

STANDARD OPERATING PROCEDURES

Minimum Control Measure 4 & 5 Construction Site Erosion and Sediment Control Post-Construction Stormwater Management

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1. INTRODUCTION

1.1. Basis for the Standard Operating Procedures (SOPs)

In August 1, 2013, the Minnesota Pollution Control Agency issued a National Pollutant Discharge Elimination System (NPDES) General Permit (GP) for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s). The MS4 GP requires the City of Alexandria 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 of greater than or equal to once acre, including projects that are less than one acre that are part of a common plan of development or sale.

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

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

1.2. Objectives of the SOPs

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

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

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2. PLAN REVIEW AND APPROVAL PROCESS

2.1. Plan Review

Activities and Definition

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

Preparation

- a. Review City ordinances (Appendix D - Chapter 10: Erosion & Sediment Control; Chapter 12: Stormwater Management), the Comprehensive Stormwater Management Plan, the MPCA Construction General Permit, and the MS4 post-construction stormwater standards.
- b. Reviews of submitted plans, will utilize a checklist to ensure accuracy (Appendix A).

Process

- a. The City engineering and planning staff will review plans.
- b. A checklist will be used to ensure accuracy and thoroughness of submitted plans (Appendix A).
- c. Plans must be approved prior to the start of construction activity.
- d. The City will be responsible for enforcement of their stormwater rules as well as MPCA requirements.
- e. Notify owner and/or operator of the need to apply for and obtain coverage under the MPCA's general permit to discharge stormwater associated with construction activity.

Follow-up

The City will complete a review of the plan within twenty (20) days of receiving the plan from the developer/owner/operator. If the City determines that the plan meets the requirements of the City's Stormwater Management Ordinance, the City shall issue a permit valid for the specified period of time that authorizes the land disturbance activity contingent on the implementation and completion of the plan. If the City determines that the plan does not meet the requirements of the City's Stormwater Management Ordinance, the City shall not issue a permit for the land disturbance activity. The plan must be resubmitted for approval before the land disturbance activity begins. All land use and building permits shall be suspended until the developer has an approved plan.

Documentation

- a. Keep track of plan reviews per calendar year in the Stormwater Permit Binder.

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- b. Keep copies of plans, BMP quantities, and proposed BMPs that will be provided to inspector or inspecting consultant.
- c. Keep all maintenance agreements that get filed with the City.
- d. Keep all calculations done to ensure compliance.

2.2. 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 as well as techniques regarding the proper installation of post-construction stormwater BMPs. 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.

Employee training provided by the City will include stormwater 101 training sessions, training received through the University of Minnesota's erosion and sediment control extension, 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.

2.3. Inspections

Activities and Definition

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

Preparation

- a. Identify priority sites for inspection based on topography, soil characteristics, type of receiving water, stage of construction, compliance history, weather conditions, or other local characteristics and issues.
- b. Private projects shall be inspected as prioritization warrants and City projects shall be inspected weekly. All sites shall be inspected after a rainfall event of greater than 0.5 inches in 24 hours.
- c. Ensure that City Building Officials, Erosion Control Inspectors, and Street Department staff have received proper training pertaining to Erosion and Sediment Control techniques and Post-Construction Stormwater BMPs.

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Process

- a. Identify sites that require erosion and sediment control inspection.
- b. Provide a copy of Alexandria's Erosion and Sediment Control Field Guidance to the site owner/permittee (Appendix B).
- c. Perform inspection using the erosion control inspection form (Appendix C).
- d. Document construction activities and follow up with site owner/permittee about findings from inspection. If feasible, prior to leaving the site talk to the responsible person to ensure corrections can be made in a timely fashion.
- e. Ensure that plans are kept up-to-date by the owners/operators of construction activity with regards to stormwater runoff control.
- f. Perform a follow up inspection of site if deficiencies are found during initial inspection. Ensure that correction items have been completed.
- g. Failure to comply with the permit requirements may require initiating enforcement action as described in the City's Enforcement Response Procedures (ERPs) as follows:
 - 1) Verbal Warning
 - 2) Notice of Violations
 - 3) Stop-Work Orders

Documentation

City staff shall record the following items in the Stormwater Permit Binder to track the status of erosion and sediment control violations, enforcement actions and follow-up:

- a. Number of inspections.
- b. Inspection reports and reports sent.
- c. Escalation of penalties.
 1. Verbal Warnings
 2. Notice of Violations
 3. Stop work orders

2.4. Erosion and Sediment Control BMPs

Activities and Definition

City projects that will disturb one-half acre 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.

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Process

- a. All construction projects disturbing more than one-half acre will have BMPs installed prior to construction activity (Appendix E)
- b. All perimeter control BMPs are required to be fixed, substituted, or enhanced if they are no longer working or sediment fills one-half (1/2) of the height of the BMP.
- c. Temporary or permanent sediment basins are required to be drawn down and have sediment removed when the depth of the captured sediment reaches one-half (1/2) the storage volume of the basin.
- d. Tracked sediment from the construction site entrance/exit is required to be removed from all paved surfaces both on and off site. This must be done as soon as possible or within 24 hours of being found.
- e. Install down gradient perimeter control where needed on the site.
- f. Provide inlet protection for adjacent inlets and outlets to prevent sediment and debris from entering the storm sewer.
- g. Stabilize all exposed soil areas upon completion of work. If work is not complete, temporary stabilization methods will be used.
- h. After work is complete, clean out any sediment that might have entered the MS4 system.
- i. Encourage use of structural and non-structural BMPs, structural or hard engineering techniques and bio-engineering.
- j. Require wet stormwater detention ponds when surface drainage discharges into receiving waters.
- k. Require infiltration ponds when surface drainage discharges into wetland areas.

Documentation

- a. Keep all documents showing that BMPs were inspected and properly maintained during the active construction period until the period where final stabilization was achieved.
- b. Private projects shall be inspected as prioritization warrants and City projects shall be inspected weekly. All projects shall be inspected at least as listed below as well as after a rainfall event greater than 0.5 inches in 24 hours.
 - i. Before any land disturbing activity begins,
 - ii. For residential construction, at the time of footing inspections, and
 - iii. At the completion of the project.
- c. Document maintenance performed on:
 - i. Perimeter Control
 - ii. Inlet Protection
 - iii. Erosion Control BMPs
 - iv. Stabilization Performed
 - v. Sediment Control BMPs

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- 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.

2.5. Private Projects Post Construction Stormwater Management

Activities and Definition

Private projects that require a building permit, demolition permit, grading/excavation, and tree removal permit will use proper erosion and sediment control BMPs. Depending on the proposed improvements these sites may also be required to install BMPs for post-construction stormwater management. Building officials will be responsible for inspecting building permit activities. Engineering staff will be responsible for inspecting sites that require a state NPDES permit.

The City requires an erosion control plan for land disturbing activities greater than one-half acre within the City.

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

Process

Any Private projects that are within the City limits will be inspected by a qualified City employee. Inspections will occur at a frequency that is commensurate of the activities taking place. The field inspector should use the erosion and sediment control inspection form (Appendix C). Using a standardized checklist for inspections will create consistency among all inspectors.

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 (Appendix G).
- c. Keep records of inspections should the City be required to perform work for non-compliance.
- d. Keep records of penalties.
 - 1. Verbal Warnings
 - 2. Notice of Violation
 - 3. Stop Work Orders

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2.6. Private Projects Long-Term Operation and Maintenance

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

Preparation

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

Process

- a. Once during each MS4 permit cycle request applicants to fill out and return the post-construction stormwater BMP reporting mechanism.
- b. If any applicants do not return their reporting mechanism 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.
- c. Notify all owners of post-construction stormwater BMPs with deficiencies and require repair within 4 months.
- d. 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.

Documentation

- a. Keep files of all maintenance agreements that are filed with the City, along with their BMP locations.
- b. Annually update the GIS 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. Keep copies of returned reporting mechanisms and inspection reports on file for at least three years, should the City be required to perform maintenance for non-compliance.

APPENDIX A
Plan Review Checklist

City Of Alexandria Stormwater Management Review Checklist

Project Name:			
Address:			
Owner/Operator:			
Permit No:		Date Approved:	
Date Received:		Signature:	
Site Size (acres):		Area of Disturbance (acres):	
Existing Impervious(acres):		Proposed Impervious (acres):	
Additional documents/comments provided by permittee, attached (if applicable)			

Submittals Received

Date	Document	Author

General:

- ☐ Certified construction plans/details.
- ☐ SWPPP with ERC details, quantities.
- ☐ Certified Drainage Summary Report, with narrative.
- ☐ Hydrologic Design Summary with methods and models.
- ☐ Land Feature Changes Summary.
- ☐ Impaired waters assessment, location map.
- ☐ Pre and Post project drainage area maps.
- ☐ Pre and Post Runoff Rate Summaries.
- ☐ Pre and Post Hydraulic Grade Line Summaries 2, 10 and 100 year events for storm piping and conveyance features.
- ☐ Pre and Post peak bounce elevations 2, 10 and 100 year events, ultimate relief evaluation.
- ☐ Assessment of Risk with respect to proposed FFE. Existing infrastructure per ordinance RFPE plus one foot requirement.
- ☐ BMPs to minimize erosion.
- ☐ BMPs to minimize the discharge of sediment and other pollutants.
- ☐ BMPs for dewatering activities.

Wet Permanent Practice:

- ☐ Routing calculations, WQ, 2, 10 and 100 year event.
- ☐ Performance Summaries, WQ, 2, 10 and 100 year event. Emergency overflow elevation.
- ☐ Practice geometry, dimensions, elevations, details.
- ☐ Outlet control details, dimensions elevations, sizes, material type.
- ☐ Energy dissipation.
- ☐ Property lines, Easement, R/O/W.
- ☐ O & M responsibility, Access.

Volume Reduction/Filtration:

- ☐ Design Infiltration rate/supporting documentation.
- ☐ Practice geometry, dimensions, elevations, details.
- ☐ Pre-treatment techniques, details.
- ☐ Performance Summaries, WQ, 2, 10 and 100 year event. Drawdown time, emergency overflow elevation/ ultimate relief.
- ☐ Practice protection during construction.
- ☐ Post construction design infiltration rate test and confirmation results.
- ☐ Energy dissipation.
- ☐ Property lines, easement, R/O/W.
- ☐ O & M responsibility, Access.

Wetlands:

- ☐ Delineated wetlands shown on plan set.
- ☐ 10' Wetland Buffer per ordinance shown.
- ☐ Wetland Impact/Mitigation documentation provided.

APPENDIX B
Alexandria's Erosion and Sediment Control Field Guidance



Erosion and Sediment Control Field Guidance

Concrete Washout:

- ☐ Is there a dedicated, contained, and maintained area for concrete washout?

Conformance to the permitted/approved plan set:

- ☐ Is the project following the permitted/approved plan set?
- ☐ Are field changes documented on the plan set and properly communicated to the necessary regulatory agencies?

Conformance to approved construction sequencing/phasing:

- ☐ Is the project following the accepted/approved construction sequence?
- ☐ Is phasing of the project being conducted to minimize disturbance?

Erosion Control Inspector (ECI):

- ☐ If the site requires an NPDES Construction General Permit:
 - ☐ Is the ECI maintaining a routine inspection schedule: weekly and after all 0.5" rain events?
 - ☐ Is the ECI inspection log on site and readily available?
 - ☐ Are current site conditions representative of the latest ECI inspection report?
 - ☐ Do the ECI inspection reports and SWPPP adequately cover recommendations for corrective measures?
 - ☐ Are the ECI reports indicative of a thorough and competent inspection?

Detention facility plantings:

- ☐ Is native vegetation planted in all permitted areas?
- ☐ Is the observed vegetation the desired species?
- ☐ Do plantings appear healthy and well-established?
- ☐ Has permanent stabilization of the detention basin been achieved, i.e. 70% coverage?
- ☐ Is erosion control blanket installed correctly, i.e. up and down the slope; keyed in at top of slope.



Erosion and Sediment Control Field Guidance

Detention facility emergency overflow location and construction:

- ☐ Is the emergency overflow constructed to the size/shape/location/elevation of the permitted/approved plan set?
- ☐ Is the emergency overflow effectively armored (C350, rip-rap, etc.), per the permitted/approved plan set, to resist scouring or undermining due to high volume/high velocity flows?

Dewatering:

- ☐ Is turbid or sediment-laden water directed to a temporary or permanent sedimentation basin before discharging into a surface water (unless impracticable)?
- ☐ If water cannot be discharged to a sedimentation basin before entering a surface water, is it treated so that it does not cause nuisance conditions downstream (i.e., oil-water separator)?
- ☐ Has the discharge been visually checked before it enters a waterway or wetland?
- ☐ Are appropriate dewatering BMPs in place and functioning effectively?
- ☐ If a sediment bag is being used, is it capturing sediment effectively?
- ☐ Are discharge points protected from erosion and scour?

Ditch checks:

- ☐ Are ditch checks installed at all locations shown on the permitted plans?
- ☐ Are ditch checks installed properly? (i.e., is spacing correct? Anchored correctly?)
- ☐ Are no straw bales or silt fence being improperly used as ditch checks?

Dust control:

- ☐ Are dust control measures being used as needed?
- ☐ Is no dust observed moving offsite due to wind?
- ☐ Are roadways being swept and vacuumed when needed?

APPENDIX C
Erosion and Sediment Control Inspection Form



Monitoring of Environmental Compliance SWPPP Implementation

Client:
City of Alexandria

Date:
XXXX, 2016

Project Name:
XXXXXXXXXX

Time:
_ : _ to _ : _

Project Location:
Alexandria, MN
56308

Permit #:
SW-

Inspector:
Gene Berger

Weather:
Degrees F. _____

Type of Inspection:
Random

Rainfall Amount:
Since last inspection _____
Last 24 hours _____

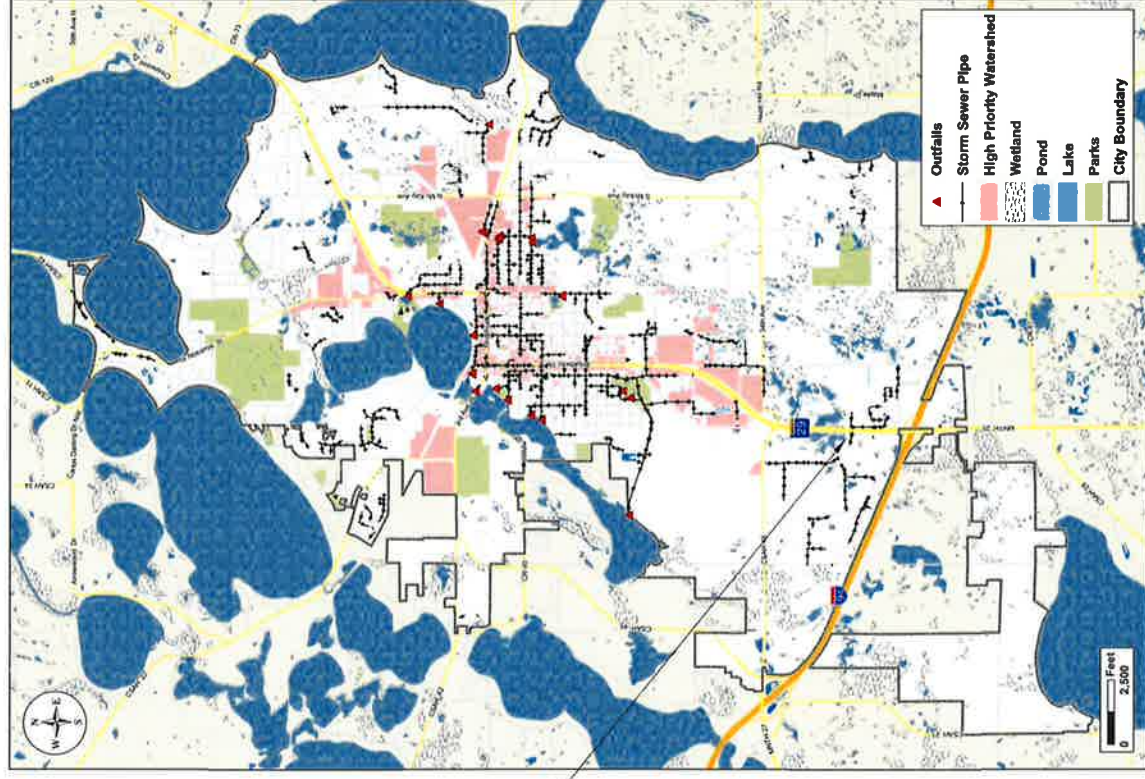
NOTE: This is the first Erosion Control Inspection for this site.

