STORM WATER QUALITY PLAN WISCONSIN PROFESSIONAL BASEBALL PARK DISTRICT

Prepared July 2024

Prepared for:

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all in

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Appendix

1.0 INTRODUCTION

The intent of this report is to summarize the methods and procedures utilized to establish baseline storm water pollutant loadings and calculate the current Total Suspend Solids (TSS)/Total Phosphorous (TP) removal from the Wisconsin Professional Baseball Park District's, hereby referred to as the District, existing storm water controls and best management practices (BMP's) within the Milwaukee River TMDL area. This report will also provide a background on TMDL's, requirements of the Milwaukee River TMDL report, and a preliminary plan for the District to achieve the necessary water quality goals set forth in the Milwaukee River TMDL report.

This report will serve as the document to meet the requirements set forth in Special Conditions III.A.1 of the District's WPDES permit.

1.1 District Location and Description

The Wisconsin Professional Baseball Park District, located in Milwaukee County, occupies 174 acres. The District's site is centered around American Family Field, which is designed to seat 41,900 spectators. The facilities within the District are equipped to support this volume of guests, including ample parking and various commercial and concession services. The District lies within the Milwaukee River Basin of the Menomonee River Watershed and borders the Menomonee River for a combined length of approximately 4,000 linear feet. The Menomonee River runs through the District and Wood Creek feeds into the Menomonee River at a point inside the District. Refer to Figure 1 in Appendix A for an overview of the District limits.

2.0 TOTAL MAXIMUM DAILY LOADS (TMDL)

2.1 Background of TMDLs

In April of 1991, the United States Environmental Protection Agency (EPA) Office of Water's Assessment and Protection Division published "Guidance for Water Quality-based Decisions: The Total Maximum Daily Load (TMDL) Process." In July 1992, EPA published the final "Water Quality Planning and Management Regulation" (40 CFR Part 130). Together, these documents describe the roles and responsibilities of EPA and the states in meeting the requirements of Section 303(d) of the Federal Clean Water Act (CWA) as amended by the Water Quality Act of 1987, Public Law 100-4. Section 303(d) of the CWA requires each state to identify those waters within its boundaries not meeting water quality standards for any given pollutant applicable to the water's designated uses.

Section 303(d) requires EPA and states to develop TMDLs for all pollutants violating or causing violation of applicable water quality standards for each impaired water body. A TMDL determines the maximum amount of pollutant that a water body is capable of assimilating while continuing to meet the existing water quality standards. For all the point and nonpoint sources of pollution that cause the impairment, such loads are established at levels necessary to meet the applicable standards with consideration given to seasonal variations and margin of safety. TMDLs provide the framework that allows states to establish and implement pollution control and management

plans, with the ultimate goal as indicated in Section 101(a)(2) of the CWA "water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water, wherever attainable" (USEPA, 1991).

2.2 Milwaukee River Basin

The Milwaukee River Basin is located in portions of seven counties, and includes (entirely or portions of) 13 cities, 32 towns, 24 villages, with a population of about 1.3 million people. The southern quarter of the basin is the most densely populated area in the state, holding 90 percent of the basin's population. The Milwaukee River Basin is represented by three watersheds, the Menomonee, Kinnikinnic, and Milwaukee River. Collectively, the basin comprises about 400 miles of streams, 57 named lakes, and numerous small lakes and ponds.

The Milwaukee River basin covers nearly 850 square miles. The Menomonee River Watershed within the basin covers 137 square miles, extending over Milwaukee, Ozaukee, Washington, and Waukesha Counties.

2.3 Characteristics of Menomonee River Watershed

The Menomonee River Watershed is in the southwestern portion of the Milwaukee River Basin and covers an area of approximately 137 square miles, extending over Milwaukee, Ozaukee, Washington, and Waukesha Counties. The watershed contains over 75 total stream miles and is characterized by small to medium sized warm water streams that exhibit flashy flow patterns. The Menomonee River discharges into Milwaukee Harbor, which is tributary to Lake Michigan.

The Menomonee River Watershed is predominantly urbanized, with urban land uses comprising approximately 64% of total land area. Residential land represents the largest urban land use in the watershed. As of 2000, the population in the watershed was approximately 320,000 persons.

2.4 Menomonee River Watershed Pollutants of Concern

The Menomonee River partially meets the water quality criteria supporting its designated uses of primary contact recreation and fish and aquatic life. Phosphorus, sediment, and bacteria are often found together, so, activities targeted at reducing one of the pollutants may also reduce the other two. To assist in planning for addressing these impairments, this document establishes TMDLs for total phosphorus (TP) and total suspended solids (TSS).

Although phosphorus is an essential nutrient for plant growth, excess phosphorus is a concern for most aquatic ecosystems. Where human activities do not dominate the landscape, phosphorus is generally in short supply. The absence of phosphorus limits the growth of algae and aquatic plants. When a large amount of phosphorus enters a water body, it essentially fertilizes the aquatic system, allowing more plants and algae to grow, leading to excessive aquatic plant growth, often referred to as an algae bloom. This condition of nutrient enrichment and high plant productivity is referred to as eutrophication. Eutrophication can be detrimental to aquatic life, reduce recreational opportunities, and affect the economic well-being of the surrounding

community. Overabundant aquatic plant growth in a water body can lead to several undesirable consequences. Excessive growth of vegetation in a water body blocks sunlight from penetrating the water, choking out beneficial submerged aquatic vegetation. Large areas of excessive vegetation growth can inhibit or prevent access to a waterway, which restricts use of the water for fishing, boating, and swimming. A bloom of aquatic plants may include toxic blue-green algae or cyanobacteria, which are harmful to fish and pose health risks to humans. Algae blooms, particularly those that form surface scums, are unsightly and can emit unpleasant odors. This makes recreational use of the water body unpleasant and can affect the everyday quality of life of people living near the affected water body.

When the large masses of aquatic plants from the bloom die, the decomposition of the organic matter depletes the supply of dissolved oxygen in the water, suffocating fish and other aquatic life. Depending on the severity of the low dissolved oxygen event, large fish kills can occur. Nearly all these environmental impacts have economic impacts to the local community and the state.

The mean concentration of total phosphorus in the Menomonee River from 1998 through 2004, was 0.116 mg/L. Concentrations varied over four orders of magnitude, ranging from 0.0015 to 3.000 mg/L. At most sampling sites, the data showed moderate variability. According to TR-39, the annual average load of total phosphorus to streams of the Menomonee River Watershed is estimated to be 53,120 pounds per year. Combined sewer overflows and sanitary sewer overflows contribute approximately 3.5 percent and 1.1 percent, respectively, of this load industrial discharges contribute about 33 percent, while the remaining 62.4% of total phosphorus loadings to streams in the watershed come from runoff. Of this runoff, 54.7% originates from urban MS4 sources, both permitted and non-permitted, and 7.7% from rural sources.

The mean value for TSS concentrations in the Menomonee River during the period of record was 21.4 mg/L. Considerable variability was associated with this mean, with values ranging from 1.6 to 727.0 mg/L. At most sampling stations, baseline period monthly mean TSS concentrations generally tend to be near historical means. During the spring, there is a distinct tendency at several stations for baseline period monthly mean TSS concentrations to be higher than historical means.

The annual average load of TSS to streams in the Menomonee River Watershed is estimated to be 18 million pounds (9,000 tons) per year. Combined sewer overflows and separate sewer overflows contribute about 1.0 percent and 0.2 percent, respectively, of this load, and industrial discharges contribute about 0.3 percent. The rest of TSS loadings to streams in the watershed, approximately 98.5 percent, are contributed by runoff, with 87.6 percent coming from urban sources and 10.9 percent from rural sources.

The TMDL for the Milwaukee River Basin was developed using a watershed framework, where TMDLs and the associated tasks are simultaneously completed for multiple impaired water bodies

in a watershed. The Milwaukee River TMDL was completed and approved in March 2018. The Milwaukee River TMDL report identifies the TMDLs, load allocations, and recommended management actions that will help restore water quality in the Milwaukee River Basin.

3.0 STORM WATER QUALITY PLAN OBJECTIVES AND STANDARDS

The storm water quality plan is intended to assess existing storm water pollutant loading and treatment within the District, develop alternatives to improve water quality where required and conform to permit requirements. The storm water quality plan will:

- Detail the District's existing storm water system and storm water quality devices.
- Describe storm water permit requirements, pollutant removal requirements, existing pollutant removals, and future water quality improvements.
- Provide an evaluation of the technical, economical, and feasibility of the alternate best management practices.
- Develop a comprehensive Storm Water Quality Plan for the District's TMDL area.

3.1 District TMDL Area

The area considered in this planning effort is the District within the Milwaukee River TMDL. The District's TMDL area is 174 acres. Watersheds within the District include the Menomonee River Watershed.

3.2 Milwaukee River Allocation and Pollutant Reduction Goals

The following table identifies the total suspended solids (TSS) and total phosphorous (TP) reduction goals for the District's TMDL area. The values represent the load reductions required from a no-controls scenario.

The pollutant reduction goals specified for the District are summarized in Table 1.

Table 1 – District TMDL Area Pollutant Reduction Goals

Reachshed	Required TSS Reduction From No Controls	Required Phosphorus Reduction From No Controls
Menomonee River	72%	49.4%

4.0 EXISTING CONDITIONS

The characteristics of Menomonee River Watershed within the Milwaukee River TMDL are key elements of the storm water analysis as to correctly model the pollutant loading of the area. These characteristics are summarized below.

4.1 Land Use

Land use within the District TMDL area is 100% commercial/business. The area from this map was tabulated and the resulting summary is provided below in Table 2.

Table 2 - WPBPD TMDL Area Land Use

LAND USE	AREA	
	ACRES	PERCENTAGE
Commercial/ Business District	174	100%
Total (Acres)	174	
Total (Square Miles)	0.27	

The detailed type of each land use (roadway, parking, driveway, roof, sidewalk, open space, etc.) within each basin was selected based upon inspecting aerial mapping. See Figure 3 in Appendix A for a summary of land use by drainage basin.

4.2 Topography and Drainage

The Menomonee River Watershed is located in the southwestern portion of the Milwaukee River Basin. The Menomonee River Watershed is approximately 137 square miles and drains into the Milwaukee Estuary. The watershed has been significantly modified, with 36 dams present and significant portions of the river channelized and lined with concrete. Some agricultural land use remains at the headwaters.

