

Stormwater Management Report

SSM Dean Clinic

1313 Fish Hatchery Road

City of Madison, Wisconsin

Prepared for:

SSM – Dean Medical Group

December 18, 2018



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1 Project Description

SSM Health (SSM) is planning to redevelop an existing clinic located at 1313 Fish Hatchery Road. The site is bounded by Midland St. to the north, Fish Hatchery Rd to the west, Appleton Rd. to the south, and High St. (and Pick N Save) to the east. The redevelopment area is bisected by existing South St. SSM plans to develop the new clinic along the northern portion of the site that is bounded by Midland, Fish Hatchery, and South St. The associated parking will be located to the south of the building and along the western half of the site that is east of South St. There will be access points to the parking lots off South St. and Appleton Rd.

2 Project Site

2.1 Existing Site

The total redevelopment site consists of existing lots with a combined total approximately 9.9+/- acres (6.0 +/- acres west of South St. and 3.9 +/- acres east of South St. Existing Canal St. is expected to be vacated and become part of the redevelopment area. The northern portion of the site consists of existing residential homes that will be razed as part of the redevelopment. The existing clinic is on the larger parcel west of South St. There is an existing parking lot that serves the clinic on the east side of South St. that is proposed to be redeveloped as well.

Currently, the stormwater within the existing project area is collected in onsite storm inlets and street runoff that is routed to the intersection of Spruce St. and Fish Hatchery Rd. The stormwater is then routed to Wingra Creek to the west.

2.2 Proposed Site

The proposed site will consist of one building and associated parking areas. Based on a meeting with City of Madison Stormwater on October 10/30/19 it was requested by the City to route the redevelopment flows for the redevelopment area west of South St. to the existing outfall location near the intersection of Spruce St. and Fish Hatchery Rd. The stormwater for the redevelopment area east of South St. was requested by the City to be directed to the intersection area of Appleton Rd. and South St. The City is planning to reconstruct the storm sewer along South St. to direct the flows that originate east of South St. to the south within a new system within South St. Both systems ultimately outfall into Wingra Creek.

2.3 Watershed

The SSM redevelopment site is in the Lake Monona watershed. The direct runoff from the site drains into street storm sewers that outfall into the Wingra Creek.

2.4 Soils

The soil types on the project site, as determined by the Natural Resources Conservation Service Soil Map, are:

- bbB – Batavia Silt Loam, 2 to 6 percent slopes (Hydrologic Group B)
- Co – Colwood Silt Loam, 0 to 2 percent slopes (Hydrologic Group C/D)
- VwA – Virgil Silt Loam, 0 to 3 percent slopes (Hydrologic Group B/D)

Site soils are generally silty that are typically poorly drained. An NRCS soil map is included in Appendix B. Soil boring map and logs are included in Appendix B.

2.5 Wetlands

Based on Wisconsin Department of Natural Resources (WDNR) surface data viewer, there are wetland soil indicators within the project limits; however, they are noted in areas where the existing parking lot and building are. Upon review of the maps with the WDNR, it was concluded that no further wetland investigation was required.

3 Stormwater Management

3.1 Construction

The construction will be completed in three main phases. The first phase will be razing the existing houses on the northern portion of the site to clear the land for the new clinic building. After the clinic building is operational, the second phase of work will consist of razing the existing building and constructing the parking area to the south of the new clinic building. After construction is complete on the west side of South St. (phases 1 and 2), the parking lot reconstruction east of South St. will begin. Work can then begin on the proposed building, storm sewer, and parking lots.

The following is an anticipated sequence of construction activities for each phase area:

- Mobilization and erosion control installation
- Site preparation (raze existing houses/clinic), construction entrance, clearing and grubbing
- Earthwork and site grading
- Building/Parking Lot construction
- Storm sewer and bioretention basin construction
- Concrete curb and gutter
- Base course surfacing and asphalt surfacing construction
- Site restoration/seeding
- Erosion control removal and demobilization

Street sweeping/cleaning will be completed as needed throughout the construction project.

3.2 Erosion Control

The stipulated erosion control features planned will follow suitable DNR technical standards and City of Madison requirements. Erosion control features will include silt fence where appropriate, disturbed soil seeding and mulching, erosion protection in areas with steep slopes and inlet protection at proposed and existing inlets. These BMPs will be put in place early in construction so that those disturbance activities will drain to and be controlled by these features. Dust control will be the responsibility of the contractor and enforced by the City of Madison during the construction period.

The following is a list of erosion control and sediment control best management practices that are planned for this project:

- Silt fence per WDNR Technical Standards and City of Madison will be used in all locations where overland flow from the construction site could potentially drain off site into waters of the state. The silt fence will be installed at the beginning of construction activities as a temporary BMP and maintained throughout the construction period. Silt fence will be removed once vegetation has been established.
- Erosion Mat/Blanket will be placed at spot locations where the slope exceeds 4:1. This blanket like covering laid on top of a prepared seedbed is used to protect the soil and seed from erosion until vegetation is established.
- Inlet protection will be installed at each inlet to prevent suspended solids from entering the storm sewer during construction. Inlet protection will be installed at existing inlets before construction starts and placed within proposed inlets during construction. Inlet protection may be removed following asphalt paving and vegetation establishment.

Silt fence will be installed along the downstream gradient of the site, outside of the disturbed areas. Inlet protection will be installed at existing catch basins and new catch basins, as well as catch basins downstream from the site. Erosion mat/blanket will be installed around the perimeter of the biofilter basins and where slopes exceed 4:1.

3.3 Post-Construction Stormwater Management

The SSM redevelopment site is required to meet water quantity and quality standards for the City of Madison Stormwater requirements. Per City of Madison requirements, no detention or infiltration is required for redevelopment if less than 20,000 SF of impervious area is added. Total suspended solid (TSS) discharge must also be controlled to a removal of 80% compared to existing (or 60% of the paved parking area). Oil and gas control is required for parking area over 40 spaces.

3.3.1 Detention and Infiltration

Per the City of Madison stormwater requirements, detention and infiltration is required for redevelopment projects if the impervious area is increased by 20,000 sf or more. Below is a table comparing the existing conditions and the redeveloped conditions.

Table 3.1 – Impervious Area Comparison

Description	West of South St. (Existing) SF	East of South St. (Existing) SF	TOTAL (Existing) SF	West of South St. (Proposed) SF	West of South St. (Proposed) SF	TOTAL (Existing) SF
Pervious Area	119,432	44,337	163,769	89,174	73,394	162,568
Impervious Area	140,904	125,988	266,892	171,162	96,931	268,093
Total	260,336	170,325	430,661	260,336	170,325	430,661

Table 3.2 – Change in Impervious Area

Description	Change in Impervious Area (SF)		
	West of South St.	East of South St.	Total Site
Impervious Area	+ 30,258	- 29,057	+1,201

Since the net impervious area change is only 1,201 SF; detention and infiltration is not required for this redevelopment project.

3.3.2 Total Suspended Solids

Per WDNR and City of Madison, best management practices must be provided to reduce TSS from runoff by 80% based on average annual rainfall (or 60% for the paved parking lot). To meet this requirement a biofilter basin and stormfilters are proposed. The western parking lot will be treated with a biofilter basin and the eastern parking lot be treated with stormfilter devices. Below is a summary of the designed TSS removal for the parking lot areas.

Table 3.3 – TSS Removal Summary for Parking Areas

Description	West of South St. (Treated with Biofilter Basin)		East of South St. (Treated with Stormfilters)	
	TSS Yield	Reduction (%)	TSS Yield	Reduction (%)
Total, No Controls	1,559		1,331	
Total, With Controls	203	87%	557	58%

Weighted TSS reduction = $[(110,104 \text{ sf} \times 87\%) + (94,180 \text{ sf} \times 58\%)] / 204,824 = 74\%$

3.4 Maintenance

The onsite treatment facilities will be privately owned and maintained.

The biofilter pond and stormfilter system will require periodic maintenance. Table 3.7 describes maintenance activities and frequency of the activities.

Table 3.4 – Maintenance Activities

Activity	Frequency
Water Plants	As Needed
Litter Removal	As Needed
Inspect Bioretention inlets, outlets, and plantings	Monthly
Inspect Parking lot inlets	Monthly
Remove debris from sumped inlets in the parking lot	Annually
Clean out Sump Inlets	Annually
Engineer's site inspection of BMP's	Annually

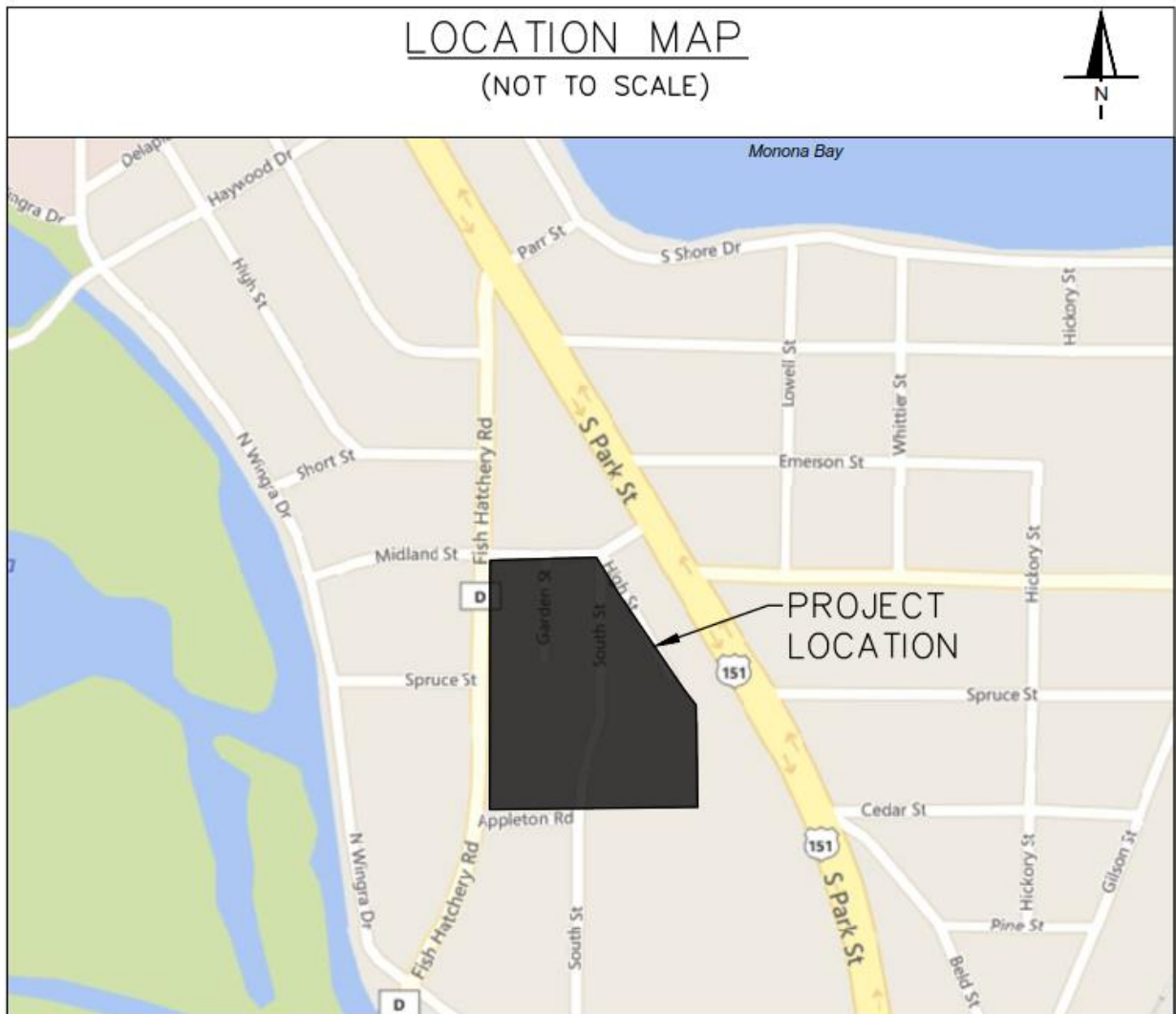
Owner shall install a Bioretention System in accordance with plans approved by City Engineer. Bioretention shall also be installed in accordance with WDNR Conservation Practice Standard #1004. To ensure the proper function of the storm water management practices, the following activities must be completed:

1. Bioretention system shall have annual inspections done both during a rain event and 72 hours after the rain event has stopped as well as checking for signs of erosion on the banks and bottom. Debris shall be removed from the bioretention system to ensure maximum storage and the overflow weir is flowing freely and not blocked. Any areas where planted vegetation has died, should be replanted using plugs per the original construction plans. If, after 72 hours, the water level in the bioretention system has not receded, maintenance of the bioretention system bottom will be required. Cleaning shall consist of removal of sediment, two (2) foot undercut, undercut replacement with material as specified in WDNR Conservation Practice Standard #1004 and restoration in-kind. Restoration of plant material shall be by plugging, not seeding alone. Any alterations to approved Bioretention System shall be approved by the City Engineer.
2. The storm structures and storm pipe leading to and from the bioretention area will be inspected and cleaned annually.
3. Periodic sweeping of the paved areas draining to the bioretention system will prolong the life.
4. The Owner(s) or their designer shall maintain records of installation, inspections, cleaning and any other maintenance or replacement of the Bioretention system all in accordance the City of Madison General Ordinances. Documentation shall include at a minimum:
 - i. Inspectors name, address and telephone number.
 - ii. Date of inspections.
 - iii. Condition report of the storm water management practice.
 - iv. Corrective actions to be taken and time frame for completion.
 - v. Follow-up documentation after completion of the maintenance activities.

All documentation for the life of the system must be made available by the system owner to the City Engineer should it be requested. Inspection reporting and maintenance logs need to be submitted to the Department of City Engineering annually per the City of Madison General Ordinances.

Appendix A

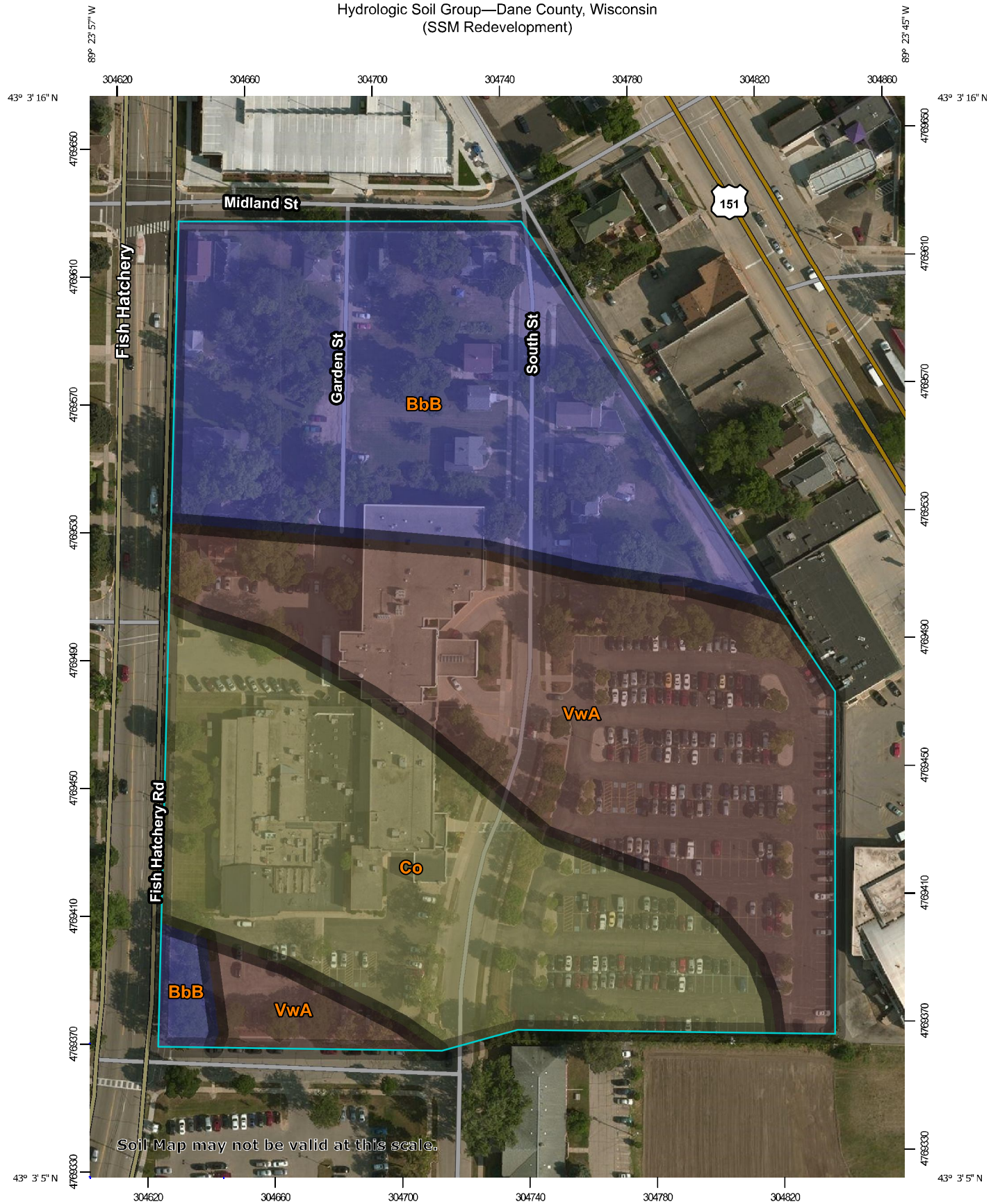
Site Map



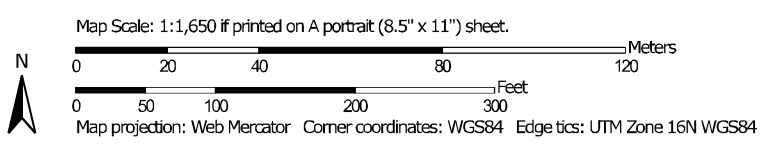
Appendix B

Soils

Hydrologic Soil Group—Dane County, Wisconsin
(SSM Redevelopment)



































Soil Map may not be valid at this scale.



