

(Sample) Stormwater Management Practice Maintenance Agreement

Document Number

[Owners Name], as “Owner” of the property described below, in accordance with Chapter 14 Waukesha County Code of Ordinances, agrees to install and maintain stormwater management practice(s) on the subject property in accordance with approved plans and Stormwater Permit conditions. The owner further agrees to the terms stated in this document to ensure that the stormwater management practice(s) continues serving the intended functions in perpetuity. This Agreement includes the following exhibits:

Exhibit A: Legal Description of the real estate for which this Agreement applies (“Property”).

Exhibit B: Location Map(s) – shows an accurate location of each stormwater management practice affected by this Agreement.

Exhibit C: Maintenance Plan – prescribes those activities that must be carried out to maintain compliance with this Agreement.

Note: After construction verification has been accepted by Waukesha County, for all planned stormwater management practices, an addendum(s) to this agreement shall be recorded by the Owner showing design and construction details. The addendum(s) may contain several additional exhibits, including certification by Waukesha County of Stormwater Permit termination, as described below.

Through this Agreement, the Owner hereby subjects the Property to the following covenants, conditions and restrictions:

1. The Owner shall be responsible for the routine and extraordinary maintenance and repair of the stormwater management practice(s) and drainage easements identified in Exhibit B until Stormwater Permit termination by Waukesha County in accordance with Chapter 14 of the County Code of Ordinances.
2. After Stormwater Permit termination under 1., the current Owner(s) shall be solely responsible for maintenance and repair of the stormwater management practices and drainage easements in accordance with the maintenance plan contained in Exhibit C.
3. Upon written notification by **Town of _____** or their designee, the Owner(s) shall, at their own cost and within a reasonable time period determined by the **Town of _____**, have an inspection of the stormwater management practice conducted by a qualified professional, file a report with the **Town of _____** and complete any maintenance or repair work recommended in the report. The Owner(s) shall be liable for the failure to undertake any maintenance or repairs.
4. In addition, and independent of the requirements under paragraph 3 above, the **Town of _____**, or its designee, is authorized to access the property as necessary to conduct inspections of the stormwater management practices or drainage easements to ascertain compliance with the intent of this Agreement and the activities prescribed in Exhibit C. The **Town of _____** may require work to be done which differs from the report described in paragraph 3 above, if the **Town of _____** reasonably concludes that such work is necessary and consistent with the intent of this agreement. Upon notification by the **Town of _____** of required maintenance or repairs, the Owner(s) shall complete the specified maintenance or repairs within a reasonable time frame determined by the **Town of _____**.
5. If the Owner(s) do not complete an inspection under 3. above or required maintenance or repairs under 4. above within the specified time period, the **Town of _____** is authorized, but not required, to perform the specified inspections, maintenance or repairs. In the case of an emergency situation, as determined by the **Town of _____**, no notice shall be required prior to the **Town of _____** performing emergency maintenance or repairs. The **Town of _____** may levy the costs and expenses of such inspections, maintenance or repair related actions as a special charge against the Property and collected as such in accordance with the procedures under s. 66.0627 Wis. Stats. or subch. VII of ch. 66 Wis. Stats.
6. This Agreement shall run with the Property and be binding upon all heirs, successors and assigns. After the Owner records the addendum noted above, the **Town of _____** shall have the sole authority to modify this agreement upon a 30-day notice to the current Owner(s).

Name and Return Address

Land Resources Division
515 W. Moreland Blvd., Rm AC 260
Waukesha, WI 53188

Dated this ___ day of _____, 201_.

Owner:

(Owners Signature)

(Owners Typed Name)

Acknowledgements

State of Wisconsin:
County of Waukesha

Personally came before me this ___ day of _____, 201_, the above named [Owners name] to me known to be the person who executed the foregoing instrument and acknowledged the same.

[Name]
Notary Public, Waukesha County, WI
My commission expires: _____.

