. ☐ Sand use
124.C. ☒ Application of deicing compounds
124.D. ☐ Other (describe below):
124.E.
- *125. **Permit item 21.7:** Each calendar year, do all individuals that perform winter maintenance activities for you receive training?
(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)
- ☐ Yes
☒ No (Skip to Q127)
126. **If yes in Q125, what does the winter maintenance training include?** (Check all that apply)
- 126.A. ☐ The importance of protecting water quality
126.B. ☐ BMPs to minimize the use of deicers
126.C. ☐ Tools and resources to assist in winter maintenance (e.g., deicing application rate guidelines, calibration charts, Smart Salting Assessment Tool)
126.D. ☐ Other (describe below):
126.E.
- *127. **Permit item 21.8:** Do you maintain written procedures for determining TSS and total phosphorus (TP) treatment effectiveness of all owned/operated ponds constructed and used for the collection and treatment of stormwater?
- ☒ Yes
☐ No

- *128. **Permit item 21.9:** Do you inspect structural stormwater BMPs (excluding stormwater ponds, which are under a separate schedule) each calendar year to determine structural integrity, proper function, and maintenance needs (excluding structural stormwater BMPs where the inspection frequency has been adjusted)?
- ☒ Yes
☐ No
- *129. **Do you have a different inspection frequency (i.e., more or less than each calendar year) for any of your structural stormwater BMPs?**
- ☐ Yes
☒ No (Skip to Q131)
130. **If yes in Q129, what led to your adjusted inspection frequency? (Check all that apply)**
- 130.A. ☐ Complaints received or patterns of maintenance indicated a greater frequency was necessary.
130.B. ☐ Determined maintenance or sediment removal was not required after completion of the first two calendar year inspections.
130.C. ☐ Other (describe below):
130.D.
- *131. **Permit item 21.10:** Do you inspect all ponds and outfalls (excluding underground outfalls) each permit term in order to determine structural integrity, proper function, and maintenance needs?
- ☒ Yes
☐ No (Skip to Q133)
132. **If yes in Q131, describe the frequency of inspections:**
Annual inspections are performed for all ponds and outfalls.
- *133. **Permit item 21.12:** Do you implement a stormwater management training program commensurate with individual's responsibilities as they relate to your SWPPP, including reporting and assessment activities? Training materials can be from the U.S. Environmental Protection Agency (EPA), state and regional agencies, or other organizations as appropriate to meet this requirement.
- ☒ Yes
☐ No (Skip to Q135)
134. **If yes in Q133, what does your stormwater management training program include? (Check all that apply)**
- 134.A. ☒ The importance of protecting water quality.
134.B. ☐ Cover the requirements of the permit relevant to the responsibilities of the individual.
134.C. ☐ A schedule that establishes initial training for individuals, including new and/or seasonal employees, and recurring training intervals to address changes in procedures, practices, techniques, or requirements.
134.D. ☐ Other (describe below):
134.E.
- 134.F. Additional information for checked items (optional):
- *135. **Permit item 21.13:** Do you document information associated with the operations and maintenance program?
- ☒ Yes
☐ No (Skip to Q137)
136. **If yes in Q135, what are you documenting? (Check all that apply)**
- 136.A. ☒ Date(s) and description of findings, including whether or not an illicit discharge is detected, for all inspections conducted in accordance with items 21.9 and 21.10.
136.B. ☐ Any adjustments to inspection frequency as authorized in item 21.9.
136.C. ☒ Date(s) and a description of maintenance conducted as a result of inspection findings, including whether or not an illicit discharge is detected.

- 136.D. ☐ Schedule(s) for maintenance of structural stormwater BMPs and outfalls when necessary maintenance cannot be completed within one year of discovery (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)
- 136.E. ☐ Stormwater management training events, including general subject matter covered, names and departments of individuals in attendance, and date of each event.

*137. **Permit item 21.14:** Do you document pond sediment excavation and removal activities?

- ☒ Yes
☐ No (Skip to Q139)

138. **If yes in Q137, what pond sediment excavation and removal activity information is documented?**

(Check all that apply)

- 138.A. ☒ A unique ID number and geographic coordinate of each stormwater pond from which sediment is removed.
138.B. ☒ The volume (e.g., cubic yards) of sediment removed from each stormwater pond.
138.C. ☒ Results from any testing of sediment from each removal activity.
138.D. ☒ Location(s) of final disposal of sediment from each stormwater pond.
138.E. Additional information for checked items (optional):

*139. **Permit item 12.4:** Who is responsible for implementation of this MCM? List name(s) or position title(s).

Assistant Utility Superintendent

140. **Provide any additional information about your current pollution prevention/good housekeeping for municipal operations program that you would like to share (optional):** (Maximum 10 lines of text)

Discharges to Impaired Waters with an EPA-Approved TMDL that Includes an Applicable Waste Load Allocation (WLA)

To determine if you have an applicable WLA(s), please reference the MPCA's MS4 Permit TMDL Application Form webpage at https://stormwater.pca.state.mn.us/index.php?title=Guidance_for_completing_the_MS4_Permit_TMDL_Application_Form.

*141. **Permit item 22.3:** Do you have an applicable WLA where a reduction in pollutant loading is required for bacteria?

- ☐ Yes
☒ No (Skip to Q146)

142. **If yes in Q141, do you maintain a written or mapped inventory of potential areas and sources of bacteria (e.g., dense populations of waterfowl or other bird, dog parks)?** (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)

- ☐ Yes
☐ No (Skip to Q145)

143. **If yes in Q142, do you maintain a written plan to prioritize reduction activities to address the areas and sources identified in the inventory? The written plan must include BMPs you will implement over the permit term.** (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)

- ☐ Yes
☐ No (Skip to Q145)

144. **If yes in Q143, which of the following are included in your written plan?** (Check all that apply)

- 144.A. ☐ Water quality monitoring to determine areas of high bacteria loading.
144.B. ☐ Installation of pet waste pick-up bags in parks and open spaces.
144.C. ☐ Elimination of over-spray irrigation at permittee land owned areas.

- 144.D. ☐ Removal of organic matter via street sweeping.
144.E. ☐ Implementation of infiltration structural stormwater BMPs.
144.F. ☐ Management of areas that attract dense populations of waterfowl (e.g., riparian plantings).
144.G. ☐ Other (describe below):
144.H.

145. **Permit item 12.9:** If yes in Q141, who is or will be responsible for implementation of this required component (i.e., inventory, plan, and BMP implementation)? List name(s) or position title(s):

*146. **Permit item 22.5:** Do you have an applicable WLA where a reduction in pollutant loading is required for chloride?

- ☒ Yes
☐ No (Skip to Q151)

147. **If yes in Q146, do you document the amount of deicer applied each winter maintenance season to all your owned/operated surfaces? (Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**

- ☒ Yes
☐ No

148. **If yes in Q146, each calendar year do you conduct an assessment of your winter maintenance operations to reduce the amount of deicing salt applied to your owned/operated surfaces and determine current and future opportunities to improve BMPs? You may use the MPCA's Smart Salting Assessment Tool or other available resources and methods to complete this assessment. The assessment must be documented. (Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**

- ☒ Yes
☐ No (Skip to Q150)

149. **If yes in Q148, what does your winter maintenance operations assessment include? (Check all that apply)**

- 149.A. ☒ Operational changes such as pre-wetting, pre-treating the salt stockpile, increasing plowing prior to deicing, monitoring of road surface temperature, etc.
149.B. ☐ Implementation of new or modified equipment providing pre-wetting, or other capability for minimizing salt use.
149.C. ☒ Regular calibration of equipment.
149.D. ☐ Optimizing mechanical removal to reduce use of deicers.
149.E. ☒ Designation of no salt and/or low salt zones.
149.F. ☐ Other (describe below):
149.G.

149.H. Additional information for checked items (optional):

We monitor road surface temperature, and designate residential roads as no-salt areas.

150. **Permit item 12.9: If yes in Q146, who is or will be responsible for implementation of this required component (i.e., documenting deicer applied and winter maintenance operations assessment)? List name(s) or position title(s):**

Operations Superintendent

*151. **Permit item 22.7:** Do you have an applicable WLA where a reduction in pollutant loading is required for temperature?

- ☐ Yes
☒ No (Skip to Q155)

152. If yes in Q151, do you maintain a written plan that identifies specific activities you will implement to reduce thermal loading during the permit term? **(Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.)**
- ☐ Yes
- ☐ No (Skip to Q154)
153. **If yes in Q152, what activities does the plan include?** (Check all that apply)
- 153.A. ☐ Implementation of infiltration BMPs such as bioinfiltration practices
- 153.B. ☐ Disconnection and/or reduction of impervious surfaces
- 153.C. ☐ Retrofitting existing structural stormwater BMPs
- 153.D. ☐ Improvement of riparian vegetation
- 153.E. ☐ Other (describe below):
- 153.F. _____
- 153.G. Provide any additional information about your written plan (optional):
- _____
154. **Permit item 12.9: If yes in Q151, who is or will be responsible for implementation of this required component? List name(s) or position title(s):**
- _____
- *155. **Permit item 12.8:** Do you have an applicable WLA(s) for oxygen demand, nitrate, TSS, or TP?
- ☒ Yes - If yes, you **must complete** the corresponding tabs in the *MS4 Permit TMDL Application* (available on the MPCA's website at https://stormwater.pca.state.mn.us/index.php?title=Guidance_for_completing_the_MS4_Permit_TMDL_Application_Form) and submit it with this application.
- ☐ No

Alum or Ferric Chloride Phosphorus Treatment Systems

- *156. **Permit Section 23:** Do you own and/or operate an Alum or Ferric Chloride Phosphorus Treatment System within your MS4?
- ☐ Yes - If yes, complete questions 157-173 as directed.
- ☒ No (Skip to Q174)
157. Provide the geographic coordinates of the alum or ferric chloride phosphorus treatment system, in decimal degrees. (Approximate centroid of treatment system within five-foot accuracy):
- 157.A. Latitude: _____
- 157.B. Longitude: _____
158. **Who is responsible for the operation of the treatment system? List name(s) or position title(s):**
- _____
- 159.A. **Provide the date the system first became operational (mm/dd/yyyy):** _____

For question 159.B-G, provide information for calendar year 2020.

159.B. For each month, provide the number of days the system was operational:

- 159.B.1. January: _____
159.B.2. February: _____
159.B.3. March: _____
159.B.4. April: _____
159.B.5. May: _____
159.B.6. June: _____
159.B.7. July: _____
159.B.8. August: _____
159.B.9. September: _____
159.B.10. October: _____
159.B.11. November: _____
159.B.12. December: _____

159.C. What chemical(s) was used for treatment:

- 159.C.1. ☐ Alum
159.C.2. ☐ Ferric Chloride

159.D. Provide the number of gallons of water treated: _____

159.E. Provide the number of gallons of alum or ferric chloride treatment used: _____

159.F. Provide the calculated pounds of phosphorous removed: _____

159.G. Describe any performance issue(s) and the corrective action(s), including the date(s) when corrective action(s) were taken:

160. Permit item 23.3: Which of the following requirements are you meeting? (Check all that apply)

- 160.A. ☐ Your treatment system is for the treatment of phosphorus in stormwater. Non-stormwater discharges must not be treated by this system.
160.B. ☐ Your treatment system is contained within the conveyances and structural stormwater BMPs of the MS4. The utilized conveyances and structural stormwater BMPs do not include any receiving waters.
160.C. ☐ Phosphorus treatment systems utilizing chemicals other than alum or ferric chloride receive written approval from the MPCA.
160.D. ☐ In-lake phosphorus treatment activities are not authorized.

161. Permit item 23.3: Which of the following design parameters does your treatment system include? (Check all that apply)

- 161.A. ☐ The treatment system is constructed in a manner that diverts the stormwater flow to be treated from the main conveyance system.
161.B. ☐ A high flow bypass is part of the inlet design.
161.C. ☐ A flocculent storage/settling area is incorporated into the design, and adequate maintenance access is provided (minimum of eight feet wide) for the removal of accumulated sediment.

162. Permit item 23.5: Do you have a designated person perform visual monitoring of the treatment system for proper performance at least once every seven (7) days, and within 24 hours after a rainfall event greater than 2.5 inches in 24 hours?

- ☐ Yes
☐ No (Skip to Q164)

163. If yes in Q162, please list the name(s) of the individual(s) or position title(s):

164. **Permit item 23.5:** Following visual monitoring which occurs within 24 hours after a rainfall event, do you conduct the next visual monitoring of your system seven (7) days after that rainfall event?
- ☐ Yes
☐ No
165. **Permit item 23.6:** Does your treatment system utilize three (3) benchmark monitoring stations? Table 1 in Appendix A in the permit must be used for the parameters, units of measure, and frequency of measurement for each station.
- ☐ Yes
☐ No
166. **Permit item 23.7:** Do you collect grab samples or flow-weighted 24-hour composite samples at your treatment system?
- ☐ Yes
☐ No
167. **Permit item 23.8:** Are your treatment system samples, excluding potential of hydrogen (pH) samples, analyzed by a laboratory certified by the Minnesota Department of Health and/or the MPCA?
- ☐ Yes
☐ No
168. **Which of the following do your sample tests include?** (Check all that apply)
- 168.A. ☐ Sample preservation and test procedures for the analysis of pollutants that conform to 40 CFR Part 136 and Minn. R. 7041.3200.
- 168.B. ☐ Detection limits for dissolved phosphorus, dissolved aluminum, and dissolved iron that are a minimum of 6 micrograms per liter (µg/L), 10 µg/L, and 20 µg/L, respectively.
- 168.C. ☐ pH that is measured within 15 minutes of sample collection using calibrated and maintained equipment.
169. **Permit item 23.9:** In the following situation(s) do you perform corrective action(s) and immediately notify the Minnesota Department of Public Safety Duty Officer? (Check all that apply)
- 169.A. ☐ The pH of the discharged water is not within the range of 6.0 and 9.0.
- 169.B. ☐ Indications of toxicity or measurements exceeding water quality standards which could endanger human health, public drinking water supplies, or the environment.
- 169.C. ☐ A spill or discharge or alteration resulting in water pollution, as defined in Minn. Stat. § 115.01, subd. 13, of alum or ferric chloride.
170. **Permit item 23.13:** Do you conduct site-specific jar testing using typical and representative water samples in accordance with the most current approved version of ASTM D2035? (**Note: All or some of this item is a new permit requirement. Compliance with new requirements is required within 12 months after receiving permit coverage.**)
- ☐ Yes
☐ No
171. **Permit item 23.14:** Do you have baseline concentrations of the following parameters in the influent and receiving waters at your treatment system location? (Check all that apply)
- 171.A. ☐ Aluminum or iron
- 171.B. ☐ Phosphorus
172. **Permit item 23.15:** Do you have the following system parameters and how each was determined at your treatment system location? (Check all that apply)
- 172.A. ☐ Flocculant settling velocity
- 172.B. ☐ Minimum required retention time
- 172.C. ☐ Rate of diversion of stormwater into the system
- 172.D. ☐ The flow rate from the discharge of the outlet structure
- 172.E. ☐ Range of expected dosing rates
173. **Permit item 23.16:** Have you developed the following site-specific procedures? (Check all that apply)
- 173.A. ☐ Procedures for the installation, operation and maintenance of all pumps, generators, control systems, and other equipment.
- 173.B. ☐ Specific parameters for determining when the solids must be removed from the system and how the solids will be handled and disposed of.
- 173.C. ☐ Procedures for cleaning up and/or containing a spill of each chemical stored on site.

Complete last page and submit using Adobe Acrobat Reader.

(If you do not have Acrobat Reader, you can download a free version at <https://get.adobe.com/reader/>.)

Additional information

174. Provide any additional information about your current Stormwater Pollution Prevention Program (SWPPP) that you would like to share (optional): **(Maximum 30 lines of text)**

Complete last page and submit using Adobe Acrobat Reader.

(If you do not have Acrobat Reader, you can download a free version at [https://get.adobe.com/reader/.](https://get.adobe.com/reader/))

Submit

Reset

**AUTHORIZATION TO DISCHARGE STORMWATER
ASSOCIATED WITH SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS
UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)/
STATE DISPOSAL SYSTEM (SDS) PROGRAM
MS400045**

Permittee: City of Richfield
Coverage issuance date: October 1, 2021
Expiration date: November 15, 2025

The state of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to operate a small municipal separate storm sewer system (MS4) and to discharge from the small MS4 to receiving waters, in accordance with the requirements of the Small Municipal Separate Storm Sewer Systems General Permit MNR040000 (General Permit).

The goal of the General Permit is to reduce pollutant levels in point source discharges and protect water quality in accordance with the U.S. Clean Water Act, Minnesota statutes and rules, and federal laws and regulations.

The MPCA issued the General Permit on November 16, 2020, however the permittee received coverage under the General Permit on the coverage issuance date identified above. The General Permit expires at midnight on the expiration date identified above.

Signature: *Duane Duncanson*

for the Minnesota Pollution Control Agency

This document has been electronically signed.

Duane Duncanson
Supervisor
Municipal Stormwater Unit
Municipal Division

If you have questions about the General Permit, including specific permit requirements, permit reporting, or permit compliance status, please contact the MPCA at:

Municipal Stormwater Program
Municipal Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194
Telephone: 651-296-6300 or toll free in Minnesota: 800-657-3864

Section Number	Description	Roles	Activities and Programs	General Notes	2025 Notes	2024 Notes	2023 Notes	2022 notes	2021 notes	Network links	External links
1.1	Eligibility. [Minn. R. 7090]		General Permit Information								
1.2	To be eligible for authorization to discharge stormwater under the Small Municipal Separate Storm Sewer Systems General Permit (General Permit), the applicant must be an owner and/or operator (owner/operator) of a small Municipal Separate Storm Sewer System (MS4) and meet one or more of the criteria requiring permit issuance as specified in Minn. R. 7090.1010. [Minn. R. 7090.1010]		General Permit Information								
2.1	Authorized Stormwater Discharges. [Minn. R. 7090]		General Permit Information								
2.2	The General Permit authorizes stormwater discharges from small MS4s as defined in 40 CFR 122.26(b)(16). [Minn. R. 7090]		General Permit Information								
3.1	Authorized Non-Stormwater Discharges. [Minn. R. 7090]		General Permit Information								
3.2	The following categories of non-stormwater discharges or flows are authorized under the General Permit to enter the permittee's small MS4 only if the permittee does not identify them as significant contributors of pollutants (i.e., illicit discharges), in which case the discharges or flows must be addressed in the permittee's Stormwater Pollution Prevention Program (SWPPP): water line flushing, landscape irrigation, diverted stream flows, rising groundwaters, uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(b)(20)), uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash water, and discharges or flows from firefighting activities. [Minn. R. 7090]		General Permit Information								
4.1	Limitations on Authorization. [Minn. R. 7090]		General Permit Information								
4.2	The following discharges or activities are not authorized by the General Permit: a. non-stormwater discharges, except those authorized by the permittee in item 3.2; b. discharges of stormwater to the small MS4 from activities requiring a separate NPDES/SDS permit. The General Permit does not replace or satisfy any other permitting requirements; c. the General Permit does not replace or satisfy any environmental review requirements, including those under the Minnesota Environmental Policy Act (Minn. Stat. 116D), or the National Environmental Policy Act (42 U.S.C. 4321 et seq.); d. the General Permit does not replace or satisfy any review requirements for endangered or threatened species, from new or expanded discharges that adversely impact or contribute to adverse impacts on a listed endangered or threatened species, or adversely modify a designated critical habitat; e. the General Permit does not replace or satisfy any review requirements for historic places or archeological sites, from new or expanded discharges which adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites; and f. discharges to prohibited outstanding resource value waters pursuant to Minn. R. 7050.0335, Subp. 3. Only the permittee's small MS4 and the portions of the storm sewer system that are under the permittee's operational control are authorized by the General Permit. [Minn. R. 7090]		General Permit Information								
5.1	Permit Authorization. [Minn. R. 7001]										
5.2	The applicant must submit a complete application in accordance with Sections 9 through 12 in order to obtain authorization to discharge stormwater from a small MS4 under the General Permit. [Minn. R. 7001]		General Permit Information								
5.3	The Commissioner reviews the General Permit application for completeness. After review, the Commissioner will do one of the following: a. if an application is determined to be incomplete, the Commissioner will notify the applicant in writing, indicate why the application is incomplete, and request that the applicant resubmit the application; or b. if an application is determined to be complete, the Commissioner will make a preliminary determination as to whether coverage under the General Permit should be issued or denied in accordance with Minn. R. 7001. [Minn. R. 7001]		General Permit Information								
5.4	The Commissioner provides a public notice with the opportunity for a hearing on the preliminary determination to issue coverage under the General Permit. [Minn. R. 7001]		General Permit Information								
5.5	Upon receipt of written notification of final approval of the application from the Commissioner, the applicant is authorized to discharge stormwater from the small MS4 under the terms and conditions of the General Permit. [Minn. R. 7001]		General Permit Information								
6.1	Transfer of Ownership or Control. [Minn. R. 7001, Minn. R. 7090.0080]										
6.2	Where the ownership or significant operational control of the small MS4 changes after the submittal of an application in accordance with Sections 9 through 12, the new owner/operator must submit a new application in accordance with Sections 9 through 12. [Minn. R. 7090]		General Permit Information								
7.1	Issuance of Individual Permits. [Minn. R. 7001]										
7.2	The permit applicant may request an individual permit in accordance with Minn. R. 7001.0210, Subp. 6, for authorization to discharge stormwater associated with a small MS4. [Minn. R. 7001.0210, Subp. 6]		General Permit Information								
7.3	The Commissioner may require an individual permit for the permit applicant or permittee covered by a general permit, in accordance with Minn. R. 7001.0210, Subp. 6. [Minn. R. 7001.0210, Subp. 6]		General Permit Information								
8.1	Rights and Responsibilities. [Minn. R. 7001, Minn. R. 7090]										
8.2	The Commissioner may modify the General Permit or issue other permits, in accordance with Minn. R. 7001, to include more stringent effluent limitations or permit requirements that modify or are in addition to the Minimum Control Measures of the General Permit, or both. These modifications may be based on the Commissioner's determination that such modifications are needed to protect water quality. [Minn. R. 7001]		General Permit Information								

8.3	The Commissioner may designate additional small MS4s for coverage under the General Permit in accordance with Minn. R. 7090. The owner/operator of a small MS4 that is designated for coverage must comply with the permit requirements by the dates specified in the Commissioner's determination. [Minn. R. 7090]		General Permit Information							
9.1	Application for Reissuance. [Minn. R. 7001]									
9.2	If an existing permittee desires to continue permit coverage beyond the expiration date, the permittee must submit an application for permit reissuance : Due by 180 days prior to permit expiration. [Minn. R. 7001.0040, Subp. 3]		General Permit Information							
10.1	New Permittee Applicants. [Minn. R. 7090]									
10.2	To become a new permittee authorized to discharge stormwater under the General Permit, the owner/operator of a small MS4 must submit an application, on a form provided by the Agency, in accordance with the schedule in Appendix B, Table 3, and the following requirements: a. submit Part 1 of the permit application (includes the permit application fee); and b. submit Part 2 of the permit application, also known as the Stormwater Pollution Prevention Program (SWPPP) document, in accordance with Section 12. [Minn. R. 7090]		General Permit Information							
11.1	Existing Permittee Applicants. [Minn. R. 7090]									
11.2	All existing permittees seeking to continue discharging stormwater associated with a small MS4 after the issuance date of the General Permit must submit Part 2 of the permit application : Due by 150 days after permit issuance. Existing permittees were required to submit Part 1 of the permit application prior to the expiration date (July 31, 2018) of the Agency's small MS4 general permit No. MNR040000, effective August 1, 2018. [Minn. R. 7090]		General Permit Information							
12.1	Stormwater Pollution Prevention Program (SWPPP) Document. [Minn. R. 7090]									
12.2	All applicants must submit a SWPPP Document (i.e., Part 2 of the permit application) when seeking coverage under the General Permit. The SWPPP Document will become an enforceable part of the General Permit upon approval by the Agency. Modifications to the SWPPP Document that are required or allowed by the General Permit (see Section 24) will also become enforceable provisions. The applicant must submit the SWPPP Document on a form provided by the Agency. The applicant's SWPPP Document must include items 12.3 through 12.11, as applicable. [Minn. R. 7090]	Water resources engineer responsible for minor SWPPP amendments in coordination with Public Works management	Link is to Richfield MS4 system dashboard in ESRI ArcGIS, used for tracking permit compliance, inspections, inventories, events, etc.							https://richfieldmng.is.com/portal/apps/experiencebuilder/experience?id=652dc61f53b840a9b58ce0342a639846
12.3	The applicant must provide a description of partnerships with another regulated small MS4(s), into which the applicant has entered in order to satisfy one or more requirements of the General Permit. [Minn. R. 7090]	Public works director and/or city engineer signs off on agreements Water resources engineer tracks and describes MS4-relevant partnership activities	Partnerships in place with NMCWD, MCWD, RBWMO, MNDOT, Metro Watershed Partners	Provide mutually beneficial partnerships to address MS4 permit requirements of providing educational opportunities, illicit discharge detection and elimination, and maintenance of the city conveyance systems. Agreements will be pursued between the City of Richfield and the NMCWD and MCWD.				RBWMO - Education MCWD - Taft Floc NMCWD - CSW mgmt. MWP Activities -		https://drive.google.com/file/d/1kmb-VUcPhIgz-C3MfsP6Plsma4KHDT8/view
12.4	The applicant must provide a description of each program the applicant has developed and implemented to satisfy the Minimum Control Measure (MCM) requirements, including: a. the Best Management Practices (BMPs) the applicant has implemented for each MCM at the time of application; b. the status of each required component of the program; and c. name(s) of individual(s) or position titles responsible for implementing and/or coordinating each component of the program. If the program has not been developed at the time of application (e.g., new permittee applicants), or revised to meet new requirements of the General Permit (e.g., existing permittee applicants); the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]	Water resources engineer responsible for program descriptions	BMP Index							
12.5	The applicant must indicate whether each storm sewer system map requirement of Section 14 is satisfied at the time of application. For each requirement of Section 14 that is not satisfied at the time of application, the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]	Water resources engineer, engineering technician, GIS coordinator	Richmap, MS4 map and city GIS data.							
12.6	The applicant must provide a description of existing regulatory mechanism(s) the applicant has developed, implemented, and enforced to satisfy the requirements of Sections 18, 19, and 20. At a minimum, the applicant must provide the following information: a. the type(s) of regulatory mechanism(s) the applicant has in place at the time of application that will be used to satisfy the requirements; b. the status of each required component of the regulatory mechanism(s); and c. if available, a website address to the regulatory mechanism(s). If the regulatory mechanism(s) have not been developed at the time of application (e.g., new permittee applicants), or revised to meet new requirements of the General Permit (e.g., existing permittee applicants); the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]	Updates to city code drafted by public works staff, to be approved by council.	City Code, Enforcement Response Procedures (ERPs)				Minor update to Enforcement Response Procedures - new responsible staff, updated Notice of Violation template. Revision of stormwater design standards planned in 2023.		R:\Storm Utility\MS4 and SWPPP\MCM 6 - Pollution Prevention for Municipal Operations\1_Proje ct Oversight	https://library.municode.com/mn/richfield/codes/code_of_ordinances

12.7	The applicant must provide a description of existing enforcement response procedures (ERPs) the applicant has developed and implemented that satisfy the ERP requirements of items 18.14, 19.12, and 20.19. If the applicant has not yet developed ERPs (e.g., new permittee applicants), or existing ERPs must be updated to satisfy new requirements, the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]	City engineer is designated as responsible by city code, water resource engineer maintains ERPs and oversees enforcement.	ERPs developed and stored in city files.	Existing ERPs apply to illicit discharges and construction stormwater.			Full review & revision of ERPs to be conducted.	Minor update to Enforcement Response Procedures - new responsible staff, updated Notice of Violation template.		\\rifs01\pubwks\StormUtility\MS4 and SWPPP\MCM 6 - Pollution Prevention for Municipal Operations\1_Proj\ct_Oversight\Richfield_Enforcement_Response_Procedures.pdf	
12.8	The applicant must submit a compliance schedule for each applicable Waste Load Allocation (WLA) not being met for oxygen demand, nitrate, total suspended solids (TSS), and total phosphorus (TP). The applicant may develop a compliance schedule to include multiple WLAs. The applicant's compliance schedule must include the following information: a. proposed BMPs or progress toward implementation of BMPs to be achieved during the permit term; b. the year each BMP is expected to be implemented; c. a target year the applicable WLA(s) will be achieved; and d. if the applicant has an applicable WLA for TSS or TP, a cumulative estimate of TSS and TP load reductions (in pounds) to be achieved during the permit term and the Agency-approved method used to determine the estimate. Agency-approved methods include "Program for Predicting Polluting Particle Passage thru Pits, Puddles, and	Water resources engineer manages citywide P8 water quality model, tracks progress on TMDLs and implementation of BMPs.	P8 Citywide water quality model Taft/Legion Lake infiltration, flocculation and treatment system City street sweeping program	Active TMDLs: - Lower Minnesota River WRAPS 2014: Penn Lake TP - South Metro Mississippi TSS - Lake Nokomis TP Inactive/Met WLA: - Minnesota River and Greater Blue Earth River TMDL for TSS - Twin Cities Metro Area Chloride				Penn Lake TP TMDL WLA not met.	R:\StormUtility\MS4 and SWPPP\MS4 General Permit 2020-2025\4_Bid\Applcation Materials\2020 TMDL Application form		
12.9	For each applicable WLA where a reduction in pollutant loading is required for bacteria, chloride, and temperature, the applicant must provide a description of any existing BMPs the applicant has developed and implemented to satisfy the requirements of items 22.3 through 22.7, including: a. the BMPs the applicant has implemented for each required component at the time of application; b. the status of each required component; and c. name(s) of individual(s) or position titles responsible for implementing and/or coordinating each required component. If the required components have not been developed at the time of application (e.g., new permittee applicants), or revised to meet new requirements of the General Permit (e.g., existing permittee applicants);	Water resources engineer manages BMP implementation and tracking.	MNDOT Smart salting training for plow drivers, significant reductions in salt application to meet NMCWD Chloride TMDL.								
12.1	If the applicant is claiming to meet an applicable WLA where a reduction in pollutant loading is required for oxygen demand, nitrate, TSS, or TP, the applicant must provide documentation to demonstrate the applicable WLA is being met. At a minimum, the applicant must provide the following information: a. a list of all structural stormwater BMPs implemented to achieve the applicable WLA, including the BMP type (e.g., constructed basin, infiltrator, filter, swale or strip, etc.), location in geographic coordinates, owner, and year implemented; and b. documentation using an Agency-approved method, which demonstrates the estimated reductions of oxygen demand (or its surrogate pollutants), nitrate, TSS, or TP from BMPs meet the MS4 WLA reductions included in the TMDL report, if that information is available (e.g., percent reduction or pounds reduced); or	Water resources engineer responsible for tracking progress of BMP implementation and reductions for TMDLs.	Active BMPs: - Taft/Legion Treatment and Flocculation, for Lake Nokomis TP - Street sweeping, for Penn Lake TP - Sump & grit chambers, for South Metro TSS								
12.11	For the requirements of Section 23, alum or ferric chloride phosphorus treatment systems, if applicable, the applicant must submit the following information: a. location of the system in geographic coordinates; b. name(s) of the individual(s) or position titles responsible for the operation of the system; c. information described in item 23.11, if the system is constructed at the time the applicant submits the application to the Agency; d. indicate if the system complies with the requirements in Section 23; and e. if applicable, for each requirement in Section 23 that the applicant's system does not comply with at the time of application, the applicant must bring the system into compliance in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]			Taft Flocculation Facility is maintained under a separate NPDES permit, and is not subject to section 23 of the MS4 general permit.							
13.1	Stormwater Pollution Prevention Program (SWPPP). [Minn. R. 7090]										
13.2	The permittee must develop, implement, and enforce a SWPPP designed to reduce the discharge of pollutants from the small MS4 to the Maximum Extent Practicable (MEP) and to protect water quality. Existing permittees regulated within the urbanized area as defined by the United States Census Bureau, the applicable urbanized area for which the permittee must develop, implement, and enforce a SWPPP can be based on the most recent decennial census of 2010 for the duration of the General Permit. [Minn. R. 7090]	Water resources engineer drafts SWPPP, to be approved by public works management							\\rifs01\pubwks\StormUtility\MS4 and SWPPP\SWPPP		
13.3	If the permittee enters into a partnership for purposes of meeting SWPPP requirements, the permittee maintains legal responsibility for compliance with the General Permit. [Minn. R. 7090]	Public works director and/or city engineer signs off on agreements Water resources engineer tracks and describes MS4-relevant partnership activities									

13.4	Existing permittees must revise their SWPPP developed under the Agency's small MS4 general permit No.MNR040000 that was effective August 1, 2013, to meet the requirements of the General Permit in accordance with the schedule in Appendix B, Table 2. New permittees must develop, implement, and enforce their SWPPP in accordance with the schedule in Appendix B, Table 3. The permittee's SWPPP must consist of Sections 14 through 23, as applicable. [Minn. R. 7090]	Water resources engineer drafts SWPPP, to be approved by public works management					New SWPPP developed to streamline and facilitate permit compliance		SWPPP Updates to align with general permit due Nov. 16, 2021.		
14.1	Mapping. [Minn. R. 7090]										
14.2	New permittees must develop, and existing permittees must update, as necessary, a storm sewer system map that depicts the following: a. the permittee's entire MS4 as a goal, but at a minimum, all pipes 12 inches or greater in diameter, including stormwater flow direction in those pipes; b. outfalls, including a unique identification (ID) number assigned by the permittee, and an associated geographic coordinates; c. structural stormwater BMPs that are part of the permittee's MS4; and d. all receiving waters. [Minn. R. 7090]	GIS coordinator manages maps and geospatial data. Water resource engineer updates storm system map.	Richmap, MS4 map, previous Richfield Stormwater System Map.	GIS data is continuously updated with new information.				Due to inconsistencies in past annual reports, all outfalls will be inspected in 2023 to confirm their location and verify the integrity of the data.		I:\GIS\Public Works\Record Drawings\Storm System	https://richfieldmngis.com/richmap/
15.1	Minimum Control Measures (MCMs). [Minn. R. 7090.1040]										
15.2	The permittee must incorporate the following six MCMs into the SWPPP. [Minn. R. 7090.1040]										
16.1	MCM 1: Public Education and Outreach. [Minn. R. 7090]									\\ri-fs01\pubwks\Storm Utility\MS4 and SWPPP\MCM 1 - Public Education and Outreach	
16.2	New permittees must develop and implement, and existing permittees must revise their current program, as necessary, and continue to implement, a public education program to distribute educational materials or equivalent outreach that informs the public of the impact stormwater discharges have on waterbodies and that includes actions citizens, businesses, and other local organizations can take to reduce the discharge of pollutants to stormwater. The permittee may use existing materials if they are appropriate for the message the permittee chooses to deliver, or the permittee may develop its own educational materials. The permittee may partner with other MS4 permittees, community groups, watershed management organizations, or other groups to implement its education and outreach program. The permittee must incorporate Section 16 requirements into their program. [Minn. R. 7090]	Development of the Outreach & Education Plan is done by the water resources engineer in coordination with public works management.	Outreach and Education Plan for details.	Public education is achieved through multiple methods. A combination of events, online outreach, and traditional mailers. A potential goal moving forward is to enhance partnerships with schools.							
16.3	During the permit term, the permittee must distribute educational materials or equivalent outreach focused on at least two (2) specifically selected stormwater-related issues of high priority to the permittee (e.g., specific TMDL reduction targets, changing local business practices, promoting adoption of residential BMPs, lake improvements through lake associations, household chemicals, yard waste, etc.). The topics must be different from those described in items 16.4 through 16.6. [Minn. R. 7090]	Topics are selected by public works staff depending on seasonal and ongoing water issues.	Outreach & Education Plan	Frequently chosen topics include: - Yard Waste - Water Conservation - Adopt-a-drain - Shoreline/pond stewardship							
16.4	At least once each calendar year, the permittee must distribute educational materials or equivalent outreach focused on illicit discharge recognition and reporting illicit discharges to the permittee. [Minn. R. 7090]	Water resources engineer prepares materials. Public outreach supported by sustainability specialist, communications, and administrative staff.	Outreach & Education Plan					2 utility bill inserts & 1 social media post on illicit discharges. See 2022 Estimated Outreach Audience			
16.5	For cities and townships, at least once each calendar year, the permittee must distribute educational materials or equivalent outreach to residents, businesses, commercial facilities, and institutions, focused on the following: a. impacts of deicing salt use on receiving waters; b. methods to reduce deicing salt use; and c. proper storage of salt or other deicing materials. [Minn. R. 7090]	Water resources engineer prepares materials. Public outreach supported by sustainability specialist, communications, and administrative staff.	Outreach & Education Plan								
16.6	For cities and townships, at least once each calendar year, the permittee must distribute educational materials or equivalent outreach focused on pet waste. The educational materials or equivalent outreach must include information on the following: a. impacts of pet waste on receiving waters; b. proper management of pet waste; and c. any existing permittee regulatory mechanism(s) for pet waste. [Minn. R. 7090]	Water resources engineer prepares materials. Public outreach supported by sustainability specialist, communications, and administrative staff.	Outreach & Education Plan City Code section 905.06: Immediate disposal of animal feces					Per suggestion from WSB environmental compliance staff, consider working with parks & rec department to implement signage & waste bins at city parks.			

16.7	The permittee must develop and implement an education and outreach plan that consists of the following: a. target audience(s) (e.g., residents, businesses, commercial facilities, institutions, and local organizations; consideration should be given to low-income residents, people of color, and non-native English speaking residents. A resource to help identify these areas is available on the Agency's environmental justice website); b. name or position title of responsible person(s) for overall plan implementation; c. specific activities and schedules to reach each target audience; and d. a description of any coordination with and/or use of stormwater education and outreach programs implemented by other entities, if applicable. [Minn. R. 7090]	Water resources engineer prepares outreach & education plan, incorporated into SWPPP. Public outreach supported by sustainability specialist, communications, and administrative staff.	Outreach & Education Plan	E & O plan incorporates a variety of outreach methods to reach as many residents as possible, combining print, electronic, and in-person events. Printed materials are translated into Spanish. MPCA Environmental Justice site used to identify priority areas.				Goal for 2023 will be to improve environmental justice focus of outreach, providing a quantifiable increase in			
16.8	The permittee must document the following information: a. a description of all specific stormwater-related issues identified by the permittee in item 16.3; b. all information required under the permittee's education and outreach plan in item 16.7; c. activities held, including dates, to reach each target audience; d. quantities and descriptions of educational materials distributed, including dates distributed; and e. estimated audience (e.g., number of participants, viewers, readers, listeners, etc.) for each completed education and outreach activity. [Minn. R. 7090]	Water resources engineer is responsible for all documentation.	Outreach & Education plan, and public outreach survey form.	Issues identified are listed in E & O plan. Outreach was initially tracked through spreadsheets stored in MCM 1 folder, now tracked through Survey123 form accessible through MS4 Portal							
16.9	The permittee must conduct an annual assessment of the public education program to evaluate program compliance, the status of achieving the measurable requirements in Section 16, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., education and outreach efforts, implementation of written plans, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]	Public works management oversees audit, technical support from consultants as needed.	SWPPP	Evaluated as part of annual self-audit process. Continuous, ongoing evaluation is also crucial.							
17.1	MCM 2: Public Participation/Involvement. [Minn. R. 7090]									\\RI-FS01\pubwks\StormUtility\MS4 and SWPPP\MCM 2 - Public Participation and Involvement	
17.2	New permittees must develop and implement, and existing permittees must revise their current program, as necessary, and continue to implement, a Public Participation/Involvement program to solicit public input on the SWPPP and involve the public in activities that improve or protect water quality. The permittee must incorporate Section 17 requirements into their program. [Minn. R. 7090]	Water resources engineer implements program and modifies as needed.	Outreach & Education Plan	Revisions, if needed, are made on an annual basis following							
17.3	Each calendar year, the permittee must provide a minimum of one (1) opportunity for the public to provide input on the adequacy of the SWPPP. The permittee may conduct a public meeting(s) to satisfy this requirement, provided appropriate local public notice requirements are followed and the public is given the opportunity to review and comment on the SWPPP. [Minn. R. 7090]	Water resources engineer & public works administrators plan engagement events.	Outreach & Education Plan	Annual comment opportunity is hosted at Penn Fest. Comments also welcome through city website year round.				City hosted booth at Penn Fest; conducted public outreach satisfying requirements of 17.3 and 17.6. Residents reviewed SWPPP, no comments received.			http://www.penncentralofrichfield.com/penn-fest.html
17.4	The permittee must provide access to the SWPPP Document, annual reports, and other documentation that supports or describes the SWPPP (e.g., regulatory mechanism(s), etc.) for public review, upon request. All public data requests are subject to the Minnesota Government Data Practices Act, Minn. Stat. 13. [Minn. Stat. 13]	Communications manages city website. Water resources engineer has access to edit water-related webpages, including SWPPP	Outreach & Education Plan	SWPPP freely available on city website, all other documents available upon request							https://www.richfieldmn.gov/departments/public_works/water_resources/storm_and_surface_waters.php
17.5	The permittee must consider oral and written input regarding the SWPPP submitted by the public to the permittee. [Minn. R. 7090]	Water resources engineer incorporates feedback into comments and minor revisions on SWPPP	Outreach & Education Plan	All feedback is documented through survey123 form - previously on spreadsheets. Input is considered when SWPPP is revised.							
17.6	Each calendar year, the permittee must provide a minimum of one (1) public involvement activity that includes a pollution prevention or water quality theme (e.g., rain barrel distribution event, rain garden workshop, cleanup event, storm drain stenciling, volunteer water quality monitoring, adopt a storm drain program, household hazardous waste collection day, etc.). [Minn. R. 7090]	Water Resources Engineer plans public engagement Administrative Staff provides logistical support of events	Outreach & Education Plan	Annual event hosted at Penn Fest. City also presents at Richfield EcoFair about sustainability, pollution prevention, water quality topics.			Previously Wood Lake Nature Center offered stormwater-focused classes to students preschool-grade 7 and hosted Earth Day celebrations. Will check status of these programs.				

17.7	The permittee must document the following information: a. all relevant written input submitted by persons regarding the SWPPP; b. all responses from the permittee to written input received regarding the SWPPP, including any modifications made to the SWPPP as a result of the written input received; c. date(s), location(s), and estimated number of participants at events held for purposes of compliance with item 17.3; d. notices provided to the public of any events scheduled to meet item 17.3, including any electronic correspondence (e.g., website, e-mail distribution lists, notices, etc.); and e. date(s), location(s), description of activities, and estimated number of participants at events held for the purpose of compliance with item 17.6. [Minn. R. 7090]	Water Resources Engineer documents input	Outreach & Education Plan	Information documented in public engagement event survey123 form, accessible through MS4 portal.						https://richfieldmng.is.com/portal/apps/qosdashboard/index.html#/a4c6b918d1634d0cbf280da9d9f4aa72
17.8	The permittee must conduct an annual assessment of the Public Participation/Involvement program to evaluate program compliance, the status of achieving the measurable requirements in Section 17, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., public input and involvement opportunities, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]	Public works management oversees audit, technical support from consultants as needed.	Outreach & Education Plan	Evaluated as part of annual self-audit process. Continuous, ongoing evaluation is also crucial.				2022 annual assessment conducted on 1/9/2023, with technical support from WSB. Guided update of SWPPP to new format.		
18.1	MCM 3: Illicit Discharge Detection and Elimination (IDDE). [Minn. R. 7090]								\\RIFS01\pubwks\$\Storm Utility\MS4 and SWPPP\MCM 3 - Illicit Discharge Detection and Elimination	
18.2	New permittees must develop, implement, and enforce, and existing permittees must revise their current program as necessary, and continue to implement and enforce, a program to detect and eliminate illicit discharges into the MS4. The permittee must incorporate Section 18 requirements into their program. [Minn. R. 7090]	Utilities Superintendent/Asst. Utilities Superintendent responsible for oversight Water Resources Engineer responsible for inspections and enforcement Field Staff responsible for detection and reporting	IDDE Standard Operating Procedures (SOPs) and Enforcement Response Procedures (ERPs).							
18.3	The permittee must maintain a map of the permittee's MS4, as required in Section 14. [Minn. R. 7090]	GIS Specialist maintains Richmap and utility geospatial data. Field staff and water resources engineer update and verify data.	Richmap, MS4 map, previous Richfield Stormwater System Map.							https://richfieldmng.is.com/richmap/
18.4	To the extent allowable under state or local law, the permittee must develop, implement, and enforce a regulatory mechanism(s) that prohibits non-stormwater discharges into the permittee's MS4, except those non-stormwater discharges authorized in item 3.2. A regulatory mechanism(s) for the purposes of the General Permit may consist of contract language, an ordinance, permits, standards, written policies, operational plans, legal agreements, or any other mechanism, that will be enforced by the permittee. The regulatory mechanism(s) must also include items 18.5 and 18.6, as applicable. [Minn. R. 7090]	Engineering staff, utilities superintendent & asst. utilities superintendent responsible for policy/program updates. Water Resources Engineer responsible for enforcement, field staff responsible for reporting discharges.	City Code section 721: Connections and Discharges to the Stormwater System. Richfield Enforcement Response Procedures. What is this? A section within the city ERPs. I'll change the name.							https://library.municode.com/mn/richfield/codes/code_of_ordinances?nodeId=CHVIIPUUT_S721CO_DISTS
18.5	For cities, townships, and counties, the permittee's regulatory mechanism(s) must require owners or custodians of pets to remove and properly dispose of feces on permittee owned land areas. [Minn. R. 7090]		City Code section 905.06: Immediate disposal of animal feces							https://library.municode.com/mn/richfield/codes/code_of_ordinances?nodeId=CHIXPUSA_S905ANCO_905.06IMDIANFE
18.6	For cities and townships, the permittee's regulatory mechanism(s) must require proper salt storage at commercial, institutional, and non-NPDES permitted industrial facilities. At a minimum, the regulatory mechanism(s) must require the following: a. designated salt storage areas must be covered or indoors; b. designated salt storage areas must be located on an impervious surface; and c. implementation of practices to reduce exposure when transferring material in designated salt storage areas (e.g., sweeping, diversions, and/or containment). [Minn. R. 7090]		City Code section 721.24: Bulk deicer storage facility requirements					Salt storage ordinance updated.		https://library.municode.com/mn/richfield/codes/code_of_ordinances?nodeId=CHVIIPUUT_S721CO_DISTSY_721.24BUDESTFARE

18.7	The permittee must incorporate illicit discharge detection into all inspection and maintenance activities conducted in items 21.9, 21.10, and 21.11. Where feasible, the permittee must conduct illicit discharge inspections during dry-weather conditions (e.g., periods of 72 or more hours of no precipitation). [Minn. R. 7090]	Engineering staff and retained consultant responsible for site inspections.	Erosion and sediment control inspection form	All construction site inspections incorporate illicit discharge detection. Inspections are conducted weekly.							https://survey123.arcgis.com/surveys/de78ccd2cf334182830eed08ea007329/overview
18.8	At least once each calendar year, the permittee must train all field staff in illicit discharge recognition (including conditions which could cause illicit discharges), and reporting illicit discharges for further investigation. Field staff includes, but is not limited to, police, fire department, public works, and parks staff. Training for this specific requirement may include, but is not limited to, videos, in-person presentations, webinars, training documents, and/or emails. [Minn. R. 7090]	Water resources engineer creates training materials, coordinates with police, fire, parks, and public works operations managers to schedule trainings.	IDDE SOPs, training and responsible persons	Training is a combination of written training documents, presentations at department meetings, and external resources.				All field staff trained in IDDE in 2022, documented in survey123 attendance form.			https://survey123.arcgis.com/surveys/8a4022b05e344fd692adc28ac08c9a10/overview
18.9	The permittee must ensure that individuals receive training commensurate with their responsibilities as they relate to the permittee's IDDE program. Individuals includes, but is not limited to, individuals responsible for investigating, locating, eliminating illicit discharges, and/or enforcement. The permittee must ensure that previously trained individuals attend a refresher-training every three (3) calendar years following the initial training. [Minn. R. 7090]	Engineering staff and public works field staff should receive training on IDDE.	IDDE SOPs, training and responsible persons Staff Training Schedule	City-provided training once per year, in-depth refresher training once every 3 years. Train Building department?				Mattias Oddsson, water resources engineer, completed IDDE for municipal staff training through University of Minnesota. Also received on-the-job training in SOPs, ERPs, SWPPP and MS4 obligations.			
18.1	The permittee must maintain a written or mapped inventory of priority areas the permittee identifies as having a higher likelihood for illicit discharges. At a minimum, the permittee must evaluate the following for potential inclusion in the inventory: a. land uses associated with business/industrial activities; b. areas where illicit discharges have been identified in the past; and c. areas with storage of significant materials that could result in an illicit discharge. [Minn. R. 7090]	Water resources engineer coordinates with GIS specialist to maintain map of priority sites. Prioritization to be reassessed at least once per permit term.	IDDE SOPs, appendix F, and MS4 map.	Areas prioritized based on: 1. Commercial/Industrial zoning 2. History of illicit discharge detection 3. Material storage that could result in discharge 4. Location of critical stormwater facilities				Prioritization map added to SOPs, to be updated in 2023.			
18.11	To the extent allowable under state or local law, the permittee must conduct additional illicit discharge inspections in areas identified in item 18.10. [Minn. R. 7090]	Water resources engineer & field staff conduct IDDE inspections.	IDDE SOPs					Re-evaluate possible frequency of inspections in priority areas for 2023.			
18.12	The permittee must implement written procedures for investigating, locating, and eliminating the source of illicit discharges. At a minimum, the written procedures must include: a. a timeframe in which the permittee will investigate a reported illicit discharge; b. use of visual inspections to detect and track the source of an illicit discharge; c. tools available to the permittee to investigate and locate an illicit discharge (e.g., mobile cameras, collecting and analyzing water samples, smoke testing, dye testing, etc.); d. cleanup methods available to the permittee to remove an illicit discharge or spill; and e. name or position title of responsible person(s) for investigating, locating, and eliminating an illicit	Water resources engineer maintains SOPs	IDDE SOPs				SOPs rewritten for clarity and brevity.				
18.13	The permittee must implement written procedures for responding to spills, including emergency response procedures to prevent spills from entering the MS4. The written procedures must also include the immediate notification of the Minnesota Department of Public Safety Duty Officer at 1-800-422-0798 (toll free) or 651-649-5451 (Metro area), if the source of the illicit discharge is a spill or leak as defined in Minn. Stat. 115.061. [Minn. R. 7090]	Engineering and administrative staff prepare spill response procedures. In case of spill, Minnesota Duty Officer and first responders will be immediately contacted.	IDDE SOPs, appendix D - spill response plan								
18.14	The permittee must maintain written enforcement response procedures (ERPs) to compel compliance with the permittee's regulatory mechanism(s) in Section 18. At a minimum, the written ERPs must include: a. a description of enforcement tools available to the permittee and guidelines for the use of each tool; b. timeframes to complete corrective actions; and c. name or position title of responsible person(s) for conducting enforcement. [Minn. R. 7090]	Water resources engineer maintains ERPs	City of Richfield ERPs				Full review & revision of ERPs to be conducted.	Minor update to Enforcement Response Procedures - new responsible staff, updated Notice of Violation template			
18.15	The permittee must document the following information: a. date(s) and location(s) of IDDE inspections conducted in accordance with items 18.7 and 18.11; b. reports of alleged illicit discharges received, including date(s) of the report(s), and any follow-up action(s) taken by the permittee; c. date(s) of discovery of all illicit discharges; d. identification of outfalls, or other areas, where illicit discharges have been discovered; e. sources (including a description and the responsible party) of illicit discharges (if known); and f. action(s) taken by the permittee, including date(s), to address discovered illicit discharges. [Minn. R. 7090]	Water resources engineer documents all IDDE reports and inspections	IDDE inspections form	IDDE information tracked in GIS - see linked dashboard. Any illicit discharge reports received from residents or field staff will also be entered into the inspections form and recorded.							https://richfieldmn.maps.arcgis.com/apps/dashboards/6f8b13fb0224ed89f7e06de7ceab799

18.16	For each training in item 18.8 and 18.9, the permittee must document: a. general subject matter covered; b. names and departments of individuals in attendance; and c. date of each event. [Minn. R. 7090]	Water resources engineer documents internal MS4 related training	Staff training schedule and staff training log	See network link for training docs, external link for attendance form.						https://arcs.is/05njXf https://survey123.arcgis.com/surveys/0293906766fd4d67a5a9bd44578329cb/overview	
18.17	The permittee must document any enforcement conducted pursuant to the ERPs in item 18.14, including verbal warnings. At a minimum, the permittee must document the following: a. name of the person responsible for violating the terms and conditions of the permittee's regulatory mechanism(s); b. date(s) and location(s) of the observed violation(s); c. description of the violation(s); d. corrective action(s) (including completion schedule) issued by the permittee; e. referrals to other regulatory organizations (if any); and f. date(s) violation(s) resolved. [Minn. R. 7090]	Water resources engineer documents enforcement and outcomes	City of Richfield ERPs IDDE inspections form	Enforcement actions tracked in GIS form used for reporting. Fields can be updated as needed to reflect new information for particular cases.						https://arcs.is/05njXf	
18.18	The permittee must conduct an annual assessment of the IDDE program to evaluate program compliance, the status of achieving the measurable requirements in Section 18, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., trainings, inventory, inspections, enforcement, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]	Public works management oversees audit, technical support from consultants as needed.		Evaluated as part of annual self-audit process. Continuous, ongoing evaluation is also crucial.				2022 annual assessment conducted on 1/9/2023, with technical support from WSB. Guided update of SWPPP to new format.			
19.1	MCM 4: Construction Site Stormwater Runoff Control. [Minn. R. 7090]										
19.2	New permittees must develop, implement, and enforce, and existing permittees must revise their current program, as necessary, and continue to implement and enforce, a Construction Site Stormwater Runoff Control program. The program must address construction activity with a land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, within the permittee's jurisdiction and that discharge to the permittee's MS4. The permittee must incorporate Section 19 requirements into their program. [Minn. R. 7090]	City Engineer responsible for plan review in coordination with administrative review committee, program oversight Engineering Staff responsible for inspections and enforcement	City Code Section 428: Erosion and Sedimentation Control Regulations MCM 4 and 5 SOPs City of Richfield ERPs ARC Plan Review Checklist							https://library.municode.com/mn/richfield/codes/code_of_ordinances?nodeId=CHIVBUHOCORE_S428ERSECORE	
19.3	To the extent allowable under state or local law, the permittee must develop, implement, and enforce a regulatory mechanism(s) that establishes requirements for erosion, sediment, and waste controls that is at least as stringent as the Agency's most current Construction Stormwater General Permit (MNR100001), herein referred to as the CSW Permit. A regulatory mechanism(s) for the purposes of the General Permit may consist of contract language, an ordinance, permits, standards, written policies, operational plans, legal agreements, or any other mechanism, that will be enforced by the permittee. [Minn. R. 7090]	City engineering staff responsible for maintenance of design standards.	City Code Section 428: Erosion and Sedimentation Control Regulations City of Richfield ERPs Permitting and plan review process	Primary regulatory mechanism is city code section 428 - references city design standards, MCWD rules, and construction stormwater permit.						https://library.municode.com/mn/richfield/codes/code_of_ordinances?nodeId=CHIVBUHOCORE_S428ERSECORE	
19.4	When the CSW Permit is reissued, the permittee must revise their regulatory mechanism(s), if necessary, within 12 months of the issuance date of that permit, to be at least as stringent as the requirements for erosion, sediment, and waste controls described in the CSW Permit. [Minn. R. 7090]	City engineer, public works director, and engineering staff responsible for policy updates					CSW Permit to be reissued in 2023. Prepare to revise ordinance and SOPs based on new provisions.				
19.5	The permittee's regulatory mechanism(s) must require that owners and operators of construction activity develop site plans that must be submitted to the permittee for review and confirmation that regulatory mechanism(s) requirements have been met, prior to the start of construction activity. The regulatory mechanism(s) must require the owners and operators of construction activity to keep site plans up-to-date with regard to stormwater runoff controls. The regulatory mechanism(s) must require that site plans incorporate the following erosion, sediment, and waste controls that are at least as stringent as described in the CSW Permit: a. erosion prevention practices; b. sediment control practices; c. dewatering and basin draining; d. inspection and maintenance; e. pollution prevention management measures; f. temporary sediment basins; and g. termination conditions. [Minn. R. 7090]	Water resources engineer and city engineer are responsible for enforcement action and updates to ERPs.	City Code Section 428.11: Erosion control plans	Regulatory mechanism requires items a-g to be submitted in site plan.					R:\Storm Utility\MS4 and SWPPP\SWPPP\2022 SWPPP Update\ERPs		
19.6	The permittee must implement written procedures for site plan reviews conducted by the permittee prior to the start of all construction activity, to ensure compliance with requirements of the regulatory mechanism(s). At a minimum, the procedures must include: a. written notification to owners and operators proposing construction activity, including projects less than one acre that are part of a larger common plan of development or sale, of the need to apply for and obtain coverage under the CSW Permit; and b. use of a written checklist, consistent with the requirements of the regulatory mechanism(s), to document	Administrative Review Committee (ARC) conducts plan reviews in accordance with city design standards and checklist.	ARC Plan Review Checklist MCM 4 and 5 SOPs								
19.7	The permittee must implement an inspection program that includes written procedures for conducting site inspections, to determine compliance with the permittee's regulatory mechanism(s). The inspection program must also meet the requirements in items 19.8 and 19.9. [Minn. R. 7090]	Water resources engineer responsible for inspections and enforcement	MCM 4 and 5 SOPs								

19.8	The permittee must maintain written procedures for identifying high-priority and low-priority sites for inspection. At a minimum, the written procedures must include: a. a detailed explanation describing how sites will be categorized as either high-priority or low-priority; b. a frequency at which the permittee will conduct inspections for high-priority sites; c. a frequency at which the permittee will conduct inspections for low-priority sites; and d. the name(s) of individual(s) or position title(s) responsible for conducting site inspections. [Minn. R. 7090]	Water resources engineer responsible for conducting site inspections and maintaining written procedures	MCM 4 and 5 SOPs	High priority sites are those that are larger than 1 acre.				Consider revising criteria for high-priority sites. A separate inspection frequency also needs to be revisited. Site inspections are currently contracted out to WSB			
19.9	The permittee must implement a written checklist to document each site inspection when determining compliance with the permittee's regulatory mechanism(s). At a minimum, the checklist must include the permittee's inspection findings on the following areas, as applicable to each site: a. stabilization of exposed soils (including stockpiles); b. stabilization of ditch and swale bottoms; c. sediment control BMPs on all downgradient perimeters of the project and upgradient of buffer zones; d. storm drain inlet protection; e. energy dissipation at pipe outlets; f. vehicle tracking BMPs; g. preservation of a 50 foot natural buffer or redundant sediment controls where stormwater flows to a surface water within 50 feet of disturbed soils; h. owner/operator of construction activity self-inspection records; i. containment for all liquid and solid wastes generated by washout operations (e.g., concrete, stucco, paint, form release oils, curing compounds, and other construction materials); and j. BMPs maintained and functional. [Minn. R. 7090]	Water resources engineer oversees site inspections with support of third party consultants.	EC_Inspections/CSW Inspections Form	Inspections form acts as a checklist for inspections. All required inspection findings are included.							https://richfieldmn.maps.arcgis.com/apps/dashboards/d2d7b69ebc8742569e3888553e73fb16 https://survey123.arcgis.com/surveys/de78ccd2cf334182830eed08ea007329/overview
19.1	The permittee must implement written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted by the public to the permittee. [Minn. R. 7090]	Administrative staff receive calls, water resources engineer conducts inspections and enforcement as needed	MCM 4 and 5 SOPs	All complaints and reports of noncompliance for construction stormwater management should be directed to the water resources engineer.							
19.11	The permittee must ensure that individuals receive training commensurate with their responsibilities as they relate to the permittee's Construction Site Stormwater Runoff Control program. Individuals includes, but is not limited to, individuals responsible for conducting site plan reviews, site inspections, and/or enforcement. The permittee must ensure that previously trained individuals attend a refresher-training every three (3) calendar years following the initial training. [Minn. R. 7090]	Water resources engineer provides MS4 relevant training	Staff training schedule	All personnel conducting site inspections have obtained relevant training and certifications. The 2023 staff training schedule strengthens and formalizes internal training.				Mattias Odsdson, water resources engineer, completed construction site manager training through University of Minnesota. Also received on-the-job training in city procedures, MS4, and SWPPP obligations.			https://survey123.arcgis.com/surveys/0293906766fd4d67a5a9bd44578329cb/overview
19.12	The permittee must maintain written enforcement response procedures (ERPs) to compel compliance with the permittee's regulatory mechanism(s) in item 19.3. At a minimum, the written ERPs must include: a. a description of enforcement tools available to the permittee and guidelines for the use of each tool; and b. name or position title of responsible person(s) for conducting enforcement. [Minn. R. 7090]	Water resources engineer updates ERPs in coordination with city engineer.	City of Richfield ERPs				Full review & revision of ERPs conducted.	Minor update to Enforcement Response Procedures - new responsible staff, updated Notice of		R:\Storm Utility\MS4 and SWPPP\SWPPP\2022 SWPPP Update\ERPs	
19.13	For each site plan review conducted by the permittee, the permittee must document the following: a. project name; b. location; c. total acreage to be disturbed; d. owner and operator of the proposed construction activity; e. proof of notification to obtain coverage under the CSW Permit, as required in item 19.6, or proof of coverage under the CSW Permit; and f. any stormwater related comments and supporting completed checklist, as required in item 19.6, used by the permittee to determine project approval or denial. [Minn. R. 7090]	City engineer documents plan review information	MCM 4 and 5 SOPs Redevelopment Projects folder							S:\REDEVELOPMENT PROJECTS	
19.14	For each training in item 19.11, the permittee must document: a. general subject matter covered; b. names and departments of individuals in attendance; and c. date of each event. [Minn. R. 7090]	Water resources engineer documents internal MS4 related training	Staff training schedule and staff training log								https://survey123.arcgis.com/surveys/0293906766fd4d67a5a9bd44578329cb/overview

