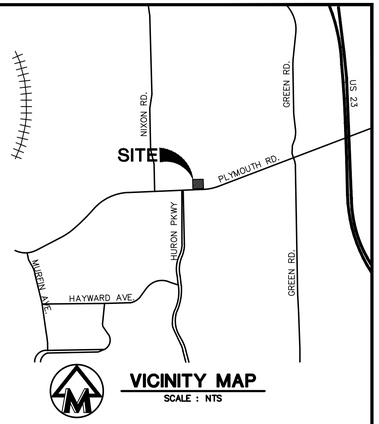
UNIVERSITY OF MICHIGAN CREDIT UNION

2929 PLYMOUTH ROAD

CITY OF ANN ARBOR, WASHTENAW COUNTY, MI

SITE PLAN



VICINITY MAP
SCALE : NTS

OWNER/APPLICANT

UNIVERSITY OF MICHIGAN CREDIT UNION
340 EAST HURON STREET
ANN ARBOR, MI 48104
CONTACT: DEANNE RAMOS
734-662-8200 x2760

ENGINEER/LANDSCAPE ARCHITECT

MIDWESTERN CONSULTING, LLC
3815 PLAZA DRIVE
ANN ARBOR, MI 48108
CONTACT: TED HIRSCH
734-995-0200

ARCHITECT

HOBBS + BLACK ARCHITECTS
100 N STATE STREET
ANN ARBOR, MI 48104
CONTACT: THOM PHILLIPS
734-663-4189

SURVEYOR

GEODETIC DESIGNS, INC.
2300 NORTH GRAND RIVER AVENUE
LANSING, MI 48906
CONTACT: DAVID VANDENBERGHE
517-908-0008

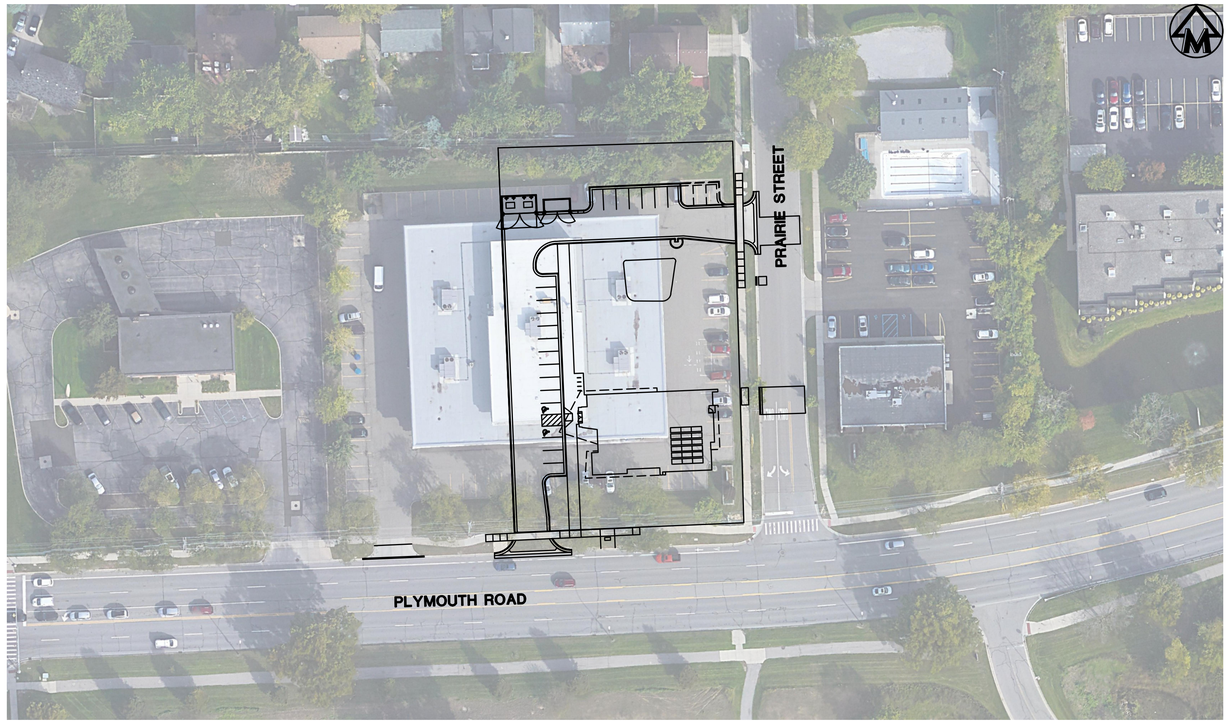
LEGAL DESCRIPTION

Commencing at the Southwest corner of Outlot A of North Campus Heights Subdivision, as recorded in Liber 15 of Plats, Pages 27 and 28, Washtenaw County Records, Washtenaw County, Michigan; thence South 30.02 feet; thence North 88°04'30" East 252.46 feet along the North line of Plymouth Road for a Place of Beginning; thence North 1°44' West 270.42 feet; thence North 88°48'20" East 281.89 feet along the North line of Outlot A; thence South 1°11 '40" East 266.87 feet along the West line of Prairie Street; thence South 88°04'30" West 279.31 feet along the North line of Plymouth Road to the Place of Beginning, being part of the Easterly portion of said Outlot A and part of vacated Plymouth Road, City of Ann Arbor, Washtenaw County, Michigan.

The property described and shown hereon is the same property as described in Stewart Title Guaranty Company commitment number 91080, dated August 16, 2021.

SITE DATA

	Existing		Allowed/ Required		Proposed	
Zoning						
Zoning District	O: Office		O: Office		O: Office	
Permitted Use	Office		Office, Financial Services		Credit Union	
Site Area	75,383	sf	6,000	sf min.	43,456	sf
	1.73	ac	0.14	ac min.	0.998	ac
Lot Width	279	ft Plymouth	50	ft min.	160	ft Plymouth
	266	ft Prairie			266	ft Prairie
Building						
Gross Floor Area	+/-26,330	sf	None	sf	4,740	sf total
Lot Coverage	2.0	%	None	%	10.9	%
Floor Area Ratio	34.9	%	75	% max.	10.9	%
Building Height	2	stories	4 stories max. when within 300 ft of abutting R district, otherwise none		1	story
			55 ft max. when within 300 ft of abutting R district, otherwise none		26	ft
Building Setbacks						
Front	57	ft Plymouth	15	ft min.	35.7	ft Plymouth
	51	ft Prairie	40	ft max.	15.5	ft Prairie
Side	55	ft (north)	30 ft min. when abutting R district, otherwise 0 ft		48	ft (west)
Rear	49	ft (west)	30 ft min. when abutting R district, otherwise 0 ft		173	ft (north)
Vehicular Parking						
Required Parking	146	spaces (per ALTA Survey)	27	spaces max.	22	spaces
					3	spaces deferred
bank, credit union, financial services			1 per 180 sf floor area max. 4,740 / 180 = 27 spaces max.			
Electric Vehicle	Not Evaluated		EV-I: 10% of provided spaces 22 x 10% = 3 EV-I spaces		6	spaces EV-I
			EV-R: 10% of provided spaces 22 x 10% = 3 EV-R spaces		4	spaces EV-R
Bicycle Parking						
bank, credit union, financial services	Not Evaluated		1 per 2,000 sf floor area 4,740 / 2,000 = 3 spaces		8	spaces
			100	% Class C	100	% Class C



SITE MAP
SCALE : NTS

SHEET INDEX

CITY OF ANN ARBOR REQUIRED NOTES

1. THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE CITY OF ANN ARBOR PUBLIC SERVICES STANDARD SPECIFICATIONS WHICH ARE INCLUDED BY REFERENCE.
2. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT. THE WORK SHALL BE PERFORMED IN COMPLETE CONFORMANCE WITH THE CURRENT CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS AND DETAILS.
3. SIDEWALKS CONSTRUCTED IN THE PUBLIC RIGHT-OF-WAY SHALL MEET ALL REQUIREMENTS AND GUIDELINES AS SET FORTH IN THE ADA STANDARDS FOR ACCESSIBLE DESIGN. SIDEWALK AND CURB RAMP GRADES WILL BE REVIEWED DURING CONSTRUCTION PLAN SUBMITTALS.
4. ALL SIDEWALKS SHALL BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME. PRIOR TO THE ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS IN NEED OF REPAIR MUST BE REPAIRED IN ACCORDANCE WITH CITY STANDARDS.
5. PAVEMENT MARKINGS DISTURBED DUE TO PAVEMENT CUTS OR CONSTRUCTION RELATED ACTIVITIES SHALL BE REPLACED. REPLACEMENT DURING CONSTRUCTION MAY BE CONSIDERED TEMPORARY, WITH FINAL PAVEMENT MARKING RESTORATION TO OCCUR AT THE END OF THE PROJECT.
6. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING PUBLIC ROAD PAVEMENT. DAMAGE TO THE PUBLIC ROAD PAVEMENT DURING CONSTRUCTION MAY NECESSITATE MILLING AND RESURFACING OF THE DAMAGED AREAS.

PROJECT NARRATIVE

UNIVERSITY OF MICHIGAN CREDIT UNION IS REQUESTING THE NECESSARY APPROVALS AND PERMITS TO ALLOW FOR A PROPOSED REDEVELOPMENT PROJECT AT 2929 PLYMOUTH ROAD. THE SITE IS CURRENTLY USED AS AN OFFICE AND INCLUDES AN EXISTING BUILDING OF APPROXIMATELY 26,330 SF WITH THE SURROUNDING ACCESS DRIVES AND PARKING AREAS. THE PROPOSED PROJECT INCLUDES CONSTRUCTION OF A NEW CREDIT UNION BUILDING, AS WELL AS THE ASSOCIATED PARKING, STORM WATER MANAGEMENT SYSTEM, AND LANDSCAPING IMPROVEMENTS.

THE EXISTING SITE IS 1.73 ACRES IN SIZE AND IS ZONED O: OFFICE. THE EXISTING BUILDING AND PARKING AREAS WILL BE DEMOLISHED AND A NEW 4,740 SF BUILDING WILL BE CONSTRUCTED ON THE EASTERN PORTION OF THE SITE. SITE WORK WILL INCLUDE NEW ASPHALT PARKING AREAS, AN UNDERGROUND STORM WATER MANAGEMENT SYSTEM, A BIORETENTION AREA, AND INSTALLATION OF NEW LANDSCAPING, INCLUDING DECIDUOUS AND EVERGREEN TREE PLANTINGS AND SHRUBS. AS PART OF THIS PROJECT, THE WESTERN PORTION OF THE SITE (APPROXIMATELY 31,900 SF) WILL BE SPLIT OFF FROM THE CREDIT UNION PARCEL, ALLOWING FOR A SEPARATE POTENTIAL DEVELOPMENT IN THE FUTURE. ONE VARIANCE IS BEING REQUESTED TO ALLOW FOR PLACEMENT OF REQUIRED STREET TREES ON THE SITE INSTEAD OF IN THE RIGHT-OF-WAY DUE TO EXISTING SIDEWALK AND UTILITY LOCATIONS.

WATER AND SANITARY SEWER SERVICE WILL BE PROVIDED TO THE BUILDING VIA NEW CONNECTIONS TO PUBLIC MAINS IN PRAIRIE STREET. EXISTING STORM WATER RUNOFF DRAINS INTO ON-SITE CATCH BASINS AND DISCHARGES DIRECTLY TO THE CITY STORM SEWER. A NEW UNDERGROUND DETENTION SYSTEM IS BEING PROVIDED AS PART OF THE PROPOSED SITE IMPROVEMENTS TO HELP MANAGE STORM WATER RUNOFF. A BIORETENTION AREA IS ALSO BEING PROPOSED WITHIN THE PARING LOT. ACCESS TO THE SITE WILL BE PROVIDED VIA ONE EXISTING CURB CUT ON PRAIRIE STREET AND ONE CURB CUT ON PLYMOUTH ROAD. THE EXISTING CURB CUT ON PLYMOUTH ROAD WILL BE RELOCATED APPROXIMATELY 100 FEET TO THE EAST AS PART OF THE PROPOSED PROJECT AND CAN ALSO SERVE A FUTURE DEVELOPMENT ON THE WESTERN PORTION OF THE SITE.

THE BUILDING ITSELF WILL BE SERVED WITH FULLY ELECTRIC MECHANICAL AND HVAC SYSTEMS, WHILE PROVIDING A NATURAL GAS BACKUP GENERATOR ON-SITE. THE BUILDING WILL ALSO INCORPORATE A ROOF-MOUNTED SOLAR ARRAY.

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

UNIVERSITY OF MICHIGAN CREDIT UNION

JOB No. **22073**

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/25/23
PER MUNICIPAL REVIEW	09/22/23

DATE: 07/20/2023
SHEET 01 OF 25
CADD: SFG
ENG: TPH
PM: TPH
TECH:
/22073CV1

01

MIDWESTERN CONSULTING
3815 Plaza Drive Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

RELEASED FOR:	DATE

P.E. #

DEVELOPMENT SUMMARY

GENERAL PROJECT INFORMATION
University of Michigan Credit Union owns the property located at 2929 Plymouth Road, Ann Arbor, Michigan, and is requesting site plan approval from the Planning Commission for a new credit union branch. Additionally, the applicant is requesting one variance from the Zoning Board of Appeals to allow for installation of the required street trees on site instead of in the right-of-way due to the location of existing sidewalk and utilities.

The site is currently zoned O: Office and no amendment to the zoning is proposed. The existing building and parking lot will be demolished, and proposed site improvements include a new building, asphalt parking areas, underground storm water management system, bioretention area, and additional landscaping. A land division is proposed as part of the site plan. The credit union will occupy the 43,456 sf on the eastern side of the site, and the remaining 31,927 sf will be split off and developed separately in the future.

University of Michigan Credit Union does not own any land contiguous to this site.

DEVELOPMENT PROGRAM

- The proposed development includes demolition of the existing building and construction of a new 4,740 sf credit union building.
- All existing pavement will be removed and replaced with a new asphalt parking lot. A total of 22 parking spaces are being provided, including ADA and EV parking spaces, as well as 8 Class C bicycle spaces (4 hoops). Three deferred parking spaces are also shown on the site plan. The proposed vehicular use area will be 10,997 sf.
- The site will be accessed from two curb cuts, one on Prairie Street and one on Plymouth Road. The existing curb cut on Prairie Street will remain as it is currently to serve the new development. The existing curb cut on Plymouth Road will be relocated approximately 100 feet to the east and will serve both the proposed credit union and the future development on the western portion of the parcel. The existing AAATA bus stop located along Plymouth Road will be relocated in coordination with the AAATA to accommodate the new driveway location.
- Site improvements will include new parking areas and driveways, site lighting, an underground storm water management system, bioretention area, and solid waste management facilities. Site landscaping will be brought up to current City requirements and standards, and will include additional trees and shrubs.
- All improvements are proposed to be completed in one phase.

COMMUNITY ANALYSIS

i. IMPACT ON PUBLIC SCHOOLS
The development does not include any residential units and no impact to public schools is anticipated. The development will provide additional tax revenue for schools.

ii. RELATIONSHIP TO NEIGHBORING USES
The current Northeast Area Future Land Use Map within the City of Ann Arbor Master Plan Land Use Element identifies this parcel for use as office. The proposed development as a credit union is consistent with the current zoning classification (O: Office) and the future land use designation. The credit union is intended to serve the surrounding residential neighborhood and will also provide convenient access along the Plymouth Road corridor. A conflicting land use buffer will be provided along the north property line to provide a buffer and screening of the proposed development from the adjacent residential parcels.

iii. IMPACT OF ADJACENT USES ON PROPOSED DEVELOPMENT
Adjacent sites are zoned for residential, office, commercial, and University/research uses that will have no negative impact on the proposed development. It is anticipated that residents within the surrounding residential neighborhood will utilize the proposed credit union.

iv. IMPACT ON AIR AND WATER QUALITY AND EXISTING NATURAL FEATURES

- There will be no anticipated negative impact on air quality.
- The existing storm water runoff from the property drains into on-site catch basins and discharges directly to the City storm sewer. A new underground detention system is being provided as part of the proposed site improvements to help manage storm water runoff by pre-treating, detaining, and releasing the runoff into the public storm sewer at a controlled rate. A bioretention area is also being proposed.
- Water quality controls will be implemented to ensure that runoff during construction is controlled and managed.

v. IMPACT ON HISTORIC SITES OR STRUCTURES

- The site is not located in an historic district and has not been identified by the City as an individual historic property.

vi. TRAFFIC STATEMENT
The following is a trip generation comparison for the proposed UMCU bank site that will replace an existing office building located at 2929 Plymouth Road, Ann Arbor. The table below summarizes the trip generation characteristics of the proposed bank versus the existing office.

Trip Generation	ITE	Size	Weekday	AM Peak Hour			PM Peak Hour		
	Code	SF	24 Hour	Enter	Exit	Total	Enter	Exit	Total
Existing Land Use									
General Office	710	32,422	436	56	8	64	11	54	65
Proposed Land Use				Estimated, Lack of ITE Data					
Walk In Bank	911	4,740	n/a	31	22	53	25	32	57
Net Traffic at Driveways				-25	14	-11	14	-22	-8

Please refer to the Trip Generation Comparison prepared by Midwestern Consulting dated July 20, 2023 for additional information.

vii. PUBLIC SIDEWALK MAINTENANCE STATEMENT
Provided. See Notes on the Cover Sheet.

viii. IMPACT ON NATURAL FEATURES

- No known endangered species habitats exist on this site.
- Per the ALTA/NSPS Land Title survey: This parcel is located in zone X of the Flood Insurance Rate Map Number 26161C0262E which bears an effective date of 4/13/2012 and is not in a Special Flood Hazard Area.
- No woodlands are located on this site. One street tree will be removed as part of this project.
- There are 10 landmark trees located throughout the site. Two landmark trees will be removed as part of the proposed project. Construction fence will be installed at the limits of the critical root zone for all landmark trees to remain.
- No steep slopes exist on this site.
- No existing or proposed watercourses are located on this site.
- No identified wetlands exist on this site.

Please refer to the Natural Features Plan for additional information.

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

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CLIENT
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DEANNE RAMOS
734-662-8200 X2760

UNIVERSITY OF MICHIGAN CREDIT UNION
SITE PLAN
DEVELOPMENT SUMMARY

02

JOB No. **22073**

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/07/23
PER MUNICIPAL REVIEW	09/22/23

DATE: 07/20/2023
SHEET 02 OF 25
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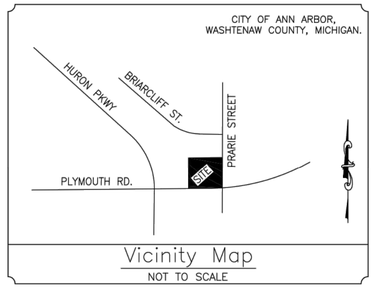


Vicinity Map
NOT TO SCALE

NOTES CORRESPONDING TO SCHEDULE B

THERE ARE NO SURVEY RELATED EXCEPTIONS LISTED IN SCHEDULE B.

GENERAL NOTES

1) NO EVIDENCE OF EARTH MOVING OR BUILDING CONSTRUCTION/ADDITIONS WERE OBSERVED WHILE CONDUCTING THE FIELD WORK. (ITEM 16, TABLE A).

2) NO EVIDENCE OF PROPOSED STREET RIGHT OF WAY LINE CHANGES WERE PROVIDED BY THE CONTROLLING JURISDICTION. (ITEM 17, TABLE A).

3) THERE IS NO OBSERVABLE EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS. (ITEM 17, TABLE A).

4) THIS PARCEL HAS DIRECT ACCESS TO PRAIRIE STREET AND PLYMOUTH ROAD.

5) THIS SURVEY MAP CORRECTLY REPRESENTS THE FACTS FOUND AT THE TIME OF THE SURVEY.

6) THERE ARE NO DISCREPANCIES BETWEEN THE BOUNDARY LINES OF THE PROPERTY AS SHOWN ON THIS SURVEY MAP AND AS DESCRIBED IN THE LEGAL DESCRIPTION PRESENTED IN THE TITLE COMMITMENT.

7) THE BOUNDARY LINE DIMENSIONS AS SHOWN ON THIS SURVEY MAP FORM A MATHEMATICALLY CLOSED FIGURE WITHIN +/-0.1 FOOT.

8) THE BOUNDARY LINES OF THE PROPERTY ARE CONTIGUOUS WITH THE BOUNDARY LINES OF ALL ADJOINING STREETS, HIGHWAYS, RIGHTS OF WAY AND EASEMENTS, PUBLIC OR PRIVATE, AS DESCRIBED IN THEIR MOST RECENT RESPECTIVE LEGAL DESCRIPTIONS OF RECORD.

9) EXCEPT AS OTHERWISE NOTED BELOW, IF THE PROPERTY CONSISTS OF TWO OR MORE PARCELS, THERE ARE NO GAPS OR GORES BETWEEN SAID PARCELS.

10) THIS PARCEL LIES AT THE CORNER OF PRAIRIE STREET AND PLYMOUTH ROAD. (ITEM 14, TABLE A).

11) THERE WAS NO VISIBLE WETLAND FLAGGING ON THIS PARCEL AT THE TIME OF SURVEY. A WETLAND DELINEATION MAP WAS NOT PROVIDED THEREFORE NO WETLAND AREAS ARE SHOWN HEREON (ITEM 18, TABLE A).

12) EASEMENTS AND EXCEPTIONS SHOWN HEREON WERE PROVIDED BY THE TITLE INSURANCE COMPANY, NO RESEARCH HAS BEEN CONDUCTED BY GEODETIC DESIGNS INC. TO IDENTIFY ANY ADDITIONAL EASEMENTS THAT MAY AFFECT THIS PARCEL.

13) SITE BENCHMARK – FLANGE BOLT UNDER "E" IN "EAST" ON HYDRANT ON WEST SIDE OF PRAIRIE STREET, NORTH OF PLYMOUTH ROAD.
ELEVATION = 901.70 (NAVD88 DATUM)

LEGEND

- Power Pole
- Power Pole w/Light
- Light Pole
- Telephone Pole
- Guy Wire
- Transformer
- Electric Manhole
- Telephone Manhole
- Telephone Pedestal
- Electric Meter
- Cable Box
- Air Conditioner Unit
- Easement Identifier
- Distance not to scale
- Flag Pole
- Sign (As Noted)
- Well Head
- Satellite Dish
- Tower
- Water Valve
- Fire Hydrant
- Water Manhole
- Water Meter Pit
- Water Meter
- Indicates Handicapped Parking
- Parking Count
- Storm Manhole
- Storm Catchbasin
- Deciduous Tree
- Coniferous Tree
- Sanitary Manhole
- Sanitary Clean Out
- Gas Valve
- Gas Manhole
- Gas Meter
- Gas Marker
- Section Corner
- Set 5/8" Bar & Cap
- Found Corner Monument
- Monitoring Well

ABBREVIATIONS

R = RECORDED	T-N = TOWN - NORTH	AVE. = AVENUE
M = MEASURED	R-E = RANGE - EAST	BLVD. = BOULEVARD
C = CALCULATED	SQ. FT. = SQUARE FEET	CT. = COURT
N = NORTH	NE = NORTHEAST	RD. = ROAD
E = EAST	SE = SOUTHEAST	ST. = STREET
S = SOUTH	SW = SOUTHWEST	PID = PARCEL AND
W = WEST	NW = NORTHWEST	OWNER IDENTIFICATION

0' 20' 40'
SCALE: 1"=20'

ZONING INFORMATION

A ZONING REPORT WAS NOT PROVIDED BY THE CLIENT PER TABLE A 6(a) AND 6(B). THE ZONING CLASSIFICATION, SETBACK REQUIREMENTS, THE HEIGHT AND FLOOR SPACE AREA RESTRICTIONS, AND PARKING REQUIREMENTS ARE NOT SHOWN HEREON.

POTENTIAL ENCROACHMENTS

(1) THERE ARE NO OBSERVED POTENTIAL ENCROACHMENTS ON THIS PARCEL.

DESCRIPTION

Commencing at the Southwest corner of Outlot A of North Campus Heights Subdivision, as recorded in Liber 15 of Plats, Pages 27 and 28, Washtenaw County Records, Washtenaw County, Michigan; thence South 30.02 feet; thence North 88°04'30" East 252.46 feet along the North line of Plymouth Road for a Place of Beginning; thence North 1°44' West 270.42 feet; thence North 88°48'20" East 281.89 feet along the North line of Outlot A; thence South 1°11 '40" East 266.87 feet along the West line of Prairie Street; thence South 88°04'30" West 279.31 feet along the North line of Plymouth Road to the Place of Beginning, being part of the Easterly portion of said Outlot A and part of vacated Plymouth Road, City of Ann Arbor, Washtenaw County, Michigan.

The property described and shown hereon is the same property as described in Stewart Title Guaranty Company commitment number 91080, dated August 16, 2021.

STRUCTURE INVENTORY

STM MH #1		
RIM = 899.72		
8" CLAY	WEST	893.1
8" CLAY	SOUTHWEST	893.4
8" CLAY	SOUTH	891.2
8" CLAY	SOUTH	894.4
8" CLAY	EAST (CLEANOUT)	893.5
18" CONCRETE	EAST	891.2
STM MH #2		
RIM = 902.57		
24" CONC	EAST	893.3
24" CONC	WEST	893.5
CB #1		
RIM = 899.42		
8" CLAY	NORTH	895.0
CB #2		
RIM = 899.81		
8" CLAY	NORTH	895.0
CB #3		
RIM = 900.45		
8" CLAY	EAST	895.4
CB #4		
RIM = 899.64		
8" CLAY	EAST	895.4
SAN MH #1		
RIM = 899.31		
10" CLAY	NORTH	883.9
10" CLAY	SOUTH	883.9
8" CLAY	WEST	891.6

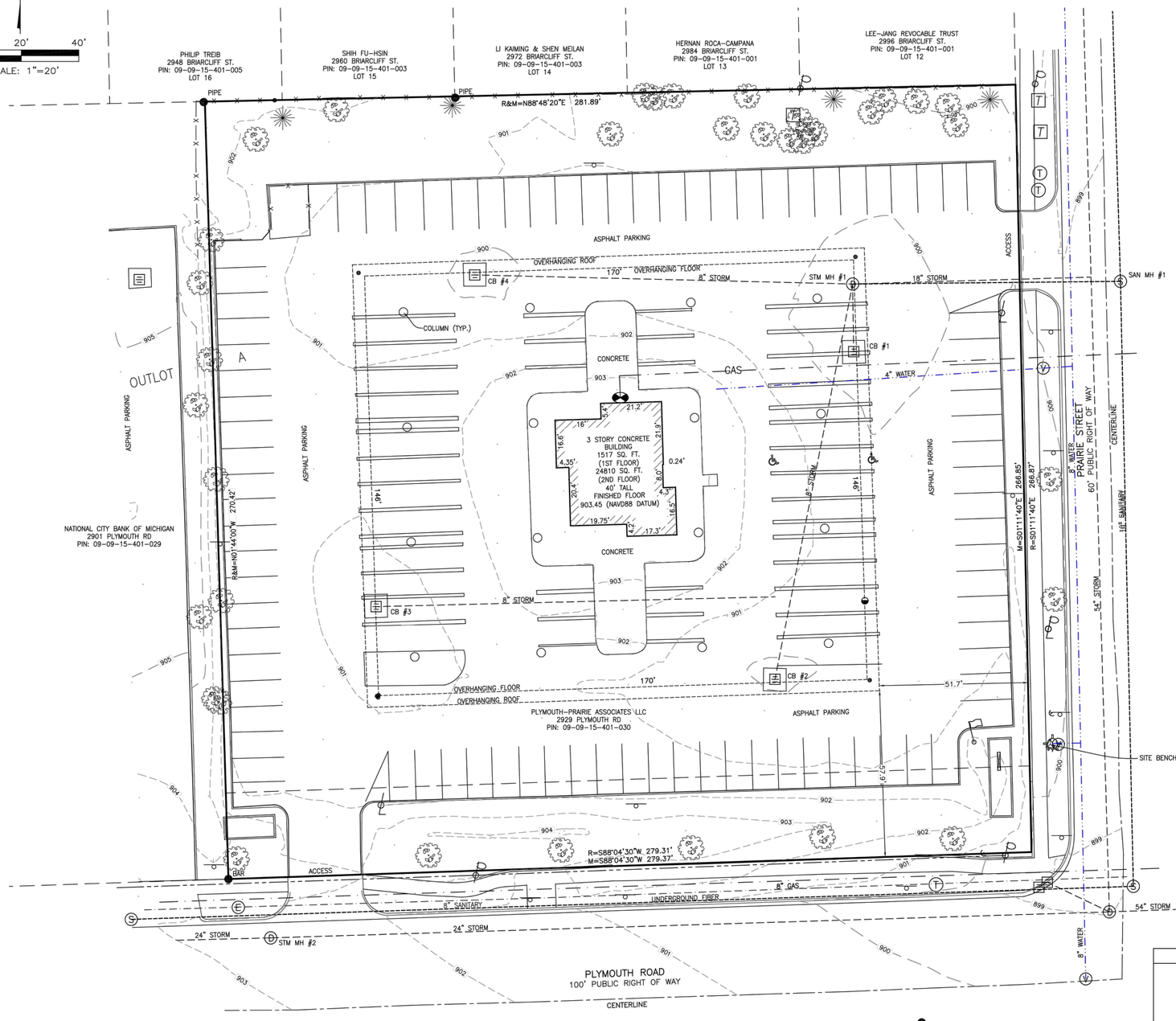
SURVEYOR'S CERTIFICATION

TO: University of Michigan Credit Union and Stewart Title Guaranty Company:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 5, 6a, 6b, 7a, 7b1, 7c, 8, 9, 10a, 11, 13, 14, 16, 17 and 20 of Table A thereof. The fieldwork was completed on Sept. 26, 2021.

STATE OF MICHIGAN
DAVID J. VanDenBerghe
PROFESSIONAL SURVEYOR No. 51489
LICENSED PROFESSIONAL SURVEYOR

DAVID J. VANDENBERGHE
PROFESSIONAL SURVEYOR #51489



BEARING BASIS

BEARINGS ARE BASED ON THE NORTH LINE OF PLYMOUTH ROAD RECORDED AS BEARING N88°04'30"E.

FLOOD NOTE

BY GRAPHIC PLOTTING ONLY, THIS PARCEL IS LOCATED IN ZONE X OF THE FLOOD INSURANCE RATE MAP NUMBER 26161C0262E WHICH BEARS AN EFFECTIVE DATE OF 4/3/12 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

AN ELEVATION CERTIFICATE MAY BE REQUIRED TO VERIFY THIS DETERMINATION OR APPLY FOR A VARIANCE FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

UNDERGROUND UTILITY NOTE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD OBSERVATIONS AND/OR EXISTING DRAWINGS AS PROVIDED BY THE FACILITY OWNER. THE UNDERGROUND UTILITIES SHOWN MAY NOT COMPRISE ALL SUCH UTILITIES ON OR NEAR THE SURVEYED PARCEL, EITHER IN SERVICE OR ABANDONED. THE LOCATION OF BURIED UTILITIES ARE SHOWN TO INDICATE THAT A UTILITY EXIST, BUT MAY REQUIRE SUB-SURFACE INVESTIGATION TO DETERMINE THE EXACT LOCATION.

