STORMWATER MANAGEMENT REPORT

PROJECT NAME

Chipotle Restaurant
Mormon Coulee Road & Shelby Road
La Crosse, WI 54601

OWNER

Alliance Development
230 Ohio Street, Suite 200
Oshkosh, WI 54902

REVISIONS

Issue Date: 07/16/26

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1.0 INTRODUCTION

This report provides a basic analysis of the proposed stormwater management system for the development of a Chipotle restaurant in La Crosse, Wisconsin. The analysis was completed to ensure compliance with the stormwater requirements of the City of La Crosse. Included in this document is a rate control analysis and a water quality treatment analysis. See Figure 1 for a site location map.

1.1 Existing Conditions

The site is located in the Northwest quadrant of Mormon Coulee Road and Shelby Road, approximately 250 ft north of Shelby road in La Crosse, La Crosse County, Wisconsin. The site is bounded by Mormon Coulee Road on the northeast, and by existing commercial property to the northwest, southwest and southeast. The site is currently an existing bituminous parking lot that is part of a large strip retail center.

The proposed property boundary for the Chipotle restaurant consists of 0.710 acres. The drainage boundary being considered for this analysis is 1.802 acres which includes portion of the existing parking lot to the northwest and southwest that drain to the site. Within the drainage boundary, there are approximately 1.774 acres of impervious surfaces.

The site has a sloping topography with elevations ranging from 667 to 663. All stormwater from the site drains to an existing storm sewer catch basin located internal to the drainage boundary near the northern boundary. See Figure 2 for an existing conditions drainage map.

The Mississippi River is located about 1,800 feet southwest of the site and receives all stormwater from the site.

1.2 Proposed Conditions

Alliance Development plans on redeveloping the site into a Chipotle restaurant with associated parking and drive areas. During construction, approximately 0.679 acres will be disturbed (excluding the disturbance necessary for the water service installation). After construction, the drainage boundary will contain 1.725 acres of impervious surfaces. The proposed project will result in a reduction of impervious surface of 0.049 acres.

Storm sewer will be used to collect stormwater from the site. A storm sewer manhole with a sump and preserver device is proposed on the southwest corner of the site to provide water quality treatment for the project. The preserver will route into the existing, rerouted storm sewer. See Figure 3 for a proposed conditions drainage map.

The site is under one acre of disturbance and results in a net reduction of impervious surface, .049 acres therefore, the site is exempt from the Wisconsin DNR stormwater requirements.

1.3 Soil Information

A site specific geotechnical report was not available at the time of this report. Based on general knowledge of the area, it is assumed that onsite soils fall within the Hydrologic Soil Group B. This report will be updated if a geotechnical report becomes available for the site.

1.4 Curve Numbers

Curve Numbers (CN) were selected based on the Soil Conservation Service (SCS) Technical Release 55.

Cover types for both the existing and proposed drainage analysis are impervious and grass. The following CNs based on HSG “B” were used in the drainage analysis:

- Impervious: 98
- Grass: 61

1.5 Time of Concentration

For existing and proposed conditions, the times of concentration were calculated using a combination of sheet flow and shallow concentrated flow. These methods require the length, slope of the water course and the water course characteristics for calculating the time of concentration, which were measured from the proposed topography. A minimum time of concentration of 6 minutes was used for storm sewer analysis

2.0 STORMWATER ANALYSIS

2.1 Rate Control

The proposed project will result in a reduction of impervious surface. The reduction in impervious surface will result in a reduction in runoff rates from the site. Therefore, post project runoff rates will be less than pre project runoff rates.

2.2 Water Quality Analysis

The City of La Crosse requires redevelopment sites to provide stormwater treatment to remove 40 percent Total Suspended Solids (TSS). To meet this requirement, a manhole with a sump and Preserver device is proposed (STMH 101) in the north parking lot. The structure receives runoff from approximately 0.68 acres, of which 0.62 acres are impervious.

The Preserver treatment calculator was run to determine the removal efficiency for the site. The calculator shows the TSS removal efficiency will be 61.6 percent. The Preserver collects runoff from 0.452 impervious acres within the proposed property boundary, or 70.5 percent of the total impervious surface on the proposed Chipotle lot. Since the Preserver has a TSS removal efficiency of 61.6 percent, and it collects runoff from 70.5 percent of the impervious area on the Chipotle lot, the collective removal for the Chipotle lot is 43.4 percent (61.6% x 70.5% = 43.4%). Therefore, the site meets the 40 percent TSS removal requirement. Additionally, when considering the total impervious area to the preserver structure, including both off-site and Chipotle impervious, the system treats 0.678 acres of impervious, representing 95.5% of the total proposed property impervious. Applying the 61.6% removal efficiency, this results in a site TSS removal of approximately 58.8%. See Appendix A for model inputs and results.

