



# Standard Operating Procedure

## Minimum Control Measure 1 Public Education and Outreach

### For More Information

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### Procedures

Identifying Priority Topics

Distribution of Educational  
Materials

Implementation of Educational  
Program

Documentation

### 1.1 BASIS FOR THE STANDARD OPERATING PROCEDURES (SOPS)

The Minnesota Pollution Control Agency reissues their 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 Hanover to develop written procedures for the purpose of developing and implementing a public education program that informs the public of the impact stormwater discharges have on waterbodies and the actions they can take to reduce the discharge of pollutants to stormwater.

This manual not only assists the City of Hanover in meeting the MS4 Permit regulations but encourages them to use targeted best management practices (BMPs) to prevent the discharge of pollutants to stormwater. This Standard Operating Procedures Manual will help promote behavior to improve the water quality of the City of Hanover's ponds, creeks, and lakes.

### 1.2 OBJECTIVES OF THE SOP

This manual is intended to provide guidance on Public Education & Outreach:

- Provide guidance to the City regarding the permit requirements for public education and outreach.
- Provide guidance to the City for implementing a public education program.
- Provide tools for tracking and documenting efforts towards achieving the goals for public education and outreach.



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### 1.3 IDENTIFYING PRIORITY TOPICS

The City of Hanover has identified potential priority topics for public education, outreach, and participation, primarily based on land use and overall population demographics. Consideration shall be given to low income, people of color, and non-English speaking people.

Priority items for public education identified:

- Pet waste
- Salt Storage and Deicing Materials
- Promoting adoption of residential best management practices (BMPs)
- Construction activities
- Yard waste

The City of Hanover is recommended to evaluate their high priority education topics at least once during each five-year permit term and update as needed.

### 1.4 DISTRIBUTION OF EDUCATIONAL MATERIALS

The City of Hanover has identified a variety of opportunities to distribute educational materials to their residents and business owners (Appendix A). On an annual basis the City distributes at least two (2) educational information specifically selected for stormwater-related issues of high priority. At least once each calendar year, the City shall distribute educational materials or equivalent outreach focused on illicit discharge recognition and reporting illicit discharges to the City.

At least once each calendar year, the City shall distribute educational materials or equivalent outreach to residents, businesses, commercial facilities, and institutions, focused on the following:

1. Impacts of deicing salt use on receiving waters.
2. Methods to reduce deicing salt use.
3. Proper storage of salt or other deicing materials.
4. Impacts of pet waste on receiving waters.
5. Proper management of pet waste.
6. Any existing City regulatory mechanism(s) for pet waste.

Distribution of educational materials and information will primarily be done through the City's website, an annual newsletter, a brochure, a stormwater-related event, and the City's social media page. The City is recommended to evaluate the distribution methods used annually during the permit term and update as needed.



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### 1.5 IMPLEMENTATION OF EDUCATIONAL PROGRAM

The City of Hanover has an educational program implementation method in place, consisting of:

- a. Identification of a target audience:
  - Residents
  - Low-income residents
  - People of color
  - Non-native English-speaking residents
- b. Designation of the responsible person(s) in charge of overall plan implementation:
  - City Administrator
- c. Specific activities and schedules to reach measurable goals for each target audience.
- d. A description of any coordination with and/or use of other stormwater education and outreach programs being conducted by other entities, as applicable.
- e. An annual evaluation to measure the extent to which measurable goals for each target audience are attained.

### 1.6 DOCUMENTATION

The City of Hanover has a procedure to document the public education and outreach program. The City is recommended to evaluate and assess the effectiveness of the education program annually, during the permit term. The program documentation consists of the following:

- a. Identification and description of any specific stormwater-related issues identified by the permittee recorded during each year of the permit coverage.
- b. Specific activities and schedules to reach measurable goals for each target audience.
- c. Information for any coordination with and/or use of other stormwater education and outreach programs being conducted by other entities, as applicable.
- d. Annual evaluation of measurable goals.



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- e. All information required under the City’s education and outreach plan in item 16.7.
- f. Activities held, including dates, to reach each target audience.
- g. Quantities and descriptions of educational materials distributed, including dates distributed.
- h. Estimated audience (e.g., number of participants, viewers, readers, listeners, etc.) for each completed education and outreach activity.

### Process

- a. After an educational document or event is disturbed or held, record brief information of the document disturbed within the City’s SWPPP tracking Excel table to help expedite the annual reporting process as well as the evaluation of the program’s effectiveness. Table 1 contains simple attributes that can be used in the database.
- b. Save all documents within the City’s network designated SWPPP folder using the same folder structure as provided with the electronic SWPPP provided.

**Table 1. Example of Public Education & Outreach Tracking Table**

Description of Activity:	Type of Material: brochure, newsletter, utility bill inserts, newspaper ad, radio ad, television ad, cable access channel, stormwater-related event, school presentation/project, website, other	Circulation/Audience: residents, business owners, developers, industrial, students, other	Date of Activity:
<i>Ex: Spring grass clippings sweep up reminder and memo</i>	<i>City newsletters insert</i>	<i>Residents – 65,000 Business owners – 3,000</i>	<i>4/2/2022</i>



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The City of Hanover shall conduct an annual assessment of the public education program to evaluate program compliance, the status of achieving the measurable requirements (activities that must be documented or tracked as applicable to the MCM (e.g., education and outreach efforts, implementation of written plans, etc.)) in Section 16 of the MS4 General Permit and determine how the program might be improved. The City shall perform the annual assessment prior to completion of each annual report and document any modifications made to the program because of the annual assessment.



# Standard Operating Procedure

## Minimum Control Measure 2 Public Participation and Involvement

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### Procedures

Implementation of Public  
Participation/Involvement  
Program

Documentation

### 2.1 BASIS FOR THE STANDARD OPERATING PROCEDURES (SOPS)

The Minnesota Pollution Control Agency reissues their 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 Hanover to develop written procedures for the purpose of developing and implementing a public education program that informs the public of the impact stormwater discharges have on waterbodies and the actions they can take to reduce the discharge of pollutants to stormwater.

This manual not only assists the City in meeting the MS4 Permit regulations, but encourages them to use targeted best management practices (BMPs) to prevent the discharge of pollutants to stormwater. This Standard Operating Procedures Manual will help promote behavior to improve the water quality of the City of Hanover's ponds, creeks, and lakes.

### 2.2 OBJECTIVES OF THE SOP

This manual is intended to provide guidance on Public Participation & Involvement:

- Provide guidance to the city regarding the permit requirements for public participation and involvement.
- Provide tools for tracking and documenting efforts towards achieving the goals for public participation and involvement.



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### 2.3 IMPLEMENTATION OF PUBLIC PARTICIPATION/INVOLVEMENT PROGRAM

The City has a public participation/involvement program implementation method in place, consisting of:

- a. Designation of the responsible person(s) in charge of overall plan implementation.
- b. Specific activities and schedules to reach measurable goals for each target audience.
- c. A description of any coordination with and/or use of other stormwater education and outreach programs being conducted by other entities, as applicable

#### Process

- a. The City of Hanover will provide a minimum of one (1) opportunity annually for the public to provide input on the adequacy of the SWPPP. The City will conduct at least one public meeting annually and will provide public notice, per the City's public notice requirements, in advance of the meeting. The City shall provide this opportunity by posting a notification of the draft annual report and contact information to review the draft report and SWPPP document.
- b. The City will consider oral and written input submitted by the public to the City, regarding the SWPPP.

#### Public Input

The City of Hanover shall 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 through:

- A hard copy upon request
- The City website

The City of Hanover shall consider oral and written input regarding the SWPPP submitted by the public by providing a minimum of one (1) public involvement activity that includes a pollution prevention or water quality theme. The City shall provide the following public involvement activities:

- Cleanup Event



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### 2.4 DOCUMENTATION

The City has a procedure to document the public participation and involvement program. The City is recommended to assess the effectiveness of the program annually, during the permit term. The program documentation consists of the following:

- a. All relevant written input submitted by persons regarding the SWPPP.
- b. All responses from the City to written input received regarding the SWPPP, including any modifications to the SWPPP as a result of written input received.
- c. Dates, attendance, and locations of events held for purposes of meeting permit requirements.
- d. Notices provided to the public of any events scheduled to meet the permit requirements for public input and consideration.
- 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.

#### Process

- a. After a public involvement event is held, record brief information of the document disturbed within the City's SWPPP tracking Excel table to help expedite the annual reporting process as well as the evaluation of the program's effectiveness. Table 2 contains simple attributes that can be used in the database.
- b. Save all documents within the City's network designated SWPPP folder using the same folder structure as provided with the electronic SWPPP provided.





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**Table 2. Example of Public Participation & Involvement Tracking Table**

Description of Activity:	Date of Activity:	Description of Any Input Received:
<i>Ex: Annual public meeting, combined with City Council meeting</i>	<i>2/2/2022</i>	<i>None</i>

The City of Hanover shall conduct an annual assessment of the Public Participation/Involvement program to evaluate program compliance, the status of achieving the measurable requirements (activities that must be documented or tracked as applicable to the MCM (e.g., public input and involvement opportunities, etc.)) in Section 17 of the MS4 General Permit and determine how the program might be improved. The City shall perform the annual assessment prior to completion of each annual report and document any modifications made to the program because of the annual assessment.



