

DEVELOPER/PETITIONER/OWNER:
VOLTA DEVELOPMENT, LLC
711 FOUNTAIN ST
ANN ARBOR, MI 48103
PHONE: 734-262-0825

ARCHITECT:
VOLTA HOMES
711 FOUNTAIN ST
ANN ARBOR, MI 48103
PHONE: 734-262-0825

ENGINEER:
MACON ENGINEERING, LLC
KATHY KEINATH, P.E.
P.O. BOX 314
CHELSEA, MICHIGAN 48118
PHONE: 734-216-9941

LANDSCAPE ARCHITECT:
INSITE DESIGN STUDIO, INC
SHANNAN GIBB-RANDALL, RLA
412 LONGSHORE DR
ANN, ARBOR, MI 48105
PHONE: 734-995-4194

SURVEYOR:
WOLVERINE ENGINEERS & SURVEYORS, INC.
DONALD BENDZINSKI, PS
312 NORTH ST
MASON, MI 48854
PHONE: 517-676-9200

STATEMENT OF INTEREST IN LAND:
DOUG SELBY IS ACTING AS OWNER, PETITIONER AND DEVELOPER OF THE SITE.

DEVELOPMENT PROGRAM
THE EXISTING BUILDING IS A STUDENT RENTAL. IT IS CURRENTLY ZONED R4C AND BECAME A NON-CONTRIBUTING PROPERTY IN THE OLD FOURTH WARD HISTORIC DISTRICT IN JULY 2019. THE CURRENT BUILDING IS 2 HOUSES THAT WERE JOINED IN 1929. THE PROPERTY WAS PURCHASED BY THE CURRENT OWNER IN 1999 AND IS A 4-UNIT APARTMENT BUILDING WITH 10 TOTAL BEDROOMS. THE HOUSES WERE POORLY JOINED IN 1929 AND THE BUILDING IS CURRENTLY IN MODERATE TO SEVERE STRUCTURAL DISREPAIR. THE OWNER OF THE PROPERTY IS APPLYING FOR A PUD TO CREATE A NEW STRUCTURE WITH GREATER OCCUPANT DENSITY WHILE MAINTAINING 4 UNITS. SIX PARKING SPACES WILL BE PROVIDED ON SITE.

THE DEVELOPMENT HAS PLANNED TO PROVIDE ADEQUATE PARKING, INGRESS AND EGRESS, STORM WATER MANAGEMENT, PEDESTRIAN CONNECTIONS AND ALL OTHER REQUIRED SITE ELEMENTS. THE PROPOSED PROJECT WILL BE SCHEDULED TO BEGIN CONSTRUCTION UPON APPROVAL FROM THE CITY AND COMPLETION IS EXPECTED IN LATE 2024. THE PROJECT WILL BE COMPLETED IN ONE PHASE. CONSTRUCTION COSTS ARE CURRENTLY ESTIMATED AT \$1,800,000.

COMMUNITY ANALYSIS

THE PROPOSED PROJECT IS LOCATED ON THE EAST SIDE OF NORTH DIVISION ST, BETWEEN E KINGSLEY AND HIGH STREETS. THE PROPERTY IS CURRENTLY ZONED R4C. THE PROJECT PROPOSES A PUD ZONING. THE PROPERTIES SURROUNDING THIS SITE TO THE EAST, WEST AND SOUTH ARE ALSO ZONED R4C. THE PROPERTY TO THE EAST IS VACANT AND USED AS A PARKING LOT. THE PROPERTY TO THE NORTH IS ZONED PUD. THE PROPOSED DEVELOPMENT IS NOT ANTICIPATED TO HAVE NEGATIVE IMPACTS ON PUBLIC SCHOOLS, AIR OR WATER QUALITY. THERE ARE NO HISTORIC FEATURES ON THE PROPERTY. THE PROPOSED DEVELOPMENT WILL REMAIN AS A RESIDENTIAL USE AND WILL BE CONSISTENT WITH OTHER PROPERTIES IN THE NEIGHBORHOOD. THE PROJECT WILL BE HARMONIOUS WITH THE SURROUNDING PROPERTIES IN THE NEIGHBORHOOD.

GENERAL DESCRIPTION OF NATURAL FEATURES

THERE ARE NO FLOODPLAINS, WOODLAND, WETLANDS, WATERCOURSES, STEEP SLOPES OR ENDANGERED SPECIES HABITAT ON THE SITE. THERE ARE NO LANDMARK TREES LOCATED ON THE PROPERTY. THERE ARE THREE LANDMARK TREES SURROUNDING THE PROPERTY. TWO ARE LOCATED ON THE ADJACENT PROPERTY TO THE NORTH AND ONE IS LOCATED IN THE CITY RIGHT-OF-WAY.

NATURAL FEATURES STATEMENT OF IMPACT

THERE ARE NO NATURAL FEATURES LOCATED ON THE SITE. THE EXISTING GRADES WILL BE MAINTAINED TO THE EXTENT POSSIBLE TO REDUCE ANY POSSIBLE IMPACTS TO TREES ON ADJACENT PROPERTIES AND IN THE RIGHT-OF-WAY.

SOIL TYPES

THE SOILS ON THE SITE ARE FOX SERIES FO8. THE SOILS ARE CLASSIFIED AS HYDRAULIC SOILS GROUP B. INFILTRATION TESTING WAS PERFORMED ON THE SITE. THE LOCATION OF THE UNDERGROUND INFILTRATION SYSTEM WILL BE LOCATED IN AN AREA WITH AN INFILTRATION RATE OF 33 IN/HR.