2.3 Storm Sewer Design

All storm sewers were designed to accommodate a 10-year storm event. The rational method was used to determine anticipated flows to each inlet and the pipes were sized using those flows along with Manning's equation. See Appendix B for storm sewer design spreadsheet.

2.4 Conclusion

The drainage analysis and stormwater modeling show that the proposed site will meet the water quality requirements and rate control requirements of the City of La Crosse. All storm sewers have been designed to accommodate, at a minimum, a 10-year storm event.

3.0 CERTIFICATION

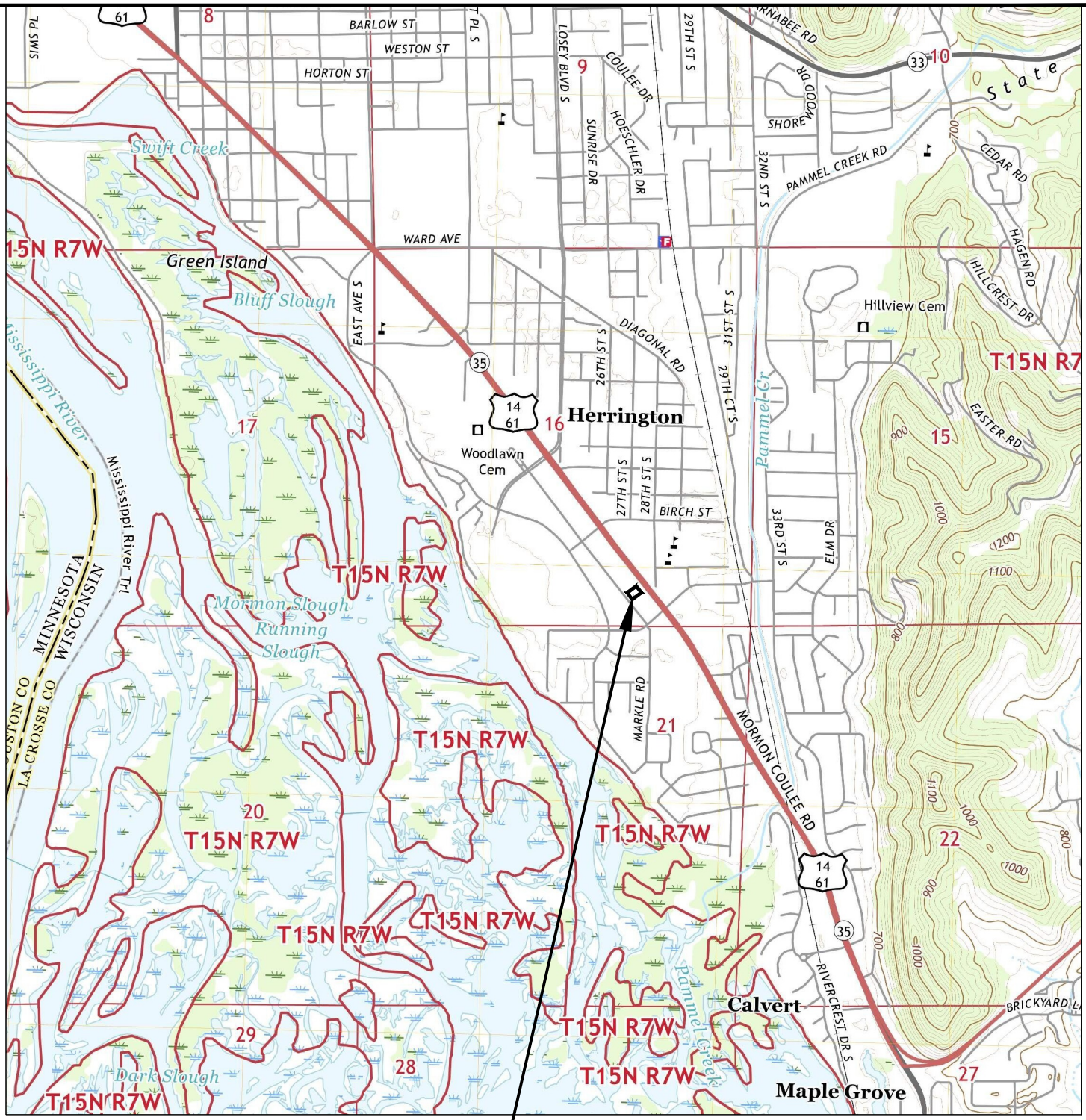
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Wisconsin.

