

Site Plan Review
 Received: 2/23/2026
 City of Kalamazoo
 E.Szymanski

City of Kalamazoo, Kalamazoo County, Michigan SITE PLAN DOCUMENTS Prepared For LAG Development

Owner

LAG DEVELOPMENT
 9990 E. HIGHLAND ROAD
 HIGHLAND, MI 48357
 CONTACT:
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 PHONE: (248) 714-2018
 EMAIL: ABRACKNELL@LAFONTAINE.COM

Architect

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 DETROIT, MI 48226
 CONTACT:
 MR. ADAM T. COPPERSMITH
 PHONE: (248) 240-0596
 EMAIL: ADAM@STUDIO-DETROIT.COM

Civil Engineer

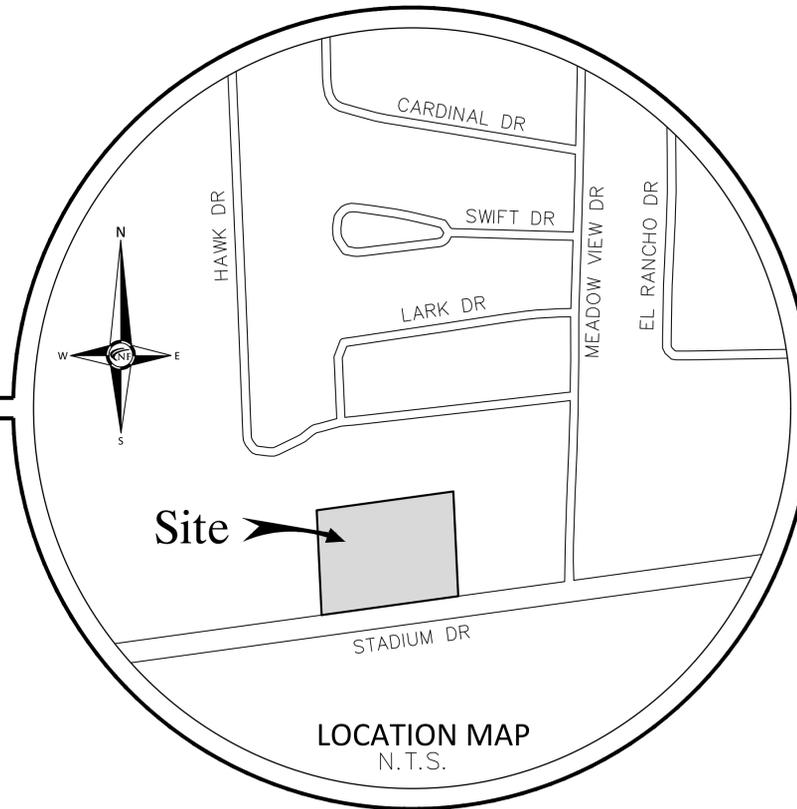
NOWAK & FRAUS ENGINEERS
 46777 WOODWARD AVENUE
 PONTIAC, MICHIGAN 48342
 CONTACT:
 MR. TIMOTHY D. WOOD, P.E.
 PHONE: (248) 332-7931
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Landscape Architect

NOWAK & FRAUS ENGINEERS
 46777 WOODWARD AVENUE
 PONTIAC, MICHIGAN 48342
 CONTACT:
 MR. GEORGE OSTROWSKI, P.E.
 PHONE: (248) 332-7931
 EMAIL: GOSTROWSKI@NFE-ENGR.COM

SHEET INDEX

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LEGAL DESCRIPTION

BEGINNING AT THE A PARCEL OF LAND SITUATED IN THE NORTHEAST 1/4 OF SECTION 30, TOWN 2 SOUTH, RANGE 11 WEST, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE INTERSECTION OF THE NORTH RIGHT OF WAY LINE OF STADIUM DRIVE (FORMERLY US 12) AND THE NORTH AND SOUTH 1/4 LINE OF SECTION 30, TOWN 2 SOUTH, RANGE 11 WEST; THENCE NORTH 82 DEGREES 05 MINUTES 00 SECONDS EAST ALONG THE NORTHERLY RIGHT OF WAY LINE OF SAID STADIUM DRIVE, 631.92 FEET FOR THE PLACE OF BEGINNING; THENCE NORTH 2 DEGREES 47 MINUTES 53 SECONDS WEST 227.00 FEET; THENCE NORTH 82 DEGREES 05 MINUTES 00 SECONDS EAST PARALLEL WITH THE NORTHERLY RIGHT OF WAY LINE OF SAID STADIUM DRIVE, 300.00 FEET; THENCE SOUTH 2 DEGREES 47 MINUTES 53 SECONDS EAST, 227.00 FEET TO THE NORTHERLY RIGHT OF WAY LINE OF SAID STADIUM DRIVE; THENCE SOUTH 82 DEGREES 05 MINUTES 00 SECONDS WEST ALONG THE NORTHERLY RIGHT OF WAY LINE OF SAID STADIUM DRIVE, 300.00 FEET TO THE PLACE OF BEGINNING.

3718 STADIUM DRIVE, KALAMAZOO, MI 49008
 CONTAINING 67,828 SQ. FT. OR 1.55 ACRES.

REVISIONS:
2025-12-19 - ISSUED FOR SITE PLAN REVIEW
2026-01-30 - REVISED PER CITY

Project Name

MERCEDES-BENZ OF KALAMAZOO 3718 STADIUM DRIVE

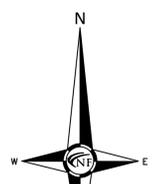
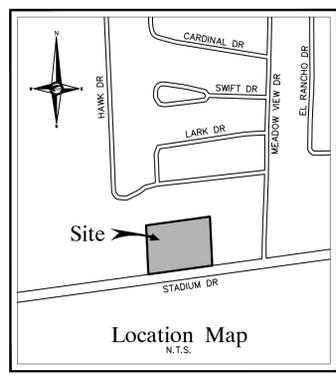
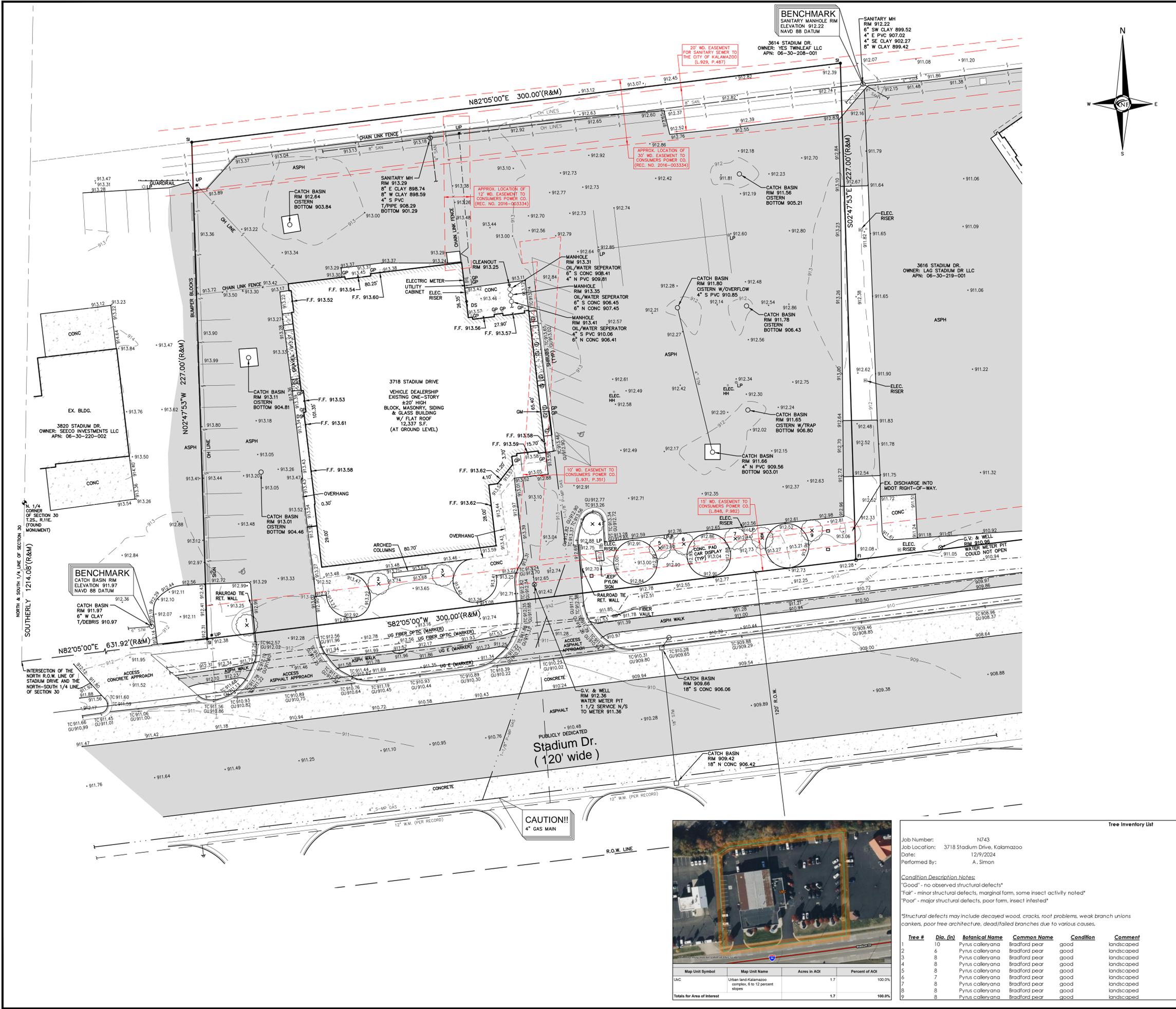


N & F JOB #N743



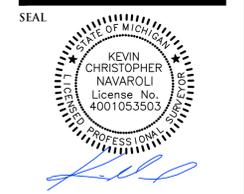
CIVIL ENGINEERS
 LAND SURVEYORS
 LAND PLANNERS

NOWAK & FRAUS ENGINEERS
 46777 WOODWARD AVE.
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PROJECT
 Mercedes-Benz of
 Kalamazoo
 3718 Stadium Drive

CLIENT
 LAG Development
 9990 E. Highland Road
 Highland, MI 48357

Contact: Gary Laundroche
 Phone: 248-714-1502
 Email: glaundroche@lafontainemotors.com

PROJECT LOCATION
 Part of the NE 1/4
 of Section 30
 T. 2S., R. 11W.,
 City of Kalamazoo,
 Kalamazoo County,
 Michigan

SHEET
 Boundary and
 Topographic Survey



DATE ISSUED/REVISED
 2025-12-19 - ISSUED FOR SITE PLAN REVIEW
 2026-01-30 - REVISED PER CITY

DRAWN BY:
 C. Herren

DESIGNED BY:

APPROVED BY:
 K. Navaroli

DATE:
 June 19, 2025

SCALE: 1" = 20'

NFE JOB NO. SHEET NO.
 N743 C1

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3718 STADIUM DRIVE, KALAMAZOO, MI 49008
 CONTAINING 67,828 SQ. FT. OR 1.55 ACRES.

FLOOD HAZARD NOTE
 THE PROPERTY DESCRIBED ON THIS SURVEY DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE X OF THE CURRENT AVAILABLE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NO. 260770D0180 WITH AN EFFECTIVE DATE OF 02-17-2010.

UTILITY NOTE
 ALL UTILITIES ARE UNDERGROUND UNLESS OTHERWISE NOTED.
 THE UTILITIES SHOWN ON THIS SURVEY WERE DETERMINED BY FIELD OBSERVATION. ALL LOCATIONS ARE APPROXIMATE. THE LOCATION OF ANY OTHER UNDERGROUND SERVICES WHICH MAY EXIST CAN ONLY BE DEPICTED IF A UTILITY PLAN IS FURNISHED TO THE SURVEYOR.

DTE DISCLAIMER NOTE
 PLEASE NOTE THAT DTE HAS NEW REGULATIONS THAT MAY IMPACT DEVELOPMENT OUTSIDE THEIR EASEMENT OR THE PUBLIC RIGHT OF WAY. CLIENT SHALL CONTACT DTE TO DETERMINE THE "NEW STRUCTURES AND POWER LINE" REQUIREMENTS AS THEY MAY APPLY TO ANY FUTURE BUILDING OR RENOVATION OF A STRUCTURE. DTE ENERGY CAN BE CONTACTED AT 800-477-4747.

BASIS OF BEARING NOTE
 THE BASIS OF BEARING FOR THIS SURVEY WAS ESTABLISHED BY THE RECORD DESCRIPTION AS SHOWN IN THE TITLE COMMITMENT REFERENCED HEREON.

MISS DIG / UTILITY DISCLAIMER NOTE
 A MISS DIG TICKET NUMBER 2024102501942, PURSUANT TO MICHIGAN PUBLIC ACT 174 WAS ENTERED FOR THE SURVEYED PROPERTY. DUE TO THE EXTENDED REPORTING PERIOD FOR UNDERGROUND FACILITY OWNERS TO PROVIDE THEIR RECORDS, THE SURVEY MAY NOT REFLECT ALL THE UTILITIES AT THE TIME THE SURVEY WAS ISSUED ON 11/27/24. THE SURVEY ONLY REFLECTS THOSE UTILITIES WHICH COULD BE OBSERVED BY THE SURVEYOR IN THE FIELD OR AS DEPICTED BY THE UTILITY COMPANY RECORDS FURNISH PRIOR TO THE DATE THIS SURVEY WAS ISSUED. THE CLIENT AND/OR THEIR AUTHORIZED AGENT SHALL VERIFY WITH THE FACILITY OWNERS AND/OR THEIR AUTHORIZED AGENTS, THE COMPLETENESS AND EXACTNESS OF THE UTILITIES LOCATION.

TOPOGRAPHIC SURVEY NOTES
 ALL ELEVATIONS ARE EXISTING ELEVATIONS, UNLESS OTHERWISE NOTED.
 UTILITY LOCATIONS WERE OBTAINED FROM MUNICIPAL OFFICIALS AND RECORDS OF UTILITY COMPANIES, AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, OR EXACTNESS OF LOCATION.
 THIS SURVEY MAY NOT SHOW ALL EASEMENTS OF RECORD UNLESS AN UPDATED TITLE POLICY IS FURNISHED TO THE SURVEYOR BY THE OWNER.

LEGEND

	MANHOLE	EXISTING SANITARY SEWER
	HYDRANT	EXISTING SAN. CLEAN OUT
	GATE VALVE	EXISTING WATER MAIN
	MANHOLE	EXISTING STORM SEWER
	CATCH BASIN	EX. R.Y. CATCH BASIN
	UTILITY POLE	EXISTING BURIED CABLES
	GUY POLE	OVERHEAD LINES
	GUY WIRE	SIGN
		EXISTING GAS MAIN

Tree Inventory List

Job Number:	N743
Job Location:	3718 Stadium Drive, Kalamazoo
Date:	12/9/2024
Performed By:	A. Simon

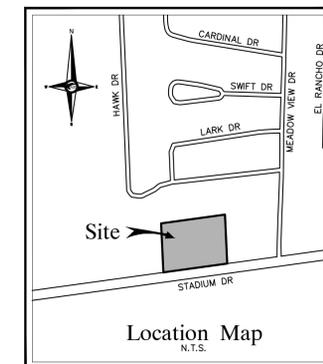
Condition Description Notes:
 "Good" - no observed structural defects*
 "Fair" - minor structural defects, marginal form, some insect activity noted*
 "Poor" - major structural defects, poor form, insect infested*
 *Structural defects may include decayed wood, cracks, roof problems, weak branch unions, cankers, poor tree architecture, dead/failed branches due to various causes.

Tree #	Dia. (in)	Botanical Name	Common Name	Condition	Comment
1	10	Pyrus calleryana	Bradford pear	good	landscaped
2	6	Pyrus calleryana	Bradford pear	good	landscaped
3	8	Pyrus calleryana	Bradford pear	good	landscaped
4	8	Pyrus calleryana	Bradford pear	good	landscaped
5	8	Pyrus calleryana	Bradford pear	good	landscaped
6	7	Pyrus calleryana	Bradford pear	good	landscaped
7	8	Pyrus calleryana	Bradford pear	good	landscaped
8	8	Pyrus calleryana	Bradford pear	good	landscaped
9	8	Pyrus calleryana	Bradford pear	good	landscaped



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UIC	Urban land-Kalamazoo complex, 6 to 12 percent slopes	1.7	100.0%
		1.7	100.0%

1/20/2025 11:41 AM



STORM SEWER NOTES

ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY. THE MUNICIPALITY STANDARD NOTES, DETAILS AND SPECIFICATIONS SHALL BE INCORPORATED AS PART OF THEIR PLANS.

