

Storm Water Management Practice Maintenance Agreement

Document Number

Erickson Enterprises II, LLC as “Owner” of the property described below, in accordance with Chapter 32 City of Waukesha Storm Water Management and Erosion Control, agrees to install and maintain storm water management practice(s) on the subject property in accordance with approved plans and Storm Water Management Plan conditions. The owner further agrees to the terms stated in this document to ensure that the storm water management practice(s) continues serving the intended functions in perpetuity. This Agreement includes the following exhibits:

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

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

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

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

Name and Return Address

City of Waukesha
130 Delafield Street
Waukesha, WI 53188

Parcel Identification Number(s) –
WAKC1336946 / WAKC1336945

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

1. The Owner shall be responsible for the routine and extraordinary maintenance and repair of the storm water management practice(s) and drainage easements identified in Exhibit B until Storm Water and Erosion Control Permit termination by the City of Waukesha in accordance with Chapter 32 of the City Code of Ordinances.
2. After Storm Water and Erosion Control Permit termination under 1., the current Owner(s) shall be solely responsible for maintenance and repair of the storm water management practices and drainage easements in accordance with the maintenance plan contained in Exhibit C.
3. The Owner(s) shall, at their own cost, complete inspections of the storm water management practices at the time intervals listed in Exhibit C, and conduct the inspections by a qualified professional, file the reports with the City of Waukesha after each inspection and complete any maintenance or repair work recommended in the report. The Owner(s) shall be liable for the failure to undertake any maintenance or repairs. After the work is completed by the Contractor, the qualified professional shall verify that the work was properly completed and submit the follow-up report to the City within 30 days.
4. In addition, and independent of the requirements under paragraph 3 above, the City of Waukesha, or its designee, is authorized to access the property as necessary to conduct inspections of the storm water management practices or drainage easements to ascertain compliance with the intent of this Agreement and the activities prescribed in Exhibit C. The City of Waukesha may require work to be done which differs from the report described in paragraph 3 above, if the City of Waukesha reasonably concludes that such work is necessary and consistent with the intent of this agreement. Upon notification by the City of Waukesha of required maintenance or repairs, the Owner(s) shall complete the specified maintenance or repairs within a reasonable time frame determined by the City of Waukesha.
5. If the Owner(s) do not complete an inspection under 3. above or required maintenance or repairs under 4. above within the specified time period, the City of Waukesha is authorized, but not required, to perform the specified inspections, maintenance, or repairs. In the case of an emergency situation, as determined by the City of Waukesha, no notice shall be required prior to the City of Waukesha performing emergency maintenance or repairs. The City of Waukesha may levy the costs and expenses of such inspections, maintenance, or repair related actions as a special charge against the Property and collected as such in accordance with the procedures under s. 66.0627 Wis. Stats. or subch. VII of Ch. 66 Wis. Stats.

6. This Agreement shall run with the Property and be binding upon all heirs, successors and assigns. After the Owner records the addendum noted above, the City of Waukesha shall have the sole authority to modify this agreement upon a 30-day notice to the current Owner(s).

Dated this ____ day of _____, 201_.

Owner:

(Owners Signature)

Tracey Erickson

Acknowledgements

State of Wisconsin:
County of Waukesha

Personally came before me this ____ day of _____, 2023, the above named Tracey Erickson to me known to be the person who executed the foregoing instrument and acknowledged the same.

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

This document was drafted by:

Nielson Madsen and Barber SC
1458 Horizon Blvd, Suite 200
Racine, WI 53406

City of Waukesha Common Council Approval

Dated this ____ day of _____, 2023.

Shawn N. Reilly, Mayor

Gina Kozlik, City Clerk

Acknowledgements

State of Wisconsin:
County of Waukesha

Personally came before me this ____ day of _____, 2023, the above named _____ to me known to be the person who executed the foregoing instrument and acknowledged the same.

[Name]

Notary Public, Waukesha County, WI

My commission expires:_____.

Exhibit A – Legal Description

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

Project Identifier: **Waukesha Express Car Wash**

Acres: **1.085**

Date of Recording: **, 2023**

Map Produced By: **Nielsen Madsen and Barber S.C. 1458 Horizon Blvd, Suite 200 Mount Pleasant, WI 53406**

Legal Description: **That part of the Southwest 1/4 of the Southeast 1/4 of Section 10, Township 6 North, Range 19 East of the Fourth Principal Meridian, more particularly bounded and described as follows: Commence at a Witness Monument for the Southwest corner of the Southeast 1/4 of said Section 10; run thence N88°22'27"E, 50.00 feet along the South line of the Southwest 1/4 of said Section 10 to the Southwest corner of the Southeast 1/4 of said Section 10, not monumented; thence N88°11'01"E, 967.00 feet along the South line of the Southeast 1/4 of said Section 10; thence N00°13'59"W, 50.02 feet to the North line of West Sunset Drive and the point of beginning of this description; continue thence N00°13'59"W, 154.98 feet parallel to the West line of South Grand Avenue; thence N88°11'01"E, 305.00 feet parallel to the South line of the Southeast 1/4 of said Section 10 to the West line of South Grand Avenue; thence S00°13'59"E, 154.98 feet along the West line of South Grand Avenue to the North line of said West Sunset Drive; thence S88°11'01"W, 305.00 feet along the North line of said West Sunset Drive and parallel to the South line of the Southeast 1/4 of said Section 10 to the point of beginning. Said land being in the City of Waukesha, County of Waukesha and State of Wisconsin.**