This Stormwater Management Plan was prepared by:

Joseph T. Radach, PE
License No: E-43913

7/16/2026
Date

FIGURES



CONTOUR CIVIL DESIGN

PROJECT

CHIPOTLE RESTAURANT
LA CROSSE, WISCONSIN

SHEET ID

FIGURE 1
SITE LOCATION MAP

07/14/26 c:\users\armst\dropbox\26012 - chipotle la crosse 2\cad\26012_drain.dwg

N

0 25 50 100

< SCALE IN FEET >

DRAINAGE BOUNDARY (1.802 ACRES)

ULTIMATE DISCHARGE LOCATION - EXISTING STORM SEWER

AREA DRAIN
RIM: 661.88
INV: 656.33

AREA DRAIN
RIM: 662.25
INV: 657.60

AREA DRAIN
RIM: 667.02
INV: 660.97

AREA DRAIN
RIM: 663.95
INV: 658.20

UNABLE TO VERIFY USE OF MANHOLE

SAN MH
RIM: 667.15
INV: 652.90

STM MH
RIM: 667.08
INV: 651.08

STORM MANHOLE
RIM: 666.00
INV: 654.40

SAN MH
RIM: 666.48
INV: 653.13

CURB INLET
RIM: 664.92
INV: 656.62

663 664 665 666 667

LEGEND

- DRAINAGE BOUNDARY
- 1S CATCHMENT
- 1P COLLECTION POINT

07/14/26 c:\users\armst\dropbox\26012 - chipotle la crosse 2\cad\26012_drain.dwg

CONTOUR CIVIL DESIGN

NOTES

OWNER

ALLIANCE DEVELOPMENT
230 Ohio Street, Suite 200
Oshkosh, WI 54902

PROJECT

CHIPOTLE RESTAURANT
Mormon Coulee Road & Shelby Road
La Crosse, WI 54601

SHEET ID

FIGURE 2
EXISTING CONDITIONS DRAINAGE MAP

N

0 25 50 100

< SCALE IN FEET >

DRAINAGE BOUNDARY (1.802 ACRES)

ULTIMATE DISCHARGE LOCATION - EXISTING STORM SEWER

PRESERVER MANHOLE

MORMON COULEE RD (HWY 14/35/61)