19.15	The permittee must document any enforcement conducted pursuant to the ERPs in item 19.12, including verbal warnings. At a minimum, the permittee must document the following: a. name of the person responsible for violating the terms and conditions of the permittee's regulatory mechanism(s); b. date(s) and location(s) of the observed violation(s); c. description of the violation(s); d. corrective action(s) (including completion schedule) issued by the permittee; e. <i>referrals to other regulatory organizations (if any); and</i>	Water resources engineer conducts and documents enforcement	CSW Inspections Form	Enforcement actions tracked in GIS form used for reporting. Fields can be updated as needed to reflect new information for particular cases.				2 NOV's issued. Saved in folder and noted on inspections form data table			https://survey123.arcgis.com/surveys/de78ccd2cf334182830eed08ea007329/overview
19.16	The permittee must conduct an annual assessment of the Construction Site Stormwater Runoff Control program to evaluate program compliance, the status of achieving the measurable requirements in Section 19, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., inventory, trainings, site plan reviews, inspections, enforcement, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]	Water resources engineer regularly reviews program status and requirements, overseen by public works management, city engineer		Evaluated as part of annual self-audit process. Continuous, ongoing evaluation is also crucial.				2022 annual assessment conducted on 1/9/2023, with technical support from WSB. Guided update of SWPPP to new format.			
20.1	MCM 5: Post-Construction Stormwater Management. [Minn. R. 7090]										
20.2	New permittees must develop, implement, and enforce, and existing permittees must revise their current program, as necessary, and continue to implement and enforce, a Post-Construction Stormwater Management program that prevents or reduces water pollution after construction activity is completed. The program must address construction activity with land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, within the permittee's jurisdiction and that discharge to the permittee's MS4. The permittee must incorporate Section 20 requirements into their program. [Minn. R. 7090]	Public works director designated as responsible in city code section 429 Water resources engineer and city engineer responsible for day-to-day program implementation	City code section 429: water resource management regulations Stormwater design standards MCMs 4 and 5 SOPs	Requirements outlined in city code and stormwater design standards. Vary slightly by watershed district - either MCWD, RBWMO, or NMCWD.							https://library.municode.com/mn/richfield/codes/code_of_ordinances?nodeId=CHIVBUHOCORE_S429WAREMARE
20.3	To the extent allowable under state or local law, the permittee must develop, implement, and enforce a regulatory mechanism(s) that incorporates items 20.4 through 20.15. A regulatory mechanism(s) for the purposes of the General Permit may consist of contract language, an ordinance, permits, standards, written policies, operational plans, legal agreements, or any other mechanism, that will be enforced by the permittee. [Minn. R. 7090]	Engineering staff responsible for design standards updates at the direction of the city engineer, utilities superintendent, and assistant utilities superintendent	City code chapter 4 section 429: water resource management regulations Stormwater design standards MCMs 4 and 5 SOPs					Stormwater design standards to be updated in early 2023.		R:\Engineering\Engineering Design Standards Stormwater	https://library.municode.com/mn/richfield/codes/code_of_ordinances?nodeId=CHIVBUHOCORE_S429WAREMARE
20.4	The permittee's regulatory mechanism(s) must require owners of construction activity to submit site plans with post-construction stormwater management BMPs designed with accepted engineering practices to the permittee for review and confirmation that regulatory mechanism(s) requirements have been met, prior to start of construction activity. [Minn. R. 7090]	Engineering staff responsible for plan review at the direction of the city engineer	Stormwater design standards					New permitting and plan review software, Citizenseive, to be implemented in 2023, including plan review checklists		R:\Engineering\Engineering Design Standards Stormwater	
20.5	The permittee's regulatory mechanism(s) must require owners of construction activity to treat the water quality volume on any project where the sum of the new impervious surface and the fully reconstructed impervious surface equals one or more acres. [Minn. R. 7090]		Stormwater design standards							R:\Engineering\Engineering Design Standards Stormwater	
20.6	For construction activity (excluding linear projects), the water quality volume must be calculated as one (1) inch times the sum of the new and the fully reconstructed impervious surface. [Minn. R. 7090]		Stormwater design standards							R:\Engineering\Engineering Design Standards Stormwater	
20.7	For linear projects, the water quality volume must be calculated as the larger of one (1) inch times the new impervious surface or one-half (0.5) inch times the sum of the new and the fully reconstructed impervious surface. Where the entire water quality volume cannot be treated within the existing right-of-way, a reasonable attempt to obtain additional right-of-way, easement, or other permission to treat the stormwater during the project planning process must be made. Volume reduction practices must be considered first, as described in item 20.8. Volume reduction practices are not required if the practices cannot be provided cost effectively. If additional right-of-way, easements, or other permission cannot be obtained, owners of construction activity must maximize the treatment of the water quality volume prior to discharge from the MS4. [Minn. R. 7090]		Stormwater design standards							R:\Engineering\Engineering Design Standards Stormwater	
20.8	Volume reduction practices (e.g., infiltration or other) to retain the water quality volume on-site must be considered first when designing the permanent stormwater treatment system. The General Permit does not consider wet sedimentation basins and filtration systems to be volume reduction practices. If the General Permit prohibits infiltration as described in item 20.9, other volume reduction practices, a wet sedimentation basin, or filtration basin may be considered. [Minn. R. 7090]	City engineer and water resources engineer review stormwater management plans and determine if infiltration practices are allowed or subject to higher engineering review	Wellhead Protection Plan (WHPP) Documents areas where infiltration is prohibited or not recommended.							R:\Utilities\WATER\Well Information\WellheadProtection	

20.9	Infiltration systems must be prohibited when the system would be constructed in areas: a. that receive discharges from vehicle fueling and maintenance areas, regardless of the amount of new and fully reconstructed impervious surface; b. where high levels of contaminants in soil or groundwater may be mobilized by the infiltrating stormwater. To make this determination, the owners and/or operators of construction activity must complete the Agency's site screening assessment checklist, which is available in the Minnesota Stormwater Manual, or conduct their own assessment. The assessment must be retained with the site plans; c. where soil infiltration rates are more than 8.3 inches per hour unless soils are amended to slow the infiltration rate below 8.3 inches per hour; d. with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock; e. of predominately Hydrologic Soil Group D (clay) soils; f. in an Emergency Response Area (ERA) within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, Subp. 13, classified as high or very high vulnerability as defined by the Minnesota Department of Health; g. in an ERA within a DWSMA classified as moderate vulnerability unless the permittee performs or approves a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater; h. outside of an ERA within a DWSMA classified as high or very high vulnerability unless the permittee performs or approves a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater; i. within 1,000 feet up-gradient or 100 feet down gradient of active karst features; or j. that receive stormwater runoff from these types of entities regulated under NPDES for industrial stormwater: automobile salvage yards; scrap recycling and waste recycling facilities; hazardous waste	City engineer and water resources engineer review stormwater management plans and determine if infiltration practices are allowed or subject to higher engineering review.	Wellhead Protection Plan (WHPP) Documents areas where infiltration is prohibited or not recommended.						Landsby apartments underground infiltration system was permitted and constructed after higher level engineering review.	R:\Utilities\WATER\Well Information\WellheadProtection	
20.1	For non-linear projects, where the water quality volume cannot cost effectively be treated on the site of the original construction activity, the permittee must identify, or may require owners of the construction activity to identify, locations where off-site treatment projects can be completed. If the entire water quality volume is not addressed on the site of the original construction activity, the remaining water quality volume must be addressed through off-site treatment and, at a minimum, ensure the requirements of items 20.11 through 20.14 are met. [Minn. R. 7090]	Public works director and city engineer make agreements for off-site treatment of stormwater with developers	Plan review checklist specifies cost of regional treatment where allowable - \$0.60/sf impervious in RBWMO.								
20.11	The permittee must ensure off-site treatment project areas are selected in the following order of preference: a. locations that yield benefits to the same receiving water that receives runoff from the original construction activity; b. locations within the same Department of Natural Resource (DNR) catchment area as the original construction activity; c. locations in the next adjacent DNR catchment area up-stream; or d. locations anywhere within the permittee's jurisdiction. [Minn. R. 7090]	Plan review to be completed by water resources engineer in coordination with other engineering staff and city departments.									
20.12	Off-site treatment projects must involve the creation of new structural stormwater BMPs or the retrofit of existing structural stormwater BMPs, or the use of a properly designed regional structural stormwater BMP. Routine maintenance of structural stormwater BMPs already required by the General Permit cannot be used to meet this requirement. [Minn. R. 7090]	Public works director and city engineer make agreements for off-site treatment of stormwater with developers									
20.13	Off-site treatment projects must be completed no later than 24 months after the start of the original construction activity. If the permittee determines more time is needed to complete the treatment project, the permittee must provide the reason(s) and schedule(s) for completing the project in the annual report. [Minn. R. 7090]	Public works director and city engineer make agreements for off-site treatment of stormwater with developers									
20.14	If the permittee receives payment from the owner of a construction activity for off-site treatment, the permittee must apply any such payment received to a public stormwater project, and all projects must comply with the requirements in items 20.11 through 20.13. [Minn. R. 7090]	Public works director and city engineer make agreements for off-site treatment of stormwater with developers									
20.15	The permittee's regulatory mechanism(s) must include the establishment of legal mechanism(s) between the permittee and owners of structural stormwater BMPs not owned or operated by the permittee, that have been constructed to meet the requirements in Section 20. The legal mechanism(s) must include provisions that, at a minimum: a. allow the permittee to conduct inspections of structural stormwater BMPs not owned or operated by the permittee, perform necessary maintenance, and assess costs for those structural stormwater BMPs when the permittee determines the owner of that structural stormwater BMP has not ensured proper function; b. are designed to preserve the permittee's right to ensure maintenance responsibility, for structural stormwater BMPs not owned or operated by the permittee, when those responsibilities are legally transferred to another party; and c. are designed to protect/preserve structural stormwater BMPs. If structural stormwater BMPs change, causing decreased effectiveness, new, repaired, or improved structural stormwater BMPs must be	Public works director signs off on agreements Water resources engineer carries out inspections and enforcement as needed	Maintenance agreements City code section 429: water resource management regulations				Following BMP inventory update, all privately-owned structural BMPs to be inspected in 2023, even where agreements specify private responsibility, pursuant to city code section 429.05 Subd. 8. Water resources engineer				

[illegible]

21.2	New permittees must develop and implement, and existing permittees must revise their current program, as necessary, and continue to implement, an operations and maintenance program that prevents or reduces the discharge of pollutants to the MS4 from permittee owned/operated facilities and operations. The permittee must incorporate Section 21 requirements into their program. [Minn. R. 7090]	Deputy public works director, operations manager, and facilities team implements operations and maintenance program in consultation with water resources engineer	MCM 6 SOPs							
21.3	The permittee must maintain a written or mapped inventory of permittee owned/operated facilities that contribute pollutants to stormwater discharges. The permittee must implement BMPs that prevent or reduce pollutants in stormwater discharges from all inventoried facilities. Facilities to be inventoried may include, but is not limited to: a. composting; b. equipment storage and maintenance; c. hazardous waste disposal; d. hazardous waste handling and transfer; e. landfills; f. solid waste handling and transfer; g. parks; h. pesticide storage; i. public parking lots; j. public golf courses; k. public swimming pools; l. public works yards; m. recycling; n. salt storage; o. snow storage; p. vehicle storage and maintenance (e.g., fueling and washing) yards; and	Water resources engineer and GIS coordinator map and inventory municipal facilities	Facility inventory	Facility inventory currently attached as appendix to MCM 6 SOPs.			Facility inventory in process of being digitized to GIS.			
21.4	The permittee must implement BMPs that prevent or reduce pollutants in stormwater discharges from the following municipal operations that may contribute pollutants to stormwater discharges, where applicable: a. waste disposal and storage, including dumpsters; b. management of temporary and permanent stockpiles of materials such as street sweepings, snow, sand and sediment removal piles (e.g., effective sediment controls at the base of stockpiles on the downgradient perimeter); c. vehicle fueling, washing, and maintenance; d. routine street and parking lot sweeping; e. emergency response; f. cleaning of maintenance equipment, building exteriors, dumpsters, and the disposal of associated waste and wastewater; g. use, storage, and disposal of significant materials; h. landscaping, park, and lawn maintenance; i. road maintenance, including pothole repair, road shoulder maintenance, pavement marking, sealing, and	Deputy public works director, operations manager, and facilities team implements BMPs for regular municipal operations, in consultation with water resources engineer. Water resources engineer responsible for quarterly inspections of facilities. Parks staff to follow relevant	MCM 6 SOPs	Quarterly inspections needed at: - Public works salt storage - Public works storage at 6200 Cedar Ave			6200 Cedar Ave storage area to be phased out of use			
21.5	The permittee must implement the following BMPs at permittee owned/operated salt storage areas: a. cover or store salt indoors; b. store salt on an impervious surface; and c. implement practices to reduce exposure when transferring material from salt storage areas (e.g., sweeping, diversions, and/or containment). [Minn. R. 7090]	Deputy public works director and operations responsible for winter maintenance program, including salt storage. Water resources engineer responsible for quarterly facility inspections	MCM 6 SOPs	Salt storage is at shed adjacent to public works building, 1901 E 66th St. All requirements currently fulfilled						
21.6	The permittee must implement a written snow and ice management policy for individuals that perform winter maintenance activities for the permittee. The policy must establish practices and procedures for snow and ice control operations (e.g., plowing or other snow removal practices, sand use, and application of deicing compounds). [Minn. R. 7090]	Public works director, deputy public works director and operations team develops and administers snow & ice policy	Snow & ice Policy						R:\Storm Utility\MS4 and SWPPP\MCM 6 - Pollution Prevention for Municipal Operations\1_Project Oversight\2023 Snow and Ice Policy.pdf	

21.7	Each calendar year, the permittee must ensure all individuals that perform winter maintenance activities for the permittee receive training that includes: a. the importance of protecting water quality; b. BMPs to minimize the use of deicers (e.g., proper calibration of equipment and benefits of pretreatment, pre-wetting, and anti-icing); and c. tools and resources to assist in winter maintenance (e.g., deicing application rate guidelines, calibration charts, Smart Salting Assessment Tool). The permittee may use training materials from the Agency's Smart Salting training or other organizations to meet this requirement. [Minn. R. 7090]	Deputy public works director and operations manager lead annual plow meeting at which training is provided.	MCM 6 SOPs Annual plow/winter maintenance meeting Salt usage tracking (operations)	All Richfield winter maintenance staff are also certified in smart salting through MPCA.				Smart salting training administered at annual plow meeting; attendance recorded on staff training log			R:\Operations\Plowing\Salt Tracking\Material Usage Reports
21.8	The permittee must maintain written procedures for the purpose of determining the TSS and TP treatment effectiveness of all permittee owned/operated ponds constructed and used for the collection and treatment of stormwater. [Minn. R. 7090]	Water resource engineer responsible for inspections, with assistance from field staff as-needed.	Surface Water Management Plan MCM 6 SOPs Pond Prioritization Plan	Treatment effectiveness is assessed through: - Inspections - Water quality monitoring - Water quality/quantity modeling (P8)			Pond Prioritization Plan in development, to be completed in Spring 2023				
21.9	The permittee must inspect structural stormwater BMPs (excluding stormwater ponds, which are under a separate schedule below) each calendar year to determine structural integrity, proper function, and maintenance needs unless the permittee determines either of the following conditions apply: a. complaints received or patterns of maintenance indicate a greater frequency is necessary; or b. maintenance or sediment removal is not required after completion of the first two calendar year inspections; in which case the permittee may reduce the frequency of inspections to once every two (2) calendar years. [Minn. R. 7090]	Water resource engineer responsible for inspections, with assistance from field staff as-needed.	Stormwater BMP inspection forms MCM 6 SOPs								https://richfieldmng.is.com/portal/apps/opsdashboard/index.html#/8614133030b14a188f8b913041d0beec
21.1	Prior to the expiration date of the General Permit, the permittee must conduct at least one inspection of all ponds and outfalls (excluding underground outfalls) in order to determine structural integrity, proper function, and maintenance needs. [Minn. R. 7090]	Water resource engineer responsible for inspections, with assistance from field staff as-needed.	Stormwater BMP inspection forms MCM 6 SOPs	The City will continue to annually inspect a minimum of 20% of all its MS4 outfalls, sediment basins, and ponds, then evaluate and record the number of proposed maintenance projects and successful funding of each project (if applicable).			Sheridan Pond restoration to be completed mid 2023. All stormwater ponds and outfalls scheduled for inspection as part of pond prioritization program.	Sheridan Pond dredging project initiated			https://richfieldmng.is.com/portal/apps/opsdashboard/index.html#/8614133030b14a188f8b913041d0beec
21.11	Based on inspection findings, the permittee must determine if repair, replacement, or maintenance measures are necessary in order to ensure the structural integrity and proper function of structural stormwater BMPs and outfalls. The permittee must complete necessary maintenance as soon as possible. If the permittee determines necessary maintenance cannot be completed within one year of discovery, the permittee must document a schedule(s) for completing the maintenance. [Minn. R. 7090]	Water resources engineer requests work order with utilities crew for routine repairs and maintenance. Larger jobs will be referred to the assistant utilities superintendent	Utilities HUB - stormwater BMP inspection forms								https://richfieldmng.is.com/portal/apps/experiencebuilder/experience/?id=3e0704a8cb14456ba58c527989da18bb
21.12	The permittee must implement a stormwater management training program commensurate with individual's responsibilities as they relate to the permittee's SWPPP, including reporting and assessment activities. The permittee may use training materials from the United States Environmental Protection Agency (USEPA), state and regional agencies, or other organizations as appropriate to meet this requirement. The training program must: a. address the importance of protecting water quality; b. cover the requirements of the permit relevant to the responsibilities of the individual not already addressed in items 18.8, 18.9, 19.11, 20.18, and 21.7; and c. include a schedule that establishes initial training for individuals, including new and/or seasonal	Water resources engineer is primary responsible person for MS4 compliance, and primary recipient of training.	Staff training schedule					Mattias Oddsson, water resources engineer, received training in SOPs, ERPs, SWPPP and MS4 obligations. Began development of new staff training schedule			
21.13	The permittee must document the following information associated with the operations and maintenance program: a. date(s) and description of findings, including whether or not an illicit discharge is detected, for all inspections conducted in accordance with items 21.9 and 21.10; b. any adjustments to inspection frequency as authorized in item 21.9; c. date(s) and a description of maintenance conducted as a result of inspection findings, including whether or not an illicit discharge is detected; d. schedule(s) for maintenance of structural stormwater BMPs and outfalls as required in item 21.11; and	Water resources engineer and utilities staff conduct and document inspections.	BMP and outfall inspection forms Utilities HUB work orders Staff training schedule Pond prioritization plan								https://richfieldmng.is.com/portal/apps/opsdashboard/index.html#/8614133030b14a188f8b913041d0beec
21.14	The permittee must document pond sediment excavation and removal activities, including: a. a unique ID number and geographic coordinates of each stormwater pond from which sediment is removed; b. the volume (e.g., cubic yards) of sediment removed from each stormwater pond; c. results from any testing of sediment from each removal activity; and d. location(s) of final disposal of sediment from each stormwater pond. [Minn. R. 7090]	Water resources engineer and assistant utilities superintendent manage and document pond dredging projects					Consider how to link stored files to MS4 Hub or digitize required data in GIS. Goal is to keep all MS4 documentation centralized			\\RIFS01\pubwks\$Storage\Utility\Storm Pond Dredging	

[illegible]

[illegible]

25.2	The permittee must conduct an annual assessment to evaluate compliance with the terms and conditions of the General Permit, including the effectiveness of the components of the SWPPP and the status of achieving the measurable requirements in the General Permit. Measurable requirements are activities that must be documented or tracked (e.g., education and outreach efforts, implementation of written plans, inventories, trainings, site plan reviews, inspections, enforcement, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the SWPPP as a result of the annual assessment. [Minn. R. 7090]	Water resources engineer regularly reviews program status and requirements, overseen by public works management, city engineer						2022 annual assessment conducted on 1/9/2023, with technical support from WSB. Evaluation revealed that enforcement of maintenance agreements needs improvement. SWPPP transitioned to new format, updated with latest information			
25.3	The permittee must submit an annual report : Due annually, by the 30th of June. The annual report must cover the portion of the previous calendar year during which the permittee was authorized to discharge stormwater under the General Permit. The annual report shall be submitted to the Agency, in a manner determined by the Agency, that includes but is not limited to: a. the status of compliance with permit terms and conditions, including an assessment of the appropriateness of BMPs identified by the permittee and progress towards achieving the measurable requirements of each of the MCMs. The assessment must be based on results of information collected and analyzed, including monitoring (if any), inspection findings, and public input received during the reporting period; b. the stormwater activities the permittee plans to undertake during the next reporting cycle; c. a change in any identified BMPs for any of the MCMs; d. the summary required in item 22.2 to demonstrate progress toward achieving applicable WLAs; e. information required to be recorded or documented in Sections 13 through 24; and	Water resources engineer submits annual reports, with review from assistant utilities superintendent, city engineer, and public works director.					NO MS4 ANNUAL REPORT IN 2023. ALL 2022 INFORMATION MUST STILL BE DOCUMENTED AND WILL BE REPORTED TO MPCA IN 2024. NEW E-SERVICE IS BEING DEVELOPED FOR REPORTS.	2021 annual report submitted June 28th, 2022.	2020 annual report submitted June 30th, 2021.	R:\Storm Utility\MS4 and SWPPP\MS4 General Permit 2020-2025\2_Project Development\Reports\Annual report	
25.4	The permittee must make records, including components of the SWPPP, available to the public at reasonable times during regular business hours (see 40 CFR 122.7 for confidentiality provision). [Minn. R. 7090]	Communications manages city website. Water resources engineer has access to edit water-related webpages, including page where SWPPP is posted	Outreach & Education Plan	SWPPP freely available on city website 24/7, all other relevant documents available upon request							https://www.richfieldmn.gov/departments/public_works/water_resources/storm_and_surface_waters.php
25.5	The permittee must retain copies of the permit application, all documentation necessary to comply with SWPPP requirements, all data and information used by the permittee to complete the application process, and any information developed as a requirement of the General Permit or as requested by the Commissioner, for a period of at least three (3) years beyond the date of permit expiration. This period is automatically extended during the course of an unresolved enforcement action regarding the small MS4 or as requested by the Commissioner. [Minn. R. 7001.0080, Minn. R. 7090]	Water resources engineer retains and manages relevant application documents.							New permit issued in 2020; documents to be retained through at least 2028 for this permit term.	R:\Storm Utility\MS4 and SWPPP\MS4 General Permit 2020-2025\6_Finalization	
25.6	The permittee must, when requested by the Commissioner, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the General Permit or regarding the conduct of the activity covered by the General Permit. [Minn. R. 7001.0150, Subp. 3(H), Minn. R. 7090]	Water resources engineer submits documentation as requested, with review from assistant utilities superintendent									
25.7	The permittee must use an electronic submittal process, as provided by the Agency, to submit information required by the General Permit. If electronic submittal is not available, the permittee must use the following mailing address: Supervisor, Municipal Stormwater Unit Minnesota Pollution Control Agency 520 Lafayette Road North St. Paul, Minnesota 55155-4194. [Minn. R. 7090]	Water resources engineer submits documentation as requested, with review from assistant utilities superintendent					NO ANNUAL REPORT DUE IN 2023 - SEE ABOVE				
26.1	General Conditions. [Minn. R. 7090]										
26.2	The Agency's issuance of a permit does not release the permittee from any liability, penalty, or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the General Permit. [Minn. R. 7001.0150, Subp. 3(A)]		General Permit Information								
26.3	The Agency's issuance of a permit does not prevent the future adoption by the Agency of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards, or orders against the permittee. [Minn. R. 7001.0150, Subp. 3(B)]		General Permit Information								
26.4	The General Permit does not convey a property right or an exclusive privilege. [Minn. R. 7001.0150, Subp. 3(C)]		General Permit Information								
26.5	The Agency's issuance of a permit does not obligate the Agency to enforce local laws, rules or plans beyond that authorized by Minnesota statutes. [Minn. R. 7001.0150, Subp. 3(D)]		General Permit Information								
26.6	The permittee must perform the actions or conduct the activity authorized by the permit in accordance with the plans and specifications approved by the Agency and in compliance with the conditions of the permit. [Minn. R. 7001.0150, Subp. 3(E)]		General Permit Information								

	Common Plan of Development or Sale means a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur. [Minn. R. 7090]		General Permit Information								
27.8			General Permit Information								
	Construction Activity means activities including clearing, grading, and excavating, that result in land disturbance of equal to or greater than one acre, including the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one acre. This includes a disturbance to the land that results in a change in the topography, existing soil cover, both vegetative and nonvegetative, or the existing soil topography that may result in accelerated stormwater runoff that may lead to soil erosion and movement of sediment. Construction activity does not include a disturbance to the land of less than five acres for the purpose of routine maintenance performed to maintain the original line and grade, hydraulic capacity, and original purpose of the facility. Routine maintenance does not include activities such as repairs, replacement and other types of non-routine maintenance. Pavement rehabilitation that does not disturb the underlying soils (e.g., mill and overlay projects) is not construction activity. [Minn. R. 7090]										
27.9			General Permit Information								
27.1	DNR Catchment Area means the Hydrologic Unit 08 areas delineated and digitized by the Minnesota DNR. The catchment areas are available for download at the Minnesota DNR Geospatial Commons website. DNR catchment areas may be locally corrected, in which case the local corrections may be used. [Minn. R. 7090]										
	Existing Permittee means an owner/operator of a small MS4 that has been authorized to discharge stormwater under a previously issued general permit for small MS4s in the state of Minnesota. [Minn. R. 7090]		General Permit Information								
27.11			General Permit Information								
	Fully reconstructed means areas where impervious surfaces have been removed down to the underlying soils. Activities such as structure renovation, mill and overlay projects, and other pavement rehabilitation projects that do not expose the underlying soils beneath the structure, pavement, or activity are not considered fully reconstructed. Maintenance activities such as catch basin repair/replacement, utility repair/replacement, pipe repair/replacement, lighting, and pedestrian ramp improvements are not considered fully reconstructed. [Minn. R. 7090]		General Permit Information								
27.12			General Permit Information								
27.13	General permit means a permit issued under Minn. R. 7001.0210 to a category of permittees whose operations, emissions, activities, discharges, or facilities are the same or substantially similar. [Minn. R. 7001.0010, Subp. 4]		General Permit Information								
	Geographic Coordinates means the point location of a stormwater feature expressed by X, Y coordinates of a standard Cartesian coordinate system (i.e. latitude/longitude) that can be readily converted to Universal Transverse Mercator (UTM), Zone 15N in the NAD83 datum. For polygon features, the geographic coordinates will typically define the approximate center of a stormwater feature. [Minn. R. 7090]		General Permit Information								
27.14			General Permit Information								
	High Flow Bypass means a function of an inlet device that allows a certain flow of water through, but diverts any higher flows away. High flow bypasses are generally used for BMPs that can only treat a designed amount of flow and that would be negatively affected by higher flows. [Minn. R. 7090]		General Permit Information								
27.15			General Permit Information								
	Illicit Discharge means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities. [40 CFR 122.26(b)(2)]		General Permit Information								
27.16			General Permit Information								
27.17	Impaired Water means waters identified as impaired by the Agency, and approved by the USEPA, pursuant to section 303(d) of the Clean Water Act (33 U.S.C. 303(d)). [Minn. R. 7090]		General Permit Information								
	Linear project means construction of new or fully reconstructed roads, trails, sidewalks, or rail lines that are not part of a common plan of development or sale. For example, roads being constructed concurrently with a new residential development are not considered linear projects because they are part of a common plan of development or sale. [Minn. R. 7090]		General Permit Information								
27.18			General Permit Information								
	Maximum Extent Practicable or "MEP" means the statutory standard (33 U.S.C. 1342(p)(3)(B)(iii)) that establishes the level of pollutant reductions that an owner or operator of regulated MS4s must achieve. The USEPA has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. The pollutant reductions that represent MEP may be different for each small MS4, given the unique local hydrologic and geologic concerns that may exist and the differing possible pollutant control strategies. Therefore, each permittee will determine appropriate BMPs to satisfy each of the six Minimum Control Measures (MCMs) through an evaluative process. The USEPA envisions application of the MEP standard as an iterative process. [Minn. R. 7090]		General Permit Information								
27.19			General Permit Information								
	Municipal separate storm sewer system or "MS4" means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains: a. owned or operated by a state, city, town, county, district, association, or other public body, created by or pursuant to state law, having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district, or drainage district or similar entity, or an Indian tribe or an authorized Indian tribe organization, or a designated and approved management Agency under section 208 of the federal Clean Water Act, United States Code, title 33, section 1288, that discharges into waters of the state; b. designed or used for collecting or conveying stormwater; c. that is not a combined sewer; and d. that is not part of a publicly owned treatment works as defined in 40 CFR 122.2.										
27.2	Municipal separate storm sewer systems do not include separate storm sewers in very discrete areas, such as individual buildings. [Minn. R. 7090.0080, Subp. 8]		General Permit Information								

27.4	Waste Load Allocation or "WLA" means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution, as more fully defined in Code of Federal Regulations, title 40, section 130.2, paragraph (h). In the absence of a TMDL approved by USEPA under 40 CFR 130.7, or an assessment and remediation plan developed and approved according to Minn. R. 7052.0200, Subp. 1.C, a WLA is the allocation for an individual point source that ensures that the level of water quality to be achieved by the point source is derived from and complies with all applicable water quality standards and criteria. [Minn. R. 7052.0010, Subp. 45]		General Permit Information								
27.41	Water pollution means (a) the discharge of any pollutant into any waters of the state or the contamination of any waters of the state so as to create a nuisance or render such waters unclean, or noxious, or impure so as to be actually or potentially harmful or detrimental or injurious to public health, safety or welfare, to domestic, agricultural, commercial, industrial, recreational or other legitimate uses, or to livestock, animals, birds, fish or other aquatic life; or (b) the alteration made or induced by human activity of the chemical, physical, biological, or radiological integrity of waters of the state. [Minn. Stat. 115.01, subd. 13]		General Permit Information								
27.42	Water Quality Standards means those provisions contained in Minn. R. 7050 and 7052. [Minn. R. 7090]		General Permit Information								
27.43	Water Quality Volume means either: a. for construction activity (excluding linear projects), one (1) inch of runoff from the sum of the new and fully reconstructed impervious surfaces created by the project (calculated as an instantaneous volume); or b. for linear projects, the greater of one (1) inch of runoff from the new impervious surface or one-half (0.5) inch of runoff from the sum of the new and fully reconstructed impervious surfaces created by the project (calculated as an instantaneous volume). [Minn. R. 7090]		General Permit Information								
27.44	Waters of the State means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof. [Minn. Stat. 115.01, subd. 22]		General Permit Information								
27.45	Wetlands means those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes: a. a predominance of hydric soils; b. inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and c. under normal circumstances support a prevalence of such vegetation. [Minn. R. 7050.0186, Subp. 1a.B]		General Permit Information								

Working Calendar	Quarterly topics (general)			Quarterly topics (general)			Quarterly topics (general)			Quarterly topics (general)		
				Pet Waste			Illicit Discharges					
				Adopt-a-drain			Adopt-a-drain			FOG		
				Water Conservation			MS4/SWPPP Public Comments			Smart Salting		
	Smart Salting			Street Sweeping			Street Sweeping			Street Sweeping		
	Pet Waste			Yard Waste			Yard Waste			Yard Waste		
	Current Events			Current Events			Current Events			Current Events		

[illegible]

Richfield MS4 MCM 1 – Education and Outreach Plan

Introduction

When it rains or when snow melts in our communities, the water travels on impervious surfaces. Impervious surfaces are surfaces that don't allow water to soak into it. Examples of these surfaces include roads, sidewalks/trails, driveways, rooftops, and more.

Water travels on these surfaces into storm drains which directly discharge into lakes, rivers, streams, and wetlands. As the water travels, it can pick up pollutants with it such as oils, metals, road salt, trash, and more.

The system of storm drains that you see in your community is a municipal separate storm sewer system (MS4). It consists of roads with drainage systems, catch basins, curbs, gutters, ditches, channels, etc.

These systems are owned or operated by a public entity. This can include cities, counties, military bases, universities, and more. In Minnesota, these systems must satisfy the MS4 permit if they are at least one of the following:

- Located in an urbanized area and used by a population of 1,000 or more.
- Owned by a municipality with a population of 10,000 or more.
- Have a population of at least 5,000 and the system discharges to specially classified bodies of water.

The MS4 permit is designed to reduce the amount of pollutants entering state waters from stormwater systems. Public entities that own or operate a MS4 permit are required to implement a Stormwater Pollution Prevention Program (SWPPP) to reduce the amount of pollutants to the system. An effective SWPPP has six components called Minimum Control Measures (MCMs).

One of the requirements of MCM 1 is for permittees to develop an education and outreach plan that consists of the following:

- Target audiences (e.g: residents, businesses, commercial facilities, institutions, and local organizations; consideration should be given to low-income residents, people of color, and non-native English-speaking residents);
- Name or position title of responsible person(s) in charge of overall plan implementation;
- Specific activities and schedules to reach each target audience; and
- A description of any coordination with and/or use of other stormwater education and outreach programs implemented by other entities, if applicable.

This document serves as the stormwater education and outreach plan for the City of Richfield.

Contacts and Responsible Persons

Name	Title	Department	Phone	Email
Mattias Oddsson	Water Resources Engineer	Public Works	612-861-9797	moddsson@richfieldmn.gov
Brittany Bartlett	Equity Coordinator	Executive	612-861-9725	bbartlett@richfieldmn.gov
Chad Donnelly	Assistant Utilities Superintendent	Public Works	612-861-9862	cdonnelly@richfieldmn.gov
Paul Smithson	Nature Center Manager	Wood Lake Nature Center	612-861-9366	psmithson@richfieldmn.gov
Kate Aitchison	Communications and Engagement Manager	Administrative Services	612-861-9184	kaitchison@richfieldmn.gov

The Water Resources Engineer shall be responsible for overall plan implementation, with the support of the personnel listed above.

The Equity Coordinator will support and guide outreach to priority audiences, including low-income residents, people of color, and non-native English-speaking residents.

The Assistant Utilities Superintendent will supervise the water resources engineer and coordinate with public outreach campaigns related to other utilities such as drinking water.

The Nature Center Manager will offer classes related to stormwater and water resources, host public events, and coordinate with the water resources engineer to document such activities for MS4 compliance.

The Communications and Engagement Manager will leverage City communication channels such as social media, newsletters, and public events to share stormwater outreach with the public.

Schedule

The following is a schedule showing seasonally relevant topics for each month of the year and target audiences for each topic. The MS4 permit requires outreach at least once per year on chlorides/deicing salt, pet waste, and two other priority issues selected by the permittee. Richfield's current priority issues are yard waste management and TMDLs/impaired waters.

This schedule is a general guide – City staff may at their discretion select additional topics not shown here, or change the order and timing of outreach topics. However, all issues shown on the schedule will be addressed in public outreach over the course of a typical year.

Month	Topic
January	Salt Use
February	Pet Waste
March	Illicit Discharge
April	Adopt a Drain
May	Landscaping and Yard Waste
June	Fertilizers and Pesticides
July	Water Conservation
August	Invasive Species
September	Pet Waste
October	Leaves
November	Salt Use
December	Trash



January – Salt Use

To help melt snow and ice during the winter months, salt is applied to the roads. As the snow and ice melts, it travels into stormwater systems. Because of salt, the concentration of Chloride has increased in surface and ground water. Chloride does not degrade in soil and water, and it can create toxic conditions for fish and other animals that live in our lakes and streams.

Tips for Residents

- Follow the manufacturer’s instructions
- Store de-icing material and salt under a covered hard surface storage area indoors
- Keep walkways shoveled
- Mix sand with salt to use less to deicing salt
- Apply the deicing salt sparingly and conservatively in areas of highest foot traffic.



February – Pet Waste

When pet waste is left uncollected, it gets washed into the stormwater systems and into our lakes and rivers. It then decays in the water, releasing ammonia and depleting oxygen levels. This is harmful to fish and other animals. These nutrients also promote weed and algae growth, as well as elevated bacteria levels (E. Coli) that can cause unsafe conditions for recreational activities.

Tips for Residents

- Install a smart sprinkler system
- Collect & save rainwater for smaller gardens
- Water at the right time according to your location
- Replace turf with native plants



March – Illicit Discharge

Storm sewer systems carry water directly into our lakes, rivers, and wetlands. If anything other than stormwater enters the system, it is an illicit discharge. Substances can include oil, chemicals, sediment, and more.

Tips for Residents

- Install a smart sprinkler system
- Collect & save rainwater for smaller gardens
- Water at the right time according to your location
- Replace turf with native plants



April – Adopt a Drain

Adopt-a-Drain is a program where residents can adopt a storm drain in their neighborhood. They are responsible to keep it clear of leaves, trash, and other debris to reduce water pollution. Residents volunteer fifteen minutes, twice a month, for cleaner waterways and healthier communities. Sign up online to Adopt a Drain in your neighborhood!

Tips for Residents

- Keep your drain clear by sweeping leaves, trash, and other debris off the drain surface year-round.

- Let friends and neighbors know about small things they can do at home to prevent water pollution
- Track your impact by keeping an estimated total of the debris you collect



May – Landscaping

Landscaping has the potential to deposit materials such as grass clippings and bush trimmings onto hard surfaces before being carried into the storm drainage system. Floatable landscaping materials such as mulch can as well enter stormwater detention areas or other areas where stormwater runoff can carry them into the storm drainage system. Keep all outdoor work areas neat and tidy. Public open spaces not checked for pet waste prior to landscaping can also lead to discharge into our lakes and rivers.

Tips for Residents

- Leave grass clippings on lawns or use them as mulch or compost
- Control weeds
- Sweep your sidewalk, driveway, or street of grass clippings
- Plant a garden for rain and wildlife



June – Fertilizers

The health and beauty of lawns and natural areas take the application of some fertilizers; however, improper use and excessive application can lead to discharge into our storm sewers, our lakes, and rivers. When fertilizers enter surface water, they nutrients that promote microorganism growth, reduced dissolved oxygen, and impair aquatic life.

Tips for Residents

- Apply fertilizers with the manufacturer's recommendations ("Read the Label")
- Avoid excess application of fertilizer
- Fertilize at the right time
- Sweep the hard surfaces where fertilizers may have fallen



July – Water Conservation

July is Water Conservation Month due to the peak water use because of warm temperatures, little rainfall, and water restrictions. The industry campaign's motive is to increase public awareness of the value of water-use efficiency.

Tips for Residents

- Install a smart sprinkler system

- Collect & save rainwater for smaller gardens
- Water at the right time according to your location
- Replace turf with native plants



August – Invasive Species

An invasive species is an organism not native to an environment that is introduced, becomes overpopulated, and harms its new environment. Invasive species which can be both terrestrial and aquatic species threaten the biological diversity, function, and sustainability of plant, animal communities, and aquatic environments.

Tips for Residents

- Clean hiking and fishing gear
- Plant native species in your yard and garden
- Fish using native bait if possible
- Clean your boat before transferring to a new body of water



September – TMDLs

Richfield is party to several regional TMDLs, including phosphorus TMDLs on Nokomis and Penn lakes, the Twin Cities Metro Area Chloride TMDL, and the Minnesota River TSS TMDL. The primary objective of this outreach campaign will be to spread awareness of TMDLs, share how the City is working to address its obligations, and describe what residents can do to improve water quality.

Tips for Residents

- Remove all of your pet's waste from streets, lawns, and sidewalks
- Dispose of your pet's waste in a covered waste container



October – Leaves and Yard Waste

Organic yard waste such as leaves decomposes and restores nutrients and organic matter into the soil. When they enter out lakes and rivers, these nutrients feed unwanted algae and further deplete the dissolved oxygen in these bodies of water. Street sweeping of leaves from City's streets, parking lots and sidewalks prevents them from being washed into storm sewers and surface waters.

Tips for Residents

- Rake leaves only when you need to or use them as fertilizer
- Properly dispose of raked leaves in yard waste bins/bags/facilities
- Don't sweep or blow leaves into the street



November – Salt Use

To help melt snow and ice during the winter months, salt is applied to the roads. As the snow and ice melts, it travels into stormwater systems. Because of salt, the concentration of Chloride has increased in surface and ground water. Chloride does not degrade in soil and water, and it can create toxic conditions for fish and other animals that live in our lakes and streams.

Tips for Residents

- Follow the manufacturer's instructions
- Store de-icing material and salt under a covered hard surface storage area indoors
- Keep walkways shoveled
- Mix sand with salt to use less to deicing salt
- Apply the deicing salt sparingly and conservatively in areas of highest foot traffic.



December – Trash

The potential for pollutants can occur if garbage and garbage bins are not properly disposed of. Illegal dumping of non-hazardous household waste and improper dumping of food waste and yard waste in our streets, storm drains, wetlands, lakes, and other water bodies pollutes surface waters. Non-hazardous household waste includes items such as tires, furniture, common household appliances and other bulk items. Yard waste includes any organic debris such as grass clippings, leaves, and tree branches. Food waste includes any organic and inorganic food items and containers containing food.

Tips for Residents

- Keep areas around garbage bins clean of all garbage.
- Ensure trash are within a closed trash disposal bag before being placed in the garbage bin
- Ensure garbage bins are located on a flat hard surface
- Have garbage bins emptied regularly to keep from overfilling.
- Wash out bins or dumpsters as needed to keep odors from becoming a problem
- Separate trash and recyclable items in their respective bins

Target Audiences

The City of Richfield strives to prioritize outreach in an equitable fashion to historically underserved communities. Richfield is home to several census tracts that are MPCA environmental justice areas of concern, as well as a significant population of non-native English-speaking residents. Several specific measures are taken as part of the City's education and outreach initiatives to better serve these communities.

1. Translation of outreach materials into other languages
2. Presence at established community events
3. Outreach tailored to environmental justice (EJ) communities and areas of concern

Outreach Activities

The City uses a variety of outreach methods to connect with residents. The most commonly used outreach tools are listed below with an accompanying description:

- Richfield Recap

The Richfield Recap is a weekly email newsletter sent out to subscribers. Circulation in 2023 was estimated at approximately 2500 residents. The Recap is ideal for distributing event announcements, short pieces of advice, and similar material. The expected audience for the Richfield Recap are residents who are highly engaged in City affairs and the community.

- Social Media: The City maintains a social media presence on Facebook, YouTube, and other social media outlets. The City Facebook page is commonly used for status updates and received substantial engagement from residents.
- Print Mailers: Print media is a useful tool for outreach to residents do not follow the City's online resources. Postcards or letters can be targeted to specific areas or distributed Citywide.
- In-Person Events
 - In-person outreach events are the most dynamic and interactive outreach method, allowing for direct dialogue with residents and community groups. City staff regularly attend established events and host workshops to engage with residents, businesses, and others. For example:
 - Richfield Eco Fair
 - Penn Fest
 - Wood Lake Nature Center Earth Day Events

- Low Salt No Salt workshops
- Wood Lake Nature Center
 - The Wood Lake Nature Center sees thousands of visitors and hundreds of students each year. The Nature Center regularly hosts field trips and classes, making it an ideal venue for outreach to schools and students. Wood Lake also attracts visitors from beyond Richfield, and is well suited for outreach regarding regional stormwater issues.
- Interpretive Signage
 - Newly completed stormwater projects will often have interpretive signage installed, explaining the project, its benefits, and actions residents can take to benefit water resources and sustainability.

Coordination and Partnership

Richfield partners with several organizations to support its education and outreach efforts. Significant partnerships are listed below with an explanation of their contributions to the City's outreach.

- WMWA/Hennepin County
 - Beginning in 2023, the City of Richfield, via the RBWMO has partnered with the West Metro Water Alliance, a group of Watershed Management Organizations (WMOs) collaborating on stormwater education and outreach. WMWA has in turn partnered with Hennepin County to fund a full-time conservation specialist working on stormwater outreach. This position prepares media kits for member WMOs, supports public outreach leading to project implementation, leads workshops for residents, and hosts one-on-one chloride reduction workshops for area businesses and institutions.
- Metro Watershed Partners/Adopt-a-Drain
 - The Metro Watershed Partners is a Twin Cities Metro Area-wide group of municipalities, watershed districts, and others working to further environmental education. In addition to providing educational resources and regular meetings and workshops for staff, membership in this group also allows Richfield to access Hamline University's Adopt-a-Drain program, a key component of the City's public engagement efforts.
- Richfield-Bloomington WMO (RBWMO)
 - The RBWMO was formed by a joint powers agreement between the cities of Richfield and Bloomington to manage storm and surface water in areas not covered by neighboring watershed districts. One of the RBWMO's functions is education and outreach, which has taken numerous forms, such as a youth education program collaborating with area schools, maintaining a website with resources for residents, working with the Wood Lake Nature Center, and providing financial and technical support to stormwater projects.



CITY OF RICHFIELD STANDARD OPERATING PROCEDURES

Minimum Control Measure 3

Illicit Discharge Detection and Elimination

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MINIMUM CONTROL MEASURE 3

1. Introduction

1.1 Basis for the Standard Operating Procedures (SOPs)

On November 16, 2020, the Minnesota Pollution Control Agency reissued their National Pollutant Discharge Elimination System (NPDES) General Permit (GP) for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). Section 18.12 of the MS4 GP requires the City of Richfield to develop written procedures for the purpose of eliminating non-stormwater discharges through the development of an Illicit Discharge Detection and Elimination Program.

These SOPs guide the City in meeting the MS4 GP regulations, and describe the use of targeted best management practices (BMPs) to prevent the discharge of anything other than uncontaminated stormwater into the MS4. This Guidelines and Standard Operating Procedures Manual will help promote behavior to improve the water quality of the City of Richfield's water resources.

1.2 Objectives of the SOPs

These SOPs are intended to meet the requirements set forth in sections 18.1, 18.8, 18.9, 18.10, 18.12 and 18.13 of the MS4 GP, and describe how the other provisions of Minimum Control Measure 3 (MCM 3) – Illicit Discharge Detection and Elimination – will be met. These SOPs constitute the required written procedures for investigating, locating, and eliminating illicit discharges and responding to spills. To meet the provisions of section 18.12, these SOPs include:

- a. A timeframe in which the City will investigate reported illicit discharges;
- b. A description of the use of visual inspections to detect and track the source of illicit discharges;
- c. Tools available to the City to investigate and locate illicit discharges;
- d. Cleanup methods available to the City to remove an illicit discharge or spill; and
- e. The name or position of responsible person(s) for investigating, locating, and eliminating illicit discharges

The MS4 GP sets forth requirements for staff training in sections 18.8-18.9. These SOPs detail the staff training, including topics covered and frequency of trainings.

The spill response plan in appendix D is designed to meet the provisions of MS4 GP section 18.13, and includes at a minimum:

- a. Immediate notification of the Minnesota Department of Public Safety Duty Officer at 1-800-422-0798 or 651-649-5451, if the source of the illicit discharge is a leak or spill as defined in Minn. Stat. 115.061
- b. Emergency response procedures to prevent spills from entering the MS4

2. Locating Priority Areas

The City shall maintain a written or mapped inventory of priority areas the City identifies as having a higher likelihood for illicit discharges. At a minimum, the City

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shall evaluate the following for potential inclusion in the inventory":

- Land uses associated with business/industrial activities;
- Areas where illicit discharges have been identified in the past; and
- Areas with storage of significant materials that could result in an illicit discharge

A map has been provided in Appendix F that identifies potential priority areas for detecting illicit discharges based on land use. The methodology for further establishing priority areas is detailed in. The City will review the prioritization at least once during each five-year permit term. This map is intended to satisfy the requirements of section 18.10 of the MS4 GP.

2.1 Review of Available Information

Activities and Definition

Priority areas for IDDE will vary depending on water quality conditions, land use associated with business or industrial activities, etc. A relatively simple desktop assessment of available community information can provide many clues as to where illicit discharges may be occurring for basing the prioritization.

The definition of illicit discharge includes any discharge to the MS4 storm sewer that is not stormwater, including leaking sanitary sewers or water mains, illegal sewage connections, illegal floor drain connections, seasonal draining of swimming pools (pools are recommended to be dechlorinated prior to discharge), break-out from failing septic systems, discharge of vehicle/equipment washing into the storm sewer, spills and dumping (Appendix A).

Preparation

The following is a list of resources that will be collected and reviewed and a brief description of factors to consider during the prioritization process (Appendix F). These factors comply with the requirements of MS4 GP section 18.10:

- a. Zoning Maps
Industrial areas with high density development may have a high illicit discharge potential. Also, commercial areas including bars, restaurants, grocery stores, shopping malls, automobile shops, carpet cleaners, ready-mix and bituminous plants, and sand and gravel pits may have high illicit discharge potential.
- b. Locations of Previous Illicit Discharges
Areas with historical illicit discharge reports or previous citizen complaints should be considered high priority.
- c. Areas with Storage of Significant Materials
Areas that have storage of significant materials, including but not limited to: raw materials, fuels, materials such as solvents, detergents and plastic pellets, etc. should be considered high priority.

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2.2 Mapping Verification Process

The City maintains a storm sewer map system that includes:

- All pipes 12 inches or greater in diameter, including stormwater flow direction in those pipes
 - Outfalls, including a unique identification (ID) number, and an associated geographic coordinate
 - Structural stormwater BMPs that are part of the City's small MS4
 - All receiving waters
- a. Using existing maps as a basis for locations, field personnel should start a mapping verification process by walking all named waterbodies within a given area of the community and collecting outfall location and design information using global positioning system (GPS) equipment capable of sub-meter (approximately 3 foot) accuracy.
 - b. An Outfall Inspection Form (Appendix C) should be filled out during mapping to record the outfall ID, location, condition, presence of any illicit discharges, and other information.
 - c. Review and field check other structures catch basins, culverts, pipes 12 inches or greater than diameter, ditches, drain manholes, etc.
 - d. Collect dry weather inspection information whenever possible.
 - e. Mark the outfall with its identifier for future location and easy reference using pre-manufactured signs.

3. Detection Process

An illicit discharge inspection form (Appendix B) should be completed whenever evidence of an illicit discharge is observed such as significant flow during dry weather, the presence of raw sewage indicators, staining, or residue.

Long-term, regular inspections of outfalls are a primary part of an effective IDDE program. Section 21.10 of the MS4 GP requires that all outfalls be inspected at least once per 5-year permit term. With regular inspections, a crew or inspector will have historical data to work with to make assessments. These inspections will be recorded electronically in a GIS database, and available for the inspector to reference in the field.

MS4 GP section 18.8 requires that all field staff must be trained in illicit discharge recognition, conditions causing illicit discharges, and reporting illicit discharges for further investigation. Field staff includes, but is not limited to, police, fire department, public works, and parks staff. A Program Manager may elect to have trained field crews conduct inspections on a formal basis, or informally monitor for illicit discharges while on their normal duties. If an employee observes evidence of an illicit discharge, they should collect as much information about the potential illicit discharge as possible, then contact their supervisor so that appropriate action

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can be taken.

It is important to collect as much information as possible at the time of initial observation because of the likelihood that a discharge may be transitory or intermittent. Initial identification of the likely or potential sources of the discharge is also very important.

Once an illicit discharge has been reported or detected through an inspection, the next step is to locate the source. Selection of tracing techniques will depend on the type of illicit discharge detected, the information collected during initial discovery and observation, and the resources/technology available to the municipality. A single technique may be used or several techniques may need to be combined to identify the source of the discharge. There are three types of discharges:

- a. Transitory illicit discharges: Typically one-time events resulting from spills, breaks, dumping, or accidents. Transitory illicit discharges are often reported to an authority through a citizen complaint line or following observation by a municipal employee during regular duties. Because they are not recurring, they are the most difficult to identify, trace, and remove. The best method to reduce transitory discharges is through general public education, education of municipal response personnel, tracking of discharge locations, and enforcement of an illicit discharge ordinance.
- b. Intermittent illicit discharges occur occasionally over a period of time (several hours per day, or a few days per year). Intermittent discharges can result from illegal connections to the storm drain system, such as an illegal sump pump connection that is discharging anything other than groundwater. Intermittent discharges can also result from activities such as drum washing in exterior areas. These types of discharges are more likely to be discovered, and are less difficult to trace and remove, but can still present significant challenges.
- c. Continuous illicit discharges are typically the result of a direct connection from a sanitary sewer, overflow from a malfunctioning septic system, inflow from a nearby subsurface sanitary sewer that is malfunctioning, or an illegal connection from a commercial or industrial facility. Continuous illicit discharges are usually easiest to trace and can have the greatest pollutant load (CWP 2004).

The investigative techniques used will depend on whether or not a potential source location was identified during the initial observation:

- a. Potential source identified: If a potential source for the illicit discharge was initially identified, steps should be taken to investigate the potential source site, such as inspecting the site and storm drain system in the vicinity of the site. If floor drains, sumps, or other suspect discharge locations are observed during this inspection, dye testing, smoke testing, electronic location of subsurface pipes, or televising may be used. These techniques should definitively show whether the suspect site was the source of the illicit

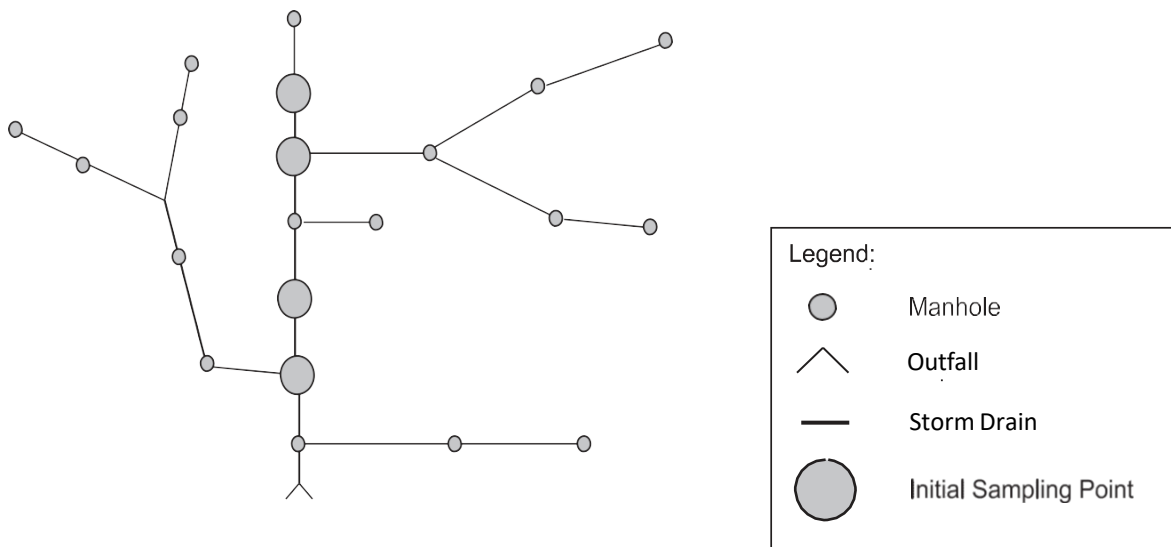
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discharge.

Potential source not identified: If no source site is suspected, and only the general area of the illicit discharge is known, it may be possible to trace the evidence of the illicit discharge by visual inspection of the storm drain access points.

It is necessary to understand the tracing technique and its limitation in order to select an effective tracing technique. The following is a brief summary of each of the tracing techniques that may be used to locate the source of an illicit discharge from an outfall:

- a. Visual Inspection at manholes/catch basins: This tracing technique is typically used when there is no suspected source site. It is the most cost effective and efficient method of tracing. Structures should be systematically inspected starting at the initial detection location, gradually working upstream through the system. If the crew is tracking a continuous discharge, the inspections may be relatively easy and the flow can be tracked back to its source. If the crew is attempting to track a transitory or intermittent discharge, the crew should make the following observations depending on the information provided from the initial identification: color and clarity of any discharges; staining or deposits on bottom of structure; oil sheen, scum, or foam on any standing fluids in sump of structure; odors, staining or deposits on inlet pipes and outlet pipes. Depending on what the crew is looking for and what they find, they will progressively inspect additional structures until either a potential source is found, or no further evidence is found. If no further evidence is found, the crew may elect to further assess some of the structures by installing sandbags or other damming devices to determine if the discharge recurs. Crews should use standard safety procedures when conducting these inspections such as cone placement and safety vests in traffic areas, confined space entry techniques (if entry is necessary), steel-toed boots, etc.



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- b. Sampling flowing discharges: Samples should be collected only in the event a discharge is flowing through the outfall. Stagnant pools of water or sump water should not be sampled. If the municipal staff will be collecting the sample, the staff should be trained in safety and proper collection techniques. Table 1. lists the parameters that a sample may be analyzed for and provides a general discussion of how the results may be interpreted.

Table 1. Threshold Levels for Screening Parameters Used in Illicit Discharge Surveys. This table was taken from the CWP manual (2004) which provides a more detailed discussion of sampling procedures and analysis of results.

Parameter	Threshold	Source
Ammonia	>0.1 mg/L	Brown et al (2004)
E. coli	>235 CFU/100 ml (grab sample)	EPA (1986)
Total coliform	>10,000 CFU/100 ml (grab sample)	California state standard (Dorfman and Rosselot, 2011)
Fluoride	>0.25 mg/L	Brown et al (2004)
Detergents	>0.25 mg/L	Brown et al (2004)
Potassium	>6 ppm	Guidance extrapolated from Lilly and Sturm (2010)

Sampling and analysis for many of the compounds should be completed by personnel trained in collection, handling, and preservation techniques to ensure accurate data. EPA guidance recommends collecting a sample when the discharge is initially found and after any source is removed. The sample collected after removing an illicit discharge can indicate if other illicit discharges are present.

Sandbagging or damming: Sandbagging and damming is typically only conducted when the discharge flow has ceased since initial detection. Application of this technique will show whether the discharge is one time only (no water pools behind the sandbag or dam) or intermittent (water pools behind the sandbag).

1. This technique involves placement of sandbags or similar barriers within strategic manholes in the storm drain network to form a temporary dam that collects any intermittent flows. flow collected behind the sandbag is then assessed using visual observations or sampling. Sandbags are lowered on a rope through the manhole to form a dam along the bottom of the storm drain, taking care not to fully block the pipe in case of precipitation. Sandbags are typically installed at junctions in the network to eliminate contributing branches from further consideration. If no flow collects behind the sandbag, the upstream pipe network can be ruled out as a source of the intermittent discharge. Sandbags are typically left in place for no more than 48 hours, and should only be installed when dry weather is forecast. Sandbags should not be left in place during a heavy rainstorm. They may cause a blockage in the storm drain or they may be washed downstream and lost.

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- c. Optical brightener monitoring traps: Optical brightener monitoring (OBM) traps can be used to trace intermittent or transitory discharges that result from washwater with detergent. However, the traps only detect highly concentrated discharges. The detergent concentration required to be detected by the light is approximately the same as pure washwater from a washing machine. Consequently, OBM traps may be best suited as a simple indicator of the presence or absence of intermittent flow or to detect the most concentrated flows. The traps can be made using easily acquired materials. The traps contain an absorbent, unbleached cotton pad or fabric swatch contained inside a wire mesh trap or section of small diameter (e.g., 2-inch) PVC pipe. The traps should be anchored to the inside of an outfall at the invert using wire or monofilament that is secured to the pipe itself. Rocks or bricks with holes can be used as temporary weights to hold the trap in place.

Field crews can retrieve the OBM traps after 24 to 72 hours of dry weather. OBM traps need to be retrieved before coming into contact with stormwater, which will contaminate the trap or wash it away. When placed under a long wave fluorescent ultraviolet or “black” light, an OBM trap will indicate if it has been exposed to detergents.

- d. Dye testing: Dye testing is typically conducted when a potential source site has been identified, and the crew is trying to determine whether the site has floor drains or other locations that connect and discharge to the storm drain system. Permission to access the site must be obtained before dye testing can be conducted. Written requests are recommended. The crew should review available sanitary sewer and storm drain maps before conducting the dye testing. The dye testing procedure consists of two steps: (1) discharging the dye into the suspect location, and (2) opening nearby storm drain and sanitary sewer manhole covers to determine where the dye discharges to.

This procedure is effective for confirming direct connections into the storm drain system for short reaches. If a longer pipe network is being evaluated, charcoal packets can be left in selected structures and later collected and analyzed for the presence of the dye. If dye testing on porcelain structures, tablets or charcoal should be wrapped in tissue before depositing. When dye testing, the crew should keep in mind that each structure (sink, toilet, etc.) should be tested separately. Many times a single utility in a basement may be incorrectly connected to a storm drain line instead of a sanitary line.

