Document Number

(Sample) Storm Water Management Practice Maintenance Agreement

Name and Return Address

Parcel Identification Number(s) – (PIN)

[Owners Name], as "Owner" of the property described below, in accordance with Chapter 14 Waukesha County Code of Ordinances [or other applicable code], agrees to install and maintain storm water management practice(s) on the subject property in accordance with approved plans and Storm Water Permit conditions. The owner further agrees to the terms stated in this document to ensure that the storm water 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 storm water 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 [Municipality Name] for all planned storm water management practices, an addendum(s) to this agreement shall be recorded by the Owner showing design and construction details. The addendum may contain several additional exhibits, including certification by [Municipality Name] of Storm Water 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 storm water management practice(s) and drainage easements identified in Exhibit B until Storm Water Permit termination by Waukesha County in accordance with Chapter 14 of the County Code of Ordinances.
2. After Storm Water Permit termination under 1., the current Titleholder(s) shall be solely responsible for maintenance and repair of the storm water management practices and drainage easements in accordance with the maintenance plan contained in Exhibit C.
3. The [Municipality Name], or its designee, is authorized to access the property as necessary to conduct inspections of the storm water management practices or drainage easements to ascertain compliance with the intent of this Agreement and the activities prescribed in Exhibit C. Upon written notification by [Municipality Name] or their designee, the Titleholder(s) shall, at their own cost and within a reasonable time period determined by the [Municipality Name], have an inspection of the storm water management practice conducted by a qualified professional, file a report with the [Municipality Name] and complete any maintenance or repair work recommended in the report. The Titleholder(s) shall be liable for the failure to undertake any maintenance or repairs.
4. Upon notification by the [Municipality Name] of required maintenance or repairs, the Titleholder(s) shall complete the specified maintenance or repairs within a reasonable time frame determined by the [Municipality Name].
5. If the Responsible Party does not complete an inspection under 3. above or required maintenance or repairs under 4. above within the specified time period, the [Municipality Name] is authorized, but not required, to perform the specified inspections, maintenance or repairs. In the case of an emergency situation, as determined by the [Municipality Name], no notice shall be required prior to the [Municipality Name] performing emergency maintenance or repairs. The [Municipality Name] 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 [Municipality Name] shall have the sole authority to modify this agreement upon a 30-day notice to the current Titleholder(s).

Dated this ___ day of _____, 200_.

Owner:

_____
(Owners Signature)

_____
(Owners Typed Name)

Acknowledgements

State of Wisconsin:
County of Waukesha

Personally came before me this ____ day of _____, 200_, 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]

Approved for recording: _____
[Initials of Municipal staff]

(Sample)