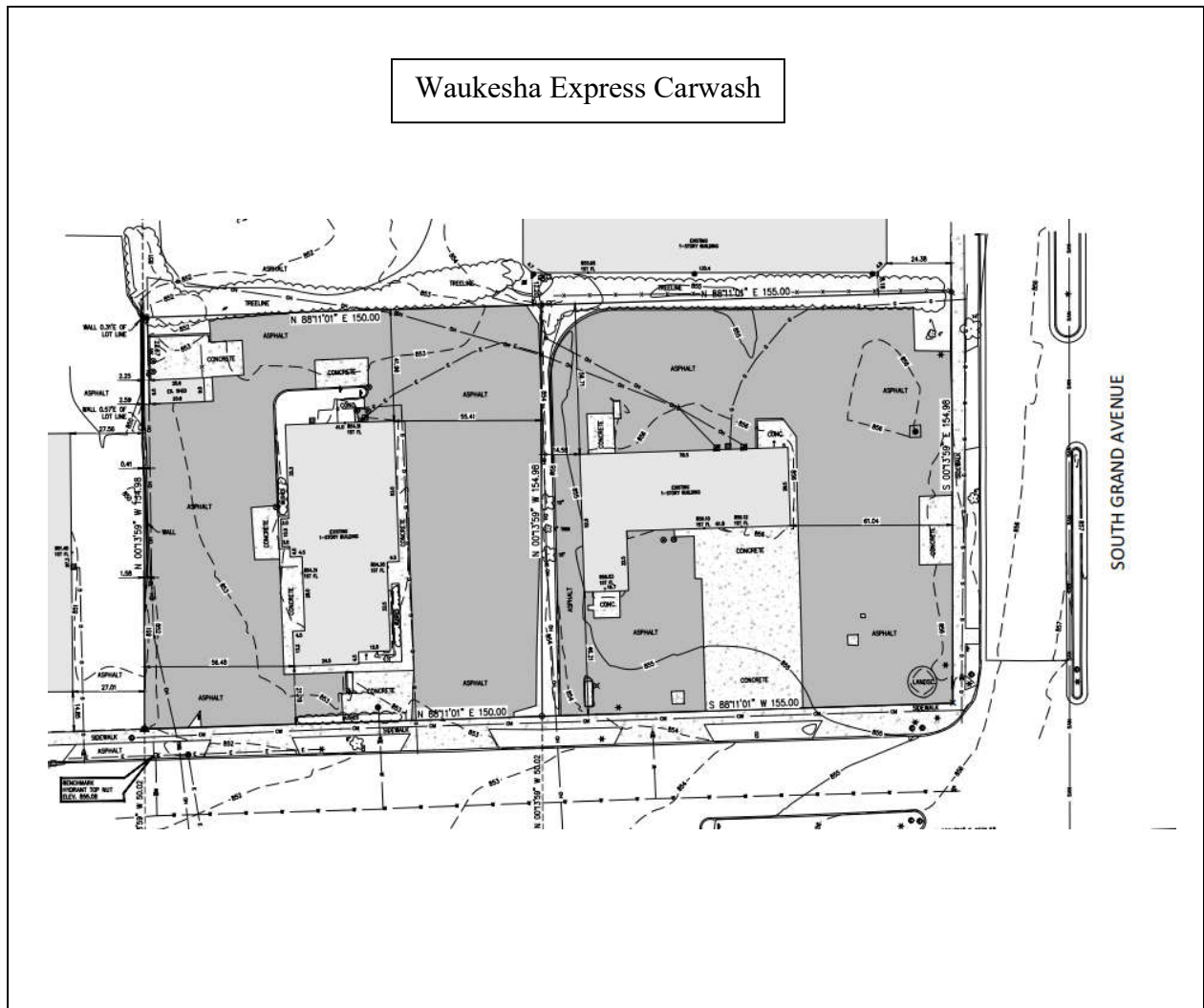


Exhibit B - Location Map

Storm Water Management Practices Covered by this Agreement

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

Development Name: **Waukesha Express Carwash**
Storm water Practices: **Underground Detention System**
Location of Practices: **Lot 1, CSM**
Owner of Lot 1: **Erickson Enterprises II, LLC**

Figure 1
Plan View of Storm Water Practices

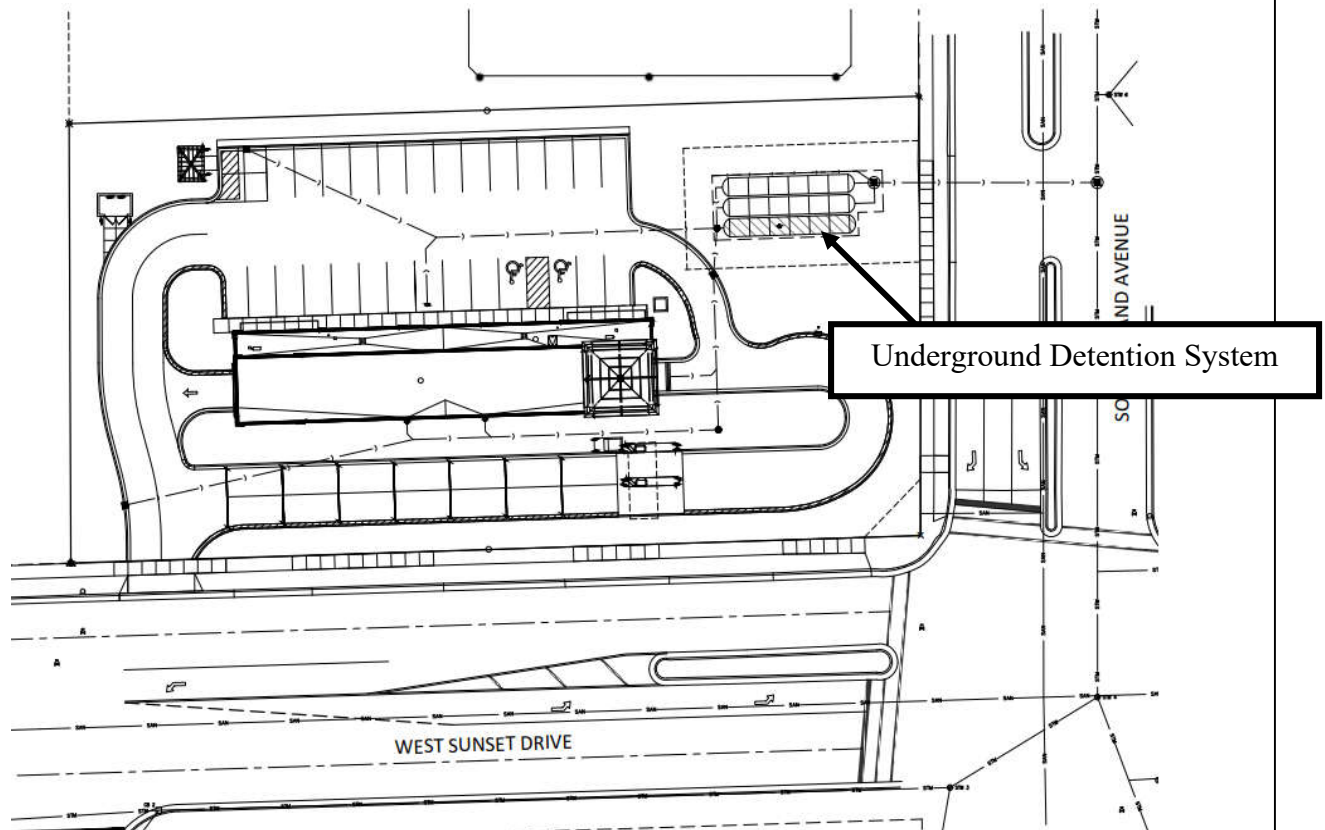


Exhibit C

Storm Water Practice Maintenance Plan

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

System Description:

The underground detention system (UDS) is designed to trap 80% of sediment in runoff and maintain pre-development downstream peak flows. The site storm catch and drain basins will trap coarse sediments in runoff, such as road sands, thus reducing maintenance of the UDS. The UDS will trap the finer suspended sediment. To do this, the UDS and its outlet control structure must be maintained as specified in this Agreement.