# Standard Operating Procedure

## Minimum Control Measure 3

### Illicit Discharge Detection and Elimination

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#### Possible Pollutants

Organics  
Chemicals  
Fuel

#### Procedures

Locating Priority Areas  
Review of Available Information  
Mapping Verification Process  
Detection Process  
Citizen Call-In Program  
Tracking of Illicit Discharges  
Opportunistic Illicit Discharge  
Observation  
Training

#### Appendices

Appendix A – Definitions  
Appendix B – IDDE Guidance  
Appendix C – IDDE Fact Sheet  
Appendix D – Spill Response Plan

### 3.1 BASIS FOR THE STANDARD OPERATING PROCEDURES (SOPS)

The Minnesota Pollution Control Agency reissues their 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 Hanover to develop written procedures for the purpose of eliminating non-stormwater discharges through the development of an Illicit Discharge Detection and Elimination Program.

This manual not only assists the City of Hanover in meeting the MS4 Permit regulations but encourages them to use targeted best management practices (BMPs) to prevent the discharge of non-stormwater related discharges. This Standard Operating Procedures Manual will help promote behavior to improve the water quality of the City of Hanover's ponds, creeks, and lakes.

### 3.2 OBJECTIVES OF THE SOP

This manual is intended to provide guidance on Illicit Discharge Detection and Elimination (IDDE) as follows:

- Provide guidance to municipalities regarding commonly found illicit discharges.
- Provide guidance to municipalities for prioritizing areas where illicit discharges are commonly found.
- Provide tools for detecting, tracking, and eliminating illicit discharges.



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- Provides guidance in implementing a pet waste and salt storage regulatory mechanism.
  - Provide tools that require owners or custodians of pets to remove and properly dispose of feces on the City's owned land areas.
  - Provide tools that 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.
    - c. Implementation of practices to reduce exposure when transferring material in designated salt storage areas (e.g., sweeping, diversions, and/or containment).

### 3.3 LOCATING PRIORITY AREAS

A map has been provided within the SWPPP that identifies potential priority areas for detecting illicit discharges based on land use. The methodology for further establishing priority areas is detailed in Section 3.3.1 "Review of Available Information". The City of Hanover is recommended to complete the prioritization at least once during each five-year permit term. The City will use the Public Works Supervisor as the responsible person(s) for investigating, locating, and eliminating an illicit discharge

#### 3.3.1 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, restaurant discharge including grease, cleaning solution, grass clippings, fertilizer, pesticides, salt, spills and dumping (Appendix A).

Maintain the following regulatory mechanism that prohibits non-stormwater discharges into the City's MS4:

- Ordinances



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## Preparation

The following is a list of resources that should be collected and reviewed and a brief description of factors to consider during the prioritization process:

*a. Zoning Maps*

Industrial areas with high density development may have a high illicit discharge potential. The City will target these industrial based land uses and inspect the outfalls within these areas at least annually. As appropriate, commercial areas including bars, restaurants, grocery stores, shopping malls, automobile shops, carpet cleaners, ready-mix and bituminous plants, and sand and gravel pits may be targeted for illicit discharges.

*b. Locations of Previous Illicit Discharges*

Areas with historical illicit discharge reports or previous citizen complaints may be considered as high priority. The City of Hanover currently does not have areas of known illicit discharges.

*c. High Density of Known Outfalls per Stream Mile*

Areas with a high density of outfalls are considered high priority. These outfalls within the City Hanover are within the industrial base land use of the City and will be inspected annually.

*d. Age of Infrastructure/Development*

Older areas of the community could be considered a high priority if regular IDDE action is needing to take place in these locations. Currently the City does not consider these a high priority.

*e. Location of Public Sanitary Sewer/Age of Sewer/Date of Separation*

Older areas that were put on public sewer or separated long ago should be considered high priority. No areas in the City exist where sewer was combined where illicit discharges may be present.

*f. Location of Areas on Septic Systems*

Older areas on septic systems should be considered high priority.

Maintain 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.

*g. Water Quality Information*

Areas with poor water quality should be considered high priority.



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### *h. Areas that Drain to Public Beaches*

These areas should be designated as high priority for public health and economic reasons.

The City of Hanover shall incorporate illicit discharge detection into all inspection and maintenance activities conducted.

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 shall 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.
- c. Areas with storage of significant materials that could result in an illicit discharge.

Review and field check other structures such as catch basins, culverts, pipes, ditches, drain manholes, etc.

Collect dry weather inspection information whenever possible. Dry weather discharge information can either be collected on the paper forms for manual entry into a separate database later or can be directly entered into a database on a laptop or the data logger on-site.

### Documentation

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



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### 3.4 DETECTION PROCESS

Long-term, regular inspections of outfalls are a primary part of an effective IDDE program. Regular inspections will not be significantly different from inspections conducted during mapping or in response to MCM 6 inspections. The major difference from mapping inspections will be that a crew or inspector will have historical data to work with to make assessments. These inspections will be recorded using the appropriate form and documented using the City's designated SWPPP tracking system within the network electronically at the end of the day.

Most public works crews conduct their regular duties in and around the storm drain system. A Program Manager may elect to have crews conduct IDDE inspections on a formal basis (bringing an inspection form and equipment) while performing other municipal work, or the Program Manager may elect to have crews informally "keep a look out" for illicit discharges. If an employee observes evidence of an illicit discharge during an informal or non-routine inspection without an inspection form available, they should collect as much information about the potential illicit discharge as possible then contact their supervisor so that appropriate action 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. Both the IDDE Guidance (Appendix B) and IDDE Fact Sheet (Appendix C) can be used to assist in the detection process.

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 (whether through an inspection by a municipal employee or through a citizen call-in), 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. The three types of discharges are as follows:

- 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, or eliminate before they occur, transitory discharges is through 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 (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.



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Intermittent discharges can also result from activities such as drum washing in exterior areas. These types of discharges are less likely to be discovered and are more difficult to trace and remove because they generally occur on private property and require probable cause and/or a search warrant for further investigation. These discharges can have large or small impacts on waterbodies depending on pollutant content and the size of the receiving water body.

- c. Continuous illicit discharges: 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 a potential source location was identified during the initial observation. Investigative techniques are as follows:

- 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 discharge.
- b. 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. If this catch basin/manhole inspection technique is not fruitful, some interim steps could be taken to try to trap water from an intermittent discharge. For example, sand bagging and damming or block testing of selected storm drain access points, combined with installation of an optical brightener trap to assess if detergents are present in a discharge, can help reveal the source of the discharge. If these techniques have no positive result (no water pools behind the weir or sandbag), the discharge was likely transitory (one time only), and it may not be possible to determine its origin. In this case, the location of the originally reported illicit discharge should be added to a regular inspection program to provide for the possibility of future incidents. If the original report of the illicit discharge was severe or gross pollution, then smoke testing or televising of the storm drain system may be warranted.

If clean-up is required, use the following procedures:

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



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### 3.5 CITIZEN CALL-IN PROGRAM

#### Activities and Definition

A citizen call-in program is an effective way to identify illicit discharges. To maximize the effectiveness of citizen call-ins, dispatch personnel should be instructed on the use of the IDDE inspection form to collect as much information as possible at the time of the report. If the report is a result of a spill or emergency the caller should be directed to call 911. Spill response procedures can be found in Appendix D. Dispatch personnel should also be instructed as to where to direct the information gathered from the tracking sheet so that appropriate action is taken.

#### Preparation

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

#### Process

- a. The City of Hanover will utilize IDDE inspection form to collect the appropriate information from the caller under the “Citizen Compliant” section of the form. This information should get transferred to the Program Manager for non-hazardous spills and investigated.
- b. The Fire Chief should be contacted for hazardous spills or emergency situations.
  - a. Promptly investigate reported incidents.
  - b. If an illicit discharge of unknown source is confirmed, follow the procedure of tracing illicit discharges.
  - c. If an illicit discharge known source is confirmed:
    1. For Non-Emergency Situations inform the violator that the illicit discharge needs to discontinue. This may require fixing a cross-connection, incorporating Best Management Practices, repairing a faulty piece of equipment, etc.
    2. For Spills and Emergency Situations: Follow the City’s Spill Response Plan (Appendix D).





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### 3.6 OPPORTUNISTIC ILLICIT DISCHARGE OBSERVATION

#### Activities and Definition

The opportunity to locate and document illicit discharges can occur during normal work activities by any of the City staff or inspectors. By offering the proper training to appropriate city employees and inspectors, they will be ready to actively locate illicit discharges and respond in the proper manner to issue penalties and make sure appropriate cleanup occurs.