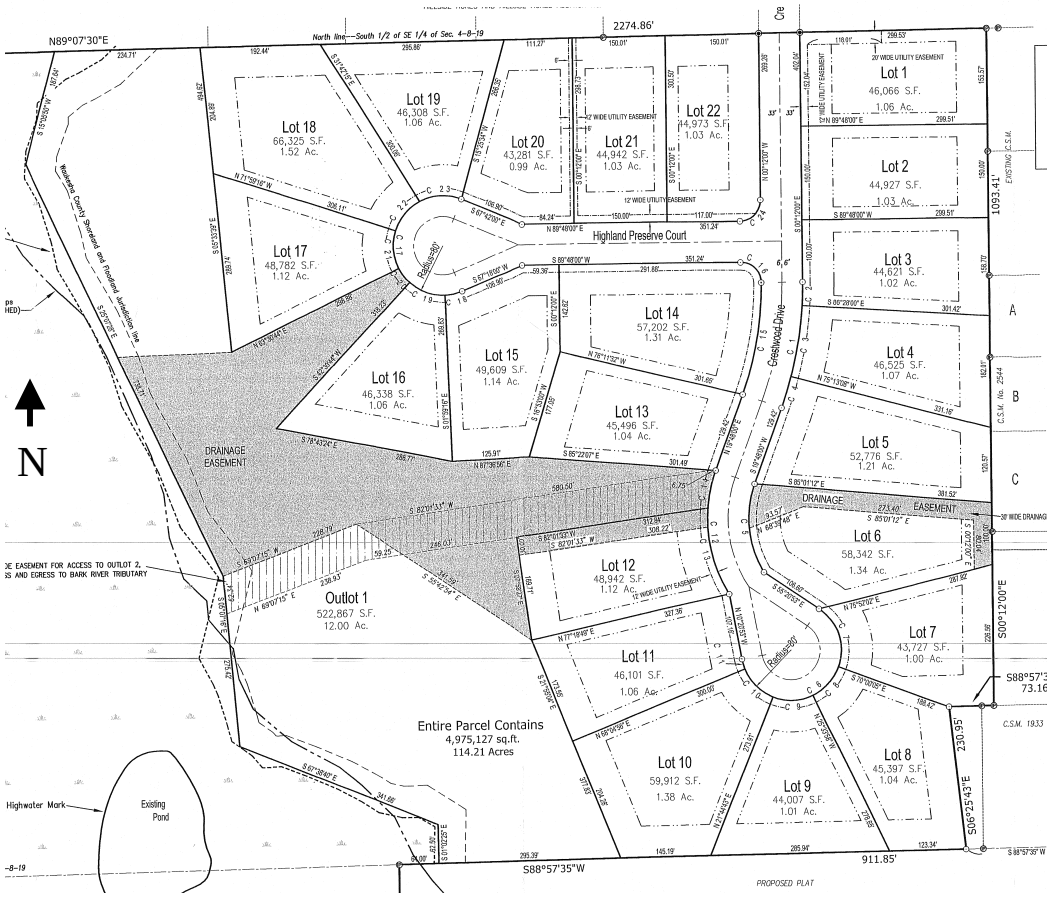
Exhibit A – Legal Description

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 <u>example</u> 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: **Highland Preserve Subdivision** Acres**: 40**
Date of Recording: **October 22, 2002**
Map Produced By: **Baudhuin, Inc., P.O. Box 105, Sturgeon Bay, WI**
Legal Description: **Lots 1 through 22 of Highland Preserve Subdivision, located in all that part of the Southwest Quarter (SW ¼) of Section 4, Township 8N, Range 19E (Town of Lisbon) Waukesha County, Wisconsin.** [If no land division is involved, enter legal description as described on the property title here.]

Highland Preserve Subdivision



<u>Drainage Easement Restrictions</u>: Shaded area on map indicates a drainage easement for storm water collection, conveyance and treatment. No buildings or other structures are allowed in these areas. No grading or filling is allowed that may interrupt storm water flows in any way. See Exhibit C for specific maintenance requirements for storm water management practices within this area. See subdivision plat for details on location.

(Sample)