The UDS receives runoff from a 0.887-acre drainage area. During high rainfall or snow melt events, the water level will temporarily rise and slowly drain down to the elevation of the control structure. The water level is controlled by multi-stage outlet structure with a 3-inch orifice and a 4' overflow weir. The orifice controls the water level and causes the incoming runoff to store within the UDS and to temporarily rise during runoff events. High flows will flow thru the 4' weir opening. "As-built" construction drawings of the basin, showing actual dimensions, elevations, outlet structures, etc. will be recorded as an addendum(s) to this agreement within 60 days after City of Waukesha accepts verification of construction from the project engineer.

Minimum Maintenance Requirements:

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

1. All outlet pipes must be checked monthly to ensure there is no blockage from floating debris or ice, especially the washed stone in front of the 3-inch orifice and the trash rack on the riser in the main basin. Any blockage must be removed immediately. The washed stone must be replaced when it becomes clogged.
2. Grass swales shall be preserved to allow free flowing of surface runoff in accordance with approved grading plans. No buildings or other structures are allowed in these areas. No grading or filling is allowed that may interrupt flows in any way.
3. Grass swales, inlets and outlets must be checked after heavy rains (minimum of annually) for signs of erosion. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the downstream forebays or basin. Erosion matting is recommended for repairing grassed areas.
4. Any other repair or maintenance needed to ensure the continued function of the storm water practices or as ordered by the City of Waukesha under the provisions listed on page 1 of this Agreement.
5. The titleholder(s) or their designee must document all inspections as specified above. Documentation shall include as a minimum: (a) Inspectors Name, Address and Telephone Number, (b) Date of Inspections, (c) Condition Report of the Storm Water Management Practice, (d) Corrective Actions to be Taken and Time Frame for Completion, (e) Follow-up Documentation after Completion of the Maintenance Activities. All documentation is to be delivered to the attention of the City Engineer at the City of Waukesha Engineering Department on January 10th and July 10th each year.

Addendum 1
Storm Water Management Practice
Maintenance Agreement

Document number

The purpose of this addendum is to record verified “as-built” construction details, supporting design data and permit termination documentation for the storm water management practice(s) located on **Lot 1 CSM**, described as being all that part of the Southwest Quarter (SW ¼) of the Southeast Quarter (SE ¼) of Section 10, Township 6N, Range 19E, City of Waukesha Waukesha County, Wisconsin. This document shall serve as an addendum to document # _____, herein referred to as the “Maintenance Agreement”. This addendum includes all of the following exhibits:

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

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

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

Exhibit G: Storm Water Management & Erosion Control Permit Termination – provides certification by the City of Waukesha that the Storm Water and Erosion Control Permit for the above noted site has been terminated.

Name and Return Address

Dated this ____ day of _____, 2023.

Parcel Identification Number(s) – (PIN)

Owner:

[Owners Signature]

Tracey Erickson

Acknowledgements

State of Wisconsin County of Waukesha

Personally came before me this ____ day of _____, 2023 the above named **Tracey Erickson** to me known to be the person who executed the foregoing instrument and acknowledged the same.

[Name]

Notary Public, Waukesha County, WI

My commission expires:_____.

This document was drafted by:

Nielson Madsen and Barber SC
1458 Horizon Blvd, Suite 200
Racine, WI 53406

For Certification Stamp

(Sample)
Exhibit D
Design Summaries for Wet Detention Basin #1

Project Identifier: Waukesha Express Carwash **Project Size:** 1.08 Acres **No. of Lots:** 1
Number of Runoff Discharge Points: 1 **Watershed (ultimate discharge):** Fox River
Watershed Area (including off-site runoff traveling through project area): 0.89 acres (0.2 bypass)

Watershed Data Summary. The following table summarizes the watershed data used to determine peak flows and runoff volumes required to design underground detention system.

Summary Data Elements	Subwatershed A		Subwatershed B (off-site)	
	Pre-develop	Post-develop	Pre-develop	Post-develop
Watershed Areas (<i>in acres</i>) <i>(see attached map)</i>	1.08 acres	0.89 acres	0	0.20
Average Watershed Slopes (%)	2-4%	2-4%	3-4%	2-4%
Land Uses (% of each) <i>(see attached map)</i>	0.83 Roof / Pavement 0.05 Lawn	0.51 Roof / Pavement 0.37 Lawn	0.19 Roof / Pavement 0.01 Lawn	100% Lawn
Runoff Curve Numbers	CN 94 (Standard)	CN 87 (Composite)	CN 94 (Standard)	CN 74 (Standard)
Conveyance Systems Types	Paved Surface	25% grass swale 25% Paved Surface 50% storm sewer	Paved Surfaces	Grass Swale
Summary of Average Conveyance System Data	1' depth/ 2-3% grade	1' depth swale/3% 8"-12" stm sewer/2% (see calcs.)	2-3% grade	Side Slopes 2-6% grade
Time of Concentration (<i>T_c</i>) <i>(see attached map & worksheets)</i>	N/A.	0.18 hrs.	. N/A	N/A
25% of 2-yr 24-hr post-dev runoff volume	N/A	0.03 ac. ft.	N/A	N/A
1-year/24 hour Runoff Volume	N/A	0.091 ac. ft.	N/A	N/A
2-yr./24 hour Peak Flow <i>(see attached hydrographs)</i>	N/A	1.95 cfs	N/A	N/A
10-yr./24 hour Peak Flow	N/A	3.21 cfs	N/A	N/A
100-yr./24 hour Peak Flow	N/A	5.92 cfs	N/A	N/A

Exhibit D (continued)

Practice Design Summary. The following table summarizes the data used to design unground detention system.