SOLID WASTE DISPOSAL PLAN

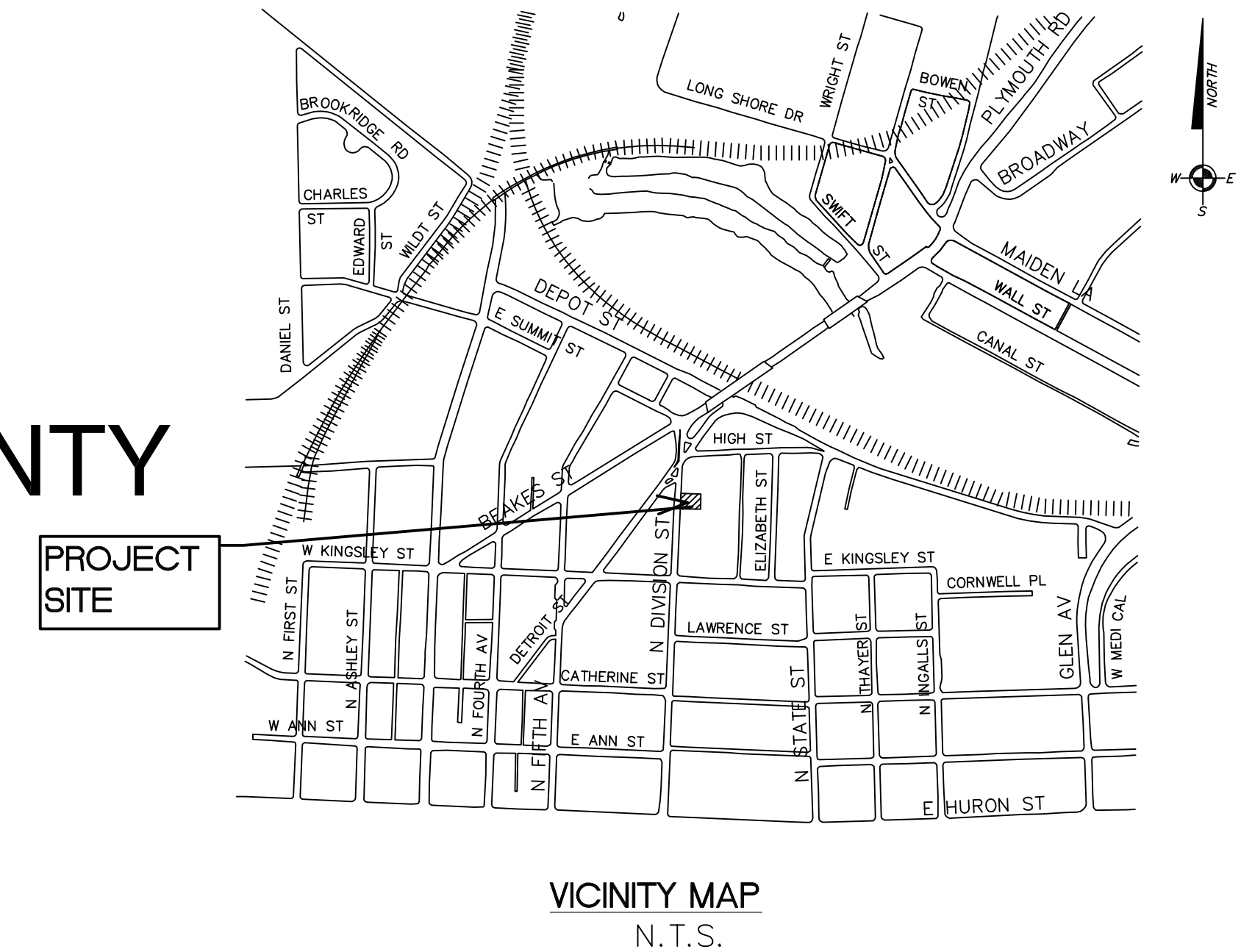
THE DEVELOPMENT PROPOSES TO PROVIDE TWO (2) 96 GAL TRASH AND ONE (1) 96 GAL RECYCLING CONTAINERS STORED IN A SCREENED AREA AT THE REAR OF THE BUILDING. ONE CONTAINER FOR COMPOST IS PROVIDED. CONTAINERS WILL BE WHEELED CURBSIDE ON COLLECTION DAYS FOR PICK UP.

530 N DIVISION

MULTI-FAMILY RESIDENTIAL

CITY OF ANN ARBOR, WASHTENAW COUNTY

PUD SITE PLAN



SUSTAINABILITY
THIS PROJECT IS SLATED TO BECOME THE WORLD'S FIRST LIVING BUILDING CHALLENGE AND PASSIVE HOUSE CERTIFIED MULTI-FAMILY BUILDING. NET-ZERO ENERGY, ALL-ELECTRIC, BUILT WITH RECYCLED AND ECOLOGICALLY FRIENDLY PRODUCTS, AND WATER EFFICIENT TO THE LIMITS OF ANN ARBOR RULES, THIS WILL BE ONE OF THE MOST SUSTAINABLE BUILDINGS IN THE NATION AND A LEADING EXAMPLE OF BUILDING TO ANN ARBOR'S 2030 CARBON-NEUTRAL GOALS, WITHIN THE WORST-PERFORMING CLASS OF BUILDINGS (STUDENT RENTALS) IN ANN ARBOR.

ANN ARBOR HAS HIGH DEVELOPMENT COSTS AND HIGH TAXES. BUILDING TO A HIGH DEGREE OF SUSTAINABILITY OFTEN THEN BECOMES FINANCIALLY IMPOSSIBLE, AS WAS THE CASE WITH THIS BUILDING AS FIRST CONCEIVED. THE DEVELOPER, A BUILDER WITH EXPERTISE IN OFF-SITE CONSTRUCTION, WAS ABLE TO GET THE PROJECT BACK INTO COST ALIGNMENT WITH CODE-MINIMUM CONSTRUCTION BY RE-DESIGNING THE BUILDING TO BE MODULAR CONSTRUCTION - BUILT IN A FACTORY UNDER CLIMATE-CONTROLLED CONDITIONS AND SHIPPED AND ASSEMBLED ON-SITE. THIS PROJECT WILL BE THE FIRST LIVING BUILDING CHALLENGE MODULAR BUILDING IN THE WORLD THAT IS LOWER THAN 16 STORIES.

TRAFFIC IMPACT ANALYSIS
VEHICULAR, PEDESTRIAN AND BICYCLE ROUTES ARE SHOWN ON THE PLANS. NO TRUCK TRAFFIC TO THE SITE IS ANTICIPATED. THE EXISTING DRIVE APPROACH IS PROPOSED REMAIN AS A SHARED DRIVEWAY WITH THE ADJACENT PROPERTY TO THE SOUTH. THE SITE IS EXPECTED TO HAVE LESS THAN 1 TRIP PER UNIT PER HOUR AND LESS THAN 32 TRIPS PER PEAK HOUR. NO TRAFFIC STUDY IS REQUIRED.

SITE TRIP GENERATION									
Land Use	ITE Code	Amount	Units	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Residential Units	230	4	DU	0.4	2.0	2.4	1.8	0.9	2.7

Trip Rates taken from ITE Trip Generation manual, 10th Edition

LEGAL DESCRIPTION

TAX ID 09-09-29-102-006
LOT 10, BLOCK 24 ORMSBY AND PAGES ADDITION TO THE CITY OF ANN ARBOR, AS RECORDED IN LIBER M OF DEEDS, PAGE 191, WAHTENAW COUNTY RECORDS EXCEPT THE WESTERLY 33 FEET AS SOLD TO THE CITY OF ANN ARBOR BY DEED RECORDED IN LIBER 124, PAGE 107, WASHTENAW COUNTY RECORDS.

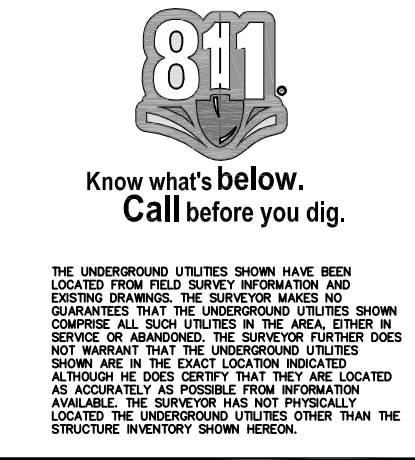
STANDARD SIDEWALK REPAIR AND MAINTENANCE NOTE
ALL SIDEWALKS ARE TO BE KEPT AND MAINTAINED IN GOOD REPAIR BY THE OWNER OF THE LAND ADJACENT TO AND ABUTTING THE SAME. PRIOR TO THE ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY FOR THIS SITE, ALL EXISTING SIDEWALKS IN NEED OF REPAIR MUST BE REPAIRED IN ACCORDANCE WITH CITY STANDARDS.