Leader Text Legend

- | | |
|----------|--|
| TS - | Timing Sensitivity (Low - Medium - High) |
| S - | Station or Location |
| D/T/CA - | Permit Requirement - Description / Task / Corrective Action Needed |
| AWI - | Additional Wetland Impact |
| DOO - | Date of Original Observation |
| CA/CD - | Corrective Action / Noted Observation Date |
| SCA - | Status of Corrective Action |
| P - | Photo |

Sediment and Erosion Control Legend

- | | |
|--|---|
| | Down Gradient Perimeter Control Installed (ie. Biorolls, Wood Mulch Berm, Silt Fence, Etc.) |
| | Permanent Erosion Control Installed (ie. Erosion Blanket - Rip Rap) |



PROJECT LOCATION



City of Alexandria
Erosion and Sediment Control Inspection Form

BMP	Complaint?	Maintenance Required?	Corrective Action(s) Needed & Notes	Date Corrected
1. Perimeter controls are installed/maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
2. Natural Features are protected with a BMP?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
3. Storm drain inlets are properly protected?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
4. Stockpiles protected and not placed in a conveyance?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
5. Construction entrance prevents tracking?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
6. Trash/litter collected and contained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
7. Non-active disturbed areas are stabilized?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
8. Discharge points are free of sediment deposits?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
9. Washout facilities are available/used?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
10. Vehicle fueling areas are free of leaks and spills?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
11. Potential contaminants are protected?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
12. Any evidence of discharge?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
13. Portable toilets are upright and secure?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		

BMP		Complaint?	Maintenance Required?	Corrective Action(s) Needed & Notes	Date Corrected
14.	Dewatering activities are using appropriate BMPs to avoid scour and selected chemicals are suited to soil types?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
15.	SWPPP is on site and up-to-date?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
16.	Inspection reports are available?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
17.	Training documentation is available?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
18.	Final stabilization upon completion of construction activity?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
19.	Other:	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
20.	Other:	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Additional Comments:					

APPENDIX D

Ordinances

ORDINANCE NO. 722

2ND SERIES

AN ORDINANCE AMENDING ORDINANCE NO. 656, 2ND SERIES, TO REPLACE
THE EXISTING CHAPTER 12 (STORM WATER MANAGEMENT ORDINANCE) IN
ITS ENTIRETY WITH A NEW STORM WATER MANAGEMENT ORDINANCE

WHEREAS, the City Council of the City of Alexandria desires to adopt a new Storm Water Management Ordinance in accordance with the Minnesota Pollution Control Agency Municipal Separate Storm Sewer System 2015 permit update; and

WHEREAS, the City Council of the City of Alexandria desires to make Chapter 12 in the Alexandria City Code the new Storm Water Management Ordinance:

Section 12.01 General Provisions

Subd. 1. Statutory Authorization and General Policy. This Ordinance is adopted pursuant to the authorization and policies contained in Minnesota Statutes Chapters 103B, 105, 462, and 497, Minnesota Rules, Parts 6120.2500-6120.3900, and Minnesota Rules Chapters 8410 and 8420 and goals and policies contained in the most recent Comprehensive Stormwater Management Plan for the City of Alexandria.

Subd. 2. Purpose. The purpose of this Ordinance is to set forth the minimum requirements for stormwater management that will diminish threats to public health, safety, public and private property and natural resources of the City by establishing performance standards including:

- A. Protect life and property from dangers and damages associated with flooding.
- B. Protect public and private property from damage resulting from runoff or erosion.
- C. Control the annual runoff rates from post development site conditions to match the annual runoff rates from predevelopment site conditions.
- D. Promote site design that minimizes the generation of stormwater and maximizes pervious areas for stormwater treatment.
- E. Promote regional stormwater management by watershed.
- F. Provide a single, consistent set of performance standards that apply to all developments.
- G. Protect water quality from nutrients, pathogens, toxics, debris and thermal stress.
- H. Promote infiltration and groundwater recharge.

- I. Provide a vegetated corridor (buffer) to protect water resources from development.
- J. Protect or improve the water quality of local lakes, wetlands and water bodies.
- K. Protect and enhance fish, wildlife and habitat and recreational opportunities.
- L. Control runoff volumes resulting from development within designated sub-watersheds through appropriate infiltration practices.

Subd. 3. Scope. No person shall develop any land for residential, commercial, industrial, or institutional uses without having provided stormwater management measures that control or manage runoff from such developments as provided in this Section.

Section 12.02 Definitions. Unless specifically defined below, words or phrases used in this Section shall be interpreted so as to give them the same meaning as they have in common usage and to give this Section its most reasonable application. For the purpose of this Section, the words "must" and "shall" are mandatory and not permissive. All distances, unless otherwise specified, shall be measured horizontally.

- A. **Applicant** - Any person or group that applies for a building permit, subdivision approval, or a permit to allow land disturbing activities. Applicant also means that person's agents, employees, and others acting under this person's or group's direction. The term "applicant" also refers to the permit holder or holders and the permit holder's agents, employees, and others acting under this person's or group's direction.
- B. **Best Management Practice (BMP)** - Best management practice is a technique or series of techniques which are proven to be effective in controlling runoff, erosion and sedimentation.
- C. **Buffer** - A regulated area where scrutiny will be exercised over activities near wetlands and water bodies and a non-disturbance area where natural vegetation must be maintained.
- D. **Common Plan of Development or Sale** - A contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, or on different schedules, but under one proposed plan. This item is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land

disturbing activities may occur.

- E. **Developer** - Any person, group, firm, corporation, sole proprietorship, partnership, state agency, or political subdivision thereof engaged in a land disturbance activity.
- F. **Development** - Any land disturbance activity that changes the site's runoff characteristics in conjunction with residential, commercial, industrial or institutional construction or alteration.
- G. **Dewatering** - The removal of water for construction activity. It can be a discharge of appropriated surface or groundwater to dry and/or solidify a construction site. It may require Minnesota Department of Natural Resources permits to be appropriated and if contaminated may require other Minnesota Pollution Control Agency (MPCA) permits to be discharged.
- H. **Discharge** - The release, conveyance, channeling, runoff, or drainage, of storm water including snowmelt, from a construction site.
- I. **Energy Dissipation** - This refers to methods employed at pipe outlets to prevent erosion. Examples include, but are not limited to; aprons, riprap, splash pads, and gabions that are designed to prevent erosion.
- J. **Erosion** - Any process that wears away the surface of the land by the action of water, wind, ice, or gravity.
- K. **Erosion Control** - Refers to methods employed to prevent erosion. Examples include soil stabilization practices, horizontal slope grading, temporary or permanent cover, and construction phasing.
- L. **Exposed Soil Areas** - All areas of the construction site where the vegetation (trees, shrubs, brush, grasses, etc.) or impervious surface has been removed, thus rendering the soil more prone to erosion. This includes topsoil stockpile areas, borrow areas and disposal areas within the construction site. It does not include temporary stockpiles or surcharge areas of clean sand, gravel, concrete or bituminous, which have less stringent protection. Once soil is exposed, it is considered "exposed soil," until it meets the definition of "final stabilization."
- M. **Filter Strips** - A vegetated section of land designed to treat runoff as overland sheet flow. Their dense vegetated

cover facilitates pollutant removal and infiltration.

- N. **Final Stabilization** - Means that all soil disturbing activities at the site have been completed, and that a uniform (evenly distributed, e.g., without large bare areas) perennial vegetative cover with a density of seventy (70) percent of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures have been employed. Simply sowing grass seed is not considered final stabilization. Where agricultural land is involved, such as when pipelines are built on crop or range land, final stabilization constitutes returning the land to its preconstruction agricultural use.

For individual lots in residential construction by either: (a) The homebuilder completing final stabilization as specified above, or (b) the homebuilder establishing temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for, and benefits of, final stabilization. (Homeowners typically have an incentive to put in the landscaping functionally equivalent to final stabilization as quick as possible to keep mud out of their homes and off sidewalks and driveways.); or

For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land) final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to surface waters and drainage systems, and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization criteria in (a) or (b) above.

- O. **Hydric Soils** - Soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part.
- P. **Hydrophytic Vegetation** - Macrophytic (large enough to be observed by the naked eye) plant life growing in water, soil or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.
- Q. **Illicit Discharge** - Any direct or indirect non- stormwater discharges to the storm drain system, except exempted in

Section 12.13 of this Ordinance.

- R. **Illicit Connection** - Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including, but not limited to, any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by the City; or, any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the City.
- S. **Impervious Surface** - A constructed hard surface that either prevents or retards the entry of water into the soil, and causes water to run off the surface in greater quantities and at an increased rate of flow than existed prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt, or gravel roads.
- T. **Land Disturbance Activity** - Any land change that may result in soil erosion from water or wind and the movement of sediments into or upon waters or lands within this government's jurisdiction, including construction, clearing & grubbing, grading, excavating, transporting and filling of land. Within the context of this Section, land disturbance activity does not mean: Minor land disturbance activities such as home gardens and an individual's home landscaping, repairs, and maintenance work, unless such activity exceeds one half acre in exposed soil. Additions or modifications to existing single family structures which result in creating under one half acre of exposed soil or impervious surface and/or is part of a larger common development plan. Construction, installation, and maintenance of fences, signs, posts, poles, and electric, telephone, cable television, utility lines or individual service connections to these utilities, which result in creating under one half acre of exposed soil or impervious surface. Tilling, planting, or harvesting of agricultural, horticultural, or silvicultural (forestry) crops. Emergency work to protect life, limb, or property and emergency repairs, unless the land disturbing activity would have otherwise required an approved erosion and sediment control plan, except for the emergency. If such a plan would have been

required, then the disturbed land area shall be shaped and stabilized in accordance with the City's requirements as soon as possible.

- U. **Land Locked Basin** - Defined as a low area such as a lake, pond, or wetland entirely surrounded by land with no regularly active outlet channel.
- V. **Large Site Construction Activity** - Includes clearing, grading or excavation that disturbs one (1) or more acres or less than five acres of total land area that is part of a larger common plan of development or sale if the larger common plan will disturb five (5) acres or more.
- W. **National Pollutant Discharge Elimination System (NPDES)** - The program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits under the Clean Water Act (Sections 301, 318, 402, and 405) and United States Code of Federal Regulations Title 33, Sections 1317, 1328, 1342, and 1345.
- X. **Native Vegetation** - The presettlement (already existing in Minnesota at the time of statehood in 1858) group of plant species native to the local region, that were not introduced as a result of European settlement or subsequent human introduction.
- Y. **Non-Stormwater Discharge** - Any discharge to the storm drain system that is not composed entirely of stormwater.
- Z. **Ordinary High Water Mark** - The boundary of public waters and wetlands, and shall be an elevation delineating the highest water level which has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly that point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial. For watercourses, the ordinary high water level is the elevation of the top of the bank of the channel. For reservoirs and flowages, the ordinary high water level is the operating elevation of the normal summer pool.
- AA. **Owner** - The person or party possessing the title of the land on which the construction activities will occur; or if the construction activity is for a lease holder, the party or individual identified as the lease holder; or the contracting government agency responsible for the construction activity.
- BB. **Paved Surface** - A constructed hard, smooth surface made of

asphalt, concrete or other pavement material. Examples include, but are not limited to, roads, sidewalks, driveways and parking lots.

CC. Permanent Cover - Means "final stabilization."

Examples include grass, gravel, asphalt, and concrete. See also the definition of "final stabilization."

DD. Permit - Within the context of this Section a "permit" is a written warrant or license granted for construction, subdivision approval, or to allow land disturbing activities.

EE. Phased Project or Development - Clearing a parcel of land in distinct phases, with at least fifty percent (50%) of the project's preceding phase meeting the definition of "final stabilization" and the remainder proceeding toward completion, before beginning the next phase of clearing.

FF. Prohibited Discharge - Any substance which, when discharged has potential to or does any of the following: (1) Interferes with state designated water uses; (2) Obstructs or causes damage to waters of the state; (3) Changes water color, odor, or usability as a drinking water source through causes not attributable to natural stream processes affecting surface water or subsurface processes affecting groundwater; (4) Adds an unnatural surface film on the water; (5) Adversely changes other chemical, biological, thermal, or physical condition, in any surface water or stream channel; (6) Degrades the quality of ground water; or (7) Harms human life, aquatic life, or terrestrial plant and wildlife. This includes but is not limited to dredged soil, solid waste, incinerator residue, garbage, wastewater sludge, chemical waste, biological materials, radioactive materials, rock, sand, dust, industrial waste, sediment, nutrients, toxic substance, pesticide, herbicide, trace metal, automotive fluid, petroleum-based substance, and oxygen-demanding material.

GG. Saturated Soil - The highest seasonal elevation in the soil that is in a reduced chemical state because of soil voids being filled with water. Saturated soil is evidenced by the presence of redoximorphic features or other information.

HH. Sediment - The product of an erosion process; solid material both mineral and organic, that is in suspension, is being transported, or has been moved by water, wind, or ice, and has come to rest on the earth's surface either above or below water level.

II. Sedimentation - The process or action of depositing sediment.

JJ. Sediment Control - The methods employed to prevent sediment from leaving the development site. Examples of sediment control practices are silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, and temporary or permanent sedimentation basins.

KK. Small Site Construction Activity - Includes clearing, grading or excavation, that disturbs one-half acre ($\frac{1}{2}$) to one (1) acre, or less than one (1) acre of total land area that is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one (1) acre.

LL. Soil - The unconsolidated mineral and organic material on the immediate surface of the earth. For the purposes of this document temporary stockpiles of clean sand, gravel, aggregate, concrete or bituminous materials (which have less stringent protection) are not considered "soil" stockpiles.

MM. Stabilized - The exposed ground surface after it has been covered by sod, erosion control blanket, riprap, pavement or other material that prevents erosion. Simply sowing grass seed is not considered stabilization.

NN. Steep Slope - Any slope steeper than twelve (12) percent (Twelve (12) feet of rise for every one hundred (100) feet horizontal run).

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

PP. Stormwater - Under Minnesota Rule 7077.0105, subpart 41b stormwater, "means precipitation runoff, stormwater runoff, snow melt runoff, and any other surface runoff and drainage. Stormwater does not include construction site dewatering.

QQ. Stormwater Management Plan (also referred to as Stormwater Pollution Prevention Plan SWPPP) - A joint stormwater and erosion and sediment control plan that is a document containing the requirements of this Section, that when implemented will decrease soil erosion on a parcel of land and off-site nonpoint pollution. It may involve both temporary and permanent

controls.

RR. Stormwater Manual - The most recent version of the Minnesota Pollution Control Agency (MPCA) Minnesota Stormwater Manual. This Manual is the compilation of design, performance, and review criteria approved by the by the City for stormwater management practices.

SS. Structure - Anything manufactured, constructed or erected which is normally attached to or positioned on land, including portable structures, earthen structures, roads, parking lots, and paved storage areas.

TT. Subdivision - Any tract of land divided into building lots for private, public, commercial, industrial, etc. development.

UU. Surface Water - All streams, lakes, ponds marches, wetlands, reservoirs, springs, rivers, drainage systems, waterways, watercourses and irrigation systems whether natural or artificial public or private.

VV. Temporary Erosion Protection - Short-term methods employed to prevent erosion. Examples of such protection are straw, mulch, erosion control blankets, wood chips, and erosion netting.

WW. Vegetated or Grassy Swale - A vegetated earthen channel that conveys storm water, while treating the stormwater by biofiltration. Such swales remove pollutants by both filtration and infiltration.

XX. Waters of the State - As defined in Minnesota Statutes section 115.01, subdivision 22 the term „waters of the state“ means all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.”

YY. Wet Detention Facility - Depressions constructed by excavation and embankment procedures to store excess runoff temporarily on a site. After a runoff event, overflow from the pond is released at a controlled rate by an outlet device designed to release flows at various peak rates and elevations until the design elevation of the pool is reached. Wet detention facilities maintain a permanent pool of water between storm events. Wet detention facilities are located to collect stormwater inflows from adjacent

drainage areas and are usually designed to control peak discharges from relatively large design storms.

ZZ. Wetland - As defined in Minnesota Rules 7050.0130, subpart F, "... 'wetlands' are those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state.

Section 12.03 Management of Site Vegetation. Any landowner shall provide for the installation and maintenance of vegetation on their property in accordance with the following criteria, regardless as to whether or not a stormwater management plan, stormwater permit has been approved or is necessary under this Section. Failure to comply with this section shall constitute a violation and subject the landowner to the enforcement provisions, penalties and noncompliance actions outlined in this Section.

- A. **Use of Impervious Surfaces:** No person shall apply items included in the definition of "prohibited discharge" on impervious surfaces or within stormwater drainage systems with impervious liners or conduits.
- B. **Unimproved Land Areas:** Except for driveways, sidewalks, patios, areas occupied by structures, landscaped areas, or areas that have been otherwise improved, all areas shall be covered by plants or vegetative growth.
- C. **Use of Pervious Surfaces:** No person shall deposit grass clippings, leaves, or other vegetative materials, with the exception of normal mowing or weed control, within natural or manmade watercourses, wetlands, or within wetland buffer areas. No person shall deposit items included in the definition of "prohibited discharge" except as noted above.