This document was drafted by:

[Name and address of drafter]

For Certification Stamp

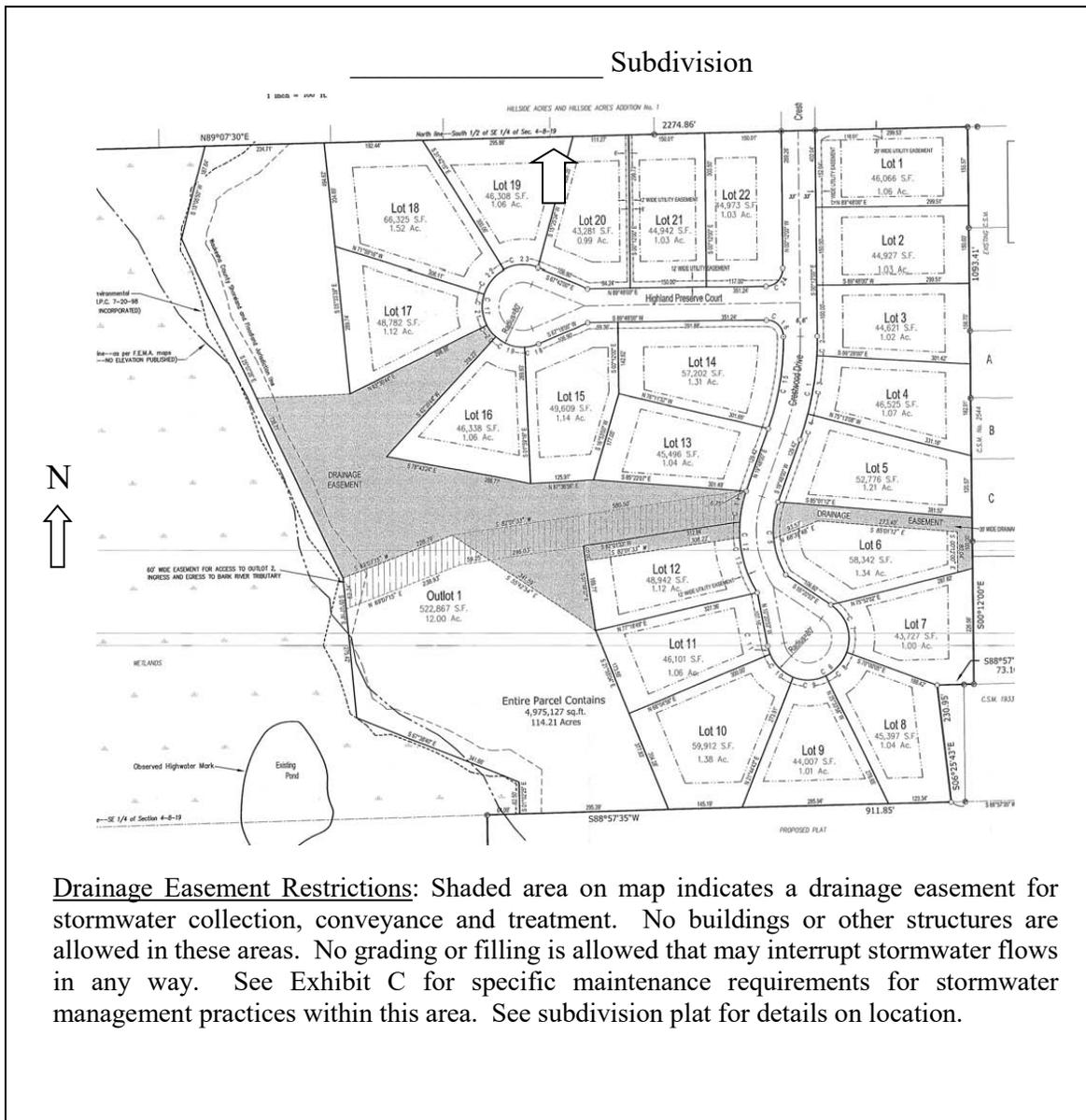
(Sample)

Exhibit A – Legal Description

The following description and reduced copy map identifies the land parcel(s) affected by this Agreement. For a larger scale view of the referenced document, contact the Waukesha County Register of Deeds office.

[Note: An example legal description is shown below. This exhibit must be customized for each site, including the minimum elements shown. It must include a reference to a Subdivision Plat, Certified Survey number, or Condominium Plat, and a map to illustrate the affected parcel(s).]

Project Identifier: _____ Subdivision _____ Acres: 40
Date of Recording: _____, 20____
Map Produced By: _____ Engineering _____, WI
Legal Description: Lots 1 through 22 of _____ Subdivision, located in all that part of the _____ Quarter (____ ¼) of Section __, Township __ N, Range __ E (Town of _____) Waukesha County, Wisconsin.



(Sample)

Exhibit B - Location Map Stormwater Management Practices Covered by this Agreement

[An example location map and the minimum elements that must accompany the map are shown below. This exhibit must be customized for each site. Map scale must be sufficiently large enough to show necessary details.]