Exhibit B - Location Map

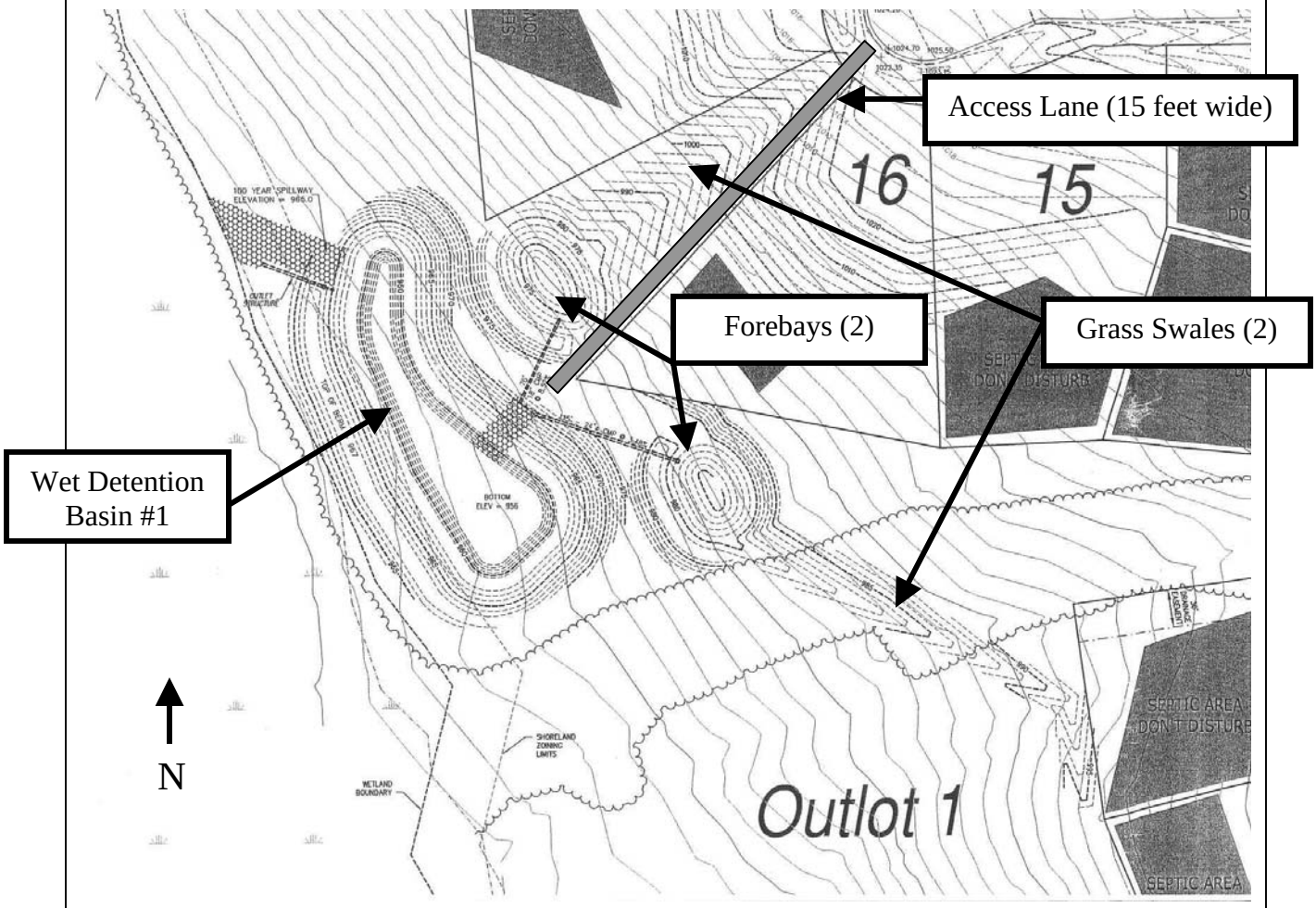
Storm Water Management Practices Covered by this Agreement

[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 storm water 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 storm water to the forebays) and all associated pipes, earthen berms, rock chutes and other components of these practices. All of the noted storm water management practices are located within a drainage easement in Outlot 1 of the subdivision plat, as noted in Exhibit A.

Subdivision Name**:** **Highland Preserve**
Storm water Practices**:** **Wet Detention Basin #1, Forebays (2), Grass swales (2)**
Location of Practices**:** **All that part of Outlot 1, bounded as follows:** [If no land division is involved, enter a metes and bounds description of the easement area.]
Titleholders of Outlot 1: **Each owner of Lots 1 through 22 shall have equal (1/22) undividable interest in Outlot 1** [For privately owned storm water practices, the titleholder(s) must include all new parcels that drain to the storm water management practice.]

Figure 1
Plan View of Storm Water Practices



(Sample)

Exhibit C
Storm Water Practice Maintenance Plan

This exhibit explains the basic function of each of the storm water 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 storm water practice that is caused by a lack of maintenance will subject the Titleholder(s) to enforcement of the provisions listed on page 1 of this Agreement by the [Municipality Name].