Section 12.04 Stormwater Management Plans and Permits.

- A. **Required.** A stormwater management plan and permit shall be required, and all construction site erosion and sediment control provisions of this permit shall apply, to all land disturbing activities associated with construction activity, as defined in this Section.

- 1 Every applicant for a building permit that involves disturbing $\frac{1}{2}$ acre or more of land, subdivision approval, or other permit to allow $\frac{1}{2}$ acre or more land disturbing activities must submit a stormwater management plan (also referred to as a Stormwater Pollution Prevention Plan - SWPPP) to the City. No land shall be disturbed nor shall any building permit, subdivision approval, or permit to allow land disturbing activities shall be issued until approval of this plan.
- 2 All plans, excepting those required as a part of small site construction activity, shall be consistent with National Pollution Discharge Elimination Permit (NPDES) requirements, and the filing or approval requirements of the Douglas County Soil and Water Conservation District or other regulatory bodies. All stormwater mitigation and management technologies shall be consistent with the most recent version of the Minnesota Pollution Control Agency (MPCA) General Stormwater Permit for Construction Activity and the Minnesota Stormwater Manual. This Manual is the compilation of design, performance, and review criteria approved by the City for stormwater management practices.

Section 12.05 Stormwater Management Plan Submittal Requirements.

Subd. 1. Small Site Construction Application. Small site construction projects shall be developed and in compliance with a stormwater management plan that includes the following:

- A. Two sets of clearly legible copies of permit submittals and required information shall be submitted to the City and shall be accompanied by all applicable fees.
- B. Drawings shall be prepared to a scale appropriate to the site of the project and suitable for the review to be performed. At a minimum, the scale shall be 1 inch equals 50 feet.
- C. Included on all submittals shall be the project name and the date of preparation.
- D. Also included on all submittals shall be:
 1. Names, addresses and phone numbers of the land surveyor, and engineer, if any.
 2. Property boundaries.
 3. Area(s) to be disturbed.
 4. Spot elevations of proposed grades in relation to existing grades on the subject property and adjacent properties.
 5. Drainage arrows depicting water movement.
 6. Areas where finished slope will be steeper than 5:1

shall be noted.

7. Location and type of erosion/sediment control devices.
8. Location of storm drains, wetlands, sediment ponds and lakes.
9. Location of material stockpiles.
10. Plan for temporary site stabilization.
11. Plan for final site stabilization.
12. Temporary rock entrance location.
13. Name of individual responsible for installation and maintenance of control devices.
14. Any other information pertinent to the particular project that, in the opinion of the City, is necessary for the review of the project.

Subd. 2. Large Site Construction Application. Large Site Construction Projects shall be consistent with the most recent version of the Minnesota Pollution Control Agency's NPDES General Stormwater Permit for Construction Activity and include the minimum requirements:

A. Identification and description including:

1. Project name.
2. Project type (residential, commercial, industrial, road construction, or other).
3. Project location
4. Parcel identification number (legal description).
5. Names and addresses of the record owner, developer, land surveyor, engineer, designer and any agents, contractors, and subcontractors who will be responsible for project implementation.
6. Identification of the entity responsible for long term maintenance of the project. This includes a maintenance plan and schedule for all permanent stormwater practices.
7. Phasing of construction with estimated start date, time frames and schedules for each construction phase, and completion date.
8. Copies of permits or permit applications required by any other governmental entity or agencies including mitigation measures required as a result of any review for the project (e.g. wetland mitigation, EAW, EIS, archaeology survey, etc.).

B. Existing Conditions - A complete site plan and specifications, signed by a person who is certified to design the plan shall be drawn to an easily legible scale, shall be clearly labeled with a north arrow and a date of preparation, and shall include, at a minimum, the following information:

1. Project map - An 8.5 by 11 inch United States Geological Survey (USGS) 7.5 minute quad or equivalent map indicating site boundaries and existing elevations.
2. Property lines and lot dimensions.
3. Existing zoning classifications for land within and abutting the development, including shoreland, floodway, flood fringe, or general floodplain, and other natural resource overlay districts.
4. All buildings and outdoor uses including all dimensions and setbacks.
5. All public and private roads, interior roads, driveways and parking lots.
6. Identify all natural and artificial water features (including drain tiles that would affect the project site) on site and within one (1) mile of project boundary, including, but not limited to lakes, ponds, streams (including intermittent streams), and ditches. Show ordinary high water marks of all navigable waters, 100-year flood elevations and delineated wetland boundaries, if any. If not available, appropriate flood zone determination or wetland delineation, or both, may be required at the applicant's expense.
7. Map of watershed drainage areas, soil types, infiltration rates, depth to bedrock, and depth to seasonal high water table.
8. Steep slopes where areas of 12% or more existing over a distance for 50 feet or more.
9. Bluff areas where the slope rises at least 25 feet above the toe of the bluff and the grade of the slope from the toe of the bluff to a point 25 feet or more above the toe of the bluff averages 30% or greater.
10. Wooded area and tree survey as defined by the zoning authority.
11. Agricultural Land preservation area(s), County Biological Survey sites, or other officially designated natural resource.
12. Hydrologic calculations for volume runoff, velocities, and peak flow rates by watershed, for the 2-yr, 10-yr, and 100-yr 24-hour storm events. These shall include: pre-existing peak flow rates, assumed runoff curve numbers, time of concentration used in calculations, and the 100 - year flood elevation with and without the floodway if a flood insurance study has been done by the National Flood Insurance Program.

C. Bankfull discharge rate (1.5 year recurrence interval) of creek or stream if there is a waterway on the site or if the site discharges directly to the waterway.

D. Proposed Conditions - A complete site plan and specifications, signed by the person who designed the plan shall be drawn to an easily legible scale, shall be clearly labeled with a north arrow and a date of preparation, and shall include, at a minimum, the following information:

1. Project map - An 8.5 by 11 inch United States Geological Survey (USGS) 7.5 minute quad or equivalent map indicating site boundaries, proposed elevations, and areas not to be disturbed;
2. Property lines and lot dimensions of plat.
3. The dimensions and setbacks of all buildings and easements.
4. The location and area of all proposed impervious surfaces including public and private roads, interior roads, driveways, parking lots, pedestrian ways, and rooftops. Show all traffic patterns and types of paving and surfacing materials.
5. Location, size, and approximate grade of proposed public sewer and water mains.
6. Elevations, sections, profiles, and details as needed to describe all natural and artificial features of the project.
7. Identify all natural and artificial water features on site and within one (1) mile of project boundary, including, but not limited to lakes, ponds, streams (including intermittent streams), and ditches. Show ordinary high water marks of all navigable waters, 100-year flood elevations and delineated wetland boundaries, if any. If not available, appropriate flood zone determination or wetland delineation, or both, may be required at the applicant's expense.
8. Location and engineered designs for structural stormwater management practices including stormwater treatment devices that remove oil and floatable material (e.g., basin outlets with submerged entrances).
9. Normal water level, high water level, and emergency overflow elevations for the site.
10. For discharges to cold water fisheries, a description and plans to control temperature from stormwater runoff.
11. Floodway and flood fringe boundary, if available.
12. Any other information pertinent to the particular project that, in the opinion of the City, is necessary for the review of the project.

E. All proposed stormwater practices, hydrologic models, and design methodologies shall be reviewed by the City and certified for compliance by the City in accordance with their plans and specifications.

F. A detailed schedule indicating dates and sequence of land alteration activities; implementation, maintenance and removal of erosion and sedimentation control measures; and permanent site stabilization measures shall be provided.

G. A detailed description of how erosion control, sediment control and soil stabilization measures implemented pursuant to the plan will be monitored, maintained and removed. The plan must identify a person knowledgeable and experienced in erosion and sediment control who will oversee the implementation of the plan and the installation, inspection, and maintenance of the temporary and permanent stormwater management system. This person shall have completed an approved training and certification program.

Subd. 3. Permit Transfer. A permit runs with the property it covers, until the permitted activities are completed, and is transferable to new landowners in its entirety or by parcel, with each parcel being subject to the permit and any conditions that apply to that parcel. In the event land under such a permit is transferred or conveyed in fee, such transfer or conveyance must be reported in writing to the City and the new landowner within 7 days of the transfer. This section refers to City-issued permits and does not release the permittee or owner from transfer requirements of a NPDES permit.

Section 12.06 Stormwater Management Plan Review Procedures.

Subd. 1. Review Timeframe. The City will complete a review of the plan within twenty (20) days of receiving the plan from the developer.

Subd. 2. Meeting Requirements. If the City determines that the plan meets the requirements of this Ordinance, the City shall issue a permit valid for a specified period of time that authorizes the land disturbance activity contingent on the implementation and completion of the plan.

Subd. 3. Not Meeting Requirements. If the City determines that the plan does not meet the requirements of this Ordinance, the City shall not issue a permit for the land disturbance activity. The plan must be resubmitted for approval before the land disturbance activity begins. All land use and building permits shall be suspended until the developer has an approved plan.

Subd. 4. Amendments. The applicant must amend the plan as necessary to include additional requirements such as additional

or modified BMPs designed to correct problems identified or address situations whenever:

- A. A change in design, construction, operation, maintenance, weather, or seasonal conditions that has a significant effect on the discharge of pollutants to surface waters or underground waters.
- B. Inspections indicate the plan is not effective in eliminating or significantly minimizing the discharge of pollutants to surface waters or underground waters or that the discharges are causing water quality standard exceedances.
- C. The plan is not achieving the general objectives of controlling pollutants or is not consistent with the terms and conditions of the permit.

Section 12.07 Waivers. The City Council, upon recommendation of the City Engineer, may waive a requirement of this Ordinance upon making a finding that the alternate design of the application will not adversely affect the standards of this Ordinance and the waiver of such requirement will not adversely affect the standards and requirements set forth in this Ordinance. The City Council may require as a condition of the waiver, such dedication or construction, or agreement to dedicate or construct as may be necessary to adequately meet said standards and requirements.

Section 12.08 Stormwater Management Plan Inspections and Enforcement.

Subd. 1. Inspections. The City will conduct inspections on a regular basis to ensure that the plan is properly installed and maintained. In all cases the inspectors will attempt to work with the builder or developer to maintain proper erosion and sediment control at all sites. In cases where cooperation is withheld, the City shall issue construction stop work orders, until erosion and sediment control measures meet the requirements of this Ordinance. An inspection must follow before work can commence. Inspections are required as follows:

- A. Before any land disturbing activity begins.
- B. For residential construction, at the time of footing, framing and final inspections.
- C. At the completion of the project.
- D. Prior to the release of any financial securities, if applicable.
- E. Random inspections during the course of the project to ensure compliance with the SWPPP, including after a storm event greater than 0.5 inches over 24 hours.

Subd. 2. Notification of Failure of the SWPPP. The City shall notify the permit holder of the failure of the SWPPP's measures.

A. Initial contact. The initial contact will be to the party or parties listed on the application and/or the plan as contacts. Except during an emergency action, forty-eight (48) hours after notification by the City or seventy-two (72) hours after the failure of erosion control measures, whichever is less, the City at its discretion, may begin corrective work. Such notification should be in writing, but if it is verbal, a written notification should follow as quickly as practical. If after making a good faith effort to notify the responsible party or parties, the City has been unable to establish contact, the City may proceed with corrective work. There are conditions when time is of the essence in controlling erosion. During such a condition the City may take immediate action, and then notify the applicant as soon as possible.

B. Erosion off-site. If erosion breaches the perimeter of the site, the applicant shall immediately develop a cleanup and restoration plan, obtain the right-of entry from the adjoining property owner, and implement the cleanup and restoration plan within forty-eight (48) hours of obtaining the adjoining property owner's permission. In no case, unless written approval is received from the City, may more than seven (7) calendar days go by without corrective action being taken. If in the discretion of the City, the permit holder does not repair the damage caused by the erosion, the City may do the remedial work required. When restoration to wetlands and other resources are required, the applicant shall be required to work with the appropriate agency to ensure that the work is done properly.

C. Erosion into streets, wetlands or water bodies. If eroded soils (including tracked soils from construction activities) enters streets, wetlands, or other water bodies, cleanup and repair shall be immediate. The applicant shall provide all traffic control and flagging required to protect the traveling public during the cleanup operations.

Subd. 3. Failure to do Corrective Work. When an applicant fails to conform to any provision of this policy within the time stipulated, the City may take the following actions.

- A. Issue a stop work order, withhold the scheduling of inspections and/or the issuance of a Certificate of Occupancy.
- B. Revoke any permit issued by the City to the applicant for

the site in question or any other of the applicant's sites within the City's jurisdiction.

- C. Correct the deficiency or hire a contractor to correct the deficiency. The issuance of a permit constitutes a right-of-entry for the City or its contractor to enter upon the construction site for the purpose of correcting deficiencies in erosion control.
- D. Require reimbursement to the City for all costs incurred in correcting stormwater pollution control deficiencies. If payment is not made within thirty (30) days after the City incurs costs, the City will halt all work on the project site and assess any reimbursement costs to the property. As a condition of the permit, the owner shall waive notice of any assessment hearing to be conducted by the City, concur that the benefit to the property exceeds the amount of the proposed assessment, and waive all rights by virtue of Minnesota Statute 429.081 to challenge the amount or validity of assessment.

Subd. 4. Right of Entry and Inspection.

- A. **Powers.** The applicant shall allow the City of Alexandria and their authorized representatives, upon presentation of credentials to:
 - 1. Enter upon the permitted site for the purpose of obtaining information, examination of records, conducting investigations or surveys.
 - 2. Bring such equipment upon the permitted development as is necessary to conduct such surveys and investigations.
 - 3. Examine and copy any books, papers, records, or memoranda pertaining to activities or records required to be kept under the terms and conditions of this permitted site.
 - 4. Inspect the stormwater pollution control measures.
 - 5. Sample and monitor any items or activities pertaining to stormwater pollution control measures.

Section 12.09 Development Agreement. A development agreement regarding stormwater management may be required for any project that requires a Stormwater Management Plan. The agreement shall guarantee the performance of the work described and delineated on the approved plan. In addition, the agreement will describe the City's inspection policy. Should the applicant fail to meet any of the terms of the development agreement, the City may proceed with any of the actions listed on Subd.11.B.

Section 12.10 Construction Activities. Construction operations must at a minimum comply with any applicable federal or state permit and stormwater management plan in addition to the following best management practices:

Subd. 1. Site Dewatering: Water pumped from the site shall be treated by temporary sedimentation basins, grit chambers, sand filters, upflow chambers, hydrocyclones, soil concentrators or other appropriate controls as deemed necessary. Water may not be discharged in a manner that causes erosion, sedimentation, or flooding on the site, on downstream properties, in the receiving channels, or in any wetland.

Subd. 2. Waste and Material Disposal: All waste and unused building materials (including garbage, debris, cleaning wastes, wastewater, petroleum based products, paints, toxic materials, or other hazardous materials) shall be properly disposed of off-site and shall not be allowed to be carried by runoff into a receiving channel, storm sewer system, or wetland.

Subd. 3. Tracking Management: Each site shall have roads, access drives and parking areas of sufficient width, length and surfacing to minimize sediment from being tracked onto public or private roadways. Any material deposited by vehicles or other construction equipment onto a public or private road shall be removed (not by flushing) before the end of each working day.

Subd. 4. Water Quality Protection: The construction contractor, including the general contractor and all subcontractors, shall be required to control oil and fuel spills and chemical discharges to prevent such spills or discharges from entering any watercourse, sump, sewer system, water body, or wetland.

Subd. 5. Site Erosion and Sedimentation Control: Construction operations must include erosion and sedimentation control measures meeting accepted design criteria, standards and specifications contained in the Minnesota Stormwater Manual or other standards determined acceptable by the City.

Subd. 6. Concrete Washout Area: All liquids and solid waste generated by concrete washout operations must be contained in a leak-proof containment facility or impermeable liner. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. A sign must be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities.

Subd. 7. Storm Drain Protection: All storm drain inlets shall be protected during construction with control measures as contained in the SWPPP. These devices shall remain in place until final stabilization of the site. A regular inspection and maintenance plan shall be developed and implemented to assure these devices are operational at all times. Storm drain protection must conform

to the protection alternatives pre-approved by City Staff and available at City Hall and on the City Website.

Subd. 8. Soil Stockpiling: All exposed soil areas must be stabilized as soon as possible to limit soil erosion but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Temporary clean aggregate stockpiles, demolition concrete stockpiles, sand stockpiles and the constructed base components of roads are exempt from this requirement.