Hydrologic Soil Group—Dane County, Wisconsin
(SSM Redevelopment)

MAP LEGEND

Area of Interest (AOI)		 C
 Area of Interest (AOI)		 C/D
Soils		 D
Soil Rating Polygons		 Not rated or not available
 A		Water Features
 A/D		 Streams and Canals
 B		Transportation
 B/D		 Rails
 C		 Interstate Highways
 C/D		 US Routes
 D		 Major Roads
 Not rated or not available		 Local Roads
Soil Rating Lines		Background
 A		 Aerial Photography
 A/D		
 B		
 B/D		
 C		
 C/D		
 D		
 Not rated or not available		
Soil Rating Points		
 A		
 A/D		
 B		
 B/D		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.
Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
Survey Area Data: Version 18, Sep 10, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 16, 2013—Aug 29, 2013

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BbB	Batavia silt loam, gravelly substratum, 2 to 6 percent slopes	B	3.9	33.8%
Co	Colwood silt loam, 0 to 2 percent slopes	C/D	3.5	30.9%
VwA	Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	B/D	4.1	35.3%
Totals for Area of Interest			11.5	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

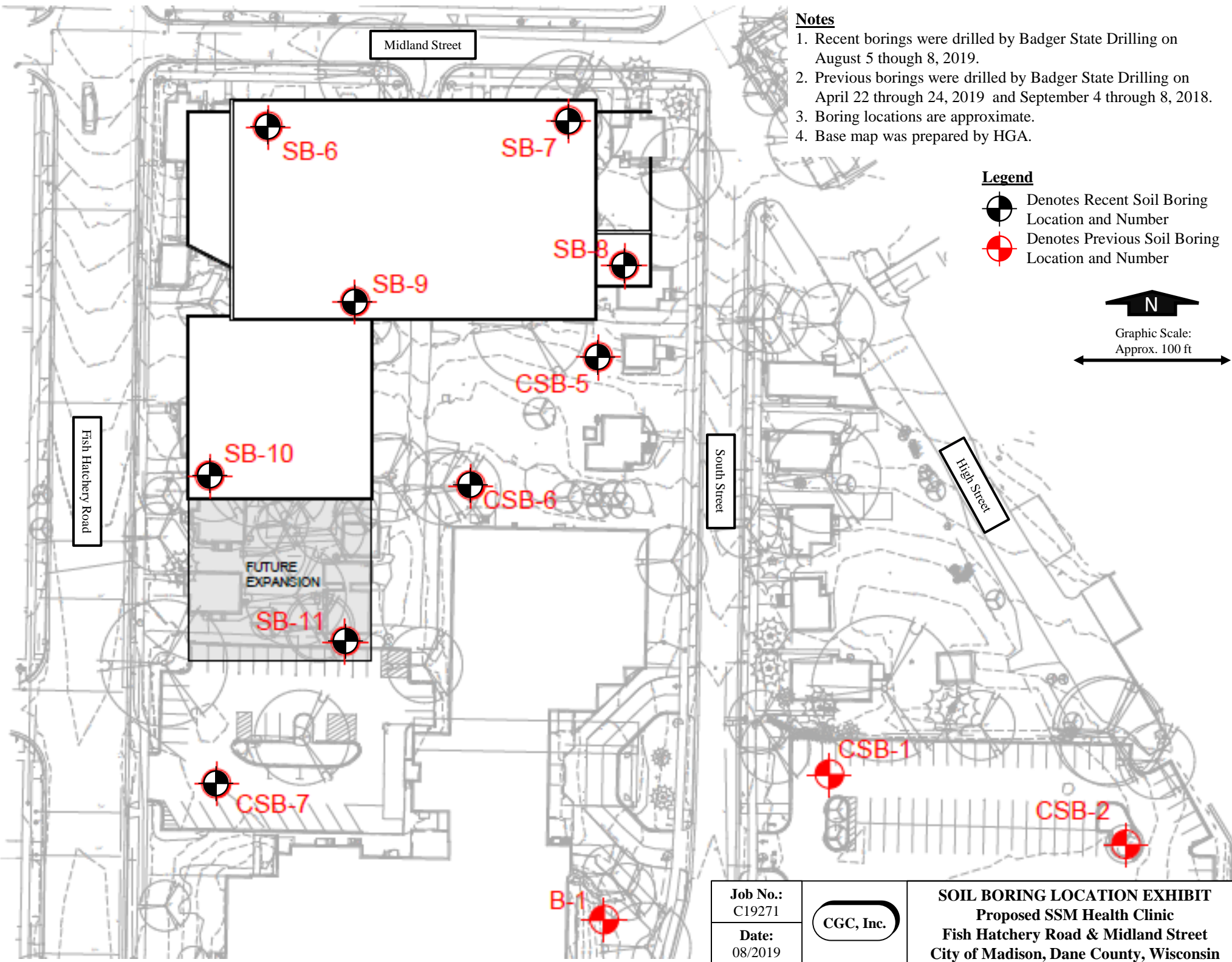
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.



If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

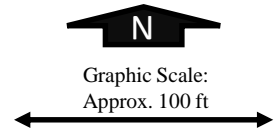



Notes

1. Recent borings were drilled by Badger State Drilling on August 5 though 8, 2019.
2. Previous borings were drilled by Badger State Drilling on April 22 through 24, 2019 and September 4 through 8, 2018.
3. Boring locations are approximate.
4. Base map was prepared by HGA.

Legend

-  Denotes Recent Soil Boring Location and Number
-  Denotes Previous Soil Boring Location and Number



Job No.: C19271	 CGC, Inc.	SOIL BORING LOCATION EXHIBIT Proposed SSM Health Clinic Fish Hatchery Road & Midland Street City of Madison, Dane County, Wisconsin
Date: 08/2019		



LOG OF TEST BORING

Project Proposed SSM Health Clinic
Fish Hatchery Road & Midland Street
 Location City of Madison, Dane County, Wisconsin

Boring No. CSB-5
 Surface Elevation (ft) 861±
 Job No. C19271
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
1	12	M	4	0	6± in. TOPSOIL (OL) Very Loose to Loose, Dark Brown SILT to Clayey SILT, Trace Sand and Organics (ML - Possible Lower Horizon Topsoil)	(0.75-1.25)				
2	12	M	9	5	Stiff to Very Stiff, Brown Lean CLAY, Trace to Little Sand (CL)	(1.25-2.25)				
3	14	M	5	5	Loose, Brown Fine SAND, Trace Silt and Gravel (SP)					
4	16	M	5	10	Scattered Silty Fine Sand Pockets with Depth					
5	16	M	12	15	Medium Dense, Tan Fine to Medium SAND, Trace Silt and Gravel (SP)					
				15	End of Boring at 15 ft					
				20	Borehole Backfilled with Bentonite Chips					
				25						
				30						
				35						
				40						
				45						

WATER LEVEL OBSERVATIONS					GENERAL NOTES				
While Drilling	∇	NW	Upon Completion of Drilling	NW	Start	8/5/19	End	8/5/19	
Time After Drilling					Driller	BSD	Chief	MC	Rig CME-55
Depth to Water					Logger	MG	Editor	TFG	
Depth to Cave in					Drill Method	2.25" HSA; Autohammer			
The stratification lines represent the approximate boundary between soil types and the transition may be gradual.									



LOG OF TEST BORING

Project **Proposed SSM Health Clinic**
Fish Hatchery Road & Midland Street
 Location **City of Madison, Dane County, Wisconsin**

Boring No. **CSB-6**
 Surface Elevation (ft) **858±**
 Job No. **C19271**
 Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
1	14	M	4	0	6± in. TOPSOIL (OL) Medium Stiff, Brown to Dark Brown Silty CLAY, Trace Sand and Organics (CL-ML - Possible Lower Horizon Topsoil)	(0.75-1.0)				
2	14	M	7	5	Stiff to Very Stiff, Brown/Gray (Mottled) Lean CLAY, Trace Sand (CL)	(1.5-2.25)				
3	10	M	9	7	Loose, Brown to Gray Fine SAND, Little to Some Silt (SP-SM/SM)					
4	14	M	23	10	Medium Dense, Light Gray Fine to Medium SAND, Little Gravel, Trace Silt, Scattered Sandy Lean Clay Pockets (SP)					
5	14	W	11	15	Medium Dense, Gray Fine SAND, Trace to Little Silt, Trace Gravel (SP/SP-SM)					
				15	End of Boring at 15 ft					
				20	Borehole Backfilled with Bentonite Chips					
				25						
				30						
				35						
				40						
				45						

WATER LEVEL OBSERVATIONS					GENERAL NOTES				
While Drilling	▽ 12.0'	Upon Completion of Drilling			Start	8/5/19	End	8/5/19	
Time After Drilling			30 mins.		Driller	BSD	Chief	MC	Rig CME-55
Depth to Water			NW	▽	Logger	MG	Editor	TFG	
Depth to Cave in			11.5'		Drill Method	2.25" HSA; Autohammer			
The stratification lines represent the approximate boundary between soil types and the transition may be gradual.									



LOG OF TEST BORING

Project Proposed SSM Health Clinic
Fish Hatchery Road & Midland Street
 Location City of Madison, Dane County, Wisconsin

Boring No. CSB-7
 Surface Elevation (ft) 855±
 Job No. C19271
 Sheet 1 of 1

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
1	14	M	12	0	3± in. Asphalt Pavement / 10± in. Base Course FILL: Medium Dense, Dark Gray to Black Fine to Coarse Sand, Little Gravel, Trace Silt, Scattered Possible Cinders *Faint Chemical Odor*					
2	10	M	5	5	Medium Stiff/Loose Black Organic CLAY to Sedimentary PEAT, Little Sand, Scattered Wood Fibers (OL/PT)	(0.75)				
3	14	M	33	10	Dense, Gray to Light Gray Fine to Coarse SAND, Some Gravel, Trace Silt, Scattered Cobbles/Boulders (SP)					
4	10	W	31	15	Medium Dense, Gray Fine to Medium SAND, Little Gravel, Trace Silt, Scattered Silt Seams (SP)					
5	10	W	22	15	End of Boring at 15 ft Borehole Backfilled with Bentonite Chips; Surface Patched with Asphalt Cold Patch Note: Boring was Offset about 15 ft South from Marked Location due to Utility Conflict					

WATER LEVEL OBSERVATIONS					GENERAL NOTES				
While Drilling	▽	8.0'	Upon Completion of Drilling		Start	8/5/19	End	8/5/19	
Time After Drilling				30 mins.	Driller	BSD	Chief	MC	Rig CME-55
Depth to Water				NW	Logger	MG	Editor	TFG	
Depth to Cave in				7.0'	Drill Method	2.25" HSA; Autohammer			

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



LOG OF TEST BORING

Project **Proposed SSM Health Clinic**
Fish Hatchery Road & Midland Street
 Location **City of Madison, Dane County, Wisconsin**

Boring No. **SB-06**
 Surface Elevation (ft) **867±**
 Job No. **C19271**
 Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
1	10	M	6	0-6	6± in. Topsoil FILL					
2	14	M	10	6-10	FILL: Loose, Tan to Light Gray Fine to Coarse Sand, Some Gravel, Little Silt, Scattered Lean Clay Pockets	(2.5-2.75)				
3	10	M	6	10-14	Very Stiff, Brown/Gray (Mottled) Lean CLAY, Trace Sand (CL)					
4	14	M	14	14-18	Loose, Brown Clayey Fine to Medium SAND, Trace Gravel (SC)					
5	18	M	12	18-21	Loose to Medium Dense, Tan Fine SAND, Trace Silt and Gravel (SP) PMT #1 from 6.5 to 9.0 ft PMT #2 from 14.0 to 16.5 ft					
6	10	W	15	21-25	Medium Dense, Gray Fine to Coarse SAND, Trace Silt and Gravel (SP)					
7	8	W	16	25-28	PMT #3 from 25.5 to 28.0 ft					
8	11	W	18	28-35						
9	14	W	21	35-40	Medium Dense to Dense, Grayish Brown Fine to Medium SAND, Trace Silt and Gravel (SP)					
10	12	W	41	40-45						
11	12	W	46	45						
					End of Boring at 45 ft					
					Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS					GENERAL NOTES				
While Drilling	∇	18.5'	Upon Completion of Drilling		Start	8/7/19	End	8/8/19	
Time After Drilling					Driller	BSD	Chief	MC	Rig CME-55
Depth to Water				∇	Logger	MG	Editor	TFG	
Depth to Cave in					Drill Method	4.25" HSA (0-15') / 3.875" RB-DM (15-45'); Autohammer			

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



LOG OF TEST BORING

Project **Proposed SSM Health Clinic**
Fish Hatchery Road & Midland Street
 Location **City of Madison, Dane County, Wisconsin**

Boring No. **SB-07**
 Surface Elevation (ft) **868±**
 Job No. **C19271**
 Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (tsf)	W	LL	PL	LI
1	12	M	10	0	6± in. TOPSOIL (OL - Possible Fill)	(3.0-3.5)	21.3			
2	12	M	8	5	Very Stiff, Brown/Gray (Mottled) Lean CLAY, Trace Sand, Scattered Organic Pockets (CL - Possible Fill)	(1.0-1.5)	22.0			
3	18	M	9	5	Stiff, Brown/Gray (Lightly Mottled) Lean CLAY, Little Sand (CL)					
4	18	M	8	10	Loose to Medium Dense, Tan Fine SAND, Trace Silt and Gravel (SP) PMT #1 from 9.0 to 11.5 ft					
5	20	M	11	15	PMT #2 from 14.0 to 16.5 ft					
6	10	W	18	20						
7	10	W	15	25	Medium Dense, Grayish Brown Fine to Medium SAND, Trace Silt and Gravel (SP)					
8	10	W	16	30						
9	7	W	17	35	Medium Dense, Gray Fine to Coarse SAND, Trace Silt and Gravel (SP) PMT #3 from 36.5 to 39.0 ft					
10	6	W	28	40	Medium Dense, Grayish Brown Fine to Medium SAND, Trace Silt and Gravel (SP)					
11	8	W	22	45	Medium Dense, Tan Fine SAND, Trace Silt and Gravel (SP)					
					End of Boring at 45 ft					
					Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS					GENERAL NOTES				
While Drilling	∇	18.5'	Upon Completion of Drilling		Start	8/7/19	End	8/7/19	
Time After Drilling					Driller	BSD Chief	MC	Rig	CME-55
Depth to Water				∇	Logger	MG	Editor	TFG	
Depth to Cave in					Drill Method	4.25" HSA (0-15') / 3.875"			
					RB-DM (15-45'); Autohammer				

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



LOG OF TEST BORING

Project **Proposed SSM Health Clinic**
Fish Hatchery Road & Midland Street
 Location **City of Madison, Dane County, Wisconsin**

Boring No. **SB-08**
 Surface Elevation (ft) **865±**
 Job No. **C19271**
 Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
1	12	M	7	0-6	6± in. TOPSOIL (OL - Possible Fill) Stiff to Very Stiff, Brown to Dark Brown Lean CLAY, Trace Sand and Organics (CL - Possible Fill)	(1.75-2.25)				
2	14	M	9	6-9	Very Stiff, Brown/Gray (Lightly Mottled) Lean CLAY, Trace Sand (CL)	(2.25-3.0)	23.9			
3	16	M	12	9-10	PMT #1 from 4.5 to 7.0 ft					
4	17	M	5	10-15	Loose to Medium Dense, Tan to Brown Fine to Medium SAND, Trace to Little Silt (SP/SP-SM) PMT #2 from 13.0 to 15.5 ft					
5	9	W	18	15-20	Medium Dense, Grayish Brown Fine to Coarse SAND, Trace Silt and Gravel (SP)					
6	12	W	26	20-25	Medium Dense, Tan Fine SAND, Trace Silt and Gravel, Scattered Thin Gray Silt Seams (SP)					
7	10	W	22	25-30	Medium Dense, Grayish Brown Fine to Medium SAND, Trace Silt and Gravel (SP) PMT #3 from 28.0 to 30.5 ft					
8	12	W	22	30-35	Medium Dense, Tan Fine SAND, Trace Silt and Gravel, Scattered Thin Gray Silt Seams (SP)					
9	12	W	31	35-40	Dense, Gray Fine to Medium SAND, Trace Silt and Gravel (SP)					
				40-45	End of Boring at 40 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ∇ **18.5'** Upon Completion of Drilling _____
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

Start **8/7/19** End **8/7/19**
 Driller **BSD** Chief **MC** Rig **CME-55**
 Logger **MG** Editor **TFG**
 Drill Method **4.25" HSA (0-15') / 3.875" RB-DM (15-40'); Autohammer**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



LOG OF TEST BORING

Project **Proposed SSM Health Clinic**
Fish Hatchery Road & Midland Street
 Location **City of Madison, Dane County, Wisconsin**

Boring No. **SB-09**
 Surface Elevation (ft) **862±**
 Job No. **C19271**
 Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
				0	18± in. TOPSOIL (OL)					
1	14	M	12	5	Very Stiff, Brown/Gray (Lightly Mottled) Lean CLAY, Trace Sand (CL) PMT #1 from 2.5 to 5.0 ft	(2.75-4.0)	21.5			
2	16	M	16	5	Loose to Medium Dense, Tan to Grayish Brown Fine SAND, Trace Silt and Gravel (SP)					
3	18	M	9	10	PMT #2 from 9.0 to 11.5 ft					
4	12	M	17	15						
5	8	W	16	20						
6	10	W	24	25	PMT #3 from 24.0 to 26.5 ft					
7	8	W	17	30						
8	10	W	24	35	Medium Dense, Tan Fine SAND, Little to Some Silt, Trace Gravel (SP-SM/SM)					
9	6	W	28	40	End of Boring at 40 ft					
				45	Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS	GENERAL NOTES
While Drilling ∇ 16.0' Upon Completion of Drilling _____ Time After Drilling _____ Depth to Water _____ Depth to Cave in _____	Start 8/6/19 End 8/6/19 Driller BSD Chief MC Rig CME-55 Logger MG Editor TFG Drill Method 4.25" HSA (0-10') / 3.875" RB-DM (10-40'); Autohammer
The stratification lines represent the approximate boundary between soil types and the transition may be gradual.	