COMPARISON CHART

	EXISTING	PROPOSED	REQUIRED/ALLOWED
Zoning District	R4C	PUD	R4C
Lot Area	8,492 sf	8,492 sf	sf
Lot Width	66.00 ft	66.00 ft	60
Residential Dwelling Units	4	4	N/A
Max Density (units/acre)	20.52	20.52	20 max
Lot Area per Unit	2123 sf	2123 sf	2175 sf
Total Floor Area	3,333 sf	7,956 sf	
Front Setback	13.84 ft	11.06 ft	25 ft min
Side Setback	1.36 ft	3.73 ft	12 ft + 1.5" per ft bldg length >50 ft = 14.40'
Rear Setback	61.00 ft	40.21 ft	30 ft
Building Height	26.50 ft	29.79 ft	30 ft
Active Open Space	347 sf	307 sf	300 sf per unit
Open Space	37%	27%	Min 40%
Bicycle Parking	0	4C/12B	1 per 5 units None Required
Vehicular Parking	10	6	1.5 per Unit 6 Required
EV-C Vehicular Parking	0	0	65% of Dwelling Units 2.6 Required
EV-R Vehicular Parking	0	4	25% of Dwelling Units 1 Required
EV-I Vehicular Parking	0	2	10% of Dwelling Units 0.4 Required

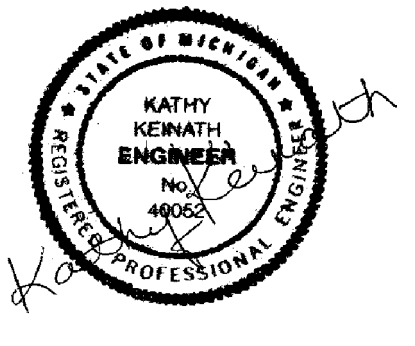
SHEET INDEX

SP-01	COVER	A100	BASEMENT FLOOR PLAN
SP-02	ALTA SURVEY	A101	FIRST FLOOR PLAN
SP-03	DEMOLITION PLAN	A102	SECOND FLOOR PLAN
SP-04	LAYOUT PLAN	A103	THIRD FLOOR PLAN
SP-05	NATURAL FEATURES	A104	ROOF PLAN
SP-06	LANDSCAPE	A105	3D AXO VIEWS OF MODULES
SP-07	UTILITIES PLAN	A201	NORTH AND EAST ELEVATIONS
SP-08	GRADING	A202	SOUTH AND WEST ELEVATIONS
SP-09	STORM WATER MANAGEMENT/SOIL EROSION CONTROL	A203	EXISTING AND PROPOSED STREETSCAPE
		A204	SITE AND BUILDING CROSS SECTIONS
SP-10	SITE DETAILS	A710	STREET VIEWS
		A711	AERIAL VIEWS



Macon Engineering, LLC.
 P.O. Box 314, Chelsea, MI 48118 734-216-9941

530 DIVISION
 ANN ARBOR, MI
 SITE PLAN
 COVER



9-14-22
5-25-22
1-26-22
DATE 1-15-22
SCALE N.T.S.
SHEET NO. SP-01

ALTA / NSPS LAND TITLE SURVEY

FOR

530 N. DIVISION STREET

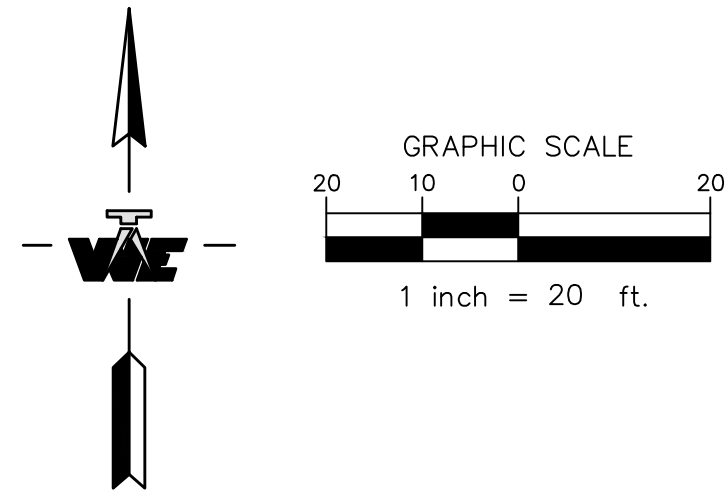
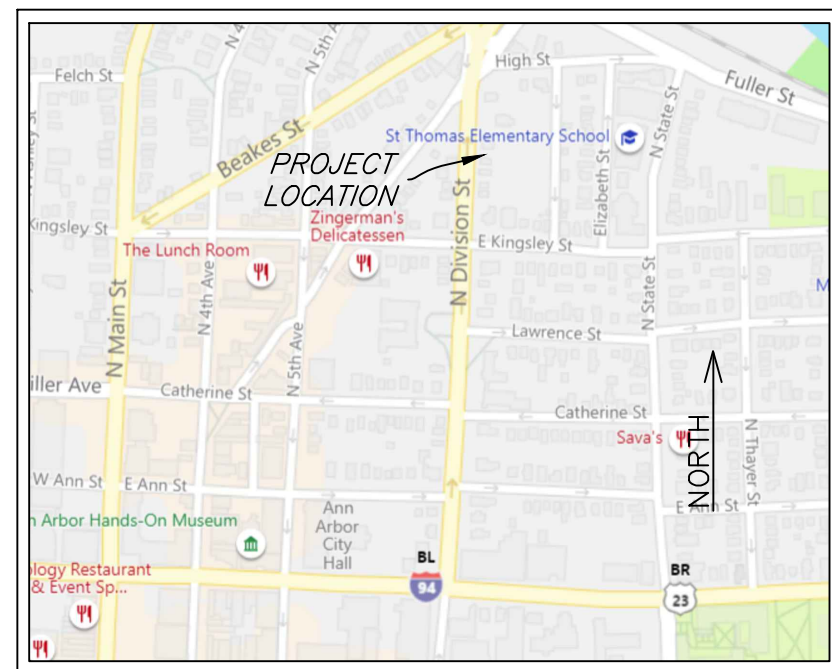
SECTION 29, T2S, R6E

CITY OF ANN ARBOR, WASHTENAW COUNTY, MICHIGAN

BENCHMARKS:

- #1 ANCHOR BOLT NW SIDE LIGHT POLE ON EAST SIDE OF ALLEY-23.4'± EAST OF EAST EDGE PARKING LOT-3' WEST OF SW CORNER OF GARAGE EL.=834.39(NAVD88)
- #2 RR SPIKE ON NORTH SIDE POWER POLE 12'± NORTH OF DRIVE TO 530 N. DIVISION STREET EL.=822.51(NAVD88)

VICINITY MAP (NO SCALE)



EXISTING LEGEND

---900---	CONTOUR - MJR	⊙	SANITARY MANHOLE
---901---	CONTOUR - MNR	⊖	STORM MANHOLE
---	SANITARY SEWER	⊕	STORM CATCH BASIN
---	STORM SEWER	⊗	SERVICE VALVE
---	WATER MAIN	⊙	LIGHT POLE
---	GAS MAIN	⊙	UTILITY POLE
---	TELEPHONE	⊙	TRANSFORMER
---	OVERHEAD UTILITIES	⊙	TELEPHONE RISER
---	CHAIN LINK FENCE	⊙	ELECTRIC METER
---	WOOD FENCE	⊙	GAS METER
---	CURB	⊙	STREET SIGN
---	PROPERTY LINE	⊙	LANDSCAPE STONE
---	CENTERLINE	⊙	DECIDUOUS TREE
---	STRUCTURE	⊙	SHRUB
---	ASPHALT	⊙	STUMP
---	CONCRETE	⊙	
---	GRAVEL	⊙	
---	LANDSCAPE STONE	⊙	
●	SET PROPERTY IRON		
○	FOUND PROPERTY IRON		
(M)	MEASURED		
(P)	PLATTED		