PROPOSED BUILDING FFE = 665.5

LEGEND

- DRAINAGE AREA
- PARCEL LINE
- DISTURBANCE LIMIT
- AREA DRAINING TO STRUCTURE WITH PRESERVER DEVICE

CONTOUR CIVIL DESIGN

NOTES

OWNER

ALLIANCE DEVELOPMENT
230 Ohio Street, Suite 200
Oshkosh, WI 54902

PROJECT

CHIPOTLE RESTAURANT
Mormon Coulee Road & Shelby Road
La Crosse, WI 54601

SHEET ID

FIGURE 3
PROPOSED CONDITIONS DRAINAGE MAP

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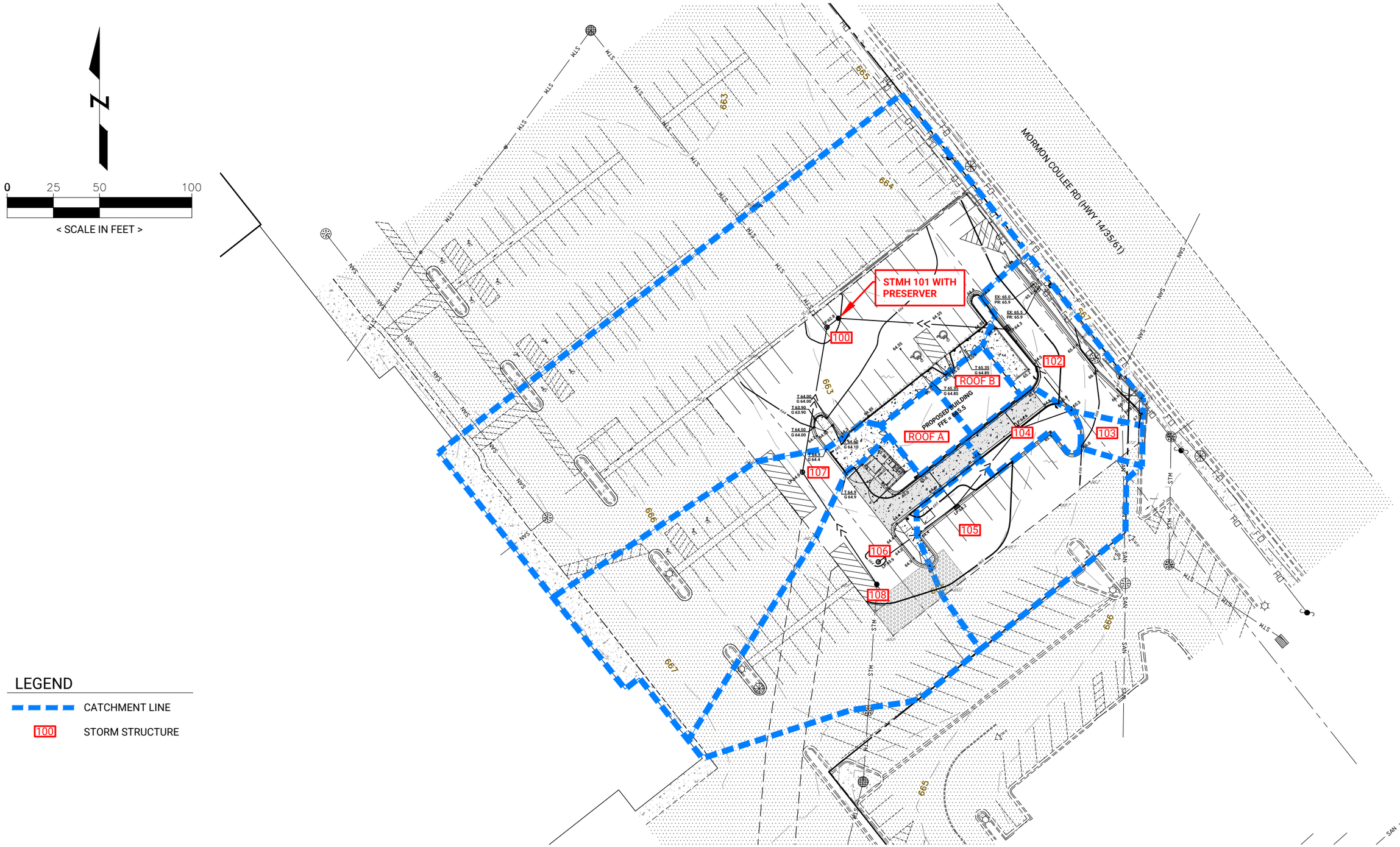


CONTOUR CIVIL DESIGN	NOTES	OWNER **ALLIANCE DEVELOPMENT** 230 Ohio Street, Suite 200 Oshkosh, WI 54902	PROJECT **CHIPOTLE RESTAURANT** Mormon Coulee Road & Shelby Road La Crosse, WI 54601	SHEET ID **FIGURE 4** **STORM SEWER DRAINAGE MAP**

07/15/26 c:\users\armst\dropbox\26012 - chipotle la crosse 2\cad\26012_drain.dwg

APPENDIX A

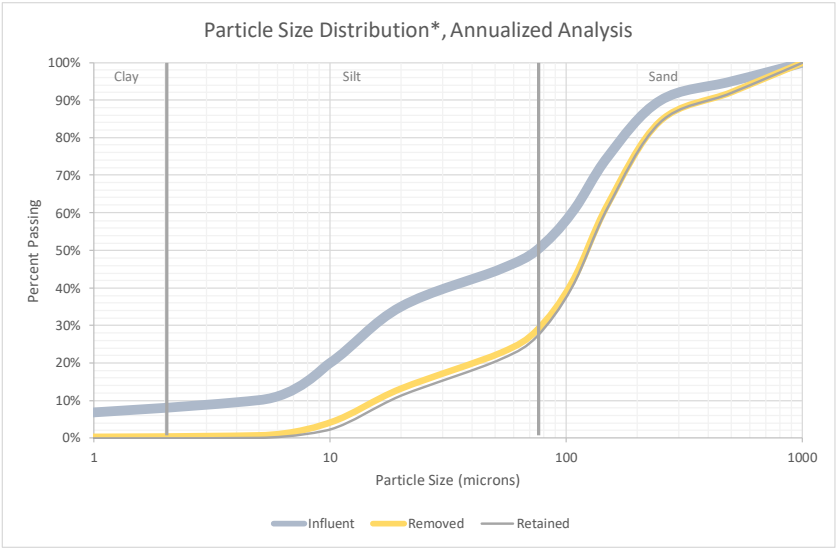
Project:	Chipotle Restaurant
Location:	La Crosse, Wisconsin
Structure ID:	STMH 101
Date:	7/14/2026