LOG OF TEST BORING

Project **Proposed SSM Health Clinic**
Fish Hatchery Road & Midland Street
 Location **City of Madison, Dane County, Wisconsin**

Boring No. **SB-10**
 Surface Elevation (ft) **857±**
 Job No. **C19271**
 Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	Rec (in.)	Moist	N	Depth (ft)		qu (qa) (tsf)	W	LL	PL	LI
1	18	M	4	0-4	Very Loose to Loose, Dark Gray Organic SILT, Trace Sand (OL/ML - Topsoil)		23.7			4.8
2	14	M	14	4-5	Hard, Brown/Gray (Mottled) Lean CLAY, Trace Sand (CL) PMT #1 from 4.0 to 6.5 ft	(4.5+)	21.0			
3	14	M	12	5-10	Stiff, Gray Lean CLAY, Trace Sand and Gravel (CL) PMT #2 from 7.5 to 10.0 ft	(1.25-1.5)	22.8			
4	12	W	15	10-15	Medium Dense, Grayish Brown to Gray Fine to Medium SAND, Trace Silt and Gravel (SP)					
5	10	W	18	15-20						
6	10	W	14	20-25						
7	12	W	27	25-30	PMT #3 from 24.0 to 26.5 ft					
8	10	W	20	30-35	Medium Dense, Gray to Grayish Brown Fine SAND, Trace Silt and Gravel (SP)					
9	10	W	21	35-40						
				40-45	End of Boring at 35 ft Borehole Backfilled with Bentonite Chips					

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ∇ **10.0'** Upon Completion of Drilling _____
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

Start **8/6/19** End **8/6/19**
 Driller **BSD** Chief **MC** Rig **CME-55**
 Logger **MG** Editor **TFG**
 Drill Method **4.25" HSA (0-10') / 3.875" RB-DM (10-35'); Autohammer**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



LOG OF TEST BORING

Project **Proposed SSM Health Clinic**
Fish Hatchery Road & Midland Street
 Location **City of Madison, Dane County, Wisconsin**

Boring No. **SB-11**
 Surface Elevation (ft) **856±**
 Job No. **C19271**
 Sheet **1** of **1**

2921 Perry Street, Madison, WI 53713 (608) 288-4100, FAX (608) 288-7887

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES				
No.	DEPTH (ft)	Rec (in.)	Moist	N		qu (qa) (tsf)	W	LL	PL	LI
1A/1B	0-3.5	16	M	9	3.5± in. Asphalt Pavement / 6± in. Base Course	(4.5+)	19.7			3.2
	3.5-5				Hard, Gray to Dark Gray to Black/Brown (Lightly Mottled) Lean CLAY, Trace Sand and Organics (CL/OL - Probable Buried Topsoil)	(1.5-2.5)	20.7	32	20	
2	5-7	14	M	9	Stiff to Very Stiff, Grayish Brown/Gray (Lightly Mottled) Lean CLAY, Trace Sand (CL)	(2.25-2.75)	26.1			
3	7-10	12	M/W	11	PMT #1 from 2.0 to 4.5 ft					
4	10-15	14	W	16	Very Stiff, Gray/Brown (Lightly Mottled) Lean CLAY, Trace Sand (CL)					
5	15-20	14	W	11	Loose to Medium Dense, Grayish Brown to Brown Sandy SILT to Silty Fine SAND, Scattered Thin Lean Clay Seams (ML/SM)					
	20-23				PMT #2 from 7.0 to 9.5 ft					
6	23-25	12	W	13	Medium Dense, Gray to Brown SILT, Trace to Little Sand, Scattered Lean Clay Seams (ML)					
	25-35				PMT #3 from 15.0 to 17.5 ft					
7	35-40	12	W	20	Medium Dense, Gray Fine to Medium SAND, Trace Silt and Gravel (SP)					
8	40-45	12	W	21						
9	45-48	12	W	23	Medium Dense, Gray Fine SAND, Trace Silt and Gravel (SP)					
	48-35				End of Boring at 35 ft					
	35-40				Borehole Backfilled with Bentonite Chips					

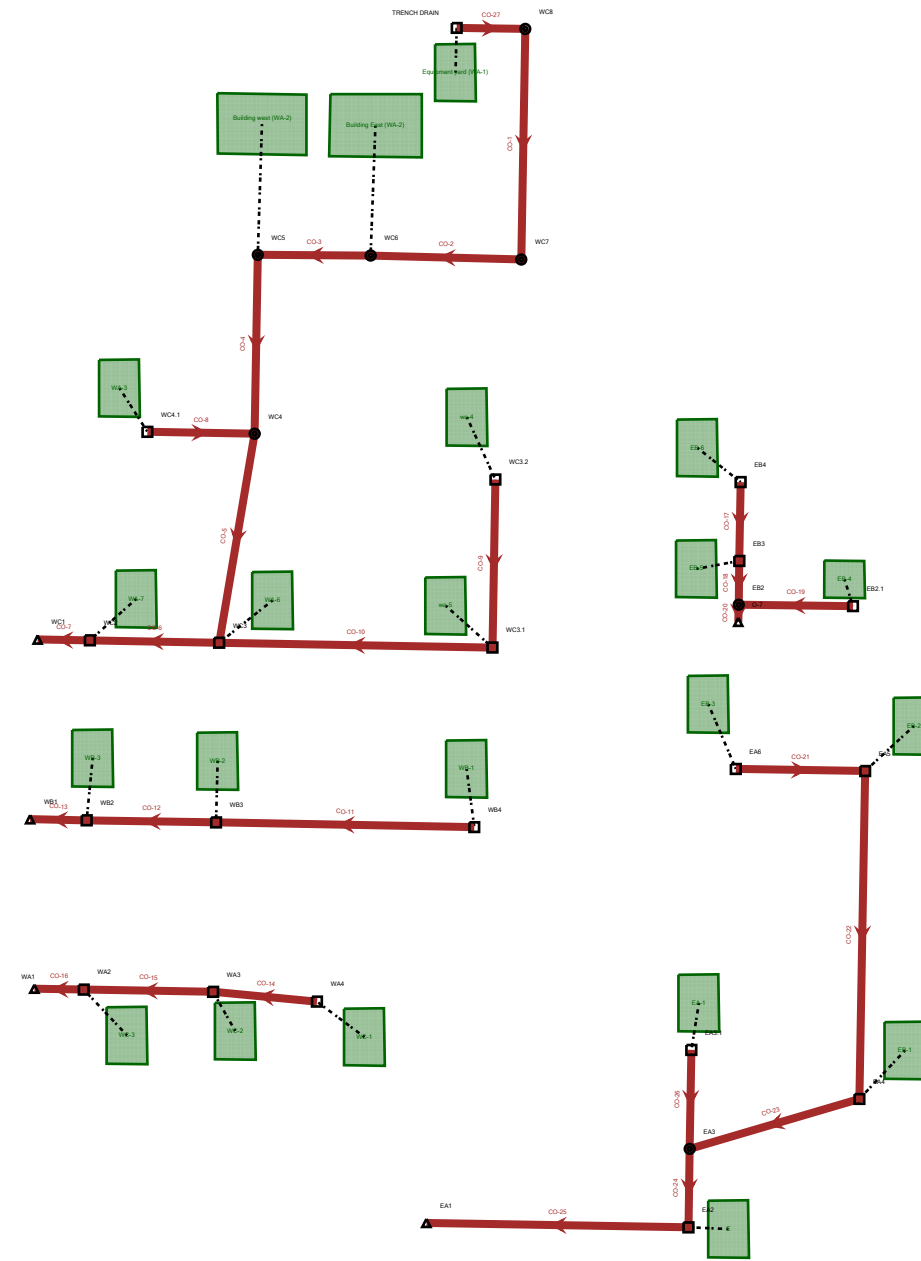
WATER LEVEL OBSERVATIONS					GENERAL NOTES				
While Drilling	∇	9.5'	Upon Completion of Drilling		Start	8/6/19	End	8/6/19	
Time After Drilling					Driller	BSD	Chief	MC	Rig CME-55
Depth to Water					Logger	MG	Editor	TFG	
Depth to Cave in					Drill Method	4.25" HSA (0-10') / 3.875" RB-DM (10-35'); Autohammer			

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Appendix C

Storm Sewer Calculations

Scenario: 10-year



Conduit FlexTable: Combined Pipe/Node Report

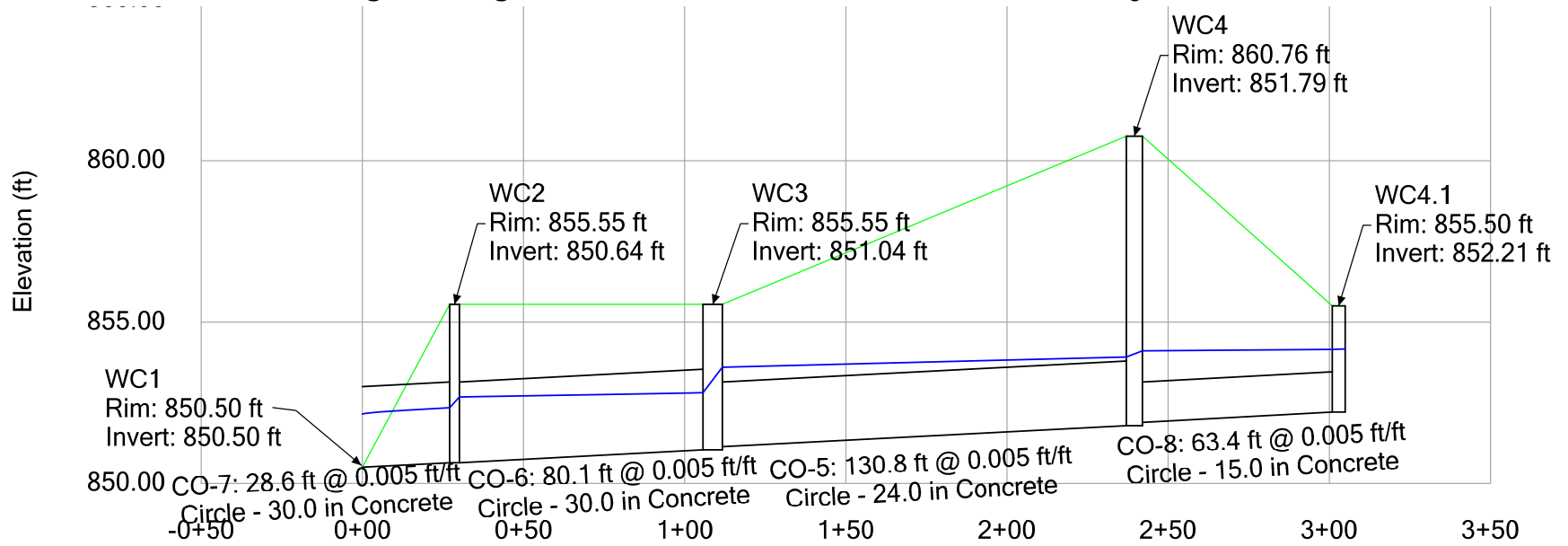
Label	Start Node	Stop Node	Branch ID	Branch Element ID	Length (Unified) (ft)	Upstream Inlet C	System Intensity (in/h)	Upstream Inlet Area (ft ²)	Upstream Structure Flow (Total Surface) (cfs)	System CA (ft ²)	System Intensity (in/h)	System Rational Flow (cfs)	Flow (cfs)	Rise (Unified) (ft)	Capacity (Full Flow) (cfs)	Velocity (ft/s)	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (ft/ft)	Notes
CO-1	WC8	WC7	5	2	142.7	(N/A)	7.089	(N/A)	0.00	5,790.250	7.089	0.95	0.95	1.25	9.11	4.81	860.34	857.50	0.020	
CO-2	WC7	WC6	5	3	104.9	(N/A)	6.899	(N/A)	0.00	5,790.250	6.899	0.92	0.92	1.25	4.55	2.91	857.40	856.88	0.005	
CO-3	WC6	WC5	5	4	61.0	0.950	6.668	18,815.500	2.96	23,664.976	6.668	3.65	3.65	1.50	7.37	4.16	856.78	856.48	0.005	
CO-4	WC5	WC4	5	5	110.7	0.950	6.574	18,815.500	2.96	41,539.701	6.574	6.32	6.32	2.00	45.56	10.20	856.38	851.89	0.041	
CO-5	WC4	WC3	5	6	130.8	(N/A)	6.505	(N/A)	0.00	48,201.951	6.505	7.26	7.26	2.00	15.95	4.96	851.79	851.14	0.005	
CO-6	WC3	WC2	4	3	80.1	0.870	6.336	30,549.000	4.40	97,798.904	6.336	14.34	14.34	2.50	28.98	5.89	851.04	850.64	0.005	
CO-7	WC2	WC1	4	4	28.6	0.920	6.249	9,688.000	1.48	106,711.855	6.249	15.43	15.43	2.50	28.70	5.95	850.64	850.50	0.005	
CO-8	WC4.1	WC4	6	1	63.4	0.450	7.160	14,805.000	1.10	6,662.250	7.160	1.10	1.10	1.25	4.59	3.07	852.21	851.89	0.005	
CO-9	WC3.2	WC3.1	4	1	104.0	0.920	7.160	9,721.000	1.48	8,943.320	7.160	1.48	1.48	1.25	9.69	5.71	855.18	852.84	0.022	
CO-10	WC3.1	WC3	4	2	169.1	0.920	7.043	15,300.000	2.33	23,019.319	7.043	3.75	3.75	1.25	4.58	4.16	852.74	851.89	0.005	
CO-11	WB4	WB3	7	1	159.8	0.730	7.160	6,949.000	0.84	5,072.770	7.160	0.84	0.84	1.25	5.19	3.11	852.84	851.81	0.006	
CO-12	WB3	WB2	7	2	80.1	0.860	6.831	13,685.000	1.95	16,841.870	6.831	2.66	2.66	1.25	4.56	3.86	851.81	851.41	0.005	
CO-13	WB2	WB1	7	3	31.2	0.940	6.698	7,009.000	1.09	23,430.331	6.698	3.63	3.63	1.25	10.41	7.72	851.31	850.50	0.026	
CO-14	WA4	WA3	3	1	64.5	0.910	7.160	4,864.000	0.73	4,426.240	7.160	0.73	0.73	1.25	8.43	4.22	853.23	852.13	0.017	
CO-15	WA3	WA2	3	2	80.0	0.690	7.062	19,286.000	2.20	17,733.579	7.062	2.90	2.90	1.25	4.57	3.94	852.03	851.63	0.005	
CO-16	WA2	WA1	3	3	26.7	0.880	6.932	8,474.000	1.24	25,190.701	6.932	4.04	4.04	1.25	12.69	9.18	851.53	850.50	0.039	
CO-17	EB4	EB3	8	1	48.7	0.380	7.160	17,763.000	1.12	6,749.940	7.160	1.12	1.12	1.25	4.53	3.06	852.75	852.51	0.005	
CO-18	EB3	EB2	8	2	27.1	0.910	7.058	6,998.000	1.06	13,118.120	7.058	2.14	2.14	1.25	4.64	3.71	852.51	852.37	0.005	
CO-19	EB2.1	EB2	9	1	70.7	0.870	7.160	5,438.000	0.78	4,731.060	7.160	0.78	0.78	1.25	10.86	5.14	854.37	852.37	0.028	
CO-20	EB2	O-7	8	3	10.7	(N/A)	7.011	(N/A)	0.00	17,849.181	7.011	2.90	2.90	1.25	4.42	2.36	850.57	850.52	0.005	
CO-21	EA6	EA5	1	1	80.0	0.910	7.160	24,469.000	3.69	22,266.790	7.160	3.69	3.69	1.50	7.70	2.09	853.73	853.30	0.005	
CO-22	EA5	EA4	1	2	202.7	0.790	6.915	26,583.000	3.48	43,267.360	6.915	6.92	6.92	2.00	15.97	2.20	853.20	852.19	0.005	
CO-23	EA4	EA3	1	3	109.4	0.730	6.326	28,763.000	3.48	64,264.352	6.326	9.41	9.41	2.00	16.04	2.99	852.09	851.54	0.005	
CO-24	EA3	EA2	1	4	48.6	(N/A)	6.092	(N/A)	0.00	84,313.471	6.092	11.89	11.89	2.00	15.90	3.78	849.24	849.00	0.005	
CO-25	EA2	EA1	1	5	162.1	0.300	6.010	8,171.000	0.41	86,764.769	6.010	12.07	12.07	2.00	15.99	3.84	848.90	848.09	0.005	
CO-26	EA3.1	EA3	2	1	61.3	0.810	7.160	24,752.000	3.32	20,049.121	7.160	3.32	3.32	1.25	11.73	2.71	853.56	851.54	0.033	
CO-27	TRENCH DRAIN	WC8	5	1	42.5	0.950	7.160	6,095.000	0.96	5,790.250	7.160	0.96	0.96	1.00	3.54	3.83	860.86	860.44	0.010	

Conduit FlexTable: Combined Pipe/Node Report

Label	Start Node	Stop Node	Branch ID	Branch Element ID	Length (Unified) (ft)	Upstream Inlet C	System Intensity (in/h)	Upstream Inlet Area (ft ²)	Upstream Structure Flow (Total Surface) (cfs)	System CA (ft ²)	System Intensity (in/h)	System Rational Flow (cfs)	Flow (cfs)	Rise (Unified) (ft)	Capacity (Full Flow) (cfs)	Velocity (ft/s)	Invert (Start) (ft)	Invert (Stop) (ft)	Slope (Calculated) (ft/ft)	Notes
CO-1	WC8	WC7	5	2	142.7	(N/A)	10.705	(N/A)	0.00	5,790.250	10.705	1.43	1.43	1.25	9.11	5.42	860.34	857.50	0.020	
CO-2	WC7	WC6	5	3	104.9	(N/A)	10.453	(N/A)	0.00	5,790.250	10.453	1.40	1.40	1.25	4.55	3.26	857.40	856.88	0.005	
CO-3	WC6	WC5	5	4	61.0	0.950	10.146	18,815.500	4.47	23,664.976	10.146	5.56	5.56	1.50	7.37	4.58	856.78	856.48	0.005	
CO-4	WC5	WC4	5	5	110.7	0.950	10.018	18,815.500	4.47	41,539.701	10.018	9.63	9.63	2.00	45.56	11.50	856.38	851.89	0.041	
CO-5	WC4	WC3	5	6	130.8	(N/A)	9.926	(N/A)	0.00	48,201.951	9.926	11.07	11.07	2.00	15.95	3.52	851.79	851.14	0.005	
CO-6	WC3	WC2	4	3	80.1	0.870	9.571	30,549.000	6.64	97,798.904	9.571	21.66	21.66	2.50	28.98	6.48	851.04	850.64	0.005	
CO-7	WC2	WC1	4	4	28.6	0.920	9.453	9,688.000	2.23	106,711.855	9.453	23.34	23.34	2.50	28.70	6.51	850.64	850.50	0.005	
CO-8	WC4.1	WC4	6	1	63.4	0.450	10.800	14,805.000	1.67	6,662.250	10.800	1.67	1.67	1.25	4.59	1.36	852.21	851.89	0.005	
CO-9	WC3.2	WC3.1	4	1	104.0	0.920	10.800	9,721.000	2.24	8,943.320	10.800	2.24	2.24	1.25	9.69	6.42	855.18	852.84	0.022	
CO-10	WC3.1	WC3	4	2	169.1	0.920	10.645	15,300.000	3.52	23,019.319	10.645	5.67	5.67	1.25	4.58	4.62	852.74	851.89	0.005	
CO-11	WB4	WB3	7	1	159.8	0.730	10.800	6,949.000	1.27	5,072.770	10.800	1.27	1.27	1.25	5.19	3.49	852.84	851.81	0.006	
CO-12	WB3	WB2	7	2	80.1	0.860	10.362	13,685.000	2.94	16,841.870	10.362	4.04	4.04	1.25	4.56	4.20	851.81	851.41	0.005	
CO-13	WB2	WB1	7	3	31.2	0.940	10.179	7,009.000	1.65	23,430.331	10.179	5.52	5.52	1.25	10.41	8.61	851.31	850.50	0.026	
CO-14	WA4	WA3	3	1	64.5	0.910	10.800	4,864.000	1.11	4,426.240	10.800	1.11	1.11	1.25	8.43	4.76	853.23	852.13	0.017	
CO-15	WA3	WA2	3	2	80.0	0.690	10.670	19,286.000	3.33	17,733.579	10.670	4.38	4.38	1.25	4.57	4.24	852.03	851.63	0.005	
CO-16	WA2	WA1	3	3	26.7	0.880	10.490	8,474.000	1.86	25,190.701	10.490	6.11	6.11	1.25	12.69	10.25	851.53	850.50	0.039	
CO-17	EB4	EB3	8	1	48.7	0.380	10.800	17,763.000	1.69	6,749.940	10.800	1.69	1.69	1.25	4.53	3.42	852.75	852.51	0.005	
CO-18	EB3	EB2	8	2	27.1	0.910	10.664	6,998.000	1.59	13,118.120	10.664	3.24	3.24	1.25	4.64	4.09	852.51	852.37	0.005	
CO-19	EB2.1	EB2	9	1	70.7	0.870	10.800	5,438.000	1.18	4,731.060	10.800	1.18	1.18	1.25	10.86	5.80	854.37	852.37	0.028	
CO-20	EB2	O-7	8	3	10.7	(N/A)	10.600	(N/A)	0.00	17,849.181	10.600	4.38	4.38	1.25	4.42	3.57	850.57	850.52	0.005	
CO-21	EA6	EA5	1	1	80.0	0.910	10.800	24,469.000	5.56	22,266.790	10.800	5.56	5.56	1.50	7.70	3.15	853.73	853.30	0.005	
CO-22	EA5	EA4	1	2	202.7	0.790	10.557	26,583.000	5.25	43,267.360	10.557	10.57	10.57	2.00	15.97	3.36	853.20	852.19	0.005	
CO-23	EA4	EA3	1	3	109.4	0.730	9.981	28,763.000	5.25	64,264.352	9.981	14.84	14.84	2.00	16.04	4.72	852.09	851.54	0.005	
CO-24	EA3	EA2	1	4	48.6	(N/A)	9.759	(N/A)	0.00	84,313.471	9.759	19.04	19.04	2.00	15.90	6.06	849.24	849.00	0.005	
CO-25	EA2	EA1	1	5	162.1	0.300	9.682	8,171.000	0.61	86,764.769	9.682	19.44	19.44	2.00	15.99	6.19	848.90	848.09	0.005	
CO-26	EA3.1	EA3	2	1	61.3	0.810	10.800	24,752.000	5.01	20,049.121	10.800	5.01	5.01	1.25	11.73	4.08	853.56	851.54	0.033	
CO-27	TRENCH DRAIN	WC8	5	1	42.5	0.950	10.800	6,095.000	1.45	5,790.250	10.800	1.45	1.45	1.00	3.54	4.28	860.86	860.44	0.010	

