

Professional

Engineering

Services

# Erosion Control and Stormwater Management Reference Guide

## Report

Town of

Cedarburg, WI

December 2022



# Town of Cedarburg, Wisconsin

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## Erosion Control and Stormwater Management Reference Guide



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December 2022



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## EXECUTIVE SUMMARY

The purpose of this guide is to provide a user-friendly framework for compliance with the Town of Cedarburg's (Town's) erosion control (Chapter 110) and stormwater (Chapter 185) ordinances, included as Appendices A and B, respectively. Throughout this guide, references are made to specific sections of these ordinances. Applicants are advised that other Town ordinances may apply to their specific development. Applicants should also be familiar with the Wisconsin Department of Natural Resources (WDNR) Technical Standards for both stormwater and erosion control. The technical standards can be found at:

<http://dnr.wi.gov/topic/Stormwater/standards/index.html>.

Applicants of projects for the construction of new homes are advised that the requirements found in the Department of Commerce regulations, SPS 321.125 Erosion Control and Sediment Control, apply to their project. See Appendix C in this document.

Section 1 defines the technical standards, precipitation information, and design methods and criteria to be used in analyzing and designing to meet the performance standards in Section 2. The design criteria in Section 1 includes design standards for design of dry and wet detention basins, storm sewers, ditches, and culverts that supplement the WDNR Technical Standards.

Section 3 includes general considerations including dry weather outlet standards that refer to requirements regarding sump pumps, footing drains, and downspouts. Section 4 includes submittal requirements for stormwater and erosion control permits.

Section 5 includes forms to be used for administration of the stormwater and erosion control ordinances including a flow chart for use while navigating the submittal and review process.

Appendices D, E, and F include information relative to construction site inspections and enforcement procedures.

Appendices G and H include information relative to postconstruction stormwater management facilities maintenance, inspection, and enforcement procedures.

**SECTION 1  
TECHNICAL STANDARDS**

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## 1.01 TECHNICAL STANDARDS AND REFERENCES

### A. Erosion Control and Stormwater Management Technical Standards

All drainage facilities and practices, located within the corporate limits and extraterritorial zoning area of the Town of Cedarburg (Town), required to comply with the Construction Site Erosion and Sediment Control and Post-Construction Stormwater Management Ordinances (Appendices A and B, respectively) shall incorporate technical standards and design methods specified in this document, maintained and periodically updated by the Director of Public Works. Where not superseded by stricter requirements in this document, the following standards are also incorporated by reference:

1. Other design guidance and technical standards identified or developed by the Wisconsin Department of Natural Resources (WDNR) under subchapter V of chapter NR 151, of the Wisconsin Administrative Code (WAC).
2. Measurement and evaluation of performance standards shall be based on guidance published by the WDNR. The guidance is contained in the WDNR Technical Standards available at the following Web site:

<http://dnr.wi.gov/topic/Stormwater/standards/index.html>

3. Unless otherwise noted, the construction of new homes shall comply with the erosion control requirements of the Department of Commerce regulations found in SPS 321. Specifically, SPS 321.125 addresses erosion control and is included as Appendix C.

## 1.02 PRECIPITATION DEPTH, DISTRIBUTION, AND AVERAGES

Precipitation depths, distributions, and average annual rainfall used in the analysis shall be as defined in the following unless otherwise approved by the Director of Public Works.

### A. Precipitation Depths and Distribution Methodology

The methodologies shown in Table 1.02-1 may be used as a source for rainfall depths and distributions as further described in the Post-Construction Stormwater Management Ordinance.



Methodology	Precipitation Depth	Precipitation Distribution	Storm Duration
1 (for peak discharge control design)	NOAA Atlas 14 Precipitation Frequency Estimates.	National Resource Conservation Service (NRCS) MSE3 precipitation distribution.	24-hour
2 (for stormwater conveyance facility design in redevelopment situations, if approved by the Town)	Bulletin 71, Rainfall Frequency Atlas of the Midwest, Floyd A. Huff and James R. Angel, 1992. Climatic Section 2.	Appropriate quartile Huff rainfall distribution.	Duration creating highest peak discharge after completion of a critical duration analysis.

Note: NOAA=National Oceanic and Atmospheric Administration

**Table 1.02-1 Precipitation Depth and Distribution Methodologies**

B. Average Annual Rainfall

For applications requiring use of average annual rainfall, recorded City of Milwaukee depths for March 28 through December 6, 1969, shall be used.

**1.03 DESIGN METHODS**

A. Stormwater Runoff Calculations

1. For design of volume-dependent practices (detention basins, retention basins, and infiltration systems), a hydrograph-producing method hydrologic model shall be developed. The following computer programs shall be allowed:
  - a. TR-55
  - b. TR-20
  - c. HydroCAD
  - d. HEC-HMS
  - e. Other computer programs as allowed by the Town
2. The Rational Method may be used to calculate peak discharges for tributary areas less than 20 acres for purposes of conveyance system design.
3. Estimation of Required Storage Volume
  - a. Final detention basin sizing shall be based on hydrograph routing through the basin with the proposed outlet structure.
  - b. The Soil Conservation Service TR-55 Approximate Method may be used to calculate the required storage volume. This may be used for developments with watershed areas of less than 25 acres which do not involve significant off-site drainage that must be passed through the detention basin or routing of stormwater

runoff through a series of detention basins. NOAA Atlas 14 Precipitation Depths and NRCS MSE3 Distribution shall be used to estimate storage volume and peak inflow requirements.

4. Stormwater Conveyance System Design
  - a. Storm sewers shall be designed in accordance with procedures described in Section 13-25 of the Wisconsin Department of Transportation (WisDOT) Facilities Design Manual (FDM).
  - b. Ditches shall be designed in accordance with procedures described in Section 13-30 of the WisDOT FDM.
  - c. Cross culverts shall be designed in accordance with procedures described in Section 13-15 of the WisDOT FDM.

#### 1.04 DESIGN CRITERIA

The design criteria identified in this section shall apply to new development or redevelopment within the Town. Applicants requesting approval for redevelopment may request a modification in the design criteria if the application is supported with calculations documenting that there will be no adverse impact to the surrounding property owners. These criteria do not apply to retroactive applications, repair, replacement or rehabilitation of existing Town infrastructure but may be considered as guidance to follow on such Town projects.

##### A. Wet Detention Basins

Design in accordance with the WDNR's Wet Detention Pond Conservation Practice Standard.

##### B. Dry Detention Basins

1. Minimum grades for the bottom of the basin shall be 2 percent unless underdrain is installed. If underdrains are installed, the minimum grade shall be 0.5 percent.
2. Basin side slopes shall not be steeper than 4:1 or flatter than 10:1.
3. Dry detention basins shall be designed to drain completely within 24 hours after the storm event.
4. Forebays shall be used to the maximum extent practical to prevent concentrated flow from entering the basin and allow sediment to settle before entering the basin.
  - a. Forebay area should be 10 to 25 percent of the basin's surface area.
  - b. Length to width ratio shall be at least 2:1.

- c. The forebay shall be located opposite of the basin’s outlet to increase detention time.
5. The basin shall be designed with an emergency spillway to convey the 100-year peak discharge entering the basin. The emergency spillway shall be placed in a location and manner that minimizes the potential for damage to nearby property.
6. The basin shall have a ponding depth of less than 5 feet, with at least 1 foot of freeboard (measured to top of pond berm) above the 100-year flood elevation or emergency spillway elevation, whichever is higher.
7. The basin shape should be designed with a length to width ratio of 3:1 in either a long narrow shape or a teardrop shape, to the maximum extent practical.
8. The basin shall be seeded with vegetation that is tolerant of inundation.
9. The basin outlet structure shall discharge to a stable outlet.

C. Infiltration Practices

The need for, applicability of, and design of infiltration practices shall be in conformance with Technical Standards and supporting guidelines published by the WDNR.

D. Storm Sewers

1. Unless otherwise approved by the Town, all storm sewer in the public right-of-way (ROW) shall be constructed of reinforced concrete pipe of appropriate class for the expected loading. Storm sewer materials outside of the ROW shall be subject to approval of the Director of Public Works.
2. The minimum allowable pipe diameter shall be 12 inches.
3. Storm sewer grades shall be designed so that, in general, a minimum of 3 feet of ground cover is maintained over the top of the pipe. Pipe cover less than the minimum may be used upon site-specific approval by the Town. Uniform slopes shall be maintained between inlets, manholes, and inlet to manhole. Minimum and maximum allowable slopes shall be those capable of producing velocities between 2 and 12 feet per second (fps), respectively, when the sewer is flowing full. Velocities lower than the minimum or higher than the maximum may be used upon site-specific approval by the Director of Public Works.
4. The maximum distance for overland flow of stormwater runoff to an underground storm sewer system shall be 600 feet unless a longer distance is approved by the Director of Public Works.

5. All inlets and catch basins shall be constructed with a minimum 30-inch sump. If the drainage area is served by a wet detention pond, then sumps may not be necessary.

E. Ditches

1. Ditch side slopes shall be no steeper than 4:1.
2. The minimum ditch grade is 1 percent. Ditch grades of less than 1 percent may be allowed but may require ditch underdrains.
3. Ditches and open channels shall be protected with erosion mat as necessary to prevent erosion. The erosion mat shall be of an approved type and application specified in the Erosion Control Product Acceptability List, most current revision, by WisDOT.

F. Culverts

1. Culverts and similar structures shall have a capacity that meets or exceeds the capacity of the surface drainageway and shall be a minimum of 18 inches in diameter for culverts under roadways, unless otherwise approved by the Town, and 12 inches for culverts under private entrances. The flowline of a culvert shall match the flowline of the surface drainage way. Submitted plans shall indicate the sizes for all culverts including the opening size of culverts for private entrances.
2. Culvert pipe materials and cover requirements shall be the same as required for storm sewers as listed previously in item D.
3. A minimum of 2 feet of cover (measured as top of pipe to top of pavement surface) shall be maintained over culverts under private entrances, unless otherwise approved by the Director of Public Works. A minimum of 1.7 feet of cover (measured from top of pipe to top of pavement surface at centerline of roadway) shall be maintained over culverts under roadways. If these cover standards cannot be met, backfill around and over the culverts shall be slurry backfill or ready-mix concrete according to the Town's specifications. The developer shall consider pipe arches and elliptical pipe to increase the amount of available cover beneath roadways and driveways. The developer shall consider ductile iron pipe for structural integrity, if necessary.
4. Culverts shall not create backwater that adversely impacts upstream properties. Design of new culverts shall consider impacts of future upstream development.
5. Endwall sections shall be provided for all culverts. Grates shall be required on endwall sections for all culverts greater than 18 inches in diameter.

G. Stormwater Conveyance Systems

1. Storm sewers shall be designed to convey the peak discharge for a 10-year frequency storm event.

2. Cross culverts shall be designed to convey the peak discharge for a 25-year frequency storm event without flows entering the traveled way.
3. Ditches shall be designed to convey the peak discharge for a 25-year frequency storm event without flows entering the traveled way or private property. Drainage easements on private property are required if 25-year flows cannot be contained within the road ROW.
4. All conveyance systems shall be designed to safely pass the 100-year storm flow without damage to adjacent structures. Unless waived by the Town, all new structures shall be constructed at least 2 feet higher than the estimated 100-year overflow elevation.

**SECTION 2**  
**PERFORMANCE STANDARDS**

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## **2.01 EROSION AND SEDIMENT CONTROL PERFORMANCE STANDARDS**

Performance Standards (See Chapter 110 Section 07)

## **2.02 STORMWATER MANAGEMENT PERFORMANCE STANDARDS**

1. Total Suspended Solids (TSS) (See Chapter 185 Section 7-4a)
2. Peak Discharge (See Chapter 185 Section 7-4b)
3. Infiltration (See Chapter 185 Section 7-4c)
4. Protective Areas (See Chapter 185 Section 7-4d)
5. Fueling and Maintenance Areas (See Chapter 185 Section 7-4e)
6. Swale Treatment for Transportation Facilities (See Chapter 185 Section 7-4f)

**SECTION 3**  
**GENERAL CONSIDERATIONS**

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### **3.01 GENERAL CONSIDERATIONS**

See Section 7-5 of the Post-Construction Stormwater Management Ordinance

### **3.02 LOCATION AND REGIONAL TREATMENT OPTION**

See Section 7-6c of the Post-Construction Stormwater Management Ordinance

**SECTION 4**  
**SUBMITTAL REQUIREMENTS**

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#### **4.01 EROSION AND SEDIMENT CONTROL PLAN**

See Section 8 of the Construction Site Erosion and Sediment Control Ordinance. Template submittal forms can be found in Section 5 of the Erosion Control and Stormwater Management Reference Guide.

#### **4.02 STORMWATER MANAGEMENT PLAN SUBMITTAL REQUIREMENTS**

See Section 8 of the Post-Construction Storm Water Management Ordinance. Template submittal forms and example summary tables of information to be included in submittals can be found in Section 5 of the Erosion Control and Stormwater Management Reference Guide.

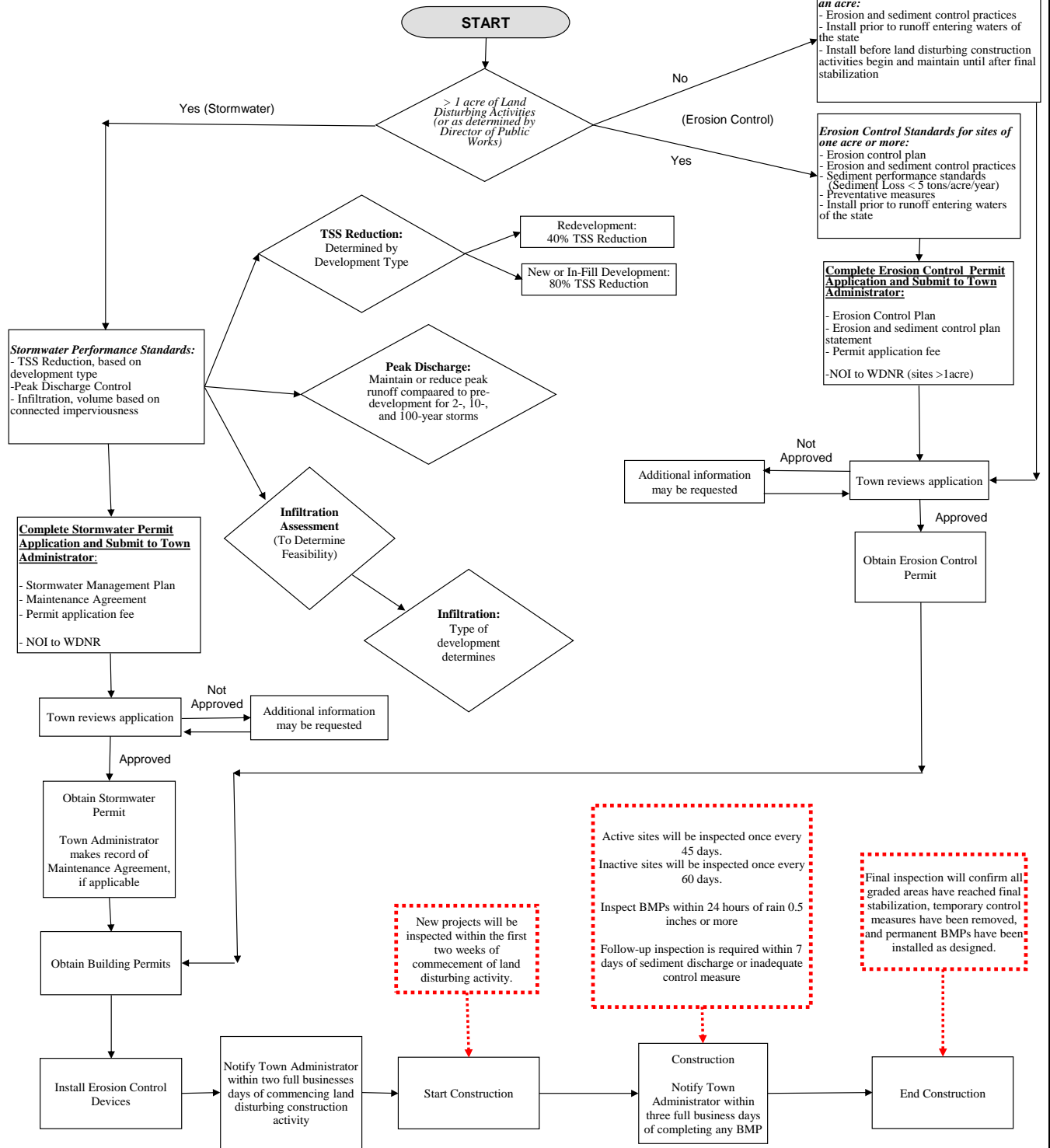
#### **4.03 NEW HOME CONSTRUCTION**

Refer to SPS 321.125.

**SECTION 5  
FORMS**

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## Stormwater and Erosion Control Submittal Requirements Flow Chart



**GENERAL INFORMATION  
STORMWATER MANAGEMENT PERMIT APPLICATION**

**Send Application to:**

Town of Cedarburg  
1293 Washington Ave.  
Cedarburg, Wisconsin 53012

**Official Use Only**

Date Received	_____
Number	_____
Fee Received	_____
Reviewer	_____

**Instructions:** Please type or print. Read all instructions before completing application. Refer to the Fee Schedule adopted by the Town for applicable fees.

Name of Project: \_\_\_\_\_

Applicant/Entity Receiving Permit

Name of Applicant: \_\_\_\_\_

First Name of Contact: \_\_\_\_\_ Last Name: \_\_\_\_\_

Street (1): \_\_\_\_\_

Street (2): \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone Number: (\_\_\_\_) \_\_\_\_\_

Fax Number: (\_\_\_\_) \_\_\_\_\_

Property Owner

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_

Street (1): \_\_\_\_\_

Street (2): \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone Number: (\_\_\_\_) \_\_\_\_\_

Parcel Identification Number(s): \_\_\_\_\_

Engineer

Name of Firm: \_\_\_\_\_

First Name of Contact: \_\_\_\_\_ Last Name: \_\_\_\_\_

Street (1): \_\_\_\_\_

Street (2): \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone Number: (\_\_\_\_) \_\_\_\_\_

Fax Number: (\_\_\_\_) \_\_\_\_\_

# Town of Cedarburg Stormwater Management Plan Application Checklist

Project Name: \_\_\_\_\_

Permit #: \_\_\_\_\_

Date: \_\_\_\_\_

Please check the appropriate box: I = Included; NA = Non-Applicable

(If "NA" is checked, an explanation must be entered.)

Plan Requirement	I	NA	Explanation/Location in Plan
<b>A. Submittal Requirements</b>			
1. Permit Application Form			
2. Maintenance Agreement for Proposed BMPs			
3. Application Fee			
4. Financial Guarantee			
5. Certification/Stamp by Wisconsin Prof. Engineer			
<b>B. Predevelopment Site Conditions Mapping</b>			
1. Location Map			
2. Soils Survey Map			
3. Existing Land Use Mapping			
4. Predeveloped Site Conditions			
a. Existing Contours			
b. Property lines			
c. Existing flow paths and direction			
d. Outlet locations			
e. Drainage basin divides and subdivides			
f. Existing drainage structures on and adjacent to the site.			
g. Nearby Watercourses			
h. Lakes, streams, wetlands, channels, ditches, etc.			
i. Limits of the 100-year floodplain;			
j. Wells/Wellhead Protection Areas			
5. Statement of Vertical Datum Used			
<b>C. Post-Development Site Conditions Mapping</b>			
1. Pervious Surfaces			
2. Impervious Surfaces			
3. One Foot Topographic Contours			
4. Proposed Drainage System (including applicable off-site)			
5. Proposed Easement Locations			
6. Proposed Flow Paths, Overland Flow Routes			
7. Proposed Outlets/Drainage Divides			
<b>D. Drawings/Details</b>			
1. Practice Location/Layout/Cross Sections			
2. Outlet Structure Details			
3. Ditch/Storm Sewer Plan/Profile			
4. Other			
<b>E. Calculations, including computer modeling input and output files showing meeting of ordinance requirements.</b>			
<b>Peak Discharge Control:</b> hydrologic parameters, computer			
1. modeling, and detention basin routing.			
<b>2. TSS Control:</b> computer modeling input and output			

# Town of Cedarburg Stormwater Management Plan Application Checklist

Project Name: \_\_\_\_\_

Permit #: \_\_\_\_\_

Date: \_\_\_\_\_

Please check the appropriate box: I = Included; NA = Non-Applicable

(If "NA" is checked, an explanation must be entered.)