ALL STORM SEWER TRENCHES UNDER OR WITHIN THREE (3) FEET OF EXISTING OR PROPOSED PAVEMENT SHOULD BE BACKFILLED WITH MDT CLASS II MATERIAL (SAND) AND BE MACHINE COMPACTED TO A MINIMUM OF 95% OF THE MATERIALS MAXIMUM DENSITY. PAVEMENT SHALL INCLUDE PARKING LOTS, DRIVE APPROACHES, CURB & GUTTER AND ADJACENT WALLS.

ALL STORM SEWER PIPE SHALL BE INSTALLED ON CLASS "B" BEDDING OR BETTER UNLESS OTHERWISE INDICATED ON THE PLANS.

STORM SEWER SHALL BE OF THE TYPE, SIZE & CLASS DESIGNATION INDICATED ON THE PLANS AND SHALL BE INSTALLED AT THE PROPOSED LINE AND GRADE INDICATED.

ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE PIPE CONFORMING TO ASTM SPECIFICATION C-76, Q. IV.

ALL MANHOLE, CATCH BASIN, INLET, REAR YARD DRAIN FRAMES AND COVERS SHALL BE AS INDICATED ON THE PLANS IN ACCORDANCE WITH MUNICIPALITY STANDARDS.

THE CONTRACTOR SHALL NOTIFY MISS DIG (1-800-482-7171) A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

EXACT GRADES AND INVERTS OF PROPOSED STORM SEWER ARE TO BE CHECKED WITH THE FIELD ENGINEER PRIOR AND DURING INSTALLATION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DESIGN ENGINEER OF ANY PLAN INCONSISTENCY AND/OR UTILITY CONFLICTS.

ALL STORM SEWER PIPE JOINTS SHALL BE "PREMIUM JOINT" MODIFIED GROOVED TONGUE (M.G.T.) WITH SYNTHETIC RUBBER GASKETS CONFORMING TO ASTM SPECIFICATION C-443 & C-561 UNLESS OTHERWISE INDICATED ON THE PLANS. ALTERNATE JOINT CONNECTION MAY BE STANDARD GROOVED TONGUE WITH COLD MASTIC (DENTY #10 JOINT COMPOUND OR EQUAL).

FACTORY MANUFACTURED PRECAST TEE SECTIONS SHALL BE USED FOR ROOF DRAINS AND/OR SUMP PUMP LEADS AND LATERALS WHERE INDICATED ON THE PLANS. BLIND TOP CONNECTIONS INTO STORM SEWER WILL NOT BE PERMITTED BY BREAKING PIPE INTO THE INVERT.

THE UNDERGROUND SITE CONTRACTOR SHALL INSTALL ALL STORM SEWER BUILDING LEADS TO WITHIN FIVE (5) FEET OF PROPOSED BUILDING.

GROUTED RIP RAP SHALL BE INSTALLED AT THE ENDS OF ALL CULVERTS AND END SECTIONS. GROUTED RIP RAP SHALL LIKEWISE BE INSTALLED AT LET POINTS IN DETENTION AND SEDIMENTATION FACILITY. THE MINIMUM WIDTH OF THE RIP RAP SHALL BE TWICE THE OUTSIDE DIAMETER OF THE PIPE. THE RIP RAP SHALL EXTEND FROM THE BOTTOM OF THE SLOPE TO THE PIPE INVERT.

THE CONTRACTOR SHALL PAY FOR AND SECURE ALL NECESSARY PERMITS AND LIKEWISE ARRANGE FOR ALL SITE INSPECTION.

SANITARY SEWER NOTES

THE CONTRACTOR SHALL NOTIFY THE INSPECTION SECTION OF THE MUNICIPALITY WATER AND SEWERAGE DEPT. AT LEAST 48 HOURS PRIOR TO THE START OF ANY SANITARY SEWER CONSTRUCTION.

ALL SEWERS TO BE PLACED ON CLASS "B" BEDDING OR BETTER.

WYES, RISERS AND HOUSE LEADS ARE TO BE PLACED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ALL WYES ARE INCIDENTAL.

EACH WYE OR HOUSE LEAD SHALL HAVE A PLUG OF THE SAME TYPE OF JOINT AS THE HOUSE LEAD.

HOUSE LEADS SHALL BE A MINIMUM OF 9 FEET DEEP AT THE PROPERTY LINE.

WHENEVER EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, HOLES ARE TO BE DRILLED AT 4 INCH CENTER TO CENTER SPACINGS AROUND THE PERIMETER OF THE PROPOSED OPENING TO CREATE A PLANE OF WEAKNESS JOINT - A 12 INCH THICK CONCRETE COLLAR IS TO ENCASE THE NEW PIPE AND OPENING.

MAXIMUM INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF DIAMETER PER MILE OF PIPE PER 24 HOURS FOR PURPOSES OF TESTING INFILTRATION, A BULKHEAD WITH A ONE INCH DIAMETER PIPE SHALL BE PROVIDED AT THE DOWNSTREAM MANHOLE.

THE INSIDE JOINTS FOR ALL SANITARY SEWERS 30" AND LARGER SHALL BE CEMENT POINTED.

ALL SANITARY SEWER MANHOLES SHALL BE PROVIDED WITH WATER TIGHT BOLT DOWN COVERS.

ALL CONCRETE SANITARY SEWER, MANHOLE AND PIPE JOINT SHALL BE MODIFIED GROOVED TONGUE WITH RUBBER GASKETS AS REQUIRED UNDER THE CURRENT ADOPTED A.S.T.M. C-443.

CONTACT THE OFFICE OF THE COUNTY PUBLIC WORKS COMMISSIONER, 48 HOURS BEFORE CONSTRUCTION.

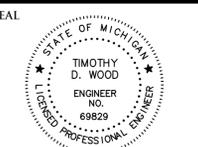
NO GROUND WATER, STORM WATER, CONSTRUCTION WATER, DOWNSPOUT OR WEEP TILE DRAINAGE SHALL BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.

ALL SANITARY SEWER LEADS SHALL BE INSTALLED TO A POINT 5 FEET FROM THE PROPOSED BUILDING.

LEGEND

	MANHOLE	EXISTING SANITARY SEWER
	HYDRANT	SAN. CLEAN OUT
	MANHOLE CATCH BASIN	EXISTING WATER MAIN
	UTILITY POLE	EXISTING STORM SEWER
	GATE VALVE	EX. R. Y. CATCH BASIN
	GUY POLE	EXISTING BURIED CABLES
	OVERHEAD LINES	OVERHEAD LINES
	LIGHT POLE	LIGHT POLE
	SIGN	SIGN
	EXISTING GAS MAIN	EXISTING GAS MAIN
	PR. SANITARY SEWER	PR. SANITARY SEWER
	PR. WATER MAIN	PR. WATER MAIN
	PR. STORM SEWER	PR. STORM SEWER
	PR. R. Y. CATCH BASIN	PR. R. Y. CATCH BASIN
	SAND BACKFILL (95% DENSITY)	SAND BACKFILL (95% DENSITY)
	PROPOSED LIGHT POLE	PROPOSED LIGHT POLE

SEAL



Timothy D. Wood

PROJECT
Mercedes-Benz of
Kalamazoo
3718 Stadium Drive

CLIENT
LAG Development
9990 E. Highland Road
Highland, MI 48357

Contact: Gary Laundroche
Phone: 248-714-1502
Email:
glaundroche@lafontainemotors.com

PROJECT LOCATION
Part of the NE 1/4
of Section 30
T. 2S., R. 11W.,
City of Kalamazoo,
Kalamazoo County,
Michigan

SHEET
Stormwater & Sanitary
Sewer Plans



Know what's below
Call before you dig.

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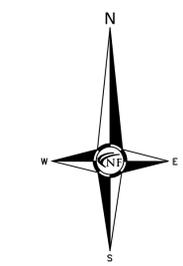
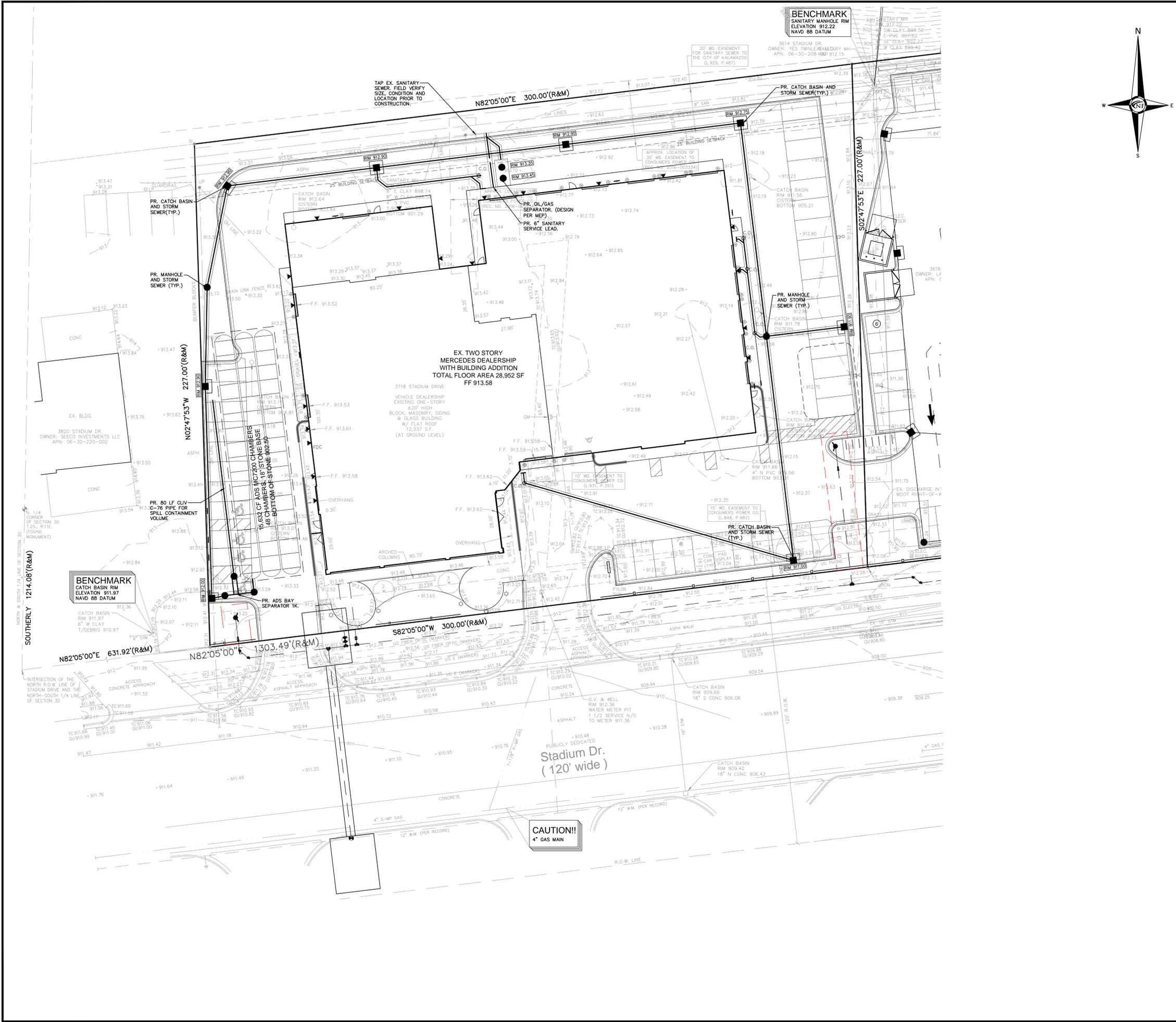
DRAWN BY:
L. Gross
DESIGNED BY:
T. Wood
APPROVED BY:
J. Longhurst

DATE:
June 19, 2025

SCALE: 1" = 20'

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NFE JOB NO. SHEET NO.
N743 C3