TREATMENT STRUCTURE SIZING CALCULATOR - VERSION 2.8

User Input:

Variable		Value	Units
Structure	Device[1]	Preserver, no Skimmer	n/a
	Diameter	4	ft
	Sump Depth	3	ft
	Inlet Diameter	12	in
	Outlet Diameter	12	in
Hydrology	Location[2]	WI, Madison	n/a
	Drainage Area	0.68	acres
	Percent Impervious	91.0%	%
	Time of Concentration	6.0	minutes
	Pervious CN Value[3]	61	unitless
	System Bypass?	No	n/a
	Water Temperature	68	°F
Pollutant Load	Particle Size Dist.[4]	NJDEP	n/a
	Runoff Concentration	200	mg/l
	Specific Gravity	2.65	unitless

1) Refer to the "Devices" tab for device specifics (e.g. design and maintenance recommendations, etc.).
2) "Custom" rainfall data can be selected from the drop down list and entered below.
3) "Pervious CN Value" should include impervious areas not directly connected to the drainage system.
4) "Custom" Particle Size Distributions can be selected from the drop down list and entered below.



*This graph is accurate for particle size distributions only, not singular particle sizes.

Outputs:

Annualized Pollutant Removal	Runoff Load (lbs.)	Bypassed Load (lbs.)	Load Removed, Excluding Scour (lbs.)	Removal Efficiency, Excluding Scour (%)	Scour Load (lbs.)	Load Removed, Including Scour (lbs.)	Removal Efficiency, Including Scour (%)	Pollutant Storage Depth (in)	Recommended Angle Between Pipes	Minimum Angle Between Pipes
	825		521	63.1%	12	**509**	**61.6%**	2.9	Future Version	

Device-Specific Design Assumptions → (See "Devices" tab for details)	Pipe Invert Elevations	Max. Pollutant Depth

This calculator is downloadable at www.ThePreserver.com.

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Mini Calculators:

Time of Concentration: Lag/Curve Number Method Time of Concentration Calculator:

User Input*:		
Watershed Hydraulic Length, L	424	feet
Average Land Slope, Y	1	%

Reference & Calculations:		
Weighted Curve Number, CN	95	
Potential Max. Retention, S	0.53	inches
Time of Concentration, T_c	8.9	min.

*"Percent Impervious" and "Pervious CN Value" must be entered above.

Water Level:

User Input*:		
Flow Rate	7.72	cfs

Reference & Calculations:		
Water Level Fitting Parameter, a	2.06	unitless
Water Level Fitting Parameter, b	0.95	unitless
Water Level	2.17	ft

*"Device" must be selected and "Outlet Diameter" must be entered above.

Pollutant Runoff Concentration - Winter Sanding:

Input	Residential	County/DOT
Lane Miles	0.40	0.20
Pounds/Lane Mile/Event	100	400
Events/Year	16	8
Annual Pounds Applied	636	636
Annual mg/l	154	154
Total Annual mg/l**	308	

*Hydrology location, drainage area, percent impervious, and pervious CN value must be entered above.

**Add to runoff concentration

Pollutant Runoff Concentration - Street Sweeping:

Input	Mechanical	Vacuum
Curb Miles	0.60	0.60
Tree Canopy Density	High	High
Sweeps/Year	6	6
Pounds/Curb Mile/Sweep	36	60
Total Pounds Collected	129	215
Annual mg/l**	31	52

*Hydrology location, drainage area, percent impervious, and pervious CN value must be entered above.