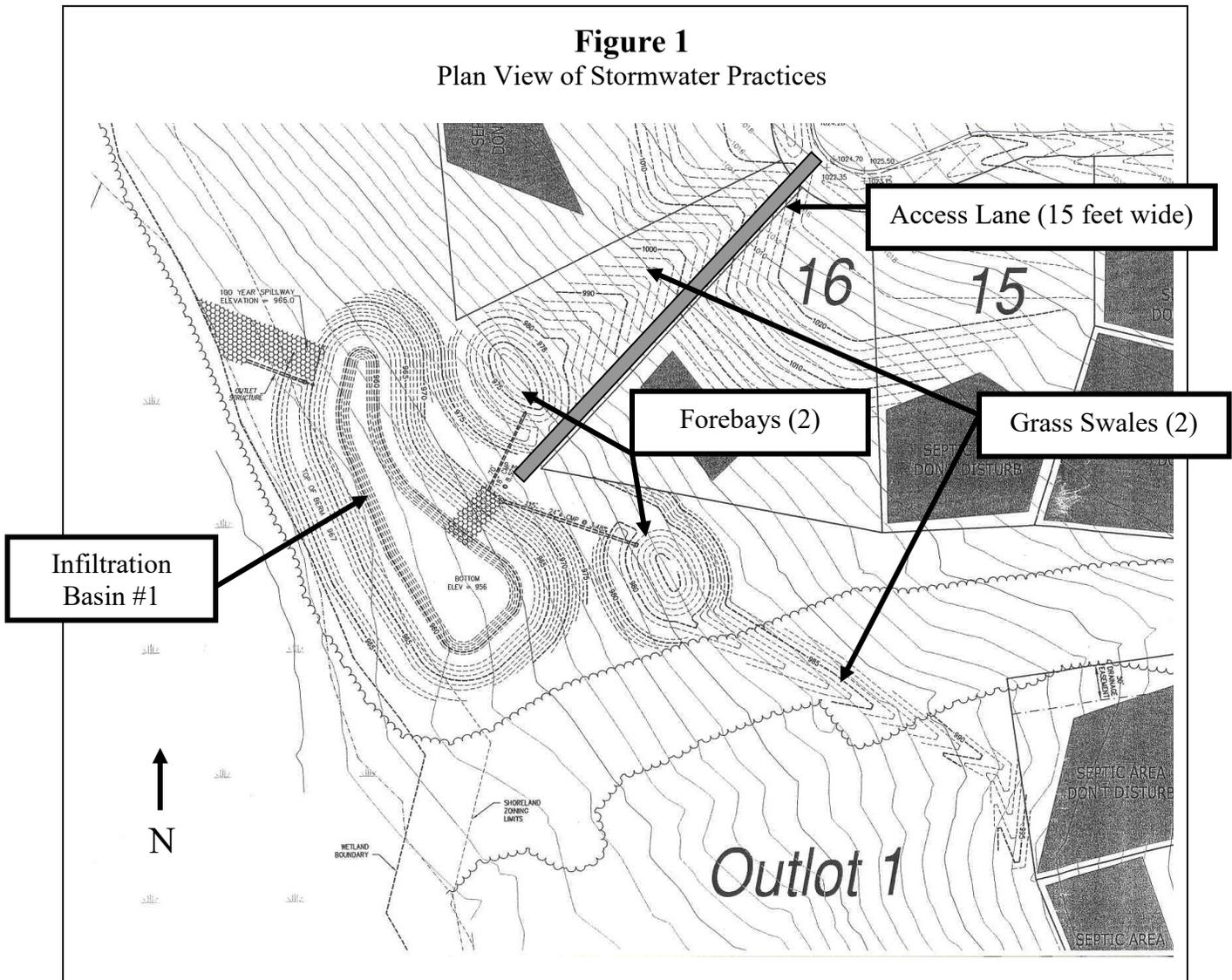
The stormwater management practices covered by this Agreement are depicted in the reduced copy of a portion of the construction plans, as shown below. The practices include one wet detention basin, two forebays, two grass swales (conveying stormwater to the forebays) and all associated pipes, earthen berms, rock chutes and other components of these practices. All of the noted stormwater management practices are located within a drainage easement in Outlot 1 of the subdivision plat, as noted in Exhibit A.