Design Element	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (subwatershed A & B)	0.887 acres
Distance to nearest private well (including off-site wells)	> 100 feet
Distance to municipal well (including off-site wells)	> 1200 feet
Wellhead protection area involved?	No
Ground slope at site of proposed basin	average 2%
Any buried or overhead utilities in the area?	No
Proposed outfall conveyance system/discharge (w/ distances)	80 ft. to S Grand Ave Storm
Any downstream roads or other structures? (describe)	Yes – W Sunset Storm
Floodplain, shoreland or wetlands?	No
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	5 (in basin area)
Do elevations of test holes extend 3 ft. below proposed bottom?	Yes (see map)
Average soil texture at pond bottom elevation (USDA)	Clay Sand
Distance from pond bottom to bedrock	> 15 feet
Distance from pond bottom to seasonal water table	Bottom of Underground Detention System 2 Ft. above
General basin design data (see attached detailed drawings):	
Basin surface area	1183 S.F.
Design permanent surface elevation	Elev. 848.21
Top of structure elevation	856.50
Length/width (dimensions/ratio)	52 ft. (L) x 33 ft. (W) = 2:1

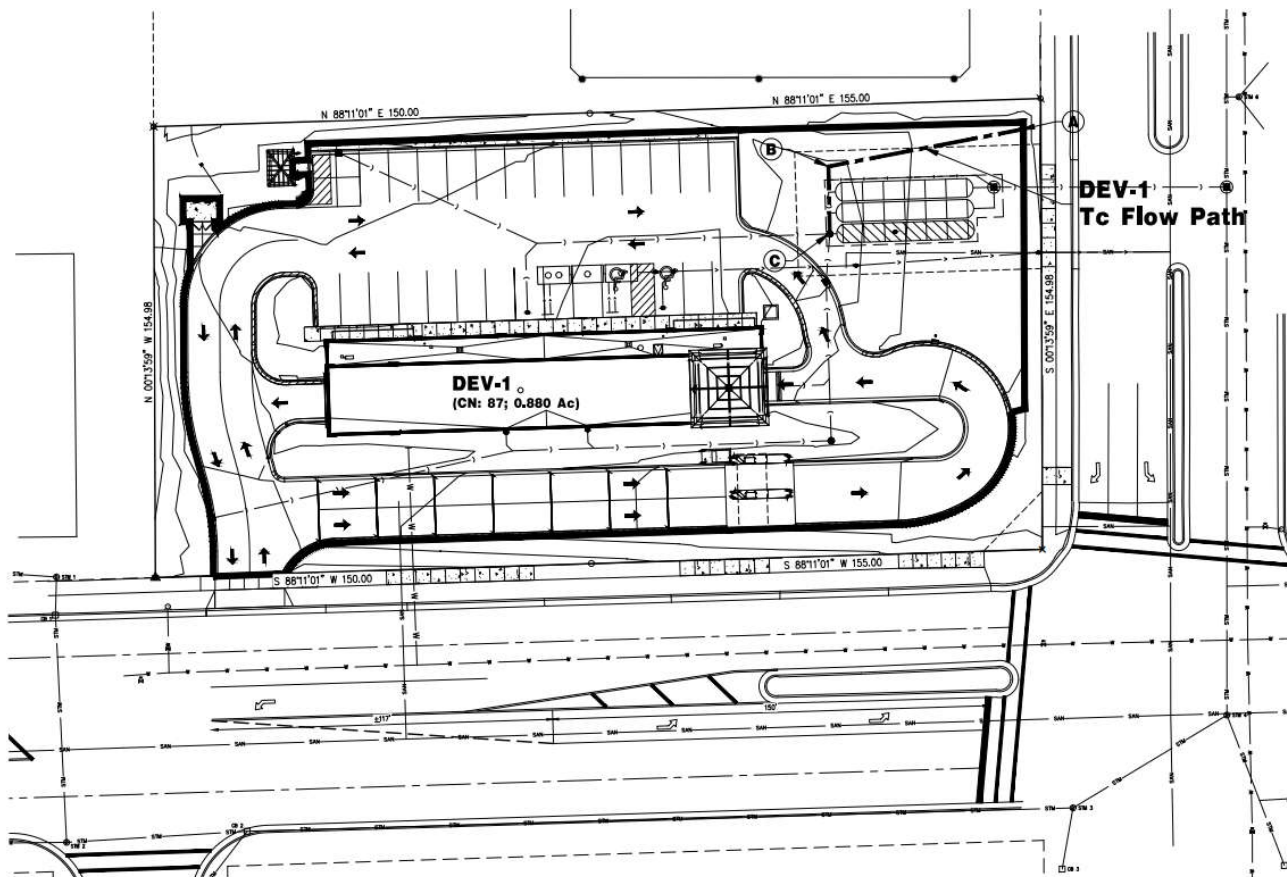
Design Basin Inflow, Outflow & Storage Data (see attached hydrographs and detail drawings)				
Inflow Peak/Volume	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev. (above perm. pool)	Outflow Control Structures*
1.62 CFS 1 yr / 24 Hr.	.33 cfs (24 hr. drawdown)	850.32 ft.	0.035-acre feet	#1
1.95 cfs (Post 2-yr./24 hr. peak)	0.37 cfs	850.79 ft.	0.045-acre feet	#1
3.21 cfs (Post 10-yr./24 hr. peak)	2.5 cfs	851.30 ft.	0.054-acre feet	#1 and #2
5.92 cfs (Post 100-yr./24 hr. peak)	5.87 cfs	851.57 ft.	0.059-acre feet	#1 and #2

* #1 = 3-inch orifice – flow line elev. @ 848.21 (3.79 ft. max. head)

#2 = 4 foot wide rectangular weir – flow line elev. @ 851.00 (1.0 ft. hydraulic head)

Exhibit D (continued)

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



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

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

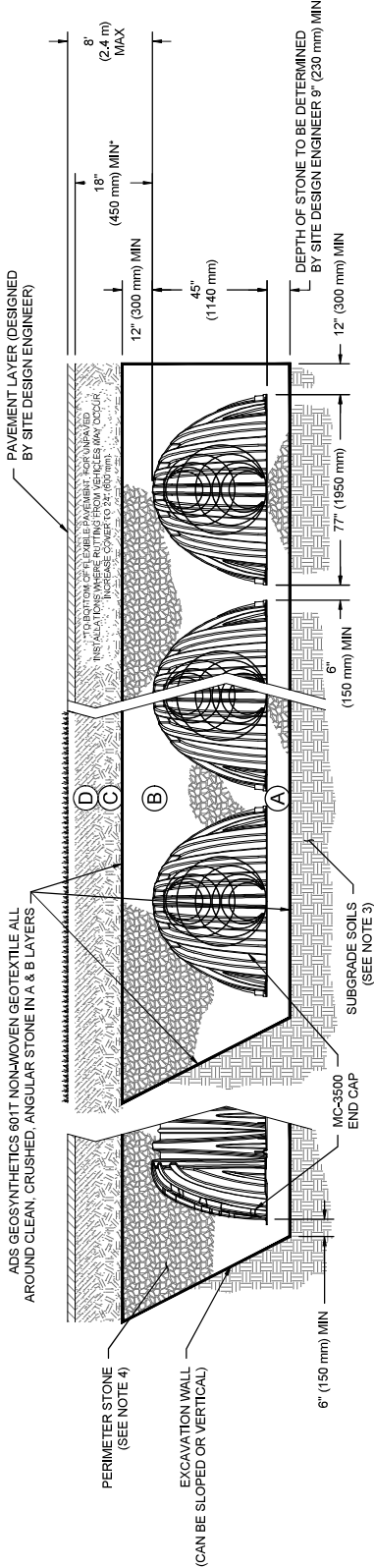
<u>Project Identifier:</u>	Waukesha Express Car Wash
<u>Storm water Practice:</u>	Underground Detention System
<u>Location of Practice:</u>	Lot 1, CSM
<u>Owner of Lot 1:</u>	Erickson Enterprise II, LLC