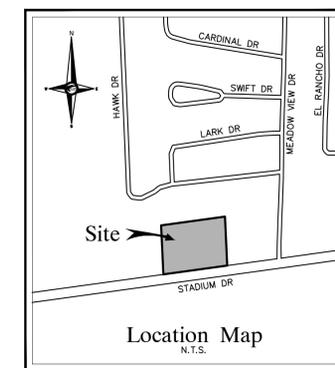
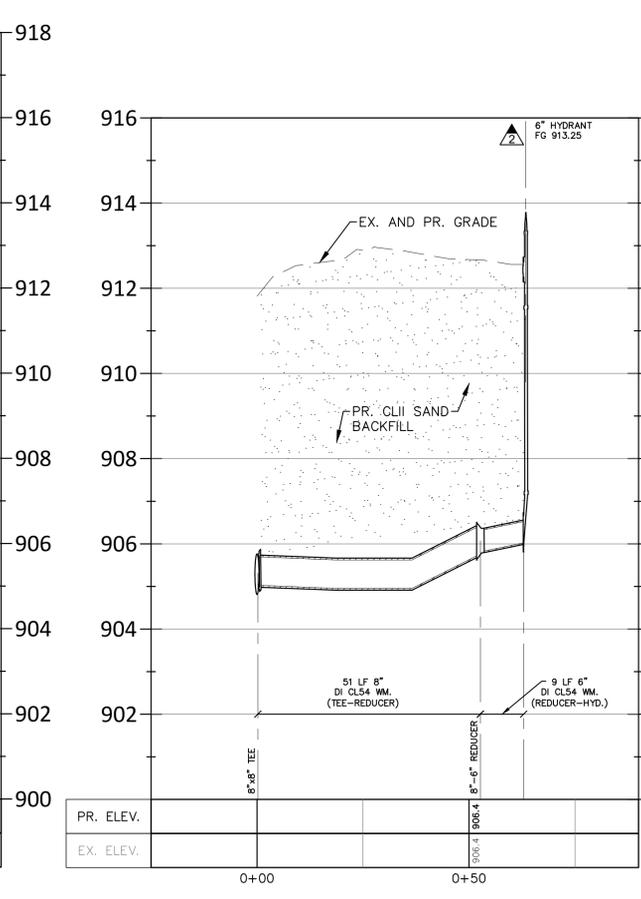
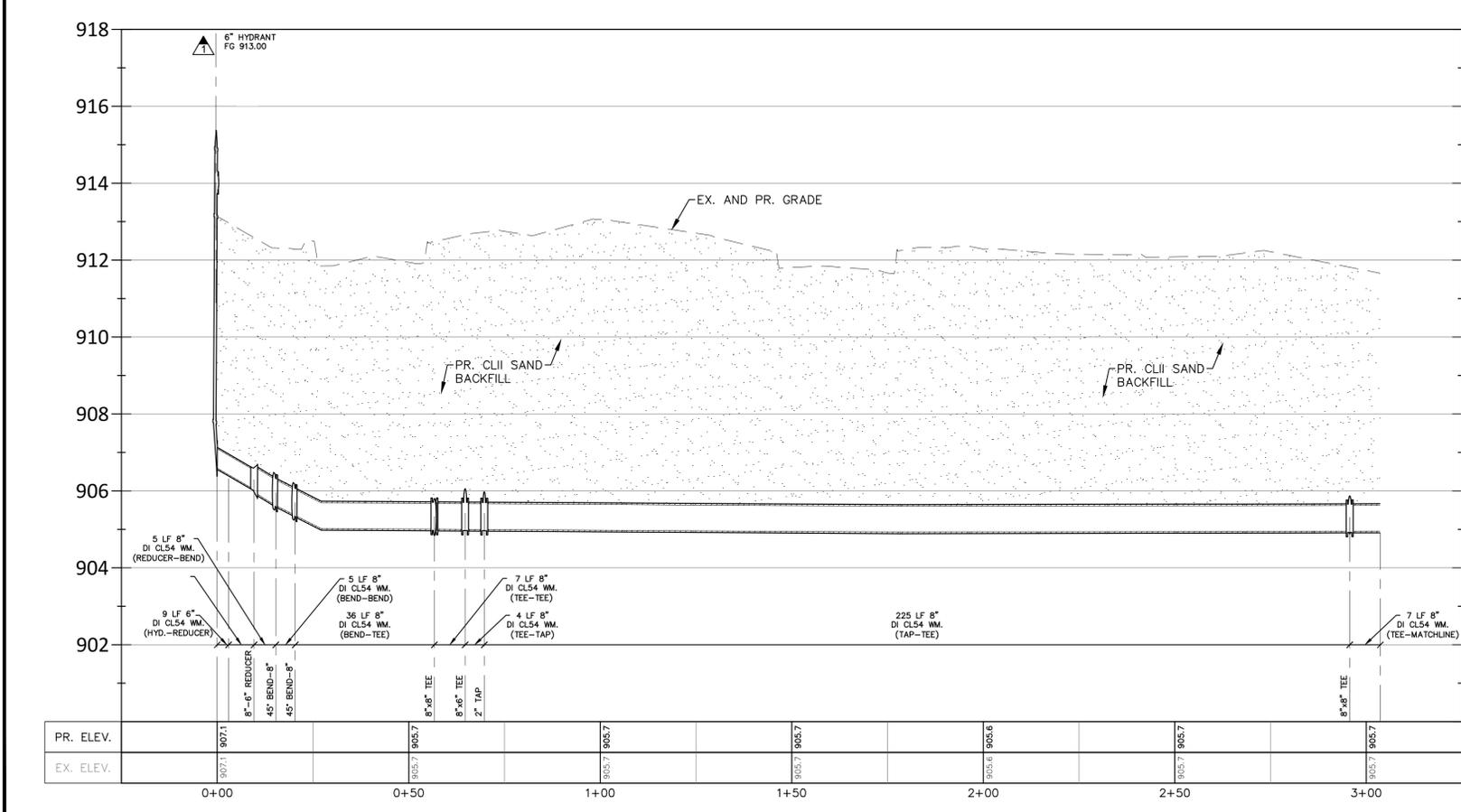
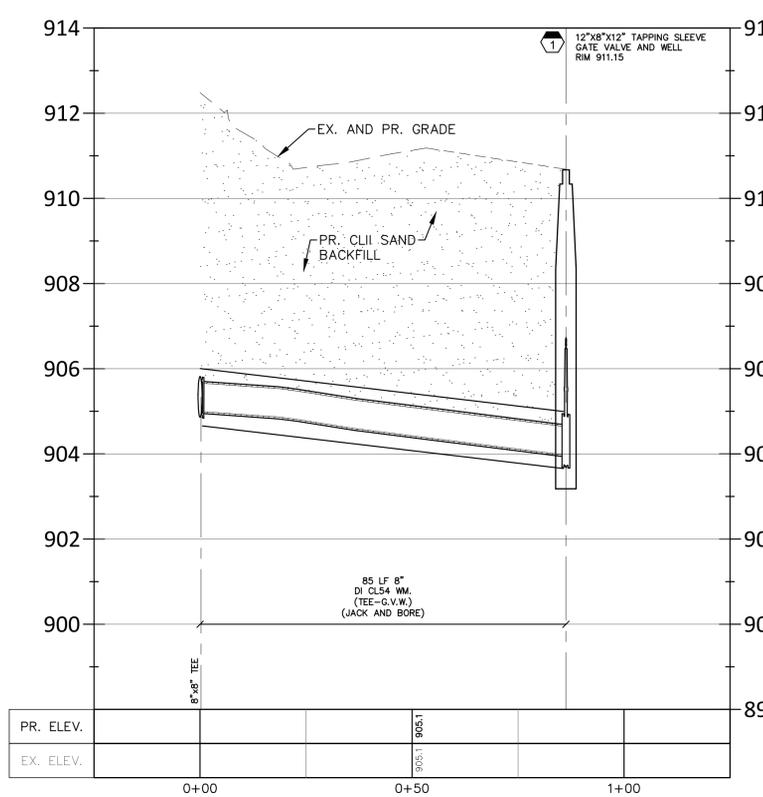
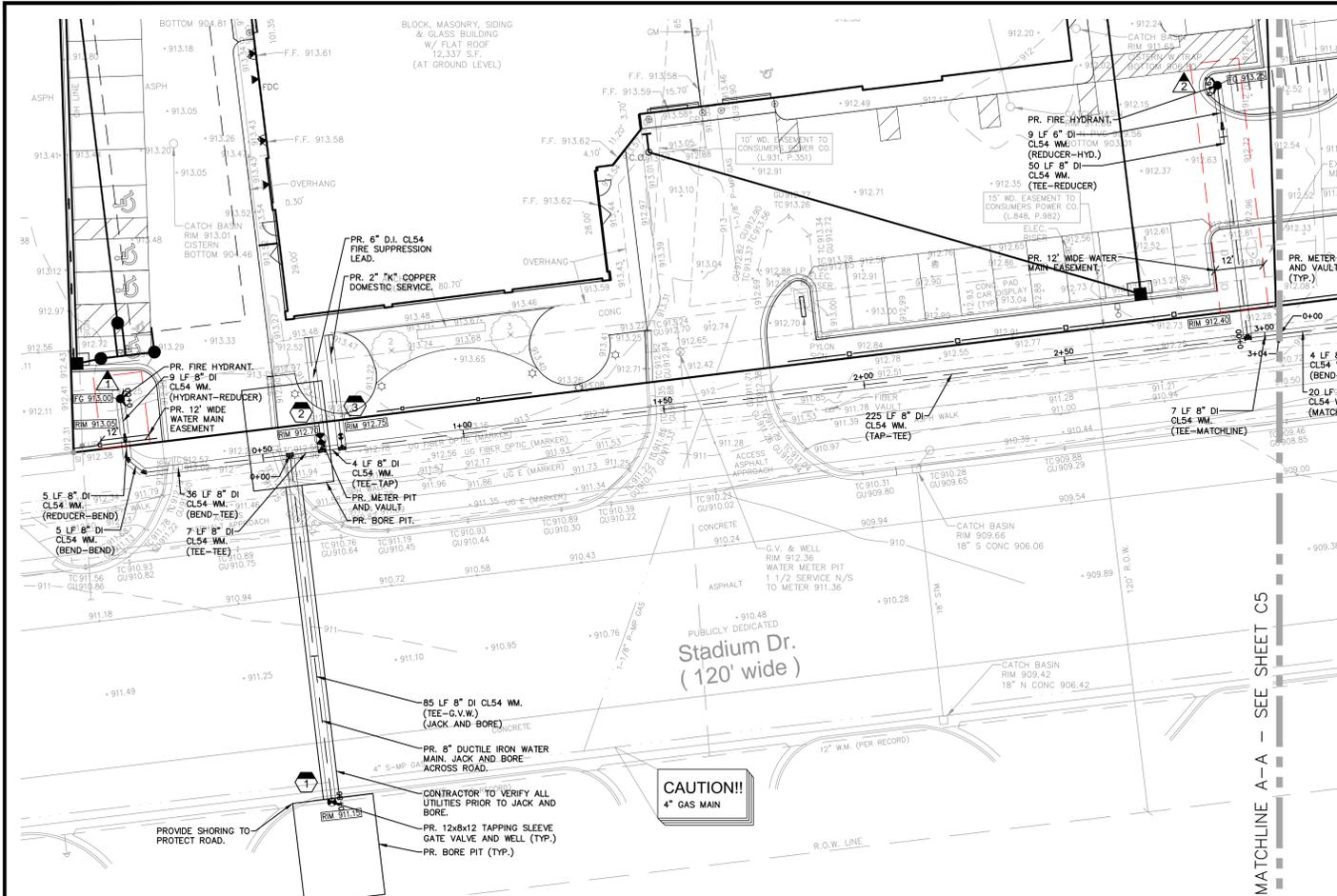


BENCHMARK
SANITARY MANHOLE RIM
ELEVATION 912.22
NAVD 88 DATUM

BENCHMARK
CATCH BASIN RIM
ELEVATION 911.97
NAVD 88 DATUM

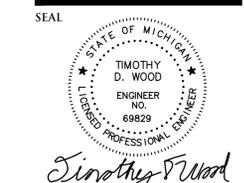
CAUTION!!
4" GAS MAIN

Stadium Dr.
(120' wide)



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SHEET
 Water Main Plan and
 Profile



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DRAWN BY:
 L. GROSS

DESIGNED BY:
 T. Wood

APPROVED BY:
 J. Longhurst

DATE:
 June 19, 2025

SCALE: 1" = 20' / 1" = 2'

NFE JOB NO. SHEET NO.
 N743 C4

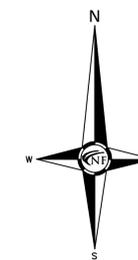
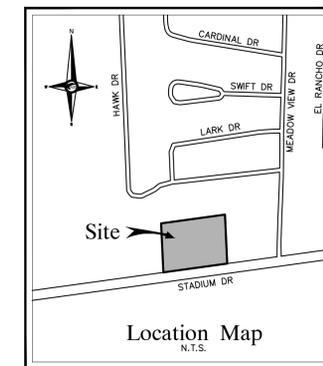
ESTIMATED QUANTITIES (THIS SHEET)

DESCRIPTION	QUANTITY	UNITS
8" D.I., CLASS 54, WATER MAIN	378	L.F.
6" D.I., CLASS 54, WATER MAIN	18	L.F.
2" K" COPPER BUILDING SERVICE	28	L.F.
2" METER VAULT	1	EA.
6" HYDRANT ASSEMBLY	2	EA.
6" GATE VALVE & WELL	1	EA.
12"x8"x12" TAPPING SLEEVE G.V. & WELL	1	EA.
JACK AND BORE	85	L.F.

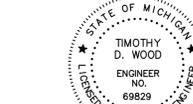
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	GUY WIRE	EXISTING BURIED CABLES
	LIGHT POLE	OVERHEAD LINES
	SIGN	EXISTING GAS MAIN
	C.O. MANHOLE	PR. SANITARY SEWER
	HYDRANT	PR. WATER MAIN
	INLET	PR. STORM SEWER
	C.B. MANHOLE	PR. R. Y. CATCH BASIN
	SAND BACKFILL	(95% DENSITY)
	PROPOSED LIGHT POLE	

1/25/2025 11:41 AM



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 City of Kalamazoo,
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SHEET

Water Main Plan and
 Profile



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June 19, 2025

SCALE: 1" = 20' / 1" = 2'

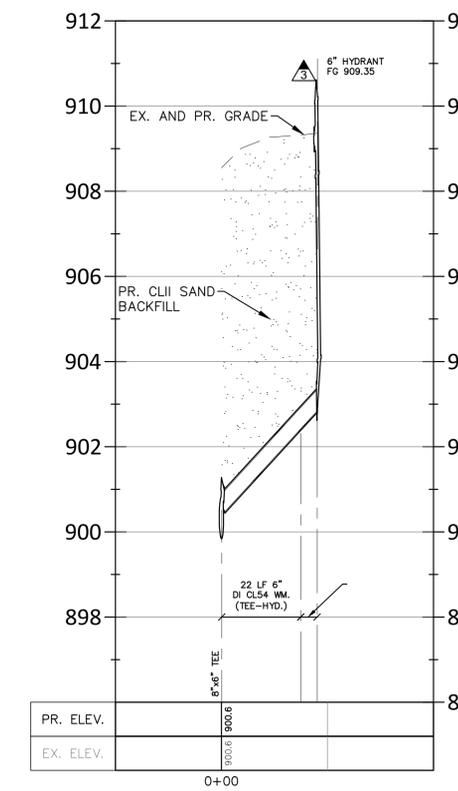
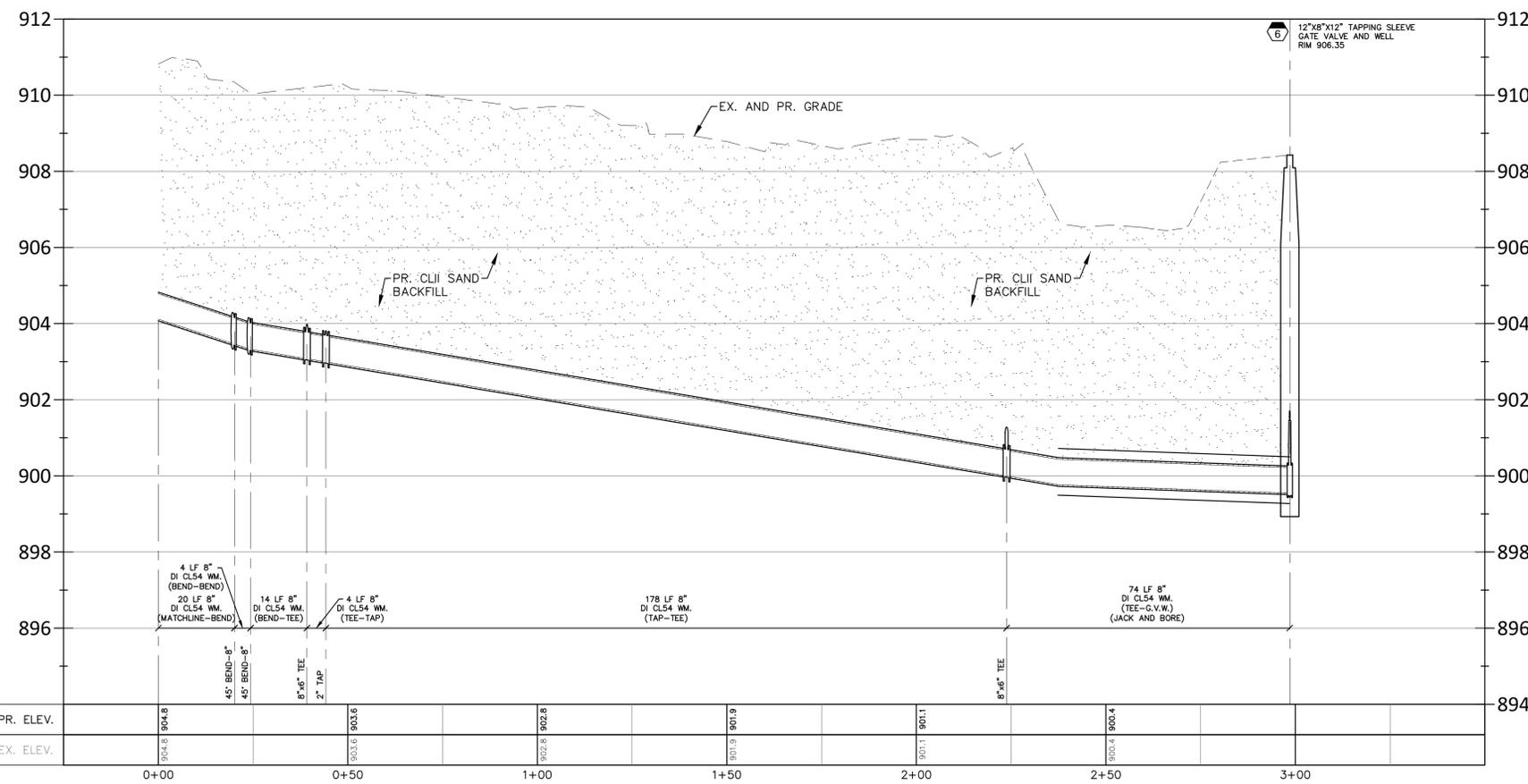
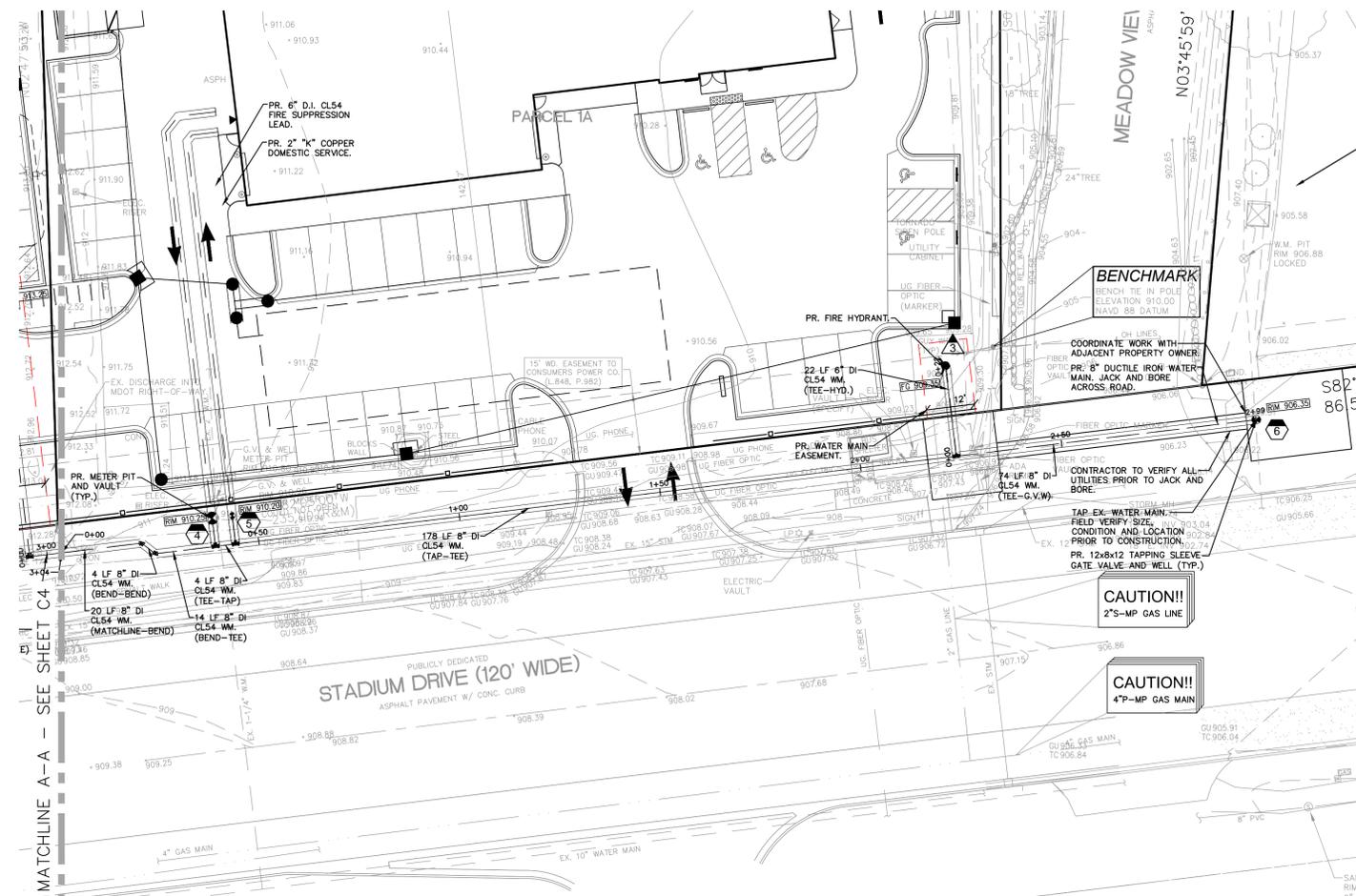
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NFE JOB NO.