A majority of the stormwater received by the District enters into the District storm sewer system, eventually discharging to the Menomonee River. However, storm sewer in Drainage Basins 6,7,9,10, and 11 connects to the Wisconsin Department of Transportation owned storm sewer system.

Refer to Figures 2, 3, and 4 in Appendix A for an overview of site topography as related to the District drainage basins, an overview of detailed land uses as related to the drainage basins, and an overview of the storm sewer system within the drainage basins and surrounding area.

4.3 Soil Conditions and Depth to Groundwater

Soil within the District is primarily fill consisting of silty clay, silt loam, and clay loam. These soils typically have low to moderate permeability. Depth to groundwater is deeper than 10 feet but can fluctuate with seasons and storm events.

Given that the District consists of fill with various soil types, the WinSLAMM soil type input was conservatively generalized as clayey to accurately represent the onsite soil properties.

4.4 Water Resources

The WPBPD site discharges into the Menomonee River, located in the southwestern portion of the Milwaukee River TMDL area.

5.0 MODELING PROCEDURES

The sections below detail the input files and modeling procedures utilized in the District TMDL analysis. Critical input data includes land use, soil type, and drainage basins based upon topography.

5.1 WinSLAMM Model Input Files

The District water quality analysis was performed utilizing WinSLAMM version 10.5.0. Input data files were selected in accordance with NR151. The WinSLAMM data input files in the District analysis are summarized below:

Seed: -42
Rain File: WI Milwaukee 69.RAN
Start of Winter: 12/06
End of Winter: 03/28
Pollutant Probability Distribution File: WI_GEO03.ppdx
Runoff Coefficient File: WI_SL06 Dec06.rsvx
Particulate Solids Concentration File: v10.1 WI_AVG01.pscx
Street Delivery File: WI_Com Inst Indust Dec06.std
Source area PSD and Peak to Average Flow Ratio File: NURP Source Area PSD Files.csv

5.2 Drainage Basin Delineation and Analysis

Drainage basin areas were delineated in AutoCAD Civil3D based upon Milwaukee County lidar topo mapping and survey data. An overview map depicting the drainage basins is provided in Figures 2-4 in Appendix A.

Detailed land uses, including parking lots, landscaped areas, sidewalks, and roofs were then calculated within each drainage basin. This information was entered directly into WinSLAMM by selecting a Commercial Land Use node and manually entering the required information on land type, area, and existing control practices.

5.3 Existing Storm Water Controls

The primary storm water controls within the District are street sweeping, catch basins, and a wet detention basin. As part of the District's WPDES permit, the entire storm sewer system was inspected and documented. Catch basins with sumps were inputted into the WinSLAMM program. The storm sewer system map (Figure 4) is provided in Appendix A.

The street sweeping plan for the stadium site was summarized by the District and is provided below. For reference, Major League Baseball (MLB) Events are defined as a homestand and Stadium Events are defined as an event at the stadium with at least 10,000 people in attendance.

At the conclusion of each game day or Stadium Event, debris/garbage in parking lots and roadways is handpicked as required, based on their use. The parking lots and roadways are also handpicked prior to opening for each game day or Stadium Event. All landscaped areas are

handpicked as needed at the conclusion of, and as needed during, MLB Events and Stadium Events.

Parking lots and roadways are swept as needed, at least once per MLB Event and Stadium Event. The need is based on use of parking lots during the event and visual observation. Every lot is evaluated and swept based on its use and all curbs are swept. Sweeping needs are reviewed monthly from November to March. There is a deep clean at the end of the event season and another before the event season. Additional cleanings may be added in the offseason based on need.

The type of sweeper used is a 2015 Chevy Silverado with a vacuum and broom sweeping system attached to the truck.

The sweeping was inputted as a control practice in WinSLAMM for parking lots by applying a standard 10% removal of TSS as directed by the WDNR.

6.0 WinSLAMM ANALYSIS AND RESULTS

The TSS and TP loading for the District area without any storm water controls are 91,909 lbs/yr and 194.7 lbs/yr respectively. The existing storm water controls remove 29,854 lbs/yr (32%) of TSS and 49.3 lbs/yr (25%) of TP.

The total TSS removal provided by each control practice is provided below in Table 4.

Table 3 – WPBPD TMDL Area TSS & TP Removal by Control Practice

TOTAL SUSPENDED SOLIDS	TSS	TP
	ANNUAL LOAD LBS	ANNUAL LOAD LBS
No Controls	91,909	194.7
Removed by Street Sweeping	8,898	14.5
Removed by Existing Controls	20,956	34.8
Total Removed	29,854	49.3
Total Remaining	62,055	145.4
% Reduction Rate	32%	25.3%

The complete WinSLAMM input and output summary files are provided in Appendix B.

7.0 TMDL COMPLIANCE

The District TMDL area achieves 32% removal of TSS and 25% removal of TP, which is less than the 72% TSS removal and 49.4% TP removal mandated by the Menomonee River Watershed of the Milwaukee River TMDL.

The current WPDES permit expires August 31, 2026. The table below summarizes the required Total Maximum Daily Load-Submit Wasteload Allocation Attainment Analysis, mandated by Section III.A.2 of the permit, which is due January 30, 2025. The table below also includes the TMDL Pollutant Load Benchmarks, as required by Section III.A.3, which is due February 28, 2026.

The table below summarizes the additional TSS and TP removals required to meet the TMDL requirement, due February 28, 2026.

Table 4 – Additional TSS and TP Removals Required For Next Permit Cycle

Pollutant	Total-No Controls (lbs)	Existing % Removed	Milwaukee River TMDL Baseline	TMDL Requirement	Additional % Required to Meet TMDL Requirement	Additional Removals Required to Meet TMDL Requirement (lbs)	% Removal Required Next Permit Cycle ((TMDL%-Baseline%) *(0.2 for TSS or 0.1 for TP)) +Baseline	Additional Removals Required Next Permit (lbs)
TSS	91,909	32%	20%	72%	40%	36,764	30.4%	7,272
TP	194.7	25.3%	10%	49.4%	24.1%	47.5	13.9%	4.7

7.1 Potential Best Management Practices (BMPs)

The District continuously reviews alternatives and programs to improve water quality. Below are potential alternatives that can be utilized in the future to achieve the necessary TSS and TP reduction goals.

7.1.1 Monitor/Measure Street Sweeping Efficiency

Street sweeping of parking lots cannot be modeled in WinSLAMM. However, due to the frequency of street sweeping of District parking lots, actual removals of TSS and TP may exceed 10%. If WinSLAMM incorporates street sweeping of parking lots, the models will be updated accordingly. Additionally, the District may consider monitoring outfall concentrations of TSS and TP to compared to modeled concentrations, to determine the effect of parking lot sweeping. This testing program would be submitted to the Department of Natural Resources (DNR) prior to implementation.

7.1.2 Bio-retention facilities

Bio-retention facilities consist of vegetation, engineered soil (sand and compost), and drain tile within open-graded drainage stone. A point of discharge is required a minimum of 2 feet below the bio-retention facility to account for the depth of engineered soil and stone. These facilities are efficient at removing TSS and TP, up to 80% or more if properly sized. Potential locations

include, but not limited to, parking lot medians and other non-paved open spaces. The District could install bio-retention facilities within District owned land where elevation allows for a point of discharge. Cost for bio-retention facilities is approximately $15—per square foot of the bottom/planted area.

7.1.3 Bio-swales

Bio-swales have a similar cross section to bio-retention facilities, consisting of vegetation, engineered soil (sand and compost), and drain tile within open-graded drainage stone. A point of discharge is required a minimum of 2 feet below the bio-swale to account for the depth of engineered soil and stone. Bio-swales, if properly sized, can remove 80% or more of TSS and TP. Potential locations for bio-swales include ditch/swale bottoms. The cost for bio-swales is approximately $15-per square foot of the bottom/planted area.

7.1.4 Rain Gardens

Rain gardens are vegetative depressions without drain tile. The duration of ponding should be less than 24 hours to ensure health of vegetation. Removal rates of TSS and TP is dependent on the rate of infiltration. Soils that consist of tight clay will have low TSS and TP removal rates, while sandy soils will have higher removal rates. The cost for a rain garden is approximately $10 per square foot of the bottom/planted area.

7.1.5 Grassy Filter Strip

Grassy filter strips are low-angle vegetated slopes designed to treat sheet flow runoff. Grassy filter strips should be a minimum of 75-feet in width. Filter strips function by slowing runoff velocities, filtering out sediment and other pollutants, and providing some infiltration into underlying soils. Effective locations for grassy filter strips would be along the banks of the Menomonee River. The cost for seed, fertilizer, and erosion mat (emat) would be approximately $7.00 per square foot.

7.1.6 Street Sweeping

The District's sweeping plan is frequent and pro-active, and there is not a significant benefit to increasing the frequency of sweeping.

7.1.7 Permeable Pavers

Permeable pavers are alternative materials to traditional pavement. They allow rain and snowmelt to seep through the surface down to underlying storage layers of open-graded drainage stone. Permeable pavement catches precipitation and surface runoff and is commonly used in parking lots, sidewalks, and driveways. Permeable pavers have the potential to remove up to 81% of TSS and 72% of TP. Potential locations for permeable pavers include parking lots and sidewalks. The construction cost for permeable pavers would be approximately $14 per square foot.

7.1.8 Catch Basin Cleaning

Catch basins are inspected and cleaned on an annual basis. The District continually monitors storm sewer infrastructure and will perform additional cleanings as needed, such as in the case of a clogged catch basin. The District's catch basin cleaning program is sufficient and increased frequency of catch basin cleaning will not provide significant storm water quality improvements.

8.0 POTENTIAL STORM WATER IMPROVEMENTS

As stated in section 7.0, an additional 7,271.66 lbs of TSS and 4.69 lbs of TP are required to be removed to conform with the requirements set forth in the Milwaukee River TMDL for the next permit cycle. The District is dedicated to water quality and achieving compliance with the Milwaukee River TMDL. The District may consider the best management practices presented below to meet future permit requirements.

8.1 Monitor/Measure Street Sweeping Efficiency

Develop a program to monitor and measure TSS and TP concentrations at outfalls. This will allow for a comparison with the modeled concentrations and help determine the effectiveness of street sweeping. The testing program's parameters will be submitted to the Department of Natural Resources (DNR) for review before implementation. If the inclusion of parking lot street sweeping becomes feasible in WinSLAMM, the models will be updated accordingly.