Plan Requirement	I	NA	Explanation/Location in Plan
<b>Infiltration:</b> Infiltration Assessment in accordance with WDNR 3. Technical Standard 1002			
<b>Infiltration:</b> If infiltration required, provide geotechnical borings/test pits/reports, design, calculations, and modeling per 4. ordinance infiltration requirements.			
<b>Protective Areas:</b> Provide assessment in accordance with 5. ordinance and meet applicable requirements.			
<b>Fueling and Maintenance Areas:</b> Provide required BMPs, as 6. applicable.			
7. <b>Conveyance System Design</b> calculations including modeling.			
Adequacy of Downstream Stormwater Conveyance System to 8. Pass Proposed Flows			
<b>F. Narrative</b>			
1. Methodologies and Assumptions			
2. Results/Conclusions			
a. Pre-, and Post-developed parameter summary			
b. Pre-, and Post-developed peak discharge Summary			
3. Provisions to preserve natural topography/cover features			
4. Limitations from wellhead protection plans and ordinances.			
5. Results of investigations of soils and groundwater			
6. Practice Installation Schedule			
7. Maintenance Plan			
8. Cost Estimates			
9. Other Information			

\_\_\_\_\_  
Applicant Name

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Applicant Signature

\_\_\_\_\_  
Email



**TOWN OF CEDARBURG**  
STORMWATER MANAGEMENT PERMIT NO. \_\_\_\_\_

Date of Application \_\_\_\_\_  
Site Address \_\_\_\_\_  
Plat Name \_\_\_\_\_  
Certified Survey Map \_\_\_\_\_  
Lots No. (s) \_\_\_\_\_

**General Conditions:**

- (a) All storm water management measures shall be installed in accordance with the approved storm water management plan and this permit.
- (b) The Director of Public Works shall be notified at least two business days before commencing any work in conjunction with the storm water management plan, and within three business days upon completion of the storm water management practices.
- (c) Practice installations shall be certified "as built" by a licensed professional engineer. Completed storm water management practices must pass a final inspection by the Director of Public Works or its designee to determine if they are in accordance with the approved storm water management plan and ordinance.
- (d) The Director of Public Works shall be notified of any significant proposed modifications to an approved storm water management plan.
- (e) All storm water management practices shall be maintained in accordance with the storm water management plan until the practices either become the responsibility of the Town of Cedarburg or are transferred to subsequent private owners as specified in the approved maintenance agreement.
- (f) The Director of Public Works is authorized to perform any work or operations necessary to bring storm water management measures into conformance with the approved storm water management plan, and consent to a special assessment or charge against the property as authorized under subch. VII of ch. 66, Wis. Stats., or to charging such costs against the financial guarantee posted under S. 11.
- (g) If so directed by the Director of Public Works, all damage to adjoining facilities and drainage ways caused by runoff, where such damage is caused by activities that are not in compliance with the approved storm water management plan shall be repaired at the permittee's expense.
- (h) Access is permitted to the Director of Public Works or its designee for the purpose of inspecting the property for compliance with the approved storm water management plan and this permit.
- (i) Compliance with this permit does not relieve the responsible party of the responsibility to comply with other applicable federal, state, and local laws and regulations.
- (j) Where site development or redevelopment involves changes in direction, increases in peak rate and/or total volume of runoff from a site, the Director of Public Works may require the responsible party to make appropriate legal arrangements with affected property owners concerning the prevention of endangerment to property or public safety.
- (k) The responsible party is subject to the enforcement actions and penalties detailed in S. 13, if the responsible party fails to comply with the terms of this permit.

**APPLICANT  
MUST FILL  
IN BOXED  
AREA**

Owner \_\_\_\_\_  
(please print or type full name)

Address \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Signature or Owner or Authorized Representative

Gross Aggregate Area (Square Feet) \_\_\_\_\_

SPECIAL CONDITIONS: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

CONDITIONAL APPROVAL: \_\_\_\_\_  
Administrative Authority Title Date

Permit VALID from the date of issuance through the date the Director of Public Works notifies the responsible party that all storm water management practices have passed the final inspection required.

**GENERAL INFORMATION  
CONSTRUCTION SITE EROSION CONTROL PERMIT APPLICATION**

***Send Application to:***

Town of Cedarburg  
1293 Washington Ave.  
Cedarburg, Wisconsin 53012

**Official Use Only**

Date Received	_____
Number	_____
Fee Received	_____
Reviewer	_____

**Instructions:** Please type or print. Read all instructions before completing application. Refer to the Fee Schedule included in the Erosion Control and Stormwater Management Reference Guide for applicable fees.

Name of Project: \_\_\_\_\_

Applicant/Entity Receiving Permit

Name of Applicant: \_\_\_\_\_  
First Name of Contact: \_\_\_\_\_ Last Name: \_\_\_\_\_  
Street (1): \_\_\_\_\_  
Street (2): \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Telephone Number: (\_\_\_\_\_) \_\_\_\_\_  
Fax Number: (\_\_\_\_\_) \_\_\_\_\_

Property Owner

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_  
Street (1): \_\_\_\_\_  
Street (2): \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Telephone Number: (\_\_\_\_\_) \_\_\_\_\_  
Parcel Identification Number(s): \_\_\_\_\_

Engineer (Where Applicable)

Name of Firm: \_\_\_\_\_  
First Name of Contact: \_\_\_\_\_ Last Name: \_\_\_\_\_  
Street (1): \_\_\_\_\_  
Street (2): \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Telephone Number: (\_\_\_\_\_) \_\_\_\_\_  
Fax Number: (\_\_\_\_\_) \_\_\_\_\_

# Town of Cedarburg Construction Site Erosion Control Plan Application Checklist (Sites > 1 Acre)

Permit #: \_\_\_\_\_

Project Name: \_\_\_\_\_

Date: \_\_\_\_\_

Please check the appropriate box: I = Included; NA = Non-Applicable

(If "NA" is checked, an explanation must be entered.)

Plan Requirement	I	NA	Explanation/Location in Plan
<b>A. Submittal Requirements</b>			
1. Permit Application Form			
2. Application Fee			
<b>B. Predevelopment Site Conditions Mapping</b>			
1. Location Map			
2. Soils Survey Map			
3. Existing Land Use Mapping			
4. Predeveloped Site Conditions			
a. Existing Contours			
b. Property lines			
c. Existing flow paths and direction			
d. Outlet locations			
e. Drainage basin divides and subdivides			
f. Existing drainage structures on and adjacent to the site.			
g. Nearby Watercourses			
h. Lakes, streams, wetlands, channels, ditches, etc.			
i. Limits of the 100-year floodplain;			
<b>C. Proposed Site Grading and Erosion Control Plan</b>			
1. Boundaries of the construction site.			
2. Drainage Patterns/slopes after grading activities			
3. Areas of land disturbance			
4. Locations of structural and nonstructural controls			
5. Drainage basin delineations and outfall locations			
<b>D. Drawings/Details</b>			
1. Practice Location/Layout/Cross Sections			
2. Construction Details			
<b>E. Calculations, as required to demonstrate ordinance compliance including 5 tons/acre/year sediment loss requirement</b>			
<b>F. Narrative</b>			
1. Name of receiving waters			
2. Site Description/Nature of construction activity			
3. Sequence of Construction			
4. Estimate of site area and disturbance area			
5. Pre- and post-developed runoff coefficients			
6. Description of proposed controls, including			
a. Interim and permanent stabilization practices			
b. Practices to divert flow from exposed soils			
c. Practices to store flows or trap sediment			
d. Any other practices proposed to meet ordinance			

\_\_\_\_\_  
Applicant Name

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Applicant Signature

\_\_\_\_\_  
Email

# Town of Cedarburg Construction Site Erosion Control Plan Application Checklist

(Sites < 1 Acre)

**NOTE: This checklist must be filled out as part of the building permit application and will be enforced as such.**

**Erosion Control Permit #: See NOTE**

**Building Permit #: \_\_\_\_\_**

**Project Name: \_\_\_\_\_**

**Date: \_\_\_\_\_**

*Please check the appropriate box: I = Included; NA = Non-Applicable*

*(If "NA" is checked, an explanation must be entered.)*

Plan Requirement	I	NA	Explanation/Location in Plan
<b>A. Submittal Requirements</b>			
1. Permit Application Form			
2. Application Fee			
<b>B. Predevelopment Site Conditions Mapping</b>			
1. North Arrow			
2. Delineation of Proposed Land Disturbance Area			
3. Existing/Proposed Site Information			
a. Buildings, roads, access drives			
b. Property lines			
c. Drainage ways			
d. Water bodies			
e. Trees			
f. Culverts			
g. Other Structures within 50 feet of proposed disturbance			
h. Direction/grade of slopes before/after disturbance			
<b>C. Narrative</b>			
1. Description of site and nature of construction activity			
2. Construction start and end dates			
3. Description and location of all temporary control practices			

\_\_\_\_\_  
Applicant Name

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Applicant Signature

\_\_\_\_\_  
Email

**TOWN OF CEDARBURG**  
CONSTRUCTION SITE EROSION CONTROL PERMIT NO. \_\_\_\_\_

Date of Application \_\_\_\_\_  
Site Address \_\_\_\_\_  
Plat Name \_\_\_\_\_  
Certified Survey Map \_\_\_\_\_  
Lots No.(s) \_\_\_\_\_

**Permit Conditions:**

- (a) Permittee shall notify the Director of Public Works 48 hours prior to commencing any land disturbing construction activity.
- (b) Permittee shall notify the Director of Public Works of practice installation within 14 days of installation.
- (c) Permittee shall obtain permission in writing from the Director of Public Works prior to any modification pursuant to Section 45-10(c) of the erosion and sediment control ordinance.
- (d) Permittee shall install all practices as identified in the approved erosion and sediment control plan.
- (e) Permittee shall maintain all road drainage systems, stormwater drainage systems, BMPs and other facilities identified in the erosion and sediment control plan.
- (f) Permittee shall provide the Director of Public Works with a twenty-four-hour contact name and telephone number.
- (g) Permittee shall repair any siltation or erosion damage to adjoining surfaces and drainage ways resulting from land disturbing construction activities and document repairs in a site erosion control log. Remove accumulated sediment from downstream culverts, storm sewers, and other drainage facilities.
- (h) Permittee shall inspect the practices within 24 hours after each rain of 0.5 inches or more which results in runoff during active construction periods, and at least once each week, make needed repairs and document the findings of the inspections in a site erosion control log with the date of inspection, the name of the person conducting the inspection, and a description of the present phase of the construction at the site.
- (i) Permittee shall allow the Director of Public Works to enter the site for the purpose of inspecting compliance with the erosion and sediment control plan or for performing any work necessary to bring the site into compliance with the control plan. Permittee shall keep a copy of the erosion and sediment control plan at the construction site.

**APPLICANT  
MUST FILL  
IN BOXED  
AREA**

Owner \_\_\_\_\_  
(please print or type full name)

Address \_\_\_\_\_

Signature of Owner or Authorized Representative \_\_\_\_\_

Area of Land Disturbance (Square Feet) \_\_\_\_\_

SPECIAL CONDITIONS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CONDITIONAL APPROVAL: \_\_\_\_\_  
Administrative Authority Title Date

Permits issued under this section shall be valid for a period of 180 days, or the length of the building permit or other construction authorizations, whichever is longer, from the date of issuance. The Director of Public Works may extend the period one or more times for up to an additional 180 days. The Director of Public Works may require additional BMPs as a condition of the extension if they are necessary to meet the requirements of this ordinance.

AGREEMENT TO MAINTAIN  
STORMWATER FACILITIES  
ENTERED INTO ON THIS \_\_\_\_ DAY OF

\_\_\_\_\_, \_\_\_\_\_  
BY AND BETWEEN  
THE TOWN OF CEDARBURG AND  
\_\_\_\_\_, AND  
ITS HEIRS, SUCCESSORS, OR ASSIGNS

The upkeep and maintenance of stormwater facilities and the implementation of pollution source control best management practices (BMPs) is essential to the protection of water resources in the Town of Cedarburg. All property owners are expected to conduct business in a manner that minimizes impacts of stormwater runoff. This Agreement contains specific provisions with respect to maintenance of stormwater facilities. The authority to require maintenance and pollution source control is provided in the Town of Cedarburg Construction Site Erosion Control and Stormwater Management Ordinance.

Whereas, Owner has constructed improvements, including but not limited to, buildings, pavement, and stormwater facilities on the property described above. In order to further the goals of the stormwater management goals of the Town of Cedarburg, the Town and Owner hereby enter into this Agreement. The responsibilities of each party to this Agreement are identified below.

OWNER SHALL:

- (1) Implement the stormwater facility maintenance plan included herein as Attachment A.
- (2) Implement the stormwater management plan included herein as Attachment B.
- (3) Include a legal description of the property and map showing location of area served as Attachment C.
- (4) Allow the Town or designee to access the property to conduct inspections of storm water management practices as necessary to ascertain that the practices are being maintained and operated in accordance with the agreement.
- (5) Undertake corrective actions required by Town within a reasonable time frame as set by the Town.



- (6) Maintain a record of steps taken to implement the programs referenced in (1) and (2) above. Record shall be available for inspection by Town staff at Owners business during normal business hours. The record shall catalog the action taken, who took it, when it was done, how it was done, and any problems encountered or follow-on actions recommended.

THE TOWN OF CEDARBURG SHALL:

- (1) Provide technical assistance to Owner in support of its operation and maintenance activities conducted pursuant to its maintenance and source control programs. Said assistance shall be provided upon request, and as Town time and resources permit.
- (2) Maintain public records of the results of the site inspections, inform the party responsible for maintenance of the inspection results, and specifically indicate any corrective actions required to bring the storm water management practice into proper working condition.
- (3) Notify the Owner of maintenance problems that require correction.

REMEDIES:

- (1) If corrective actions required by the Town are not completed within the time set by the Town, written notice will be sent to the persons who were given notice stating the Town intention to perform such maintenance and bill the owner for all incurred expenses.
- (2) If at any time the Town determines that the existing system creates any imminent threat to public health or welfare, the Town may take immediate measures to remedy said threat. No notice to the persons listed in (1), above, shall be required under such circumstances.
- (3) The owner grants unrestricted authority to the Town for access to any and all stormwater system features for the purpose of performing maintenance or repair as may become necessary under Remedies (1) and/or (2).
- (4) The persons listed in (1), above, shall assume all responsibility for the cost of any maintenance and for repairs to the stormwater facility. Such responsibility shall include reimbursement to the Town within 30 days of the receipt of the invoice for any such work performed. Overdue payments will require payment of interest at the current legal rate for liquidated judgments. If legal action ensues, any costs or fees incurred by the Town will be borne by the parties responsible for said reimbursements. If the reimbursement was not made that the costs would be placed on the Owner's tax bill pursuant to Wis. Stats. §66.0627.
- (5) The owner hereby grants to the Town a lien against the above-described property in an amount equal to the cost incurred by the Town to perform the maintenance or repair work described herein.
- (6) Owner shall defend, indemnify and hold harmless the Town, its successors in interest, officers, employees, agents, invitees, and guesses, from and against any and all liability whatsoever, whether joint or several, from any and all claims, actions, demands, causes of action, liabilities and obligations of whatever nature, whether now known or hereafter made known, anticipated or unanticipated, choate or inchoate, whether arising by tort, contract or otherwise, at law or in

equity, losses judgments, actions, suits, obligations, debts, demands, damages, penalties, claims, costs, charges and expenses, including reasonable attorney's fees, of any kind or any nature whatsoever which may be imposed, incurred, sustained or asserted against the Town, and its successors in interest, officers, employees, agents, invitees, and guests, by reason of any injury or death to any person or loss, damage or destruction of any property or loss of use thereof, or otherwise arising as a result of this Agreement or the Stormwater Systems, successors in interest, officers, employees, agents, invitees, and guests.

- (7) Owner may not transfer, assign, or modify its obligations with respect to this Agreement without the Town's written consent; except that Owner does not need the Town's consent to transfer fee simple title to the Property to a new owner who will assume all of the Owner's obligations under this Agreement.
- (8) If any portion of this Agreement shall be deemed illegal, null or void or against public policy, for any reason, or shall be held to be invalid or unenforceable by any court of competent jurisdiction, the remaining portions of this Agreement shall not be affected thereby and shall remain in full force and effect to the fullest extent permissible by law.
- (9) This Agreement may not be modified or amended except by a written understanding that is then executed by the parties.
- (10) The failure of either party to enforce any of the provisions of this Agreement shall not be construed as a waiver of such provision or of the right of the party thereafter to enforce each and every such provision.

This Agreement is intended to protect the value and desirability of the real property described above and to benefit all the citizens of the Town. It shall run with the land and be binding on all parties having or acquiring from Owner or their successors any right, title, or interest in the property or any part thereof, as well as their title, or interest in the property or any part thereof, as well as their heirs, successors, and assigns. They shall inure to the benefit of each present or future successor in interest of said property or any part thereof, or interest therein, and to the benefit of all citizens of the Town.

\_\_\_\_\_  
Signature of Owner

\_\_\_\_\_  
Date

**STATE OF WISCONSIN COUNTY OF OZAUKEE**

On this day and year above personally appeared before me, a Notary Public in and for the State of Wisconsin duly commissioned and sworn, personally appeared \_\_\_\_\_, to me known to be the \_\_\_\_\_ of \_\_\_\_\_ and acknowledge the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that \_\_\_\_\_ is authorized to execute the said instrument and that the seal affixed is the corporate seal of said corporation.

WITNESS my hand and official seal the day and year first above written.

\_\_\_\_\_

Notary Public in and for the State of  
Wisconsin, residing in \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

Dated at Cedarburg, Wisconsin, this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

TOWN OF CEDARBURG

By: \_\_\_\_\_  
Authorized Agent for the Town of Cedarburg

**Town of Cedarburg  
Stormwater Management Plan**

**Financial Guarantee**

To: [permit holders name]  
Date:  
Subject: **Financial Guarantee** in the Amount of \$ \_\_\_\_\_  
Check # \_\_\_\_\_ Received by (staff initials): \_\_\_\_\_

Project Name: \_\_\_\_\_

Location: Section [no.], Town of Cedarburg

This memo shall serve as a receipt for the above noted Financial Guarantee and as an agreement of the purpose and conditions for release by the Town of Cedarburg (herein referred to as the "Town").

**Authority.**

The authority of the Town to collect and hold this Financial Guarantee is stated in Section 45-25 of the Town of Cedarburg Code of Ordinances – Post-Construction Stormwater Management Ordinance (herein referred to as the "Ordinance").

**Purpose.**

The purpose of this Financial Guarantee is to ensure compliance with Ordinance Section 45-25 and the terms and conditions of a Stormwater Management Permit issued for the above noted project and location.

**Conditions For Release.**

Terms for release of the Financial Guarantee shall include all of the following:

1. Construction Certification. A professional engineer licensed in Wisconsin shall certify that construction of all stormwater management practices comply with the approved plans and the technical standards of the Town. "As-built" plans shall be submitted for stormwater management practices showing actual location, elevations, GPS locations, materials, construction methods and other items as deemed necessary by the Town to determine compliance.
2. Maintenance Agreement. A copy of an approved maintenance agreement for all stormwater management practices associated with this project must be provided to the Town. The agreement shall be stamped by the Register of Deeds, showing that it has been recorded for all applicable properties.
3. Final Inspection. The Town shall complete a final inspection of the property and certify compliance with the permit and Ordinance Section 45-25.

If the Town should use any portion of the Financial Guarantee to complete permit activities, due to default or improper action by the permit holder, the Town shall withhold any amounts owed for this work, in accordance with Ordinance Section 45-25.



## Town of Cedarburg Application Checklist Summary Tables

### Peak Discharge Summary

Outfall No. \_\_\_\_\_

Storm Frequency	Peak Discharge (cfs)		
	Pre dev.	Post dev.	Post dev. w/Detention
1-Year			
2-Year			
10-Year			
25-Year			
50-Year			
100-Year			

Note: Provide 1 table for each outfall location.

### Detention Basin Summary

Detention Basin \_\_\_\_\_

Storm Frequency	Storage Volume (ac-ft)	Peak Discharge (cfs)		
		Inflow	Discharge	Pond Elevation
1-Year				
2-Year				
10-Year				
25-Year				
50-Year				
100-Year				

Note: Provide 1 table for each detention basin.

**APPENDIX A**  
**CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL ORDINANCE**

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**(8/31/22 DRAFT)**

## **CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL ORDINANCE**

**Note: it is anticipated that the Town Attorney will format entire ordinance into Town standard format.**

Edited from Model Ordinance - Need Town Review/Formatting

Addition From Current Town Ordinance

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## CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL ORDINANCE

### AN ORDINANCE TO CREATE CHAPTER 110 OF THE ORDINANCE OF THE TOWN OF CEDARBURG RELATING TO THE CONTROL OF CONSTRUCTION SITE EROSION AND SEDIMENTATION RESULTING FROM LAND DISTURBING CONSTRUCTION ACTIVITIES

#### FOREWORD.

Use of this ordinance will foster consistent, statewide application of the construction site performance standards for new development and redevelopment contained in subchapters III and IV of ch. NR 151, Wis. Adm. Code.