Section 12.11 Stormwater Management Criteria for Permanent Facilities. All permanent stormwater management plans must be submitted to the City engineer prior to the start of construction activity. Designers are expected to follow the requirements of this section to meet the volume control, water quality, and water quantity requirements of the City of Alexandria. Designs should meet the stormwater design standard of these ordinances and the Minnesota Stormwater Manual. Deviations from the recommended guidance will require detailed written explanation with discretion given by the City. Stormwater control facilities included as part of the final design for a permanent development shall be addressed in the stormwater management plan and shall meet the following criteria:

Subd. 1. Rate Control Requirements: Future discharge rates from new development and redevelopment, resulting in one-half acre or more of new impervious area or one acre or more of disturbed land, will not exceed existing discharge rates for the 2-year, 10-year, and 100-year critical storm events in accordance to the Atlas14 data as shown in the table below:

Event	Rainfall/Snowmelt (inches)	Depth
2-year, 24 hour	2.55	
10-year, 24 hour	3.69	
100-year, 24 hour	5.96	
100-year, 10 day snowmelt	8.91	

In any area where downstream flooding is a concern the City may require additional rate control. Design calculations for the 2- year, 10-year, and 100-year storm events must be submitted to the City for review and approval. For regional detention or stormwater management system, the city engineer shall recommend a proposed system charge to be administered by the City Council based upon an approved watershed master plan and an analysis of required drainage systems, projected costs and flood protection benefits provided to those properties directly or indirectly impacted by the regional detention or stormwater management system.

Subd. 2. Design of Storage Facilities: The design of stormwater storage facilities shall accommodate a 100-year critical duration rainfall event, with this storage being provided above the normal outlet elevation.

Subd. 3. Design of Lateral and Collector Systems: Lateral and collector systems shall be designed to accommodate a 10-year return frequency storm event. These systems shall be defined as storm sewer that collects and conveys runoff from catch basins or other inlets from a localized drainage area to a trunk system or ponding facility.

Subd. 4. Design of Trunk Systems: Trunk systems shall be designed to convey the anticipated 100-year critical event stormwater flow rate. A trunk system shall be defined as the main channel of the stormwater system that receives water from multiple laterals or collectors or serves as an outlet and downstream conveyance system for a stormwater storage facility. The following table shall be used for the calculation of peak rates using the Rational Method:

Cover Type	Runoff Coefficient
Single-family Residential	0.4
Multi-family Residential	0.5
Commercial	0.7
Industrial	0.7
Parks, Open Space	0.2
Ponds, Wetlands	1.0

Subd. 5. Overland Overflow: An overland overflow should be provided for all lateral, collector, and trunk systems to accommodate the 100-year critical duration rainfall event and prevent structural inundation should an obstruction occur in these systems.

Subd. 6. Clogging Factor: For collection systems not designed to meet rate control standards (e.g. catch basins) a clogging factor of 50% will be utilized in sizing intake structures.

Subd. 7. Rate Control Diameter: No orifice having a diameter less than 4" is allowed in the design of rate control structures within the City. If a lower discharge rate is required a weir may be used to meet the requirements.

Subd. 8. Emergency Spillway: An emergency spillway (emergency outlet) from ponding areas shall be installed a minimum of one foot below the lowest building opening and shall be designed to have a capacity to overflow water at an elevation below the lowest building opening at a rate not less than the anticipated 100-year peak inflow rate to the basin, or three times the 100-year peak discharge rate from the basin, whichever is greater.

Subd. 9. Natural Features of Site: The applicant shall give

consideration to reducing the need for stormwater management system facilities by incorporating the use of natural topography and land cover such as wetlands, ponds, natural swales and depressions as they exist before development to the degree that they can accommodate the additional water flow without compromising the integrity or quality of these natural features.

Subd. 10. Landlocked Basins: Areas with landlocked basins shall be modeled to accommodate a back-to-back 100-year, 24-hour rainfall event and the 100-year, 10-day runoff event. The highest water elevation in the basin from this analysis shall be the 100- year high water level.

Subd. 11. Landlock Basin Outlets: Outlets for landlocked areas will be allowed provided the outlet complies with wetland and floodplain regulations and the basin provides storage below the outlet for either 1) the back-to-back 100-year, 24-hour event or 2) the 100-year, 10-day runoff event; whichever is greater. In addition, there must be no negative downstream impacts resulting from the outlet.

Subd. 12. Flood Protection:

- A. Residential, non-residential and other structures shall ordinarily be elevated on fill so that the basement, or first floor if there is no basement, is one (1) foot above the Regulatory Flood Protection Elevation.
- B. For areas outside of a floodplain, the lowest floor of a structure, not including boathouse, piers and docks, must be three (3) feet above the highest known water level. In the case where the high water level is unknown, the elevation of the line of permanent shoreland vegetation should be used as the high water elevation.
- C. No structure, fill, deposits, obstruction, storage of materials, equipment, or other uses may be allowed in the floodplain that reduces the floodwater storage capacity of the floodplain or increases flood height. Compensating floodwater storage area shall be provided for any obstruction which decreases flood storage. This compensating volume shall be equal to or greater than the total volume of the obstruction. Additional detail is provided in the City's floodplain district.
- D. A plan review by the City is required for any project that is within the 100-year floodplain, upland flood storage area, or changes the timing, storage, or carrying capacity of any tributaries in the 100-year floodplain.
- E. All areas at or below the 100-year floodplain area on private

property will be covered by a drainage and utility easement or outlot dedicated to the City upon development or redevelopment.

Subd. 13. Water Quality Treatment Standards: Stormwater treatment must be designed to remove 90% of Total Suspended Solids (TSS) on an average annual basis. Treatment can be provided in on-site or regional systems and through permanent ponding, infiltration, filtration, or a combination of BMPs that will meet these requirements. This requirement is anticipated to result in 40-60% Total Phosphorus (TP) removal. The stormwater discharges of TSS and TP shall result in no net increase from pre-project conditions for new development projects. The stormwater discharges of TSS and TP shall result in a net reduction from pre-project conditions for redevelopment projects. Where TSS and/or TP reduction requirements cannot be met on the site of the original construction, the applicant will be required to locate alternative sites where TSS and/or TP treatment standards can be achieved. Mitigation project locations are chosen in the following order of preference:

- A. Locations that yield benefits to the same receiving water that receives runoff from the original construction activity.
- B. Locations within the same Department of Natural Resource (DNR) catchment area as the original construction activity.
- C. Locations in the next adjacent DNR catchment area up- stream.
- D. Locations anywhere within the City of Alexandria.

Mitigation projects shall involve the establishment new structural stormwater BMPs or the retrofit of existing structural stormwater BMPs, or the use of a properly designed regional structural stormwater BMP. Previously required routine maintenance of structural stormwater BMPs cannot be considered mitigation. Mitigation projects must be finished within 24 months after the original construction activity begins. A maintenance agreement specifying the responsible party for long- term maintenance shall be identified. Payments will not be accepted in lieu of the construction project meeting the TSS and TP treatment standards.

Subd. 14. Infiltration/Volume Control: Volume control measures are required on projects to meet the water quality criteria of the City and to meet the requirements of the City of Alexandria's MS4 Permit obligations. Except where conditions listed below are not met, stormwater runoff abstraction via infiltration, evapotranspiration, capture, and/or reuse of stormwater runoff is required to treat the water quality volume of one (1) inch (or one (1) inch minus the volume of stormwater treated by another system on the site) of runoff when a development project creates one-half acre or more new impervious surfaces or disturbs one acre or more of land. For new development projects, stormwater discharge volume shall result in no net increase

from pre-project conditions. For redevelopment projects, stormwater discharge volume shall result in a net reduction from pre-project conditions. Runoff must be infiltrated within 48 hours or less. To simplify the review process, no runoff will be assumed from pervious surfaces from a one inch rainfall event.

Infiltration will not be required nor allowed in areas where there are known groundwater contaminants, where the soils are not suitable for infiltration (Hydrologic Soil Group D), or in areas where there is less than three feet of separation between the bottom of the infiltration system and the groundwater. Percolation tests shall be required to verify the infiltration rates of on-site soils following the construction of infiltration BMP's.

Pretreatment of stormwater is required prior to discharge to an infiltration system. This pretreatment shall collect sediment and be easily accessed for inspection and maintenance. The infiltration/filtration system selected must meet the following criteria:

- A. Remove settleable solids, floating materials, and oils and grease to the maximum extent practicable before runoff enters the system.
- B. Filtration must be designed to remove 90 percent of total suspended solids.
- C. Consider the impact of construction and infiltration practices on existing hydrologic features (e.g. existing wetlands) and maintain pre-existing conditions.
- D. Consider potential hotspots, groundwater warning, design measures, maintenance considerations or other retention, detention, and treatment devices as specified in the MN Stormwater Manual.
- E. The infiltration practice shall not be used within fifty feet of a municipal, community or private well, unless specifically allowed by an approved wellhead protection plan.
- F. The infiltration practice shall not be used for runoff from fueling and vehicle maintenance areas and industrial areas with exposed materials posing contamination risk, unless the infiltration practice is designed to allow for spill containment.
- G. Ensure the area is not compacted while the site is under construction.
- H. The infiltration/filtration area shall be staked and marked so heavy construction vehicles do not compact the soil.
- I. To prevent clogging the system shall have a pretreatment device such as a vegetated filter strip, small sedimentation basin, or water quality inlet (e.g. grit chamber) to settle particulates before stormwater discharges into the system.
- J. Ensure appropriate on-site testing consistent with the MN

Stormwater Manual is conducted to verify soil type and to ensure a minimum of three (3) feet of separation from the seasonally saturated soils (or bedrock) and the bottom of the proposed system is maintained.

- K. Ensure filtration systems with less than three (3) feet of separation from seasonally saturated soils or from bedrock are constructed with an impermeable liner.
- L. The infiltration practice shall not be used in Hydrologic Soil Group (HSG) D soils without soil corrections.
- M. Provide an eight foot wide maintenance access.

Subd. 15. Permanent Wet Sedimentation and Regional Pond Water Quality Standards: If infiltration practices are not feasible, a permanent water quality pond shall be used to meet water quality and rate control requirements. The pond is required to meet the following criteria. If a pond is designed using this criteria, it will be assumed to meet the City standard of 90% TSS removal and result in approximately 40-60% TP removal.

- A. If the drainage area is within one of the following subwatersheds that drains directly to a lake: Agnes- Henry, Burgen, Carlos, Cowdry, Darling, Geneva, Latoka, Le Homme Dieu, Victoria, or Winona, the permanent pool (dead pool) volume below the normal outlet must be greater than or equal to the runoff from a 2.5-inch storm event over the drainage area (see Figure III-5).
- B. If the drainage area is within one of the following subwatersheds that drains directly to a wetland: Connie, North Wetlands, SE Wetlands, SW Wetlands, the permanent pool volume must allow for 1,800 cubic feet for each acre that drains to the pool (see Figure III-5).
- C. Permanent pool average depth between 3 and 10 feet.
- D. The basin must provide live storage for water quality volume of one (1) inch of runoff (or one (1) inch minus the volume of stormwater treated by another system on the site) from the new impervious surfaces created by the project.
- E. The basin must minimize scour and the suspension of solids.
- F. The basin outlet must be designed to prevent short- circuiting and the discharge of floating debris, and the basin outlet must not discharge one inch of runoff from the impervious watershed area at a rate greater than 5.66 cubic feet per second (cfs) per acre of surface area of the pond.
- G. An emergency outlet to control the 100-year storm event.

- H. Basin slopes no steeper than 3:1.
- I. A basin shelf (10 feet wide and one (1) foot below the normal water level) to enhance wildlife habitat, reduce safety hazards, and improve maintenance access.
- J. Flood pool volume above the normal outlet so that peak discharge rates from the 2-year, 10-year, and 100-year storm events are no greater than existing conditions.
- K. An eight foot wide maintenance access must be provided.
- L. Be located outside of surface waters or any buffer zone.
- M. Natural wetlands and waterbodies are not considered a regional stormwater pond and construction will not occur within existing wetlands unless they are mitigated in accordance with the State of Minnesota Wetland Conservation Act.
- N. Waterways connected to the pond will not be degraded.
- O. Safety considerations will be made in the design of permanent water quality ponds.

Subd. 16. Outlet and Inlet Pipes:

- A. Inlet pipes of stormwater ponds shall be extended to the pond normal water level whenever possible.
- B. Outfalls with velocities greater than 4 fps into channels requires energy dissipation or stilling basins.
- C. Outfalls with velocities of less than 4 fps generally do not require energy dissipaters or stilling basins, but will require riprap protection.
- D. In the case of discharge to channels, riprap shall be provided on all outlets to an adequate depth below the channel grade and to a height above the outfall or channel bottom. Riprap shall be placed over a suitably graded filter material with filter fabric to ensure that soil particles do not migrate through the riprap and reduce its stability. Riprap shall be placed to a thickness at least 2 times the mean rock diameter to ensure that it will not be undermined or rendered ineffective by displacement. If riprap is used as protection for overland drainage routes, grouting may be recommended.
- E. Discharge velocity into a pond at the outlet elevation shall be 6 fps or less. Riprap protection, or other appropriate energy dissipation practice, is required at all inlet pipes into ponds from the NWL to the pond bottom.
- F. Where outlet velocities to ponds exceed 6 fps, the design should be based on the unique site conditions present. Submergence of the outlet or installation of a stilling basin approved by the City is required when erosive

outlet velocities are experienced.

G. Submerged outlet pipes from ponds are not allowed.

Subd. 17. Limitations and Restrictions for Permanent Stormwater Management: The City may limit or restrict the construction of permanent management facilities based on the following criteria.

A. Permanent stormwater management facilities may not receive discharges from or be constructed in areas where:

1. Industrial facilities are not authorized to infiltrate industrial stormwater under an NPDES Industrial Stormwater permit issued by the MPCA.
2. Vehicle fueling or maintenance activities occur.
3. There is less than three feet of separation between the bottom of the infiltration system to the elevation of the seasonally saturated soils or the top of bedrock.
4. There are known groundwater contaminants or groundwater will be mobilized by the construction of infiltration BMPs.

B. For areas where infiltration is prohibited the applicant must consider alternative volume reduction BMPs and the water quality volume must be treated by a wet sedimentation basin, filtration system, regional ponding or similar method prior to the release of stormwater to surface water.

C. For linear projects with lack of right-of-way, easements or other permissions from property owners to install treatment systems that are capable of treating the total water quality volume on site, the project must maximize treatment through other methods or combination of methods before runoff is released to nearby surface waters. Alternative treatment options include: grassed swales, filtration systems, smaller ponds, or grit chambers. In all circumstances, a reasonable attempt must be made to obtain right-of-way during the project planning and all attempts of infeasibility must be recorded.

D. The City may restrict the use of infiltration features to meet post-construction requirements for stormwater management, without higher engineering review, if the infiltration techniques will be constructed in the following areas where:

1. Soils are predominately Hydrologic Soil Group D (clay) soils.
2. Drinking Water Supply Management Areas are present, as defined by Minn. R. 4720.51000, subp.13, unless precluded by a local unit of government with an MS4 permit.
3. Soil infiltration rates are more than 8.3 inches per hour unless soils are amended to flow the infiltration rate

below 8.3 inches per hour.

Sub. 18. Exceptions for Permanent Stormwater Management: The City may authorize reduced volume control for the following situations:

- A. If the project meets one of the limitations outlined above.
- B. If the applicant implements to the maximum extent possible other volume reduction practices, besides infiltration, on the site but may not meet the requirements for post-construction stormwater management.

Subd. 19. Drainage and Utility Easements: New stormwater management BMPs (e.g. ponds, infiltration systems, swales) constructed as part of private development shall be covered by drainage and utility easements or outlots that are dedicated to the City. Maintenance responsibilities for these areas will be spelled out in a Developer's Agreement. All maintenance agreements must be approved by the City and recorded at the Douglas County Recorder's office prior to final plan approval. At a minimum, the maintenance agreement will describe the following inspection and maintenance obligations:

- A. No private stormwater facilities may be approved unless a maintenance plan is provided that defines how access will be provided, who will conduct the maintenance, the type of maintenance and the maintenance intervals. At a minimum, all private stormwater facilities shall be inspected annually and maintained in proper condition consistent with the performance goals for which they were originally designed and as executed in the stormwater facilities maintenance agreement.
- B. The party who is permanently responsible for maintenance of the structural and nonstructural measures.
- C. Pass responsibilities for such maintenance to successors in title.
- D. Allow the City and its representatives the right of entry for the purposes of inspecting all permanent stormwater management systems.
- E. Allow the City the right to repair and maintain the facility, if necessary maintenance is not performed after proper and reasonable notice to the responsible party of the permanent stormwater management system.
- F. The agreement shall also stipulate that if site configuration or structural stormwater BMPs change, causing decreased structural stormwater BMP effectiveness, new or improved BMPs shall be installed.
- G. Access to all stormwater facilities must be inspected annually and maintained as necessary. The applicant shall obtain all

necessary easement or other property interests to allow access to the facilities for inspection or maintenance for both the responsible party and the City of Alexandria.