8.2 Bioretention Within Median-Easternmost Parking Lots

A large parking lot in Drainage Basin 5B features grassy medians near its eastern edge, with catch basins at the center of each median. These medians can be converted into a bioretention facility, which would enhance the aesthetics of the parking lot while improving water quality in the Milwaukee River TMDL.

Long rooted grasses and vegetation will be utilized for the bioretention to improve infiltration and pollutant removal. Plants and grasses will be a minimum height of 12-inches. Potential grasses include weeping lovegrass, lespedeza sericea, and blue gamma. Another potential seed mix is Agrecol Bird and Butterfly mix to provide color and habitat for pollinators.

A new bioretention facility would measure 862 feet in length and 14 feet in width. This added BMP would be expected to remove an additional 4,162 pounds per year of TSS and 6.5 pounds per year of TP. The WinSLAMM model for the bioretention facility can be found in Appendix C, while the BMP overview and details are provided in Appendix D.

8.3 Improvements to the Existing Storm Water Pond

A District-owned stormwater pond is located in the northern part of Drainage Basin 4. Replacing and optimizing the outlet structure could increase storage capacity and improve pollutant removal efficiency. By raising the 48-inch standpipe by 2.4 feet and reducing the orifice size from 18 inches to 2 inches, an additional 3,127 pounds of TSS and 5.9 pounds of TP could be removed. Currently, 6 to 18 inches of excess material lies at the bottom of the pond. Dredging the pond

could further increase its stormwater capacity. The WinSLAMM model for the bioretention facility can be found in Appendix C, and the BMP overview and details are located in Appendix D.

9.0 ADDITIONAL POTENTIAL STORM WATER IMPROVEMENTS

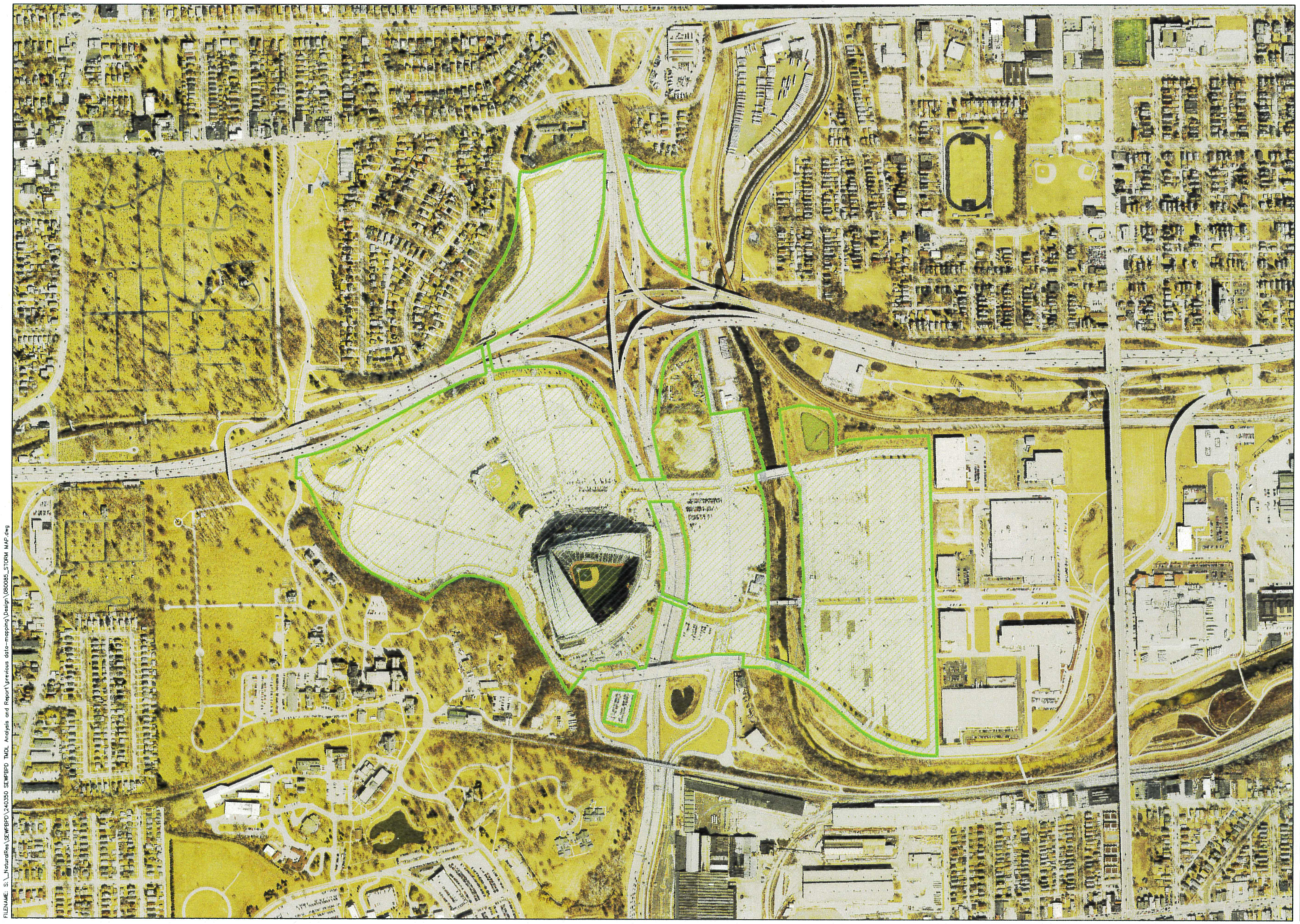
The recommended improvements in section 8.0 will meet the requirements of the District's WPDES and the Milwaukee River Basin TMDL.

Other future improvements for increasing pollutant removals include:

- Permeable paver installation in sidewalks and parking lots.
- Add bioretention facilities where the storm sewer system discharges within the District Right-of-Way.
- Add bioretention facilities in the grassy medians of parking areas where depths of storm sewer are sufficient to construct.
- Measure/monitor TSS and TP removal from the sweeping of parking lots.

Appendix A

Figures



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kapur

7711 N. Port Washington Road
Milwaukee, Wisconsin 53217
kapurinc.com

PROJECT:
STORM WATER QUALITY PLAN

LOCATION:
MILWAUKEE, WISCONSIN

CLIENT:
SOUTHEAST WISCONSIN PROFESSIONAL BASEBALL PARK DISTRICT

RELEASE:
PRELIMINARY

REVISIONS:

#	DATE	DESCRIPTION

NORTH ARROW:

HORZ. SCALE: 1" = 300'

0 150 300 450 600

SEAL:

all in

SHEET:
AERIAL WITH DISTRICT LIMITS

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PROJECT NUMBER:	24.0350.01
DATE:	7/11/24

SHEET NUMBER:
1

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kapur
7711 N. Port Washington Road
Milwaukee, Wisconsin 53217
kapurinc.com

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LOCATION:
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CLIENT:
SOUTHEAST WISCONSIN PROFESSIONAL BASEBALL PARK DISTRICT

RELEASE:
PRELIMINARY

REVISIONS:

#	DATE	DESCRIPTION

NORTH ARROW:

HORZ. SCALE: 1" = 300'

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SEAL:

all in

SHEET:
DRAINAGE BASINS WITH TOPOGRAPHY

PROJECT MANAGER:	JLS
PROJECT NUMBER:	24.0350.01
DATE:	7/11/24

SHEET NUMBER:
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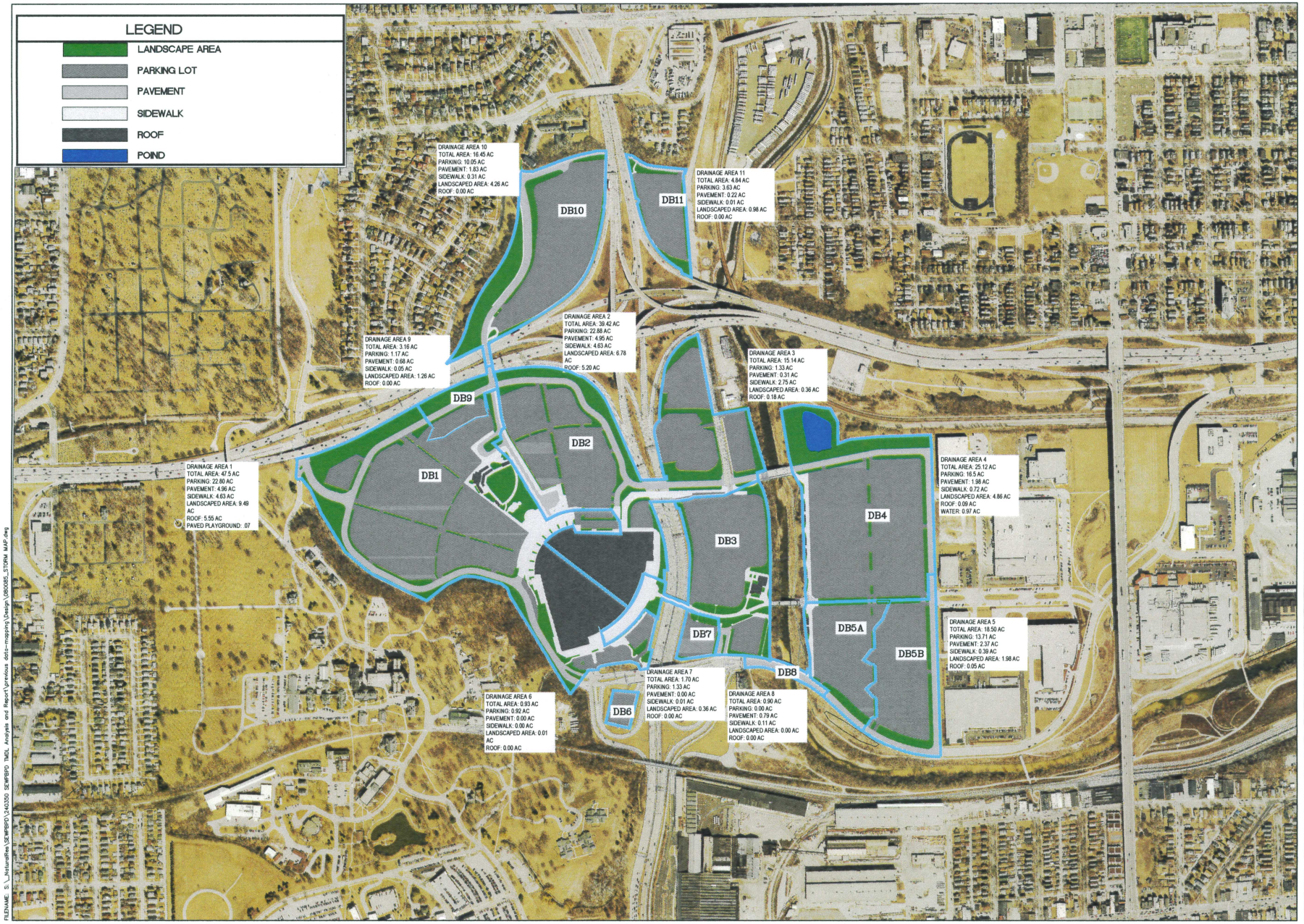