"ALTA/NSPS LAND TITLE SURVEY"

PREPARED BY:

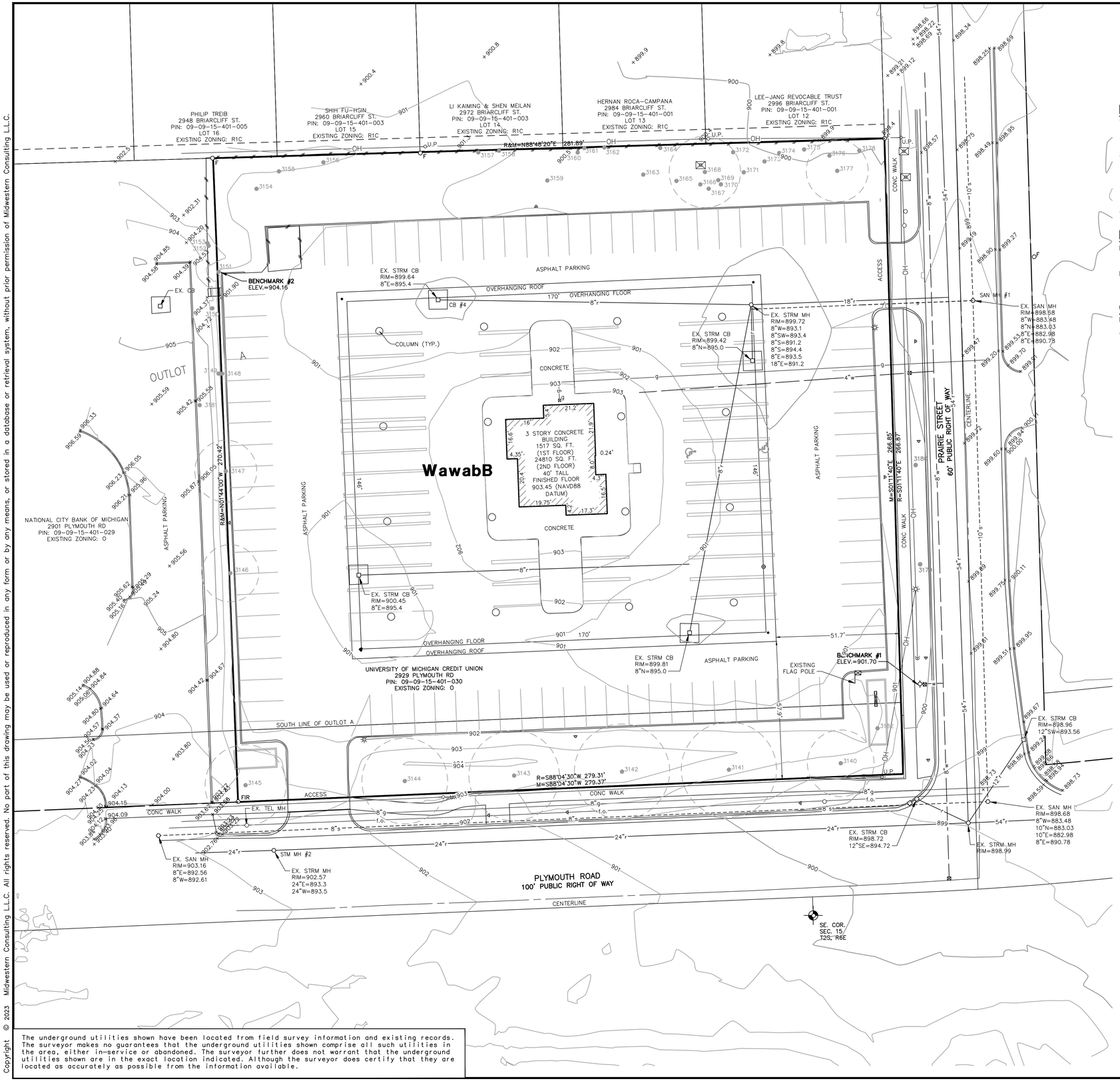
GEODETIC DESIGNS, INC.
2300 N. GRAND RIVER AVE.
LANSING, MI 48906
PHONE: (517) 908-0008
FAX: (517) 908-0009
WWW.GEODETICDESIGNS.COM

MARK	DATE	REVISION	BY	REVIEWER

University of Michigan Credit Union

2929 Plymouth Road
Ann Arbor, MI

SCALE: 1" = 0'	
DATE: , 2021	
DRAWN BY: DJV	
CHECKED BY: DJV	JOB NUMBER: S177-2021



NOTES

1. THE BASE SURVEY WAS PREPARED BY GEODETIC DESIGNS, INC. IN SEPTEMBER 2021. SUPPLEMENTAL SURVEY INFORMATION WAS PREPARED BY MIDWESTERN CONSULTING IN MARCH 2022.
2. ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THEREOTO. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.
3. SEE NATURAL FEATURES PLAN FOR DETAILED TREE LIST.

BENCHMARKS

BM#1 – FLANGE BOLT UNDER "E" IN "EAST" ON HYDRANT
ELEV=901.70' (NAVD88)

BM#2 – SET BENCH TAG IN 9" PEAR TREE
ELEV=904.16' (NAVD88)

GENERAL SOILS DESCRIPTION

BASED ON SOIL SURVEY OF WASHTENAW COUNTY MICHIGAN

WawabB – WAWASEE LOAM, 2 TO 6 PERCENT SLOPES

SCALE: 1" = 20'

0 20 40 60

811 Know what's below. Call before you dig.

TREE LIST

TAG#	DBH	COMMON NAME	GENUS/SPECIES	STEMS	SCORE	LM	INV	NOTES	REMOVE
3140	14"	Ginkgo	*Ginkgo biloba*			X			
3141	20"	Honey Locust	*Gleditsia triacanthos*			X			
3142	20"	Honey Locust	*Gleditsia triacanthos*		20	X			X
3143	19"	Honey Locust	*Gleditsia triacanthos*		20	X			X
3144	18"	Honey Locust	*Gleditsia triacanthos*			X			
3145	17"	Honey Locust	*Gleditsia triacanthos*			X			
3146	12"	Ginkgo	*Ginkgo biloba*			X			
3147	13"	Ginkgo	*Ginkgo biloba*			X			
3148	11"	Ginkgo	*Ginkgo biloba*						
3149	7"	Ginkgo	*Ginkgo biloba*					OFFSITE	
3150	8"	Crab Apple	*Malus communis*					OFFSITE	
3151	9"	Ginkgo	*Ginkgo biloba*						
3152	12"	White Mulberry	*Morus alba*				X	OFFSITE	
3153	7"	White Mulberry	*Morus alba*				X	OFFSITE	
3154	12"	Red Oak	*Quercus rubra*						
3155	7"	N. White Cedar	*Thuja occidentalis*						
3156	13"	Norway Maple	*Acer platanoides*				X		
3157	7"	Norway Maple	*Acer platanoides*				X		
3158	10"	Norway Maple	*Acer platanoides*				X		
3159	9"	Ginkgo	*Ginkgo biloba*						
3160	8"	Norway Maple	*Acer platanoides*				X		
3161	7"	Norway Maple	*Acer platanoides*				X		
3162	10"	Norway Maple	*Acer platanoides*				X		
3163	7"	Ginkgo	*Ginkgo biloba*						
3164	20"	Norway Maple	*Acer platanoides*				X		
3165	13"	Norway Maple	*Acer platanoides*				X		
3166	8"	Norway Maple	*Acer platanoides*				X		
3167	6"	Norway Maple	*Acer platanoides*	Twin			X		
3168	15"	Ginkgo	*Ginkgo biloba*			X			
3169	8"	Norway Maple	*Acer platanoides*				X		
3170	11"	Norway Maple	*Acer platanoides*				X		
3171	6"	Ginkgo	*Ginkgo biloba*						
3172	7"	N. White Cedar	*Thuja occidentalis*						
3173	10"	N. White Cedar	*Thuja occidentalis*						
3174	8"	N. White Cedar	*Thuja occidentalis*						
3175	8"	N. White Cedar	*Thuja occidentalis*	Twin					
3176	8"	N. White Cedar	*Thuja occidentalis*						
3177	13"	Ginkgo	*Ginkgo biloba*	Twin		X			
3178	10"	N. White Cedar	*Thuja occidentalis*	Twin					
3179	11"	Ginkgo	*Ginkgo biloba*					ROW	X
3180	3"	Hazelnut	*Corylus colura*					ROW	
3181	11"	White Mulberry	*Morus alba*				X	OFFSITE	
3182	5"	Amur Maple	*Acer ginnala*						X

LEGEND

838	EXIST. CONTOUR	ds	EXIST. DOWNSPOUT
×836.2	EXIST. SPOT ELEVATION	s	EXIST. SANITARY SEWER
U.P.	EXIST. UTILITY POLE		EXIST. CLEANOUT
U.P.	EXIST. UTILITY POLE W/ TRANS.		
GP	EXIST. GUY POLE		C/L OF DITCH
	GUY WIRE		SIGN
	ELEC. TRANSFORMER	MAIL	MAILBOX
	EXIST. AC UNIT	t	TELEPHONE RISER
	EXIST. GENERATOR	catv	CABLE TELEVISION RISER
OH	EXIST. OVERHEAD UTILITY LINE	e	ELECTRIC METER
	EXIST. LIGHT POLE	w	WATER METER
t	EXIST. TELEPHONE LINE	g	GAS METER
e	EXIST. ELECTRIC LINE	glm	GAS LINE MARKER
g	EXIST. GAS LINE		POST
g	EXIST. GAS VALVE		EXIST. BOLLARD
f.o.	EXIST. FIBER OPTIC LINE		
w	EXIST. WATER MAIN	W	WELL
	EXIST. HYDRANT		FENCE
	EXIST. GATE VALVE IN BOX		GUARDRAIL
	EXIST. GATE VALVE IN WELL		SINGLE TREE
	EXIST. CURB STOP & BOX		TREE OR BRUSH LIMIT
	EXIST. BLOW-OFF		
p.i.v.	EXIST. POST INDICATOR VALVE	SB-1	SOIL BORING LOCATION
fdc	EXIST. FIRE DEPARTMENT CONNECTION	TP-1	TEST PIT LOCATION
r	EXIST. STORM SEWER		EXIST. FLAG POLE
	EXIST. CATCH BASIN OR INLET		
	EXIST. BEEHIVE INLET		
	END SECTION		
	HEAD WALL		
	CULVERT		

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SITE PLAN
EXISTING CONDITIONS

04

DATE: 07/20/2023
SHEET 04 OF 25
CADD: SFG
ENG: TPH
PM: TPH
TECH:
/22073EX1

JOB No. 22073

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/25/23
PER MUNICIPAL REVIEW	09/22/23

PHILIP TREIB
2948 BRIARCLIFF ST.
PIN: 09-09-15-401-005
LOT 16
EXISTING ZONING: R1C

SHIH FU-HSIN
2960 BRIARCLIFF ST.
PIN: 09-09-15-401-003
LOT 15
EXISTING ZONING: R1C

LI KAIMING & SHEN MEILAN
2972 BRIARCLIFF ST.
PIN: 09-09-15-401-003
LOT 14,
EXISTING ZONING: R1C

HERNAN ROCA-CAMPANA
2984 BRIARCLIFF ST.
PIN: 09-09-15-401-001
LOT 13
EXISTING ZONING: R1C

LEE-JANG REVOCABLE TRUST
2996 BRIARCLIFF ST.
PIN: 09-09-15-401-001
LOT 12
EXISTING ZONING: R1C

NATIONAL CITY BANK OF MICHIGAN
2901 PLYMOUTH RD
PIN: 09-09-15-401-029
EXISTING ZONING: O

UNIVERSITY OF MICHIGAN CREDIT UNION
2929 PLYMOUTH RD
PIN: 09-09-15-401-030
EXISTING ZONING: O

CONTRACTOR TO REPLACE FENCE WHERE FAILING

R&M=N88°48'20"E 281.89'

R&M=N01°44'00"W 270.42'

OUTLOT A

PRAIRIE STREET
60' PUBLIC RIGHT OF WAY

PLYMOUTH ROAD
100' PUBLIC RIGHT OF WAY

BENCHMARK #2
ELEV.=904.16

BENCHMARK #1
ELEV.=901.70

3 STORY CONCRETE BUILDING
1517 SQ. FT.

BUILDING TO BE REMOVED
40' TALL
FINISHED FLOOR
903.45 (NAVD88 DATUM)

EXISTING BITUMINOUS TO BE REMOVED (TYP)

EXISTING BUS STOP TO BE RELOCATED IN COORDINATION WITH AATA

CUT 18" PIPE AT MAIN AND BULKHEAD.

DISCONNECT SANITARY LEAD AT MAIN. SEAL HOLE IN SANITARY STRUCTURE.

DISCONNECT WATER LEAD AT MAIN. REMOVE TEE AND REPLACE PIPE USING SOLID SLEEVE.

EX. SAN MH
RIM=898.58
8"W=883.48
8"N=883.03
8"E=882.98
8"E=890.78

EX. SAN MH
RIM=898.68
8"W=883.48
10"N=883.03
10"E=882.98
8"E=890.78

EX. STRM CB
RIM=898.72
12"SE=894.72

EX. STRM MH
RIM=898.99

EX. STRM CB
RIM=898.96
12"SW=893.56

EX. SAN MH
RIM=903.16
8"E=892.56
8"W=892.61

STM MH #2

EX. STRM MH
RIM=902.57
24"E=893.3
24"W=893.5

EX. STRM CB
RIM=899.84
8"E=895.4

EX. STRM CB
RIM=899.42
8"N=895.0

EX. STRM CB
RIM=900.95
8"E=895.4

EX. STRM CB
RIM=899.81
8"N=895.0

EX. TEL MH

EX. CB

ASPHALT PARKING

CONCRETE

CONC WALK

ACCESS

OVERHANGING ROOF

OVERHANGING FLOOR

COLUMN (TYP.)

SOUTH LINE OF OUTLOT A

CENTERLINE

SE. COR. SEC. 15 T2S, R6E

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SCALE: 1" = 20'

0 20 40 60

Know what's below. Call before you dig.

NOTES

1. ALL UNDERGROUND UTILITIES AND STRUCTURES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCING WORK.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLISHING OR RELOCATING ANY SITE FEATURES ACCORDING TO PLAN OR AS APPROPRIATE TO FACILITATE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
3. ANY ITEM NOT INDICATED FOR REMOVAL SHALL REMAIN AND BE PROTECTED BY THE CONTRACTOR DURING ALL PHASES OF CONSTRUCTION. ANY SUCH ITEM THAT IS REMOVED AND/OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE REQUIRED STANDARD AT THE CONTRACTOR'S EXPENSE.
4. ALL CONCRETE AND ASPHALT PAVEMENT TO BE REMOVED SHALL BE SAW CUT TO THE FULL DEPTH OF PAVEMENT. THE CONTRACTOR SHALL TAKE CARE TO MAINTAIN A CLEAN EDGE OF PAVEMENT.
5. PRIOR TO REMOVING, RELOCATING, OR PERFORMING ANY WORK ON A UTILITY, THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY OWNER.
6. REMOVAL OF EXISTING LANDSCAPING SHALL INCLUDE STUMPS.
7. ALL DEMOLISHED MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN LEGALLY DESIGNATED DISPOSAL AREA.
8. ALL WORK SHALL COMPLY WITH CURRENT CITY OF ANN ARBOR STANDARDS.
9. ALL ON-SITE FEATURES AND UTILITIES ARE TO BE REMOVED UNLESS OTHERWISE NOTED.
10. ALL EXISTING FRANCHISE UTILITIES ARE TO BE REMOVED BY OR PER THE PARTY HAVING JURISDICTION.
11. UTILITY SERVICE LEADS SERVING THE EXISTING STRUCTURE TO BE DEMOLISHED MUST BE PERMANENTLY DISCONNECTED AT THEIR RESPECTIVE UTILITY MAIN.

LEGEND

- CONCRETE TO BE REMOVED
- BITUMINOUS TO BE REMOVED
- UTILITY TO BE ABANDONED
- CURB TO BE REMOVED
- TREE TO BE REMOVED
- (REL) ITEM TO BE RELOCATED
- (REM) ITEM TO BE REMOVED

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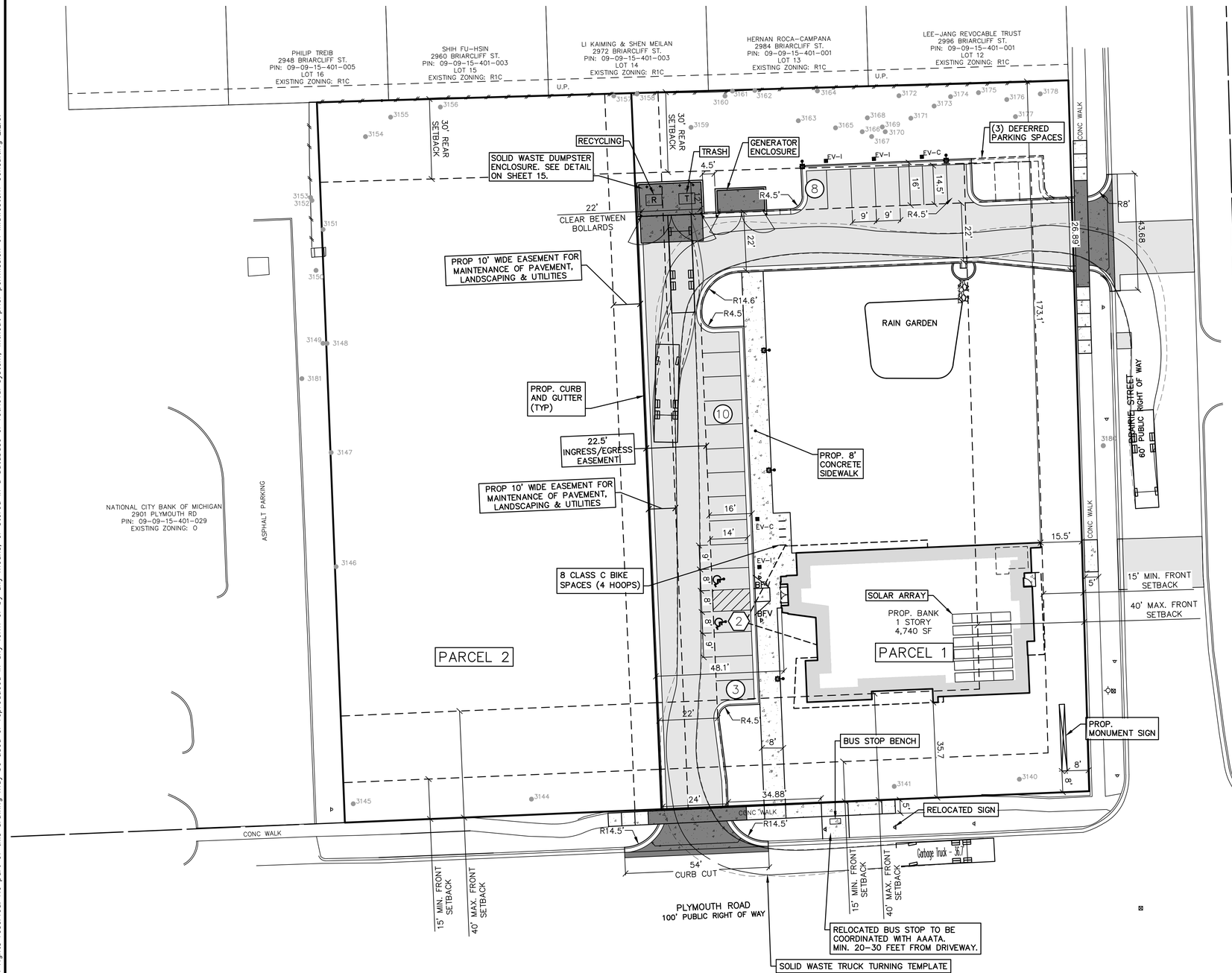
SITE PLAN
DEMOLITION AND REMOVALS PLAN

05

DATE: 07/20/2023
SHEET 05 OF 25
CADD: SFG
ENG: TPH
PM: TPH
TECH:
22073EX1

JOB No. 22073

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/25/23
PER MUNICIPAL REVIEW	09/22/23



SCALE: 1" = 20'

0 20 40 60

Know what's below. Call before you dig.

NOTES

1. ALL DIMENSIONS ARE MEASURED TO THE PAINT LINE OR FACE OF CURB UNLESS OTHERWISE NOTED. ALL RADII DIMENSIONS SHOWN ARE TO BACK OF CURB UNLESS OTHERWISE NOTED.
2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH CURRENT STANDARDS, SPECIFICATIONS, AND GENERAL CONDITIONS OF THE AUTHORITY HAVING JURISDICTION.
3. REFER TO THE ARCHITECTURAL PLANS FOR DETAILS REGARDING THE SCOPE OF WORK FOR THE BUILDING ELEVATIONS, INTERIORS, AND APPURTENANCES.
4. THE CONTRACTOR SHALL CONTACT THE OWNER AND/OR ENGINEER PRIOR TO COMMENCING WORK SHOULD THERE BE ANY FIELD CONFLICTS WITH THE DESIGN INTENT.
5. BUS STOP SHALL BE LOCATED MIN. 20-30 FEET FROM DRIVEWAY PER AAATA CORRESPONDENCE.
6. PROPOSED SIGNAGE SHALL BE PERMITTED SEPARATELY FOLLOWING SITE PLAN APPROVAL IN ACCORDANCE WITH CITY REQUIREMENTS.
7. SIGN RE-USE OR RELOCATION INCLUDES THE INSTALLATION OF EXISTING SIGN ON A NEW POST.

LEGEND

- (0) NUMBER OF STANDARD PARKING SPACES IN ROW
- [0] NUMBER OF SMALL CAR PARKING SPACES IN ROW
- ⟨0⟩ NUMBER OF BARRIER FREE PARKING SPACES IN ROW
- BF BARRIER FREE PARKING SIGN
- BFV VAN ACCESSIBLE BARRIER FREE PARKING SIGN
- R BARRIER FREE SIDEWALK RAMP
- PROP. CURB & GUTTER
- PROP. BITUMINOUS PAVEMENT
- PROP. CONCRETE PAVEMENT
- PROP. HEAVY DUTY CONCRETE
- PROP. BITUMINOUS PAVEMENT, RIGHT OF WAY
- SIGN
- PROP. SINGLE LIGHT
- PROP. DOUBLE LIGHT
- EV-I PROP. ELECTRIC VEHICLE CHARGING STATION - INSTALLED
- EV-R PROP. ELECTRIC VEHICLE CHARGING STATION - READY

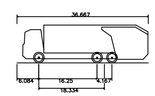
SOLID WASTE NARRATIVE

ASSUME 1 LB SOLID WASTE = 0.01 LOOSE CY

GENERATION RATE:
0.01 LB/SF/DAY
0.06 LB/SF/WEEK
BUILDING SF = 4740
APPROX. LOOSE CY/WEEK = 0.06 * 4740 * 0.01 = 2.9 CY/WEEK

ASSUME RECYCLING GENERATED AT THE SAME RATE

BASED ON THE ABOVE CALCULATIONS IT IS ESTIMATED THAT THE BUSINESS MAY GENERATE ~3 CY OF SOLID WASTE AND RECYCLING (EACH) PER WEEK. THE PROPOSED SOLID WASTE DUMPSTER ENCLOSURE WILL INCLUDE (2) 6 CY DUMPSTERS, 1 FOR SOLID WASTE AND 1 FOR RECYCLING. THIS SHOULD ACCOMMODATE THE EXPECTED SOLID WASTE AND RECYCLING GENERATION IF COLLECTED ONCE PER WEEK.



Garbage Truck - 36.7'	
Overall Length	36.667ft
Overall Width	8.750ft
Overall Body Height	10.554ft
Min Body Ground Clearance	1.007ft
Track Width	8.417ft
Lock-to-lock time	6.0os
Curb to Curb Turning Radius	33.895ft

SOLID WASTE TRUCK

SCALE : NTS

PROPOSED LEGAL DESCRIPTIONS

PARCEL 1:

BEGINNING at the Northeast corner of "Outlot A" of North Campus Heights Subdivision, as recorded in Liber 15 of Plats, Pages 27 and 28, Washtenaw County Records, Washtenaw County, Michigan;
thence S01°11'40"E 266.85 feet along the West line of Prairie Street (60 feet wide);
thence S88°04'30"W 160.52 feet along the North line of Plymouth Road (100 feet wide);
thence N01°55'30"W 268.91 feet;
thence N88°48'20"E 163.94 feet along the North line of said "Outlot A" to the POINT OF BEGINNING. Being a part of the Easterly portion of said "Outlot A", part of vacated Plymouth Road and a part of the SW 1/4 of Section 14, T2S, R6E, City of Ann Arbor, Washtenaw County Michigan and containing 1.00 acres of land more or less. Being subject to any easements and restrictions of record, if any.

PARCEL 2:

Commencing at the Northeast corner of "Outlot A" of North Campus Heights Subdivision, as recorded in Liber 15 of Plats, Pages 27 and 28, Washtenaw County Records, Washtenaw County, Michigan; thence S88°48'20"W 163.94 feet along the North line of said "Outlot A" to the **POINT OF BEGINNING**;
thence S01°55'30"E 268.91 feet;
thence S88°04'30"W 118.85 feet along the North line of Plymouth Road (100 feet wide);
thence N01°44'00"W 270.42 feet;
thence N88°48'20"E 117.95 feet along said North line of "Outlot A" to the POINT OF BEGINNING. Being a part of the Easterly portion of said "Outlot A", part of vacated Plymouth Road and a part of the SW 1/4 of Section 14, T2S, R6E, City of Ann Arbor, Washtenaw County Michigan and containing 0.73 acres of land more or less. Being subject to any easements and restrictions of record, if any.

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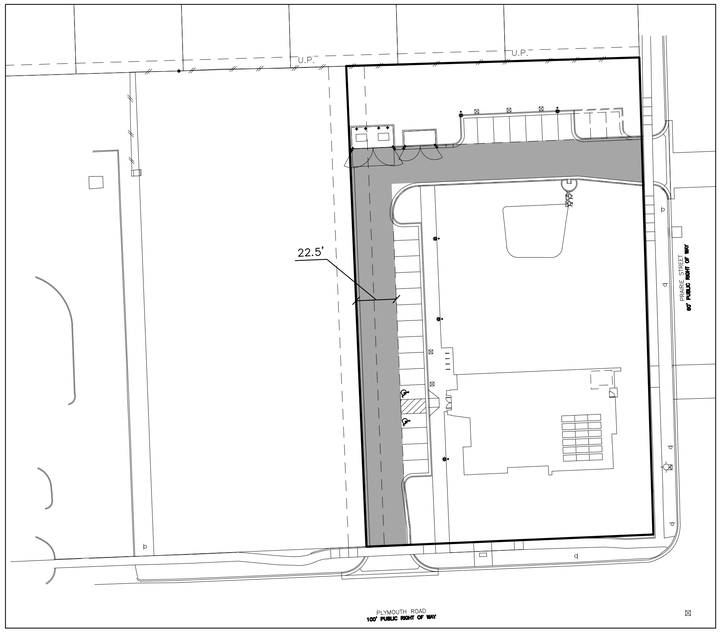
SITE PLAN
DIMENSIONAL SITE PLAN

06

DATE: 07/20/2023
SHEET 06 OF 25
CADD: SFG
ENG.: TPH
PM: TPH
TECH:
F:\22073SP1

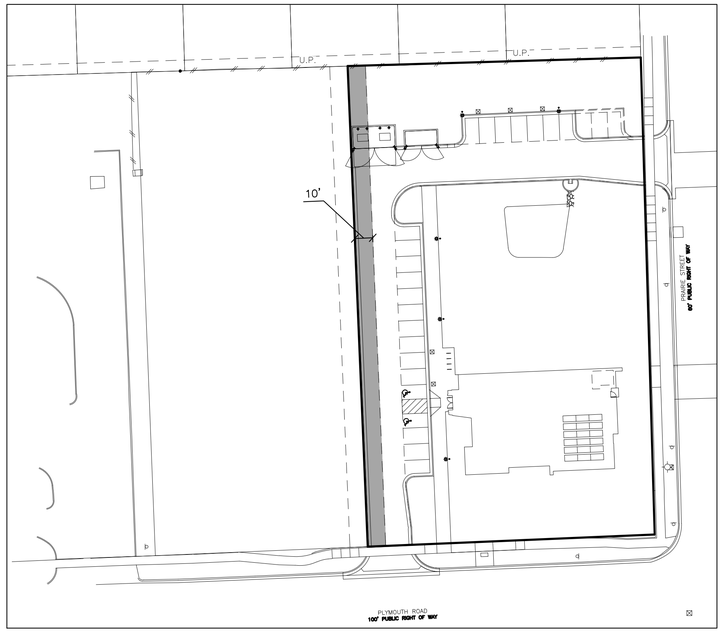
JOB No. 22073

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/18/23
PER MUNICIPAL REVIEW	09/22/23



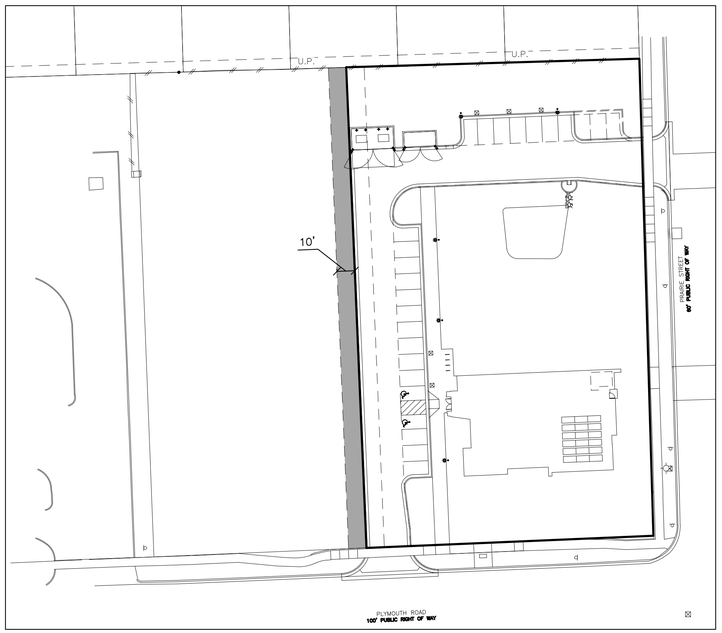
PERMANENT INGRESS/EGRESS EASEMENT

EASEMENT ON PROPOSED EASTERN PARCEL PROVIDING
INGRESS/EGRESS RIGHTS TO WESTERN PARCEL



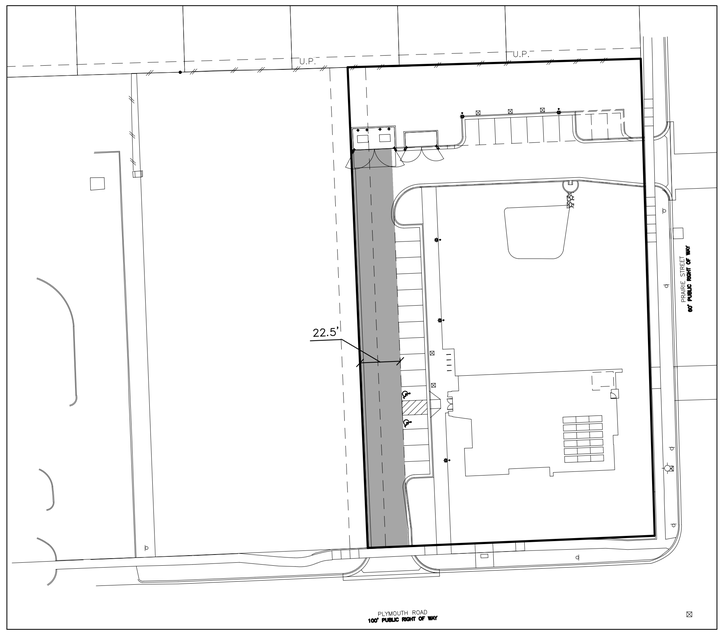
PERMANENT MAINTENANCE EASEMENT

EASEMENT ON PROPOSED EASTERN PARCEL PROVIDING
RIGHTS TO WESTERN PARCEL TO PERFORM MAINTENANCE OF
LANDSCAPING, PAVEMENT, AND UTILITIES



PERMANENT MAINTENANCE EASEMENT

EASEMENT ON PROPOSED WESTERN PARCEL PROVIDING
RIGHTS TO EASTERN PARCEL TO PERFORM MAINTENANCE OF
LANDSCAPING, PAVEMENT, AND UTILITIES



TEMPORARY CONSTRUCTION EASEMENT

EASEMENT ON PROPOSED EASTERN PARCEL ALLOWING IMPACTS
RESULTING FROM CONSTRUCTION OF PAVEMENT, UTILITIES, AND/OR
LANDSCAPING FOR DEVELOPMENT OF WESTERN PARCEL

SCALE: 1" = 40'

0 40 80 120

Know what's **below.**
Call before you dig.

NOTES

1. A JOINT APPLICATION SIGNED BY BOTH PARCEL OWNERS (AT SUCH TIME THE WESTERN PARCEL IS SOLD) WILL BE REQUIRED TO ALLOW THE SHARED DRIVEWAY/OPENING/APPROACH TO EXIST CLOSER THAN 4.5 FEET FROM THE PROPOSED PROPERTY LINE.
2. WRITTEN PERMISSION WILL BE REQUIRED FROM WESTERN PARCEL OWNER (AT SUCH TIME THE WESTERN PARCEL IS SOLD) ALLOWING THE CURB CUT TO EXIST BEYOND THE EXTENSION OF THE PROPERTY LINE INTO THE PLYMOUTH ROAD R.O.W.