Subd. 20. Skimmers: The City requires skimmers or other devices, with the intent to remove floatables, in the construction of new pond outlets and the addition of skimmers to existing systems whenever feasible and practical. The designs shall provide for skimmers that extend a minimum of four inches below the water surface and minimize the velocities of water passing under the skimmer to less than 0.5 feet per second for rainfall events having a 99% frequency. Wood skimmers are not allowed.

Subd. 21. Habitat and Aesthetic Enhancement: The City encourages the design of stormwater management features that provide an opportunity to enhance the habitat and aesthetics of the area. This includes providing upland buffers around ponds, seeding the area with native vegetation, and designing the slopes equal to or flatter than 4:1.

Subd.22. Combination of Practices: A combination of successive practices may be used to achieve the applicable minimum control requirements specified. Justification

Section 12.12 Buffer Protection for Wetlands. For all development which changes land use or requires platting, a minimum 10- foot buffer of native vegetation is required around wetlands. Public trails and management of noxious weeds are allowed within the buffer. Planting of non-native species is not allowed within the buffer.

Section 12.13 Stormwater and Urban Runoff Pollution Control.

Subd. 1. Illegal Disposal

A No person shall throw, deposit, place, leave, maintain, or keep or permit to be thrown, placed, left, maintained or kept, any refuse, rubbish, garbage, or any other discarded or abandoned objects, articles, or accumulations, in or upon any street, alley, sidewalk, storm drain, inlet, catch basin conduit or drainage structure, business place, or upon any public or private plot of land in Alexandria, so that the same might be or become a pollutant, except in containers, recycling bags, or other lawfully established waste disposal facility.

B. No person shall intentionally dispose of grass, leaves, dirt, or other landscape debris into a water resource buffer,

street, road, alley, catch basin, culvert, curb, gutter, inlet, ditch, natural watercourse, flood control channel, canal, storm drain or any fabricated natural conveyance.

Subd. 2. Illicit Discharges and Connection.

- A. No person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge any pollutants or waters containing pollutants, other than stormwater to the municipal storm water system. The following discharges are exempt from discharge prohibitions established by this ordinance:
1. Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water;
 2. Discharges or flow from firefighting, and other discharges authorized by the City in writing that are necessary to protect public health and safety;
 3. Discharges associated with dye testing, however this activity requires verbal notification to the City prior to the time of the test;
 4. The prohibition shall not apply to any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and further provided that written approval has been granted for any discharges to the storm drain system.
- B. No person shall use any illicit connection to intentionally convey non-storm water to the municipal storm water system.
1. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under the law or practices applicable or prevailing at the time of the connection.
 2. A person is considered to be in violation of this chapter if the person connects a line conveying sewage to the storm drain system, or allows such connection to continue.
- C. The City shall be permitted to enter and inspect facilities subject to regulation under this ordinance as often as may be necessary to determine compliance with this ordinance.

1. The owner or party responsible shall allow the City ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit to discharge stormwater, and the performance of any additional duties as defined by state and federal law. Any temporary or permanent obstruction to safe and easy access to the area to be inspected or sampled shall be promptly removed by the discharger at the request of the City and shall not be replaced.
 2. If the enforcement officer has been refused access to any part of the premises from which the nuisance is occurring, and the enforcement officer is able to demonstrate probable cause to believe that there may be a violation of this section, or that there is a need to inspect, test, examine or sample as part of a routine program designed to verify compliance with this section or any order issued hereunder, or to protect the overall public health, safety and welfare of the community, then the City may seek issuance of an administrative search warrant from any court of competent jurisdiction.
 3. The City may require the discharger to install monitoring equipment or other such devices as are necessary in the opinion of the City to conduct monitoring or sampling of the premises stormwater discharge. The monitoring equipment must be maintained by the discharger in a safe and proper operating condition at all times. All devices used to measure stormwater flow and quality must be calibrated to ensure their accuracy.
- D. Upon finding that a person has violated a prohibition of this section, the City may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:
1. The performance of monitoring, analysis, and reporting;
 2. The elimination of illicit connections or illicit discharges;
 3. The violating discharges, practices, or operations must cease and desist;
 4. The abatement or remediation of stormwater pollution or contamination of hazards and the restoration of any affected premises;
 5. Payment of a fine to cover administrative and remediation costs; and
 6. The implementation of source control or treatment BMPs.

Subd. 3. Good Housekeeping Provisions. Any owner or occupant of property within Alexandria shall comply with the following good housekeeping requirements:

- A. No person shall leave, deposit, discharge, dump, or otherwise expose any chemical or septic waste in an area where discharge to streets or storm drain system may occur. This section shall apply to both actual and potential discharges.
- B. For pools, water should be allowed to sit seven days to allow for chlorine to evaporate before discharge. If fungicides have been used, water must be tested and approved for discharge to the wastewater treatment plant.
- C. Runoff of water from residential property shall be minimized to the maximum extent practicable. Runoff of water from the washing down of paved areas in commercial or industrial property is prohibited unless necessary for health or safety purposes and not in violation of any other provisions in City codes.
- D. Every person owning or occupying premises through which a watercourse passes, shall keep and maintain that part of the watercourse within the premises free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or occupant shall maintain existing privately owned structures within or adjacent to a watercourse so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

Subd. 4. Storage of Materials, Machinery, and Equipment. Objects, such as motor vehicle parts, containing grease, oil or other hazardous substances, and unsealed receptacles containing hazardous materials, shall not be stored in areas susceptible to runoff. Any machinery or equipment that is to be repaired or maintained in areas susceptible to runoff shall be placed in a confined area to contain leaks, spills, or discharges.

Subd. 5. Removal of Debris and Residue. Debris and residue shall be removed and disposed of properly, as noted below:

- A. All motor vehicle parking lots shall be swept, at a minimum of twice a year to remove debris. Such debris shall be collected and disposed of properly. However, parking lots are not required to be swept for one month following a day on which precipitation of one-half inch or more occurs.
- B. Fuel and chemical residue or other types of potentially harmful material, such as animal waste, garbage or batteries, which is located in an area susceptible to runoff, shall be removed as soon as possible and disposed of properly.

Household hazardous waste may be disposed of through community collection program or at any other appropriate disposal site and shall not be place in a trash container.

Subd. 6. Notification of Spills.

A. Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into stormwater, the storm drain system, or waters of the state, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials, said person must immediately notify emergency response agencies of the occurrence via emergency dispatch services (911). In the event of a release of nonhazardous materials, said person shall notify the City no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the City within three business days of the personal or phone notice. If the discharge of prohibited materials originates from an industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records must be retained for at least three years.

Section 12.14 Severability. The provisions of this Ordinance are severable, and if any provisions of this Ordinance, or application of any provision of this Ordinance to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Ordinance must not be affected thereby.

Section 12.15 Abrogation and Greater Restrictions. It is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this Ordinance imposes greater restrictions, the provisions of this Ordinance shall prevail. All other Ordinances inconsistent with this Ordinance are hereby repealed to the extent of the inconsistency only.

Section 12.16 Enforcement. The City shall be responsible for enforcing this Ordinance.

Section 12.17 Penalties.

A. Any person found to be violating any provision of this ordinance shall be served by the City with written notice

stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violations.

B. In the event that the owner fails to correct the situation within the given time period, the City may correct it and collect all such costs together with reasonable attorney fees, or in the alternative, by certifying said costs of correction as any other special assessment upon the land from which said correction of said violation was made.

C. Any person, firm, or corporation failing to comply with or violating any of these regulations, shall be deemed guilty of a misdemeanor and be subject to a fine or imprisonment or both. All land use and building permits must be suspended until the applicant has corrected the violation. Each day that separate violation exists shall constitute a separate offense.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF ALEXANDRIA, MINNESOTA HEREBY ORDAINS:

Section I: That Chapter 12 (Storm Water Management Ordinance) be replaced with the new Storm Water Management Ordinance as outlined above, in the Alexandria City Code.

Section II: This Ordinance shall be in full force and effect from and after its passage and publication.

YES: BATESOLE, KUHLMAN, OSTERBERG, JENSEN

NO: NONE

ABSENT: BENSON

/S/ Todd Jensen, President Pro Tempore

ATTEST: _____
/S/ Martin D. Schultz, City Administrator

ORDINANCE NO. 622
2ND SERIES

**AN ORDINANCE AMENDING CITY CODE CHAPTER 10, RELATING TO EROSION
AND SEDIMENT CONTROL**

WHEREAS, the intent of Chapter 10 of the Alexandria City Ordinance is to protect the public health, safety and general welfare of the community and its people through the establishment of minimum regulations governing development and use; and

WHEREAS, the City of Alexandria recognizes its obligation to protect water quality by controlling the disturbance of soil; and

WHEREAS, as an effort to reduce sedimentation of the public waters and to protect and enhance the water resources and wetlands the City of Alexandria has established feasible and reasonable standards to achieve a level of erosion and sediment control that will minimize damage to property and degradation of water resources and wetlands, and will promote and maintain the health and safety of the citizens of the City of Alexandria.

NOW, THEREFORE, The City Council of the City of Alexandria does hereby **ORDAIN**:

SECTION I: That City Code Section 10.32, is hereby amended by adding the following:

Section 10.32. Erosion and Sediment Control

Subd. 1. Purpose. The purpose of this section is to control or eliminate soil erosion and sedimentation within the City. This article establishes standards and specifications for conservation practices and planning activities that minimize soil erosion and sedimentation.

Subd. 2. Scope and Application. Except as exempted by the definition of the term “land disturbance activity” in Subdivision 3, any person, state agency, or political subdivision thereof proposing land disturbance activity within the city shall apply to the city for the approval of the erosion and sediment control plan. No land shall be disturbed until the plan is approved by the city and conforms to the standards set forth in this article.

In their interpretation and application, the provisions of this article shall be held to be the minimum requirements for the promotion of the public health, safety and general welfare. Where the requirements imposed by any provision of this article are either more restrictive or less restrictive than comparable conditions imposed by any other city ordinance, law, code, statute, or regulation, the regulations that are more restrictive or impose higher standards or requirements shall prevail. Application of this article should be considered in conjunction with other controls regulating land use and waters within the city, including administration of Wetland Conservation Act regulations, administered by the city through its agent, the Douglas County Soil & Water Conservation District (SWCD).

Subd. 3. Definitions. Unless specifically defined below, words or phrases used in this Section shall be interpreted so as to give them the same meaning as they have in common usage and to give this Chapter its most reasonable application. For the purpose of this Chapter, the words “must” and “shall” are mandatory and not permissive. All distances, unless otherwise specified, shall be measured horizontally.

1. **Best Management Practices (BMPs).** Erosion and sediment control practices that are the most effective and practicable means of controlling, preventing, and minimizing the degradation of surface water, including construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, and other management practices published by the state.

2. **Common Plan of Development or Sale.** A contiguous area where multiple separate and distinct land disturbing activities may be taking place at different times, or on different schedules, but under one proposed plan. This item is broadly defined to include design, permit application, advertisement or physical demarcation indicating that land disturbing activities may occur.

3. **Developer.** Any person, group, firm, corporation, sole proprietorship, partnership, state agency, or political subdivision thereof engaged in a land disturbance activity.

4. **Development.** Any land disturbance activity that changes the site’s runoff characteristics in conjunction with residential, commercial, industrial or institutional construction or alteration.

5. **Erosion.** Any process that wears away the surface of the land by the action of water, wind, ice, or gravity.

6. **Erosion Control.** Refers to methods employed to prevent erosion. Examples include soil stabilization practices, horizontal slope grading, temporary or permanent cover, and construction phasing.

7. **Erosion and Sediment Practice Specifications or Practice.** The management procedures, techniques, and methods to control soil erosion and sedimentation as officially adopted by either the state, county, City or local watershed group, whichever is more stringent.

8. **Exposed Soil Areas.** All areas of the construction site where the vegetation (trees, shrubs, brush, grasses, etc.) or impervious surface has been removed, thus rendering the soil more prone to erosion. This includes topsoil stockpile areas, borrow areas and disposal areas within the construction site.

9. **Final Stabilization.** Means that all soil disturbing activities at the site have been completed, and that a uniform (evenly distributed, e.g., without large bare areas) perennial vegetative cover with a density of seventy (70) percent of the cover for unpaved areas and areas not covered by permanent structures has been established, or equivalent permanent stabilization measures have been employed.

10. **Land Disturbance Activity.** Any land change that may result in soil erosion from water or wind and the movement of sediments into or upon waters or lands within this government’s jurisdiction, including construction, clearing & grubbing, grading, excavating, transporting and filling of land. Within the context of this rule, land disturbance activity does not mean:

a. Minor land disturbance activities such as home gardens and an individual’s home landscaping, repairs, and maintenance work, unless such activity exceeds one half acre in exposed soil.

b. Additions or modifications to existing single family structures which

result in creating under one half acre of exposed soil or impervious surface and/or is part of a larger common development plan.

c. Construction, installation, and maintenance of fences, signs, posts, poles, and electric, telephone, cable television, utility lines or individual service connections to these utilities, which result in creating under one half acre of exposed soil or impervious surface.

d. Tilling, planting, or harvesting of agricultural, horticultural, or silvicultural (forestry) crops.

e. Emergency work to protect life, or property and emergency repairs, unless the land disturbing activity would have otherwise required an approved erosion and sediment control plan, except for the emergency. If such a plan would have been required, then the disturbed land area shall be shaped and stabilized in accordance with the City's requirements as soon as possible.

11. **Permanent Cover.** Means "final stabilization." Examples include grass, gravel, asphalt, and concrete. See also the definition of "final stabilization."

12. **Phased Project or Development.** Clearing a parcel of land in distinct phases, with at least fifty percent (50%) of the project's preceding phase meeting the definition of "final stabilization" and the remainder proceeding toward completion, before beginning the next phase of clearing.

13. **Sediment.** The product of an erosion process; solid material both mineral and organic, that is in suspension, is being transported, or has been moved by water, wind, or ice, and has come to rest on the earth's surface either above or below water level.

14. **Sedimentation.** The process or action of depositing sediment.

15. **Sediment Control.** The methods employed to prevent sediment from leaving the development site. Examples of sediment control practices are silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, and temporary or permanent sedimentation basins.

16. **Soil.** The unconsolidated mineral and organic material on the immediate surface of the earth. For the purposes of this document temporary stockpiles of clean sand, gravel, aggregate, concrete or bituminous materials (which have less stringent protection) are not considered "soil" stockpiles.

17. **Stabilized.** The exposed ground surface after it has been covered by sod, erosion control blanket, riprap, pavement or other material that prevents erosion. Simply sowing grass seed is not considered stabilization.

18. **Steep Slope.** Any slope steeper than twelve (12) percent (Twelve (12) feet of rise for every one hundred (100) feet horizontal run).

19. **Temporary Protection.** Short-term methods employed to prevent erosion. Examples of such protection are straw, mulch, erosion control blankets, wood chips, and erosion netting.

Subd. 4. Erosion and Sediment Control Plan.

1. Required. Every applicant for a building permit, subdivision approval, or a grading permit consisting of more than one-half acre of land disturbing activities within the city shall submit an erosion and sediment control plan to the City Engineer. No land shall be disturbed until the plan is approved by the City Engineer and conforms to the standards set forth herein.

All plans shall be consistent with National Pollution Discharge Elimination Permit (NPDES) requirements, and the filing or approval requirements of relevant Watershed Districts, Watershed Management Organizations, Ditch Authorities, Soil and Water Conservation Districts, or other regulatory bodies.

2. General Criteria for Erosion and Sediment Control Plan. An erosion and sediment control plan shall be required for any land disturbing activity larger than one-half acre and shall meet the following criteria:

- a. Stabilize all exposed soils and soil stockpiles.
- b. Establish permanent vegetation.
- c. Prevent sediment damage to adjacent properties and other designed areas.
- d. Schedule erosion and sediment control practices.
- e. Engineer the construction of steep slopes.
- f. Stabilize all waterways and outlets.
- g. Protect storm sewers from the entrance of sediment.
- h. When working in or crossing water bodies, take precautions to contain sediment.
- i. Restabilize utility construction areas as soon as possible.
- j. Protect paved roads from sediment and mud brought in from access routes.
- k. Dispose of temporary erosion and sediment control measures following final stabilization.
- l. Maintain all temporary and permanent erosion and sediment control practices.