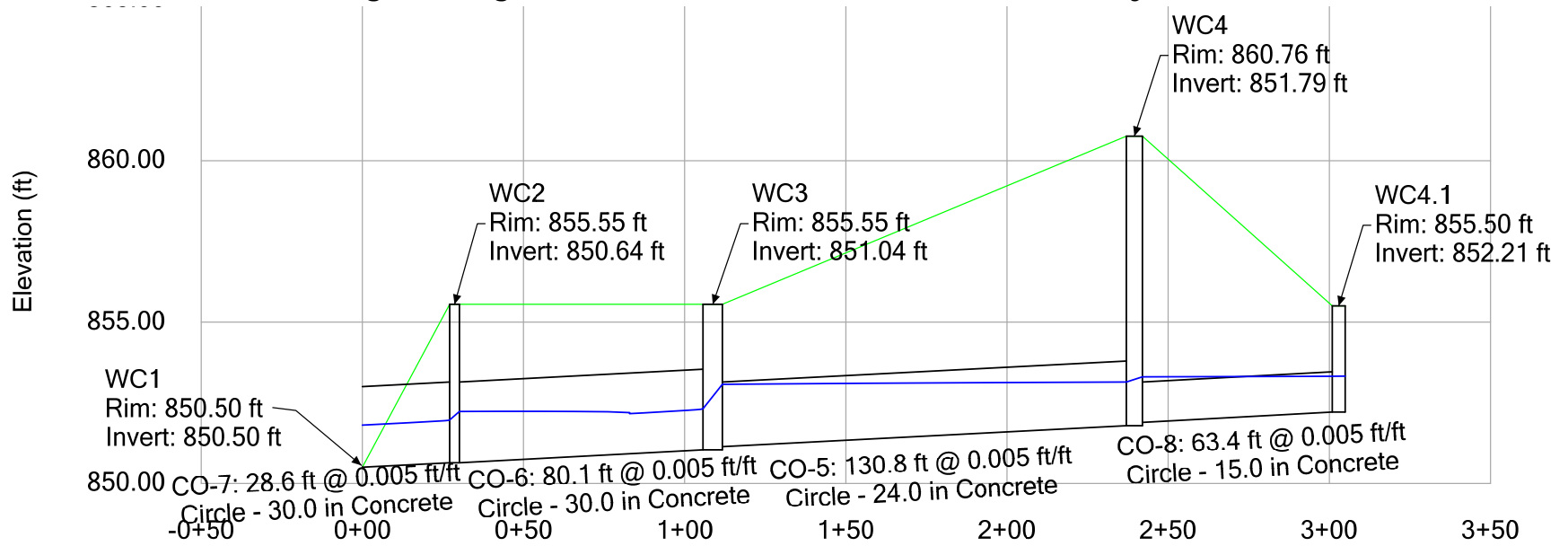
Profile Report

Engineering Profile - WC4.1-WC1 (SSM Fish Hatchery.stsw)



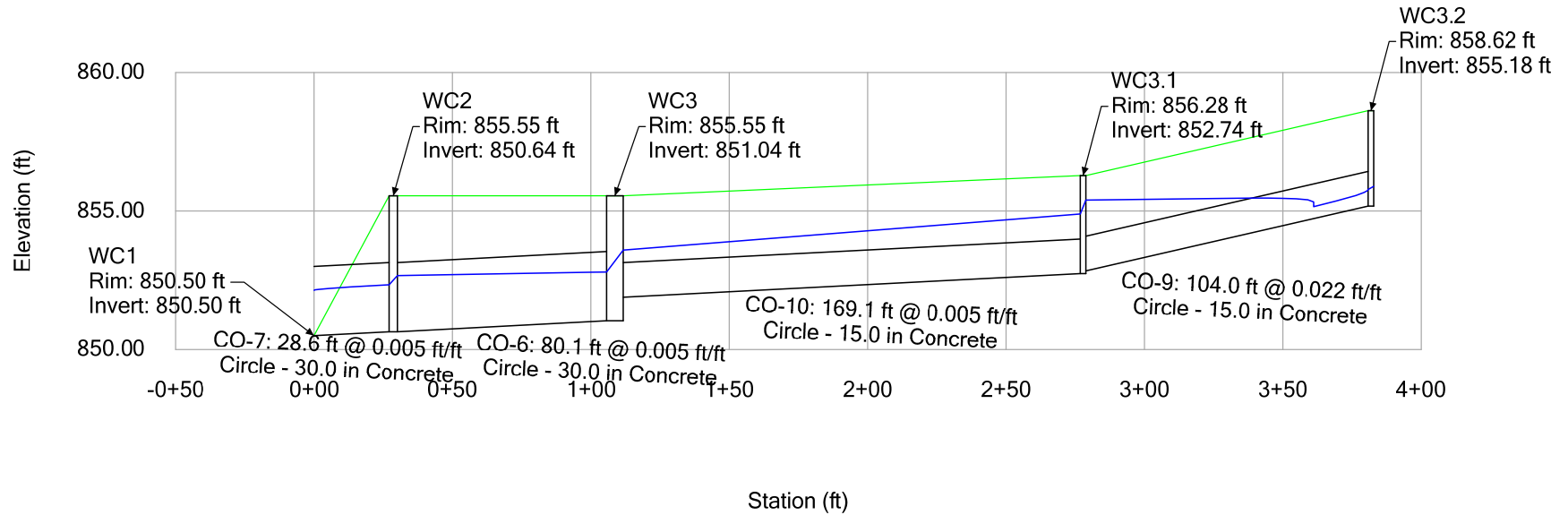
Profile Report

Engineering Profile - WC4.1-WC1 (SSM Fish Hatchery.stsw)



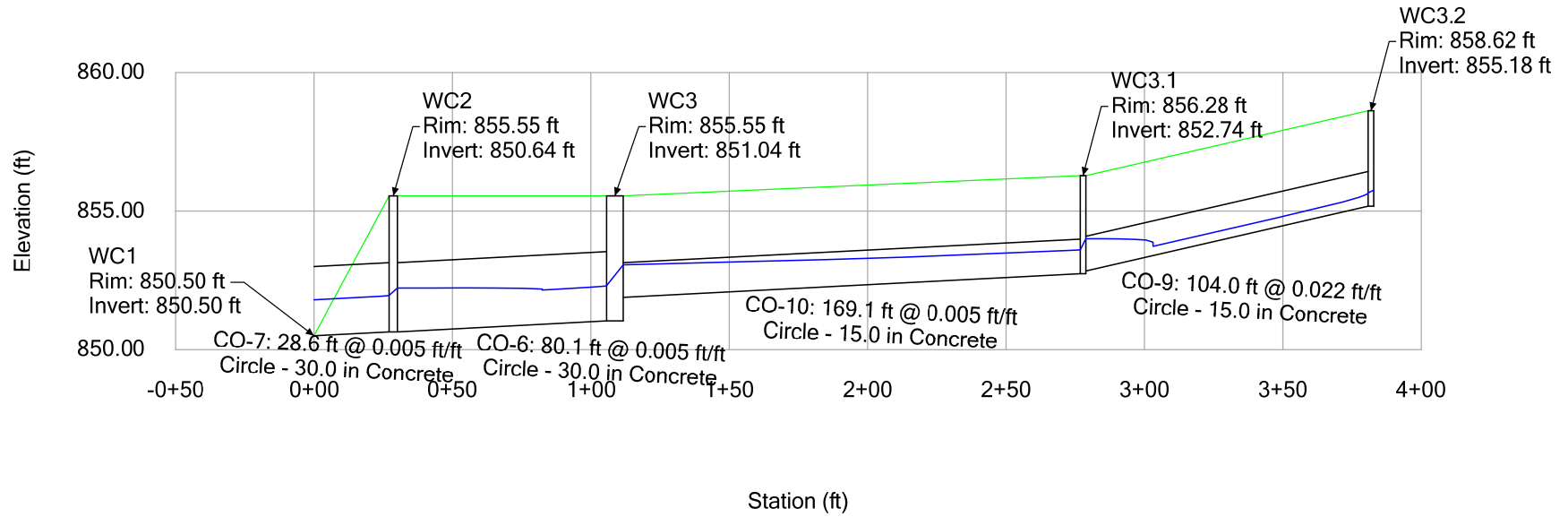
Profile Report

Engineering Profile - WC1-WC3.2 (SSM Fish Hatchery.stsw)



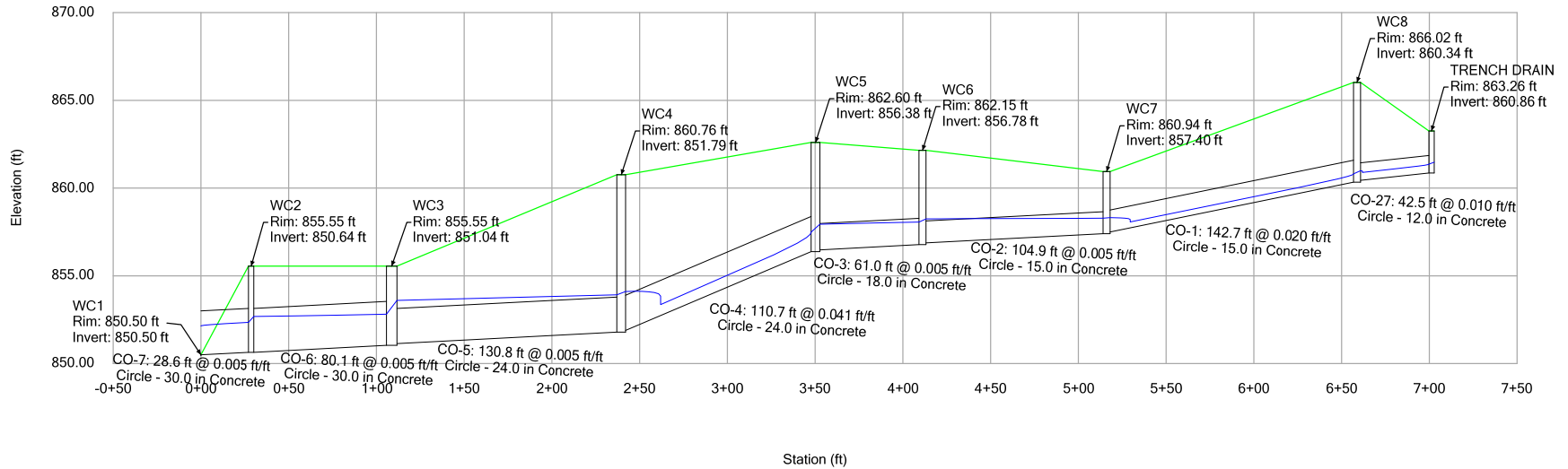
Profile Report

Engineering Profile - WC1-WC3.2 (SSM Fish Hatchery.stsw)



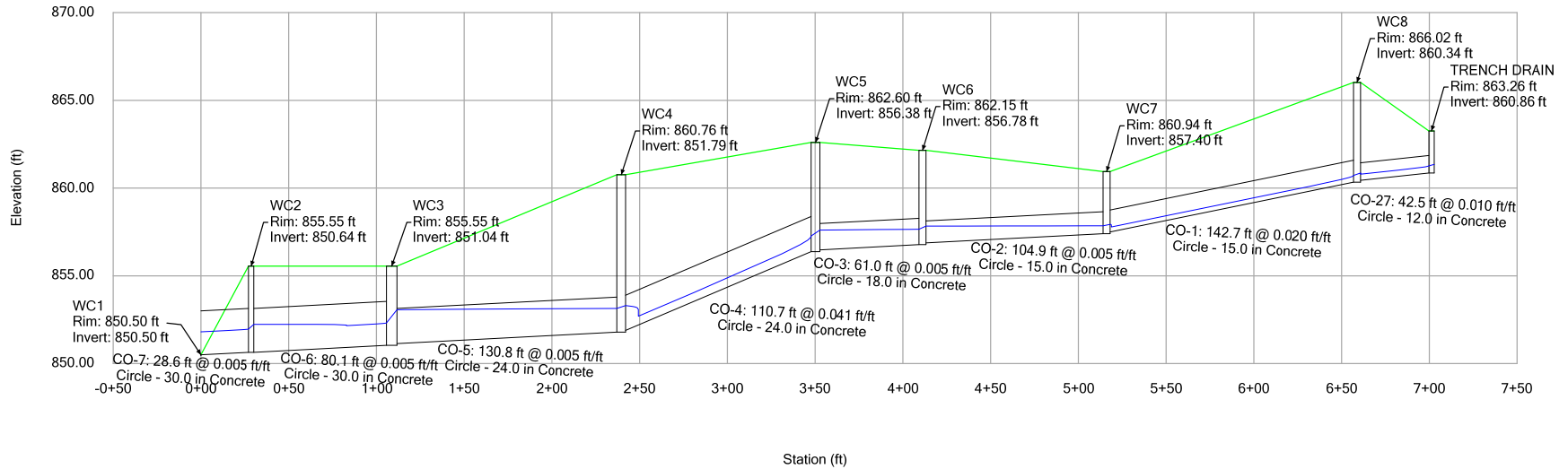
Profile Report

Engineering Profile - WC1-TRENCH DRAIN (SSM Fish Hatchery.stsw)



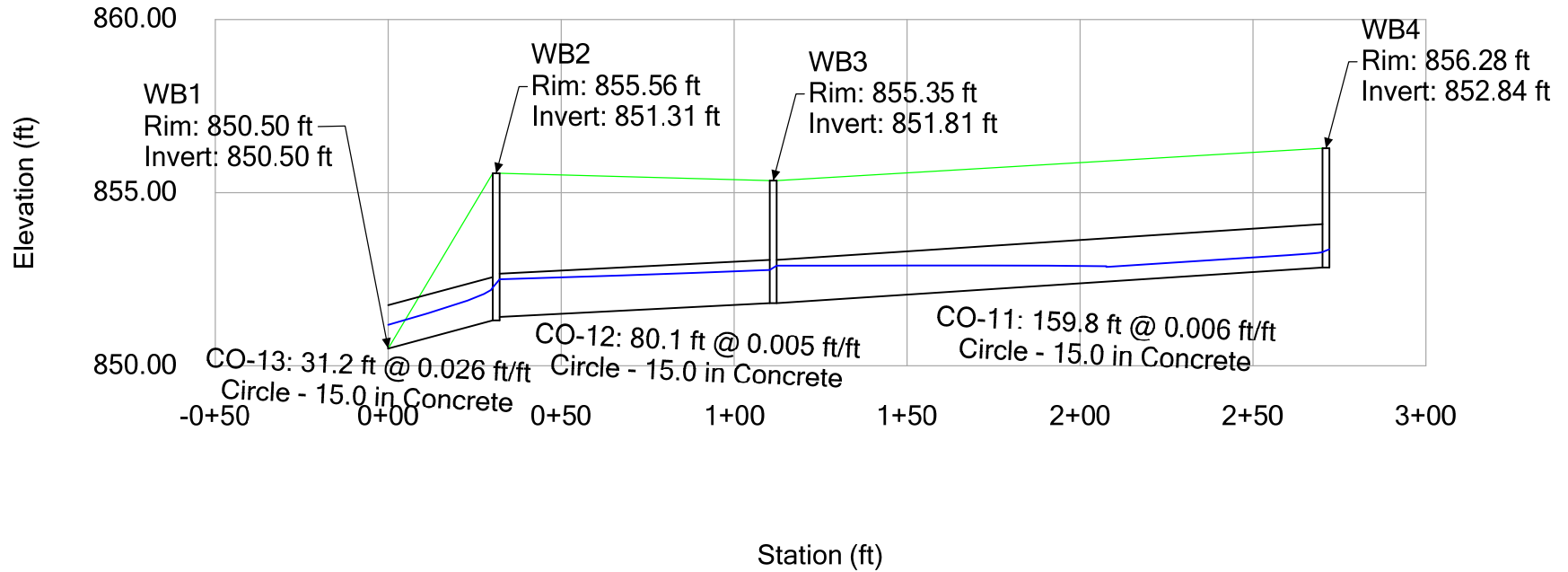
Profile Report

Engineering Profile - WC1-TRENCH DRAIN (SSM Fish Hatchery.stsw)



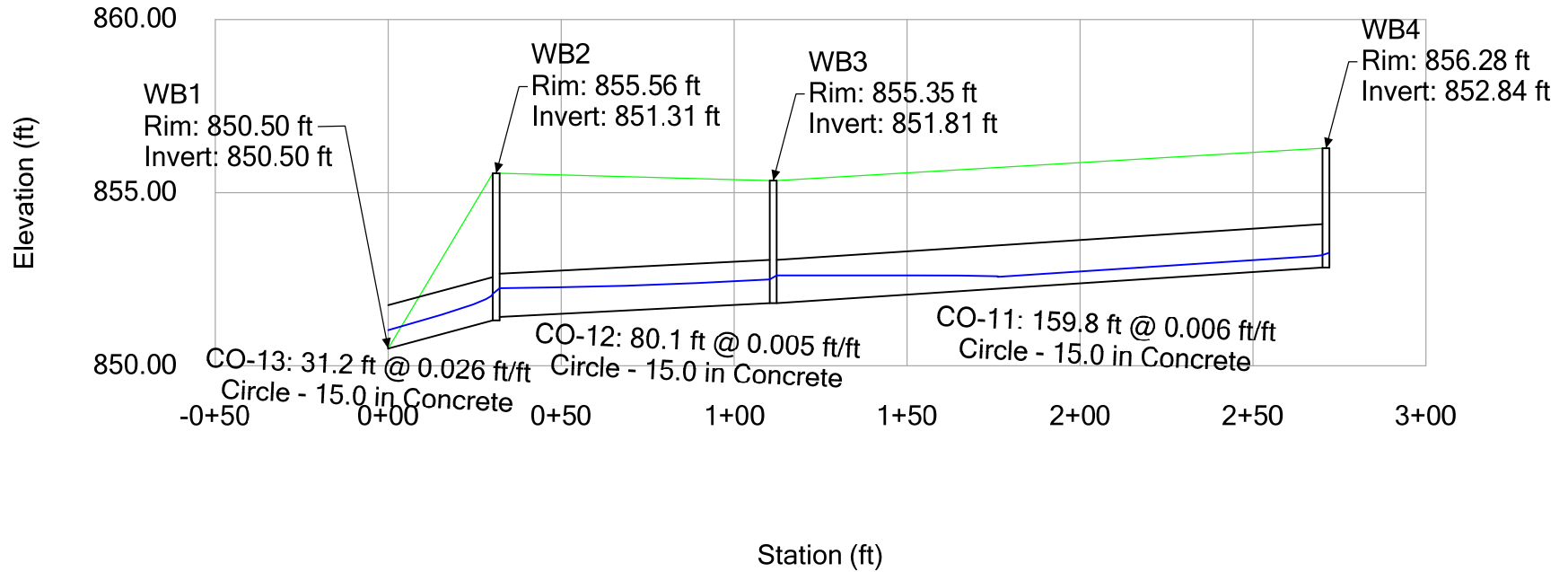
Profile Report

Engineering Profile - WB1-WB4 (SSM Fish Hatchery.stsw)