OPTIONAL TABLE A ITEMS:

- OPTIONAL TABLE A ITEM 1: MONUMENTS AT ALL MAJOR CORNERS OF THE BOUNDARY OF THE SUBJECT PROPERTY HAVE BEEN SET OR FOUND AND ARE SHOWN HEREON.
- OPTIONAL TABLE A ITEM 2: ADDRESSES OBSERVED WHILE CONDUCTING THE FIELD SURVEY ARE SHOWN HEREON.
- OPTIONAL TABLE A ITEM 3: THE SUBJECT PARCEL IS MAPPED WITHIN A FEMA MAPPED SPECIAL FLOOD HAZARD AREA MINIMAL FLOOD HAZARD ZONE "X" (MAP 26161C0261E EFFECTIVE DATE 04/03/2012).
- OPTIONAL TABLE A ITEM 4: THE GROSS LAND AREA OF THE SUBJECT PARCEL(S) IS 0.19 ACRES.
- OPTIONAL TABLE A ITEM 5: VERTICAL RELIEF OF THE SUBJECT PARCEL IS SHOWN HEREON AT 1 FOOT CONTOUR INTERVALS AND IS BASED ON THE VERTICAL DATUM OF NAVD88.
- OPTIONAL TABLE A ITEM 6(a): NO ZONING/PARCEL REPORT WAS PROVIDED TO THIS OFFICE.
- OPTIONAL TABLE A ITEM 6(b): NO ZONING/PARCEL REPORT WAS PROVIDED TO THIS OFFICE.
- OPTIONAL TABLE A ITEM 7(a): THE EXTERIOR DIMENSIONS, AT GROUND LEVEL, OF ALL BUILDINGS OBSERVED DURING THE COURSE OF THE FIELD SURVEY, CONTAINED WITHIN THE SUBJECT PARCEL, ARE SHOWN HEREON.
- OPTIONAL TABLE A ITEM 7(b)(1): THE SQUARE FOOTAGE OF THE EXTERIOR DIMENSIONS, AT GROUND LEVEL, OF ALL BUILDINGS OBSERVED DURING THE COURSE OF THE FIELD SURVEY, CONTAINED WITHIN THE SUBJECT PARCEL, ARE SHOWN HEREON.
- OPTIONAL TABLE A ITEM 7(b)(2): THE SQUARE FOOTAGE OF AREAS SPECIFIED BY THE CLIENT OF ALL BUILDING OBSERVED DURING THE COURSE OF THE FIELD SURVEY, CONTAINED WITHIN THE SUBJECT PARCEL, ARE SHOWN HEREON.
- OPTIONAL TABLE A ITEM 7(c): THE MEASURED HEIGHT ABOVE GRADE OF THE BUILDING OBSERVED DURING THE COURSE OF THE FIELD SURVEY, CONTAINED WITHIN THE SUBJECT PARCEL IS 26.40 FEET AT THE BUILDING PEAK, AND IS SHOWN HEREON.
- OPTIONAL TABLE A ITEM 8: SUBSTANTIAL FEATURES OBSERVED DURING THE COURSE OF THE FIELD SURVEY ARE SHOWN HEREON.
- OPTIONAL TABLE A ITEM 9: NO CLEARLY IDENTIFIABLE PARKING SPACES WERE OBSERVED DURING THE COURSE OF THE FIELD SURVEY.
- OPTIONAL TABLE A ITEM 10(a): NO DIVISION OR PARTY WALLS WERE OBSERVED DURING THE COURSE OF THE FIELD SURVEY.
- OPTIONAL TABLE A ITEM 10(b): NO DIVISION OR PARTY WALLS WERE OBSERVED DURING THE COURSE OF THE FIELD SURVEY.
- OPTIONAL TABLE A ITEM 11: LOCATIONS OF UNDERGROUND UTILITIES SHOWN HEREON ARE MAPPED BASED ON THE METHODS OUTLINE BY ALTA/NSPS OPTIONAL TABLE A ITEM 11. PLAN SOURCE INFORMATION AS FOLLOWS:
AT&T - BURIED TELEPHONE CABLE IS AS SHOWN AND LABELED ON DRAWING PER SUPPLIED DRAWING.
SIGMA TECHNOLOGIES-MAP SHOWS NO U.G. CABLE LINES UPON SUBJECT PARCEL.
WINDSTREAM-SHOW SUBJECT PARCEL CLEAR OF CABLE LINES.
- OPTIONAL TABLE A ITEM 12: GOVERNMENT AGENCY SURVEY-RELATED REQUIREMENTS IS NOT APPLICABLE TO THIS SURVEY.
- OPTIONAL TABLE A ITEM 13: NAMES OF ADJOINING OWNERS ACCORDING TO CURRENT TAX RECORDS PER WASHTENAW COUNTY EQUALIZATION (OBTAINED JANUARY 27, 2020) AND ARE SHOWN HEREON.
- OPTIONAL TABLE A ITEM 14: THE DISTANCE TO THE INTERSECTION OF N. DIVISION ST. AND E. KINGSLEY ST. IS 345 FEET.
- OPTIONAL TABLE A ITEM 15: ALL INFORMATION SHOWN HEREON IS FROM FIELD MEASUREMENT WITH EXCEPTION OF THE NOTED UTILITIES FROM ITEM 11.
- OPTIONAL TABLE A ITEM 16: NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS WERE OBSERVED IN THE PROCESS OF CONDUCTING THE FIELD SURVEY.
- OPTIONAL TABLE A ITEM 17: THERE ARE CURRENTLY NO PROPOSED CHANGES OR NO INFORMATION MADE AVAILABLE TO THIS OFFICE REGARDING THE ROAD RIGHT-OF-WAY LINES FOR NORTH DIVISION ROAD PER CONVERSATION WITH DEBORAH GOSSELIN, SYSTEMS PLANNING ENGINEER (JANUARY 31, 2020). NO EVIDENCE OF RECENT ROAD OR SIDEWALK CONSTRUCTION OR REPAIRS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELD SURVEY.
- OPTIONAL TABLE A ITEM 18: NO WETLAND FLAG MARKERS WERE OBSERVED ON THE SUBJECT PARCEL(S) IN THE PROCESS OF CONDUCTING THE FIELD SURVEY.
- OPTIONAL TABLE A ITEM 19: PLOTTABLE OFFSITE APPURTENANT EASEMENT OR SERVIDUTE (DISCLOSED IN SCHEDULE B, SECTION II OF THE TITLE COMMITMENT LISTED HEREON) ARE SHOWN HEREON.

SCHEDULE A - LEGAL DESCRIPTION:

AS STATED IN THE COMMITMENT FOR TITLE INSURANCE, ABSOLUTE TITLE, INC. FILE NO.:87253 (EFFECTIVE DATE NOVEMBER 18, 2019):

Lot 10, Block 24, Ormsby and Page's Addition to the City of Ann Arbor, as recorded in Liber M of Deeds, Page 191, Washtenaw County Records, except the Westerly 33 feet as sold to the City of Ann Arbor by deed recorded in Liber 124, Page 107, Washtenaw County Records.