#### Preparation

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

#### Process

- a. Call the appropriate authority (i.e., department head, stormwater specialist, or a supervisor).
- b. Assess the general area of the illicit discharge to see if the City can identify its source.
- c. Whenever possible, take photographs of the suspected illicit discharge.
- d. Responding personnel will complete the following:
  1. Complete the IDDE inspection form and save for records.
  2. Obtain sample for visual observation and complete and outfall inspection form, if applicable.
  3. Follow the procedure of IDDE – Detection Process.
- e. If clean-up is required, use the following procedures:
  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 D).

#### Documentation

- a. File all completed forms in the City’s SWPPP program network system.
- b. Document any further action taken.



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### 3.7 TRACKING ILLICIT DISCHARGES

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. Enforcement actions taken for illicit discharges

#### Process

- a. Hanover will use a system to track illicit discharges that is attached to the City's overall SWPPP program. Table 3 contains simple attributes that can be used in the database.
- b. The City of Hanover shall maintain written procedures for investigating, locating, and eliminating the source of illicit discharges. The procedures shall include:
  - a. A timeframe in which the City will investigate a reported illicit discharge.
  - b. Use of visual inspections to detect and track the source of an illicit discharge.
  - c. Tools to investigate and locate an illicit discharge.
- c. Tools to investigate and locate an illicit discharge shall include:
  - a. Mobile cameras
  - b. Collecting and analyzing water samples
  - c. Smoke testing
  - d. Dye testing
- d. Each illicit discharge will be linked to a GIS shapefile within the City's mapping system. Linking to GIS data allows mapping of illicit discharge locations, citizen complaint locations, and many other IDDE issues will assist greatly in the overall program.
- e. The City's tracking system will allow the City to evaluate the overall IDDE program and expedite the annual report to the MPCA.
- f. Save all documents within the City's network designated SWPPP folder using the same folder structure as provided with the electronic SWPPP provided.



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Table 3. Example of Illicit Discharge Database Attributes

Date of Incident/ Date Reported:	Report Initiated By: Phone, drop-in, contact information (optional), etc.	Location of Discharge: If known - lot/long, outfall #, closest street address, nearby landmark, etc.	Description of Discharge: For example - dumping, wash water, suds, oil, solvents, chemicals, 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:
Ex: 7/6/2022	Drop-in, anonymous	1234 Maple Street	Motor oil	was dumping motor oil into storm drain in front of 1234 Maple Street. Public Works Director will send written	Public Works Director mailed a written warning to resident dumping motor oil on 7/9/2022.	7/9/2022



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## 3.8 TRAINING

### Activities and Definition

Training of City staff will be important so that they are aware of the importance of Illicit Discharge Detection and Elimination. This includes knowledge in identifying illicit discharges and procedures to report and document them.

Training of field staff will as well be important in identifying illicit discharges and procedures to report and document them. At least once each calendar year, the City shall train all field staff in illicit discharge recognition (including conditions which could cause illicit discharges) and reporting illicit discharges for further investigation. Staff will be trained through in-person presentations and field training.

Previously trained individuals shall attend a refresher-training every three (3) calendar years following the initial training.

The following list gives the yearly training required for departments and the people involved:

- a. *Employees of City owned or operated facilities:*  
Including water quality impacts associated with illicit discharges and improper disposal of waste.
- b. *MS4 engineers, development and plan review staff, land use planners:*  
Post-construction control requirements and associated BMPs.
- c. *Field Staff (Public Works, Parks Staff, Administrative Staff):*  
Identification, investigation, termination, cleanup, and reporting of illicit discharges.
- d. *Office Staff:*  
Illicit discharge reporting.
- e. *Field and Other Staff:*  
Implementation of the construction and post-construction stormwater management program, including permitting, plan review, inspections, and enforcement.

### Documentation

The City of Hanover shall document the following relating to MCM 3:

- a. Date(s) and location(s) of IDDE inspections conducted.
- b. Reports of alleged illicit discharges received, including date(s) of the report(s), and any follow-up action(s) the City takes.
- c. Date(s) of discovery of all illicit discharges.



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- 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).
- f. Action(s) the City takes, including date(s), to address discovered illicit discharges.

The City shall document following components:

- a. General subject matter covered.
- b. Names and departments of individuals in attendance.
- c. Date of each event.



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### 3.9 ENFORCEMENT RESPONSE PROCEDURE

#### Activities and Definition

To the extent allowable under state or local law, the City of Hanover shall develop, implement, and enforce a regulatory mechanism(s) that prohibits non-stormwater discharges into the City's MS4, except those non-stormwater discharges authorized in item 3.2.

The City of Hanover 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:

- a. Verbal warning
- b. Notice of violation
- c. Criminal action
- d. Civil penalty

#### Documentation

The City of Hanover shall document the following relating to ERPs:

- a. Name of the person responsible for violating the terms and conditions of the City'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) that the City issued.
- e. Referrals to other regulatory organizations (if any).
- f. Date(s) violation(s) resolved.

The City shall conduct an annual assessment of the IDDE program to evaluate program compliance, the status of achieving the measurable requirements (activities that must be documented or tracked as applicable to the MCM (e.g., trainings, inventory, inspections, enforcement, etc.)) in Section 18 of the MS4 General permit and determine how the program might be improved. The City shall perform the annual assessment prior to completion of each annual report and document any modifications made to the program because of the annual assessment.



# Standard Operating Procedure

## 3.10 REFERENCES

Center for Watershed Protection. 2004. Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments. Center for Watershed Protection, Ellicott City, MD & University of Alabama, Tuscaloosa, AL.

Sargent, D. and W. Casonguay. 1998. An Optical Brightener Handbook. Prepared for: The Eight Towns and the Bay Committee. Ipswich, MA. Available at:  
<http://www.naturecompass.org/8tb/sampling/index.html>.

Waye, D. 2003. A New Tool for Tracing Human Sewage in Waterbodies: Optical Brightener Monitoring. Northern Virginia Regional Commission. Annandale, VA. Available online  
[http://www.novaregion.org/pdf/OBM\\_Abstract2.pdf](http://www.novaregion.org/pdf/OBM_Abstract2.pdf).



# Standard Operating Procedure

## Minimum Control Measure 4 Construction Erosion and Sediment Control

### For More Information

Jennifer Nash, City Administrator  
11250 5th Street NE  
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### Possible Pollutants

Sediment  
Erosion  
General Housekeeping

### Procedures

Plan Review  
Training  
Inspections  
City Projects Erosion and Sediment  
Control BMPs  
Private Projects  
Private Projects Long-Term  
Operation and Maintenance

### Appendices

Appendix A – Construction Site  
Guidance  
Appendix B – Detail Plates  
Appendix C – Erosion and Sediment  
Control Reminder Handout  
Appendix D – Individual Lot  
Erosion and Sediment Control

### 4.1 BASIS FOR THE STANDARD OPERATING PROCEDURES (SOPS)

The Minnesota Pollution Control Agency issues a National Pollutant Discharge Elimination System (NPDES) General Permit (GP) for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). The MS4 permit requires the City of Hanover to develop written procedures for the purpose of eliminating pollutants associated with construction activity due to new development and redevelopment on projects with land disturbance that meets the following:

- Disturbs a total land surface area of 5,000 square feet or more; or
- Uncovering or disturbing of material in excess of 400 cubic yards of undeveloped land, or 40 cubic yards of developed land; or
- Within 200 feet of a waterway or surface water(s); or
- Is a land disturbing activity, regardless of size, that the City of Hanover determines is likely to cause an adverse impact to an environmentally sensitive area or other property or may violate any other erosion and sediment control standard set forth in this ordinance.

This manual assists the City in meeting the MS4 Permit regulations, by incorporating guidance on the following:

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





# Standard Operating Procedure

## 4.2 OBJECTIVES OF THE SOP

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

- Provide guidance regarding plan review procedures.
- Provide guidance regarding plan review procedures.
- Provide guidance to communities for prioritizing where construction site inspections may need to occur on a more frequent basis.
- Provide guidance to City staff on what to look for during construction inspections.
- Provide guidance on how to enforce non-compliant construction sites.
- Provide guidance to City staff on proper procedures for BMP operation and maintenance.
- 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.



# Standard Operating Procedure

## 4.3 DEVELOPMENT PLAN REVIEW

### Activities and Definition

Plans that are submitted to the City of Hanover for approval will have a review process to verify that erosion and sediment control standards are being met.

Maintain the following regulatory mechanism that prohibits non-stormwater discharges into the City's MS4 and establishes erosion, sediment, and waste controls as stringent as the Construction Stormwater Permit requirements for construction sites:

- Ordinances

### Preparation

- 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.
- Review City Zoning Code, Subdivision Code, City's Engineering Design Standards for Stormwater Management, the MPCA Construction General Permit.
- Reviews of submitted plans, will utilize a check list to insure accuracy.

### Process

The City's regulatory mechanism(s) 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. The regulatory mechanism(s) shall require the owners and operators of construction activity to keep site plans up to date regarding 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:

- Erosion prevention practices.
- Sediment control practices.
- Dewatering and basin draining.
- Inspection and maintenance.
- Pollution prevention management measures.
- Temporary sediment basins.
- Termination conditions.