**Subtract from runoff concentration

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Custom Inputs (Rainfall Data & Particle Size Distribution):

Precipitation Depth (in)	Custom Precip., Average Annual Occurrence
0.1	61.0
0.2	8.3
0.3	2.6
0.4	1.1
0.5	0.7
0.6	0.3
0.7	0.2
0.8	0.1
0.9	0.1
1.0	0.0
1.1	0.0
1.2	0.1
1.3	0.1
1.4	0.0
1.5	0.0
1.6	0.0
1.7	0.0
1.8	0.0
1.9	0.0
2.0	0.0
2.1	0.0
2.2	0.0
2.3	0.0
2.4	0.0
2.5	0.0
2.6	0.0
2.7	0.0
2.8	0.0
2.9	0.0
3.0	0.0
3.1	0.0
3.2	0.0
3.3	0.0
3.4	0.0
3.5	0.0
3.6	0.0
3.7	0.0
3.8	0.0
3.9	0.0
4.0	0.0
4.1	0.0
4.2	0.0
4.3	0.0
4.4	0.0
4.5	0.0
4.6	0.0
4.7	0.0
4.8	0.0
4.9	0.0
5.0	0.0
NRCS Storm Type	Type II

Tyler Mesh Size	Microns	Custom PSD*, Percent Passing
16	1000	100.0%
20	850	33.0%
32	500	19.0%
35	425	17.0%
48	300	14.0%
60	250	13.0%
65	212	
100	150	
115	125	
150	106	
170	90	
200	75	10.0%
270	53	
625	20	
1250	10	6.0%
2500	5	
Pan	0	0.0%

*To select a singular particle size, enter "Total" adjacent to the desired particle size.

APPENDIX B

PROJECT NAME: **Chipotle Restaurant**
LOCATION: La Crosse, Wisconsin
PROJECT NO: 26012
DATE: 7/16/2026
BY: AKA

DESIGN CRITERIA	
Frequency	10 year
Manning's "n"	0.013
"C" coefficient	varies

CONTOUR CIVIL DESIGN

STORM SEWER DESIGN

LOCATION		MH SIZE	AREA			"C" COEFFICIENT			ToC/INTENSITY		FLOW CALCULATIONS					PROFILE DATA				
CBMH (from)	CBMH (to)	Diameter (in)	Impervious (sf)	Pervious (sf)	Total Area (ac)	Inc. "C"	Inc. CA	Cum. CA	T (min)	I (in/hr)	Q = CAI (cfs)	D (in)	% Grade	Q_{full} (cfs)	V_{full} (fps)	L (ft)	Invert (in)	Invert (out)	Rim El.	Build (ft)
CB106	CBMH 105	24x36	12749	85	0.29	0.90	0.26	0.26	6	5.8	1.53	12	0.50%	2.52	3.21	52	660.35	660.09	663.85	3.50
ROOF A	CBMH 105	NA	1223	0	0.03	0.90	0.03	0.03	6	5.8	0.15	4	2.00%	0.27	3.08	25	660.00	659.50	665.50	5.50
CBMH 105	CBMH 104	48	7496	540	0.18	0.85	0.16	0.45	6	5.8	2.59	12	0.80%	3.18	4.05	53	659.50	659.08	664.03	4.53
ROOF B	CBMH 104	NA	1170	0	0.03	0.90	0.02	0.02	6	5.8	0.14	4	2.00%	0.27	3.08	13	660.00	659.74	665.50	5.50
CBMH 104	CBMH 103	48	658	813	0.03	0.51	0.02	0.49	6	5.8	2.83	12	0.80%	3.18	4.05	30	659.08	658.84	664.43	5.35
CBMH 103	CBMH 102	48	705	0	0.02	0.90	0.01	0.50	6	5.8	2.91	12	0.80%	3.18	4.05	56	658.84	658.39	665.13	6.29
CBMH 102	PRESERVER 101	48	2998	1090	0.09	0.71	0.07	0.57	6	5.8	3.30	12	1.00%	3.56	4.53	91	658.39	657.48	664.13	5.74
PRESERVER 101	CBMH 100	48	1	0	0.00	0.90	0.00	0.57	6	5.8	3.30	12	1.00%	3.56	4.53	8	657.48	657.40	662.95	5.47
CBMH 100	EX PIPE	48	36235	857	0.85	0.88	0.75	1.32	6	5.8	7.67	EX	0.33%				657.40	657.34	662.75	5.35
EX PIPE	CBMH 108	48										EX	0.33%			107	658.20	657.85	662.75	4.55
CBMH 108	CBMH 107	48										EX	0.33%			73	657.85	657.61	664.35	6.50
CBMH 107	CBMH 100	48	11890	0	0.27	0.90	0.25	0.25	6	5.8	1.42	EX	0.33%			80	657.61	657.34	663.95	6.34