The Town Board of the Town of Cedarburg does hereby ordain that Chapter 110 of the ordinance of the Town of Cedarburg is created to read as follows:

#### CHAPTER 110

#### CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL

##### S. 01 AUTHORITY.

- (1) This ordinance is adopted under the authority granted by s. 60.627, Wis. Stats. This ordinance supersedes all provisions of an ordinance previously enacted under s. 60.62, Wis. Stats., that relate to construction site erosion control. Except as otherwise specified in s. 60.627, Wis. Stats., s. 60.62, Wis. Stats., applies to this ordinance and to any amendments to this ordinance.
- (2) The provisions of this ordinance are deemed not to limit any other lawful regulatory powers of the same governing body.
- (3) The Town Board hereby designates the Director of Public Works to administer and enforce the provisions of this ordinance.
- (4) The requirements of this ordinance do not pre-empt more stringent erosion and sediment control requirements that may be imposed by any of the following:
  - (a) Wisconsin Department of Natural Resources administrative rules, permits or approvals, including those authorized under ss. 281.16 and 283.33, Wis. Stats.
  - (b) Targeted non-agricultural performance standards promulgated in rules by the Wisconsin Department of Natural Resources under s. NR 151.004, Wis. Adm. Code.

## **S. 02 FINDINGS OF FACT.**

The **Town Board** acknowledges that runoff from land disturbing construction activity carries a significant amount of sediment and other pollutants to the waters of the state in **Town of Cedarburg**.

## **S. 03 PURPOSE.**

It is the purpose of this ordinance to maintain safe and healthful conditions; prevent and control water pollution; prevent and control soil erosion and sediment discharge; protect spawning grounds, fish and aquatic life; control building sites, placement of structures and land uses; preserve ground cover and scenic beauty; and promote sound economic growth by minimizing the amount of sediment and other pollutants carried by runoff or discharged from land disturbing construction activity to waters of the state in the **Town of Cedarburg**.

## **S. 04 APPLICABILITY AND JURISDICTION.**

### (1) APPLICABILITY.

- (a) Except as provided under par. (b), this ordinance applies to any construction site as defined under S. 05 (6).
- (b) This ordinance does not apply to the following:
  - 1. Transportation facilities, except transportation facility construction projects that are part of a larger common plan of development such as local roads within a residential or industrial development.
  - 2. A construction project that is exempted by federal statutes or regulations from the requirement to have a national pollutant discharge elimination system permit issued under chapter 40, Code of Federal Regulations, part 122, for land disturbing construction activity.
  - 3. Nonpoint discharges from agricultural facilities and practices.
  - 4. Nonpoint discharges from silviculture activities.
  - 5. Routine maintenance for project sites that have less than 5 acres of land disturbance if performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.
- (c) Notwithstanding the applicability requirements in par. (a), this ordinance applies to construction sites of any size that, as determined by the **Director of Public Works**, are likely to result in runoff that exceeds the safe capacity of the existing drainage facilities or receiving body of water, that causes undue channel erosion, or that increases water pollution by scouring or transporting of particulate, including:

1. Those requiring a subdivision plat approval or the construction of houses or commercial, industrial, or institutional buildings on lots of approved certified surveys.
2. Those requiring a certified survey approval or the construction of houses of commercial, industrial, or institutional buildings on lots of approved certified surveys.
3. Those involving grading, removal of protective ground cover or vegetation, excavation, land filling or other land-disturbing activity affecting a surface area of 4,000 square feet or more.
4. Those involving excavation or filling or a combination of excavation and filling affecting 400 cubic yards or more of dirt, sand or other excavation or fill material.
5. Those involving street, highway, road or bridge construction, enlargement, relocation, or reconstruction.
6. Those involving the laying, repairing, replacing, or enlarging of an underground pipe or facility for a distance of 300 feet or more. (Note: The above applicability criteria are specifically stated in 1983 Wisconsin Act 416 for inclusion in this chapter. Utility companies responsible for energy repair work should enter into a memorandum of agreement with the Town Director of Public Works clearly stating their responsibilities if their activities may be included under any of the above applicability criteria.)

(2) JURISDICTION.

This ordinance applies to land disturbing construction activity on lands within the boundaries and jurisdiction of the **Town of Cedarburg**.

(3) EXCLUSIONS.

This ordinance is not applicable to activities conducted by a state agency, as defined under s. 227.01 (1), Wis. Stats., but also including the office of District Attorney, which is subject to the state plan promulgated, or a memorandum of understanding entered into under § 281.33(2), Wis. Stats.

**S. 05 DEFINITIONS.**

- (1) "Administering authority" means a governmental employee, or a regional planning commission empowered under s. **60.627**, Wis. Stats., that is designated by the **Town Board** to administer this ordinance.
- (2) "Agricultural facilities and practices" has the meaning in s. 281.16 (1), Wis. Stats.
- (3) "Best management practice" or "BMP" means structural or non-structural measures, practices, techniques, or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

- (4) "Business day" means a day the office of the **Director of Public Works** is routinely and customarily open for business.
- (5) "Cease and desist order" means a court-issued order to halt land disturbing construction activity that is being conducted without the required permit or in violation of a permit issued by the **Director of Public Works**.
- (6) "Construction site" means an area upon which one or more land disturbing construction activities occur, including areas that are part of a larger common plan of development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan. A long-range planning document that describes separate construction projects, such as a 20-year transportation improvement plan, is not a common plan of development.
- (7) "Design Storm" means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency and total depth of rainfall.
- (8) "Division of land" means the creation from one parcel of **two** or more parcels or building sites of **five** or fewer acres each in area where such creation occurs at one time or through the successive partition within a 5-year period.
- (9) "Erosion" means the process by which the land's surface is worn away by the action of wind, water, ice, or gravity.
- (10) "Erosion and sediment control plan" means a comprehensive plan developed to address pollution caused by erosion and sedimentation of soil particles or rock fragments during construction.
- (11) "Extraterritorial" means the unincorporated area within 3 miles of the corporate limits of a first, second, or third class city, or within 1.5 miles of a fourth class city or village.
- (12) "Final stabilization" means that all land disturbing construction activities at the construction site have been completed and that a uniform perennial vegetative cover has been established with a density of at least 70 percent of the cover for the unpaved areas and areas not covered by permanent structures or that employ equivalent permanent stabilization measures.
- (13) "Governing body" means town board of supervisors, county board of supervisors, city council, village board of trustees or village council.
- (14) "Land disturbing construction activity" means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in runoff and lead to an increase in soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities.
- (15) "Landowner" means any person holding fee title, an easement or other interest in property, which allows the person to undertake cropping, livestock management, land disturbing construction activity or maintenance of storm water BMPs on the property.

- (16) "Maximum extent practicable" means the highest level of performance that is achievable but is not equivalent to a performance standard identified in this ordinance as determined in accordance with S. 055 of this ordinance.
- (17) "Performance standard" means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.
- (18) "Permit" means a written authorization made by the **Director of Public Works** to the applicant to conduct land disturbing construction activity or to discharge post-construction runoff to waters of the state.
- (19) "Pollutant" has the meaning given in s. 283.01 (13), Wis. Stats.
- (20) "Pollution" has the meaning given in s. 281.01 (10), Wis. Stats.
- (21) "Responsible party" means the landowner or any other entity performing services to meet the requirements of this ordinance through a contract or other agreement.
- (22) "Runoff" means storm water or precipitation including rain, snow or ice melt or similar water that moves on the land surface via sheet or channelized flow.
- (23) "Sediment" means settleable solid material that is transported by runoff, suspended within runoff, or deposited by runoff away from its original location.
- (24) "Silviculture activity" means activities including tree nursery operations, tree harvesting operations, reforestation, tree thinning, prescribed burning, and pest and fire control. Clearing and grubbing of an area of a construction site is not a silviculture activity.
- (25) "Site" means the entire area included in the legal description of the land on which the land disturbing construction activity is proposed in the permit application.
- (26) "Stop work order" means an order issued by the **Director of Public Works** which requires that all construction activity on the site be stopped.
- (27) "Technical standard" means a document that specifies design, predicted performance and operation and maintenance specifications for a material, device, or method.
- (28) "Transportation facility" means a highway, a railroad, a public mass transit facility, a public-use airport, a public trail, or any other public work for transportation purposes such as harbor improvements under s. 85.095 (1)(b), Wis. Stats. "Transportation facility" does not include building sites for the construction of public buildings and buildings that are places of employment that are regulated by the Department pursuant to s. 281.33, Wis. Stats.
- (29) "Waters of the state" includes those portions of Lake Michigan and Lake Superior within the boundaries of this state, and all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, watercourses, drainage systems and other surface water or groundwater, natural or artificial, public, or private, within this state or its jurisdiction.

### **S. 055 APPLICABILITY OF MAXIMUM EXTENT PRACTICABLE.**

Maximum extent practicable applies when a person who is subject to a performance standard of this ordinance demonstrates to the **Director of Public Works** satisfaction that a performance standard is not achievable and that a lower level of performance is appropriate. In making the assertion that a performance standard is not achievable and that a level of performance different from the performance standard is the maximum extent practicable, the responsible party shall take into account the best available technology, cost effectiveness, geographic features, and other competing interests such as protection of public safety and welfare, protection of endangered and threatened resources, and preservation of historic properties.

### **S. 06 TECHNICAL STANDARDS.**

All BMPs required for compliance with this ordinance shall meet design criteria, standards and specifications based on any of the following:

- (1) Design guidance and technical standards identified or developed by the Wisconsin Department of Natural Resources under subchapter V of chapter NR 151, Wis. Adm. Code.
- (2) Soil loss prediction tools (such as the Universal Soil Loss Equation (USLE)) when using an appropriate rainfall or runoff factor (also referred to as the R factor) or an appropriate design storm and precipitation distribution, and when considering the geographic location of the site and the period of disturbance.
- (3) Technical standards and methods approved by the **Director of Public Works**.

### **S. 07 PERFORMANCE STANDARDS FOR CONSTRUCTION SITES OF ONE ACRE OR MORE.**

- (1) **RESPONSIBLE PARTY.** The responsible party shall comply with this section and implement the erosion and sediment control plan developed in accordance with S. **09**.
- (2) **EROSION AND SEDIMENT CONTROL PLAN.** A written site-specific erosion and sediment control plan shall be developed in accordance with S. **09** of this ordinance and implemented for each construction site.
- (3) **EROSION AND OTHER POLLUTANT CONTROL REQUIREMENTS.** The erosion and sediment control plan required under sub. (2) shall include the following:

- (a) **EROSION AND SEDIMENT CONTROL PRACTICES.** Erosion and sediment control practices at each site where land disturbing construction activity is to occur shall be used to prevent or reduce all of the following:
1. The deposition of soil from being tracked onto streets by vehicles.
  2. The discharge of sediment from disturbed areas into on-site storm water inlets.
  3. The discharge of sediment from disturbed areas into adjacent waters of the state.
  4. The discharge of sediment from drainage ways that flow off the site.
  5. The discharge of sediment by dewatering activities.
  6. The discharge of sediment eroding from soil stockpiles existing for more than 7 days.
  7. The discharge of sediment from erosive flows at outlets and in downstream channels.
  8. The transport by runoff into waters of the state of chemicals, cement, and other building compounds and materials on the construction site during the construction period. However, projects that require the placement of these materials in waters of the state, such as constructing bridge footings or BMP installations, are not prohibited by this subdivision.
  9. The transport by runoff into waters of the state of untreated wash water from vehicle and wheel washing.
- (b) **SEDIMENT PERFORMANCE STANDARDS.** In addition to the erosion and sediment control practices under par. (a), the following erosion and sediment control practices shall be employed:
1. BMPs that, by design, discharge no more than 5 tons per acre per year, or to the maximum extent practicable, of the sediment load carried in runoff from initial grading to final stabilization. Electronic soil loss spreadsheet calculation file(s) shall be submitted with the erosion control plan.
  2. No person shall be required to employ more BMPs than are needed to meet a performance standard in order to comply with maximum extent practicable. Erosion and sediment control BMPs may be combined to meet the requirements of this paragraph. Credit may be given toward meeting the sediment performance standard of this paragraph for limiting the duration or area, or both, of land disturbing construction activity, or for other appropriate mechanisms.
  3. Notwithstanding subd. 1., if BMPs cannot be designed and implemented to meet the sediment performance standard, the erosion and sediment control plan shall include a written, site-specific explanation of why the sediment performance standard cannot be met and how the sediment load will be reduced to the maximum extent practicable.



- (c) PREVENTIVE MEASURES. The erosion and sediment control plan shall incorporate all of the following:
  - 1. Maintenance of existing vegetation, especially adjacent to surface waters whenever possible.
  - 2. Minimization of soil compaction and preservation of topsoil.
  - 3. Minimization of land disturbing construction activity on slopes of 20 percent or more.
  - 4. Development of spill prevention and response procedures.
  
- (d) LOCATION. The BMPs used to comply with this section shall be located so that treatment occurs before runoff enters waters of the state.
  
- (4) IMPLEMENTATION. The BMPs used to comply with this section shall be implemented as follows:
  - (a) Erosion and sediment control practices shall be constructed or installed before land disturbing construction activities begin in accordance with the erosion and sediment control plan developed in S. 07 (2).
  - (b) Erosion and sediment control practices shall be maintained until final stabilization.
  - (c) Final stabilization activity shall commence when land disturbing activities cease and final grade has been reached on any portion of the site.
  - (d) Temporary stabilization activity shall commence when land disturbing activities have temporarily ceased and will not resume for a period exceeding 14 calendar days.
  - (e) BMPs that are no longer necessary for erosion and sediment control shall be removed by the responsible party.

**S. 08 PERMITTING REQUIREMENTS, PROCEDURES AND FEES.**

- (1) PERMIT REQUIRED. No responsible party may commence a land disturbing construction activity subject to this ordinance without receiving prior approval of an erosion and sediment control plan for the site and a permit from the Director of Public Works.
  
- (2) PERMIT APPLICATION AND FEES. The responsible party that will undertake a land disturbing construction activity subject to this ordinance shall submit an application for a permit and an erosion and sediment control plan that meets the requirements of S. 09, and shall pay an application fee to the Director of Public Works in the amount specified in S. 10. By submitting an application, the applicant is authorizing the Director of Public Works to enter the site to obtain information required for the review of the erosion and sediment control plan.

- (3) PERMIT APPLICATION REVIEW AND APPROVAL. The Director of Public Works shall review any permit application that is submitted with an erosion and sediment control plan, and the required fee. The following approval procedure shall be used:
- (a) Within 15 business days of the receipt of a complete permit application, as required by sub. (2), the Director of Public Works shall inform the applicant whether the application and erosion and sediment control plan are approved or disapproved based on the requirements of this ordinance.
  - (b) If the permit application and erosion and sediment control plan are approved, the Director of Public Works shall issue the permit.
  - (c) If the permit application or erosion and sediment control plan is disapproved, the Director of Public Works shall state in writing the reasons for disapproval.
  - (d) The Director of Public Works may request additional information from the applicant. If additional information is submitted, the Director of Public Works shall have 10 business days from the date the additional information is received to inform the applicant that the erosion and sediment control plan is either approved or disapproved.
  - (e) Failure by the Director of Public Works to inform the permit applicant of a decision within 10 business days of a required submittal shall be deemed to mean approval of the submittal and the applicant may proceed as if a permit had been issued.
- (4) SURETY BOND. As a condition of approval and issuance of the permit, the Director of Public Works may require the applicant to deposit a surety bond or irrevocable letter of credit to guarantee a good faith execution of the approved erosion and sediment control plan and any permit conditions.
- (5) PERMIT REQUIREMENTS. All permits shall require the responsible party to:
- (a) Notify the Director of Public Works within 48 hours of commencing any land disturbing construction activity.
  - (b) Notify the Director of Public Works of completion of any BMPs within 14 days after their installation.
  - (c) Obtain permission in writing from the Director of Public Works prior to any modification pursuant to S. 09 (3) of the erosion and sediment control plan.
  - (d) Install all BMPs as identified in the approved erosion and sediment control plan.
  - (e) Maintain all road drainage systems, storm water drainage systems, BMPs and other facilities identified in the erosion and sediment control plan.
  - (f) Provide the Director of Public Works with a twenty-four-hour contact name and telephone number.

- (g) Repair any siltation or erosion damage to adjoining surfaces and drainage ways resulting from land disturbing construction activities and document repairs in a site inspection log; **remove accumulated sediment from downstream culverts, storm sewers, and other drainage facilities.**
  - (h) Inspect the BMPs within 24 hours after each rain of 0.5 inches or more which results in runoff during active construction periods, and at least once each week. Make needed repairs and install additional BMPs, as necessary, and document these activities in an inspection log that also includes the date of inspection, the name of the person conducting the inspection, and a description of the present phase of the construction at the site.
  - (i) Allow the **Director of Public Works** to enter the site for the purpose of inspecting compliance with the erosion and sediment control plan or for performing any work necessary to bring the site into compliance with the erosion and sediment control plan. Keep a copy of the erosion and sediment control plan at the construction site.
- (6) **PERMIT CONDITIONS.** Permits issued under this section may include conditions established by **Director of Public Works** in addition to the requirements set forth in sub. (5), where needed to assure compliance with the performance standards in S. **07**.
- (7) **PERMIT DURATION.** Permits issued under this section shall be valid for a period of 180 days, or the length of the building permit or other construction authorizations, whichever is longer, from the date of issuance. The **Director of Public Works** may grant one or more extensions not to exceed 180 days cumulatively. The **Director of Public Works** may require additional BMPs as a condition of an extension if they are necessary to meet the requirements of this ordinance.
- (8) **MAINTENANCE.** The responsible party throughout the duration of the construction activities shall maintain all BMPs necessary to meet the requirements of this ordinance until the site has undergone final stabilization.

## **S. 09 EROSION AND SEDIMENT CONTROL PLAN, STATEMENT AND AMENDMENTS.**

- (1) **EROSION AND SEDIMENT CONTROL PLAN STATEMENT.** For each construction site identified under S. 04 (1)(c), an erosion and sediment control plan statement shall be prepared. This statement shall be submitted to the **Director of Public Works**. The erosion and sediment control plan statement shall briefly describe the site, the development schedule, and the BMPs that will be used to meet the requirements of the ordinance. A site map shall also accompany the erosion and sediment control plan statement.

(2) EROSION AND SEDIMENT CONTROL PLAN REQUIREMENTS.

- (a) An erosion and sediment control plan shall be prepared and submitted to the **Director of Public Works**.
- (b) The erosion and sediment control plan shall be designed to meet the performance standards in S. **07** and other requirements of this ordinance.
- (c) The erosion and sediment control plan shall address pollution caused by soil erosion and sedimentation during construction and up to final stabilization of the site. The erosion and sediment control plan shall include, at a minimum, the following items:
  - 1. Name(s) and address(es) of the owner or developer of the site, and of any consulting firm retained by the applicant, together with the name of the applicant's principal contact at such firm. The application shall also include start and end dates for construction.
  - 2. Description of the construction site and the nature of the land disturbing construction activity, including representation of the limits of land disturbance on a United States Geological Service 7.5 minute series topographic map.
  - 3. Description of the intended sequence of major land disturbing construction activities for major portions of the construction site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, installation of temporary erosion and sediment control measures, and establishment of permanent vegetation.
  - 4. Estimates of the total area of the construction site and the total area of the construction site that is expected to be disturbed by land disturbing construction activities.
  - 5. Calculations to show the compliance with the performance standard in S. 08 (3)(b)1.
  - 6. Existing data describing the surface soil as well as subsoils.
  - 7. Depth to groundwater, as indicated by Natural Resources Conservation Service soil information where available.
  - 8. Name of the immediate named receiving water from the United States Geological Service 7.5 minute series topographic maps.
- (d) The erosion and sediment control plan shall include a site map. The site map shall include the following items and shall be at a scale not greater than 100 feet per inch and at a contour interval not to exceed five feet.

1. Existing topography, vegetative cover, natural and engineered drainage systems, roads, and surface waters. Lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site shall be shown. Any identified 100-year flood plains, flood fringes and floodways shall also be shown.
  2. Boundaries of the construction site.
  3. Drainage patterns and approximate slopes anticipated after major grading activities.
  4. Areas of soil disturbance.
  5. Location of major structural and non-structural controls identified in the erosion and sediment control plan.
  6. Location of areas where stabilization BMPs will be employed.
  7. Areas which will be vegetated following land disturbing construction activities.
  8. Area(s) and location(s) of wetland on the construction site, and locations where storm water is discharged to a surface water or wetland within one-quarter mile downstream of the construction site.
  9. Areas(s) used for infiltration of post-construction storm water runoff.
  10. An alphanumeric or equivalent grid overlying the entire construction site map.
- (e) Each erosion and sediment control plan shall include a description of appropriate control BMPs that will be installed and maintained at the construction site to prevent pollutants from reaching waters of the state. The erosion and sediment control plan shall clearly describe the appropriate erosion and sediment control BMPs for each major land disturbing construction activity and the timing during the period of land disturbing construction activity that the erosion and sediment control BMPs will be implemented. The description of erosion and sediment control BMPs shall include, when appropriate, the following minimum requirements:
1. Description of interim and permanent stabilization practices, including a BMP implementation schedule. The erosion and sediment control plan shall ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized.
  2. Description of structural practices to divert flow away from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from the site. Unless otherwise specifically approved in writing by the **Director of Public Works**, structural measures shall be installed on upland soils.
  3. Management of overland flow at all areas of the construction site, unless otherwise controlled by outfall controls.
  4. Trapping of sediment in channelized flow.