## Standard Operating Procedure

The following additional processes shall be done:

- a. Building lots will be required to submit a Stormwater Pollution Prevention Plan (SWPPP).
- b. The City of Hanover shall use written notification to owners and operators of the need to apply for and obtain coverage under the CSW Permit.
- c. The City shall use a written checklist, consistent with the requirements of the regulatory mechanism(s), to document the adequacy of each site plan required.
- d. The City engineering and staff will review plans and for sites equal to or greater than one acre.
- e. A check list will be used to insure accuracy and thoroughness of submitted plans.
- f. The City will be responsible for enforcement of their stormwater rules.

### Follow-up

When plans are submitted by the applicant, the design staff will ensure that all comments are addressed before work can take place on site. The applicant shall address comments offered by the City prior to permit issuance. The City of Hanover has 60 days to make a final decision on a development or redevelopment review.

### Documentation

- a. Document each plan review completed within the City's SWPPP tracking Excel table to help expedite the annual reporting process.
  1. Project name
  2. Location
  3. Total acreage to be disturbed
  4. Owner and operator of the proposed construction activity
  5. Proof of notification to obtain coverage under the CSW Permit or proof of coverage under the CSW Permit
  6. Any stormwater related comments and supporting completed checklist, to determine project approval or denial
- b. Keep copies of plans, BMP quantities, and proposed BMPs that will be available to the inspector.
- c. Keep a log of all maintenance agreements that are filed with the City.



# Standard Operating Procedure

## 4.4 TRAINING

### Activities and Definition

Training of City staff will be important so that they are aware of the importance of good erosion and sediment control practices. This includes knowledge in installation and inspection techniques as well as record keeping and maintenance activities. It is important 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 employee training provided by the City will include stormwater 101 training sessions, training received through the University of Minnesota's erosion and sediment control, and a hands-on process to discuss the activities that are occurring in the field and how those activities can impact the City's MS4 program. Including employees into the planning process will help them understand that they are part of the solution to improve water quality.

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.

### Documentation

The following shall be documented:

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



# Standard Operating Procedure

## 4.5 INSPECTIONS

### Activities and Definition

Construction site inspections will determine compliance with the City's regulatory mechanism(s).

### Preparation

- a. Annually, identify priority sites for inspection based on topography, type of receiving water, stage of construction, citizen complaints, and project size.
- b. Ensure the name(s) of individual(s) or position title(s) responsible for conducting site inspections is the Environmental Compliance Specialist.
- c. Ensure staff has proper training pertaining to erosion and sediment control techniques.
- d. Refer to the construction site guidance document (Appendix A) and the City's BMP standard detail plates (Appendix B) to review proper installation techniques are being used.

### Process

- a. Identify sites that require an erosion and sediment control inspection.
- b. Prior to construction, the following erosion and control BMPs must be installed:
  1. A single rock construction entrance must be used for the entire entrance/exit of the site to eliminate tracking into streets
  2. Perimeter control:
    - i. Silt fence must be trenched
    - ii. Silt fence needed for 2:1 slopes or steeper inclines and behind sidewalk
    - iii. Filter logs may be used for curbside perimeter control and when slope is not an issue.
    - iv. Sodded buffer strip
  3. Inlet Protection
  4. Protection for rear lot catch basins
- e. Perform inspection using the City's construction ESC inspection form.
- f. Document construction activities and follow up with site owner/City about findings from inspection.
  1. If feasible, prior to leaving the site talk to the responsible person to ensure corrections can be made in a timely fashion.



## Standard Operating Procedure

2. Send the Erosion Control Notice(s) to the permit applicant responsible.
- g. Perform a follow up inspection of site if deficiencies are found during initial inspection. Ensure that correction items have been completed. Ensure high -priority sites are inspected once every seven (7) days.
- h. Ensure the Building Official is responsible for conducting this enforcement. Failure to comply with the permit requirements may require initiating enforcement action as described in the City's Enforcement Response Plan as follows:
  1. Verbal Warning
  2. Notice of Violations
  3. Stop-Work Orders
  4. Criminal Action
  5. Civil Penalty

### Documentation

- a. The City of Hanover shall maintain written procedures for identifying high-priority and low-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.
  4. The name(s) of individual(s) or position title(s) responsible for conducting site inspections.
- b. City staff shall record the following items in the City's SWPPP tracking system to document each site inspection when determining compliance with the City's regulatory mechanism(s).
  1. Whether stabilization of exposed soils (including stockpiles) was done.
  2. Whether stabilization of ditch and swale bottoms was done.
  3. Whether storm drains have inlet protection.
  4. Whether energy dissipation at pipe outlets was done.
  5. Vehicle tracking BMPs.
  6. Whether the preservation of a 50-foot natural buffer or redundant sediment controls where stormwater flows to a surface water within 50 feet of disturbed soils was done.
  7. Owner/operator of construction activity self-inspection records.
  8. 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).
  9. BMPs maintained and functional.



## Standard Operating Procedure

- c. City staff shall record the following items in the City's SWPPP tracking system to document the status of erosion and sediment control violations, enforcement actions and follow-up:
1. Keep logs of number of inspections.
  2. Keep records of inspection reports and reports sent.
  3. Keep records of escalation of penalties.
    - i. Name of the person responsible for violating the terms and conditions of the City's regulatory mechanism(s)
    - ii. Date(s) and location(s) of the observed violation(s)
    - iii. Description of the violation(s)
    - iv. Corrective action(s) (including completion schedule) that the City issued
    - v. Referrals to other regulatory organizations (if any)
    - vi. Date(s) violation(s) resolved
- d. Save all documents within the City's network designated SWPPP folder using the same folder structure as provided with the electronic SWPPP provided.

### Noncompliance

The City of Hanover shall maintain written procedures for receipt and consideration of reports of noncompliance or other stormwater related information on construction activity submitted by the public. The public may submit concerns about construction violations through the City's website or by calling the City directly. Reports are investigated within one business day.

The City shall 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).



## Standard Operating Procedure

### 4.6 CITY PROJECTS EROSION AND SEDIMENT CONTROL BMPS

#### Activities and Definition

City projects that involve excavation or filling, or a combination of excavation and filling, in excess of 50 cubic yards of material 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/or have been trained by a certified staff person on proper erosion and sediment control techniques.
- c. Refer to the construction site guidance document (Appendix A) and the City's BMP standard detail plates (Appendix B) to review proper installation techniques are being used.

#### Process

- a. All qualified construction and land disturbing activities within the City should follow the City Code as well as the City's Engineering Design Standards for Stormwater Management.
- b. All construction projects that have the potential to impact the MS4 system or any natural resource will have BMPS available prior to construction activity.
- c. 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.
- d. 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.
- e. 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.
- f. Install down gradient perimeter control where needed on the site.





## Standard Operating Procedure

- g. Provide inlet protection for adjacent inlets and outlets, to prevent sediment and debris from discharging into the storm sewer.
- h. Stabilize all exposed soil areas and stockpiles as soon as possible or upon completion of work. If work is not complete, temporary stabilization methods will be used if the work will not continue for more than 14 days, or 7 days depending on the discharge proximity to special/impaired waters.
- i. If any sediment reaches the MS4 system (including surface waters, drainage ditches, and conveyance systems, etc.), the sediment is required to be removed within seven (7) days after it is found.

### Documentation

- a. Keep a log showing that 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 in accordance with the NPDES Construction General Permit.
- 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.
- f. Save all documents within the City's network designated SWPPP folder using the same folder structure as provided with the electronic SWPPP provided.



# Standard Operating Procedure

## 4.7 PRIVATE PROJECTS

### Activities and Definition

- a. Private projects that require a permit, as per the requirements set forth in the City Code 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. Building officials will be responsible for inspecting building permit activities. Engineering staff will be responsible for inspecting sites that require a state NPDES permit.
- b. The City of Hanover requires the submittal of a Stormwater Management Plan for all projects that require a grading, drainage and erosion control permit.
- c. The City has staff that actively inspects construction sites throughout the City's jurisdiction.

### Process

- a. Any private project that will require a City permit will be given both the erosion and sediment control reminder handout (Appendix C) and the individual lot erosion and sediment control handout (Appendix D), depending on their applicability, to assist the City in proper BMP choice and use.
- b. All qualified construction and land disturbing activities within the City should follow the City Code and the City's Engineering Design Standards for Stormwater Management.
- c. Any private projects that are within the City limits will be inspected by a qualified City employee. Inspections will occur at a frequency that is commensurate of the activities taking place. The field inspector will use the City's ESC inspection form.

### Documentation

- a. Keep track of private project locations and obtain 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 inspection reports and reports sent.
- d. Keep records of any enforcement action(s) taken.