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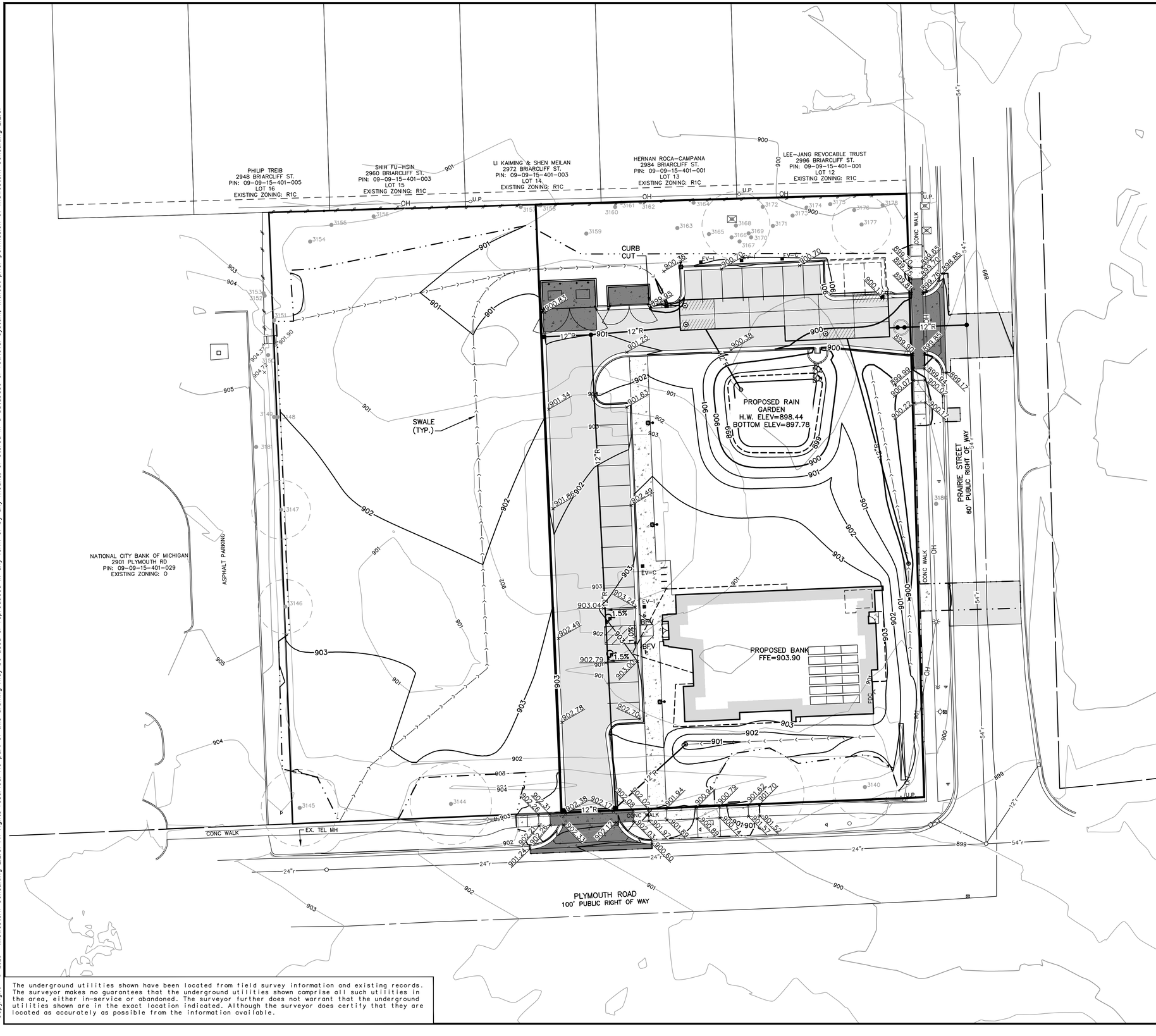
SITE PLAN
PROPOSED EASEMENT PLAN

06A

JOB No. 22073

DATE: 07/20/2023
SHEET 06A OF 25
CADD:
ENG: TPH
PM: TPH
TECH:
22073MS1.dwg

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/07/23
PER MUNICIPAL REVIEW	09/22/23



SCALE: 1" = 20'

0 20 40 60

811 Know what's below. Call before you dig.

NOTES

1. GRADES AT ADA ACCESS AISLES AND BARRIER FREE PARKING STALLS SHALL NOT EXCEED 2.0% SLOPE.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE DURING AND AFTER CONSTRUCTION, AND NO ADVERSE IMPACTS WILL OCCUR TO NEIGHBORING PROPERTIES DURING OR AFTER COMPLETION OF CONSTRUCTION.
3. ALL STORM SEWER AND UTILITY STRUCTURE RIMS SHALL BE FLUSH WITH PAVEMENT OR FINISHED GRADE.
4. ALL DISTURBED AREAS TO BE RESTORED AS NOTED ON PLAN.
5. PROPOSED CURB & GUTTER, PAVEMENT AND SIDEWALK TO MATCH EXISTING PAVEMENT/SIDEWALK GRADE AT REMOVAL LIMITS.
6. SIDEWALKS CONSTRUCTED IN THE PUBLIC RIGHT-OF-WAY SHALL MEET ALL REQUIREMENTS AND GUIDELINES AS SET FORTH IN THE ADA STANDARDS FOR ACCESSIBLE DESIGN.

LEGEND

- EXIST. CONTOUR
- PROP. CONTOUR
- EXIST. SPOT ELEVATION
- PROP. SPOT ELEVATION
- EXIST. UTILITY POLE
- EXIST. UTILITY POLE W/ TRANS.
- GUY WIRE
- ELEC. TRANSFORMER
- EXIST. AC UNIT
- EXIST. GENERATOR
- EXIST. OVERHEAD UTILITY LINE
- EXIST. LIGHT POLE
- PROP. LIGHT POLE
- EXIST. TELEPHONE LINE
- EXIST. ELECTRIC LINE
- EXIST. GAS LINE
- EXIST. GAS VALVE
- EXIST. FIBER OPTIC LINE
- EXIST. WATER MAIN
- PROP. WATER MAIN
- EXIST. HYDRANT
- PROP. HYDRANT
- EXIST. GATE VALVE IN BOX
- PROP. GATE VALVE IN BOX
- EXIST. GATE VALVE IN WELL
- PROP. GATE VALVE IN WELL
- EXIST. CURB STOP & BOX
- PROP. CURB STOP & BOX
- REDUCER
- EXIST. BLOW-OFF
- PROP. BLOW-OFF
- POST INDICATOR VALVE
- POST INDICATOR VALVE
- THRUST BLOCK
- PROP. KNOXBOX
- EXIST. FIRE DEPARTMENT CONNECTION
- PROP. FIRE DEPARTMENT CONNECTION
- EXIST. STORM SEWER
- PROP. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
- EXIST. BEEHIVE INLET
- PROP. BEEHIVE INLET
- PROP. ROOF DRAIN
- END SECTION
- HEAD WALL
- CULVERT
- EXIST. DOWNSPOUT
- PROP. DOWNSPOUT
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. CLEANOUT
- PROP. CLEANOUT
- C/L OF DITCH
- DRAINAGE DIRECTION
- SIGN
- SINGLE TREE
- TREE OR BRUSH LIMIT
- FENCE
- SILTFENCE
- LIMITS OF DISTURBANCE
- CONSTRUCTION FENCE
- FF FINISH FLOOR ELEVATION
- SWALE

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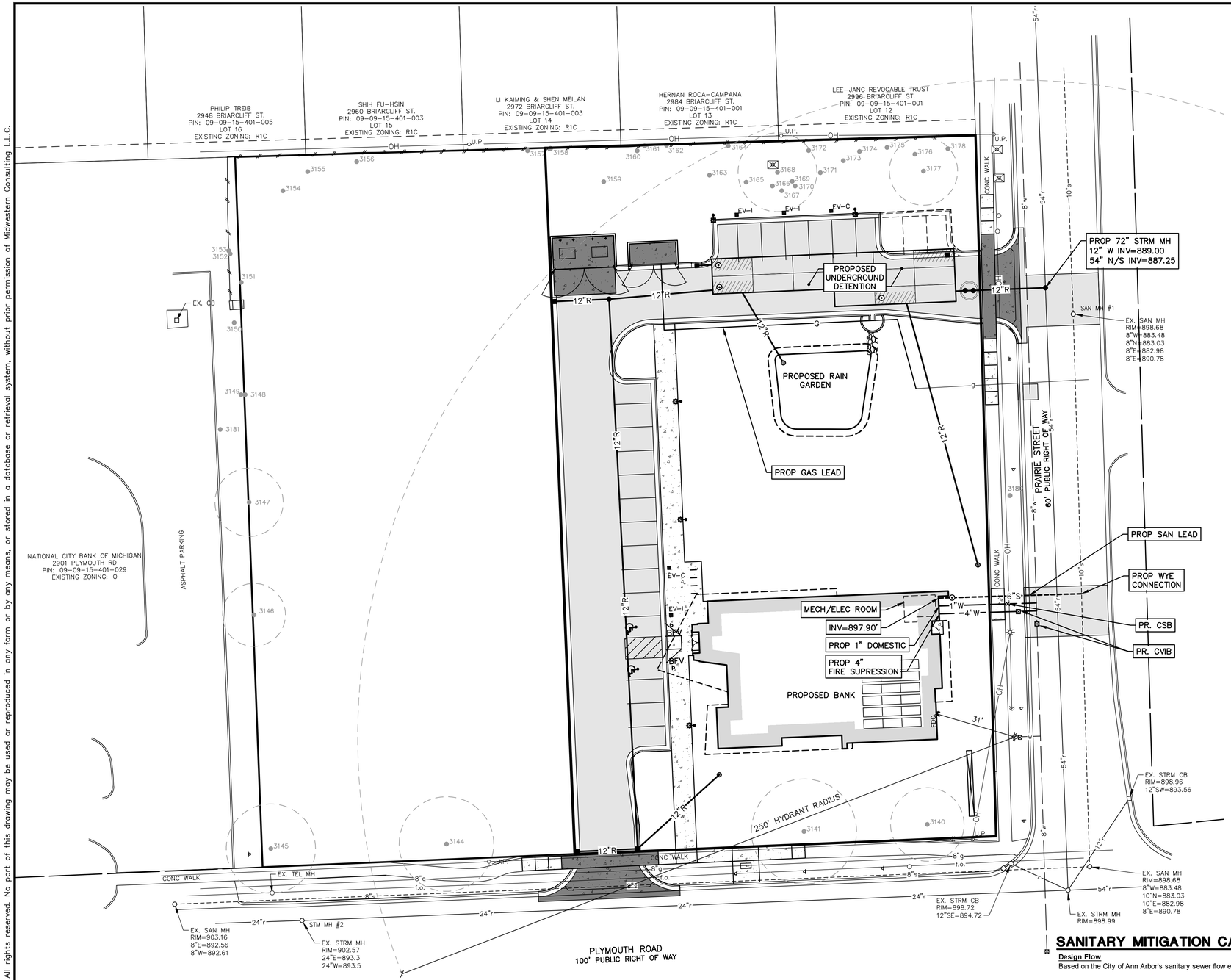
SITE PLAN
GRADING PLAN

07

DATE: 07/20/2023
SHEET 07 OF 25
CADD: SFG
ENG: TPH
PM: TPH
TECH:
I:\22073\GP1

JOB No. 22073

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	09/22/23
PER MUNICIPAL REVIEW	09/22/23



NOTES

1. ALL UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ANN ARBOR STANDARD DETAILS AND SPECIFICATIONS UNLESS NOTED OTHERWISE.
2. ALL BUILDING ROOF DRAINS TO TIE INTO PROPOSED STORM SEWER SYSTEM.
3. NO FIREWALLS ARE PROPOSED WITHIN THE BUILDING.
4. EXISTING BUILDING ON SITE DOES NOT HAVE BASEMENT. BUILDINGS WITHOUT BASEMENTS ARE ASSUMED TO NOT HAVE FOOTING DRAINS.
5. DEVELOPER OFFSET MITIGATION IS NOT REQUIRED FOR THIS PROJECT. CREDIT FOR REDUCTION IN DRY WEATHER FLOWS IS CALCULATED AS FOLLOWS (SEE SANITARY MITIGATION CALCULATIONS FOR REFERENCE):
   EXISTING DRY WEATHER FLOW = 1,945 GPD
   PROPOSED DRY WEATHER FLOW = 284 GPD
   NET REDUCTION = 1,945 – 284 = 1,661 GPD = 1 GPM
6. BOOSTER PUMPS WILL BE PROVIDED FOR DOMESTIC AND FIRE WATER SERVICES IF NECESSARY.
7. ALL STORM SEWER TO BE C-76 CL. IV RCP UNLESS OTHERWISE NOTED
8. ALL SANITARY SEWER TO BE SDR 35 PVC UNLESS OTHERWISE NOTED.
9. 4" AND LARGER PROPOSED WATER MAIN PIPE MATERIAL SHALL BE CL50 OR PRESSURE CL350 DIP W/POLYWRAP, UNLESS OTHERWISE SPECIFIED.
10. ALL WATER MAIN 2" AND SMALLER TO BE TYPE K COPPER

SCALE: 1" = 20'

0 20 40 60

811 Know what's below. Call before you dig.

LEGEND

U.P.	EXIST. UTILITY POLE
U.P.	EXIST. UTILITY POLE W/ TRANS.
GP	EXIST. GUY POLE
	GUY WIRE
	ELEC. TRANSFORMER
	EXIST. AC UNIT
	EXIST. GENERATOR
OH	EXIST. OVERHEAD UTILITY LINE
	EXIST. LIGHT POLE
	PROP. LIGHT POLE
	PROP. BUILDING LIGHT
t	EXIST. TELEPHONE LINE
T	PROP. TELEPHONE LINE
e	EXIST. ELECTRIC LINE
E	PROP. ELECTRIC LINE
g	EXIST. GAS LINE
G	PROP. GAS LINE
g	EXIST. GAS VALVE
f.o.	EXIST. FIBER OPTIC LINE
F.O.	PROP. FIBER OPTIC LINE
w	EXIST. WATER MAIN
W	PROP. WATER MAIN
	EXIST. HYDRANT
	PROP. HYDRANT
	EXIST. GATE VALVE IN BOX
	PROP. GATE VALVE IN BOX
	EXIST. GATE VALVE IN WELL
	PROP. GATE VALVE IN WELL
	EXIST. CURB STOP & BOX
	PROP. CURB STOP & BOX
	REDUCER
	EXIST. BLOW-OFF
	PROP. BLOW-OFF
P.I.V.	POST INDICATOR VALVE
P.I.V.	POST INDICATOR VALVE
	THRUST BLOCK
fdc	EXIST. FIRE DEPARTMENT CONNECTION
FDC	PROP. FIRE DEPARTMENT CONNECTION
KB	PROP. KNOXBOX
r	EXIST. STORM SEWER
R	PROP. STORM SEWER
	EXIST. CATCH BASIN OR INLET
	PROP. CATCH BASIN OR INLET
	EXIST. BEEHIVE INLET
	PROP. BEEHIVE INLET
RD	PROP. ROOF DRAIN
	END SECTION
	HEAD WALL
	CULVERT
ds	EXIST. DOWNSPOUT
DS	PROP. DOWNSPOUT
s	EXIST. SANITARY SEWER
S	PROP. SANITARY SEWER
	EXIST. CLEANOUT
	PROP. CLEANOUT
t	TELEPHONE RISER
catv	CABLE TELEVISION RISER
e	ELECTRIC METER
w	WATER METER
scb	SPRINKLER CONTROL BOX
g	GAS METER
glm	GAS LINE MARKER
fiber	FIBER OPTIC MARKER
ped	PEDESTRIAN CROSSING SIGNAL
tscb	TRAFFIC SIGNAL CONTROL BOX
VCS	PROP. VEHICLE CHARGING STATION

SANITARY MITIGATION CALCULATIONS

Design Flow
Based on the City of Ann Arbor's sanitary sewer flow evaluation Table 'A', the design dry weather flow rate will be:

Bank Building
4,740 sft Bank (per "Non-Medical Office Space" in Table A) 0.06 gpd/sft of gfa = 284 gpd
Total 284 gpd

Existing Flow
Based on the City of Ann Arbor's sanitary sewer flow evaluation Table 'A', the exisiting design dry weather flow

32,422 sft Non-Medical Office Space 0.06 gpd/sft of gfa = 1945 gpd
Total 1945 gpd

Mitigation Flow
Mitigation Flow = (Proposed Flow - Existing Flow)
Mitigation Flow = 284 gpd - 1945 gpd = -1661.0 gpd
= **-1.2 gpm**

EXISTING BUILDINGS ON SITE DO NOT HAVE BASEMENTS. BUILDINGS WITHOUT BASEMENTS ARE ASSUMED TO NOT HAVE FOOTING DRAINS.

AS THE PROJECT WILL NOT INCREASE THE SANITARY FLOW, DEVELOPER OFFSET MITIGATION IS NOT REQUIRED. AS A RESULT OF THE NET REDUCTION IN SANITARY SEWER FLOW, A CREDIT MAY BE AVAILABLE FOR THE REDUCTION IN DRY WEATHER FLOWS. THE PEAKING AND SYSTEM RECOVERY FACTORS WILL NOT BE APPLIED TO THE REDUCED FLOW FOR THE PURPOSE OF DETERMINING AVAILABLE DEVELOPER OFFSET MITIGATION CREDITS.

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SITE PLAN
UTILITY PLAN

08

DATE: 07/20/2023
SHEET 08 OF 25
CADD: SFG
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SOIL EROSION CONSTRUCTION NOTES

1. ALL SOIL EROSION CONTROL MEASURES SHALL COMPLY WITH THE CURRENT CITY OF ANN ARBOR ORDINANCES, WASHTENAW COUNTY STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND STATE OF MICHIGAN "SOIL EROSION AND SEDIMENTATION CONTROL ACT" (ACT #347).

2. PRIOR TO COMMENCING EARTHMOVING OPERATIONS, THE GRADING CONTRACTOR SHALL INSTALL THE MUD TRACKING MAT, THE SILT FENCE AND TEMPORARY GRAVEL FILTER(S) SHOWN ON THE PLANS.

3. ANY LAWN AREA WHICH WILL HAVE A SLOPE STEEPER THAN 6:1 (6 FT. MEASURED HORIZONTALLY AND 1 FT. MEASURED VERTICALLY) SHALL BE SODDED AND PEGGED OR SEEDED AND MULCHED USING A SOIL EROSION CONTROL FABRIC OR BLANKET. HYDROSEEDING MAY BE USED IN LIEU OF SEED AND MULCH OR SOD WHERE SLOPES ARE FLATTER THAN 6:1.

4. THE ACTUAL LOCATION OF THE MUD TRACKING MATS AND THE GRAVEL FILTERS MAY BE ADJUSTED BY THE CONTRACTOR TO MATCH CONTRACTOR'S OPERATIONS AND FIELD CONDITIONS BUT ONLY IF APPROVED BY THE ENGINEER.

5. ALL DISTURBED AREAS, EVEN WHERE FUTURE PAVEMENT AND BUILDINGS ARE PROPOSED, ARE TO BE REVEGETATED PER COUNTY STANDARDS FOR TEMPORARY SEEDING.

6. ESTIMATED EARTHWORK FOR THIS PROJECT IS 1,000 CY CUT AND 2,000 CY FILL. THIS IS AN ESTIMATE ONLY AND IS NOT TO BE USED FOR CONSTRUCTION OR ESTIMATING PURPOSES.

7. THE ESTIMATED COST OF PROTECTING ALL EXPOSED SURFACES FROM EROSION SHOULD CONSTRUCTION CEASE IS $3,000. (RESPREAD 3" TOPSOIL AND SEEDING)

SOIL EROSION MAINTENANCE REQUIREMENTS

1. ALL STRAW BALE AND/OR SILT FENCE SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. IF AT ANY TIME THE DEPTH OF SILT AND SEDIMENT COMES TO WITHIN 6" OF THE TOP OF ANY STRAW BALE OR WITHIN 12" OF THE TOP OF ANY SILT FENCE, ALL SILT AND SEDIMENT SHALL BE REMOVED TO ORIGINAL GRADE.

2. ALL TEMPORARY GRAVEL FILTERS SHOULD BE ADJUSTED AS TO LOCATION PER ACTUAL FIELD CONDITIONS. THE REMOVAL OF TRAPPED SEDIMENT AND THE CLEANOUT OR REPLACEMENT OF CLOGGED STONE MAY BE NECESSARY AFTER EACH STORM EVENT DURING THE PROJECT.

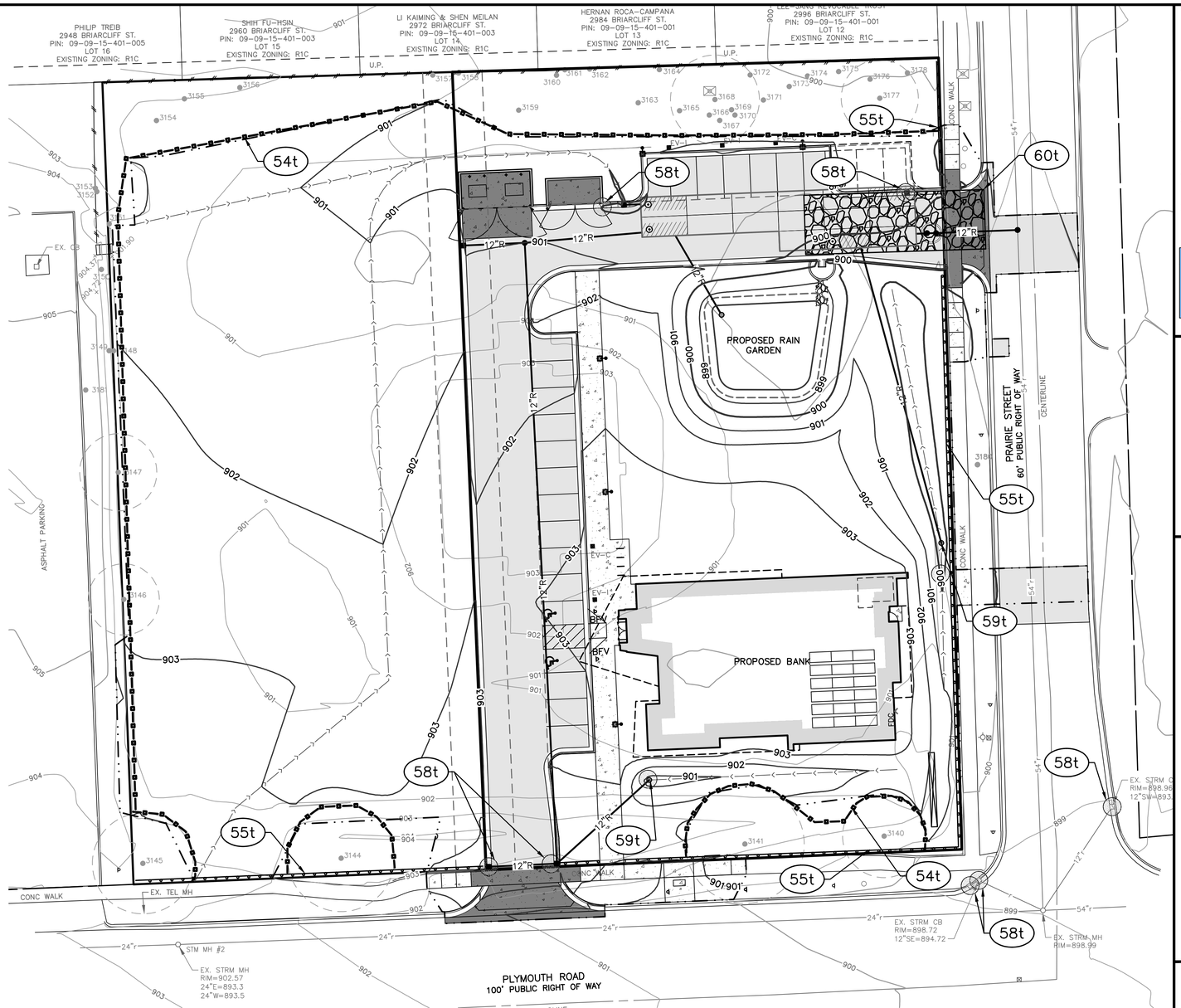
3. ONLY UPON STABILIZATION OF ALL DISTURBED AREAS MAY THE SILT FENCE, AND TEMPORARY GRAVEL FILTERS BE REMOVED. ALSO, ALL STORM SEWERS MUST BE CLEANED OF ALL SEDIMENT.

PROGRAM PROPOSAL

THE PROPOSED DEVELOPMENT IS INTENDED FOR COMMERCIAL USE. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPLACEMENT, IF NECESSARY, OF ANY AND ALL OF THE PERMANENT SOIL EROSION CONTROL FEATURES ASSOCIATED WITH SEDIMENT AND SOIL EROSION CONTROL WITHIN THE DEVELOPMENT. THE FINANCIAL IMPLICATIONS OF SAID MAINTENANCE WILL BE ADMINISTERED IN THE SAME MANNER AS OTHER MAINTENANCE NEEDS AS DETERMINED BY THE CITY OF ANN ARBOR.

LEGEND

838	EXIST. CONTOUR
838	PROP. CONTOUR
×836.2	EXIST. SPOT ELEVATION
36.60	PROP. SPOT ELEVATION
U.P.	EXIST. UTILITY POLE
U.P.	EXIST. UTILITY POLE W/ TRANS.
	GUY WIRE
	ELEC. TRANSFORMER
	EXIST. AC UNIT
	EXIST. GENERATOR
OH	EXIST. OVERHEAD UTILITY LINE
	EXIST. LIGHT POLE
	PROP. LIGHT POLE
t	EXIST. TELEPHONE LINE
e	EXIST. ELECTRIC LINE
g	EXIST. GAS LINE
g	EXIST. GAS VALVE
f.o.	EXIST. FIBER OPTIC LINE
w	EXIST. WATER MAIN
W	PROP. WATER MAIN
	EXIST. HYDRANT
	PROP. HYDRANT
	EXIST. GATE VALVE IN BOX
	PROP. GATE VALVE IN BOX
	EXIST. GATE VALVE IN WELL
	PROP. GATE VALVE IN WELL
	EXIST. CURB STOP & BOX
	PROP. CURB STOP & BOX
	REDUCER
	EXIST. BLOW-OFF
	PROP. BLOW-OFF
P.I.V.	POST INDICATOR VALVE
P.I.V.	POST INDICATOR VALVE
	THRUST BLOCK
KB	PROP. KNOXBOX
fdc	EXIST. FIRE DEPARTMENT CONNECTION
FDC	PROP. FIRE DEPARTMENT CONNECTION
r	EXIST. STORM SEWER
R	PROP. STORM SEWER
	EXIST. CATCH BASIN OR INLET
	PROP. CATCH BASIN OR INLET
	EXIST. BEEHIVE INLET
	PROP. BEEHIVE INLET
RD	PROP. ROOF DRAIN
	END SECTION
	HEAD WALL
	CULVERT
ds	EXIST. DOWNSPOUT
DS	PROP. DOWNSPOUT
s	EXIST. SANITARY SEWER
S	PROP. SANITARY SEWER
	EXIST. CLEANOUT
	PROP. CLEANOUT
	C/L OF DITCH
	DRAINAGE DIRECTION
	SIGN
	SINGLE TREE
	TREE OR BRUSH LIMIT
	FENCE
	SILTFENCE
	LIMITS OF DISTURBANCE
	CONSTRUCTION FENCE
FF	FINISH FLOOR ELEVATION
GF	GARAGE FLOOR ELEVATION
BFF	BASEMENT FINISH FLOOR ELEVATION



CONSTRUCTION SEQUENCE (WINTER 2023 - SPRING 2025)

1. SESC PRE-GRADING MEETING

2. INVENTORY SITE:
   - IDENTIFY CONSTRUCTION LIMITS.
   - INSTALL CONSTRUCTION FENCING.
   - DEFINE THE SITE ACCESS AND INSTALL MUD TRACKING MATS AS NEEDED.
   - DEFINE THE CONSTRUCTION STORAGE AREAS WITHIN THE GRADING LIMITS AS DEFINED ON THE PLANS.

3. DEMOLITION AND REMOVALS:
   - MAINTAIN EXISTING CONTROLS.
   - INSTALL SILT FENCE.
   - INSTALL STONE FILTERS ON EXISTING INLETS TO REMAIN.
   - TREE AND STUMP REMOVAL.
   - STRUCTURE AND UTILITY REMOVALS.

4. CONSTRUCT DETENTION SYSTEM:
   - MAINTAIN EXISTING CONTROLS.
   - CONSTRUCT THE STORM SEWER.
   - CONSTRUCT THE DETENTION CHAMBERS AND OUTLET (SEE MANUFACTURER'S INSTALLATION NOTES FOR SPECIFIC INSTRUCTIONS). THE DETENTION SYSTEM SHALL BE AS-BUILT VERIFIED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. REMOVAL OF ACCUMULATED SEDIMENT WILL BE REQUIRED PRIOR TO THE ISSUANCE OF CERTIFICATES OF OCCUPANCY.
   - INSTALL INLET FILTERS ON INLETS INTO THE DETENTION BASIN AFTER THEY HAVE BEEN BACKFILLED. INSTALL SEDIMENT FILTERS ON COMPLETED CATCH BASINS AND INLETS.

5. MASS GRADING AND UTILITY CONSTRUCTION:
   - MAINTAIN EXISTING CONTROLS.
   - MASS GRADE THE SITE.
   - CONNECT WATER AND SANITARY SERVICE LEADS IN PRAIRIE ST.
   - TEMPORARY SEED AND MULCH DISTURBED AREAS WHERE PRACTICAL.
   - CONSTRUCT AND MAINTAIN FIRE DEPARTMENT ACCESS TO FLAMMABLE MATERIALS. SUPPORTING HYDRANTS SHALL BE INSTALLED AND OPERATIONAL PRIOR TO ISSUANCE OF INDIVIDUAL BUILDING PERMITS.

6. PAVEMENT BASE COURSE CONSTRUCTION:
   - MAINTAIN EXISTING CONTROLS.
   - THE AGGREGATE BASE COURSE FOR THE PARKING LOT SHALL BE INSTALLED PRIOR TO THE ISSUANCE OF FOUNDATION PERMIT FOR THE BUILDING.

7. BUILDING FOUNDATION CONSTRUCTION:
   - MAINTAIN EXISTING CONTROLS.
   - EXCAVATE FOR BUILDING FOUNDATION.
   - CONSTRUCT BUILDING FOUNDATION.

8. PAVE DRIVEWAYS AND PARKING LOT:
   - MAINTAIN EXISTING CONTROLS.
   - THE FIRST COURSE OF ASPHALT PAVING AND ALL ASSOCIATED CURBING TO BE IN PLACE PRIOR TO THE COMMENCEMENT OF VERTICAL CONSTRUCTION.
   - SEED AND MULCH (SEED AND MAT SLOPES GREATER THAN 3:1) DISTURBED AREAS BEHIND CURB WITHIN 5 DAYS OF ESTABLISHING FINAL GRADES.

9. FINE GRADE AND BUILDING CONSTRUCTION:
   - MAINTAIN EXISTING CONTROLS.
   - CONSTRUCT BUILDING.
   - FINE GRADE THE SITE.
   - REMOVE ACCUMULATED SEDIMENT FROM THE DETENTION SYSTEM.
   - SEED AND MULCH (SEED AND MAT SLOPES GREATER THAN 3:1) DISTURBED AREAS BEHIND CURB WITHIN 5 DAYS OF ESTABLISHING FINAL GRADES.
   - PLANT TREES, SHRUBS AND LANDSCAPE ITEMS PRIOR TO ISSUANCE OF THE CERTIFICATES OF OCCUPANCY.
   - INSTALL PERMANENT FENCING.

10. CLEAN-UP SITE:
    - SEED AND MULCH OR SOD AREAS THAT HAVE NOT TAKEN.
    - MAINTAIN EXISTING CONTROLS.

11. FOLLOW-UP AFTER THE SITE IS STABILIZED:
    - REMOVE SILT FENCE AND STONE FILTERS.
    - REMOVE CATCH BASIN FILTERS OR SILT SACKS.
    - REMOVE SILT FROM THE STORM SEWER SYSTEM.
    - FINAL REMOVAL OF SEDIMENT FROM THE DETENTION SYSTEM, IF NEEDED.

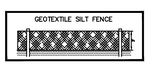
12. FINALIZE BUILDING CONSTRUCTION:
    - MAINTAIN PERMANENT SOIL EROSION CONTROL MEASURES
    - REMOVE CONSTRUCTION FENCING

NOTE: THE CONSTRUCTION SEQUENCE AND SCHEDULE IS PRELIMINARY AND SUBJECT TO ADJUSTMENT IN RESPONSE TO FORCES BEYOND OUR CONTROL. THESE MAY INCLUDE WEATHER, MATERIAL AVAILABILITY, LABOR UNREST, POLITICAL AND REGULATORY DELAYS, OR OTHER UNFORESEEN CIRCUMSTANCES.

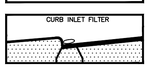
SOIL EROSION CONTROL MEASURES

t = temporary p = permanent

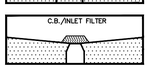
55 — GEOTEXTILE SILT FENCE



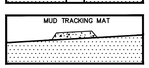
58 — CURB INLET FILTER



59 — C.B./INLET FILTER



60 — MUD TRACKING MAT



MAINTENANCE TASK AND SCHEDULE DURING CONSTRUCTION (by Contractor)

TASKS:	Storm Sewer System	Catch Basin Sumps	Catch Basin Inlet Silt Sacks	Outlet Control Structures	Detention System Forebay Units	Rain Garden	SCHEDULE:	ESTIMATED COST:
Inspect for sediment accumulation	X	X	X	X	X	X	Weekly and after every 1" storm event	$ 1,000
Removal of sediment accumulation	X	X	X	X	X	X	As needed and prior to turnover	$ 4,000
Inspect for floatable and debris	X	X	X	X	X	X	Quarterly and after every 1" storm event	$ 500
Cleaning of floatable and debris	X	X	X	X	X	X	Quarterly, as needed, and at turnover	$ 1,500
Make adjustments or replacements as determined by pre-turnover inspection	X	X	X	X	X	X	As needed	$ 5,000
							Total Construction Phase Cost Estimate	$ 12,000

* And as required for NPDES
* "As Needed" means when sediment has accumulated to one foot depth.