SHEET NO.

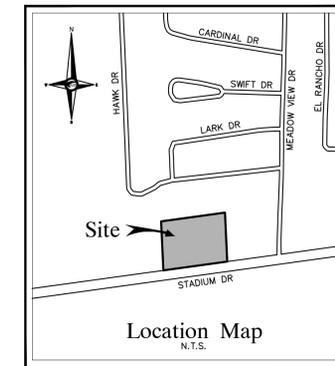
N743

C5



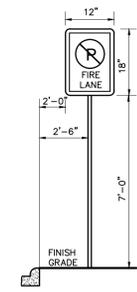
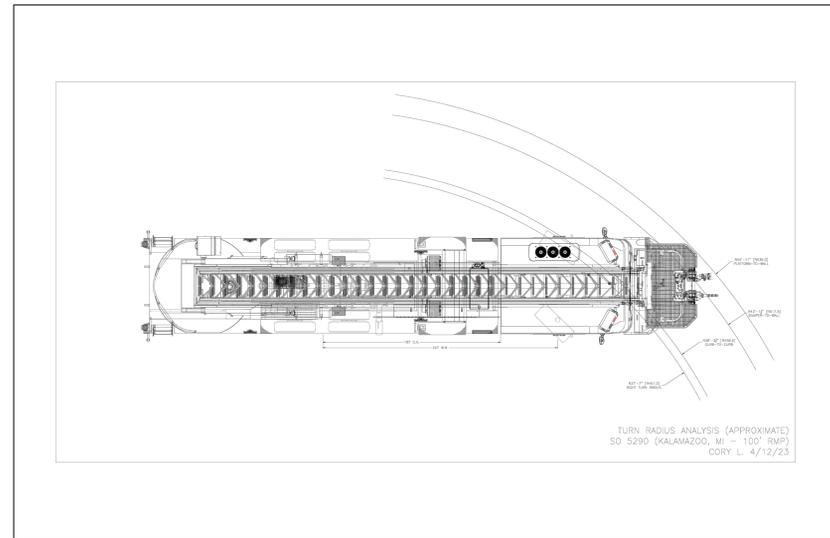
LEGEND

MANHOLE	EXISTING SANITARY SEWER
HYDRANT	SAN. CLEAN OUT
MANHOLE CATCH BASIN	EXISTING WATER MAIN
UTILITY POLE	EXISTING STORM SEWER
GUY WIRE	EX. R. Y. CATCH BASIN
GUY WIRE	EXISTING BURIED CABLES
LIGHT POLE	OVERHEAD LINES
SIGN	EXISTING GAS MAIN
MANHOLE	PR. SANITARY SEWER
HYDRANT	PR. WATER MAIN
INLET	PR. STORM SEWER
C.B.	PR. R. Y. CATCH BASIN
SAND BACKFILL (95% DENSITY)	
PROPOSED LIGHT POLE	



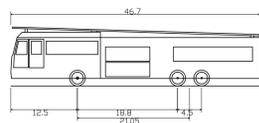
NF ENGINEERS
 CIVIL ENGINEERS
 LAND SURVEYORS
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NOWAK & FRAUS ENGINEERS
 46777 WOODWARD AVE.
 PONTIAC, MI 48342-5032
 TEL. (248) 332-7931
 FAX. (248) 332-8257
 WWW.NFE-ENGR.COM

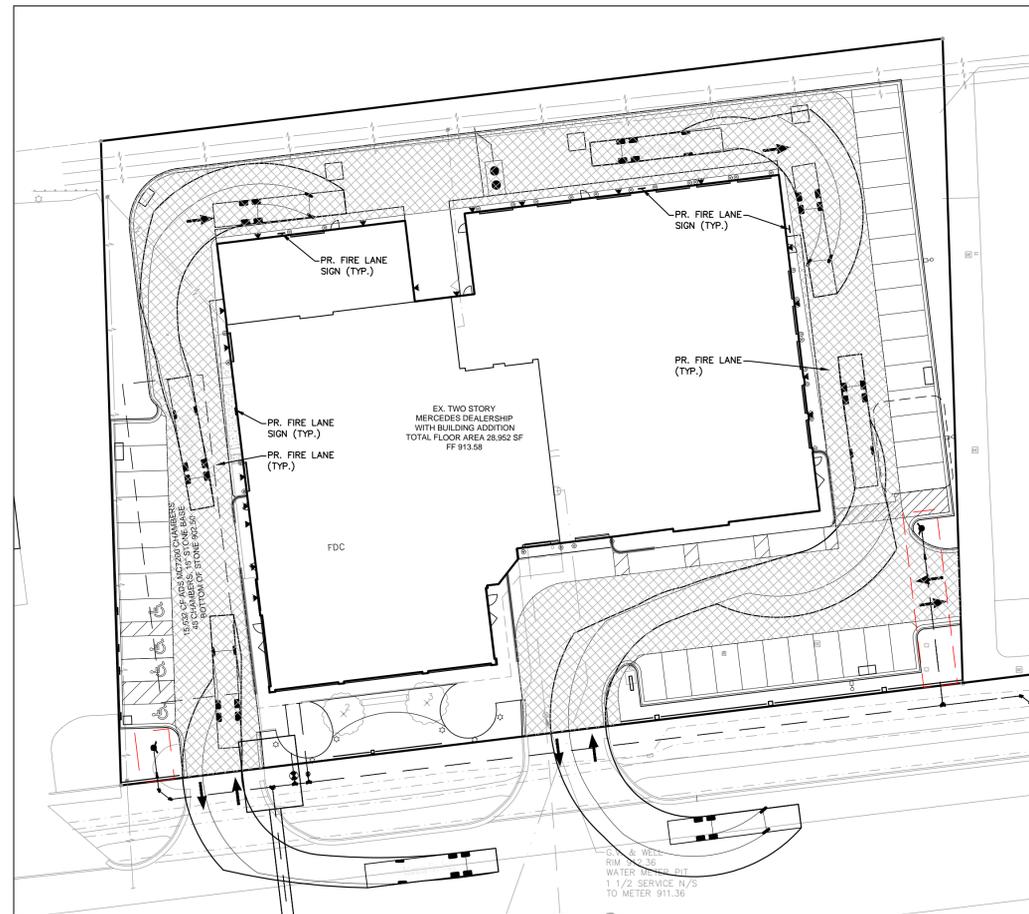


NO PARKING SIGN DETAIL
 N.T.S.

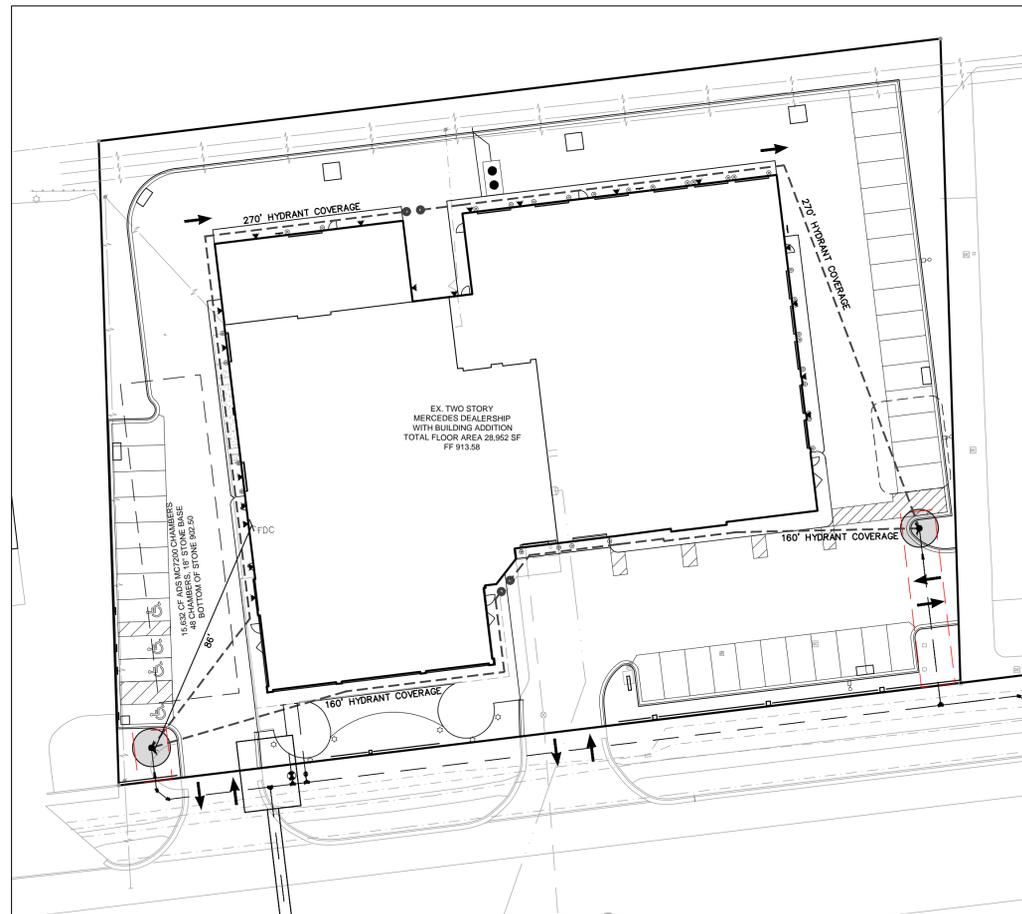
SPECIFICATIONS
 METAL PANELS 0.081 INCH THICK NO. 6061-T6 ALUMINUM
 SIGN SHEET REFLECTORIZED FHWA 6.306
 POST GALVANIZED SQUARE TUBING WITH CONTINUOUS 7/16 ROUND HOLES ON 1 CENTERS. ALL 4 SIDES ENTIRE LENGTH - UNISTRUT OR APPROVED EQUAL - 1-3/4 SQUARE
 LETTER SIZE 2 INCH
 SIGN SPACING 75 FEET (MAX.)



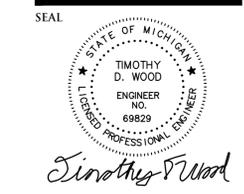
Kalamazoo Fire Truck
 Overall Length 46.700ft
 Overall Width 12.500ft
 Overall Body Height 11.000ft
 Min Body Ground Clearance 1.393ft
 Track Width 3.333ft
 Lock-to-lock time 6.00s
 Curb to Curb Turning Radius 38.300ft



TRUCK MANEUVERING PLAN
 SCALE: 1"=30'



HYDRANT COVERAGE PLAN
 SCALE: 1"=30'



Timothy D. Wood

PROJECT
 Mercedes-Benz of Kalamazoo
 3718 Stadium Drive

CLIENT
 LAG Development
 9990 E. Highland Road
 Highland, MI 48357

Contact: Gary Laundroche
 Phone: 248-714-1502
 Email: glaundroche@lafountainmotors.com

PROJECT LOCATION
 Part of the NE 1/4 of Section 30
 T. 2S., R. 11W.,
 City of Kalamazoo,
 Kalamazoo County,
 Michigan



DATE ISSUED/REVISED
 2025-12-19 - ISSUED FOR SITE PLAN REVIEW
 2026-01-30 - REVISED PER CITY

DRAWN BY:
 L. Gross
DESIGNED BY:
 T. Wood
APPROVED BY:
 J. Longhurst

DATE:
 June 19, 2025
SCALE: 1" = 30'
 30 15 0 15 30 45
NFE JOB NO. 743 **SHEET NO.** C6

U:\00-000 - Rev\000-mex\N\A\3\Office\Site\plan\N\A\3_P01.dwg, 1/20/2025 11:42 AM

DISTANCE BETWEEN TRAFFIC SIGNS, "D"

"D" (DISTANCES)	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
	25	30	35	40	45	50	55	60	65	70	75
D (FEET)	250	300	350	400	450	500	550	600	650	700	750

GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE, "B"

"B" (LENGTHS)	SPEED, MPH (PRIOR TO WORK AREA)											
	20	25	30	35	40	45	50	55	60	65	70	75
B (FEET)	133	50	83	132	181	230	279	329	411	476	542	625

* POSTED SPEED, OFF-PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED.