- e. Televising: Televised video inspections are a useful technique when an illicit connection or infiltration from a nearby sanitary sewer is suspected, but little evidence of the illicit discharge remains behind. Two types of video cameras are available for use:
1. A small camera that can be manually pushed on a stiff cable through storm drains to observe the interior of the piping, or
 2. A larger remote operated video camera on treads or wheels that can be guided through storm drains to view the interior of the pipe. Typically the

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operator of the camera has access to a keyboard or audio voice-over to record significant findings on the videotape that is produced for future review and evaluation.

- f. Smoke testing: Smoke testing is a useful technique for tracing intermittent discharges or continuous discharges that have no apparent source site. Smoke is introduced into the storm drain system, and emerges at locations that are connected to the system. Smoke testing works best for short reaches of pipe, or in situations where pipe diameters are too small for video testing.

Notifying the public about the date and purpose of smoke testing before starting is critical. The smoke used is non-toxic, but can cause respiratory irritation, which can be a problem for some residents. Residents should be notified at least two weeks prior to testing, and should be provided the following information (Hurco Technologies, Inc. 2003):

1. Date testing will occur
2. Reason for smoke testing
3. Precautions they can take to prevent smoke from entering their homes or businesses
4. What they need to do if smoke enters their home or business, and any health concerns associated with the smoke
5. A number residents can call to relay any particular health concerns (e.g., chronic respiratory problems)

3.1 Citizen Call-In Program

Activities and Definition

- a. A citizen call-in program is an effective way to identify illicit discharges. A citizen comment or complaint line will be publicized on the City's website. To maximize the effectiveness of citizen call-ins, administrative personnel should be instructed on the use of the IDDE Inspection Form in order to collect as much information as possible at the time of the report (Appendix D). Administrative personnel should also be instructed as to where to direct the information gathered from the tracking sheet so that appropriate action is taken.
- b. The MS4 Program Manager should identify who should be trained, and where the call-in line will be publicized on the City's website. For active websites and dedicated webmasters, an on-line forum could be incorporated into a stormwater page to encourage public participation.

Preparation

- a. Have a system in place to receive phone calls and collect information regarding suspected illicit discharges.

Process

- a. ~~Use the IDDE survey (Appendix D) to collect the appropriate information from the~~

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caller (Appendix D). Then, report the suspected discharge to the water resources engineer.

- b. Promptly investigate reported incidents. Investigate immediately whenever possible, but no later than 1 business day later in the case of a non-emergency situation. Emergency situations will be responded to immediately, as directed in the Spill Response Plan.
- c. If an illicit discharge of unknown source is confirmed, follow the procedures of Tracing Illicit Discharges.
- d. If an illicit discharge known source is confirmed:
 - 1. For Non-Emergency Situations: Follow the Illicit Discharges and Connection Enforcement policy outlined in the City's Enforcement Response Procedures.
 - 2. For Spills and Emergency Situations: Follow the City's Spill Response Plan (Appendix E).

Tracking Illicit Discharges

- a. Developing a long-term tracking program can help Program Managers better understand the origins of illicit discharges and identify maintenance issues for the storm drain system structures. A tracking program will also facilitate evaluation of the overall IDDE program and will expedite annual reporting. An effective tracking program should address illicit discharge and maintenance issues resulting from the following:
 - 1. Citizen complaints
 - 2. Opportunistic inspections
 - 3. Regular longer term inspections
 - 4. Removal actions taken for illicit discharges
- b. The City shall maintain written procedures for investigating, locating, and eliminating the source of illicit discharges. The Water Resources Engineer is the person responsible for investigating, locating, and eliminating an illicit discharge. The procedures shall include:
 - 1. A timeframe in which the County will investigate a reported illicit discharge.
 - 2. Use of visual inspections to detect and track the source of an illicit discharge.
 - 3. Tools to investigate and locate an illicit discharge.
 - 4. Cleanup methods available to the County to remove an illicit discharge or spill.
- c. Tools to investigate and locate an illicit discharge shall include:
 - 1. Mobile Cameras
 - 2. Smoke testing
 - 3. Dye testing
 - 4. Optical Brightener Monitoring Traps
 - 5. Visual Inspection
- d. City staff will record the following items in an IDDE log to track the number and location of illicit discharges, enforcement actions and follow-up

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(Appendix E):

Table 2. Sample Illicit Discharge Tracking Log. See Appendix E for the currently used IDDE log.

Date of Incident/ Date Reported:	Report Initiated by: Phone, drop-in, contact information (optional), etc.	Location of Discharge: If known - lat/long, stream address or outfall #, closest street address, nearby landmark, etc.	Description of Discharge: For example - dumping, wash water, suds, oil/solvents/chemicals, sewage, etc.	Actions to be taken: Who, What, Where, When, and How... (what should be done)	Description of Resolution: Outcome of actions taken and any necessary follow-up (what was done)	Date Resolved

3.2 Opportunistic Illicit Discharge Observation

Activities and Definition

Opportunistic illicit discharge observations are identified as a result of locating illicit discharges during routine City activities, which may include building inspections, system maintenance, etc.

Preparation

- a. Be alert for potential illicit discharges to the municipal stormwater system while going about normal work activities.

Process

- a. Call the Water Resources Engineer.
- b. Assess the general area of the illicit discharge to see if you can identify its source.
- c. Whenever possible, take photographs of the suspected illicit discharge.
- d. Responding stormwater department personnel or code enforcement officer will complete the following:
 1. Use the IDDE Tracking Form to document observations (Appendix D)
 2. Obtain a sample for visual observation.
 3. Follow the procedures described in section 2.3: Detection Process, as applicable, to identify the source of the illicit discharge.
 4. Take enforcement actions as necessary and as described in the Enforcement Response Procedures (ERPs) for illicit discharges.
- e. If clean-up is required, use the following procedures:

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1. For Non-Emergency Situations: Follow the Illicit Discharges and Connection Enforcement policy outlined in the City's Enforcement Response Procedures.
2. For Spills and Emergency Situations: Follow the City's Spill Response Plan (Appendix E).

Documentation

- a. Submit all completed forms (i.e. Outfall Inspection Form, IDDE Inspection Form, etc.), and verify accuracy of the recorded information, including the following:
 1. Dates and locations of IDDE inspections conducted.
 2. Reports of alleged illicit discharges received, including date(s) of the report(s), and any follow-up action(s) taken by the County.
 3. Date(s) of discovery of all illicit discharges.
 4. Identification of outfalls, or other areas, where illicit discharges have been discovered.
 5. Sources (including a description and the responsible party) of illicit discharges (if known).
 6. Actions taken by the City, including dates, to address discovered illicit discharges.

4. Responsible Persons and Training Requirements

Activities and Definition

Training of city staff is required by the MS4 GP sections 18.8 and 18.9. Field staff, including, but not limited to, police, fire, parks, and public works, must be trained on illicit discharges at least once per calendar year. Training of field staff is conducted through training documents and recorded and in-person presentations.

- a. This training must include, but is not limited to, the following topics:
 1. Illicit discharge recognition
 2. Conditions which could cause illicit discharges
 3. Reporting illicit discharges

The city must ensure that individuals responsible for investigating, locating, and eliminating illicit discharges and/or enforcement receive training commensurate with their responsibilities. Individuals who receive this training must then attend a refresher-training at least once every three calendar years following the initial training.

The following list describes the training on IDDE that will be given to municipal staff.

- a. Water Resources Engineer:

The water resources engineer is responsible for implementation and enforcement of IDDE within the City, and will be trained in identification, investigation, termination, cleanup, and reporting of illicit discharges, enforcement, prioritization of inspection sites, and spill response. In addition to annual Citywide training, an in-depth refresher training will be provided once every three years as specified in section 18.9 of the MS4 GP.

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- b. Engineering/Plan Review Staff:
Engineering and plan review staff will be trained in conditions that can lead to illicit discharge, prioritization of inspection sites, and IDDE annually.
- c. Field Staff:
Field Staff will be trained in identification, investigation, termination, cleanup, and reporting of illicit discharges, and spill response annually.
- d. Office Staff:
Office staff who respond to resident calls will be trained on responding to reports of illicit discharges annually.
- e. Other Employees:
Employees who could potentially encounter illicit discharges, or work in proximity to the MS4 system, will be trained in IDDE commensurate with their responsibilities once per calendar year.

5. Enforcement Response Procedures

The City shall maintain written enforcement response procedures (ERPs) to compel compliance with the regulatory mechanism(s). Such enforcement tools include timeframes to complete corrective actions and the name or position title of responsible person(s) for conducting enforcement. The following enforcement tools are used: [based off of the City's most recent MS4 Part 2 Permit Application]

- a. Verbal Warning
- b. Notice of Violation
- c. Fine
- d. Removal of Connection/Discharge

Documentation

The City shall document the following relating to ERPs:

- e. Name of the person responsible for violating the terms and conditions of the County's regulatory mechanism(s).
- f. Date(s) and location(s) of the observed violation(s).
- g. Description of the violation(s).
- h. Corrective action(s) (including completion schedule) that the County issued.
- i. Referrals to other regulatory organizations (if any).
- j. Date(s) violation(s) resolved

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References

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http://www.novaregion.org/pdf/OBM_Abstract2.pdf.

Appendix A: Definitions

Authorized Enforcement Agency: The City of Richfield.

Best Management Practices (BMPs): schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act: The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Construction Activity: Activities subject to NPDES Construction Permits. These include construction projects resulting in land disturbance of one acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Hazardous Materials: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Discharge: Any direct or indirect non-storm water discharge to the storm drain system, except as exempted in this ordinance.

Illicit Discharge Types:

Transitory illicit discharges: Typically one-time events resulting from spills, breaks, dumping, or accidents. Transitory illicit discharges are often reported to an authority through a citizen complaint line or following observation by a municipal employee during regular duties. Because they are not recurring, they are the most difficult to identify, trace, and remove. The best method to reduce transitory discharges is through general public education, education of municipal response personnel, tracking of discharge locations, and enforcement of an illicit discharge ordinance.

Intermittent illicit discharges: Occur occasionally over a period of time (several hours per day, or a few days per year). Intermittent discharges can result from legal connections to the storm drain system, such as a legal sump pump connection that is illegally discharging anything other than groundwater. Intermittent discharges can also result from activities such as drum washing in exterior areas. These types of discharges are more likely to be discovered, and are less difficult to trace and remove, but can still present significant challenges. These discharges can have large or small impacts on waterbodies depending on pollutant content and the size of the receiving water body.

Continuous illicit discharges: These are typically the result of a direct connection

from a sanitary sewer, overflow from a malfunctioning septic system, inflow from a nearby subsurface sanitary sewer that is malfunctioning, or an illegal connection from a commercial or industrial facility. Continuous illicit discharges are usually easiest to trace and can have the greatest pollutant load (CWP 2004).

Illicit Connections: An illicit connection is defined as any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or, any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Industrial Activity: Activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b)(14).

National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit: means a permit issued by EPA (or by a State under authority delegated pursuant to 33 USC § 1342 (b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual group, or general area-wide basis.

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

Person: Any individual, association, organization, partnership, firm, corporation or other entity recognized by law and action as either the owner or as the owner's agent.

Pollutant: Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, pesticides, herbicides, and fertilizers; hazardous substances and wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Premises: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Storm Drain System: Publicly-owned facilities by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Storm Water: Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Stormwater Pollution Prevention Plan: A document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges

to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

Wastewater: Any water or other liquid, other than uncontaminated storm water, discharged from a facility.

Appendix B: Outfall Inspection Form

Appendix C: Illicit Discharge Detection and Elimination Inspection Form

Appendix D: City of Richfield Spill Response Plan



City of Richfield Spill Response Plan

Emergency Contact Information

<i>Onsite Emergency Contact(s)</i>	Public Works Department – Primary 612-861-9170
	Edina Emergency Dispatch – Secondary 952-826-1610 / 911
<i>Emergency Response Contact(s)</i>	Fire/Paramedics/Police: 911
	Fire Non-Emergency Line: (612) 243-4500
	MN Duty Officer: (651) 649-5451
	MN Department of Health: (651) 201-5414
	National Response Center: (800) 424-8802

Spill Response Plan

Step 1: Approach the Scene

- Use safety first in responding to spills. Do not endanger yourself or others by entering a hazardous environment. If there is a fire or medical attention is needed, call 911 immediately.
- Avoid exposure. Approach the spill from upwind and stay clear of spills, vapors, fumes and smoke.

Step 2: Secure the Scene

- Isolate the spill.
- Keep people away from the scene; divert traffic and pedestrians as needed.
- If possible, stop the source of the spill.
- Eliminate any ignition sources.

Step 3: Identify the Hazards

- Attempt to identify the spilled material.
 - Characteristics (odor, color, sheen), labels/markings, container type, activities in the area, hazard warnings, etc.

Step 4: Assess the Situation

- Determine the appropriate first response actions and if additional response help is needed
- The response will be dictated by the size of the spill and the hazard:
 - Is there a fire, a spill, or a leak?
 - Is there a potential for it to mix with something else?
- Observe your surroundings:
 - Who/what is at risk? Is an evacuation necessary?
 - What resources are required and readily available to contain the spill?

Step 5: Report the Spill

- Report spills that may cause pollution, such as toxic, flammable, corrosive and dangerous industrial chemical spills.
 - Minnesota has a reporting threshold of five gallons for petroleum spills. Spills of any quantity of all other chemicals or materials should be reported. When in doubt, report.
- Contact the Minnesota Department of Public Safety Duty Officer at 1-800-422-0798 (toll free) or 651-649-5451 (Metro area), if the spill of any substance or material may cause or has caused pollution of waters of the state.

Step 6: Contain the Spill

- Always wear the appropriate personal protective equipment, such as gloves, boots, and safety glasses. Know the limitations of the personal protective equipment.
- Place booms or available materials around the perimeter of the spill to keep it from spreading.
 - If the spill is a threat to any storm water conveyance, like street gutter, storm drain or inlet, swale, ditch, storm, or river, place absorbent between the spill and storm device.
- Apply absorbent materials starting from the downhill and outside edge of the spill.

Step 7: Clean Up the Spill

- If you have the proper training, small spills may be cleaned up according to the chemical label and your training.
 - Do not wash or hose down the spill into the street, ditch or storm drain.
 - If flammable liquid is spilled, ventilate the area and eliminate any possible sources of ignition.
 - Clean up the spills, leaks and drips quickly. Use “dry” clean-up methods, such as sweeping or shoveling. If the spill can be moved by wind, cover the material with sheeting to prevent spreading.
 - Place all clean-up waste in appropriate containers. If hazardous, insure that material is placed in a hazardous waste container.
 - Dispose of spill material in compliance with all Federal, State and Local regulations.
- If you do not have proper training, or the spill is a large spill, leave the area and notify Emergency Responders (911). Give the operator the spill location, chemical spilled and approximate amount.

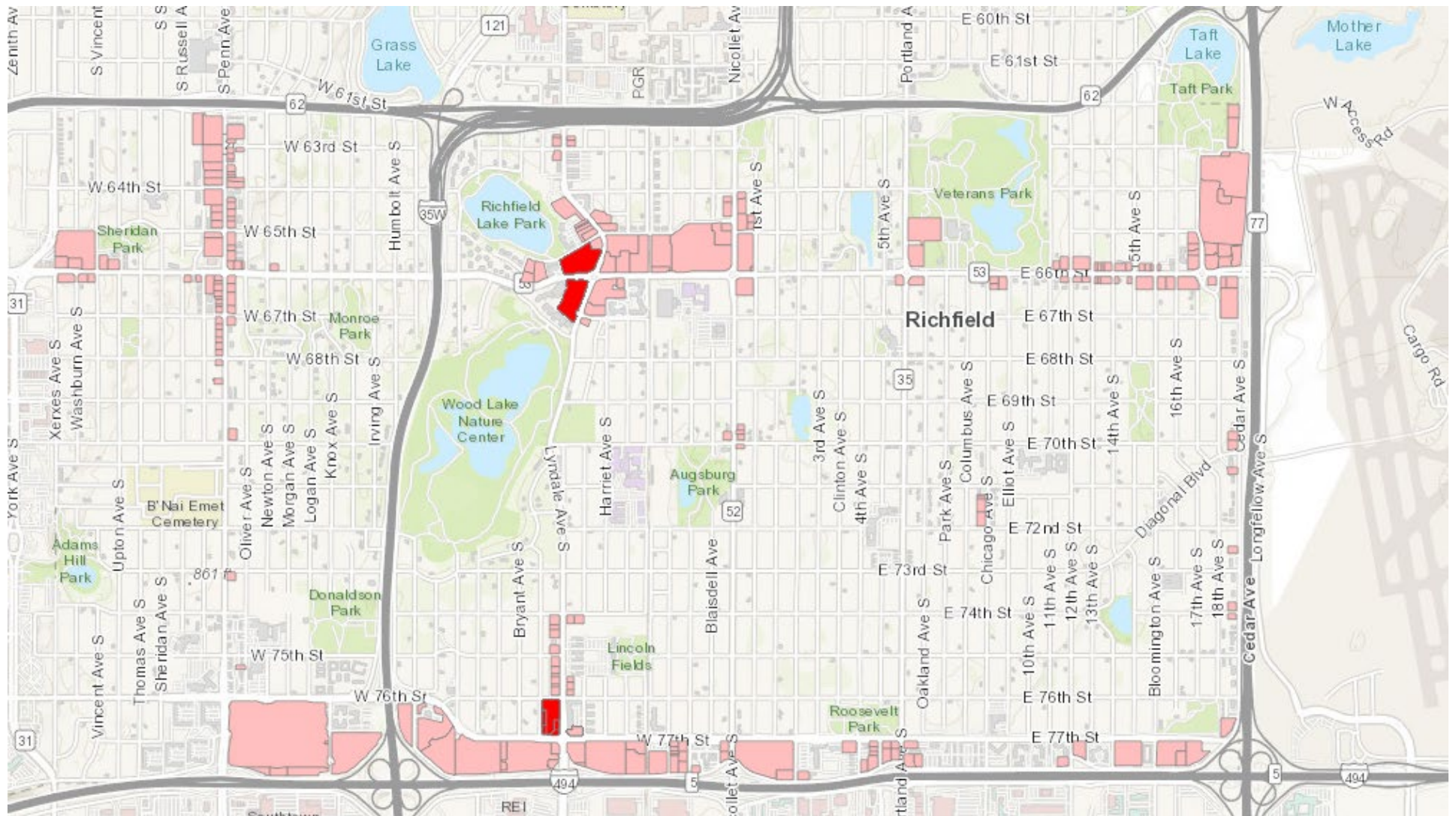
Step 8: Complete Spill Documentation and Follow-up

- Clean and decontaminate all reusable spill cleanup equipment.
- Be sure to restock your spill response materials and personal protection equipment as soon as possible.
- Update facility spill records.

Appendix E: IDDE Tracking Log

[illegible][illegible]

Appendix F: High Priority Illicit Discharge Evaluation Map





City of Richfield STANDARD OPERATING PROCEDURES

Minimum Control Measures 4 & 5

Construction Site Erosion and Sediment Control Post-Construction Stormwater Management

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Appendices

Appendix A: Plan Review Checklist

Appendix B: Erosion & Sediment Control Inspection Form

Appendix C: Ordinances

Appendix D: MPCA Erosion and Sediment Control Guidance

Appendix E: Example Maintenance Agreement

Appendix F: Construction Stormwater BMP Notice of Inspection

Appendix G: Structural Stormwater BMP Inspection Form

1. Introduction

1.1. Basis for the Standard Operating Procedures (SOPs)

On November 16, 2020, the Minnesota Pollution Control Agency (MPCA) issued a National Pollutant Discharge Elimination System (NPDES) General Permit (GP) for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). The MS4 GP requires the City of Richfield to develop written procedures for the purpose of eliminating pollutants associated with construction activity, new development, and redevelopment on projects with land disturbance of greater than or equal to once acre, including projects less than one acre that are part of a common plan of development or sale.

Sites that result in land disturbance of greater than or equal to one acre are also required to apply for coverage under the MPCA Construction Stormwater General Permit (CSW GP). The MPCA is the permitting authority for Land Disturbing Activities requiring an CSW Permit for construction activity, including the requirements for developing and implementing a Stormwater Pollution Prevention Plan (SWPPP). Where required, the NPDES Permit is in addition to Permits required by the City of Richfield. The City of Richfield is responsible for inspections and enforcement of stormwater regulations within its jurisdiction. The City shall implement and enforce a regulatory mechanism(s) that establishes requirements for erosion, sediment, and waste controls that are at least as stringent as the Agency's most current Construction Stormwater General Permit (MNR100001).

This manual is intended to meet the requirements set forth in sections 19.2, 19.3, 19.6, 19.7, 19.8, 19.9, 19.10, 20.2, 20.2, and 20.17 of the MS4 GP, and provide guidance on meeting the other provisions of Minimum Control Measures (MCMs) 4 and 5. The SOPs in this manual incorporate guidance on the following:

- Plan review
- Training
- Inspections
- Long-term Operation and Maintenance

The Guidelines and Standard Operating Procedures Manual will help promote behavior to improve the water quality of the City of Richfield's lakes, ponds, and creeks.

1.2. Objectives of the SOPs

This manual is intended to provide guidance on Construction Site Erosion and Sediment Control and Post-Construction Stormwater Management:

- Provide guidance regarding plan review procedures.
- Provide guidance for prioritizing where construction site inspections may need to occur on a more frequent basis.
- Provide guidance to municipal staff on what to look for during construction inspections.
- Provide guidance to municipal staff regarding the construction of post-construction stormwater BMPs to help ensure their longevity.

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- Provide guidance on how to enforce non-compliant construction sites.
- Provide guidance to municipal staff on proper procedures for BMP operation and maintenance.

2. Plan Review and Approval Process

2.1. Plan Review

Activities and Definition

Plans that are submitted to the City for approval will have a review process to guarantee that erosion and sediment control standards and post-construction stormwater standards are being met.

Preparation

- a. Review City ordinances (Section 428), the City of Richfield Comprehensive Plan, the Surface Water Management Plan, the MPCA Construction General Permit, and the MS4 post-construction stormwater standards.
- b. When the CSW Permit is reissued, the City shall revise their regulatory mechanism(s), if necessary, within 12 months of the issuance date of that permit, to be at least as stringent as the requirements for erosion, sediment, and waste controls described in the CSW Permit.

The City shall require that owners and operators of construction activity develop site plans that must be submitted to the City for review and confirmation that regulatory mechanism(s) requirements have been met, prior to the start of construction activity.

Process

- a. The City engineering, building, and community development department staff will review plans.
- b. A checklist will be used to review submitted plans (Appendix A).
- c. The City will be responsible for enforcement of its stormwater rules.

The City shall require the owners and operators of construction activity to keep site plans up-to-date with regard to stormwater runoff controls. The City shall require that site plans incorporate the following best management practices that are at least as stringent as described in the CSW Permit:

- a. erosion prevention practices;
- b. sediment control practices;
- c. dewatering and basin draining;
- d. inspection and maintenance;
- e. pollution prevention management measures;
- f. temporary sediment basins; and
- g. termination conditions.

The following processes shall be followed:

- a. The City shall distribute written notifications to owners and operators of the need

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to apply for and obtain coverage under the CSW Permit.

b. The City shall provide a written checklist, consistent with the requirements of the relevant regulatory mechanisms to document the adequacy of each site.

c. The City engineering, building, community development, and administrative review committee (ARC) staff will review plans.

d. A checklist will be used to ensure accuracy of submitted plans.

e. The City will be responsible for enforcement of its stormwater rules for areas within the Minnehaha Creek Watershed District (MCWD) and Richfield-Bloomington Watershed Management Organization (RBWMO). City officials will coordinate with the Nine Mile Creek Watershed District (NMCWD) to enforce stormwater rules within its boundary.

Follow-up

When comments are submitted by to the applicant, the review committee will follow up in 7-10 business days to ensure all comments were addressed by applicant. The City has 60 days to make a final decision on a development or redevelopment review.

Documentation

Document each plan review completed within the City's SWPPP tracking Excel table to help expedite the annual reporting process.

- Project name
 - Location
 - Total acreage to be disturbed
 - Owner and operator of the proposed construction activity
 - Proof of notification to obtain coverage under the CSW Permit or proof of coverage under the CSW Permit
 - Any stormwater related comments and supporting completed checklist, as required in item 19.6, used by the City to determine project approval or denial.
- a. Keep logs of number of plan reviews per calendar year in the City's Permit Management System – CitizenServe. Copies of plans, BMP quantities, and proposed BMPs will be provided to inspector or inspecting consultant.
 - b. Keep logs of all maintenance agreements that are filed with the City, along with their BMP locations.

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2.2. Training

Activities and Definition

The City shall ensure that individuals receive training commensurate with their responsibilities as they relate to the City's Construction Site Stormwater Runoff Control program. Individuals includes, but is not limited to, individuals responsible for conducting site plan reviews, site inspections, and/or enforcement. The City shall ensure that previously trained individuals attend a refresher-training every three (3) calendar years following the initial training.

Training of City staff will include knowledge in installation and inspection techniques, record keeping and maintenance activities, and the importance of erosion and sediment control and stormwater management. It is essential for City staff to be able to recognize deficiencies in BMPs on construction sites. Inspection staff will be responsible for the tracking and enforcing permit requirements.

The City will provide employee training through the University of Minnesota erosion and stormwater management certification program, professional development courses commensurate with employee responsibilities, hands-on inspections training, and internal training sessions on the City's MS4 program.

Documentation

The City shall document the training related to permit item 19.11:

- a. General subject matter covered
- b. Name(s) and departments of individuals in attendance
- c. Date of each event

3. Inspections and Maintenance

Activities and Definition

Construction site inspections will determine compliance with the City's regulatory mechanism(s) – City code and the stormwater engineering design standards.

Preparation

- a. Priority sites for the City of Richfield are all sites over one acre.
- b. Ensure staff has proper training pertaining to Erosion and Sediment Control techniques and Post-Construction Stormwater BMPs, as described in section 2.2.

Process

- a. The City shall maintain written procedures for identifying high-priority and low-

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priority sites for inspection. At a minimum, the written procedures shall include:

1. Detailed explanation describing how sites will be categorized as either high-priority or low-priority;
 2. A frequency at which the City will conduct inspections for high-priority sites;
 3. A frequency at which the City will conduct inspections for low-priority sites; and
 4. The name(s) of individual(s) or position title(s) responsible for conducting site inspections
- b. Identify sites that require and erosion and sediment control inspection. Develop a map of all private stormwater BMPs and a program with an inspection schedule.
 - c. Perform inspection using the Erosion and Sediment Control Inspection Form (Appendix B).
 - d. Document construction activities and follow up with site owner/permittee about findings from inspection. If feasible, talk to the responsible person while onsite to ensure corrections can be made in a timely fashion.

Ensure that correction items have been completed within the specified timeframe by conducting follow-up inspections as needed.

- e. Failure to comply with the permit requirements may require initiating enforcement action as described in the City's Enforcement Response Procedures (ERPs) as follows:
 1. Verbal Warning
 2. Notice of Violation
 3. Stop Work Order

Documentation

City staff shall record the status of the following items in the City's inspection tracking system to document each site inspection when determining compliance:

- a. Stabilization of exposed soils (including stockpiles)
- b. Stabilization of ditch and swale bottoms
- c. Sediment control BMPs on all downgradient perimeters of the project and upgradient of buffer zones
- d. Storm drain inlet protection
- e. Energy dissipation at pipe outlets
- f. Vehicle tracking BMPs
- g. Containment for all liquid and solid wastes generated by washout operations (e.g., concrete, stucco, paint, form release oils, curing compounds, and other construction materials)
- h. BMPs maintained and functional

In addition to the information recorded during an inspection in the Erosion and Sediment Control Inspection Form, City staff will track and record the following items as additional notes on the form:

- a. Corrections requested in inspection reports and reports sent to permittees.
- b. Records of any enforcement action:

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1. Verbal Warnings
2. Notice of Violations

Stop Work Orders Each year, the City will conduct an annual assessment of the Construction Site Stormwater Runoff Control program to evaluate compliance, the status of achieving the measurable requirements in MS4 GP section 19, and determine how the program might be improved. The annual assessment shall be completed prior to the completion of that year's annual report and document any modifications made as a result of the assessment.

3.1. City Projects Erosion and Sediment Control BMPs

Activities and Definition

City projects that will disturb any amount of soil will use proper erosion and sediment control BMPs.

Preparation

- a. Provide BMPs for City projects including: inlet protection, perimeter control, temporary and permanent stabilization methods.
- b. Ensure staff has University of Minnesota's erosion and sediment control certification and have been trained by a certified staff person on proper erosion and sediment control techniques.

Process

- a. Construction projects that have the potential to impact the MS4 system or any natural resource will have BMPs available prior to construction activity.
- b. All perimeter control BMPs are required to be fixed, substituted, or enhanced if they are no longer working or sediment fills one-half (1/2) of the height of the BMP. This must be done by the end of the next business day or as soon as site conditions permit.
- c. Temporary or permanent sediment basins are required to be drawn down and have sediment removed when the depth of the captured sediment reaches one-half (1/2) the storage volume of the basin.
- d. Tracked sediment from the construction site entrance/exit is required to be removed from all paved surfaces both on and off site. This must be done as soon as possible or within 24 hours of being found.
- e. Install down gradient perimeter control where needed on the site.
- f. Provide adequate inlet protection on adjacent inlets and outlets to prevent sediment and debris from discharging into the storm sewer.
- g. Stabilize all exposed soil areas within 14 days of cessation of work, or as required by the CSW GP. . If work is not complete, but the soil will be unworked for longer

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than 14 days, temporary stabilization methods will be used.

- h. After work is complete, clean out any sediment that might have entered the MS4 system.
- i. Encourage use of structural and non-structural BMPs, structural or hard engineering techniques and bio-engineering.
- j. Require wet and dry stormwater detention ponds when surfacing drainage discharge into receiving waters.

Documentation

- a. Keep logs showing the BMPs were inspected and properly maintained during the active construction period until the period where final stabilization has been achieved.
- b. Sites should be inspected weekly or after a rainfall event greater than 0.5 inches in 24 hours where the soil disturbance is 1 acre or greater.
- c. Document maintenance performed on:
 - 1. Perimeter Control
 - 2. Inlet Protection
 - 3. Erosion Control BMPs
 - 4. Stabilization Performed
 - 5. Sediment Control BMPs
- d. If applicable, record the amount of waste collected, the number of catch basins cleaned, and the area they were cleaned in. Keep any notes or comments of any problems.
- e. If applicable, document the final location of where the material was disposed and any paperwork received from the disposal location.

3.2. Private Projects

Activities and Definition

Private projects that require a building permit will use proper erosion and sediment control BMPs. Depending on the proposed improvements these sites may also be required to install BMPs for post-construction stormwater management. Engineering staff will be responsible for inspecting sites that require a state NPDES permit or are required to have erosion control measures by City code.

The City requires erosion control measures for the following activities:

- An area of 5,000 square feet or greater that will be disturbed by excavation, grading, filling or other earth moving activities resulting in the loss of protective vegetation; and
- Excavation or fill exceeding 50 cubic yards; and

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- The installation of underground utilities, either public or private, resulting in more than 300 linear feet of trenching or earth disturbance.

The City has staff that actively inspections construction sites throughout the City's jurisdiction. The City also oversees the installation of BMPs for post-construction stormwater management.

Process

Any private projects that are within the City limits will be inspected by a qualified City employee. All sites will be inspected at least weekly during active construction. Inspections on high-priority sites will occur weekly and after a rainfall event of at least 0.5 inches in 24 hours. Additional inspections may be scheduled as needed. The inspection frequency may be reduced to once per month on areas of the site with permanent cover. Inspections may cease during frozen conditions when construction has stopped but must resume within 24 hours of runoff or if construction begins again. . The field inspector will use the Erosion and Sediment Control Inspection Form (Appendix B).

Documentation

- a. Keep track of private projects locations and obtaining contact information for owners and operators on file at the City.
- b. Keep records of long-term maintenance agreements on file at the City.
- c. Keep records of all inspections.
- d. Keep records of escalation of penalties:
 1. Verbal Warnings
 2. Notice of Violation
 3. Stop Work Orders

3.3. Public Complaints and Receipts of Non-Compliance

Activities and Definition

- a. The City shall maintain written procedures for receipt and consideration of reports of noncompliance or other stormwater-related information on construction activity submitted by the public to the City.
- b. The public may submit concerns about construction violations through the City's website or by calling the City directly. Reports shall be investigated within one business day.
- c. The MS4 Program Manager should identify who should be trained, and how citizens are able to contact the city with reports of noncompliance.

Preparation

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- a. Have a system in place to receive phone calls and collect information regarding reports of noncompliance or other stormwater-related information on construction activities within the City.

Process

- a. Use the ESC Inspection Form to collect the appropriate information from the caller. Then, transfer the ESC Inspection Form to the Water Resources Engineer.
- b. Promptly investigate reports of noncompliance.
- c. If stormwater noncompliance is confirmed, follow the City's Enforcement Response Procedures to attain compliance.

Documentation

- a. Keep records of reports of non-compliance from the public.
- b. Keep records of inspections performed to confirm reports of non-compliance.
- c. Keep records of escalation of penalties:
 1. Verbal Warnings
 2. Notice of Violation
 3. Stop Work Orders

4. Post-Construction Stormwater Management

This section is intended to provide guidance on the City's Post-Construction Stormwater Management including:

- Provide guidance regarding plan review procedures.
- Provide guidance to municipalities for prioritizing where construction site inspections may need to occur on a more frequent basis.
- Provide guidance to municipal staff on what to look for during construction inspections.
- Provide guidance to City staff regarding the construction of post-construction stormwater BMPs to help ensure their longevity.
- Provide guidance to municipal staff regarding the construction of post-construction stormwater BMPs to help ensure their longevity.
- Provide guidance on how to enforce non-compliant construction sites.
- Provide guidance to municipal staff on proper procedures for BMP operation and maintenance.

Activities and Definition

All BMPs installed for the purpose of meeting the post-construction stormwater management standard are required to develop maintenance agreements and maintenance plans that are recorded with Hennepin County (Appendix E). After the maintenance agreement is executed, the City is required to ensure the conditions for post-construction stormwater management continue to be met.

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Post-construction stormwater BMPs installed within the jurisdiction of the Nine Mile Creek Watershed District (NMCWD) must follow the Rules and requirements for post-construction stormwater management established by the NMCWD. The NMCWD will be responsible for inspection, maintenance and enforcement of post-construction stormwater BMPs installed within their jurisdiction.

The City shall ensure that individuals receive training commensurate with their responsibilities as they relate to the Post- Construction Stormwater Management program. The City shall ensure that previously trained individuals attend a refresher training every three (3) calendar years following the initial training.

Preparation

- a. The City shall maintain written Enforcement Response Procedures (ERPs) to compel compliance with its regulatory mechanisms, including:
 - A description of available enforcement tools and guidelines for their use
 - The name or position title of the responsible person(s) for enforcement.
- b. Identify and map locations of post-construction stormwater BMPs.

Process

- a. Notice of an upcoming required inspection will be provided to property owners using the letter in appendix F, adjusted as needed to reflect the requirements of the maintenance agreement.
- b. The City will require owners of private stormwater BMPs who are responsible for maintenance to conduct an inspection and notify the City of the results.
- c. The City will conduct inspections of its own structural stormwater BMPs using the inspection form in Appendix G to determine if the system(s) are functioning as designed and permitted according to the schedule outlined in the maintenance agreement.
- d. The City will notify all owners of post-construction stormwater BMPs with deficiencies of required corrections.
 1. If provided for in the maintenance agreement and agreed to by the City and owner, City staff may perform the necessary maintenance work and bill the owner for such repairs.
 2. If the established maintenance agreement deems the owner responsible for maintenance and repairs, the owner of the BMP must complete the corrections required by the City. Once maintenance is performed by another contractor, City staff or the private owner shall re-inspect the BMP to determine if the BMP will continue to function as designed.

Documentation

- a. Keep logs of all maintenance agreements that are filed with the City, along with their BMP locations.
- b. Continuously update the GIS system to include all public and private storm sewer

MINIMUM CONTROL MEASURES 4 & 5

and post-construction stormwater BMPs installed within the City.

- c. Obtain as-built plans for all public and private post-construction stormwater BMPs that are installed within the City.
- d. Keep copies of inspection reports and maintenance logs on file for at least three years past the MS4 permit term.
- e. The City shall provide training to individuals responsible for the Post-Construction Stormwater Management Program commensurate with their responsibilities. Such training shall be documented, including:
 - Subject matter
 - Name and department of attendees
 - Date of training

Appendix A: Plan Review Checklist

PUBLIC WORKS PLAN REVIEW AND REQUIREMENTS

PW Contacts:

Engineering: Olivia Wycklendt 612-861-9789, Joe Powers 612-861-9791

Transportation: Matt Hardegger 612-861-9792

Utilities: Mattias Oddsson 612-861-9797

Streets & Forestry: Chris Link 612-861-9174

Developer must include a written response to all Site-Specific Plan Review Comments in all resubmittals.

Site-Specific Plan Review Comments:



General Requirements

- ☐ 100% plan must be received and reviewed prior to project approval. Two weeks review time is required. Plan reviews prior to 100% plan will be considered partial reviews. Label percent complete on plan set.
- ☐ Contractor and sub-contractor parking must be indicated on plans
- ☐ Public Works Required Plan Sheets
 - Site Plan
 - Grading and Drainage Plan
 - Erosion Control Plans meeting City Code Section 428
 - Sites over 1 acre require SWPPP
 - Demolition Plan
 - Utility Plan
 - Lighting Plan
- ☐ Provide 20 scale site plans of the entire Right of Way and easement areas showing all existing and proposed utilities, street lights, tree planting, walls and other structures, building and foundation footprints
- ☐ This site is subject to a special review or special regulations because it is:
 - Within a high vulnerability wellhead protection area
 - Contains underground parking – complete stormwater management plan approval required before building permits issued.
 - MnDOT ROW
 - Hennepin County ROW
 - Minnehaha Watershed
 - Nine Mile Creek
- ☐ Permits are required from Richfield Engineering for any excavation in the ROW, obstruction of public roadways, parking lanes, or public sidewalk, permanent structures constructed in City ROW. Permits forms and information available at www.richfieldmn.gov/pwpermits.
- ☐ The City may need to hire independent construction oversight or material testing services for work occurring in the right-of-way. The developer will be responsible for all costs associated with independent inspection or material testing.
- ☐ Full as-built planset/record plans or escrow in the amount of \$15,000 required prior to final C.O. issue. Submit .pdf file of complete civil and site plan set including all updates with as-built information of all utilities installed and removed and lighting installed. The utility plan is also to be delivered in either a standard CAD format or ArcGIS vector data with attribute table populated with structure, pipe and invert elevation information, using Hennepin County Coordinate System. Provide benchmark information to all new and adjusted hydrant TNH elevation, vertical datum: NAVD 88.

- ☐ A warranty bond guaranteeing all public improvements for a period of 2 years following final acceptance of the project must be submitted prior to final C.O. The warranty bond must be in an amount equal to the entire cost of the public improvements, as calculated from final waivers of lien and/or an engineer's estimate reviewed and approved by the City Engineer. Public improvements include, but are not limited to, construction or replacement of the following:
 - ☐ street pavement and subgrade;
 - ☐ curb and gutter;
 - ☐ driveway aprons;
 - ☐ public water, sanitary, and storm sewer utilities;
 - ☐ sidewalks and trails;
 - ☐ landscaping and trees within the public right-of-way;
 - ☐ street lighting; and
 - ☐ public signage and traffic signals.

General Storm Water Management Requirements

- ☐ The area shall be graded and drained to dispose of all surface water. Parcels greater than ½ acre shall have on-site storm water collection per City Code.
- ☐ Stormwater BMP required.
- ☐ NPDES permit required from MPCA for sites disturbing over 1 acre, must provide copy of permit before building permit is issued.
- ☐ For sites 1 acre or more, Stormwater Quality Treatment will be required. Minnehaha Creek Watershed District applicants may be eligible for a Stormwater Quality Fee in place of treatment. Payment of Stormwater Quality Fee must be made prior to issuing Building Permits.
- ☐ Storm water management plan, if required, will not be reviewed until all of the following are submitted:
 - Grading and drainage plan
 - Hydrology report
 - Design calculations
 - Drainage delineation map
- ☐ An on-site pre-construction meeting is required to review erosion control methods and inspection requirements prior to issuance of building permits or beginning of any site work. All erosion and sediment control BMPs must be installed prior to the meeting.
- ☐ Construction and Maintenance Agreement and approved permanent SWPPP to be filed with Hennepin County prior to issuance of building permit.

General Utilities Requirements

- ☐ Verify if there is City fiber in the area.
- ☐ Verify existing utilities have capacity to handle proposed development
- ☐ All utilities should be field verified, show existing services on plan
- ☐ All disconnects to occur at the main unless directed/approved otherwise by City Engineer
- ☐ No utilities to be abandoned in place
- ☐ Water and sanitary sewer services including hydrants, clean-outs and shutoff valves shall conform to City specifications
- ☐ All site utilities shall be underground
- ☐ Show where all private utilities (whether underground or above ground) cross the property
- ☐ Streetlight type, spacing and footcandles meet City specifications
- ☐ Irrigation will require a separate meter; no deducts allowed

General Site Access and Right-of-Way/Easement Requirements

- ☐ Minimum ROW width of 14 feet required behind curb adjacent to streets
- ☐ Minimum 5 foot Utility and Drainage easement required along property lines
- ☐ Building footings must not extend beyond property lines

- ☐ Parking lots and stairways, including railings, shall be setback a minimum of 3 feet from the ROW
- ☐ Minimum public sidewalk width is 10 feet behind the curb or 6 foot boulevard and 6 foot walk
- ☐ Sidewalks shall be concrete with saw cut joints and must provide at least a 6 foot pathway free of decorative features
- ☐ Sidewalks shall be designed with a maximum cross slope of 1.5%. Sidewalks will be inspected after construction; any sidewalk with cross slopes less than 0.5% or exceeding 2% will be replaced at Contractors Expense
- ☐ Running slope shall not exceed 5%
- ☐ Sidewalks should not ramp down for driveway crossings, sidewalks crossing driveways shall maintain maximum cross slope of 2% and minimum width of 4 feet and separated from the apron slope by a longitudinal joint
- ☐ All square hand hole castings in replaced sidewalk will need to be replaced with new round hand hole casting approved by City or County. Hand holes should be placed outside of paved areas unless shown to be infeasible.
- ☐ All steps or railings for doors adjacent to public sidewalk must be a minimum of 3 feet from the edge of sidewalk and outside the ROW
- ☐ Easements will be required for any portion of public sidewalk on private property
- ☐ Provide stop signs at all exits placed on private property
- ☐ Label traffic flow direction and lane widths
- ☐ Show truck maneuverability in parking lot, verify fire truck access
- ☐ Show and label bicycle parking
- ☐ Provide an ADA acceptable walkway/wheelchair way from sidewalk to front door
- ☐ Provide a minimum of 3 foot offset from sidewalk to any vertical features (i.e., retaining walls, fencing, buildings, stairs)
- ☐ Show location of snow and salt storage
- ☐ Show placement and operations of deliveries, including loading/unloading areas
- ☐ Required plan note: Engineering must be present to inspect all concrete forms within ROW prior to concrete pour. Minimum 24 hour notice required
- ☐ Remove all Ash trees within the right-of-way and replace with City approved variety
- ☐ Street signs in the public ROW to meet City requirements, signs located in concrete shall be in 4" sleeves or mounted to streetlights. Coordinate with the City of Richfield for approved location of signs

General Parking Lot Requirements

- ☐ All circulation must occur within the parking lot
- ☐ Full perimeter B612 concrete curb and gutter
- ☐ Clearly mark aisle and stall width dimensions on plan
- ☐ Concrete curb and gutter, with curb returns shall be constructed at all intersections and approach entrances
- ☐ Signs: Traffic signs and devices shall be installed, directing traffic within the area and traffic entering or leaving the area per the MMUTCD
- ☐ Surface shall be concrete, blacktop or paver block. Areas not used for parking, circulation, or pedestrian traffic shall be landscaped
- ☐ Driveways must conform to City Detail for commercial driveway (available at <https://www.richfieldmn.gov/home/showdocument?id=18946>). Maintain any sidewalk or trail crossings through the driveway
- ☐ Provide for 30 foot sight triangle at all exits

Appendix B: Erosion & Sediment Control Inspection Form

Erosion Control Inspection

Inspection Details ▼

Site Name

Address

Inspection Reason

☐

Weekly Inspection

☐

Rain Event

☐

Spot Check

☐

Complaint

Inspection Date



2/8/2023



11:18AM

Precipitation amount, inches

if any

Is this a priority site?

☐

Yes

☐

No

Inspector Name

Erosion Prevention & Sediment Control

Perimeter control installed & maintained

☐

Compliant

☐

Deficient

☐

Noncompliant

☐

NA

Protection of surface waters

50 foot natural buffer for surface water, or redundant perimeter control where unavailable

☐

Compliant

☐

Deficient

☐

Noncompliant

☐

NA

Inlet protection installed & maintained

☐

Compliant

☐

Deficient

☐

Noncompliant

☐

NA

Stockpiles maintained

☐

Compliant

☐

Deficient

☐

Noncompliant

☐

NA

Outlet energy dissipation

☐

Compliant

☐

Deficient

☐

Noncompliant

☐

NA

Ditches & swale bottoms stabilized

☐

Compliant

☐

Deficient

☐

Noncompliant

☐

NA

Attach photo(s)

1

Drop image here or select image



Notes & corrective action(s) required

Site Maintenance ▼

Construction entrance and tracked sediment



Compliant



Deficient



Noncompliant



NA

Trash and litter



Compliant



Deficient



Noncompliant



NA

Stabilization of inactive soils

required for 14 day inactive soils (7 days if within 1 mile of impaired water)



Compliant



Deficient



Noncompliant



NA

Discharge points stabilized



Compliant



Deficient



Noncompliant



NA

Attach photo(s)

1

Drop image here or select image



Notes & corrective action(s) required

Pollution Prevention ▼

Washout facilities



Compliant



Deficient



Noncompliant



NA

Fueling areas



Compliant



Deficient



Noncompliant



NA

Contaminant storage



Compliant



Deficient



Noncompliant



NA

Discharge occurring



Compliant



Deficient



Noncompliant



NA

Portable toilets



Compliant



Deficient



Noncompliant



NA

Attach photo(s)

1

Drop image here or select image



Notes & corrective action(s) required

256

Miscellaneous ▼

Dewatering occurring on-site

Describe dewatering BMPs if present

☐ Compliant	☐ Deficient	☐ Noncompliant	☐ NA
---------------------------------	---------------------------------	------------------------------------	--------------------------

Is a copy of the SWPPP available onsite?

(NA if no SWPPP required)

☐ Compliant	☐ Deficient	☐ Noncompliant	☐ NA
---------------------------------	---------------------------------	------------------------------------	--------------------------

Are inspection records available onsite?

(NA if no SWPPP required)

☐ Compliant	☐ Deficient	☐ Noncompliant	☐ NA
---------------------------------	---------------------------------	------------------------------------	--------------------------

Notes & corrective action(s) required

256

Is the site compliant?

☐ Yes	☐ No
---------------------------	--------------------------

Submit

Appendix C: Ordinances

SECTION 428. EROSION AND SEDIMENTATION CONTROL REGULATIONS

(Added, Bill No. 2002-15)

428.01. Purpose.

The purpose of this Section is to promote the public health, safety, property and general welfare of the citizens of the City and to regulate land disturbing activities to preserve and enhance the natural environment by reducing sedimentation in streams, lakes, ponds, storm sewer systems, and other water ways, protect the quality of surface water resources, preserve and protect wildlife habitat, restore sites to reduce the negative environmental effects of construction activities, and provide uniform techniques and methods for erosion and sedimentation control.

This Section is intended to meet the current construction site erosion and sediment control regulatory requirements for construction activity (NPDES Permit, Part IV.) as defined in 40 CFR pt. 122.26(b)(14)(x) and (b)(15), respectively.

(Amended, Bill No. 2015-11)

428.02. Scope and effect.

Subdivision 1. The Minnesota Pollution Control Agency (MPCA) is the permitting authority for Land Disturbing Activities requiring a National Pollutant Discharge Elimination System (NPDES) Permit for construction activity, including the requirements for developing and implementing a Stormwater Pollution Prevention Plan (SWPPP). Where required, the NPDES Permit is in addition to Permits required by the City of Richfield.

Subd. 2. Incorporation by reference. The City's Engineering Design Standards are incorporated into this Section by reference. The standards shall serve as the official guide for stormwater principles, methods, and practices for proposed development activities.

(Added, Bill No. 2015-11)

428.03. Administration.

The City Council hereby designates the City Engineer as the Administrator of this Section. Erosion control plans shall be reviewed and approved under the existing building permit process. Applications for a permit shall include information required by this Code. Applications for a permit shall also meet the requirements of the Richfield-Bloomington Watershed Management Organization (RBWMO), and the Minnehaha Creek Watershed District (MCWD) or the Nine Mile Creek Watershed District (NMCWD), as applicable. A fee in addition to the building permit fee is required for erosion control plan review and inspections as provided in Appendix D—License, Permit and Miscellaneous Fees.

(Amended 2010-16; amended, Bill No. 2015-11)

428.05. Performance standards for erosion and sedimentation control.

The design, testing, installation, and maintenance of erosion and sediment control operations and facilities shall adhere to the standards and specifications contained in the Minnesota Stormwater Manual, dated 2014, as

amended. Erosion control plans shall also adhere to the City's Engineering Design Standards for erosion and sediment control.

(Amended 2010-16; amended, Bill No. 2015-11)

428.07. Activities Subject to Erosion Control Measure.

Subdivision 1. The following land disturbing activities shall be subject to erosion control measures, except those activities described in Section 428.09:

- a. An area of 5,000 square feet or greater that will be disturbed by excavation, grading, filling or other earth moving activities resulting in the loss of protective vegetation; or,
- b. Excavation or fill exceeding 50 cubic yards; or,
- c. The installation of underground utilities, either public or private, resulting in more than 300 linear feet of trenching or earth disturbance.

Subd. 2. Any other land disturbing activity for which the City Engineer determines to have the potential for substantial erosion.

428.09. General Exemptions.

Subdivision 1. The following land disturbing activities that meet all of the requirements of this subdivision are exempt from this Section. The disturbed or fill area is less than (;<) 5,000 square feet in area; and:

- a. The volume of soil or earth material stored or moved is 50 cubic yards or less; and
- b. Impervious surface of less than 10,000 square feet is created; and
- c. No drainageway is blocked or has its stormwater carrying capacities or characteristics modified; and
- d. The activity does not take place within 100 feet by horizontal measurement from the top of the bank of the watercourse, the ordinary high water mark of the water body, or the ordinary high water mark of a wetland associated with a watercourse or water body.

Subd. 2. Agricultural lands, including gardens, used mainly for the production of food, general farming, nurseries, etc. are exempt from this regulation.

428.11. Erosion control plans.

Subdivision 1. Land disturbing activities not exempt from this Section shall be required to have an approved erosion control plan on file with the City prior to commencement of construction.

Subd. 2. The erosion control plan shall contain all information necessary for the City Engineer to determine that adequate erosion control and sedimentation measures are proposed. The plan shall include a topographic map showing existing and proposed contours, location of any natural watercourses, storm sewers, and drainageways. The extent of the land disturbing activity and any erosion control measures shall be shown on the submitted erosion control plan.

- a. At a minimum, the erosion control plan shall follow the Construction Site Stormwater Runoff Control standards set within the City's Engineering Design Standards and contain the following information:
 - (1) Erosion Control
 - (2) Sediment Control Practices

-
- (3) Temporary Sediment Basins
 - (4) Dewatering and Basin Draining
 - (5) Inspection and Maintenance
 - (6) Pollution Management Measures/Construction Site Waste Control
 - (7) Final Stabilization
 - (8) Training
- b. For land disturbing activities within a Watershed District's or Watershed Management Organization's jurisdiction, any other information required for an application by the Watershed the District or Watershed Management Organization.

(Added, Bill No. 2010-16; amended, Bill No. 2011-25; amended, Bill No. 2015-11)

428.13. Maintenance of erosion and sediment control measures, notification and inspection.

Subdivision 1. It shall be responsibility of the owner/developer to maintain all erosion control structures in a condition that will ensure continuous functioning of those devices. As a minimum, maintenance shall meet all requirements of the corresponding Watershed District. If, after the installation of the erosion control structure, the City Engineer determines that additional measures are needed, they shall be installed at the expense of the owner. (Amended, Bill No. 2011-25; Bill No. 2015-11)

Subd. 2. Any erosion or sediment that runs off or blows off the site onto adjoining properties, City streets, storm sewer, etc., shall be the responsibility of the owner or developer for clean-up and restoration. If the owner fails to properly clean up or restore all areas affected by erosion, the City will hire a contractor to complete the work and bill the owner for the expenses associated with the clean-up. Failure to maintain these measures shall be a violation of this Section. (Amended, Bill No. 2010-16; Bill No. 2015-11)

Subd. 3. The City may require an applicant to provide a bond or other financial guarantee in form satisfactory to the City and meeting the requirements of the corresponding Watershed District for financial assurances to guarantee the installation and maintenance of erosion control measures and compliance with the requirements of this Section. (Added, Bill No. 2010-16; amended 2011-25; amended, Bill No. 2015-11)

Subd. 4. The owner/developer shall meet all requirements for inspection and notification specified in the corresponding Watershed District's Rules. (Added, Bill No. 2011-25; amended, Bill No. 2015-11)

428.15. Penalties for violation.

The following penalty options are available for violation of this Section:

Subdivision. 1. Notice of Violation. When the City determines that an activity is not being carried out in accordance with the requirements of this Section, it shall issue a written notice of violation to the owner of the property. The notice of violation shall contain:

- a. The name and address of the owner or Applicant,
- b. The address when available or a description of the land upon which the violation is occurring,
- c. A statement specifying the nature of the violation,
- d. A description of the remedial measures necessary to bring the development activity into compliance with this Section 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, and
 - f. A statement that the determination of violation may be appealed to the City Engineer by filing a written notice of appeal within 15 days of service of a notice of violation.

Subd. 2. Stop Work Order. Persons receiving a stop work order will be required to halt all construction activities immediately. This Stop Work Order will be in effect until the City confirms that the Land Disturbance Activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this Section.

Subd. 3. Suspension or revocation of permit. The City may suspend or revoke the permit and permittee shall cease work on the site except for work necessary to remedy the cause of the suspension. The permittee may request a reinstatement of a suspended or revoked permit upon correction of the causes for suspension and, if the conditions of the Permit have been complied with in full, the City shall reinstate the permit.

Subd. 4. Issue violation as a misdemeanor. Any person violating a subsection, subdivision, paragraph or provision of this Section when that person performs an act thereby prohibited or declared unlawful, or fails to act when such failure is thereby prohibited or declared unlawful, and upon conviction thereof, shall be punished as for a petty misdemeanor, except as otherwise stated in specific provisions hereof.

(Amended, Bill No. 2015-11)

SECTION 429. WATER RESOURCE MANAGEMENT REGULATIONS

(Added, Bill No. 2002-17)

429.01. Purpose.

The purpose of these regulations is to achieve the policies described in the City's surface water management plan relating to wetland management, shoreline and streambank improvements, stream and lake crossings, dredging, and stormwater management.

429.02. Incorporation by reference.

The City's Engineering Design Standards are incorporated into this Section by reference. The standards shall serve as the official guide for stormwater principles, methods, and practices for proposed development activities. The City's Engineering Design Standards are incorporated into this Section by reference.

(Added, Bill No. 2015-11)

429.03. Definitions.

Subdivision 1. For purposes of this Section, the following terms have the meanings set forth below.

Subd. 2. Best Management Practices (BMPs). The BMPs identified in the SWPPP and this permit must be selected, installed, and maintained in an appropriate and functional manner that is in accordance with relevant manufacturer specifications and accepted engineering practices.

(Amended, Bill No. 2015-11)

429.05. Stormwater Management for Land Altering Activities.

Subdivision 1. Administration. The City Council hereby designates the Director of Public Works as the administrator of this Section.

Subd. 2. Application. Stormwater management plans shall be reviewed and approved under the existing building permit review process. The applicant must include the requirements of this Section in the plans submitted as part of the building permit review.

Subd. 3. Stormwater Management Regulations. Residential development projects with land disturbing activities of one acre or greater, or any commercial, industrial, institutional or mixed-use development with land disturbing activities of ½ acre or greater shall submit a stormwater management plan that meets the criteria of the City's Engineering Design Standards to the City prior to construction.

- a. Stormwater runoff discharge rates may not exceed the existing conditions for the one-, ten-, and 100-year storm events. If the increase in imperviousness is 50 percent or greater, the discharge rate requirements must be based on pre-development conditions.
- b. Stormwater runoff to a landlocked area that cannot handle the increased runoff must maintain runoff volumes to the existing conditions.
- c. Stormwater ponds must have a ten-foot, 10:1 bench, two (2) feet of freeboard, and must remove floatables from a one-year event.
- d. Sidewalks and trails that do not exceed ten (10) feet in width and are bordered by a pervious buffer of at least five (5) feet on each side are not included in calculations for net increase in impervious surface.
- e. Water quality and quantity provision requirements may be waived by the administrator if a downstream facility is in place or will be constructed and the facility is designed to accommodate the stormwater runoff from the project.
- f. The requirements of this Section may be waived by the administrator or the City Engineer if it is determined that meeting the requirements of this Subsection on site is not feasible.

Subd. 4. Performance criteria for stormwater management. Unless determined by the City to be exempt or granted a waiver, all site designs shall establish Stormwater Management Practices to control the peak flow rates and pollutants of stormwater discharge associated with specified design storms and runoff volumes, as detailed in the City's Engineering Design Standards.

Subd. 5. Stormwater Management Regulations in the Minnehaha Creek Watershed District ("MCWD"). In the area of the jurisdiction of the Minnehaha Creek Watershed District, no one may create new or replace existing pervious surface or change the contours of a parcel of land in a way that affects the direction, peak rate, volume, or water quality of runoff flows from the parcel or subdivide a parcel of one (1) acre or more in size into three (3) or more lots without first submitting a stormwater management plan to the City Director of Public Works and securing a permit from the City approving the plan.

- a. New development, redevelopment, subdivision of land and linear transportation projects must comply with applicable requirements of the MCWD Stormwater Management Rule.
- b. Activities that are exempt from the MCWD Stormwater Management Rule are exempt from this Section.
- c. An applicant must meet the requirements of, and provide a stormwater management plan that includes all information required by, the MCWD Stormwater Management Rule unless otherwise directed by the Director of Public Works.

Subd. 6. Financial assurance. The City may require a performance bond, letter of credit or other financial assurance for any project that requires installation of stormwater best management practices. The financial assurance shall be maintained until the stormwater best management practice has been constructed and stabilized.

Subd. 7. Compliance with plan and maintenance of facilities.

- a. Projects shall be constructed and maintained in accordance with the approved stormwater management plan, the City's Engineering Design Standards and any conditions imposed by the City.
- b. All stormwater management structures and facilities must be designed for maintenance access and properly maintained in perpetuity to assure that they continue to function as designed.
- c. The Responsible Party shall enter into a Maintenance Agreement with the City that documents all responsibilities for operation and maintenance of all permanent storm water management facilities. Such responsibility shall be documented in a maintenance plan and executed through a Maintenance Agreement. The Maintenance Agreement shall be executed and recorded against the parcel. The stormwater Maintenance Agreement shall be in a form approved by the City and shall describe the inspection and maintenance obligations of this Section and shall, at a minimum:
 - (1) Designate the Responsible Party who is permanently responsible for maintenance of the structural and nonstructural measures.
 - (2) Pass responsibilities for such maintenance to successors in title.
 - (3) Allow the City and its representatives the right-of-entry for the purposes of inspecting all permanent storm water management facilities.
 - (4) Allow the City the right to maintain the facility if necessary maintenance is not performed within 60 calendar days after a written notice has been sent to the responsible party of the permanent storm water management facility.
 - (5) Include a maintenance plan that contains, but is not limited to the following:
 - (a) Identification of all structural permanent storm water facilities.
 - (b) A schedule for regular inspection, monitoring, and maintenance of each practice. Monitoring shall verify whether the practice is functioning as designed and may include, but is not limited to quality, temperature, and quantity of runoff.
 - (c) Identification of the Responsible Party for conducting the inspection, monitoring and maintenance for each practice.
 - (d) Include a schedule and format for reporting compliance with the maintenance agreement to the City.
- d. The issuance of a permit constitutes a right-of-entry for the City or its contractor to enter upon the construction site. The applicant shall allow the City and its authorized representatives, upon presentation of credentials, to:
 - (1) Enter upon the permitted site for the purpose of obtaining information, examination of records, conducting investigations or surveys.
 - (2) Bring such equipment upon the permitted development as is necessary to conduct such surveys and investigations.
 - (3) Examine and copy any books, papers, records, or memoranda pertaining to activities or records required to be kept under the terms and conditions of the permit.
 - (4) Inspect the stormwater pollution control measures.

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- (5) Sample and monitor any items or activities pertaining to stormwater pollution control measures.
 - (6) Correct deficiencies in stormwater and erosion and sediment control measures.

Subd. 8. Inspection of Storm Water Management Facilities.