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL:	FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
	INITIAL FILL:	FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AAASHTO M145 ¹ A-1, A-2-4, A-3 OR AAASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE:	FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AAASHTO M43 ¹ 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE:	FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AAASHTO M43 ¹ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418. "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT³%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

ADS
HILLIARD OH 43026
1-800-733-7473

4640 TRUEMAN BLVD

SHEET
3 OF 6

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER. IT IS THE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

COVER PIPE CONNECTION TO END CAP WITH ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE

STORMTECH HIGHLY RECOMMENDS FLEXSTORM INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES

ELEVATED BYPASS MANIFOLD

INSTALL FLAMP ON 24" (600 mm) ACCESS PIPE
PART # MC350024RAMP

MC-3500 CHAMBER

OPTIONAL INSPECTION PORT

MC-3500 END CAP

ONE LAYER OF ADS PLUS175 WOVEN GEOTEXTILE BETWEEN FOUNDATION STONE AND CHAMBERS
8.25 (2.51 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS

24" (600 mm) HDPE ACCESS PIPE REQUIRED
USE FACTORY PARTIAL CUT END CAP PART #:
MC3500IEPP24BC OR MC3500IEPP24BW

NYLOPLAST

SUMP DEPTH TBD BY SITE DESIGN ENGINEER
(24" (600 mm) MIN RECOMMENDED)

MC-3500 ISOLATOR ROW PLUS DETAIL

NTS

CONCRETE COLLAR

PAVEMENT

CONCRETE SLAB
6" (150 mm) MIN THICKNESS

STORMTECH CHAMBER

CONCRETE COLLAR NOT REQUIRED FOR UNPAVED APPLICATIONS

8" NYLOPLAST INSPECTION PORT BODY (PART# 2708AG4PKIT) OR TRAFFIC RATED BOX W/SOLID LOCKING COVER

4" (100 mm) SDR 35 PIPE

4" (100 mm) INSERTA TEE TO BE CENTERED ON CORRUGATION VALLEY

12" (300 mm) MIN WIDTH

4" PVC INSPECTION PORT DETAIL

(MC SERIES CHAMBER)

NTS

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT

A. INSPECTION PORTS (IF PRESENT)

A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN

A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED

A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG

A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)

A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

B. ALL ISOLATOR PLUS ROWS

B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS

B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE

i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY

ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE

B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2)

CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS

A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED

B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN

C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3)

REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4)

INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

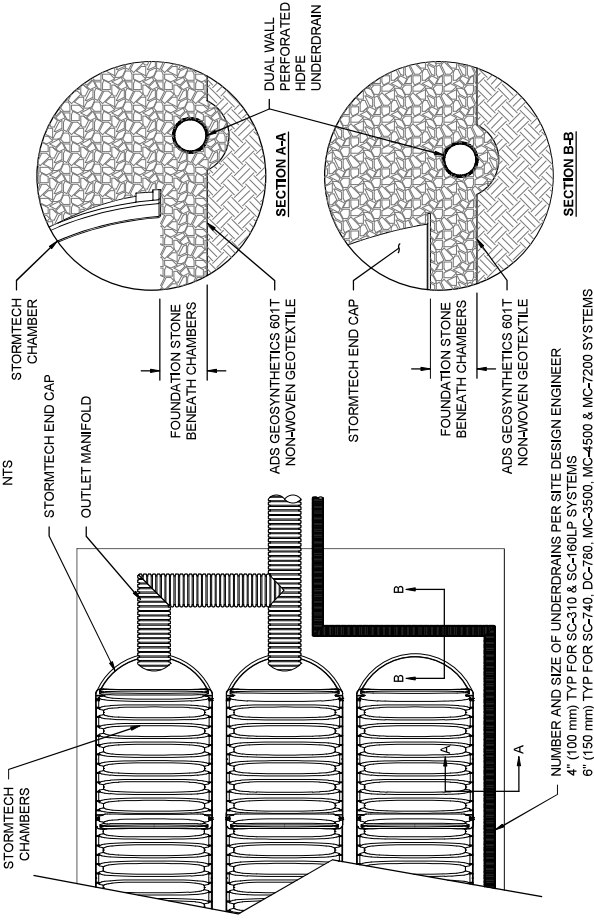
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

NOTE:

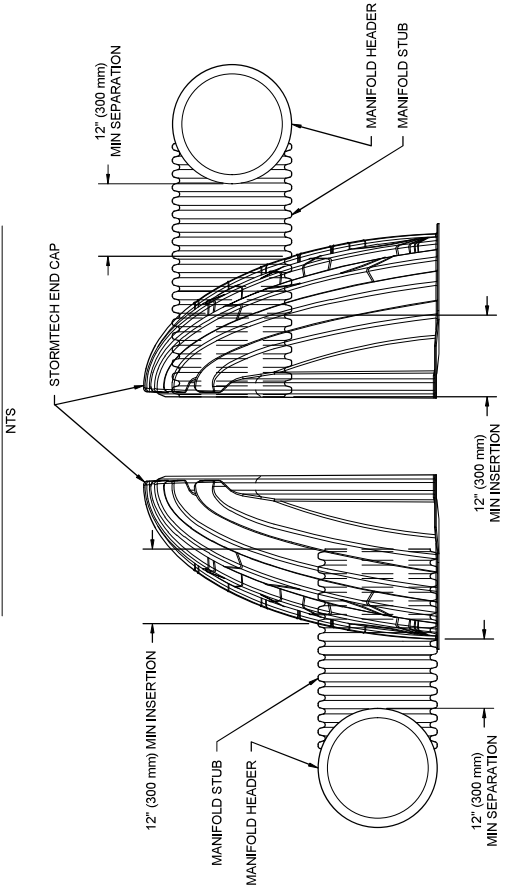
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