Subdivision Name:

Stormwater Practices: **Infiltration Basin #1, Forebays (2), Grass swales (2)**

Location of Practices: **All of Outlot 1 of _____ Subdivision:**

Owners of Outlot 1: **Each owner of Lots 1 through 22 shall have equal (1/22) undividable interest in Outlot 1**



(Sample)
Exhibit C
Stormwater Practice Maintenance Plan

Stormwater Practice Maintenance Plan for Infiltration Basin

This exhibit explains the basic function of each of the stormwater practices listed in Exhibit B and prescribes the minimum maintenance requirements to remain compliant with this Agreement. The maintenance activities listed below are aimed to ensure these practices continue serving their intended functions in perpetuity. The list of activities is not all inclusive, but rather indicates the minimum type of maintenance that can be expected for this particular site. Access to the stormwater practices for maintenance vehicles is shown in Exhibit B. Any failure of a stormwater practice that is caused by a lack of maintenance will subject the Owner(s) to enforcement of the provisions listed on page 1 of this Agreement by the Town of _____.

[Sample maintenance language is listed below. This exhibit must be customized for each site. The minimum elements of this exhibit include: a description of the drainage area and the installed stormwater management system & best management practices, a list of BMP maintenance requirements and a reference to future as-built drawings and design summaries to be recorded as an addendum(s) to this agreement.]

System Description:

This infiltration basin is designed to reduce runoff volumes from the site after development and recharge the water table by intercepting the runoff and allowing it to slowly seep (infiltrate) into the underlying soil and groundwater. The basin is designed to (*choose one*) infiltrate 25% of the 2-year storm runoff OR ___% of the average annual predevelopment infiltration volume. The drainage area served by the infiltration basin is ____ acres.

The infiltration basin is also designed to reduce peak flows by temporarily detaining runoff from larger storms and releasing it through an outlet pipe. Pretreatment of the runoff, using a forebay that is essentially a small wet detention basin, is provided to reduce sedimentation in the infiltration basin and reduce the risk of groundwater pollution.

The infiltration basin is seeded with native wildflowers, sedges, rushes and grasses, has a stone trench in its center, and one monitoring sump located in the stone trench. “As-built” construction drawings of the basin, showing actual dimensions, elevations, outlet structures, etc. will be recorded as an addendum(s) to this agreement within 60 days after Waukesha County accepts verification of construction from the project engineer.

Minimum Maintenance Requirements:

To ensure the proper function of storm water infiltration basin, the following list of maintenance activities are recommended:

1. A minimum of 70% soil cover made up of native vegetation must be maintained on the basin bottom to ensure infiltration rates. Periodic burning or mowing is highly recommended in order to enhance the establishment of native vegetation (which may take 2-3 years) and maintain the minimum native cover. To reduce competition and degradation from non-native species (i.e. weeds) within the planting establishment area it is recommended that the following maintenance actions be implemented:
 - In the first year, mow the planting to a height of 6” (no lower) each time the average height reaches 12”. Expect to mow at least three times in the first year (June, July and early August). To prevent damage to the native plants, do not mow below a 6” height. Remove excessive accumulation of clippings to avoid smothering seedlings.
 - In the second year, mow the planting to a height of 10-12” (no lower) each time the average height reaches 24”. Mowing too low in the second year of establishment can significantly set your native species back.
 - Burning in 3-5 year intervals may also be used to manage non-native species, woody vegetation, and increase the vigor of native plant species. Mid-spring burns (April 15 – May 15) provide maximum stimulus to warm season grasses and work well to control cool season grasses. Burn when the cool season grasses are growing and the warm season plants are just barely starting to grow to get maximum control of cool season species. If burning is not possible, due to local restrictions or lack of fuel to carry a fire, the planting area can be mowed very closely to the ground instead (i.e. simulated burn). Prescribed burns can also be conducted in the fall (October-