3. Contents of Plan. The erosion and sediment control plan shall include the following:

- a. Project description: the nature and purpose of the land disturbing activity and the amount of grading involved.
- b. Phasing of construction: the nature and purpose of the land disturbing activity and the amount of grading, utilities, and building construction.
- c. Project Schedule: A projected timeline for completion of all site activities.
- d. Existing site conditions: existing topography, vegetation, and drainage.
- e. Adjacent areas, neighboring streams, lakes, residential areas, roads, etc., which might be affected by the land disturbing activity.
- f. Critical erosion areas: areas on the site that have potential for serious erosion problems.
- g. Erosion and sediment control measures: methods to be used to control erosion and sedimentation on the site, both during and after the construction process.
- h. Permanent stabilization: how the site will be stabilized after construction is completed, including specifications.
- i. Maintenance: schedule of regular inspections and repair of erosion and sediment control structures.

- j. Silt Fence: provisions for the removal of all silt fence upon establishment of permanent vegetation.

4. NPDES Construction Site Permit. Any construction activity that disturbs one or more acres is required to obtain a separate NPDES Construction Site Permit. A copy of this permit and erosion and sediment control plan shall be submitted to the City Engineer.

Subd. 5. Review of Plan. The City Engineer shall complete a review of the erosion and sediment control plan within fourteen (14) calendar days of receiving the plan from the developer.

1. Permit Required - If the City determines that the plan meets the requirements of this ordinance, the City shall issue a permit valid for a specified period of time that authorizes the land disturbance activity contingent on the implementation and completion of the plan.

2. Denial - If the City determines that the plan does not meet the requirements of this ordinance, the City shall not issue a permit for the land disturbance activity. The plan must be resubmitted for approval before the land disturbance activity begins. All land use and building permits shall be suspended until the developer has an approved plan.

3. City inspections and enforcement - The City shall conduct inspections on a regular basis to ensure that the plan is properly installed and maintained. In all cases the inspectors will attempt to work with the builder or developer to maintain proper erosion and sediment control at all sites. . In cases where cooperation is withheld, the City shall issue construction stop work orders, until erosion and sediment control measures meet the requirements of this ordinance. An inspection must follow before work can commence. Inspections are required as follows:

- a. Before any land disturbing activity begins
- b. For residential construction, at the time of footing inspections
- c. At the completion of the project

The City reserves the right to conduct other random inspections during the course of the project to ensure compliance with the plan.

Subd. 6. Modification of Plan. The applicant must amend the erosion and sediment control plan as necessary to include additional requirements such as additional or modified best management practices designed to correct problems identified or address situations whenever:

1. A change in design, construction, operation, maintenance, weather, or seasonal conditions that has a significant effect on the discharge of pollutants to surface waters or underground waters.

2. Inspections indicate the plan is not effective in eliminating or significantly minimizing the discharge of pollutants to surface waters or underground waters or that the discharges are causing water quality standard exceedances.

3. The plan is not achieving the general objectives of controlling pollutants or is not consistent with the terms and conditions of this permit.

Subd. 7. Development Agreement. A development agreement prepared by the City shall be required for any project that requires an erosion and sediment control plan. The agreement shall guarantee the performance of the work described and delineated on the approved

plan. In addition, the agreement will describe the City's inspection policy. Should the applicant fail to meet any of the terms of the development agreement, the City may:

1. **Withhold inspections** - Withhold the scheduling of inspections and/or the issuance of a Certificate of Occupancy.

2. **Revocation of permits** - Revoke any permit issued by the City to the applicant for the site in question or any other of the applicant's sites within the community's jurisdiction.

Subd. 8. Remedial Action. The City may take remedial action if any of the conditions listed below exist. The Development Agreement shall stipulate that the applicant shall reimburse the City for all direct cost incurred in the process of remedial work including, attorney's fees.

1. **Abandonment** - The developer ceases land disturbing activities and/or filling and abandons the work site prior to completion of the grading plan.

2. **Failure to implement plan** - The developer fails to conform to the erosion and sediment control plan as approved by the City.

Subd. 9. Emergency Action. If circumstances exist such that noncompliance with this ordinance poses an immediate danger to the public health, safety and welfare, as determined by the city, the city may take emergency preventative action. The city shall also take every reasonable action possible to contact and direct the applicant to take any necessary action.

Subd. 10. Notification of Failure of the Plan. The City shall notify the permit holder of the failure of the erosion and sediment control plan's measures.

1. **Initial contact.** The initial contact will be to the party or parties listed on the application and/or the plan as contacts. Except during an emergency action, forty-eight (48) hours after notification by the City or seventy-two (72) hours after the failure of erosion control measures, whichever is less, the City at its discretion, may begin corrective work. Such notification should be in writing, but if it is verbal, a written notification should follow as quickly as practical. If after making a good faith effort to notify the responsible party or parties, the City has been unable to establish contact, the City may proceed with corrective work. There are conditions when time is of the essence in controlling erosion. During such a condition the City may take immediate action, and then notify the applicant as soon as possible

2. **Erosion off-site.** If sediment breaches the perimeter of the site, the applicant shall immediately develop a cleanup and restoration plan, obtain the right-of entry from the adjoining property owner, and implement the cleanup and restoration plan within forty-eight (48) hours of obtaining the adjoining property owner's permission. In no case, unless written approval is received from the City, may more than seven (7) calendar days go by without corrective action being taken. If in the discretion of the City, the permit holder does not repair the damage caused by the erosion, the city may do the remedial work required. When restoration to wetlands and other resources are required, the applicant shall be required to work with the appropriate agency to ensure that the work is done properly.

3. **Erosion into streets, wetlands or water bodies.** If eroded soils (including tracked soils from construction activities) enters streets, wetlands, or other water bodies, cleanup and

repair shall be immediate. The applicant shall provide all traffic control and flagging required to protect the traveling public during the cleanup operations.

4. Failure to do corrective work. When an applicant fails to conform to any provision of this policy within the time stipulated, the City may take the following actions.

a. Issue a stop work order, withhold the scheduling of inspections, and/or the issuance of a Certificate of Occupancy

b. Revoke any permit issued by the City to the applicant for the site in question or any other of the applicant's sites within the City's jurisdiction.

c. Correct the deficiency or hire a contractor to correct the deficiency. The issuance of a permit constitutes a right-of-entry for the City or its contractor to enter upon the construction site for the purpose of correcting deficiencies in erosion control.

d. Require reimbursement to the City for all costs incurred in correcting stormwater pollution control deficiencies. If payment is not made within thirty (30) days after the City incurs costs, the City will halt all work on the project site and assess any reimbursement costs to the property. As a condition of the permit, the owner shall waive notice of any assessment hearing to be conducted by the City, concur that the benefit to the property exceeds the amount of the proposed assessment, and waive all rights by virtue of Minnesota Statute 429.081 to challenge the amount or validity of assessment.

Subd. 11. Enforcement. The City shall be responsible enforcing this ordinance.

1. Penalties. Any person, firm, or corporation failing to comply with or violating any of these regulations, shall be deemed guilty of a misdemeanor and be subject to a fine or imprisonment or both. All land use and building permits must be suspended until the applicant has corrected the violation. Each day that a separate violation exists shall constitute a separate offense.

Subd. 12. Severability. The provisions of this ordinance are severable, and if any provisions of this ordinance, or application of any provision of this ordinance to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this ordinance must not be affected thereby.

Subd. 13. Abrogation and Greater Restrictions. It is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance imposes greater restrictions, the provisions of this ordinance shall prevail. All other ordinances inconsistent with this ordinance are hereby repealed to the extent of the inconsistency only.

SECTION II: This Ordinance shall be in full force and effect from and after its passage and publication.

ADOPTED by the City Council of the City of Alexandria this 14th day of July, 2008, by the following vote:

YES: BIGGER, CARLSON, WEISEL, BENSON, FRANK

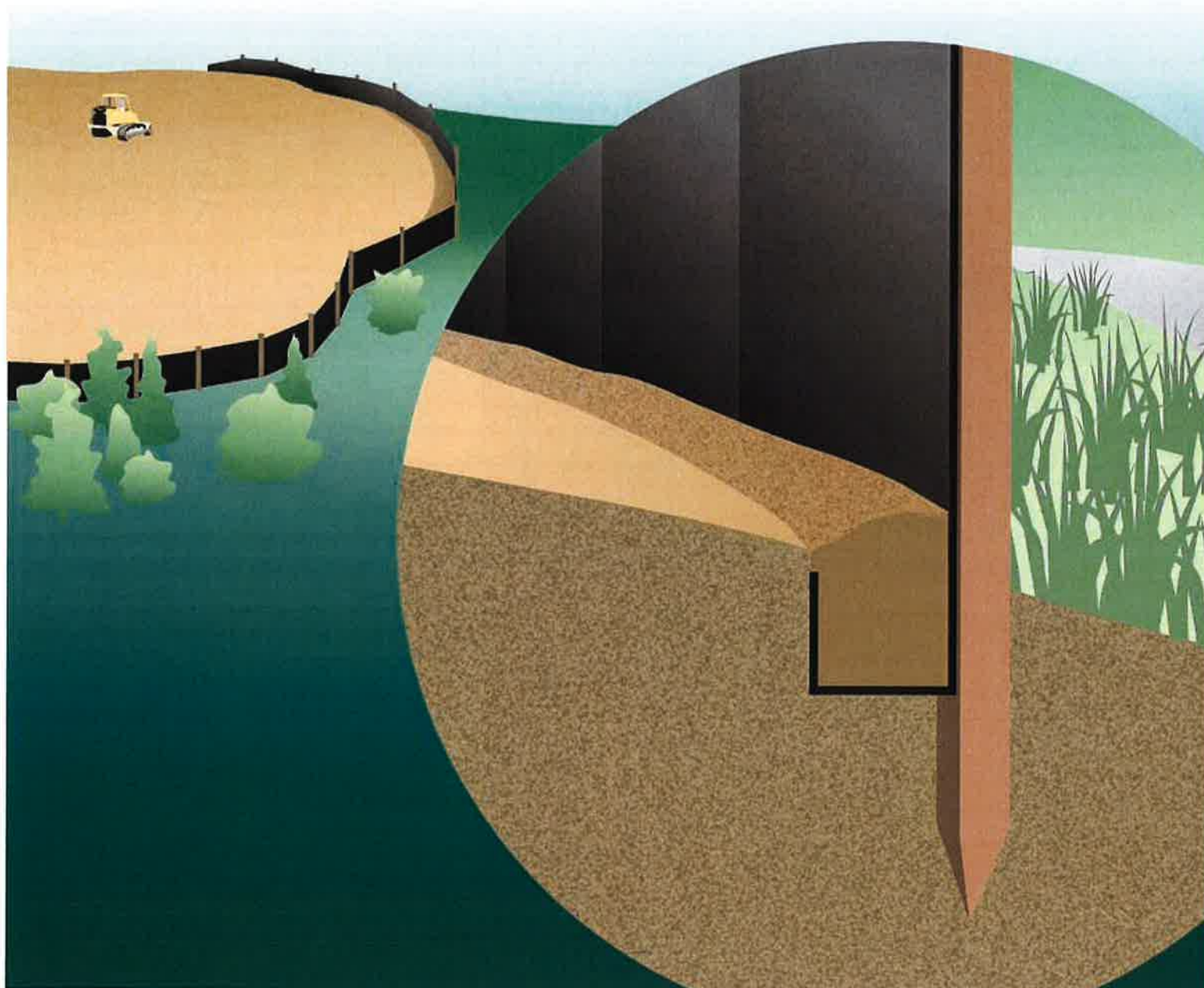
NO: NONE

ABSENT: NONE

/S/ H. Dan Ness, Mayor

ATTEST: _____
/S/ James P. Taddei, City Administrator

APPENDIX E
MPCA Erosion and Sediment Control Guidance



Stormwater Construction Inspection Guide



Minnesota Pollution Control Agency

August 2008

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Acknowledgments

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Comments welcome

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

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Introduction

Purpose of this Inspection Guide

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

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

Construction Stormwater Permit Overview

The MPCA issued the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) General Stormwater Permit for Construction Activity in August 2008. Owners and operators of construction activity disturbing one acre or more of land need to obtain the construction stormwater permit. Sites disturbing less than one acre within a larger common plan of development or sale that is more than one acre also need permit coverage.

Regulated parties are required to develop a stormwater pollution prevention plan (SWPPP) and submit a completed application and a \$400 application fee. Applications and other forms are available by calling 651-296-6300 and asking for “Construction Stormwater” or visiting www.pca.state.mn.us/water/stormwater/stormwater-c.html.

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

A common plan of development or sale means a contiguous area where multiple separate and distinct construction activities are occurring under one overall plan (e.g., the operator is building on three half-acre lots in a 6-acre development). The “plan” in a common plan of development or sale is broadly defined as any announcement or documentation or physical demarcation indicating that construction activities may occur on a specific plot.

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

What are “special waters?”

Additional requirements apply to construction sites that discharge within one (1) mile of a special water. These waters can include:

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

(See Appendix A, Part B of the construction stormwater permit for more information or use the Special Waters Search tool on the MPCA construction stormwater Web page)

be conducted within seven (7) days after that. At the end of the project, after all disturbed surfaces are stabilized, the regulated party must submit a notice of termination/permit modification form to let the MPCA know that the construction activity is complete.

For most sites, construction may begin seven days after the application is postmarked. For sites that are more than 50 acres and discharging to outstanding natural resource value waters or impaired waters, the SWPPP and application materials must be submitted at least 30 days prior to commencing construction.

Changes in Owner/Operator

When the owner or operator or a portion of a site or entire site changes, the former owner or operator and the new owner or operator needs to submit a Notice of Termination/Permit Modification to the MPCA. The form is available on the MPCA construction stormwater

Web site and must be submitted within seven days of assuming operational control of the site, commencing work on their portion of the site, or of the legal transfer, sale or closing on the property.

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

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

How to Conduct a Stormwater Inspection

Construction Site Inspector: Role and Responsibilities

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

Legal responsibilities

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

Professional Responsibilities

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

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

Inspection Procedures

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

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

Pre-Inspection Preparation

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

Always keep safety in mind!

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

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

plan to visit are located near special waters or impaired waters. Discharges to special waters, wetlands, and impaired waters have additional requirements that are described in Appendix A of the permit.

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

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

Entry

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

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

Records Review

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

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

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

What if the site does not have a permit?

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

What to do if denied entry?

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

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

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

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

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

Remember SWPPPs are dynamic documents; they should be updated when (Part III.A.5):

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

The SWPPP must be on-site!

Part III.D of the permit requires that "the SWPPP (original or copy), all changes to it, and inspections and maintenance records must be kept at the site during construction by the Permittee who has operational control of that portion of the site." The SWPPP can be kept in either the field office or in an on-site vehicle.

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

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

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

Site Inspection

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

Seasonal Considerations

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

A note about construction activity:

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

A recommended construction inspection sequence follows:

1. Plan your inspection

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

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

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

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

3. *Inspect perimeter controls*

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

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

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

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

5. *Inspect disturbed areas not currently being worked*

Disturbed areas need to have temporary or permanent cover when they are not being actively worked. All exposed soil areas must be stabilized no later than 14 days, after the construction activity in that portion of the site has temporarily or permanently ceased. Note in the inspection report any unseeded and/or unmulched bare soils that have been dormant for two weeks or more.

6. *Inspect areas with final stabilization*

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

7. *Inspect wetted perimeter areas*

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

Guidance on inspecting individual BMPs is discussed in Chapter 3.

Common compliance problems at construction sites

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

Problem #1 – No temporary or permanent cover

All exposed soil areas must be stabilized no later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Ask the contractor when particular exposed soils were last worked to help you determine if there is compliance.

Problem #2 – No sediment controls on site

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

Problem #3 – No sediment control for temporary stock piles

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

Problem #4 – No inlet protection

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

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

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

Problem #6 – Sediment on the road

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

Problem #7 – Improper solid waste or hazardous materials management

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

Problem #8 – Dewatering at the construction site

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

Problem #9 – Concrete washout

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

Taking photographs

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

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

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

Exit Interview

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

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

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

Lastly, don’t tell the construction operator which BMP to use. Explain the problem or the permit requirement that must be met, and describe how other construction sites have addressed typical problems. It’s OK to tell the construction operator about what typically works and what doesn’t work in the field, but don’t specify the BMP to use (especially if it is a proprietary BMP). Ultimately, it is up to the construction operator to decide which BMPs to use.

Report Writing and Follow-up

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

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

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

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

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

Photo log should include:

1. Size the photos so that the shortest side is 3.5 inches. Center the photos and captions on the page. Generally, a page will have two landscape oriented photos or one portrait. See Attachment A, page 28, for a sample photo log.
2. Include a photo(s) that illustrates general construction site conditions. A macro level shot provides insight into whether the site is generally in good shape or poorly maintained. For a site that is generally in compliance, the general construction site conditions photo may be the only picture in the log.
3. Provide photos for all potential violations. The photo serves as a record that the findings actually occurred and provides a means of comparing future site conditions with those on the day of inspection. Also, it's easier to resolve potential disputes with the construction operator if findings are documented with photographs.
4. Photo captions should briefly describe what is observed in the picture. Avoid references to the "normal" conditions in that area ("per the construction operator" statements); these are better discussed in the inspection report.