SCHEDULE B - SECTION II EXCEPTIONS:

- ITEM 1. STANDARD EXCEPTIONS SET FORTH ON THE INSIDE BACK COVER. THESE ARE NOT SURVEY MATTERS.
- ITEM 2. DEFECTS, LIENS, ENCUMBRANCES, ADVERSE CLAIMS OR OTHER MATTER, IF ANY, CREATED, FIRST APPEARING IN THE PUBLIC RECORDS OR ATTACHING SUBSEQUENT TO THE EFFECTIVE DATE HEREOF BUT PRIOR TO THE DATE THE PROPOSED INSURED ACQUIRES FOR VALUE OF RECORD THE ESTATE OR INTEREST OR MORTGAGE THEREON COVERED BY THIS COMMITMENT. THIS IS NOT A SURVEY MATTER.
- ITEM 3. LIENS FOR ANY TAX AND/OR ASSESSMENT WHICH BECOME DUE AN PAYABLE ON OR AFTER THE EFFECTIVE DATE OF THIS COMMITMENT. THIS IS NOT A SURVEY MATTER.
- ITEM 4. RIGHTS OF TENANTS IN POSSESSION. THIS IS NOT A SURVEY MATTER.

STRUCTURE CHART

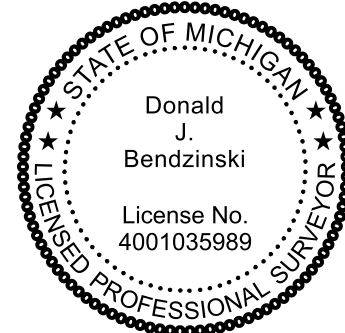
CB #538
Rim=819.15
Inv. West - 12" - 815.45
CB #553
Rim=823.62
Inv. West - 12" - 819.72
Storm MH #716
Rim=823.87
Inv. East - 12" - 819.22
Inv. South - 15" - 818.42
Inv. West - 12" - 819.02
Inv. North - 15" - 818.37
Storm MH #718
Rim=819.25
Inv. South - 15" - 714.15
Inv. East - 12" - 815.45
Inv. North - 18" - 814.15
Sanitary MH#717
Rim=823.66
Inv. North - 10" - 813.51
Inv. South - 10" - 813.61
Top/Pipe - 8"-E-W - 818.56
Sanitary#723
Rim=807.96
Inv. SW - 8" - 803.61
Inv. South - 10" - 803.41
Inv. NE - 10" - 803.41

CERTIFICATION:

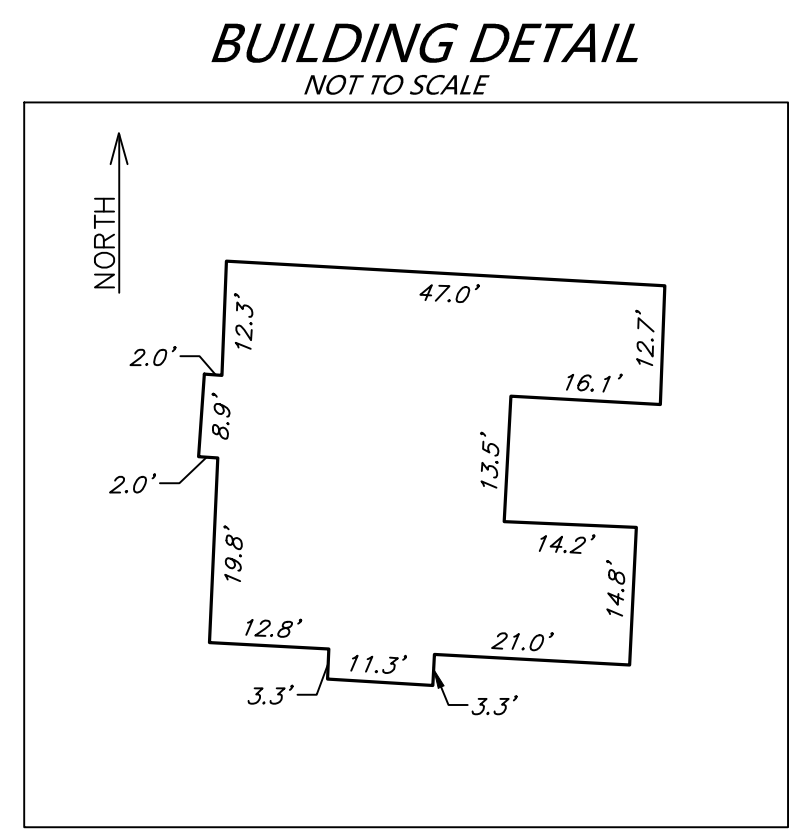
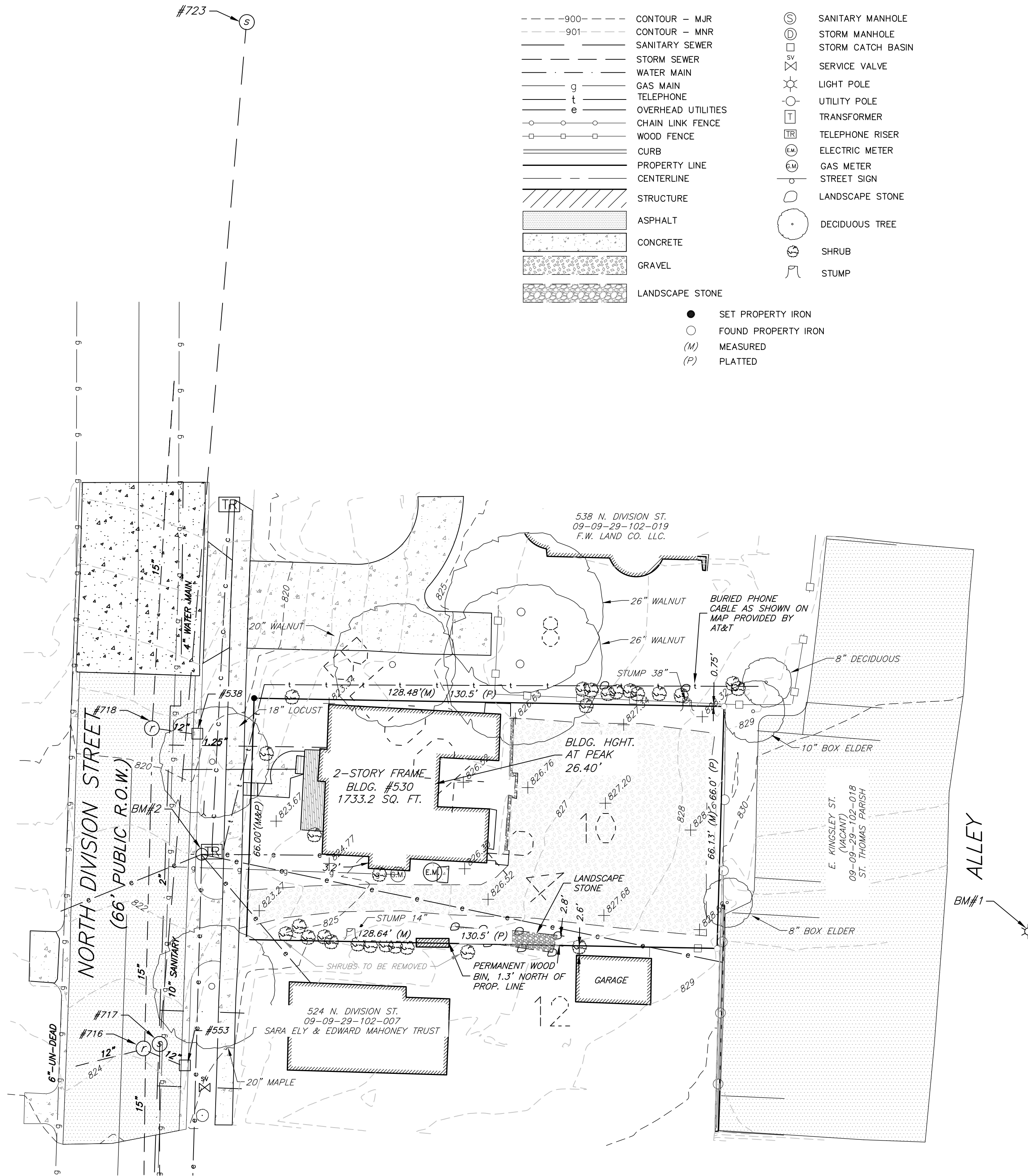
TO CEDAR RIVER PROPERTIES, LLC, MEADOWLARK BUILDERS, LLC, ABSOLUTE TITLE, INC.:
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6(A), 6(B), 7(A), 7(B)(1), 7(B)(2), 7(C), 8, 9, 10(a), 10(b), 11, 12, 13, 14, 15, 16, 17, 18, & 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETE ON 01/29/2020.