MINIMUM MERGING TAPER LENGTH, "L" (FEET)

OFFSET (FEET)	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)										
	25	30	35	40	45	50	55	60	65	70	75
1	11	15	21	27	45	50	55	60	65	70	75
2	21	30	41	54	90	100	110	120	130	140	150
3	32	45	62	80	135	150	165	180	195	210	225
4	42	60	82	107	180	200	220	240	260	280	300
5	53	75	103	134	225	250	275	300	325	350	375
6	63	90	123	160	270	300	330	360	390	420	450
7	73	105	143	187	315	350	385	420	455	490	525
8	84	120	164	214	360	400	440	480	520	560	600
9	94	135	184	240	405	450	495	540	585	630	675
10	105	150	205	267	450	500	550	600	650	700	750
11	115	165	225	294	495	550	605	660	715	770	825
12	125	180	245	320	540	600	660	720	780	840	900
13	136	195	266	347	585	650	715	780	845	910	975
14	146	210	286	374	630	700	770	840	910	980	1050
15	157	225	307	400	675	750	825	900	975	1050	1125

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

$L = \frac{W \times S^2}{60}$ WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS

$L = W \times S$ WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

L = MINIMUM LENGTH OF MERGING TAPER
S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA
W = WIDTH OF OFFSET

TYPES OF TAPERS
UPSTREAM TAPERS
MERGING TAPER
SHIFTING TAPER
SHOULDER TAPER
2 TO 1 LANE ROAD TAPER

TAPER LENGTH
L = MINIMUM
1/2 L = MINIMUM
1/3 L = MINIMUM
100' = MAXIMUM
100' (PER LANE)

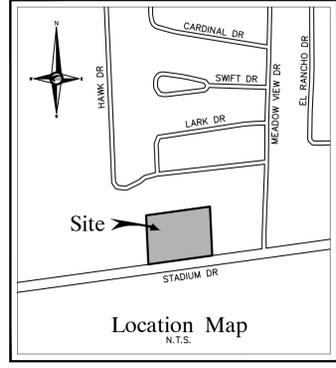
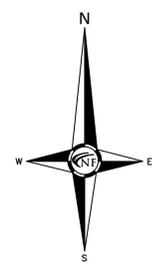
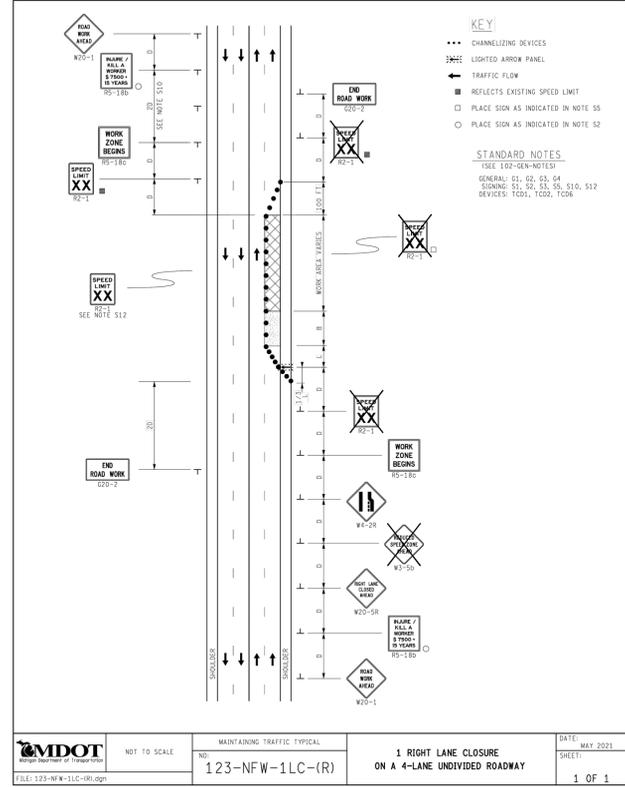
DOWNSTREAM TAPERS
(USE IS RECOMMENDED)

MAXIMUM SPACING FOR CHANNELIZING DEVICES

WORK ZONE SPEED LIMIT	DRUM AND 42" DEVICE SPACING (FT)	NIGHTTIME 42" DEVICE SPACING (FT)	TAPER TANGENT	TAPER TANGENT
< 45 MPH	1 x SPEED LIMIT	2 x SPEED LIMIT	25 FEET	50 FEET
> 45 MPH	50 FEET	100 FEET	25 FEET	50 FEET

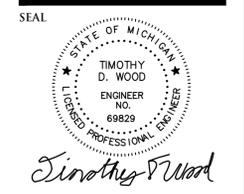
NOT TO SCALE

101-GEN-SPACING-CHARTS



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PROJECT
Mercedes-Benz of Kalamazoo
3718 Stadium Drive

CLIENT
LAG Development
9990 E. Highland Road
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Contact: Gary Laundroche
Phone: 248-714-1502
Email: glaundroche@lafontainemotors.com

PROJECT LOCATION
Part of the NE 1/4 of Section 30
T. 2S., R. 11W.,
City of Kalamazoo,
Kalamazoo County,
Michigan

SHEET
Maintenance of Traffic



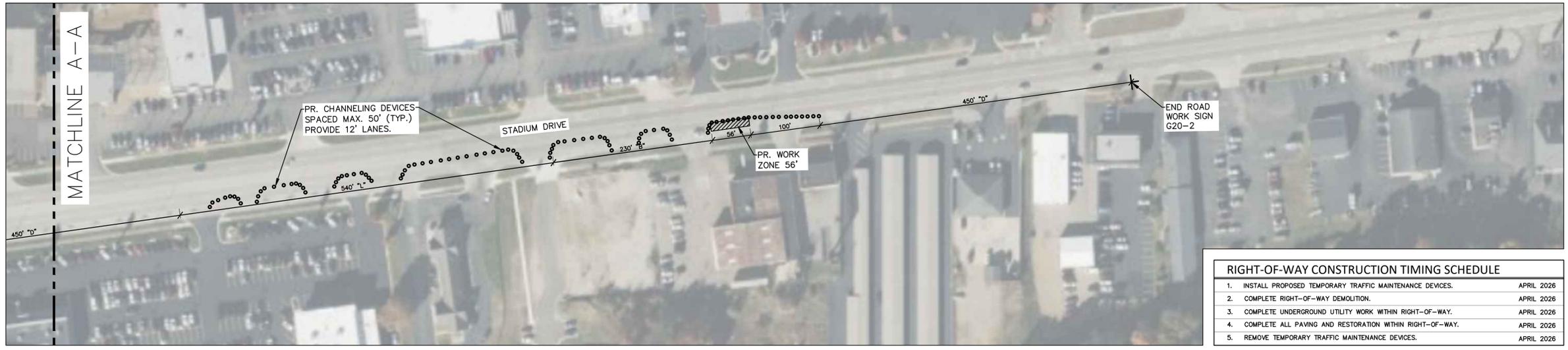
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2026-01-30 - REVISED PER CITY

DRAWN BY:
L. Gross
DESIGNED BY:
T. Wood
APPROVED BY:
J. Longhurst

DATE:
June 19, 2025

SCALE: 1" = 80'
80 40 0 40 80 120

NFE JOB NO. SHEET NO.
N743 C8



RIGHT-OF-WAY CONSTRUCTION TIMING SCHEDULE

1. INSTALL PROPOSED TEMPORARY TRAFFIC MAINTENANCE DEVICES.	APRIL 2026
2. COMPLETE RIGHT-OF-WAY DEMOLITION.	APRIL 2026
3. COMPLETE UNDERGROUND UTILITY WORK WITHIN RIGHT-OF-WAY.	APRIL 2026
4. COMPLETE ALL PAVING AND RESTORATION WITHIN RIGHT-OF-WAY.	APRIL 2026
5. REMOVE TEMPORARY TRAFFIC MAINTENANCE DEVICES.	APRIL 2026

BaySeparator™ Stormwater Treatment System



Preventing Pollution in Water

Clean water is essential to quality of life. BaySaver Technologies is 100% committed to minimizing pollution in stormwater which helps protect our water resources. By collaborating with the regulatory and engineering community to develop products and processes, BaySaver continually develops state of the art stormwater filters and particle separators. Our filters and separators effectively remove pollutants such as hydrocarbons, trash, sediments, metals, total phosphorous, dissolved phosphorous and dissolved nitrogen.

The BaySeparator™ system removes greater than 80% pollution relying on density differences and gravity to remove suspended solids and floatables (hydrocarbons, floating debris, etc.) from stormwater runoff. The BaySeparator is a unique high density polyethylene device that routes the stormwater between two different manholes for optimal removal efficiency. Pollutants are trapped inside the precast structure until they are removed by routine maintenance.

Design

The BaySeparator is available in five (5) standard sizes and is also customizable for larger flows:

Model	Max. Treatment Rate (cfs (cms))	Max. Hydraulic Rate (cfs (cms))	Manhole Diameter (in (mm))	Manhole Depth (ft (m))
1/2 K	1.1 (0.03)	8.5 (0.24)	48 (1200)	6 (1.8)
1 K	2.4 (0.07)	10 (0.28)	48 (1200)	8 (2.4)
3 K	7.8 (0.22)	30 (0.85)	60 (1500)	8 (2.4)
5 K	11.1 (0.31)	50 (1.42)	72 (1825)	8 (2.4)
10 K	21.8 (0.62)	100 (2.83)	120 (3050)	8 (2.4)
XK	Custom	Custom	Custom	Custom

Sizing can be accomplished based on flow, annual aggregate removal, or local design regulations. The stand-alone separator is designed to remove 80% of the TSS on an annual aggregate removal basis.

Installation

- Units are kept in stock and can be delivered within a week of ordering
- Unit arrives to job site ready for easy installation
- Unit is grouted into the primary manhole
- Standard boots or approved seals are used where connecting pipes join storage manhole
- Unit should be backfilled with Class I, II or III material



System Operation: Three Flow Paths

Low Flows:

- All low flow rates are treated in the offline storage manhole.
- Coarse sediments settle in the primary manhole undisturbed.
- Finer sediments and floatables are conveyed through the BaySeparator into the storage manhole.
- Contaminants in the storage manhole are trapped offline.

Maximum Treatment Rate:

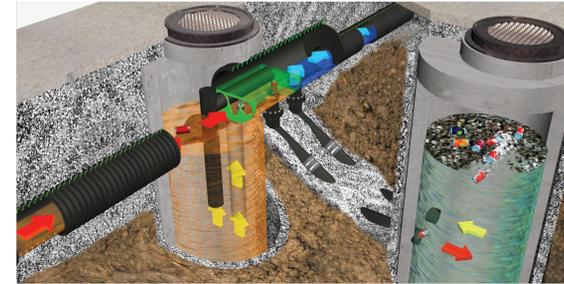
- The primary manhole separates pollutants during low-flow events and high-flow events.
- Treated flow in the primary manhole flows up through the Tee Pipes.

Maximum Hydraulic Rate:

- The BaySeparator has an internal bypass.
- Peak Design flows are directed over the bypass plate.
- The BaySeparator isolates contaminants by storing them offline.
- Risk of re-suspending contaminants is effectively eliminated.

Maintenance:

- Maintenance is a simple procedure performed using a vacuum truck or similar equipment.
- Reduced disposal costs.
- Each manhole has unobstructed access to capture pollutants.



BaySeparator Specification

Materials & Design

- Concrete structures shall be designed for H-20 traffic loading and applicable soil loads or as otherwise determined by a licensed Professional Engineer. The materials and structural design of the devices shall be per ASTM C857 and ASTM C858.
- The separator structure shall be substantially constructed of HDPE or equivalent corrosion resistant material meeting ASTM F2306, ASTM D330, ASTM F412 and ASTM C425.
- Smooth wall pipes within the unit (i.e., Tee pipes, connector pipes and down pipes) shall be constructed of at least SDR 32.5 HDPE pipe of standard ASTM F412.
- Pipe and fitting material shall be high-density polyethylene meeting ASTM D330 minimum cell classification 335400C for 24-inch through 60-inch (600-1500 mm) diameters.
- The reducer/adaptor to the mainline shall be installed with an exterior joining coupler. The joint coupler shall be Mar Mac® coupler or an approved equal and shall be installed according to the manufacturer's recommendations.
- The connector pipes shall be connected with the down pipes using Fernco® flexible couplings that have been manufactured to conform to ASTM C425.

Performance

- The stormwater treatment unit shall be an online unit capable of conveying 100% of the design peak flow.
- The BaySeparator unit shall be designed to remove at least 80% of the suspended solids on an annual aggregate removal basis. Said removal shall be based on full-scale third party testing using F-95 media gradation (manufactured by US Silica™) or equivalent. Said full scale testing shall have included sediment capture based on actual total mass collected by the Stormwater Treatment Unit.
- The stormwater treatment unit shall consist of one (1) pre-fabricated separator structure, one (1) online coarse sediment capture and bypass structure and one (1) offline sediment and floatable capture structure. The separator structure shall be substantially constructed of HDPE or equivalent corrosion resistant material. The offline sediment structure must provide for offline sediment storage of sediments and floatables that are isolated from high intensity storms.
- The stormwater treatment unit(s) head loss at the Peak Design Flow Rate shall not exceed the head loss specified by the engineer.
- The unit shall be designed to remove sediment particles as well as floating oils and debris.

Installation

Installation of the Stormwater Treatment Unit(s) shall be performed per manufacturer's installation instructions. Such instructions can be obtained by calling 800-229-7283 or online at adspipe.com.

BaySeparator™ is a registered trademark of BaySaver Technologies LLC. Mar Mac™ is a registered trademark of Mar-Mac Construction Products, Inc. US Silica™ is a registered trademark of US Silica. Fernco® is a registered trademark of Fernco, Inc. © 2022 Advanced Drainage Systems, Inc. #10652_08/23.MH



Technical Note

TN 1.08 Water Quality Device Oil Storage Volumes

Introduction

The information in this document is designed to provide values to general storage capacities (gallons) for oil and grease or free phase oil/petroleum product spills into ADS water quality devices. The information provided is not intended to be used for project design (i.e., maximum flow rates, etc.). Spill incidents that involve high velocities into these devices will yield different results/capacities. It is assumed that the spill flow rates will be less than 10% of the maximum treatment rate (MTR) into an individual ADS Water Quality device.

Oil and Grease (O&G) is a common term for measuring total petroleum hydrocarbons (TPH), lubricating oils, oil and oil byproducts found in stormwater runoff. It is assumed that the densities for these types of O&G pollutants are less than that of water (i.e., less than 1g/cm³).

Spill Capacities

For applications located at sensitive maintenance, transportation, fueling operations, spill containment is a concern. Most of these sites have safety measures and alarms to alert the owner that a spill has occurred. ADS's Arcadia™, BaySeparator, Barracuda®, and Water Quality Unit (WQU), all have the capability to store spills that occur in non-storm events. Table 1 lists the spill containment volumes for each of our units.

Diagrams provided (Figures 1, 2, 3, and 4) show how and where the spilled material is stored within a given ADS unit. It is the responsibility of the owner to remediate and extract the free phase oil shortly after the spill event has occurred and prior to subsequent storm event.

Table 1: Spill Capacities

Arcadia Unit	Spill Capacity, gallons (L)	Barracuda Unit	Spill Capacity, gallons (L)
AR3	24 (90)	S3	26 (98)
AR4	53 (200)	S4	51 (193)
AR5	96 (363)	S6	115 (435)
AR6	161 (609)	S8	212 (802)
AR8	359 (1358)		
AR10	686 (2596)		

BaySeparator Unit	Spill Capacity, gallons (L)	Water Quality Unit	Spill Capacity, gallons (L)
1/2K	226 (855)	3612	221 (836)
1K	320 (1211)	3620	225 (851)
3K	456 (1726)	3640	470 (1779)
5K	621 (2350)	4220	285 (1078)
10K	1567 (5931)	4240	605 (2290)
		4820	410 (1552)
		4840	860 (3255)
		6020	650 (2460)
		6040	1380 (5223)



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800-821-6710

Spill Capacity Details

For each ADS product, the spill oil will be stored in an accessible area of the device. For Arcadia it will be contained in the top baffle area below the invert out of the system (See Figure 1). For the Barracuda it will be contained in the inletting "bowl" area below the invert out of the system (See Figure 2). For the BaySeparator, the spill will be stored in the secondary manhole and stored between the invert into the secondary manhole and the top elevation invert out to the BaySeparator™ unit (See Figure 3). For the ADS Water Quality Unit the area will be storage between the elevations of sedimentation internal weir and the effluent exit "plate" opening to the final section of the WQU (See Figure 4).