UNDERDRAIN DETAIL



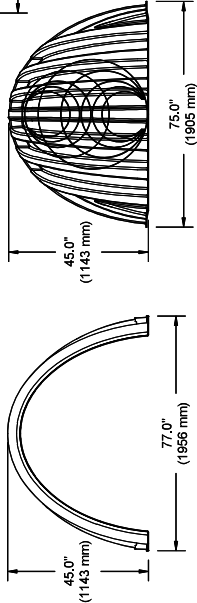
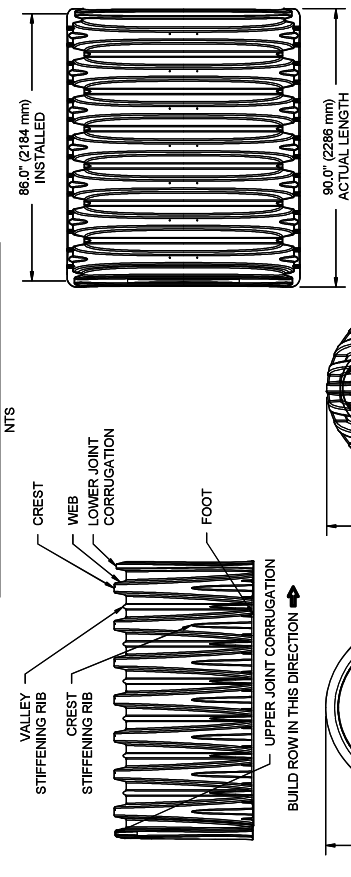
NUMBER AND SIZE OF UNDERDRAINS PER SITE DESIGN ENGINEER
4" (100 mm) TYP FOR SC-310 & SC-160LP SYSTEMS
6" (150 mm) TYP FOR SC-740, DC-780, MC-3500, MC-4500 & MC-7200 SYSTEMS

MC-SERIES END CAP INSERTION DETAIL



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-3500 TECHNICAL SPECIFICATION



NOMINAL CHAMBER SPECIFICATIONS
SIZE (W X H X INSTALLED LENGTH)
CHAMBER STORAGE
MINIMUM INSTALLED STORAGE*
WEIGHT

77.0" X 45.0" X 98.0"
(1956 mm X 1143 mm X 2484 mm)
109.9 CUBIC FEET
(3.11 m³)
175.0 CUBIC FEET
(4.96 m³)
134 lbs.

NOMINAL END CAP SPECIFICATIONS
SIZE (W X H X INSTALLED LENGTH)
END CAP STORAGE
MINIMUM INSTALLED STORAGE*
WEIGHT

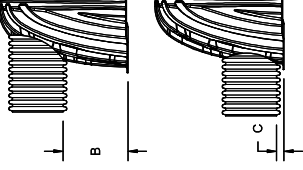
75.0" X 45.0" X 22.2"
(1905 mm X 1143 mm X 564 mm)
14.9 CUBIC FEET
(0.42 m³)
45.1 CUBIC FEET
(1.26 m³)
49 lbs.

*ASSUMES 12" (305 mm) STONE ABOVE, 8" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	—
MC3500IEPP06B	—	—	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	—
MC3500IEPP08B	—	—	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	—
MC3500IEPP10B	—	—	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	—
MC3500IEPP12B	—	—	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	—
MC3500IEPP15B	—	—	1.50" (38 mm)
MC3500IEPP18T	18" (450 mm)	20.03" (509 mm)	—
MC3500IEPP18B	—	—	1.77" (45 mm)
MC3500IEPP24T	24" (600 mm)	14.48" (368 mm)	—
MC3500IEPP24TW	—	—	2.06" (52 mm)
MC3500IEPP24BC	—	—	2.75" (70 mm)
MC3500IEPP24BW	—	—	—
MC3500IEPP30BC	—	—	—

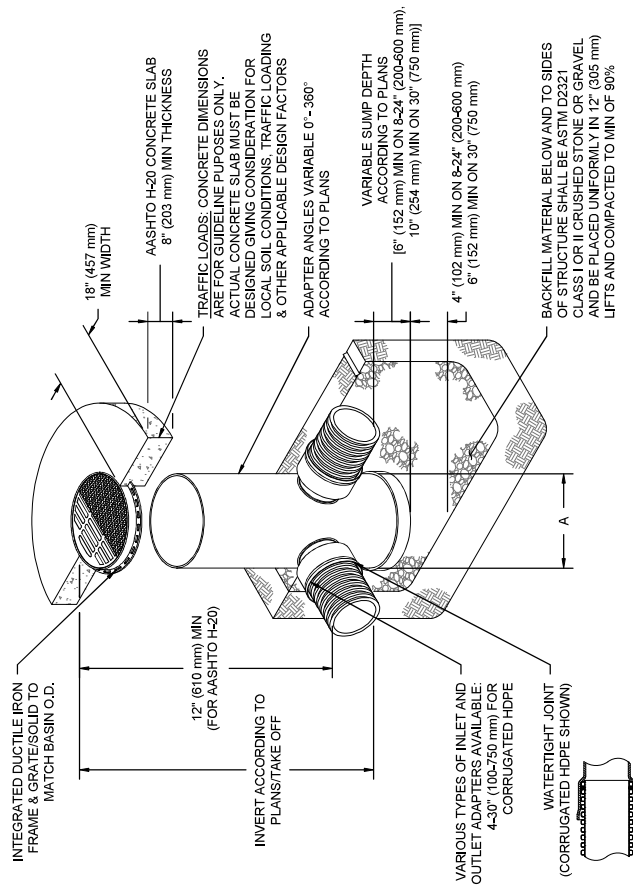
NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PRECURED INVERTS ARE AVAILABLE UPON REQUEST. INVERTED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

NYLOPLAST DRAIN BASIN

NTS



NOTES

1. 8" (203-254 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536
2. G-307 (200-750 mm)
3. 12-307 (300-762 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-045
4. 12-307 (300-762 mm) TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
5. DRAINAGE BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
6. DRAINAGE CONNECTION STUD / JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212
7. FOR CORRUGATED HOPE (ADJ. HANGER DUAL WALL) S DRP 35 PVC
8. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: WWW.NYLOPLAST-US.COM
9. TO ORDER CALL: 800-421-6710

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

Exhibit “F”
Engineering/Construction Verification

DATE: _____, 2023

TO: City of Waukesha

FROM: Mark R. Madsen, P.E., P.L.S. / Nielsen Madsen and Barber S.C.
Project Engineer’s Name/Company

RE: Engineering/Construction Verification for the following project:

Project Name: Waukesha Express Carwash

Section 10, City of Waukesha

Storm Water Management & Erosion Control Permit # _____

Storm Water Management Practices: Silt Fence and Inlet Control

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

[Must include one of the following two statements:]

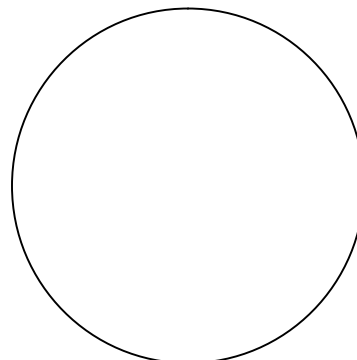
1. Any variations from the originally approved construction plans are noted in Exhibit E. These variations are considered to be within the tolerances of standard construction techniques and do not affect the original design as presented in Exhibit D in any way.