5. Staging land disturbing construction activities to limit exposed soil areas subject to erosion.
  6. Protection of downslope drainage inlets where they occur.
  7. Minimization of tracking at all vehicle and equipment entry and exit locations of the construction site.
  8. Clean up of off-site sediment deposits.
  9. Proper disposal of building and waste material.
  10. Stabilization of drainage ways.
  11. Installation of permanent stabilization practices as soon as possible after final grading.
  12. Minimization of dust to the maximum extent practicable.
- (f) The erosion and sediment control plan shall require that velocity dissipation devices be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.
- (3) EROSION AND SEDIMENT CONTROL PLAN AMENDMENTS. The applicant shall amend the erosion and sediment control plan if any of the following occur:
- (a) There is a change in design, construction, operation, or maintenance at the site which has the reasonable potential for the discharge of pollutants to waters of the state and which has not otherwise been addressed in the erosion and sediment control plan.
  - (b) The actions required by the erosion and sediment control plan fail to reduce the impacts of pollutants carried by construction site runoff.
  - (c) The **Director of Public Works** notifies the applicant of changes needed in the erosion and sediment control plan.

#### **S. 10 FEE SCHEDULE.**

The fees referred to in other sections of this ordinance shall be established by the **Town Board** and may from time to time be modified by resolution. A schedule of the fees established by the **Town Board** shall be available for review **at the Town Hall**.

#### **S. 11 INSPECTION.**

If land disturbing construction activities are occurring without a permit required by this ordinance, the **Director of Public Works** may enter the land pursuant to the provisions of ss. 66.0119 (1), (2), and (3), Wis. Stats.

## **S. 12 ENFORCEMENT.**

- (1) The **Director of Public Works** may post a stop work order if any of the following occurs:
  - (a) Land disturbing construction activity regulated under this ordinance is occurring without a permit.
  - (b) The erosion and sediment control plan is not being implemented in good faith.
  - (c) The conditions of the permit are not being met.
- (2) If the responsible party does not cease activity as required in a stop work order posted under this section or fails to comply with the erosion and sediment control plan or permit conditions, the **Director of Public Works** may revoke the permit.
- (3) If the responsible party, where no permit has been issued or the permit has been revoked, does not cease the activity after being notified by the **Director of Public Works**, or if a responsible party violates a stop work order posted under sub. (1), the **Director of Public Works** may request the **Town Attorney** to obtain a cease-and-desist order in any court with jurisdiction.
- (4) The **Director of Public Works** may retract the stop work order issued under sub. (1) or the permit revocation under sub. (2).
- (5) After posting a stop work order under sub. (1), the **Director of Public Works** may issue a notice of intent to the responsible party of its intent to perform work necessary to comply with this ordinance. The **Director of Public Works** may go on the land and commence the work after issuing the notice of intent. The costs of the work performed under this subsection by the **Director of Public Works**, plus interest at the rate authorized by **Director of Public Works** shall be billed to the responsible party. In the event a responsible party fails to pay the amount due, the clerk shall enter the amount due on the tax rolls and collect as a special assessment against the property pursuant to subch. VII of ch. 66, Wis. Stats.
- (6) Any person violating any of the provisions of this ordinance shall be subject to a forfeiture **per the Town Schedule of Deposits** and the costs of prosecution for each violation. Each day a violation exists shall constitute a separate offense.
- (7) Compliance with the provisions of this ordinance may also be enforced by injunction in any court with jurisdiction. It shall not be necessary to prosecute for forfeiture or a cease-and-desist order before resorting to injunctive proceedings.

**S. 13 APPEALS.**

- (1) BOARD OF ZONING APPEALS. The Board of Zoning Appeals created pursuant to section 16-2 of the Town's ordinance pursuant to s. 60.65 Wis. Stats.:
- (a) Shall hear and decide appeals where it is alleged that there is error in any order, decision or determination made by the Director of Public Works in administering this ordinance except for cease-and-desist orders obtained under S. 12 (3).
  - (b) May authorize, upon appeal, variances from the provisions of this ordinance which are not contrary to the public interest and where owing to special conditions a literal enforcement of the provisions of the ordinance will result in unnecessary hardship; and
  - (c) Shall use the rules, procedures, duties, and powers authorized by statute in hearing and deciding appeals and authorizing variances.
- (2) WHO MAY APPEAL. Appeals to the Board of Zoning Appeals may be taken by any aggrieved person or by any office, department, board, or bureau of the Town of Cedarburg affected by any decision of the Director of Public Works.

**S. 14 SEVERABILITY.**

If a court of competent jurisdiction judges any section, clause, provision, or portion of this ordinance unconstitutional or invalid, the remainder of the ordinance shall remain in force and not be affected by such judgment.

**S. 15 EFFECTIVE DATE.**

This ordinance shall be in force and effect from and after its adoption and publication. The above and foregoing ordinance was duly adopted by the Town Board of the Town of Cedarburg on the [number] day of [month], [year].

Approved: \_\_\_\_\_

Attested: \_\_\_\_\_

Published on [day, month, and year].



**APPENDIX B**  
**POSTCONSTRUCTION STORMWATER MANAGEMENT ORDINANCE**

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**(8/31/22 DRAFT)**

## **POST-CONSTRUCTION STORM WATER MANAGEMENT ORDINANCE**

**Note: it is anticipated that the Town Attorney will format entire ordinance into Town standard format.**

**Edited from Model Ordinance - Need Town Review/Formatting**

**Addition From Current Town Ordinance**

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## POST-CONSTRUCTION STORM WATER MANAGEMENT ORDINANCE

### AN ORDINANCE TO CREATE CHAPTER 185 OF THE ORDINANCE OF THE TOWN OF CEDARBURG RELATING TO THE CONTROL OF POST-CONSTRUCTION RUNOFF

#### FOREWORD.

The intent of this ordinance is to reduce the discharge of pollutants carried in storm water runoff to waters of the state. Use of this ordinance by municipalities will foster the consistent, statewide application of post-construction performance standards for new development and redevelopment contained in subchapters III and IV of chapter NR 151, Wis. Adm. Code.

The Town Board of the Town of Cedarburg does hereby ordain that Chapter 185 of the Ordinance of the Town of Cedarburg is created to read as follows:

#### CHAPTER 185

#### POST-CONSTRUCTION STORM WATER MANAGEMENT

##### S. 01 AUTHORITY.

- (1) This ordinance is adopted by the Town Board under the authority granted by s. 60.627, Wis. Stats. This ordinance supersedes all provisions of an ordinance previously enacted under s. 60.62, Wis. Stats., that relate to storm water management regulations. Except as otherwise specified in s. 60.627, Wis. Stats., s. 60.62, Wis. Stats., applies to this ordinance and to any amendments to this ordinance.
- (2) The provisions of this ordinance are deemed not to limit any other lawful regulatory powers of the same governing body.
- (3) The Town Board hereby designates the Director of Public Works to administer and enforce the provisions of this ordinance.
- (4) The requirements of this ordinance do not pre-empt more stringent storm water management requirements that may be imposed by any of the following:
  - (a) Wisconsin Department of Natural Resources administrative rules, permits or approvals including those authorized under ss. 281.16 and 283.33, Wis. Stats.

- (b) Targeted non-agricultural performance standards promulgated in rules by the Wisconsin Department of Natural Resources under s. NR 151.004, Wis. Adm. Code.

## **S. 02 FINDINGS OF FACT.**

The **Town Board** acknowledges that uncontrolled, post-construction runoff has a significant impact upon water resources and the health, safety and general welfare of the community and diminishes the public enjoyment and use of natural resources. Specifically, uncontrolled post-construction runoff can:

- (1) Degrade physical stream habitat by increasing stream bank erosion, increasing streambed scour, diminishing groundwater recharge, diminishing stream base flows and increasing stream temperature.
- (2) Diminish the capacity of lakes and streams to support fish, aquatic life, recreational and water supply uses by increasing pollutant loading of sediment, suspended solids, nutrients, heavy metals, bacteria, pathogens and other urban pollutants.
- (3) Alter wetland communities by changing wetland hydrology and by increasing pollutant loads.
- (4) Reduce the quality of groundwater by increasing pollutant loading.
- (5) Threaten public health, safety, property and general welfare by overtaxing storm sewers, drainage ways, and other minor drainage facilities.
- (6) Threaten public health, safety, property and general welfare by increasing major flood peaks and volumes.
- (7) Undermine floodplain management efforts by increasing the incidence and levels of flooding.

## **S. 03 PURPOSE AND INTENT.**

- (1) PURPOSE. The general purpose of this ordinance is to establish long-term, post-construction runoff management requirements that will diminish the threats to public health, safety, welfare, and the aquatic environment. Specific purposes are to:
  - (a) Further the maintenance of safe and healthful conditions.
  - (b) Prevent and control the adverse effects of storm water; prevent and control soil erosion; prevent and control water pollution; protect spawning grounds, fish, and aquatic life; control building sites, placement of structures and land uses; preserve ground cover and scenic beauty; and promote sound economic growth.
  - (c) Control exceedance of the safe capacity of existing drainage facilities and receiving water bodies; prevent undue channel erosion; and control increases in the scouring and transportation of particulate matter.
  - (d) Minimize the amount of pollutants discharged from the separate storm sewer to protect the waters of the state.

- (2) INTENT. It is the intent of the **Town Board** that this ordinance regulates post-construction storm water discharges to waters of the state. This ordinance may be applied on a site-by-site basis. The **Town Board** recognizes, however, that the preferred method of achieving the storm water performance standards set forth in this ordinance is through the preparation and implementation of comprehensive, systems-level storm water management plans that cover hydrologic units, such as watersheds, on a municipal and regional scale. Such plans may prescribe regional storm water devices, practices or systems, any of which may be designed to treat runoff from more than one site prior to discharge to waters of the state. Where such plans are in conformance with the performance standards developed under s. 281.16, Wis. Stats., for regional storm water management measures and have been approved by the **Town Board**, it is the intent of this ordinance that the approved storm water management plan be used to identify post-construction management measures acceptable for the community.

#### **S. 04 APPLICABILITY AND JURISDICTION.**

- (1) APPLICABILITY.
- (a) Except as provided under par. (b), this ordinance applies to a post-construction site whereupon one acre or more of land disturbing construction activity occurs during construction.
- (b) A site that meets any of the criteria in this paragraph is exempt from the requirements of this ordinance:
1. A post-construction site with less than ten percent connected imperviousness, based on the area of land disturbance, provided the cumulative area of all impervious surfaces is less than one acre. However, the exemption of this paragraph does not include exemption from the protective area standard of this ordinance.
  2. Agricultural facilities and practices.
  3. Underground utility construction, but not including the construction of any above ground structures associated with utility construction.
- (c) Notwithstanding the applicability requirements in par. (a), this ordinance applies to post-construction sites of any size that, as determined by the **Director of Public Works**, are likely to result in runoff that exceeds the safe capacity of the existing drainage facilities or receiving body of water, causes undue channel erosion, or increases water pollution by scouring or the transportation of particulate matter.

(2) JURISDICTION.

This ordinance applies to post construction sites within the boundaries and jurisdiction of the **Town of Cedarburg**.

(3) EXCLUSIONS.

This ordinance is not applicable to activities conducted by a state agency, as defined under s. 227.01 (1), Wis. Stats., but also including the office of District Attorney, which is subject to the state plan promulgated or a memorandum of understanding entered into under § 281.33(2), Wis. Stats.

**S. 05 DEFINITIONS.**

(1) “Adequate sod, or self-sustaining vegetative cover” means maintenance of sufficient vegetation types and densities such that the physical integrity of the streambank or lakeshore is preserved. Self-sustaining vegetative cover includes grasses, forbs, sedges and duff layers of fallen leaves and woody debris.

(2) “Administering authority” means a governmental employee, or a regional planning commission empowered under s. 60.627, Wis. Stats., that is designated by the **Town Board** to administer this ordinance.

(3) “Agricultural facilities and practices” has the meaning given in s. 281.16 (1), Wis. Stats.

(4) “Atlas 14” means the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Precipitation-Frequency Atlas of the United States, Volume 8 (Midwestern States), published in 2013.

(5) “Average annual rainfall” means a typical calendar year of precipitation as determined by the Wisconsin Department of Natural Resources for users of models such as WinSLAMM, P8 or equivalent methodology. The average annual rainfall is chosen from a department publication for the location closest to the municipality.

(6) “Best management practice” or “BMP” means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize sediment or pollutants carried in runoff to waters of the state.

(7) “Business day” means a day the office of the **Director of Public Works** is routinely and customarily open for business.

(8) “Cease and desist order” means a court-issued order to halt land disturbing construction activity that is being conducted without the required permit or in violation of a permit issued by the **Director of Public Works**.

(9) “Combined sewer system” means a system for conveying both sanitary sewage and storm water runoff.

- (10) "Connected imperviousness" means an impervious surface connected to the waters of the state via a separate storm sewer, an impervious flow path, or a minimally pervious flow path.
- (11) "Design storm" means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency and total depth of rainfall.
- (12) "Development" means residential, commercial, industrial or institutional land uses and associated roads.
- (13) "Direct conduits to groundwater" means wells, sinkholes, swallets, fractured bedrock at the surface, mine shafts, non-metallic mines, tile inlets discharging to groundwater, quarries, or depressional groundwater recharge areas over shallow fractured bedrock.
- (14)\* "Division of land" means the creation from one parcel of two or more parcels or building sites of five or fewer acres each in area where such creation occurs at one time or through the successive partition within a 5-year period.
- (15) "Effective infiltration area" means the area of the infiltration system that is used to infiltrate runoff and does not include the area used for site access, berms or pretreatment.
- (16) "Erosion" means the process by which the land's surface is worn away by the action of wind, water, ice or gravity.
- (17) "Exceptional resource waters" means waters listed in s. NR 102.11, Wis. Adm. Code.
- (18)\* "Extraterritorial" means the unincorporated area within three miles of the corporate limits of a first, second, or third class city, or within one and a half miles of a fourth class city or village.
- (19) "Filtering layer" means soil that has at least a 3-foot deep layer with at least 20 percent fines; or at least a 5-foot deep layer with at least 10 percent fines; or an engineered soil with an equivalent level of protection as determined by the regulatory authority for the site.
- (20) "Final stabilization" means that all land disturbing construction activities at the construction site have been completed and that a uniform perennial vegetative cover has been established with a density of at least 70 percent of the cover for the unpaved areas and areas not covered by permanent structures or that employ equivalent permanent stabilization measures.
- (21) "Financial guarantee" means a performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantees submitted to the Director of Public Works by the responsible party to assure that requirements of the ordinance are carried out in compliance with the storm water management plan.
- (22) "Governing body" means town board of supervisors, county board of supervisors, city council, village board of trustees or village council.
- (23) "Impervious surface" means an area that releases as runoff all or a large portion of the precipitation that falls on it, except for frozen soil. Rooftops, sidewalks, driveways, gravel or paved parking lots and streets are examples of areas that typically are impervious.



- (24) "In-fill" means an undeveloped area of land located within an existing urban sewer service area, surrounded by development or development and natural or man-made features where development cannot occur.
- (25) "Infiltration" means the entry of precipitation or runoff into or through the soil.
- (26) "Infiltration system" means a device or practice such as a basin, trench, rain garden or swale designed specifically to encourage infiltration, but does not include natural infiltration in pervious surfaces such as lawns, redirecting of rooftop downspouts onto lawns or minimal infiltration from practices, such as swales or road side channels designed for conveyance and pollutant removal only.
- (27) "Land disturbing construction activity" means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in runoff and lead to an increase in soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities.
- (28) "Landowner" means any person holding fee title, an easement or other interest in property, which allows the person to undertake cropping, livestock management, land disturbing construction activity or maintenance of storm water BMPs on the property.
- (29) "Maintenance agreement" means a legal document that provides for long-term maintenance of storm water management practices.
- (30) "Maximum extent practicable" means the highest level of performance that is achievable but is not equivalent to a performance standard identified in this ordinance as determined in accordance with S. 055 of this ordinance.
- (31) "New development" means development resulting from the conversion of previously undeveloped land or agricultural land uses.
- (32) "NRCS MSE3 or MSE4 distribution" means a specific precipitation distribution developed by the United States Department of Agriculture, Natural Resources Conservation Service, using precipitation data from Atlas 14.
- (33) "Off-site" means located outside the property boundary described in the permit application.
- (34) "On-site" means located within the property boundary described in the permit application.
- (35) "Ordinary high-water mark" has the meaning given in s. NR 115.03 (6), Wis. Adm. Code.
- (36) "Outstanding resource waters" means waters listed in s. NR 102.10, Wis. Adm. Code.
- (37) "Percent fines" means the percentage of a given sample of soil, which passes through a # 200 sieve.
- (38) "Performance standard" means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

- (39) "Permit" means a written authorization made by the **Director of Public Works** to the applicant to conduct land disturbing construction activity or to discharge post-construction runoff to waters of the state.
- (40) "Permit administration fee" means a sum of money paid to the **Director of Public Works** by the permit applicant for the purpose of recouping the expenses incurred by the authority in administering the permit.
- (41) "Pervious surface" means an area that releases as runoff a small portion of the precipitation that falls on it. Lawns, gardens, parks, forests or other similar vegetated areas are examples of surfaces that typically are pervious.
- (42) "Pollutant" has the meaning given in s. 283.01 (13), Wis. Stats.
- (43) "Pollution" has the meaning given in s. 281.01 (10), Wis. Stats.
- (44) "Post-construction site" means a construction site following the completion of land disturbing construction activity and final site stabilization.
- (45) "Pre-development condition" means the extent and distribution of land cover types present before the initiation of land disturbing construction activity, assuming that all land uses prior to development activity are managed in an environmentally sound manner.
- (46) "Preventive action limit" has the meaning given in s. NR 140.05 (17), Wis. Adm. Code.
- (47) "Protective area" means an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands, and that is the greatest of the following widths, as measured horizontally from the top of the channel or delineated wetland boundary to the closest impervious surface.
- (48) "Redevelopment" means areas where development is replacing older development.
- (49) "Responsible party" means the landowner or any other entity performing services to meet the requirements of this ordinance through a contract or other agreement. "Runoff" means storm water or precipitation including rain, snow or ice melt or similar water that moves on the land surface via sheet or channelized flow.
- (50) "Separate storm sewer" means a conveyance or system of conveyances including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all of the following criteria:
- (a) Is designed or used for collecting water or conveying runoff.
  - (b) Is not part of a combined sewer system.
  - (c) Is not part of a publicly owned wastewater treatment works that provides secondary or more stringent treatment.
  - (d) Discharges directly or indirectly to waters of the state.
- (51) "Silviculture activity" means activities including tree nursery operations, tree harvesting operations, reforestation, tree thinning, prescribed burning, and pest and fire control. Clearing and grubbing of an area of a construction site is not a silviculture activity.

- (52) "Site" means the entire area included in the legal description of the land on which the land disturbing construction activity occurred.
- (53) "Stop work order" means an order issued by the **Director of Public Works** which requires that all construction activity on the site be stopped.
- (54) "Storm water management plan" means a comprehensive plan designed to reduce the discharge of pollutants from storm water, after the site has undergone final stabilization, following completion of the construction activity.
- (55) "Storm water management system plan" is a comprehensive plan designed to reduce the discharge of runoff and pollutants from hydrologic units on a regional or municipal scale.
- (56) "Technical standard" means a document that specifies design, predicted performance and operation and maintenance specifications for a material, device or method.
- (57) "Top of the channel" means an edge, or point on the landscape landward from the ordinary high-water mark of a surface water of the state, where the slope of the land begins to be less than 12 percent continually for at least 50 feet. If the slope of the land is 12 percent or less continually for the initial 50 feet landward from the ordinary high-water mark, the top of the channel is the ordinary high-water mark.
- (58) "Total maximum daily load" or "TMDL" means the amount of pollutants specified as a function of one or more water quality parameters, that can be discharged per day into a water quality limited segment and still ensure attainment of the applicable water quality standard.
- (59) "TP-40" means Technical Paper No. 40, Rainfall Frequency Atlas of the United States, published in 1961.
- (60) "TR-55" means the United States department of agriculture, natural resources conservation service (previously soil conservation service), Urban Hydrology for Small Watersheds, Second Edition, Technical Release 55, June 1986, which is incorporated by reference for this chapter.
- (61) "Transportation facility" means a highway, a railroad, a public mass transit facility, a public-use airport, a public trail or any other public work for transportation purposes such as harbor improvements under s. 85.095 (1)(b), Wis. Stats. "Transportation facility" does not include building sites for the construction of public buildings and buildings that are places of employment that are regulated by the Department pursuant to s. 281.33, Wis. Stats.
- (62) "TSS" means total suspended solids.
- (63) "Type II distribution" means a rainfall type curve as established in the "United States Department of Agriculture, Soil Conservation Service, Technical Paper 149, published in 1973".
- (64) "Waters of the state" includes those portions of Lake Michigan and Lake Superior within the boundaries of this state, and all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, watercourses, drainage systems and other surface water or groundwater, natural or artificial, public or private, within this state or its jurisdiction.