- November) and are recommended in planting areas where forb diversity is low and warm-season grasses are overwhelming the planting area.
- Any major bare areas or areas taken over by nonnative species must be controlled and reseeded. To clear the area of non-native species and cool season grasses, treat with an herbicide that contains glyphosate in accordance with manufacturer's instructions. In wetlands, an aquatic approved herbicide must be used. Ensure a firm seedbed is prepared to a depth of 3 inches (a roller is recommended). Seeding should occur in early-mid June. The selected seed mix should be local in origin (EPA Eco-region 5, WI Eco-region 53) and be appropriate for the site's soil type(s) and growing conditions. A companion crop of oats is recommended to reduce erosion and competition from non-native species. Seed must be placed at a depth of 1/4 – 1/2" and a minimum rate of 1/4 pound per 100 square feet. If broadcast seeding by hand, drag leaf rake over soil surface after seeding. Then roll it again and cover with a light layer of weed free mulch (<1") and staked erosion control netting to hold it in place until germination. Do not sow seed immediately following rain, when ground is too dry, or when winds are over 12 mph. For other planting details, see NRCS standard 342 (Critical Area Planting).
2. Invasive plant species shall be managed in compliance with Wisconsin Administrative Code Chapter NR 40. This may require eradication of invasive species in some cases. The following list of non-native species are typical "problem species" within storm water management area plantings and should be controlled immediately upon introduction to a site (in addition to any species listed as Prohibited by NR-40).
 - Canada Thistle
 - Common and Cut-leaved Teasel
 - Crown Vetch
 - Birds-foot Trefoil
 - Everlasting Pea
 - Japanese Knotweed
 - Leafy Spurge and Cypress Spurge
 - Purple Loosestrife
 - Spotted Knapweed
 - Yellow Sweet Clover and White Sweet Clover
 - Wild Parsnip
 - Common Reed Grass
 - Japanese Stilt Grass
 - Reed Canary Grass
 - Smooth Brome Grass
 - Quack Grass
 3. The basin and all components (grass swales, forebay, inlets, outlets, etc.) should be inspected after each heavy rain, but at a minimum of once per year. If the basin is not draining properly (within 72 hours), further inspection may be required by persons with expertise in storm water management and/or soils.
 - If soil testing shows that the soil surface has become crusted, sealed or compacted, some deep tillage should be performed. Deep tillage will cut through the underlying soils at a 2-3 foot depth, loosening the soil and improving infiltration rates, with minimal disturbance of the surface vegetation. Types of tillage equipment that can be used include a subsoiler or straight, narrow-shanked chisel plow.
 - If sedimentation is determined to be causing the failure, the accumulated sediment must be removed and the area reseeded in accordance with the notes above.
 - If inspection of the monitoring well shows that groundwater is regularly near the surface, additional design features may need to be considered, such as subsurface drainage or conversion to a wetland treatment system.
 - If the washed stone trench has become clogged, the stone – and possibly the soil immediately around the stone - must be replaced.
 4. All outlet pipes, stone trenches and other flow control devices must be kept free of debris. Any blockage must be removed immediately.
 5. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the system. Erosion matting is recommended for repairing grassed areas.
 6. Heavy equipment and vehicles must be kept off of the bottom and side slopes of infiltration basins to prevent soil compaction. Soil compaction will reduce infiltration rates and may cause failure of the basin, resulting in ponding and possible growth of wetland plants.

7. No trees are to be planted or allowed to grow on the earthen berms of the bottom of the basin. On the berms, tree root systems can reduce soil compaction and cause berm failure. On the basin bottom, trees may shade out the native plants. The basin must be inspected annually and any woody vegetation removed.
8. Grass swales leading to the basin shall be preserved to allow free flowing of surface runoff in accordance with approved grading plans. No buildings or other structures are allowed in these areas. No grading or filling is allowed that may interrupt flows in any way.
9. If floating algae or weed growth becomes a nuisance in the forebay (decay odors, etc.), it must be removed and deposited where it cannot drain back into the basin or forebay. Removal of the vegetation from the water reduces regrowth the following season (by harvesting the nutrients). Wetland vegetation must be maintained along the waters edge for safety and pollutant removal purposes.
10. When sediment in the forebay has accumulated to an elevation of three feet below the outlet elevation, it must be removed (refer to figure). All removed sediment must be placed in an appropriate upland disposal site and stabilized (grass cover) to prevent sediment from washing back into the basin. Failure to remove sediment from the forebays will cause resuspension of previously trapped sediments and increase deposition in the infiltration basin.
11. No grading or filling of the basin or berms other than for sediment removal is allowed.
12. Periodic mowing of the grass swales will encourage rigorous grass cover and allow better inspections for erosion. Waiting until after August 1 will avoid disturbing nesting wildlife. Mowing around forebay may attract nuisance populations of geese to the property and is not necessary or recommended.
13. Any other repair or maintenance needed to ensure the continued function of the infiltration basin as ordered by the Town of _____ under the provisions listed on page 1 of this Agreement.

Addendum 1 (Sample)
Stormwater Management Practice
Maintenance Agreement

Document number _____

The purpose of this addendum is to record verified “as-built” construction details, supporting design data and permit termination documentation for the stormwater management practice(s) located on Outlot 1 of the _____ Subdivision, described as being all that part of the _____ Quarter (____ ¼) of Section __, Township __N, Range __E (Town of _____) Waukesha County, Wisconsin. This document shall serve as an addendum to document # _____, herein referred to as the “Maintenance Agreement”. This addendum includes all of the following exhibits:

Exhibit D: Design Summary – contains a summary of key engineering calculations and other data used to design the infiltration basin.