## Standard Operating Procedure

The City of Hanover shall conduct an annual assessment of the Construction Site Stormwater Runoff Control program to evaluate program compliance, the status of achieving the measurable requirements (activities that must be documented or tracked as applicable to the MCM (e.g., inventory, trainings, site plan reviews, inspections, enforcement, etc.)) in Section 19 of the MS4 General Permit and determine how the program might be improved. The City shall perform the annual assessment prior to completion of each annual report and document any modifications made to the program because of the annual assessment.



# Standard Operating Procedure

## Minimum Control Measure 5 Post-Construction Stormwater Management

### 5.1 PLAN REVIEW

#### Activities and Definition

Plans that are submitted to the City of Hanover for approval will have a review process to guarantee that post-construction stormwater standards are being met. The City shall require owners of construction activity to submit site plans with post-construction stormwater management BMPs designed with accepted engineering practices to the City for review and confirmation that regulatory mechanism(s) requirements have been met, prior to start of construction activity.

The approach to meet the performance standard for Volume, Total Suspended Solids (TSS) and Total Phosphorus (TP) required by the Permit is to retain a runoff volume equal to one-inch times the area of the proposed increase of impervious surfaces on-site.

Maintain the following post-construction stormwater management regulatory mechanisms that prohibits non-stormwater discharges into the City's MS4, requires the use of green infrastructure, and prohibits infiltration in certain situations, and restricts it in others:

- Ordinances

The following requirements are incorporated into the City's regulatory mechanism:

- a. Require owners of construction activity to submit site plans with post-construction stormwater management BMPs designed with accepted engineering practices to the City of Hanover for review and confirmation that regulatory mechanism(s) requirements have been met, prior to start of construction activity
- b. 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.
- c. 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.
- d. 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.



## Standard Operating Procedure

- e. 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.
  - 1. Volume reduction practices must be considered first.
  - 2. Volume reduction practices are not required if the practices cannot be provided cost effectively.
  - 3. 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.
  - 4. The General Permit does not consider wet sedimentation basins and filtration systems to be volume reduction practices. If the General Permit prohibits infiltration, other volume reduction practices, a wet sedimentation basin, or filtration basin may be considered.
  - 5. For non-linear projects, where the water quality volume cannot cost effectively be treated on the site of the original construction activity, the City must identify, or may require owners of the construction activity to identify, locations where off-site treatment projects can be completed.
  - 6. If the entire water quality volume is not addressed on the site of the original construction activity and the remaining water quality volume must be addressed through off-site treatment.
- f. Infiltration systems must be prohibited when the system would be constructed in areas:
  - 1. That receive discharges from vehicle fueling and maintenance areas, regardless of the amount of new and fully reconstructed impervious surface.
  - 2. 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.
  - 3. 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.
  - 4. 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.
  - 5. Of predominately Hydrologic Soil Group D (clay) soils.
  - 6. 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.



## Standard Operating Procedure

7. In an ERA within a DWSMA classified as moderate vulnerability unless the City performs or approves a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater.
  8. Outside of an ERA within a DWSMA classified as high or very high vulnerability unless the City performs or approves a higher level of engineering review sufficient to provide a functioning treatment system and to prevent adverse impacts to groundwater.
  9. Within 1,000 feet up-gradient or 100 feet down gradient of active karst features
- g. For non-linear projects, where the water quality volume cannot cost effectively be treated on the site of the original construction activity, the City 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 and the remaining water quality volume must be addressed through off-site treatment
  - h. Ensure off-site treatment project areas are selected in the following order of preference:
    1. Locations that yield benefits to the same receiving water that receives runoff from the original construction activity.
    2. Locations within the same DNR catchment area as the original construction activity.
    3. Locations in the next adjacent DNR catchment area up-stream.
    4. Locations anywhere within the City's jurisdiction.
  - i. If the City receive payment from the owner of a construction activity for off-site treatment and the City must apply any such payment received to a public stormwater project.
  - j. 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.
  - k. Off-site treatment projects must be completed no later than 24 months after the start of the original construction activity. If the City determines more time is needed to complete the treatment project, the City must provide the reason(s) and schedule(s) for completing the project in the annual report.
  - l. Include the establishment of legal mechanism(s) between the City and owners of structural stormwater BMPs not owned or operated by the City, that have been constructed to meet the requirements in Section 20. The legal mechanism(s) must include provisions that, at a minimum
    1. Allow the City of Hanover to conduct inspections of structural stormwater BMPs not owned or operated by the City, perform necessary maintenance, and assess costs for those structural stormwater BMPs when the City determine the owner of that structural stormwater BMP has not ensured proper function.



## Standard Operating Procedure

2. Are designed to preserve the City's right to ensure maintenance responsibility, for structural stormwater BMPs not owned or operated by the City when those responsibilities are legally transferred to another party.
3. 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

### Preparation

- a. Review City Ordinances, the MPCA Construction General Permit, and the MS4 post-construction standards.
- b. Reviews of submitted plans, will utilize a check list to ensure accuracy.

### Process

- a. Building lots will be required to submit a Stormwater Pollution Prevention Plan (SWPPP).
- b. The City of Hanover's engineering and staff will review plans and for sites equal to or greater than one acre.
- c. A check list will be used to ensure accuracy and thoroughness of submitted plans.
- d. The City of Hanover will be responsible for enforcement of their stormwater rules:
  1. *Erosion and Sediment Control*. Unless otherwise exempted by these Standards, Applicants are required to follow the Erosion and Sediment Control requirements of this Section and are encouraged to incorporate the Stormwater Management requirements of this Section, for all proposed land disturbing activities within the City that meet any or all the following:
    - i. Disturbs a total land surface area of 6,000 square feet or more; or
    - ii. Involves excavation or filling, or a combination of excavation and filling, more than 100 cubic yards of material; or
    - iii. Involves the laying, repairing, replacing, or enlarging of an underground utility, pipe or other facility, or the disturbance of road ditch, grass swale or other open channel for 300 feet or more; or
    - iv. Is a land disturbing activity, regardless of size, that the City determines is likely to cause an adverse impact to an environmentally sensitive area or other property or may violate any other erosion and sediment control standard set forth in this ordinance.



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- v. Any land disturbance activity, regardless of size, that the City determines is likely to cause an adverse impact to an environmentally sensitive area or other property.
2. *Stormwater Management.* Unless otherwise exempted in these Standards, Applicants are required to develop a Stormwater Management Plan that meets the requirements of this Section, for all proposed land disturbing activities that meet any or all the following:
  - i. Any land disturbing activity that may ultimately result in the addition of 1.0 acre or greater of impervious surfaces, including smaller individual sites that are part of a common plan of development that may be constructed at different times; or
  - ii. Any land disturbance activity, regardless of size, that the City determines is likely to cause an adverse impact to an environmentally sensitive area or other property.
3. *Exemptions.* The provisions of this Section do not apply to:
  - i. Any part of a subdivision if a preliminary plat for the subdivision that has been approved by the City Council on or before the effective date hereof.
  - ii. Installation of fence, sign, telephone, and electric poles and other kinds of posts or poles.
  - iii. Excavations or land moving activities involving less than fifty cubic yards of soil.
  - iv. Emergency work to protect life, limb, or property.

### Training

The City of Hanover 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.

### Follow-up

When plans are submitted by the applicant, the design staff will ensure that all comments are addressed before work can take place on site. The applicant shall address comments offered by the City prior to permit issuance. The City has 60 days to make a final decision on a development or redevelopment review.

### Documentation

- a. Document each plan review completed within the City's SWPPP tracking Excel table to help expedite the annual reporting process.
- b. Keep copies of plans, BMP quantities, and proposed BMPs that will be available to the inspector.
- c. Keep a log of all maintenance agreements that are filed with the City.





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Documentation as related to the City's site review process:

- a. Supporting documentation used to determine compliance, including any calculations for the permanent stormwater treatment system.
- b. The water quality volume that will be treated through volume reduction practices compared to the total water quality volume required to be treated.
- c. Payments received and used.
- d. All legal mechanisms drafted, including date(s) of the agreement(s) and name(s) of all responsible parties involved.

Documentation as related to training:

- a. Document general subject matter covered.
- b. The names and departments of individuals in attendance.
- c. The date of each event.



# Standard Operating Procedure

## 5.2 LONG-TERM 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 on the deed of the property. After the maintenance agreement is executed, the City is required to ensure the conditions for post-construction stormwater management continue to be met.

### Preparation

Develop a reporting mechanism (i.e., worksheet, questionnaire, etc.) for owners of post-construction stormwater BMPs.

### Process

- a. The City of Hanover may conduct inspections of post-construction stormwater BMPs once during each MS4 permit cycle to determine if the system(s) are functioning as designed and permitted.
- b. Once during each MS4 permit cycle request applicants to fill out and return the questionnaire.
- c. If any applicants do not return their questionnaire to the City, the City may inspect the post-construction stormwater BMP on behalf of the applicant and bill the property owner for administrative costs incurred.
- d. Notify all owners of post-construction stormwater BMPs with deficiencies and require repair within 4 months.
- e. If any owners of post-construction stormwater BMPs with deficiencies are not repaired within 4 months of notification, the City may complete the repairs and bill the property owner for such repairs.
- f. Decertify all owners of post-construction stormwater BMPs that do not return the questionnaire.
- g. Defer all applicants that do not return their questionnaire to the watersheds for enforcement.