Figure 1: Arcadia Oil Capacity Zone

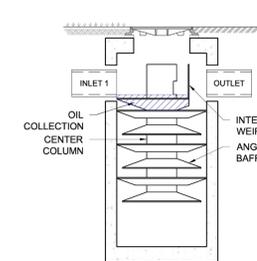


Figure 2: Barracuda Oil Capacity Zone

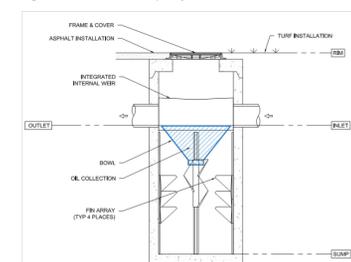


Figure 3: BaySeparator Oil Capacity Zone

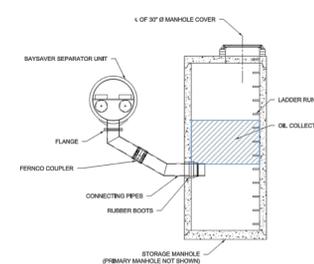
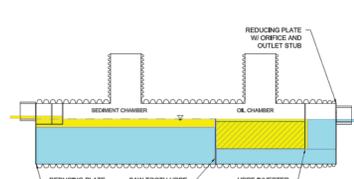


Figure 4: Water Quality Unit Oil Capacity Zone



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SEAL



Timothy D. Wood

PROJECT
Mercedes-Benz of
Kalamazoo
3718 Stadium Drive

CLIENT

LAG Development
9990 E. Highland Road
Highland, MI 48357

Contact: Gary Laundroche
Phone: 248-714-1502
Email:
glaundroche@lafontainemotors.com

PROJECT LOCATION

Part of the NE 1/4
of Section 30
T. 2S., R. 11W.,
City of Kalamazoo,
Kalamazoo County,
Michigan

SHEET

ADS Details



Know what's below
Call before you dig.

DATE ISSUED/REVISED
2025-12-19 - ISSUED FOR SITE PLAN REVIEW
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DRAWN BY:

L. Gross

DESIGNED BY:

T. Wood

APPROVED BY:

J. Longhurst

DATE:

June 19, 2025

SCALE: 1" = 20'

20 10 0 10 20 30

NFE JOB NO. SHEET NO.

N743

C10

1/25/2025 11:43 AM

SEAL



PROJECT
Mercedes-Benz of
Kalamazoo
3718 Stadium Drive

CLIENT

LAG Development
9990 E. Highland Road
Highland, MI 48357

Contact: Gary Laundroche
Phone: 248-714-1502
Email: glaundroche@lafontaineautomotors.com

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L. Gross

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T. Wood

APPROVED BY:
J. Longhurst

DATE:
June 19, 2025

SCALE: 1" = 20'

20 10 0 10 20 30

NFE JOB NO. SHEET NO.
N743 C11

PROJECT INFORMATION	
ENGINEERED PROJECT MANAGER	
ADS SALES REP	
PROJECT NO.	



LAFONTAINE MERCEDES KALAMAZOO, MI, USA

MC-7200 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-7200.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LEFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- 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, THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LB/FT². THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418.
 - TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.56 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LEFD BRIDGE DESIGN SPECIFICATION.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTECHNICAL ENGINEER AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-7200 CHAMBER SYSTEM

- STORMTECH MC-7200 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "MC-7200 STORMTECH CHAMBER INSTALLATION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM .9" (23 mm) SPACING BETWEEN THE CHAMBER ROWS.
- INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE, AASHTO M43 #3, 357, 4, 467, 5, 96, OR 57.
- STONE SHALL BE Brought UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
- STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

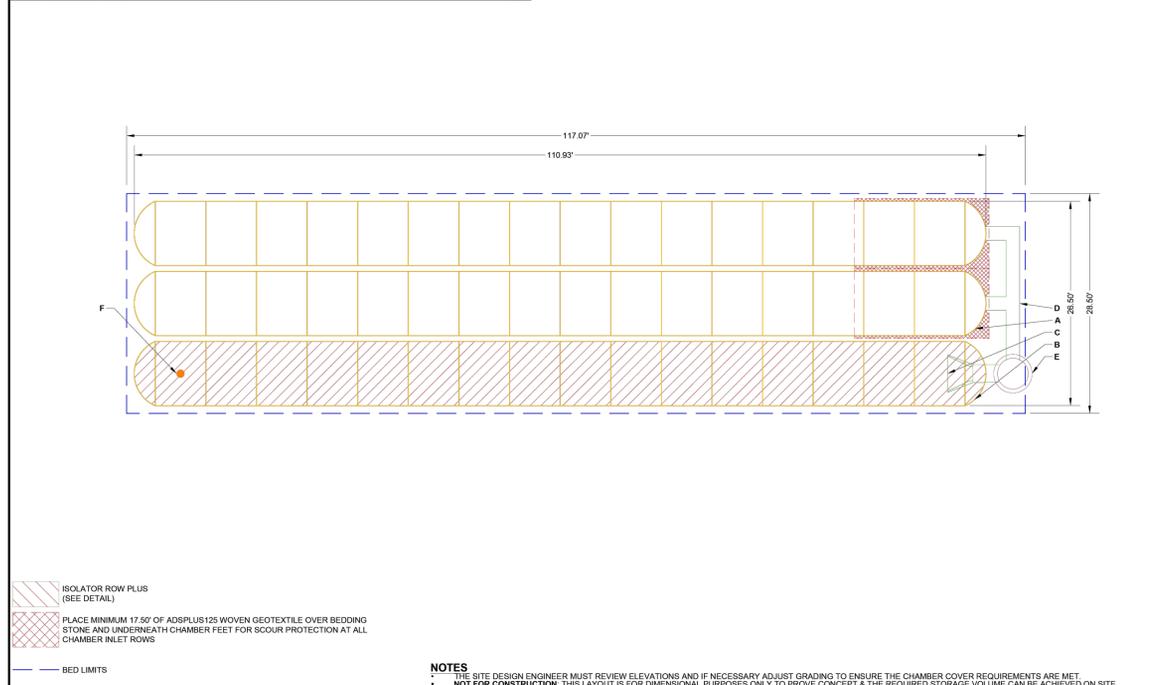
NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "MC-7200 STORMTECH CHAMBER INSTALLATION GUIDE".
- THE USE OF EQUIPMENT OVER MC-7200 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "MC-7200 STORMTECH CHAMBER INSTALLATION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "MC-7200 STORMTECH CHAMBER INSTALLATION GUIDE".
- FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT		PROPOSED ELEVATIONS		PART TYPE		ITEM ON LAYOUT		DESCRIPTION		*INVERT ABOVE BASE OF CHAMBER	
48	STORMTECH MC-7200 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)	916.00								
6	STORMTECH MC-7200 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)	911.00								
12	STONE ABOVE (A)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)	911.00								
18	STONE BELOW (B)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT)	911.00								
42	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)	911.00								
15217	INSTALLED SYSTEM VOLUME (CF)	TOP OF STONE	910.00								
	PERIMETER STONE INCLUDED)	TOP OF MC-7200 CHAMBER	909.00								
	(COVER STONE INCLUDED)	18" x 18" TOP MANIFOLD INVERT	906.45								
	(BASE STONE INCLUDED)	MC-7200 ISOLATOR ROW PLUS INVERT	904.00								11.0 CFS IN
3336	SYSTEM AREA (SQ)	BOTTOM OF MC-7200 CHAMBER	904.00								
291.1	SYSTEM PERIMETER (ft)	BOTTOM OF STONE	902.50								



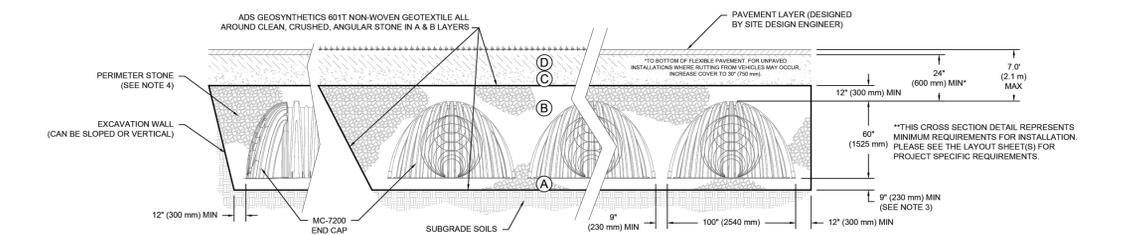
- ISOLATOR ROW PLUS (SEE DETAIL)
- PLACE MINIMUM 17.50' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS
- BED LIMITS

NOTES
THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
NOT FOR CONSTRUCTION. THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 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.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145 ¹ A-1, A-2.4, A-3 OR AASHTO M43 ² 3, 357, 4, 467, 5, 96, 97, 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 90% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ² 3, 357, 4, 467, 5, 96, 97	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ² 3, 357, 4, 467, 5, 96, 97	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

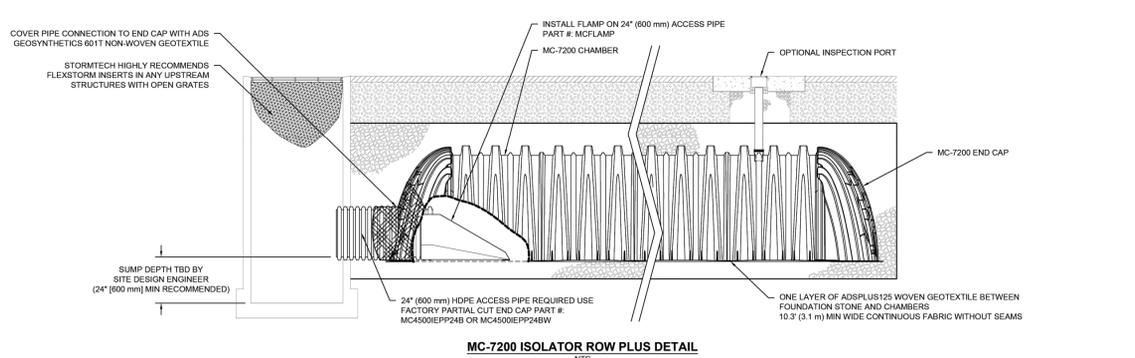
- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN 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.
 - WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
- MC-7200 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. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
- 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, THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LB/FT². 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.

LAFONTAINE MERCEDES
KALAMAZOO, MI, USA
DATE: 12/17/2025
DRAWN: JS
CHECKED: NMA
PROJECT #:
SHEET
3 OF 5



INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - FOLLOW OSHA REGULATIONS FOR ENTERING MANHOLE
 - 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 FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKWASH WATER IS CLEAN
 - 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

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

NOTE: INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

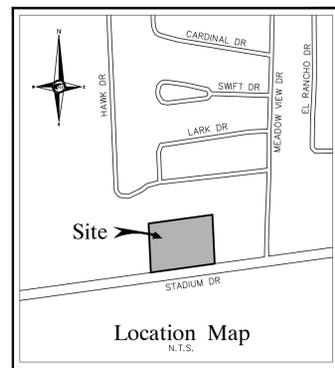
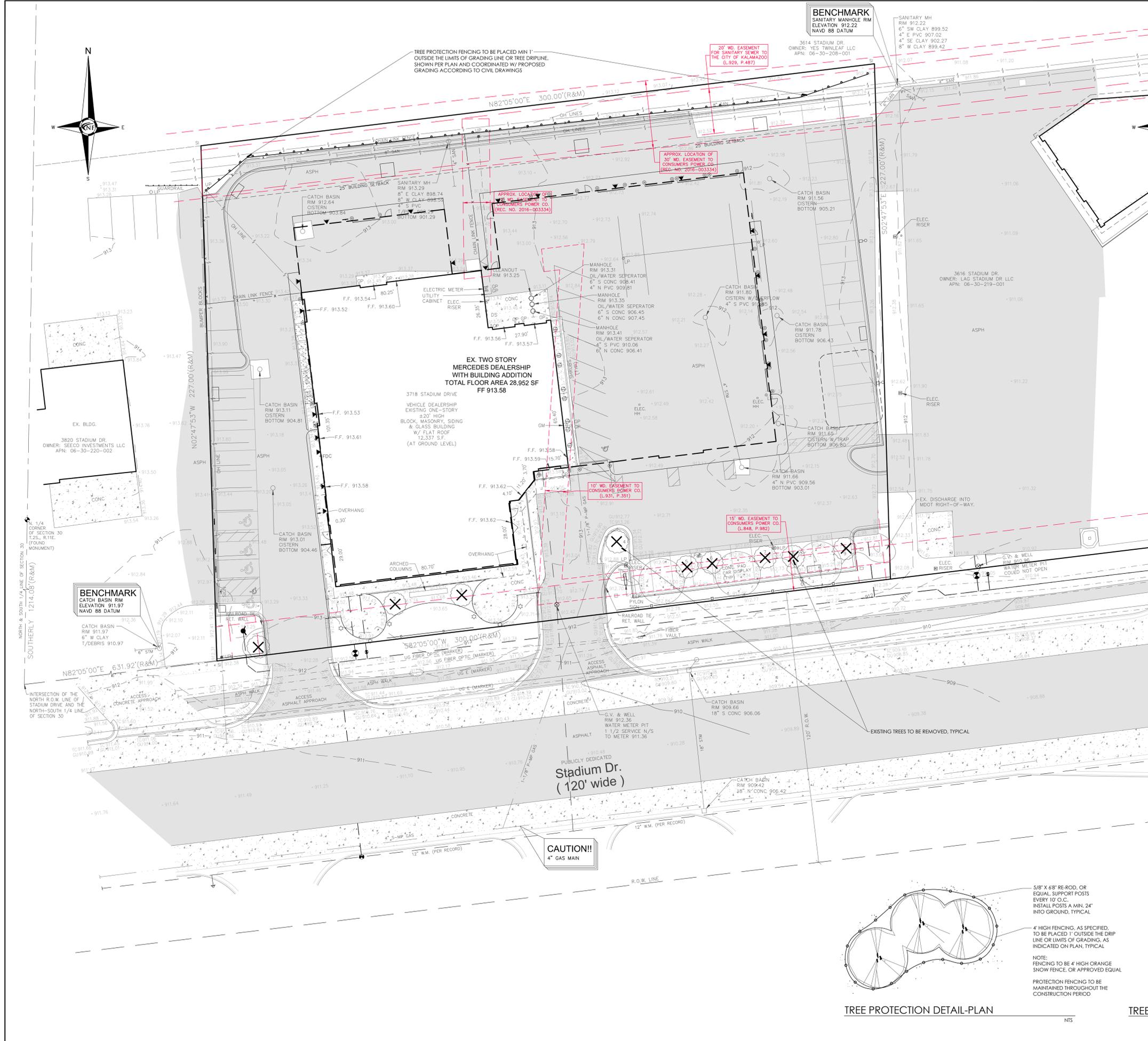
* THE PART# 2708AHPKIT CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION



4660 TRUHEMAN BLVD
HILLIARD, OH 43007
1-800-732-7473
ADS
SHEET
3 OF 5

LAFONTAINE MERCEDES
KALAMAZOO, MI, USA
DATE: 12/17/2025
DRAWN: JS
CHECKED: NMA
PROJECT #:
SHEET
4 OF 5

4660 TRUHEMAN BLVD
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4 OF 5

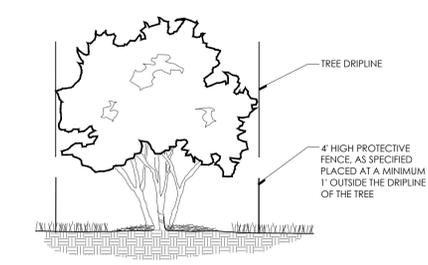
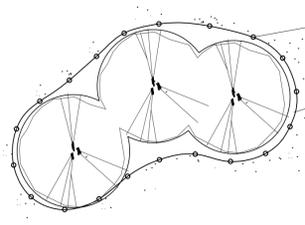


GENERAL TREE PROTECTION NOTES

- APPROVED TREE PROTECTION SHALL BE ERECTED PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, AND SHALL REMAIN IN PLACE UNTIL THE IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
- ALL UNDERSTORY VEGETATION WITHIN THE LIMITS OF PROTECTIVE FENCING SHALL BE PRESERVED.
- NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN, INCLUDING BUT NOT LIMITED TO, PLACING SOLVENTS, BUILDING MATERIALS, CONSTRUCTION EQUIPMENT, OR SOIL DEPOSITS WITHIN THE DRIP LINE.
- WHERE GROUPINGS OF TREES ARE TO REMAIN, TREE FENCING SHALL BE PLACED AT THE LIMITS OF GRADING LINE.
- DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY TREE SCHEDULED TO REMAIN.
- ALL UTILITY SERVICE REQUESTS MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING.
- SWALES SHALL BE ROUTED TO AVOID THE AREA WITHIN THE DRIP LINES OF PROTECTED TREES.
- TREES LOCATED ON ADJACENT PROPERTIES THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED.
- ROOT ZONES OF PROTECTED TREES SHOULD BE SURROUNDED WITH RIGIDLY STAKED FENCING.
- THE PARKING OF IDLE AND RUNNING EQUIPMENT SHALL BE PROHIBITED UNDER THE DRIP LINE OF PROTECTED TREES.
- THE STRIPPING OF TOPSOIL FROM AROUND PROTECTED TREES SHALL BE PROHIBITED.
- ALL TREES TO BE REMOVED SHALL BE CUT AWAY FROM TREES TO REMAIN.
- THE GRUBBING OF UNDERSTORY VEGETATION WITHIN CONSTRUCTION AREAS SHOULD BE CLEARED BY CUTTING VEGETATION AT THE GROUND WITH A CHAIN SAW OR MANUALLY WITH A HYDRO-AXE.
- THE CONTRACTOR IS RESPONSIBLE FOR THE REPLACEMENT PER ORDINANCE GUIDELINES, FOR THE DAMAGE OR REMOVAL OF ANY TREE DESIGNATED TO REMAIN.
- TREES TO BE REMOVED SHALL BE FIELD VERIFIED, EVALUATED AND FLAGGED FOR REMOVAL, BY THE LANDSCAPE ARCHITECT OR FORESTER, ONLY AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.