MAINTENANCE TASK AND SCHEDULE AFTER CONSTRUCTION (by Owner)

TASKS:	Catch Basin Sumps	Outlet Control Structures	Detention System Forebay Units	Rain Garden	SCHEDULE:	ESTIMATED COST:
Inspect for sediment accumulation	X	X	X	X	Yearly and after every 1" storm event	$ 200
Removal of sediment accumulation	X	X	X	X	As needed	$ 1,200
Inspect for floatable and debris	X	X	X	X	Yearly and after every 1" storm event	$ 100
Cleaning of floatable and debris	X	X	X	X	As needed	$ 200
					Total Annual Cost Estimate	$ 1,700

* "As Needed" means when sediment has accumulated to one foot depth.

SCALE: 1" = 20'

0 20 40 60

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SITE PLAN
SOIL EROSION CONTROL PLAN

09

DATE: 07/20/2023
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CADD: SFG
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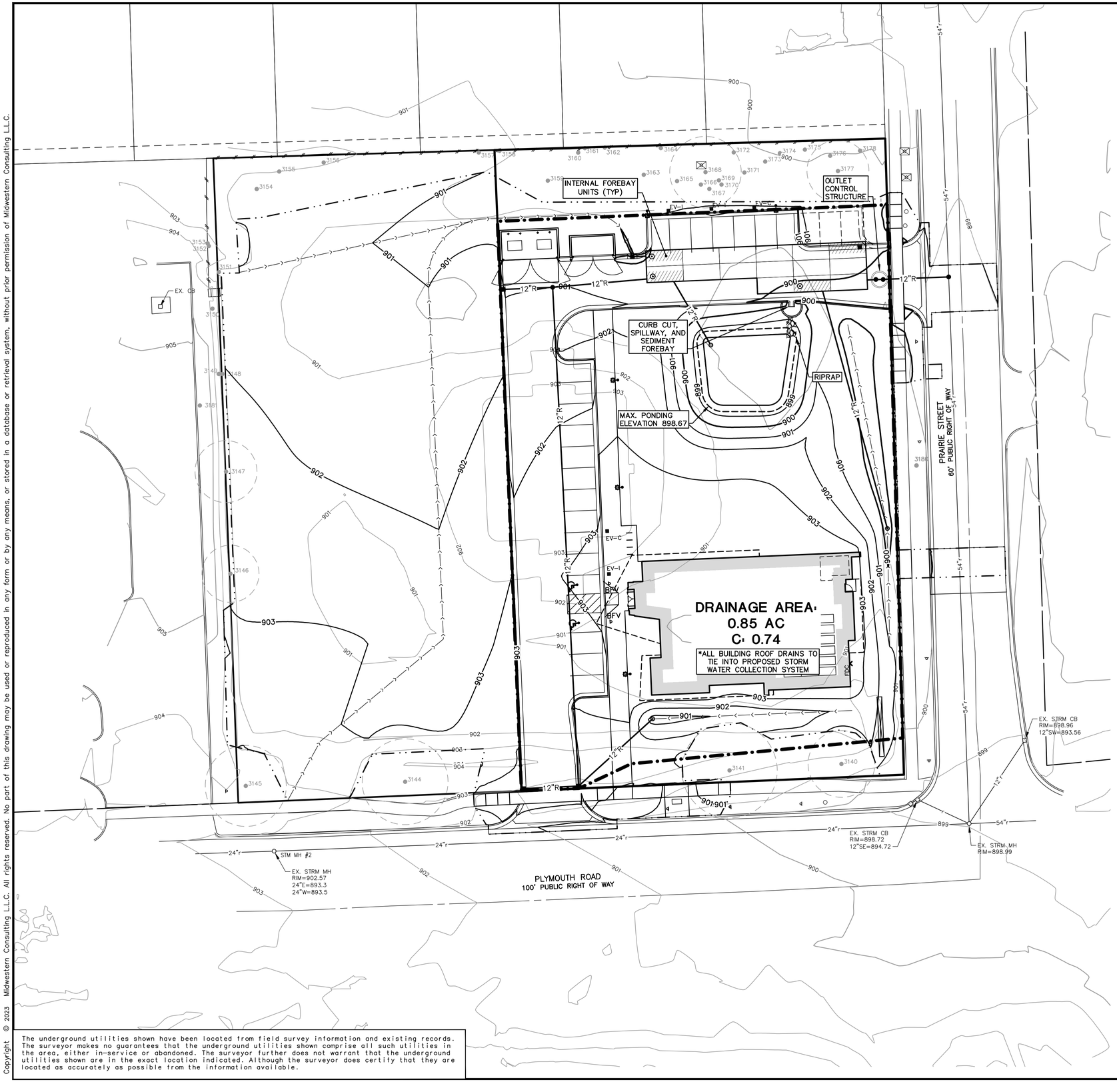

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LEGEND

- EXIST. STORM SEWER
- PROP. STORM SEWER
- EXIST. CATCH BASIN OR INLET
- PROP. CATCH BASIN OR INLET
- RD PROP. ROOF DRAIN
- EXIST. CLEANOUT
- PROP. CLEANOUT
- PROP. DRAINAGE AREA BOUNDARY
- 1.17 AC PROP. DRAINAGE AREA LABEL

SCALE: 1" = 20'
0 20 40 60

811 Know what's below. Call before you dig.

STORMWATER MANAGEMENT NARRATIVE

THE EXISTING DEVELOPED SITE DRAINS TO SEVERAL CATCH BASIN INLETS IN THE PARKING AREAS. THERE IS NO EXISTING DETENTION SYSTEM. THE SITE'S RUNOFF IS COLLECTED VIA THE CATCH BASINS THEN CONVEYED TO THE NORTH END OF THE SITE AND THEN DISCHARGED DIRECTLY TO THE PUBLIC STORM SEWER IN PRAIRIE STREET.

THE PROPOSED STORMWATER MANAGEMENT SYSTEM CONSISTS OF UNDERGROUND DETENTION CHAMBERS LOCATED IN THE NORTH END OF THE SITE, AS WELL AS A RAIN GARDEN IN THE MAIN LANDSCAPE AREA.

A MAJORITY OF RUNOFF WILL BE COLLECTED INTO THE PROPOSED STORM SEWER SYSTEM VIA CATCH BASINS IN THE PARKING LOT AND YARD BASINS ON THE SIDES OF THE BUILDING THAT FRONT PLYMOUTH ROAD AND PRAIRIE STREET, THEN WILL BE ROUTED TO THE UNDERGROUND CHAMBERS. PORTIONS OF THE PRAIRIE STREET ACCESS DRIVE WILL FLOW INTO THE RAIN GARDEN VIA A CURB CUT. AN OVERFLOW STRUCTURE IN THE RAIN GARDEN WILL ALLOW PONDING WATER TO OVERFLOW INTO THE UNDERGROUND DETENTION CHAMBERS. AN OUTLET PIPE WILL DISCHARGE WATER FROM THE CHAMBERS INTO AN OUTLET CONTROL STRUCTURE, WHICH WILL THEN SLOWLY RELEASE STORM WATER INTO THE EXISTING CITY STORM SEWER IN PRAIRIE STREET.

EMERGENCY DISCHARGE WILL FLOW OVER A WEIR WALL IN THE OUTLET CONTROL STRUCTURE AND BYPASS THE CONTROLLED RELEASE ORIFICES.

QUALITY CONTROL WILL BE PROVIDED BY UTILIZING SEQUESTERED FOREBAY UNITS WITHIN THE DETENTION CHAMBERS AS WELL AS THE RAIN GARDEN ITSELF. INFILTRATION WILL NOT BE INCORPORATED INTO THE DESIGN BECAUSE OF THE NATIVE CLAY SOILS THAT DO NOT EXHIBIT INFILTRATION CAPACITY.

THE PROPOSED SYSTEM DESCRIBED ABOVE IS DESIGNED TO ACCOMMODATE THE PORTION OF THE SITE THAT IS PROPOSED TO BE REDEVELOPED. THE PORTION OF THE SITE THAT IS TO BE DEMOLISHED AND SEEDED WITH GRASSES WILL BE GRADED SUCH THAT RUNOFF WILL BE DIRECTED TOWARD PROPOSED INLETS AND THEN BYPASSED THROUGH THE PROPOSED DETENTION SYSTEM.

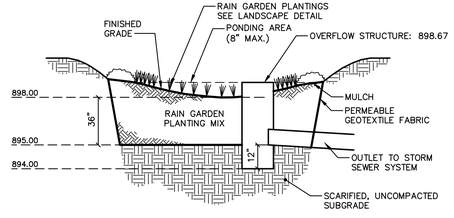
STORMWATER MAINTENANCE SCHEDULE

PERMANENT MAINTENANCE TASKS AND SCHEDULE

TASKS	Streets	Storm Sewer System	Catch Basin Sumps	Catch Basin Inlet Casings	Ditches & Swales	Outflow Control Structures	Filtration Basins	Storm Detention Areas	Emergency Overflow	Schedule
Inspect for sediment accumulation		X	X		X	X	X	X		annually
Removal of sediment accumulation		X	X		X	X	X	X		every 2 yrs as needed
Inspect for floatables and debris				X	X	X	X	X		annually
Cleaning of floatables and debris				X	X	X	X	X		as needed
Clean Streets	X									semi-annually
Inspect stormwater system components during wet weather and compare to as-built plans (by professional engineer)		X	X	X	X	X	X	X	X	annually
Make adjustment or replacements as determined by annual wet weather inspection		X	X	X	X	X	X	X	X	as needed
Keep records of all inspections and maintenance activities										annually
Keep records of all costs for inspections, maintenance and repairs.										annually

STORMWATER MAINTENANCE PLAN

1. Responsibility for Maintenance:
   a. During construction, it is the contractor's responsibility to perform maintenance.
   b. Following construction, it will be the responsibility of the owner to perform maintenance.
2. Maintenance Tasks and Schedule:
   a. See the chart on this sheet. The chart describes maintenance tasks to be performed.
   b. Immediately following construction, the developer will have the stormwater management system inspected by an engineer to verify grades of the infiltration basin and make recommendations for any necessary sediment removal.



NOTES:
1. RAIN GARDEN PLANTING SOIL SHALL HAVE A SANDY LOAM, LOAMY SAND, OR LOAM TEXTURE PER THE USDA TEXTURAL TRIANGLE. THE SOIL MIXTURE SHOULD HAVE PH BETWEEN 5.5 AND 6.6. THE SOIL MIXTURE SHALL HAVE MAXIMUM CLAY CONTENT OF 10% AND 20-30% COMPOST. PRE-SOAK PRIOR TO VEGETATION PLANTING TO AID IN SETTLEMENT.
2. RAIN GARDEN PLANTING MIXTURE SHALL HAVE AN INFILTRATION RATE GREATER THAN 0.5 IN/HR. PERMEABILITY SHALL BE VERIFIED BY INFILTRATION PRIOR TO ACCEPTANCE.
3. REMOVE STONES, ROOTS, PLANTS, SOD, CLODS, CLAY LUMPS, POCKETS OF COARSE BUILDIN DEBRIS, AND OTHE EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH. PLANTING SOIL SHALL BE FREE OF WEED SEED INCLUDING BUT NOT LIMITED TO BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, MUGWORT, NUTSEDGE, POISON IVY, CANADIAN THISTLE, TEARTHUB, ETC.
4. SAND SHALL BE CLEAN AND FREE OF DELETERIOUS MATERIALS.
5. MULCH SHALL CONSIST OF SHREDDED HARDWOOD MULCH, MDOT QUALITY PRODUCT LIST.

RAIN GARDEN DETAIL

NO SCALE

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SITE PLAN
STORMWATER MANAGEMENT PLAN

10

DATE: 07/20/2023
SHEET 10 OF 25
CADD: SFG
ENG.: TPH
PM.:
TECH:
22073DA1.PSP

JOB No. 22073

REVISIONS:
REV.	DATE
PER MUNICIPAL REVIEW	09/22/23
PER MUNICIPAL REVIEW	

DETENTION CALCULATIONS

W1 - Determining Post-Development Cover Types, Areas, Curve Numbers, and Runoff Coefficients

Total Site Area (Property Limits) **1.00 ac**
Tributary Area (Area draining to the underground chambers) **0.85 ac** (the area draining to this basin)
Area Excluding "Self-Crediting" BMPs* **0.85 ac**
*** Used for remainder of calculations below**

Rational Method Variables
(for first flush)

0.25 for pervious surfaces, Soil Type B, slope <4%
0.95 for building roofs, driveways, and roadways

Cover Type	Soil Type	Area (sft)	Area (ac)	Runoff Coeff. (C)	(C) (Area)
Roof/Bldg.		5,505	0.13	0.95	0.12
Walk/P.vmt		13,808	0.32	0.95	0.30
Landscape, <4%	B	17,894	0.41	0.25	0.10
Total		37,207	0.85	0.61	0.52

Total - Sum(C)(Area) 0.52 ac
Area Total 0.85 ac
NRCS Variables Weighted C - (Sum(C)(Area))/(Area Total) 0.61
(for bankfull and 100-year calculations)

Pervious

61 for Landscaping, Good Condition, Soil Type B

Cover Type	Soil Type	Area (sft)	Area (ac)	Curve Number	(CN) (Area)
Landscape	B	17,894	0.41	61	0.25
Total		17,894	0.41	61	0.25

Total - Sum(C)(Area) 0.25 ac
Area Total 0.41 ac
NRCS Variables Weighted C - (Sum(C)(Area))/(Area Total) 61.0
(for bankfull and 100-year calculations)

Impervious

98 for Building Roofs
98 for Pavement

Cover Type	Soil Type	Area (sft)	Area (ac)	Curve Number	(CN) (Area)
Roof/Bldg.		5,505	0.13	98	0.12
Walk/P.vmt		13,808	0.32	98	0.31
Total		19,313	0.44	98	0.43

Total - Sum(C)(Area) 0.43 ac
Area Total 0.44 ac
Weighted C - (Sum(C)(Area))/(Area Total) 98.0

W2 - First Flush Runoff Calculations (Vff)

A. Vff = 1" x 1'/12" x 43560 sft/ac x A x C 1,902 cft
0.04 ac-ft

W3 - Pre-Development Bankfull Runoff Calculations (Vbf-pre)

A. 2 year / 24 hour storm event: P= 2.35 in
B. Pre-Development CN 58
(Meadow, Type B Soils)
C. S = (1000 / CN) - 10 7.241 in
D. Q = [(P-0.2S)^2] / [P+0.8S] 0.100 in
E. Total Site Area excluding "Self-Crediting" BMPs 37,207 sft
F. Vbf-pre = Q x (1/12) x Area 310 cft
0.01 ac-ft

W4 - Pervious Cover Post-Development Bankfull Runoff Calculations (Vbf-per-post)

A. 2 year / 24 hour storm event: P= 2.35 in
B. Pervious Cover CN From Worksheet 1 61
C. S = (1000 / CN) - 10 6.393 in
D. Q = [(P-0.2S)^2] / [P+0.8S] 0.154 in
E. Pervious Cover Area from Worksheet 1 17,894 sft
F. Vbf-per-post = Q x (1/12) x Area 229 cft
0.005 ac-ft

W5 - Impervious Cover Post-Development Bankfull Runoff Calculations (Vbf-imp-post)

A. 2 year / 24 hour storm event: P= 2.35 in
B. Impervious Cover CN From Worksheet 1 98
C. S = (1000 / CN) - 10 0.204 in
D. Q = [(P-0.2S)^2] / [P+0.8S] 2.122 in
E. Impervious Cover Area from Worksheet 1 19,313 sft
F. Vbf-imp-post = Q x (1/12) x Area 3,415 cft
0.0784 ac-ft

W6 - Pervious Cover Post-Development 100-Year Runoff Calculations (V100-per-post)

A. 100 year / 24 hour storm event: P= 5.11 in
B. Pervious Cover CN From Worksheet 1 61
C. S = (1000 / CN) - 10 6.393 in
D. Q = [(P-0.2S)^2] / [P+0.8S] 1.436 in
E. Pervious Cover Area from Worksheet 1 17,894 sft
F. V100-per-post = Q x (1/12) x Area 2,141 cft
0.05 ac-ft

W7 - Impervious Cover Post-Development 100-Year Runoff Calculations (V100-imp-post)

A. 100 year / 24 hour storm event: P= 5.11 in
B. Impervious Cover CN From Worksheet 1 98
C. S = (1000 / CN) - 10 0.204 in
D. Q = [(P-0.2S)^2] / [P+0.8S] 4.873 in
E. Impervious Cover Area from Worksheet 1 19,313 sft
F. Vbf-imp-post = Q x (1/12) x Area 7,843 cft
0.18 ac-ft

W8 - Time of Concentration (Tc-hrs)

A. Assume 15-minute minimum time of concentration 0.25 hr

W9 - Runoff Summary & On-Site Infiltration Requirement

A. Summary from Previous Worksheets		
First Flush Volume (Vff)	**1,902 cft**	**0.04 ac-ft**
Pre-Development Bankfull Runoff Volume (Vbf-pre)	**310 cft**	**0.01 ac-ft**
Pervious Cover Post-Development Bankfull Volume (Vbf-per-post)	*229 cft*	*0.01 ac-ft*
Impervious Cover Post-Development Bankfull Volume (Vbf-imp-post)	*3,415 cft*	*0.08 ac-ft*
Total BF Volume (Vbf-post)	**3,644 cft**	**0.08 ac-ft**
Pervious Cover Post-Development 100-Year Volume (V100-per-post)	*2,141 cft*	*0.05 ac-ft*
Impervious Cover Post-Development 100-Year Volume (V100-imp-post)	*7,843 cft*	*0.18 ac-ft*
Total 100-Year Volume (V100)	**9,983 cft**	**0.23 ac-ft**
B. Determine Onsite Infiltration Requirement		
Subtract the Pre-Development Bankfull from the Post-Development Bankfull Volume		
Total Post-Development Bankfull Volume (Vbf-post)	3,644 cft	0.08 ac-ft
Pre-Development Bankfull Runoff Volume (Vbf-pre)	310 cft	0.01 ac-ft
Bankfull Volume Difference	**3,334 cft**	**0.08 ac-ft**
Compare to First Flush Volume (Vff)	1,902 cft	0.04 ac-ft
Greater of Bankfull Volume or First Flush Volume	**3,334 cft**	**0.08 ac-ft**
To be Infiltrated		

W10 - Detention/Retention Requirement
Detention

A. Qp = 238.6 Tc^-0.82	743.63 cfs/(in x sq. mi)	
B. Total Site Area excluding "Self-Crediting" BMPs	0.85 ac	
C. Q100 = Q100-per + Q100-imp (from W6 and W7, respectively)	6.309 in	
D. Peak Flow (PF) = Qp x Q100 x Area / 640	6.26 cfs	
E. Delta = PF - 0.15 x Area (ac)	6.13 cfs	
[0.15 x Area (ac)]	*0.13 cfs*	
F. Vdet = Delta / PF x V100	9,779 cft	0.22 ac-ft
Required Detention not including infiltration credit.		
Sediment Forebay Volume Required (5% of V100)	499 cft	

W11 - Determine Applicable BMPs and Associated Volume Credits
On-site soil testing determined the site consists of native clay soils that will preclude incorporation of infiltration into the storm water management design.

W12 - Natural Features Inventory
*SEE NATURAL FEATURES PLAN

W13 - Site Summary of Infiltration & Detention

A. Stormwater Management Summary	
Minimum Onsite Infiltration Requirement (Vinf)	3,334 cft
Designed/Provided Infiltration Volume	- cft
% Minimum Required Infiltration Provided	0%
Total Calculated Detention Volume, Vdet	9,779 cft
Net Required Detention Volume	9,779 cft
(Vdet - Designed/Provided Infiltration Volume)	
B. Detention Volume Increase for sites where the required infiltration volume cannot be achieved.	
% Required Infiltration NOT Provided	100.0%
(100% - % Minimum Required Infiltration Provided)	
Net % Penalty	20.0%
(20% x % Required Infiltration NOT Provided)	
Total Required Detention Volume, including penalty	**11,735 cft**
[(100% + Net % Penalty) x Net Required Detention Volume)]	

W14 - Storage-Elevation Data

Underground Detention Chambers

Footprint Area (sft)	Vol. % per footprint area	Design Area (sft)	Depth (ft)	Volume Provided (cft)
1,541	88%	1,356	9.00	12,205

Underground Detention Chambers

Elevation (ft)	Design Area (sft)	Volume (cft)	Cum. Volume (cft)
889.25	1,356	-	-
890.25	1,356	1,356	1,356
891.25	1,356	1,356	2,712
892.25	1,356	1,356	4,068
893.25	1,356	1,356	5,424
894.25	1,356	1,356	6,780
895.25	1,356	1,356	8,136
896.25	1,356	1,356	9,492
897.25	1,356	1,356	10,848
898.25	1,356	1,356	12,204

Total Provided Detention (Chambers + Rain Garden) **13,627 cft**

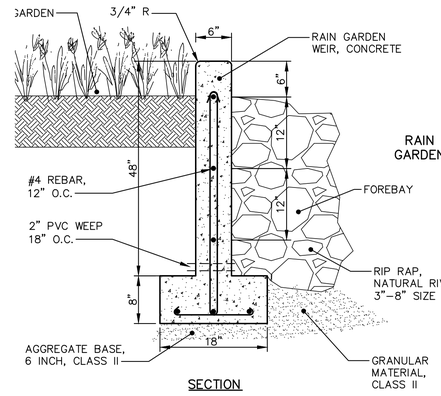
Surplus storage volume provided 1,892 cft

Total Chamber Storage Volumes (Ttotal Detention Less Rain Garden Volume)

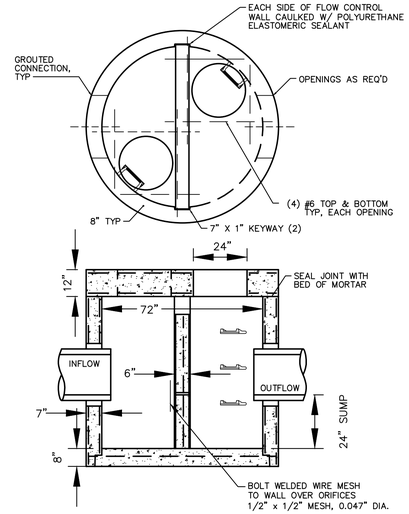
1" Event	479 cft
2-year Event	2,221 cft
100-year + 20% Event	10,312 cft

Storage Elevations

Lowest Orifice	914.00 Elevation	
Elevation for 1" event	889.60 Elevation	0.35 ft. depth
Elevation for 2-year event	890.89 Elevation	1.64 ft. depth
Elevation for 100-year event	896.85 Elevation	7.60 ft. depth

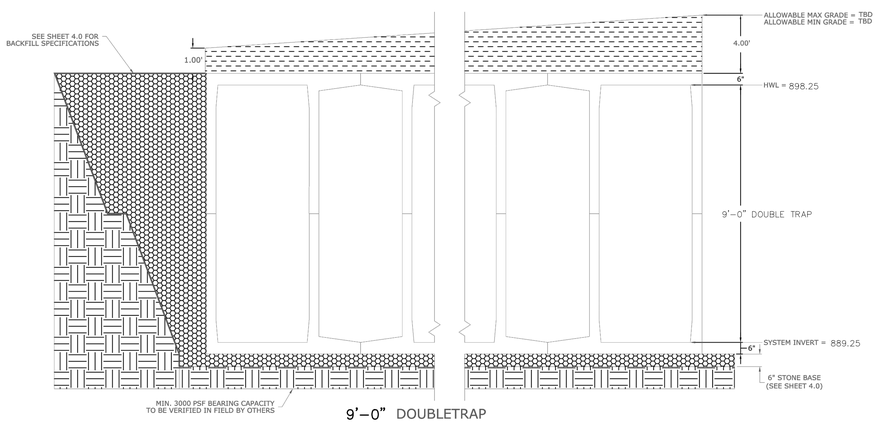


SPILLWAY WEIR DETAIL
NO SCALE

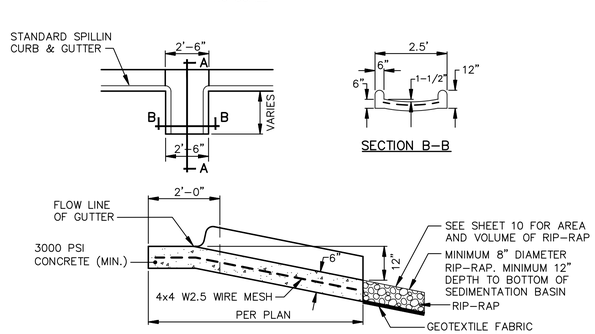


NOTES:
1. MANHOLE SECTIONS TO BE MANUFACTURED TO ASTM C–478 SPECIFICATIONS AND IN ACCORDANCE WITH NORTHERN CONCRETE PIPE, INC. (800 222 9918).
2. REINFORCING SHOWN FOR SCHEMATIC ONLY.
3. CONTRACTOR TO SEAL BETWEEN PRECAST WALL & BASE W/BUTYL ROPE.
4. INLET & OUTLET PIPES SIZE VARIES.
5. NUMBER, SIZE AND ELEVATION OF HOLES IN THE FLOW RESTRICTOR WALL SHALL BE IN ACCORDANCE WITH THE GOVERNING AGENCY.

OUTLET CONTROL STRUCTURE DETAIL
NO SCALE



UNDERGROUND DETENTION CHAMBER DETAIL
NO SCALE



SHOULDER GUTTER & SPILLWAY
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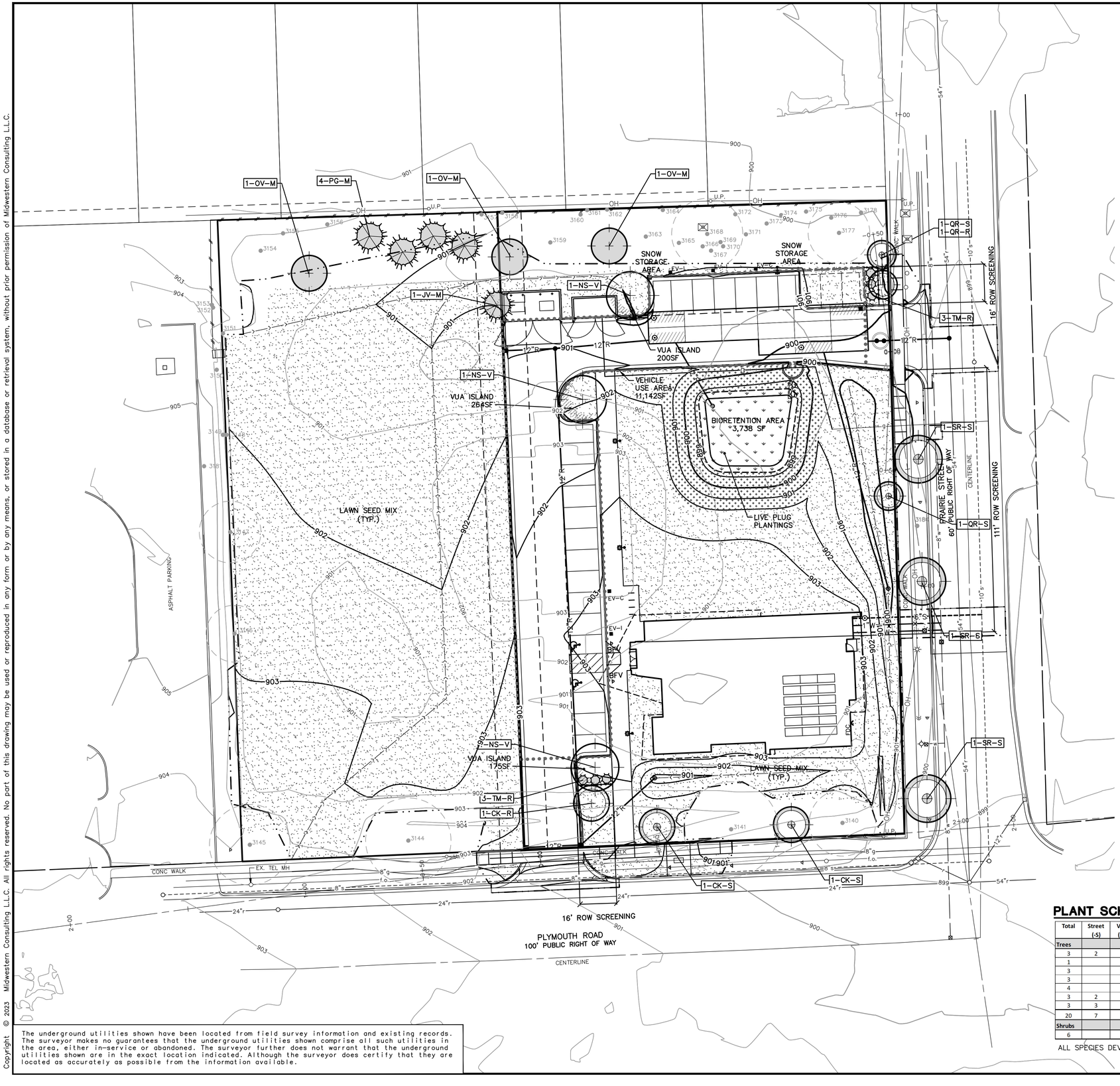
SITE PLAN
STORMWATER MANAGEMENT DETAILS

11

DATE: 07/20/2023
SHEET 11 OF 25
CADD: SFG
ENG: TPH
PM: TPH
TECH:
22073DA1.dwg

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/22/23
PER MUNICIPAL REVIEW	09/22/23

JOB No. **22073**



LANDSCAPE LEGEND

- PROPOSED CANOPY TREE (VEHICLE USE AREA)
- PROPOSED CANOPY TREE (RIGHT-OF-WAY SCREENING TREE)
- PROPOSED DECIDUOUS SHRUBS (VUA ROW SCREENING)
- PROPOSED EVERGREEN SHRUBS (VUA ROW SCREENING)
- PROPOSED DECIDUOUS TREE (STREET TREE)
- PROPOSED CANOPY TREE (MITIGATION)
- PROPOSED EVERGREEN TREE (MITIGATION)
- EXISTING TREE TO REMAIN
- PROPOSED LIVE PLUG PLANTINGS (435 PLANTINGS)
- PROPOSED STORM WATER SEED MIX (2445 SF)
- PROPOSED LAWN SEED MIX
- PROPOSED EDGING
- VEHICULAR USE AREA LIMITS

LANDSCAPE REQUIREMENTS

	Required	Proposed (East Parcel)
Vehicle Use Area		
Interior islands	1:20sf ratio for islands 10,997 / 20 = 550sf island	639sf proposed
Bio-retention island	Not applicable - if >750sf island; 50% bioretention	3,738 Sf proposed
Interior island trees	1 tree per island; 1 tree per 250sf island 550sf / 250 = 3 trees required	3 trees proposed
ROW Screening	10ft when VUA viewed from ROW 1 tree per 30lf; continuous 30" screen Plymouth - 16ft = 1 tree and shrubs Prairie- 16ft = 1 tree and shrubs	10 ft wide min. Plymouth - 1 tree and shrubs Prairie - 1 tree and shrubs
Snow pile storage	identify locations on plan	identified on landscape plan
Street Trees		
Street Trees	1 per 45 lf of frontage Plymouth - 160lf / 45= 4 trees required Prairie - 267lf / 45 = 6 trees required	**Landscape Modification Required for planting on-site due to existing utilities** Plymouth - 2 existing; 2 proposed trees Prairie - 1 existing; 5 proposed trees
Street tree canopy loss fee	total dbh removed - caliper replacement trees x $244 per inch (15in-(5x2.5in)) x $244 = $610	$610 to City Tree Fund prior to issuing building permits *
Tree Mitigation		
	50% DBH of Woodland and LM removed 39" LM x 0.5 = 19.5" mitigation required	8 mitigation trees provided x 2.5" = 20" mitigation provided
Outdoor Refuse		
	solid waste enclosure required	sold waste enclosure proposed
Conflicting Land Use Buffer		
when adjacent to public park and R4 adjacent to residential purposes	15ft wide; 1 tree per 15lf, 50% evergreen; continuous screening 4ft ht North side of site - 164 ft / 15 = 11 trees (6 evergreen trees)	6 evergreen and 15 deciduous existing trees to remain; existing fence along property line to remain

* When applying for a grading permit, a ROW Street Tree Permit will also be required. There is no cost for this permit. Include the project number on the application. The Canopy Loss Fee will be invoiced through that permit.