[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 storm water 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:
The wet detention basin is designed to trap 80% of sediment in runoff and maintain pre-development downstream peak flows. The basin has two forebays (smaller ponds) located at the low end of two grass swales. In addition to runoff conveyance, the grass swales also allow infiltration and filtering of pollutants, especially from smaller storms. The forebays are each 4 feet deep. They are connected to the main pool by 18 and 24-inch metal pipes that outlet onto a rock chute. The forebays will trap coarse sediments in runoff, such as road sands, thus reducing maintenance of the main basin. The main pool will trap the finer suspended sediment. To do this, the pond size, water level and outlet structures must be maintained as specified in this Agreement (see Figures 1, 2 and 3).

The main basin receives runoff from a 67.1 acre drainage area (41.2 acres within the subdivision and 25.9 acres off-site drainage coming from the east). During high rainfall or snow melt events, the water level will temporarily rise and slowly drain down to the elevation of the control structure. The water level is controlled by a 12-inch concrete pipe extending through the berm in the northwest corner of the basin (see Figures 1 and 3). On the face of the 12-inch pipe, there is metal plate with a 3-inch drilled hole (orifice) with stone in front of it. This orifice controls the water level and causes the pond to temporarily rise during runoff events. Washed stone (1-2" diameter) is placed in front of the orifice to prevent clogging. High flows may enter the grated concrete riser or flow over the rock lined emergency spillway. "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 [Municipality Name] accepts verification of construction from the project engineer.

Minimum Maintenance Requirements:
To ensure the proper long-term function of the storm water management practices described above, the following activities must be completed:

1. All outlet pipes must be checked monthly to ensure there is no blockage from floating debris or ice, especially the washed stone in front of the 3-inch orifice and the trash rack on the riser in the main basin. Any blockage must be removed immediately. The washed stone must be replaced when it becomes clogged.
2. Grass swales 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.
3. Grass swales, inlets and outlets must be checked after heavy rains (minimum of annually) for signs of erosion. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the downstream forebays or basin. Erosion matting is recommended for repairing grassed areas.
4. NO trees are to be planted or allowed to grow on the earthen berms. Tree root systems can reduce soil compaction and cause berm failure. The berms must be inspected annually and any woody vegetation removed.
5. If floating algae or weed growth becomes a nuisance (decay odors, etc.), it must be removed from the basin or the forebay and deposited where it cannot drain back into the basin. 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.

6. When sediment in the forebays or the basin has accumulated to an elevation of three feet below the outlet elevation, it must be removed (see Exhibit D). 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. The forebays will likely need sediment removal first. Failure to remove sediment from the forebays will cause resuspension of previously trapped sediments and increase downstream deposition.
7. No grading or filling of the basin or berm other than for sediment removal is allowed, unless otherwise approved by the [Municipality Name].
8. 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 the basin or the forebays may attract nuisance populations of geese to the property and is not necessary or recommended.
9. Any other repair or maintenance needed to ensure the continued function of the storm water practices or as ordered by the [Municipality Name] under the provisions listed on page 1 of this Agreement.

[Note: Other examples of maintenance plans for infiltration practices are available from Waukesha County.]

Document number

Addendum 1 (Sample)
Storm Water Management Practice Maintenance Agreement

The purpose of this addendum is to record verified "as-built" construction details, supporting design data and permit termination documentation for the storm water management practice(s) located on Outlot 1 of the Highland Preserve Subdivision, described as being all that part of the Southwest Quarter (SW ¼) of Section 4, Township 8N, Range 19E (Town of Lisbon) 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 wet detention basin.
Exhibit E: As-built Survey – shows detailed "as-built" cross-section and plan view of the wet detention basin.
Exhibit F: Engineering/Construction Verification – provides verification from the project engineer that the design and construction of the wet detention basin complies with all applicable technical standards and Waukesha County ordinance requirements.
Exhibit G: Storm Water Permit Termination – provides certification by Waukesha County that the Storm Water Permit for the above noted site has been terminated.

Name and Return Address

_____
Parcel Identification Number(s) – (PIN)

Dated this ___ day of _____, 200_.