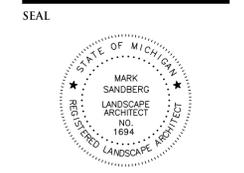
TREE PRESERVATION SUMMARY:

TOTAL NUMBER OF TREES SURVEYED:	9
TOTAL NUMBER OF DEAD TREES:	0
TOTAL NUMBER OF TREES TO BE REMOVED:	9
TOTAL NUMBER OF TREES TO REMAIN:	0



NF ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
4677 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257
WWW.NFE-ENGR.COM



PROJECT
Mercedes-Benz of Kalamazoo
3718 Stadium Drive

CLIENT
LAG Development
9990 E. Highland Road
Highland, MI 48357

Contact: Gary Laundroche
Phone: 248-714-1502
Email: glaundroche@lafountainmotors.com

PROJECT LOCATION
Part of the NE 1/4 of Section 30
T. 2S., R. 11W.,
City of Kalamazoo,
Kalamazoo County,
Michigan

SHEET
Site Plan



DATE ISSUED/REVISED
2025-12-19 - ISSUED FOR SITE PLAN REVIEW
2026-02-06 - REVISED PER CITY

DRAWN BY:
M. Sandberg
DESIGNED BY:
M. Sandberg
APPROVED BY:
G. Ostrowski
DATE:
June 19, 2025

SCALE: 1" = 20'
20 10 0 10 20 30
NFE JOB NO. SHEET NO.
N743 L1

GENERAL SEED NOTE:

ALL LAWN AREAS DESIGNATED TO BE SEEDED, SHALL BE SUI-SEEDED, OR DROP-SEEDED WITH SPECIFIED BLENDS, AND STABILIZED WITH WOOD CELLULOSE FIBER MULCH (2,000 LBS PER ACRE). IN AREAS SUBJECT TO EROSION, SEEDED LAWN SHALL BE FURTHER STABILIZED WHERE NECESSARY WITH BIODEGRADABLE EROSION BLANKET AND STAKED UNTIL ESTABLISHED. ALL SEED SHALL BE APPLIED OVER A MINIMUM 3" PREPARED TOPSOIL, AND SHALL BE KEPT MOIST AND WATERED DAILY UNTIL ESTABLISHED.
SEEDING INSTALLATION SHALL OCCUR ONLY:
SPRING: APRIL TO JUNE
FALL: AUGUST 15 TO OCTOBER 15

TYPICAL SEEDED LAWN MIX:

ALL LAWN AREAS DESIGNATED TO BE SEEDED, SHALL BE HYDROSEEDED WITH TYPICAL DROUGHT TOLERANT, DURABLE BLENDED SEED MIX, AT A RATE OF 4 LBS PER 1,000 S.F.
MIX IS COMPRISED OF:

- 40% KENTUCKY BLUEGRASS
- 20% PERENNIAL RYE GRASS
- 20% CREEPING RED FESCUE
- 20% CHEWINGS FESCUE

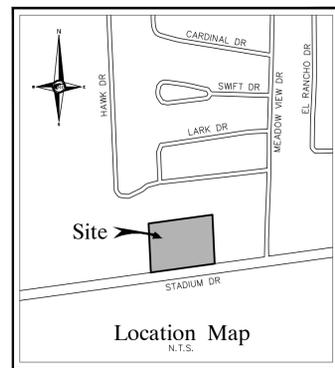
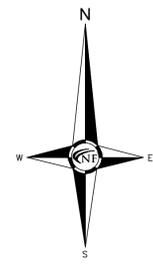
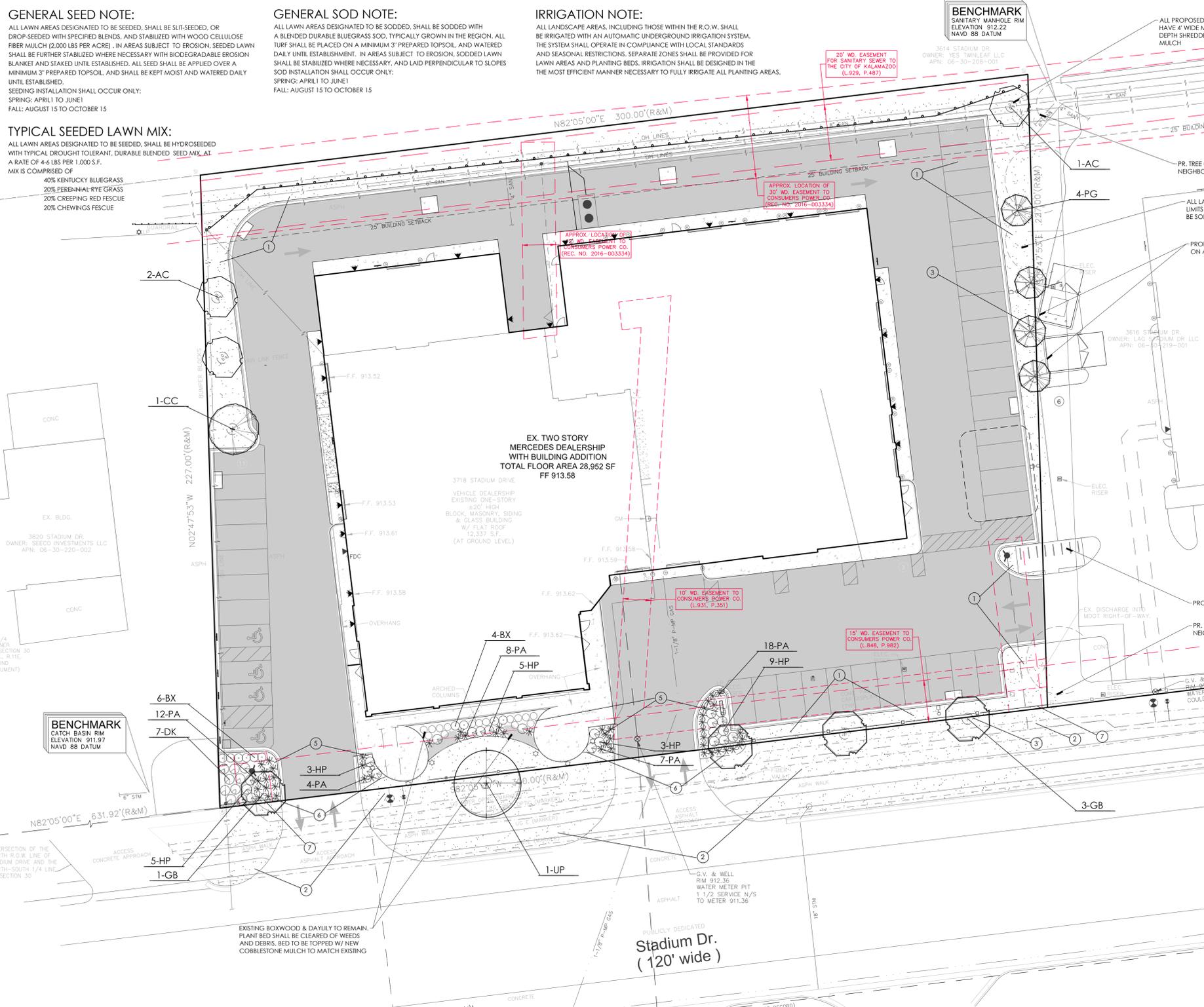
GENERAL SOD NOTE:

ALL LAWN AREAS DESIGNATED TO BE SODDED, SHALL BE SODDED WITH A BLENDED DURABLE BLUEGRASS SOD, TYPICALLY GROWN IN THE REGION. ALL TURF SHALL BE PLACED ON A MINIMUM 3" PREPARED TOPSOIL, AND WATERED DAILY UNTIL ESTABLISHMENT. IN AREAS SUBJECT TO EROSION, SODDED LAWN SHALL BE STABILIZED WHERE NECESSARY, AND LAID PERPENDICULAR TO SLOPES SOD INSTALLATION SHALL OCCUR ONLY:
SPRING: APRIL TO JUNE
FALL: AUGUST 15 TO OCTOBER 15

IRRIGATION NOTE:

ALL LANDSCAPE AREAS, INCLUDING THOSE WITHIN THE R.O.W. SHALL BE IRRIGATED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM. THE SYSTEM SHALL OPERATE IN COMPLIANCE WITH LOCAL STANDARDS AND SEASONAL RESTRICTIONS. SEPARATE ZONES SHALL BE PROVIDED FOR LAWN AREAS AND PLANTING BEDS. IRRIGATION SHALL BE DESIGNED IN THE MOST EFFICIENT MANNER NECESSARY TO FULLY IRRIGATE ALL PLANTING AREAS.

BENCHMARK
SANITARY MANHOLE RIM
ELEVATION: 912.22
NAVD. 88 DATUM



GENERAL LANDSCAPE NOTES

1. LANDSCAPE CONTRACTOR SHALL VISIT SITE, INSPECT EXISTING CONDITIONS AND REVIEW PROPOSED PLANTING AND RELATED WORK. IN CASE OF DISCREPANCY BETWEEN PLAN AND PLANT LIST, THE PLAN SHALL GOVERN QUANTITIES. CONTACT THE LANDSCAPE ARCHITECT WITH ANY CONCERNS.
2. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL ON-SITE UTILITIES PRIOR TO BEGINNING CONSTRUCTION ON EITHER PHASE OF WORK. ANY DAMAGE OR INTERFERENCE TO UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL COORDINATE ALL RELATED ACTIVITIES WITH OTHER TRADES AND SHALL REPORT ANY UNACCEPTABLE SITE CONDITIONS TO THE ARCHITECT PRIOR TO COMMENCEMENT.
4. PLANTS SHALL BE FULLY WELL BRANCHED, AND IN HEALTHY VIGOROUS GROWING CONDITION. PLANTS SHALL BE GUARANTEED TO EXHIBIT A NORMAL GROWTH CYCLE FOR AT LEAST ONE (1) YEAR FOLLOWING PLANTING.
5. PLANTS SHALL BE WATERED BEFORE AND AFTER PLANTING IS COMPLETE. ALL TREES MUST BE STAKED, FERTILIZED AND MULCHED AND SHALL BE GUARANTEED TO EXHIBIT A NORMAL GROWTH CYCLE FOR AT LEAST ONE (1) YEAR FOLLOWING PLANTING.
6. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED IN THE MOST RECENT EDITION OF THE "AMERICAN STANDARD FOR HARBOR SPECIES". CONTRACTOR WILL SUPPLY FINISHED GRADE AND EXCAVATE AS NECESSARY TO SUPPORT PLANTING AND ALL PLANTING SHALL BE AS INDICATED IN PLANT DETAILS AND A DEPTH OF 2" IN ALL LAWN AREAS.
7. PROVIDE CLEAN BARK MULCH. USING MATERIAL STOCKPILED ON-SITE. MULCH SHALL BE SCREENED AND FREE OF DEBRIS, FOREIGN MATERIAL, AND STONE. SOILWALLS, FERTILIZER SHALL BE ADDED TO THE PLANTING AREAS. MULCH BEING BACKFILLED, APPLICATION SHALL BE AT THE MANUFACTURER'S RECOMMENDED RATE.
8. AMENDED PLANT MIX (PREPARED TOPSOIL) SHALL CONSIST OF 1/2 SCREENED TOPSOIL, 1/2 SAND, AND 1/3 COMPOSTED MANURE (DAMP DOG OR EQUAL), MIXED WELL AND SPREAD TO A DEPTH AS INDICATED IN PLANTING DETAILS.
9. ALL PLANTINGS SHALL BE MULCHED WITH SHREDDED HARDWOOD BARK. SPREAD TO A DEPTH OF 2" FOR TREES AND SHRUBS, AND 2" ON ANNUALS, PERENNIALS, AND GROUND COVER PLANTINGS. MULCH SHALL BE FREE FROM DEBRIS AND FOREIGN MATERIAL, AND FREE FROM INCOMPATIBLE MATERIALS.
10. NO SUBSTITUTIONS OR CHANGES OF LOCATION, OR PLANT TYPE SHALL BE MADE WITHOUT THE APPROVAL OF THE LANDSCAPE ARCHITECT OR OWNER REPRESENTATIVE. THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN THE PLAN AND FIELD CONDITIONS PRIOR TO INSTALLATION.
11. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL PLANT MATERIALS IN A VERTICAL CONDITION THROUGHOUT THE GUARANTEED PERIOD.
12. THE LANDSCAPE ARCHITECT OR OWNER REPRESENTATIVE SHALL HAVE THE RIGHT TO RECTIFY ANY WORK OR MATERIAL THAT DOES NOT MEET THE REQUIREMENTS OF THE PLAN AND/OR SPECIFICATIONS.
13. ALL LANDSCAPE CONTRACTOR SHALL SEED AND MULCH OR SOD (AS INDICATED ON PLANS) ALL AREAS DESIGNATED AS SUCH ON THE PLANS, THROUGHOUT THE CONTRACT LIMITS. FURTHER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING AREAS DISTURBED DURING CONSTRUCTION, NOT IN THE CONTRACT LIMITS, TO EQUAL OR GREATER CONDITION.
14. ALL LANDSCAPE AREAS SHALL HAVE PROPER DRAINAGE THAT PREVENTS EXCESSIVE WATER FROM POOLING ON LAWN AREAS OR AROUND TREES AND SHRUBS.
15. ALL LANDSCAPE AREAS SHALL BE IRRIGATED WITH AN AUTOMATIC UNDERGROUND SYSTEM.