### **S. 055 APPLICABILITY OF MAXIMUM EXTENT PRACTICABLE.**

Maximum extent practicable applies when a person who is subject to a performance standard of this ordinance demonstrates to the **Director of Public Works** satisfaction that a performance standard is not achievable and that a lower level of performance is appropriate. In making the assertion that a performance standard is not achievable and that a level of performance different from the performance standard is the maximum extent practicable, the responsible party shall take into account the best available technology, cost effectiveness, geographic features, and other competing interests such as protection of public safety and welfare, protection of endangered and threatened resources, and preservation of historic properties.

### **S. 06 TECHNICAL STANDARDS.**

The following methods shall be used in designing the water quality, peak discharge, and infiltration components of storm water practices needed to meet the water quality standards of this ordinance:

- (1) Consistent with the technical standards identified, developed or disseminated by the Wisconsin Department of Natural Resources under subchapter V of chapter NR 151, Wis. Adm. Code.
- (2) Where technical standards have not been identified or developed by the Wisconsin Department of Natural Resources, other technical standards may be used provided that the methods have been approved by the **Director of Public Works**.

### **S. 07 PERFORMANCE STANDARDS.**

- (1) RESPONSIBLE PARTY. *RESPONSIBLE PARTY. The responsible party shall comply with this section.*
- (2) STORM WATER MANAGEMENT PLAN. A written storm water management plan in accordance with S. 09 shall be developed and implemented for each post-construction site.
- (3) MAINTENANCE OF EFFORT. For redevelopment sites where the redevelopment will be replacing older development that was subject to post-construction performance standards of NR 151 in effect on or after October 1, 2004, the responsible party shall meet the total suspended solids reduction, peak flow control, infiltration, and protective areas standards applicable to the older development or meet the redevelopment standards of this ordinance, whichever is more stringent.

(4) REQUIREMENTS. The storm water management plan required under sub. (2) shall include the following:

(a) TOTAL SUSPENDED SOLIDS. BMPs shall be designed, installed, and maintained to control total suspended solids carried in runoff from the post-construction site as follows:

1. BMPs shall be designed in accordance with Table 1. or to the maximum extent practicable as provided in subd. 2. The design shall be based on an average annual rainfall, as compared to no runoff management controls. The stormwater plan shall include modeling of proposed stormwater BMPs for total phosphorus (TP) and reporting of TP reduction performance. Electronic stormwater quality modeling files shall be submitted with the stormwater management plan.

<b>Table 1. TSS Reduction Standards</b>	
<b>Development Type</b>	<b>TSS Reduction</b>
New Development	80 percent
In-fill development	80 percent
Redevelopment	40 percent of load from parking areas and roads

2. Maximum Extent Practicable. If the design cannot meet a total suspended solids reduction performance standard of Table 1., the storm water management plan shall include a written, site-specific explanation of why the total suspended solids reduction performance standard cannot be met and why the total suspended solids load will be reduced only to the maximum extent practicable.
3. Off-Site Drainage. When designing BMPs, runoff draining to the BMP from off-site shall be taken into account in determining the treatment efficiency of the practice. Any impact on the efficiency shall be compensated for by increasing the size of the BMP accordingly.

(b) PEAK DISCHARGE.

1. By design, BMPs shall be employed to maintain or reduce the 1-year, 24-hour; 2-year, 24-hour; 5-year, 24-hour; and the 10-year, 24-hour post-construction peak runoff discharge rates to the 1-year, 24-hour; 2-year, 24-hour; 5-year, 24-hour; and the 10-year, 24-hour pre-development peak runoff discharge rates respectively, or to the maximum extent practicable. The runoff curve numbers in

Table 2. shall be used to represent the actual pre-development conditions. Peak discharges shall be calculated using TR-55 runoff curve number methodology, Atlas 14 precipitation depths, and the appropriate NRCS Wisconsin MSE3 or precipitation distribution. On a case-by-case basis, the **Director of Public Works** may allow the use of TP-40 precipitation depths and the Type II distribution. Electric stormwater quality model files shall be submitted with the stormwater plan.

<b>Table 2. Maximum Pre-Development Runoff Curve Numbers</b>				
Runoff Curve Number	Hydrologic Soil Group			
	A	B	C	D
Woodland	30	55	70	77
Grassland	39	61	71	78
Cropland	55	69	78	83

2. This subsection of the ordinance does not apply to any of the following:
  - a. A post-construction site where the discharge is directly into a lake over 5,000 acres or a stream or river segment draining more than 500 square miles.
  - b. Except as provided under S. 07 (3), a redevelopment post-construction site.
  - c. An in-fill development area less than 5 acres.

(c) **INFILTRATION.**

1. **Best Management Practices.** BMPs shall be designed, installed, and maintained to infiltrate runoff in accordance with the following or to the maximum extent practicable:
  - a. *Low imperviousness.* For development up to 40 percent connected imperviousness, such as parks, cemeteries, and low density residential development, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 90 percent of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than one percent of the post-construction site is required as an effective infiltration area.
  - b. *Moderate imperviousness.* For development with more than 40 percent and up to 80 percent connected imperviousness, such as medium and

high density residential, multi-family development, industrial and institutional development, and office parks, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 75 percent of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2 percent of the post-construction site is required as an effective infiltration area.

- c. *High imperviousness.* For development with more than 80 percent connected imperviousness, such as commercial strip malls, shopping centers, and commercial downtowns, infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 60 percent of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2 percent of the post-construction site is required as an effective infiltration area.

2. Pre-development. The pre-development condition shall be the same as specified in Table 2 of the Peak Discharge section of this ordinance.

3. Source Areas.

- a. *Prohibitions.* Runoff from the following areas may not be infiltrated and may not qualify as contributing to meeting the requirements of this section unless demonstrated to meet the conditions identified in S. 07 (4)(c)6.:
  - i. Areas associated with a tier 1 industrial facility identified in s. NR 216.21 (2)(a), including storage, loading and parking. Rooftops may be infiltrated with the concurrence of the regulatory authority.
  - ii. Storage and loading areas of a tier 2 industrial facility identified in s. NR 216.21 (2)(b).
  - iii. Fueling and vehicle maintenance areas. Runoff from rooftops of fueling and vehicle maintenance areas may be infiltrated with the concurrence of the regulatory authority.
- b. *Exemptions.* Runoff from the following areas may be credited toward meeting the requirement when infiltrated, but the decision to infiltrate runoff from these source areas is optional:
  - i. Parking areas and access roads less than 5,000 square feet for commercial development.
  - ii. Parking areas and access roads less than 5,000 square feet for industrial development not subject to the Prohibitions under par a.

- iii. Except as provided under S. 07 (3), redevelopment post-construction sites.
  - iv. In-fill development areas less than 5 acres.
  - v. Roads on commercial, industrial and institutional land uses, and arterial residential roads.
  - vi. Infiltration areas during periods when the soil on the site is frozen.
4. Location of Practices.
- a. *Prohibitions.* Infiltration practices may not be located in the following areas:
    - i. Areas within 1000 feet upgradient or within 100 feet downgradient of direct conduits to groundwater.
    - ii. Areas within 400 feet of a community water system well as specified in s. NR 811.16 (4) or within the separation distances listed in s. NR 812.08 for any private well or non-community well for runoff infiltrated from commercial, including multi-family residential, industrial and institutional land uses or regional devices for one- and two-family residential development.
    - iii. Areas where contaminants of concern, as defined in s. NR 720.03 (2), are present in the soil through which infiltration will occur.
  - b. *Separation distances.*
    - i. Infiltration practices shall be located so that the characteristics of the soil and the separation distance between the bottom of the infiltration system and the elevation of seasonal high groundwater or the top of bedrock are in accordance with Table 3:

<b>Table 3. Separation Distances and Soil Characteristics</b>		
<b>Source Area</b>	<b>Separation Distance</b>	<b>Soil Characteristics</b>
Industrial, Commercial, Institutional Parking Lots and Roads	5 feet or more	Filtering Layer
Residential Arterial Roads	5 feet or more	Filtering Layer
Roofs Draining to Subsurface Infiltration Practices	1 foot or more	Native or Engineered Soil with Particles Finer than Coarse Sand
Roofs Draining to Surface Infiltration Practices	Not Applicable	Not Applicable
All Other Impervious Source Areas	3 feet or more	Filtering Layer



- ii. Notwithstanding par. b., applicable requirements for injection wells classified under ch. NR 815 shall be followed.
  - c. *Infiltration rate exemptions.* Infiltration practices located in the following areas may be credited toward meeting the requirements under the following conditions, but the decision to infiltrate under these conditions is optional:
    - i. Where the infiltration rate of the soil measured at the proposed bottom of the infiltration system is less than 0.6 inches per hour using a scientifically credible field test method.
    - ii. Where the least permeable soil horizon to 5 feet below the proposed bottom of the infiltration system using the U.S. Department of Agriculture method of soils analysis is one of the following: sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay.
- 5. Alternate Use. Where alternate uses of runoff are employed, such as for toilet flushing, laundry, or irrigation or storage on green roofs where an equivalent portion of the runoff is captured permanently by rooftop vegetation, such alternate use shall be given equal credit toward the infiltration volume required by this section.
- 6. Groundwater Standards.
  - a. Infiltration systems designed in accordance with this section shall, to the extent technically and economically feasible, minimize the level of pollutants infiltrating to groundwater and shall maintain compliance with the preventive action limit at a point of standards application in accordance with ch. NR 140. However, if site specific information indicates that compliance with a preventive action limit is not achievable, the infiltration BMP may not be installed or shall be modified to prevent infiltration to the maximum extent practicable.
  - b. Notwithstanding par. a., the discharge from BMPs shall remain below the enforcement standard at the point of standards application.
- 7. Pretreatment. Before infiltrating runoff, pretreatment shall be required for parking lot runoff and for runoff from new road construction in commercial, industrial and institutional areas that will enter an infiltration system. The pretreatment shall be designed to protect the infiltration system from clogging prior to scheduled maintenance and to protect groundwater quality in accordance with subd. 6. Pretreatment options may include, but are not limited to, oil and grease separation, sedimentation, biofiltration, filtration, swales or filter strips.

8. Maximum Extent Practicable. Where the conditions of subd. 3. and 4. limit or restrict the use of infiltration practices, the performance standard of S. 07 (4)(c) shall be met to the maximum extent practicable.

(d) PROTECTIVE AREAS.

1. Definition. In this section, “protective area” means an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands, and that is the greatest of the following widths, as measured horizontally from the top of the channel or delineated wetland boundary to the closest impervious surface. However, in this section, “protective area” does not include any area of land adjacent to any stream enclosed within a pipe or culvert, so that runoff cannot enter the enclosure at this location.
  - a. For outstanding resource waters and exceptional resource waters, 75 feet.
  - b. For perennial and intermittent streams identified on a U.S. Geological Survey 7.5-minute series topographic map, or a county soil survey map, whichever is more current, 50 feet.
  - c. For lakes, 50 feet.
  - d. For wetlands not subject to par. e. or f., 50 feet.
  - e. For highly susceptible wetlands, 75 feet. Highly susceptible wetlands include the following types: calcareous fens, sedge meadows, open and coniferous bogs, low prairies, coniferous swamps, lowland hardwood swamps, and ephemeral ponds.
  - f. For less susceptible wetlands, 10 percent of the average wetland width, but no less than 10 feet nor more than 30 feet. Less susceptible wetlands include: degraded wetland dominated by invasive species such as reed canary grass; cultivated hydric soils; and any gravel pits, or dredged material or fill material disposal sites that take on the attributes of a wetland.
  - g. In pars. d. to f., determinations of the extent of the protective area adjacent to wetlands shall be made on the basis of the sensitivity and runoff susceptibility of the wetland in accordance with the standards and criteria in s. NR 103.03.
  - h. Wetland boundary delineation shall be made in accordance with s. NR 103.08 (1m). This paragraph does not apply to wetlands that have been completely filled in compliance with all applicable state and federal regulations. The protective area for wetlands that have been partially

filled in compliance with all applicable state and federal regulations shall be measured from the wetland boundary delineation after a fill has been placed. Where there is a legally authorized wetland fill, the protective area standard need not be met in that location.

- i. For concentrated flow channels with drainage areas greater than 130 acres, 10 feet.
- j. Notwithstanding pars. a. to i., the greatest protective area width shall apply where rivers, streams, lakes and wetlands are contiguous.

2. **Applicability.** This section applies to post-construction sites located within a protective area, except those areas exempted pursuant to subd. 4.

3. **Requirements.** The following requirements shall be met:

- a. Impervious surfaces shall be kept out of the protective area entirely or to the maximum extent practicable. If there is no practical alternative to locating an impervious surface in the protective area, the storm water management plan shall contain a written, site-specific explanation.
- b. Where land disturbing construction activity occurs within a protective area, adequate sod or self-sustaining vegetative cover of 70 percent or greater shall be established and maintained where no impervious surface is present. The adequate sod or self-sustaining vegetative cover shall be sufficient to provide for bank stability, maintenance of fish habitat, and filtering of pollutants from upslope overland flow areas under sheet flow conditions. Non-vegetative materials, such as rock riprap, may be employed on the bank as necessary to prevent erosion such as on steep slopes or where high velocity flows occur. **In selecting the vegetative cover for the protective area, existing natural vegetative cover shall be left undisturbed, to the maximum extent practical. Where existing vegetative cover must be disturbed, consider revegetating the protective area with native plantings, where feasible.**
- c. BMPs such as filter strips, swales, or wet detention ponds, that are designed to control pollutants from non-point sources, may be located in the protective area.

4. **Exemptions.** This section does not apply to any of the following:

- a. Except as provided under S. 07 (3), redevelopment post-construction sites.

- b. In-fill development areas less than 5 acres.
  - c. Structures that cross or access surface water such as boat landings, bridges, and culverts.
  - d. Structures constructed in accordance with s. 59.692 (1v), Stats.
  - e. Areas of post-construction sites from which the runoff does not enter the surface water, including wetlands, without first being treated by a BMP to meet the local ordinance requirements for total suspended solids and peak flow reduction, except to the extent that vegetative ground cover is necessary to maintain bank stability.
- (e) FUELING AND MAINTENANCE AREAS. Fueling and vehicle maintenance areas shall have BMPs designed, installed, and maintained to reduce petroleum within runoff, so that the runoff that enters waters of the state contains no visible petroleum sheen, or to the maximum extent practicable.
- (f) SWALE TREATMENT FOR TRANSPORTATION FACILITIES.
1. Requirement. Except as provided in subd. 2., transportation facilities that use swales for runoff conveyance and pollutant removal are exempt from the requirements of local ordinance requirements for peak flow control, total suspended solids control, and infiltration, if the swales are designed to do all of the following or to the maximum extent practicable:
    - a. Swales shall be vegetated. However, where appropriate, non-vegetative measures may be employed to prevent erosion or provide for runoff treatment, such as rock riprap stabilization or check dams.
 

***Note to Users:** It is preferred that tall and dense vegetation be maintained within the swale due to its greater effectiveness at enhancing runoff pollutant removal.*
    - b. Swales shall comply with sections V.F. (Velocity and Depth) and V.G. (Swale Geometry Criteria) with a swale treatment length as long as that specified in section V.C. (Pre-Treatment) of the Wisconsin Department of Natural Resources technical standard 1005 “Vegetated Infiltration Swales”, dated May 2007, or a superseding document. Transportation facility swale treatment does not have to comply with other sections of technical standard 1005.

2. Other requirements.
  - a. Notwithstanding subd. 1., the **Director of Public Works** may, consistent with water quality standards, require that other requirements, in addition to swale treatment, be met on a transportation facility with an average daily traffic rate greater than 2,500 and where the initial surface water of the state that the runoff directly enters is one of the following:
    - i. An outstanding resource water.
    - ii. An exceptional resource water.
    - iii. Waters listed in section 303 (d) of the Federal Clean Water Act that are identified as impaired in whole or in part, due to non-point source impacts.
    - iv. Water where targeted performance standards are developed pursuant to s. NR 151.004, Wis. Adm. Code.
  - b. The transportation facility authority shall contact **Director of Public Works** to determine if additional BMPs beyond a water quality swale are needed under this subsection.

(5) GENERAL CONSIDERATIONS FOR STORM WATER MANAGEMENT MEASURES. The following considerations shall be observed in on-site and off-site runoff management:

- (a) Natural topography and land cover features such as natural swales, natural depressions, native soil infiltrating capacity, and natural groundwater recharge areas shall be preserved and used, to the extent possible, to meet the requirements of this section.
- (b) Emergency overland flow for all storm water facilities shall be provided to prevent exceeding the safe capacity of downstream drainage facilities and prevent endangerment of downstream property or public safety.

(6) BMP LOCATION.

- (a) To comply with the performance standards required under S. 07 of this ordinance, BMPs may be located on-site or off-site as part of a regional storm water device, practice or system, but shall be installed in accordance with s. NR 151.003, Wis. Adm. Code.
- (b) The **Director of Public Works** may approve off-site management measures provided that all of the following conditions are met:
  1. The **Director of Public Works** determines that the post-construction runoff is covered by a storm water management system plan that is approved by the **Town of Cedarburg** and that contains management requirements consistent with the purpose and intent of this ordinance.

2. The off-site facility meets all of the following conditions:
  - a. The facility is in place.
  - b. The facility is designed and adequately sized to provide a level of storm water control equal to or greater than that which would be afforded by on-site practices meeting the performance standards of this ordinance.
  - c. The facility has a legally obligated entity responsible for its long-term operation and maintenance.
- (c) Where a regional treatment option exists such that the **Director of Public Works** exempts the applicant from all or part of the minimum on-site storm water management requirements, the applicant shall be required to pay a fee in an amount determined in negotiation with the **Director of Public Works**. In determining the fee for post-construction runoff, the **Director of Public Works** shall consider an equitable distribution of the cost for land, engineering design, construction, and maintenance of the regional treatment option.
- (7) **ADDITIONAL REQUIREMENTS.** The **Director of Public Works** may establish storm water management requirements more stringent than those set forth in this ordinance if the **Director of Public Works** determines that the requirements are needed to control storm water quantity or control flooding, comply with federally approved total maximum daily load requirements, or control pollutants associated with existing development or redevelopment.

#### **S. 08 PERMITTING REQUIREMENTS, PROCEDURES AND FEES.**

- (1) **PERMIT REQUIRED.** No responsible party may undertake a land disturbing construction activity without receiving a post-construction runoff permit from the **Director of Public Works** prior to commencing the proposed activity.
- (2) **PERMIT APPLICATION AND FEES.** Unless specifically excluded by this ordinance, any responsible party desiring a permit shall submit to the **Director of Public Works** a permit application on a form provided by the **Director of Public Works** for that purpose.
  - (a) Unless otherwise excluded by this ordinance, a permit application must be accompanied by a storm water management plan, a maintenance agreement and a non-refundable permit administration fee.
  - (b) The storm water management plan shall be prepared to meet the requirements of S. 07 and S. 09, the maintenance agreement shall be prepared to meet the requirements of S. 10, the financial guarantee shall meet the requirements of S. 11, and fees shall be those established by the **Town Board** as set forth in S. 12.

- (3) PERMIT APPLICATION REVIEW AND APPROVAL. The **Director of Public Works** shall review any permit application that is submitted with a storm water management plan, maintenance agreement, and the required fee. The following approval procedure shall be used:
- (a) Within **30** business days of the receipt of a complete permit application, including all items as required by sub. (2), the **Director of Public Works** shall inform the applicant whether the application, storm water management plan and maintenance agreement are approved or disapproved based on the requirements of this ordinance.
  - (b) If the storm water permit application, storm water management plan and maintenance agreement are approved, or if an agreed upon payment of fees in lieu of storm water management practices is made, the **Director of Public Works** shall issue the permit.
  - (c) If the storm water permit application, storm water management plan or maintenance agreement is disapproved, the **Director of Public Works** shall detail in writing the reasons for disapproval.
  - (d) The **Director of Public Works** may request additional information from the applicant. If additional information is submitted, the **Director of Public Works** shall have 30 business days from the date the additional information is received to inform the applicant that the storm water management plan and maintenance agreement are either approved or disapproved.
  - (e) Failure by the **Director of Public Works** to inform the permit applicant of a decision within **30** business days of a required submittal shall be deemed to mean approval of the submittal and the applicant may proceed as if a permit had been issued.
  - (f) **Prior to commencing the land development activity, the project may be subject to additional approvals as required by the Town's Municipal Code.**
- (4) PERMIT REQUIREMENTS. All permits issued under this ordinance shall be subject to the following conditions, and holders of permits issued under this ordinance shall be deemed to have accepted these conditions. The **Director of Public Works** may suspend or revoke a permit for violation of a permit condition, following written notification of the responsible party. An action by the **Director of Public Works** to suspend or revoke this permit may be appealed in accordance with S. 14.
- (a) Compliance with this permit does not relieve the responsible party of the responsibility to comply with other applicable federal, state, and local laws and regulations.
  - (b) The responsible party shall design and install all structural and non-structural storm water management measures in accordance with the approved storm water management plan and this permit.
  - (c) The responsible party shall notify the **Director of Public Works** at least **two** business days before commencing any work in conjunction with the storm water management plan, and

within **three** business days upon completion of the storm water management practices. If required as a special condition under sub. (5), the responsible party shall make additional notification according to a schedule set forth by the **Director of Public Works** so that practice installations can be inspected during construction.