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

Or

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

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



(Signed P.E. stamp must be included)

Exhibit G

Storm Water Management and Erosion Control Permit Termination

Project Identifier: Waukesha Express Car Wash

Location: All that part of the Southeast Quarter (SE ¼) of Section 10, Township 6N, Range 19E (City of Waukesha)

Storm Water Management and Erosion Control Permit Holder's Name: Erickson Enterprise II, LLC

Storm Water Management & Erosion Control Permit #: _____

Chapter 32 – City of Waukesha Storm Water Management and Erosion Control requires that all newly constructed storm water management practices be maintained by the Storm Water and Erosion Control Permit Holder until permit termination, after which maintenance responsibilities shall be transferred to the responsible party identified on the **CSM** and referenced in this Maintenance Agreement.

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

Dated this ____ day of _____, 2023.

City of Waukesha representative:

(Signature)

Dave Buechl, P.E., P.L.S, Engineer II

Acknowledgements

State of Wisconsin
County of Waukesha

Personally came before me this ____ day of _____, **2023**, the above named Waukesha Express Carwash to me known to be the person who executed the foregoing instrument and acknowledged the same.

[Name]

Notary Public, Waukesha County, WI

My commission expires: _____

Sample Maintenance Provisions for Infiltration Basin

System Description:

Infiltration basins are designed to reduce runoff volumes from a site after development by intercepting the runoff and allowing it to slowly seep (infiltrate) into the underlying soil and groundwater. Most are designed to infiltrate the first 1/2" to 1" of runoff in an attempt to meet average annual predevelopment runoff volumes. The drainage areas served by an infiltration basin is usually 2-50 acres.

Infiltration basins can also be designed to reduce peak flows by temporarily detaining runoff from larger storms and releasing it through outlet pipes or other controlled discharge devices. Pretreatment of the runoff is often provided to reduce sedimentation in the basin and prevent the risk of groundwater pollution, depending on the land use of the drainage area served by the basin. For this example, it is assumed that the infiltration basin is seeded with native warm season (prairie) grasses, has a pretreatment forebay, a stone trench in its center, one monitoring well located nearby, and has peak flow control incorporated into the design.

Minimum Maintenance Requirements:

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

1. A minimum of 70% soil cover made up of native grasses must be maintained on the basin bottom to ensure infiltration rates. Periodic burning or mowing is recommended to enhance establishment of the prairie grasses (which may take 2-3 years) and maintain the minimum native cover. To reduce competition from cool season grasses (bluegrass, fescues, quack, etc.) and other weeds:
 - For the first year, cut to a 6" height three times – once each in June, July and early August. To prevent damage to the native grasses, do not mow below a 6" height. Remove excessive accumulation of clippings to avoid smothering next year's seedlings.
 - After the first year, mowing may only be needed in early June each year to help control the spread of cool season plants. The mowing should also be raised to 10-12" to avoid damage to the warm season plants.
 - Burning may also be used to manage weeds in 2-5 years intervals. Late spring burns (mid-late May) provide maximum stimulus to warm season grasses and work well to control cool season grasses. Burn when the cool season grasses are growing and the warm season plants are just barely starting to grow to get maximum control of cool season species.
 - Any major bare areas or areas taken over by nonnative species must be reseeded. To clear area of weeds and cool season grasses, treat with an herbicide that contains glyphosphate in accordance with manufacture's instructions. Ensure a firm seedbed is prepared to a depth of 3 inches (a roller is recommended). Seeding should occur in early-mid June. Seed with Big Bluestem, Indian Grass, Little Blue Stem or Switchgrass (preferably an equal mix of all four types). A companion crop of oats is recommended. Seed must be placed at a depth of 1/4 – 1/2" and a minimum rate of 1/4 pound per 100 square feet. If broadcast seeding by hand, drag leaf rake over soil surface after seeding. Then roll it again and cover with a light layer of mulch and staked erosion control netting to hold it in place until germination. For other planting details, see NRCS standard 342 (Critical Area Planting).
2. Invasive plant and animal species shall be managed in compliance with Wisconsin Administrative Code Chapter NR 40. This may require eradication of invasive species in some cases.
3. The basin and all components (grass swales, forebay, inlets, outlets, etc.) should be inspected after each heavy rain, but at a minimum of once per year. If the basin is not draining properly (within 72 hours), further inspection may be required by persons with expertise in storm water management and/or soils.
 - If soil testing shows that the soil surface has become crusted, sealed or compacted, some deep tillage should be performed. Deep tillage will cut through the underlying soils at a 2-3 foot depth, loosening the soil and improving infiltration rates, with minimal

- disturbance of the surface vegetation. Types of tillage equipment that can be used include a subsoiler or straight, narrow-shanked chisel plow.
- If sedimentation is determined to be causing the failure, the accumulated sediment must be removed and the area reseeded in accordance with the notes above.
 - If inspection of the monitoring well shows that groundwater is regularly near the surface, additional design features may need to be considered, such as subsurface drainage or conversion to a wetland treatment system.
 - If the washed stone trench has become clogged, the stone – and possibly the soil immediately around the stone - must be replaced.
4. All outlet pipes, stone trenches and other flow control devices must be kept free of debris. Any blockage must be removed immediately.
 5. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the system. Erosion matting is recommended for repairing grassed areas.
 6. Heavy equipment and vehicles must be kept off of the bottom and side slopes of infiltration basins to prevent soil compaction. Soil compaction will reduce infiltration rates and may cause failure of the basin, resulting in ponding and possible growth of wetland plants.
 7. No trees are to be planted or allowed to grow on the earthen berms of the bottom of the basin. On the berms, tree root systems can reduce soil compaction and cause berm failure. On the basin bottom, trees may shade out the native grasses. The basin must be inspected annually and any woody vegetation removed.
 8. Grass swales leading to the basin shall be preserved to allow free flowing of surface runoff in accordance with approved grading plans. No buildings or other structures are allowed in these areas. No grading or filling is allowed that may interrupt flows in any way.
 9. If floating algae or weed growth becomes a nuisance in the forebay (decay odors, etc.), it must be removed and deposited where it cannot drain back into the basin or forebay. Removal of the vegetation from the water reduces regrowth the following season (by harvesting the nutrients). Wetland vegetation must be maintained along the waters edge for safety and pollutant removal purposes.
 10. When sediment in the forebay has accumulated to an elevation of three feet below the outlet elevation, it must be removed (refer to figure). All removed sediment must be placed in an appropriate upland disposal site and stabilized (grass cover) to prevent sediment from washing back into the basin. Failure to remove sediment from the forebays will cause resuspension of previously trapped sediments and increase deposition in the infiltration basin.
 11. No grading or filling of the basin or berms other than for sediment removal is allowed.
 12. Periodic mowing of the grass swales will encourage rigorous grass cover and allow better inspections for erosion. Waiting until after August 1 will avoid disturbing nesting wildlife. Mowing around forebay may attract nuisance populations of geese to the property and is not necessary or recommended.
 13. Any other repair or maintenance needed to ensure the continued function of the infiltration basin as ordered by the **City of Waukesha** under the provisions listed on page 1 of this Agreement.
 14. The titleholder(s) or their designee must document all inspections as specified above. Documentation shall include as a minimum: (a) Inspectors Name, Address and Telephone Number, (b) Date of Inspections, (c) Condition Report of the Storm Water Management Practice, (d) Corrective Actions to be Taken and Time Frame for Completion, (e) Follow-up Documentation after Completion of the Maintenance Activities. All documentation is to be delivered to the attention of the City Engineer at the City of Waukesha Engineering Department on January 10th and July 10th each year.