KEY LEGEND

- 1 TYPICAL SOD LAWN AREAS, SOWN ON 3" TOPSOIL
- 2 RESTORE EXISTING LAWN AREAS W/ HYDROSEED AND MULCH
- 3 3-4" DIA SPADE CUT EDGE W/ 3" SHREDDED BARK MULCH
- 4 3" DEPTH DOUBLE SHREDDED HARDWOOD BARK MULCH
- 5 3/4" - 1 1/2" STONE MULCH, 3-4" DEPTH ON WEED BARRIER
- 6 3/16" X 4" STEEL EDGING, STAKED PER MANUFACTURER
- 7 42" HT DECORATIVE METAL FENCING

PLANT SCHEDULE

KEY	QTY	BOTANICAL/COMMON NAME	SIZE	SPACING	ROOT	COMMENT
TREES						
AC	3	<i>Amelanchier canadensis</i> Shadblow Serviceberry	8'-10" HT	SEE PLAN	B&B	MULTI STEM, FULL BRANCH
CC	1	<i>Cercis canadensis</i> Eastern Redbud	8'-10" HT	SEE PLAN	B&B	MULTI STEM, FULL BRANCH
GB	4	<i>Quercus blanda</i> 'Princeton Sentry' Princeton Sentry Ginkgo	2.5' CAL	SEE PLAN	B&B	FULLY BRANCHED HEADS
PG	4	<i>Picea glauca</i> var. <i>densata</i> Black Hills Spruce	6'-7" HT	SEE PLAN	B&B	FULL TO GROUND
UP	1	<i>Ulmus americana</i> 'Princeton' Princeton Elm	2.5' CAL	SEE PLAN	B&B	FULLY BRANCHED HEADS
SHRUBS						
BR	10	<i>Buxus 'Green Velvet'</i> Green Velvet Boxwood	36" HT	36" OC	B&B	MAINTAIN AS A HEDGE
DX	7	<i>Dianella ionocera</i> 'Kodiak Orange' Kodiak Orange Honey suckle	24" HT	36" OC	B&B	MAINTAIN AS A HEDGE
HP	25	<i>Hydrangea paniculata</i> 'Ivory'	24" HT	36" OC	B&B	
GRASSES & PERENNIALS						
PA	50	<i>Pennisetum alopecuroides</i> 'Hameln' Hameln Dwarf Fountain Grass	3 GAL	30" OC	CONT	

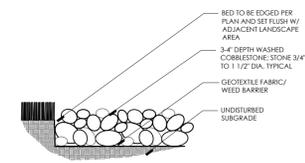
LANDSCAPE REQUIREMENTS

EXISTING SITE ZONING: C-C, COMMUNITY COMMERCIAL DISTRICT
EXISTING SITE AREA: 62,829 S.F. OR 1.527 ACRES

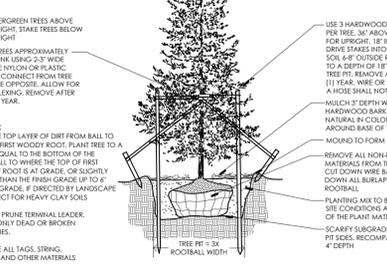
TREE CANOPY REQUIREMENT
REQUIRED: 1 TREE PER ACRE OR FRACTION THEREOF BEYOND THE FIRST ACRE
PROVIDED: 2 TREES FOR 1.56 ACRES

PARKING LOT LANDSCAPE REQUIREMENTS
FRONTAGE ALONG PUBLIC STREET
1 TREE FOR EVERY 35 FEET OF FRONTAGE + 1 SHRUB FOR EVERY 6 FEET OF FRONTAGE
REQUIRED: 148.46 LF / 35 LF = 4.24 OR 4 TREES
148.46 LF / 6 LF = 24.74 OR 25 SHRUBS
PROVIDED: 4 TREES AND 27 SHRUBS

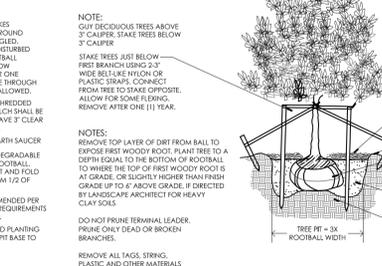
INTERIOR PARKING LOT
MINIMUM 5% ENTIRE PARKING LOT AREA + 1 TREE FOR EACH 300 SF LANDSCAPE
REQUIRED: 26,340.86 SF (CALCULATED)
29.61230 SF x 3% = 1.31804 SF
1.31804 SF / 300 SF = 4.39 OR 4 TREES
PROVIDED: 2,270 SF AND 4 TREES



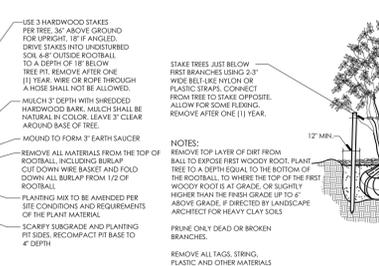
COBBLESTONE MULCH DETAIL



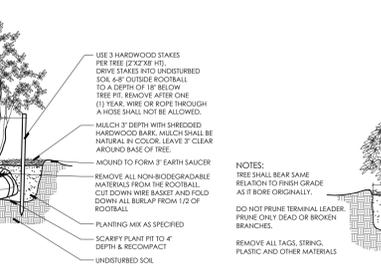
EVERGREEN TREE PLANTING DETAIL



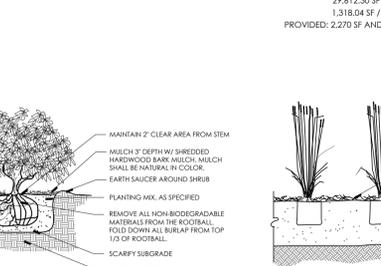
DECIDUOUS TREE PLANTING DETAIL



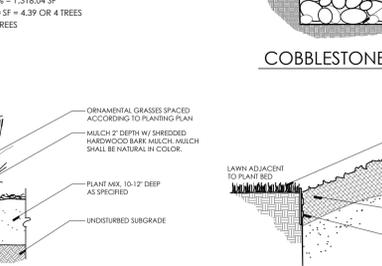
MULTI-STEM TREE PLANTING DETAIL



SHRUB PLANTING DETAIL



ORNAMENTAL GRASS PLANTING DETAIL



METAL EDGING DETAIL



CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
4677 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
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WWW.NFE-ENGR.COM

SEAL



PROJECT
Mercedes-Benz of
Kalamazoo
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CLIENT
LAG Development
9990 E. Highland Road
Highland, MI 48357

Contact: Gary Laundroche
Phone: 248-714-1502
Email:
glaundroche@lafountainmotors.com

PROJECT LOCATION
Part of the NE 1/4
of Section 30
T. 2S., R. 11W.,
City of Kalamazoo,
Kalamazoo County,
Michigan

SHEET
Site Plan



DATE ISSUED/REVISED
2025-12-19 - ISSUED FOR SITE PLAN REVIEW
2026-02-06 - REVISED PER CITY

DRAWN BY:
M. Sandberg
DESIGNED BY:
M. Sandberg
APPROVED BY:
G. Ostrowski
DATE:
June 19, 2025

SCALE: 1" = 20'
20 10 0 10 20 30
NFE JOB NO. **SHEET NO.**
N743 **L2**



GROSS BUILDING AREA	
FIRST FLOOR (EXISTING)	11,300 SF
SECOND FLOOR (EXISTING)	2,750 SF
FIRST FLOOR (ADDITION)	15,246 SF
TOTAL BUILDING AREA (GSF)	29,297 SF

DEPARTMENT AREA BY FLOOR	
DEPARTMENT	AREA
FIRST FLOOR	
CIRCULATION	295 SF
CUSTOMER	2283 SF
EMPLOYEE	30 SF
EMPLOYEE FACILITIES	165 SF
PARTS	982 SF
SALES	1724 SF
SERVICE	15672 SF
SHOWROOM	5167 SF
	26317 SF
SECOND FLOOR	
ADMINISTRATION	303 SF
CIRCULATION	276 SF
EMPLOYEE	985 SF
PARTS	1184 SF
	2749 SF
TOTAL (NSF)	29066 SF

- DEPARTMENT AREAS**
- SHOWROOM
 - CUSTOMER
 - SALES
 - CIRCULATION
 - ADMINISTRATION
 - EMPLOYEE FACILITIES
 - EMPLOYEE
 - PARTS
 - SERVICE

STUDIO DETROIT ARCHITECTS

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JASON LONGHURST
P. 248.332.7931

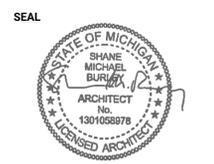
MEP ENGINEER
MEECI, LLC
14496 N. SHELDON RD. STE. 260
PLYMOUTH, MI. 48170
JORDAN KOENIG
P. 734.454.5516

STRUCTURAL ENGINEER
HIRMIZ GROUP, LLC
2554 S. ROCHESTER ROAD
ROCHESTER HILLS, MI 48307
JOHN HIRMIZ
P. 248.934.1702

DO NOT SCALE DRAWINGS

ISSUED	REVISION
12.04.25	SITE PLAN REVIEW

DRAWN TAP
CHECKED ATC



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CLIENT
LAFONTAINE AUTOMOTIVE GROUP
4000 W HIGHLAND RD
HIGHLAND, MI 48357

PROJECT
LAFONTAINE MERCEDES-BENZ KALAMAZOO
3718 STADIUM DR
KALAMAZOO, MI 49008

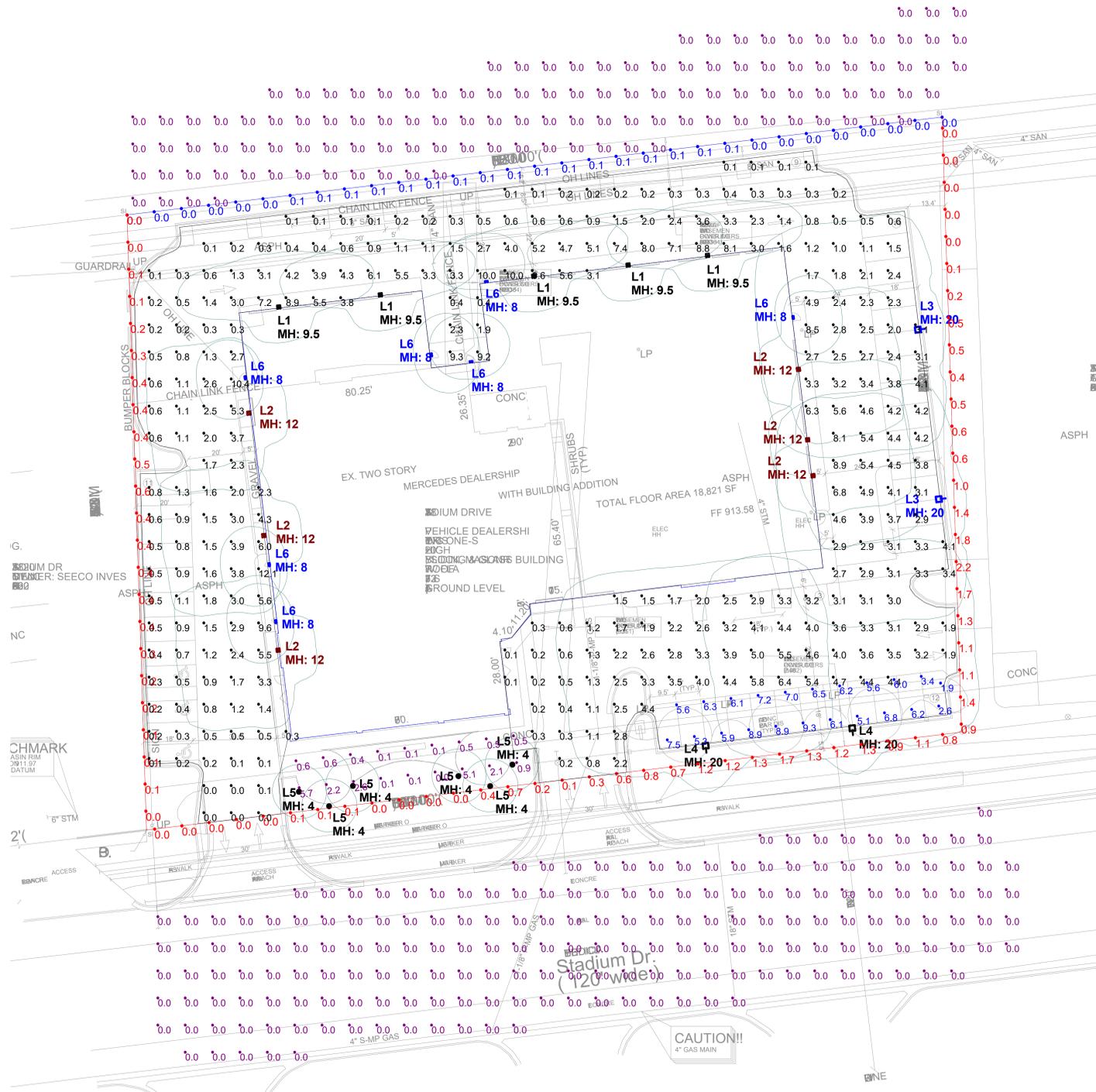
PROJECT NO. 25050

COMPOSITE FLOOR PLAN

TS1.5

FIRST FLOOR COMPOSITE PLAN
1/8" = 1'-0"

SECOND FLOOR COMPOSITE PLAN
1/8" = 1'-0"



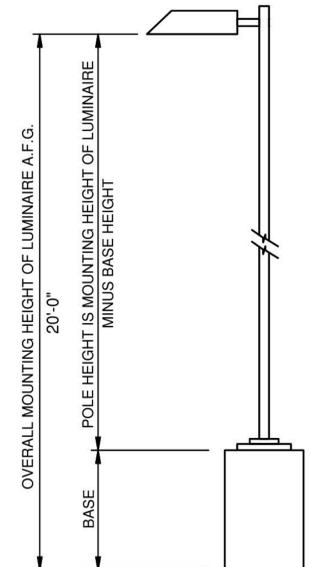
Scale: 1 inch = 20 Ft.

Symbol	Qty	Label	LLF	Description	Lum. Watts	Lum. Lumens
⊕	5	L1	0.900	MCGRAW EDISON GWC-SA1A-740-U-T2	34	4883
⊕	6	L2	0.900	MCGRAW EDISON GWC-SA1A-740-U-T4FT	34	5008
⊕	2	L3	0.900	MCGRAW EDISON GALN-SA2C-740-U-T4FT-HSS	108	10181
⊕	2	L4	0.900	MCGRAW EDISON GALN-SA4C-740-U-T4FT-HSS	213	20027
⊕	6	L5	0.900	ENVISION LED-BLD-3P22-RD-5CCTUNV-LV-FL-BZ-44-X-X-BLD-RD-SHIELD-BZ - SELECT 4CCT AND 22W OUTPUT IN THE FIELD	21.8551	1341
⊕	7	L6	0.900	LUMARK AXCS1A	13.5	1806

Label	Units	Avg	Max	Min	Max/Min	Avg/Min
Auto Display Front Parking Lot 3ft AFG	Fc	6.11	9.3	1.9	4.89	3.22
Beyond Property Line Resi Zone	Fc	0.00	0.0	0.0	N.A.	N.A.
Display	Fc	1.23	5.7	0.0	N.A.	N.A.
Parking Lot	Fc	2.50	12.1	0.0	N.A.	N.A.
Property Line	Fc	0.52	2.2	0.0	N.A.	N.A.
Property Line Adjacent Residential Zone	Fc	0.05	0.1	0.0	N.A.	N.A.
Stadium Drive	Fc	0.00	0.0	0.0	N.A.	N.A.

SITE CALCULATION POINTS TAKEN AT GRADE.
 AUTO DISPLAY AT FRONT PARKING LOT TAKEN AT 3FT A.F.G.

NOTES:
 THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF LAYOUT TO EXISTING/FUTURE FIELD CONDITIONS AND ALL MANDATORY BUILDING AND LIFE SAFETY CODES AND COMPLIANCE.
 LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS/LEDS AND OTHER VARIABLE FIELD CONDITIONS.
 MOUNTING HEIGHTS INDICATED ARE FROM GRADE TO BOTTOM OF LUMINAIRE LENS OR FROM FLOOR TO BOTTOM OF LUMINAIRE LENS, UNLESS OTHERWISE NOTED.
 CLARUS DOES NOT ACT AS THE ELECTRICAL, CIVIL OR STRUCTURAL ENGINEER AND DOES NOT DETERMINE BASE REQUIREMENTS AND APPLICABLE CODE COMPLIANCE. CLARUS IS NOT LIABLE FOR ANY CODE COMPLIANCE DISCREPANCY.
 LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT OF RECORD IS RESPONSIBLE TO REVIEW FOR CODE COMPLIANCE, INCLUDING AND NOT LIMITED TO - NFPA 101 LIFE SAFETY CODE, MICHIGAN ENERGY CODE, MICHIGAN BUILDING CODE AND/OR IECC CODE, LIGHTING QUALITY COMPLIANCE AND LOCAL LIGHTING ORDINANCES.
 FOR SITE PLAN PHOTOMETRICS, THE USE OF ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.



REVISION
 XX

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PROJECT TITLE
 LAFONTAINE MERCEDES BENZ
 3718 STADIUM DR.
 KALAMAZOO, MI

SHEET TITLE
 PHOTOMETRIC CALCULATION

DATE
 09-29-25
 PROJECT No.
 SPEC25-132016
 SHEET No.

L201