Exhibit E: As-built Survey – shows detailed “as-built” cross-section and plan view of the infiltration basin.

Exhibit F: Engineering/Construction Verification – provides verification from the project engineer that the design and construction of the infiltration basin complies with all applicable technical standards and Waukesha County ordinance requirements.

Exhibit G: Stormwater Permit Termination – provides certification by Waukesha County that the Stormwater Permit for the above noted site has been terminated.

Dated this ____ day of _____, 201_.

Owner:

[Owners Signature – per the Maintenance Agreement]

[Owners Typed Name]

Name and Return Address

Parcel Identification Number(s) – (PIN)

Acknowledgements

State of Wisconsin County of Waukesha

Personally came before me this ____ day of _____, 201_, the above named _____ [Owners name] to me known to be the person who executed the foregoing instrument and acknowledged the same.

[Name]

Notary Public, Waukesha County, WI

My commission expires: _____.

This document was drafted by:

[Name and address of drafter]

For Certification Stamp

(Sample)
Exhibit D
Design Summaries for Infiltration Basin #1

Project Identifier: _____ **Subdivision** **Project Size:** 40 Acres **No. of Lots:** 22
Number of Runoff Discharge Points: 1 **Watershed (ultimate discharge):** Pewaukee Lake
Watershed Area (including off-site runoff traveling through project area): 67 acres (26 acres off-site)

Watershed Data Summary. The following table summarizes the watershed data used to determine peak flows and runoff volumes required to design wet detention basin #1.

Summary Data Elements	Subwatershed A		Subwatershed B (off-site)	
	Pre-develop	Post-develop	Pre-develop	Post-develop
Watershed Areas (in acres) <i>(see attached map)</i>	41 acres	41 acres	26	26
Average Watershed Slopes (%)	2-8%	2-8%	3-6%	3-6%
Land Uses (% of each) <i>(see attached map)</i>	75 ac. cropland 15 ac. brush 10 ac. woodland	110 ac. ½ ac. lots 5ac. brush 5 ac. Woodlands	50% cropland 50% 1 acre lots	50% cropland 50% 1 acre lots
Runoff Curve Numbers	68 x 75ac.= 5100 30 x 25ac.= 750 <u>Net 5850/100 ac.</u> RCN = 59	70 x 110 ac.= 7700 10 x 10 ac.= 100 <u>Net 7800/120ac</u> RCN = 65	RCN = 68 (state standard)	RCN = 70
Conveyance Systems Types	Grass waterway	50% grass swale 50% storm sewer	100% bare channel	100% grass swale
Summary of Average Conveyance System Data	8' bottom/4:1 ss 2' depth/3% grade	2' depth swale/3% 30" r/c sewer/2% (see calcs.)	15' (w) top 1' (d) parabolic 2% grade	2' deep standard road ditch 2% grade
Time of Concentration (Tc) <i>(see attached map & worksheets)</i>	1.1 hrs.	.97 hrs.	.74 hrs.	.65 hrs.
25% of 2-yr 24-hr post-dev runoff volume	N/A	2.29 ac. ft.	N/A	.19 ac. ft.
1-year/24 hour Runoff Volume	N/A	(.2" x 60 ac.) 1.0 ac. ft.	N/A	(.34" x 10 ac.) .28 ac. ft.
2-yr./24 hour Peak Flow <i>(see attached hydrographs)</i>	11.2 cfs	14.3 cfs	5.1 cfs	3.2 cfs
10-yr./24 hour Peak Flow	21 cfs	32 cfs	18.4 cfs	11.3 cfs
100-yr./24 hour Peak Flow	78 cfs	91 cfs	53 cfs	21 cfs

Exhibit D (continued)

Practice Design Summary. The following table summarizes the data used to design infiltration basin #1.

Design Element	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (subwatershed A & B)	70 acres
Distance to nearest private well (including off-site wells)	> 100 feet
Distance to municipal well (including off-site wells)	> 1200 feet
Wellhead protection area involved?	No
Ground slope at site of proposed basin	average 3%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	35 ft. to CTH "U" Road ditch 1000 ft. to wetland
Any downstream roads or other structures? (describe)	Yes – 36" cmp road culvert
Floodplain, shoreland or wetlands?	No
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	3 (in basin area)
Do elevations of test holes extend 3 ft. below proposed bottom?	Yes (see map)
Average soil texture at pond bottom elevation (USDA)	Clay loam
Distance from pond bottom to bedrock	> 5 feet
Distance from pond bottom to seasonal water table	Pond bottom 2 ft. below mottling No water observed in test holes
General basin design data (see attached detailed drawings):	
Permanent pool surface area	1.5 acres
Design permanent pool water surface elevation	elev. 900.0
Top of berm elevation (after settling) and width	elev. 905.0 / 10 feet wide
Length/width (dimensions/ratio)	445 ft. (L) x 145 ft. (W) = 3:1
Safety shelf design (length, grade, max. depth)	10 ft. @ 10% slope/1.5' deepest
Ave. water depth (minus safety shelf/sediment)	5 ft. (in center)
Sediment forebay size & depth	.16 acres (13% pool size)/5 feet
Sediment storage depth & design maintenance	2 ft. depth for forebay & pool 15 year maintenance schedule