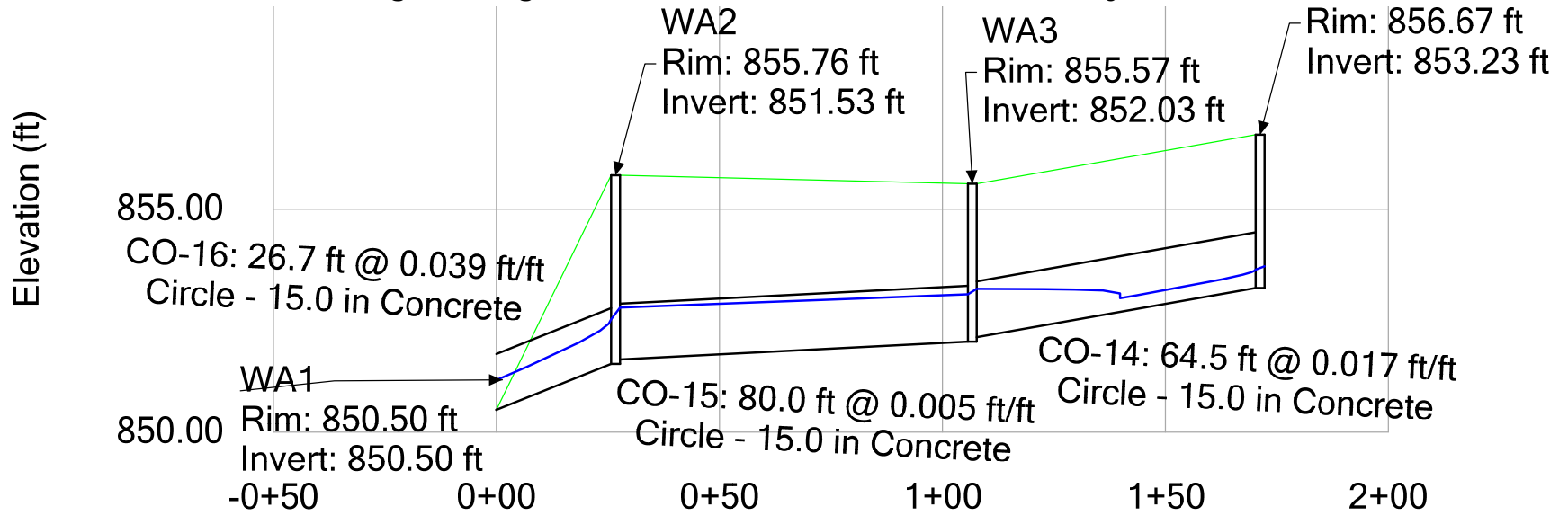


Profile Report

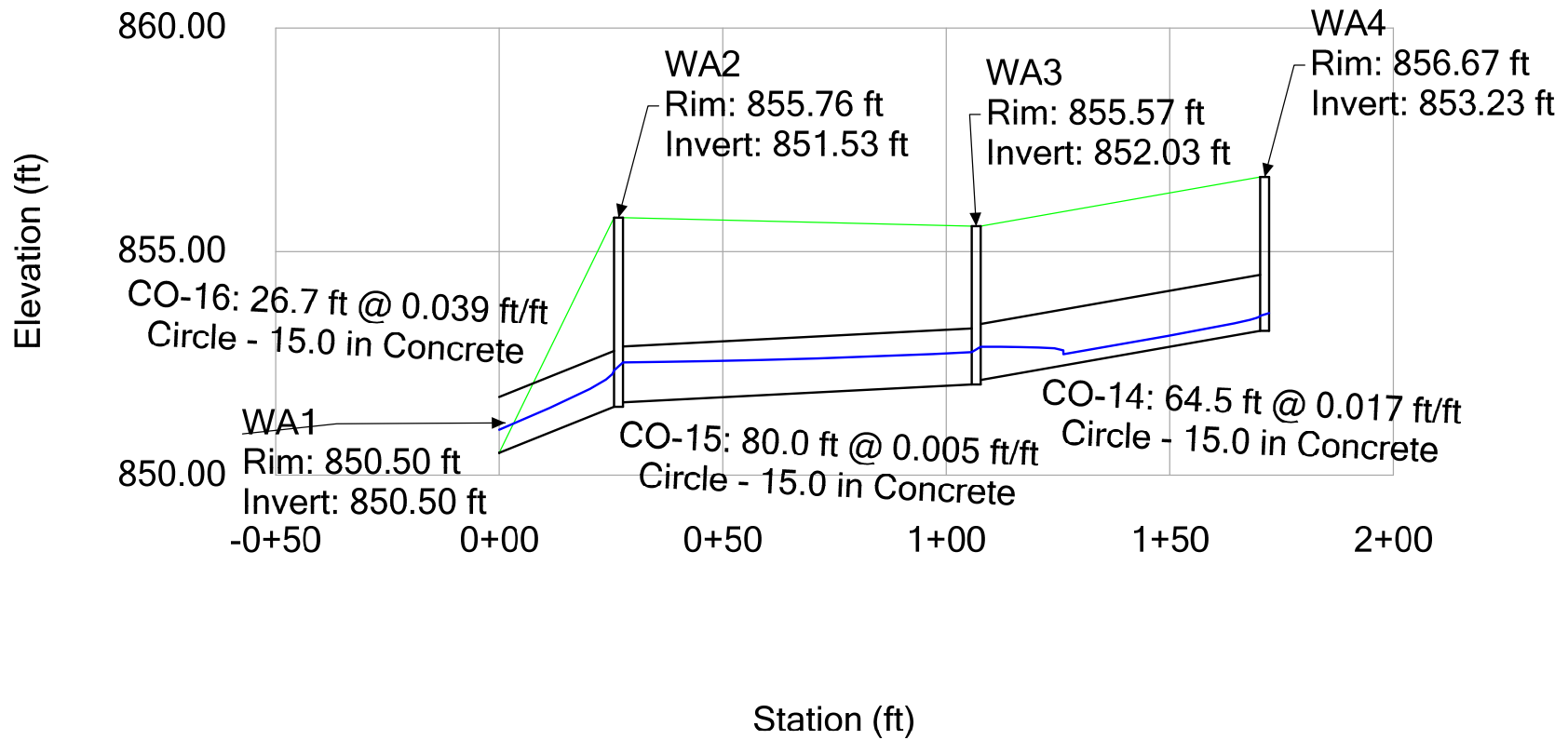
Engineering Profile - WB1-WB4 (SSM Fish Hatchery.stsw)



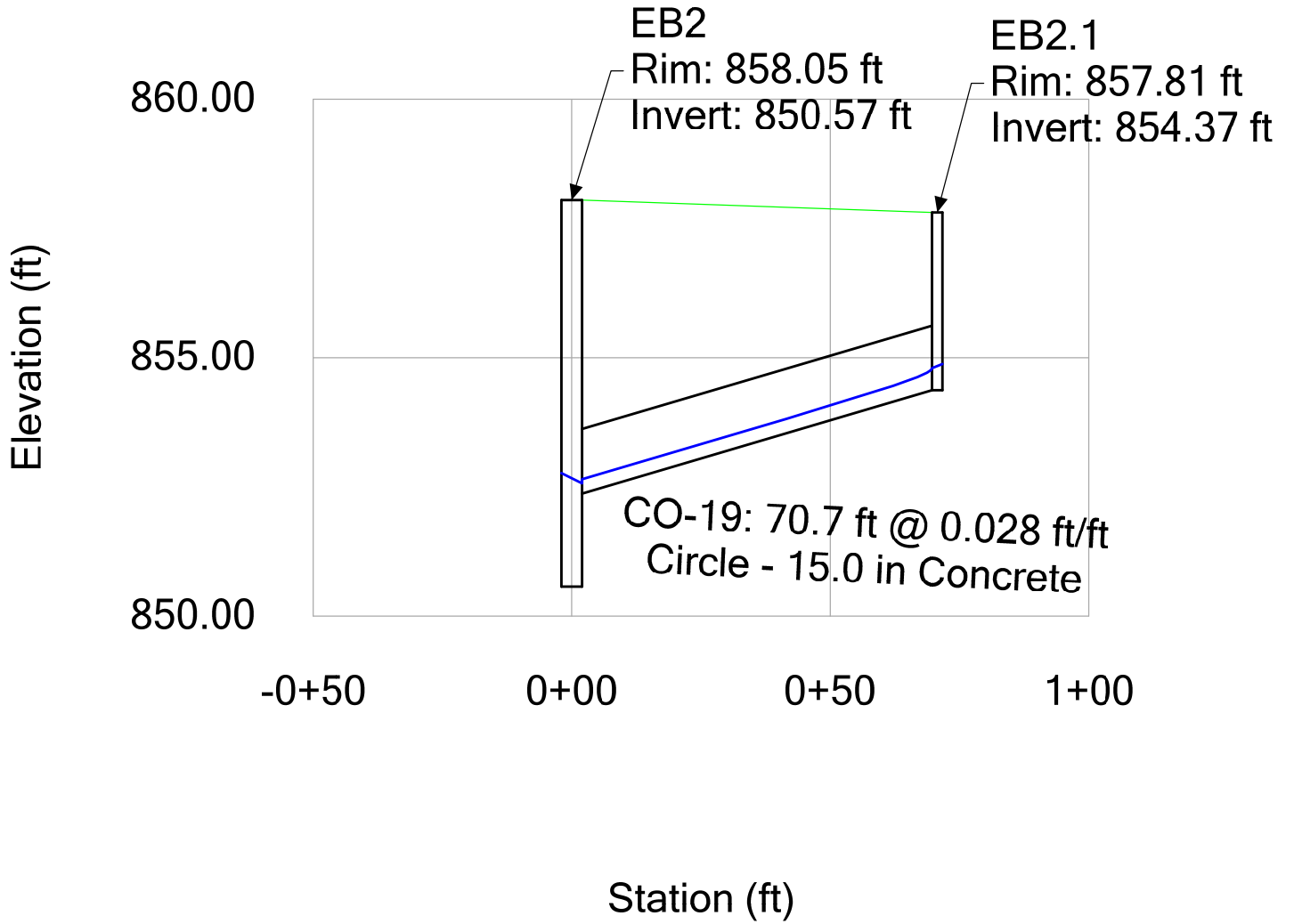
Profile Report
 Engineering Profile - WA1-W4 (SSM Fish Hatchery.stsw)



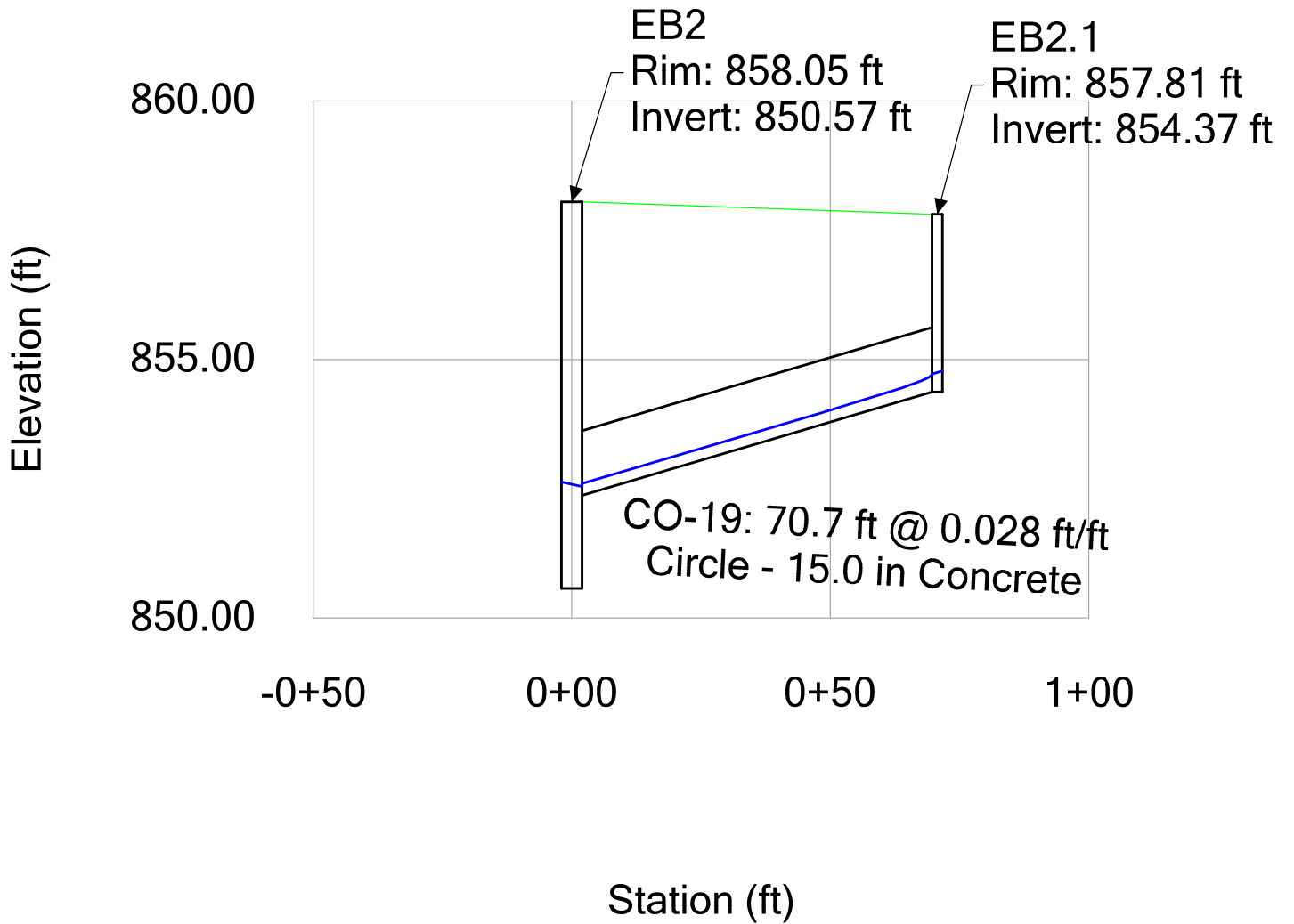
Profile Report
 Engineering Profile - WA1-W4 (SSM Fish Hatchery.stsw)



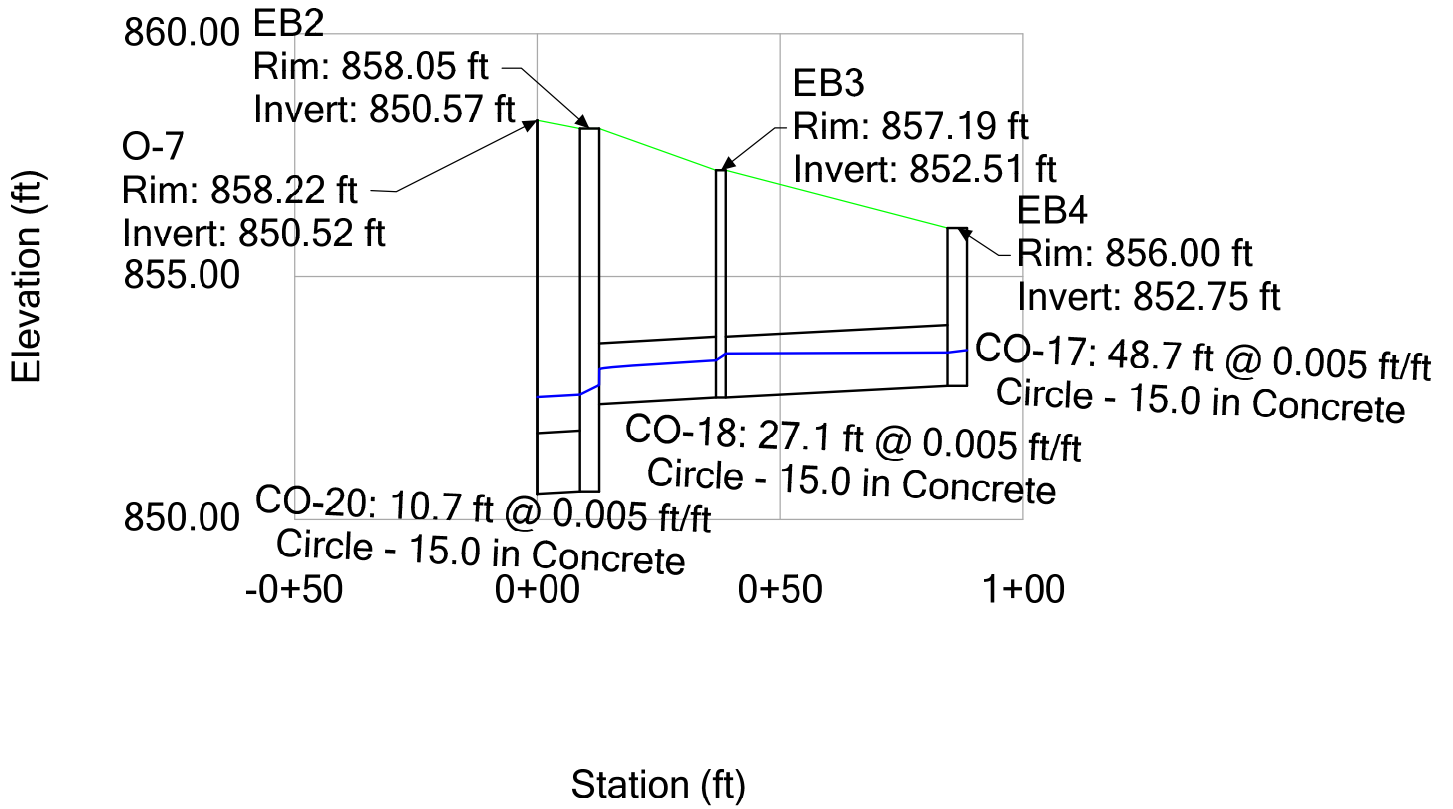
Profile Report
Engineering Profile - EB2-EB2.1 (SSM Fish Hatchery.stsw)