# Standard Operating Procedure

## Enforcement Response Procedure

The City of Hanover shall maintain written ERPs to compel compliance with the regulatory mechanism(s) required in Section 20. The City shall specify the City Engineer as the position title of responsible person(s) for conducting enforcement along with the timeframe. The following enforcement tools include:

- a. Notice of violations
- b. Criminal actions
- c. Civil penalties

## Documentation

The City 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.

The City shall:

- a. Keep logs of all maintenance agreements that get filed with the City of Hanover along with their BMP locations.
- b. Annually update the City mapping system to include all public and private storm sewer 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. Obtain a long-term maintenance agreement for private structural stormwater BMPs.
- e. Obtain a site plan review procedure to ensure the post-construction stormwater management is in accordance with the regulatory mechanism.
- f. Update the GIS system to include all public and private storm sewer and post-construction stormwater BMPs installed within the City.

Documentation as related to the enforcement conducted pursuant to the City's ERPs:

- a. A description of enforcement tools available to the permittee and guidelines for the use of each tool;
- b. The name or position title of responsible person(s) for conducting enforcement.
- c. The name of the person responsible for violating the terms and conditions of the City's regulatory mechanism(s).
- d. The date(s) and location(s) of the observed violation(s).
- e. A description of the violation(s) Corrective action(s) issued.



## Standard Operating Procedure

- f. Corrective action(s) issued.
- g. Referrals to other regulatory organizations.
- h. The date(s) violation(s) are resolved.

Keep copies of returned reporting mechanisms and inspection reports on file for at least three (3) years, should the City of Hanover be required to perform maintenance for non-compliance.

The City of Hanover shall conduct an annual assessment of the Post-Construction Stormwater Management program to evaluate program compliance, the status of achieving the measurable requirements (activities that must be documented or tracked as applicable to the MCM (e.g., inventory, trainings, site plan reviews, inspections, enforcement, etc.)) in Section 20 of the MS4 General Permit and determine how the program might be improved. The City shall perform the annual assessment prior to completion of each annual report and document any modifications made to the program because of the annual assessment.



# Standard Operating Procedure

## Minimum Control Measure 6 Pollution Prevention and Good Housekeeping Practices for Municipal Facilities

### For More Information

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### Possible Pollutants

Sediment

Erosion

General Housekeeping

Hazardous Materials

### Procedures

Operations

Pollution Prevention

Parks

Sanitary Sewer - Overflows

Streets

Storm Drainage System

Vehicles

Water

### Appendices

Appendix A – Facility Inventory  
Form

Appendix B – Inspection Forms

Appendix C – MPCA Pond  
Inventory

Appendix D – Sediment Removal  
Guidance

Appendix E – Spill Response Plan

### 6.1 BASIS FOR THE STANDARD OPERATING PROCEDURES (SOPS)

The Minnesota Pollution Control Agency issues 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 Hanover to alter their 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.

### 6.2 OBJECTIVES OF THE SOP

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 response.
- Provide BMPs to prevent or reduce the stormwater impacts documented on the Facility Inventory Form.
- Provide BMPs to protect Source Water Protection Areas, such as Drinking Water Supply Management Areas and source water protection areas for surface intakes.
- Stormwater pond assessment procedures and schedule to evaluate the effectiveness of total suspended solids (TSS) and total phosphorus (TP) removal of municipally owned/operated ponds.
- Provide tools for documenting inspections of ponds, outfalls, and municipal facilities.



# Standard Operating Procedure

## 6.3 OPERATIONS

### Work Schedule

Inspection and maintenance are performed in conjunction with and can be impacted by other maintenance operations. Inspection and maintenance will typically be conducted during a regular eight (8) hour workday. Extended workdays and shift changes may be necessary for spring runoff events and emergency conditions to provide maximum efficiency. For safety reasons, no operator will work more than a twelve (12) hour shift in any twenty-four (24) hour period.

### Training

The City of Hanover will provide training and information on a regular basis to employees involved in the inspection and maintenance of the City's storm drainage system. At a minimum, training and information will cover:

- Inspection/maintenance procedures.
- Reasons for inspection/maintenance.
- Erosion and sediment control inspection/maintenance practices.
- Good housekeeping practices associated with municipal activities.
- Daily, intermediate and long-term preventative inspection/maintenance.
- Major/minor repairs.
- Vegetation inspection.
- Stormwater basins versus wetlands.
- Spills or illegal dumping into the storm sewer system.
- Public stormwater basins versus private stormwater basins.
- Stormwater basins with vegetation requiring additional inspection/maintenance.

The City's training program shall include:

- The importance of protecting water quality.
- The requirements of the permit relevant to the responsibilities of the individual.
- 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.

The City's winter maintenance training program shall include:

- The importance of protecting water quality.
- BMPs to minimize the use of deicers.
- Tools and resources to assist in winter maintenance (e.g., deicing application rate guidelines, calibration charts, Smart Salting Assessment Tool).

### Complaints



## Standard Operating Procedure

Complaints concerning the storm drainage system will be taken during normal working hours and after normal working hours by those designated as emergency contacts. Problems requiring immediate attention will be handled on a priority basis as determined by the Public Works Director. The City will document all complaints and upgrade this procedure as necessary while considering the constraints of available resources.

### Documentation

The City of Hanover will document the inspection, maintenance, complaint and emergency responses actions as defined by this document and ensure the Public Works Supervisor is responsible for the implementation of this MCM. The City will document the inspection, maintenance, complaint and emergency responses actions as defined by this document. The inspection and maintenance activities associated with the storm sewer system and stockpile/storage material handling areas will be completed using the forms provided in this document.

Maintain a written or mapped inventory of the City's owned/operated facilities that contribute pollutants to stormwater discharges:

- a. Equipment storage and maintenance
- b. Parks
- c. Public parking lot(s)
- d. Public works yard(s)
- e. Salt storage
- f. Snow storage
- g. Vehicle storage and maintenance (e.g., fueling and washing) yard(s)
- h. Materials storage yard(s)



# Standard Operating Procedure

## 6.4 POLLUTION PREVENTION

### 6.4.1 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.

#### 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 overflowing.
- c. Wash out bins or dumpsters as needed to keep odors from becoming a problem.

#### Documentation

Document training of employees.





# Standard Operating Procedure

## 6.4.2 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, 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.

### Documentation

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



## Standard Operating Procedure

### 6.4.3 Stockpile and Storage Material Handling Areas

#### Activities and Definition

The City of Hanover completed their facility inventory March 2015. During the inventory the City evaluated public works facilities, police stations, parks, open space, and their water treatment facility. It was determined that only two facilities have areas with pollutants concerns that will need to be inspected on a quarterly basis. During the inspections the City will evaluate fueling procedures, stockpiles, hazardous wastes storage, landscape areas, and vehicle/equipment washing.

#### Preparation

- a. Conduct regular employee training to reinforce proper housekeeping.
- b. Install proper BMPs as indicated on the facility BMP map.
- c. Perform regular maintenance of BMPs installed.

#### Process

- a. Quarterly inspect all areas as shown the BMP facility map and as per the facility inspection form.
- b. Perform maintenance as directed on the facility inspection form.

#### Clean-up/Follow-up

- a. Install/replace failing BMPs.
- b. Purchase new BMPs to ensure adequate quantities are available for maintenance.
- c. Equipment not to be cleaned out unless appropriate inlet project device is put in place.
- d. Fueling areas are to be inspected for leaks and all spill kits re-stocked.

#### Documentation

- a. Keep inspection and maintenance logs.
- b. Logs to be updated quarterly.



# Standard Operating Procedure

## 6.5 PARKS

### 6.5.1 Chemical Application Pesticides, Herbicides, Fertilizers

#### Activities and Definition

A pivotal part of the beautification of the City is a great parks system. The health and beauty of lawns and natural areas take the application of some chemicals and fertilizers.

#### Preparation

- a. Make sure the City's state Chemical Handling Certification is complete and up to date before handling any chemicals. All City of Hanover staff who handle chemicals have the appropriate Applicator's Certification.
- b. Calibrate fertilizer and pesticide application equipment to avoid excessive application.
- c. Use pesticides only if there is an actual pest problem and periodically test soils for determining proper fertilizer use.
- d. Time and apply the application of fertilizers, herbicides or pesticides to coincide with the manufacturer's recommendations for best results ("Read the Label").
- e. 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 and never on impervious surfaces. 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

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



# Standard Operating Procedure

## 6.5.2 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 Department's daily activities.

### Preparation

Review process with all Parks employees.

### Process

- a. Ensure appropriate inlet protection is installed within adjacent storm sewer structures that may receive discharge from equipment washing areas.
- b. Wipe off dirt, dust and fluids with disposable towel or air compressor.
- c. If detergents are used 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

N/A



# Standard Operating Procedure

## 6.5.3 Mowing and Trimming

### Activities and Definition

Regular mowing and trimming activities have potential to deposit materials onto hard surfaces. Care should be taken to ensure 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

- a. Put on eye and hearing protection, as required.
- b. Mow and trim the lawn.
- c. Sweep or blow clippings to grass areas, then clear with deck of mower.