Owner:

_____
[Owners Signature – per the Maintenance Agreement]

_____
[Owners Typed Name]

Acknowledgements

State of Wisconsin
County of Waukesha

Personally came before me this ____ day of _____, 200_, 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]

Approved for recording: _____
[Initials of Municipal staff]

(Sample)

Exhibit D
Design Summaries for Wet Detention Basin #1

Project Identifier: Highland Preserve 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)*** ***(see attached map)***	41 acres	41 acres	26	26
Average Watershed Slopes (%)	2-8%	2-8%	3-6%	3-6%
Land Uses ***(% of each)*** ***(see attached map)***	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 *Net 5850\100 ac.* RCN = 59	70 x 110 ac.= 7700 10 x 10 ac.= 100 Net 7800\120ac 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)*** ***(see attached map & worksheets)***	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 *(see attached hydrographs)*	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 wet detention 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)

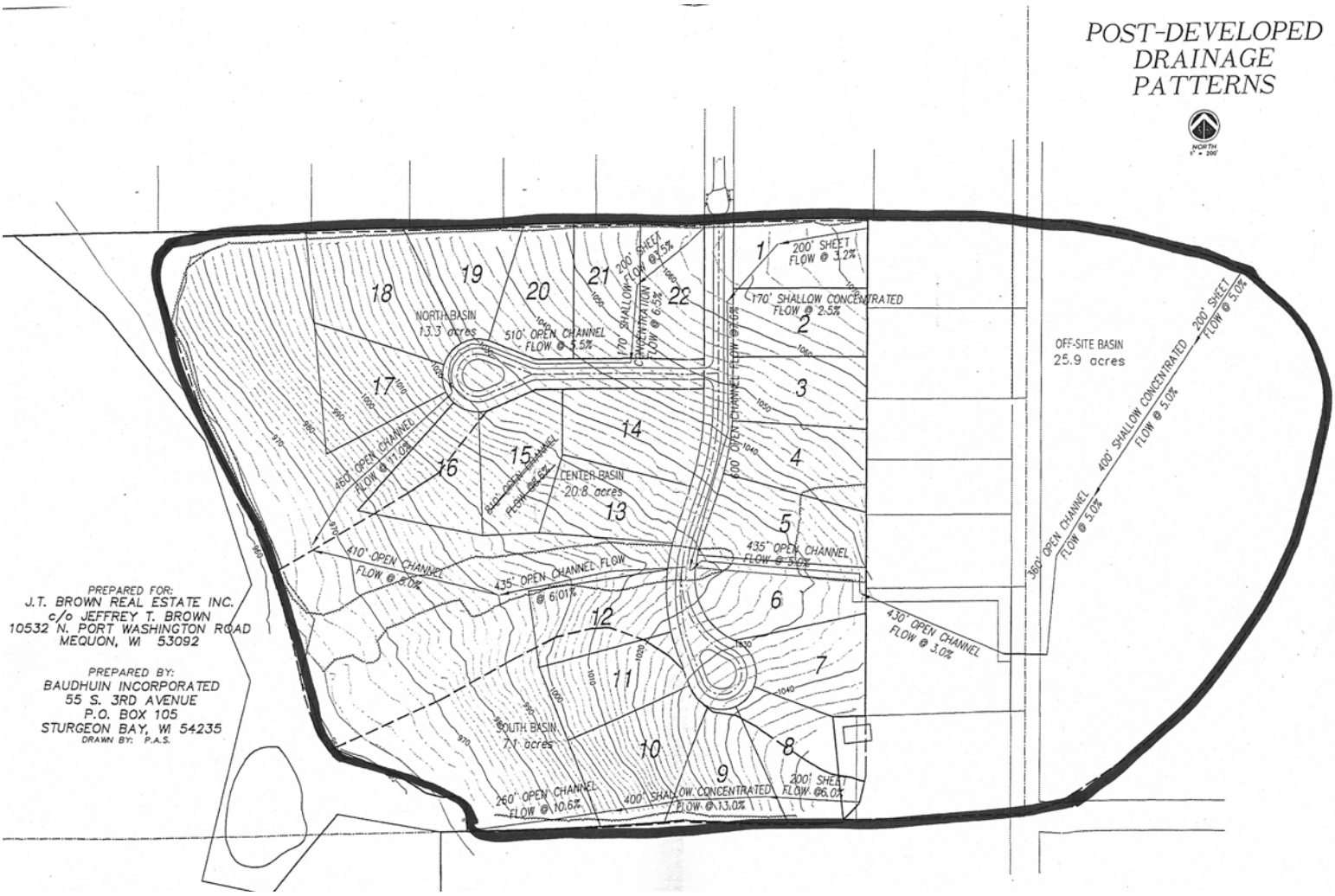
Inflow Peak/Volume	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev. (above perm. pool)	Outflow Control Structures*
1-yr./24 hr. (volume)	.7 cfs (34 hr. drawdown)	901.3 ft.	2 acre feet	#1
24.3 cfs (Post 2-yr./24 hr. peak)	11 cfs	902.0 ft.	3.1 acre feet	#1 and #2
72 cfs (Post 10-yr./24 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)