- a. Inspection programs shall be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of state or federal water or sediment quality standards or the NPDES permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to, reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other storm water management practices.
 - (1) When any new storm water management facility is installed on private property, or when any new connection is made between private property and a public drainage control system, sanitary sewer, or combined sewer; the property owner shall grant to the City the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection. This includes the right to enter a property when the City has a reasonable basis to believe that a violation of this Section is occurring or has occurred, and to enter when necessary for abatement of a public nuisance or correction of a violation.
 - (2) The Director of Public Works, or designated representative, shall inspect all storm water management facilities during construction, during the first year of operation, and at least once every five years thereafter. The inspection records will be kept on file at the public works department for a period of 6 years. It shall be the responsibility of the applicant to obtain any necessary easements or other property interests to allow access to the storm water management facilities for inspection and maintenance purposes.
- b. Records of Installation and Maintenance Activities. The Responsible Party shall make records of the installation and of all maintenance and repairs of the storm water management facilities, and shall retain the records for at least three (3) years. These records shall be made available to the City during inspection of the storm water management facilities and at other reasonable times upon request.
- c. Failure to Maintain Practices. If a Responsible Party fails or refuses to meet the requirements of the Maintenance Agreement, the City, after reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the storm water management facility in proper working condition. In the event that the storm water management facility becomes a danger to public safety or public health, the City shall notify the Responsible Party in writing. Upon receipt of that notice, the Responsible Party shall have thirty days to perform maintenance and repair of the facility in an approved manner. After proper notice, the City may specially assess the owner(s) of the storm water management facility for the cost to maintain the practice and any penalties; and the cost of the work shall be assessed against the property and collected along with ordinary taxes by the county.

Subd. 9. Construction standards. The design and construction criteria for stormwater management plans outlined in the City's surface water management plan, the City's Engineering Design Standards, and the Minnesota Stormwater Manual, as amended, shall be utilized as the construction standards for these regulations. These criteria are on file in the City engineering office.

(Amended, Bill No. 2015-11)

429.06. Penalties for Violation.

Subdivision 1. Violation of the provisions of these regulations or failure to comply with any of its requirements shall constitute a misdemeanor and shall be punishable as defined by law.

Subd. 2. Notice of Violation. When the City determines that an activity is not being carried out in accordance with the requirements of this Section, it shall issue a written notice of violation to the owner of the property. The notice of violation shall contain:

- a. The name and address of the owner or Applicant,
- b. The address when available or a description of the land upon which the violation is occurring,
- c. A statement specifying the nature of the violation,
- d. A description of the remedial measures necessary to bring the development activity into compliance with this Section 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, and
- f. A statement that the determination of violation may be appealed to the City Engineer by filing a written notice of appeal within 15 days of services notice of violation.

Subd. 3. Stop Work Order. Persons receiving a stop work order will be required to halt all construction activities immediately. This Stop Work Order will be in effect until the City confirms that the Land Disturbance Activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner may result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this Section.

Subd. 4. Civil or Criminal Penalties. In addition to or as an alternative to any penalty provided herein or by law, any person who violates the provisions of this Section shall be guilty of a misdemeanor and subject to prosecution. Such person shall be guilty of a separate offense for each day during which the violation occurs or continues.

Subd. 5. Restoration of Lands. Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the City may take necessary corrective action, the cost of which may, after notice and opportunity for hearing, be specially assessed against the property and collected along with the ordinary taxes by the county.

Subd. 6. Appeals. Any person aggrieved by the action of any official charged with the enforcement of this Section, as the result of the disapproval of a properly filed application for approval, issuance of a written notice of violation, or an alleged failure to properly enforce this Section in regard to a specific application, shall have the right to appeal the action to the City Engineer.

- a. The Applicant shall submit the appeal in writing and include supporting documentation.
- b. City staff shall make a decision on the appeal within 15 business days of receipt of a complete appeal application.
- c. The Applicant may appeal the decision of city staff to the City Manager This appeal must be filed with the City Manager within 30 days of City staff's decision.

(Added, Bill No. 2015-11)

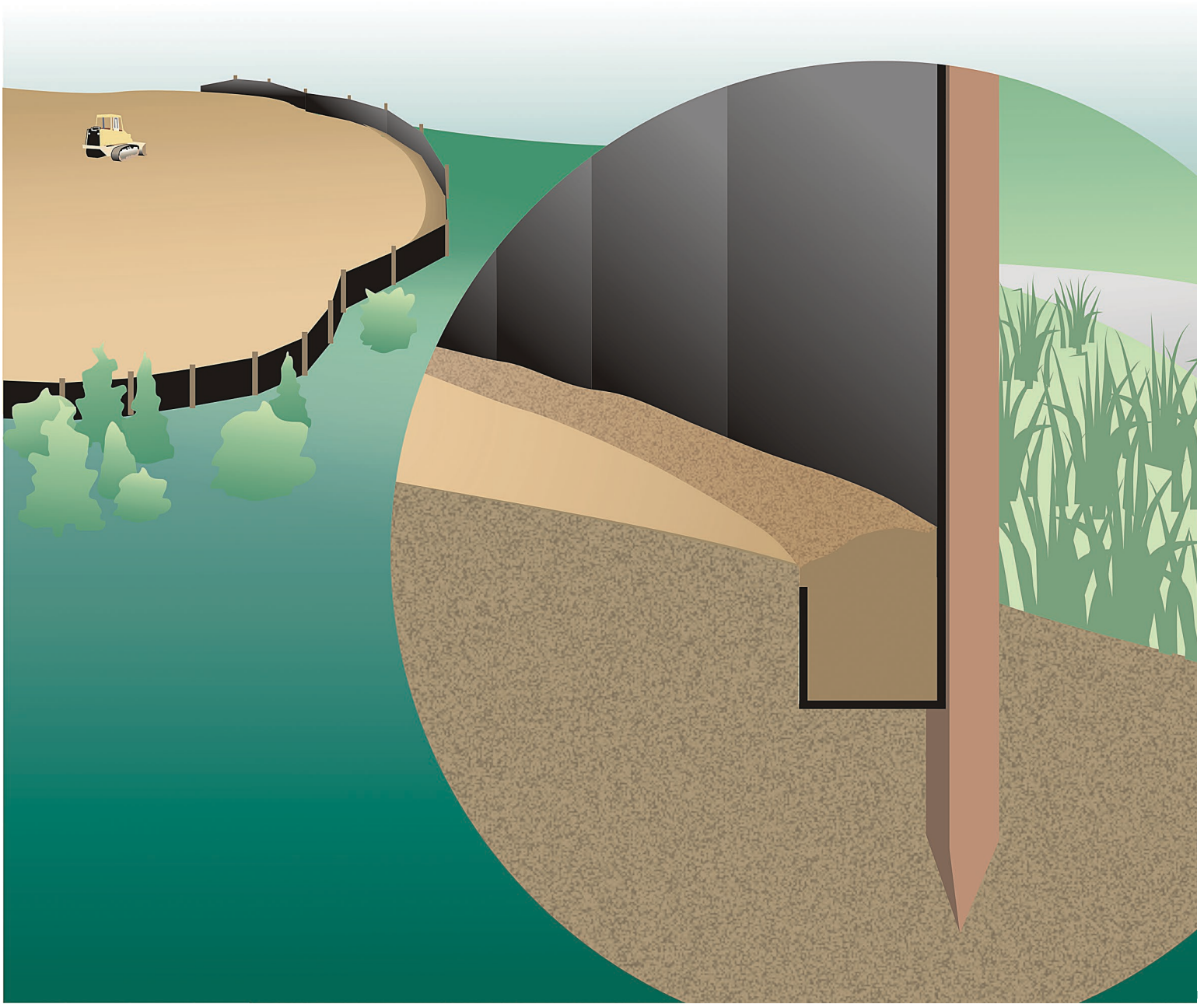
429.07. Penalties for Violation.

Subdivision 1. Violation of the provisions of these regulations or failure to comply with any of its requirements shall constitute a misdemeanor and shall be punishable as defined by law.

Subd. 2. Nothing herein contained shall prevent the City of Richfield from taking such other lawful action as is necessary to prevent or remedy any violation. Such actions may include but are not limited to:

- a. In responding to a suspected ordinance violation, the administrator and/or Building Official may utilize the full array of enforcement actions available to the guilty party.
- b. When an ordinance violation is either discovered by or brought to the attention of the administrator or Building Official, the situation shall immediately be investigated. Documentation of the nature and extent of the violation of the official control must be provided.
- c. The administrator must notify the suspected party of the requirements of this ordinance and all other official controls and the nature and extent of the suspected violation of these controls. If the structure or use is under construction or development, the Administrator may order the construction or development immediately halted until a proper permit is granted by the City. If the construction or development is already completed, then the administrator may either: a) issue an order identifying the corrective actions that must be made within a specified time period to bring the use or structure into compliance with the official controls; or b) notify the responsible party to apply for an after-the-fact permit within a specified period of time not to exceed 30 days.
- d. If the responsible party does not appropriately respond to the administrator or Building Official within the specified period of time, each additional day that lapses constitutes an additional violation of this regulation and may be prosecuted accordingly. The administrator must also, upon the lapse of the specified response period, notify the landowner to restore the land to the condition that existed prior to the violation of this regulation.

Appendix D: MPCA Erosion and Sediment Control Guidance



Stormwater Construction Inspection Guide



October 2018

Acknowledgments

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Comments welcome

This is the first edition of the Inspection Guide. We welcome comments and suggestions on how it might be changed in future editions to better assist stormwater inspectors. Send comments to:

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Chapter 1

Introduction

Purpose of this inspection guide

This stormwater construction inspection guide is designed to assist construction site inspectors, such as staff representing various local units of government, in the procedures for conducting a compliance inspection at construction sites. The focus of this guide is on inspecting construction sites less than five disturbed acres; however, the principles of this inspection guide can be applied to construction sites of any size.

After a brief overview of the Minnesota Pollution Control Agency (MPCA) construction stormwater permit, this inspection guide covers three main topics: How to conduct a stormwater inspection, tips on inspecting BMPs, and information about referring enforcement cases to the MPCA.

Construction Stormwater Permit Overview

The MPCA issued the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) General Stormwater Permit for Construction Activity in August 2018. Owners and operators of construction activity disturbing one acre or more of land need to obtain the construction stormwater permit. Sites disturbing less than one acre within a larger common plan of development or sale that is more than one acre also need permit coverage.

Regulated parties are required to develop a stormwater pollution prevention plan (SWPPP) and submit a completed application and a \$400 application fee. Application must be completed on-line by creating an e-Services account. Access the e-Services webpage by visiting https://rsp.pca.state.mn.us/TEMPO_RSP/Orchestrate.do?initiate=true.

What is a “larger common plan of development or sale?”

A common plan of development or sale means a contiguous area where multiple separate and distinct construction activities are occurring under one overall plan (e.g., the operator is building on three half-acre lots in a six-acre development). The “plan” in a common plan of development or sale is broadly defined as any announcement or documentation or physical demarcation indicating that construction activities may occur on a specific plot.

In addition to developing the SWPPP, regulated parties must implement the SWPPP, conduct regular inspections, and maintain best management practices (BMPs). Inspections are required once every seven days during active construction and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours.

What are “special waters?”

Additional requirements apply to construction sites that discharge within one-mile of a special water. These waters can include:

- Wilderness areas (such as the Boundary Waters Canoe Area Wilderness, Voyageurs National Park, and parts of Kettle River and Rum River)
- Mississippi River (portions of)
- Scenic or recreational river segments (such as the Saint Croix River and Cannon River)
- Lake Superior
- Lake Trout lakes
- Trout lakes
- Scientific and natural areas
- Trout streams

(See Section 23 of the construction stormwater permit for more information or use the Special Waters Search tool on the MPCA construction stormwater webpage).

The next inspection must be conducted within seven days after that. At the end of the project, after all disturbed surfaces are stabilized, the regulated party must submit a notice of termination/permit modification form to let the MPCA know that the construction activity is complete.

For most sites, construction may begin upon completing the payment process. For sites that are more than 50 acres and discharging to a special or impaired waters, the SWPPP and application materials must be submitted at least 30 days prior to commencing construction.

Changes in owner/operator

When the owner or operator or a portion of a site or entire site changes, the former owner or operator and the new owner or operator needs to submit a Notice of Termination (NOT) / Permit Modification to the

MPCA. The form is available on the MPCA construction stormwater website and must be submitted within seven days of assuming operational control of the site, commencing work on their portion of the site, or of the legal transfer, sale or closing on the property.

For stormwater discharges from construction activities where the owner or operator changes, the new owner or operator can implement the original SWPPP created for the project or develop and implement their own SWPPP. Permittee(s) shall ensure either directly or through coordination with other permittee(s) that their SWPPP meets all terms and conditions of the permit and that their activities do not render another party's erosion prevention and sediment control BMPs ineffective.

Additional information on the MPCA's Stormwater Program is available on the web at www.pca.state.mn.us/water/stormwater.

Chapter 2

How to conduct a stormwater inspection

Construction Site Inspector: Role and responsibilities

The inspector determines compliance with permit conditions, applicable regulations, and other requirements and assesses the adequacy of best management practices to protect natural resources. This is primarily accomplished by reviewing on-site activities for permit compliance and the construction operator's SWPPP.

Legal responsibilities

Item 24.10 of the construction stormwater permit provides inspectors the authority to inspect construction sites. This section of the permit requires the construction operator to "allow representatives of the MPCA or any member, employee or agent thereof, when authorized by it, upon presentation of credentials, to enter upon any property, public or private, for the purpose of obtaining information or examination of records or conducting surveys or investigations." An inspector's first responsibility is to be familiar with the specific requirements in the general permit, and applicable regulations. Inspectors must always have and display their inspection credentials.

Professional responsibilities

Inspectors are expected to perform their duties with a high degree of professionalism. Facts are to be noted and reported completely, accurately and objectively. Inspectors should also be tactful, courteous and diplomatic when working with construction operators and other members of the public. During an inspection, inspectors should not speak derogatorily of any product, manufacturer or person.

When problems are found that are not significant, inspectors should provide technical assistance on approaches for dealing with minor issues that do not warrant a violation notice. This could include minor issues that, if not corrected, could lead to a violation. Technical assistance refers to providing general guidance on how to solve erosion and sediment control problems without providing specific design details. In other words, the inspector does not provide engineering advice.

Inspection procedures

An on-site construction site inspection will typically 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

Plan your inspections by targeting construction sites in priority areas (i.e., sites discharging to special waters, sites near surface waters, areas undergoing rapid development), large construction sites, or sites with a history of compliance problems. Be flexible, and plan your inspections immediately prior to or during anticipated rain events, or immediately following actual rain events (this is the best time to conduct stormwater inspections!). Identify more inspection candidate sites than you can visit in a day so you have back-up sites in case changes occur.

Always keep safety in mind!

- Use safety equipment such as hard hats, reflective vests, and steel-toed shoes.
- Maintain safety equipment in good condition and proper working order.
- Watch where you are walking, and be careful of what is going on overhead.
- Never enter confined spaces, such as a ditch or manhole, unless properly trained, equipped, and certified.

In preparing for an inspection, also review available files such as permits, copies of SWPPPs or erosion and sediment control plans, past inspection reports, downstream water quality problems from monitoring/assessment reports, and other correspondence such as maintenance records on the construction sites you will be inspecting. Copy relevant information that may be useful in the field. This could include past inspection reports in order to verify that problems have been corrected. Use the special waters search on the MPCA website to

determine whether any of the construction sites you plan to visit are located near special waters or impaired waters. Discharges to special waters, wetlands, and impaired waters have additional requirements that are described in Section 23 of the permit.

Find all the construction sites you'll be inspecting on a map to plan out your day. Group inspections by geographic area when possible to minimize your drive time.

Finally, be prepared for the inspection. Dress for the weather and take appropriate safety gear. Make sure you have the following: inspection credentials, digital camera, copies of inspection forms, copy of the general permit, logbook for taking notes, and personal protective equipment (steel-toed shoes, hard hat, safety vest). Always take extra copies of materials such as the general permit, inspection forms, and application forms.

Entry

Before entering the construction site, observe the surroundings and various stages of construction. Note areas for in-depth review and any clear violations. This is also a good time to view construction site vehicle exit locations and perimeter controls. Indicate on the inspection form the date/time and weather conditions (e.g., light rain, sunny, some rain in previous 24 hours).

When entering the site, review all postings and then ask for the owner or contractor whose name is on the application. If these people are not available, ask to speak with someone who is familiar with the construction site's SWPPP. Always note the names of the individuals with whom you meet. Present your credentials and explain the purpose of your inspection. Inform the individual of the typical sequence of events for the inspection (introductions, file review, site tour, exit interview, report preparation, delivery and follow-up). Ensure that the construction operator participates during the records review and accompanies you during the inspection. Ask if there are any specific safety issues or requirements for this site.

Records review

Ask to see a copy of their SWPPP and application for coverage under the general stormwater permit, including a copy of all construction site inspections (i.e. the weekly inspections owners/operators are required to make weekly as well as within 24 hours of a rain event greater than 0.5 inches in a 24-hour period).

Review the SWPPP to ensure it addresses all the requirements in the permit. Specific items in the SWPPP to review and record in your notes include:

- The most recent date of the SWPPP, and who prepared it.
- Primary erosion prevention and sediment control BMPs used on-site.
- Inspection and maintenance records, which are required to be kept with the SWPPP. Operator is required to inspect the site once every seven days and within 24 hours after a rainfall event greater than 0.5 inches in 24 hours.
- Permanent stormwater management practices.
- Pollution prevention practices (especially for fueling, solid waste, hazardous materials, and vehicle washing).
- Discharge points from the project to surface waters and wetlands.

What if the site does not have a permit?

If a construction site disturbing more than one-acre has not applied for the stormwater permit, notify your Regional MPCA construction contact. Explain to the site representative the requirement to apply for a stormwater permit, continue the inspection, and leave compliance assistance materials such as a copy of the permit and application. Note the violation on the inspection form.

What to do if denied entry?

Stay calm and explain that the permit provides the MPCA and MPCA representatives with the authority to conduct inspections. Inquire as to why you are denied entry and record this information in your notes. Explain that you will need this information so that you can accurately portray their reasons for denial to your supervisor. Evaluate what they said were their reasons and determine if there are ways you can mitigate their concerns. Many times their concerns are unfounded. In no case should you threaten or indicate that their denial may lead to future punitive penalties.

Include in your notes a general narrative of the construction activity (e.g., construction of five single family homes on 2.5 acre parcel). Ask the construction operator to describe the project as you review the SWPPP. Questions you can ask include:

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

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

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

Remember SWPPPs are dynamic documents; they should be updated when (Section 5):

- A change in design, construction, operation, maintenance, weather or seasonal conditions have a significant effect on stormwater discharges,
 - Inspections indicate the SWPPP is not effective, or
 - The SWPPP is not consistent with the terms of the permit.

The SWPPP must be on-site!

Item 20.2 of the permit requires that "the SWPPP, including all changes to it, and inspections and maintenance records at the site during normal working hours by permittees who have operational control of that portion of the site." The SWPPP can be kept in either the field office or in an on-site vehicle.

If the SWPPP is not available, ask why and note the response in your report. There are no legitimate excuses for not having stormwater paperwork on-site and available for review. Inform the construction operator that the permit requires the SWPPP to be on-site and available for review. If issues on-site indicate an in-depth review of the SWPPP is necessary, request that a copy of the SWPPP be submitted to the MPCA in the corrective actions.

Discuss with the site contact whether any amendments have been made to the SWPPP. The constantly changing conditions at a construction site (from rough grading to building construction) mean that the BMPs in the SWPPP must change as the site conditions change.

If their SWPPP is not available for review, this will make your inspection more difficult. Ask for a copy of a map of the construction site, if possible, and continue with your inspection. Note the lack of an on-site SWPPP on the inspection form.

Site inspection

A keen eye, an understanding of the construction sequencing process and accurate documentation are the keys to an effective construction site inspection. Use the inspection form, and take notes regarding the location and condition of BMPs, discharge points, and inlets. Use photos to document concerns/violations and indicate on a rough diagram where the photos were taken. Keep a written log of preliminary findings during your inspection to facilitate your exit interview. Bring extra copies of relevant documents (such as the permit, application form, and construction stormwater permit overview fact sheet) to explain the requirements, and to leave for the construction operator if they need it.

A note about construction activity:

Construction activity, by its very nature, is a “dirty” business. In many cases, land is cleared and graded to conform to the new site requirements. During a rain event, even the best-managed construction sites will look “muddy.” Your role as a construction inspector is to ensure that sediment and other pollutants in stormwater leaving the site do not impact waters of the state. Become familiar with typical construction practices, terminology, and conditions and use this experience during your inspection.

Seasonal considerations

During frozen ground conditions, construction activity may be suspended. BMPs must be in place; however, inspections may be suspended until runoff occurs at the site or when construction resumes. If possible, conduct inspections during the spring thaw period.

A recommended construction inspection sequence follows:

1. Plan your inspection

Review the site map and plan how you will conduct the inspection (this is particularly important for large construction sites). Identify the significant pollutant sources and BMPs you want to inspect (silt fence installation, sediment basins, slope stabilization, material storage areas, etc.). Consider the direction stormwater will flow as you plan the inspection. Begin your inspection at the low point on the construction site, observing all discharge points and walk up the slope to inspect the rest of the site. Consider the current sequence of construction phasing when planning your inspection.

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

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

In some limited situations, it may be useful to collect samples of stormwater discharges from construction sites. Contact your MPCA regional construction stormwater staff contact if you feel sampling may be useful in a specific situation.

3. *Inspect perimeter controls*

Note the type of perimeter controls installed at the site, and whether these have been properly installed and maintained. Inspect the construction exit to determine if there is excessive tracking of sediment from the site. Is street sweeping being used? If so, what is the frequency? Is there evidence of additional construction exits being used that are not in the SWPPP or are not stabilized?

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

4. *Compare BMPs in the SWPPP with construction site conditions*

Are all BMPs required by the SWPPP in place? Are additional BMPs needed? Evaluate whether BMPs have been adequately installed and maintained (see Chapter 3 for more information on inspecting BMPs). Describe in your notes the potential violations and their location. Look for areas where BMPs are needed, but are missing and are not included in the SWPPP.

5. *Inspect disturbed areas not currently being worked*

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

6. *Inspect areas with final stabilization*

Inspect any stabilized areas to ensure that excessive erosion is not occurring. Estimate whether the site has been stabilized with uniform perennial vegetative cover with a density of 70% over the entire pervious area. Temporary BMPs in areas with final stabilization must be removed and sediment must be cleaned out of all conveyances and temporary sediment basins that will be used as permanent water quality management basins. Areas where temporary BMPs have been removed must be stabilized and seeded.

7. *Inspect wetted perimeter areas*

The normal wetted perimeters of any temporary or permanent drainage ditch that drains water from a construction site, or diverts water around a site, must be stabilized within 200 lineal feet from the property edge, or from the point of discharge to any surface water. Stabilization must be completed within 24 hours of connecting to a surface water. The remainder of the ditch must be stabilized within 14 days.

Guidance on inspecting individual BMPs is discussed in Chapter 3.

Common compliance problems at construction sites

The following compliance problems are commonly found at small construction sites. Keep these common problems in mind as you conduct inspections.

Problem #1 – No temporary or permanent cover

All exposed soil areas must have stabilization initiated immediately to limit soil erosion whenever any construction activity has permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Ask the contractor when particular exposed soils were last worked to help you determine if there is compliance.

Problem #2 – No sediment controls on site

The permit requires established sediment control practices (e.g., sediment traps/basins, down-gradient silt fences or sediment barriers, check dams, etc.) on down-gradient perimeters before up-gradient land disturbing activities begin.

Problem #3 – No sediment control for temporary stock piles

Temporary stockpiles must have silt fence or other effective sediment controls, and cannot be placed in surface waters (or curb and gutter systems).

Problem #4 – No inlet protection

All storm drain inlets that receive a discharge from the construction site must be protected before construction begins, and must be maintained until the site is stabilized. Inlet protection may be removed for a particular inlet if a specific safety concern has been identified. Written correspondence must be documented in the SWPPP or available within 72 hours upon request.

Problem #5 – No BMPs to minimize vehicle tracking on to the road

Vehicle exits must use BMPs such as stone pads, concrete or steel wash racks, or equivalent systems to prevent vehicle tracking of sediment.

Problem #6 – Sediment on the road

If BMPs are not adequately keeping sediment off the street, then the permit requires tracked sediment to be removed (e.g., street sweeping).

Problem #7 – Improper solid waste or hazardous materials management

Solid waste must be disposed of properly, and hazardous materials (including oil, gasoline, and paint) must be properly stored (which includes secondary containment).

Problem #8 – Dewatering at the construction site

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

Problem #9 – Concrete washout

All liquid and solid wastes generated by concrete washout operations must be contained in a leak-proof containment facility or impermeable liner.

Taking photographs

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

On the site map, indicate approximate locations of where you took photos, and the direction of the photograph. Keep notes for each photograph you take, as you need to describe the potential violation in your report.

When taking a photograph, make sure you keep perspective in mind. If the viewer will have difficulty understanding how large something is (for example, a rill/gully), then use a prop such as a person, hardhat or other object for perspective.

Exit interview

Prior to conducting your exit interview, break away from the assembled group to gather your thoughts and prepare a list of preliminary findings. Review the inspection forms and determine the severity of any identified deficiencies. It is best to lead off your exit interview with one or more positive comments regarding the site and then list your negative findings in order of severity. Therefore, come up with a few positives examples of what they are doing right.

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

Leave copies of any compliance assistance information, such as the MPCA fact sheets “Overview of Minnesota’s NPDES/SDS Construction Stormwater Permit” or “Sediment and Erosion Control for New Homeowners.” Share information on permit compliance, and direct them to contact the MPCA office (contact phone numbers are noted on the bottom of the inspection forms), or explain how to obtain technical guidance materials.

Lastly, don’t tell the construction operator which BMP to use. Explain the problem or the permit requirement that must be met, and describe how other construction sites have

addressed typical problems. It's OK to tell the construction operator about what typically works and what doesn't work in the field, but don't specify the BMP to use (especially if it is a proprietary BMP). Ultimately, it is up to the construction operator to decide which BMPs to use.

Report writing and follow-up

Inspection reports consist of inspection forms, a site map and a photo log. If possible, complete all the relevant fields on the inspection forms and write your inspection report while you are still on the construction site. This will allow you to double check any observations and ask follow-up questions.

Remember that your inspection report is a legal document. Write legibly, accurately and objectively. Report all violations observed at the site, and always cite the section of the permit that was violated. Be careful not to include any information that you are unsure of (i.e., product names). The inspection report may be the first step in a compliance process that could reasonably be expected to be contentious. Factual errors in the report will bring the entire report and inspection into question, and will hurt the inspector's credibility. Therefore, if there is any doubt about the information, it should be left out.

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

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

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

Photo log should include:

1. Size the photos so that the shortest side is 3.5 inches. Center the photos and captions on the page. Generally, a page will have two landscape oriented photos or one portrait. See Attachment A, Page 28, for a sample photo log.
2. Include a photo(s) that illustrates general construction site conditions. A macro level shot provides insight into whether the site is generally in good shape or poorly maintained. For a site that is generally in compliance, the general construction site conditions photo may be the only picture in the log.
3. Provide photos for all potential violations. The photo serves as a record that the findings actually occurred and provides a means of comparing future site conditions with those on the day of inspection. Also, it's easier to resolve

potential disputes with the construction operator if findings are documented with photographs.

4. Photo captions should briefly describe what is observed in the picture. Avoid references to the “normal” conditions in that area (“per the construction operator” statements); these are better discussed in the inspection report.
5. Check to make sure the construction site name and NPDES/SDS permit number match the inspection report. The best way to do this is to create a new photo log for each construction site; problems seem to arise when inspectors recycle photo logs by erasing the photos from one site and add those from another.

Save the photo log as the nine digit NPDES/SDS permit number followed by the facility name, or first word of a long facility name (i.e., C00012345 Acme.doc). The NPDES/SDS permit number is the unique value used to organize the photo logs with the reports and make sure that none are missing.

Chapter 3

Tips on inspecting BMPs

Inspecting BMPs

The following BMPs are commonly implemented on small construction sites. Tips for inspecting these BMPs are described on the following pages. For more information on BMPs, see:

- Minnesota Stormwater Manual https://stormwater.pca.state.mn.us/index.php/Main_Page
- Minnesota Urban Small Sites BMP Manual: Stormwater Best Management Practices for Cold Climates, Metropolitan Council, 2001. <https://metro council.org/Wastewater-Water/Planning/Water-Resources-Management/Water-Quality-Management-Key-Roles.aspx>

Both manuals provide details on the standards and specifications for installing and maintaining these and other stormwater BMPs.

The BMPs are generally organized by the order an inspector will typically encounter them in the field when conducting an inspection.

The BMPs in this list were selected because they are commonly found on construction sites disturbing less than five acres of soil.

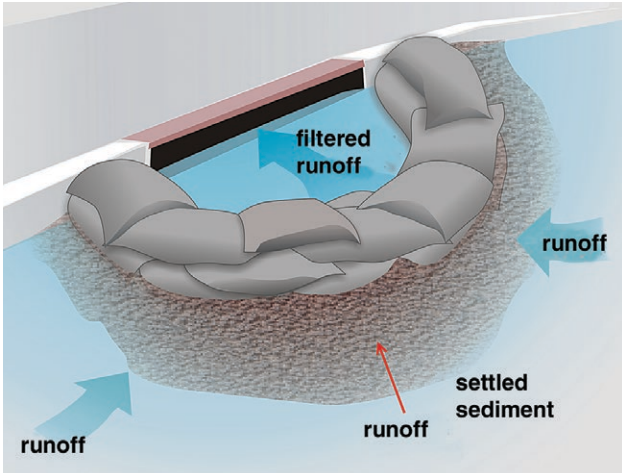


Figure 1. Sand or gravel bags can be used to filter stormwater runoff before entering a catch basin. Commercial products are also available that fit in front of or inside the catch basin.

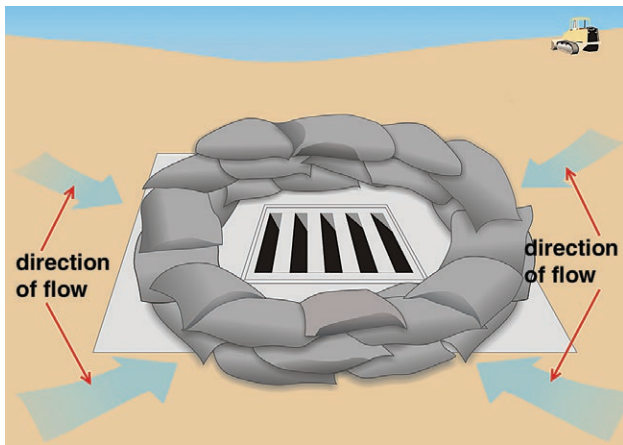


Figure 2. Sand or gravel bags used to protect a drop inlet.

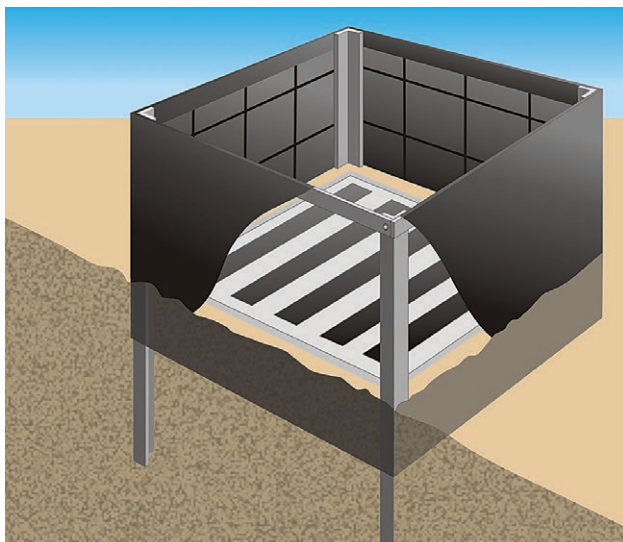


Figure 3. Silt fence can also be used to protect a drop

Storm drain inlet protection

Storm drain inlet protection prevents sediment from entering a storm drain by surrounding or covering the inlet with a filtering material. This allows sediment-laden runoff to pond and settle before entering the storm drain.

Several types of filters are commonly used for inlet protection: silt fence, sand bags or block and gravel. The type of filter used will depend on inlet type (curb inlet, drop inlet), slope, and amount of flow. Many different commercial inlet filters are also available. Some commercial inlet filters are placed in front of or on top of an inlet, others are placed inside the inlet and under the grate.

Permit requirements:

- All storm drain inlets must be protected by appropriate BMPs during construction until all sources with potential for discharging to the inlet have been stabilized. Inlet protection may be removed if a specific safety concern has been identified and the Permittee(s) have received written correspondence from the jurisdictional authority (Item 9.7).
- All sediment control BMPs must be inspected to ensure integrity and effectiveness. All nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs. (Section 11).

Inspection tips:

- ✓ Inlet protection is a secondary BMP. Make sure that erosion controls or additional sediment controls are also in place.
- ✓ The inlet protection must not block the storm drain or cause flooding.
- ✓ Inlet protection must be in place immediately after storm drains are installed (or before land disturbance activities begin in an area with existing storm drains).
- ✓ Sediment accumulation must be removed after each storm event if it impedes flow through the filter.
- ✓ Make sure there are not any "gaps" allowing unfiltered stormwater to enter the inlet.

Stabilized construction exit

A rock construction exit can reduce the amount of sediment transported onto paved roads by vehicles. The construction exit does this by knocking mud off the vehicle tires before the vehicle enters a public road.

Permit requirements:

- Vehicle tracking of sediment from the construction site must be minimized by BMPs such as stone pads, concrete or steel wash racks, or equivalent systems. Street sweeping must be used if such BMPs are not adequate to prevent sediment from being tracked onto the street (Item 9.11).
- Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Permittees must use street sweeping if vehicle tracking BMPs are not adequate to prevent sediment tracking onto the street (Item 9.12).

Inspection tips:

- ✓ Is there evidence of sediment tracking from the site? (Street sweeping may be necessary if sediment tracking is evident).
- ✓ Is there evidence that vehicles are leaving the site from other locations, and not using the designated construction exits?
- ✓ Does the aggregate need to be replaced or replenished?
- ✓ Is the construction exit long enough to remove mud from the tires (50 ft. minimum)?
- ✓ Is the site graded away from the construction exit to prevent runoff from leaving the site?

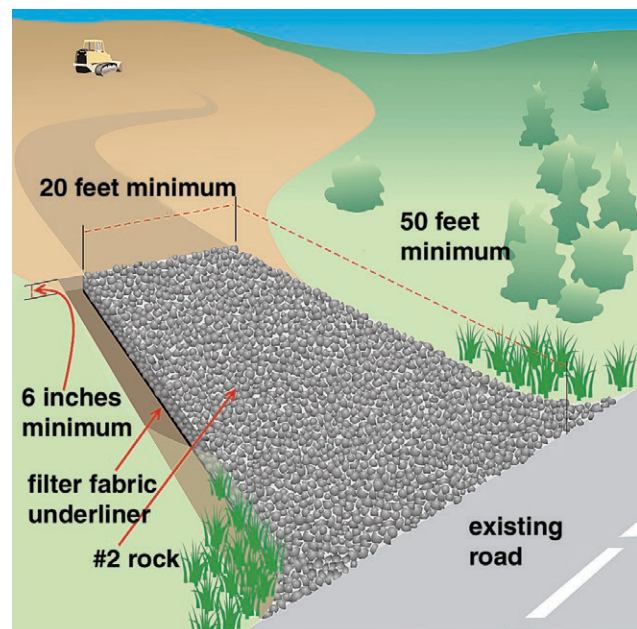


Figure 4. Stabilized construction exit.

Silt fence/other sediment barrier

A silt fence or sediment filter (such as a fiber roll or wattle) is a down-gradient barrier intended to intercept sheet flow runoff and settle out sediment upslope while allowing runoff to filter through.

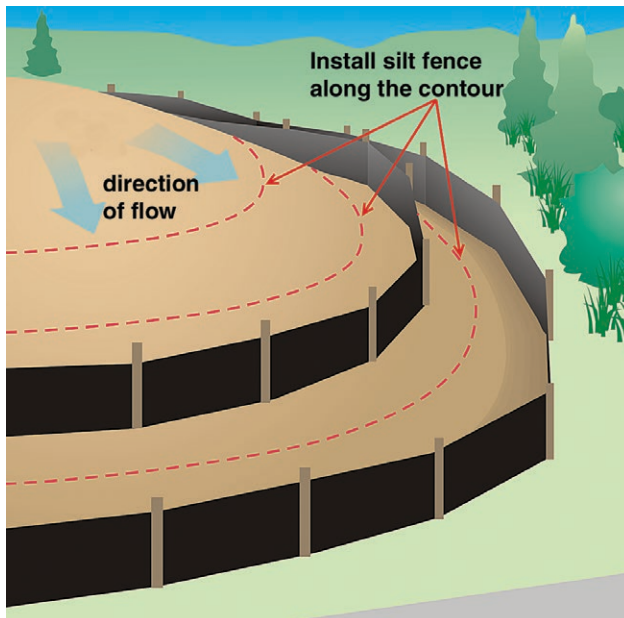


Figure 5. Illustration of silt fence installed along the contour.

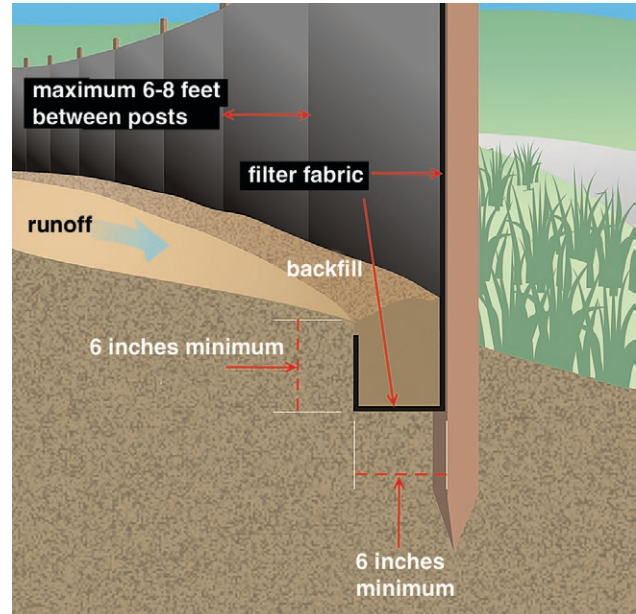


Figure 6. Detail of silt fence installation.



Figure 7. Illustration of "J-hooks" used during silt fence installation.

Permit requirements:

Sediment control practices must be established on all down-gradient perimeters before any upgradient land disturbing activities begin. These practices must remain in place until final stabilization has been established (Item 9.2). All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/2 of the height of the fence. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access (Item 11.4).

Inspection tips:

- ✓ Is the silt fence installed along the contour (on a level horizontal plane)?
- ✓ Are the ends turned up (J-hooks) to help pond the water behind the filter?
- ✓ Is the filter trenched-in with the stakes on the downhill side (trench must be six inches deep by six inches wide)?
- ✓ Has sediment been removed when it reaches 1/2 the height of the barrier?
- ✓ Sediment barriers should not be used as check dams or where concentrated flow is expected.

Key inspection area: Inadequate installation

- Soil should be compacted after trenching.
- The stakes used to hold the silt fence must be on the down-slope side.

Key inspection area: Improper placement

- A silt fence is not adequate protection for steep, long slopes. The drainage area must be no greater than $\frac{1}{4}$ acre per 100 feet of fence; i.e., silt fences must be spaced 60-110 ft. apart on long slopes.

Key inspection area: Maintenance

- Torn or degraded silt fence fabric must be replaced immediately.

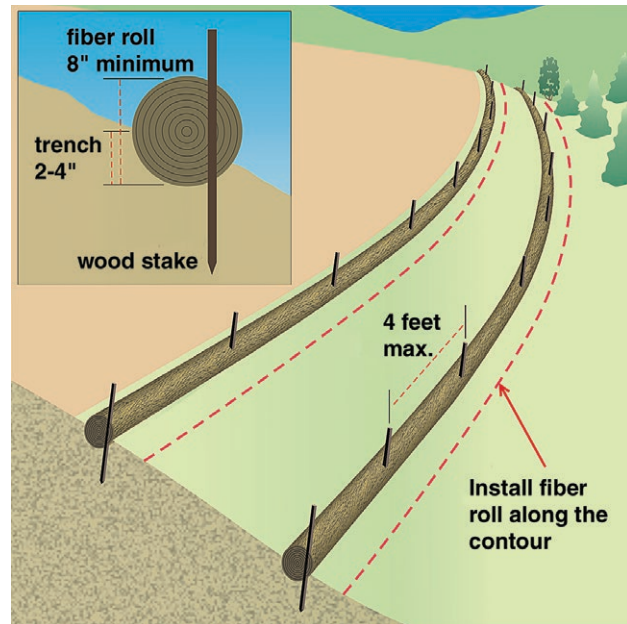


Figure 8. Fiber roll installation and detail.

Diversion ditches/berms

Diversion ditches or berms direct off-site runoff away from unprotected slopes or direct sediment-laden runoff to a sediment trapping structure. A diversion ditch can be located at the upslope side of a construction site to prevent surface runoff from entering the disturbed area. Ditches or berms on steeper slopes may need to consider erosive velocities. Also, ensure that the diverted water is released through a stable outlet and does not cause downstream flooding.

Inspection tips:

- ✓ Check to make sure the diversion discharges to a stable outlet or channel.
- ✓ Check to see if 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.

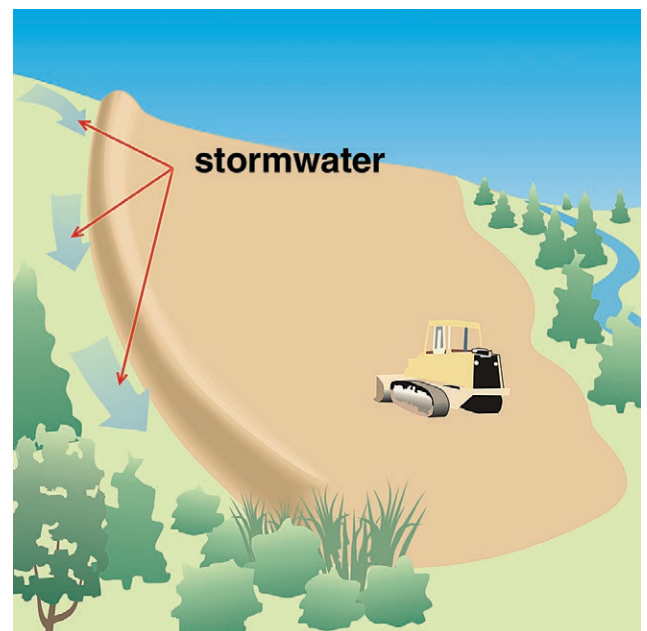


Figure 9. Diversions should be used to divert stormwater away from disturbed areas.

Mats, mulches, and blankets

Mats, mulches and blankets are used for temporary stabilization and establishing vegetation of disturbed soils. Mats and blankets are typically used on slopes or channels while mulches are effective in helping to protect the soil surface and foster the growth of vegetation.

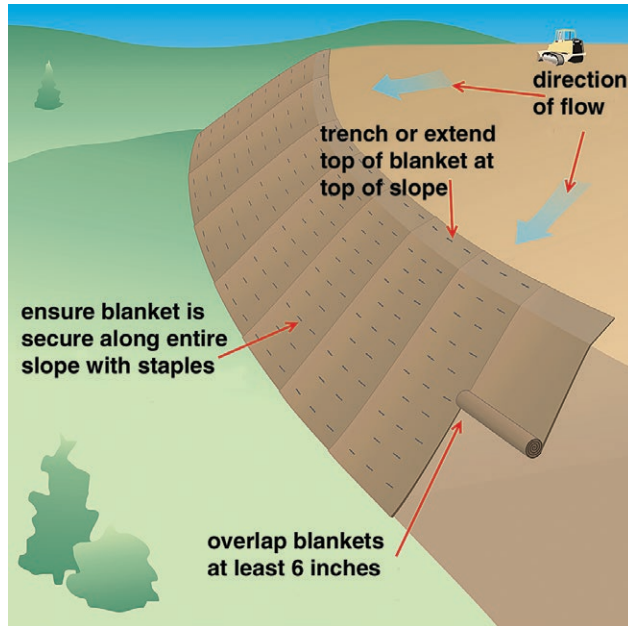


Figure 10. Erosion control blanket.

Inspection tips:

- ✓ The blanket or mat must come into complete contact with the soil.
- ✓ Check that the top of the blanket is trenched-in (there should be no evidence of water flowing under the blanket or mat).
- ✓ Mulch should not be placed in concentrated flow areas.
- ✓ Check to see if erosion is occurring in the mulched area (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.

Temporary sediment trap or pond

A temporary sediment trap or pond is a small, temporary ponding area formed by constructing an earthen embankment with an outlet across a swale. Temporary sediment traps are intended to detain sediment-laden runoff from small, disturbed areas long enough to allow the majority (at least 75%) of the sediment to settle out.

Sediment traps are designed for small areas. The volume of the trap must be at least 1,800 cubic feet per acre of contributing drainage.

Inspection tips:

- ✓ Check the location of the sediment trap. Failure of the trap should not pose a risk to life or property.
- ✓ Sediment in the trap should be removed after it reaches about 1/2 the design volume.
- ✓ The trap should not be installed in a main stream or near culvert outlets.
- ✓ Check the outlet for needed maintenance.

Vegetative stabilization

Vegetative stabilization includes temporary or permanent seeding and sodding. Vegetative stabilization helps prevent erosion at construction sites by reestablishing vegetation on exposed soils. Native and noninvasive species are highly preferred to introduced grasses.

Permit requirement (Item 8.4):

All exposed soil area must have stabilization initiated immediately to limit soil erosion. Stabilization must be completed no later than 14 calendar days after construction activity in that portion of the site has temporarily or permanently ceased. Temporary stock piles without significant silt, clay or organic components and the constructed based components of the roads, paving lots, and similar surface are exempt from this requirement.

Inspection tips:

- ✓ 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, a slope may need to be mulched rather than seeded.

Permanent stormwater treatment system

For projects that replace pervious surfaces with one or more acres of cumulative impervious surface, a permanent stormwater management system that treats one inch runoff from the new impervious surface is required. See Section 15 of the permit for additional information.

For projects where the full volume reduction requirement cannot be met on-site, (e.g. the site has infiltration prohibitions), permittees must document the reasons in the SWPPP.

For linear projects where permittees cannot treat the entire water quality volume within the existing right-of-way, permittees must make a reasonable attempt to obtain right-of-way, easement or other permission for stormwater treatment during the project planning process. Documentation attempts must be in the SWPPP.

Permittees must first consider volume reduction practices on-site (e.g., infiltration or other) when designing the permanent stormwater treatment system. If the permit prohibits infiltration, permittees may consider a wet sedimentation basin, filtration basin or regional pond.

- *Infiltration/filtration.* Treatment can include infiltration basins and trenches, rainwater gardens, sand filters, bioretention areas, and enhanced swales. The water quality volume treated should be 1 inch of new impervious surface. (Section 16 & Section 17).
- *Wet sedimentation basin.* Permanent storage volume (dead storage) of 1800 cubic feet of storage per acre that drains to the basin must be provided. The water

quality volume (live storage) must be discharged at no more than 5.66 cubic feet per second (CFS) per acre of surface area of the pond. The water quality volume treated should be one inch times of new impervious surface. (Section 18).

- *Regional Ponds.* Written authorization to discharge to a regional pond must be included in the SWPPP, and the pond must meet the permit's design requirements. (Section 19)
- *Combination of the above practices.* SWPPP must document the volume that each practices addresses.
- *Alternative method.* An alternative method must be approved in advance by the MPCA. Check the SWPPP to see if approval and additional documentation is provided.

Solid waste/hazardous materials management

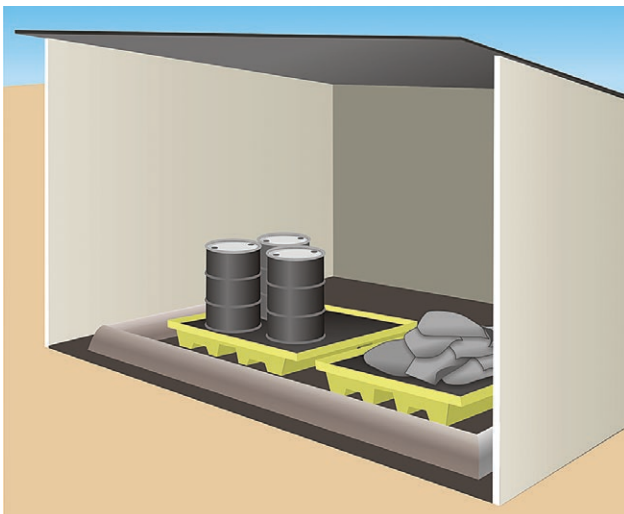


Figure 11. Example of hazardous materials storage (doors removed for illustrative purposes only). Access to hazardous materials must be restricted.

Section 12 of the permit requires construction sites to implement pollution prevention measures. At a minimum, sites are required to:

- Properly dispose of solid waste.
- Hazardous materials must be properly stored, including secondary containment, with restricted access to prevent vandalism. Oil, gasoline and paint are hazardous materials often used at construction sites.
- Limit external washing of vehicles and contain runoff. Engine degreasing is prohibited.

Permit requirements:

- **Solid Waste:** Collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with MPCA disposal requirements. (Item 12.9).
- **Hazardous Materials:** Oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Access to storage areas must be restricted to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations. (Item 12.4).
- Spills must be reported to the Minnesota Duty Officer 1-800-422-0798.

- Concrete washout onsite: All liquid and solid wastes generated by concrete washout operations must be contained in a leak-proof containment facility or impermeable liner. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. The liquid and solid wastes must not contact the ground, and there must not be runoff from the concrete washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA regulations. A sign must be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities. (Item 12.9).

Inspection tips:

- ✓ Does the construction site have dumpsters or other containers for debris and solid waste?
- ✓ Is there evidence of solid waste or debris in the storm drain system?
- ✓ Are oil, gasoline and paint properly stored?
- ✓ Does the construction operator allow vehicles to be washed on-site?
- ✓ Are solid waste and hazardous materials stored away from receiving waters and catch basins?
- ✓ Is there evidence of hazardous materials being disposed of in the solid waste bins?
- ✓ Is there evidence that the solid waste or hazardous materials containers have leaked?
- ✓ Are vehicles or equipment fueled on-site? Is this area bermed or away from receiving waters and storm drains?
- ✓ Are all hazardous materials containers properly labeled?
- ✓ Are concrete washouts properly installed away from receiving waters and storm drains?
- ✓ Is there a sign adjacent to each washout facility to inform concrete equipment operators to utilize the proper facility.

Chapter 4

Referring enforcement cases to the MPCA

Specific referral procedures are detailed in contracts between the MPCA and non-MPCA inspectors. In most instances, referrals will follow this general practice. Cases may be referred directly to the MPCA from approved agencies. At this point the MPCA determines if enforcement actions are warranted and if proper documentation has been filed. If the MPCA determines that no action is required, because of the lack of documentation or insufficient information or evidence, the case will be referred back with a letter of explanation. If MPCA staff determine that action is required the case will be pursued. Cases that meet MPCA requirements will be brought through the MPCA enforcement process in conjunction with the referring approved agency. Most times a parallel request will be made by the referring approved agency to engage with local enforcement measures. These measures may include: having the plan-approving agency (zoning and planning departments) refrain from issuing or, in some cases, revoking any building or grading permits until outstanding violations are remedied.

The following are three common violations at small construction sites and the potential level of enforcement response by the MPCA and approved partners. Further information and details on MPCA enforcement response or guidance on inspection reports and field letter of warning use can be obtained from the MPCA Enforcement Response Plan (ERP).

For failure to obtain an NPDES stormwater permit

Citation: 7001.1035, 7001.1040 and 7001.1030.

Suggested enforcement action: Administrative Penalty Order (APO).

Evidence needed: photos of the construction activity, DELTA permit search, a completed inspection report, pollutant discharge documentation (when occurring), size of site, cite the "failure to obtain a permit" violation,

Required action: Immediately cease construction work. Create corrective actions that will prevent harm or correct/minimize releases. Apply for permit ASAP and prior to continued site activity. Follow up with appropriate enforcement action.

For discharging sediment into waters of the state

Citation: Minnesota Statute 115.061 or Minn. R. 7001.0210.

Suggested enforcement action: APO/Stipulation Agreement.

Evidence needed: Delineation of sediment plume, photos, and inspection report which describes the impacts with good factual records.

Required action: Create corrective actions to stop discharge and prevent harm or correct/minimize releases, report discharges to appropriate agencies. Proceed with appropriate enforcement action; most cases involving discharges typically involve penalties depending on the seriousness, length of time and response to the discharge.

For violations of the NPDES/SDS stormwater permit requirements

Citation: NPDES/SDS Permit MN R100001

Suggested enforcement action: Letter of Warning, APO or Stipulation Agreement.

Evidence needed: Review erosion and sediment control plans, photos, and inspection reports that describes any impacts with good factual records of failure of the permit conditions.

Required action: Clearly and concisely document any violations, including the location of the violation and the part of the permit that the construction operator is violating. Create corrective actions that will result in compliance with the permit and, if appropriate, establish a time frame for compliance. Write clearly and concisely. Proceed with enforcement as appropriate. Cases involving environmental harm or potential for harm may involve penalties depending on the seriousness, length of time and response to the corrective actions. Case by case evaluation is necessary to make these determinations. If a reinspection is necessary, set a time or date for this (either scheduled with the construction operator or an unannounced inspection).

Enforcement options available

There are a suite of enforcement options available to local government or state agencies ranging from field requests to formal notices and various penalty actions, including local citations, administrative penalty orders, stipulation agreements, stop work orders and permit revocations.

Additional resources

This *Stormwater Inspection Guide* is available online, as are the additional resources on stormwater BMPs listed below:

MPCA Stormwater Inspection Guide

www.pca.state.mn.us/publications/wq-strm2-10.pdf

MPCA Minnesota Stormwater Manual

www.pca.state.mn.us/water/stormwater/stormwater-manual.html. The first half of the manual is dedicated to the general Minnesota context for stormwater management. The second half includes diagrams and formulas, it is intended for professional, but useful for homeowners.

MPCA Stormwater Program

www.pca.state.mn.us/water/stormwater/index.html. Click on the construction stormwater program to get copies of the construction permit, application, fact sheets, information on special waters and staff contacts.

MPCA Stormwater BMP Manual

www.pca.state.mn.us/water/pubs/sw-bmpmanual.html. An electronic copy of the MPCA's *Protecting Water Quality in Urban Areas: Best Management Practices for Dealing with Stormwater Runoff from Urban, Suburban and Developing Areas of Minnesota* (2000). Includes information on all types of stormwater control practices.

Metropolitan Council's Urban Small Sites BMP Manual

<https://metro council.org/Wastewater-Water/Planning/Water-Resources-Management/Water-Quality-Management-Key-Roles.aspx>

An electronic copy of the *Minnesota Urban Small Sites BMP Manual: Stormwater Best Management Practices for Cold Climates* (2001). This BMP manual provides information on construction and permanent stormwater BMPs.

Minnesota Erosion Control Association

www.mnerosion.org. An organization that is advancing effective stormwater management and erosion and sediment control techniques and practices.

International Erosion Control Association

www.ieca.org. Association for erosion and sediment control professionals.

Definitions

The following selected definitions are reprinted from the MPCA's construction permit. For additional definitions, see the construction permit.

"Best management practices (BMPs)"

Erosion and sediment control and water quality management practices that are the most effective and practicable means of controlling, preventing, and minimizing degradation of surface water, including avoidance of impacts, construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, and other management practices published by state or designated area-wide planning agencies. Individual BMPs found in the construction permit are described in the current version of *Minnesota Stormwater Manual*. BMPs must be adapted to the site and can be adopted from other sources. However, they must be similar in purpose and at least as effective and stringent as the MPCA's BMPs. (Other sources include manufacturers specifications, *Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices*, U.S. Environmental Protection Agency 1992, and *Erosion Control Design Manual*, Minnesota Department of Transportation, et al, 1993).

"Common plan of development or sale"

A contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur.

"Construction activity"

Construction activity as defined in 40 C.F.R. part 122.26(b)(14)(x) and small construction activity as defined in 40 C.F.R. part 122.26(b)(15). This includes a disturbance to the land that results in a change in the topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated stormwater runoff, leading to soil erosion and movement of sediment into surface waters or drainage systems. Examples of construction activity may include clearing, grading, filling and excavating. Construction activity includes the disturbance of less than one-acre of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb one acre or more.

“Erosion prevention”

Measures employed to prevent erosion including but not limited to: soil stabilization practices, limited grading, mulch, temporary or permanent cover, and construction phasing.

“Final stabilization” requires all of Parts 1-5 or Part 6:

1. All soil disturbing activities at the site have been completed and all soils must be stabilized by a uniform perennial vegetative cover with a density of 70% over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions.
2. The permanent stormwater treatment system meets all requirements in Section 15. This includes but is not limited to, a final clean out of temporary or permanent sedimentation basins that are to be used as permanent water quality management basins and final construction or maintenance of infiltration basins. All sediment must be removed from conveyance systems and ditches must be stabilized with permanent cover.
3. Prior to submission of the NOT, all temporary synthetic and structural erosion prevention and sediment control BMPs (such as silt fence) must be removed on the portions of the site for which the Permittee is responsible. Best Management Practices designed to decompose on site (such as some compost logs) may be left in place.
4. For residential construction only, individual lots are considered finally stabilized if the structure(s) are finished and temporary erosion protection and downgradient perimeter control has been completed and the residence has been sold to the homeowner. Additionally, the Permittee must distribute the MPCA’s “Homeowner Fact Sheet” to the homeowner to inform the homeowner of the need for, and benefits of, permanent cover.
5. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land) Final Stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use.
6. A Permittee may terminate permit coverage prior to completion of all construction activity if all of the following conditions are met in addition to Part 2 and 3 and where applicable, Part 4 or Part 5.
 - a. Construction activity has ceased for at least 90 days.
 - b. At least 90% (by area) of all originally proposed construction activity has been completed and permanent cover established on those areas.
 - c. On areas where construction activity is not complete, permanent cover has been established.

“Operator”

The person (usually the general contractor), designated by the owner, who has day-to-day operational control and/or the ability to modify project plans and specifications related to the SWPPP. The person must be knowledgeable in those areas of the permit for which the operator is responsible. (Section 1 – Section 3, Section 5, Section 8 – Section 13).

“Owner”

The person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease, easement, or mineral rights license holder, the party or individual identified as the lease, easement or mineral rights license holder; or the contracting government agency responsible for the construction activity.

“Permittee”

A person(s), firm, or governmental agency or other institution that signs the application and is responsible for compliance with the terms and conditions of the permit.

“Sediment control”

Methods employed to prevent sediment from leaving the site. Sediment control practices include silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, and temporary or permanent sedimentation basins.

“Stormwater”

Defined under Minn. R. 7077.0105, subp. 41(b), and includes precipitation runoff, stormwater runoff, snow melt runoff, and any other surface runoff and drainage.

“Stormwater Pollution Prevention Plan”

A plan for stormwater discharge that includes erosion prevention measures, sediment controls and permanent stormwater Management System that, when implemented, will decrease soil erosion on a parcel of land and decrease off-site nonpoint pollution.

“Surface water or waters”

All streams, lakes, ponds, marshes, wetlands, reservoirs, springs, rivers, drainage systems, waterways, watercourses, and irrigation systems whether natural or artificial, public or private.

“Temporary erosion protection”

Methods employed to prevent erosion. Examples of temporary cover include; straw, wood fiber blanket, wood chips, and erosion netting.

“Waters of the state”

Defined in Minn. Stat. § 115.01, subd. 22 as all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.

Attachment A - Photo log

Acme construction (permit number)
Inspected by: (Inspector's name, office, phone number)

Construction site name and inspector's last name, office, and phone number are centered in the header and must appear on all pages.



Photo 1: Well-maintained and labeled concrete truck washout

Generally each page will have two landscape or one portrait picture(s). To size each picture, right-click on the picture and select Format Picture for sizing. For landscape view, set height to 3.5" and width is set by MS Word (make sure Lock Aspect Ratio is checked ON.) For portrait view, set width to 3.5" and height is set by MS Word.



Photo 2: Hay bales and silt fence that are in need of

Inspection date: January 5, 2004

Page 1 of 3

Inspection date and sequential page numbering in the footer must appear on all pages.