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RELEASE:
PRELIMINARY

REVISIONS:

#	DATE	DESCRIPTION

NORTH ARROW:

HORZ. SCALE: 1" = 300'

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SEAL:

all in

SHEET:
DRAINAGE BASINS WITH LAND USE

PROJECT MANAGER:	JLS
PROJECT NUMBER:	24.0350.01
DATE:	7/11/24

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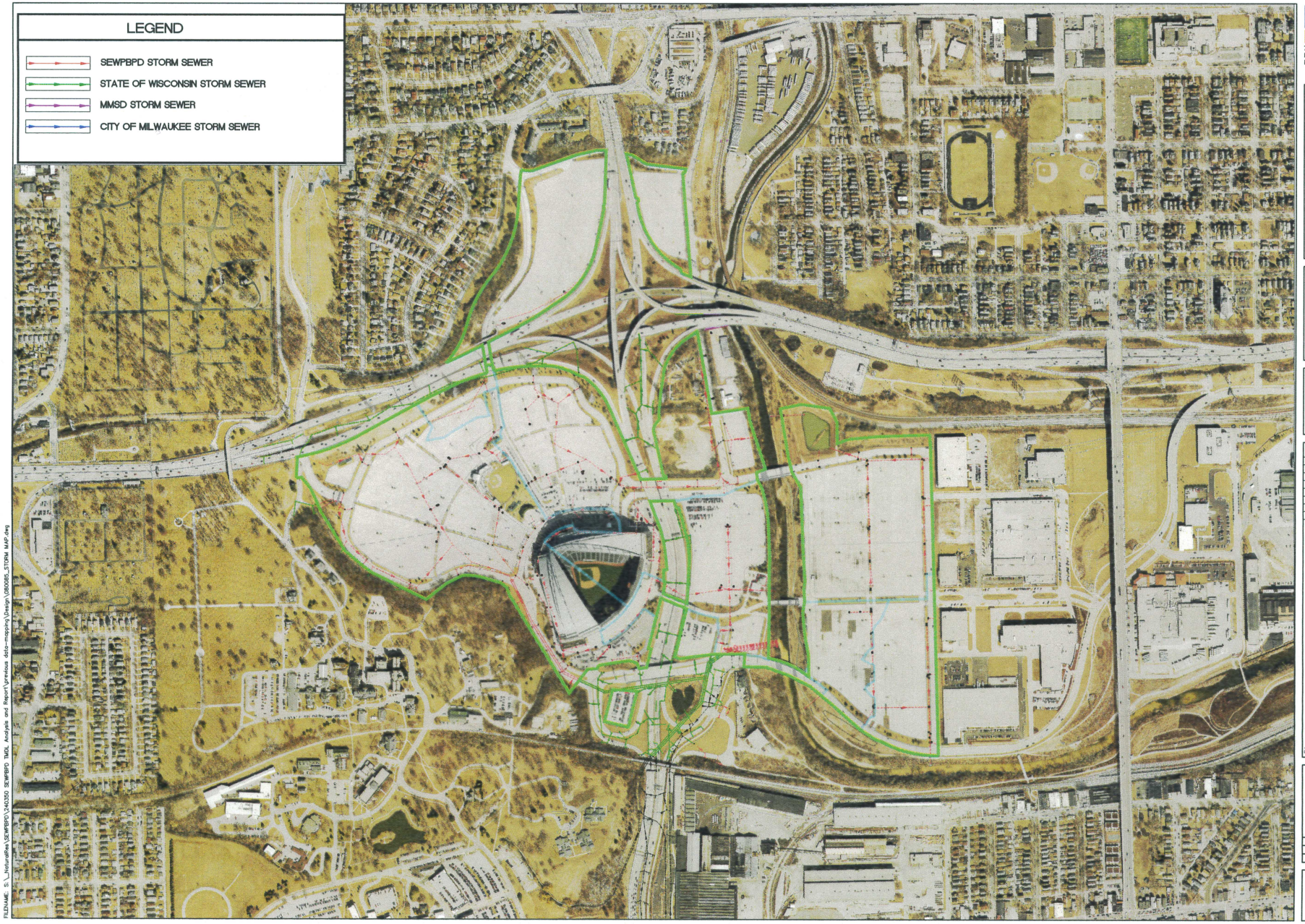

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REVISIONS:

#	DATE	DESCRIPTION

NORTH ARROW:

HORZ. SCALE: 1" = 300'

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SEAL:

all in

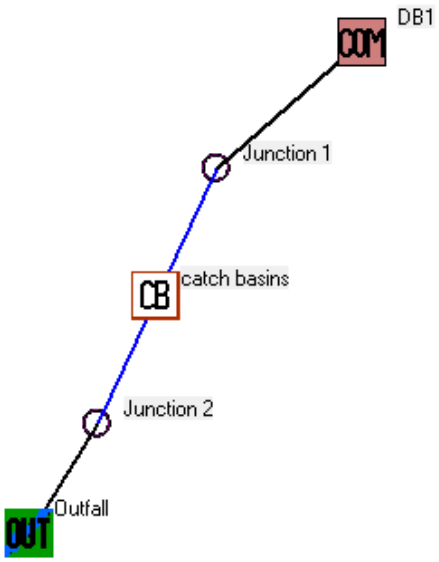
SHEET:
DRAINAGE BASINS WITH STORM SEWER

PROJECT MANAGER:	JLG
PROJECT NUMBER:	24.0350.01
DATE:	7/11/24

SHEET NUMBER:
4

Appendix B

WinSLAMM Input and Summary Output Files



WINSLAMM INPUT SUMMARY

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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_Com Inst Indust Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
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Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
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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
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Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-08-2024 Time: 15:26:34
Site information:

LU# 1 - Commercial: DB1 Total area (ac): 47.490

1 - Roofs 1: 5.550 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
15 - Paved Parking 3: 22.800 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#4
31 - Sidewalks 1: 4.630 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.470 ac. Intermediate Street Length = 0.1337 mi Street Width = 29.0015 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#1
38 - Streets 2: 4.480 ac. Intermediate Street Length = 0.77 mi Street Width = 48 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#2
45 - Large Landscaped Areas 1: 9.490 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
63 - Paved Playground 1: 0.070 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37
1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Medium
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.67
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

Control Practice 2: Street Cleaning CP# 2 (SA) - SA Device, LU# 1 ,SA# 38
1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Medium
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.67
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

Control Practice 3: Catchbasin Cleaning CP# 1 (DS) - catch basins
1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 67
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01

8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 4: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 15
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

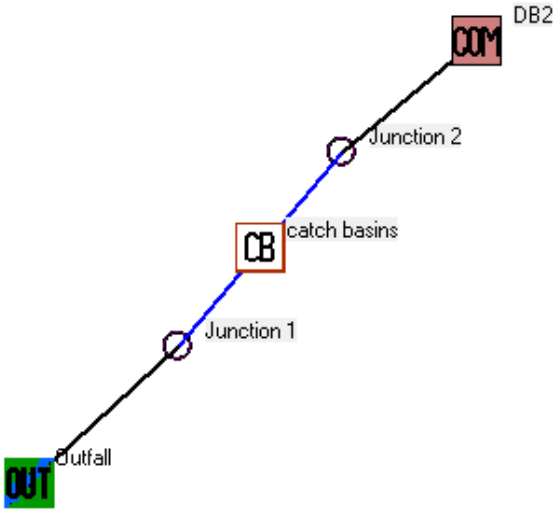
WINSLAMM OUTPUT SUMMARY

SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB1.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-08-2024 Time of run: 15:35:16
Total Area Modeled (acres): 47.490
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	3,157,000	-	122.4	24,126	-
Outfall Total with Controls	3,157,000	0.00%	90.61	17,855	25.99%
Annualized Total After Outfall Controls	3,200,000	-	-	18,103	-

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	122.4	90.61	Mg/L	24,126	17,855	lbs	25.99%
Total Phosphorous	0.2798	0.2253	Mg/l	55.14	44.39	lbs	19.50%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB2.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 07-08-2024 Time: 15:52:04
Site information:

LU# 1 - Commercial: DB2 Total area (ac): 40.240
1 - Roofs 1: 5.200 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
15 - Paved Parking 3: 22.880 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
OD-CP#3

31 - Sidewalks 1: 4.630 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.750 ac. Smooth Street Length = 0.2063 mi Street Width = 29.99273 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#1
45 - Large Landscaped Areas 1: 6.780 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37
1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Medium
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.57
7. Equation coefficient B (intercept): 40
8. Particle size distribution file: Not needed - calculated by program

Control Practice 2: Catchbasin Cleaning CP# 1 (DS) - catch basins
1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 53
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 3: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 15
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

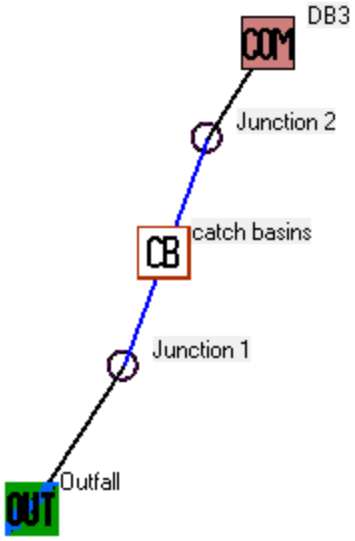
WINSLAMM OUTPUT SUMMARY

SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB2.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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
Start of Winter Season: 12/02 End of Winter Season: 03/12
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-08-2024 Time of run: 15:55:30
Total Area Modeled (acres): 40.240
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	2,812,000	-	111.3	19,539	-
Outfall Total with Controls	2,812,000	0.00%	84.62	14,854	23.98%
Annualized Total After Outfall Controls	2,851,000	-	-	15,060	-