<u>Watershed Map</u>. 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)

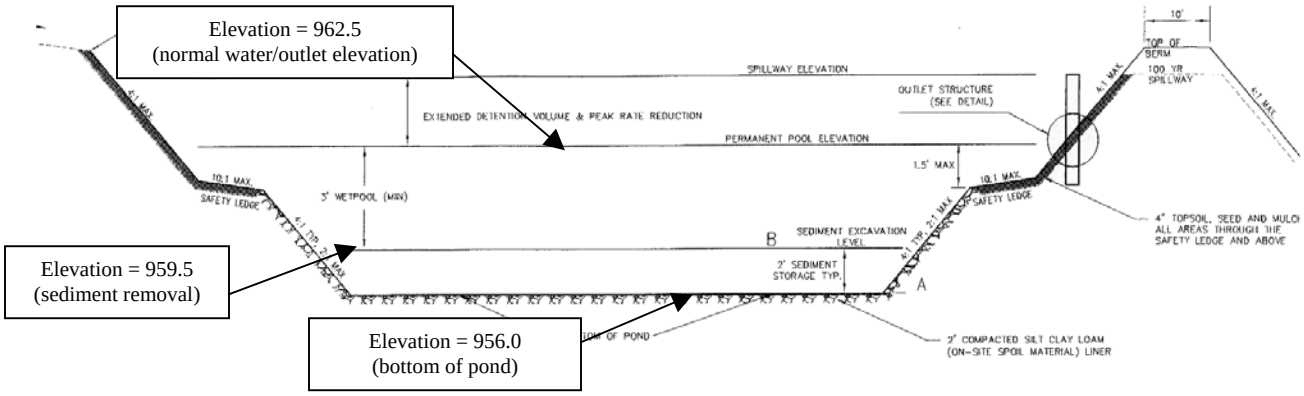
Exhibit E
As-built Survey for Wet Detention Basin #1

The wet detention basin constructed on Outlot #1 is depicted below in reduced copies of the as-built plans.