Attachment B - Violation citations

NPDES/SDS General Stormwater Permit for Construction activity violation citations

Citation	Permit section or rule
No permit	Minn. R. 70090.2010 subp. 1, 2, 3 (permit required, permit application deadline, and compliance requirements for unpermitted construction, respectively)

Change of coverage Item 3.7

Erosion control practices during construction

- a) All exposed soil must be stabilized no later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased Item 8.4
- b) Normal wetted perimeter of drainage system - 200' within 24 hours of connecting Item 8.6
- c) Energy dissipation (temp. or perm.) within 24 hours Item 8.9

Sediment control practices during construction

- a) Lacking sediment control practices Overloaded systems eliminated, no unbroken slopes 75' @ 3:1> Item 9.3
- b) Temporary sediment basin required Item 9.13
- c) Inlet BMPs not functional Item 9.7
- d) Perimeter controls/soil disturbance Item 9.2

Inspections and maintenance

- a) Maintenance of erosion and sediment temporary/permanent cover Item 11.4
- b) Temporary sediment basin 1/2-volume Item 11.8
- c) Recovery of sediment in waters (name water body) Item 11.5
 - Duty to notify, avoid and recover water pollution Minn. Stat. § 115.061
 - Nuisance conditions prohibited (define discharge) Minn. R. 7050.0210, subp. 2
- d) Vehicle tracking Item 11.6

Inspections and records retention

- a) SWPPP development required Section 11
 - SWPPP requirements: Section 5
 - BMPs/locations procedures Item 5.2
 - Site map/flow arrows Item 5.5
 - Phased areas Item 5.9
 - Surface waters/wetlands 1 mile Item 5.18
 - Methods for final stabilization Item 5.10
- b) Inspections (specifically note failed maintenance) Item 5.17
- c) Training requirement documentation Section 11 Item 21.2

Permanent stormwater treatment	
>One acre impervious, permanent treatment required	Section 15
a) Wet sedimentation basin	Section 18
• Regional ponds	Section 19
• Infiltration/filtration (hydro analysis)	Section 16/Section17
• Alternative methods, 90-day review, monitoring	
b) Pretreatment required	Item 16.6/Item 17.5
c) Dewatering	Section 10
d) Turbid discharges off site or waters of the state	Minn. R. 7050. 0210, subp. 2
e) Wetland impacts: authorization and mitigation	
Management pollution prevention	
a) Solid waste disposed of properly	Item 12.5
b) Hazardous materials in secondary containment and restricted access	Item 12.4
c) Defined areas for construction vehicles external washing	Item 12.8
d) Defined concrete washout on site and with a sign	Item 12.9

Attachment B - Violation citations

(continued)

Letter of warning (LOW)

A notice to a regulated party (RP) that documents violations discovered during an inspection, complaint follow-up or review of submittals. The LOW typically includes a reference of the statute, rule, permit condition or checklist that are violated. The LOW typically requires the regulated party to complete specific corrective actions to return the facility to compliance. The LOW usually gives a regulated party between 7-30 days to complete required corrective actions.

Request for information (RFI)

A notice to an RP requiring information. Occasionally additional information is required to determine the status of compliance or for an RP to respond to violations discovered. This information can be used to determine if elevated enforcement (including penalties) is appropriate.

Corrective actions (LOW or RFI)

Requirements to correct field conditions and to come into compliance with the permit, statute or rules and must be responded to in the period noted on this field report. This response (including any lack of response) is considered by the MPCA and future enforcement for the violations discovered.

Attachment C - Temporary, permanent sediment basin checklist

Site name/Location _____ Date of inspection _____

Permanent – temporary (circle) sedimentation basins: (location/ID) _____

Required basin installed (> 10 acres/ single point (T) or >1 acre new impervious (P)?	Yes	No
Does basin have energy dissipation for outlet?	Yes	No
Stabilized emergency overflow outlet?	Yes	No
Was basin constructed /operational concurrent with construction?	Yes	No
Are slopes stabilized with perm cover or temp erosion protection?	Yes	No
Is basin connected to surface waters? Yes Name/description waters: _____		
Was discharge- connection stabilized within 24 hours of connecting?	Yes	No
Dewatering: Onsite to a temp. settling basin? Yes No If offsite, is water turbid?	Yes	No
If no settling basin, was appropriate BMPs for turbidity and scour applied?	Yes	No
Is discharge from site creating a nuisance conditions or WQ violations?	Yes	No
Observations:		

Permanent – temporary (circle) sedimentation basins: (location/ID) _____

Required basin installed (> 10 acres/ single point (T) or >1 acre new impervious (P)?	Yes	No
Does basin have energy dissipation for outlet?	Yes	No
Stabilized emergency overflow outlet?	Yes	No
Was basin constructed /operational concurrent with construction?	Yes	No
Are slopes stabilized with perm cover or temp erosion protection?	Yes	No
Is basin connected to surface waters? Yes Name/description waters: _____		
Was discharge- connection stabilized within 24 hours of connecting?	Yes	No
Dewatering: Onsite to a temp. settling basin? Yes No If offsite, is water turbid?	Yes	No
If no settling basin, was appropriate BMPs for turbidity and scour applied?	Yes	No
Is discharge from site creating a nuisance conditions or WQ violations?	Yes	No
Observations:		

Permanent – temporary (circle) sedimentation basins: (location/ID) _____

Required basin installed (> 10 acres/ single point (T) or >1 acre new impervious (P)?	Yes	No
Does basin have energy dissipation for outlet?	Yes	No
Stabilized emergency overflow outlet?	Yes	No
Was basin constructed /operational concurrent with construction?	Yes	No
Are slopes stabilized with perm cover or temp erosion protection within 200' of surface water?	Yes	No
Is basin connected to surface waters? Yes Name/description waters: _____		
Was discharge- connection stabilized within 24 hours of connecting?	Yes	No
Dewatering: Onsite to a temp. settling basin? Yes No If offsite, is water turbid?	Yes	No
If no settling basin, was appropriate BMPs for turbidity and scour applied?	Yes	No
Is discharge from site creating a nuisance conditions or WQ violations?	Yes	No
Observations:		

Appendix E: Example Maintenance Agreement

CONSTRUCTION AND MAINTENANCE AGREEMENT

This construction and maintenance agreement (“Agreement”), made and entered into as of the _____ day of _____, 20__ by and between _____ (“Developer”) and the City of Richfield, Minnesota, a Minnesota municipal corporation (“City”)

RECITALS

- A. Developer owns certain real property located in the City of Richfield, legally described in the attached Exhibit A (“Property”).
- B. Developer has begun construction of buildings and related site improvements (“Site Improvements”) on the Property and intends to construct a parking lot on the Property.
- C. The City requires that certain stormwater improvements, described in attached Exhibit B (“Site Plan”), be constructed and maintained to ensure proper discharge of storm water into the City’s storm sewer system (“City System”).
- D. The City requires the construction of certain improvements and betterments (“Public Area Improvements” – Described in attached Exhibit C) on portions of the City right-of- way and public easements abutting the Property (collectively, the “Public Areas”).
- E. For the purpose of providing the basis for design, construction, repair, replacement, and maintenance of the Stormwater Improvements and Public Area improvements, the parties wish to enter into this Agreement, including setting forth the remedies for failure to comply with this Agreement.

AGREEMENT

For good and valuable consideration, the receipt and sufficiency of which the parties acknowledge, the parties agree as follows:

Stormwater Improvements

- 1. Design. The City has reviewed and approved plans and specifications for the Stormwater Improvements; such review and approval occurred prior to commencement of construction. The City may reject the final construction if it does not meet the City standards or comply with the approved plans. The Developer is responsible for any costs to bring the construction into compliance with City standards or the approved plans.
- 2. Construction. The Developer shall construct and pay for the cost of construction of the Stormwater Improvements.
- 3. Inspection and Cleaning.

a. Frequency. The Developer shall be responsible for inspecting and cleaning the Stormwater Improvements, including the storm sewer, storm sewer structures, stormwater treatment systems, and drintile, at least annually, unless a more frequent inspection or cleaning is requested by the City.

b. Costs. The Developer shall cover the cost of all such inspections and cleanings.

c. Annual Report. The Developer shall provide the City with an annual report documenting the inspection and maintenance of the Stormwater Improvements on or before December 31 of each year.

4. Right of Access and City Maintenance Rights. The Developer grants to the City, its agents and employees, the right to enter the Property to conduct periodic inspections. If the Developer fails to adhere to Section 3, the City has the right to clean, repair, and replace all or portions of the Stormwater Improvements and assess costs to the Developer.

PUBLIC AREA IMPROVEMENTS

5. Construction, Installation, Maintenance, Repair, and Replacement. The parties agree to undertake the responsibilities for the construction, installation, maintenance, repair, and replacement of Public Area Improvements as described in the attached Exhibit D.

6. City Review of Work. The City has reviewed and approved the plans and specifications for all work done within the Public Areas by Developer.

7. Additional Snow Removal. The City will provide basic snow removal on _____. Developer shall be responsible for providing, and paying expenses for, any additional snow removal or treatment it desires beyond the City's obligation in Exhibit D. Sidewalk damage, or damage to adjacent areas, due to the use of heavy equipment, excessive salt or other chemical disbursement, or any other damage caused by Developer will be repaired by Developer at the Developer's expense. Work performed under this paragraph is subject to Right of Access, Insurance, and Indemnity provisions.

8. Right of Access.

a. Subject to compliance with any preconditions contained in the City Code, the City grants to the Developer, its agents and employees the right to enter onto the Public Areas to perform the work required to be performed by the Developer pursuant to paragraphs 5 and 6.

b. The Developer agrees that it will not interfere with the public use of the Public Areas.

c. The Developer will notify the City and any other agency having jurisdiction over, or an interest in, the Public Areas or abutting streets and highways at

least 48 hours in advance of any scheduled work. Developer will comply with any requirements of the City or such other agency governing signage and other regulations governing work in the Public Areas including, without limitation, obtaining any additional permits, licenses, or approvals needed for the doing of such work.

d. Developer grants to the City, its agents and employees, the right to enter onto the Property to maintain items as identified in Exhibit D.

9. Ownership.

a. Exhibit C designates Public Area Improvements which are to be constructed by Developer and conveyed to the City following the City inspection of the work and notification to the Developer that it will accept conveyance.

b. Developer warrants that such conveyance is free and clear of any mechanic's liens or encumbrances other than Developer's first priority mortgage in favor of its lender.

c. Any warranties available as a result of construction of such Public Area Improvements will be assigned to the City, and, to the extent available, will be utilized to offset Developer's maintenance obligations hereunder.

10. Maintenance, Repair and Replacement Obligation. The party having the maintenance, repair, or replacement obligation, as outlined in this Agreement and the attached exhibits, shall have the affirmative obligation of assuring the item to which the obligation attaches is always kept in good, safe, operable and presentable condition. If the City becomes aware of a condition relating to an item for which the Developer is obligated, it shall notify the Developer in writing whereupon the Developer shall promptly inspect, and as needed, maintain, repair, or replace the item within 30 days of the date of such notification by the City.

11. No Salt Storage. Developer shall not store, on or within the Stormwater Improvements or the Public Areas, salt or other similar chemicals used to treat snow and ice.

12. Default. If either party defaults in any of its obligations hereunder, after notice of such default and failure to cure within 30 days following such notification, unless extended upon mutual agreement of the parties, the non-defaulting party may pursue whatever remedies are available to it at law or in equity. The non-defaulting party may also terminate this Agreement following such notice and the failure to cure, except that the Developer's obligation to construct, repair, maintain and reconstruct the Stormwater Improvements shall survive such termination.

In addition to such remedies, if the Developer is the defaulting party, and the default relates to activities within the Public Areas, the City may, after such notice and cure period, perform the work and recover the entire cost of such work against the Developer through a lien against the Property to be collected as a special assessment. The Developer agrees and stipulates that any such work will be for the betterment of the Property, and that the value of the Property will be increased by at least the cost to the work. The Developer for itself, its

successors and assigns, waives any challenge to the amount of the assessment for such work, and waives its right to a hearing on the assessment or to challenge the assessment following its being levied. In addition to placing an assessment lien against the Property, the City may also seek to impose and collect a lien pursuant to Minnesota Statutes, Section 514.67.

13. Miscellaneous Provisions.

a. Insurance. The Developer will, during the term of this Agreement, maintain coverages from insurance companies acceptable to the City, at levels acceptable to the City insuring against claims for injury, death or property damage or death caused by any activities conducted by Developer, its officers, agents or employees within the Public Areas and the failure of Developer, as obligated hereunder, to properly maintain, repair, or replace Public Area Improvements.

b. Indemnity. The Developer also hereby indemnifies, holds harmless and agrees to defend the City, its officers, agents and employees from any claims or causes of action occasioned by or arising out of the Developer's activities or failure to perform activities under this Agreement. The Developer's undertaking in the last sentence shall not extend to claims which are the result of the negligence or the willful misconduct of the City, its officers, agents or employees.

c. Term. Unless earlier terminated as provided in Paragraph 11, this Agreement shall remain in full force and effect until terminated by the mutual written agreement of the parties.

d. Binding Effect. All duties and obligations of the Developer under this Agreement shall also be duties and obligations of the Developer's successors and assigns. The terms and conditions of this Agreement shall run with the land and shall be recorded with the property records of Hennepin County, Minnesota.

e. Recording. The City shall record this Agreement among the land records, within 60 days of the date hereof, and shall pay for the cost of such recording.

f. Other Approvals. This Agreement shall not relieve Developer from the need to obtain all licenses, permits and approvals which are required by the City and other permitting and licensing authorities to allow for the development of the Property. Nor shall this Agreement be deemed a waiver of the City's legislative judgment in considering the granting of any such licenses, permits or approvals. Additionally, no structure or improvement which is the subject of this Agreement may be constructed until any necessary land use approvals and/or variances have first been obtained.

g. No Interest in Land. This Agreement does not create any property or ownership interest of the Developer in the Public Areas. This Agreement only gives Developer the permission to occupy and utilize the Public Areas consistent with provisions and limitations of this Agreement.

h. Notices.

City: City of Richfield
6700 Portland Avenue S.
Richfield, MN 55423

Attn: City Engineer

Developer:

Attn:

i. Severability. If any provision of this Agreement is invalid or unenforceable, such provision, if feasible, shall be deemed to be modified to be within the limits of enforceability or validity; if, however, the offending provision cannot be so modified, it shall be stricken and all other provisions of this Agreement in all other respects shall remain valid and enforceable.

j. Entire Agreement. This Agreement, including the exhibits, contains the entire agreement between the parties pertaining to the subject matter hereof and fully supersedes all prior written or oral agreements and understandings between the parties pertaining to such subject matter.

k. Amendment. This Agreement shall not be modified, amended, supplemented or revised, except by a written document signed by the parties.

l. Exhibits. All exhibits referred to in and attached to this Agreement are incorporated and made a part of this Agreement.

m. Counterpart Signatures. This Agreement may be executed simultaneously in two or more counterparts, each of which shall be deemed original, and all of which shall constitute one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement as of the date first written above.

CITY OF RICHFIELD

By: _____

Its Mayor

By: _____

Its City Manager

The foregoing instrument was acknowledged before me this ____ day of _____, 20____, by _____ and _____, the Mayor and City Manager respectively, of the City of Richfield, a Minnesota municipal corporation, on behalf of the municipal corporation.

Notary Public

OWNER

By: _____

Its _____

The foregoing instrument was acknowledged before me this ____ day of _____, 20____, by _____ and _____, the _____, of _____, on behalf of the corporation.

Notary Public

EXHIBIT A

LEGAL DESCRIPTION

EXHIBIT B

SITE PLAN

EXHIBIT C

PUBLIC AREAS

EXHIBIT D

PUBLIC AREA IMPROVEMENTS

Appendix F: Construction Stormwater BMP Notice of Inspection



Public Works Department

NOTICE OF STORMWATER MANAGEMENT SYSTEM INSPECTION

[DATE]

Address 1

Address 2

Dear Property Owner/Manager:

The City of Richfield will be performing routine inspections of stormwater management systems throughout the city, including one or more stormwater management facilities located on your property.

The inspection will include an inventory of the condition of the stormwater management system and any maintenance required to ensure that your stormwater management system is functioning as designed. Owners of private stormwater systems are typically responsible for operating and maintaining them in proper condition, consistent with the original performance design standards and private maintenance agreements with the City. A copy of the maintenance declaration can be found attached to this letter.

As part of the work, representatives from the City will access a portion of your property between [DATE] and [DATE]. These individuals will carry identification with them to clearly show they are part of the inspection team. Following our visit, we will provide you with an inspection summary that will include any recommended or required repairs, if needed.

If you've completed your own inspection or maintenance within the last year, please share those records with us.

If you have any questions about the inspection or have concerns about the protection of or access for specific areas on your property, please contact me at moddsson@richfieldmn.gov or 612-861-9797.

Sincerely,

Mattias Oddsson
Water Resources Engineer

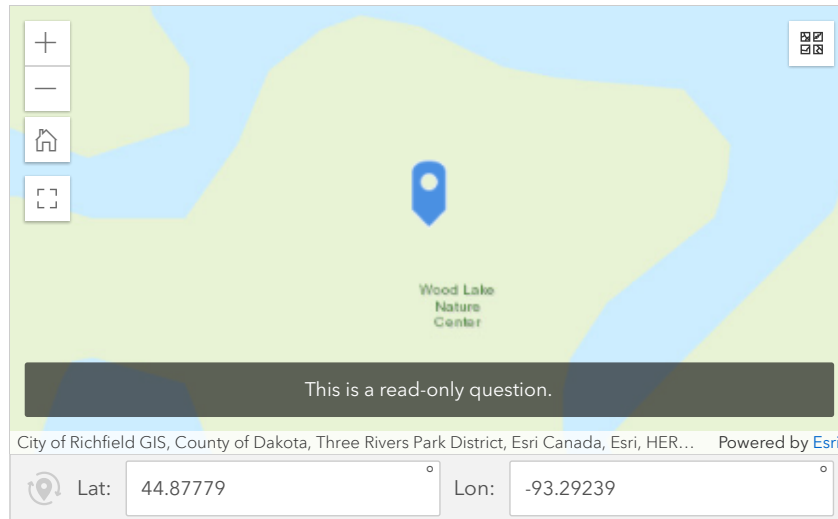
Appendix G: Structural Stormwater BMP Inspection Form

BMP Inspections

BMP Type:

Pond

Location



Inspector Name

Date

System Name

Weather Conditions

☐ Sunny (clear)	☐ Cloudy (no precip.)	☐ Raining
☐ Snowing	☐ Drought conditions	☐ Other

Temperature

Rained in the past 48 hours?

☐ Yes

☐ No

Standing water >48 hours after rainfall?

☐ Yes

☐ No

☐ NA

Trash, excessive leaves, grass clippings, or debris present?

☐ Yes

☐ No

Sediment trap/sump present?

☐ Yes

☐ No

Sediment accumulation?

☐ 0% - None visible

☐ 1-20% -Minor

☐ 21-50% - Moderate

☐ +51% - Significant

☐ NA

Evidence of illicit discharge?

☐ Yes

☐ No

Evidence of oil or gasoline contamination?

☐ Yes

☐ No

Areas of bare soil or erosion?

☐ Yes

☐ No

Is the inlet, outlet, underdrain or overflow clogged?

☐ Yes

☐ No

☐ NA

Invasive plant intrusion?

☐ None visible

☐ Spotty - Less than 10% of site

☐ Significant - Near 50% of site

☐ Severe

Invasive/weedy plants of concern?

☐ Cattail

☐ Woody Species

☐ Buckthorn

☐ Garlic Mustard

☐ Tartarian
Honeysuckle

☐ Smooth Brome

☐ Reed Canary
Grass

☐ Thistle

☐ Unknown

☐ Other

Dead or dying vegetation?

☐ Yes

☐ No

Condition of embankment?

☐ Good

☐ Suitable

☐ Poor

☐ Very Poor

☐ NA

Embankment condition comments

Location, specific issues, etc.

1000

Number of Inlets/Outfalls to Pond

Evidence of animal activity?

☐ Yes

☐ No

Water Color

☐ Clear

☐ Brown

☐ Green

☐ Blue/Green

☐ Other

Inspector Comments

2000

Inspection Photos

1

Select image file



Operational Rating

☐ (1) EXCELLENT: no maintenance needed

☐ (2) GOOD: only routine maintenance needed

☐ (3) POOR: significant maintenance needed

☐ (4) VERY POOR: Urgent, significant maintenance needed

☐ (0) Not able to rate, not visible

Structural/Condition Rating

☐ (1) EXCELLENT: like new condition

☐ (2) GOOD: some wear, but structurally sound

☐ (3) POOR: deteriorated, consider for repair or replacement

☐ (4) VERY POOR: serious deterioration

☐ (0) Not able to rate, not visible

Follow up maintenance required?

☐ Yes

☐ No

Maintenance activities required

1000

Maintenance frequency required

☐ Single event

☐ Monthly

☐ Quarterly

☐ Annually

☐ NA

Maintenance status

☐ Maintenance Completed

☐ Reinspect next year

☐ Workorder created

☐ NA

Submit



CITY OF RICHFIELD STANDARD OPERATING PROCEDURES
Minimum Control Measure 6
Pollution Prevention and Good Housekeeping Practices for Municipal
Facilities

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APPENDICES

Appendix A: Facility Inventory

Appendix B: Pond Inventory

Appendix C: MPCA Sediment Removal Guidance

MINIMUM CONTROL MEASURE 6

1. Introduction

1.1. Basis for the Standard Operating Procedures (SOPs)

On November 16, 2020, the Minnesota Pollution Control Agency (MPCA) issued a National Pollutant Discharge Elimination System (NPDES) General Permit (GP) for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). The MS4 GP requires the City of Richfield to alter its own actions as well as work with other governmental agencies to help ensure a reduction in the amount and type of pollution that:

- Collects on streets, parking lots, open spaces, and storage and vehicle maintenance areas and is discharged into local waterways.
- Results from actions such as environmentally damaging land development and flood management practices or poor maintenance of storm sewer systems.

1.2. Objectives of the SOPs

This SOP manual will assist the City of Richfield in using targeted best management practices that are intended on reducing the discharge of pollutants from municipal activities.

This manual is intended to provide guidance on Good Housekeeping Practices for Municipal Operations as follows:

- Provide BMPs used for municipal activities.
- Provide methods for employing spill prevention and response.
- Provide tools for documenting inspections of ponds, outfalls, and municipal facilities.

2. Pollution Prevention

2.1. Dumpsters/Garbage Storage

Activities and Definition

Potential for pollutants can occur if proper garbage management is not in place. An appropriate number of dumpsters should be located throughout the facility to provide enough storage for daily activities. In addition, facility dumpsters are to be marked for proper materials disposal.

Preparation

- a. Train employees on proper trash disposal.
- b. Locate dumpsters and trash cans in convenient, easily observable areas.
- c. Provide properly labeled recycling bins to reduce the amount of garbage disposed.
- d. Where applicable install berms, curbing, or vegetation strips around storage areas to control water entering/leaving storage areas.
- e. Whenever possible store garbage containers beneath a covered structure or inside to prevent contact with stormwater.

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Process

- a. Inspect garbage bins for leaks regularly and have repairs made immediately by responsible party.
- b. Request/use dumpsters and trash cans with lids and without drain holes.
- c. Locate dumpsters on a flat, hard surface that does not slope or drain directly into the storm drain system.

Clean-up/Follow-up

- a. Keep areas around dumpsters clean of all garbage.
- b. Have garbage bins emptied regularly to keep from overfilling.
- c. Wash out bins or dumpsters as needed to keep odors from becoming a problem.

Documentation

- a. Document training of employees.

2.2. Parking Lot Maintenance

Activities and Definition

Parking Lots can potentially generate increased pollutant loads to the stormwater system from run-off. A well maintained parking surface can help to reduce some of those pollutant concerns.

Preparation

- a. Conduct regular employee training to reinforce proper housekeeping.
- b. Restrict parking in areas to be swept prior to and during sweeping using regulations as necessary.
- c. Perform regular maintenance and services in accordance with the recommended vehicle maintenance schedule on sweepers to increase and maintain efficiency.

Process

- a. Sweep parking areas, at a minimum of twice annually, or as needed, or as directed by the City's responsible official.
- b. Hand sweep sections of gutter if soil and debris accumulate.
- c. Pick-up litter as required to keep parking areas clean and orderly.

Clean-up/Follow-up

- a. Dispose of sweepings properly (appropriate facility).
- b. Street sweepers to be cleaned out in a manner as instructed by the manufacturer and in a location that swept materials cannot be introduced into a storm drain.
- c. Swept materials will not be stored in locations where stormwater could transport fines into the storm drain system.

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Documentation

- a. Keep accurate logs to track swept parking areas and approximate quantities.
- b. Document training of employees.

2.3. Parks – Chemical Application Pesticides, Herbicides, Fertilizers

Activities and Definition

Maintenance of City landscaping and parks may occasionally require the application of chemical pesticides, herbicides, or fertilizers. These products can have significant detrimental effects on human health and the environment. Proper usage is essential to minimize harmful impacts.

Preparation

- a. Ensure seasonal and full-time City staff are adequately trained in proper use and application of fertilizers and pesticides for maintenance of City lands.
- b. Make sure your state Chemical Handling Certification is complete and up-to-date before handling any chemicals.
- c. Calibrate fertilizer and pesticide application equipment to avoid excessive application.
- d. Use pesticides only if there is an actual pest problem and periodically test soils for determining proper fertilizer use.
- e. Time and apply the application of fertilizers, herbicides or pesticides to coincide with the manufacturer's recommendations for best results ("Read the Label").
- f. Know the weather conditions. Do not use pesticides if rain is expected. Apply pesticides only when wind speeds are low (less than 5 mph).

Process

- a. Always follow the manufacturer's recommendations for mixing, application and disposal ("Read the Label").
- b. Do not mix or prepare pesticides for application near storm drains. Preferably mix pesticides inside a protected area with impervious secondary containment (preferably indoors) so that spills or leaks will not contact soils.
- c. Employ techniques to minimize off-target application (e.g. spray drift, over broadcasting.) of pesticides and fertilizers.

Clean-up/Follow-up

- a. Sweep pavements or sidewalks where fertilizers or other solid chemicals have fallen, back onto grassy areas before applying irrigation water.
- b. Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- c. Always follow all federal and state regulations governing use, storage and disposal of fertilizers, herbicides or pesticides and their containers ("Read the Label").

Documentation

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- a. Keep copies of MSDS sheets for all pesticides, fertilizers and other hazardous products used.
- b. Record fertilizing and pesticide application activities for restricted use pesticides, including date, individual who did the application, amount of product used and approximate area covered.

2.4. Parks – Cleaning Equipment

Activities and Definition

There are many benefits to taking proper care of the City's equipment. Prolonging the life of the equipment by taking the time to maintain critical parts is an essential part of the Parks departments daily activities.

Preparation

- a. Review process with all Parks employees.

Process

- a. Wipe off dirt, dust and fluids with disposable towel.
- b. Wash equipment in approved wash station.

Clean-up/Follow-up

- a. Dispose of towels in proper trash receptacle
- b. Sweep floor and dispose of debris.

Documentation

- a. N/A

2.5. Parks – Mowing and Trimming

Activities and Definition

Regular mowing and trimming activities have potential to deposit materials onto hard surfaces. Care should be taken to insure mowing or trimming refuse is disposed of properly.

Preparation

- a. Process overview with employees.
- b. Check the oil and fuel levels of the mowers and other equipment. Fill in proper areas if needed.

Process

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- a. Install temporary catch basin protection on potentially affected basins.
- b. Put on eye and hearing protection.
- c. Mow and trim the lawn.
- d. Sweep or blow clippings to grass areas.
- e. Remove inlet protection, if used.

Clean-up/Follow-up

- a. Mowers are to be scraped and brushed at designated location.
- 1. Sweep dry spoils and dispose of spoils properly.
- b. Wash equipment in approved wash station.

Documentation

- a. Document any observed deficiencies for correction or repair.

2.6. Parks – Open Space Management

Activities and Definition

Open spaces are a significant asset to the City parks system, community, and infrastructure. Preserving open spaces is vital for stormwater retention and flood storage.

Preparation

- a. Provide a regular observation and maintenance of parks, golf courses, and other public open spaces.
- b. Identify public open spaces that are used for stormwater detention and verify that detention areas are included on the storm drain system mapping, inspection schedules, and maintenance schedules.

Process

- a. Ensure that any storm drain or drainage system components on the property are properly maintained.
- b. Avoid placing bark mulch (or other floatable landscaping materials) in stormwater detention areas or other areas where stormwater runoff can carry the mulch into the storm drainage system.
- c. Follow all SOPs related to irrigation, mowing, landscaping, and pet waste management.

Clean-up/Follow-up

- a. Keep all outdoor work areas neat and tidy. Clean by sweeping instead of washing whenever possible. If areas must be washed, ensure that wash water will enter a landscaped area rather than the storm drain. Do not use soap for outdoor washing.
- b. Pick up trash on a regular basis.

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Documentation

- a. Document any observed deficiencies for correction or repair.

2.7. Parks – Pet Waste

Activities and Definition

Pet waste has the potential to be a contributor to downstream degradation if not maintained and properly disposed of.

Preparation

- a. Adopt and enforce ordinances that require pet owners to clean up pet wastes and use leashes in public areas. If public off-leash areas are designated, make sure they are clearly defined. Avoid designating public off-leash areas near streams and water bodies.

Process

- a. Check parks and trails for pet waste as needed.
- b. Check public open space for pet waste prior to mowing and watering.
- c. Provide ordinance enforcement as needed.

Clean up / follow-up

- a. Remove all pet waste; provide temporary storage in a covered waste container, and dispose of properly. Preferred method of disposal is at a solid waste disposal facility.

Documentation

- a. Document problem areas for possible increased enforcement and/or public education signs.

2.8. Parks – Planting Vegetation (Starters)

Activities and Definition

Vegetation is a key component of establishing healthy ecosystems that hold water and nutrients on site.

Preparation

- a. Call the appropriate numbers for location of utilities.
- b. Decide where any spoils will be taken.

Process

- a. Dig holes; place spoils near the hole where they may easily be placed back around

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- the roots. Avoid placing spoils into the gutter system.
- b. Bring each plant near the edge of the hole dug for it.
- c. Check the depth of the hole, and adjust the depth if necessary. The depth of the hole for a tree should be as deep as the root ball, so that the top of the root ball is level with the top of the hole.
- d. Carefully remove pot or burlap
- e. Place the plant in the hole
- f. Backfill the hole with existing spoils, compost, and a litter fertilizer if desired. Do not use excessive amendments.
- g. Water the plant.
- h. Stake the plant if necessary to stabilize it.

Clean-up/Follow-up

- a. Remove any extra spoils into truck or trailer. Place the spoils on a tarp if there is likelihood that some of the dirt would be lost through openings in the bed.
- b. Sweep dirt from surrounding pavement(s) into the planter area.
- c. Transport spoils to their designated fill or disposal area.

Documentation

- a. N/A

2.9. Parks – Planting Vegetation (Seeds)

Activities and Definition

Vegetation is a key component of establishing healthy ecosystems that hold water and nutrients on site.

Preparation

- a. Call the appropriate numbers for location of utilities.
- b. Decide where any spoils will be taken.
- c. Decide on the application rate, method, water source, and ensure adequate materials are on hand.
- d. Grade and prepare soil to receive the seed. Place any extra soil in a convenient location to collect.

Process

- a. Place the seed and any cover using the pre-determined application method (and rate).
- b. Lightly moisten the seed.

Clean-up/Follow-up

- a. Remove any extra spoils into truck or trailer. Place the spoils on a tarp if there is likelihood that some of the dirt would be lost through openings in the bed.
- b. Sweep dirt from surrounding pavement(s) into the planter area.

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- c. Transport spoils to their designated fill or disposal area.

Documentation

- a. N/A

2.10. Parks – Transporting Equipment

Activities and Definition

Equipment transportation is a pivotal part of municipal activities, that occurs on a daily basis.

Preparation

- a. Determine equipment needed for transport and method (trailer, truck bed) needed to transport equipment.
- b. Conduct pre-trip inspection of equipment.

Process

- a. Load and secure equipment on trailer or truck.
- b. Load and secure fuel containers for equipment usage.

Clean-up/Follow-up

- a. Off load equipment.
- b. Store equipment and trailer in proper location.
- c. Conduct post-trip inspection of equipment.
- d. Wash equipment if needed, according to the written procedure for Cleaning Equipment.

Documentation

- a. Pre-trip and post-trip inspection report.

2.11. Stormwater – Pond Assessment Procedures (TSS & TP)

Activities and Definition

The following pond assessment procedures and schedule shall be followed to determine the Total Suspended Solids (TSS) and Total Phosphorous (TP) treatment effectiveness of City-owned and operated ponds that are constructed for the collection and treatment of stormwater.

Assessment Procedure

At the initiation of the pond assessment, the City shall evaluate the City-owned and operated stormwater treatment ponds in year 1 to determine the highest priority pond(s) for assessing

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TSS and TP effectiveness. In order to create a pond assessment schedule for the City-owned and operated stormwater treatment ponds the City shall prioritize ponds to assess using the following criteria:

- Age of pond.
- Contributing drainage area characteristics (size, land use, upland treatment, etc.).
- Flood risk and vulnerability.
- Estimated or modeled pond sediment and nutrient loading.
- Known concerns based on inspections.
- Type and location of receiving water.
- Sensitivity of receiving water.
- Complaints received from the public.
- Financial feasibility of maintenance.
- Equity and environmental justice concerns within the community.

Rationale and a further explanation of these criteria may be found in the City of Richfield Pond Priority Plan. The ponds that have been identified as having the highest priority shall receive a more thorough assessment for maintenance and rehabilitation. The remaining ponds will be reassessed in following years using the same criteria.

Additional Survey of Pond

From the initial assessment completed in year 1, the City will perform a more thorough analysis of the ponds that are continually showing signs of needing maintenance (i.e. public complaint, significant vegetation growth, etc.). The following steps may be taken to assess the City pond(s) for TSS and TP treatment effectiveness:

- a. Gathering of background information. This may include the following:
 - Original design information, if available (record drawings, design calculations, etc.).
 - Determination of contributing drainage area.
 - As-built survey information, if completed and available.
 - Other significant information available that pertains to the pond.
- b. Site investigation and/or survey of existing pond conditions. This may include the following:
 - Determination of sediment levels in the pond.
 - Identification of outlet details (elevations, type and condition of structure(s), etc.).
 - Identification of inlet details (number, type, elevations, etc.).
 - Other significant pond characteristics and details.
- c. Desktop evaluation of existing TSS and TP treatment effectiveness by completing water quality calculations using the survey data obtained, P8, Pondnet, or other suitable modeling methods.

Clean-up/Follow-up

- a. Once the assessment of each pond is complete, the City shall determine if
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maintenance is required to ensure proper function and treatment effectiveness of the ponds. The City shall use 2.12 Pond Sediment Removal Projects and/or 2.13 Routine Pond Maintenance for pond maintenance needs.

- b. Schedule pond maintenance activities.

Documentation

- a. Record results from the analysis of the ponds that were prioritized, including inspection results.

2.12. Stormwater – Pond Sediment Removal Projects

Activities and Definition

Stormwater ponds remove pollutants transported by rain events through settling and biological uptake. To function properly, stormwater ponds need to have volume to hold water and wetland plants along the pond edges and shallow areas. Removing sediment and debris on a regular basis will help the system in getting the most TP and TSS removal.

Preparation

- a. The MPCA requires the City to sample sediment prior to dredging to determine concentrations of 17 cPAHS, non-carcinogenic PAHs, arsenic, and copper.
 - 1. If the annual volume of sediment to be removed is less than 100 cubic yards, then no chemical testing or sediment characterization is required; however, the City is responsible for the due diligence in the reuse and/or disposal of this material.
 - 2. When more than 100 cubic yards of sediment need to be removed, the City will need to complete further analysis of the pond sediment. The sediment will need to be tested and disposed of in accordance with the guidance found in the MPCA's Sediment Removal Guidance (Appendix E).
 - 3. Testing of the ponds can be done so that areas of the pond can be segregated (e.g., if areas of the pond such as the inlets are identified to have the highest concentrations the areas around the inlet could be disposed of differently as compared to the remainder of the pond, if the areas can be segregated sufficiently).
- b. If chemical testing or sediment characterization is required, the sediment samples shall be sent to an analytical laboratory for review.
- c. Once the results from the analytical laboratory have been received, a maintenance and disposal plan will be developed based on the test results. The City shall use sediment removal guidance from the MPCA in Appendix E.
- d. Schedule the pond maintenance work for a time when dry weather is expected. Sediment excavation projects are recommended to take place in the winter months or during a period of the year when dry conditions are expected.
- e. Remove any sediment and trash from grates, placing it in a truck for disposal.
- f. Do a visual inspection to make sure any grates, structures, manholes, and pipes are in good working order. Remove manhole covers and grates as necessary for inspecting.

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Process

- a. Provide outlet protection where feasible to minimize the amount of sediment and debris that might leave basin during sediment removal process.
- b. Start removing sediment from basin by using backhoe to remove debris and sediment off the bottom.
- c. Continue removing sediment from pond bottom as necessary by sweeping and shoveling.
- d. Put all material removed from the pond into a dump truck.
- e. Some structures might require use of a vacuum truck. If so, use the same procedures described for cleaning catch basins.

Clean-up/Follow-up

- a. After removing sediment from the basin, clean off the concrete pads using dry methods (sweeping and shoveling).
- b. Dispose of sediment and debris according to disposal plan.
- c. Site restoration work, if applicable, shall be conducted as soon as weather conditions permit and may include:
 1. Additional clean-up or maintenance of inlet and outlet structures.
 2. Additional site stabilization work including sediment and erosion control.
 3. Establishing plant, seed, sod, mulch or vegetation to prevent erosion (above waterline).
 4. Professional engineer to sign-off on project completion

Documentation

- a. Keep logs of each detention basins/pond cleaned.
- b. The following records and documentation shall be kept on file:
 1. Date of excavation.
 2. Amount removed.
 3. Laboratory results.
 4. Place of disposal.
 5. As-Built prints or plans, if available.
 6. Contractor information, shipping papers/manifests/contractual agreements.
 7. Any notes or comments of any other observations about the removal that will help the City operate and maintain that site in the future.
- c. Keep any notes or comments of any other observations about the removal that will help the City operate and maintain that site in the future.

2.13. Stormwater – Routine Pond Maintenance

Activities and Definition

Stormwater ponds remove pollutants transported by rain events through settling and biological uptake. To function properly, stormwater ponds need to have volume to hold water and wetland plants along the pond edges and shallow areas. Performing

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maintenance to stormwater ponds is critical for the long-term operation of the MS4 system. Routine maintenance is considered a maintenance project that will remove less than 100 cubic yard of material.

Preparation

- a. Schedule the pond maintenance work for a time when dry weather is expected.
- b. Do a visual inspection to make sure any grates, structures, manholes, and pipes are in good working order. Remove manhole covers and grates as necessary for inspecting.

Process

- a. Provide outlet protection where feasible to minimize the amount of debris that might leave basin during cleaning process.
- b. Perform routine maintenance, which may include:
 1. Removal of trash and other accumulated debris from trash grate.
 2. Removal of vegetation around and/or in front of the outlet structure.
 3. Repair of side slopes to mitigate erosion issues.
 4. Replacement of riprap in front of the outlet to prevent future scour and erosion.
- c. Continue cleaning structures and surrounding area as necessary by sweeping and shoveling.
- d. Put all material removed from the pond into a dump truck.
- e. Some structures might require use of a vacuum truck. If so, use the same procedures described for cleaning catch basins.

Clean-up/Follow-up

- a. After performing maintenance, clean off the concrete pads using dry methods (sweeping and shoveling).
- b. Properly dispose of the material that was removed.
- c. Site restoration work, if applicable, shall be conducted as soon as weather conditions permit and may include:
 1. Additional clean-up or maintenance of inlet and outlet structures.
 2. Additional site stabilization work including sediment and erosion control.
 3. Establishing plant, seed, sod, mulch or vegetation to prevent erosion (above waterline).
 4. Professional engineer to sign-off on project completion

Documentation

- a. Keep logs of each detention basins/pond cleaned including date, individuals involved in cleaning, and a description of the type of debris removed.
- b. Record the amount of waste collected.
- c. Keep any notes or comments of any other observations about the maintenance that will help the City operate and maintain that site in the future.

2.14. Streets/Storm Drain – Catch Basin Cleaning

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Activities and Definition

Catch Basin Cleaning needs to be completed on a regular basis to insure the functionality of the stormsewer system.

Preparation

- a. Clean sediment and trash off of grate.
- b. Do visual inspection on outside of grate.
- c. Make sure nothing needs to be replaced.
- d. Do inside visual inspection to see what needs to be cleaned.

Process

- a. Clean using a high powered vacuum truck to start sucking out standing water and sediment.
- b. Use a high pressure washer to clean any remaining material out of catch basin, while capturing the slurry with the vacuum.
- c. After catch basin is clean, send the rodder of the vacuum truck downstream to clean pipe and pull back sediment that might have gotten downstream of pipe.
- d. Move truck downstream of pipe to next catch basin.

Clean-up/Follow-up

- a. When vacuum truck is full of sediment, take it to the designated location to dump all the sediment out of truck into a drying bed.
- b. When it evaporates, clean it up with a backhoe/skid loader, put it into dump truck and take to permanent disposal site (landfill).

Documentation

- a. Keep logs of number of catch basins cleaned.
- b. Record the amount of waste collected.
- c. Keep any notes or comments of any problems.

2.15. Streets/Storm Drain – Curb Painting

Activities and Definition

Storm drains are gateways that allow pollutants in stormwater to flow untreated from local streets to lakes, rivers and streams. Residual oil, grease, solids, antifreeze, cigarette butts, yard waste, plastic and other wastes found on roads, parking lots and driveways pollute downstream waters by increasing phosphorus levels, reducing oxygen levels and ultimately impairing aquatic habitat for fish and other organisms as well as drinking water sources.

Preparation

- a. Calculate the amount of paint required for the job.

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- b. Use water based paints if possible.
- c. Determine whether the wastes will be hazardous or not and the required proper disposal of said wastes. Prepare surfaces to be painted without generating wastewater by sandblasting and/or scraping.
- d. Thoroughly sweep up all sand, blastings, and/or paint scrapings.
- e. If paint stripping is needed, use a citrus-based paint remover whenever possible since it is less toxic than chemical strippers.
- f. If wastewater will be generated, use curb, dyke, etc. around the activity to collect the filter and collect the debris.

Process

- a. Paint curb.
- b. Prevent over-spraying of paints and / or excessive sandblasting.
- c. Use drip pans and drop clothes in areas of mixing paints and painting.
- d. Store latex paint rollers and brushes in air tight bags to be reused later with the same color.
- e. Have available absorbent material and other BMP's ready for an accidental paint spill.

Clean-up/Follow-up

- a. Paint out brushes and rollers as much as possible. Squeeze excess paint from brushes and rollers back into the containers prior to cleaning them.
- b. Pour excess paint from trays and buckets back into the paint can containers and wipe with cloth or paper towels. Dispose of the towels according to the recommendations on the paint being used.
- c. Rinse water-based paint brushes in the sink after pre-cleaning. Never pour excess paint or wastewater from cleanup of paint in the storm drain.
- d. Cleanup oil based paints with paint thinner. Never clean oil based brushes in a sink or over a storm drain. Filter solvents for reuse if possible and / or store in approved drum for recycling.
- e. Dispose of waste collected by placing it in a garbage container. Left-over paint and solvents should be stored for later use (do not place these liquids in the garbage).

Documentation

- a. Write-up / report of any discharges into storm drain system.

2.16. Streets/Storm Drain – Ditch Management

Activities and Definition

Storm drains are gateways that allow pollutants in stormwater to flow untreated from local streets to lakes, rivers and streams. Residual oil, grease, solids, antifreeze, cigarette butts, yard waste, plastic and other wastes found on roads, parking lots and driveways pollute downstream waters by increasing phosphorus levels, reducing oxygen levels and ultimately impairing aquatic habitat for fish and other organisms as well as drinking water sources.

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Preparation

- a. Monitor ditches on a regular basis (Annually)
- b. Maintain access to ditch channels wherever possible.
- c. Contact affected property owners and utility owners.

Process

- a. Identify areas requiring maintenance.
- b. Determine what manpower or equipment will be required.
- c. Identify access and easements to area requiring maintenance.
- d. Determine method of maintenance that will be least damaging to the channel and adjacent properties or utilities.

Clean-up/Follow-up

- a. Stabilize all disturbed soils.
- b. Remove all tracking from paved surfaces near maintenance site, if applicable.
- c. Haul all debris or sediment removed from area to approved dumping site.

Documentation

- a. Keep log of actions performed including date and individuals involved.
- b. Record the amount of materials removed or imported.
- c. Keep any notes or comments of any problems.
- d. Use “before” and “after” photographs to document activities as applicable.

2.17. Streets/Storm Drain – Overlays and Patching

Activities and Definition

Pollutants collect on surfaces in between storm events as a result of atmospheric deposition, vehicle emissions, winter road maintenance, construction site debris, trash, road wear and tear. Overlays and patching are a part of the maintenance of these surfaces that help prolong the life of the roadway.

Preparation

- a. Measure and mark locations of manholes and valves on the curb
- b. Apply temporary covers to manholes and catch basins to prevent oil and materials from getting inside of them.
- c. Cracks should be properly sealed. Alligator cracks and potholes should be removed and patched. Rutting should be milled.
- d. Surface should be clean and dry.
- e. Uniform tack coat applied and cured prior to placement of overlay.
- f. If milling is required, install inlet protection as needed.

Process

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- a. Check hot asphalt mix for proper temperature, percentage asphalt, gradation, air voids, and any other agency requirements.
- b. Raise manhole lids and valves to elevation of new asphalt surface with riser rings.
- c. Surface texture should be uniform, no tearing or scuffing.
- d. Rolling should be done to achieve proper in-place air void specification.

Clean up / follow-up

- a. Covering should be removed as soon as the threat of imported materials entering the system is reduced and prior to a storm event.
- b. After pavement has cooled, sweep gutters to remove loose aggregate.

Documentation

- a. Record location and date on the maintenance database and map.

2.18. Streets/Storm Drain – Shouldering and Mowing

Activities and Definition

Pollutants collect on surfaces in between storm events as a result of atmospheric deposition, vehicle emissions, winter road maintenance, construction site debris, trash, road wear and tear, and litter from adjacent lawn maintenance (grass clippings). The shoulders of the road should be properly maintained to insure infiltration and other techniques for stormwater run-off are working with the most efficiency.

Preparation

- a. Set up temporary traffic control devices

Process

- a. Place import material as needed and perform grading to achieve proper drainage.
- b. Mulch clippings to help reduce the amount of supplemental fertilizer required.

Clean up / follow-up

- a. Clean any loose material off asphalt or gutter.

Documentation

- a. Record location and date on the maintenance database and map.

2.19. Streets/Storm Drain – Secondary Road Maintenance

Activities and Definition

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Plans that are submitted to the City for approval will have a review process to guarantee that erosion and sediment control standards are being met.

Preparation

- a. Determine length amount and type of roadbase or gravel that will be needed.
- b. Determine proper equipment to be used and or any safety hazards.
- c. Design proper drainage: slopes, berms, etc.

Process

- a. Have truck drivers follow a designated route for hauling in the soil (See SOP for transporting soil and gravel).
- b. If soils are too dry to achieve compaction, loosen surface material and moisture condition.
- c. Smooth or grade soil with the desired crown or cross-slope.
- d. Compact soil.

Clean up/Follow-up

- a. Replace filter fabric with washed rock (if necessary) on monthly maintenance.
- b. Clean up equipment according to the SOP for Cleaning Equipment
- c. Clean up any debris on traveled roads, and dispose of it in the landfill.

Documentation

- a. Fill out daily activity report in log book or journal. Include date, time, personnel, and location.

2.20. Streets/Storm Drain – Concrete Work

Activities and Definition

The use of concrete is a common practice for BMP maintenance, proper management of those materials is critical for pollution prevention.

Preparation

- a. Train employees and contractors in proper concrete waste management.
- b. Store dry and wet materials under cover, away from drainage areas.
- c. Remove any damaged concrete that may need to be replaced.
- d. Prepare and compact sub-base.
- e. Set forms and place any reinforcing steel that may be required.
- f. Determine how much new concrete will be needed.
- g. Locate or construct approved concrete washout facility.

Process

- a. Install inlet protection as needed.

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- b. Avoid mixing excess amounts of fresh concrete on-site.
- c. Moisten sub-base just prior to placing new concrete. This helps keep the soil from wicking moisture out of the concrete into the ground.
- d. Place new concrete in forms.
- e. Consolidate new concrete.
- f. Screed off surface.
- g. Let concrete obtain its initial set.
- h. Apply appropriate surface finish.
- i. Remove forms when concrete will not slump.

Clean-up/Follow-up

- a. Perform washout of concrete trucks and equipment in designated areas only.
- b. Do not washout concrete trucks or equipment into stormdrains, open ditches, streets or streams.
- c. Cement and concrete dust from grinding activities is swept up and removed from the site.
- d. Remove dirt or debris from street and gutter.

Documentation

- a. N/A

2.21. Streets/Storm Drain – Garbage Storage

Activities and Definition

Illegal dumping of non-hazardous household waste and improper dumping of yard waste in streets, storm drains, wetlands, lakes, and other water bodies pollutes surface waters. Non-hazardous household waste includes items such as tires, furniture, common household appliances and other bulk items. Yard waste includes any organic debris such as grass clippings, leaves, and tree branches.

Preparation

- a. Locate dumpsters and trash cans with lids in convenient, easily observable areas.
- b. Provide properly labeled recycling bins to reduce the amount of garbage disposed.
- c. Provide training to employees to prevent improper disposal of general trash.

Process

- a. Inspect garbage bins for leaks regularly, and have repairs made immediately by responsible party.
- b. Locate dumpsters on a flat, impervious surface that does not slope or drain directly into the storm drain system.
- c. Install berms, curbing or vegetation strips around storage areas to control water entering/leaving storage areas.
- d. Keep lids closed when not actively filling dumpster.

MINIMUM CONTROL MEASURE 6

Clean-up/Follow-up

- a. Keep areas around dumpsters clean of all garbage.
- b. Have garbage bins emptied as often as needed to keep from overfilling.
- c. Wash out bins or dumpsters as needed to keep odors from becoming a problem.
Wash out in properly designated areas only.

Documentation

- a. N/A

2.22. Streets/Storm Drain – Snow Removal and De-icing

Activities and Definition

The concentration of chloride is increasing in our surface and ground water largely due to stormwater runoff from road salt storage piles, areas of excessive application, or simply from years of repeated application since chloride does not degrade in soil and water.

Chloride in road salt and road salt additives (e.g. ferrocyanide for anti-caking) can create toxic conditions for fish, insects and vegetation.

Preparation

- a. Store de-icing material under a covered storage area or in an area where water coming off the de-icing materials is collected and delivered to the sanitary sewer or reused as salt brine.
- b. Slope loading area away from storm drain inlets.
- c. Design drainage from loading area to collect runoff before entering stormwater system.
- d. Washout vehicles (if necessary) in approved washout area before preparing them for snow removal.
- e. Calibrate spreaders to minimize amount of de-icing material used and still be effective.
- f. Train employees in spill cleanup procedures and proper handling and storage of de-icing materials.

Process

- a. Load material into trucks carefully to minimize spillage.
- b. Periodically dry sweep loading area to reduce the amount of de-icing materials exposed to runoff.
- c. Distribute the minimum amount of de-icing material to be effective on the roads.
- d. Do not allow spreaders to idle while distributing de-icing materials.
- e. Park trucks loaded with de-icing materials inside when possible.

Clean-up/Follow-up

- a. Sweep up all spilled de-icing material around loading area.

MINIMUM CONTROL MEASURE 6

- b. Clean out trucks after snow removal duty in approved washout area.
- c. Provide maintenance for vehicles in covered areas.
- d. If sand is used in de-icing operations, sweep up residual sand from streets when weather permits.

Documentation

- a. Ensure AVL reports are up-to-date.

2.23. Streets/Storm Drain – Street Sweeping

Activities and Definition

Pollutants collect on surfaces in between storm events as a result of atmospheric deposition, vehicle emissions, winter road maintenance, construction site debris, trash, road wear and tear, and litter from adjacent lawn maintenance (grass clippings).

Sweeping of materials such as sand, salt, leaves and debris from city streets, parking lots and sidewalks prevents them from being washed into storm sewers and surface waters. Timing, frequency and critical area targeting greatly influence the effectiveness of sweeping.

Preparation

- a. Prioritize cleaning routes to use at the highest frequency in areas with the highest pollutant loading.
- b. Increase sweeping frequency just before the rainy season, unless sweeping occurs continuously throughout the year.
- c. Perform preventative maintenance and services on sweepers to increase and maintain their efficiency.

Process

- a. Streets are to be swept at a minimum of twice annually, or as needed or specified by the city; Street maps are used to ensure all streets are swept at a specific interval.
- b. Drive street sweeper safely and pick up debris.
- c. When full take the sweeper to an approved street sweeper cleaning station.

Clean-up/Follow-up

- a. Street sweepers are to be cleaned out in an approved street sweeper cleaning station.
- b. Street sweeping cleaning stations shall separate the solids from the liquids.
- c. Once solids have dried out, haul them to the local landfill.
- d. Decant water is to be collected and routed to an approved wastewater collection system area only.
- e. Haul all dumped material to the landfill.

Documentation

- a. Keep accurate logs to track streets swept and streets still requiring sweeping.

MINIMUM CONTROL MEASURE 6

- b. Ensure AVL reports are up-to-date.

2.24. Streets/Storm Drain – Transporting Soil and Gravel

Activities and Definition

Transportation of materials should be handled with pre-planning and contingency planning.

Preparation

- a. Dry out wet materials before transporting.
- b. Spray down dusty materials to keep from blowing.
- c. Make sure you know and understand the SWPPP requirements for the site you will be working at.
- d. Determine the location that the truck and other equipment will be cleaned afterwards.

Process

- a. Use a stabilized construction entrance to access or leave the site where materials are being transported to/from.
- b. Cover truck bed with a secured tarp before transporting.
- c. Follow the SWPPP requirements for the specific site to /from which the materials are being hauled.
- d. Make sure not to overfill materials when loading trucks.

Clean-up/Follow-up

- a. Use sweeper to clean up any materials tracked out on the roads from site.
- b. Washout truck and other equipment when needed in properly designated area.

Documentation

- a. Keep records of any material that is tracked out of site and what was done to clean it up and how long it took to clean up and what the weather conditions were at the time.

2.25. Vehicles – Fueling

Activities and Definition

Fueling of equipment and vehicles should always occur in designated areas when possible. Spill prevention and planning should occur before any fueling takes place.

Preparation

- a. Train employees on proper fueling methods and spill cleanup techniques.
- b. Install a canopy or roof over aboveground storage tanks and fuel transfer areas.
- c. Absorbent spill clean-up materials and spill kits shall be available in fueling areas and on mobile fueling vehicles and shall be disposed of properly after use.

MINIMUM CONTROL MEASURE 6

Process

- a. Shut off the engine
- b. Ensure that the fuel is the proper type of fuel for the vehicle.
- c. Nozzles used in vehicle and equipment fueling shall be equipped with an automatic shut off to prevent overfill.
- d. Fuel vehicle carefully to minimize drips to the ground.
- e. Fuel tanks shall not be topped off.
- f. Mobile fueling shall be minimized. Whenever practical vehicles and equipment shall be transported to the designated fueling area in the Facilities area.
- g. When fueling small equipment from portable containers, fuel in an area away from storm drains and waterbodies.

Clean-up/Follow-up

- a. Immediately clean up spills using dry absorbent (e.g. kitty litter, sawdust, etc.) sweep up absorbent material and properly dispose of contaminated clean up materials.
- b. Large spills shall be contained as best as possible and the Duty officer and Hazmat team should be notified as soon as possible.

Documentation

- a. Comply with underground storage tank records and monitoring requirements.
- b. Document training of employees.

2.26. Vehicles – Vehicle and Equipment Storage

Activities and Definition

When hazardous material comes into contact with rain or snow, the pollutants are washed into the storm sewer system and, ultimately, to surface water bodies and/or ground water. Hazardous materials have negative impacts on fish habitat, ground water drinking water sources, and recreational uses.

Preparation

- a. Inspect parking areas for stains/leaks on a regular basis.
- b. Provide drip pans or absorbents for leaking vehicles.

Process

- a. Whenever possible, store vehicles inside where floor drains have been connected to sanitary sewer systems.
- b. When inside storage is not available, Vehicles and equipment will be parked in the approved designated areas.
- c. Maintain vehicles to prevent leaks as much as possible.
- d. Address any known leaks or drips as soon as possible. When a leak is detected a drip pan will be placed under the leaking vehicle.
- e. The shop will provide a labeled location to empty and store drip pans.

MINIMUM CONTROL MEASURE 6

- f. Clean up all spills using dry methods.
- g. Never store leaking vehicles over a storm drain.

Clean-up/Follow-up

- a. Any leaks that are spilled on the asphalt will be cleaned up with dry absorbent; the dry absorbent will be swept up and disposed of in the garbage.

Documentation

- a. N/A

2.27. Vehicles – Washing

Activities and Definition

MS4 vehicle washing involves the removal of dust and dirt from the exterior of trucks, boats and other vehicles, as well as the cleaning of cargo areas and engines and other mechanical parts. Washing of vehicles and equipment generates oil, grease, sediment and metals in the wash water as well as degreasing solvents, cleaning solutions and detergents used in the cleaning operations.

Preparation

- a. Provide wash areas for small vehicles inside the maintenance building that has a drain system which is attached to the sanitary sewer system.
- b. Provide wash areas for large vehicles on an approved outside wash pad that has a drain system which is attached to the sanitary sewer system.
- c. No vehicle washing will be done where the drain system is connected to the storm sewer system.

Process

- a. Minimize water and soap use when washing vehicles inside the shop building.
- b. Soap should not be used when washing vehicles outside the shop building.
- c. Use hoses with automatic shut off nozzles to minimize water usage.
- d. When washing outside the building, it is the operator's responsibility to make sure all wash water is contained on the wash pad and does not have access to the storm drain.
- e. Never wash vehicles over a storm drain.

Clean-up/Follow-up

- a. Sweep wash areas after every washing to collect what solids can be collected to prevent them from washing down the drain system.
- b. Clean solids from the settling pits on an as needed basis.

Documentation

- a. N/A

MINIMUM CONTROL MEASURE 6

2.28. Water – Planned Waterline Excavation Repair/Replacement

Activities and Definition

Waterline Excavation and repair of an MS4 system can potentially involve activities that could affect the health of the MS4 system. Planning is critical.

Preparation

- a. Determine where discharge flow will go.
- b. Place inlet protection at nearest downstream storm drain inlets.
- c. Clean gutters leading to inlets.
- d. Isolate waterline to be worked on.
- e. Neutralize any chlorine residual before discharging water.

Process

- a. Make efforts to keep water from pipeline from entering the excavation.
- b. Direct any discharge to pre-determined area.
- c. Backfill and compact excavation.
- d. Haul of excavated material or stock pile nearby.

Clean-up/Follow-up

- a. Clear gutter /waterway where water flowed.
- b. Clean up all areas around excavation.
- c. Clean up travel path of trucked material.

Documentation

- a. Complete paperwork.

2.29. Water – Unplanned Waterline Excavation Repair/Replacement

Activities and Definition

Waterline Excavation and repair of an MS4 system can potentially involve activities that could affect the health of the MS4 system. Unplanned excavations can be additionally tricky and pre-planning is critical.

Preparation

- a. Make sure service trucks have wattles, gravel bags, or other materials for inlet protection.

Process

- a. Slow the discharge.

MINIMUM CONTROL MEASURE 6

- b. Inspect flow path of discharge water.
- c. Protect water inlet areas.
- d. Follow planned repair procedures.
- e. Haul off spoils of excavation.
- f. Consider use of silt filter bags on pumps.

Clean-up/Follow-up

- a. Repair eroded areas as needed.
- b. Follow planned repair procedures.
- c. Clean up the travel path of trucked excavated material.

Documentation

- a. Complete paperwork.

2.30. Water – Transporting Dry Excavated Materials and Spoils

Activities and Definition

Transportation of materials should be handled with pre-planning and contingency planning.

Preparation

- a. Utilize truck with proper containment of materials.
- b. Determine disposal site of excavated materials.

Process

- a. Load
- b. Check truck after loading for possible spillage.
- c. Transport in manner to eliminate spillage and tracking.
- d. Utilize one route for transporting.

Clean-up/Follow-up

- a. Clean loading area.
- b. Clean transporting route.
- c. Wash off truck and other equipment in a designated equipment cleaning area.

Documentation

- a. Complete paperwork.

2.31. Water – Transporting Wet Excavated Materials & Spoils

Activities and Definition

MINIMUM CONTROL MEASURE 6

Transportation of materials should be handled with pre-planning and contingency planning.

Preparation

- a. Utilize truck with containment for material.
- b. Determine disposal site of excavated material.

Process

- a. Load and Transport in manner to minimize spillage & tracking of material.
- b. Check truck for spillage.
- c. Utilize one route of transport.

Clean-up/Follow-up

- a. Clean route of transport to provide cleaning of any spilled material.
- b. Washout equipment truck and other equipment in designated wash area.

Documentation

- a. Complete paperwork.

2.32. Water – Waterline Flushing for Routine Maintenance

Activities and Definition

Flushing is a process that rapidly removes water from the city's water piping system. Flushing uses water force to scour out materials that accumulate in the city's pipes. Water pipes are usually flushed by opening fire hydrants, where the discharged water flows off the streets the same as rainwater.

Preparation

- a. Determine flow path of discharge to inlet of waterway.

Process

- a. Clean flow path.
- b. Protect inlet structures.
- c. Use diffuser to dissipate pressure to reduce erosion possibilities.

Clean-up/Follow-up

- a. Clean flow path.
- b. Remove inlet protection

Documentation

MINIMUM CONTROL MEASURE 6

- a. Complete paperwork.

2.33. Water – Waterline Flushing after Construction/System Disinfection with Discharge to Storm Drain.

Activities and Definition

Flushing is a process that rapidly removes water from the city's water piping system.

Flushing uses water force to scour out materials that accumulate in the city's pipes.

Water pipes are usually flushed by opening fire hydrants, where the discharged water flows off the streets the same as rainwater.

Preparation

- a. Determine chlorine content of discharge water, and select de-chlorination equipment to be used.
- b. Determine flow path of discharge.

Process

- a. Protect inlets in flow path.
- b. Install de-chlorination equipment.
- c. Sweep and clean flow path.
- d. Use diffuser to reduce velocities.