- (d) Practice installations required as part of this ordinance shall be certified "as built" or "record" drawings by a licensed professional engineer. Completed storm water management practices must pass a final inspection by the **Director of Public Works** or its designee to determine if they are in accordance with the approved storm water management plan and ordinance. The **Director of Public Works** or its designee shall notify the responsible party in writing of any changes required in such practices to bring them into compliance with the conditions of this permit. As-built drawing(s) of the installed BMPs shall be submitted based on a topographic survey of the "as-built" drawing. An electronic CAD file of the survey shall be submitted including raw data points, triangulated irregular network (TIN), and 1-foot contours.
- (e) The responsible party shall notify the **Director of Public Works** of any significant modifications it intends to make to an approved storm water management plan. The **Director of Public Works** may require that the proposed modifications be submitted to it for approval prior to incorporation into the storm water management plan and execution by the responsible party.
- (f) The responsible party shall maintain all storm water management practices in accordance with the storm water management plan until the practices either become the responsibility of the **Town Board**, or are transferred to subsequent private owners as specified in the approved maintenance agreement.
- (g) The responsible party authorizes the **Director of Public Works** to perform any work or operations necessary to bring storm water management measures into conformance with the approved storm water management plan, and consents to a special assessment or charge against the property as authorized under subch. VII of ch. 66, Wis. Stats., or to charging such costs against the financial guarantee posted under S. 11.
- (h) If so directed by the **Director of Public Works**, the responsible party shall repair at the responsible party's own expense all damage to adjoining municipal facilities and drainage ways caused by runoff, where such damage is caused by activities that are not in compliance with the approved storm water management plan.
- (i) The responsible party shall permit property access to the **Director of Public Works** or its designee for the purpose of inspecting the property for compliance with the approved storm water management plan and this permit.
- (j) Where site development or redevelopment involves changes in direction, increases in peak rate and/or total volume of runoff from a site, the **Director of Public Works** may



require the responsible party to make appropriate legal arrangements with affected property owners concerning the prevention of endangerment to property or public safety.

- (k) The responsible party is subject to the enforcement actions and penalties detailed in S. 13, if the responsible party fails to comply with the terms of this permit.

(5) **PERMIT CONDITIONS.** Permits issued under this subsection may include conditions established by **Director of Public Works** in addition to the requirements needed to meet the performance standards in S. 07 or a financial guarantee as provided for in S. 11.

(6) **PERMIT DURATION.** Permits issued under this section shall be valid from the date of issuance through the date the **Director of Public Works** notifies the responsible party that all storm water management practices have passed the final inspection required under sub. (4)(d).

## **S. 09 STORM WATER MANAGEMENT PLAN.**

(1) **STORM WATER MANAGEMENT PLAN REQUIREMENTS.** The storm water management plan required under S. 07 (2) shall contain at a minimum the following information:

- (a) Name, address, and telephone number for the following or their designees: landowner; developer; project engineer for practice design and certification; person(s) responsible for installation of storm water management practices; and person(s) responsible for maintenance of storm water management practices prior to the transfer, if any, of maintenance responsibility to another party.
- (b) A proper legal description of the property proposed to be developed, referenced to the U.S. Public Land Survey system or to block and lot numbers within a recorded land subdivision plat.
- (c) Pre-development site conditions, including:
  - 1. One or more site maps at a scale of not less than 1 inch equals 100 feet. The site maps shall show the following: site location and legal property description; predominant soil types and hydrologic soil groups; existing cover type and condition; topographic contours of the site at a scale not to exceed 2 feet; topography and drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; watercourses that may affect or be affected by runoff from the site; flow path and direction for all storm water conveyance sections; watershed boundaries used in hydrology determinations to show compliance with performance standards; lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site; limits of the 100 year floodplain; location of wells and

wellhead protection areas covering the project area and delineated pursuant to s. NR 811.16, Wis. Adm. Code.

2. Hydrology and pollutant loading computations as needed to show compliance with performance standards. All major assumptions used in developing input parameters shall be clearly stated. The geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).

(d) Post-development site conditions, including:

1. Explanation of the provisions to preserve and use natural topography and land cover features to minimize changes in peak flow runoff rates and volumes to surface waters and wetlands.
2. Explanation of any restrictions on storm water management measures in the development area imposed by wellhead protection plans and ordinances.
3. One or more site maps at a scale of not less than 1 inch equals 100 feet showing the following: post-construction pervious areas including vegetative cover type and condition; impervious surfaces including all buildings, structures, and pavement; post-construction topographic contours of the site at a scale not to exceed one foot; post-construction drainage network including enough of the contiguous properties to show runoff patterns onto, through, and from the site; locations and dimensions of drainage easements; locations of maintenance easements specified in the maintenance agreement; flow path and direction for all storm water conveyance sections; location and type of all storm water management conveyance and treatment practices, including the on-site and off-site tributary drainage area; location and type of conveyance system that will carry runoff from the drainage and treatment practices to the nearest adequate outlet such as a curbed street, storm drain, or natural drainage way; watershed boundaries used in hydrology and pollutant loading calculations and any changes to lakes, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site.
4. Hydrology and pollutant loading computations as needed to show compliance with performance standards. The computations shall be made for each discharge point in the development, and the geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).
5. Results of investigations of soils and groundwater required for the placement and design of storm water management measures. Detailed drawings including cross-sections and profiles of all permanent storm water conveyance and treatment practices.

- (e) A description and installation schedule for the storm water management practices needed to meet the performance standards in S. 07.
  - (f) A maintenance plan developed for the life of each storm water management practice including the required maintenance activities and maintenance activity schedule.
  - (g) Cost estimates for the construction, operation, and maintenance of each storm water management practice.
  - (h) Other information requested in writing by the **Director of Public Works** to determine compliance of the proposed storm water management measures with the provisions of this ordinance.
  - (i) All site investigations, plans, designs, computations, and drawings shall be certified by a licensed professional engineer to be prepared in accordance with accepted engineering practice and requirements of this ordinance.
- (2) ALTERNATE REQUIREMENTS. The **Director of Public Works** may prescribe alternative submittal requirements for applicants seeking an exemption to on-site storm water management performance standards under S. 07 (5).

#### **S. 10 MAINTENANCE AGREEMENT.**

- (1) MAINTENANCE AGREEMENT REQUIRED. The maintenance agreement required under S. 08 (2) for storm water management practices shall be an agreement between the **Director of Public Works** and the responsible party to provide for maintenance of storm water practices beyond the duration period of this permit. The maintenance agreement shall be filed with the County Register of Deeds as a property deed restriction so that it is binding upon all subsequent owners of the land served by the storm water management practices.
- (2) AGREEMENT PROVISIONS. The maintenance agreement shall contain the following information and provisions and be consistent with the maintenance plan required by S. 09 (1)(f):
- (a) Identification of the storm water facilities and designation of the drainage area served by the facilities.
  - (b) A schedule for regular maintenance of each aspect of the storm water management system consistent with the storm water management plan required under S. 08 (2).
  - (c) Identification of the responsible party(s), organization or city, county, town or village responsible for long term maintenance of the storm water management practices identified in the storm water management plan required under S. 08 (2).

- (d) Requirement that the responsible party(s), organization, or city, county, town or village shall maintain storm water management practices in accordance with the schedule included in par. (b).
- (e) Authorization for the **Director of Public Works** to access the property to conduct inspections of storm water management practices as necessary to ascertain that the practices are being maintained and operated in accordance with the agreement.
- (f) A requirement on the **Director of Public Works** to maintain public records of the results of the site inspections, to inform the responsible party responsible for maintenance of the inspection results, and to specifically indicate any corrective actions required to bring the storm water management practice into proper working condition.
- (g) Agreement that the party designated under par. (c), as responsible for long term maintenance of the storm water management practices, shall be notified by the **Director of Public Works** of maintenance problems which require correction. The specified corrective actions shall be undertaken within a reasonable time frame as set by the **Director of Public Works**.
- (h) Authorization of the **Director of Public Works** to perform the corrected actions identified in the inspection report if the responsible party designated under par. (c) does not make the required corrections in the specified time period. The **Director of Public Works** shall enter the amount due on the tax rolls and collect the money as a special charge against the property pursuant to subch. VII of ch. 66, Wis. Stats.

## **S. 11 FINANCIAL GUARANTEE.**

- (1) ESTABLISHMENT OF THE GUARANTEE. The **Director of Public Works** may require the submittal of a financial guarantee, the form and type of which shall be acceptable to the **Director of Public Works**. The financial guarantee shall be in an amount determined by the **Director of Public Works** to be the estimated cost of construction and the estimated cost of maintenance of the storm water management practices during the period which the designated party in the maintenance agreement has maintenance responsibility. The financial guarantee shall give the **Director of Public Works** the authorization to use the funds to complete the storm water management practices if the responsible party defaults or does not properly implement the approved storm water management plan, upon written notice to the responsible party by the **Director of Public Works** that the requirements of this ordinance have not been met.
- (2) CONDITIONS FOR RELEASE. Conditions for the release of the financial guarantee are as follows:

- (a) The **Director of Public Works** shall release the portion of the financial guarantee established under this section, less any costs incurred by the **Director of Public Works** to complete installation of practices, upon submission of "as built plans" or "record" drawings by a licensed professional engineer. The **Director of Public Works** may make provisions for a partial pro-rata release of the financial guarantee based on the completion of various development stages.
- (b) The **Director of Public Works** shall release the portion of the financial guarantee established under this section to assure maintenance of storm water practices, less any costs incurred by the **Director of Public Works**, at such time that the responsibility for practice maintenance is passed on to another entity via an approved maintenance agreement.

## **S. 12 FEE SCHEDULE.**

The fees referred to in other sections of this ordinance shall be established by the **Town Board** and may from time to time be modified by resolution. A schedule of the fees established by the **Town Board** shall be available for review in the **Town Hall**.

## **S. 13 ENFORCEMENT.**

- (1) Any land disturbing construction activity or post-construction runoff initiated after the effective date of this ordinance by any person, firm, association, or corporation subject to the ordinance provisions shall be deemed a violation unless conducted in accordance with the requirements of this ordinance.
- (2) The **Director of Public Works** shall notify the responsible party by certified mail of any non-complying land disturbing construction activity or post-construction runoff. The notice shall describe the nature of the violation, remedial actions needed, a schedule for remedial action, and additional enforcement action which may be taken.
- (3) Upon receipt of written notification from the **Director of Public Works** under sub. (2), the responsible party shall correct work that does not comply with the storm water management plan or other provisions of this permit. The responsible party shall make corrections as necessary to meet the specifications and schedule set forth by the **Director of Public Works** in the notice.
- (4) If the violations to a permit issued pursuant to this ordinance are likely to result in damage to properties, public facilities, or waters of the state, the **Director of Public Works** may enter the land

and take emergency actions necessary to prevent such damage. The costs incurred by the **Director of Public Works** plus interest and legal costs shall be billed to the responsible party.

- (5) The **Director of Public Works** is authorized to post a stop work order on all land disturbing construction activity that is in violation of this ordinance, or to request the **Town Attorney** to obtain a cease and desist order in any court with jurisdiction.
- (6) The **Director of Public Works** may revoke a permit issued under this ordinance for non-compliance with ordinance provisions.
- (7) Any permit revocation, stop work order, or cease and desist order shall remain in effect unless retracted by the **Director of Public Works** or by a court with jurisdiction.
- (8) The **Director of Public Works** is authorized to refer any violation of this ordinance, or a stop work order or cease and desist order issued pursuant to this ordinance, to the **Town Attorney** for the commencement of further legal proceedings in any court with jurisdiction.
- (9) Any person, firm, association, or corporation who does not comply with the provisions of this ordinance shall be subject to a forfeiture **per the Town Schedule of Deposits** together with the costs of prosecution. Each day that the violation exists shall constitute a separate offense.
- (10) Compliance with the provisions of this ordinance may also be enforced by injunction in any court with jurisdiction. It shall not be necessary to prosecute for forfeiture or a cease and desist order before resorting to injunctive proceedings.
- (11) When the **Director of Public Works** determines that the holder of a permit issued pursuant to this ordinance has failed to follow practices set forth in the storm water management plan, or has failed to comply with schedules set forth in said storm water management plan, the **Director of Public Works** or a party designated by the **Director of Public Works** may enter upon the land and perform the work or other operations necessary to bring the condition of said lands into conformance with requirements of the approved storm water management plan. The **Director of Public Works** shall keep a detailed accounting of the costs and expenses of performing this work. These costs and expenses shall be deducted from any financial security posted pursuant to S. 11 of this ordinance. Where such a security has not been established, or where such a security is insufficient to cover these costs, the costs and expenses shall be entered on the tax roll as a special charge against the property and collected with any other taxes levied thereon for the year in which the work is completed.

**S. 14 APPEALS.**

- (1) BOARD OF ZONING APPEALS. The Board of Zoning Appeals, created pursuant to section 16-2 of the Town of Cedarburg ordinances pursuant to s. 60.65, Wis. Stats., shall hear and decide appeals where it is alleged that there is error in any order, decision or determination made by the Director of Public Works in administering this ordinance. The board shall also use the rules, procedures, duties, and powers authorized by statute in hearing and deciding appeals. Upon appeal, the board may authorize variances from the provisions of this ordinance that are not contrary to the public interest, and where owing to special conditions a literal enforcement of the ordinance will result in unnecessary hardship.
  
- (2) WHO MAY APPEAL. Appeals to the Board of Zoning Appeals may be taken by any aggrieved person or by an officer, department, board, or bureau of the Town of Cedarburg affected by any decision of the Director of Public Works.

**S. 15 SEVERABILITY.**

If any section, clause, provision or portion of this ordinance is judged unconstitutional or invalid by a court of competent jurisdiction, the remainder of the ordinance shall remain in force and not be affected by such judgment.

**S. 16 EFFECTIVE DATE.**

This ordinance shall be in force and effect from and after its adoption and publication. The above and foregoing ordinance was duly adopted by the Town Board of the Town of Cedarburg on the [number] day of [month], [year].

Approved: \_\_\_\_\_

Attested: \_\_\_\_\_

Published on [day, month, year].





## Chapter SPS 321 CONSTRUCTION STANDARDS

**Subchapter I — Scope**

SPS 321.01 Scope.

**Subchapter II — Design Criteria**

- SPS 321.02 Loads and materials.
- SPS 321.03 Exits.
- SPS 321.035 Interior circulation.
- SPS 321.04 Stairways and elevated areas.
- SPS 321.042 Ladders.
- SPS 321.045 Ramps.
- SPS 321.05 Natural light and natural ventilation.
- SPS 321.06 Ceiling height.
- SPS 321.07 Attic and crawl space access.
- SPS 321.08 Fire separation and dwelling unit separation.
- SPS 321.085 Fireblocking.
- SPS 321.09 Smoke detectors.
- SPS 321.095 Automatic fire sprinklers.
- SPS 321.097 Carbon monoxide alarms.
- SPS 321.10 Protection against decay and termites.
- SPS 321.11 Foam plastic.
- SPS 321.115 Installation of elevators or dumbwaiters.

**Subchapter III — Excavations**

- SPS 321.12 Drainage.
- SPS 321.125 Erosion control and sediment control.
- SPS 321.13 Excavations adjacent to adjoining property.
- SPS 321.14 Excavations for footings and foundations.

**Subchapter IV — Footings**

- SPS 321.15 Footings.
- SPS 321.16 Frost protection.
- SPS 321.17 Drain tiles.

**Subchapter V — Foundations**

SPS 321.18 Foundations.

**Subchapter VI — Floors**

- SPS 321.19 Floor design.
- SPS 321.20 Concrete floors.
- SPS 321.203 Garage floors.
- SPS 321.205 Wood floors in contact with the ground.
- SPS 321.21 Precast concrete floors.
- SPS 321.22 Wood frame floors.
- SPS 321.225 Decks.

**Subchapter VII — Walls**

- SPS 321.23 Wall design.
- SPS 321.24 Exterior covering.
- SPS 321.25 Wood frame walls.
- SPS 321.26 Masonry walls.

**Subchapter VIII — Roof and Ceilings**

- SPS 321.27 Roof design and framing.
- SPS 321.28 Weather protection for roofs.

**Subchapter IX — Fireplace Requirements**

- SPS 321.29 Masonry fireplaces.
- SPS 321.30 Masonry chimneys.
- SPS 321.32 Factory-built fireplaces.

**Subchapter X — Construction in Floodplains**

- SPS 321.33 Construction in floodplains.
- SPS 321.34 Construction in coastal floodplains.

**Subchapter XI — Installation of Manufactured Homes**

SPS 321.40 Installation standards.

**Note:** Chapter Ind 21 was renumbered to be chapter ILHR 21, *Register*, February, 1985, No. 350, eff. 3–1–85. Chapter ILHR 21 was renumbered chapter Comm 21 under s. 13.93 (2m) (b) 1., Stats., and corrections made under s. 13.93 (2m) (b) 6. and 7., Stats., *Register*, January, 1999, No. 517. Chapter Comm 21 was reprinted to correct the Table of Contents, *Register* October 2009 No. 646. Chapter Comm 21 was renumbered chapter SPS 321 under s. 13.92 (4) (b) 1., Stats., *Register* December 2011 No. 672.

### Subchapter I — Scope

**SPS 321.01 Scope.** The provisions of this chapter shall apply to the design and construction of all one- and 2-family dwellings.

**History:** Cr. *Register*, November, 1979, No. 287, eff. 6–1–80.

### Subchapter II — Design Criteria

**SPS 321.02 Loads and materials.** Every dwelling shall be designed and constructed in accordance with the requirements of this section.

(1) **DESIGN LOAD.** Every dwelling shall be designed and constructed to support the actual dead load, live loads and wind loads acting upon it without exceeding the allowable stresses of the material. The construction of buildings and structures shall result in a system that provides a complete load path capable of transferring all loads from point of origin through the load-resisting elements to the foundation.

(a) **Dead loads.** Every dwelling shall be designed and constructed to support the actual weight of all components and materials. Earth-sheltered dwellings shall be designed and constructed to support the actual weight of all soil loads.

(b) **Live loads.** 1. ‘Floors and ceilings.’ Floors and ceilings shall be designed and constructed to support the minimum live loads listed in Table 321.02. The design load shall be applied uniformly over the component area.

**Table 321.02–1**

Component	Live Load (pounds per sq. ft.)
Floors . . . . .	40
Garage floors . . . . .	50
Exterior balconies, decks, porches . . . . .	40
Ceilings (with storage) . . . . .	20
Ceilings (without storage) . . . . .	5

2. ‘Snow loads.’ Roofs shall be designed and constructed to support the minimum snow loads listed on the zone map. The loads shall be assumed to act vertically over the roof area projected upon a horizontal plane.

(c) **Wind loads.** Dwellings shall be designed and constructed to withstand either a horizontal and uplift pressure of 20 pounds per square foot acting over the surface area or the wind loads determined in accordance with ASCE 7–05, *Minimum Design Loads for Buildings and Other Structures*.

**Note:** ASCE 7–05 allows for substantial reduction from 20 psf as applied to the surface area.

(f) 1. Siding and sheathing in contact with concrete, masonry or earth and within 6 inches above final exterior grade.

2. Siding and sheathing in contact with concrete or masonry and within 2 inches above an impervious surface.

(g) Ends of wood structural members and their shims resting on or supported in masonry or concrete walls and having clearances of less than ½ inch on the top, sides and ends.

(h) Bottom plates or sole plates of walls that rest on concrete or masonry and that are below exterior grade or less than 8 inches above final exterior grade.

(i) Columns in direct contact with concrete or masonry unless supported by a structural pedestal or plinth block at least one inch above the floor.

(j) Any structural part of an outdoor deck, including the decking.

(k) Permanent wood foundations.

**(3)** Wood girders that rest directly on exterior concrete or masonry shall be protected by one of the following methods:

(a) The wood shall be pressure treated with preservative or shall be a naturally durable and decay-resistant species.

(b) Material, such as pressure-treated plywood, flashing material, steel shims, or water-resistant membrane material shall be placed between the wood and the concrete or masonry.

**(4)** All pressure-treated wood and plywood shall be identified by a quality mark or certificate of inspection of an approved inspection agency which maintains continued supervision, testing and inspection over the quality of the product.

**Note:** Heartwood of redwood, cypress, black walnut, catalpa, chestnut, sage orange, red mulberry, white oak, or cedar lumber are considered by the department to be naturally decay-resistant. Heartwood of bald cypress, redwood, and eastern red cedar are considered by the department to be naturally termite resistant.