DATE OF PLAT OR MAP: 02/03/2020

Donald J. Bendzinski
DONALD J. BENDZINSKI, P.S.



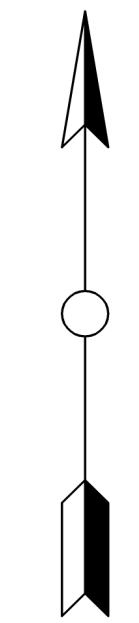
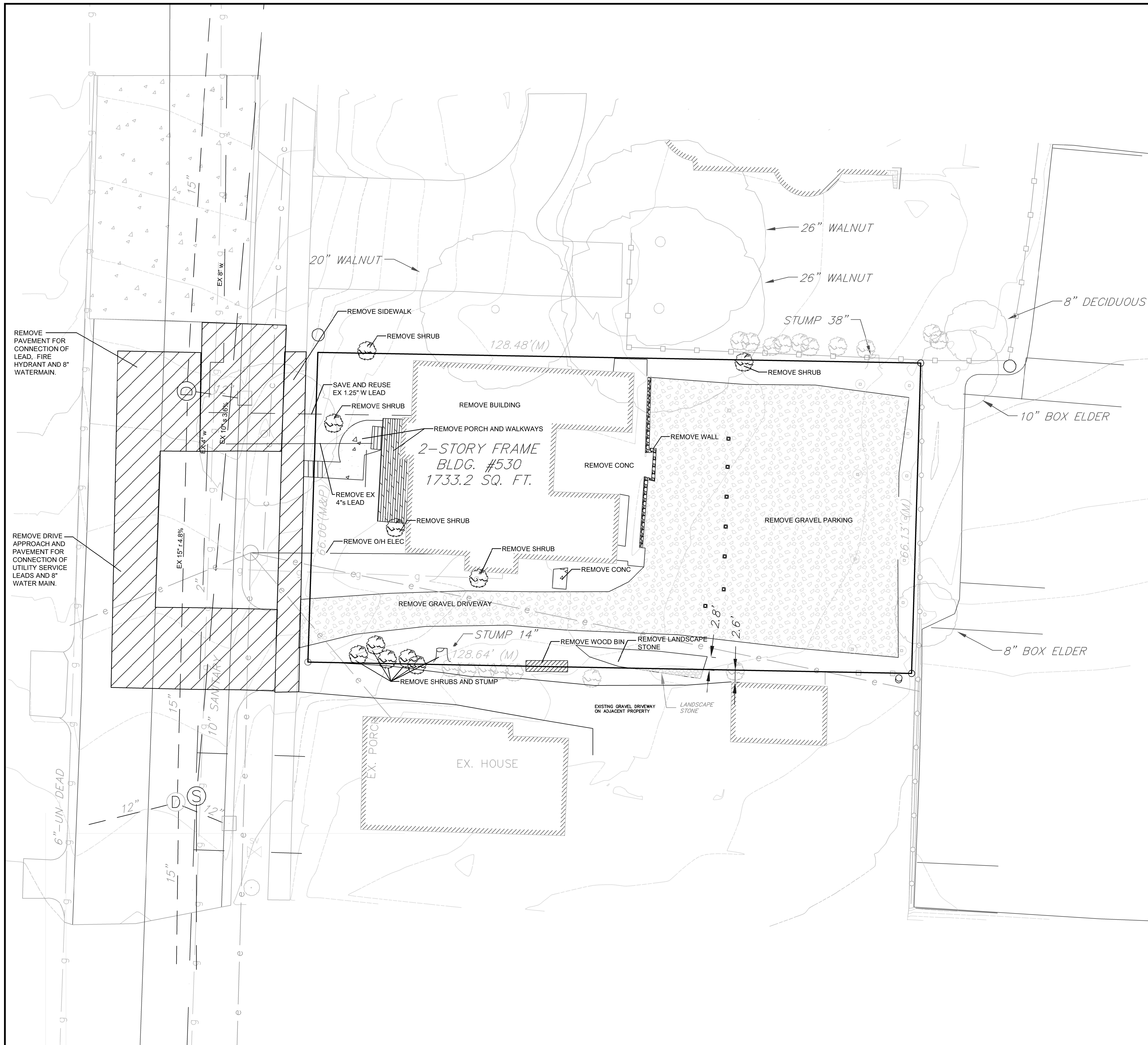
SURVEYOR'S NOTE:
THE LOCATION OF EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON FIELD LOCATION OF EXISTING UTILITIES AND PLANS SUPPLIED BY UTILITY PROVIDERS.