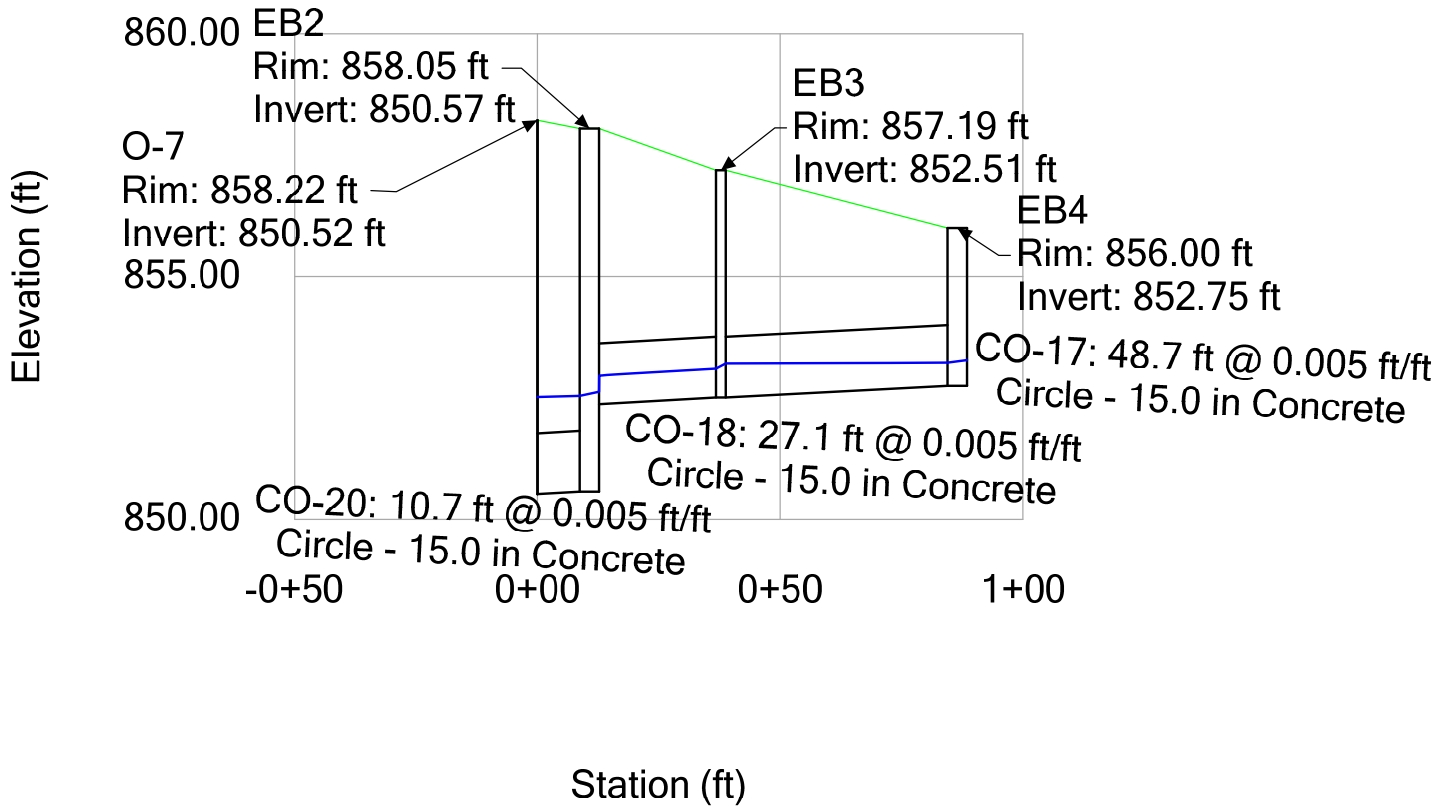
Profile Report
Engineering Profile - EB2-EB2.1 (SSM Fish Hatchery.stsw)



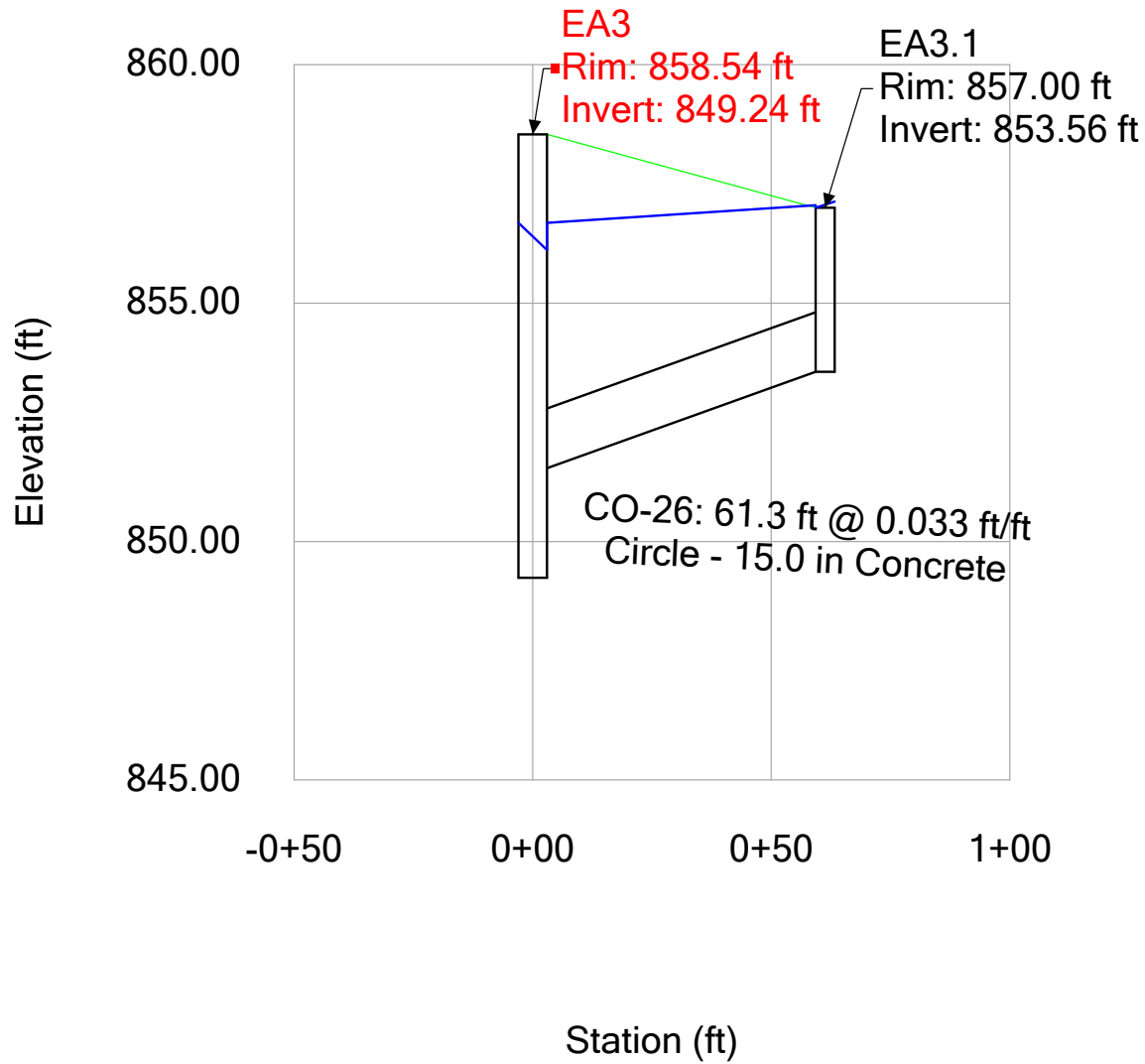
Profile Report
 Engineering Profile - EB1-EB4 (SSM Fish Hatchery.stsw)



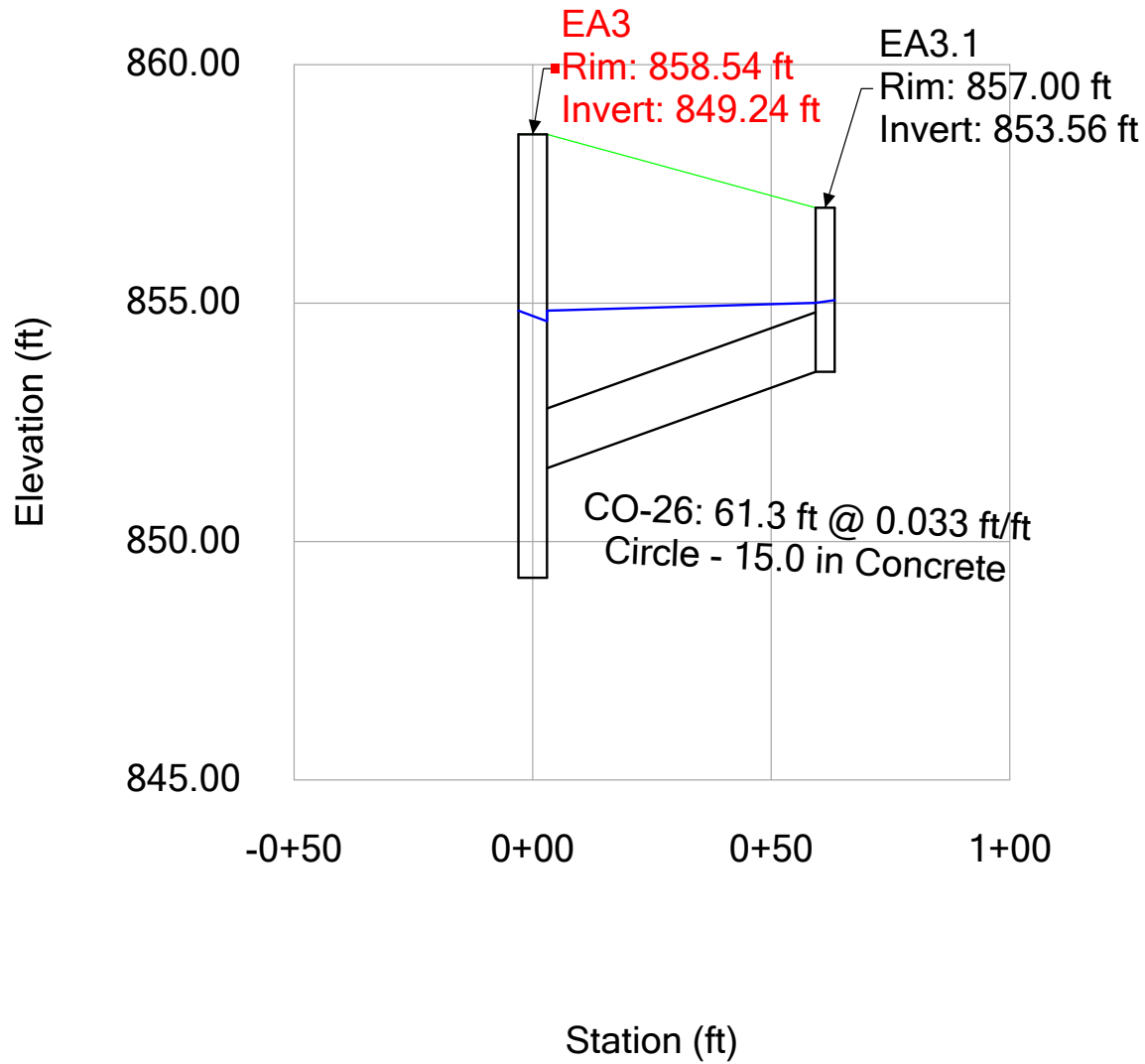
Profile Report
 Engineering Profile - EB1-EB4 (SSM Fish Hatchery.stsw)



Profile Report
Engineering Profile - EA3-EA3.1 (SSM Fish Hatchery.stsw)

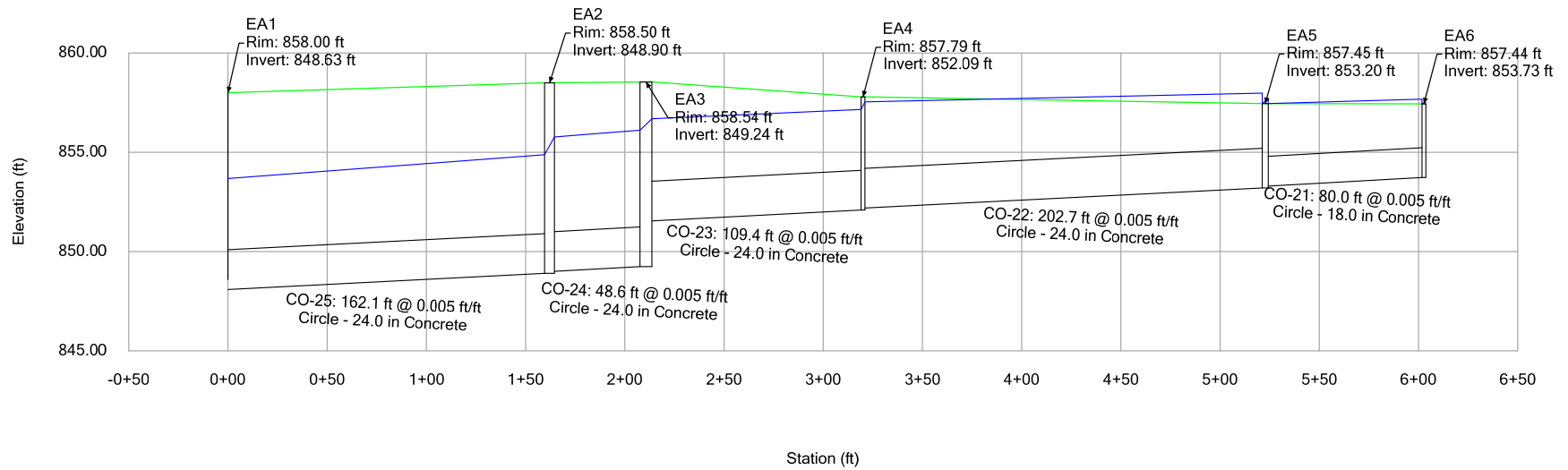


Profile Report
Engineering Profile - EA3-EA3.1 (SSM Fish Hatchery.stsw)



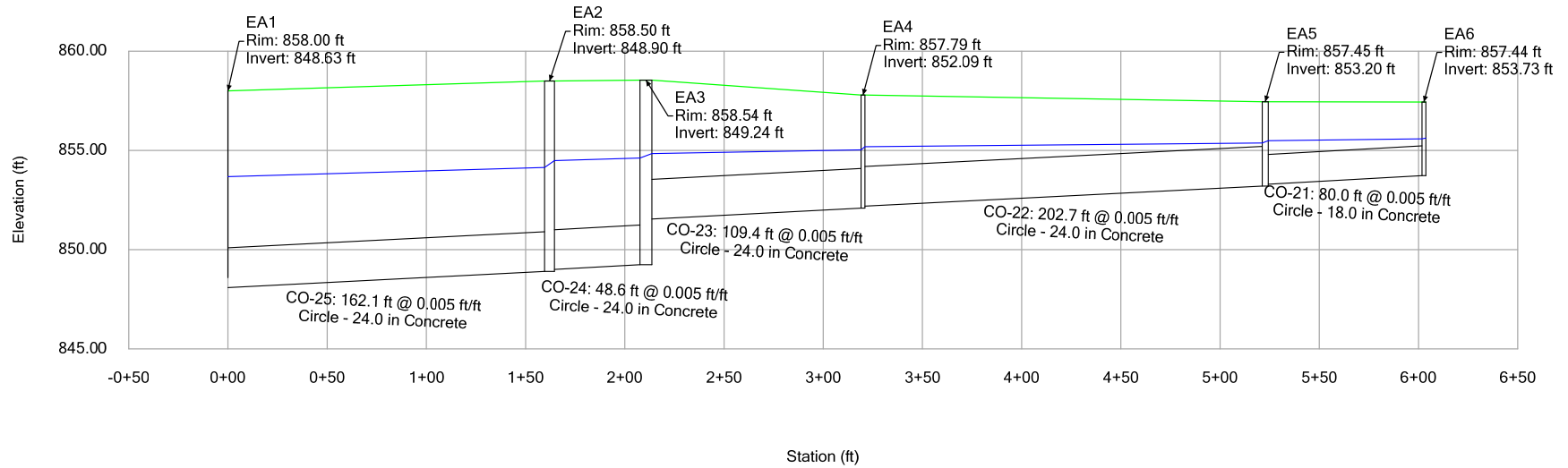
Profile Report

Engineering Profile - EA1-EA6 (SSM Fish Hatchery.stsw)



Profile Report

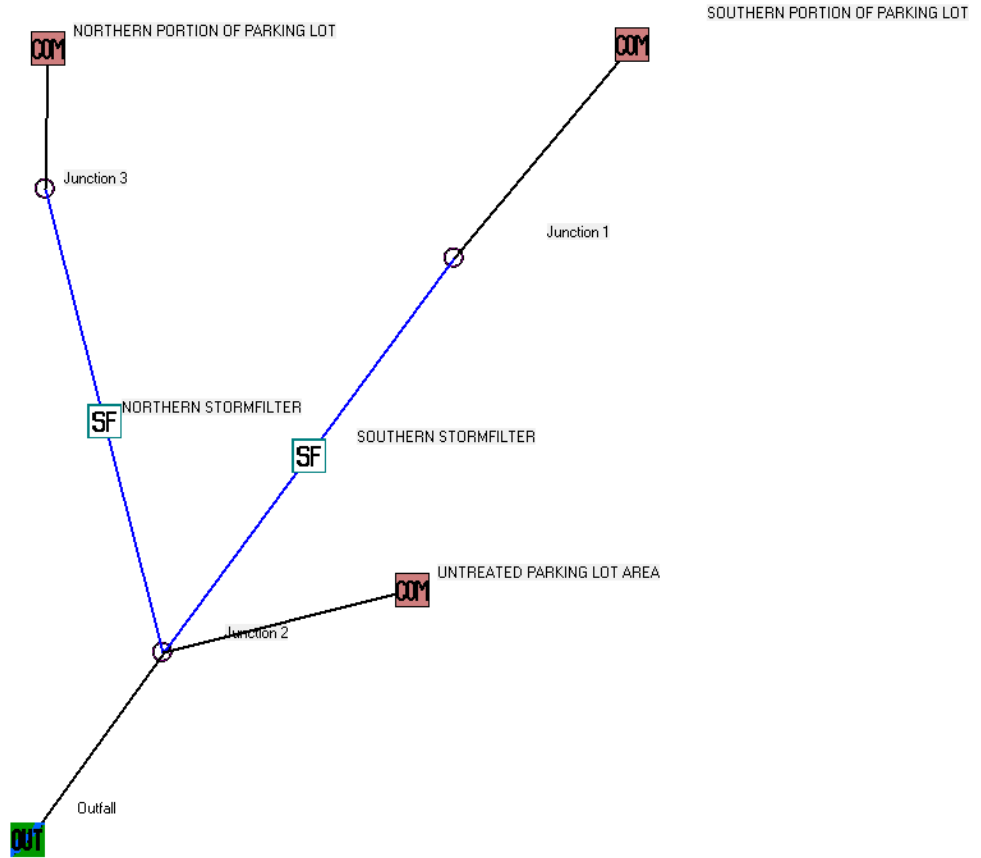
Engineering Profile - EA1-EA6 (SSM Fish Hatchery.stsw)



Appendix D
WinSLAMM Calculations

WINSLAMM Summary

(East Parking Lot)



File Name:
V:\Mun-WK\24-0329 SSM Dean Clinic\2.Supporting Design Documents\Drainage\Winslam Model\SSM EAST LOT-Parking Only (Proposed).mdb

Outfall Output Summary

	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of All Land Uses without Controls	163956		0.65	130.0	1331	
Outfall Total with Controls	164645	-0.42 %	0.65	54.25	557.6	58.11 %
Current File Output: Annualized Total After Outfall Controls	165098		Years in Model Run: <input style="width: 50px;" type="text" value="1.00"/>		559.2	

Pollutant	Concentration - No Controls	Concentration - With Controls	Concentration Units	Pollutant Yield - No Controls	Pollutant Yield - With Controls	Pollutant Yield Units	Percent Yield Reduction
Particulate Solids	130.0	54.25	mg/L	1331	557.6	lbs	58.11 %
Particulate Phosphorus	0.1850	0.07720	mg/L	1.893	0.7935	lbs	58.09 %

Total Area Modeled (ac)

Total Control Practice Costs

Capital Cost

Land Cost

Annual Maintenance Cost

Present Value of All Costs

Annualized Value of All Costs

Receiving Water Impacts Due To Stormwater Runoff

(CwP Impervious Cover Model)

	Calculated Rv	Approximate Urban Stream Classification
Without Controls	0.65	Poor
With Controls	0.65	Poor

Input Summary:

Data file name: V:\Mun-WK\24-0329 SSM Dean Clinic\2.Supporting Design Documents\Drainage\Winslam Model\SSM EAST LOT-Parking Only (Proposed).mdb

WinSLAMM Version 10.4.0

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdX

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

Seed for random number generator: -42

Study period starting date: 01/01/81 Study period ending date: 12/31/81

Start of Winter Season: 12/02 End of Winter Season: 03/12

Date: 12-13-2019 Time: 10:52:56

Site information:

LU# 1 - Commercial: SOUTHERN PORTION OF PARKING LOT Total area (ac): 1.880

13 - Paved Parking 1: 1.880 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Commercial: NORTHERN PORTION OF PARKING LOT Total area (ac): 0.240

13 - Paved Parking 1: 0.240 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 3 - Commercial: UNTREATED PARKING LOT AREA Total area (ac): 0.040

13 - Paved Parking 1: 0.040 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: StormFilter CP# 1 (DS) - SOUTHERN STORMFILTER

Media Type: ZPG

Cartridge Height (in): 18 inches

Cartridge Flow Rate: 2.0 gpm/sf

Head difference between inlet and outlet inverts (ft): 2.30

Bypass structure location: On Line - Within Cartridge Chamber

Solve for Given Conditions

Number of cartridges: 7

StormFilter particle size distribution file name: Not needed - calculated by program

Model does not determine cleaning frequency for this control practice.