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	111.3	84.62	Mg/L	19,539	14,854	lbs	23.98%
Total Phosphorous	0.2599	0.2129	Mg/l	45.61	37.36	lbs	18.09%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB3.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-08-2024 Time: 16:24:29
Site information:

LU# 1 - Commercial: DB3 Total area (ac): 15.150
1 - Roofs 1: 0.180 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

15 - Paved Parking 3: 9.270 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#3
31 - Sidewalks 1: 2.750 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.320 ac. Intermediate Street Length = 0.1015 mi Street Width = 26.00985 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#1
45 - Large Landscaped Areas 1: 2.630 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37
1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: None
5. Parking controls imposed? No
6. Equation coefficient M (slope): 0.6
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

Control Practice 2: Catchbasin Cleaning CP# 1 (DS) - catch basins
1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 23
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 3: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 15
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

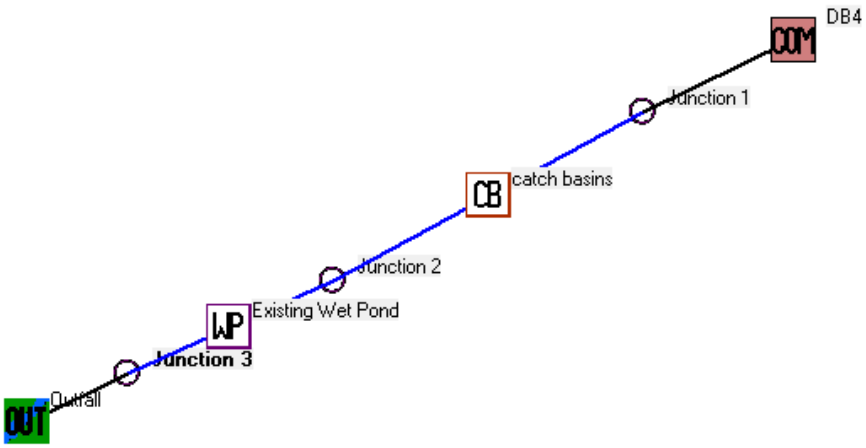
WINSLAMM OUTPUT SUMMARY

SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB3.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
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
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
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-08-2024 Time of run: 16:21:58
Total Area Modeled (acres): 15.150
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	988,783	-	125.8	7,768	-
Outfall Total with Controls	988,783	0.00%	95.59	5,900	24.05%
Annualized Total After Outfall Controls	1,003,000	-	-	5,982	-

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	125.8	95.59	Mg/L	7,768	5900	lbs	24.05%
Total Phosphorous	0.2740	0.2237	Mg/l	16.92	13.81	lbs	18.38%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB4.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-09-2024 Time: 09:24:40
Site information:

LU# 1 - Commercial: DB4 Total area (ac): 24.150
1 - Roofs 1: 0.090 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

15 - Paved Parking 3: 16.500 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#4

31 - Sidewalks 1: 0.720 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 1.980 ac. Intermediate Street Length = 0.3403 mi Street Width = 48.00177 ft Street Edges = 2

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#1

45 - Large Landscaped Areas 1: 4.860 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37

1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Extensive (short term)
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.7
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

Control Practice 2: Catchbasin Cleaning CP# 1 (DS) - catch basins

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 27
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 3: Wet Detention Pond CP# 1 (DS) - Existing Wet Pond

Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 4.2
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered
Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 1.5
2. Number of orifices: 1
3. Invert elevation above datum (ft): 4.2

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 40
2. Weir crest width (ft): 115
3. Height from datum to bottom of weir opening: 12.66

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 6.7

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.60	0.3000	0.00	0.00
2	1.00	0.6400	0.00	0.00
3	2.00	0.7500	0.00	0.00
4	3.00	0.8400	0.00	0.00
5	4.00	0.9400	0.00	0.00
6	5.00	1.0000	0.00	0.00
7	6.00	1.0900	0.00	0.00
8	7.00	1.1700	0.00	0.00
9	8.00	1.2500	0.00	0.00
10	9.00	1.3400	0.00	0.00
11	10.00	1.4300	0.00	0.00
12	11.00	1.5200	0.00	0.00
13	12.00	1.6300	0.00	0.00
14	13.00	1.9200	0.00	0.00

Control Practice 4: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 15
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

WINSLAMM OUTPUT SUMMARY

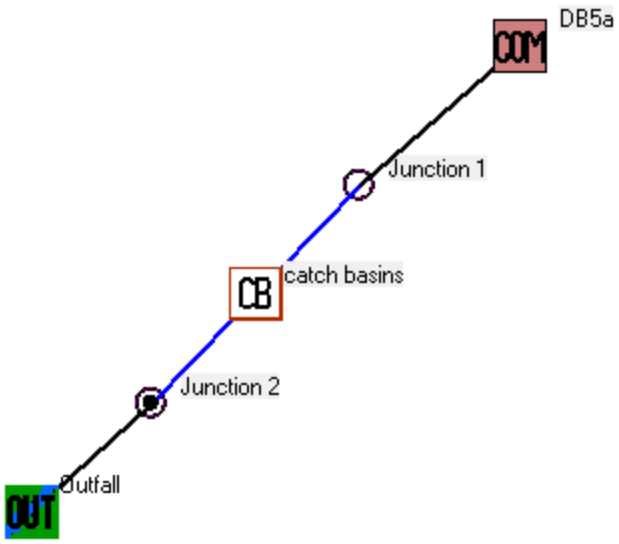
SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB4.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-09-2024 Time of run: 09:25:03
Total Area Modeled (acres): 24.150
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	1,542,000	-	138.9	13,370	-
Outfall Total with Controls	1,544,000	-0.13%	36.23	3,492	73.88%
Annualized Total After Outfall Controls	1,565,000	-	-	3,540	-

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	138.9	36.23	Mg/L	13,370	3,492	lbs	73.88%
Total Phosphorous	0.2679	0.1034	Mg/l	25.79	9.964	lbs	61.36%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB5A.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-09-2024 Time: 09:48:43
Site information:

LU# 1 - Commercial: DB5a Total area (ac): 7.890
1 - Roofs 1: 0.050 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

15 - Paved Parking 3: 6.120 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#3
31 - Sidewalks 1: 0.390 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.420 ac. Intermediate Street Length = 0.0722 mi Street Width = 47.99169 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#2
45 - Large Landscaped Areas 1: 0.910 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Catchbasin Cleaning CP# 1 (DS) - catch basins

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 13
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 2: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37

1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Medium
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.67
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

Control Practice 3: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 15

Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

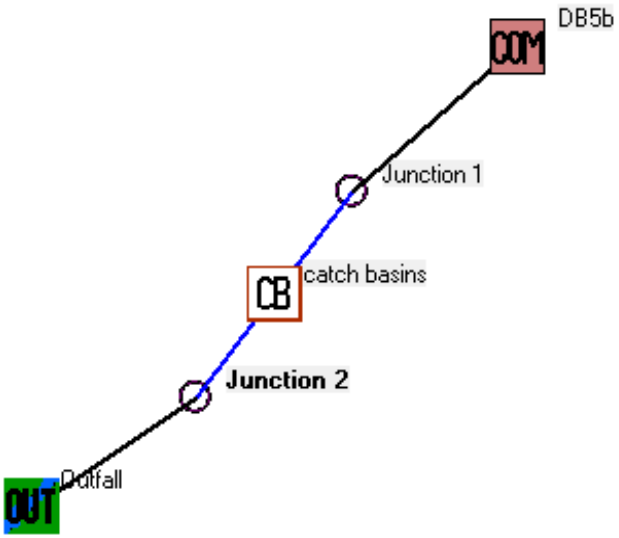
WINSLAMM OUTPUT SUMMARY

SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB5A.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-09-2024 Time of run: 09:49:51
Total Area Modeled (acres): 7.890
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	548,720	-	132.8	4,548	-
Outfall Total with Controls	548,722	0.00%	99.90	3,422	24.76%
Annualized Total After Outfall Controls	556,344	-	-	3,470	-

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	132.8	99.90	Mg/L	4,548	3,422	lbs	24.76%
Total Phosphorous	0.2471	0.1950	Mg/l	8.465	6.681	lbs	21.08%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB5B.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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_Com Inst Indust 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-09-2024 Time: 11:13:33
Site information:

LU# 1 - Commercial: DB5b Total area (ac): 10.620
15 - Paved Parking 3: 7.590 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#3
37 - Streets 1: 1.960 ac. Intermediate Street Length = 0.3369 mi Street Width = 47.99644 ft Street Edges = 2

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#2
45 - Large Landscaped Areas 1: 1.070 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Catchbasin Cleaning CP# 1 (DS) - catch basins

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 14
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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:
13. Catchbasin cleaning frequency: Semi-annually

Control Practice 2: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37

1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Medium
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.67
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

Control Practice 3: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 15

Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

WINSLAMM OUTPUT SUMMARY

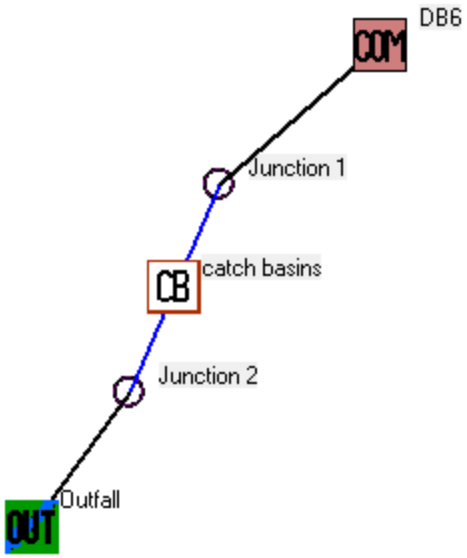
SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB5B.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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
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
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-09-2024 Time of run: 11:13:52
Total Area Modeled (acres): 10.620
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	763,331	-	149.2	7,111	-
Outfall Total with Controls	763,334	0.00%	107.4	5,119	28.01%
Annualized Total After Outfall Controls	773,936	-	-	5,190	-

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	149.2	107.4	Mg/L	7111	5119	lbs	28.01%
Total Phosphorous	0.2623	0.1968	Mg/l	12.50	9.378	lbs	24.98%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB6.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-09-2024 Time: 11:20:27
Site information:

LU# 1 - Commercial: DB6 Total area (ac): 0.930
13 - Paved Parking 1: 0.920 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
OD-CP#2