PLANT SCHEDULE

Total	Street (-S)	VUA (-V)	ROW (-R)	Mitigation (-M)	Symbol	Botanical Name	Common Name	Size	Spacing	Root	Remarks
Trees											
3	2		1		CK	Cornus kousa	Kousa Dogwood	2" cal.	15' o.c.	B&B	single stem
1				1	JV	Juniperus virginiana	Easter Red Cedar	8' ht	15' o.c.	B&B	Full
3		3			NS	Nyssa sylvatica	Black Gum	2.5" cal.	15' o.c.	B&B	Single Stem
3				3	OV	Ostrya virginiana	Hop Hornbeam	2.5" cal.	15' o.c.	B&B	
4				4	PG	Picea glauca	White Spruce	8' ht	15' o.c.	B&B	Full
3	2		1		QR	Quercus robur x alba 'Crimschmidt'	Crimson Spire Oak	2.5" cal.	12' o.c.	B&B	fastigiate
3	3				SR	Syringa reticulata 'Ivory Silk'	Japanese Tree Lilac	3" cal.	20' O.C.	B&B	
20	7	3	2	8	Total						
Shrubs											
6			6		TM	Taxus x media 'Densiformis'	Densiformis yew	18-24" ht	5' o.c.	#5 cont.	

ALL SPECIES DEVIATIONS MUST BE APPROVED IN WRITING BY THE CITY OF ANN ARBOR PRIOR TO INSTALLATION

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

Know what's below. Call before you dig. 811

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SITE PLAN
LANDSCAPE PLAN

12

DATE: 07/20/2023
SHEET 12 OF 25
CADD: SFG
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REVISIONS:	REV. DATE
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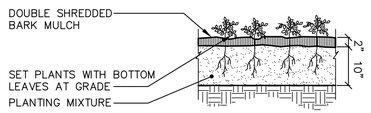
PER MUNICIPAL REVIEW	

STORM WATER LIVE PLUGS

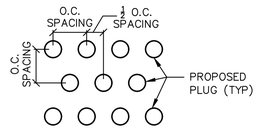
Rain Garden	Botanical Name	Common Name	Size	Spacing	Remarks
41	*Asclepias incarnata*	Swamp Milkweed	Plug	24" o.c.	Quantity per flat varies by supplier
73	*Carex hystericina*	Porcupine Sedge	Plug	18" o.c.	Quantity per flat varies by supplier
73	*Carex vulpinoidea*	Fox Sedge	Plug	18" o.c.	Quantity per flat varies by supplier
41	*Eupatorium maculatum*	Joe pye weed	Plug	24" o.c.	Quantity per flat varies by supplier
41	*Glyceria striata*	Fowl Manna Grass	Plug	24" o.c.	Quantity per flat varies by supplier
41	*Helenium autumnale*	Sneezeweed	Plug	24" o.c.	Quantity per flat varies by supplier
73	*Juncus effusus*	Soft Rush	Plug	18" o.c.	Quantity per flat varies by supplier
26	*Schoenoplectus acutus*	Hard Stem bulrush	Plug	24" o.c.	Quantity per flat varies by supplier
26	*Schoenoplectus tabernaemontani*	Soft-stemmed bulrush	Plug	24" o.c.	Quantity per flat varies by supplier

Species to be planted as a mixed composition at bottom of basin to high water elevation for rain garden. Bulrush and Soft Rush to be in bottom of basin only.



1. HERBACEOUS PLANTS SHOULD BE PEAT POT GROWN. PLANT PLUG WITH PEAT POT INTACT.
2. HERBICIDES SHALL NOT BE USED WITHIN THE BIO-RETENTION AREA TO REMOVE EXISTING WEED GROWTH.
3. FERTILIZERS SHALL NOT BE USED WITHIN THE BIO-RETENTION AREA.
4. PLANTING SHALL TAKE PLACE IMMEDIATELY AFTER PREPARATION.
5. LAYOUT OF SPECIES SHALL BE A MIXED COMPOSITION THROUGHOUT THE SPECIFIED PLANTING AREA. SEE PLANT SCHEDULE FOR SPACING FOR EACH SPECIES.
6. PLANTING MIXTURE SHALL CONSIST OF 30% COMPOST MIXED WITH EXISTING, IN-PLACE OR STOCKPILED TOPSOIL. COMPOST SHALL BE PURCHASED FROM WECARE ORGANICS OR EQUIVALENT. PERMEABLE SOIL SHALL MEET INFILTRATION REQUIREMENTS SET FORTH BY WASHTENAW COUNTY WATER RESOURCES COMMISSIONER OFFICE.

PLUG PLANTING DETAIL
NOT TO SCALE



PLANT PLUG SPACING DETAIL
NOT TO SCALE

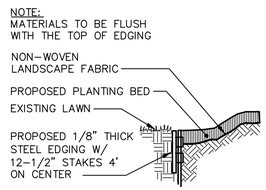
STORM WATER SEED MIX

Grasses, Sedges & Rushes		PLS Oz/acre	Seeds/sq ft
Andropogon gerardii	Big Bluestem	6.00	1.38
Carex bebbii	Bebb's oval sedge	3.00	2.34
Carex vulpinoidea	Fox Sedge	4.00	9.18
Elymus canadensis	Canada Wild Rye	16.00	1.91
Elymus virginicus	Virginia Wild Rye	16.00	1.54
Glyceria striata	Fowl Manna Grass	0.50	1.84
Juncus effusus	Soft Rush	0.25	5.74
Juncus tenuis	Path Rush	0.25	5.74
Panicum virgatum	Switchgrass	4.00	1.29
Sorghastrum nutans	Indian Grass	8.00	1.65
Spartina pectinata	Prairie Cordgrass	4.00	0.61
	Total Grasses	**60.00**	**33.21**

Forbs		PLS Oz/acre	Seeds/sq ft
Allium cernuum	Nodding Wild Onion	2.00	0.35
Asclepias incarnata	Swamp Milkweed	1.00	0.11
Aster novae-angliae	New England Aster	0.25	0.38
Cassia hebecarpa	Wild Senna	4.00	0.13
Desmodium canadense	Showy Tick Trefoil	0.50	0.06
Echinacea purpurea	Purple Coneflower	8.00	1.21
Eupatorium purpureum	Sweet Joe Pye Weed	0.25	0.24
Heliopsis helianthoides	False sunflower	8.00	1.16
Hypericum pyramidatum	Great St John's Wort	0.50	2.18
Lobelia siphilitica	Great Blue Lobelia	0.50	5.74
Monarda fistulosa	Wild Bergamot	0.50	0.80
Pycnanthemum virginianum	Mountain mint	0.25	1.26
Ratibida pinnata	Yellow Coneflower	1.50	1.03
Rudbeckia hirta	Black-eyed Susan	5.00	10.56
Solidago riddellii	Riddell's Goldenrod	0.50	1.07
Verbena hastata	Blue Vervain	1.50	3.20
Zizia aurea	Golden Alexander	1.75	0.44
	Total Forbs	**36.00**	**29.93**

Temporary Grass Cover		Oz/acre	Seeds/sq ft
Lolium multiflorum	Annual Ryegrass	80.00	24.79
Avena sativa	Seed Oats	320.00	7.35
	Total Temp Grasses	**400.00**	**32.14**

NOTE:
MATERIALS TO BE FLUSH WITH THE TOP OF EDGING

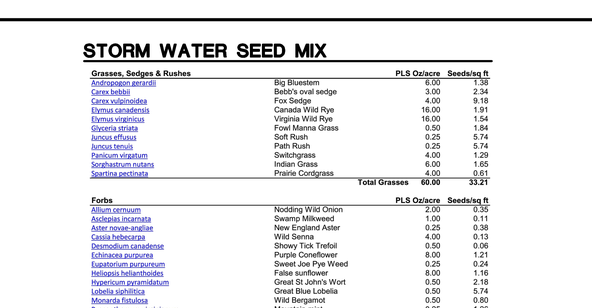


STEEL EDGING DETAIL
NOT TO SCALE

DO NOT TRIM EVERGREENS

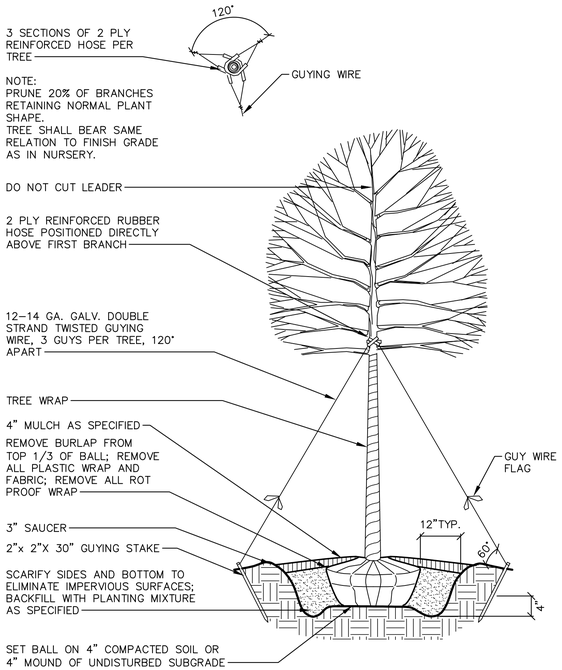
SHRUB SHALL BEAR SAME RELATION TO FINISH GRADE AS IN NURSERY

DO NOT PLANT SHRUBS TO WITHIN 42" OF TREE TRUNKS IN SHRUB BEDS



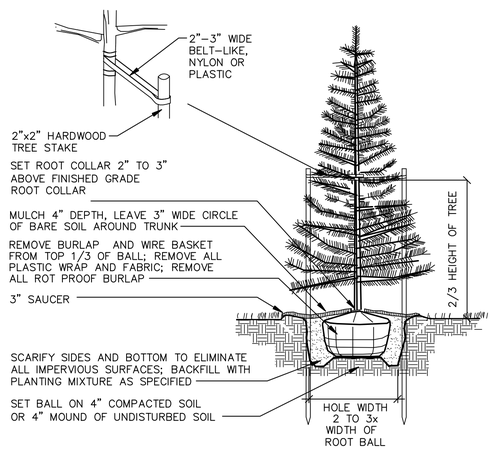
NOTE:
SPECIAL PLANTING MIX REQUIRED FOR ERICACEOUS PLANTINGS AS SPECIFIED.

SHRUB PLANTING DETAIL
NOT TO SCALE



DECIDUOUS TREE – PLANTING DETAIL
NOT TO SCALE

NOTE: A: STAKING IS ONLY REQUIRED IF THE SITE IS WINDY OR THE TREES ARE GREATER THAT 3" CALIPER. IF TREES MUST BE STAKED, THE STAKED SHALL BE REMOVED IN ONE YEAR.



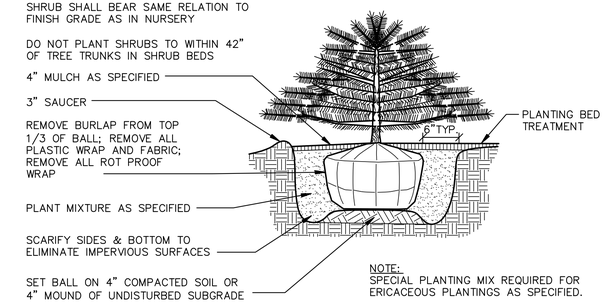
EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

NOTE:
PRUNE 20% OF BRANCHES AND FOLIAGE RETAINING NORMAL PLANT

SHAPE DO NOT TRIM EVERGREENS

SHRUB SHALL BEAR SAME RELATION TO FINISH GRADE AS IN NURSERY

DO NOT PLANT SHRUBS TO WITHIN 42" OF TREE TRUNKS IN SHRUB BEDS



NOTE:
SPECIAL PLANTING MIX REQUIRED FOR ERICACEOUS PLANTINGS AS SPECIFIED.

EVERGREEN SHRUB PLANTING DETAIL
NOT TO SCALE

NOTES

1. For any plant quantity discrepancies between the plan view and the plant schedules, the plant schedule shall take precedence.
2. Plant materials shall be selected and installed in accordance with standards established by the City of Ann Arbor.
3. In-ground automatic irrigation shall be provided for all landscaped planting beds or water outlets shall be provided within 150 feet of all required plantings.
4. All diseased, damaged or dead material shown on the site plan as proposed plantings shall be replaced by the end of the following growing season.
5. Restore disturbed areas with a minimum of four (4) inches of topsoil and then seed/ fertilize/mulch.
6. All disturbed areas not to be seeded with seed mixes identified on the Landscape Plan shall be lawn areas. Fertilizer for the initial installation of lawns shall provide not less than one (1) pound of actual nitrogen per 1,000 sq ft of lawn area and shall contain not less than two percent (2%) potassium and four percent (4%) phosphoric acid.
   Lawn (turfgrass) seed mix shall consist of:
   - 15% Rugby Kentucky Bluegrass
   - 10% Park Kentucky Bluegrass
   - 40% Ruby Creeping Red Fescue
   - 15% Pennifine Perennial Ryegrass
   - 20% Scaldis Hard Fescue

   Seed shall be applied at a rate of five pounds (5 lbs) per 1000 sq ft. Mulch within 24 hours with two (2) tons of straw per acre, or 71 bales of excelsior mulch per acre. Anchor straw mulch with spray coating of adhesive material applied at the rate of 150 gals. / acre.
7. After the first growing season, only fertilizers that contain NO phosphorus shall be used on the site.
8. The rain garden areas identified on the Landscape Plan with rain garden – stormwater seed mix shall be seeded with specified seed mixes from Native Connections, or equivalent as approved by landscape architect. Temporary cover crop shall be included with all seed mixes. Seeding rates and installation techniques shall be confirmed with supplier.
9. All seeded areas with slopes less than 1:3 (one vertical foot for every 3 horizontal feet) shall be mulched with straw mulch at the rate of two (2) bales per 1,000 square feet. All seeded areas with slopes greater than 1:3 shall be seeded and biodegradable erosion control blanket North American Green SC150, or equivalent, shall be applied with biodegradable stakes.
10. Deciduous plants shall be planted between March 1 and May 15 and from October 1 until the prepared soil becomes frozen. Evergreen plants shall be planted between March 1 and June 1 and from August 15 to September 15.
11. Native seeding areas shall be seeded after May 1, (when soil is free of frost and in workable condition), but before June 15 or after October 1, but before November 30 (or prior to ground freezing) or as approved by Landscape Architect or guaranteed by the supplier. If seeding is performed outside planting window, contractor shall perform regularly scheduled watering for installed seed and as needed based on weather conditions to ensure germination and establishment of seed.
12. All planting beds are to receive four (4) inches of shredded hardwood bark mulch.
13. All trees to be located a minimum of 10 feet from public utilities.
14. All single trunk, deciduous trees shall have a straight and a symmetrical crown with a central leader. One sided trees or those with thin or open crowns shall not be accepted.
15. All evergreen trees shall be branched fully to the ground, symmetrical in shape and have not been sheared in the last three (3) growing seasons.
16. All compacted subgrade soils in proposed landscape areas shall be tilled to a minimum 12-inch depth prior to placement of topsoil, geotextile fabric, or other planting media as specified.
17. Proposed trees will be planted a minimum of 15 feet apart.
18. Planting Soil: Existing, in-place or stockpiled topsoil. Supplement with imported topsoil as needed. Verify suitability of existing surface soil to produce viable planting soil. Final approval of soil composition shall be provided by the landscape contractor. Remove stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth. Mix surface soil with the following soil amendments to produce planting soil:
   a. Ratio of Loose Compost to Topsoil by Volume: 1:4.
   b. Weight of Lime per 1000 Sq. Ft.: Amend with lime only on recommendation of soil test to adjust soil pH.
   c. Weight of Sulfur or Aluminum Sulfate per 1,000 Sq. Ft.: Amend with sulfur or aluminum sulfate only on recommendation of soil test to adjust soil pH.
   d. Volume of Sand: Amend with sand only on recommendation of Landscape Architect to adjust soil texture.
   e. Weight of Slow-Release Fertilizer per 1,000 Sq. Ft.: Amend with fertilizer only on recommendation of soil test to adjust soil fertility.
19. Native seeding installation shall be performed by a qualified contractor with documented experience of successful established native seeding. Seed shall be installed per manufacturer's specification via hand broadcast
20. Snow cannot be pushed onto interior islands unless they are designated on the plan for snow storage. Bio-retention islands can be used for snow storage.

Maintenance:

1. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.
2. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
3. Watering: The contractor shall keep seed and plant material soils moist for optimum plant growth (1" of total water per week, including rainfall) until completion of warranty period.
4. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.
5. Contractor shall warranty all plant material and trees to remain alive and be in healthy, vigorous and like new condition for the specified period from installation to Substantial Completion. The entire Landscaping Project, including but not limited to: plants (perennials), trees, shrubs, mulches, shrubs, etc are to be under Warranty for One Year after Substantial Completion date of the Project. Native seeding areas shall be under Warranty for Two full growing seasons. At the end of the specified Warranty period the Owner's Representative will inspect plant material for compliance. Contractor shall replace, in accordance with the drawings and specifications, all plants, trees, shrubs, etc or as determined by the Owner's Representative, are in an unhealthy or unsightly condition.
6. Protection from traffic and erosion in newly seeded areas is the responsibility of the contractor. Safety fences and/or silt fence with appropriate signage may be used at the contractor's expense until the grasses and plantings are fully established.
7. Erosion shall be repaired by the contractor.
8. Native seeding installation areas shall meet the following criteria as determined by Owner:
   a. The contractor shall review native seed sources with owner prior to ordering and shall submit an invoice following purchase and delivery of the seed.
   b. Establishment of a dense stand of perennial grasses and/or flowers as specified is the responsibility of the contractor. Any part of the area that fails to show a uniform germination (80% for Native Planting Areas) shall be re-seeded, and such re-seeding shall continue until a dense planting in these areas is established
   c. Bare spots over three (3) percent of the area or greater than one (1) square foot in size will not be allowed, unless otherwise approved by the owner.
   d. Initial mowing of the native planting areas (using flail mower) shall occur after one season of growth when the weeds are ten (10) inches high or prior to invasive weeds setting seed. Mowed height shall be 5". Weeds on slopes 3:1 or greater shall be mowed with a hand-held flail mower or common weed whacker.
   e. Provisional Acceptance: By the end of the first full growing season, 20% of the native species seeded and 80% total cover shall be established as determined by the Owner.
   f. Second Year Acceptance: By the end of the second growing season, 40% of the native species seeded and 90% total cover shall be established as determined by the Owner.
2. Long-term maintenance of the rain garden (bioretention island) shall be performed by the Owner. Maintenance shall include seasonal trimming and removal of dead foliage, removal of weeds, and removal or mulching of leaves and stems. Spot treatment/removal of invasive weeds may be necessary if localized areas become dominated by invasive weeds. Bio-retention island shall be inspected by owner following any storm event exceeding 1". Trash and debris shall be removed as needed. Shredded hardwood mulch must be re-spread when erosion is evident and be replenished annually. Once every 2 to 3 years, the entire bio-retention/rain garden area may require mulch replacement.
3. Turf installations shall meet the following criteria as determined by Owner:
   a. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.
   b. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
   c. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

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UNIVERSITY OF MICHIGAN CREDIT UNION
SITE PLAN
LANDSCAPE DETAILS

13

DATE: 07/20/2023
SHEET 13 OF 25
CADD: SFG
ENG: TPH
PM: TPH
TECH:
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PDF

JOB No. 22073

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/23/23
PER MUNICIPAL REVIEW	09/22/23

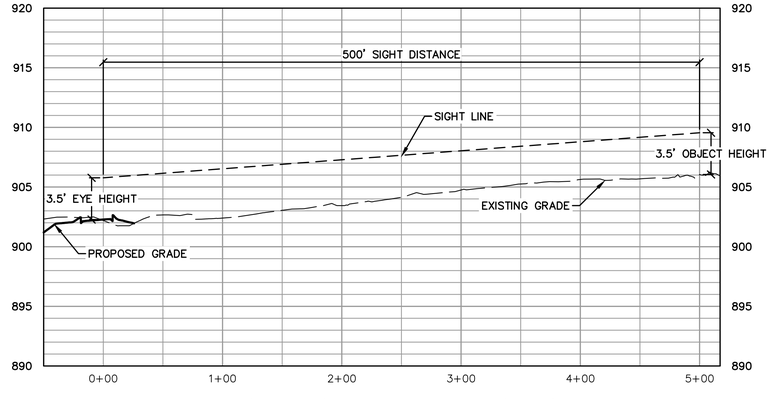
NOTES

ALL TREES WITHIN SIGHT DISTANCE TRIANGLES SHALL HAVE ALL BRANCHES TRIMMED TO PROVIDE A CLEAR VISION FOR A VERTICAL HEIGHT OF EIGHT FEET ABOVE THE ROADWAY SURFACE.

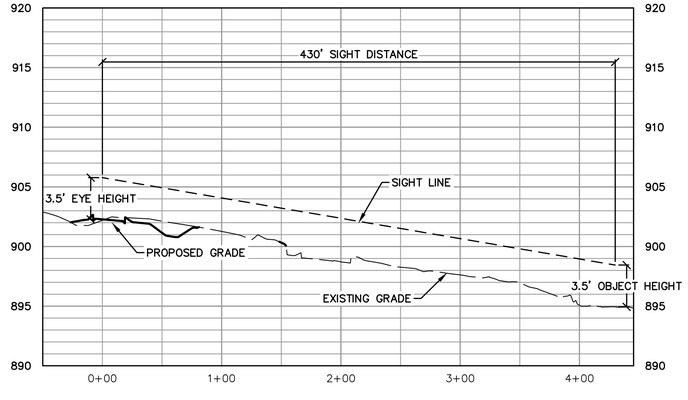
AREA WITHIN SIGHT DISTANCE TRIANGLE

SIGHT DISTANCE TRIANGLES

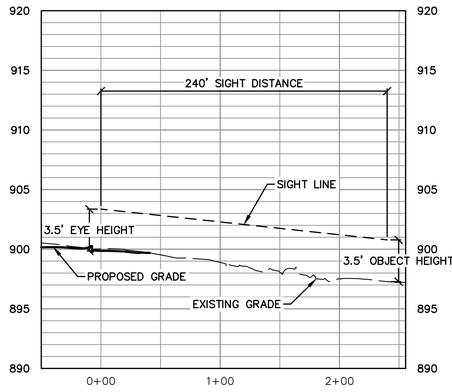
SCALE: 1" = 60 FEET



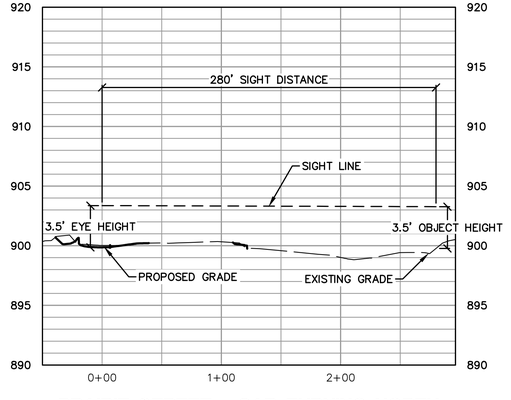
PLYMOUTH ROAD - CAR TURNING EAST



PLYMOUTH ROAD - CAR TURNING WEST



PRAIRIE STREET - CAR TURNING SOUTH



PRAIRIE STREET - CAR TURNING NORTH

SCALE: 1" = 40'

0 40 80 120

811 Know what's below. Call before you dig.

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

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SITE PLAN
SIGHT TRIANGLE PLAN AND PROFILES

14

JOB No. 22073

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/07/23
PER MUNICIPAL REVIEW	09/22/23

DATE:
SHEET 14 OF 25
CADD:
ENG: TPH
PM: TPH
TECH:
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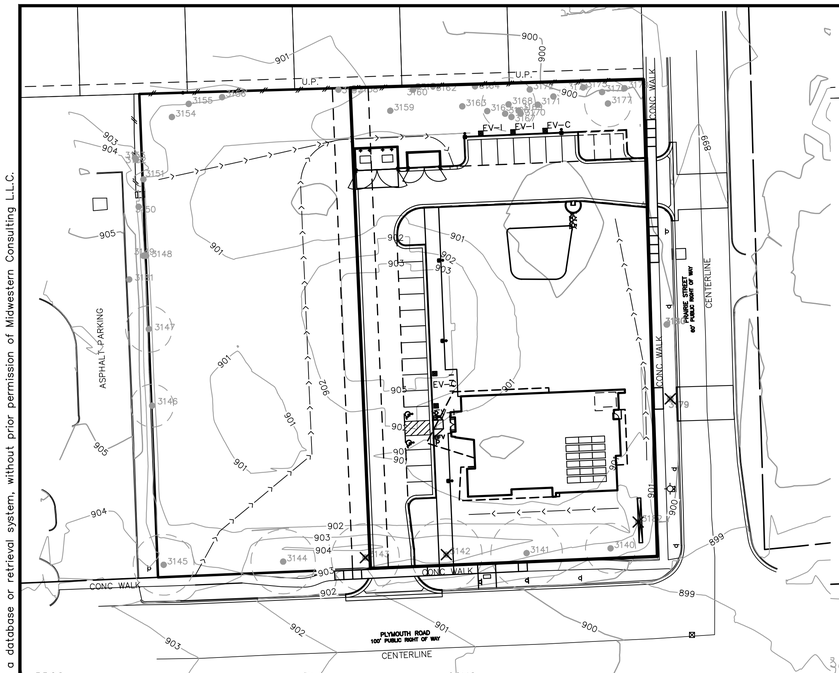
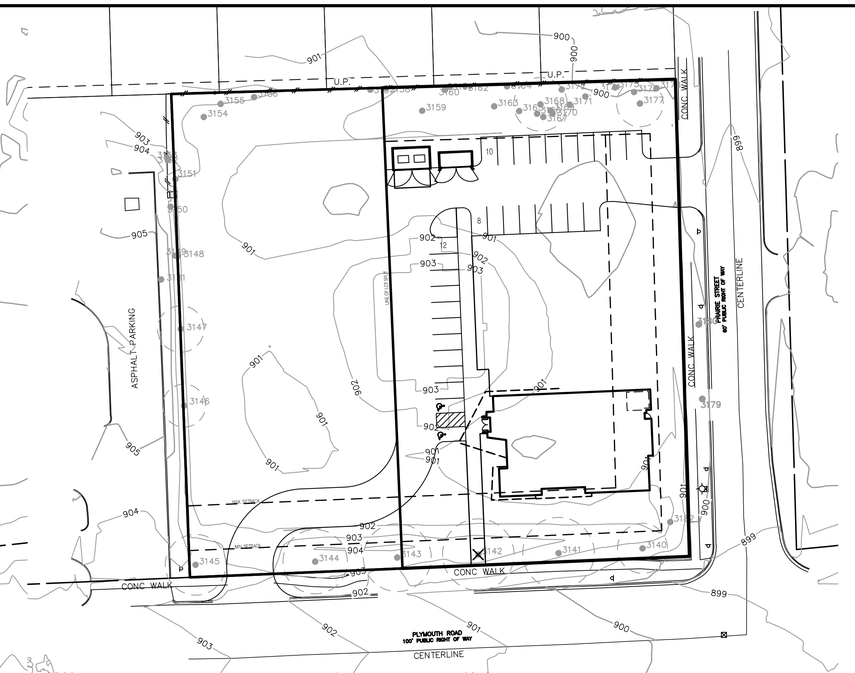


PROS:
- ACCESSIBLE PARKING DIRECTLY ADJACENT TO BUILDING ENTRANCE
- TWO ENTRY POINTS – ONE ON PRAIRIE; ONE ON PLYMOUTH
- GOOD SOLID WASTE AND EMERGENCY TRUCK ACCESS CIRCULATION
- MAINTAIN EXISTING CURB CUT ON PRAIRIE STREET
- MARKETABLE LAND DIVISION LOT TO WEST

CONS:
- REMOVAL OF 2 LANDMARK TREES ALONG PLYMOUTH ROAD

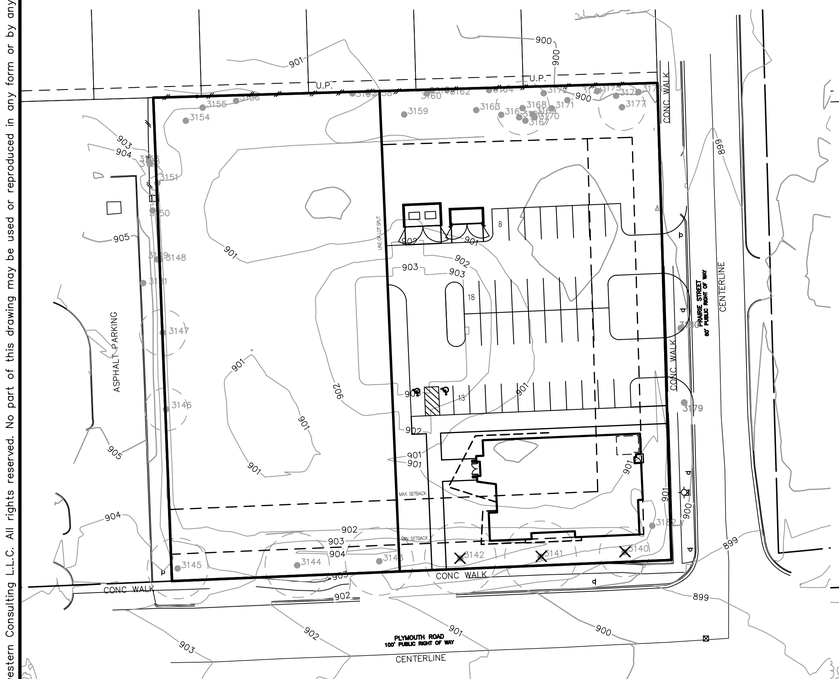
PROPOSED SITE LAYOUT - NATURAL FEATURES PLAN



PROS:
- ACCESSIBLE PARKING DIRECTLY ADJACENT TO BUILDING ENTRANCE
- TWO ENTRY POINTS – ONE ON PRAIRIE; ONE ON PLYMOUTH
- MAINTAIN EXISTING CURB CUT ON PLYMOUTH ROAD
- MAINTAIN EXISTING CURB CUT ON PRAIRIE STREET
- PRESERVE LANDMARK TREE ALONG PLYMOUTH ROAD

CONS:
- ACCESS DRIVE IN FRONT SETBACK OF LAND DIVISION LOT TO WEST; PREVENTS LAND DIVISION LOT BUILDING FROM CONFORMING TO FRONT SETBACK REQUIREMENTS
- POOR SOLID WASTE AND EMERGENCY VEHICLE ACCESS CIRCULATION
- REMOVAL OF 1 LANDMARK TREE ALONG PLYMOUTH ROAD

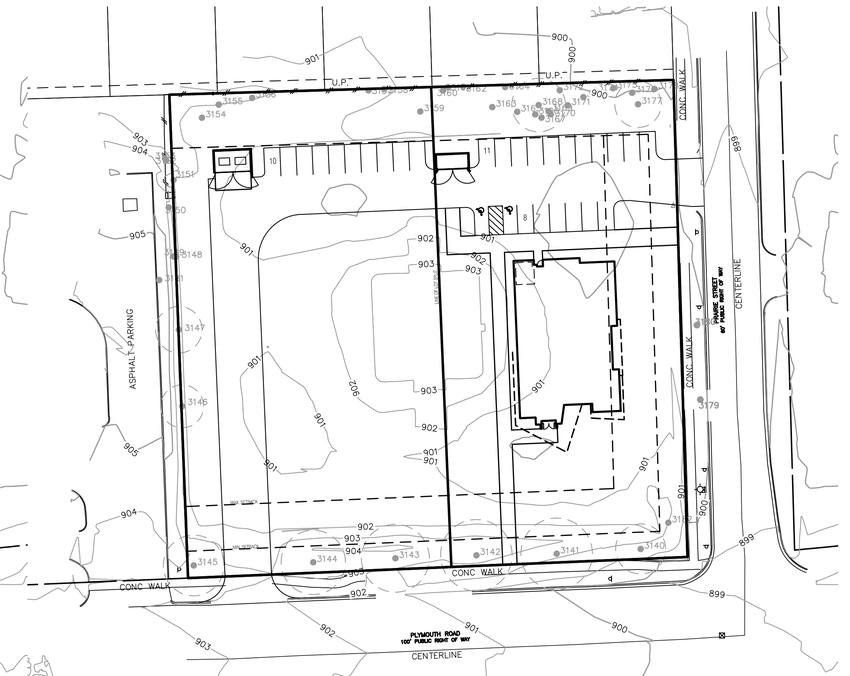
ALTERNATIVE SITE LAYOUT #1



PROS:
- ACCESSIBLE PARKING DIRECTLY ADJACENT TO BUILDING ENTRANCE
- INCREASED BUFFER BETWEEN PARKING LOT AND RESIDENTIAL NEIGHBORHOOD TO NORTH
- GOOD SOLID WASTE ACCESS TO SITE

CONS:
- TWO ENTRIES ON PRAIRIE STREET CLOSE TOGETHER
- ACCESS DRIVES ON PRAIRIE STREET CLOSER TO PLYMOUTH ROAD INTERSECTION
- MODERATE EMERGENCY VEHICLE CIRCULATION ON SITE
- REMOVAL OF 3 LANDMARK TREES ALONG PLYMOUTH ROAD

ALTERNATIVE SITE LAYOUT #2



PROS:
- SHARED ACCESS TO SITE AT EXISTING CURB CUT ON PLYMOUTH ROAD
- PRESERVATION OF ALL EXISTING LANDMARK TREES ON SITE
- MAINTAIN EXISTING CURB CUT ON PRAIRIE STREET
- GOOD SOLID WASTE ACCESS TO SITE

CONS:
- BUILDING DOES NOT MEET FRONT SETBACK REQUIREMENTS ON PLYMOUTH ROAD
- ACCESSIBLE PARKING NOT NEAR BUILDING ENTRANCE
- SHARED ACCESS AND PARKING FOR BANK PROVIDED ON LAND DIVISION LOT TO THE WEST.
- LONG DISTANCE BETWEEN BUILDING AND SOLID WASTE ENCLOSURE
- POOR EMERGENCY VEHICLE ACCESS TO BUILDING

ALTERNATIVE SITE LAYOUT #3

Know what's below. Call before you dig. 811

SCALE: 1" = 40'

0 40 80 120

NATURAL FEATURES SUMMARY

1. NO KNOWN ENDANGERED SPECIES HABITATS EXIST ON THIS SITE.
2. PER THE ALTA/NSPS LAND TITLE SURVEY: THIS PARCEL IS LOCATED IN ZONE X OF THE FLOOD INSURANCE RATE MAP NUMBER 26161C0262E WHICH BEARS AN EFFECTIVE DATE OF 4/13/2012 AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.
3. NO WOODLANDS ARE LOCATED ON THIS SITE.
4. ONE (1) STREET TREE WILL BE REMOVED AS PART OF THIS PROJECT.
5. THERE ARE TEN (10) LANDMARK TREES LOCATED THROUGHOUT THE SITE. TWO (2) LANDMARK TREES WILL BE REMOVED AS PART OF THE PROPOSED PROJECT. CONSTRUCTION FENCE WILL BE INSTALLED AT THE LIMITS OF THE CRITICAL ROOT ZONE FOR ALL LANDMARK TREES TO REMAIN.
6. NO STEEP SLOPES EXIST ON THIS SITE.
7. NO EXISTING OR PROPOSED WATERCOURSES ARE LOCATED ON THIS SITE.
8. NO IDENTIFIED WETLANDS EXIST ON THIS SITE.