Control Practice 2: StormFilter CP# 2 (DS) - NORTHERN STORMFILTER

Media Type: ZPG

Cartridge Height (in): 12 inches

Cartridge Flow Rate: 2.0 gpm/sf

Head difference between inlet and outlet inverts (ft): 1.80

Bypass structure location: On Line - Within Cartridge Chamber

Solve for Given Conditions

Number of cartridges: 2

StormFilter particle size distribution file name: Not needed - calculated by program

Model does not determine cleaning frequency for this control practice.

Output Summary:

Data file name: V:\Mun-WK\24-0329 SSM Dean Clinic\2.Supporting Design Documents\Drainage\Winslam Model\SSM EAST LOT-Parking Only (Proposed).mdb

Data file description:

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppd

Start of Winter Season: 12/02 End of Winter Season: 03/12

Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81

Date of run: 12-13-2019 Time of run: 10:54:13

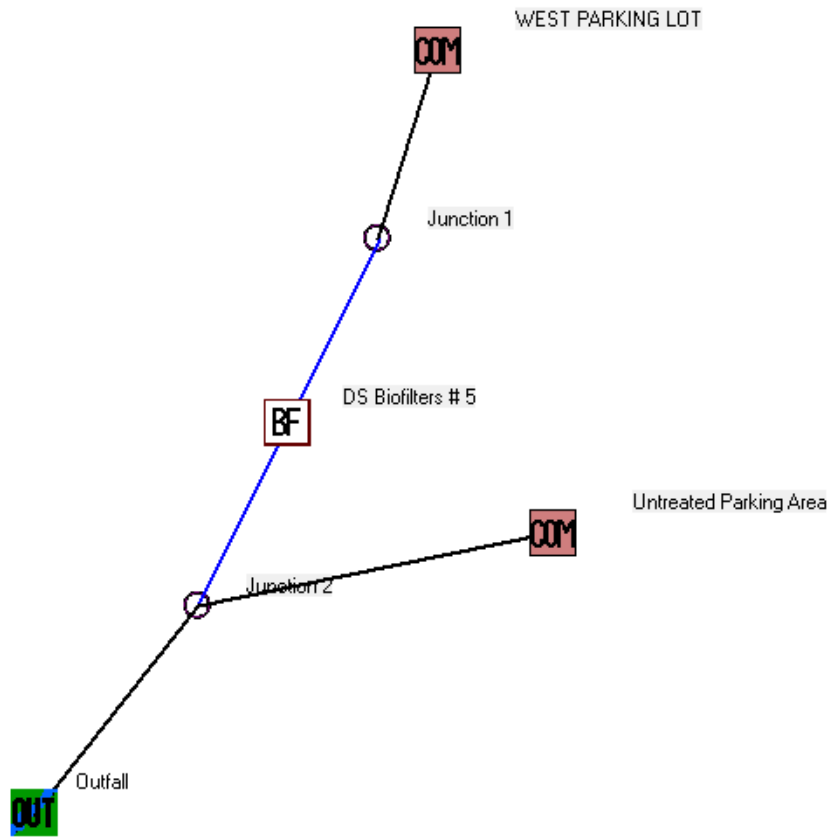
Total Area Modeled (acres): 2.160

Years in Model Run: 1.00

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction	
Total of all Land Uses without Controls:	163956	-	130.0	1331	-	
Outfall Total with Controls:	164645	-0.42%	54.25	557.6	58.11%	
Annualized Total After Outfall Controls:	165098			559.2		

Pollutant	Concentration - No Controls	Concentration - With Controls	Conc. Units	Pollutant Yield No Controls	Pollutant Yield With Controls	Pollutant Yield Units
Particulate Solids	130.0	54.25	mg/L	1331	557.6	lbs 58.11 %
Particulate Phosphorus	0.1850	0.07720	mg/L	1.893	0.7935	lbs 58.09 %

(West Parking Lot)



File Name:

V:\Mun-WK\24-0329 SSM Dean Clinic\2.Supporting Design Documents\Drainage\Winslam Model\SSM WEST LOT-Parking Only (Proposed).mdb

Outfall Output Summary

	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of All Land Uses without Controls	192041		0.65	130.0	1559	
Outfall Total with Controls	29145	84.82 %	0.10	111.6	203.1	86.97 %
Current File Output: Annualized Total After Outfall Controls	29225		Years in Model Run: 1.00		203.7	

Pollutant	Concentration - No Controls	Concentration - With Controls	Concentration Units	Pollutant Yield - No Controls	Pollutant Yield - With Controls	Pollutant Yield Units	Percent Yield Reduction
Particulate Solids	130.0	111.6	mg/L	1559	203.1	lbs	86.97 %
Particulate Phosphorus	0.1850	0.1589	mg/L	2.218	0.2891	lbs	86.97 %

Print Output
Summary to Text
File

Print Output
Summary to .csv
File

Total Area Modeled (ac)

2.530

Total Control Practice Costs

Capital Cost	N/A
Land Cost	N/A
Annual Maintenance Cost	N/A
Present Value of All Costs	N/A
Annualized Value of All Costs	N/A

Receiving Water Impacts Due To Stormwater Runoff (CWP Impervious Cover Model)

	Calculated Rv	Approximate Urban Stream Classification
Without Controls	0.65	Poor
With Controls	0.10	Good

Perform Outfall
Flow Duration
Curve Calculations

Input Summary:

Data file name: V:\Mun-WK\24-0329 SSM Dean Clinic\2.Supporting Design Documents\Drainage\Winslam Model\SSM WEST LOT-Parking Only (Proposed).mdb

WinSLAMM Version 10.4.0

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppd

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

Seed for random number generator: -42

Study period starting date: 01/01/81 Study period ending date: 12/31/81

Start of Winter Season: 12/02 End of Winter Season: 03/12

Date: 12-13-2019 Time: 11:00:16

Site information:

LU# 1 - Commercial: WEST PARKING LOT Total area (ac): 2.460

13 - Paved Parking 1: 2.460 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
CB-CP#1

LU# 2 - Commercial: Untreated Parking Area Total area (ac): 0.070

13 - Paved Parking 1: 0.070 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Catchbasin Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 13

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 9
3. Average sump depth below catchbasin outlet invert (feet) = 3
4. Depth of sediment in catchbasin sump at beginning of study period (ft) = 0
5. Typical outlet pipe diameter (ft) = 1
6. Typical outlet pipe Mannings n = 0.013

7. Typical outlet pipe slope (ft/ft) = 0.02
8. Typical catchbasin sump surface area (square feet) = 12
9. Total catchbasin depth (feet) = 7
10. Inflow hydrograph peak to average flow ratio = 3.8
11. Leakage rate through sump bottom (in/hr) = 0
12. Catchbasin Critical Particle Size File Name: Not needed - calculated by program
13. Catchbasin cleaning frequency: Annually

Control Practice 2: Biofilter CP# 1 (DS) - DS Biofilters # 5

1. Top area (square feet) = 7000
2. Bottom area (square feet) = 4500
3. Depth (ft): 4
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.3
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 1
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 3.6
12. Engineered soil depth (ft) = 2
13. Engineered soil porosity = 0.45
14. Percent solids reduction due to flow through engineered soil = 0
15. Biofilter peak to average flow ratio = 3.8
16. Number of biofiltration control devices = 1
17. Particle size distribution file: Not needed - calculated by program
18. Initial water surface elevation (ft): 0

Soil Data

Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Saturation water content percent (Porosity) = 0

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 10
3. Height of datum to bottom of weir opening: 3

Output Summary:

SLAMM for Windows Version 10.4.0

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Data file name: V:\Mun-WK\24-0329 SSM Dean Clinic\2.Supporting Design Documents\Drainage\Winslam Model\SSM WEST LOT-Parking Only (Proposed).mdb

Data file description:

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx

Start of Winter Season: 12/02 End of Winter Season: 03/12

Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81

Date of run: 12-13-2019 Time of run: 10:59:53

Total Area Modeled (acres): 2.530

Years in Model Run: 1.00

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction	
Total of all Land Uses without Controls:	192041	-	130.0	1559	-	
Outfall Total with Controls:	29145	84.82%	111.6	203.1	86.97%	
Annualized Total After Outfall Controls:	29225			203.7		

Pollutant	Concentration -		Conc. Units	Pollutant Yield		Pollutant Yield Units
	No Controls	With Controls		No Controls	With Controls	
Pol. Yield Percent						
Reduction						
Particulate Solids	130.0	111.6	mg/L	1559	203.1	lbs 86.97 %
Particulate Phosphorus	0.1850	0.1589	mg/L	2.218	0.2891	lbs 86.97 %

Appendix E

Drainage Plan

NOT FOR CONSTRUCTION

NO.	DESCRIPTION	DATE

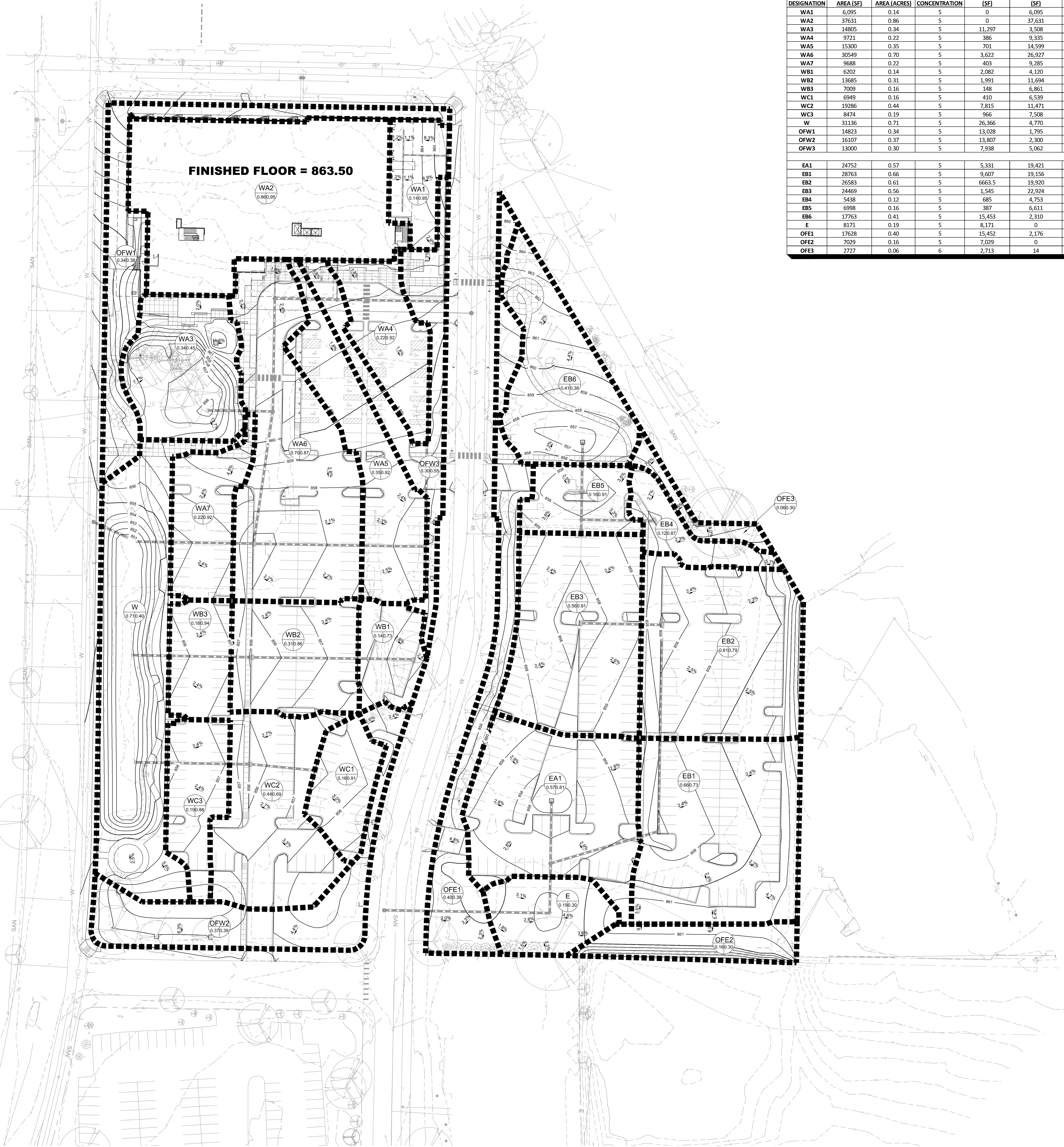
ISSUANCE HISTORY - THIS SHEET
AYRES NO. 24-0329

DRAINAGE PLAN

DATE: DECEMBER 18, 2019
LAND USE APPLICATION

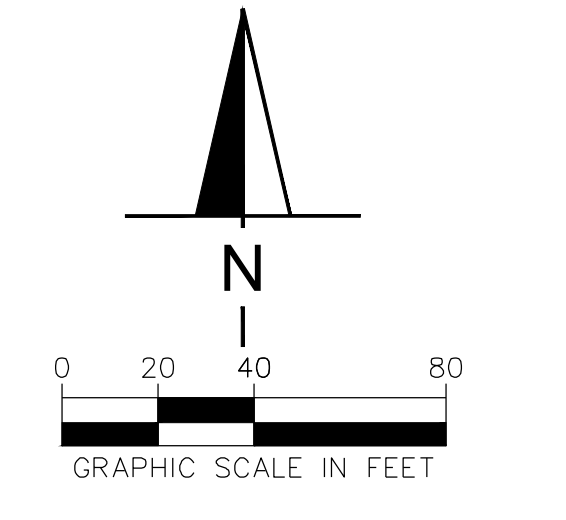
C6.1
LAND USE APPLICATION
COPYRIGHT AYRES ASSOCIATES

BASIN DESIGNATION	CONTRIBUTING AREA (SF)	CONTRIBUTING AREA (ACRES)	TIME OF CONCENTRATION	PERVIOUS AREA (SF)	IMPERVIOUS AREA (SF)	WEIGHTED RUNOFF COEFFICIENT	RAINFALL INTENSITY (in/day) (10 YEAR 24-hr STORM EVENT)	RAINFALL INTENSITY (in/day) (100 YEAR 24-hr STORM EVENT)	RUNOFF (10 YEAR) (CFS)	RUNOFF (100 YEAR) (CFS)	CA
WA1	6,095	0.14	5	0	6,095	0.95	4.2	6.0	0.56	0.80	0.13
WA2	37831	0.86	5	0	37,631	0.95	4.2	6.0	3.45	4.92	0.82
WA3	14805	0.34	5	11,297	3,508	0.45	4.2	6.0	0.65	0.93	0.15
WA4	9721	0.22	5	386	9,335	0.92	4.2	6.0	0.87	1.24	0.21
WA5	15300	0.35	5	701	14,599	0.92	4.2	6.0	1.36	1.94	0.32
WA6	30549	0.70	5	3,622	26,927	0.87	4.2	6.0	2.57	3.67	0.61
WA7	9688	0.22	5	403	9,285	0.92	4.2	6.0	0.86	1.23	0.21
WB1	6202	0.14	5	2,082	4,120	0.73	4.2	6.0	0.44	0.63	0.10
WB2	13685	0.31	5	1,991	11,694	0.86	4.2	6.0	1.13	1.61	0.27
WB3	7009	0.16	5	148	6,861	0.94	4.2	6.0	0.63	0.90	0.15
WC1	6949	0.16	5	410	6,539	0.91	4.2	6.0	0.61	0.87	0.15
WC2	19286	0.44	5	7,815	11,471	0.69	4.2	6.0	1.28	1.82	0.30
WC3	8474	0.19	5	966	7,508	0.88	4.2	6.0	0.72	1.02	0.17
W	31136	0.71	5	26,366	4,770	0.40	4.2	6.0	1.20	1.71	0.29
OFW1	14823	0.34	5	13,028	1,795	0.38	4.2	6.0	0.54	0.77	0.13
OFW2	16107	0.37	5	13,807	2,300	0.39	4.2	6.0	0.61	0.87	0.15
OFW3	13000	0.30	5	7,938	5,062	0.55	4.2	6.0	0.69	0.99	0.17
EA1	24752	0.57	5	5,331	19,421	0.81	4.2	6.0	1.93	2.76	0.46
EB1	28763	0.66	5	9,607	19,156	0.73	4.2	6.0	2.03	2.90	0.48
EB2	26583	0.61	5	6663.5	19,920	0.79	4.2	6.0	2.02	2.88	0.48
EB3	24469	0.56	5	1,545	22,924	0.91	4.2	6.0	2.14	3.06	0.51
EB4	5438	0.12	5	685	4,753	0.87	4.2	6.0	0.46	0.65	0.11
EB5	6998	0.16	5	387	6,611	0.91	4.2	6.0	0.62	0.88	0.15
EB6	17763	0.41	5	15,453	2,310	0.38	4.2	6.0	0.66	0.94	0.16
E	8171	0.19	5	8,171	0	0.30	4.2	6.0	0.24	0.34	0.06
OF1	17628	0.40	5	15,452	2,176	0.38	4.2	6.0	0.65	0.92	0.15
OF2	7029	0.16	5	7,029	0	0.30	4.2	6.0	0.20	0.29	0.05
OF3	2727	0.06	6	2,713	14	0.30	4.2	6.0	0.08	0.11	0.02