**(5) FASTENERS.** (a) Fasteners for pressure-preservative treated wood and fire-retardant-treated wood shall meet one of the following requirements:

1. The fastener is a steel bolt with a diameter of 0.5 inch or greater.

2. The fastener is made of stainless steel.

3. The fastener is made of hot-dipped, zinc-galvanized steel with the coating weight and thickness labeled as complying with ASTM A 153.

4. The fastener is made of steel with a mechanically-deposited zinc coating labeled as complying with ASTM B 695, Class 55 or greater.

5. The fastener has coating types and weights in accordance with the fastener manufacturer's recommendations. In the absence of the manufacturer's recommendations subd. 1., 2., 3., or 4. shall apply.

**Note:** "Zinc plated," "zinc coated," "chrome plated," etc., fasteners do not necessarily comply with either of these standards.

(b) When a fastener is used with a hanger or other metal fixture, the fastener shall be of the same material as the hanger or metal fixture.

**Note:** When separate pieces are in close contact, zinc corrodes rapidly in the presence of plain steel. Zinc corrodes much more rapidly in the presence of stainless steel.

(c) For the purposes of this section, a fastener includes nails, screws and bolts, along with nuts and washers.

**History:** Cr. Register, November, 1979, No. 287, eff. 6-1-80; r. and recr. Register, February, 1985, No. 350, eff. 3-1-85; am. (1) (b) and (3), Register, January, 1989, No. 397, eff. 2-1-89; r. and recr. (1) (intro.) and (b), am. (1) (f), renum. (3) (intro.) to be (3) (a), cr. (3) (b), Register, March, 1992, No. 435, eff. 4-1-92; am. (1) (a), (b), (3), cr. (1) (g), Register, November, 1995, No. 479, eff. 12-1-95; r. (1) and (2), renum. (3) to be (4), and cr. (1) to (3), Register, March, 2001, No. 543, eff. 4-1-01; CR 02-077; am. (4) (a) Register May 2003 No. 569, eff. 8-1-03; CR 08-043; am. (1), (2) (a) and (i), r. and recr. (2) (b) and (h), r. (2) (g) and (4) (b), renum. (2) (c) to (f) and (4) (a) to be (2) (d) to (g) and (4) and am. (2) (e), (f) 1. and (g), cr. (2) (c), (k) and (5) Register March 2009 No. 639, eff. 4-1-09; correction in (2) (a) 3. made under s. 13.92 (4) (b) 7., Stats., Register March 2009 No. 639; correction in (2) (b) 3. made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672; CR 15-041; renum. (2) (f) to (2) (f) 1., cr. (2) (f) 2. Register December 2015 No. 720, eff. 1-1-16.

**SPS 321.11 Foam plastic.** (1) (a) *General.* Foam plastic insulation shall have a flame-spread rating of 75 or less and a smoke-developed rating of 450 or less when tested in accordance with ASTM E-84.

(b) *Thermal barrier.* Except as provided in par. (c), foam plastic insulation shall be separated from the interior of the dwelling by one of the following thermal barriers:

1. ½-inch gypsum wallboard.

2. ½-inch nominal wood structural panel.

3. ¾-inch sawn lumber with tongue-and-groove or lap joints.

4. 1-inch of masonry or concrete.

5. A product or material shown by an independent laboratory to limit the temperature rise on the unexposed surface to 250°F for 15 minutes when tested in accordance with ASTM E-119.

6. For doors only, sheet metal with a minimum thickness of 26 standard steel gauge or aluminum with a minimum thickness of 0.032 inch.

**Note:** Number 26 standard steel gauge is approximately equal to 0.018-inch.

(c) *Exemptions from thermal barrier requirement.* The following applications of foam plastic do not require a thermal barrier:

1. On overhead garage doors.

2. In the box sill of the basement or ground floor, above the bottom of the floor joists.

**(2)** Insulation that does not meet the requirements of this section may be approved by the department in accordance with s. SPS 320.18. Approval will be based on tests that evaluate materials or products representative of actual end-use applications.

**Note:** See s. SPS 322.21 (3) for requirements for protecting foam plastic on the exterior of a dwelling.

**History:** Cr. Register, November, 1979, No. 287, eff. 6-1-80; am. (1) (b), Register, January, 1989, No. 397, eff. 2-1-89; r. and recr. (1) (intro.), am. (1) (a), renum. (1) (b) and (c) to be (1) (c) and (d) and am. (1) (c), cr. (1) (b), Register, March, 1992, No. 435, eff. 4-1-92; am. (1) (d), (2), Register, November, 1995, No. 479, eff. 12-1-95; r. and recr. Register, March, 2001, No. 543, eff. 4-1-01; correction in (2) made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.

**SPS 321.115 Installation of elevators or dumbwaiters.** Elevators or dumbwaiters serving dwelling units shall comply with the requirements under ch. SPS 318.

**History:** CR 08-030; cr. Register December 2008 No. 636, eff. 1-1-09; correction made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.

### Subchapter III — Excavations

**SPS 321.12 Drainage.** (1) *GRADE.* The finished grade of the soil shall slope away from the dwelling at a rate of at least 1/2 inch per foot for at least 10 feet, except as provided in subs. (2) and (3).

(2) *OTHER SURFACES.* Where the finished surface is impervious, it shall slope away from the dwelling for at least 10 feet at a rate that ensures equivalent drainage.

(3) *OBSTRUCTIONS.* Where lot lines, walls, slopes, or other barriers prevent having the 10-foot distance in sub. (2), swales or other means shall be provided to ensure equivalent drainage away from the dwelling.

**History:** Cr. Register, November, 1979, No. 287, eff. 6-1-80; CR 02-077; am. Register May 2003 No. 569, eff. 8-1-03; CR 15-041; renum. 321.12 to 321.12 (1) and am., cr. 321.12 (title), (2), (3) Register December 2015 No. 720, eff. 1-1-16.

**SPS 321.125 Erosion control and sediment control.** (1) *GENERAL.* (a) Where land disturbing construction activity is to occur erosion and sediment control practices shall be employed, as necessary, and maintained to prevent or reduce the potential deposition of soil or sediment to all of the following:

1. The waters of the state.

2. Adjacent properties.

**Note:** Authority over erosion and sediment control at construction sites having a land-disturbance area of one acre or more was transferred to the Department of Natural Resources (DNR) under 2013 Wis. Act 20, sections 1712 and 2088. Consequently, the Department of Safety and Professional Services no longer applies the requirements in this section to those sites. Information regarding the DNR permit requirements and standards may be available at <http://dnr.wi.gov/topic/stormwater/construction>.

(b) Land disturbing construction activities, except those activities necessary to implement erosion or sediment control practices, may not begin until the sediment control practices are in place for each area to be disturbed in accordance with the approved plan.

(c) Erosion and sediment control practices shall be maintained until the disturbed areas are stabilized. A disturbed area shall be considered stabilized by vegetation when a perennial cover has been established with a density of at least 70%.

(d) Erosion and sediment control practices shall either be approved by the department or listed by the department of natural resources in accordance with the process under s. NR 151.32 (2).

**Note:** Listed practices can be found through the Division of Industry Services website at <http://dps.wi.gov/programs/industry-services> or by contacting the Division at telephone (608) 266-3151 or (877) 617-1565 or 411 (Telecommunications Relay).

(2) MANDATED PRACTICES. Specific practices at each site where land disturbing construction activity is to occur shall be utilized to prevent or reduce all of the following:

(a) The deposition of soil from being tracked onto streets by vehicles.

(b) The discharge of sediment from disturbed areas into on-site storm water inlets.

(c) The discharge of sediment from disturbed areas into abutting waters of the state.

(d) The discharge of sediment from drainage ways that flow off the site.

(e) The discharge of sediment by dewatering activities.

(f) The discharge of sediment eroding from soil stockpiles existing for more than 7 days.

(3) CONTROL STANDARDS. Including the practices under sub. (2), additional erosion and sediment control practices shall be employed, as necessary, to accomplish one of the following:

(a) A potential annual cumulative soil loss rate of not more than one of the following:

1. Five tons per acre per year where sand, loamy sand, sandy loam, loam, sandy clay loam, clay loam, sandy clay, silty clay or clay textures are exposed.

2. Seven and 1/2 tons per acre per year where silt, silty clay loam, or silt loam textures are exposed.

(c) A reduction of at least 40% of the potential sediment load in storm water runoff from the site on an average annual basis as compared with no sediment or erosion controls for the site where less than one acre of land disturbing construction activity is to occur.

**Note:** See ch. SPS 325 Appendix A for further explanatory material regarding compliance solutions for 80 and 40% reductions.

(4) SOIL LOSS ANALYSIS. Potential soil loss shall be determined using an engineer analytical modeling acceptable to the department.

**Note:** The Revised Universal Soil Loss Equation II is an example of an acceptable model to determine soil loss.

(5) MONITORING. (a) The owner or owner's agent shall check the erosion and sediment control practices for maintenance needs at all the following intervals until the site is stabilized:

1. At least weekly.

2. Within 24 hours after a rainfall event of 0.5 inches or greater. A rainfall event shall be considered to be the total amount of rainfall recorded in any continuous 24 hour period.

3. At all intervals cited on the erosion and sediment control plan.

(b) The owner or owner's agent shall maintain a monitoring record when the land disturbing construction activity involves one or more acres.

(c) The monitoring record shall contain at least the following information:

1. The condition of the erosion and sediment control practices at the intervals specified under par. (a).

2. A description of the maintenance conducted to repair or replace erosion and sediment control practices.

(6) MAINTENANCE. (a) 1. Except as provided in subd. 3., off-site sediment deposition resulting from the failure of an erosion or sediment control practice shall be cleaned up by the end of the next day.

**Note:** Contact the Department of Natural Resources before attempting to clean up any sediment deposited or discharged into the waters of the state.

2. Except as provided in subd. 3., off-site soil deposition, resulting from construction activity, that creates a nuisance shall be cleaned up by the end of the work day.

3. A municipality may enact more stringent requirements regarding cleanup of soil or sediment deposition onto public ways.

(b) 1. Except as required in subd. 2., the owner or owner's agent shall complete repair or replacement of erosion and sediment control practices as necessary within 48 hours of an interval specified under sub. (5).

2. When the failure of erosion or sediment control practices results in an immediate threat of sediment entering public sewers or the waters of the state, procedures shall be implemented immediately to repair or replace the practices.

**Note:** See ch. SPS 325 Appendix A for further explanatory material.

**History:** Cr. Register, September, 1992, No. 441, eff. 12-1-92; am. (1) (b), Register, November, 1995, No. 479, eff. 12-1-95; am. (1) (a), renum. (1) (b) to (e) to be (1) (c) to (f) and am. (c), cr. (1) (b), Register, February, 1997, No. 494, eff. 3-1-97; CR 02-077; cr. (4) Register May 2003 No. 569, eff. 8-1-03; CR 05-113; r. and recr. Register December 2006 No. 612, eff. 4-1-07; CR 15-041; am. (3) (a) 2., r. (3) (b) Register December 2015 No. 720, eff. 1-1-16.

### SPS 321.13 Excavations adjacent to adjoining property.

(1) NOTICE. Any person making or causing an excavation which may affect the lateral soil support of adjoining property or buildings shall provide at least 30 days written notice to all owners of adjoining buildings of the intention to excavate. The notice shall state that adjoining buildings may require permanent protection.

(a) Exception. The 30-day time limit for written notification may be waived if such waiver is signed by the owner(s) of the adjoining properties.

(2) RESPONSIBILITY FOR UNDERPINNING AND FOUNDATION EXTENSIONS. (a) Excavations less than 12 feet in depth. If the excavation is made to a depth of 12 feet or less below grade, the person making or causing the excavation shall not be responsible for any necessary underpinning or extension of the foundations of any adjoining buildings.

(b) Excavations greater than 12 feet in depth. If the excavation is made to a depth in excess of 12 feet below grade, the owner(s) of adjoining buildings shall be responsible for any necessary underpinning or extension of the foundations of their buildings to a depth of 12 feet below grade. The person making or causing the excavation shall be responsible for any underpinning or extension of foundations below the depth of 12 feet below grade.

**History:** Cr. Register, November, 1979, No. 287, eff. 6-1-80.

### SPS 321.14 Excavations for footings and foundations.

(1) EXCAVATIONS BELOW FOOTINGS AND FOUNDATIONS. No excavation shall be made below the footing and foundation unless provisions are taken to prevent the collapse of the footing or foundation.

(2) EXCAVATIONS FOR FOOTINGS. All footings shall be located on undisturbed or compacted soil, free of organic material, unless the footings are reinforced to bridge poor soil conditions.

**History:** Cr. Register, November, 1979, No. 287, eff. 6-1-80.

## Subchapter IV — Footings

**SPS 321.15 Footings.** (1) GENERAL. (a) The dwelling and attached structures, such as decks and garages, shall be supported on a structural system designed to transmit and safely distribute the loads to the soil.

(b) The loads for determining the footing size shall include the weight of the live load, roof, walls, floors, pier or column, plus the weight of the structural system and the soil over the footing.

(c) Footings shall be sized to not exceed the allowable material stresses.

(d) The bearing area shall be at least equal to the area required to transfer the loads to the supporting soil without exceeding the bearing capacity of the soil.

(e) 1. Structures supported on floating slabs or similar shallow foundations may not be physically attached to structures that are supported by footings that extend below the frost line unless an

**APPENDIX D**  
**CONSTRUCTION SITE INSPECTIONS AND ENFORCEMENT PROCEDURES**

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**D.01 CONSTRUCTION SITE INSPECTIONS AND ENFORCEMENT PROCEDURES**

Table D-1 lists the construction site inspections and enforcement procedures contacts for the Town of Cedarburg (Town).

Director of Public Works	Building Inspection
Adam Monticelli amonticelli@town.cedarburg.wi.us 262-377-4509	Paul Mortimer pmortimer@safebuilt.com 262-346-4577

**Table D-1 Construction Site Inspections and Enforcement Contacts**

Preconstruction Erosion Control Plan Review–For all construction sites greater than 1 acre of land disturbance, a meeting shall be held before commencement of construction between Town staff, developer, and contractor.

Site	Inspection Frequency
All sites 1 acre or more in size	<ul style="list-style-type: none"> <li>▪ New projects shall be inspected within the first 2 weeks of commencement of land disturbing activity.</li> <li>▪ All active sites shall be inspected at least once every 45 days.</li> <li>▪ All inactive sites shall be inspected at least once every 60 days.</li> </ul>
Follow-up inspection	<ul style="list-style-type: none"> <li>▪ Follow-up inspections are required within 7 days of any sediment discharge or inadequate control measure, unless corrections were made and observed by the inspector during initial inspection or corrections were verified via photographs submitted to the inspector.</li> </ul>
Final inspection	<ul style="list-style-type: none"> <li>▪ Confirm that all graded areas have reached final stabilization and that all temporary control measures are removed and permanent storm water management best management practices are installed as designed.</li> </ul>

**Table D-2 Construction Site Inspection Frequency**

Construction Site Inspection Documentation–Document all site inspections. For guidance, refer to the Wisconsin Department of Natural Resources’ Construction Site Inspection Report (Form 3400-187) and Construction Site Inspection Corrective Action Photos (Form 3400-187A) available at:

<https://dnr.wi.gov/topic/Stormwater/construction/forms.html>

Enforcement–Provide enforcement in accordance with the Town’s Erosion Control and Stormwater Management Ordinance



**Notice:** This form was developed in accordance with s. NR 216.48 Wis. Adm. Code for WPDES permittees' convenience; however, use of this specific form is voluntary. Multiple copies of this form may be made to compile the inspection report. Inspections of the construction site and implemented erosion and sediment control best management practices (BMPs) must be performed weekly and within 24 hours after a rainfall event 0.5 inches or greater.

<b>Construction Site Name and Location (Project, Municipality, and County):</b>		<b>Site/Facility ID No. (FIN):</b>
<b>Onsite Contact/Contractor:</b>		<b>Onsite Phone/Cell:</b>
<b>Note: Inspection reports, along with erosion control and storm water management plans, are required to be maintained on site in accordance with s. NR 216.48 (4) and made available upon request. PLEASE PRINT LEGIBLY.</b>		
<b>Date of inspection:</b>	<b>Time of inspection:</b> Start: _____ <input type="radio"/> am <input type="radio"/> pm End: _____ <input type="radio"/> am <input type="radio"/> pm	<b>Type of inspection:</b> <input type="radio"/> Weekly <input type="radio"/> Precipitation Event <input type="radio"/> Other (specify)
<b>Weather/Site Conditions:</b> Temp. _____ °F Last Rainfall Depth: _____ inches Last Rainfall Date: _____	<input type="radio"/> Dry <input type="radio"/> Frozen or snow covered <input type="radio"/> Antecedent Soil Moisture <input type="radio"/> Variable <input type="radio"/> Frozen (Thaw predicted in next week) <input type="radio"/> Wet <input type="radio"/> Melting Snow/slush	<b>Describe current phase of construction:</b>  Scheduled Final Stabilization Date for Universal Soil Loss Equation (USLE) <sup>1</sup> : _____ Project on Schedule <sup>2</sup> ? <input type="radio"/> Yes <input type="radio"/> No
<b>Name(s) of individual(s) performing inspection:</b>		<b>Inspector Phone/Cell:</b>

I certify that the information contained on this form is an accurate assessment of site conditions at the time of inspection:

**Inspector Signature** \_\_\_\_\_ **Date:** \_\_\_\_\_

Inspection Questions:	Yes	No (Identify Actions Required):	Location/Comments:	Actions Completed by Date & Initials
1. Is the erosion control plan accessible to operators?	<input type="checkbox"/>	<input type="checkbox"/> Provide onsite copy		
2. Is the permit certificate posted where visible?	<input type="checkbox"/>	<input type="checkbox"/> Post certificate		
3. Is the current phase of construction on sequence with the site-specific erosion and sediment control plan, including installation/stabilization of ponds and ditches?	<input type="checkbox"/>	<input type="checkbox"/> Add sediment control <input type="checkbox"/> Install missing ditch/pipe/pond <input type="checkbox"/> Stabilize bare soil		
4. Are all erosion and sediment control BMPs shown on plan properly installed and in functional condition?	<input type="checkbox"/>	<input type="checkbox"/> Repair <input type="checkbox"/> Modify <input type="checkbox"/> Install/Replace		
5. Is inlet protection properly installed and functioning in all inlets likely to receive runoff from the site?	<input type="checkbox"/>	<input type="checkbox"/> Clean <input type="checkbox"/> Replace <input type="checkbox"/> Install		
6. Is the air free of fugitive dust resulting from construction activity and bare soil exposure?	<input type="checkbox"/>	<input type="checkbox"/> Apply water <input type="checkbox"/> Apply dust control product		

<sup>1</sup> The Universal Soil Loss Equation (USLE) model and the Construction Site Soil Loss and Sediment Discharge Guidance are available at: [http://dnr.wi.gov/topic/stormwater/standards/const\\_standards.html](http://dnr.wi.gov/topic/stormwater/standards/const_standards.html)

<sup>2</sup> If the project is not on schedule then the soil loss summary for the project should be reviewed and schedule, plan or practices modified accordingly.



Inspection Questions:	Yes	No (Identify Actions Required):	Location/Comments:	Actions Completed by Date & Initials
7. Is the public right of way curb line free of tracked soil and accumulation?	<input type="checkbox"/>	<input type="checkbox"/> Install tracking pad <input type="checkbox"/> Widen/lengthen pad <input type="checkbox"/> Amend stone/Add geotextile <input type="checkbox"/> Install wheel washing station <input type="checkbox"/> Close entrance/exit <input type="checkbox"/> Limit traffic across disturbed areas <input type="checkbox"/> Sweep road and curb line		
8. Are wetlands, lakes, streams, ditches, or storm sewers downstream of the site free of sedimentation and turbid water leaving the site? <sup>3</sup>	<input type="checkbox"/>	<input type="checkbox"/> Repair/Replace erosion control <input type="checkbox"/> Add sediment controls <input type="checkbox"/> Modify operations <input type="checkbox"/> Contact DNR to verify extent of cleanup required		
9. Is dewatering and/or vehicle and equipment washing being done in a manner that prevents erosion and sediment discharge?	<input type="checkbox"/>	<input type="checkbox"/> Install treatment train <input type="checkbox"/> Install energy dissipation <input type="checkbox"/> Modify discharge location <input type="checkbox"/> Modify intake to reduce sediment		
10. Are soil stockpiles existing for more than 7 days covered and stabilized?	<input type="checkbox"/>	<input type="checkbox"/> Seed <input type="checkbox"/> Install mat/mulch/polymer <input type="checkbox"/> Cover with tarp/plastic sheeting		
11. Are downstream channels and other downhill areas protected from scour and erosion?	<input type="checkbox"/>	<input type="checkbox"/> Install energy dissipation at outfall <input type="checkbox"/> Install ditch checks <input type="checkbox"/> Install slope interruption <input type="checkbox"/> Install onsite detention		
12. Are good housekeeping practices or treatment controls in place to prevent the discharge of chemicals, cement, trash, and other materials into wetlands, waterways, storm sewers, ditches, or drainage-ways? <sup>4</sup>	<input type="checkbox"/>	<input type="checkbox"/> Properly dispose of trash <input type="checkbox"/> Provide concrete washout station <input type="checkbox"/> Contact DNR to verify extent of cleanup required		
13. Is the plan reflective of current site operations and does it address all erosion and sediment control issues identified during the inspection?	<input type="checkbox"/>	<input type="checkbox"/> Revise sequence <input type="checkbox"/> Revise sediment control BMP <input type="checkbox"/> Revise erosion control BMP <input type="checkbox"/> Revise post-construction storm water BMP		
14. Are all areas where construction has temporarily ceased (and will not resume for more than 2 weeks) temporarily stabilized?	<input type="checkbox"/>	<input type="checkbox"/> Topsoil & seed <input type="checkbox"/> Install mat/mulch/polymer <input type="checkbox"/> Cover with tarp/plastic sheeting		
15. Are all areas at final grade permanently vegetated or stabilized with other treatments?	<input type="checkbox"/>	<input type="checkbox"/> Topsoil & seed <input type="checkbox"/> Install mat/mulch/polymer <input type="checkbox"/> Sod <input type="checkbox"/> Install stone base		
16. Have temporary sediment controls been removed in areas of the site that meet the permit definition of 'final stabilization'?	<input type="checkbox"/>	<input type="checkbox"/> Water to establish vegetation <input type="checkbox"/> Repair or reseed areas <input type="checkbox"/> Remove temporary practices		

<sup>3</sup> If sediment discharge enters a wetland or waterbody, the permittee should consult with DNR staff to determine if sediment cleanup and/or additional control measures are required.