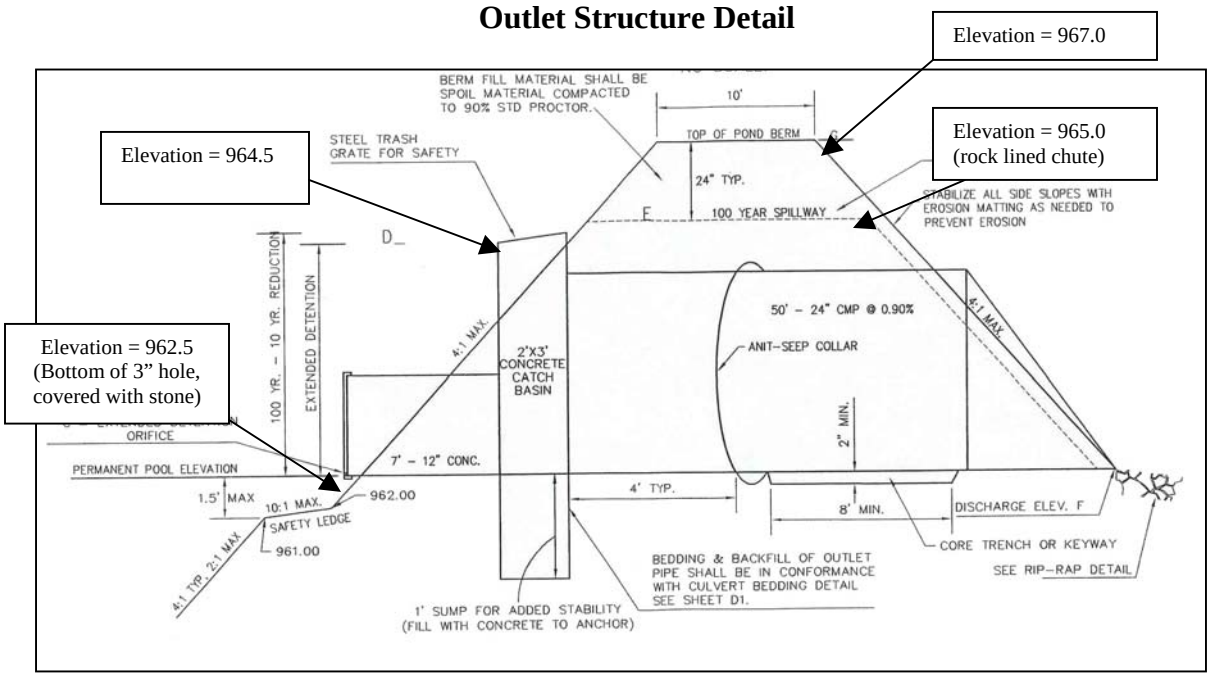
Project Identifier**:** **Highland Preserve Subdivision**
Storm water Practice**:** **Wet Detention Basin #1**
Location of Practice**:** **All that part of Outlot 1 of Highland Preserve Subdivision, bounded and described as follows:** *[If no land division is involved, enter a metes and bounds description of the easement area.]*
Titleholders of Outlot 1: **Each owner of Lots 1-22 shall have equal (1/22) undividable interest in Outlot 1.**

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".]



Outlet Structure Detail



(Sample)

Exhibit F
Engineering/Construction Verification

DATE: March 9, 2006

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 _____

Storm Water Permit # _____

Storm Water Management Practices: _____

_____

This correspondence shall serve as verification that the storm water management practice design data presented in Exhibit D, and the "as-built" construction drawings presented in Exhibit E for the above-referenced project have been completed in accordance with all applicable state and local technical standards and in accordance with the Waukesha County Storm Water Management and Erosion Control Ordinance.

[Must include one of the following two statements:]
Any variations from the originally approved construction plans are noted in the 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.]

<u>Or</u>

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)

(Sample)

Exhibit G
Storm Water Permit Termination

Project Identifier: Highland Preserve Subdivision

Location: All that part of the Southwest Quarter (SW ¼) of Section 4, Township 8N, Range 19E (Town of Lisbon)

Storm Water Permit Holder's Name: _____

Storm Water Permit #: _____

Chapter 14 – Article VIII of the Waukesha County Code of Ordinances ("Storm Water Ordinance") requires that all newly constructed storm water management practices be maintained by the Storm Water Permit Holder until permit termination, after which maintenance responsibilities shall be transferred to the responsible party identified on the subdivision plat [or CSM] and referenced in this Maintenance Agreement.

Upon execution below, this exhibit shall serve to certify that the Storm Water Permit Holder has satisfied all requirements of the Storm Water Ordinance and that Waukesha County has terminated the Storm Water Permit for the property covered by this Maintenance Agreement.

Dated this ___ day of _____, 200_.

Waukesha County representative:

_____
(Signature)

_____

(Typed Name and Title)

Acknowledgements

State of Wisconsin
County of Waukesha

Personally came before me this ____ day of _____, 200_, 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: _____