5. Check to make sure the construction site name and NPDES/SDS permit number match the inspection report. The best way to do this is to create a new photo log for each construction site; problems seem to arise when inspectors recycle photo logs by erasing the photos from one site and add those from another.

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

Tips on Inspecting BMPs

Inspecting BMPs

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

- Protecting Water Quality in Urban Areas: Best Management Practices for Dealing with Stormwater Runoff from Urban, Suburban and Developing Areas of Minnesota, Minnesota Pollution Control Agency, March 2000.
www.pca.state.mn.us/water/pubs/sw-bmpmanual.html.
- Minnesota Urban Small Sites BMP Manual: Stormwater Best Management Practices for Cold Climates, Metropolitan Council, 2001.
www.metrocouncil.org/environment/Watershed/bmp/manual.htm

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

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

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

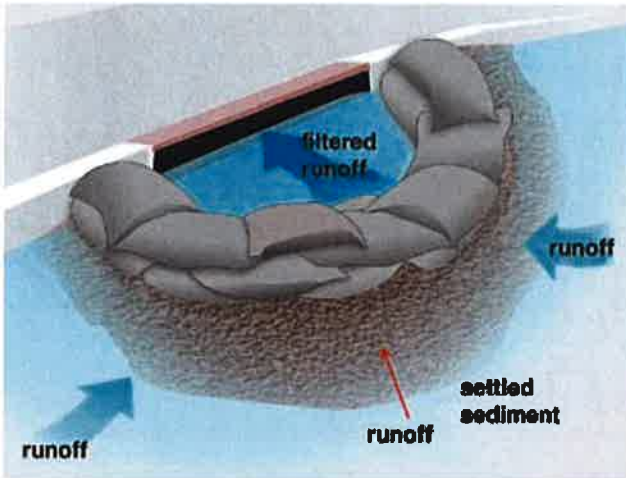


Figure 1. Sand or gravel bags can be used to filter stormwater runoff before entering a catch basin. Commercial products are also available that fit in front of or inside the catch basin.

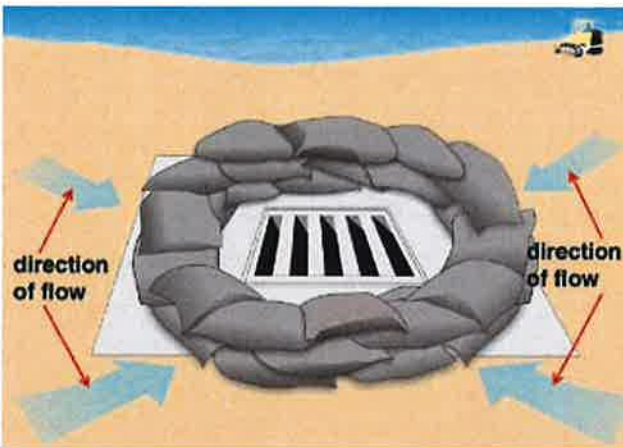


Figure 2. Sand or gravel bags used to protect a drop inlet.

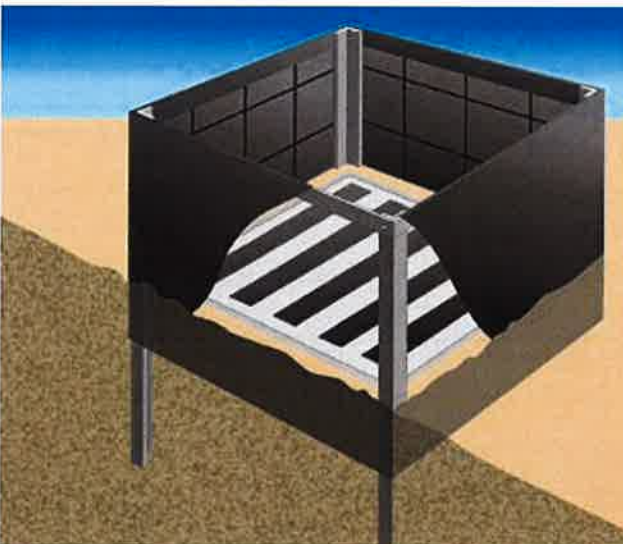


Figure 3. Silt fence can also be used to protect a drop inlet.

Storm drain inlet protection

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

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

Permit requirements:

- All storm drain inlets must be protected by appropriate BMPs during construction until all sources with potential for discharging to the inlet have been stabilized. Inlet protection may be removed if a specific safety concern has been identified and the Permittee(s) have received written correspondence from the jurisdictional authority (Part IV.C.4).
- All sediment control BMPs must be inspected to ensure integrity and effectiveness. All nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs. (Part IV.E.4).

Inspection tips:

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

Stabilized construction exit

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

Permit requirements:

- Vehicle tracking of sediment from the construction site must be minimized by BMPs such as stone pads, concrete or steel wash racks, or equivalent systems. Street sweeping must be used if such BMPs are not adequate to prevent sediment from being tracked onto the street (Part IV.C.6).
- Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all off-site paved surfaces within 24 hours of discovery, or if applicable, within a shorter time (Part IV.E.4.d).

Inspection tips:

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

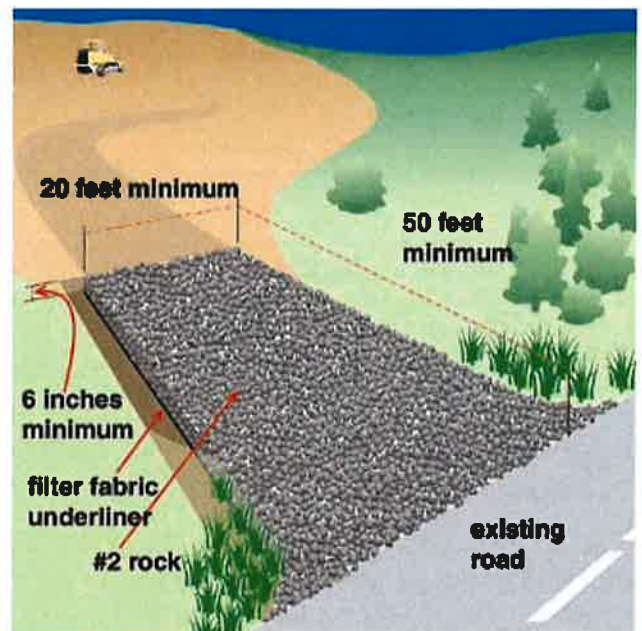


Figure 4. Stabilized construction exit.

Silt fence/other sediment barrier

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

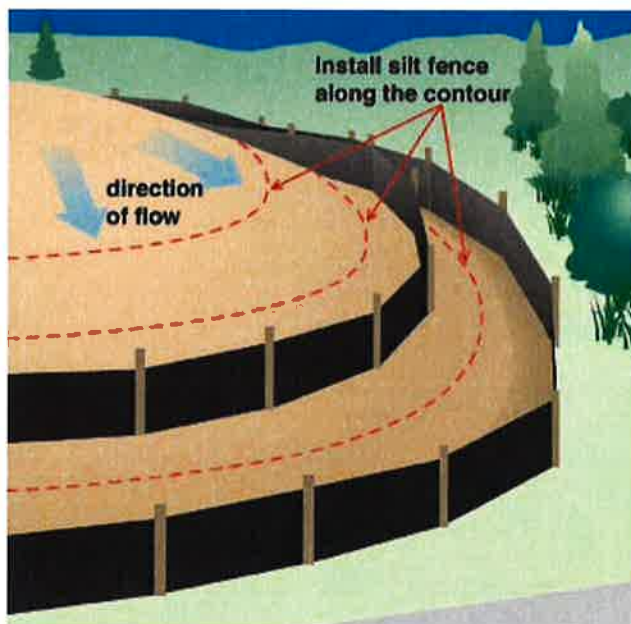


Figure 5. Illustration of silt fence installed along the contour.

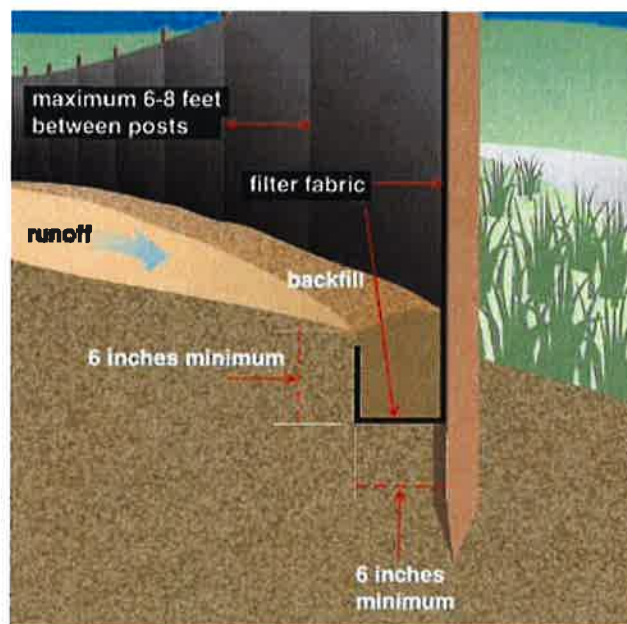


Figure 6. Detail of silt fence installation.



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

Permit requirements:

Sediment control practices must be established on all down-gradient perimeters before any upgradient land disturbing activities begin. These practices must remain in place until final stabilization has been established (Part IV.C.2). All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/3 of the height of the fence. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access (Part IV.E.4.a).

Inspection tips:

- ✓ Is the silt fence installed along the contour (on a level horizontal plane)?
- ✓ Are the ends turned up (J-hooks) to help pond the water behind the filter?
- ✓ Is the filter trenched-in with the stakes on the downhill side (trench must be 6 inches deep by 6 inches wide)?

- ✓ Has sediment been removed when it reaches 1/3 the height of the barrier?
- ✓ Sediment barriers should not be used as check dams or where concentrated flow is expected.

Key inspection area: Inadequate installation

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

Key inspection area: Improper placement

- A silt fence is not adequate protection for steep, long slopes. The drainage area must be no greater than ¼ acre per 100 feet of fence; i.e., silt fences must be spaced 60-110 ft. apart on long slopes.

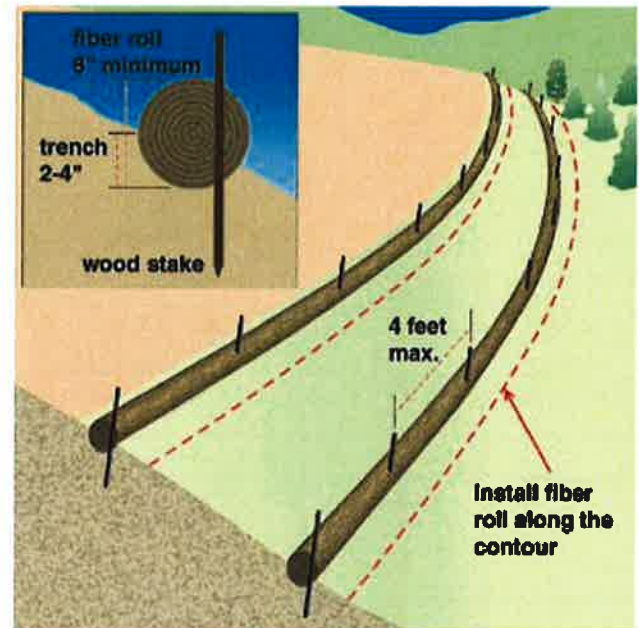


Figure 8. Fiber roll installation and detail.

Key inspection area: Maintenance

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

Diversion ditches/berms

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

Inspection tips:

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



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

Mats, mulches, and blankets

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

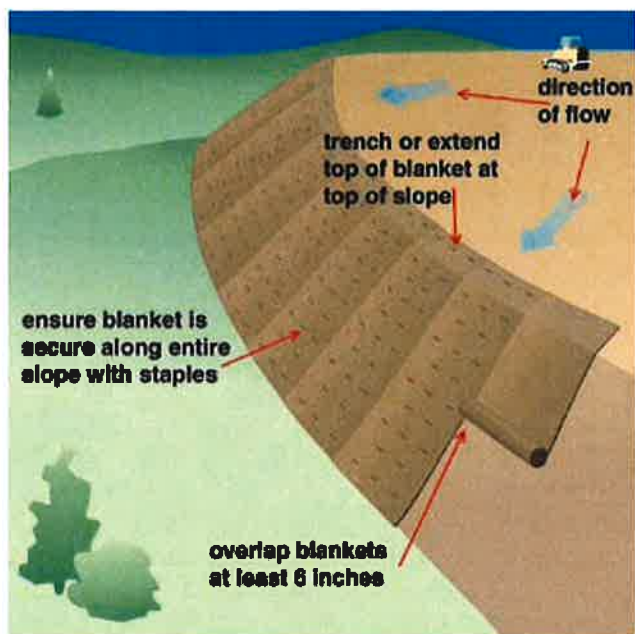


Figure 10. Erosion control blanket.

Inspection tips:

- ✓ The blanket or mat must come into complete contact with the soil.
- ✓ Check that the top of the blanket is trenched-in (there should be no evidence of water flowing under the blanket or mat).
- ✓ Mulch should not be placed in concentrated flow areas.
- ✓ Check to see if erosion is occurring in the mulched area (more mulch may need to be applied).
- ✓ Check blankets and mats to see if sections are overlapped 4-6 inches and staples are 12 inches apart on tops and 24 inches apart down the sides and in the middle.

Temporary sediment trap or pond

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

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

Inspection tips:

- ✓ Check the location of the sediment trap. Failure of the trap should not pose a risk to life or property.
- ✓ Sediment in the trap should be removed after it reaches about 1/3 the design volume.
- ✓ The trap should not be installed in a main stream or near culvert outlets.
- ✓ Check the outlet for needed maintenance.

Vegetative stabilization

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

Permit requirement (Part IV.B.2):

All exposed soil areas must be stabilized as soon as possible to limit soil erosion but in no case later than 14 days, after the construction activity in that portion of the site has temporarily or permanently ceased. Temporary stock piles without significant silt, clay or organic components and the constructed based components of the roads, paving lots and similar surfaces are exempt from this requirement.

Inspection tips:

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

Permanent stormwater management system

For projects that replace pervious surfaces with one or more acres of cumulative impervious surface, a permanent stormwater management system that treats ½ inch of runoff from the new impervious surface is required (one (1) inch of runoff must be treated when discharging to special waters). See Part III.C of the permit for additional information.

For those areas of the project where there is no feasible way to meet the requirements for the water quality volume, then up to three acres or one percent of project size (whichever is larger) can use other treatment such as grassed swales, smaller ponds or grit chambers.

Documentation must be provided in the SWPPP.

The construction operator can choose one of the following approaches to meet this requirement:

- *Wet sedimentation basin.* Permanent storage volume (dead storage) of 1800 cubic feet of storage per acre that drains to the basin must be provided. The water quality volume (live storage) must be discharged at no more than 5.66 cubic feet per second (CFS) per acre of surface area of the pond. The water quality volume treated should be 1/2 inch times of new impervious surface. (Part III.C.1).
- *Infiltration/filtration.* Treatment can include infiltration basins and trenches, rainwater gardens, sand filters, bioretention areas, and enhanced swales. The water quality volume treated should be 1/2 inch of new impervious surface. (Part III.C.2).

- *Regional Ponds.* Written authorization to discharge to a regional pond must be included in the SWPPP, and the pond must meet the permit's design requirements. (Part III.C.3)
- *Combination of the above practices.* SWPPP must document the volume that each practices addresses. (Part III.C.4)
- *Alternative method.* An alternative method must be approved in advance by the MPCA. Check the SWPPP to see if approval and additional documentation is provided. (Part III.C.5)

Solid waste/hazardous materials management

Part IV.F of the permit requires construction sites to implement pollution prevention measures. At a minimum, sites are required to:



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

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

Permit requirements:

- **Solid Waste:** Collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris and other wastes must be disposed of properly and must comply with MPCA disposal requirements. (Part IV.F.1).
- **Hazardous Materials:** Oil, gasoline, paint and any hazardous substances must be properly stored, including secondary containment, to prevent spills, leaks or other discharge. Access to storage areas must be restricted to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with MPCA regulations. (Part IV.F.2).
- Spills must be reported to the Minnesota Duty Officer 1-800-422-0798.
- External washing of trucks and other construction vehicles must be limited to a defined area of the site. Runoff must be contained and waste properly disposed of. No engine degreasing is allowed on site. (Part IV.F.3).

- Concrete washout onsite: All liquid and solid wastes generated by concrete washout operations must be contained in a leak-proof containment facility or impermeable line. A compacted clay liner that does not allow washout liquids to enter ground water is considered an impermeable liner. The liquid and solid wastes must not contact the ground, and there must not be runoff from the concrete washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA regulations. A sign must be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities. (Part IV.F.4).