Design Basin Inflow, Outflow & Storage Data (see attached hydrographs and detail drawings)				
Inflow Peak/Volume	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev. (above perm. pool)	Outflow Control Structures*
1-yr./24 hr. (volume)	.7 cfs (34 hr. drawdown)	901.3 ft.	2 acre feet	#1
24.3 cfs (Post 2-yr./24 hr. peak)	11 cfs	902.0 ft.	3.1 acre feet	#1 and #2
72 cfs (Post 10-yr./24 hr. peak)	35 cfs	903.0 ft.	4.5 acre feet	#3
171 cfs (Post 100-yr./24 hr. peak)	143 cfs	904.0 ft.	6.0 acre feet	#3 and #4

- * #1 = 6 inch orifice in water level control weir plate – flow line elev. @ 900.0 (1.3 ft. max. head)
 #2 = 2 foot wide rectangular weir – flow line elev. @ 901.3 (.7 ft. hydraulic head)
 #3 = 30 inch diameter smooth wall pvc pipe – flow line elev. @ 900.0 (3.0 ft. max. hydraulic head)
 #4 = 30 foot wide earthen/grass emergency spillway – flow line elev. @ 903.0 (1.0 ft. max. depth)

Exhibit D (continued)

Watershed Map. The watershed map shown below was used to determine the post-development data contained in this exhibit. The post-developed watershed areas are the same as the pre-development watershed areas for this project.

[Map scale must be sufficiently large enough to show necessary details, but page size should not exceed 11" x 17".]

(Sample)
Exhibit E
As-built Survey for Infiltration Basin #1

The wet detention basin depicted in Figure 1 is a reduced copy of the as-built plan.

Project Identifier: _____ **Subdivision**

Stormwater Practice: **Infiltration Basin #1**

Location of Practice: **All of Outlot 1 of _____ Subdivision:**

Owners of Outlot 1: **Each owner of Lots 1-22 shall have equal (1/22) undividable interest in Outlot 1.**

Exhibit E

Cross-Section A – A'

[Note: Show plan view of BMP with cross-section location clearly labeled and cross-referenced. On cross-section and plan view, clearly label all key components and elevations of the BMP. Also show outlet details. Map scale must be sufficiently large enough to show necessary details, but page size should not exceed 11" x 17".]