City of Waukesha

Underground Detention System Inspection and Maintenance Checklist

Facility: Waukesha Express Car Wash			
Location/Address: 300 West Sunset Waukehsa, WI 53189			
Date:	Time:	Weather Conditions:	Date of Last Inspection:
Inspector:		Title:	
Rain in Last 48 Hours: ☐ Yes ☐ No If yes, list amount and timing:			
Pretreatment: ☐ vegetated filter strip ☐ swale ☐ turf grass ☐ forebay ☐ other, specify: ☐ none			
Site Plan or As-Built Plan Available: ☐ Yes ☐ No			

*Do not enter underground detention chambers to inspect system unless Occupational Safety & Health Administration (OSHA) regulations for confined space entry are followed.

*Follow inspection and maintenance instructions and schedules provided by system manufacturer and installer.

*Properly dispose of all wastes.

Inspection Item	Comment	Action Needed
1. PRETREATMENT		
Sediment has accumulated.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Trash and debris have accumulated.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
2. INLETS		
Inlets are in poor structural condition.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Sediment, trash, or debris have accumulated and/or is blocking the inlets.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
3. CHAMBERS		
Sediment accumulation threshold has been reached.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Trash and debris have accumulated in chambers.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
4. CHAMBERS		
Structural deterioration is evident.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
5. OUTLETS		
Outlets in poor structural condition.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Sediment, trash or debris are blocking outlets.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Erosion is occurring around outlets.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
6. OTHER		
Evidence of ponding water on area draining to system.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Evidence that water is not being conveyed through the system.	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No
Additional Notes		

Rev. Date _____

Wet Weather inspection needed ☐ Yes ☐ No

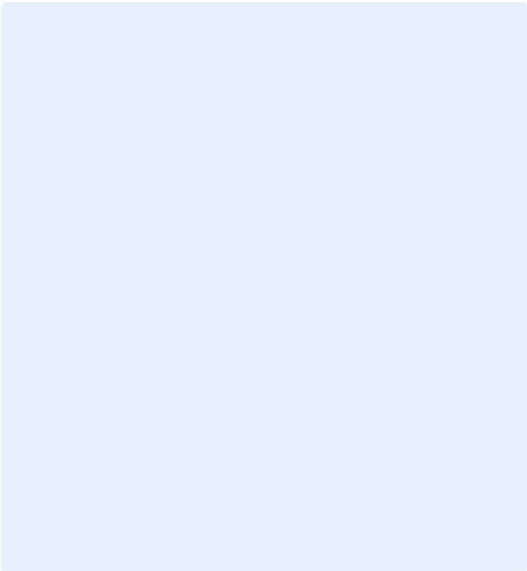


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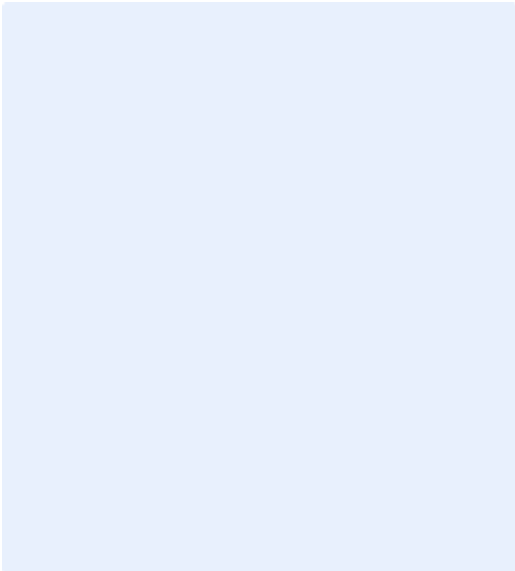
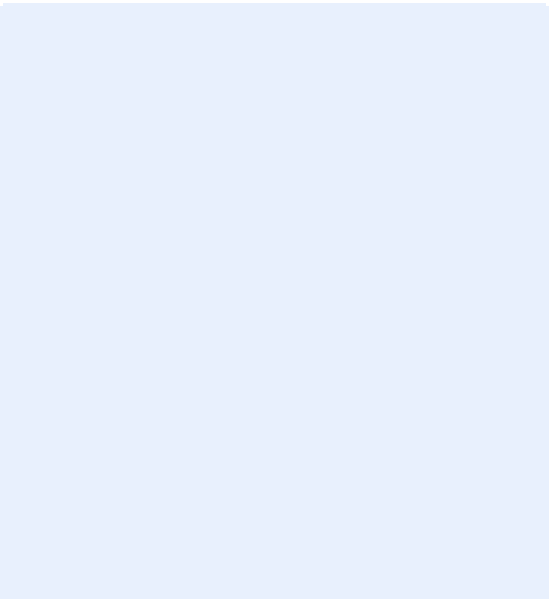
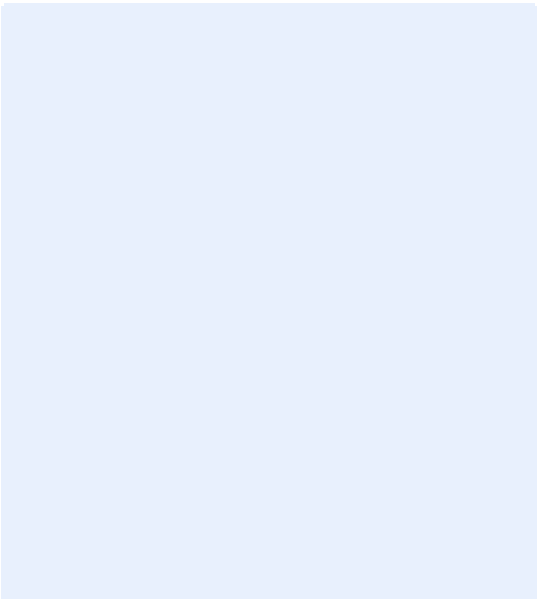


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Rev. Date _____

Photo 3: Click or tap here to enter text.

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Rev. Date _____