DRAINAGE LEGEND

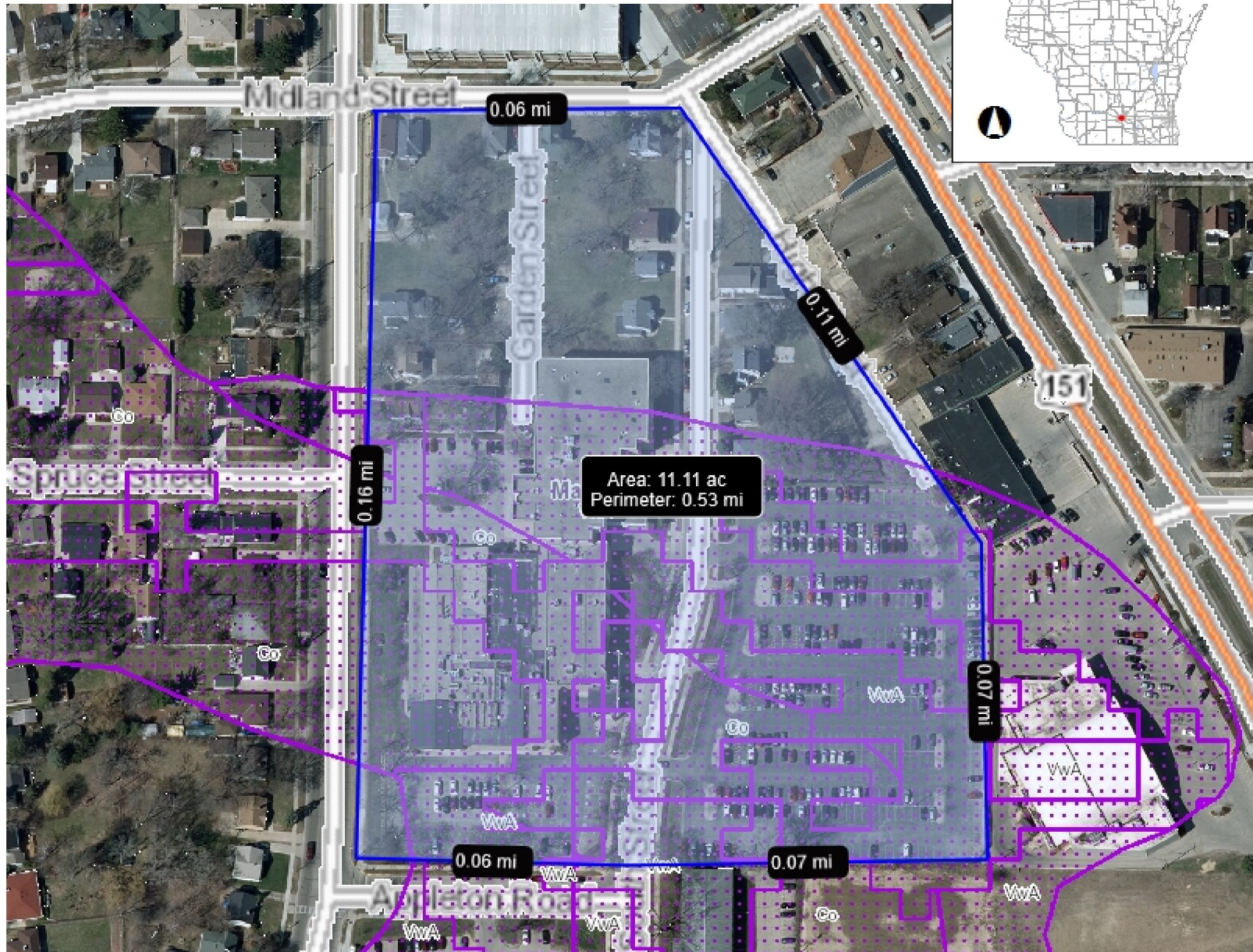
- # BASIN DESIGNATION
- AC # RUNOFF COEFFICIENT
- AREA IN ACRES
- DRAINAGE BASIN BOUNDARY



Appendix F
Wetland, Floodplain, and Endangered Species



Surface Water Data Viewer Map



Legend

-  PNW-ASNRI Sensitive Areas of Lakes
-  PNW-ASNRI Wild and Scenic Rivers
-  PNW-ASNRI Outstanding and Exceptional Streams
-  PNW-ASNRI Trout Streams
-  PNW-ASNRI Wild Rice Streams
-  PNW-ASNRI Outstanding and Exceptional Lakes
-  PNW-ASNRI Special Area Management Plan Streams
-  PNW-ASNRI Special Wetlands Inventory Study Streams
-  PNW-ASNRI Coastal Wisconsin Wetlands Streams
-  PNW-ASNRI Special Area Management Plan Areas
-  PNW-ASNRI Special Wetlands Inventory Study Areas
-  PNW-ASNRI Coastal Wisconsin Wetlands Areas
-  PNW-ASNRI Wild Rice Areas
-  PNW-ASNRI Trout Spring Ponds
-  PNW-ASNRI State Natural Areas
-  PNW-PRF Other Public Rights Features
-  PNW Musky Streams
-  PNW Sturgeon Streams
-  PNW Musky Areas
-  PNW Sturgeon Areas
-  PNW Walleye Areas

Notes

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>

NAD_1983_HARN_Wisconsin_TM

1: 1,980

National Flood Hazard Layer FIRMette



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation 17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

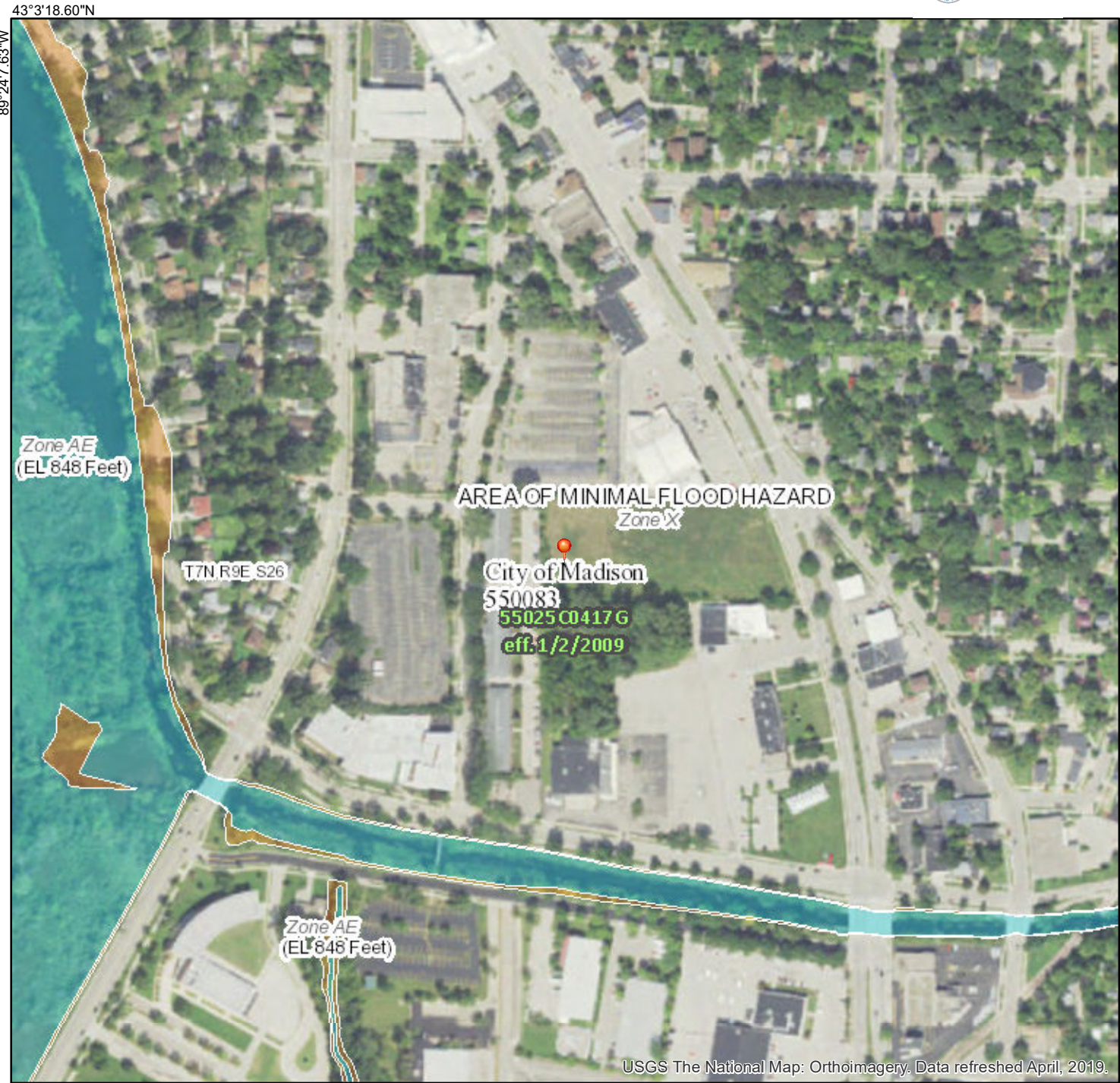
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **12/13/2019 at 12:27:16 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.





Endangered Resources Preliminary Assessment

Created on **11/15/2019**. This report is good for one year after the created date.

Results

A search was conducted of the NHI Portal within a 1-mile buffer (for terrestrial and wetland species) and a 2-mile buffer (for aquatic species) of the project area. Based on these search results, below are your follow-up actions.

Further actions are required to ensure compliance with Wisconsin's Endangered Species Law (s. 29.604 Wis. Stats.) and the Federal Endangered Species Act (16 USC ss 1531-43). One or more of the following situations apply:

- The species recorded are state or federal threatened or endangered animals.
- The project site overlaps the Karner Blue Butterfly High Potential Range.
- The project overlaps the Rusty Patched Bumble Bee High Potential Zone.
- The species recorded are state threatened or endangered plants on public land.
- The species recorded are federal threatened or endangered plants on federal land or involve federal funds or a federal permit.

Therefore you should request an Endangered Resources Review <https://dnr.wi.gov/topic/ERReview/Review.html>. An ER Review is the mechanism to ensure compliance with Wisconsin's Endangered Species Law (s. 29.604 Wis. Stats.) and the Federal Endangered Species Act (16 USC ss 1531-43). The ER Review will list the endangered resources that have been recorded within the vicinity of the project area and follow-up actions may be necessary.

A copy of this document can be kept on file and submitted with any other necessary DNR permit applications to show that the need for an ER Review has been met. This notice only addresses endangered resources issues. This notice does not constitute DNR authorization of the proposed project and does not exempt the project from securing necessary permits and approvals from the DNR and/or other permitting authorities.

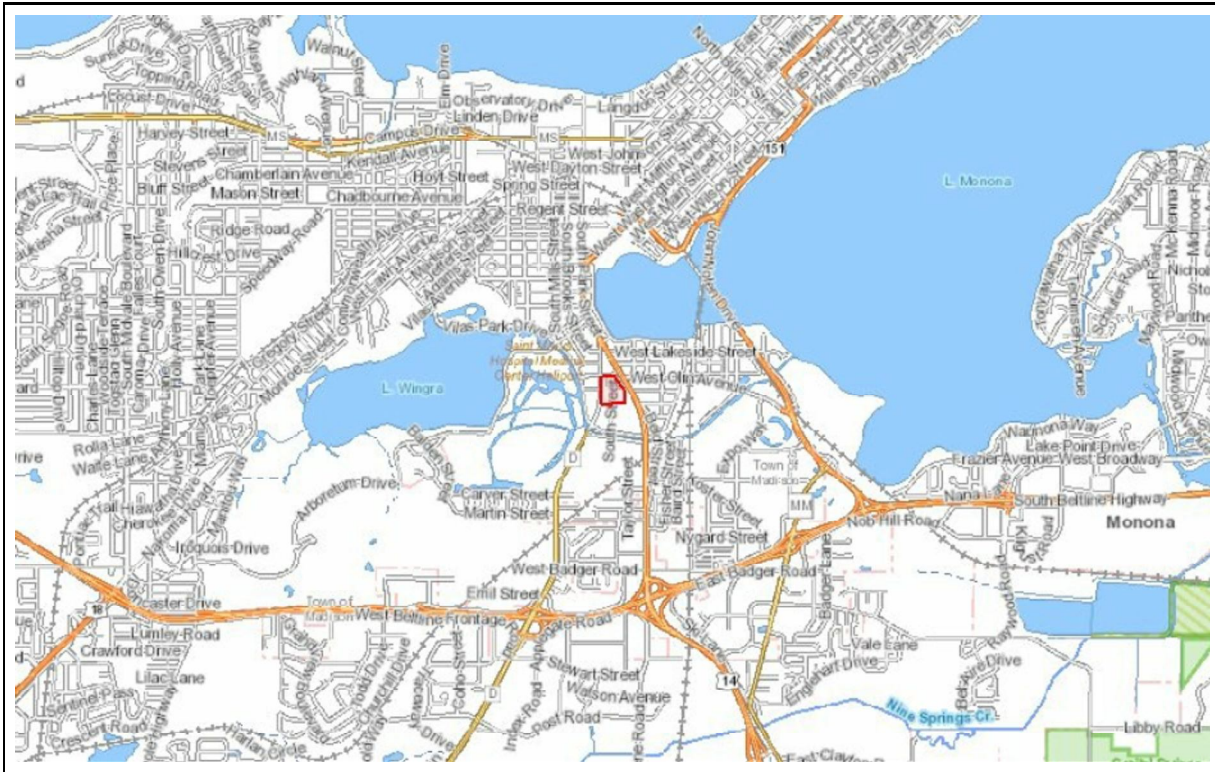
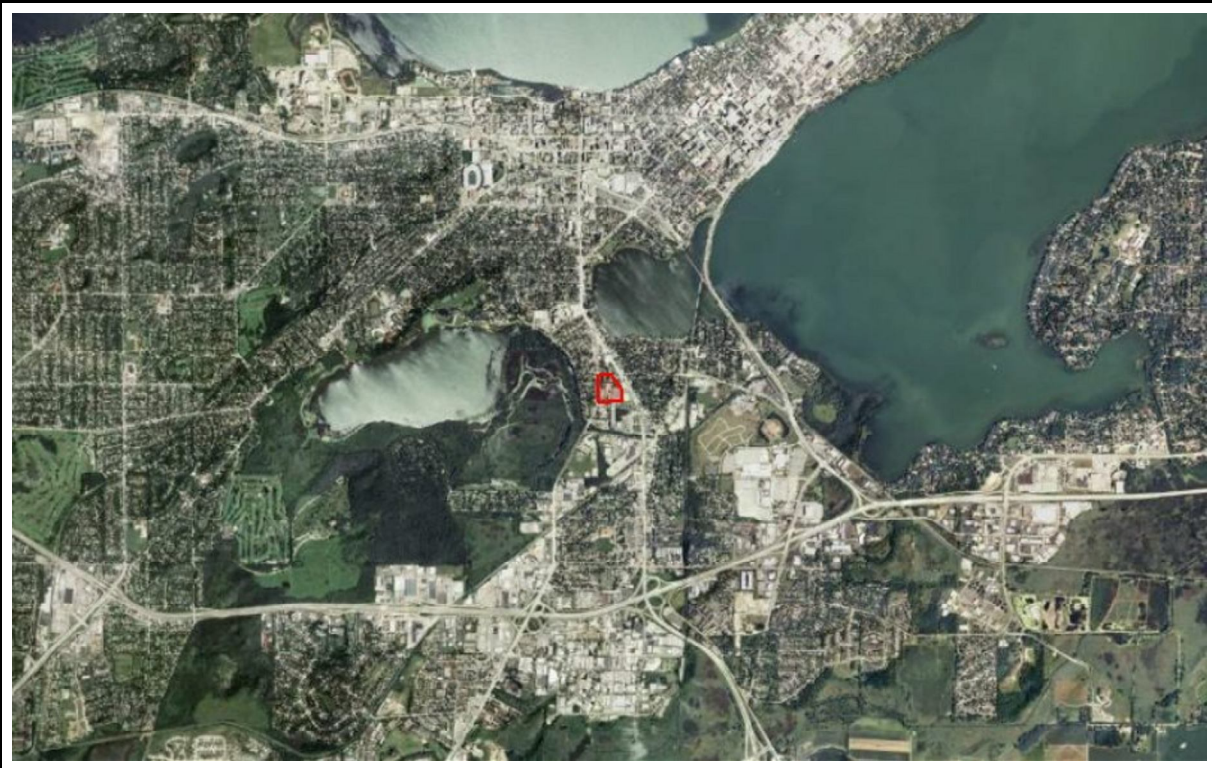
Project Information

Landowner name	SSM Health
Project address	1313 Fish Hatchery Road
Project description	Medical Building Redevelopment

Project Questions

Does the project involve a public property?	No
Is there any federal involvement with the project?	No
Is the project a utility, agricultural, forestry or bulk sampling (associated with mining) project?	No
Is the project property in Managed Forest Law or Managed Forest Tax Law?	No
Project involves tree removal?	Yes
Does project have urban/residential habitat?	Yes
Does project have manicured lawn?	No

Does project have artificial/paved surface?	No
Does project involve agricultural land?	No
Does project have areas covered in crushed stone or gravel?	No
Is project near (within 300 ft) a waterbody or a shoreline?	No
Is project within a waterbody or along the shoreline?	No



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<https://dnr.wisconsin.gov/nhiportal/public>

101 S. Webster Street . PO Box 7921 . Madison, Wisconsin 53707-7921

Maier, Scott

From: Ramminger, Allen J - DNR <Allen.Ramminger@wisconsin.gov>
Sent: Monday, November 18, 2019 8:55 AM
To: Maier, Scott
Cc: Ramminger, Allen J - DNR
Subject: FW: Wetland Question
Attachments: Wetland Surface Data Viewer.pdf

Hi Scott;

I reviewed the SWDV and you are correct. Wetland soils but no wetlands in the blue outlined project area. You may use this Email string and map as concurrence for your project. Thanks.

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Allen Ramminger

Wetlands Specialist
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road, Fitchburg, WI 53711
Cell: 608-228-4067
Allen.Ramminger@wisconsin.gov

From: Maier, Scott <MaierS@AyresAssociates.com>
Sent: Friday, November 15, 2019 11:58 AM
To: Ramminger, Allen J - DNR <Allen.Ramminger@wisconsin.gov>
Subject: Wetland Question

Allen,

We are working on a redevelopment project in Madison. The surface data review shows soil indicators where the building and parking lot currently exist. Do we need to get a delineator onsite to confirm wetlands don't exist for the WRAPP permit, Or can we use reasonable judgment that no wetlands exist based on the surface data viewer combined with the aerial. Attached is the surface data viewer showing the project area. It is very unlikely any wetland exist since the site is paved and/or has building coverage

Thank you,



Scott Maier

Ayres Associates Inc

N17 W24222 Riverwood Drive, Suite 310 | Waukesha, WI 53188-1132

Office: 262.523.4488 | **Direct:** 262.522.4901

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