Figure 2

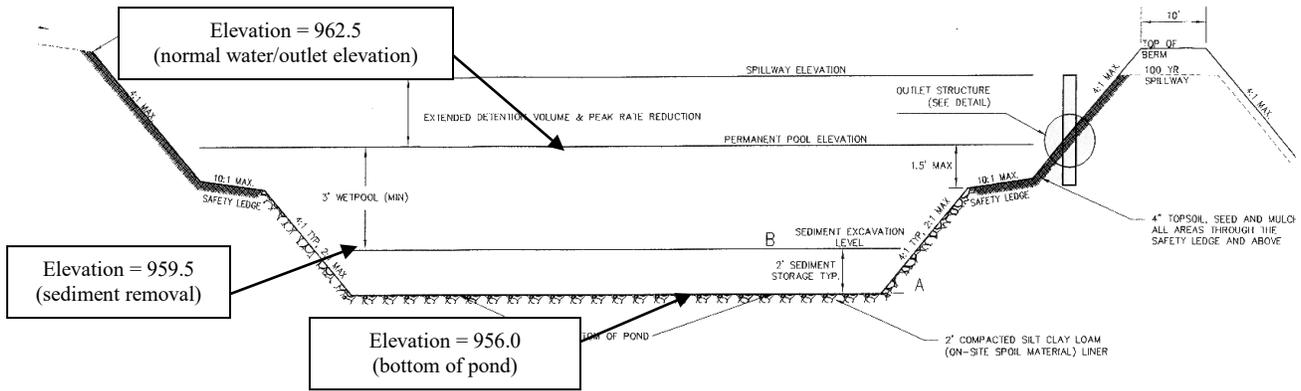


Figure 3

Outlet Structure Detail

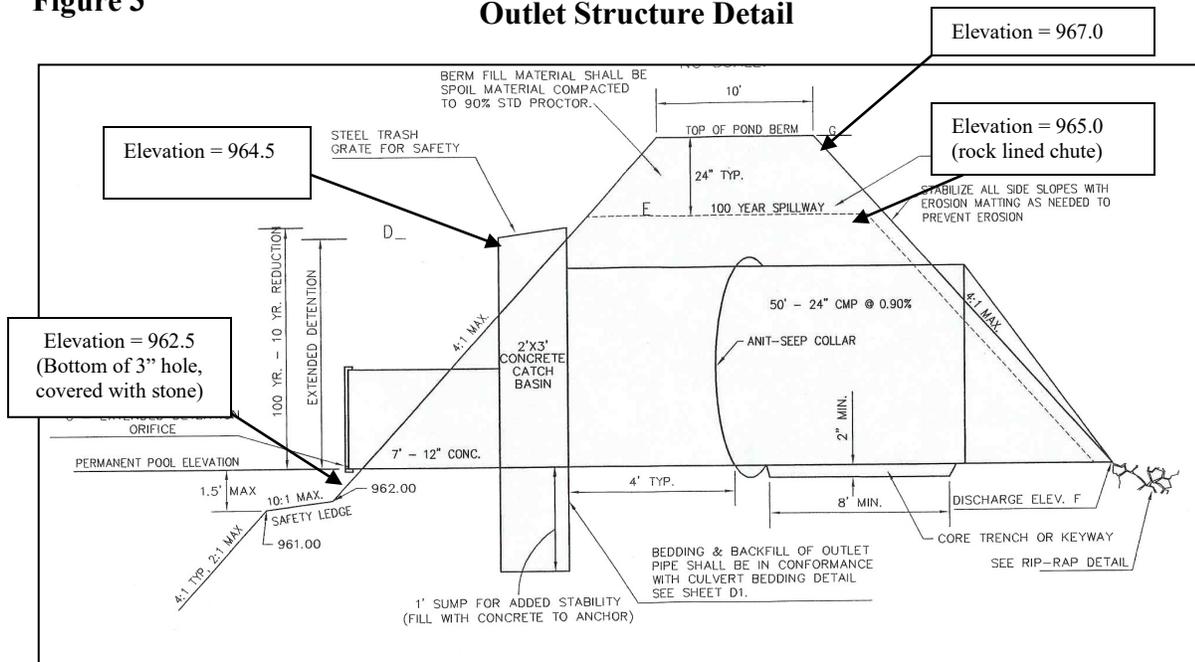


Exhibit "F"
Engineering/Construction Verification

DATE: _____

TO: Land Resources Division
Waukesha County Department of Parks and Land Use

FROM: _____ [Project Engineer's Name/Company]

RE: Engineering/Construction Verification for the following project:
Project Name: _____
Section _____, Town of _____
Stormwater Permit # _____
Stormwater Management Practices: _____

For the above-referenced project and stormwater management practices, this correspondence shall serve as verification that: 1) all site inspections outlined in approved inspection plans have been successfully completed; and 2) the stormwater management practice design data presented in Exhibit D, and the "as-built" construction documentation presented in Exhibit E comply with all applicable state and local technical standards, in accordance with the Waukesha County Stormwater Management and Erosion Control Ordinance.

[Must include one of the following two statements:]

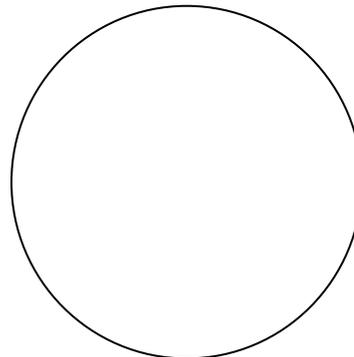
1. Any variations from the originally approved construction plans are noted in Exhibit E. These variations are considered to be within the tolerances of standard construction techniques and do not affect the original design as presented in Exhibit D in any way.

[Note: The County may request additional documentation to support this statement depending on the extent of deviations from the approved plans.]

Or

2. Any design or construction changes from the originally approved construction plans are documented in Exhibits D and E and have been approved by Waukesha County.

[Note: If warm season and wetland planting verification is required, it may be included in this exhibit.]



(Signed P.E. stamp must be included)