REVISION	DATE	DRAWN	DESCRIPTION
1	02/12/20	LDR	REVISIONS AS REQUESTED
2	01/19/2022	LDR	REVISIONS TO UTILITIES

WOLVERINE
Engineers & Surveyors, Inc.
312 North Street
Mason, Michigan 48854
Ph: 317.676.9200
Fax: 317.676.9396
http://www.wolvenet.com

PROJECT	530 NORTH DIVISION STREET CITY OF ANN ARBOR WASHTENAW COUNTY, MICHIGAN ALTA/NSPS LAND TITLE SURVEY
APPROVED	DJB
CHECKED	DJB
DRAWN	LDR
JOB NO.	20-0323
DATE	02/03/2020
SCALE	1" = 20'
SHEET NO.	1 OF 1



LEGEND

---900---	CONTOUR - MJR	⊙	SANITARY MANHOLE
---901---	CONTOUR - MNR	⊕	STORM MANHOLE
---	SANITARY SEWER	⊗	STORM CATCH BASIN
---	STORM SEWER	⊞	SERVICE VALVE
---	WATER MAIN	⊛	LIGHT POLE
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---	STRUCTURE	⊞	STUMP
---	ASPHALT	⊞	SET PROPERTY IRON
---	CONCRETE	⊞	FOUND PROPERTY IRON
---	GRAVEL	⊞	MEASURED
---	LANDSCAPE STONE	⊞	(P)
		---	PLATTED
		---	PR STORM SEWER
		---	PR SANITARY SEWER
		---	PR WATER MAIN
		---	PR SILT FENCE
		---	PR TREE FENCE
		---	PR INLET FILTER
		---	PR CONCRETE
		---	PR CURB
		---	PR CONTOUR LINE
		---	PR SPOT GRADE

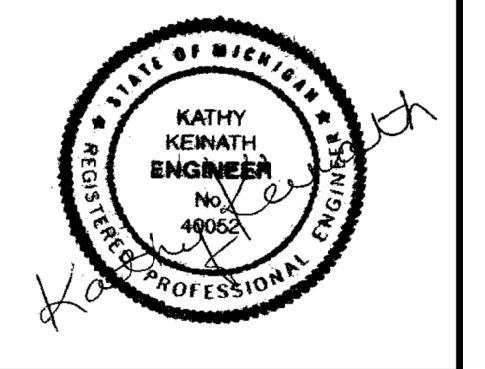
- NOTES:**
1. ALL EXISTING UNUSED UTILITY SERVICE LEADS ARE TO BE CUT AND CAPPED (ABANDONED) AT THE MAIN.
 2. REMOVE PAVEMENT AS DIRECTED BY THE CITY OF ANN ARBOR TO CONSTRUCT PROPOSED UTILITIES.
 3. ALL STRUCTURES WITHIN INFLUENCE OF CONSTRUCTION ARE TO BE ADJUSTED TO MATCH PROPOSED GRADES



THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO WARRANTY THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. A WARNING OF ONE FOOTER DEPTH HAS BEEN LOCATED. THE SURVEYOR HAS NOT PROBABLY LOCATED ALL UNDERGROUND UTILITIES OTHER THAN THE STRUCTURE INDUSTRY SHOWN HEREON.

Macon Engineering, LLC.
 P.O. Box 314, Chelsea, MI 48118 734-216-9941

530 DIVISION
 SITE PLAN
 DEMOLITION



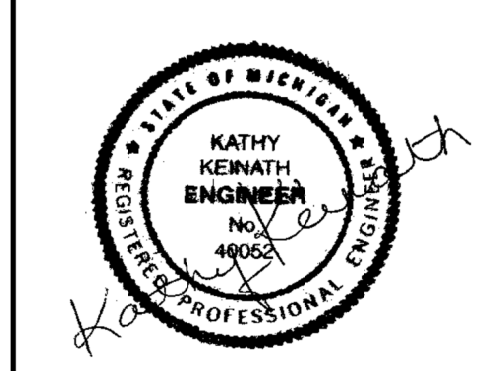
DATE	9-14-22
SCALE	5-25-22
SHEET NO.	1-26-22
	1-15-22
	1"=10'
	SP-03



THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY OF THE INFORMATION PROVIDED. THE USER OF THIS INFORMATION SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES BEFORE ANY EXCAVATION OR OTHER WORK IS UNDERTAKEN. THE SURVEYOR HAS NOT PROVIDED A GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED. THE SURVEYOR HAS NOT PROVIDED A GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED. THE SURVEYOR HAS NOT PROVIDED A GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED.

Macon Engineering, LLC.
P.O. Box 314, Chelsea, MI 48118 734-216-9941

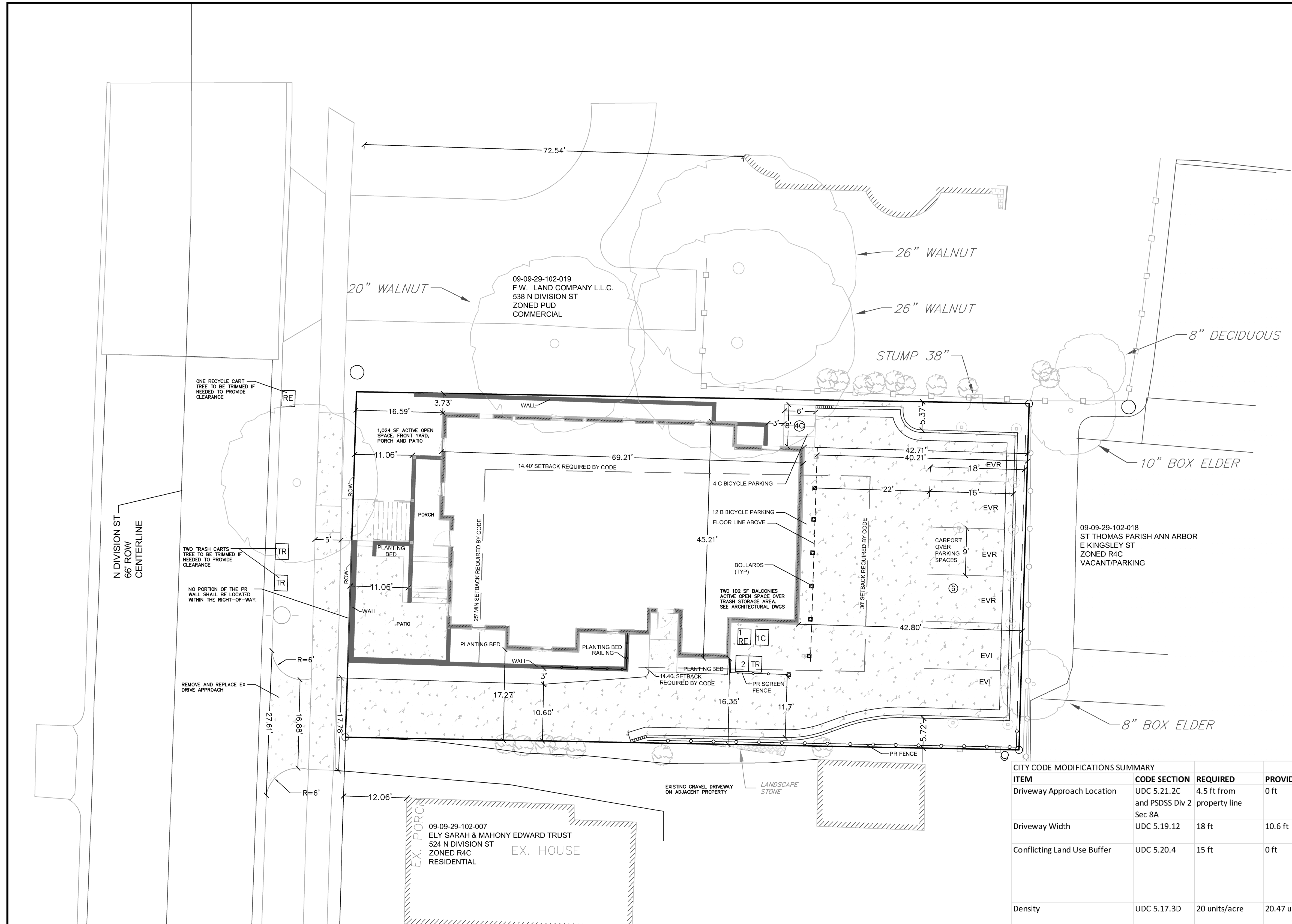
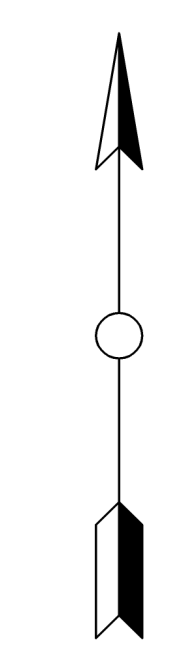
530 DIVISION
SITE PLAN
LAYOUT PLAN