### Clean-up/Follow-up

- a. Mowers are cleaned daily. Refer to equipment cleaning procedures.
- b. Dry spoils are dry swept and disposed of properly
- c. Wash equipment in approved wash station.

### Documentation

Document and observed deficiencies for correction or repair.



# Standard Operating Procedure

## 6.5.4 Open Space Management

### Activities and Definition

Open space provides great value to the park system that go beyond ball fields. This includes stormwater retention and potential flood relief.

### 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.

### Documentation

Document and observed deficiencies for correction or repair.



# Standard Operating Procedure

## 6.5.5 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. Enforce ordinance that requires pet owners to clean up pet wastes and use leashes in public areas. If public off-leash areas are designated, verify they are clearly defined.
- b. Whenever practical and cost effective, install dispensers for pet waste bags and provide disposal containers at locations such as trail heads or parks where pet waste has been a problem. Provide signs with instructions for proper cleanup and disposal.

### Process

- a. Check parks and trails for pet waste as needed.
- b. Check public open space for pet waste while mowing and watering.
- c. Provide ordinance enforcement as needed. Look for opportunities for increased education.

### Clean up/Follow-up

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

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



## Standard Operating Procedure

### 6.5.6 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 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 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

N/A





## Standard Operating Procedure

### 6.5.7 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.
- c. Transport spoils to their designated fill or disposal area.

#### Documentation

N/A



# Standard Operating Procedure

## 6.5.8 Transporting Equipment

### Activities and Definition

Equipment Transportation is a pivotal part of the daily activities that occurs daily.

### Preparation

- a. Determine equipment needed for transport and method (trailer, truck bed) needed to transport equipment, if required.
- 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, if required.
- d. Wash equipment if needed, according to the written procedure for cleaning equipment.

### Documentation

Pre-trip and post-trip inspection report, if required.



# Standard Operating Procedure

## 6.6 SANITARY SEWER – OVERFLOWS

### Activities and Definition

Sanitary sewer system even with high-performing operation and maintenance programs will experience overflows and backups from time to time. A proper response plan will help mitigate the effects of a backup and it will be necessary to contact the Minnesota State Duty Officer.

### Preparation

- a. Train staff to make them aware of the need to report the spill and spill response/clean-up procedures (Appendix C).
- b. Have all equipment ready to assist with spill clean-up or containment (e.g., confined space entry equipment, safety gear, jet flushing unit/vacuum truck, pumps, disinfectants, televising equipment, etc.)
- c. Have sewer maps available.

### Process

- a. Report sanitary sewer spill to Minnesota State Duty Officer at (651)-422-0798 or 1-800-422-0798.
- b. Typical information requested by the Minnesota State Duty Officer includes:
  1. Name of caller
  2. Date, time, and location of incident
  3. Telephone number for call-backs at the scene or facility
  4. Whether local officials have been notified
  5. Materials and quantity involved in the incident
  6. Incident location
  7. Responsible party
  8. Any surface waters or sewers impacted
  9. Present situation of the spill (on-going or contained)
- c. Inform the public if they are at risk (e.g., spill nears swimming beached, public drinking water intakes, and recreational areas. Notification mechanisms may include:
  1. Hand delivery of door hangers
  2. Temporary posting at impacted areas
  3. Notifications in newspaper, radio announcements, messages on local access cable channel, messages on website, and social media.



# Standard Operating Procedure

## 6.7 STREETS

### 6.7.1 Overlays and Patching

#### Activities and Definition

Pollutants collect on surfaces in between storm events because 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. Cracks should be properly sealed. Alligator cracks and potholes should be removed and patched. Rutting should be milled.
- c. Surface should be clean and dry.
- d. Uniform tack coat applied and cured prior to placement of overlay.
- e. If milling is required, install inlet protection as needed.

#### Process

- 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

NA



# Standard Operating Procedure

## 6.7.2 Crack Seal

### Activities and Definition

Pollutants collect on surfaces in between storm events because of atmospheric deposition, vehicle emissions, winter road maintenance, construction site debris, trash, road wear and tear. Crack sealing is a part of the maintenance of these surfaces that help prolong the life of the roadway.

### Preparation

- a. Remove weeds from the road.
- b. Air-blast the cracks to remove sediments from the crack to allow for proper adhesion.
- c. Ensure that surface is clean and dry.
- d. Sweep within 24 hours

### Process

- a. Proper temperature of material should be maintained.
- b. Sufficient material is applied to form the specified configuration.

### Clean-up/Follow-up

- a. Excessive sealant application or spills are removed.
- b. Sweep all loose debris from the pavement and dispose of it in the local landfill.

### Documentation

Record location and date on the maintenance database and map.



## Standard Operating Procedure

### 6.7.4 Shouldering and Mowing

#### Activities and Definition

Pollutants collect on surfaces in between storm events because 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 ensure infiltration and other techniques for stormwater run-off are working with the most efficiency.

#### Preparation

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

Clean any loose material off asphalt or gutter.

#### Documentation

Record location and date on the maintenance database and map.



## Standard Operating Procedure

### 6.7.5 Secondary Road Maintenance

#### 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 are being met.

#### Preparation

- a. Determine length amount and type of road base 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. Wash equipment if needed, according to the written procedure for cleaning equipment.
- c. Clean up any debris on traveled roads and dispose of it in the landfill.

#### Documentation

Fill out daily activity report in logbook or journal. Include date, time, personnel, and location.



# Standard Operating Procedure

## 6.7.6 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.
- 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 storm drains, 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

N/A





# Standard Operating Procedure

## 6.7.7 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.

### 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 overflowing.
- c. Wash out bins or dumpsters as needed to keep odors from becoming a problem. Wash out in properly designated areas only.

### Documentation

N/A



# Standard Operating Procedure

## 6.7.8 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 impervious storage area indoors 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. This is done to implement practices to reduce exposure when transferring material from salt storage areas (e.g., sweeping, diversions, and/or containment).
- b. Design drainage from loading area to collect runoff before entering stormwater system.
- c. Washout vehicles (if necessary) in approved washout area before preparing them for snow removal.
- d. Calibrate spreaders to minimize amount of de-icing material used and still be effective.
- e. Provide vehicles with spill cleanup kits in case of hydraulic line rupture or another spill.
- 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 number 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.
- 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.
- e. The City shall implement a written snow and ice management policy for individuals that perform winter maintenance activities for the City. The policy shall 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).

### Documentation

Fill out daily activity report in logbook or journal. Include date, time, personnel, and location, as appropriate.



## Standard Operating Procedure

Document the following information associated with the City's operations and maintenance program:

- Date(s) and description of findings, including whether an illicit discharge is detected, for all inspections conducted.
- Any adjustments to inspection frequency.
- Date(s) and a description of maintenance conducted because of inspection findings, including whether an illicit discharge is detected.
- Stormwater management training events, including general subject matter covered, names and departments of individuals in attendance, and date of each event.



# Standard Operating Procedure

## 6.7.9 Street Sweeping

### Activities and Definition

Pollutants collect on surfaces in between storm events because 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 based on areas with highest priority.
- b. Restrict street parking prior to and during sweeping using regulations as necessary.
- c. Increase sweeping frequency just before the rainy season, unless sweeping occurs continuously throughout the year.
- d. Perform preventative maintenance and services on sweepers to increase and maintain their efficiency.

### Process

- a. Streets are to be swept 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

Highlight the City street map to show progress being made as the City sweeps its streets in the spring and fall.



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## 6.7.10 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 the City knows and understands the SWPPP requirements for the site the City 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

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.



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## 6.8 STORM DRAINAGE SYSTEM

### 6.8.1 Catch Basins

#### Activities and Definition

Catch basin cleaning needs to be completed on a regular basis to insure the functionality of the storm sewer system.

#### Preparation

- a. Clean sediment and trash off 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. Keep any notes or comments of any problems.
- c. Document the landfill location of where material is disposed.



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## 6.8.2 Outfall Inspections/Maintenance

### Activities and Definition

Prior to the expiration date of the City's MS4 permit, the City shall conduct at least one inspection of all outfalls (excluding underground outfalls) to determine structural integrity, proper function, and maintenance needs.

### Preparation

- a. Collect dry weather inspection information whenever possible.
- b. Mark the outfall with its identifier for future location and easy reference using pre-manufactured signs.
- c. Ensure that all the appropriate forms are available during the time of the inspection.

### Process

- a. For each outfall inspection, complete the inspection form provided in the City's SWPPP program binder.
- b. If applicable, take appropriate pictures and attach them with the inspection form.
- c. The Outfall Inspection Fact Sheet (Appendix B) can be used to assist in the inspection process.

### Clean-up/Follow-up

Follow the procedure of Routine Pond Maintenance for any required maintenance.