Clean-up/Follow-up

- a. Pick up inlet protection.
- b. Clean flow paths.
- c. Remove equipment from flush point.

Documentation

- a. Residual tests of discharge water.
- b. Complete paperwork.

2.34. Water – Chemical Handling/Transporting and Spill Release

Activities and Definition

Hotspot facilities are facilities that produce higher levels of stormwater pollutants and/or present a higher potential risk for spills, leaks or illicit discharges. Hazardous material storage and handling is of particular concern in these areas.

Preparation

- a. Understand MSDS sheets for handling of product.
- b. Determine proper place of handling.
- c. Have necessary containment and spill kits at handling place.

MINIMUM CONTROL MEASURE 6

Process

- a. Begin transfer process.
- b. Discontinue operations if a spill level occurs.
- c. Disconnect and store handling equipment.

Clean-up/Follow-up

- a. Clean up spills with proper material.
- b. Dispose of contaminated material at appropriate facility.

Documentation

- a. Report spills to duty officer.
- b. Complete paperwork.

Appendix A: Facility Inventory

City of Richfield Facility Inventory

ID	Name	Address	POC Present
1	Richfield Public Works	1901 66th ST E	Y
2	Water Plant	6399 Oakland Ave S	N
3	Sanitary Lift Station #7	6360 66th	N
4	Sanitary Lift Station #8	6400 Portland	N
5	Well #3	6221 Portland	N
6	Well #4	64th / Portland Ave	N
7	Well #5	65th / Park	N
8	Well #6	6544 11th Ave	N
9	Well #7	6221 Portland Ave	N
10	Liquor Store	6600 Cedar Ave S	N
11	Park	6300 First Ave	N
12	Well #2	6301 Nicollet Ave	N
13	Well #1	6201 Nicollet Ave	N
14	Storm Lift Station #4	6201 Nicollet Ave	N
15	Park	6499 5th Ave S	N
16	Park	6301 Garfield Ave	N
17	Park	6710 Portland Ave	N
18	Park	6899 2nd Ave S	N
19	Sanitary Lift Station #1	1050 Colfax	N
20	Fire Station	6401 Penn Ave	N
21	Storm Lift Station #1	6428 Irving Avenue South	N
22	Storm Lift Station #6	6720 James Ave	N
23	Storm Lift Station #9	6921 Penn Ave	N
24	Sanitary Lift Station #7	735 Lakeshore Dr	N
25	Liquor Store	6444 Penn Ave S	N
26	Storm Lift Station #8	7313 Xerxes Ave	N
27	Sanitary Lift Station #3	7700 Knox	N
28	Storm Lift Station #5	1700 78th St W	N
29	Liquor Store	7700 Lyndale Ave S	N
30	Richfield Community Center	7000 Nicollet Ave	N
31	Storm Lift Station #10	7000 Nicollet Ave	N
32	Former Public Works Facility	7700 Pillsbury Ave S	N
33	Sanitary Lift Station #4	7401 13th Avenue South	N
34	Richfield Public Works Storage Yard	6200 Cedar Ave	Y
35	Park	7600 17th Ave	N
36	Park	7500 Pleasant Ave	N
37	Park	7420 15th Ave S	N
38	Park	7434 Humboldt Ave	N
39	Park	7644 Fourth Ave	N
40	Public Works Storage	7445 Fremont Ave	N
41	Park	6244 Knox Ave	N

42	Park	6400 Dupont Ave	N
43	Park	6710 Irving Ave	N
44	Park	6645 Girard Ave	N
45	Richfield City Hall/Fire Station/Police Station	6710 Portland Ave	N
46	Park	6700 Logan Ave	N
47	Park	6700 Morgan Ave	N
48	Park	6900 Bloomington Ave	N
49	Park	7200 Washburn Ave	N
50	Park	6700 Thomas Ave	N
51	Park	6500 Upton Ave	N
52	Park	7145 Wentworth Ave	N
53	Wood Lake Nature Center	6710 Lake Shore Dr	N
54	Park (Veteran's Park)	6335 Portland Ave	N
55	Park	6300 18th Ave	N
56	Park	6999 Lyndale Ave	N
57	Park	6700 Harriet Ave	N
58	Park	65th St / Pillsbury	N
59	Water Tower	7434 Humboldt Ave	N
60	Park	6300 18th Ave	N
61	Water Tower	6401 Penn Ave	N
62	Former PW Facility	211 76th St	N
63	Sanitary Lift Station #2	6907 Humboldt	N
64	Sanitary Lift Station #5	7201 Humboldt Ave	N
65	Sanitary Lift Station #6	7700 Emerson	N
66	Storm Lift Station #2	926 West 73rd Street	N
67	Storm Lift Station #3	78th/Colfax Avenue South	N
68	Storm Lift Station #7	6064 James Ave	N

Appendix B: Pond Inventory

NAME	Location Address
Adam's Hill	7201 Washburn Ave S
Augsburg	7000 Nicollet Ave S
Norby's Pond	6899 2nd Ave S
Wilson	7420 15th Ave S
Christian Park	6900 Bloomington Ave S
Nicollet Park	6300 1st Ave S
Milner Pond	6499 5th Ave S
Richfield Lake	6400 Dupont Ave S
Sheridan Park	6500 Upton Ave S
Best Buy A (W)	7601 Logan Ave S
Best Buy B (E)	7601 Logan Ave S
Fountainhead	7601 Knox Ave
Cedar Point Pond	6420 Cedar Ave S
Taft Pond	800 63rd St E
Lunds Pond	6228 Penn Ave S
Holy Angels	6600 Nicollet Ave S
Penn Pond	6921 Penn Ave S
Meridian Crossings	2 Meridian Crossings
Washington Pond	7600 17th Ave S
South Education Center A (S)	7450 Penn Ave S
South Education Center B (N)	7450 Penn Ave S
Legion Lake	6221 Portland Ave S
Wood Lake	<Null>
Legion North Pond	6221 Portland Ave S
Legion West Pond	6335 Portland Ave S
Legion South Pond	6335 Portland Ave S
Rya/RF64 Pond	6409 16th Ave S
Taft Park Pond	6105 Bloomington Ave S
Richfield Lake Forebays 3-6	6400 Dupont Ave S
Richfield Lake Forebays 1,2,7	6400 Dupont Ave S
Wood Lake Perimeter Pond	6710 Lake Shore Dr S

Appendix C: MPCA Sediment Removal Guidance

Managing Stormwater Sediment Best Management Practices Guidance



Minnesota Pollution Control Agency

May 2017

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This report is available in alternative formats upon request, and online at www.pca.state.mn.us.

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Stormwater sediment best management practices

This document provides guidance for stormwater collection and conveyance systems, which have been designed, constructed, operated, and maintained for the purpose of providing treatment of stormwater.

Revisions since June of 2015

- Land use category definitions have been revised.
- Minor changes have been made to the “Stormwater Sediment Spreadsheet” to make the spreadsheet easier to use when calculating benzo[a]pyrene (B[a]P) equivalents and comparing contaminant concentrations in stormwater sediment to soil reference values.
- Sediment sampling is required regardless of the volume of sediment to be excavated.
- Minor changes have been made to the section “Determination of excavated soil as regulated solid waste”.
- General information about hydraulic dredging has been added.

Stormwater collection and conveyance systems help protect infrastructure from flooding and they collect and concentrate pollutants to prevent them from reaching lakes, rivers, streams, wetlands, and other waters of the state where they could have a negative effect on water quality, aquatic animals, or human health. Managing contamination and pollutants in stormwater collection and conveyance systems should be expected and sampling is required prior to disposal, or beneficial use (e.g. fill, topsoil, or compost) to determine proper management.

This guidance document will help you think through important steps associated with sediment removal projects. These may include:

- Who is responsible for managing stormwater sediment?
- Land use within a drainage area.
- Sampling sediment and what laboratory analysis is required.
- How to calculate BaP equivalents for carcinogenic polycyclic aromatic hydrocarbons (cPAHs).
- Management requirements for contaminated sediment where contaminated stormwater sediments are accepted for disposal.

This document is intended to help those responsible for operation and maintenance of stormwater systems determine when sediment removal is needed, and what steps to consider during the course of managing a sediment removal project. This is guidance. It is not a comprehensive list of everything you may need to do when managing a sediment removal project.

Other considerations may also include:

- Proximity to high value resources or sensitive ecological features
- Landscape variations, and soil types
- Management of native or invasive species
- A wide range of other variables that may be encountered from one municipality to the next, or one project to the next

This guidance was developed with special assistance from the cities of Burnsville, Circle Pines, Maplewood, Roseville, St. Paul, White Bear Lake, and Woodbury, Minnesota.

Background

Action was taken during the 2009 Minnesota Legislative session, which included funding to conduct research on stormwater pond sediment contamination and to help Minnesota cities clean-out

contaminated stormwater ponds. (House File Number 1231 Passed by the Minnesota Legislature on May 18, 2009, and approved by Governor Tim Pawlenty on May 22, 2009.)

Research concluded that polycyclic aromatic hydrocarbons (PAHs) are often responsible for the greatest contamination problems in stormwater pond sediment (Crane et al. 2010). Research conducted on stormwater pond sediments in the Minneapolis-St. Paul, Minnesota metropolitan area showed that PAHs are the primary contaminants of concern affecting disposal decisions (Polta et al. 2006; Crane et al. 2010). PAHs persist in the environment and pose a risk to animals, plants, and people at elevated concentrations. These contaminants are formed by the incomplete combustion of organic materials, such as wood, oil, and coal, as well as occurring naturally in crude oil and coal (Crane et al. 2010).

Coal tar-based sealants are a major source of PAHs in urban sediments where these products are used in the surrounding watershed (Mahler et al. 2012). The Minnesota Pollution Control Agency's (MPCA) research (Crane 2014) determined that coal tar-based sealants were the most important source of PAHs (67.1%), followed by vehicle emissions (cars and trucks) (29.5%) and pine wood combustion (3.4%).

The Legislation also provided funding for municipalities who pass ordinances banning or restricting the use of coal tar-based sealants. Twenty-nine municipalities passed such ordinances before legislation in the spring of 2013 banned coal tar-based sealants state wide effective January 1, 2014 (Minn. Stat. § 116.202).

The 2009 Legislation also directed the MPCA to develop stormwater best management practices (BMPs) to avoid or mitigate impacts of PAH contamination from coal tar-based sealants. The MPCA provides guidance for the operation and maintenance of constructed stormwater collection systems. BMPs can be found in the Minnesota Stormwater Manual at this location

http://stormwater.pca.state.mn.us/index.php/Main_Page.

Stormwater collection and conveyance systems are commonly referred to as stormwater ponds, stormwater control devices, wet detention basins, or National Urban Runoff Program (NURP) ponds.

This document provides guidance for sediment removal projects from stormwater ponds that have been designed, constructed, operated and maintained for the purpose of providing treatment of stormwater.

Sediment removal from lakes, rivers, streams, and wetlands may be subject to additional requirements such as a permit from the Minnesota Department of Natural Resources (DNR) to allow work below the ordinary high water level. Permit determinations are guided by DNR hydrologists based on geographical location. A list of DNR hydrologists by area is available on the DNR website at http://files.dnr.state.mn.us/waters/area_hydros.pdf.

Sediment may also be generated in other stormwater collection devices such as rain gardens, infiltration swales, sumps, traps, pipes, and/or other conveyance structures. This guidance may be adapted for other situations to determine representative contaminant concentrations. The analytical component outlined in Appendix A may be applied to other sediment sampling situations, but the MPCA does not have specific sampling guidance at this time for those situations and it is not necessary to follow this guidance for other types of sediment removal projects. The sampling guidance provided in Appendix A is strictly for sampling sediment from stormwater ponds that have been designed, constructed, operated, and maintained for the purpose of providing treatment of stormwater.

Sediment disposal costs

The high cost to manage contaminated stormwater sediment has brought operation and maintenance of stormwater ponds into the public spotlight. Disposal costs for stormwater sediment removal projects with contamination exceeding the industrial soil reference values is regulated as a solid waste and the cost for disposal can be as much as three times more expensive than uncontaminated sediment depending on the type and level of contamination. The high cost to manage contaminated sediment

emphasizes the importance of source control to reduce the loading of contamination into stormwater ponds.

Sediment removal process

Inventory and maintenance needs.

Evaluating and testing sediment.

Engineering, contracting, and work plans.

Excavating sediment.

Site restoration.

Records and documentation to keep on file.

1. Inventory and maintenance needs

Assessing need and planning sediment removal projects includes a number of steps that range from estimating lost capacity to notifying neighbors about plans to maintain the stormwater collection system. For municipalities who are managing dozens, or sometimes hundreds of stormwater ponds, starting with an inventory and a maintenance prioritization process is recommended.

Some municipalities find it helpful to develop a flowchart or other prioritization scheme to triage and track priority sediment removal projects. Topics of importance may include:

- Have priorities been identified by city inspections – sediment level, lost capacity, other needs?
- Accessibility. Does the city already have access via parkland, easement, or outlot? Are there access points for machinery and trucks?
- What are the sediment analysis results? Can the city afford to remove and manage the sediment?
- Is the downstream lake or sub-watershed a priority?
- What is the expected cost/benefit from the project?
- Can a stormwater pond be expanded, or redesigned to provide greater benefit?
- Is surveying needed to assess lost capacity and depth of excavation?
- How will you measure or estimate the volume of sediment to be removed?
- Have sediment deltas and inlet/outlet structures been identified/located?
- Are communications with other stakeholders important/public relations?
- Are visual inspections, notes, checklists, or photos to track maintenance projects needed?

The first phase of work identifies need and determines if a sediment removal project is even necessary. This may include a preliminary survey to gage sediment depth and provide a rough estimate of the number of cubic yards of sediment to be removed. This assessment and planning will help guide work plan development and contracting if a sediment removal project is deemed necessary.

2. Evaluating and testing sediment

Sediment samples are collected and compared to MPCA's Remediation Division soil reference values (SRVs) to determine where excavated sediment may be beneficially used or disposed. This affects work plan development, including contract specifications for bidding projects and is an important part of the management process.

- Guidance for *collecting samples and testing sediment* is summarized in Appendix A.
- Guidance for *comparing contaminant analytical data (concentrations) to SRVs and calculating B[a]P equivalents* is summarized in Appendix B.

There are two sets of SRVs based on the following remediation soil land use categories:

Residential land includes lawn surrounding single family housing and newly developed single family residences, multi-family housing, condominiums, playgrounds, sports fields, beaches, produce gardens, long-term care facilities, correctional housing, hospitals, campgrounds, child care centers, churches, schools, wildlife areas, local/state/national forests, and public or private erodible trails.

Industrial land includes lawns, yards, and landscaping that surround hotels, office buildings, retail stores, shopping centers, and restaurants and industrial property, public utility facilities, rail and freight facilities, storage facilities, warehouses, office buildings, and manufacturing facilities.

The analytical results and calculation of B[a]P equivalents are compared to the MPCA's Remediation Divisions SRV values to determine management or treatment options.

Management options include:

Use of excavated sediment as unregulated fill. Contaminant concentrations from the list of analytes, including cPAHs expressed as B[a]P equivalents and any other site-specific contaminants, are all below the Residential SRVs. The excavated sediment is unregulated fill and does not require any special management. Excavated sediment may be reused in accordance with the MPCA's BMPs for the Off-Site Use of Unregulated Fill available at: <http://www.pca.state.mn.us/index.php/view-document.html?gid=13503>.

Determination of excavated soil as regulated solid waste. One or more of the required list of analytes, including cPAHs expressed as B[a]P equivalents and any other site-specific contaminants, exceed the Residential SRVs but do not exceed the Industrial SRVs. The excavated sediment requires special management and cannot be used as unregulated fill.

Excavated sediment that is not considered unregulated fill is most commonly guided to a solid waste landfill. Depending on the types and concentrations of contaminants, sediment may need to be disposed of at a Municipal Solid Waste (MSW) landfill that has an industrial solid waste management plan; that do accept contaminated soils. This means contaminated sediment must go to a MSW landfill that has a liner and a leachate collection system.

MSW landfills in Minnesota that can accept contaminated sediment are listed at this webpage:

<http://www.pca.state.mn.us/veiz806> or, the list can be accessed directly at this link: <http://www.pca.state.mn.us/index.php/view-document.html?gid=12806>.

Some additional landfills that are permitted to accept industrial waste, and which may also accept contaminated stormwater sediments, include:

1. Voyageur Industrial Landfill in Cannon Falls, Minnesota
2. Vonco II Landfill in Becker, Minnesota
3. Vonco V Landfill in Duluth, Minnesota
4. Shamrock Environmental Landfill in Cloquet, Minnesota
5. Dem-Con Landfill in Shakopee, Minnesota
6. Veolia E S Rolling Hills Landfill in Buffalo, Minnesota
7. SKB Rosemount Industrial Waste Facility in Rosemount, Minnesota

Guidance for analytical data comparing contaminants to SRVs and calculating B[a]P equivalents are summarized in Appendix B. At this time, testing sediment for metals other than copper and arsenic is not required. However, contractors who remove and/or transport sediment, or facilities that beneficially re-use or dispose of sediment may require test results for heavy metal concentrations. This may be an important variable as sediment removal projects are planned and samples are collected and compared. It is recommended that you consult with contractors and contact disposal

or re-use facilities to ensure they will be able to accept your waste and to determine what additional sampling requirements (if any) may be required by the facility.

3. Engineering, contracting, and work plans

Work plan development includes a wide range of logistics including, but not limited to:

- Notification of residents and neighbors.
- How to access the site and what machinery will be needed to remove sediment.
- Define how sediment will be removed, measured, and paid for.
- Testing or analysis requirements for the destination disposal or treatment facility.
- Plans for erosion control.
- Tree removal, environmental impact, depth to ground water, and risks associated with the displacement of wildlife or invasive species.
- Lack of design and/or construction documentation (no “as-built” records).
- Estimating water draw-down needs and the amount of time and oversight needed to drain the stormwater collection system.
- What permits (if any) may be required by your local watershed district, county, or the DNR. The MPCA does not require a permit or notification for routine maintenance of stormwater ponds. Cities are advised to keep records and documentation of their sediment removal projects as outlined in this guidance and as required by the Municipal Separate Storm Sewer Systems (MS4) Permit. A permit from the MPCA is required if projects will disturb one or more acres upland. Projects disturbing one or more acres upland are required to have a Construction Stormwater Permit.
- Defining appropriate BMPs for dewatering (e.g., rock riprap, sand bags, plastic sheeting, or other accepted energy dissipation measures), such that the discharge does not adversely affect the receiving water or downstream landowners.
- Ensuring that water from pumping or draw-down activities is discharged in a manner that does not cause nuisance conditions, erosion in receiving channels, or erosion on down-slope properties. This also includes inundation of wetlands causing significant and/or adverse impact. The general rule of thumb is “keep it clear”.
- How sediment will be transported and a process to track the volume of sediment removed.
- Defining logistics, administrative, and engineering requirements, surveys, dewatering processes, site access and easements, rock entrance and off-site tracking needs, coordination with adjacent cities, and/or watershed districts and the Minnesota Department of Transportation.

4. Excavating sediment

Sediment excavation projects can take place during the winter or summer.

Benefits to sediment removal projects in the winter include:

- Winter excavations greatly reduce the risk that rain may cause flooding and erosion of dewatered ponds, or turbid runoff conditions.
- Access with trucks and heavy machinery is easier in the winter when soil surrounding stormwater ponds freezes solid.
- Adjacent residents and neighbors have windows closed and this means less noise, less dust, less odor, and fewer disturbances overall.
- Water can be pumped down so remaining water can freeze solid. Pumping should be discontinued before the bottom of the pond is disturbed and sediment is stirred up making the water turbid. Remaining water should be allowed to freeze solid trapping any suspended sediment in ice. The ice can then be skimmed off with a bulldozer so it can be piled within the pond. This keeps turbid water in the basin after snow and ice melt during spring thaw.

Winter excavation projects also have a few drawbacks. They include:

- Shorter working days
- Problems associated with working in freezing conditions and sub-zero weather
- The use of lights after dark to extend the work day

Sediment removal can begin once snow and ice have been skimmed off and piled within the pond. Once sediment is removed, final grading should achieve a natural (gradual) slope for all banks. Ice and snow that has been stockpiled in the pond should be evenly distributed throughout the basin once sediment has been removed. This will allow water and remaining sediment to be retained in the pond. Temporary stabilization of slopes and banks should ensure control of erosion and prevent site run-off during spring snowmelt and the first rain events of the season. Cleanup and removal of temporary infrastructure should be done working your way out of the site. Once equipment and temporary infrastructure (such as transport roads and rock entrances) is removed, it will be cost prohibitive and essentially impossible to make additional corrections.

Summer excavations include the risk of unexpected rainfall events that can complicate a conventional sediment removal project and sometimes delay the project for days and increase the risk to receiving waters down-stream. Small projects (less than one acre) may be completed in one day or less and risks associated with unexpected rainfall events can be minimized or avoided altogether. Small projects do not require a permit, but safeguards and best management practices are still required to ensure negative down-stream impacts to receiving waters are prevented. Large projects that will disturb one or more acres upland are required to have a Construction Stormwater Permit to ensure BMPs are implemented as the scale of the project and potential risks to receiving waters increase.

One method of sediment removal that can be used during the summer months is called hydraulic dredging. This process utilizes a watercraft or floating dredging device with a large centrifugal pump to remove sediment. Saturated mud and sand (often referred to as muck) is removed from the stormwater pond and discharged into a large filter bag (or series of bags) upland. This process may allow sediment to be pumped hundreds and sometimes thousands of feet away from the pond depending on site conditions. Water that drains from the filter bag is channeled to a secondary treatment system with a flocculent that provides additional filtration before the water is returned to the stormwater pond. Benefits to hydraulic dredging include:

- Allows work to be performed during warm weather conditions.
- May be better suited for sites that are difficult to access with large trucks or large machinery.
- In many cases, it will result in less disturbance for neighbors as the dredging operation is generally more quiet than operating various types of heavy machinery.
- Impacts to reptiles (turtles) and amphibians (frogs) may be less as they are not hibernating in the sediment and are able to move away from the slow moving dredge.
- Filter bags and treatment of the water that drains from them reduce fugitive dust and provide a secure way to store sediment while the sediment dries out.
- No need to bypass flows in the watershed, which can be difficult if the watershed draining to the pond is large.
- Hydraulic dredging can take place even when there are significant groundwater inputs to the pond.
- Scheduling and costs are typically more predictable and are not likely to vary as they might with conventional excavation methods.
- Hydraulic dredging has a longer working season. Sediment removals via hydraulic dredging can be performed roughly eight months of the year depending on site conditions and seasonal variations from year to year.
- Hydraulic dredging projects are not impacted by rainfall and can continue operations during rainfall if desired.

Hydraulic dredging projects also have a few drawbacks. They include:

- Segregating specific areas of the pond by contaminate levels may be difficult or impossible.
- The necessary area needed for dewatering and storage may not be available depending on the specific site.
- In drought, years there may be too little water in the pond to effectively float and propel the dredge.
- Projects are typically more expensive than conventional excavation methods.
- Sediment pumped to filter bags must be handled a second time when the bags are opened and sediment is loaded into trucks for transportation off site.
- Grinding or mulching dense vegetation can be a messy and difficult process when large amounts of woody debris (logs, stumps) are encountered. Dense vegetation can slow down the dredging process and it may also increase time and cost.

Regardless of method, survey work is usually conducted to better estimate the amount of sediment to be removed and to identify the depths of excavation in order to restore desired capacity. If the removal volume is not defined by surveying then establishing a standard volume per truck and calculating the volume based on truck loads leaving the site can be used to track the volume in cubic yards.

Excavating or removing sediment from stormwater collection systems requires care to prevent turbid water and pollutants from impacting down-stream waters such as wetlands, streams, rivers, or lakes. This is just as true for winter sediment removal projects as it is for projects conducted during the summer months.

5. Site restoration and erosion control

Site restoration work should be conducted as soon as weather conditions permit and may include:

- Additional cleanup or maintenance of inlet and outlet structures.
- Additional site stabilization work including sediment and erosion control.
- Establishing plants, seed, sod, mulch, or vegetation to prevent erosion (above water line).

- Professional engineer sign-off on project completion.

Erosion control (temporary and permanent) are typically incorporated into plans and specifications for stormwater sediment removal projects. Permanent erosion-control features may include provisions for:

- Vegetative buffer strips around the pond.
- Design of grassed waterways and overflow channels.
- Armoring of spillways and banks, or other features needed to prevent erosion for the life cycle of the stormwater collection and conveyance system.

Temporary erosion control features may include provisions such as mulch, tackifiers, or erosion control blankets to prevent erosion until seeding takes root and vegetation becomes established. Erosion of banks, side slopes, safety benches, spillways, outfalls, channels, and adjacent upland areas disturbed by machinery are all priority areas during site restoration. These areas should be stabilized as quickly as possible to prevent erosion.

Areas susceptible to erosion should be inspected frequently following a sediment removal project. If erosion occurs, the eroded areas should be restored as quickly as possible. If erosion persists, action must be taken immediately to protect downstream receiving waters with permanent erosion control. Permanent features may include:

- Bioengineering strategies
- Turf reinforcement mats
- Vegetated-concrete-block-armoring
- Properly sized riprap and filter materials

Vegetated buffer strips (25 feet or more) are recommended to surround the stormwater pond (whenever possible) to prevent erosion from the pond's immediate tributary. Establishing vegetation not only helps maintain the integrity of the pond, it also helps with the ponds overall appearance. Establishing vegetation is important, but care should be taken to prevent trees, shrubs, or brush from growing within 15 feet of the toe of the embankment, or 25 feet from the inlet and outlet structures. Roots can damage pipes and other infrastructure, but trees and shrubs can also clog inlets and outlets and prevent the stormwater pond from functioning properly.

6. Records and documentation to keep on file

It is important to keep good records about the operation and maintenance of stormwater collection systems. Good records will not only assist with an accurate inventory and triage of stormwater ponds, but they can also provide the basis for sound planning in the future. Important records and documentation for sediment removal projects may include:

- Inspection dates and frequency of inspections **(Required by MS4 Permit)**
- Description of maintenance and dates performed **(Required by MS4 Permit)**
- The unique ID# of the pond **(Required by MS4 Permit)**
- Employee training records **(Required by MS4 Permit)**
- Volume of sediment removed in cubic yards **(Required by MS4 Permit)**
- Evaluation, testing, and/or laboratory results **(Required by MS4 Permit)**
- Place of disposition/disposal **(Required by MS4 Permit)**
- "As Built" prints or plans if they exist
- The name and geographical location of the pond with reference to nearest cross roads
- Contractor information, shipping papers/manifests/contractual agreements
- Any other observations about the sediment removal, or work performed, that will help the city operate and maintain that site in the future

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Appendix A: Sediment sampling and analytical technical guidance

This technical guidance should be shared with staff or environmental consultants responsible for sampling sediments and interpreting the analytical results for the owner or responsible party. It is the responsibility of the owner or responsible party to either train their staff or select consultants who can perform these tasks.

Sediment sampling

The U.S. Environmental Protection Agency's (EPA's) report on "Methods for Collection, Storage and Manipulation of Sediments for Chemical and Toxicological Analyses: Technical Manual" (EPA 2001) provides guidance on sediment monitoring plans, collection of whole sediments, field sample processing, transport and storage of sediments, sediment manipulations, and quality assurance/quality control (QA/QC) issues. This report should be used as a resource by owners or responsible parties, and their consultants, for sampling and processing stormwater pond sediments. In particular, this user-friendly document provides pictures of sediment sampling equipment, flowcharts for making decisions, checklists, and boxes of important bulleted items.

Sediment characterization

Stormwater pond sediments are very complex, and chemical results can vary greatly within a few yards of each sample. This feature makes it more difficult to provide generic guidance for a broad suite of stormwater ponds. Stormwater ponds also vary in size and shape, and some ponds have multiple inlets and outlets. Finally, the type of land uses in the drainage areas of the ponds can influence contaminant concentrations in the pond sediments.

Based on the MPCA's 2009 stormwater pond study (Crane 2014), coal tar-based sealant sources comprised 67.1% of total PAHs in surface sediments of ponds located primarily in residential, commercial, and industrial land use areas. Higher concentrations of PAHs will occur in stormwater pond sediments in watersheds where coal tar-based sealants are used on driveways and parking lots than in watersheds where either asphalt-based sealants (which have much lower concentrations of PAHs), no sealant, or other material such as concrete, permeable pavers, or gravel are used for driveways and parking lots. Even though a statewide ban on coal tar-based sealants went into effect January 1, 2014 in Minnesota, abraded coal tar-based sealant particles from existing driveways and parking lots will continue to wash off into stormwater collection and conveyance systems for years to come. As these parking lots and driveways are sealed with asphalt-based sealants in the future, and with the elimination of new applications of coal tar-based sealants, concentrations of PAHs in sediment deposits are expected to decrease over time.

The MPCA requires owners or responsible parties to sample sediments prior to disposal to determine concentrations of 17 cPAHs, 10 noncarcinogenic PAHs, and the metals arsenic and copper. A list of the specific cPAHs and noncarcinogenic PAHs can be found in MPCA's "Summary of Stormwater Pond Sediment Testing Results" spreadsheet available on MPCA's website MS4 stormwater web page at: <http://www.pca.state.mn.us/sbiza7c>. Click on the "Permit" tab and scroll down to the bottom under the "Additional Items" heading. It is the responsibility of the owner or responsible party to evaluate the drainage area of each stormwater collection system to determine whether spills, improper disposal, or the potential for a release from commercial or industrial operations indicate that sampling for other contaminants is needed. For example, if sediment is being removed from a pond in an industrial park and there has been a release of contaminants known to accumulate in sediments (example, nickel from a metal plating facility), the owner or responsible party should include those contaminants on the list for sampling.

Analysis of sediment samples for particle size and total organic carbon (TOC) is optional, but this information may be useful for some beneficial reuse scenarios of the excavated sediment.

The analytical laboratory will provide guidance on the mass of sediment needed for each analysis. Field sampling should be conducted early in the process to provide timely assessments of management options. Sediment sampling for required analytical parameters must be conducted regardless of the volume of sediment to be excavated from the pond.

General guidance for characterizing sediment is as follows:

- **Sampling depth:** Sampling should be to the planned depth of excavation or greater. The MPCA has provided previous guidance to collect sediment samples in two foot intervals (e.g., 0 – 2 ft, 2 - 4 ft), but it is the responsibility of the owner or responsible party to collect sediment samples that will cover the depth to be dredged. If field sample collection is simpler over two-foot depth intervals, then by all means continue to do this. The important issue is to submit a sediment sample to the analytical laboratory that is representative of the entire depth interval to be excavated. Since collecting sediment from two or more long (2 ft) cores may entail a large mass of sediment, it may be easier to slice the core from top to bottom and only analyze half of the slice; this slice can be combined with a deeper layer slice to provide one composite sample for the analytical laboratory to analyze. It is not acceptable to randomly scoop out bits of sediment from different portions of the sediment core to composite together since doing so may miss out on the historical record of sediments (and contaminants) deposited in different depth intervals.
- **Sampling equipment:** Core samplers are more appropriate to use to obtain cohesive sediment samples at a depth than grab samplers. Grab samplers can be used to collect surface samples if the sediment samples are too floccy (loose) with vegetative detritus (e.g., parts of cattail stalks/leaves) or are too sandy to be retained in a core sampler.
- **Sampling location data:** Geopositional (GPS) coordinates need to be collected at the location of each sample site.
- **Sample number and design:** The number of samples to be collected depends on the surface area of the pond and/or the area of planned dredging. [Note: this is a change in policy from previous MPCA guidance (Stollenwerk et al. 2011) that recommended the number of samples per the estimated volume of dredge material.]
 - The goal is to collect sediment samples that are representative of the material that will be removed to maintain the functionality of the stormwater pond.
 - Multiple samples need to be collected, particularly since some compounds may not be detected in all areas of the pond.
- **Dredging area - one acre or less:** For planned sediment removal within stormwater ponds or portions thereof with a surface area less than or equal to one acre, at least two locations (sites) need to be sampled for chemical analysis. Sample sites may be selected randomly or in a transect from the main inlet to the outlet of the pond. When sediment removal is targeted only for a certain location(s) within a pond (e.g., a sediment delta near an inlet), sample sites should be selected in the same manner except that the candidate areas for site selection should be defined by boundaries of the targeted area rather than the entire pond.
- **Dredging area - one to four acres:** For planned sediment removal within stormwater ponds or portions thereof having a surface area between one and four acres, one sampling site should be located in each acre and portion of an acre of the pond. In some cases, multiple samples may need to be collected at the same site and composited together to provide an adequate mass of sediment for the analytical work. Sample sites may either be selected randomly or in a transect from the main inlet to the outlet of the pond. When sediment removal is targeted only for a certain location(s) within a pond (e.g., a sediment delta near an inlet), sample sites should be

selected in the same manner except that the candidate areas for site selection should be defined by boundaries of the targeted area rather than the entire pond.

- **Dredging area – greater than four acres:** For planned sediment removal within stormwater ponds or portions thereof that are larger than four acres, divide the area into four sections (quadrants) as shown in Figure A-1. Select at least five sites (i.e., subsamples) within each quadrant using either the dice pattern shown in Figure A-1 or using a random sampling strategy. Sediment from each subsample needs to be homogenized (mixed well) in a precleaned container (large 4 L Pyrex mixing cups work well; larger volumes can use precleaned buckets). For a given quadrant, an equal aliquot of sediment from each associated subsample is then composited together to form the sediment sample for that quadrant that is submitted to the analytical laboratory. When sediment removal is targeted only for a certain location(s) within a pond (e.g., a sediment delta near an inlet), sample sites should be selected in the same manner except that the candidate areas for site selection should be defined by boundaries of the targeted area rather than the entire pond.
- **Dredging area – greater than four acres, irregularly shaped:** For natural ponds larger than four acres that have an irregular shape, such as bays off the main pond, each bay should be sampled if it is targeted for dredging. Depending on the size of the bay, use the aforementioned guidance for developing a sampling plan.
- **Field replicate samples:** To provide a measure of field precision, collect one field replicate sample for every 10 samples or less collected for analysis (i.e., 10% of samples should be collected in replicate). The goal of a replicate is to be as similar in space and time as one of your “primary” samples. Select the sample(s) to be replicated. One can generate a field replicate with surplus sediment from the cores/samples already collected for that sample, provided sufficient sediment remains. To create a replicate, repeat exactly the same procedures that were used to generate the selected sample, as near in time as possible to the primary sample (i.e., sample/subsample the same cores, masses, locations, and/or necessary processing steps). Adherence to the same procedures and timeline will enhance your analytical precision and results.
- **Sample collection, handling and processing (prior to submittal to laboratory) practices:**
 - Remove any rocks, pebbles, trash, large invertebrates (like beetles), or large pieces of detritus from each subsample and composite sample.
 - Overlying water needs to be decanted from the subsamples.
 - Composite sediment samples in the field prior to splitting into the sample jars.
 - Sediment samples from stormwater ponds can vary in their consistency. Some samples may be loose (“soupy”) if they contain much cattail or wetland plant detritus. In these cases, collect/subsample extra sediment to ensure the laboratory will have enough mass of sediment to conduct their analyses.
 - **Sample homogenization and splitting:** Sediment samples should be homogenized (mixed well) before splitting the sample into pre-cleaned jars for the PAH and metals analyses.
 - **Sample labeling and laboratory bottles:** The laboratory will provide pre-cleaned sample jars and labels for clients, including separate containers for PAHs, metals, and in some cases percent moisture analysis. Use a permanent marker to fill out the sample label. It is often helpful to pre-label your bottles (before adding sample) both to avoid confusion and the difficulty of attaching labels to wet surfaces. It is also helpful to wrap clear packing tape around the label to secure it on the jar because labels may easily come loose while on ice in coolers during transport.
 - **Sample percent moisture analysis:** Laboratories measure the percent moisture in the samples to convert the results to dry weight measurements. This may be billed as a separate

procedure. In some cases, the laboratory will provide a separate sampling container for percent moisture analysis.

- **Sample transport, storage, and tracking:** Store the sediment samples on ice in a cooler during field sampling. Sample tracking forms or chain-of-custody forms must be used during field sampling to record observations about the sediment samples and to provide field sampling information (e.g., sample station, date, time, sampling equipment, analyses to be done). Most analytical laboratories will provide their clients with chain-of-custody forms.

Submit samples to analytical laboratories

At the end of each field sampling day, either transfer the samples directly to the analytical laboratory, which is preferred, or store them in an interim refrigerator or freezer (depending on the specifications of the laboratory) prior to submittal. Some laboratories may provide a courier pick-up service. When out-of-town laboratories are used, ship the samples on ice in sturdy coolers using an overnight courier; also use packing peanuts and consider wrapping each jar in bubble wrap.

The analytical laboratories will provide guidance on the holding times for samples based on the analytical parameter. Sediment samples can usually be frozen to extend the holding time, but care must be taken to only fill the sample jars two-thirds full to allow room for expansion while the sediment freezes.

To increase the success of the analytical work, follow these steps prior to submitting the sediment samples:

- **Remove excess water:** Even with decanting overlying water during field sampling, the sample jars may contain a layer of water over the sediment. This water needs to be removed prior to analysis. Either the field sampler (if the samples are stored overnight at an interim facility) or the analytical laboratory needs to remove this overlying water. Laboratory staff will not automatically do this step, and the client needs to specify if they want this accomplished. Use of a pre-cleaned, wide-bore pipette to remove overlying water is better than decanting the sample since it will not disturb the sediment as much in the jar. If the laboratory receives sediment samples that have a high water content, then there may not be enough mass of sediment available to do their analyses.
- **Matrix Spike/Matrix Spike Duplicate (MS/MSD) analysis:** To assess analyte recovery and precision, request/confirm that the laboratory will spike and analyze one Matrix Spike and one Matrix Spike Duplicate per 20 samples or less, as is usual standard practice. For the MS/MSD spike and recovery assessment, it is desirable to use “average” samples – e.g., samples that are not too clean or sandy but also not too dirty or full of organic matter. Provide guidance to the laboratory on which samples may meet this criterion, if possible. Otherwise, instruct the laboratory to use their best judgment or to randomly select sample(s) from those submitted to include in this assessment. *Note: if your budget allows, it is best to conduct an MS/MSD spike assessment for each pond being sampled, even if this means assessing more than the typical one-per-20 samples.*
- **Sample tracking/chain of custody:** Provide a copy of the sample tracking or chain of custody form to the analytical laboratory when the samples are submitted or shipped to them.

Considerations in Selecting an Analytical Laboratory:

Cooperative Purchasing Venture (CPV) program: Municipalities can access laboratory services through the Minnesota Department of Administration Cooperative Purchasing Venture (CPV) program. There is no charge to sign-up, and the CPV program is open to all municipalities. The CPV program allows municipalities to obtain laboratory services through state-negotiated contract prices. Municipalities who are not currently CPV members, but would like to become one, may sign-up for this program at the Minnesota Department of Administration's website at: <http://www.mmd.admin.state.mn.us/cpv2.htm>. The Minnesota Department of Administration's website contains a comprehensive list of state-negotiated contracts. The following contract is specific to sampling and laboratory analysis:

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Laboratories that will perform sample cleanup procedures: It is often necessary to reduce matrix interferences for sediment analysis. Typically, a sample cleanup or dilution step will be performed by the laboratory for this purpose. MPCA's position is that sample cleanup is the far better option for municipalities. Laboratories that do offer cleanup typically charge a small fee (a small fraction of the cost of PAH analysis). But in comparison with dilution, sample cleanup will result in better precision, lower reporting limits, and a concomitantly reduced risk of misclassifying sediments as Tier 2 or 3 dredge material. The extra cost for sample cleanup is miniscule in comparison to the potential, unnecessary cost of misclassification and unnecessary disposal at a landfill approved for contaminated sediments. MPCA recommends that responsible parties request that their laboratory provide this service, if not currently offered. Upon request, MPCA will provide references to laboratories that will perform cleanup.

Analytical methods

The primary analytical methods are provided below:

The extended list of PAHs (Table A-1), including 17 cPAHs and noncarcinogenic PAHs, must be analyzed based on the most recent final version of EPA SW-846 Method 8270 by gas chromatography/mass spectrometry (GC/MS) with selective ion monitoring (SIM) as an option.

- Analysis of stormwater pond sediment extracts will often result in compound or matrix interference that can affect analytical accuracy and precision. MPCA recommends sample extract cleanup instead of dilution (see above "Considerations in Selecting an Analytical Laboratory").
 - An example of a cleanup procedure to isolate the hydrocarbon fraction is to pass the sample extract through an alumina and/or silica gel.
 - Refer to the most recent final versions of EPA SW-846 Method 8270 and Method 3600 for guidance on appropriate cleanup techniques.
 - When sample extracts are subjected to cleanup procedures, the associated batch quality control samples, i.e., method blank, laboratory control sample (LCS), MS/MSD, etc., must also be subjected to the same cleanup procedures.
- The analytical laboratory must be asked to report PAHs that are in-between the method detection limit and the reporting limit and to qualify results as estimated.
- Metals should be analyzed by either inductively coupled plasma-optical emission spectrometry (ICP) or inductively coupled plasma—mass spectrometry (ICP—MS) using the most recent final version of EPA SW-846 Method 6010 or 6020.
- Sediment results must be reported on a dry weight basis.

- Information on TOC and particle size distribution within sediment samples can provide context to understand and anticipate PAH occurrences, because organic content and particle size/type affect the partitioning behavior of many contaminants. Although not required, these parameters may thus be of interest to practitioners when interpreting their data and planning future investigations. TOC can be analyzed using the most recent final version of EPA SW-846 Method 9060. Particle size can be analyzed multiple ways to determine percent sand, silt, and clay. If only the inorganic particle size fraction is of interest, then the sediment samples will need to be pretreated to remove organic matter. If organic matter is included in the analysis, then the “apparent” (i.e., organic plus inorganic) particle size distribution will be determined.

QA/QC data quality indicators

The field sampling procedures and analytical methods include several QA/QC measures to ensure useable data are collected and measured. In particular, data quality indicators (DQIs) are qualitative and quantitative descriptors used in interpreting the degree of acceptability or utility of data. The principal DQIs are precision, bias, representativeness, comparability, and completeness. Establishing acceptance criteria for the DQIs sets quantitative goals for the quality of data generated in the analytical measurement process. See <https://www.epa.gov/quality/guidance-quality-assurance-project-plans-epa-qag-5> for information on establishing DQIs.

For cPAHs and noncarcinogenic PAHs by EPA Method 8270, the DQIs set by the MPCA are:

- Blanks: analyte concentrations are less than the method detection limit or reporting limit, whichever is being used for quantitation; method blanks should be prepared with each analytical batch of 20 samples or less.
- Surrogate Recovery: approximately 30-150%, the recovery of the surrogate compounds are used to measure data quality in terms of accuracy (extraction efficiency).
- Laboratory Control Sample (LCS) and Matrix Spike (MS) Recovery: approximately, 30-150%; the percent recoveries of target analytes are calculated to measure data quality in terms of accuracy.
- MS/Matrix Spike Duplicate (MSD) Precision: relative percent difference (RPD) <30%; this is used to evaluate the data in terms of precision.

For metals (arsenic and copper):

- Blanks: analyte concentrations are less than the reporting limit; method blanks should be prepared with each analytical batch of 20 samples or less.
- Precision (% RPD): <20%.
- Accuracy: LCS- 80-120%.
- MS/MSD: 75 – 125%, unless laboratory calculated limits are tighter.

Electronic data requirements

- Electronic copies of the data should be obtained from the analytical laboratory in spreadsheet format (e.g., Microsoft Excel). Laboratories will normally report sample concentrations down to the reporting limit. Request that the laboratory also report sample concentrations down to the method detection limit to ensure B[a]P equivalents can be calculated appropriately (Appendix B). Note that concentrations quantified between the method detection limit and the reporting limit should be flagged as “estimated”.

References

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Stollenwerk, J., J. Smith, B. Ballavance, J. Rantala, D. Thompson, S. McDonald, and E. Schnick. 2011. Managing dredged materials in the State of Minnesota. Minnesota Pollution Control Agency, St. Paul, MN. MPCA document number wq-gen2-01. <https://www.pca.state.mn.us/sites/default/files/wq-gen2-01.pdf> USEPA. 2001. Methods for collection, storage and manipulation of sediments for chemical and toxicological analyses: Technical manual. U.S. Environmental Protection Agency, Office of Water, Washington, DC. EPA-823-B-01-002 (<https://www.epa.gov/ocean-dumping/methods-collection-storage-and-manipulation-sediments-chemical-and-toxicological>).

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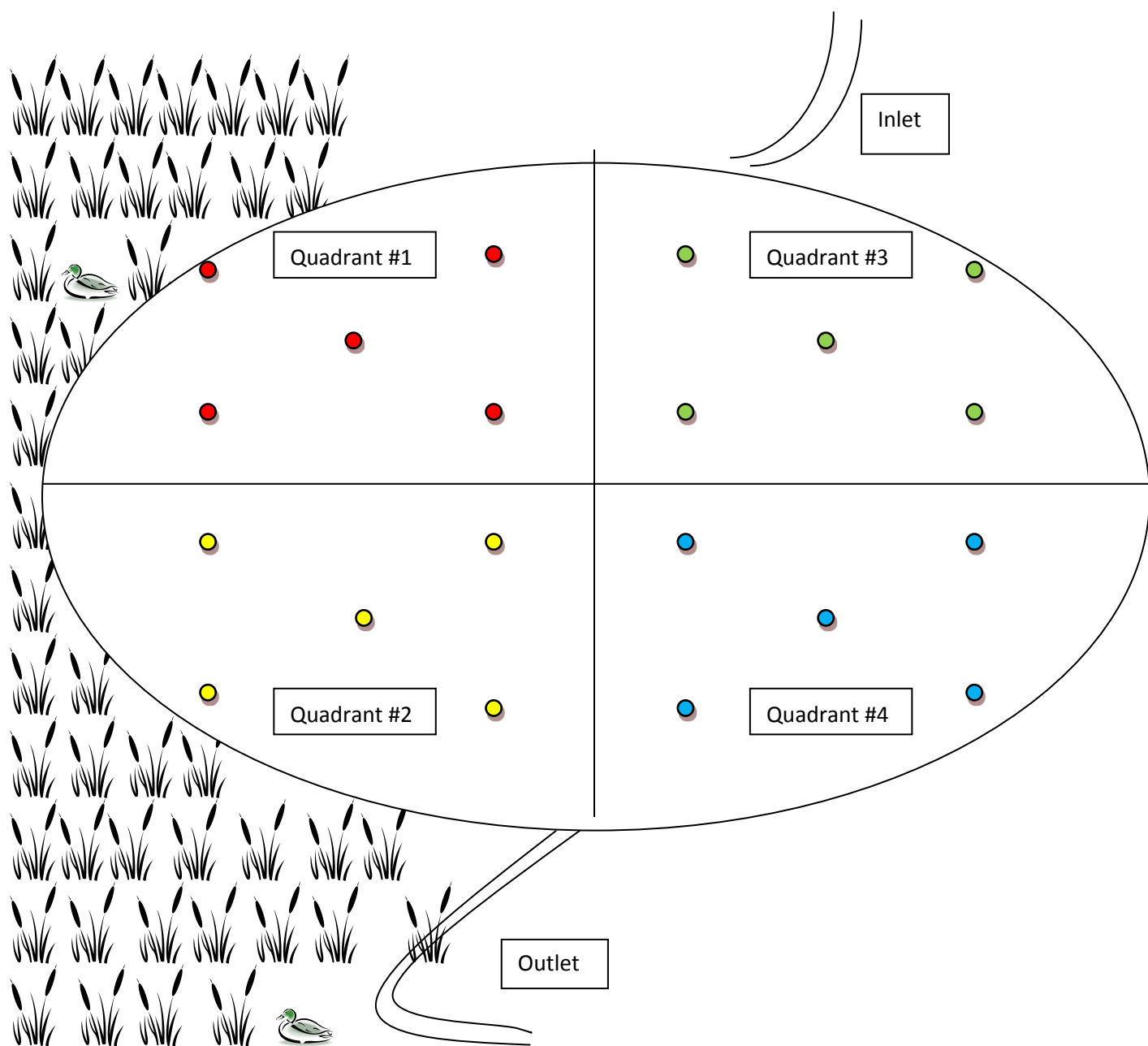


Figure A-1. Sediment sampling scheme for a stormwater pond greater than four acres in size.

Table A-1. List of PAHs to be analyzed in stormwater pond sediments

<i>Noncarcinogenic PAHs</i>
Acenaphthene
Acenaphthylene
Anthracene
Benzo[g,h,i]perylene
Fluoranthene
Fluorene
2-Methylnaphthalene
Naphthalene
Phenanthrene
Pyrene
<i>Carcinogenic PAHs</i>
Benzo[a]anthracene
Benzo[b]fluoranthene
Benzo[j]fluoranthene
Benzo[k]fluoranthene
Benzo[a]pyrene
Chrysene
Dibenz[a,h]acridine
Dibenz[a,h]anthracene
7H-Dibenzo[c,g]carbazole
Dibenzo[a,e]pyrene
Dibenzo[a,h]pyrene
Dibenzo[a,i]pyrene
Dibenzo[a,l]pyrene
7,12-Dimethylbenz[a]anthracene
Indeno[1,2,3-cd]pyrene
3-Methylcholanthrene
5-Methylchrysene

Note: A combination of benzo[b]fluoranthene, benzo[j]fluoranthene, and/or benzo[k]fluoranthene frequently coelute together when sediments are analyzed

Appendix B: Soil reference values and benzo[a]pyrene equivalents

Appendix B provides guidance for comparing contaminant concentrations from stormwater pond sediment to the MPCA's Remediation Division Soil Reference Values (SRVs) and instructions for calculating benzo[a]pyrene (B[a]P) equivalents for carcinogenic polycyclic aromatic hydrocarbons (cPAHs).

Comparing sediment contaminant concentrations to SRVs

Soil Reference Values (SRVs):

SRVs are risk-based values derived to assess potential human health exposures from soil at a Remediation cleanup site using a reasonable maximum exposure (RME) scenario. RME scenarios are intended to protect an entire population without being overly conservative by using reasonable upper bound estimates for the most sensitive exposure parameters and central tendency estimates for less sensitive exposure parameters.

They are intended to evaluate both potential non-cancer and cancer risks associated with a contaminant present in soil. Two separate SRVs are calculated for each contaminant, one for non-cancer risk and one for cancer risk. The final SRV reported as the Residential or Industrial SRV is the lower of the two. In other words, it is the smallest concentration of the contaminant that could potentially pose either a non-cancer or cancer risk. For example, for contaminant "X", if the non-cancer SRV is 10 mg/kg and the cancer SRV is 5 mg/kg, then the final SRV is reported as 5 mg/kg.

Since stormwater sediment removed from the stormwater pond is being evaluated for use on dry land as soil, SRVs are an appropriate conservative risk based values to evaluate potential human health risks.

"Summary of Stormwater Pond Sediment Testing Results" Spreadsheet:

MPCA's stormwater program "Summary of Stormwater Pond Sediment Testing Results" spreadsheet allows users to compare stormwater pond sediment data to SRVs. The spreadsheet is available on MPCA's website MS4 stormwater web page at: <http://www.pca.state.mn.us/sbiza7c>. Click on the "Permit" tab and scroll down to the bottom under the "Additional Items" heading.

The spreadsheet will open to the "BaP equiv. calculation" tab used to compare the data to the SRVs. There are three sections where data can be entered:

- Metals
- Noncarcinogenic PAHs
- Carcinogenic PAHs/ BaP Equivalents

Metals and noncarcinogenic PAHs

For metals and noncarcinogenic PAHs, follow the instructions listed below. For carcinogenic PAHs (cPAHs), follow the instructions listed under the "Calculating B[a]P Equivalents" section.

1. Enter the chemicals reporting limit into the "Reporting Limit", Column (B).
2. Enter the core location (sample) data (concentrations) under the "Sample Locations and Depths" columns under each "Core Location #" (E&F, G&H, I&J) for the site. Add additional core location columns if you have more than 3 core locations (samples).
3. Compare the chemical data (concentrations) under the "Sample Locations and Depths", "Core Location #" columns (E&F, G&H, I&J) to the "Residential SRV Values" and "Industrial SRV Values" columns (C, D).

Calculating B[a]P equivalents

Minnesota Department of Health Guidance

The Minnesota Department of Health (MDH) issued new guidance regarding the calculation of B[a]P equivalents (<http://www.health.state.mn.us/divs/eh/risk/guidance/pahguidance.pdf>). Several new cPAHs were added to the required list to be analyzed that currently do not have analytical methods for soil. At this time, it is not feasible to adopt MDH's guidance for use with the Remediation Division's soil reference values (SRVs). MPCA will continue to use the potency equivalency factor (PEF) method previously recommended by MDH to evaluate human health risks from cPAHs until new analytical methods for soil are developed for the new cPAHs on the revised list.

MDH's previous recommendation was based on evaluating the 25 cPAHs that the California Environmental Protection Agency (Cal EPA) identified as being probable or possible human carcinogens (Cal EPA 1993, 2009; MDH 2001). Since toxicity data does not exist for all individual cPAHs, they are evaluated according to how potent they are in relation to a reference contaminant, B[a]P. Assuming B[a]P has a toxicity of one, other cPAHs are assigned a PEF to indicate how toxic they are in comparison to B[a]P. Table B-1 lists B[a]P PEFs for 17 cPAHs to be measured in stormwater pond sediments. This section only pertains to cPAHs, which are evaluated by using B[a]P equivalents. Noncarcinogenic PAHs are evaluated individually and are not included in the total B[a]P equivalent concentration.

Table B-1. B[a]P Potency Equivalency Factors (PEFs)

cPAH	PEF	cPAH	PEF
Benz[a]anthracene*	0.1	Dibenzo[a,e]pyrene	1
Benzo[b]fluoranthene	0.1	Dibenzo[a,h]pyrene	10
Benzo[j]fluoranthene	0.1	Dibenzo[a,i]pyrene	10
Benzo[k]fluoranthene	0.1	Dibenzo[a,l]pyrene	10
Benzo[a]pyrene**	1.0	7,12-Dimethylbenzanthracene	34
Chrysene	0.01	Indeno[1,2,3-c,d]pyrene	0.1
Dibenz[a,h]acridine	0.1	3-Methylcholanthrene	3
Dibenz[a,h]anthracene	0.56	5-Methylchrysene	1
7H-Dibenzo[c,g]carbazole	1		

* A common synonym for this compound is Benzo[a]anthracene

** Benzo[a]pyrene is the reference contaminant

Site sediment concentrations of individual cPAHs are multiplied by the corresponding PEF value in Table B-1 to obtain an individual B[a]P equivalent concentration. These individual B[a]P equivalent concentrations are summed for all cPAHs to arrive at a total B[a]P equivalent concentration that is compared to the B[a]P SRV. For example, Table B-2 shows how the B[a]P equivalents were calculated for a hypothetical stormwater pond where all 17 cPAHs were detected in the sediment sample. The "Site Concentration" for each cPAH is entered into Column C. Each cPAH concentration is multiplied by the corresponding "Potency Equivalency Factor (PEF)" in Column B to arrive at the individual "BaP Equivalent" concentration in Column D. B[a]P equivalent concentrations are then summed to obtain the "Total BaP Equivalents" at the bottom of Column D.

Table B-2. Example – Calculating Total B[a]P Equivalents for Detected cPAH Data

A cPAH Contaminant	B Potency Equivalent Factor (PEF)	C Site Concentration mg/kg	D BaP Equivalent mg/kg
Benz[a]anthracene	0.1	2.190	0.219
Benzo[b]fluoranthene*	0.1	3.750	0.375
Benzo[j]fluoranthene*	0.1	0.000	0.000
Benzo[k]fluoranthene	0.1	1.320	0.132
Benzo[a]pyrene	1	2.270	2.270
Chrysene	0.01	2.790	0.028
Dibenz[a,h]acridine	0.1	0.219	0.022
Dibenz[a,h]anthracene	0.56	0.270	0.152
7H-Dibenzo[c,g]carbazole	1	0.160	0.160
Dibenzo[a,e]pyrene	1	0.828	0.828
Dibenzo[a,h]pyrene	10	0.419	4.190
Dibenzo[a,i]pyrene	10	0.391	3.910
Dibenzo[a,l]pyrene	10	0.150	1.500
7,12-Dimethylbenzanthracene	34	0.150	5.137
Indeno[1,2,3,-c,d]pyrene	0.1	1.350	0.135
3-Methylcholanthrene	3	0.170	0.512
5-Methylchrysene	1	0.160	0.160
Total BaP Equivalents =			19.730

* In this example benzo[b]fluoranthene and benzo[j]fluoranthene coeluted. In other words, the combined concentration of both cPAHs was reported by the laboratory as 3.75 mg/kg benzo[b and j]fluoranthene. Since both contaminants have the same PEF value, 3.75 was entered for the sediment concentration of benzo[b]fluoranthene while the concentration of benzo[j]fluoranthene was entered as zero.

Carcinogenic PAHs (cPAHs):

For cPAHs, follow the instructions below. Please refer to Figure B-1 for a flowchart depicting the following process.

Step 1

- **If all of the cPAHs have been detected, follow the instructions below in Step 1. If not, proceed to Step 2.** Use the “Summary of Stormwater Pond Sediment Testing Results” spreadsheet to calculate the B[a]P equivalent concentration for each of the cPAHs analyzed. The spreadsheet is available on MPCA’s website MS4 stormwater webpage at: <http://www.pca.state.mn.us/sbiza7c>. Click on the “Permit” tab and scroll down to the bottom under the “Additional Items” heading.
 1. The spreadsheet will open to the “BaP equiv. calculation” tab
 2. Under the “Carcinogenic PAHs/B[a]P Equivalents” section, enter the cPAHs reporting limit to the “Reporting Limit” Column (B).
 3. Enter the core location (sample) cPAH data (concentrations) under the “Sample Locations and Depths” column, “Core Location #”, “Site Conc.” columns (E, G, I). Add additional core location columns if you have more than three core locations (samples).
 4. The spreadsheet automatically calculates the B[a]P equivalent concentration in the “BaP Equiv.” columns (F, H, J).

5. Compare each samples “Total B[a]P equivalents” concentrations column (row 39, columns F, H, J) for each core location (sample) to the Residential and Industrial SRVs listed for B[a]P (columns C, D).