TREE MITIGATION SUMMARY

MITIGATION IS PROVIDED ON-SITE; SEE LANDSCAPE PLAN FOR ADDITIONAL MITIGATION DETAILS.

LEGEND

- 838 — EXIST. CONTOUR
- 838 — PROP. CONTOUR
- U.P. — EXIST. UTILITY POLE
- GUY WIRE
- OH — EXIST. OVERHEAD UTILITY LINE
- PROP. LIGHT POLE
- FENCE
- SILTFENCE
- LIMITS OF DISTURBANCE
- CONSTRUCTION FENCE
- EXISTING TREE
- EXISTING LANDMARK TREE AND CRITICAL ROOT ZONE
- X — TREE TO BE REMOVED

TREE LIST

TAG#	DBH	COMMON NAME	GENUS/SPECIES	STEMS	SCORE	LM	INV	NOTES	REMOVE
3140	14"	Ginkgo	*Ginkgo biloba*			X			
3141	20"	Honey Locust	*Gleditsia triacanthos*			X			
3142	20"	Honey Locust	*Gleditsia triacanthos*		20	X			X
3143	19"	Honey Locust	*Gleditsia triacanthos*		20	X			X
3144	18"	Honey Locust	*Gleditsia triacanthos*			X			
3145	17"	Honey Locust	*Gleditsia triacanthos*			X			
3146	12"	Ginkgo	*Ginkgo biloba*			X			
3147	13"	Ginkgo	*Ginkgo biloba*			X			
3148	11"	Ginkgo	*Ginkgo biloba*						
3149	7"	Ginkgo	*Ginkgo biloba*					OFFSITE	
3150	8"	Crab Apple	*Malus communis*					OFFSITE	
3151	9"	Ginkgo	*Ginkgo biloba*						
3152	12"	White Mulberry	*Morus alba*				X	OFFSITE	
3153	7"	White Mulberry	*Morus alba*				X	OFFSITE	
3154	12"	Red Oak	*Quercus rubra*						
3155	7"	N. White Cedar	*Thuja occidentalis*						
3156	13"	Norway Maple	*Acer platanoides*				X		
3157	7"	Norway Maple	*Acer platanoides*				X		
3158	10"	Norway Maple	*Acer platanoides*				X		
3159	9"	Ginkgo	*Ginkgo biloba*						
3160	8"	Norway Maple	*Acer platanoides*				X		
3161	7"	Norway Maple	*Acer platanoides*				X		
3162	10"	Norway Maple	*Acer platanoides*				X		
3163	7"	Ginkgo	*Ginkgo biloba*						
3164	20"	Norway Maple	*Acer platanoides*				X		
3165	13"	Norway Maple	*Acer platanoides*				X		
3166	8"	Norway Maple	*Acer platanoides*				X		
3167	6"	Norway Maple	*Acer platanoides*	Twin			X		
3168	15"	Ginkgo	*Ginkgo biloba*			X			
3169	8"	Norway Maple	*Acer platanoides*				X		
3170	11"	Norway Maple	*Acer platanoides*				X		
3171	6"	Ginkgo	*Ginkgo biloba*						
3172	7"	N. White Cedar	*Thuja occidentalis*						
3173	10"	N. White Cedar	*Thuja occidentalis*						
3174	8"	N. White Cedar	*Thuja occidentalis*						
3175	8"	N. White Cedar	*Thuja occidentalis*	Twin					
3176	8"	N. White Cedar	*Thuja occidentalis*						
3177	13"	Ginkgo	*Ginkgo biloba*	Twin		X			
3178	10"	N. White Cedar	*Thuja occidentalis*	Twin					
3179	11"	Ginkgo	*Ginkgo biloba*					ROW	X
3180	3"	Hazelnut	*Corylus colura*					ROW	
3181	11"	White Mulberry	*Morus alba*				X	OFFSITE	
3182	5"	Amur Maple	*Acer ginnala*						X

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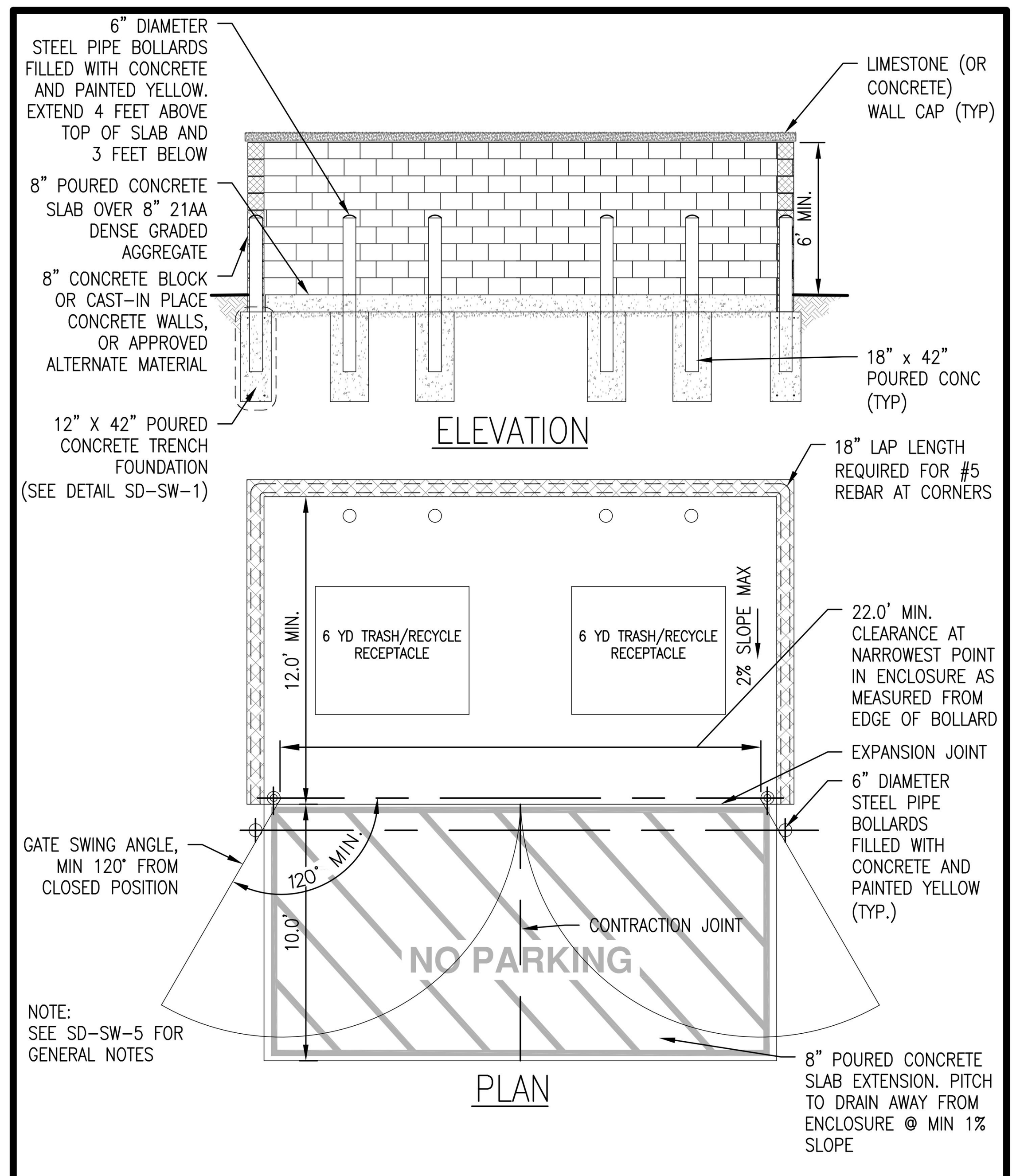
SITE PLAN
NATURAL FEATURES AND ALTERNATIVE ANALYSIS PLAN

15

DATE: 07/20/2023
SHEET 15 OF 25
CADD: SFG
ENG: TPH
PM: TPH
TECH:
22073NF1.dwg

JOB No. 22073

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/22/23
PER MUNICIPAL REVIEW	09/22/23



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P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
www.a2gov.org

REV. NO.	DATE	DRAWN BY	CHECKED BY

DOUBLE BIN ENCLOSURE

DR. ENG	CH. ENG	DRAWING NO.
SCALE N.T.S.	DATE 10/1/2022	SD-SW-2

1. MAINTAIN A CLEAR SPACE DIRECTLY IN FRONT OF THE SOLID WASTE ENCLOSURE. THE CLEAR SPACE SHALL BE A MINIMUM OF FIFTY (50) FEET LONG BY THE WIDTH OF THE INSIDE DIMENSION (I.D.) OF THE ENCLOSURE WALLS PLUS FOUR (4) FEET ON EACH SIDE. A MINIMUM VERTICAL CLEARANCE OF AT LEAST TWENTY-FIVE (25) FEET MUST BE PROVIDED ABOVE THIS AREA.
2. INGRESS AND EGRESS ROUTES MUST BE DEVELOPED BASED ON SOLID WASTE SWEPT PATH REQUIREMENTS PER SD-SW-4. A MINIMUM HORIZONTAL CLEARANCE OF FOUR (4) FEET FROM THE EDGE OF THE SWEPT PATH AND A MINIMUM VERTICAL CLEARANCE OF AT LEAST FIFTEEN (15) FEET MUST BE PROVIDED ALONG THE ENTIRE SOLID WASTE COLLECTION ROUTE.
3. PROVIDE TEN (10) FEET MINIMUM HORIZONTAL CLEARANCE FROM SOLID WASTE ENCLOSURE TO MAJOR ELECTRICAL EQUIPMENT, ABOVE GROUND UTILITY SERVICES, AND EDGE OF OVERHEAD OBSTRUCTIONS SUCH AS TREE BRANCHES, BALCONIES, AND OVERHANGS.
4. IF FORWARD ACCESS TO THE PUBLIC STREET IS NOT AVAILABLE FOR THE SOLID WASTE TRUCK, THE SITE DEVELOPMENT LAYOUT MUST ACCOMMODATE A TURN-AROUND LOCATION MEETING REQUIREMENTS WITHIN SOLID WASTE DETAILS AND ACCEPTABLE TO THE PSAA.
5. FOR SITES THAT CANNOT ACCOMMODATE A TURN-AROUND, THE FOLLOWING ADDITIONAL REQUIREMENTS MUST BE MET:
   - 5.1. SOLID WASTE TRUCKS MUST BE ABLE TO SERVICE DUMPSTERS WITHOUT IMPEDING THE PUBLIC STREET OR SIDEWALK.
   - 5.2. THE COLLECTION LOCATION SHALL BE CLEARLY DELINEATED AND NOT HAVE A SLOPE GREATER THAN 2% IN ANY DIRECTION.
   - 5.3. BOLLARDS OR ADEQUATE CLEAR SPACE MUST BE PROVIDED BEHIND THE LIFT POINT SO THE DUMPSTERS ARE NOT PUSHED INTO ANY BUILDING OR ACCESS ROUTE.
   - 5.4. ALL SWEPT-PATH CLEARANCE AND VERTICAL CLEARANCE REQUIREMENTS PREVIOUSLY IDENTIFIED SHALL BE PROVIDED.
6. GATES ON BIN ENCLOSURES SHALL OPEN A MINIMUM OF 120 DEGREES FROM THE CLOSED POSITION. THE GATES SHALL NOT IMPEDE ON THE REQUIRED BIN ENCLOSURE OPENING WIDTH, SHALL NOT BLOCK ADJACENT PARKING SPOTS, AND NOT BE IMPEDED BY ADJACENT CURBS OR LANDSCAPING.
7. GATES SHALL BE DESIGNED TO BE FREE STANDING WITHOUT CENTER POLE DESIGN. IF CENTER POLE DESIGN IS NECESSARY, 12 INCHES SHALL BE ADDED TO THE MINIMUM INTERIOR WIDTH OF THE ENCLOSURE.
8. GATE DESIGN SHALL INCLUDE A RELIABLE MEANS TO SECURE THE DOOR IN BOTH THE OPEN AND CLOSED POSITIONS.
9. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF NO PARKING SIGNS ALONG THE SOLID WASTE INGRESS/EGRESS ROUTE TO ENSURE THE ROUTE REMAINS FREE OF VEHICLES.

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REV. NO.	DATE	DRAWN BY	CHECKED BY

SOLID WASTE GENERAL NOTES

DR. ENG	CH. ENG	DRAWING NO.
SCALE N.T.S.	DATE 10/1/2022	SD-SW-5A

10. REFER TO ASSOCIATED STANDARD DETAILS SD-SW-1 AND SD-SW-2 FOR REQUIREMENTS ON SINGLE AND DOUBLE WIDE SOLID WASTE BIN ENCLOSURE LAYOUT AND DESIGN CRITERIA. THE CITY SHALL HAVE THE ABILITY TO MODIFY OR INTERPRET THESE DETAILS AS NECESSARY TO ACCOMMODATE THE CITY OR CITY CONTRACTOR'S NEEDS FOR SOLID WASTE PICK-UP.
11. SOLID WASTE EQUIPMENT ACCESS ROADS AND SERVICE AREA SURFACES SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF COLLECTION TRUCKS WEIGHING UP TO 66,000 LBS GROSS VEHICLE WEIGHT (GVW) AND SHALL BE PROVIDED WITH AN APPROVED SURFACE SO AS TO PROVIDE ALL WEATHER DRIVING CAPABILITIES. PROPERTY OWNER SHALL BE RESPONSIBLE FOR ALL SNOW AND ICE REMOVAL REQUIRED FOR SAFE ACCESS.
12. FOR SITES THAT CANNOT ACCOMMODATE A STANDARD DUMPSTER ENCLOSURE, THE DUMPSTERS MAY BE ROLLED OUT OF A BUILDING OR ALTERNATE ENCLOSURE BY THE PROPERTY OWNER TO AN APPROVED COLLECTION LOCATION.
13. SOLID WASTE COLLECTION LOCATIONS MUST BE LOCATED WITHIN THE BOUNDARIES OF THE PROPERTY UNLESS AN APPROPRIATE EASEMENT IS OBTAINED.

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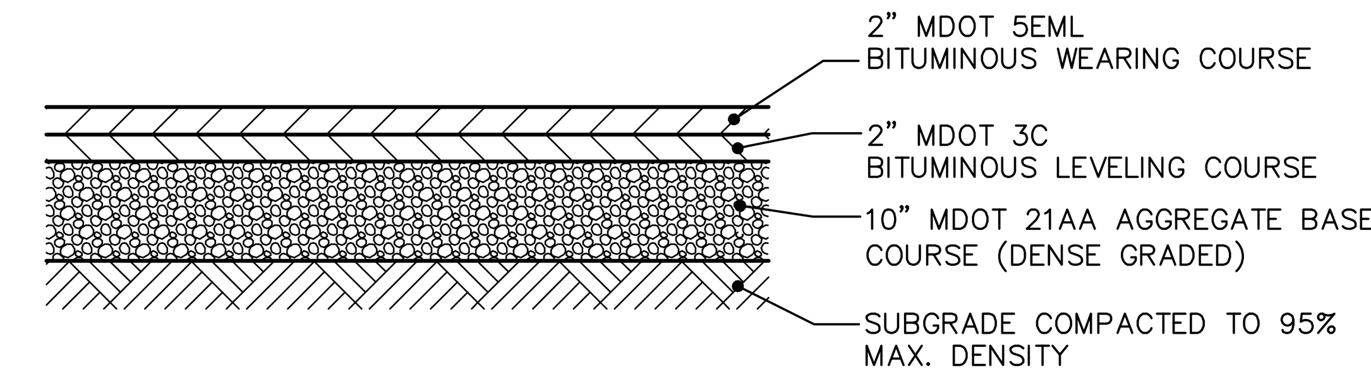
SOLID WASTE GENERAL NOTES

DR. ENG	CH. ENG	DRAWING NO.
SCALE N.T.S.	DATE 10/1/2022	SD-SW-5B

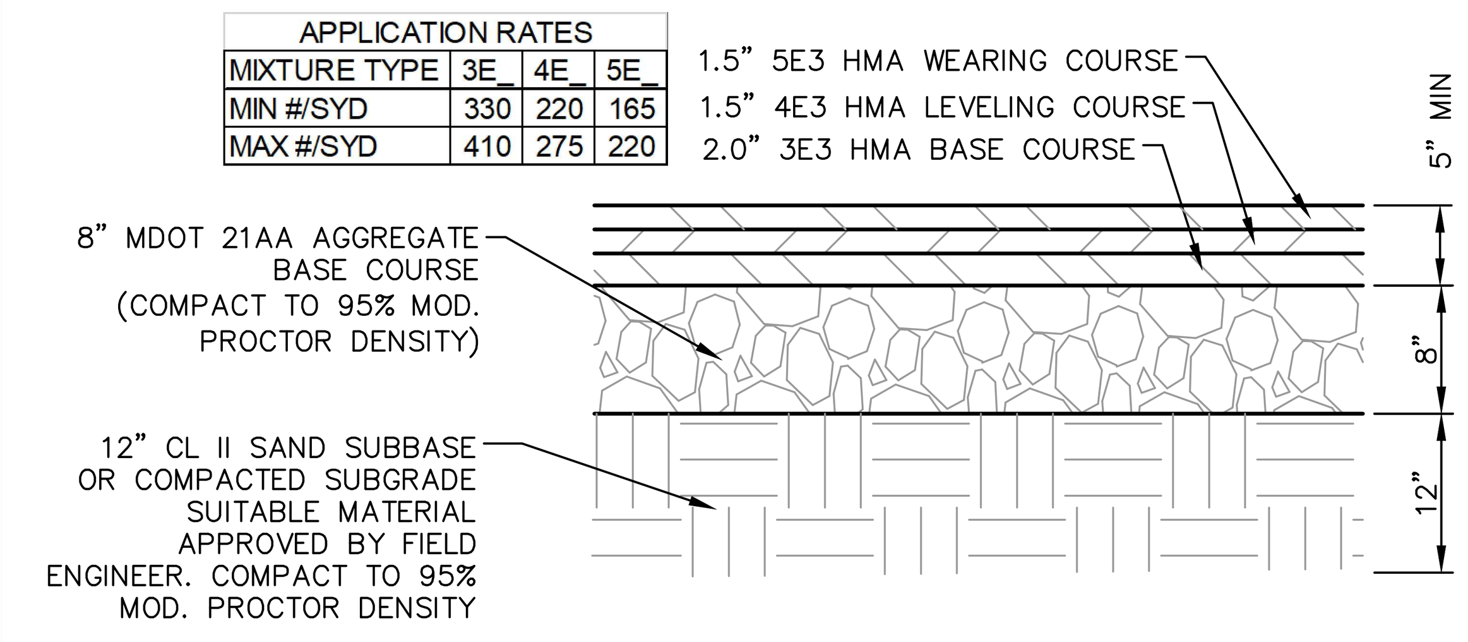


TYPICAL PARKING LOT CROSS SECTION DETAIL

NOT TO SCALE
MINIMUM REQUIREMENT

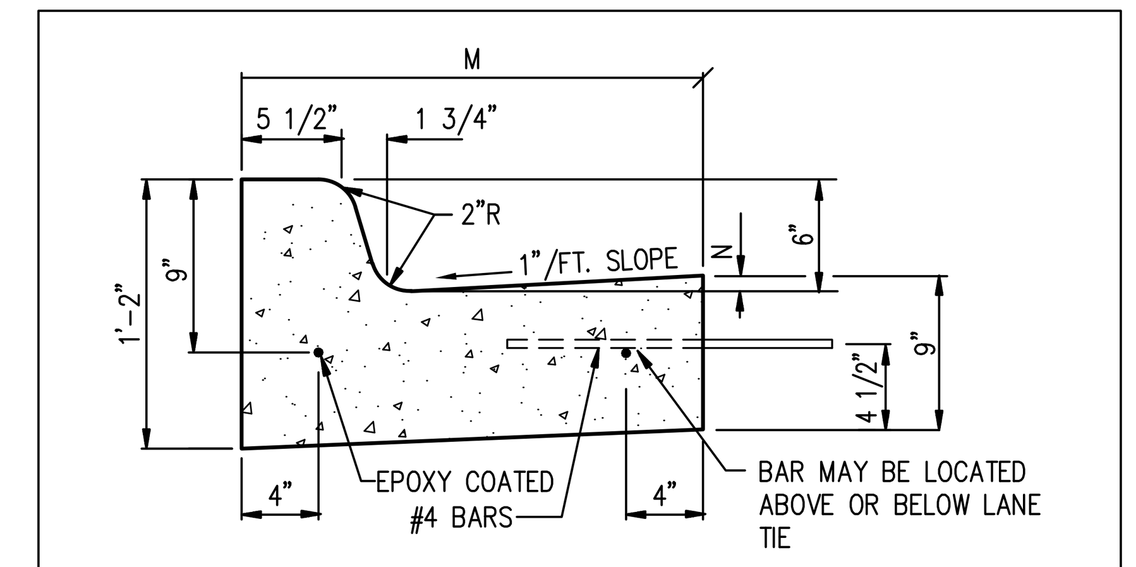
APPLICATION RATES

MIXTURE TYPE	3E	4E	5E
MIN #/SYD	330	220	165
MAX #/SYD	410	275	220



BITUMINOUS PAVEMENT - PUBLIC R.O.W.

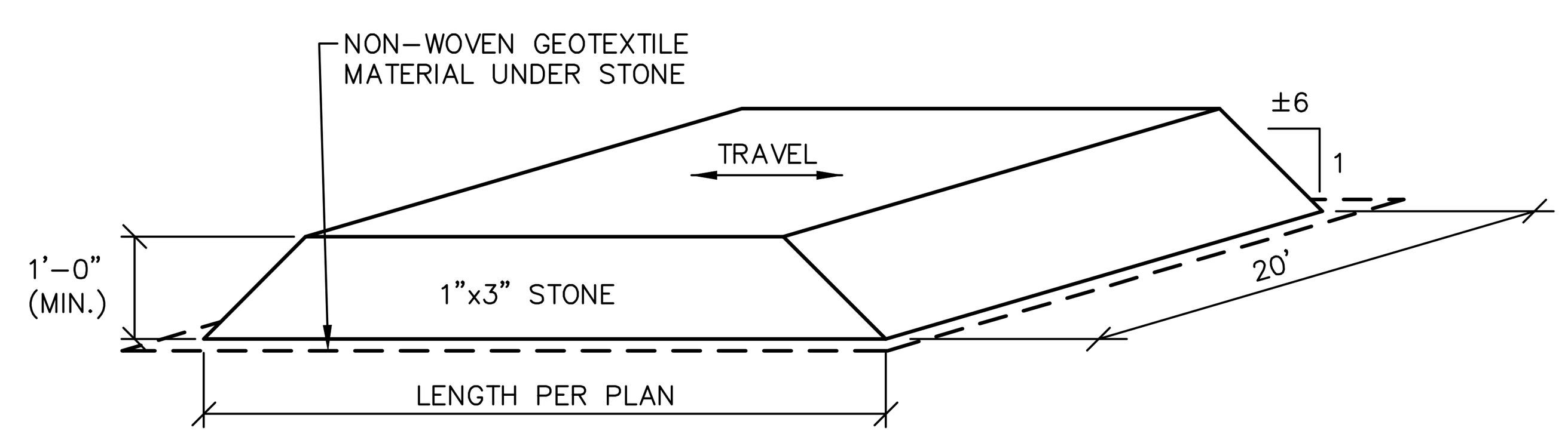
NOT TO SCALE



DETAIL	DIMENSIONS M	DIMENSIONS N	LANE TIES	CONCRETE CU. YD./LIN. FT.
F1	1'-6"	7/8"	AS SHOWN	0.0484
F2	1'-6"	7/8"	OMITTED	0.0484
F3	2'-0"	1 3/8"	AS SHOWN	0.0610
F4	2'-0"	1 3/8"	OMITTED	0.0610
F5	2'-6"	1 7/8"	AS SHOWN	0.0737
F6	2'-6"	1 7/8"	OMITTED	0.0737