Inspect all ponds and outfalls (excluding underground outfalls) each permit term to determine structural integrity, proper function, and maintenance needs.

### Documentation

- a. Keep logs of number of outfalls inspected each year.
- b. Document any maintenance performed.
- c. Save all documents within the City's network designated SWPPP folder using the same folder structure as provided with the electronic SWPPP provided.



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## 6.8.3 Structural Stormwater Best Management Practice Inspections/Maintenance

### Activities and Definition

Structural Stormwater Best Management Practices (SSBMPs) will be inspected annually to determine structural integrity, proper function and maintenance needs. SSBMPs include BMPs put in place that are designed to remove pollutants (i.e., environmental manholes, raingardens, filtration features, etc.).

### Preparation

- a. Clean sediment and trash off 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).
- c. 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.
- d. Prior to the expiration date of the General Permit, the City must conduct at least one inspection of all ponds and outfalls (excluding underground outfalls) to determine structural integrity, proper function, and maintenance needs.
- e. The City must determine if repair, replacement, or maintenance measures are necessary to ensure the structural integrity and proper function of structural stormwater BMPs and outfalls.
- f. The City must complete necessary maintenance as soon as possible. If the City determines necessary maintenance cannot be completed within one year of discovery, the City must document a schedule(s) for completing the maintenance.
- g. Inspect and ensure maintenance structural stormwater BMPs annually (excluding stormwater ponds, which are under a separate schedule below) each calendar year to determine structural integrity,





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proper function, and maintenance needs unless the City determines either of the following conditions apply:

1. Complaints received or patterns of maintenance indicate a greater frequency is necessary;  
or
2. Maintenance or sediment removal is not required after completion of the first two calendar year inspections; in which case the City may reduce the frequency of inspections to once every two (2) calendar years.

### 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.
- d. Document the landfill location of where material is disposed.



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## 6.8.4 Pond Inspections

### Activities and Definitions

Prior to the expiration date of the City's MS4 permit, the City shall conduct at least one inspection of all City owned stormwater ponds to determine structural integrity, proper function, and maintenance needs. The City shall also inspect any privately owned ponds that are under the City's maintenance requirements as deemed appropriate a signed maintenance agreement.

### Preparation

- a. Collect dry weather inspection information whenever possible.
- b. Ensure that all the appropriate forms are available during the time of the inspection.

### Process

- a. For each pond inspection, complete the inspection form provided in the City's SWPPP program binder.
- b. If applicable, take appropriate pictures and attach them with the inspection form.

### Clean-up/Follow-up

Follow the procedure of Routine Pond Maintenance for any required maintenance.

Inspect all ponds and outfalls (excluding underground outfalls) each permit term to determine structural integrity, proper function, and maintenance needs.

### Documentation

- a. Keep logs of number of outfalls inspected each year.
- b. Document any maintenance performed.
- c. Save all documents within the City's network designated SWPPP folder using the same folder structure as provided with the electronic SWPPP provided.



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## 6.8.5 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 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 yards 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 number 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. Inspect all ponds and outfalls (excluding underground outfalls) each permit term to determine structural integrity, proper function, and maintenance needs.
- d. 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.



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## 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.



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## 6.8.6 Pond Assessment Process

### 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 a pond assessment, the City of Hanover shall evaluate the City-owned and operated stormwater treatment ponds in year 1 to determine the highest priority pond(s) for assessing TSS and TP effectiveness. This will be completed at the initiation of each assessment rather than prioritizing all the ponds upfront because priorities and unknown factors may change from year-to-year.

To create a pond assessment schedule for the City-owned and operated stormwater treatment ponds to determine the highest priority pond(s) for assessing TSS and TP effectiveness, in year 1 the City should prioritize ponds to assess based on the following criteria:

- Age of pond.
- Contributing drainage area characteristics (size, land use, upland treatment, etc.).
- Known concerns based on inspections.
- Type and location of receiving water.
- Sensitivity of receiving water.
- Complaints received from the public.

The ponds that have been identified as having the highest priority shall be added to a schedule to be more thoroughly assessed in year 1. The remaining ponds will be reassessed in year 2 using the same criteria. Like year 1, the ponds that have been identified as having the highest priority shall be added to a schedule to be more thoroughly assessed in year 2.

### Additional Survey of Pond

From the initial assessment of each pond completed in year 1, the City will perform a more thorough analysis of the ponds that are found to be half full of sediment, as well as the ponds that are continually showing signs of needing maintenance, in the following years. The following steps shall 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.



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- 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, a pond maintenance and dredging schedule can be implemented.
- b. The City will either complete the dredging in-house or contract it out depending on the availability of City staff.
- c. The dredged materials must be tested, and a disposal plan will be developed, based on the test results.
- d. Sediment removal guidance for the testing and removal of sediment can be found in Appendix A.
- e. Inspect all ponds and outfalls (excluding underground outfalls) each permit term to determine structural integrity, proper function, and maintenance needs.

### Documentation

- a. Create a record of the schedule determined for basin/pond cleaning.
- b. Keep logs of each detention basins/pond cleaned including date, individuals involved in cleaning, and a description of the type of debris removed.
- c. Record the amount of waste collected and the results of the sediment testing (if applicable).
- d. Keep any notes or comments of any problems.

Document pond sediment excavation and removal activities including the following:

- a. A unique ID number and geographic coordinate 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
- d. Location(s) of final disposal of sediment from each stormwater pond.



## 6.8.7 Detention Pond Cleaning

### 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. 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 A).
  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 A.
- d. Discuss maintenance needs with the Public Works Director to discuss the next course of action prior to scheduling any maintenance activities.
- e. Schedule the Pond cleaning work for a time when dry weather is expected. Factors that may delay these activities may include temperatures below thirty-two (32) degrees Fahrenheit, wind, rain, snow and frozen storm drainage systems. Inspection and maintenance will typically be conducted during a regular eight (8) hour workday. Extended workdays and shift changes may be necessary for spring runoff events and emergency conditions to provide maximum efficiency. For safety reasons, no operator will work more than a twelve (12) hour shift in any twenty-four (24) hour period.
- f. Unexpected ponding water can create a dangerous condition for vehicles, motorcyclists, bicyclists, pedestrians and property. It is not practical to sign all areas for potentially dangerous conditions. During such events, warning signs indicating a hazard may be placed in the vicinity and other areas



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as deemed necessary by the Public Works Director. These signs will remain in place until the situation has subsided.

- g. Remove any sediment and trash from grates, placing it in a truck for disposal.
- h. 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 number of debris that might leave basin during cleaning process.
- b. Start cleaning basin by using backhoe to remove debris and sediment off the bottom.
- c. Continue cleaning structures and 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 cleaning basins, clean off the concrete pads using dry methods (sweeping and shoveling).
- b. Make sure they are swept up and clean.
- c. Take the material that was removed to the landfill for final disposal.
- d. After performing maintenance, clean off the concrete pads using dry methods (sweeping and shoveling).
- e. Properly dispose of the material that was removed.
- f. 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.
- g. Inspect all ponds and outfalls (excluding underground outfalls) each permit term to determine structural integrity, proper function, and maintenance needs.

### 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 problems.





## 6.8.8 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.

### Preparation

- a. Monitor ditches as appropriate.
- 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. Keep any notes or comments of any problems.



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## 6.9 VEHICLES

### 6.9.1 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.

#### 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 water bodies.

#### 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.



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## 6.9.2 Vehicle and Equipment Storage

### Activities and Definition

When hazardous material meets 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.
- 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.
- b. The paved surfaces around the building will be swept every two weeks, weather permitting.

### Documentation

N/A



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## 6.9.3 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

N/A



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## 6.10 WATER

### 6.10.1 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. This process is a responsibility of the contractor. Contractor shall use such projects as a chlorine diffuser.

#### 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 stockpile 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

Complete paperwork.



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### 6.10.2 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

Make sure service trucks have wattles, gravel bags, or other materials for inlet protection.

#### Process

- a. Slow the discharge.
- b. Inspect flow path of discharge water.
- c. As much as possible, flows should be directed to the municipal sanitary sewer system for treatment.
- d. Protect water inlet areas.
- e. Follow planned repair procedures.
- f. Haul off spoils of excavation.
- g. 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

Complete paperwork.



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### 6.10.3 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

Complete paperwork.



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## 6.10.4 Transporting Wet Excavated Materials & Spoils

### Activities and Definition

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

Complete paperwork.





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### 6.10.5 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.
- b. Determine chlorine residual.
- c. Neutralize chlorine residual.

#### 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

NA



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### 6.10.6 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 a 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.



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## 6.10.7 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.

### 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.

The City of Hanover shall conduct an annual assessment of the operations and maintenance program to evaluate program compliance, the status of achieving the measurable requirements (activities that must be documented or tracked as applicable to the MCM (e.g., inventory, trainings, inspections, maintenance activities, etc.)) in Section 21, and determine how the program might be improved. The City must perform the annual assessment prior to completion of each annual report and document any modifications made to the program because of the annual assessment.