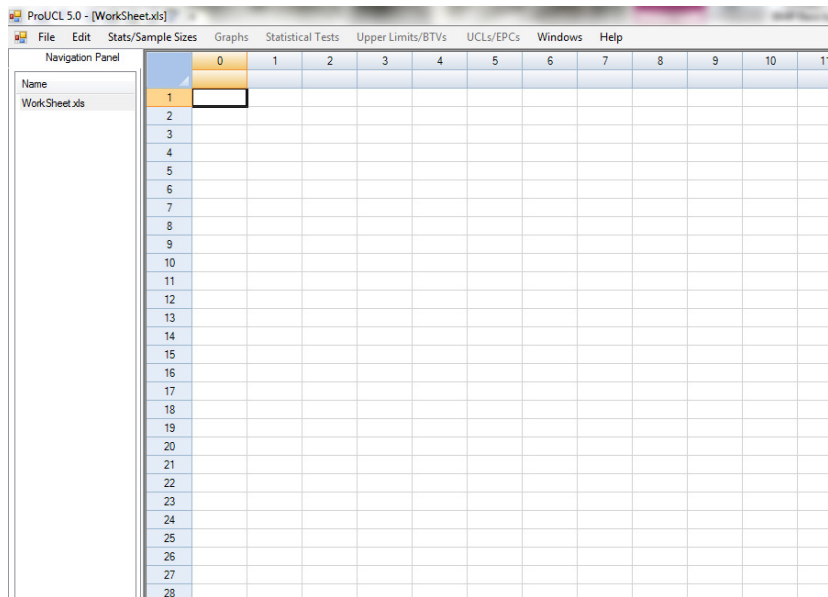
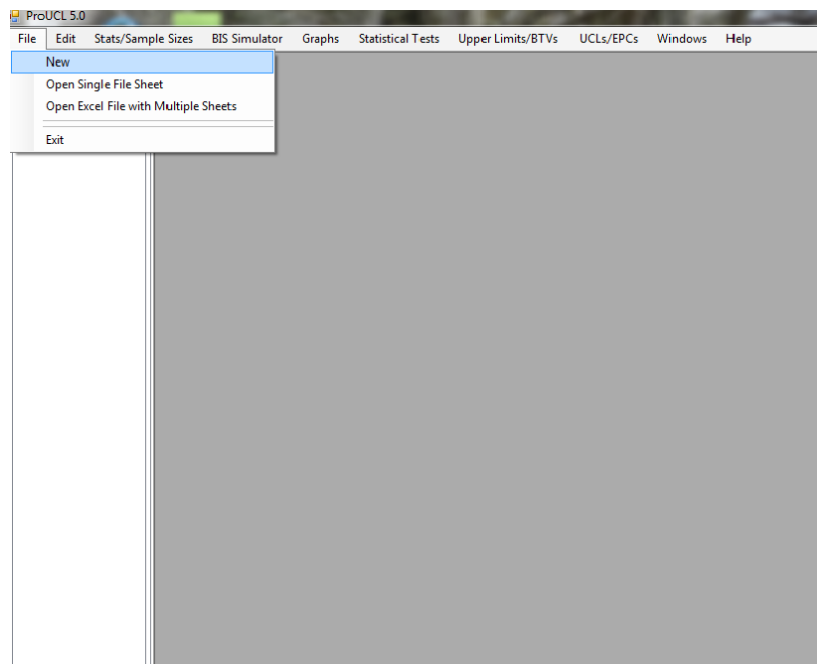
Step 2

- Determine the percentage of cPAH nondetects by dividing the number of nondetects in each sample by the total number of cPAHs sampled and then multiplying by 100. For example, if 17 cPAHs were analyzed and results indicated 10 nondetects, you would perform the following calculation to determine the percentage of nondetects: $10/17 \times 100 = 59\%$ nondetects.
 1. **If you have 80% or less nondetects, proceed to Step 3.**
 2. **If you have greater than 80% nondetects, proceed to Step 4.**

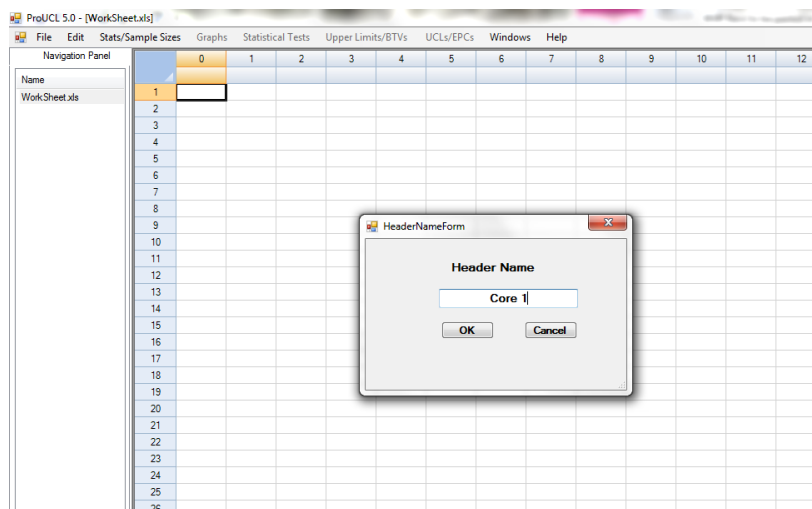
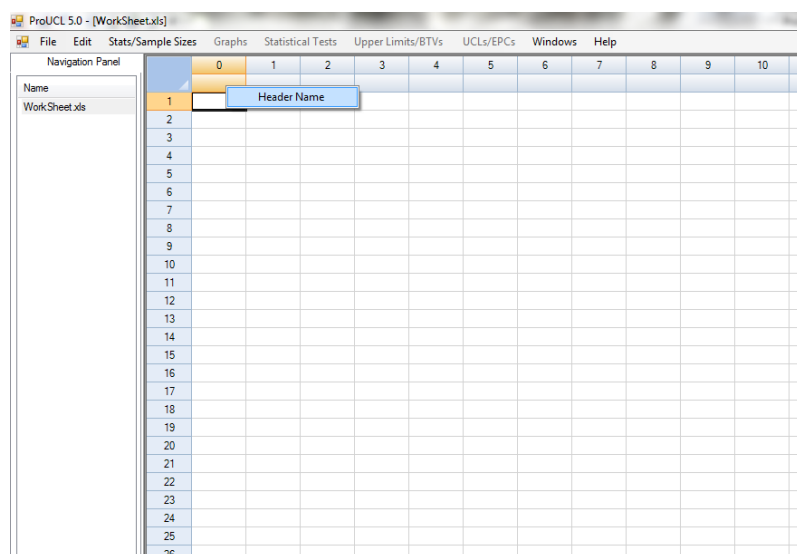
Step 3 - 80% or Less Nondetects

- Use the “Summary of Stormwater Pond Sediment Testing Results” spreadsheet to calculate the BaP equivalent concentration for each of the cPAHs analyzed. The spreadsheet is available on MPCA’s website MS4 stormwater web page at: <http://www.pca.state.mn.us/sbiza7c>. Click on the “Permit” tab and scroll down to the bottom under the “Additional Items” heading.
 1. The spreadsheet will open to the “BaP equiv. calculation” tab.
 2. Under the “Carcinogenic PAH/B[a]P Equivalents Section, enter the site data (concentration) for any detected cPAHs in the “Site Conc.” columns (E, G, I), for each core location (sample). If the data you received from the lab is under the laboratory reporting limit but greater than the method detection limit (J flagged or estimated values), enter the estimated value into the spreadsheet treating it like it is a detected concentration. Enter the reporting limit or the method detection limit for all nondetect cPAHs.

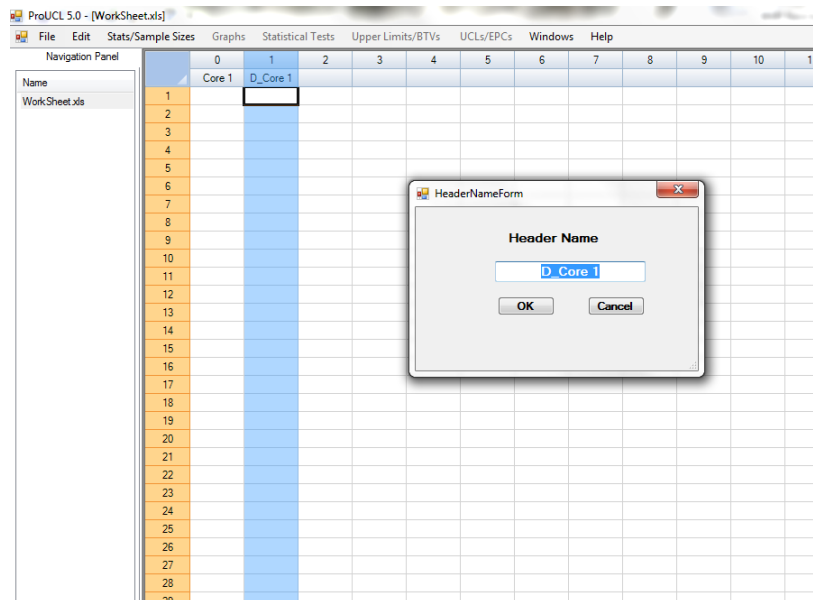
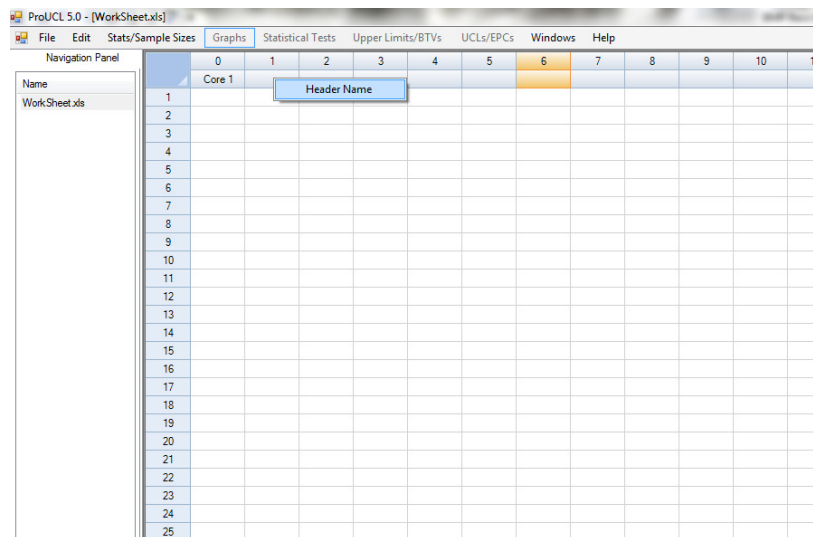
Note: The method detection limit (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and can provide an estimate of the detected concentration. It does not provide information about compounds reported as not detected. There is a possibility of false negatives for compounds that are not detected.
 3. B[a]P equivalent concentrations will automatically calculate and be displayed in the “BaP Equiv. Conc.” columns (F, H, J). The spreadsheet automatically multiplies the “Potency Equiv. Factor (PEF)” Column (C) by the “Site Conc.” (E, G, I).
 4. The “BaP Equiv. Conc.” values (F, H, J) are the values that need to be used to calculate the B[a]P equivalent concentration using Kaplan Meier statistics.
- Use EPA’s ProUCL software to calculate the Kaplan Meier mean (KM Mean in ProUCL) B[a]P equivalent concentration.
 1. EPA’s ProUCL software is available to download for free at: <https://www.epa.gov/land-research/proucl-software>.
 2. In ProUCL, open up a new worksheet by choosing “File”, then “New”.



3. Name the first column to identify your core location or sample (ex. "Core 1" or "Sample 1") by clicking on the header and choosing "Header Name". The "HeaderNameForm" window will open. Enter the title of that column and click "OK".



4. Name the second column with a "D_" in front of the name you gave your first column (ex. "D_Core 1" or "D_Sample 1") by clicking on the header and choosing "Header Name". The "HeaderNameForm" window will open. Enter the title of that column and click "OK".

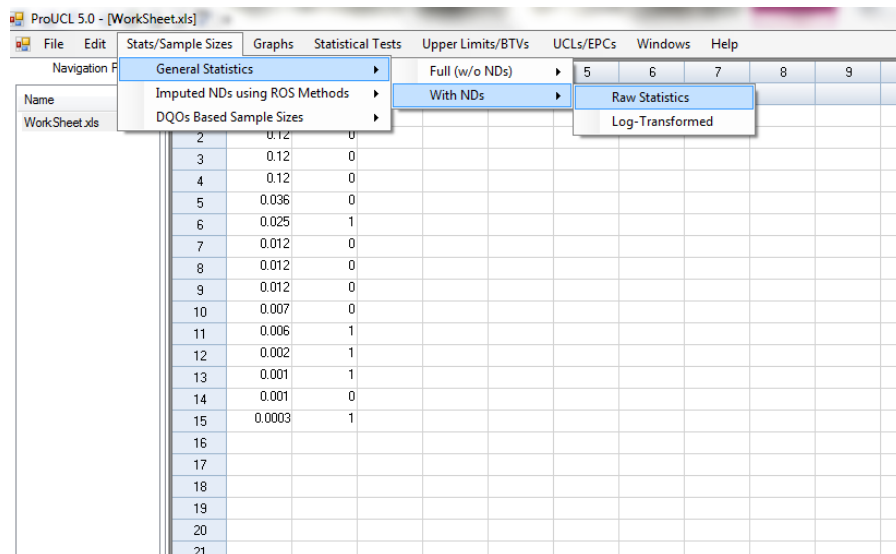


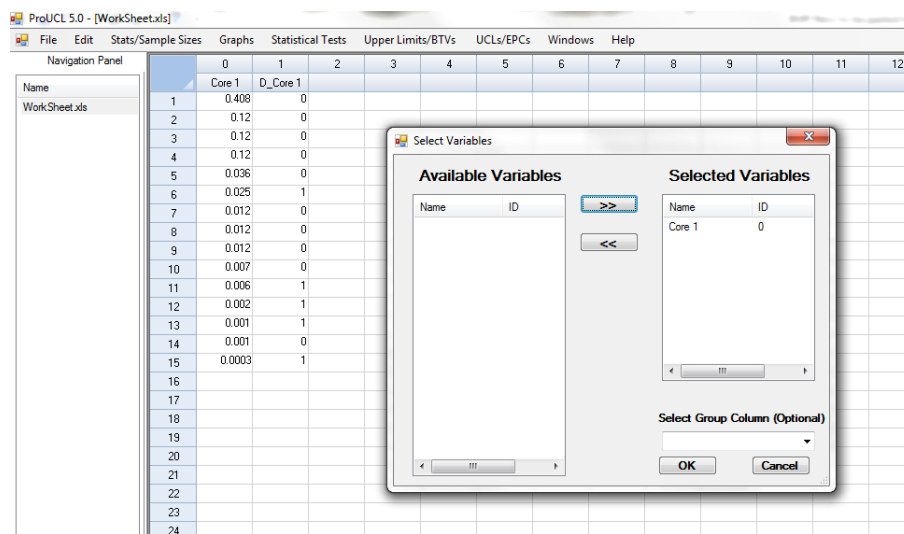
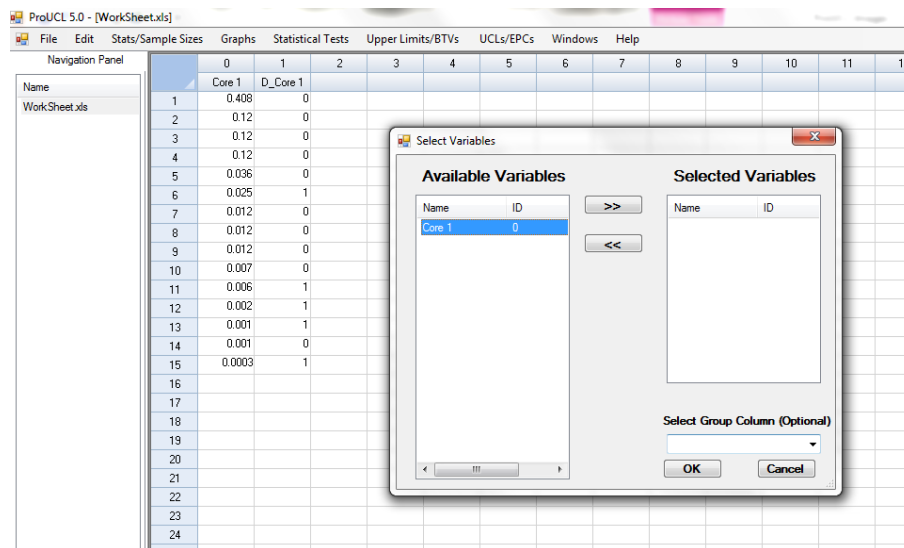
5. Enter the cPAH data from the “Summary of Stormwater Pond Sediment Testing Results” spreadsheet, “BaP Equiv. Conc.” Column for your specific core or sample (F, H, I) into the first column (ex. “Core 1” column). In the second column, enter a “0” if that sample (concentration) is a nondetect (based on a reporting limit or detection limit rather than an actual sample concentration) and a “1” if it is a detected concentration. There is no need to conduct any additional sorting of the data ProUCL automatically does this. It is also not necessary to correct for Effron’s bias since this is automatically accomplished by ProUCL.

ProUCL 5.0 - [Worksheet.xls]

	0	1	2	3	4	5	6
Name	Core 1	D_Core 1					
Worksheet.xls							
1	0.408	0					
2	0.12	0					
3	0.12	0					
4	0.12	0					
5	0.036	0					
6	0.025	1					
7	0.012	0					
8	0.012	0					
9	0.012	0					
10	0.007	0					
11	0.006	1					
12	0.002	1					
13	0.001	1					
14	0.001	0					
15	0.0003	1					
16							
17							
18							
19							
20							
21							

- Repeat this procedure for each additional core (sample) listed in the “Summary of Stormwater Pond Sediment Testing Results” spreadsheet using additional columns across the spreadsheet (ex. Core 2 or sample 2 would be entered into columns 2 and 3 in the ProUCL spreadsheet).
- Under “Stats/Sample Sizes”, chose “General Statistics”, “With NDs”, “Raw Statistics”. The “Select Variables” window will open. Click the “>>” button to choose the data you want to use to calculate the “General Statistics”. You can choose all of your cores (samples) at the same time. Click “OK” to run the calculation.





8. ProUCL will calculate “General Statistics” including the Kaplan Meier mean, which is the value you will use to compare to the SRVs (see “KM Mean” in the blue circle below).

ProUCL 5.0 - [WND_Raw_Stats.xls]

File Edit BIS Simulator Graphs Statistical Tests Upper Limits/BTVs UCLs/EPCs Windows Help

Navigation Panel

1 General Statistics on Uncensored Data

2 Date/Time of Computation 3/25/2016 1:00:40 PM

3 User Selected Options

4 From File Worksheet.xls

5 Full Precision OFF

6

7 From File: Worksheet.xls

8

9 General Statistics for Censored Datasets (with NDs) using Kaplan Meier Method

10

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Core 1	15	0	5	10	66.67%	0.001	0.408	0.00423	2.036E-5	0.00721	1.706

13

14 General Statistics for Raw Dataset using Detected Data Only

15

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Core 1	5	0	3.0000E-4	0.025	0.00686	0.002	1.0770E-4	0.0104	0.00252	2.002	1.513

18

19 Percentiles using all Detects (Ds) and Non-Detects (NDs)

20

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Core 1	15	0	0.001	0.0018	0.004	0.012	0.078	0.12	0.12	0.206	0.368

23

9. Multiply the “KM Mean” from ProUCL (value in blue circle above) by the number of cPAHs that were analyzed for and included in this calculation. Enter this value into the “Summary of Stormwater Pond Sediment Testing Results” spreadsheet, “Total B[a]P equivalent – Kaplan Meier” (row 40) under the appropriate core number (sample). For example: If 15 cPAHs were analyzed for, the calculation would be $15 * 0.00423 = 0.0635$ mg/kg.

10. Compare each samples “Total B[a]P equivalents – Kaplan Meier” concentration column (row 40) to the Residential and Industrial SRVs listed for B[a]P (columns C, D) for each core location (sample).

NOTE: If the laboratory reports the 3 fluoranthenes (benzo[b]fluoranthene, benzo[j]fluoranthene and benzo[k]fluoranthene) as total fluoranthenes count this as 1 cPAH. If the laboratory reports two of the fluoranthenes (benzo[b]fluoranthene and benzo[j]fluoranthene) as benzo[b,j]fluoranthene, count this as 1 cPAH.

Step 4 – Greater than 80% Nondetects

- When a dataset has greater than 80% nondetects, Kaplan Meier is no better than stating the B[a]P equivalent concentration is somewhere between the B[a]P equivalent concentration calculated when replacing the nondetects with the full reporting limit and when replacing the nondetects with zeros. Use the “Summary of Stormwater Pond Sediment Testing Results” spreadsheet to calculate the potency equivalent factor (PEF) for each of the cPAHs analyzed. The spreadsheet is available on MPCA’s website MS4 stormwater web page at: <http://www.pca.state.mn.us/sbiza7c>. Click on the “Permit” tab and scroll down to the bottom under the “Additional Items” heading.

- Determine if appropriate reporting limits have been used by comparing the reporting limits used for your samples (found in the laboratory report) to those listed in the Table B-3 below.
 - If the reporting limit used by the laboratory for a cPAH is equal to or less than the reporting limit in the table, appropriate reporting limits were used for that cPAH. All cPAHs need to be checked. If all cPAHs have been analyzed using appropriate reporting limits, skip to number 2 below to calculate total B[a]P equivalents.

- b. If any of the cPAHs did not use an appropriate reporting limit, you cannot calculate B[a]P equivalents using the instructions in number 2 below. In this case, you will need to either re-analyze your samples for the cPAHs that did not have appropriate reporting limits or obtain new samples. The laboratory will be able to help you decide which one makes sense in your case.
 - i. If the laboratory is able to re-run the sample and obtain a lower reporting limit, equal to or less than that in Table 1, it might be beneficial to run your sample again for that cPAH.
 - ii. If the laboratory had to dilute your sample resulting in an increase in the reporting limit for a cPAH, you will probably need to obtain new samples.
 2. To calculate B[a]P equivalents follow the steps below.
 - a. In the “Summary of Stormwater Pond Sediment Testing Results”, under the “Site Conc.” column, enter the site data (concentration) for any detected cPAHs in the “Site Conc.” columns (E, G, I), for each core location (sample). If the data you received from the lab is under the laboratory reporting limit but greater than the method detection limit (J flagged or estimated value), enter the estimated value into the spreadsheet treating it like it as a detected concentration. Enter ½ the reporting limit for all nondetect cPAHs.
 - b. The B[a]P equivalent concentration will automatically calculate in the “BaP Equiv. Conc.” column. The spreadsheet automatically multiplies the “Potency Equiv. Factor (PEF)” column (C) by the “Site Conc.” column (E, G, I) and enters it into the “BaP Equiv. Conc.” Column (F, H, J).
 - c. After all of the site concentrations (“Site Conc.”) have been entered, the total B[a]P equivalent concentration is displayed under the “Total BaP Equivalents”, row 39, under the “BaP Equiv. Conc.” columns (F, H, J) for each core location (sample). The spreadsheet automatically sums all of the individual cPAH “BaP Equiv. Conc.” values and enters it into the “Total BaP Equivalents” cell under each core location (sample).
 - d. Compare each samples “Total B[a]P equivalents” concentration column (row 39) to the Residential and Industrial SRVs listed for B[a]P (columns C, D) for each core location (sample).

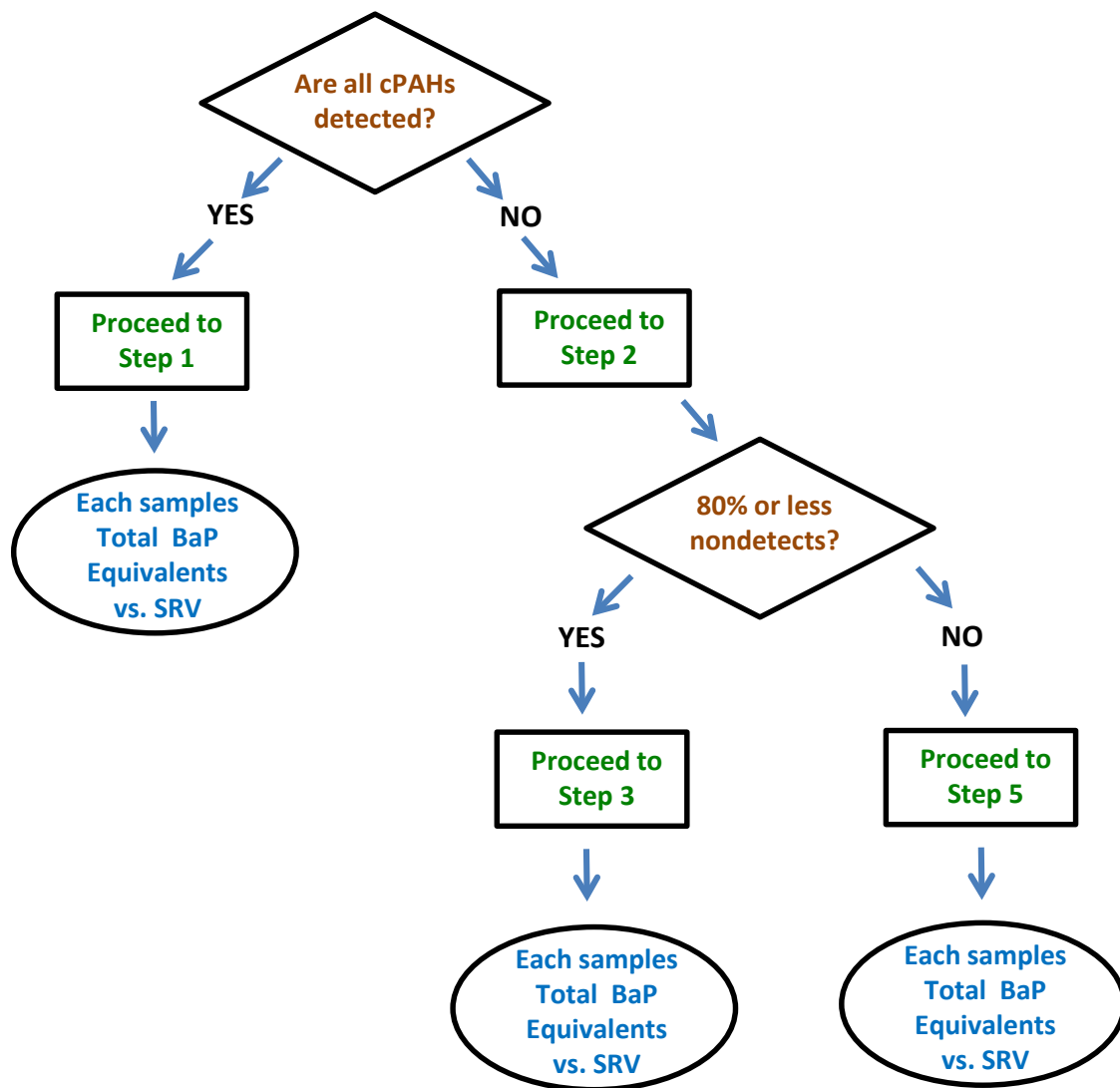


Figure B-1. Calculating B[a]P Equivalents Flowchart

Table B-3. cPAH**Reporting Limits**

Carcinogenic PAH (cPAH)	Potency Equivalent Factor (PEF)	Appropriate Maximum Reporting Limit * mg/kg
Benz[a]anthracene	0.1	0.01
Benzo[b]fluoranthene	0.1	0.03
Benzo[j]fluoranthene	0.1	0.03
Benzo[k]fluoranthene	0.1	0.03
Benzo[a]pyrene	1	0.01
Chrysene	0.01	0.01
Dibenz[a,h]acridine	0.1	0.01
Dibenz[a,h]anthracene	0.56	0.01
7H-Dibenzo[c,g]carbazole	1	0.01
Dibenzo[a,e]pyrene	1	0.01
Dibenzo[a,h]pyrene	10	0.01
Dibenzo[a,i]pyrene	10	0.01
Dibenzo[a,l]pyrene	10	0.01
7,12-Dimethylbenzanthracene	34	0.01
Indeno[1,2,3,-c,d]pyrene	0.1	0.01
3-Methylcholanthrene	3	0.01
5-Methylchrysene	1	0.01

* Laboratory reporting limits listed will need to be corrected for dry weight.

References

Cal/EPA (California Environmental Protection Agency). 1993. Benzo[a]pyrene as a toxic air contaminant. Part B. Health effects of benzo[a]pyrene. Air Toxicology and Epidemiology Section, Office of Environmental Health Hazard Assessment, Berkeley, CA.

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Enforcement Response Procedures



City of Richfield
1901 E 66th Street, Richfield,
MN 55423

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Appendix A – Non-Compliance Notice to Contractors

Appendix B – Stop Work Order

Appendix C – Notice of Illegal Discharge and Demand for Corrective Action Letter

ACRONYMS

BMP	Best Management Practice
CGP	Construction General Permit
ECC	Erosion Control Coordinator
ERP	Enforcement Response Plan
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
ROW	Right-of-Way
SWPPP	Stormwater Pollution Prevention Plan
USEPA	United States Environmental Protection Agency

ENFORCEMENT RESPONSE PROCEDURES

1 INTRODUCTION AND BACKGROUND

This Stormwater Enforcement Response Procedures (ERP) codifies enforcement procedures used by the City of Richfield (City) to enforce provisions of its National Pollutant Discharge Elimination System (NPDES) Statewide Stormwater Permit (hereafter referred to as the MS4 Permit). Under the MS4 permit, the City is to control the release of pollutants to and discharges from the municipal separate storm sewer system (MS4) owned or operated by the City.

- Control the contribution of pollutants to the MS4 by stormwater and non-stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity.
- Prohibit illicit discharges to the MS4.
- Control the discharge to the MS4 from spills, dumping, or disposal of materials other than stormwater.
- Require compliance with conditions in State statutes, rules, permits, contracts, and orders.
- Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and non-compliance with permit conditions including the prohibition on illicit discharges to the MS4.

The City's MS4 consists of a conveyance or system of conveyances owned by the City that is designed or used for collecting or conveying stormwater, which is not a combined sewer and which is not part of a publicly owned treatment works.

1.1 Purpose

This ERP describes the measures available to the City to exercise its authority. The ERP identifies enforcement procedures designed to encourage a timely response by the discharger. Implementation of the ERP will ensure a consistent response throughout the City and avoid confusion, delays, and disputes over enforcement for stormwater pollution prevention.

An effective enforcement program depends on detailed and comprehensive documentation of all contacts with the alleged violator and of all evidence establishing the violation. Investigations and enforcement actions must be handled quickly. The City is required by the MS4 Permit to investigate reports of illicit discharges and initiate enforcement action to eliminate the source(s) of the discharge.

1.2 Richfield's Permit History

The City's current MS4 permit was issued by the State of Minnesota's Pollution Control Agency (MPCA) and became effective on November 16, 2020. This permit replaces the previous National Pollutant Discharge Elimination System (NPDES) MS4 permit issued by the

ENFORCEMENT RESPONSE PROCEDURES

MPCA on August 1, 2013. The scope of the current permit includes all stormwater discharges associated with construction sites, industrial facilities, maintenance facilities, and other activities within the MS4's jurisdiction.

1.3 Types of Enforcement Actions

The City will use City Code, permits, and penalties to enforce illicit discharges to the City's MS4 system. The City anticipates three general types of stormwater violations: construction stormwater violations, , illicit discharges or connections to the City's MS4, and failure to maintain permanent stormwater infrastructure BMPs. Potential violators include construction contractors, businesses, industries, private citizens, and other governmental agencies which are detailed below.

1.3.1 Construction Sites

The City's construction contractors are required to obtain all required permits pertaining to land disturbance activities from various agencies. Permits could include watershed, DNR, City, and/or State permits.

the City has primary inspection and oversight responsibility within its jurisdiction, and must ensure that a trained employee regularly inspects construction sites until final stabilization is achieved. The MS4 permit requires the City to implement a system to monitor contracted construction activities and to enforce Permit provisions. The City is required to list and describe all violations and enforcement responses taken for construction activities in the Annual Report submitted to the MPCA.

The City's authority to take enforcement action at construction sites is derived from its City code and permit language.

1.3.2 Illicit Discharges and Connections

The MS4 Permit also requires Richfield to take measures to detect and eliminate illicit discharges and connections to the City's MS4. An illicit discharge is defined as any discharge to a MS4 that is not composed entirely of stormwater, except for allowable non-stormwater discharges and separately permitted discharges. Illicit connections are defined as any man-made conveyance that connects an illicit discharge directly to the MS4. The City is required to implement a program to minimize, detect, investigate, and eliminate illicit discharges and connections into the MS4 system.

ENFORCEMENT RESPONSE PROCEDURES

2 METHODS OF DISCOVERY OF NON-COMPLIANCE

Reports of a stormwater violation or non-compliance may come from one of several sources:

- Reports from City Staff – Illicit discharges and discharges of sediment or other pollutants from the construction sites, facilities, or other sources within the City's MS4 may be observed by City staff in the course of their regular job duties. . Such violations could include excessive erosion, sediment tracking onto local streets, concrete washout, and failed or ineffective best management practices (BMPs). All City field staff are trained in illicit discharge recognition and reporting annually.
- Permit Compliance Activities – Non-compliance may be discovered through Permit-required inspections or monitoring, including construction site inspections, outfall inspections, and stormwater sampling.
- Contractor Compliance Activities – A construction contractor's failure to comply with the State's Construction General Permit requirements such as conducting inspections and submitting reports, obtaining annual certifications, preparing and implementing Stormwater Pollution Prevention Plans (SWPPPs).
- Reports from the Public – Public complaints may come directly to City or through other local, state or federal government agencies.

ENFORCEMENT RESPONSE PROCEDURES

3 ILLICIT DISCHARGES AND CONNECTION ENFORCEMENT

The City is responsible for monitoring discharges to its MS4. The Permit requires the City to ensure that discharges from its MS4 do not cause or contribute to an exceedance of water quality standards. In addition, neighboring property owners are not allowed to occupy, use or interfere with public ROW without permission. Any discharge/connection without permission is an illegal encroachment on the City's MS4. A discharge/connection can be discovered in two ways, either through routine inspection or due to a complaint.

Similarly to the process in **Section 3.3**, notification of observed illicit connections or discharges will be carried forward to the alleged connector/discharger by the inspector or observer. The City will use the following progressive contract enforcement policy, escalating the response when a discharger fails to respond in a timely manner.

3.1 Verbal Warning

When a routine inspection of the drainage system identifies an illegal connection/discharge to the City's MS4 system, the inspector documents the discharge on a Dry Weather Field Screening Site Report, which will be provided to [the Utilities Superintendent] within 48 hours.

If the source of the connection is evident, the observer/inspector will contact the connector/discharger directly by phone or in person to discuss elimination. The communication will include requesting any permits or other authorizations and providing a follow up date (within 15 days). If the discharge is permitted or authorized (documentation is required), no further action is required; if the discharge is not authorized, it will need to be addressed or ceased within 15 days.

3.2 Notice of Violation

If after 15 days the illicit connection/discharge has not been corrected, the Utilities Superintendent or Water Resources Engineer will issue a "Notice of Illegal Discharge and Demand for Corrective Action" letter to the property owner (example letter in Appendix C). The letter will request that the connection/discharge be ceased or removed within 30 days. A follow up inspection will be performed by the Utilities Superintendent ensure compliance. If the connection/discharge has not been corrected, the incident will be referred internally to the City's environmental engineer for further review.

3.3 Removal of Connection/Discharge

The City may remove the illegal connection/discharge if it has not been corrected within the initial 60 days of observation timeframe. If the City removes the illegal connection/discharge, the responsible party is subject to civil action for damages.

ENFORCEMENT RESPONSE PROCEDURES

3.4 Civil Action

If the illegal connection/discharge is not corrected within 60 days of observation, the Utilities Superintendent may forward the matter to local enforcement authority. Additional measures will be escalated as needed to achieve compliance.

4 CONSTRUCTION CONTRACTOR ENFORCEMENT

This section imposes the obligation the Contractor to perform their duties in an honest, diligent, and cooperative manner.

The following sections describe the City's authority and the mechanisms for enforcing Permit provisions on construction sites within the boundaries of the City's MS4 jurisdiction.

4.1 Contractor Compliance Requirements

Compliance with stormwater permits and laws on construction projects within the City's MS4 must be enforced according to these Enforcement Response Procedures.

- Contractors are to comply with the State's NPDES CGP, City, and Watershed permits for regulated construction projects, including the contractor's obligation to file a NOI and obtain authorization under the State CGP for each construction project or site. The contractor shall also file a NOT for each construction project or site, either terminating their responsibility if final stabilization has been achieved, or transferring it to another contractor for completion.

4.2 Construction Contract Enforcement

When stormwater non-compliance is identified, enforcement actions will be taken promptly, no later than 15 days following identification of the non-compliance. The City will take appropriate actions based on the nature and severity of the situation. Non-compliances will be classified as minor or major violation. Major violations are generally those acts or omissions that lead to a discharge of pollutants to stormwater. Minor violations are generally instances of non-compliance that do not directly result in such a discharge. Serious discharges or an imminent threat of discharge on a project may require an immediate escalation to a higher level of enforcement. The level of enforcement response will depend upon several factors:

- Severity of the violation: the duration, quality, and quantity of pollutants, and effect on public safety and the environment
- The violator's knowledge (either negligent or intentional) of the regulations being violated.
- A history of violations and /or enforcement actions for the responsible individual or contractor

ENFORCEMENT RESPONSE PROCEDURES

- The potential deterrent value of the enforcement action

The City will use the following progressive enforcement policy, escalating the response when a contractor fails to respond in a timely manner. If the City identifies a deficiency in the implementation of the approved SWPPP or amendments and the deficiency is not corrected by the date requested by the City, then the project is in non-compliance. The recommended sequence of enforcement actions is detailed below.

4.2.1 Verbal Warning

This action is a verbal exchange between an inspector or the City Engineer and the alleged violator. The information exchanged will be documented by the inspector. Typically, no letter is written if the problem is corrected immediately, and the inspector or resident engineer observes the corrective action and deems it appropriate.

4.2.2 Notice of Violation

A written Notice of Violation may be issued if the non-compliance continues for 14 days after the verbal warning is issued, if the non-compliance cannot be corrected while the inspector or City Engineer is on site, or if the non-compliance is a significant violation. The Notice of Violation will document the violations and provide a deadline for compliance. Typically, compliance is required within 14 days to avoid additional enforcement actions. If the situation warrants, shorter or longer deadlines may be permissible. A sample Notice of Violation is provided in Appendix A.

4.2.3 Stop Work Order

If the verbal warning and Notice of Violation do not result in corrective action by the documented deadline, the City may stop work (full or partial shutdown) at the construction site. Upon successful corrective action in response to a stop work order, a resume work order may be issued. Example stop work orders are provided in Appendix B.

4.2.3.1 Temporary Suspension of Work

If immediate action is required due to an imminent threat of discharge or if the contractor does not respond to the warning letter within the required time frame, the City may temporarily suspend work on the project. Contractors expense to complete the work.

4.2.3.2 Require Corrective Action

The City may require the permit holder to undertake corrective or remedial action to address any release or threatened release or discharge of the hazardous substance, pollutant or contaminant, water, wastewater, or stormwater.

ENFORCEMENT RESPONSE PROCEDURES

5 PERMANENT STORMWATER MANAGEMENT

The MS4 Permit sets forth requirements for permanent stormwater management on sites adding at least one are of new or fully reconstructed impervious surface. The City is responsible for ensuring that stormwater management requirements are met in any proposed plan, ensuring that stormwater BMPs are properly installed, and for meeting commitments made in maintenance agreements with private BMP owners.

5.1 City Stormwater Requirements

The City maintains stormwater design standards to comply with the MS4 Permit and describe its own requirements for stormwater management. A variety of BMPs can be used to meet these requirements, such as infiltration basins, wet ponds, filters, and underground detention or treatment systems.

5.1.1 Watershed Districts

There are three watershed districts within the City of Richfield. They are: the Richfield Bloomington Watershed Management Organization (RBWMO), Minnehaha Creek Watershed District (MCWD), and Nine Mile Creek Watershed District (NMCWD). The City of Richfield is the permitting authority for areas within the RBWMO and MCWD. The NMCWD is the permitting authority for stormwater within its jurisdiction. Regulations for stormwater management vary slightly between watershed districts.

5.1.2 Infiltration Restrictions

Infiltration BMPs may be prohibited or restricted in certain areas. This includes: areas where industrial stormwater runoff is present, vehicle fueling and maintenance occurs, contaminant in soil or groundwater would be mobilized by infiltration, high vulnerability wellhead protection areas are present, soils are predominantly hydrologic soil group D (clay), or within 1000 ft upgradient or 100 ft downgradient of Karst features. The City Stormwater Design Standards provide detailed guidance on where infiltration practices can and cannot be used.

5.2 Maintenance Agreements

No private stormwater facilities may be approved unless a maintenance plan is provided that defines how access will be provided, who will conduct the maintenance, the type of maintenance and the maintenance intervals. At a minimum, all private stormwater facilities shall be inspected annually and maintained in proper condition consistent with the performance goals for which they were originally designed and as executed in the stormwater facilities maintenance agreement.

5.3 Inspection Procedures

5.3.1 Notification of Inspection

Prior to an inspection of a privately owned BMP, notice shall be provided to the owner stating the time and reason for the inspection.

5.3.2 Inspection

A BMP inspection will document the structural and operational integrity of the BMP, traces of illicit discharges, if present, and supporting information such as photographs.

5.3.3 Documentation and Follow-up

Inspections shall be documented in a form with all relevant information. Inspection reports are to be provided to the owner and kept on file at the City. If an inspection

ENFORCEMENT RESPONSE PROCEDURES

finds deficiencies in the structure or functionality of a BMP, the City will follow the procedures outlined below.

5.4 Maintenance Requirements and Enforcement

5.4.1 Notice of Maintenance Required

If the maintenance agreement holds the owner responsible for maintenance, the City has the right and responsibility to enforce the conditions of the agreement. The owner will be notified of the inspection findings and provided with a timeline for maintenance and repairs. The NOV provided in appendix A may, with some modification, be used for this.

5.4.2 Damage Leading to Illicit Discharge

A damaged BMP may discharge sediment, debris, or pollutants into the MS4. If this is found to be the case at an inspection, the City shall follow the enforcement procedures for illicit discharges outlined in section 3.

5.4.3 City Repairs

Many maintenance agreements provide the City with the right to carry out necessary maintenance on BMPs discharging to the MS4 and bill the owner for the cost of repairs. This process can be initiated at the discretion of the City Engineer or Utilities Superintendent if deficiencies have not been corrected within the timeframe required by the City, and the damage is determined to be severe or urgent. City staff may then complete the necessary repairs and bill the owner. Notice shall be provided to the owner prior to starting work.

6 EMERGENCY RESPONSE CONDITIONS

The City's MS4 Permit identifies "discharges from emergency situations where federal rules specify washing as the preferred method to assure public safety" as an authorized non-stormwater discharge. Such discharges will not be subject to enforcement action.

7 REPORTING REQUIREMENTS

The City shall provide a list and description of all violations and their resolutions, including any enforcement actions taken against contractors, corporations, or other entity in the Annual Report to MPCA. At a minimum, the inspector shall document the following:

- a. The name of the person or entity responsible for the violation
- b. The date and location of the alleged violation
- c. A description of the nature of the non-compliance
- d. Corrective actions and completion schedule issued
- e. Referrals to other organizations, if any
- f. Date violations resolved

APPENDIX A
Notice of Violation



CITY OF RICHFIELD NOTICE OF VIOLATION

FROM:

City of Richfield Public Works
1901 E 66th St
Richfield, MN 55423

TO:

You are hereby notified that inspection on <insert date> indicates that the site at <insert address> does not conform to permit/city code requirements for erosion and sedimentation control. Violations noted at the inspection include:

1. <List violations here>
- 2.
- 3.

These violations must be corrected within 15 days. A follow-up investigation will be conducted after that time to ensure compliance.

If the violation is not corrected, the City will take enforcement measures pursuant to City Code, Section 428. Enforcement action includes but is not limited to: issuance of a stop work order, suspension or revocation of permit, and referral to the Minnesota Pollution Control Agency.

If the violation cannot be corrected within 15 days, you do not understand this notice, or you disagree that a violation exists at your property, please contact me with further details or explanation by calling 612-861-9797 or by email at moddsson@richfieldmn.gov.

Sincerely,

Mattias Oddsson
Water Resources Engineer
City of Richfield
1901 E. 66th Street Richfield, MN
55423

APPENDIX B

Stop Work

**CITY OF RICHFIELD
PUBLIC WORKS OFFICE
1901 E. 66th Street
RICHFIELD, MN 55423
612-861-9170**

STOP WORK ORDER

PENALTY FOR REMOVAL OF THIS TAG

REMARKS:

Work has been stopped until the following violations of City erosion and sediment control regulations are corrected:

ADDRESS: _____

INSPECTOR: _____

APPENDIX C

Notice of Illegal Discharge and Demand for Corrective Action

NOTICE OF ILLEGAL DISCHARGE OR CONNECTION

Person or Business Name Address
Richfield, MN

Dear Property Owner:

The City of Richfield is responsible for maintaining the storm sewer system. The Minnesota Pollution Control Agency (MPCA) Municipal Separate Storm Sewer System General Permit requires the City to control the amount of pollutants entering the drainage system. Part of this charge is the detection and elimination of illegal discharges or connections to the system that may contain pollutants or are otherwise not allowed. Left uncorrected, any pollutants entering the system will ultimately impact nearby streams, as storm drainage is not treated at any sort of treatment facility. Any discharge/connection without permission is illegal and requires immediate termination of the discharge.

An inspection of the drainage system has occurred in the vicinity of your property and an illegal connection/discharge was discovered entering into the City system. The discharge/connection was discovered on _____ at _____.

Indicators or Source include _____.

Photographs of this discharge/connection are enclosed with this letter. In addition, I have enclosed an aerial photograph showing the location of this discharge/connection.

This discharge or connection must be ceased or removed within 30 days. A follow-up investigation will be conducted after that time to ensure compliance. If the situation is not corrected, the City will take corrective measures, including but not limited to referring this matter to the MPCA so that enforcement action can be taken, which may include the issuance of a fine. In the alternative, the City may remove the discharge/connection and bill you directly pursuant City Code, Section 721. If the illegal discharge/connection cannot be removed within 30 days, you do not understand this notice, or you disagree that an illegal discharge/connection exists at your property, please contact me with further details or explanation by calling 612-861-9797 or by email at moddsson@richfieldmn.gov.

Sincerely,

Mattias Oddsson
Water Resources Engineer
City of Richfield 1901
E. 66th Street Richfield,
MN 55423
Enclosure (photographs)

Cc:

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1.1	Eligibility. [Minn. R. 7090]
1.2	To be eligible for authorization to discharge stormwater under the Small Municipal Separate Storm Sewer Systems General Permit (General Permit), the applicant must be an owner and/or operator (owner/operator) of a small Municipal Separate Storm Sewer System (MS4) and meet one or more of the criteria requiring permit issuance as specified in Minn. R. 7090.1010. [Minn. R. 7090.1010]
2.1	Authorized Stormwater Discharges. [Minn. R. 7090]
2.2	The General Permit authorizes stormwater discharges from small MS4s as defined in 40 CFR 122.26(b)(16). [Minn. R. 7090]
3.1	Authorized Non-Stormwater Discharges. [Minn. R. 7090]
3.2	The following categories of non-stormwater discharges or flows are authorized under the General Permit to enter the permittee's small MS4 only if the permittee does not identify them as significant contributors of pollutants (i.e., illicit discharges), in which case the discharges or flows must be addressed in the permittee's Stormwater Pollution Prevention Program (SWPPP): water line flushing, landscape irrigation, diverted stream flows, rising groundwaters, uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(b)(20)), uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash water, and discharges or flows from firefighting activities. [Minn. R. 7090]
4.1	Limitations on Authorization. [Minn. R. 7090]
4.2	The following discharges or activities are not authorized by the General Permit: a. non-stormwater discharges, except those authorized by the permittee in item 3.2; b. discharges of stormwater to the small MS4 from activities requiring a separate NPDES/SDS permit. The General Permit does not replace or satisfy any other permitting requirements; c. the General Permit does not replace or satisfy any environmental review requirements, including those under the Minnesota Environmental Policy Act (Minn. Stat. 116D), or the National Environmental Policy Act (42 U.S.C. 4321 et seq.); d. the General Permit does not replace or satisfy any review requirements for endangered or threatened species, from new or expanded discharges that adversely impact or contribute to adverse impacts on a listed endangered or threatened species, or adversely modify a designated critical habitat; e. the General Permit does not replace or satisfy any review requirements for historic places or archeological sites, from new or expanded discharges which adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites; and f. discharges to prohibited outstanding resource value waters pursuant to Minn. R. 7050.0335, subp. 3. Only the permittee's small MS4 and the portions of the storm sewer system that are under the permittee's operational control are authorized by the General Permit. [Minn. R. 7090]
5.1	Permit Authorization. [Minn. R. 7001]
5.2	The applicant must submit a complete application in accordance with Sections 9 through 12 in order to obtain authorization to discharge stormwater from a small MS4 under the General Permit. [Minn. R. 7001]
5.3	The Commissioner reviews the General Permit application for completeness. After review, the Commissioner will do one of the following: a. if an application is determined to be incomplete, the Commissioner will notify the applicant in writing, indicate why the application is incomplete, and request that the applicant resubmit the application; or b. if an application is determined to be complete, the Commissioner will make a preliminary determination as to whether coverage under the General Permit should be issued or denied in accordance with Minn. R. 7001. [Minn. R. 7001]
5.4	The Commissioner provides a public notice with the opportunity for a hearing on the preliminary determination to issue coverage under the General Permit. [Minn. R. 7001]
5.5	Upon receipt of written notification of final approval of the application from the Commissioner, the applicant is authorized to discharge stormwater from the small MS4 under the terms and conditions of the General Permit. [Minn. R. 7001]

6.1	Transfer of Ownership or Control. [Minn. R. 7001, Minn. R. 7090.0080]
6.2	Where the ownership or significant operational control of the small MS4 changes after the submittal of an application in accordance with Sections 9 through 12, the new owner/operator must submit a new application in accordance with Sections 9 through 12. [Minn. R. 7090]
7.1	Issuance of Individual Permits. [Minn. R. 7001]
7.2	The permit applicant may request an individual permit in accordance with Minn. R. 7001.0210, subp. 6, for authorization to discharge stormwater associated with a small MS4. [Minn. R. 7001.0210, subp. 6]
7.3	The Commissioner may require an individual permit for the permit applicant or permittee covered by a general permit, in accordance with Minn. R. 7001.0210, subp. 6. [Minn. R. 7001.0210, subp. 6]
8.1	Rights and Responsibilities. [Minn. R. 7001, Minn. R. 7090]
8.2	The Commissioner may modify the General Permit or issue other permits, in accordance with Minn. R. 7001, to include more stringent effluent limitations or permit requirements that modify or are in addition to the Minimum Control Measures of the General Permit, or both. These modifications may be based on the Commissioner's determination that such modifications are needed to protect water quality. [Minn. R. 7001]
8.3	The Commissioner may designate additional small MS4s for coverage under the General Permit in accordance with Minn. R. 7090. The owner/operator of a small MS4 that is designated for coverage must comply with the permit requirements by the dates specified in the Commissioner's determination. [Minn. R. 7090]
9.1	Application for Reissuance. [Minn. R. 7001]
9.2	If an existing permittee desires to continue permit coverage beyond the expiration date, the permittee must submit an application for permit reissuance: Due by 180 days prior to permit expiration. [Minn. R. 7001.0040, subp. 3]
10.1	New Permittee Applicants. [Minn. R. 7090]
10.2	To become a new permittee authorized to discharge stormwater under the General Permit, the owner/operator of a small MS4 must submit an application, on a form provided by the Agency, in accordance with the schedule in Appendix B, Table 3, and the following requirements: a. submit Part 1 of the permit application (includes the permit application fee); and b. submit Part 2 of the permit application, also known as the Stormwater Pollution Prevention Program (SWPPP) document, in accordance with Section 12. [Minn. R. 7090]
11.1	Existing Permittee Applicants. [Minn. R. 7090]
11.2	All existing permittees seeking to continue discharging stormwater associated with a small MS4 after the issuance date of the General Permit must submit Part 2 of the permit application: Due by 150 days after permit issuance. Existing permittees were required to submit Part 1 of the permit application prior to the expiration date (July 31, 2018) of the Agency's small MS4 general permit No.MNR040000, effective August 1, 2013. [Minn. R. 7090]
12.1	Stormwater Pollution Prevention Program (SWPPP) Document. [Minn. R. 7090]
12.2	All applicants must submit a SWPPP Document (i.e., Part 2 of the permit application) when seeking coverage under the General Permit. The SWPPP Document will become an enforceable part of the General Permit upon approval by the Agency. Modifications to the SWPPP Document that are required or allowed by the General Permit (see Section 24) will also become enforceable provisions. The applicant must submit the SWPPP Document on a form provided by the Agency. The applicant's SWPPP Document must include items 12.3 through 12.11, as applicable. [Minn. R. 7090]
12.3	The applicant must provide a description of partnerships with another regulated small MS4(s), into which the applicant has entered in order to satisfy one or more requirements of the General Permit. [Minn. R. 7090]
12.4	The applicant must provide a description of each program the applicant has developed and implemented to satisfy the Minimum Control Measure (MCM) requirements, including: a. the Best Management Practices (BMPs) the applicant has implemented for each MCM at the time of application; b. the status of each required component of the program; and c. name(s) of individual(s) or position titles responsible for implementing and/or coordinating each component of the program.

	If the program has not been developed at the time of application (e.g., new permittee applicants), or revised to meet new requirements of the General Permit (e.g., existing permittee applicants); the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]
12.5	The applicant must indicate whether each storm sewer system map requirement of Section 14 is satisfied at the time of application. For each requirement of Section 14 that is not satisfied at the time of application, the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]
12.6	The applicant must provide a description of existing regulatory mechanism(s) the applicant has developed, implemented, and enforced to satisfy the requirements of Sections 18, 19, and 20. At a minimum, the applicant must provide the following information: a. the type(s) of regulatory mechanism(s) the applicant has in place at the time of application that will be used to satisfy the requirements; b. the status of each required component of the regulatory mechanism(s); and c. if available, a website address to the regulatory mechanism(s). If the regulatory mechanism(s) have not been developed at the time of application (e.g., new permittee applicants), or revised to meet new requirements of the General Permit (e.g., existing permittee applicants); the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]
12.7	The applicant must provide a description of existing enforcement response procedures (ERPs) the applicant has developed and implemented that satisfy the ERP requirements of items 18.14, 19.12, and 20.19. If the applicant has not yet developed ERPs (e.g., new permittee applicants), or existing ERPs must be updated to satisfy new requirements, the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]
12.8	The applicant must submit a compliance schedule for each applicable Waste Load Allocation (WLA) not being met for oxygen demand, nitrate, total suspended solids (TSS), and total phosphorus (TP). The applicant may develop a compliance schedule to include multiple WLAs. The applicant's compliance schedule must include the following information: a. proposed BMPs or progress toward implementation of BMPs to be achieved during the permit term; b. the year each BMP is expected to be implemented; c. a target year the applicable WLA(s) will be achieved; and d. if the applicant has an applicable WLA for TSS or TP, a cumulative estimate of TSS and TP load reductions (in pounds) to be achieved during the permit term and the Agency-approved method used to determine the estimate. Agency-approved methods include "Program for Predicting Polluting Particle Passage thru Pits, Puddles, and Ponds (P8) Urban Catchment Model", "Source Loading and Management Model for Windows (WinSLAMM)", "Minimal Impact Design Standards (MIDS) calculator", "Minnesota Pollution Control Agency (MPCA) simple estimator tool", or any other method that receives Agency-approval. [Minn. R. 7090]
12.9	For each applicable WLA where a reduction in pollutant loading is required for bacteria, chloride, and temperature, the applicant must provide a description of any existing BMPs the applicant has developed and implemented to satisfy the requirements of items 22.3 through 22.7, including: a. the BMPs the applicant has implemented for each required component at the time of application; b. the status of each required component; and c. name(s) of individual(s) or position titles responsible for implementing and/or coordinating each required component. If the required components have not been developed at the time of application (e.g., new permittee applicants), or revised to meet new requirements of the General Permit (e.g., existing permittee applicants); the applicant must satisfy the permit requirements in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]

12.10	If the applicant is claiming to meet an applicable WLA where a reduction in pollutant loading is required for oxygen demand, nitrate, TSS, or TP, the applicant must provide documentation to demonstrate the applicable WLA is being met. At a minimum, the applicant must provide the following information: a. a list of all structural stormwater BMPs implemented to achieve the applicable WLA, including the BMP type (e.g., constructed basin, infiltrator, filter, swale or strip, etc.), location in geographic coordinates, owner, and year implemented; and b. documentation using an Agency-approved method, which demonstrates the estimated reductions of oxygen demand (or its surrogate pollutants), nitrate, TSS, or TP from BMPs meet the MS4 WLA reductions included in the TMDL report, if that information is available (e.g., percent reduction or pounds reduced); or c. documentation using an Agency-approved method, which demonstrates the applicant's existing load meets the WLA. [Minn. R. 7090]
12.11	For the requirements of Section 23, alum or ferric chloride phosphorus treatment systems, if applicable, the applicant must submit the following information: a. location of the system in geographic coordinates; b. name(s) of the individual(s) or position titles responsible for the operation of the system; c. information described in item 23.11, if the system is constructed at the time the applicant submits the application to the Agency; d. indicate if the system complies with the requirements in Section 23; and e. if applicable, for each requirement in Section 23 that the applicant's system does not comply with at the time of application, the applicant must bring the system into compliance in accordance with the schedule in Appendix B, Table 2 (existing permittee applicants), or Table 3 (new permittee applicants). [Minn. R. 7090]
13.1	Stormwater Pollution Prevention Program (SWPPP). [Minn. R. 7090]
13.2	The permittee must develop, implement, and enforce a SWPPP designed to reduce the discharge of pollutants from the small MS4 to the Maximum Extent Practicable (MEP) and to protect water quality. Existing permittees regulated within the urbanized area as defined by the United States Census Bureau, the applicable urbanized area for which the permittee must develop, implement, and enforce a SWPPP can be based on the most recent decennial census of 2010 for the duration of the General Permit. [Minn. R. 7090]
13.3	If the permittee enters into a partnership for purposes of meeting SWPPP requirements, the permittee maintains legal responsibility for compliance with the General Permit. [Minn. R. 7090]
13.4	Existing permittees must revise their SWPPP developed under the Agency's small MS4 general permit No.MNR040000 that was effective August 1, 2013, to meet the requirements of the General Permit in accordance with the schedule in Appendix B, Table 2. New permittees must develop, implement, and enforce their SWPPP in accordance with the schedule in Appendix B, Table 3. The permittee's SWPPP must consist of Sections 14 through 23, as applicable. [Minn. R. 7090]
14.1	Mapping. [Minn. R. 7090]
14.2	New permittees must develop, and existing permittees must update, as necessary, a storm sewer system map that depicts the following: a. the permittee's entire MS4 as a goal, but at a minimum, all pipes 12 inches or greater in diameter, including stormwater flow direction in those pipes; b. outfalls, including a unique identification (ID) number assigned by the permittee, and an associated geographic coordinates; c. structural stormwater BMPs that are part of the permittee's MS4; and d. all receiving waters. [Minn. R. 7090]
15.1	Minimum Control Measures (MCMs). [Minn. R. 7090.1040]
15.2	The permittee must incorporate the following six MCMs into the SWPPP. [Minn. R. 7090.1040]
16.1	MCM 1: Public Education and Outreach. [Minn. R. 7090]
16.2	New permittees must develop and implement, and existing permittees must revise their current program, as necessary, and continue to implement, a public education program to distribute educational materials or equivalent outreach that informs the public of the impact stormwater discharges have on waterbodies and that includes actions citizens, businesses, and

	other local organizations can take to reduce the discharge of pollutants to stormwater. The permittee may use existing materials if they are appropriate for the message the permittee chooses to deliver, or the permittee may develop its own educational materials. The permittee may partner with other MS4 permittees, community groups, watershed management organizations, or other groups to implement its education and outreach program. The permittee must incorporate Section 16 requirements into their program. [Minn. R. 7090]
16.3	During the permit term, the permittee must distribute educational materials or equivalent outreach focused on at least two (2) specifically selected stormwater-related issues of high priority to the permittee (e.g., specific TMDL reduction targets, changing local business practices, promoting adoption of residential BMPs, lake improvements through lake associations, household chemicals, yard waste, etc.). The topics must be different from those described in items 16.4 through 16.6. [Minn. R. 7090]
16.4	At least once each calendar year, the permittee must distribute educational materials or equivalent outreach focused on illicit discharge recognition and reporting illicit discharges to the permittee. [Minn. R. 7090]
16.5	For cities and townships, at least once each calendar year, the permittee must distribute educational materials or equivalent outreach to residents, businesses, commercial facilities, and institutions, focused on the following: a. impacts of deicing salt use on receiving waters; b. methods to reduce deicing salt use; and c. proper storage of salt or other deicing materials. [Minn. R. 7090]
16.6	For cities and townships, at least once each calendar year, the permittee must distribute educational materials or equivalent outreach focused on pet waste. The educational materials or equivalent outreach must include information on the following: a. impacts of pet waste on receiving waters; b. proper management of pet waste; and c. any existing permittee regulatory mechanism(s) for pet waste. [Minn. R. 7090]
16.7	The permittee must develop and implement an education and outreach plan that consists of the following: a. target audience(s) (e.g., residents, businesses, commercial facilities, institutions, and local organizations; consideration should be given to low-income residents, people of color, and non-native English speaking residents. A resource to help identify these areas is available on the Agency's environmental justice website); b. name or position title of responsible person(s) for overall plan implementation; c. specific activities and schedules to reach each target audience; and d. a description of any coordination with and/or use of stormwater education and outreach programs implemented by other entities, if applicable. [Minn. R. 7090]
16.8	The permittee must document the following information: a. a description of all specific stormwater-related issues identified by the permittee in item 16.3; b. all information required under the permittee's education and outreach plan in item 16.7; c. activities held, including dates, to reach each target audience; d. quantities and descriptions of educational materials distributed, including dates distributed; and e. estimated audience (e.g., number of participants, viewers, readers, listeners, etc.) for each completed education and outreach activity. [Minn. R. 7090]
16.9	The permittee must conduct an annual assessment of the public education program to evaluate program compliance, the status of achieving the measurable requirements in Section 16, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., education and outreach efforts, implementation of written plans, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
17.1	MCM 2: Public Participation/Involvement. [Minn. R. 7090]
17.2	New permittees must develop and implement, and existing permittees must revise their current program, as necessary, and continue to implement, a Public Participation/Involvement program to solicit public input on the SWPPP and involve the public in activities that improve or protect water quality. The permittee must incorporate Section 17 requirements into

	their program. [Minn. R. 7090]
17.3	Each calendar year, the permittee must provide a minimum of one (1) opportunity for the public to provide input on the adequacy of the SWPPP. The permittee may conduct a public meeting(s) to satisfy this requirement, provided appropriate local public notice requirements are followed and the public is given the opportunity to review and comment on the SWPPP. [Minn. R. 7090]
17.4	The permittee must provide access to the SWPPP Document, annual reports, and other documentation that supports or describes the SWPPP (e.g., regulatory mechanism(s), etc.) for public review, upon request. All public data requests are subject to the Minnesota Government Data Practices Act, Minn. Stat. 13. [Minn. Stat. 13]
17.5	The permittee must consider oral and written input regarding the SWPPP submitted by the public to the permittee. [Minn. R. 7090]
17.6	Each calendar year, the permittee must provide a minimum of one (1) public involvement activity that includes a pollution prevention or water quality theme (e.g., rain barrel distribution event, rain garden workshop, cleanup event, storm drain stenciling, volunteer water quality monitoring, adopt a storm drain program, household hazardous waste collection day, etc.). [Minn. R. 7090]
17.7	The permittee must document the following information: a. all relevant written input submitted by persons regarding the SWPPP; b. all responses from the permittee to written input received regarding the SWPPP, including any modifications made to the SWPPP as a result of the written input received; c. date(s), location(s), and estimated number of participants at events held for purposes of compliance with item 17.3; d. notices provided to the public of any events scheduled to meet item 17.3, including any electronic correspondence (e.g., website, e-mail distribution lists, notices, etc.); and e. date(s), location(s), description of activities, and estimated number of participants at events held for the purpose of compliance with item 17.6. [Minn. R. 7090]
17.8	The permittee must conduct an annual assessment of the Public Participation/Involvement program to evaluate program compliance, the status of achieving the measurable requirements in Section 17, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., public input and involvement opportunities, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
18.1	MCM 3: Illicit Discharge Detection and Elimination (IDDE). [Minn. R. 7090]
18.2	New permittees must develop, implement, and enforce, and existing permittees must revise their current program as necessary, and continue to implement and enforce, a program to detect and eliminate illicit discharges into the MS4. The permittee must incorporate Section 18 requirements into their program. [Minn. R. 7090]
18.3	The permittee must maintain a map of the permittee's MS4, as required in Section 14. [Minn. R. 7090]
18.4	To the extent allowable under state or local law, the permittee must develop, implement, and enforce a regulatory mechanism(s) that prohibits non-stormwater discharges into the permittee's MS4, except those non-stormwater discharges authorized in item 3.2. A regulatory mechanism(s) for the purposes of the General Permit may consist of contract language, an ordinance, permits, standards, written policies, operational plans, legal agreements, or any other mechanism, that will be enforced by the permittee. The regulatory mechanism(s) must also include items 18.5 and 18.6, as applicable. [Minn. R. 7090]
18.5	For cities, townships, and counties, the permittee's regulatory mechanism(s) must require owners or custodians of pets to remove and properly dispose of feces on permittee owned land areas. [Minn. R. 7090]
18.6	For cities and townships, the permittee's regulatory mechanism(s) must require proper salt storage at commercial, institutional, and non-NPDES permitted industrial facilities. At a minimum, the regulatory mechanism(s) must require the following: a. designated salt storage areas must be covered or indoors; b. designated salt storage areas must be located on an impervious surface; and c. implementation of practices to reduce exposure when transferring material in designated salt storage areas (e.g., sweeping, diversions, and/or containment). [Minn. R. 7090]