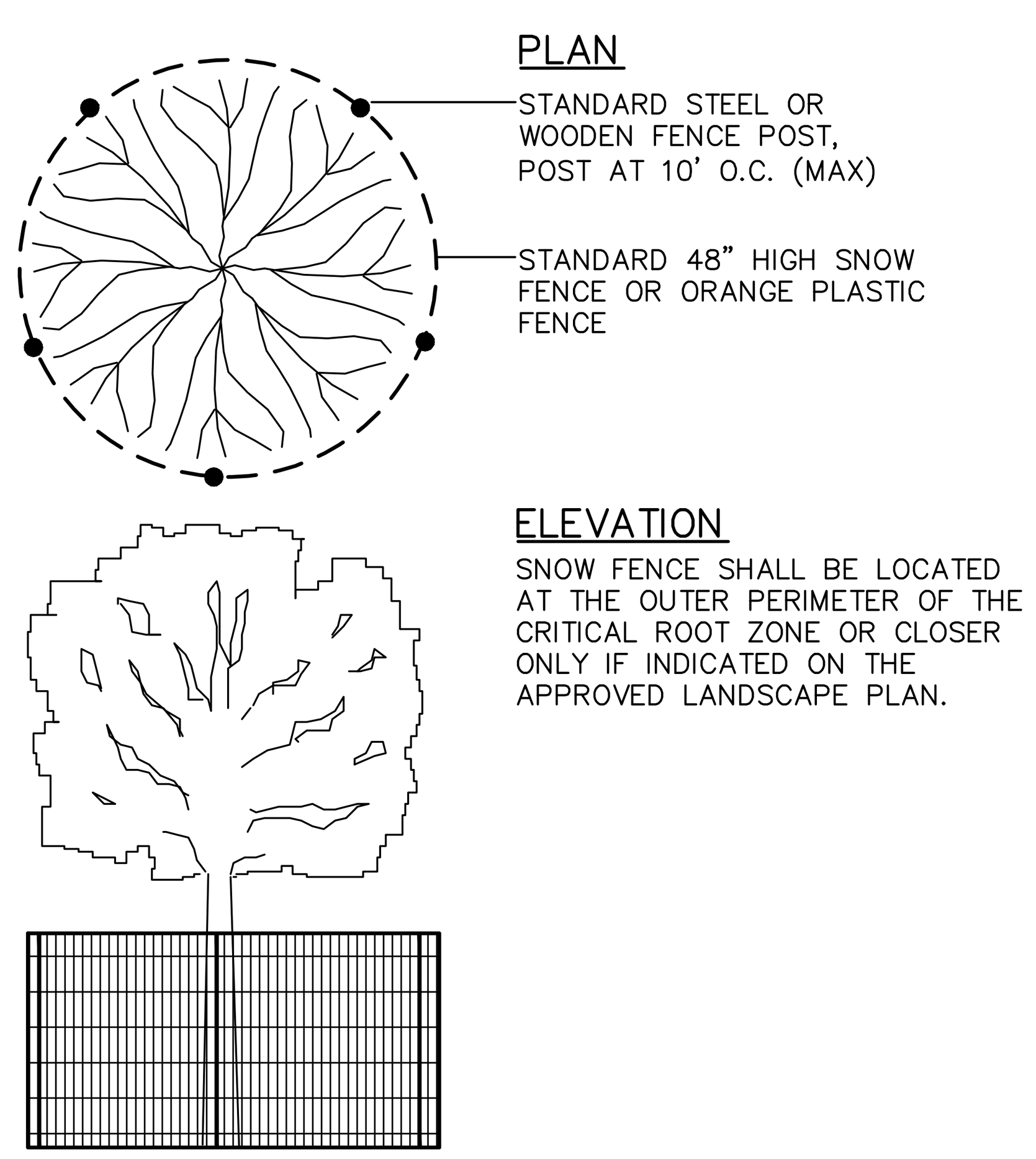
MDOT TYPE F CONCRETE CURB / GUTTER

NOT TO SCALE



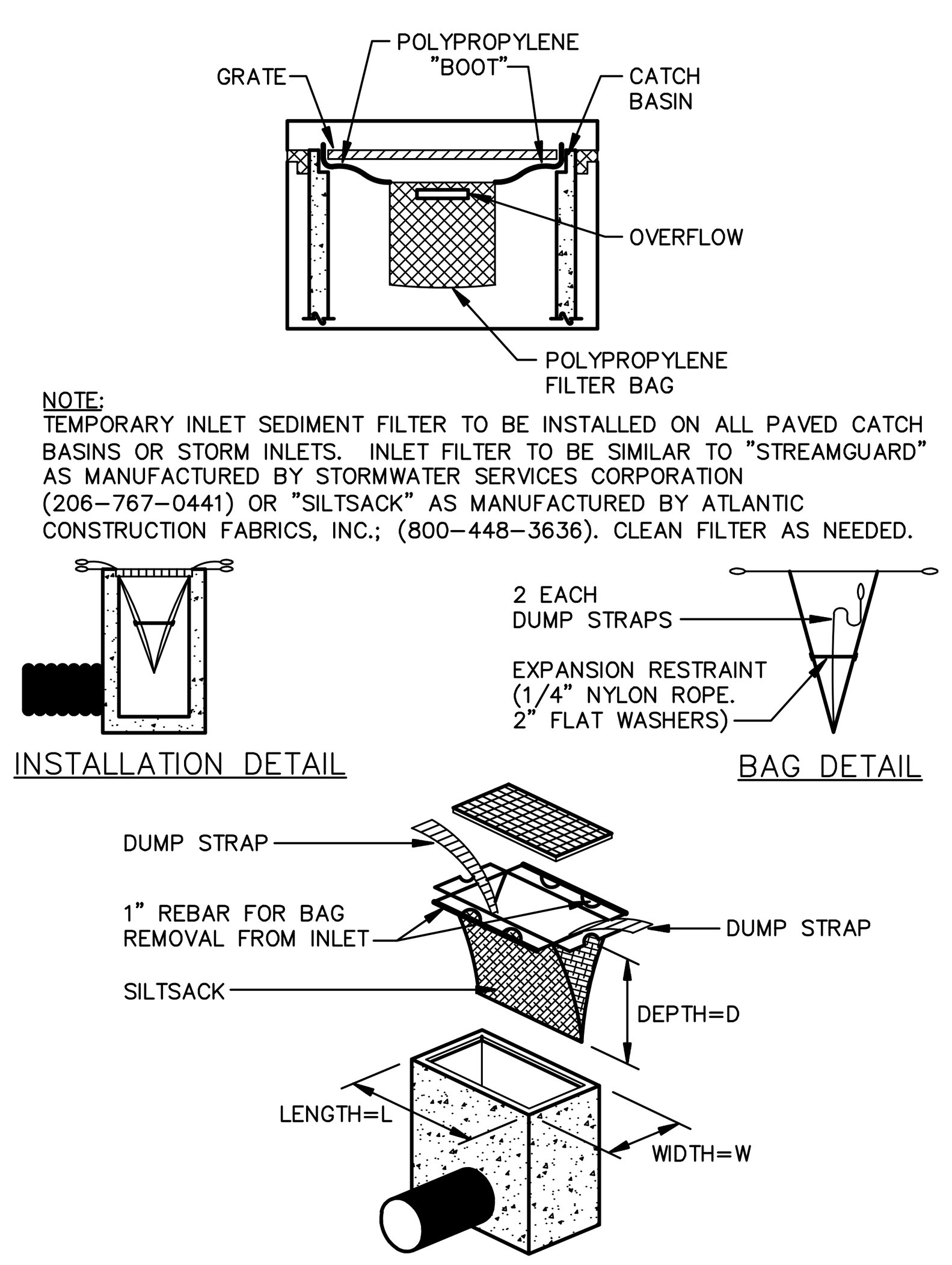
GRAVEL MUD TRACKING MAT 60t

NOT TO SCALE



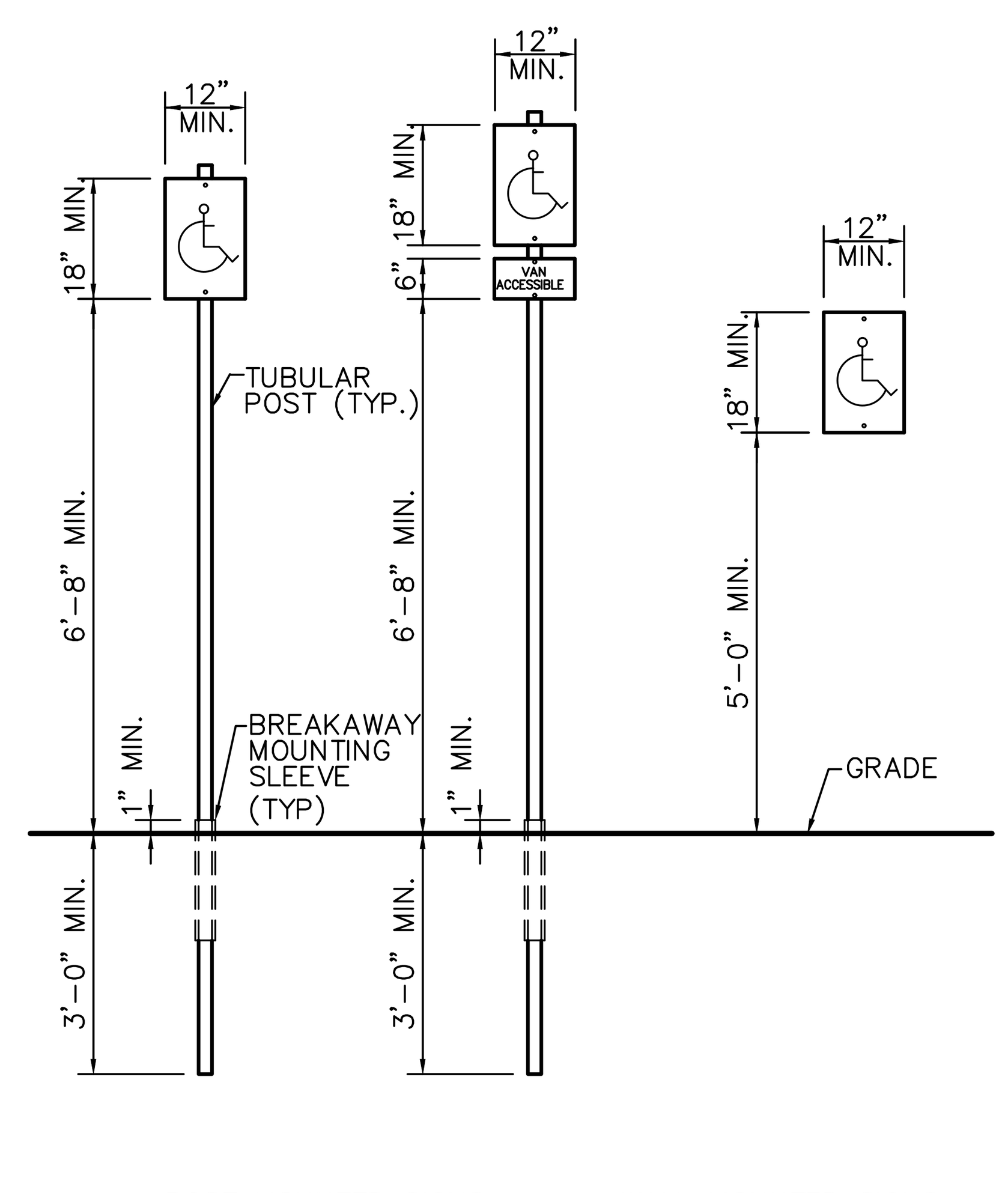
TREE PROTECTION DETAIL 54t

NOT TO SCALE



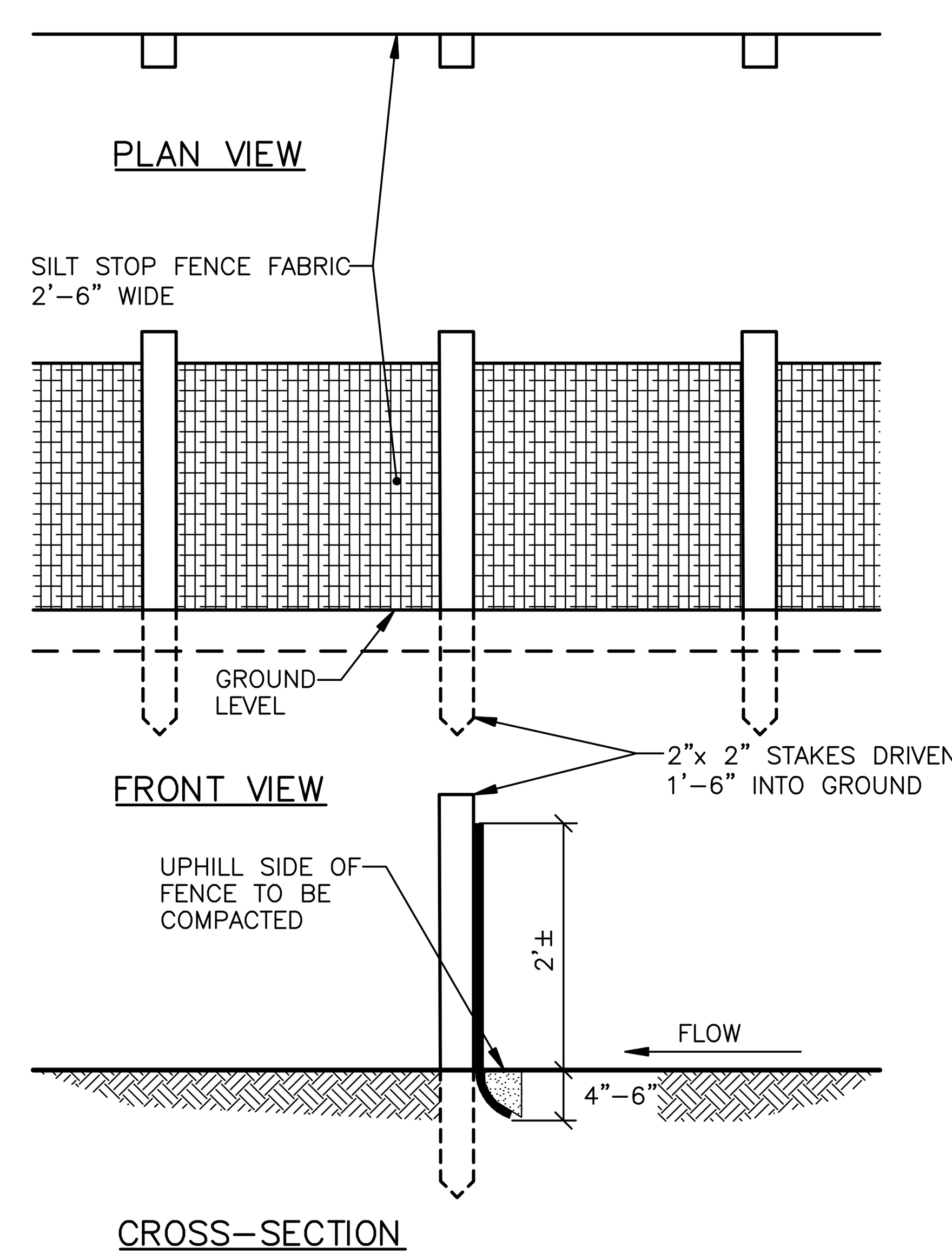
SILT SACK DETAIL 59t

NO SCALE



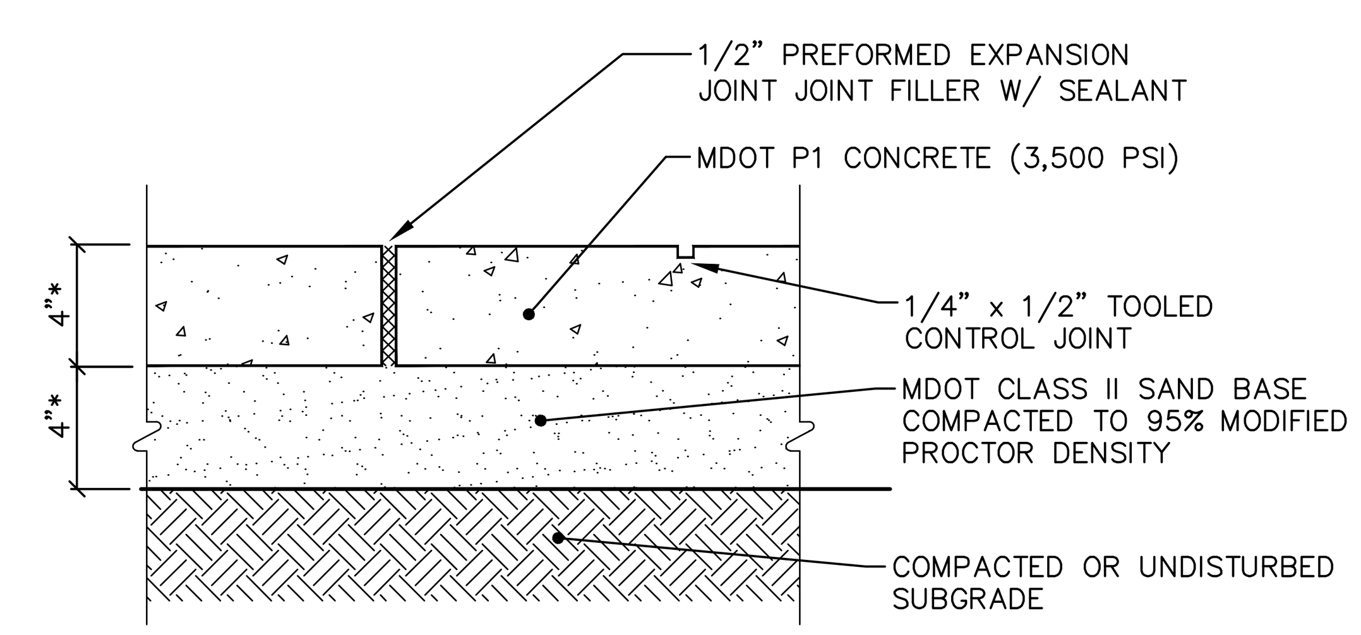
TYPICAL HANDICAP PARKING SIGNS

SCALE: 1/2" = 1'-0"



SILT FENCE DETAIL 55t

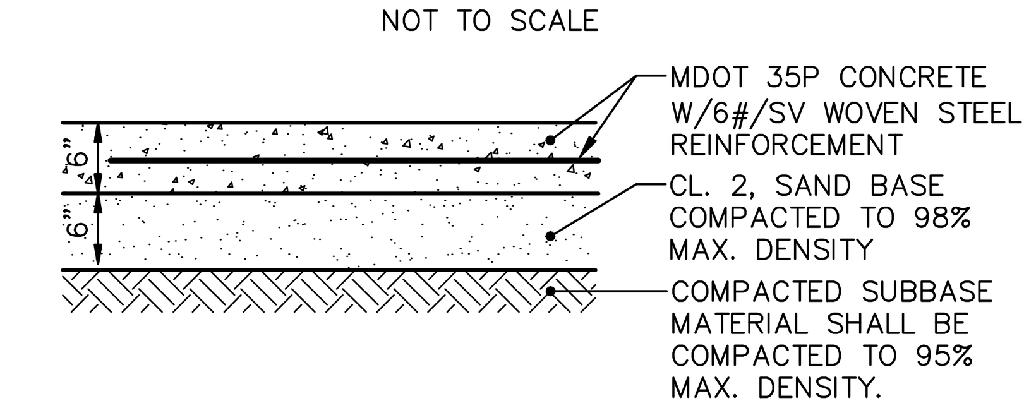
NOT TO SCALE



NOTE:
* INCREASE CONCRETE WALK TO 6" WHEN CROSSING A SINGLE-FAMILY OR DOUBLE-FAMILY DRIVEWAY, AND TO 8" FOR COMMERCIAL DRIVE CROSSINGS. USE 6" CLASS II SAND BASE AT RESIDENTIAL DRIVE CROSSINGS, AND 8" 21AA AGGREGATE BASE (98% MODIFIED PROCTOR) AT COMMERCIAL DRIVE CROSSINGS.

CONCRETE WALK DETAIL

NOT TO SCALE



HEAVY DUTY CONCRETE

NOT TO SCALE

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SITE PLAN
DETAILS

16

JOB No. 22073

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/25/23
PER MUNICIPAL REVIEW	09/22/23

DATE: 07/20/2023
SHEET 16 OF 25
CADD: SFG
ENG: TPH
PM: TPH
TECH:
/22073DT1
FB#

Legend

Soil borings performed by BRAX Drilling on June 17, 2022

200 feet

Soil Boring Location Plan

Proposed Plymouth Road Infiltration Testing
2929 Plymouth Road
City of Ann Arbor, Washtenaw County, Michigan

CONSULTING GROUP

Project No. 223400
Drawn by: KAC
Date: 6/27/22
Scale: NTS
Plate No. 1

Project Name: Proposed Plymouth Road Infiltration Testing
Project Location: 2929 Plymouth Road, Ann Arbor, Michigan
G2 Project No. 223400
Latitude: 42.30338° Longitude: -83.70242°

Soil Boring No. B-1

CONSULTING GROUP

SUBSURFACE PROFILE				SOIL SAMPLE DATA					
ELEV. (ft)	PROFILE	GROUND SURFACE ELEVATION: 900.0 ft ±	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
		Bituminous Concrete (4 inches) 0.3							
		Aggregate Base: Brown Gravelly Sand with trace silt (10 inches) 1.2							
		Fill: Hard Mottled Gray and Brown Silty Clay with trace sand and gravel (Organic Content = 2.3%) 3.0		S-1	2 4 6	10	15.8		9000*
895.0		Hard Mottled Brown and Gray Silty Clay with trace sand and gravel, occasional silt partings 7.8	5	S-2	3 7 10	17	12.2		9000*
				S-3	9 9 13	22	12.8		9000*
890.0		Hard Brown Silty Clay with trace sand and gravel 11.0	10	S-4	4 11 16	27	11.1		9000*
		Hard Gray Silty Clay with trace sand and gravel 13.5		S-5	5 6 10	16	11.0		8500*
885.0		End of Boring @ 13.5 ft	15						

Total Depth: 13.5 ft
Drilling Date: June 17, 2022
Inspector: K. Crow, P.E.
Contractor: Brax Drilling
Driller: A. Rau

Drilling Method:
3-1/4 inch inside diameter hollow-stem augers

Water Level Observation:
Dry during and upon completion of drilling operations

Notes:
Borehole collapsed at 12 ft after auger removal
* Calibrated Hand Penetrometer

Excavation Backfilling Procedure:
Backfilled with auger cuttings and capped with cold patch

Figure No. 1

SOIL / PAVEMENT BORING: 223400.GPJ 20150116.GG CONSULTING DATA TEMPLATE.GDT 6/28/22

Project Name: Proposed Plymouth Road Infiltration Testing
Project Location: 2929 Plymouth Road, Ann Arbor, Michigan
G2 Project No. 223400
Latitude: 42.30326° Longitude: -83.70245°

Soil Boring No. B-2

CONSULTING GROUP

SUBSURFACE PROFILE				SOIL SAMPLE DATA					
ELEV. (ft)	PROFILE	GROUND SURFACE ELEVATION: 899.8 ft ±	DEPTH (ft)	SAMPLE TYPE-NO.	BLOWS/ 6-INCHES	STD. PEN. RESISTANCE (N)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	UNCONF. COMP. STR. (PSF)
		Bituminous Concrete (3 inches) 0.3							
		Aggregate Base: Brown Gravelly Sand with trace silt (9 inches) 1.0							
		Very Stiff to Hard Mottled Brown and Gray Silty Clay with trace sand and gravel, occasional silt partings (LL = 40; PI = 27) 8.0		S-1	2 5 5	10	18.7		5000*
894.8			5	S-2	2 3 8	11	20.6		5500*
				S-3	4 8 12	20	11.4		9000*
889.8		End of Boring @ 8 ft	10						
884.8			15						

Total Depth: 8 ft
Drilling Date: June 17, 2022
Inspector: K. Crow, P.E.
Contractor: Brax Drilling
Driller: A. Rau

Drilling Method:
3-1/4 inch inside diameter hollow-stem augers

Water Level Observation:
Dry during and upon completion of drilling operations

Notes:
Borehole collapsed at 4 ft after auger removal
* Calibrated Hand Penetrometer

Excavation Backfilling Procedure:
Backfilled with auger cuttings and capped with cold patch

Figure No. 2

SOIL / PAVEMENT BORING: 223400.GPJ 20150116.GG CONSULTING DATA TEMPLATE.GDT 6/28/22

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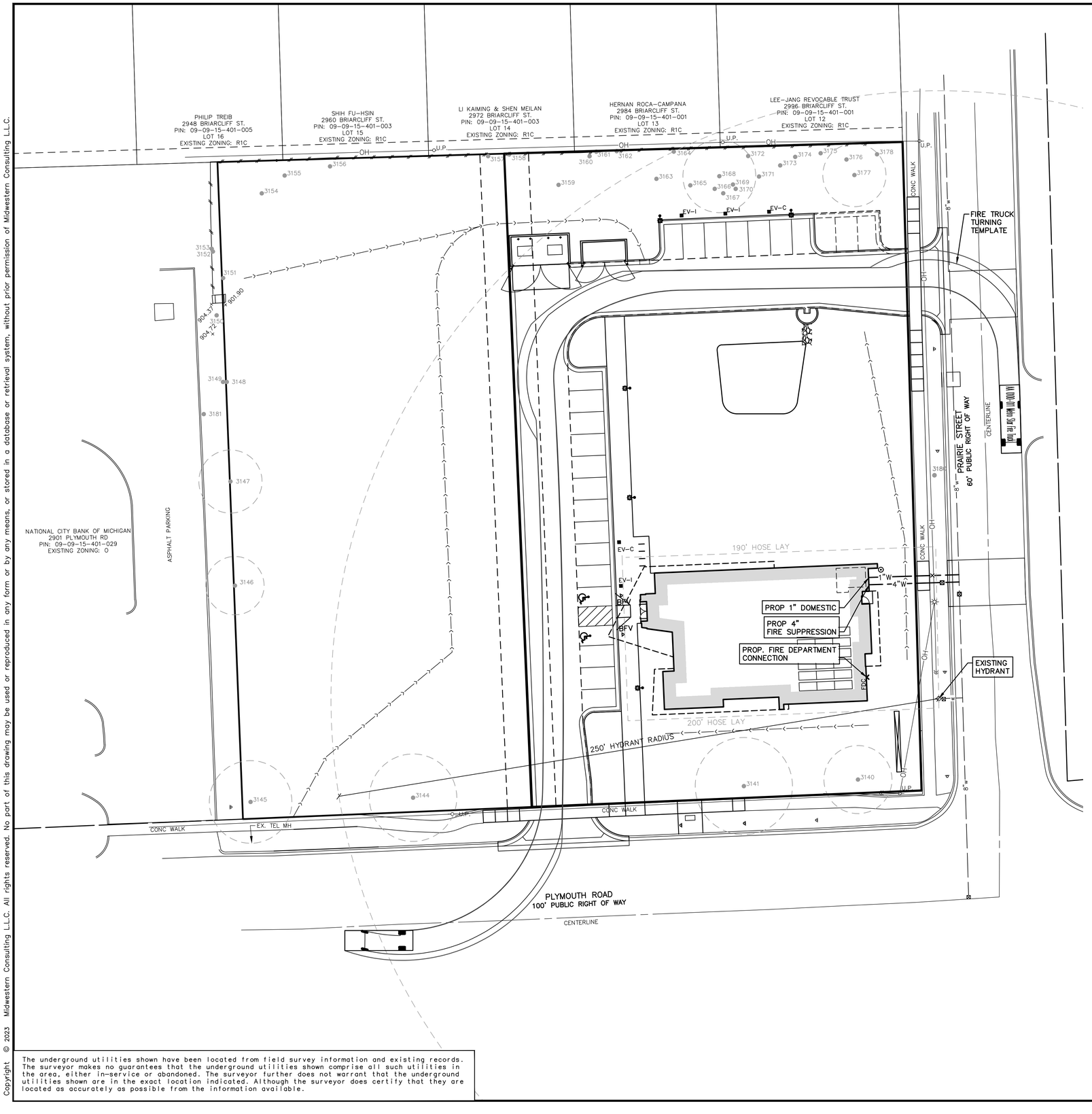
SITE PLAN
SOIL BORINGS

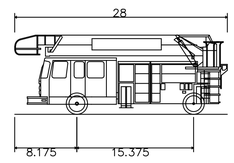
17

JOB No. 22073

DATE: 07/20/2023
SHEET 17 OF 25
CADD: SFG
ENG: TPH
PM: TPH
TECH: 22073DT1

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	08/16/23
PER MUNICIPAL REVIEW	09/22/23





AA 0100-011 Metro Star Fire Truck

Overall Length	28.000ft
Overall Width	8.250ft
Overall Body Height	10.432ft
Min Body Ground Clearance	0.862ft
Track Width	8.000ft
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	29.470ft

FIRE ENGINE DETAIL
SCALE : NTS

Know what's below. Call before you dig.

SCALE: 1" = 20'
0 20 40 60

NOTES

1. WATER SERVICES ARE TO BE SEPARATE DOMESTIC AND FIRE LINES.
2. ADDRESSING: NUMERICS SHALL BE A MINIMUM OF 12 INCHES IN HEIGHT AND CLEARLY VISIBLE WHEN APPROACHING THE BUILDING. SEE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS AND LOCATIONS.
3. FLOW REQUIREMENTS: FLOW SHALL COMPLY WITH NFPA 13 STANDARDS AND SHALL MEET 2015 INTERNATIONAL FIRE CODE (IFC) STANDARDS FOUND IN APPENDIX B. TABLE B 105.1 OF THE CODE.
4. FIRE DEPARTMENT CONNECTIONS (FDC'S) SHALL BE WITHIN 100 FEET OF A HYDRANT.
5. FIRE DEPARTMENT CONNECTION (FDC): HOOK-UP LOCATION IS SUBJECT TO FIRE MARSHAL'S APPROVAL.
6. FDC'S SHALL BE 4 INCH STORZ CONNECTIONS OR (2) 2 ½ INCH NST CONNECTIONS.
7. FDC ACCESS SHALL COMPLY WITH IFC 912.3.
8. FDC SIGNAGE SHALL BE PROVIDED AND SHALL COMPLY WITH IFC 912.4.
9. FIRE PROTECTION ALARM AND DETECTION SYSTEM SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES ADOPTED BY THE CITY OF ANN ARBOR, INCLUDING NFPA 72, 2007 EDITION AND ALL OTHER REFERENCED STANDARDS.
   a. A HORN STROBE DEVICE SHALL BE INSTALLED ABOVE THE FDC AND SHALL ACTIVATE UPON SPRINKLER WATER FLOW.
   b. EMERGENCY RESPONDER RADIO COVERAGE SHALL COMPLY WITH 2015 IFC SECTION 510.
   c. EMERGENCY VOICE/ALARM COMMUNICATIONS SYSTEM SHALL COMPLY WITH 2015 IFC SECTION 907.6.2.2.
   d. OCCUPANT NOTIFICATION APPLIANCES SHALL ACTIVATE THROUGHOUT THE NOTIFICATION ZONES UPON SPRINKLER WATER FLOW.
   e. PLACE SIGNAGE ON FIRE SUPPRESSION SYSTEM CONTROL ROOM DOOR (IFC 2015 SECTION 509.1) IF APPLICABLE.
10. KNOX BOX EMERGENCY ACCESS SYSTEM WITH KEYS TO ACCESS THE BUILDING, THE FIRE SUPPRESSION SYSTEM CONTROL ROOM (IF APPLICABLE), AN ELEVATOR KEY, AND ANY OTHER KEYS TO AREAS THAT MAY BE RELEVANT DURING EMERGENCIES WILL BE REQUIRED. KNOX BOX WITH PROPER KEYS SHALL BE IN PLACE PRIOR TO ISSUANCE OF CERTIFICATES OF OCCUPANCY FOR THE BUILDINGS.
11. THE KNOX BOX SHALL BE MOUNTED NO HIGHER THAN 6 FEET FROM GRADE IN AN APPROVED LOCATION ON THE EXTERIOR FOR EMERGENCY ACCESS TO THE BUILDING AS WELL AS ACCESS TO THE FIRE SUPPRESSION SYSTEM CONTROL ROOMS IF APPLICABLE.
12. CONSTRUCTION SEQUENCING
    a. HYDRANTS MUST BE IN SERVICE AND APPROVED DURING CONSTRUCTION.
    b. HYDRANTS PROVIDING PROTECTION COVERAGE FOR THE BUILDING MUST BE IN SERVICE AND APPROVED BY BOTH ENGINEERING AND FIRE DEPARTMENTS BEFORE THE FIRE DEPARTMENT WILL SUPPORT PERMIT ISSUANCE FOR NEW CONSTRUCTION PHASE AND BEFORE COMBUSTIBLE MATERIALS ARE PLACED ON THE JOB SITE.
    c. STORAGE AREAS FOR CONSTRUCTION MATERIALS MUST BE APPROVED SO AS NOT TO INTERFERE WITH FIRE/EMERGENCY SITE ACCESS.
    d. IF SITE ACCESS IS TO BE RESTRICTED DURING CONSTRUCTION, KNOX BOX LOCKS FOR GATES ARE TO BE PROVIDED.
13. NO FIREWALLS WILL BE CONSTRUCTED WITHIN THE BUILDING.
14. BOOSTER PUMPS WILL BE PROVIDED FOR DOMESTIC AND FIRE WATER SERVICES IF NECESSARY.
15. NO SEPARATE FIRE SUPPRESSION SYSTEM CONTROL ROOM IS REQUIRED.
16. STORAGE AREA FOR CONSTRUCTION MATERIALS SHALL NOT INTERFERE WITH FIRE/EMERGENCY SERVICES.
17. HYDRANTS PROVIDING PROTECTION COVERAGE FOR THE BUILDING SHALL BE IN SERVICE AND APPROVED BY BOTH PLANNING AND FIRE DEPARTMENT BEFORE FIRE DEPARTMENT WILL SUPPORT PERMIT ISSUANCE FOR NEW CONSTRUCTION PHASE AND BEFORE COMBUSTIBLE MATERIAL ARE PLACED ON THE JOB SITE.
18. RADIO COVERAGE MUST BE PROVIDED TO MEET ALL REQUIREMENTS OF THE IFC 2015 EDITION, SECTION 510. (FOR THE SELF-STORAGE BUILDING.)
19. AT THE PROPOSED EMERGENCY ACCESS / SECURITY GATE, INSTALL GATE KNOX BOX PER CITY OF ANN ARBOR FIRE CODE. MANUALLY CONTROLLED SLIDING GATES SHALL BE PROVIDED WITH AN APPROVED EMERGENCY VEHICLE DETECTOR / RECEIVER SYSTEM TO MEET CITY OF ANN ARBOR FIRE CODE.
20. WATER SUPPLY FOR THE BUILDING SHALL MEET THE DEMAND FOR AN AUTOMATIC SPRINKLER SYSTEM, INCLUDING HOSE STREAM ALLOWANCE, PER APPENDIX B105.3 AND SHALL MEET THE MINIMUM REQUIREMENTS IN 2015 IFC, APPENDIX B, TABLE B105.1.

LEGEND

w	EXIST. WATER MAIN
W	PROP. WATER MAIN
	EXIST. HYDRANT
	PROP. HYDRANT
	EXIST. GATE VALVE IN BOX
	PROP. GATE VALVE IN BOX
	EXIST. GATE VALVE IN WELL
	PROP. GATE VALVE IN WELL
	EXIST. CURB STOP & BOX
	PROP. CURB STOP & BOX
	REDUCER
	EXIST. BLOW-OFF
	PROP. BLOW-OFF
P.I.V.	POST INDICATOR VALVE
P.I.V.	POST INDICATOR VALVE
	THRUST BLOCK
fdc	EXIST. FIRE DEPARTMENT CONNECTION
FDC	PROP. FIRE DEPARTMENT CONNECTION
KB	PROP. KNOXBOX

The underground utilities shown have been located from field survey information and existing records. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated. Although the surveyor does certify that they are located as accurately as possible from the information available.

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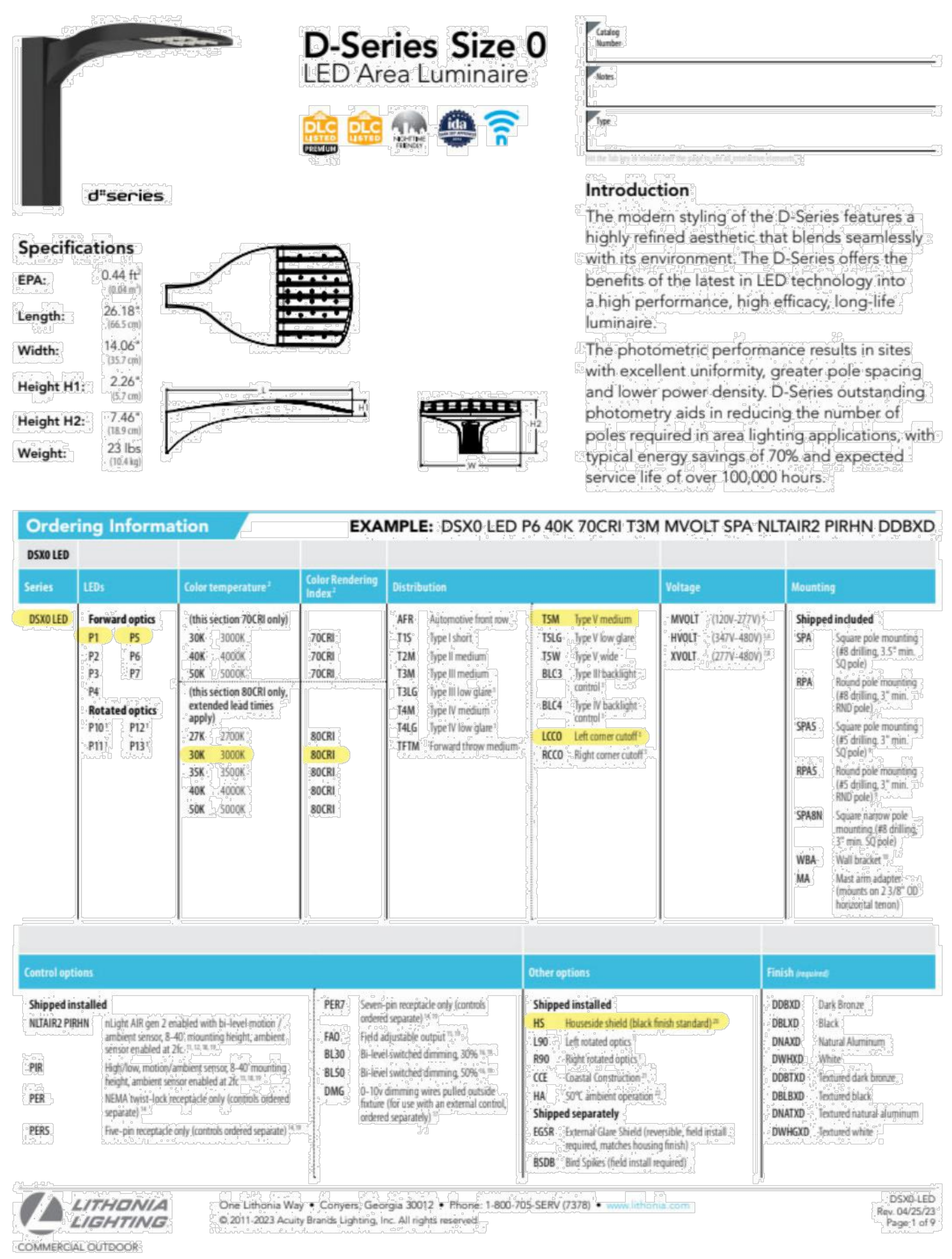
SITE PLAN
FIRE PROTECTION PLAN

18

JOB No. 22073

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	09/22/23
PER MUNICIPAL REVIEW	

DATE: 07/20/2023
SHEET 18 OF 25
CADD: SFG
ENG: TPH
PM: TPH
TECH:
22073SP1.PSP


D-Series Size 0
LED Area Luminaire

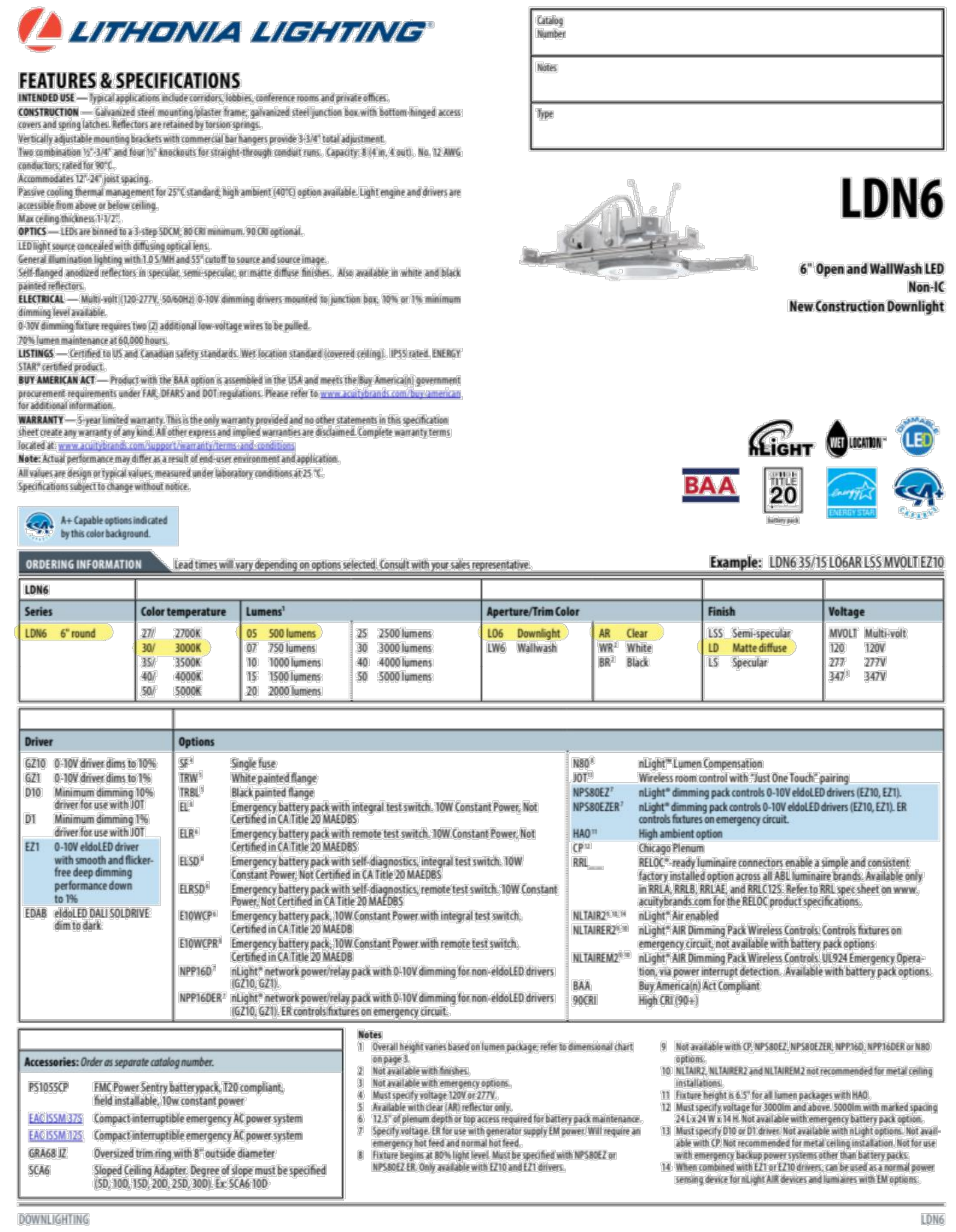
Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.