51 - Small Landscaped Areas 1: 0.010 ac. Normal Clayey Medium/High Density No Alleys
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Catchbasin Cleaning CP# 1 (DS) - catch basins

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 2
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 2: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 13
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

WINSLAMM OUTPUT SUMMARY

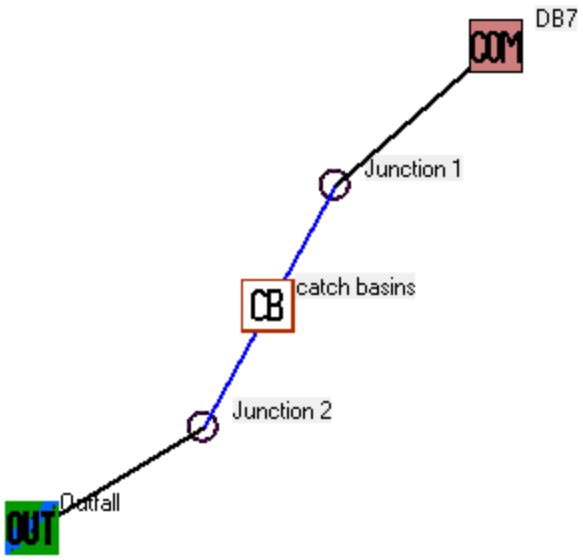
SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB6.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-09-2024 Time of run: 11:21:03
Total Area Modeled (acres): 0.930
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	70,755	-	130.1	574.7	-
Outfall Total with Controls	70,754	0.00%	98.59	435.5	24.22%
Annualized Total After Outfall Controls	71,737	-	-	441.5	-

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	130.1	98.59	Mg/L	574.7	435.5	lbs	24.22%
Total Phosphorous	0.2165	0.1686	Mg/l	0.9563	0.7445	lbs	22.15%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB7.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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_Com Inst Indust 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-09-2024 Time: 11:48:07
Site information:

LU# 1 - Commercial: DB7 Total area (ac): 1.700
13 - Paved Parking 1: 1.330 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#2
31 - Sidewalks 1: 0.010 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.360 ac. Normal Clayey Medium/High Density No Alleys
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Catchbasin Cleaning CP# 1 (DS) - catch basins

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 2
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.02
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 2: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 13
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

WINSLAMM OUTPUT SUMMARY

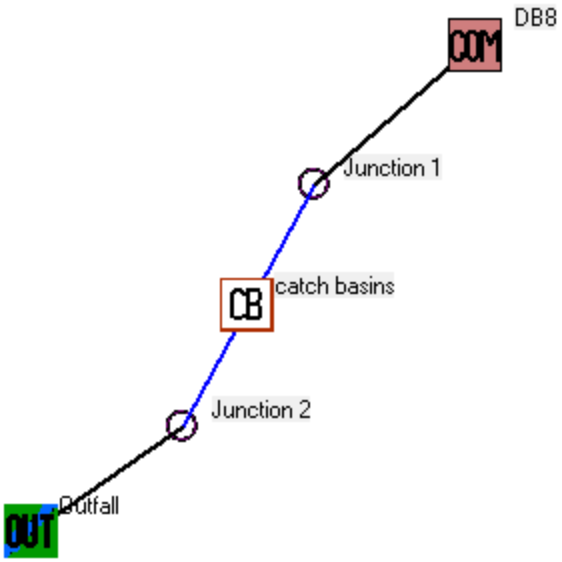
SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB7.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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
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
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-09-2024 Time of run: 11:48:33
Total Area Modeled (acres): 1.700
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	105,656	-	132.1	871.2	-
Outfall Total with Controls	105,656	0.00%	103.3	681.3	21.80%
Annualized Total After Outfall Controls	107,123	-	-	690.8	-

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	132.1	103.30	Mg/L	871.2	681.3	lbs	21.80%
Total Phosphorous	0.2520	0.2060	Mg/l	1.662	1.359	lbs	18.23%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB8.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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_Com Inst Indust Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban 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\WI_Res and Other Urban 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 07-09-2024 Time: 11:56:16
Site information:

LU# 1 - Commercial: DB8 Total area (ac): 0.900
31 - Sidewalks 1: 0.110 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.790 ac. Intermediate Street Length = 0.1358 mi Street Width = 47.99337 ft Street Edges = 2

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#2

Control Practice 1: Catchbasin Cleaning CP# 1 (DS) - catch basins

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 4
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.02
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 2: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37

1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Medium
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.67
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

WINSLAMM OUTPUT SUMMARY

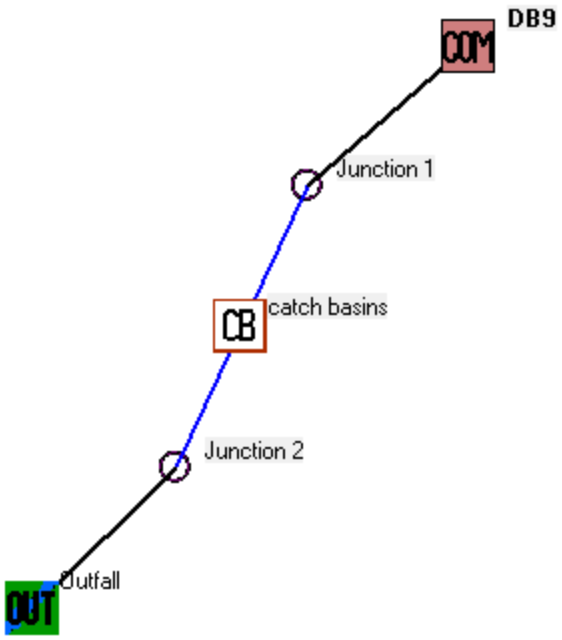
SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB8.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban 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\WI_Res and Other Urban Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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
Start of Winter Season: 12/02 End of Winter Season: 03/12
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-09-2024 Time of run: 11:57:10
Total Area Modeled (acres): 0.900
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	80,228	-	97.59	488.8	-
Outfall Total with Controls	80,230	0.00%	56.20	281.5	42.41%
Annualized Total After Outfall Controls	81,344	-	-	285.4	-

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	97.59	56.20	Mg/L	488.8	281.5	lbs	42.41%
Total Phosphorous	0.1989	0.1341	Mg/l	0.9962	0.6715	lbs	32.59%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB9.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-09-2024 Time: 12:04:54
Site information:

LU# 1 - Commercial: DB9 Total area (ac): 3.160
15 - Paved Parking 3: 1.170 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
OD-CP#3

31 - Sidewalks 1: 0.050 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.680 ac. Intermediate Street Length = 0.1169 mi Street Width = 47.98973 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#1
45 - Large Landscaped Areas 1: 1.260 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37
1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Medium
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.67
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

Control Practice 2: Catchbasin Cleaning CP# 1 (DS) - catch basins
1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 7
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 3: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 15
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

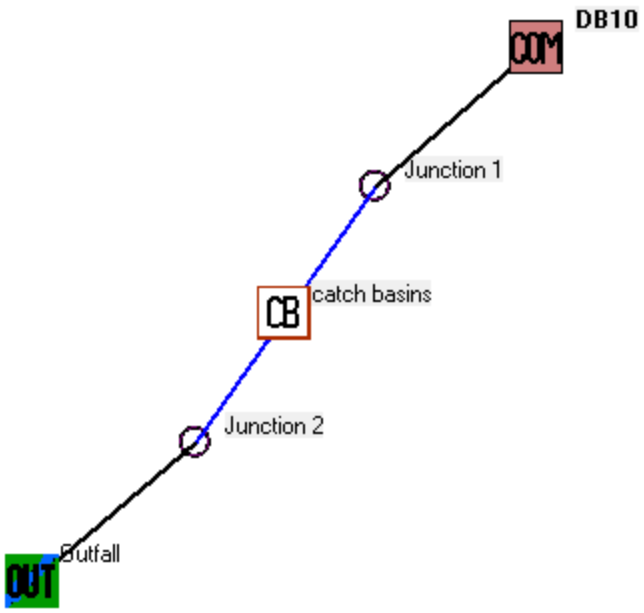
WINSLAMM OUTPUT SUMMARY

SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB9.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-09-2024 Time of run: 12:05:14
Total Area Modeled (acres): 3.160
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	162,943	-	163.9	1,668	-
Outfall Total with Controls	162,942	0.00%	109.9	1,118	32.97%
Annualized Total After Outfall Controls	165,205	-	-	1,133	-

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	163.9	109.9	Mg/L	1,668	1,118	lbs	32.97%
Total Phosphorous	0.3522	0.2632	Mg/l	3.582	2.678	lbs	25.24%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB10.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-09-2024 Time: 12:10:44
Site information:

LU# 1 - Commercial: DB1 Total area (ac): 16.450
15 - Paved Parking 3: 10.050 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#3
31 - Sidewalks 1: 0.310 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 1.830 ac. Intermediate Street Length = 0.302 mi Street Width = 49.99173 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#1
45 - Large Landscaped Areas 1: 4.260 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37
1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Medium
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.67
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

Control Practice 2: Catchbasin Cleaning CP# 1 (DS) - catch basins
1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 13
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 3: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 15
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

WINSLAMM OUTPUT SUMMARY

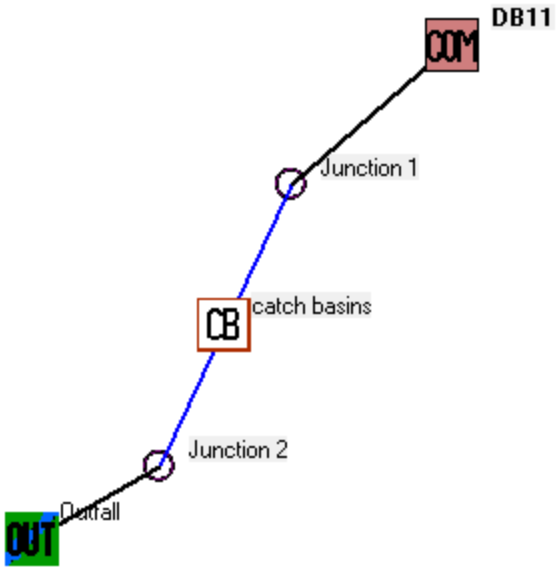
SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB10.mdb

Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-09-2024 Time of run: 12:12:32
Total Area Modeled (acres): 16.450
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	988,725	-	143.6	8,862	-
Outfall Total with Controls	988,723	0.00%	108.1	6,673	24.70%
Annualized Total After Outfall Controls	1,002,000	-	-	6,766	-

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	143.6	108.1	Mg/L	8,862	6,673	lbs	24.70%
Total Phosphorous	0.2843	0.2272	Mg/l	17.55	14.02	lbs	20.11%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB11.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 07-09-2024 Time: 12:18:46
Site information:

LU# 1 - Commercial: DB11 Total area (ac): 4.840
15 - Paved Parking 3: 3.630 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#3
31 - Sidewalks 1: 0.010 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 0.220 ac. Intermediate Street Length = 0.0908 mi Street Width = 19.98899 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#1
45 - Large Landscaped Areas 1: 0.980 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37
1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Medium
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.67
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

Control Practice 2: Catchbasin Cleaning CP# 1 (DS) - catch basins
1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 3
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 3: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 15
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

WINSLAMM OUTPUT SUMMARY

SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB11.mdb

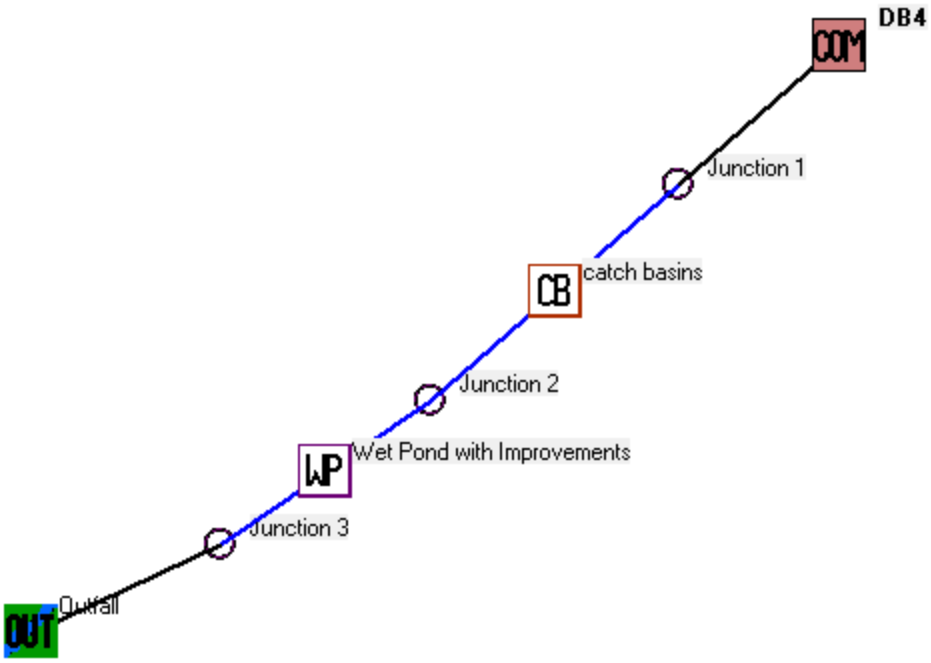
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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
Start of Winter Season: 12/02 End of Winter Season: 03/12
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-09-2024 Time of run: 12:18:59
Total Area Modeled (acres): 4.840
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	314,909	-	154.3	3,034	-
Outfall Total with Controls	314,907	0.00%	115.8	2,276	24.98%
Annualized Total After Outfall Controls	319,281	-	-	2,308	-

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	154.3	115.8	Mg/L	3,304	2,276	lbs	24.98%
Total Phosphorous	0.2845	0.2233	Mg/l	5.594	4.391	lbs	21.51%

Appendix C

Proposed BMP WinSLAMM Input and Summary Output Files



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB4-PROPOSED.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-09-2024 Time: 12:27:08
Site information:

LU# 1 - Commercial: DB4 Total area (ac): 24.150
1 - Roofs 1: 0.090 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

15 - Paved Parking 3: 16.500 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#4

31 - Sidewalks 1: 0.720 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

37 - Streets 1: 1.980 ac. Intermediate Street Length = 0.3403 mi Street Width = 48.00177 ft Street Edges = 2

Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#1

45 - Large Landscaped Areas 1: 4.860 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37

1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Extensive (short term)
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.7
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

Control Practice 2: Catchbasin Cleaning CP# 1 (DS) - catch basins

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 27
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

Control Practice 3: Wet Detention Pond CP# 1 (DS) - Wet Pond with Improvements

Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 4.2
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered
Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.16
2. Number of orifices: 1
3. Invert elevation above datum (ft): 4.2

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 40
2. Weir crest width (ft): 115
3. Height from datum to bottom of weir opening: 12.66

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 9.1

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.60	0.3000	0.00	0.00
2	1.00	0.6400	0.00	0.00
3	2.00	0.7500	0.00	0.00
4	3.00	0.8400	0.00	0.00
5	4.00	0.9400	0.00	0.00
6	5.00	1.0000	0.00	0.00
7	6.00	1.0900	0.00	0.00
8	7.00	1.1700	0.00	0.00
9	8.00	1.2500	0.00	0.00
10	9.00	1.3400	0.00	0.00
11	10.00	1.4300	0.00	0.00
12	11.00	1.5200	0.00	0.00
13	12.00	1.6300	0.00	0.00
14	13.00	1.9200	0.00	0.00

Control Practice 4: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 15
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

WINSLAMM OUTPUT SUMMARY

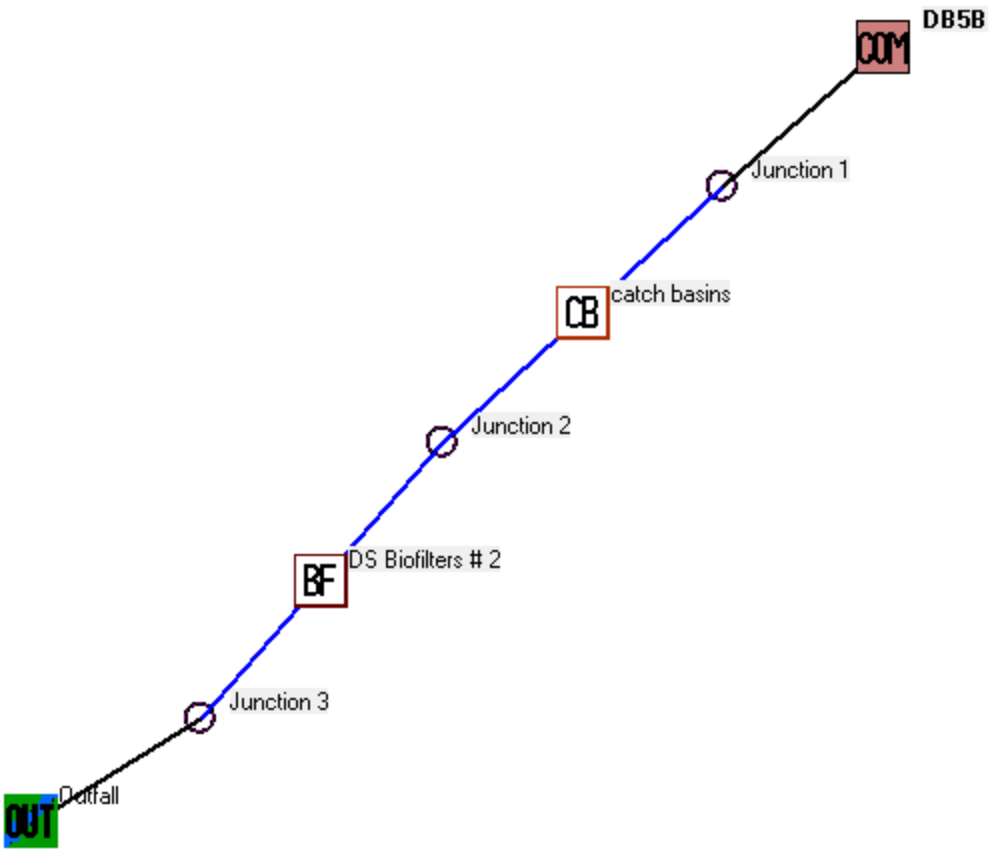
SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB4-PROPOSED.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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_Com Inst Indust Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-09-2024 Time of run: 12:27:47
Total Area Modeled (acres): 24.150
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	1,542,000	-	138.9	13,370	-
Outfall Total with Controls	1,544,000	-0.13%	3.782	364.5	92.27%
Annualized Total After Outfall Controls	1,565,000	-	-	369.6	-

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	138.9	3.782	Mg/L	13,370	364.5	lbs	97.27%
Total Phosphorous	0.2679	0.04209	Mg/l	25.79	4.057	lbs	84.27%



WINSLAMM INPUT SUMMARY

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB5B-PROPOSED.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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_Com Inst Indust 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: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-09-2024 Time: 12:42:44

Site information:

LU# 1 - Commercial: DB5B Total area (ac): 10.620
15 - Paved Parking 3: 7.590 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz OD-CP#4
37 - Streets 1: 1.960 ac. Intermediate Street Length = 0.3369 mi Street Width = 47.99644 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz SC-CP#3
45 - Large Landscaped Areas 1: 1.070 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Catchbasin Cleaning CP# 1 (DS) - catch basins

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 14
3. Average sump depth below catchbasin outlet invert (feet) = 1.5
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 = 0.01
7. Typical outlet pipe slope (ft/ft) = 0.01
8. Typical catchbasin sump surface area (square feet) = 6
9. Total catchbasin depth (feet) = 5
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: Semi-annually

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

1. Top area (square feet) = 18883
2. Bottom aea (square feet) = 10838
3. Depth (ft): 3.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.04
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) 1
10. Porosity of rock filled volume = 0.28
11. Engineered soil infiltration rate: 25.35
12. Engineered soil depth (ft) = 1.5
13. Engineered soil porosity = 0.41
14. Percent solids reduction due to flow through engineered soil = 80
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 Media Type 1.000
Biofilter Outlet/Discharge Characteristics:
Outlet type: Broad Crested Weir
1. Weir crest length (ft): 20
2. Weir crest width (ft): 50
3. Height of datum to bottom of weir opening: 3.3

Outlet type: Vertical Stand Pipe
1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 3

Outlet type: Drain Tile/Underdrain
1. Underdrain outlet diameter (ft): 0.5
2. Invert elevation above datum (ft): 0.25
3. Number of underdrain outlets: 2