18.7	The permittee must incorporate illicit discharge detection into all inspection and maintenance activities conducted in items 21.9, 21.10, and 21.11. Where feasible, the permittee must conduct illicit discharge inspections during dry-weather conditions (e.g., periods of 72 or more hours of no precipitation). [Minn. R. 7090]
18.8	At least once each calendar year, the permittee must train all field staff in illicit discharge recognition (including conditions which could cause illicit discharges), and reporting illicit discharges for further investigation. Field staff includes, but is not limited to, police, fire department, public works, and parks staff. Training for this specific requirement may include, but is not limited to, videos, in-person presentations, webinars, training documents, and/or emails. [Minn. R. 7090]
18.9	The permittee must ensure that individuals receive training commensurate with their responsibilities as they relate to the permittee's IDDE program. Individuals includes, but is not limited to, individuals responsible for investigating, locating, eliminating illicit discharges, and/or enforcement. The permittee must ensure that previously trained individuals attend a refresher-training every three (3) calendar years following the initial training. [Minn. R. 7090]
18.10	The permittee must maintain a written or mapped inventory of priority areas the permittee identifies as having a higher likelihood for illicit discharges. At a minimum, the permittee must evaluate the following for potential inclusion in the inventory: a. land uses associated with business/industrial activities; b. areas where illicit discharges have been identified in the past; and c. areas with storage of significant materials that could result in an illicit discharge. [Minn. R. 7090]
18.11	To the extent allowable under state or local law, the permittee must conduct additional illicit discharge inspections in areas identified in item 18.10. [Minn. R. 7090]
18.12	The permittee must implement written procedures for investigating, locating, and eliminating the source of illicit discharges. At a minimum, the written procedures must include: a. a timeframe in which the permittee will investigate a reported illicit discharge; b. use of visual inspections to detect and track the source of an illicit discharge; c. tools available to the permittee to investigate and locate an illicit discharge (e.g., mobile cameras, collecting and analyzing water samples, smoke testing, dye testing, etc.); d. cleanup methods available to the permittee to remove an illicit discharge or spill; and e. name or position title of responsible person(s) for investigating, locating, and eliminating an illicit discharge. [Minn. R. 7090]
18.13	The permittee must implement written procedures for responding to spills, including emergency response procedures to prevent spills from entering the MS4. The written procedures must also include the immediate notification of the Minnesota Department of Public Safety Duty Officer at 800-422-0798 (toll free) or 651-649-5451 (Metro area), if the source of the illicit discharge is a spill or leak as defined in Minn. Stat. 115.061. [Minn. R. 7090]
18.14	The permittee must maintain written enforcement response procedures (ERPs) to compel compliance with the permittee's regulatory mechanism(s) in Section 18. At a minimum, the written ERPs must include: a. a description of enforcement tools available to the permittee and guidelines for the use of each tool; b. timeframes to complete corrective actions; and c. name or position title of responsible person(s) for conducting enforcement. [Minn. R. 7090]
18.15	The permittee must document the following information: a. date(s) and location(s) of IDDE inspections conducted in accordance with items 18.7 and 18.11; b. reports of alleged illicit discharges received, including date(s) of the report(s), and any follow-up action(s) taken by the permittee; c. date(s) of discovery of all illicit discharges; d. identification of outfalls, or other areas, where illicit discharges have been discovered; e. sources (including a description and the responsible party) of illicit discharges (if known); and f. action(s) taken by the permittee, including date(s), to address discovered illicit discharges. [Minn. R. 7090]
18.16	For each training in item 18.8 and 18.9, the permittee must document:

	a. general subject matter covered; b. names and departments of individuals in attendance; and c. date of each event. [Minn. R. 7090]
18.17	The permittee must document any enforcement conducted pursuant to the ERPs in item 18.14, including verbal warnings. At a minimum, the permittee must document the following: a. name of the person responsible for violating the terms and conditions of the permittee's regulatory mechanism(s); b. date(s) and location(s) of the observed violation(s); c. description of the violation(s); d. corrective action(s) (including completion schedule) issued by the permittee; e. referrals to other regulatory organizations (if any); and f. date(s) violation(s) resolved. [Minn. R. 7090]
18.18	The permittee must conduct an annual assessment of the IDDE program to evaluate program compliance, the status of achieving the measurable requirements in Section 18, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., trainings, inventory, inspections, enforcement, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
19.1	MCM 4: Construction Site Stormwater Runoff Control. [Minn. R. 7090]
19.2	New permittees must develop, implement, and enforce, and existing permittees must revise their current program, as necessary, and continue to implement and enforce, a Construction Site Stormwater Runoff Control program. The program must address construction activity with a land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, within the permittee's jurisdiction and that discharge to the permittee's MS4. The permittee must incorporate Section 19 requirements into their program. [Minn. R. 7090]
19.3	To the extent allowable under state or local law, the permittee must develop, implement, and enforce a regulatory mechanism(s) that establishes requirements for erosion, sediment, and waste controls that is at least as stringent as the Agency's most current Construction Stormwater General Permit (MNR100001), herein referred to as the CSW Permit. A regulatory mechanism(s) for the purposes of the General Permit may consist of contract language, an ordinance, permits, standards, written policies, operational plans, legal agreements, or any other mechanism, that will be enforced by the permittee. [Minn. R. 7090]
19.4	When the CSW Permit is reissued, the permittee must revise their regulatory mechanism(s), if necessary, within 12 months of the issuance date of that permit, to be at least as stringent as the requirements for erosion, sediment, and waste controls described in the CSW Permit. [Minn. R. 7090]
19.5	The permittee's regulatory mechanism(s) must require that owners and operators of construction activity develop site plans that must be submitted to the permittee for review and confirmation that regulatory mechanism(s) requirements have been met, prior to the start of construction activity. The regulatory mechanism(s) must require the owners and operators of construction activity to keep site plans up-to-date with regard to stormwater runoff controls. The regulatory mechanism(s) must require that site plans incorporate the following erosion, sediment, and waste controls that are at least as stringent as described in the CSW Permit: a. erosion prevention practices; b. sediment control practices; c. dewatering and basin draining; d. inspection and maintenance; e. pollution prevention management measures; f. temporary sediment basins; and g. termination conditions. [Minn. R. 7090]
19.6	The permittee must implement written procedures for site plan reviews conducted by the permittee prior to the start of all construction activity, to ensure compliance with requirements of the regulatory mechanism(s). At a minimum, the procedures must include: a. written notification to owners and operators proposing construction activity, including projects less than one acre that

	are part of a larger common plan of development or sale, of the need to apply for and obtain coverage under the CSW Permit; and b. use of a written checklist, consistent with the requirements of the regulatory mechanism(s), to document the adequacy of each site plan required in item 19.5. [Minn. R. 7090]
19.7	The permittee must implement an inspection program that includes written procedures for conducting site inspections, to determine compliance with the permittee's regulatory mechanism(s). The inspection program must also meet the requirements in items 19.8 and 19.9. [Minn. R. 7090]
19.8	The permittee must maintain written procedures for identifying high-priority and low-priority sites for inspection. At a minimum, the written procedures must include: a. a detailed explanation describing how sites will be categorized as either high-priority or low-priority; b. a frequency at which the permittee will conduct inspections for high-priority sites; c. a frequency at which the permittee will conduct inspections for low-priority sites; and d. the name(s) of individual(s) or position title(s) responsible for conducting site inspections. [Minn. R. 7090]
19.9	The permittee must implement a written checklist to document each site inspection when determining compliance with the permittee's regulatory mechanism(s). At a minimum, the checklist must include the permittee's inspection findings on the following areas, as applicable to each site: a. stabilization of exposed soils (including stockpiles); b. stabilization of ditch and swale bottoms; c. sediment control BMPs on all down gradient perimeters of the project and up gradient of buffer zones; d. storm drain inlet protection; e. energy dissipation at pipe outlets; f. vehicle tracking BMPs; g. preservation of a 50 foot natural buffer or redundant sediment controls where stormwater flows to a surface water within 50 feet of disturbed soils; h. owner/operator of construction activity self-inspection records; i. containment for all liquid and solid wastes generated by washout operations (e.g., concrete, stucco, paint, form release oils, curing compounds, and other construction materials); and j. BMPs maintained and functional. [Minn. R. 7090]
19.10	The permittee must implement written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted by the public to the permittee. [Minn. R. 7090]
19.11	The permittee must ensure that individuals receive training commensurate with their responsibilities as they relate to the permittee's Construction Site Stormwater Runoff Control program. Individuals includes, but is not limited to, individuals responsible for conducting site plan reviews, site inspections, and/or enforcement. The permittee must ensure that previously trained individuals attend a refresher-training every three (3) calendar years following the initial training. [Minn. R. 7090]
19.12	The permittee must maintain written enforcement response procedures (ERPs) to compel compliance with the permittee's regulatory mechanism(s) in item 19.3. At a minimum, the written ERPs must include: a. a description of enforcement tools available to the permittee and guidelines for the use of each tool; and b. name or position title of responsible person(s) for conducting enforcement. [Minn. R. 7090]
19.13	For each site plan review conducted by the permittee, the permittee must document the following: a. project name; b. location; c. total acreage to be disturbed; d. owner and operator of the proposed construction activity; e. proof of notification to obtain coverage under the CSW Permit, as required in item 19.6, or proof of coverage under the CSW Permit; and f. any stormwater related comments and supporting completed checklist, as required in item 19.6, used by the permittee to determine project approval or denial. [Minn. R. 7090]

19.14	For each training in item 19.11, the permittee must document: a. general subject matter covered; b. names and departments of individuals in attendance; and c. date of each event. [Minn. R. 7090]
19.15	The permittee must document any enforcement conducted pursuant to the ERPs in item 19.12, including verbal warnings. At a minimum, the permittee must document the following: a. name of the person responsible for violating the terms and conditions of the permittee's regulatory mechanism(s); b. date(s) and location(s) of the observed violation(s); c. description of the violation(s); d. corrective action(s) (including completion schedule) issued by the permittee; e. referrals to other regulatory organizations (if any); and f. date(s) violation(s) resolved. [Minn. R. 7090]
19.16	The permittee must conduct an annual assessment of the Construction Site Stormwater Runoff Control program to evaluate program compliance, the status of achieving the measurable requirements in Section 19, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., inventory, trainings, site plan reviews, inspections, enforcement, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
20.1	MCM 5: Post-Construction Stormwater Management. [Minn. R. 7090]
20.2	New permittees must develop, implement, and enforce, and existing permittees must revise their current program, as necessary, and continue to implement and enforce, a Post-Construction Stormwater Management program that prevents or reduces water pollution after construction activity is completed. The program must address construction activity with land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, within the permittee's jurisdiction and that discharge to the permittee's MS4. The permittee must incorporate Section 20 requirements into their program. [Minn. R. 7090]
20.3	To the extent allowable under state or local law, the permittee must develop, implement, and enforce a regulatory mechanism(s) that incorporates items 20.4 through 20.15. A regulatory mechanism(s) for the purposes of the General Permit may consist of contract language, an ordinance, permits, standards, written policies, operational plans, legal agreements, or any other mechanism, that will be enforced by the permittee. [Minn. R. 7090]
20.4	The permittee's regulatory mechanism(s) must require owners of construction activity to submit site plans with post-construction stormwater management BMPs designed with accepted engineering practices to the permittee for review and confirmation that regulatory mechanism(s) requirements have been met, prior to start of construction activity. [Minn. R. 7090]
20.5	The permittee's regulatory mechanism(s) must require owners of construction activity to treat the water quality volume on any project where the sum of the new impervious surface and the fully reconstructed impervious surface equals one or more acres. [Minn. R. 7090]
20.6	For construction activity (excluding linear projects), the water quality volume must be calculated as one (1) inch times the sum of the new and the fully reconstructed impervious surface. [Minn. R. 7090]
20.7	For linear projects, the water quality volume must be calculated as the larger of one (1) inch times the new impervious surface or one-half (0.5) inch times the sum of the new and the fully reconstructed impervious surface. Where the entire water quality volume cannot be treated within the existing right-of-way, a reasonable attempt to obtain additional right-of-way, easement, or other permission to treat the stormwater during the project planning process must be made. Volume reduction practices must be considered first, as described in item 20.8. Volume reduction practices are not required if the practices cannot be provided cost effectively. If additional right-of-way, easements, or other permission cannot be obtained, owners of construction activity must maximize the treatment of the water quality volume prior to discharge from the MS4. [Minn. R. 7090]
20.8	Volume reduction practices (e.g., infiltration or other) to retain the water quality volume on-site must be considered first when designing the permanent stormwater treatment system. The General Permit does not consider wet sedimentation basins and filtration systems to be volume reduction practices. If the General Permit prohibits infiltration as described in

	item 20.9, other volume reduction practices, a wet sedimentation basin, or filtration basin may be considered. [Minn. R. 7090]
20.9	Infiltration systems must be prohibited when the system would be constructed in areas: a. that receive discharges from vehicle fueling and maintenance areas, regardless of the amount of new and fully reconstructed impervious surface; b. where high levels of contaminants in soil or groundwater may be mobilized by the infiltrating stormwater. To make this determination, the owners and/or operators of construction activity must complete the Agency's site screening assessment checklist, which is available in the Minnesota Stormwater Manual, or conduct their own assessment. The assessment must be retained with the site plans; c. where soil infiltration rates are more than 8.3 inches per hour unless soils are amended to slow the infiltration rate below 8.3 inches per hour; d. with less than three (3) feet of separation distance from the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock; e. of predominately Hydrologic Soil Group D (clay) soils; f. in an Emergency Response Area (ERA) within a Drinking Water Supply Management Area (DWSMA) as defined in Minn. R. 4720.5100, subp. 13, classified as high or very high vulnerability as defined by the Minnesota Department of Health; g. in an ERA within a DWSMA classified as moderate vulnerability unless the permittee performs or approves a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater; h. outside of an ERA within a DWSMA classified as high or very high vulnerability unless the permittee performs or approves a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater; i. within 1,000 feet up-gradient or 100 feet down gradient of active karst features; or j. that receive stormwater runoff from these types of entities regulated under NPDES for industrial stormwater: automobile salvage yards; scrap recycling and waste recycling facilities; hazardous waste treatment, storage, or disposal facilities; or air transportation facilities that conduct deicing activities. See "higher level of engineering review" in the Minnesota Stormwater Manual for more information. [Minn. R. 7090]
20.10	For non-linear projects, where the water quality volume cannot cost effectively be treated on the site of the original construction activity, the permittee must identify, or may require owners of the construction activity to identify, locations where off-site treatment projects can be completed. If the entire water quality volume is not addressed on the site of the original construction activity, the remaining water quality volume must be addressed through off-site treatment and, at a minimum, ensure the requirements of items 20.11 through 20.14 are met. [Minn. R. 7090]
20.11	The permittee must ensure off-site treatment project areas are selected in the following order of preference: a. locations that yield benefits to the same receiving water that receives runoff from the original construction activity; b. locations within the same Department of Natural Resource (DNR) catchment area as the original construction activity; c. locations in the next adjacent DNR catchment area up-stream; or d. locations anywhere within the permittee's jurisdiction. [Minn. R. 7090]
20.12	Off-site treatment projects must involve the creation of new structural stormwater BMPs or the retrofit of existing structural stormwater BMPs, or the use of a properly designed regional structural stormwater BMP. Routine maintenance of structural stormwater BMPs already required by the General Permit cannot be used to meet this requirement. [Minn. R. 7090]
20.13	Off-site treatment projects must be completed no later than 24 months after the start of the original construction activity. If the permittee determines more time is needed to complete the treatment project, the permittee must provide the reason(s) and schedule(s) for completing the project in the annual report. [Minn. R. 7090]
20.14	If the permittee receives payment from the owner of a construction activity for off-site treatment, the permittee must apply any such payment received to a public stormwater project, and all projects must comply with the requirements in items 20.11 through 20.13. [Minn. R. 7090]
20.15	The permittee's regulatory mechanism(s) must include the establishment of legal mechanism(s) between the permittee and owners of structural stormwater BMPs not owned or operated by the permittee, that have been constructed to meet the

	requirements in Section 20. The legal mechanism(s) must include provisions that, at a minimum: a. allow the permittee to conduct inspections of structural stormwater BMPs not owned or operated by the permittee, perform necessary maintenance, and assess costs for those structural stormwater BMPs when the permittee determines the owner of that structural stormwater BMP has not ensured proper function; b. are designed to preserve the permittee's right to ensure maintenance responsibility, for structural stormwater BMPs not owned or operated by the permittee, when those responsibilities are legally transferred to another party; and c. are designed to protect/preserve structural stormwater BMPs. If structural stormwater BMPs change, causing decreased effectiveness, new, repaired, or improved structural stormwater BMPs must be implemented to provide equivalent treatment to the original BMP. [Minn. R. 7090]
20.16	The permittee must maintain a written or mapped inventory of structural stormwater BMPs not owned or operated by the permittee that meet all of the following criteria: a. the structural stormwater BMP includes an executed legal mechanism(s) between the permittee and owners responsible for the long-term maintenance, as required in item 20.15; and b. the structural stormwater BMP was implemented on or after August 1, 2013. [Minn. R. 7090]
20.17	The permittee must implement written procedures for site plan reviews conducted by the permittee prior to the start of construction activity, to ensure compliance with requirements of the permittee's regulatory mechanism(s). [Minn. R. 7090]
20.18	The permittee must ensure that individuals receive training commensurate with their responsibilities as they relate to the permittee's Post-Construction Stormwater Management program. Individuals includes, but is not limited to, individuals responsible for conducting site plan reviews and/or enforcement. The permittee must ensure that previously trained individuals attend a refresher-training every three (3) calendar years following the initial training. [Minn. R. 7090]
20.19	The permittee must maintain written enforcement response procedures (ERPs) to compel compliance with the permittee's regulatory mechanism(s) required in Section 20. At a minimum, the written ERPs must include: a. a description of enforcement tools available to the permittee and guidelines for the use of each tool; and b. name or position title of responsible person(s) for conducting enforcement. [Minn. R. 7090]
20.20	For each site plan review conducted by the permittee, the permittee must document the following: a. supporting documentation used to determine compliance with Section 20 of the General Permit, including any calculations for the permanent stormwater treatment system; b. the water quality volume that will be treated through volume reduction practices (e.g., infiltration or other) compared to the total water quality volume required to be treated; c. documentation associated with off-site treatment projects authorized by the permittee, including rationale to support the location of permanent stormwater treatment projects in accordance with items 20.10 and 20.11; d. payments received and used in accordance with item 20.14; and e. all legal mechanisms drafted in accordance with item 20.15, including date(s) of the agreement(s) and name(s) of all responsible parties involved. [Minn. R. 7090]
20.21	For each training in item 20.18, the permittee must document: a. general subject matter covered; b. names and departments of individuals in attendance; and c. date of each event. [Minn. R. 7090]
20.22	The permittee must document any enforcement conducted pursuant to the ERPs in item 20.19, including verbal warnings. At a minimum, the permittee must document the following: a. name of the person responsible for violating the terms and conditions of the permittee's regulatory mechanism(s); b. date(s) and location(s) of the observed violation(s); c. description of the violation(s); d. corrective action(s) (including completion schedule) issued by the permittee; e. referrals to other regulatory organizations (if any); and f. date(s) violation(s) resolved. [Minn. R. 7090]

20.23	The permittee must conduct an annual assessment of the Post-Construction Stormwater Management program to evaluate program compliance, the status of achieving the measurable requirements in Section 20, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., inventory, trainings, site plan reviews, inspections, enforcement, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
21.1	MCM 6: Pollution Prevention/Good Housekeeping For Municipal Operations. [Minn. R. 7090]
21.2	New permittees must develop and implement, and existing permittees must revise their current program, as necessary, and continue to implement, an operations and maintenance program that prevents or reduces the discharge of pollutants to the MS4 from permittee owned/operated facilities and operations. The permittee must incorporate Section 21 requirements into their program. [Minn. R. 7090]
21.3	The permittee must maintain a written or mapped inventory of permittee owned/operated facilities that contribute pollutants to stormwater discharges. The permittee must implement BMPs that prevent or reduce pollutants in stormwater discharges from all inventoried facilities. Facilities to be inventoried may include, but is not limited to: a. composting; b. equipment storage and maintenance; c. hazardous waste disposal; d. hazardous waste handling and transfer; e. landfills; f. solid waste handling and transfer; g. parks; h. pesticide storage; i. public parking lots; j. public golf courses; k. public swimming pools; l. public works yards; m. recycling; n. salt storage; o. snow storage; p. vehicle storage and maintenance (e.g., fueling and washing) yards; and q. materials storage yards. [Minn. R. 7090]
21.4	The permittee must implement BMPs that prevent or reduce pollutants in stormwater discharges from the following municipal operations that may contribute pollutants to stormwater discharges, where applicable: a. waste disposal and storage, including dumpsters; b. management of temporary and permanent stockpiles of materials such as street sweepings, snow, sand and sediment removal piles (e.g., effective sediment controls at the base of stockpiles on the down gradient perimeter); c. vehicle fueling, washing, and maintenance; d. routine street and parking lot sweeping; e. emergency response; f. cleaning of maintenance equipment, building exteriors, dumpsters, and the disposal of associated waste and wastewater; g. use, storage, and disposal of significant materials; h. landscaping, park, and lawn maintenance; i. road maintenance, including pothole repair, road shoulder maintenance, pavement marking, sealing, and repaving; j. right-of-way maintenance, including mowing; and k. application of herbicides, pesticides, and fertilizers. [Minn. R. 7090]
21.5	The permittee must implement the following BMPs at permittee owned/operated salt storage areas: a. cover or store salt indoors; b. store salt on an impervious surface; and c. implement practices to reduce exposure when transferring material from salt storage areas (e.g., sweeping, diversions,

	and/or containment). [Minn. R. 7090]
21.6	The permittee must implement a written snow and ice management policy for individuals that perform winter maintenance activities for the permittee. The policy must establish practices and procedures for snow and ice control operations (e.g., plowing or other snow removal practices, sand use, and application of deicing compounds). [Minn. R. 7090]
21.7	Each calendar year, the permittee must ensure all individuals that perform winter maintenance activities for the permittee receive training that includes: a. the importance of protecting water quality; b. BMPs to minimize the use of deicers (e.g., proper calibration of equipment and benefits of pretreatment, pre-wetting, and anti-icing); and c. tools and resources to assist in winter maintenance (e.g., deicing application rate guidelines, calibration charts, Smart Salting Assessment Tool). The permittee may use training materials from the Agency's Smart Salting training or other organizations to meet this requirement. [Minn. R. 7090]
21.8	The permittee must maintain written procedures for the purpose of determining the TSS and TP treatment effectiveness of all permittee owned/operated ponds constructed and used for the collection and treatment of stormwater. [Minn. R. 7090]
21.9	The permittee must inspect structural stormwater BMPs (excluding stormwater ponds, which are under a separate schedule below) each calendar year to determine structural integrity, proper function, and maintenance needs unless the permittee determines either of the following conditions apply: a. complaints received or patterns of maintenance indicate a greater frequency is necessary; or b. maintenance or sediment removal is not required after completion of the first two calendar year inspections; in which case the permittee may reduce the frequency of inspections to once every two (2) calendar years. [Minn. R. 7090]
21.10	Prior to the expiration date of the General Permit, the permittee must conduct at least one inspection of all ponds and outfalls (excluding underground outfalls) in order to determine structural integrity, proper function, and maintenance needs. [Minn. R. 7090]
21.11	Based on inspection findings, the permittee must determine if repair, replacement, or maintenance measures are necessary in order to ensure the structural integrity and proper function of structural stormwater BMPs and outfalls. The permittee must complete necessary maintenance as soon as possible. If the permittee determines necessary maintenance cannot be completed within one year of discovery, the permittee must document a schedule(s) for completing the maintenance. [Minn. R. 7090]
21.12	The permittee must implement a stormwater management training program commensurate with individual's responsibilities as they relate to the permittee's SWPPP, including reporting and assessment activities. The permittee may use training materials from the United States Environmental Protection Agency (USEPA), state and regional agencies, or other organizations as appropriate to meet this requirement. The training program must: a. address the importance of protecting water quality; b. cover the requirements of the permit relevant to the responsibilities of the individual not already addressed in items 18.8, 18.9, 19.11, 20.18, and 21.7; and c. include a schedule that establishes initial training for individuals, including new and/or seasonal employees, and recurring training intervals to address changes in procedures, practices, techniques, or requirements. [Minn. R. 7090]
21.13	The permittee must document the following information associated with the operations and maintenance program: a. date(s) and description of findings, including whether or not an illicit discharge is detected, for all inspections conducted in accordance with items 21.9 and 21.10; b. any adjustments to inspection frequency as authorized in item 21.9; c. date(s) and a description of maintenance conducted as a result of inspection findings, including whether or not an illicit discharge is detected; d. schedule(s) for maintenance of structural stormwater BMPs and outfalls as required in item 21.11; and e. stormwater management training events, including general subject matter covered, names and departments of individuals in attendance, and date of each event. [Minn. R. 7090]

21.14	The permittee must document pond sediment excavation and removal activities, including: a. a unique ID number and geographic coordinates of each stormwater pond from which sediment is removed; b. the volume (e.g., cubic yards) of sediment removed from each stormwater pond; c. results from any testing of sediment from each removal activity; and d. location(s) of final disposal of sediment from each stormwater pond. [Minn. R. 7090]
21.15	The permittee must conduct an annual assessment of the operations and maintenance program to evaluate program compliance, the status of achieving the measurable requirements in Section 21, and determine how the program might be improved. Measurable requirements are activities that must be documented or tracked as applicable to the MCM (e.g., inventory, trainings, inspections, maintenance activities, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the program as a result of the annual assessment. [Minn. R. 7090]
22.1	Discharges to Impaired Waters with a USEPA-Approved TMDL that Includes an Applicable WLA. [Minn. R. 7090]
22.2	If the permittee has an applicable WLA not being met for oxygen demand, nitrate, TSS, or TP, the permittee must provide a summary of the permittee's progress toward achieving those applicable WLAs with the annual report. The summary must include the following information: a. a list of all BMPs applied towards achieving applicable WLAs for oxygen demand, nitrate, TSS, and TP; b. the implementation status of BMPs included in the compliance schedule at the time of final application submittal; and c. an updated estimate of cumulative TSS and TP load reductions. [Minn. R. 7090]
22.3	If the permittee has an applicable WLA where a reduction in pollutant loading is required for bacteria, the permittee must maintain a written or mapped inventory of potential areas and sources of bacteria (e.g., dense populations of waterfowl or other bird, dog parks). [Minn. R. 7090]
22.4	If the permittee has an applicable WLA where a reduction in pollutant loading is required for bacteria, the permittee must maintain a written plan to prioritize reduction activities to address the areas and sources identified in the inventory in item 22.3. The written plan must include BMPs the permittee will implement over the permit term, which may include, but is not limited to: a. water quality monitoring to determine areas of high bacteria loading; b. installation of pet waste pick-up bags in parks and open spaces; c. elimination of over-spray irrigation that may occur at permittee owned areas; d. removal of organic matter via street sweeping; e. implementation of infiltration structural stormwater BMPs; or f. management of areas that attract dense populations of waterfowl (e.g., riparian plantings). [Minn. R. 7090]
22.5	If the permittee has an applicable WLA where a reduction in pollutant loading is required for chloride, the permittee must document the amount of deicer applied each winter maintenance season to all permittee owned/operated surfaces. [Minn. R. 7090]
22.6	If the permittee has an applicable WLA where a reduction in pollutant loading is required for chloride, each calendar year the permittee must conduct an assessment of the permittee's winter maintenance operations to reduce the amount of deicing salt applied to permittee owned/operated surfaces and determine current and future opportunities to improve BMPs. The permittee may use the Agency's Smart Salting Assessment Tool or other available resources and methods to complete this assessment. The permittee must document the assessment. The assessment may include, but is not limited to: a. operational changes such as pre-wetting, pre-treating the salt stockpile, increasing plowing prior to deicing, monitoring of road surface temperature, etc.; b. implementation of new or modified equipment providing pre-wetting, or other capability for minimizing salt use; c. regular calibration of equipment; d. optimizing mechanical removal to reduce use of deicers; or e. designation of no salt and/or low salt zones. [Minn. R. 7090]
22.7	If the permittee has an applicable WLA where a reduction in pollutant loading is required for temperature (i.e., City of Duluth, City of Hermantown, City of Rice Lake, City of Stillwater, MnDOT Outstate, St. Louis County, University of Minnesota

	- Duluth, and Lake Superior College), the permittee must maintain a written plan that identifies specific activities the permittee will implement to reduce thermal loading during the permit term. The written plan may include, but is not limited to: a. implementation of infiltration BMPs such as bioinfiltration practices; b. disconnection and/or reduction of impervious surfaces; c. retrofitting existing structural stormwater BMPs; or d. improvement of riparian vegetation. [Minn. R. 7090]
23.1	Alum or Ferric Chloride Phosphorus Treatment Systems. [Minn. R. 7090]
23.2	If the permittee uses an alum or ferric chloride phosphorus treatment system, the permittee must comply with Section 23 requirements. [Minn. R. 7090]
23.3	The permittee's alum or ferric chloride phosphorus treatment system must comply with the following: a. the permittee must use the treatment system for the treatment of phosphorus in stormwater. Non-stormwater discharges must not be treated by this system; b. the treatment system must be contained within the conveyances and structural stormwater BMPs of the MS4. The utilized conveyances and structural stormwater BMPs must not include any receiving waters; c. phosphorus treatment systems utilizing chemicals other than alum or ferric chloride must receive written approval from the Agency; and d. in-lake phosphorus treatment activities are not authorized under the General Permit. [Minn. R. 7090]
23.4	The permittee's alum or ferric chloride phosphorus treatment system must meet the following design parameters: a. the treatment system must be constructed in a manner that diverts the stormwater flow to be treated from the main conveyance system; b. a high flow bypass must be part of the inlet design; and c. a flocculant storage/settling area must be incorporated into the design, and adequate maintenance access must be provided (minimum of 8 feet wide) for the removal of accumulated sediment. [Minn. R. 7090]
23.5	A designated person must perform visual monitoring of the treatment system for proper performance at least once every seven (7) days, and within 24 hours after a rainfall event greater than 2.5 inches in 24 hours. Following visual monitoring which occurs within 24 hours after a rainfall event, the next visual monitoring must be conducted within seven (7) days after that rainfall event. [Minn. R. 7090]
23.6	Three (3) benchmark monitoring stations must be established. Table 1 in Appendix A must be used for the parameters, units of measure, and frequency of measurement for each station. [Minn. R. 7090]
23.7	Samples must be collected as grab samples or flow-weighted 24-hour composite samples. [Minn. R. 7090]
23.8	Each sample, excluding pH samples, must be analyzed by a laboratory certified by the Minnesota Department of Health and/or the Agency, and: a. sample preservation and test procedures for the analysis of pollutants must conform to 40 CFR Part 136 and Minn. R. 7041.3200; b. detection limits for dissolved phosphorus, dissolved aluminum, and dissolved iron must be a minimum of 6 micrograms per liter, 10 micrograms per liter, and 20 micrograms per liter, respectively; and c. pH must be measured within 15 minutes of sample collection using calibrated and maintained equipment. [Minn. R. 7090]
23.9	In the following situations, the permittee must perform corrective action(s) and immediately notify the Minnesota Department of Public Safety Duty Officer at 800-422-0798 (toll free) or 651-649-5451 (Metro area): a. the pH of the discharged water is not within the range of 6.0 and 9.0; b. any indications of toxicity or measurements exceeding water quality standards which could endanger human health, public drinking water supplies, or the environment; or c. a spill or discharge or alteration resulting in water pollution as defined in Minn. Stat. 115.01, subd. 13, of alum or ferric chloride.

	If item b is applicable, the permittee must also report the non-compliance to the Commissioner as required in item 26.11. [Minn. R. 7001.0150, subp. 3(K), Minn. R. 7090]
23.10	If the permittee discovers indications of toxicity or measurements exceeding water quality standards that the permittee determines does not endanger human health, public drinking water supplies, or the environment, the permittee must report the non-compliance to the Commissioner as required in item 26.12. [Minn. R. 7001.0150, subp. 3(L), Minn. R. 7090]
23.11	The permittee must submit the following information with the annual report. The annual report must include a month-by-month summary of: a. date(s) of operation; b. chemical(s) used for treatment; c. gallons of water treated; d. gallons of alum or ferric chloride treatment used; e. calculated pounds of phosphorus removed; and f. any performance issues and the corrective action(s), including the date(s) when corrective action(s) were taken. [Minn. R. 7090]
23.12	A record of the design parameters in items 23.13 through 23.15 must be kept on-site. [Minn. R. 7090]
23.13	Site-specific jar testing conducted using typical and representative water samples in accordance with the most current approved version of ASTM D2035. [Minn. R. 7090]
23.14	Baseline concentrations of the following parameters in the influent and receiving waters: a. aluminum or iron; and b. phosphorus. [Minn. R. 7090]
23.15	The following system parameters and how each was determined: a. flocculant settling velocity; b. minimum required retention time; c. rate of diversion of stormwater into the system; d. the flow rate from the discharge of the outlet structure; and e. range of expected dosing rates. [Minn. R. 7090]
23.16	The following site-specific procedures must be developed and a copy kept on-site: a. procedures for the installation, operation and maintenance of all pumps, generators, control systems, and other equipment; b. specific parameters for determining when the solids must be removed from the system and how the solids will be handled and disposed of; and c. procedures for cleaning up and/or containing a spill of each chemical stored on-site. [Minn. R. 7090]
24.1	Stormwater Pollution Prevention Program (SWPPP) Modification. [Minn. R. 7090]
24.2	The Commissioner may require the permittee to modify the SWPPP as needed, in accordance with the procedures of Minn. R. 7001, and may consider the following factors: a. discharges from the MS4 are impacting the quality of receiving waters; b. more stringent requirements are necessary to comply with state or federal regulations; and c. additional conditions are deemed necessary to comply with the goals and applicable requirements of the Clean Water Act and protect water quality. [Minn. R. 7090]
24.3	Modifications that the permittee chooses to make to the SWPPP other than modifications authorized in item 24.4, must be approved by the Commissioner in accordance with the procedures of Minn. R. 7001. All requests must be in writing, setting forth schedules for compliance. The request must discuss alternative program modifications, assure compliance with requirements of the permit, and meet other applicable laws. [Minn. R. 7090]
24.4	The permittee may modify the SWPPP without prior approval of the Commissioner provided the Commissioner is notified of the modification in the annual report for the year the modification is made and the modification falls under one of the following categories:

	a. a BMP is added, and none subtracted, from the SWPPP; or b. a less effective BMP is replaced with a more effective BMP. The alternate BMP must address the same, or similar, concerns as the ineffective or failed BMP. [Minn. R. 7090]
25.1	Annual Assessment, Annual Reporting, and Recordkeeping. [Minn. R. 7090]
25.2	The permittee must conduct an annual assessment to evaluate compliance with the terms and conditions of the General Permit, including the effectiveness of the components of the SWPPP and the status of achieving the measurable requirements in the General Permit. Measurable requirements are activities that must be documented or tracked (e.g., education and outreach efforts, implementation of written plans, inventories, trainings, site plan reviews, inspections, enforcement, etc.). The permittee must perform the annual assessment prior to completion of each annual report and document any modifications made to the SWPPP as a result of the annual assessment. [Minn. R. 7090]
25.3	The permittee must submit an annual report: Due annually, by the 30th of June. The annual report must cover the portion of the previous calendar year during which the permittee was authorized to discharge stormwater under the General Permit. The annual report shall be submitted to the Agency, in a manner determined by the Agency, that includes but is not limited to: a. the status of compliance with permit terms and conditions, including an assessment of the appropriateness of BMPs identified by the permittee and progress towards achieving the measurable requirements of each of the MCMs. The assessment must be based on results of information collected and analyzed, including monitoring (if any), inspection findings, and public input received during the reporting period; b. the stormwater activities the permittee plans to undertake during the next reporting cycle; c. a change in any identified BMPs for any of the MCMs; d. the summary required in item 22.2 to demonstrate progress toward achieving applicable WLAs; e. information required to be recorded or documented in Sections 13 through 24; and f. a statement that the permittee is relying on a partnership(s) with another regulated small MS4(s) to satisfy one or more permit requirements (if applicable), and what agreements the permittee has entered into in support of this effort. [Minn. R. 7090]
25.4	The permittee must make records, including components of the SWPPP, available to the public at reasonable times during regular business hours (see 40 CFR 122.7 for confidentiality provision). [Minn. R. 7090]
25.5	The permittee must retain copies of the permit application, all documentation necessary to comply with SWPPP requirements, all data and information used by the permittee to complete the application process, and any information developed as a requirement of the General Permit or as requested by the Commissioner, for a period of at least three (3) years beyond the date of permit expiration. This period is automatically extended during the course of an unresolved enforcement action regarding the small MS4 or as requested by the Commissioner. [Minn. R. 7001.0080, Minn. R. 7090]
25.6	The permittee must, when requested by the Commissioner, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the General Permit or regarding the conduct of the activity covered by the General Permit. [Minn. R. 7001.0150, subp. 3(H), Minn. R. 7090]
25.7	The permittee must use an electronic submittal process, as provided by the Agency, to submit information required by the General Permit. If electronic submittal is not available, the permittee must use the following mailing address: Supervisor, Municipal Stormwater Unit Minnesota Pollution Control Agency 520 Lafayette Road North St. Paul, Minnesota 55155-4194. [Minn. R. 7090]
26.1	General Conditions. [Minn. R. 7090]
26.2	The Agency's issuance of a permit does not release the permittee from any liability, penalty, or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the General Permit. [Minn. R. 7001.0150, subp. 3(A)]
26.3	The Agency's issuance of a permit does not prevent the future adoption by the Agency of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards, or

	orders against the permittee. [Minn. R. 7001.0150, subp. 3(B)]
26.4	The General Permit does not convey a property right or an exclusive privilege. [Minn. R. 7001.0150, subp. 3(C)]
26.5	The Agency's issuance of a permit does not obligate the Agency to enforce local laws, rules or plans beyond that authorized by Minnesota statutes. [Minn. R. 7001.0150, subp. 3(D)]
26.6	The permittee must perform the actions or conduct the activity authorized by the permit in accordance with the plans and specifications approved by the Agency and in compliance with the conditions of the permit. [Minn. R. 7001.0150, subp. 3(E)]
26.7	The permittee must at all times properly operate and maintain the facilities and systems of treatment and control and the appurtenances related to them which are installed or used by the permittee to achieve compliance with the conditions of the General Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. The permittee must install and maintain appropriate backup or auxiliary facilities if they are necessary to achieve compliance with the conditions of the General Permit and, for all permits other than hazardous waste facility permits, if these backup or auxiliary facilities are technically and economically feasible. [Minn. R. 7001.0150, subp. 3(F)]
26.8	The permittee may not knowingly make a false or misleading statement, representation, or certification in a record, report, plan, or other document required to be submitted to the Agency or to the Commissioner by the General Permit. The permittee must immediately upon discovery report to the Commissioner an error or omission in these records, reports, plans, or other documents. [Minn. R. 7001.0150, subp. 3(G), Minn. R. 7001.1090, subp. 1(G), Minn. R. 7001.1090, subp. 1(H), Minn. Stat. 609.671]
26.9	When authorized by Minn. Stat. 115.04, 115B.17, subd. 4, and 116.091, and upon presentation of proper credentials, the Agency, or an authorized employee or agent of the Agency, must be allowed by the permittee to enter at reasonable times upon the property of the permittee to examine and copy books, papers, records, or memoranda pertaining to the activity covered by the General Permit; and to conduct surveys and investigations, including sampling or monitoring, pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the General Permit. [Minn. R. 7001.0150, subp. 3(I)]
26.10	If the permittee discovers, through any means, including notification by the Agency, that noncompliance with a condition of the General Permit has occurred, the permittee must take all reasonable steps to minimize the adverse impacts on human health, public drinking water supplies, or the environment resulting from the noncompliance. [Minn. R. 7001.0150, subp. 3(J)]
26.11	If the permittee discovers that noncompliance with a condition of the General Permit has occurred which could endanger human health, public drinking water supplies, or the environment, the permittee must, within 24 hours of the discovery of the noncompliance, orally notify the Commissioner. Within five days of the discovery of the noncompliance, the permittee must submit to the Commissioner a written description of the noncompliance; the cause of the noncompliance; the exact dates of the period of the noncompliance; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [Minn. R. 7001.0150, subp. 3(K)]
26.12	The permittee must report noncompliance with the General Permit not reported under item 26.11 as a part of the next report which the permittee is required to submit under the General Permit. If no reports are required within 30 days of the discovery of the noncompliance, the permittee must submit the information listed in item 26.11 within 30 days of the discovery of the noncompliance. [Minn. R. 7001.0150, subp. 3(L), Minn. R. 7090]
26.13	The permittee must give advance notice to the Commissioner as soon as possible of planned physical alterations or additions to the permitted facility (MS4) or activity that may result in noncompliance with a Minnesota or federal pollution control statute or rule or a condition of the General Permit. [Minn. R. 7001.0150, subp. 3(M)]
26.14	The General Permit is not transferable to any person without the express written approval of the Agency after compliance with the requirements of Minn. R. 7001.0190. A person to whom the permit has been transferred must comply with the conditions of the General Permit. [Minn. R. 7001.0150, subp. 3(N)]
26.15	The General Permit authorizes the permittee to perform the activities described in the permit under the conditions of the General Permit. In issuing the permit, the state and Agency assume no responsibility for damage to persons, property, or the environment caused by the activities of the permittee in the conduct of its actions, including those activities authorized, directed, or undertaken under the permit. To the extent the state and Agency may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act, Minn. Stat. 3.736. [Minn. R. 7001.0150,

	subp. 3(O)]
26.16	The General Permit incorporates by reference the applicable portions of 40 CFR 122.41 and 122.42(c) and (d), and Minn. R. 7001.1090, which are enforceable parts of the General Permit. [Minn. R. 7090]
26.17	The provisions of the General Permit are severable, and if any provision of the General Permit, or the application of any provision of the General Permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of the General Permit shall not be affected thereby. [Minn. R. 7090]
27.1	Definitions. [Minn. R. 7090]
27.2	"Active karst" means a terrain having distinctive landforms and hydrology created primarily from the dissolution of soluble rocks within 50 feet of the land surface. [Minn. R. 7090]
27.3	"Agency" means the Minnesota Pollution Control Agency or MPCA. [Minn. Stat. 116.36, subd. 2]
27.4	"Alum or Ferric Chloride Phosphorus Treatment System" means the diversion of flowing stormwater from a MS4, removal of phosphorus through the use a continuous feed of alum or ferric chloride additive, flocculation, and the return of the treated stormwater back into a MS4 or receiving water. [Minn. R. 7090]
27.5	"Applicable WLA" means a Waste Load Allocation assigned to the permittee and approved by the USEPA prior to the issuance date of the General Permit. [Minn. R. 7090]
27.6	"Best Management Practices" or "BMPs" means practices to prevent or reduce the pollution of the waters of the state, including schedules of activities, prohibitions of practices, and other management practices, and also includes treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge, or waste disposal or drainage from raw material storage. [Minn. R. 7001.1020, subp. 5]
27.7	"Commissioner" means the Commissioner of the Minnesota Pollution Control Agency or the Commissioner's designee. [Minn. Stat. 116.36, subd. 3]
27.8	"Common Plan of Development or Sale" means a contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, on different schedules, but under one proposed plan. One plan is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land-disturbing activities may occur. [Minn. R. 7090]
27.9	"Construction Activity" means activities including clearing, grading, and excavating, that result in land disturbance of equal to or greater than one acre, including the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one acre. This includes a disturbance to the land that results in a change in the topography, existing soil cover, both vegetative and nonvegetative, or the existing soil topography that may result in accelerated stormwater runoff that may lead to soil erosion and movement of sediment. Construction activity does not include a disturbance to the land of less than five acres for the purpose of routine maintenance performed to maintain the original line and grade, hydraulic capacity, and original purpose of the facility. Routine maintenance does not include activities such as repairs, replacement and other types of non-routine maintenance. Pavement rehabilitation that does not disturb the underlying soils (e.g., mill and overlay projects) is not construction activity. [Minn. R. 7090]
27.10	"DNR Catchment Area" means the Hydrologic Unit 08 areas delineated and digitized by the Minnesota DNR. The catchment areas are available for download at the Minnesota DNR Geospatial Commons website. DNR catchment areas may be locally corrected, in which case the local corrections may be used. [Minn. R. 7090]
27.11	"Existing Permittee" means an owner/operator of a small MS4 that has been authorized to discharge stormwater under a previously issued general permit for small MS4s in the state of Minnesota. [Minn. R. 7090]
27.12	"Fully reconstructed" means areas where impervious surfaces have been removed down to the underlying soils. Activities such as structure renovation, mill and overlay projects, and other pavement rehabilitation projects that do not expose the underlying soils beneath the structure, pavement, or activity are not considered fully reconstructed. Maintenance activities such as catch basin repair/replacement, utility repair/replacement, pipe repair/replacement, lighting, and pedestrian ramp improvements are not considered fully reconstructed. [Minn. R. 7090]
27.13	"General permit" means a permit issued under Minn. R. 7001.0210 to a category of permittees whose operations, emissions, activities, discharges, or facilities are the same or substantially similar. [Minn. R. 7001.0010, subp. 4]
27.14	"Geographic Coordinates" means the point location of a stormwater feature expressed by X, Y coordinates of a standard Cartesian coordinate system (i.e. latitude/longitude) that can be readily converted to Universal Transverse Mercator (UTM), Zone 15N in the NAD83 datum. For polygon features, the geographic coordinates will typically define the approximate

	center of a stormwater feature. [Minn. R. 7090]
27.15	"High Flow Bypass" means a function of an inlet device that allows a certain flow of water through, but diverts any higher flows away. High flow bypasses are generally used for BMPs that can only treat a designed amount of flow and that would be negatively affected by higher flows. [Minn. R. 7090]
27.16	"Illicit Discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities. [40 CFR 122.26(b)(2)]
27.17	"Impaired Water" means waters identified as impaired by the Agency, and approved by the USEPA, pursuant to section 303(d) of the Clean Water Act (33 U.S.C. 303(d)). [Minn. R. 7090]
27.18	"Linear project" means construction of new or fully reconstructed roads, trails, sidewalks, or rail lines that are not part of a common plan of development or sale. For example, roads being constructed concurrently with a new residential development are not considered linear projects because they are part of a common plan of development or sale. [Minn. R. 7090]
27.19	"Maximum Extent Practicable" or "MEP" means the statutory standard (33 U.S.C. 1342(p)(3)(B)(iii)) that establishes the level of pollutant reductions that an owner or operator of regulated MS4s must achieve. The USEPA has intentionally not provided a precise definition of MEP to allow maximum flexibility in MS4 permitting. The pollutant reductions that represent MEP may be different for each small MS4, given the unique local hydrologic and geologic concerns that may exist and the differing possible pollutant control strategies. Therefore, each permittee will determine appropriate BMPs to satisfy each of the six Minimum Control Measures (MCMs) through an evaluative process. The USEPA envisions application of the MEP standard as an iterative process. [Minn. R. 7090]
27.20	"Municipal separate storm sewer system" or "MS4" means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains: a. owned or operated by a state, city, town, county, district, association, or other public body, created by or pursuant to state law, having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district, or drainage district or similar entity, or an Indian tribe or an authorized Indian tribe organization, or a designated and approved management Agency under section 208 of the federal Clean Water Act, United States Code, title 33, section 1288, that discharges into waters of the state; b. designed or used for collecting or conveying stormwater; c. that is not a combined sewer; and d. that is not part of a publicly owned treatment works as defined in 40 CFR 122.2. Municipal separate storm sewer systems do not include separate storm sewers in very discrete areas, such as individual buildings. [Minn. R. 7090.0080, subp. 8]
27.21	"New Permittee" means an owner/operator of a small MS4 that has not been authorized to discharge stormwater under a previously issued General Stormwater Permit for small MS4s in the state of Minnesota and that applies for, and obtains coverage under the General Permit. [Minn. R. 7090]
27.22	"Non-Stormwater Discharge" means any discharge not composed entirely of stormwater. [Minn. R. 7090]
27.23	"Operator" means the person with primary operational control and legal responsibility for the MS4. [Minn. R. 7090.0080, subp. 10]
27.24	"Outfall" means the point source where a MS4 discharges to a receiving water, or the stormwater discharge permanently leaves the permittee's MS4. It does not include diffuse runoff or conveyances that connect segments of the same stream or water systems (e.g., when a conveyance temporarily leaves an MS4 at a road crossing). [Minn. R. 7090]
27.25	"Owner" means the person that owns the MS4. [Minn. R. 7090.0080, subp. 11]
27.26	"Permittee" means a person or persons, that signs the permit application submitted to the Agency and is responsible for compliance with the terms and conditions of the General Permit. [Minn. R. 7090]
27.27	"Person" means the state or any Agency or institution thereof, any municipality, governmental subdivision, public or private corporation, individual, partnership, or other entity, including, but not limited to, association, commission or any interstate body, and includes any officer or governing or managing body of any municipality, governmental subdivision, or public or private corporation, or other entity. [Minn. Stat. 115.01, subd. 10]

27.28	"Pipe" means a closed manmade conveyance device used to transport stormwater from location to location. The definition of pipe does not include foundation drain pipes, irrigation pipes, land drain tile pipes, culverts, and road sub-grade drain pipes. [Minn. R. 7090]
27.29	"Receiving Water" means any lake, river, stream or wetland that receives stormwater discharges from an MS4. [Minn. R. 7090]
27.30	"Reduce" means reduce to the Maximum Extent Practicable (MEP) unless otherwise defined in the context in which it is used. [Minn. R. 7090]
27.31	"Seasonally Saturated Soil" means the highest seasonal elevation in the soil in a reduced chemical state because of soil voids filled with water causing anaerobic conditions. Seasonally saturated soil is evidenced by the presence of redoximorphic features or other information determined by scientifically established methods or empirical field measurements. [Minn. R. 7090]
27.32	"Section" includes all item numbers of the same whole number. For example, "Section 5" of the General Permit refers to items 5.1 through 5.5. [Minn. R. 7090]
27.33	"Significant Materials" includes, but is not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any chemical the facility is required to report pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA); fertilizers, pesticides, and waste products such as ashes, slag, and sludge that have the potential to be released with stormwater discharges. When determining whether a material is significant, the physical and chemical characteristics of the material should be considered (e.g. the material's solubility, transportability, and toxicity characteristics) to determine the material's pollution potential. [40 CFR 122.26(b)(12)]
27.34	"Small Municipal Separate Storm Sewer System" or "small MS4", means all separate storm sewers that are: a. Owned or operated by the United States, a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management Agency under section 208 of the CWA that discharges to waters of the United States. b. Not defined as "large" or "medium" Municipal Separate Storm Sewer Systems pursuant to 40 CFR 122.26 paragraphs (b)(4) and (b)(7) or designated under paragraph (a)(1)(v). c. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings. [Minn. R. 7090]
27.35	"Stormwater" means stormwater runoff, snow melt runoff, and surface runoff and drainage. [Minn. R. 7090.0080, subp. 12]
27.36	"Stormwater flow direction" means the direction of predominant flow within a pipe. Flow direction can be discerned if pipe elevations can be displayed on the storm sewer system map. [Minn. R. 7090]
27.37	"Stormwater Pollution Prevention Program" or "SWPPP" means a comprehensive program developed by the permittee to manage and reduce the discharge of pollutants in stormwater to and from the small MS4. [Minn. R. 7090]
27.38	"Structural Stormwater BMP" means a stationary and permanent BMP that is designed, constructed, and operated to prevent or reduce the discharge of pollutants in stormwater. [Minn. R. 7090]
27.39	"Total Maximum Daily Load" or "TMDL" means the sum of the individual Waste Load Allocations for point sources and load allocations for nonpoint sources and natural background, as more fully defined in 40 CFR 130.2, paragraph (i). A TMDL sets and allocates the maximum amount of a pollutant that may be introduced into a water of the state and still assure attainment and maintenance of water quality standards. [Minn. R. 7052.0010, subp. 42]
27.40	"Waste Load Allocation" or "WLA" means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution, as more fully defined in Code of Federal Regulations, title 40, section 130.2, paragraph (h). In the absence of a TMDL approved by USEPA under 40 CFR 130.7, or an assessment and remediation plan developed and approved according to Minn. R. 7052.0200, subp. 1(C), a WLA is the allocation for an individual point source that ensures that the level of water quality to be achieved by the point source is derived from and complies with all applicable water quality standards and criteria. [Minn. R. 7052.0010, subp. 45]

27.41	"Water pollution" means (a) the discharge of any pollutant into any waters of the state or the contamination of any waters of the state so as to create a nuisance or render such waters unclean, or noxious, or impure so as to be actually or potentially harmful or detrimental or injurious to public health, safety or welfare, to domestic, agricultural, commercial, industrial, recreational or other legitimate uses, or to livestock, animals, birds, fish or other aquatic life; or (b) the alteration made or induced by human activity of the chemical, physical, biological, or radiological integrity of waters of the state. [Minn. Stat. 115.01, subd. 13]
27.42	"Water Quality Standards" means those provisions contained in Minn. R. 7050 and 7052. [Minn. R. 7090]
27.43	"Water Quality Volume" means either: a. for construction activity (excluding linear projects), one (1) inch of runoff from the sum of the new and fully reconstructed impervious surfaces created by the project (calculated as an instantaneous volume); or b. for linear projects, the greater of one (1) inch of runoff from the new impervious surface or one-half (0.5) inch of runoff from the sum of the new and fully reconstructed impervious surfaces created by the project (calculated as an instantaneous volume). [Minn. R. 7090]
27.44	"Waters of the State" means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof. [Minn. Stat. 115.01, subd. 22]
27.45	"Wetlands" means those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes: a. a predominance of hydric soils; b. inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and c. under normal circumstances support a prevalence of such vegetation. [Minn. R. 7050.0186, subp. 1a.B]

Appendix A. Alum or Ferric Chloride Phosphorus Treatment Systems

Table 1:
Monitoring parameters during operation

Station	Alum parameters	Ferric parameters	Units	Frequency
Upstream-background	Total Phosphorus	Total Phosphorus	mg/L	1 x week
	Dissolved Phosphorus	Dissolved Phosphorus	mg/L	1 x week
	Total Aluminum	Total Iron	mg/L	1 x month
	Dissolved Aluminum	Dissolved Iron	mg/L	1 x week
	pH	pH	SU	1 x week
	Flow	Flow	Mgd	Daily
Alum or Ferric Chloride Feed	Alum	Ferric	Gallons	Daily total dosed in gallons
Discharge from treatment	Total Phosphorus	Total Phosphorus	mg/L	1 x week
	Dissolved Phosphorus	Dissolved Phosphorus	mg/L	1 x week
	Total Aluminum	Total Iron	mg/L	1 x month
	Dissolved Aluminum	Dissolved Iron	mg/L	1 x week
	pH	pH	SU	1 x week
	Flow	Flow	Mgd	Daily

Appendix B. Schedules

Table 2:
 Existing Permittees - Schedule of permit requirements

<i>Permit requirement</i>	<i>Schedule</i>
Section 12. Stormwater Pollution Prevention Program (SWPPP) Document • <i>Submit the SWPPP Document completed in accordance with Section 12.</i>	• Within 150 days after General Permit issuance date.
Section 13. Stormwater Pollution Prevention Program (SWPPP) • <i>Complete revisions to incorporate the new requirements of Sections 14 - 23 into current SWPPP.</i>	• Within 12 months of the date General Permit coverage is extended, unless other timelines have been specifically established in the General Permit and identified below.
Section 19. Construction Site Stormwater Runoff Control • <i>Complete revisions to Construction Site Stormwater Runoff Control program, including revisions to regulatory mechanism(s), if necessary.</i> • <i>When the CSW Permit is reissued, revise regulatory mechanism(s), if necessary, to be at least as stringent as the requirements for erosion, sediment, and waste controls described in the CSW Permit.</i>	• Within 12 months of the date General Permit coverage is extended. • Within 12 months of the issuance date of the CSW Permit (expected issuance date of the CSW Permit is August 1, 2023).
Section 21. Pollution Prevention/Good Housekeeping for Municipal Operations • <i>Conduct structural stormwater best management practice (BMP) inspections.</i> • <i>Conduct pond and outfall inspections.</i>	• Each calendar year. • Prior to the expiration date of the General Permit.
Section 22. Discharges to Impaired Waters with a USEPA-Approved TMDL that includes an Applicable WLA • <i>Submit all information required in item 22.2.</i> • <i>Meet requirements for applicable WLAs for bacteria, chloride, and temperature in Section 22.</i>	• With each annual report. • Within 12 months of the date General Permit coverage is extended.
Section 25. Annual Assessment, Annual Reporting, and Recordkeeping • <i>Conduct assessment of the SWPPP.</i> • <i>On a form provided by the Agency, submit an annual report.</i>	• Prior to completion of each annual report. • By June 30th of each calendar year.

Table 3:
New Permittees - Schedule of permit requirements

<i>Permit requirement</i>	<i>Schedule</i>
Section 10. New Permittee Applicants • <i>Submit Part 1, and Part 2 of the permit application as required by Section 12.</i>	• Within 18 months of written notification from the Commissioner that the MS4 meets the criteria in Minn. R. 7090.1010, subp. 1.A. or B. and General Permit coverage is required.
Section 13. Stormwater Pollution Prevention Program (SWPPP) • <i>Complete all requirements of Sections 14 - 23.</i>	• Within 36 months of the date General Permit coverage is extended, unless other timelines have been specifically established in the General Permit and identified below; or • Within timelines established by the Commissioner in item 8.3.
Section 14. Mapping • <i>Develop a storm sewer system map.</i>	• Within 24 months of the date General Permit coverage is extended.
Section 18. Illicit Discharge Detection and Elimination • <i>Develop, implement, and enforce an Illicit Discharge Detection and Elimination Program.</i>	• Within 12 months of the date General Permit coverage is extended.
Section 19. Construction Site Stormwater Runoff Control • <i>Develop, implement, and enforce a Construction Site Stormwater Runoff Control Program.</i> • <i>When the CSW Permit is reissued, revise regulatory mechanism(s), if necessary, to be at least as stringent as the requirements for erosion, sediment, and waste controls described in the CSW Permit.</i>	• Within 12 months of the date General Permit coverage is extended. • Within 12 months of the issuance date of the CSW Permit (expected issuance date of the CSW Permit is August 1, 2023).
Section 20. Post-Construction Stormwater Management • <i>Develop, implement, and enforce a Post-Construction Stormwater Management program.</i>	• Within 24 months of the date General Permit coverage is extended.
Section 21. Pollution Prevention/Good Housekeeping for Municipal Operations • <i>Conduct structural stormwater BMP inspections.</i> • <i>Conduct pond and outfall inspections.</i>	• Each calendar year. • Prior to the expiration date of the General Permit.
Section 22. Discharges to Impaired Waters with a USEPA-Approved TMDL that includes an Applicable WLA • <i>Submit all information required in item 22.2.</i> • <i>Meet requirements for applicable WLAs for bacteria, chloride, and temperature in Section 22.</i>	• With each annual report. • Within 12 months of the date General Permit coverage is extended.
Section 23. Alum or Ferric Chloride Phosphorus Treatment Systems (if applicable) • <i>Meet requirements for treatment systems in Section 23.</i>	• Within 12 months of the date General Permit coverage is extended.
Section 25. Annual SWPPP Assessment, Annual Reporting, and Recordkeeping • <i>Conduct assessment of the SWPPP.</i> • <i>On a form provided by the Agency, submit an annual report.</i>	• Prior to completion of each annual report. • By June 30th of each calendar year.