<sup>4</sup> The permittee shall notify the DNR immediately via the spills hotline at (800)943-0003 of any release or spill of a hazardous substance to the environment in accordance with s. 292.11, Wis. Stats., and ch. NR 706, Wis. Adm. Code.



**APPENDIX F**  
**CONSTRUCTION SITE INSPECTION CORRECTIVE ACTION**  
**PHOTOGRAPHS (FORM 3400-187A)**

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**Corrective Action Photo Documentation Pages (Attach as many as needed):**

**Notice:** Use of this specific form is voluntary, and is provided as an optional attachment to Form 3400-187 for use in documenting erosion and sediment control maintenance actions. This form is provided for the convenience of the permittee to meet the requirements of s. NR 216.48(4), Wis. Adm. Code.

<b>Construction Site Name (Project):</b>	<b>Site/Facility ID No. (FIN):</b>
<b>Photo Location:</b>	

**BEFORE CONDITION:**


	<b>Photo #:</b>
	<b>Date/Time of Photo:</b>
	<b>Photo By:</b>
	<b>Photo Description:</b>

**AFTER CONDITION:**

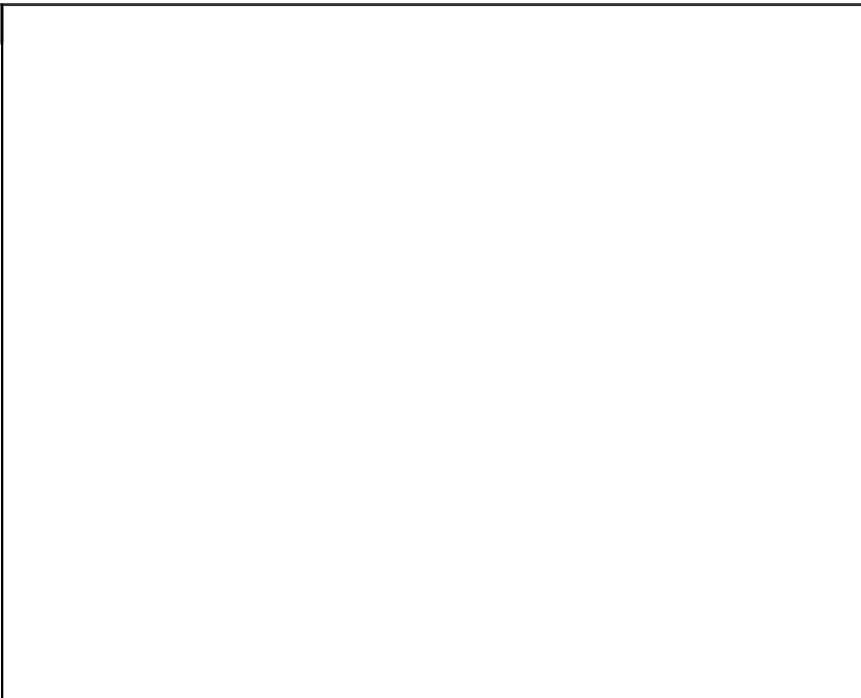
	<b>Photo #:</b>
	<b>Date/Time of Photo:</b>
	<b>Photo By:</b>
	<b>Photo Description:</b>

<b>Construction Site Name (Project):</b>	<b>Site/Facility ID No. (FIN):</b>
<b>Photo Location:</b>	

**BEFORE CONDITION:**

	<b>Photo #:</b>
	<b>Date/Time of Photo:</b>
	<b>Photo By:</b>
	<b>Photo Description:</b>

**AFTER CONDITION:**

	<b>Photo #:</b>
	<b>Date/Time of Photo:</b>
	<b>Photo By:</b>
	<b>Photo Description:</b>

**APPENDIX G**  
**POSTCONSTRUCTION STORMWATER MANAGEMENT FACILITIES: LONG-TERM**  
**MAINTENANCE, INSPECTION, AND ENFORCEMENT PROCEDURES**

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**G.01 POSTCONSTRUCTION STORMWATER MANAGEMENT FACILITIES: LONG-TERM MAINTENANCE, INSPECTION, AND ENFORCEMENT PROCEDURES (OCTOBER 27, 2022)**

1. Postconstruction Site Stormwater Management Contact:

Director of Public Works  
Adam Monticelli  
amonticelli@town.cedarburg.wi.us  
262-377-4509

2. Preconstruction Erosion Control Plan Review—For all construction sites greater than 1 acre of land disturbance, a meeting shall be held before commencement of construction between Town of Cedarburg (Town) staff, developer, and contractor.

Postconstruction Stormwater Management Facility Type	Inspection Frequency, Documentation, and Corrective Maintenance Timeframe
Public	<ul style="list-style-type: none"> <li>▪ Inspect as defined in Appendix H—Maintenance and Inspection of Stormwater Management Best Management Practices (BMPs) of the Town’s <i>Erosion Control and Stormwater Management Reference Guide</i></li> <li>▪ Once every 5 years, the Town shall assess and provide documentation by a qualified professional that the facility is operating as designed according to the design drawings.</li> <li>▪ Routine maintenance shall be provided by the Town.</li> <li>▪ If not operating as designed, the Town will develop a plan and present it to the Director of Public Works for corrective maintenance within 3 months of the assessment. For nonroutine maintenance (for example: dredging or bioretention basin sediment removal or replanting), corrective maintenance must be completed within 18 months of presentation of the plan to the Director of Public Works</li> </ul>
Private	<ul style="list-style-type: none"> <li>▪ Once every year (or more frequent as stated in the recorded stormwater maintenance agreement for the facility), the owner of the private postconstruction stormwater management facility shall inspect the stormwater management facility. The Inspection and Maintenance Documentation Form at the end of Appendix H—Maintenance and Inspection of Stormwater Management Best Management Practices of the Town’s <i>Erosion Control and Stormwater Management Reference Guide</i> shall be used to document the inspection. The form shall be submitted by February 15 of each year, documenting the previous year’s inspection.</li> <li>▪ Once every 5 years, the owner of the private postconstruction stormwater management facility shall assess and provide documentation by a qualified professional that the facility is operating as designed according to the recorded stormwater maintenance agreement for the facility.</li> <li>▪ If not operating as designed, the owner shall submit a plan for corrective maintenance to the Town within 1 month of the assessment. For routine maintenance, corrective maintenance must be completed within 2 months of the assessment. For nonroutine maintenance (for example: dredging or bioretention basin sediment removal/replanting), maintenance must be completed within 18 months of the submittal of the assessment to the Town.</li> </ul>

**Table G-1 Postconstruction Stormwater Management Facilities Inspection Frequency**

3. Postconstruction Stormwater Management Facilities

All public and private BMPs in the Town shall be documented using the form below. This form’s purpose is to keep an inventory of BMPs in the Town and any significant accompanying information.

BMP Name	Owner	Approximate Year Constructed	Record Drawing on File?	Comments (Long-Term Maintenance Agreement?)	5-Year Assessments Due	Annual Assessments Due

- 4. Enforcement—Provide enforcement per the Town’s Postconstruction Stormwater Management Ordinance and the recorded stormwater maintenance agreements.

The Town will keep a file or database documenting complaints and responses, including the date the complaint was received and the date the complaint was responded to. Response should occur within 5 business days of receiving a complaint.

Date	Site	Complaint	Response	Date of Response



**APPENDIX H**  
**MAINTENANCE AND INSPECTION OF STORMWATER MANAGEMENT BEST**  
**MANAGEMENT PRACTICES (AUGUST 2022)**

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## H.01 BEST MANAGEMENT PRACTICE (BMP) OWNERSHIP

### A. BMP Ownership

1. Municipality-owned/maintained stormwater BMP.
  - a. Develop a site-specific maintenance plan/program, if necessary.
  - b. Follow the maintenance plan/program, herein.
2. Privately owned/maintained BMP.
  - a. Obtain a maintenance agreement that has an attached maintenance plan as required by the stormwater management ordinance.
  - b. Follow the maintenance plan/program, herein.

### B. Maintenance

The cornerstone of a preventive maintenance program is an establishment of a routine inspection program. This program must contain routine and nonroutine maintenance. The program is defined below. Use the attached Inspection and Maintenance Documentation Form to document the inspections and maintenance performed. Submit the forms by February 15 of each year documenting the previous year's inspections to the Town of Cedarburg's (Town) Director of Public Works documenting the previous year's activities.

1. Routine Maintenance
  - a. Inspections
    - (1) Inspect wet and dry detention basins, bioretention basins, and grass-lined swales after major storm events (2-year, 24-hour storm event: 2.6 inches) and at a minimum once per year.
    - (2) Obtain the construction as-built plans for reference during the inspection.
  - b. Mowing
    - (1) Wet Detention Basins–Mow the side slopes, embankments, and swales on a regular basis to discourage weeds, woody plants, and invasive species.
    - (2) Dry Detention Basins–Mow the side slopes, embankments, bottom and swales on a regular basis to discourage weeds, woody plants, and invasive species.
    - (3) Grass-Lined Swales–Mow the side slopes and bottom twice per year to maintain a dense stand of grass.
    - (4) Bioretention Basins–Mow the side slopes on a regular basis to discourage weeds, woody plants, and invasive species. With a string trimmer, trim the bottom of basin to height of 6 to 9 inches in the fall of each year.

(5) Mow at heights beneficial to the planted and desired vegetation cover:

- (a) 3 to 4 inches for grasses.
- (b) 6 inches for native plantings.

c. Debris/Litter Removal

Remove debris and litter on a monthly basis from the basin edges, embankments, bottom (for dry detention basins) and outlet structure including the emergency spillway, as applicable.

d. Erosion Control/Revegetation

Eroded areas of the basin edges, embankments, bottom (for dry detention basins), emergency spillway, and riprapped areas shall be repaired in a timely manner. Consider reseeding/replanting with native vegetation with appropriate erosion control mat suited to site condition with possible consultation with an ecological restoration company. For grass-lined swales, reseed and repair eroded areas with appropriate erosion control mat.

e. Nuisance Control—Provide control of algae and mosquitoes in accordance with recommendations from a pond maintenance contractor, as necessary.

2. Nonroutine Maintenance (Dry and Wet Detention Basins)

It is recommended that a more detailed inspection be done every 3 years on wet detention basins (forebay and permanent pool) to determine sediment depth. A forebay is typically located where flows enter the detention basin and has the purpose of settling out sediment in a more convenient location for ease of maintenance. At this time, a sediment depth survey should be performed to determine the approximate average depth of sediment. The survey would normally be done by obtaining the water surface elevation by surveyor's level and then measuring the distance from water surface to top of sediment from a boat using applicable safety standards. The depth is converted to an elevation to determine depth of sediment and to determine the permanent pool depth. The survey can be completed by the Town if the capability exists. Otherwise, this would be consulted out. Sediment survey and sampling would normally be consulted out once a sediment removal project is necessary.

a. Outlet Structure—Provide maintenance, as needed. Replace outlet structure when not performing as originally intended.

b. Sediment Removal/Excavation from Wet Detention Basins

(1) Sediment Forebay

- (a) Maintain 3 feet of water depth except on safety shelves which will be shallower.

- (b) When the forebay accumulates sediment and there is 3 feet or less water depth, perform sediment removal/excavation to original depth (typically 5 feet or more). See as-builts for original elevations.
  - (c) Sediment Removal/Excavation Frequency: Every 3 to 5 years, depending on source area loadings. Maintain records of sediment loading.
- (2) Permanent Pool
- (a) Maintain 3 feet of water depth except on safety shelves which will be shallower.
  - (b) When the forebay accumulates sediment and there is 3 feet or less water depth, perform sediment removal/excavation to original depth (typically 5 feet or more). See record drawings for original elevations.
  - (c) Sediment Removal/Excavation Frequency: Every 15 to 20 years, depending on source area loadings. Maintain records of sediment removal.
- (3) Sediment Removal/Excavation/Disposal Regulations–Perform sediment removal/excavation according to applicable state, federal and local regulations.
- (a) NR 103.06(4) (a)–Artificial wetland exemptions–Allows maintenance of ponds that revert to wetlands. Contact Wisconsin Department of Natural Resources (WDNR) for confirmation.
  - (b) Contact WDNR for Chapter 30 jurisdictional determination.
  - (c) NR 216 Stormwater Discharge Permit Notice of Intent (NOI) necessary for disturbance of one or more acres of land.
  - (d) Sediment Sampling–Contact WDNR to determine if sediment sampling is necessary.
- 1) Sediment and parent material sampling procedures should follow WDNR guidance documents and NR 347 and NR 528.
  - 2) Resources:
    - *Guidance for Applying the Sediment Sampling Requirements of NR 347*, Wisconsin Administrative Code, WDNR Publication WT-778, 2003.
    - *Technical Guidance for Contaminated Sediment Cleanup Decisions in Wisconsin*. WDNR. December 21, 1995
    - *Consensus-Based Sediment Quality Guidelines (CBSQG), Recommendations for Use and Application, Interim Guidance*, WDNR, December 2003.

- Laboratory results to be checked for conformance with NR 204.07(5) pollutant concentration limits. Consult NR 204 land application standards.
- NR 528—Management of Accumulated Sediment From Stormwater Management Structures

(e) Sediment Disposal—See NR 528 and the above resources. Contact the WDNR.

- c. Sediment Removal/Excavation from Dry Detention Basins—Remove sediment and dispose of properly to maintain the originally designed flood-storage capacity of the facility.

### 3. Nonroutine Maintenance (Bioretention Basins)

Bioretention basins are designed to capture sediment on the surface of the bioretention basin. Plug planting in the bottom of the basins is typically initially protected with a hardwood mulch layer. Over time, a bioretention basin may become clogged causing ponding on the surface of the bioretention basin. Bioretention basins are typically designed to drawdown within 24 hours of the end of a storm event. If the drawdown time of a bioretention basin is greater than 36 hours, maintenance shall occur consisting of:

- a. Remove all hardwood mulch material while not disturbing established native vegetation,
- b. Gently scarify the engineered soil surface to promote infiltration into the engineered soil while not disturbing established native vegetation,
- c. Replace bioretention soil mixture in accordance with WDNR Bioretention for Infiltration Technical Standard 1004 as necessary,
- d. Replace hardwood mulch layer in accordance with WDNR Bioretention for Infiltration Technical Standard 1004. Maintenance shall occur only during dry conditions while taking measures to minimize compaction of remaining engineered soil.

If bioretention basins are experiencing scour, consider removing mulch and engineered soil in those areas to allow for replacing with geotextile and appropriately sized stone to provide energy dissipation.

If bioretention basins have appreciable bare areas, plant with appropriate native plugs.

If bioretention basins appear to be experiencing compaction due to snow storage in the footprint of the bioretention basin, reinforce with the property owner that snow storage is not allowed within the footprint of the bioretention basin.

If bioretention basins appear to be experiencing clogging because of underdrain failure, underdrains shall be inspected. If necessary, underdrains shall be jetted to remove debris. If

needed, the underdrain and all components of the bioretention basin above the underdrain shall be replaced per the WDNR Bioretention for Infiltration Technical Standard 1004.

Inspection and Maintenance Documentation Form  
 Stormwater Best Management Practices (BMPs)  
 Wet and Dry Detention Basins, Bioretention Basins, and Grass-Lined Swales  
 Town of Cedarburg, Wisconsin

Inspection Date: \_\_\_\_\_  
 Maintenance Date: \_\_\_\_\_

Inspector Name: \_\_\_\_\_ Maintenance Provided by: \_\_\_\_\_  
 Company Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_  
 Company Address: \_\_\_\_\_  
 \_\_\_\_\_  
 Company Phone Number: \_\_\_\_\_  
 Company Fax Number: \_\_\_\_\_

Stormwater Facility Location: \_\_\_\_\_

- Wet Detention Basin
- Dry Detention Basin
- Bioretention Basin
- Grass-Lined Swale

Items Inspected	Checked		Maintenance Needed		Remarks
	Yes	No	Yes	No	
<b>Wet and Dry Detention Basin (Items below are applicable to both wet and dry basins. Items in italics are applicable to only wet basins)</b>					
Berms					
1. Settlement					
2. Breaks					
3. Erosion					
4. Signs of Piping Leakage					
5. Signs of Seepage					
Vegetation					
1. Woody Growth on Berm					
2. Need For Cutting/Trimming					
3. Need For Reseeding					
4. Ruts					
5. <i>Dead Vegetation at Water's Edge</i>					
Shoreline					
1. Erosion And Riprap Failure					
2. Undermining					
3. Damage Or Deterioration					
4. Rodent Or Wildlife Damage					
	Yes	No	Yes	No	

<b>Wet and Dry Detention Basin</b>					
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Outlet Structure and Emergency Outlet					
1. Obstruction Blocking Outlet Pipe, Channel, or Spillway					
2. Condition of Outlet and Inlet Structure					
a. Seepage					
b. Separation of Joints					
c. Cracks, Breaks or Deterioration					
d. Differential Settlement					
e. Sediment Level in Relation to Crest of Inlet Structure					
f. Sediment Level in Relation to Crest of Inlet Structure					
g. Scour and Erosion at Outlet					
h. Condition of Trash Racks					
i. Gates or Valves (Operate Them Twice Per Year)					
j. Damage By Debris, Ice, or Freezing.					
k. Outlet Channel Condition Downstream.					
Inlets					
1. Is Trash On or Inside Pipe Grate?					
2. Any Ice Damage To Pipe Outlet?					
3. Undermining of Any of The Pipe?					
<i>Sediment Forebay</i>					
1. <i>Approximate Depth Of Sediment = _____</i>					
2. <i>Sediment Removal Necessary</i>					
3. <i>Floating Debris</i>					
<i>G. Permanent Pool</i>					
1. <i>Approximate depth of sediment = _____</i>					
2. <i>Sediment Removal Necessary</i>					
3. <i>Floating debris</i>					



<b>Wet and Dry Detention Basin</b>					
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Access for Maintenance Equipment					
1. Obstructions					
2. Soft Areas					
3. Visible Pollution					
4. <i>Shoreline Problems</i>					
5. Other (Specify)					
Safety Features					
1. Access Controls to Hazardous Areas					
2. Fences					
a. Loose or Damaged Posts					
b. Loose or Broken Wires					
c. Accumulated Debris in Fences					
d. Condition of Gates					

<b>Bioretention Basins</b>					
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1. Sediment Buildup					
2. Clogging/Ponding of Water					
3. Eroded Areas					
4. Bare Spots					
5. Trash					
6. Overflow Structure					
7. Plant Health					
8. Compaction due to Snow Storage					
9. Adequate Mulch Layer					

<b>Grass-Lined Swales</b>					
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1. Eroded areas					
2. Bare spots					
3. Mowing Necessary					

**NOTES:**

1. Inspection/Maintenance Comments:

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2. Overall Condition of Facility (Check One)

\_\_\_\_\_ Acceptable      \_\_\_\_\_ Unacceptable      \_\_\_\_\_ Maintenance Completed

For more location information  
please visit [www.strand.com](http://www.strand.com)

## Office Locations

Ames, Iowa | 515.233.0000

Brenham, Texas | 979.836.7937

Cincinnati, Ohio | 513.861.5600

Columbus, Indiana | 812.372.9911

Columbus, Ohio | 614.835.0460

Joliet, Illinois | 815.744.4200

Lexington, Kentucky | 859.225.8500

Louisville, Kentucky | 502.583.7020

Madison, Wisconsin\* | 608.251.4843

Milwaukee, Wisconsin | 414.271.0771

Nashville, Tennessee | 615.800.5888

Phoenix, Arizona | 602.437.3733

\*Corporate Headquarters