Specifications

Ordering Information EXAMPLE: DSX0 LED P6 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD


LITHONIA LIGHTING

FEATURES & SPECIFICATIONS

LDN6

6" Open and WallWash LED Non-IC New Construction Downlight

Example: LDN6 35/15 LO6AR LSS MVOLT EZ10

General Note

1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
2. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS 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, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIRMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705.

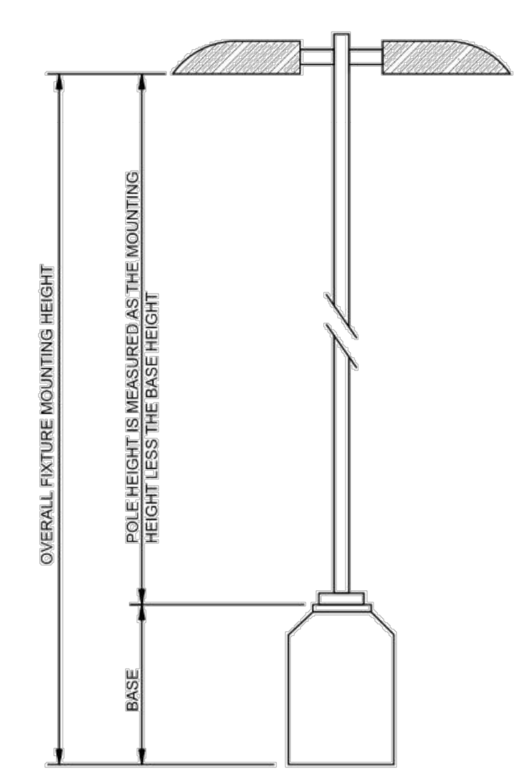
EV Smart Commercial Pole Base Housing

Consider including one or more Intelligent Pole Bases (IPB) on your site to future proof for EV Charging stations.

Contact Gasser Bush Associates for more information on IPB and EV Charging Stations at:

www.intelligentpolebase.com

www.gasserbush.com



Alternates Note

THE USE OF FIXTURE ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.

Mounting Height Note

MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.

Ordering Note

FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.

Drawing Note

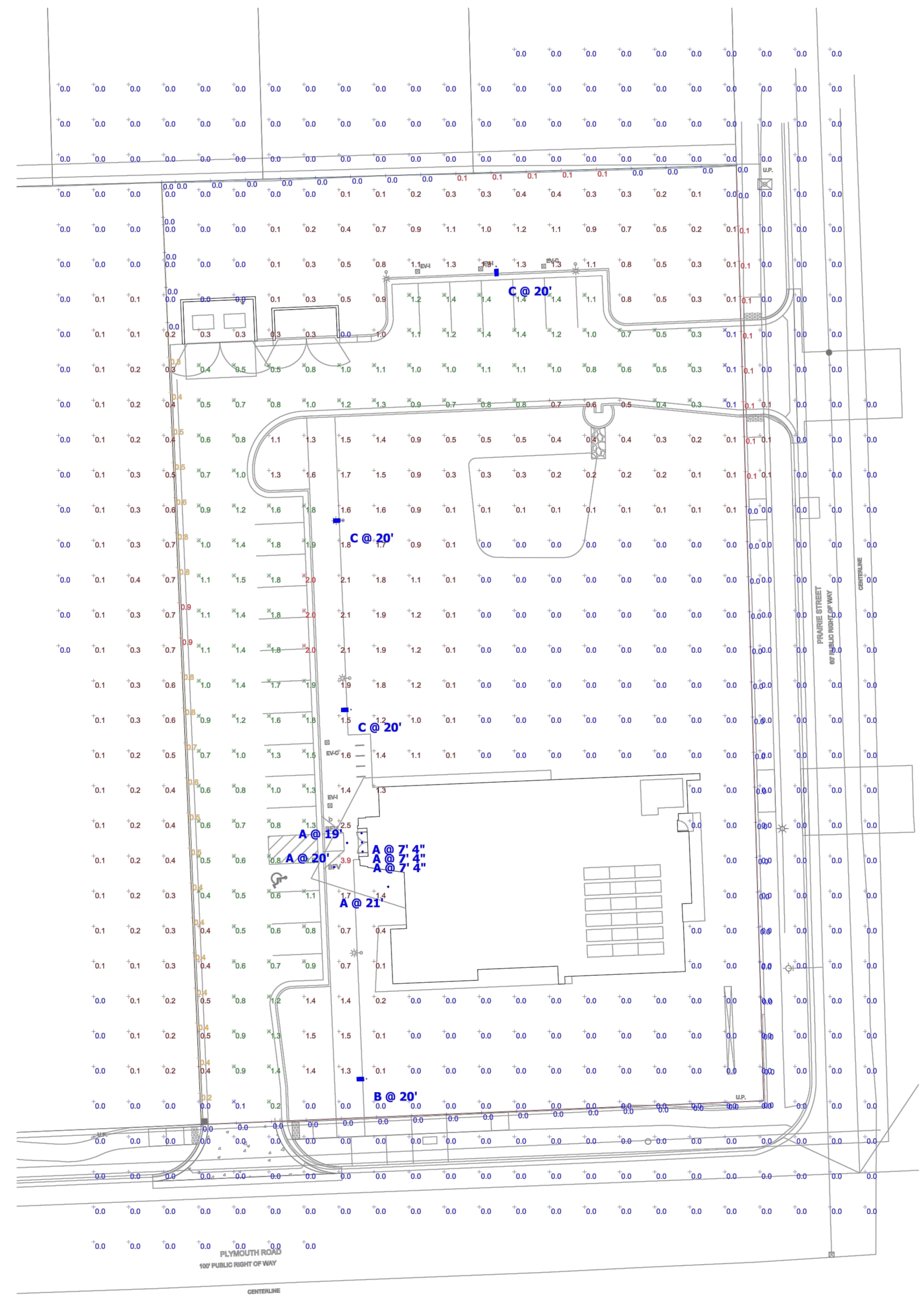
THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

Schedule

Symbol	Label	QTY	Manufacturer	Description	Lamp	CCT	CRI	Mounting Height
	A	6	Lithonia Lighting	6" LED DOWNLIGHT, 3000K	LED	3000K	80	VARIES
	B	1	Lithonia Lighting	DSX0 LED AREA LIGHT, 3000K	LED	3000K	80	20'-0"
	C	3	Lithonia Lighting	DSX0 LED AREA LIGHT, 3000K	LED	3000K	80	20'-0"

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
COMMERCIAL PROPERTY LINE	+	0.5 fc	0.9 fc	0.0 fc	N/A	N/A	0.6:1
OVERALL	+	0.3 fc	3.9 fc	0.0 fc	N/A	N/A	0.1:1
PARKING LOT	✳	1.0 fc	2.0 fc	0.1 fc	20.0:1	10.0:1	0.5:1
RESIDENTIAL PROPERTY LINE	+	0.0 fc	0.1 fc	0.0 fc	N/A	N/A	0.0:1
RIGHT-OF-WAY PROPERTY LINE	+	0.0 fc	0.1 fc	0.0 fc	N/A	N/A	0.0:1

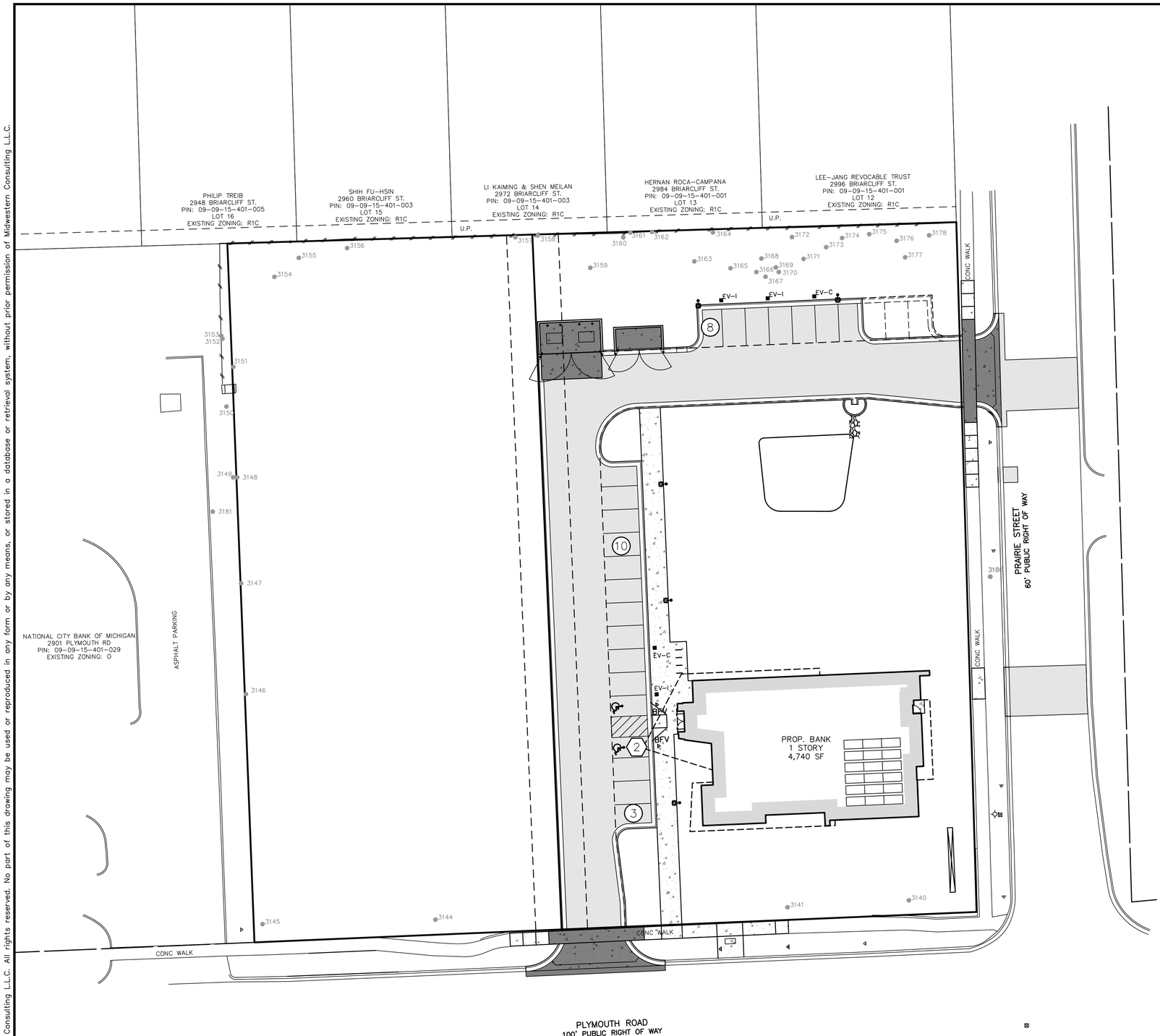


Plan View

Scale - 1" = 20ft

2929 PLYMOUTH ROAD
PHOTOMETRIC SITE PLAN
PREPARED FOR: MIDWESTERN CONSULTING
GASSER BUSH ASSOCIATES
WWW.GASSERBUSH.COM

Designer
DP/KB
Date
6/21/2022
rev. 6/22/2022
rev. 7/26/2023
Scale
Not to Scale
Drawing No.
#22-77071-V3



SCALE: 1" = 20'

0 20 40 60

811 Know what's below. Call before you dig.

LEGEND

- (0) NUMBER OF STANDARD PARKING SPACES IN ROW
- [0] NUMBER OF SMALL CAR PARKING SPACES IN ROW
- (0) NUMBER OF BARRIER FREE PARKING SPACES IN ROW
- BF BARRIER FREE PARKING SIGN
- BFV VAN ACCESSIBLE BARRIER FREE PARKING SIGN
- R BARRIER FREE SIDEWALK RAMP
- PROP. CURB & GUTTER
- PROP. BITUMINOUS PAVEMENT
- PROP. CONCRETE PAVEMENT
- PROP. HEAVY DUTY CONCRETE
- PROP. BITUMINOUS PAVEMENT, RIGHT OF WAY
- SIGN
- PROP. SINGLE LIGHT
- PROP. DOUBLE LIGHT
- EV-I PROP. ELECTRIC VEHICLE CHARGING STATION – INSTALLED
- EV-R PROP. ELECTRIC VEHICLE CHARGING STATION – READY

EV PARKING SUMMARY

Use	Parking Provided	Totak Parking with Deferred	EV Ordinance Requirements			
			EV-I Type	Ordinance	Required	Provided *
Bank, Credit Union, Financial Services	22	25	EV-I	5%	2	6
			EV-C	15%	4	4
				Total	6	10

* Developer providing 1 Barrier Free EV-I space to meet part of the EV-I requirements.

CHARGEPOINT EV CHARGING STATION

DEVELOPER PROPOSING TO USE CHARGEPOINT CT4000 LEVEL 2 COMMERCIAL CHARGING STATIONS. THIS MODEL ALLOWS FOR 2 ELECTRIC VEHICLE CHARGING STATIONS TO BE ON ONE SERVICE PEDESTAL. THIS IS SUBJECT TO CHANGE BASED UPON ANALYSIS OF ALL OPTIONS FOR EV STATION PROVIDERS AND FINAL DETERMINATION BY DEVELOPER.

-chargepoint+

CT4000 Family

ChargePoint® Level 2 Commercial Charging Stations

The CT4000 family is the latest generation of ChargePoint commercial charging stations. Refined yet rugged, these stations set the industry standard for functionality and aesthetics.

The CT4000 full motion color LCD display instructs drivers and supports dynamic updates of custom branded videos and advertisements.

Intelligent power management options double the number of parking spaces served by allowing two charging ports to share a single circuit. Sites with single port EV stations can upgrade to dual port stations without requiring additional electrical services.

The CT4000 is the first ENERGY STAR® certified EV charger because it charges efficiently and conserves power when not charging. As an ENERGY STAR certified EV charger, the CT4000 uses significantly less energy than a standard EV charger when in standby mode to help you save money on your utility bill.

All CT4000 models offer one or two standard SAE J1772™ Level 2 charging ports with locking holsters, each port supplying up to 7.2kW. With this standard connector, ChargePoint level 2 stations can charge any EV.

Stations are available in bollard and wall mount configurations for easy installation anywhere. All stations are fully software upgradeable remotely over the air.

Stations come in both 6' and 8' tall models with 18' and 23' cords, respectively. With multiple options for size and cord reach, your station can service up to four parking spaces, reach all car models regardless of parking style or car sizes and increase the usability of your EV spots.

Driver Friendly User Interface

- Instructional video shows how to use the station
- Multi-language: English, French, Spanish
- Touch button interface; works in rain, ice and with gloves
- Backed by ChargePoint's world-class 24/7 driver phone support

Easily Communicate with Your Drivers

Whether you're a retail establishment wanting to advertise your latest product, a workplace looking to communicate with employees or a municipality wanting to welcome visitors, ChargePoint's prominent LCD screen makes it easy to reach EV drivers:

- Daylight readable, with auto brightness control
- 640 X 480 resolution active matrix
- Full motion 30fps video support
- Upload up to 60 seconds of high quality video on a color LCD screen to individual stations as often as desired
- Brand your charging stations to communicate with drivers
- Instructional video in English, Spanish or French

Service Products and Support

ChargePoint offers world-class service products and support that help ensure quality of work, save time and money, protect your investment and enhance the productivity of your charging stations. From site planning to installation and setup, to ongoing care and management, when you choose ChargePoint, you're covered.

- **ChargePoint Configuration and Activation:** customized setup and activation of your stations
- **ChargePoint Assure:** the most comprehensive EV Station maintenance and management in the industry

Energy Measurement and Management

- Real-time energy measurement
- 15 minute interval recording
- Time of Day (TOD) pricing
- Load shed by percentage of running average or to fixed power output

Minimize Costs with Flexible Power Management Options

In the vast majority of applications, a full power configuration is the best choice for both station owners and drivers. However, when drivers are parked for a longer time, an intelligent, lower power output can save station owners considerable installation cost while still providing drivers a great charging experience. With flexible power options, station owners can meet the needs of drivers while lowering costs:

Power Select (Patent Pending)

- Allows for a lower capacity (less than 40A) circuit to power each port
- Cuts installation costs by reducing the cost or even avoiding the need to upgrade panels or transformers

Power Sharing

- Dynamically share one 40A, 30A or 20A circuit between two parking spaces
- Doubles the number of parking spots served while reducing installation and operating costs
- Allows station owners to upgrade a single port station to dual port to serve more drivers with no electrical upgrade

Clean Cord Technology

- Keep charging cords off the ground
- Standard on all models
- Ultra-reliable second-generation gravity operated mechanism
- Flexible over entire -40°F to +122°F product temperature range

Safe, Reliable, Energy Efficient Hardware

- UL listed, meeting the stringent requirements of the nation's leading safety standards organization
- Stations are rugged, built to withstand the elements
- Safe, Reliable and Energy Efficient
- ENERGY STAR certified, charges efficiently and conserves power when not charging

When Charging Is Mission Critical, Protect Your Investment with ChargePoint Assure

- **Minimize downtime:** ChargePoint Assure provides the most comprehensive EV Station maintenance and management in the industry
- **Get up and running quickly and flawlessly:** Professional guidance for station configuration saves you time, and customized changes to station policies flexibly supports your business
- **Eliminate unexpected future expenses:** Cost for parts and on-site labor to install is covered for all Assure eligible repairs
- **One less thing to worry about:** Proactive station monitoring provides you with regular reporting
- **Reduced risk of downtime:** We guarantee 98% annual uptime and one business day response to requests
- **Support when you need it:** We're there for you and your drivers. Phone support available for station owners Monday to Friday from 5 AM to 6 PM Pacific. Phone support for drivers is 24/7/365, so you never need to field a driver call

Ultra-reliable second-generation gravity operated mechanism.

18' and 23' cords to reach all car models and serve more parking spaces.

World-class 24/7 driver phone support.

Instructional video shows how to use the station. Multi-language charging instructions, giving drivers the choice of English, French or Spanish.

Driver interaction is supported in any weather by five rugged, back-lit buttons with audio feedback.

Strong and rugged design materials built to withstand the elements.

CT4000 stations come with 18' or 23' cords to increase the usability of your charging spots, on 6' and 8' tall models respectively.

CT4021

Dual-port bollard charging station with 18' charging cables. Standard *EV Charging Only* sign without optional custom branding.

The First ENERGY STAR® Certified EV Charger

MIDWESTERN CONSULTING
3815 Plaza Drive, Ann Arbor, Michigan 48108
(734) 995-0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

CLIENT
UNIVERSITY OF MICHIGAN CREDIT UNION
340 EAST HURON STREET
ANN ARBOR, MI 48104
DEANNE RAMOS
734-662-8200 X2760

UNIVERSITY OF MICHIGAN CREDIT UNION

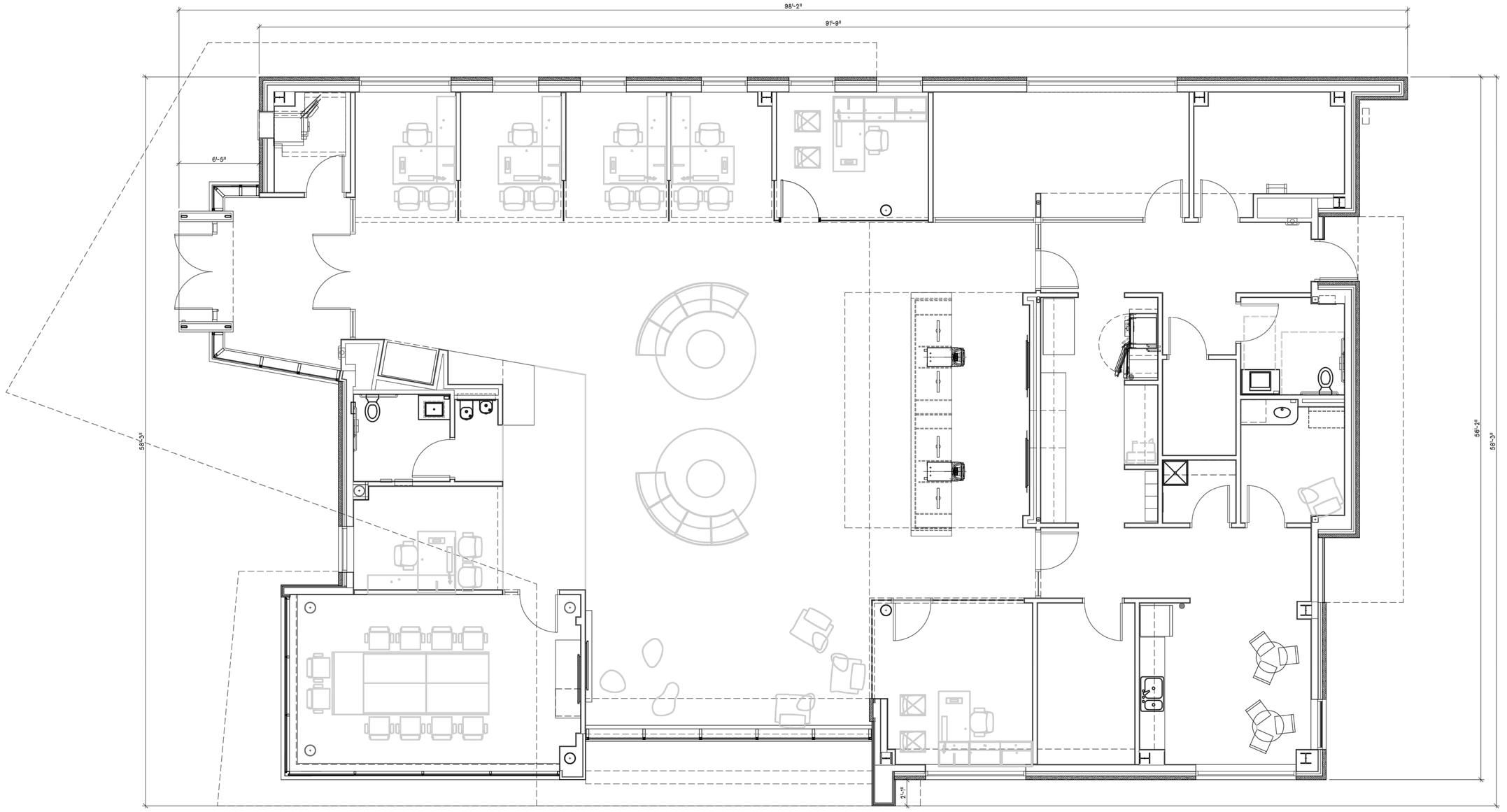
SITE PLAN
ELECTRIC VEHICLE PARKING PLAN

20

DATE: 07/20/2023
SHEET 20 OF 25
CADD: SFG
ENG: TPH
PM: TPH
TECH:
F:\22073SP1

REVISIONS:	REV. DATE
PER MUNICIPAL REVIEW	09/22/23
PER MUNICIPAL REVIEW	

JOB No. 22073



NORTH

FLOOR PLAN

SCALE - 1/4" = 1'-0"

FILENAME

SITE PLAN REVIEW 07/20/2023
DATE ISSUED

MP
DRAWN BY

CHECKED BY

HOBBS + BLACK ARCHITECTS
100 N. State St.
Ann Arbor, MI 48104
P.734.663.4189
www.hobbs-black.com

UM CREDIT UNION
University of Michigan Credit Union,
340 E Huron Street
Ann Arbor, Michigan 48104
Site Address: 2929 Plymouth Road,
Ann Arbor, Michigan 48105
Construction Manager:
JS Vig Construction

PROJECT

CONSULTANT

FLOOR PLAN

SHEET TITLE

21-202

PROJECT NUMBER

A-1

SHEET NUMBER

Drawing: C:\Files Thom\HOME\WORK\UMCU PLYM ROAD ANN ARBOR P2 I -2022\SITE PLAN REVIEW 07302023\GCCOSPRA1.dwg
Date: Jul 20, 2023, 11:06am Layout: A-1.00 Plotted by: tphillips

NORTH

ROOF PLAN

SCALE - 1/4" = 1'-0"

FILENAME

SITE PLAN REVIEW 07/20/2023
DATE ISSUED

MP
DRAWN BY

CHECKED BY

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Ann Arbor, MI 48104
P.734.663.4189
www.hobbs-black.com

UM CREDIT UNION
University of Michigan Credit Union,
340 E. Huron Street
Ann Arbor, Michigan 48104
Site Address: 2929 Plymouth Road,
Ann Arbor, Michigan 48105
Construction Manager:
JS Vig Construction

PROJECT

CONSULTANT

ROOF PLAN

SHEET TITLE

21-202

PROJECT NUMBER

A-2

SHEET NUMBER

Drawing: C:\Files Thom\HOME\WORK\UMCU_PLYM ROAD ANN ARBOR_P21-2022\SITE PLAN REVIEW 07302023\GCCOSPRA2.dwg
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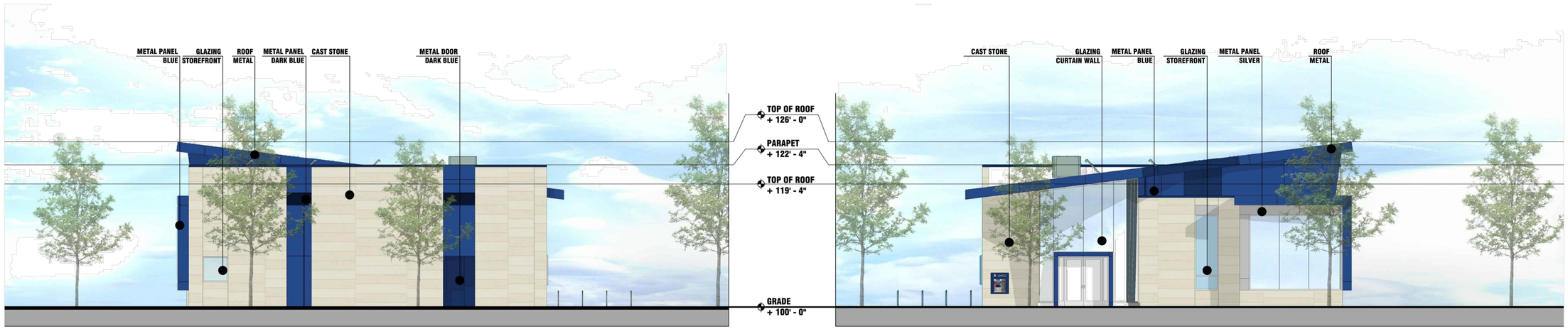
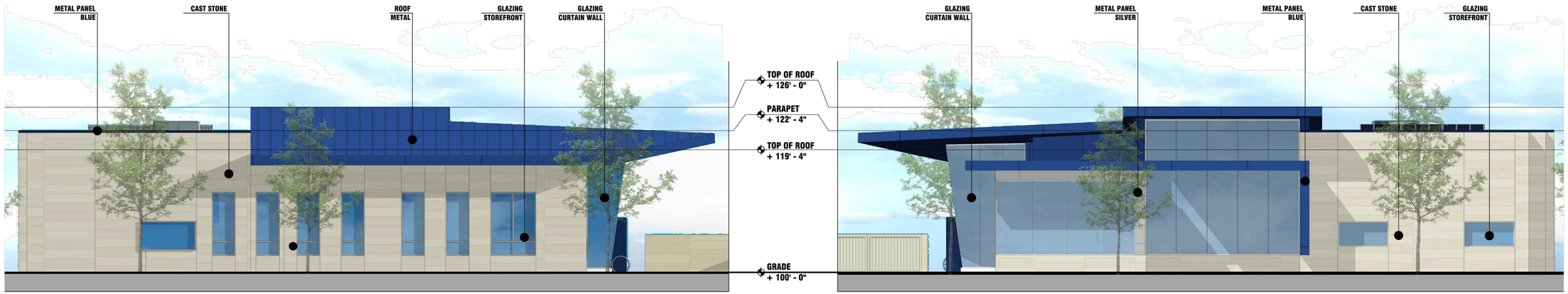


A1 / A-2 **EAST ELEVATION**
SCALE - 1/8" = 1'-0"
FILENAME

B1 / A-2 **WEST ELEVATION**
SCALE - 1/8" = 1'-0"
FILENAME



C1 / A-2 **NORTH ELEVATION**
SCALE - 1/8" = 1'-0"
FILENAME

D1 / A-2 **SOUTH ELEVATION**
SCALE - 1/8" = 1'-0"
FILENAME

1

Sheet Size - 24x36

SITE PLAN REVIEW 07/20/2023
DATE ISSUED

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Site Address: 2929 Plymouth Road,
Ann Arbor, Michigan 48105
Construction Manager:
JS Vig Construction

PROJECT

CONSULTANT

BUILDING ELEVATIONS

SHEET TITLE

21-202

PROJECT NUMBER

A-3

SHEET NUMBER

F4 / A-3 **SOUTHWEST AERIAL**
SCALE - NTS
FILENAME

A4 / A-3 **SOUTHEAST PERSPECTIVE**
SCALE - NTS
FILENAME

F1 / A-3 **NORTHWEST PERSPECTIVE**
SCALE - NTS
FILENAME

A1 / A-3 **SOUTHWEST PERSPECTIVE**
SCALE - NTS
FILENAME

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Site Address: 2929 Plymouth Road,
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Construction Manager:
JS Vig Construction

PROJECT

CONSULTANT

BUILDING RENDERINGS

SHEET TITLE

21-202

PROJECT NUMBER

A-4

SHEET NUMBER