Inspection tips:

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

Referring Enforcement Cases to the MPCA

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

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

For failure to obtain an NPDES stormwater permit

Citation: 7001.1035, 7001.1040 and 7001.1030.

Suggested enforcement action: Administrative Penalty Order (APO).

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

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

For discharging sediment into waters of the state

Citation: Minnesota Statute 115.061 or Minnesota Rule 7001.0210.

Suggested enforcement action: APO/Stipulation Agreement.

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

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

For violations of the NPDES/SDS stormwater permit requirements

Citation: NPDES/SDS permit MN R100001

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

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

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

Enforcement options available

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

Additional Resources

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

MPCA Stormwater Inspection Guide

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

MPCA Stormwater Manual

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

MPCA Stormwater Program

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

MPCA Stormwater BMP Manual

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

Metropolitan Council's Urban Small Sites BMP Manual

www.metrocouncil.org/environment/Watershed/bmp/manual.htm.

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

Minnesota Erosion Control Association

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

International Erosion Control Association

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

Definitions

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

“Best Management Practices (BMPs)”

Erosion and sediment control and water quality management practices that are the most effective and practicable means of controlling, preventing, and minimizing degradation of surface water, including avoidance of impacts, construction-phasing, minimizing the length of time soil areas are exposed, prohibitions, and other management practices published by state or designated area-wide planning agencies. Individual BMPs found in the construction permit are described in the current version of *Protecting Water Quality in Urban Areas*, Minnesota Pollution Control Agency 2000. BMPs must be adapted to the site and can be adopted from other sources. However, they must be similar in purpose and at least as effective and stringent as the MPCA's BMPs. (Other sources include manufacturers specifications, *Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices*, U.S. Environmental Protection Agency 1992, and *Erosion Control Design Manual*, Minnesota Department of Transportation, et al, 1993).

“Common Plan of Development or Sale”

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

“Construction Activity”

Construction activity as defined in 40 C.F.R. part 122.26(b)(14)(x) and small construction activity as defined in 40 C.F.R. part 122.26(b)(15). This includes a disturbance to the land that results in a change in the topography, existing soil cover (both vegetative and non-vegetative), or the existing soil topography that may result in accelerated stormwater runoff, leading to soil erosion and movement of sediment into surface waters or drainage systems. Examples of construction activity may include clearing, grading, filling and excavating. Construction activity includes the disturbance of less than one acre of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb one (1) acre or more.

“Erosion Prevention”

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

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

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

“Operator”

The person (usually the general contractor), designated by the owner, who has day-to-day operational control and/or the ability to modify project plans and specifications related to the SWPPP. The person must be knowledgeable in those areas of the permit for which the operator is responsible. (Part II.B. and Part IV.).

“Owner”

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

“Permittee”

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

“Sediment Control”

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

“Stormwater”

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

“Stormwater Pollution Prevention Plan”

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

“Surface Water or Waters”

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

“Temporary Erosion Protection”

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

“Waters of the State”

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

Attachment A - Photo Log

Acme Construction (permit number)

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

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



Photo 1: Well-maintained and labeled concrete truck washout

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



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

Inspection Date: January 5, 2004

Page 1 of 3

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

Attachment B - Violation Citations

NPDES/SDS General Stormwater Permit for Construction Activity Violation Citations

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

Change of Coverage II. B. 5

Erosion Control Practices during Construction

- | | |
|--|----------|
| a) All exposed soil must be stabilized no later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased | IV. B. 2 |
| b) Normal wetted perimeter of drainage system - 200' within 24 hours of connecting | IV. B. 3 |
| c) Energy dissipation (temp. or perm.) within 24 hours | IV. B. 4 |

Sediment Control Practices during Construction

- | | |
|--|----------|
| a) Lacking sediment control practices Overloaded systems eliminated, no unbroken slopes 75' @ 3:1> | IV. C. 1 |
| b) Temporary sediment basin required | III. B |
| c) Inlet BMPs not functional | IV. C. 4 |
| d) Perimeter controls/soil disturbance | IV. C. 2 |

Inspections and Maintenance

- | | |
|--|----------------------------|
| a) Maintenance of erosion and sediment temporary/permanent cover | IV. E. 4 |
| b) Temporary sediment basin 1/2-volume | IV. E. 4. b |
| c) Recovery of sediment in waters (name water body) | IV. E.4. c |
| – Duty to notify, avoid and recover water pollution | Minn. Stat.115.061§ |
| – Nuisance conditions prohibited (define discharge) | Minn. R 7050.0210, subp. 2 |
| d) Vehicle tracking | IV. E.4. d |

Inspections and Records Retention

- | | |
|---|--------------|
| a) SWPPP development required | III. D |
| SWPPP requirements: | III. A |
| – BMPs/locations procedures | III. A. 4 |
| – Site map/flow arrows | III. A. 4. a |
| – Areas not to be disturbed | III. A. 4. b |
| – Phased areas | III. A. 4. c |
| – Surface waters/wetlands 1 mile | III. A. 4. d |
| – Methods for final stabilization | III. A. 4. e |
| – Amend SWPPP modify BMP | III. A. 4. f |
| b) Inspections (specifically note failed maintenance) | III. A. 4 |
| c) Training requirement documentation | IV. E. |

Permanent Stormwater Treatment

>One (1) acre impervious, permanent treatment required III. C

- | | |
|--|----------------------------|
| a) Wet sedimentation basin | III. C. 1 |
| • Regional ponds | III. C. 3 |
| • Infiltration/filtration (hydro analysis) | III. C. 2 |
| • Alternative methods, 90-day review, monitoring | III. C. 5 |
| b) Pretreatment required | III. C |
| c) Dewatering | IV. D |
| d) Turbid discharges off site or waters of the state | Minn. R 7050. 0210, subp.2 |
| e) Wetland impacts: authorization and mitigation | |

Management Pollution Prevention

- | | |
|--|----------|
| a) Solid waste disposed of properly | IV. F. 1 |
| b) Hazardous materials in secondary containment
and restricted access | IV. F. 2 |
| c) Defined areas for construction vehicles external washing | IV. F. 3 |
| d) Defined concrete washout on site and with a sign | IV. F. 4 |

Attachment B - Violation Citations

(continued)

Letter of Warning (LOW)

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

Request for Information (RFI)

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

Corrective Actions (LOW or RFI)

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

Attachment C - Temporary, Permanent Sediment Basin Checklist

Site Name/Location _____ Date of inspection _____

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

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

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

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

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

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

APPENDIX F
Post-Construction Stormwater BMP Maintenance Guidance



**CITY OF ALEXANDRIA
ENGINEERING STANDARDS FOR STORM WATER
TREATMENT FACILITIES**

Pond Maintenance Requirements

1. Inspection, maintenance reporting and certification by a professional engineer (Provided by Owner). Information must be submitted to the City as requested by the City Engineer.
2. Excavate pond to original design capacity when one half (1/2) of the wet volume of the pond is lost due to sediment deposition.
3. Remove floatable debris in and around the pond area including, but not limited to: oils, gases, debris and other pollutants, as needed.
4. Maintain landscape adjacent to the facility per original design, including but not limited to: maintenance of the buffer strip and other plant materials as per original plan design, as needed.
5. Maintenance of all erosion control measures including, but not limited to: rip rap, storm sewer outlets, catch basin inlets, etc.

Environmental Manhole Maintenance Requirements

1. Annual inspection, maintenance reporting and certification by a professional engineer (Provided by Owner). Information must be submitted to the City annually.
2. Maintenance should be performed once the sediment or oil depth exceeds the established requirements recommended by the manufacturer.
3. Maintenance should occur immediately after a spill takes place. Appropriate regulatory agencies should also be notified in the event of a spill.
4. Disposal of materials shall be in accordance with local, state and federal requirements as applicable.



Rain Garden Maintenance Requirements

1. Inlet and Overflow Spillway – Remove any sediment build-up or blockage and correct any erosion, as needed.
2. Vegetation – Address the following vegetation maintenance requirements, as needed:
 - a. Maintain at least 80% surface area coverage of plants approved per plan.
 - b. Removal of invasive plants and undesirable woody vegetation.
 - c. Removal of dried, dead and diseased vegetation.
 - d. Re-mulch void or disturbed/exposed areas.
3. Annual inspection and maintenance efforts must be documented and submitted to the City.

Infiltration/Filtration Basin Maintenance Requirements

1. Sweep sediment from parking lot 4 times per year.
2. Ongoing and as needed:
 - a. Prune and weed to maintain appearance
 - b. Remove trash and debris
 - c. Maintain at least 80% surface area coverage of plants approved per plan.
 - d. Removal of invasive plants and undesirable woody vegetation.
 - e. Removal of dried, dead and diseased vegetation.
 - f. Re-mulch void or disturbed/exposed areas.
3. Semi-annually:
 - a. Remove sediment from inflow points (off-line systems)
 - b. Inspect aggregate filter system and clean as needed
 - c. Shrubs should be inspected to evaluate health. Remove dead and diseased vegetation.
4. Annually:
 - a. Inspect and remove any sediment and debris build-up in pretreatment areas
 - b. Inspect inflow points and bioretention surface for build-up of road sand associated with spring melt period. Remove and replant as necessary.
5. 2 to 3 years:
 - a. Test pH of planting soils. If pH is below 5.2, add limestone. If pH is 7.0 to 8.0, add iron sulfate plus sulfur.
6. Annual inspection and maintenance efforts must be documented and submitted to the City.

APPENDIX G
Maintenance Agreement

CITY OF ALEXANDRIA
COUNTY OF DOUGLAS
STATE OF MINNESOTA

**STORMWATER FACILITIES MAINTENANCE AGREEMENT
WITH ACCESS RIGHTS AND CONENANTS**

(Insert Project Reference Numbers)

This AGREEMENT, made and entered into this ____ day of _____, 20____, for the maintenance and repair of certain Stormwater Management Facilities is entered into between

(hereinafter referred to as "OWNER") and the City of Alexandria (hereinafter referred to as "CITY") for the benefit of the CITY, the OWNER, the successors in interest to the CITY or the OWNER, and the public generally.

WITNESSETH

WHEREAS, the undersigned is the owner of that certain real property lying and being in the ____ Land Lot/District, _____ identified as [Tax Map/Parcel Identification Number] _____ and being more particularly described by deed as recorded in the land records of the City of Alexandria, Minnesota, Deed Book _____ Page _____, hereinafter called the "Property".

WHEREAS, the undersigned is proceeding to build on and develop the property; and has submitted the Site Plan/Subdivision Plan known as _____, (Name of Plan/Development) hereinafter called the "Plan", which is expressly made a part hereof, as approved or to be approved by the City, provides for detention of stormwater within the confines of the property; and

WHEREAS, the City and the undersigned, its successors and assigns, including any homeowners association, (hereinafter the "Landowner") agree that the health, safety, and welfare of the residents of the City of Alexandria, Minnesota, requires that on-site stormwater management facilities be constructed and maintained on the Property; and

WHEREAS, the City requires that on-site stormwater management facilities as shown on the Plan (the "Facilities") be constructed and adequately maintained by the Landowner.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

- (1) When a new drainage control facility is installed, the party having the facility installed shall obtain a copy of the as-built plans from the City of Alexandria Engineering Department. Responsible parties shall make records of the installation and of all maintenance and repair, and shall retain the records for at least ten years. These records shall be made available to the City of Alexandria's City Engineer during Inspection of the facility and at other reasonable times upon request of the City Engineer.

- (2) The following operational maintenance activities shall be performed on all permitted systems on a regular basis or as needed:
- a) Removal of trash and debris,
 - b) Inspection of inlets and outlets,
 - c) Removal of sediments when the storage volume or conveyance capacity of the stormwater management system is below design levels
 - d) Ensure systems designed for infiltration are drawing down within 48 hours, and
 - e) Stabilization and restoration of eroded areas.
- (3) Specific operational maintenance activities are required, depending on the type of permitted system, in addition to the practices listed in subsection (2), above.
- a) Retention, swale and underdrain systems shall include provisions for:
 - 1. Mowing and removal of grass clippings, and
 - 2. Aeration, tilling, or replacement of topsoil as needed to restore the percolation capability of the system. If tilling or replacement of the topsoil is utilized, vegetation must be established on the disturbed surfaces.
 - b) Exfiltration systems shall include provisions for removal of sediment and debris from pretreatment or sediment collection systems.
 - c) Wet detention systems shall include provisions for operational maintenance of the littoral zone. Replanting shall be required if the percentage of vegetative cover falls below the permitted level. It is recommended that native vegetation be maintained in the littoral zone as part of the system's operation and maintenance plan. Undesirable species such as cattail and exotic plants should be controlled if they become a nuisance.
 - d) Dry detention systems shall include provisions for mowing and removal of grass clippings.
- (4) If the system is not functioning as designed and permitted, operational maintenance must be performed immediately to restore the system. If operational maintenance measures are insufficient to enable the system to meet the design and performance standards of this chapter, the permittee must either replace the system or construct an alternative design.
- (5) In the event the Landowner fails to maintain the Facilities in good working condition acceptable to the City, the City may enter upon the Property and take such steps as are necessary to correct deficiencies identified in the inspection report and to charge the costs of such repairs to the Landowner. This provision shall not be construed to allow the City to erect any structure of permanent nature on the land of the Landowner outside of the easement for the stormwater management facilities. It is expressly understood and agreed that the City is under no obligation to routinely maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the City. The Landowner grants to the City, its authorized agents and employees, a non-exclusive, perpetual easement over, across, under and through the Property for such purposes.

IN WITNESS THEREOF, the parties hereto acting through their duly authorized agents have caused this Agreement to be signed, sealed and delivered:

(Insert Company/Corporation/Partnership Name) [SEAL]

By: (Type Name and Title)

The foregoing Agreement was acknowledged before me
this ____ day of _____, 20____, by

Unofficial Witness

NOTARY PUBLIC

My Commission Expires: _____
CITY OF ALEXANDRIA, MINNESOTA

ATTACHMENT 1: CITY OF ALEXANDRIA ENGINEERING STANDARDS FOR STORM WATER TREATMENT FACILITIES

Pond Maintenance Requirements

1. Inspection, maintenance reporting and certification by a professional engineer (Provided by Owner). Information must be submitted to the City as requested by the City Engineer.
2. Excavate pond to original design capacity when one half (1/2) of the wet volume of the pond is lost due to sediment deposition.
3. Remove floatable debris in and around the pond area including, but not limited to: oils, gases, debris and other pollutants.
4. Maintain landscape adjacent to the facility per original design, including but not limited to: maintenance of the buffer strip and other plant materials as per original plan design.
5. Maintenance of all erosion control measures including but not limited to: rip rap storm sewer outlets, catch basin inlets, etc.

Environmental Manhole Maintenance Requirements

1. Annual inspection, maintenance reporting and certification by a professional engineer (Provided by Owner). Information must be submitted to the City annually.
2. Maintenance should be performed once the sediment or oil depth exceeds the established requirements recommended by the manufacturer.
3. Maintenance should occur immediately after a spill takes place. Appropriate regulatory agencies should also be notified in the event of a spill.
4. Disposal of materials shall be in accordance with local, state and federal requirements as applicable.

Rain Garden Maintenance Requirements

1. Inlet and Overflow Spillway – Remove any sediment build-up or blockage and correct any erosion.
2. Vegetation
 - a. Maintain at least 80% surface area coverage of plants approved per plan.
 - b. Removal of invasive plants and undesirable woody vegetation.
 - c. Removal of dried, dead and diseased vegetation.
 - d. Re-mulch void or disturbed/exposed areas.
3. Annual inspection and maintenance efforts must be documented and submitted to the City.

Filtration Basin Maintenance Requirements

1. Sweep sediment from parking lot 4 times per year
2. Ongoing and as needed:
 - a. Prune and weed to maintain appearance
 - b. Remove trash and debris
 - c. Maintain at least 80% surface area coverage of plants approved per plan.
 - d. Removal of invasive plants and undesirable woody vegetation.
 - e. Removal of dried, dead and diseased vegetation.
 - f. Re-mulch void or disturbed/exposed areas.
3. Semi-annually:
 - a. Remove sediment from inflow points (off-line systems)
 - b. Inspect aggregate filter system and clean as needed
 - c. Shrubs should be inspected to evaluate health. Remove dead and diseased vegetation.
4. Annually:
 - a. Inspect and remove any sediment and debris build-up in pre-treatment areas
 - b. Inspect inflow points and bioretention surface for buildup of road sand associated with spring melt period. Remove and replant as necessary.
5. 2 to 3 years:
 - a. Test pH of planting soils. If pH is below 5.2, add limestone. If pH is 7.0 to 8.0, add iron sulfate plus sulfur.
6. Annual inspection and maintenance efforts must be documented and submitted to the City.