Control Practice 3: Street Cleaning CP# 1 (SA) - SA Device, LU# 1 ,SA# 37
1. Street cleaning frequency: 2 Passes per Week
2. Street Cleaner Type: Vacuum Assisted Cleaner
3. Street cleaner productivity: Default
4. Parking density: Medium
5. Parking controls imposed? Yes
6. Equation coefficient M (slope): 0.67
7. Equation coefficient B (intercept): 55
8. Particle size distribution file: Not needed - calculated by program

Control Practice 4: Other Device CP# 1 (SA) - SA Device, LU# 1 ,SA# 15
Fraction of drainage area served by device (ac) = 1.00
Particulate Concentration reduction fraction = 0.10
Filterable Concentration reduction fraction = 0.10
Runoff volume reduction fraction = 0

WINSLAMM OUTPUT SUMMARY

SLAMM for Windows Version 10.5.0

Data file name: S:_NaturalRes\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\WinSLAMM\AmFam TMDL-DB5B-PROPOSED.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.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
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust 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

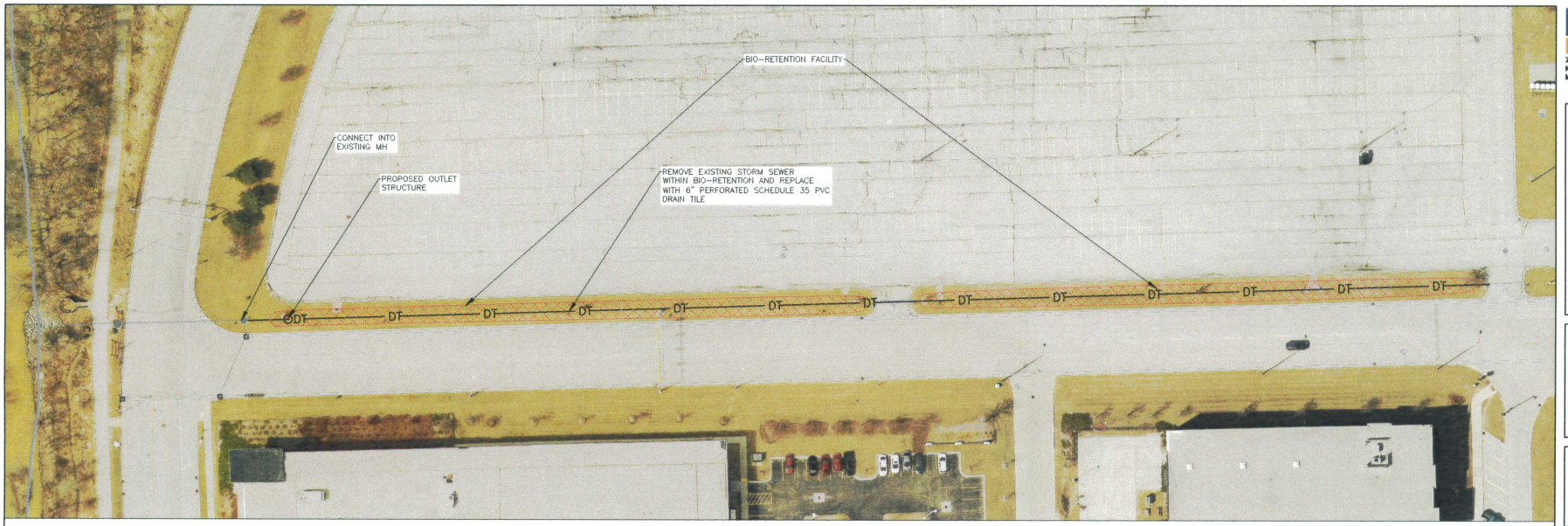
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-09-2024 Time of run: 12:46:22
Total Area Modeled (acres): 10.620
Years in Model Run: 0.99

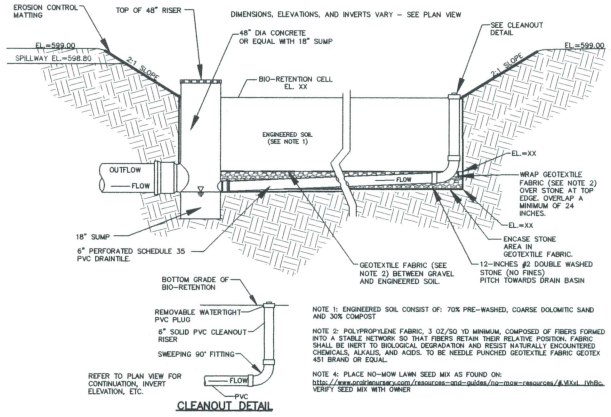
	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Concentration (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without controls	763,331	-	149.2	7,111	-
Outfall Total with Controls	679,914	10.93%	22.54	956.8	86.54%
Annualized Total After Outfall Controls	689,357	-	-	970.1	-

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	149.2	22.54	Mg/L	7,111	956.8	lbs	86.54%
Total Phosphorous	0.2623	0.06836	Mg/l	12.50	2.902	lbs	76.78%

Appendix D

Proposed Stormwater Pond and Bioretention Details





CLEANOUT DETAIL

(2) BIO-RETENTION FACILITY
N.T.S.

FILENAME: S:_Active\Files\SEWPBPD\240350 SEWPBPD TMDL Analysis and Report\previous data-mapping\Design\060865_STORM MAP.dwg

kapur
7711 N. Port Washington Road
Milwaukee, Wisconsin 53217
kapurinc.com

PROJECT:
STORM WATER QUALITY PLAN

LOCATION:
MILWAUKEE, WISCONSIN

CLIENT:
SOUTHEAST WISCONSIN PROFESSIONAL BASEBALL PARK DISTRICT

RELEASE:
PRELIMINARY

REVISIONS:

#	DATE	DESCRIPTION

NORTH ARROW:

HORZ SCALE: 1" = 40'

0 20 40 60 80

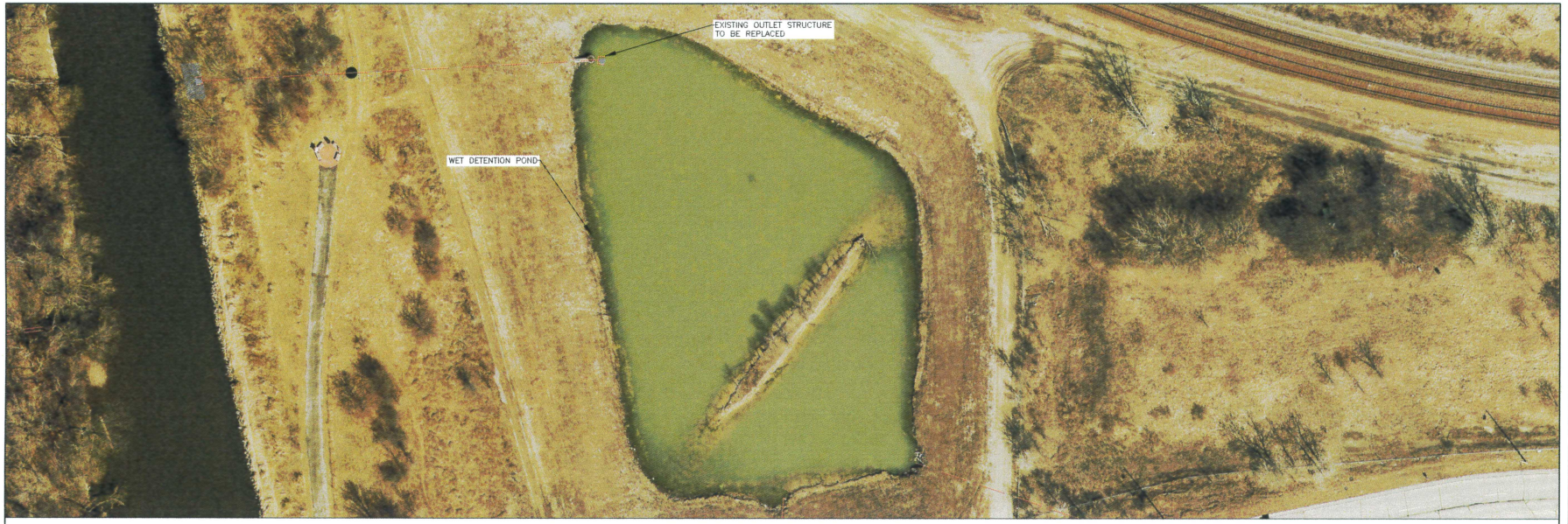
SEAL:

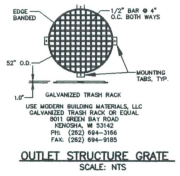
all in

SHEET:
BIO-RETENTION FACILITY

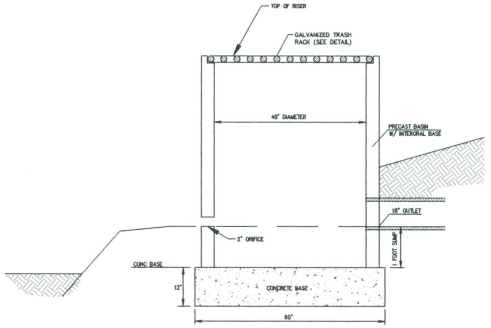
PROJECT MANAGER:	JLG
PROJECT NUMBER:	24 0350 01
DATE:	7/11/24

SHEET NUMBER:
1





OUTLET STRUCTURE GRATE
SCALE: NTS



OUTLET STRUCTURE
SCALE: NTS

1 WET DETENTION POND
N.T.S.

FILENAME: S:_Naturalfiles\SEMPBPD\240350 SEMPBPD TMDL Analysis and Report\previous data-mapping\Design\050085_STORM MAP.dwg

kapur
7711 N. Port Washington Road
Milwaukee, Wisconsin 53217
kapurinc.com

PROJECT:
STORM WATER QUALITY PLAN

LOCATION:
MILWAUKEE, WISCONSIN

CLIENT:
SOUTHEAST WISCONSIN PROFESSIONAL BASEBALL PARK DISTRICT

RELEASE:
PRELIMINARY

REVISIONS:

#	DATE	DESCRIPTION

NORTH ARROW:

HORZ. SCALE: 1" = 40'

0 20 40 60 80

SEAL:

all in

SHEET:
WET DETENTION POND

PROJECT MANAGER:	JLS
PROJECT NUMBER:	24.0350.01
DATE:	7/11/24

SHEET NUMBER:
2