DATE: 9-14-22, 5-25-22, 1-26-22, 1-15-22
SCALE: 1"=10'
SHEET NO. SP-04

LEGEND

---900---	CONTOUR - MJR	⊙	SANITARY MANHOLE
---901---	CONTOUR - MNR	⊙	STORM MANHOLE
---	SANITARY SEWER	⊙	STORM CATCH BASIN
---	STORM SEWER	⊙	SERVICE VALVE
---	WATER MAIN	⊙	LIGHT POLE
---	GAS MAIN	⊙	UTILITY POLE
---	TELEPHONE	⊙	TRANSFORMER
---	OVERHEAD UTILITIES	⊙	TELEPHONE RISER
---	CHAIN LINK FENCE	⊙	ELECTRIC METER
---	WOOD FENCE	⊙	GAS METER
---	CURB	⊙	STREET SIGN
---	PROPERTY LINE	⊙	LANDSCAPE STONE
---	CENTERLINE	⊙	DECIDUOUS TREE
---	STRUCTURE	⊙	SHRUB
---	ASPHALT	⊙	STUMP
---	CONCRETE	⊙	SET PROPERTY IRON
---	GRAVEL	⊙	FOUND PROPERTY IRON
---	LANDSCAPE STONE	⊙	MEASURED
---		⊙	PLATTED
---		---	PR STORM SEWER
---		---	PR SANITARY SEWER
---		---	PR WATER MAIN
---		---	PR SILT FENCE
---		---	PR TREE FENCE
---		---	PR INLET FILTER
---		---	PR CONCRETE
---		---	PR CURB
---		---	PR CONTOUR LINE
---		---	PR SPOT GRADE

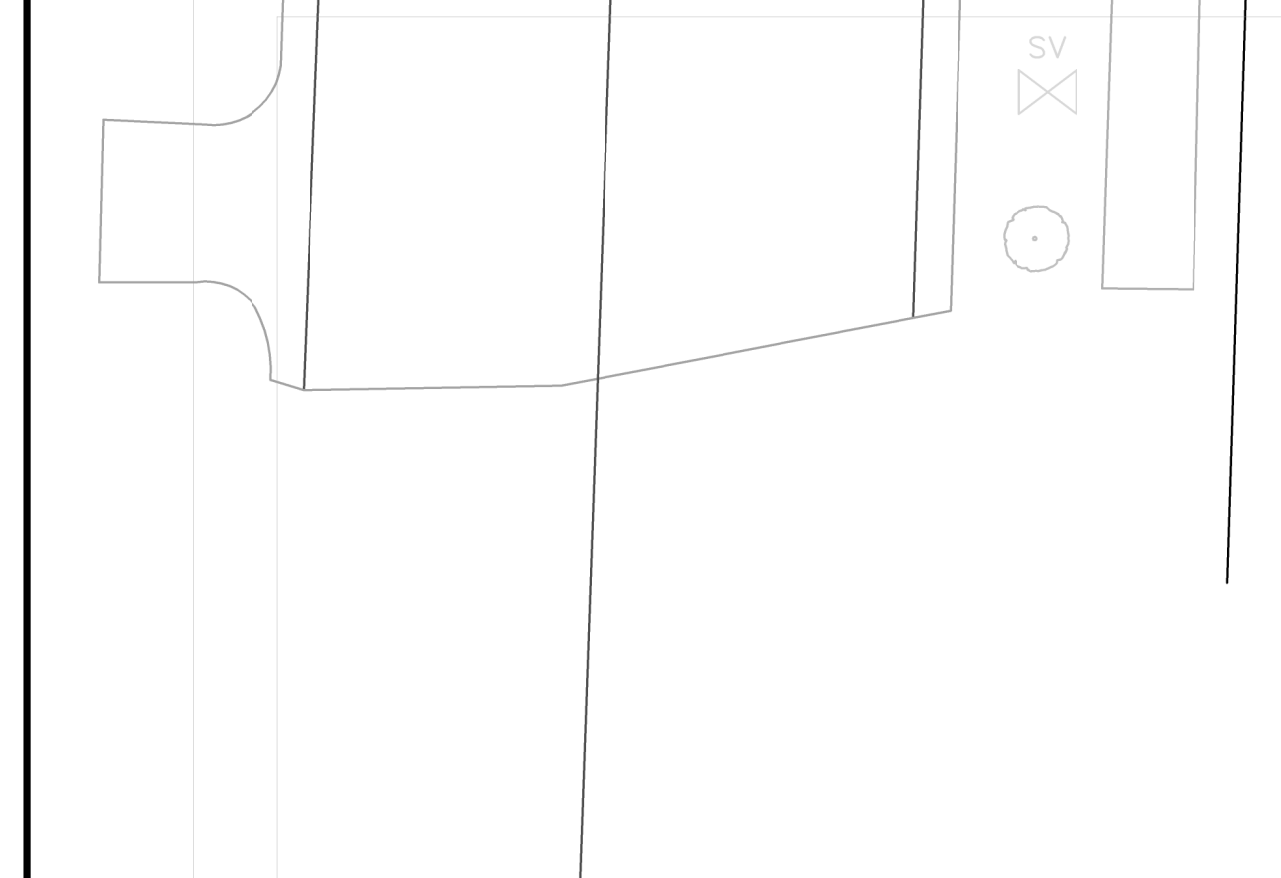


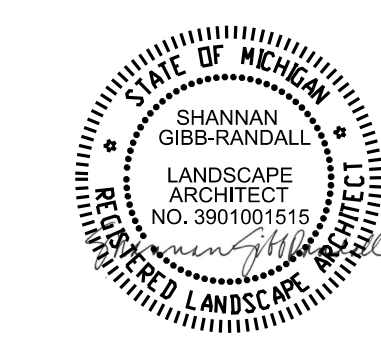
CITY CODE MODIFICATIONS SUMMARY

ITEM	CODE SECTION	REQUIRED	PROVIDED	EXPLANATION (Refer to Application for more detailed information)
Driveway Approach Location	UDC 5.21.2C and PSDSS Div 2 Sec 8A	4.5 ft from property line	0 ft	Existing shared driveway to remain.
Driveway Width	UDC 5.19.12	18 ft	10.6 ft	Existing driveway is 7.2 ft wide. Proposed driveway is an improvement. Only 6 parking spaces served by driveway.
Conflicting Land Use Buffer	UDC 5.20.4	15 ft	0 ft	CLUB required on south and east sides only. Existing shared drive approach creates practical difficulty to establish CLUB on south side. A fence is proposed along approximately half of the property line to fully screen the parking area. The property to the east is vacant and used as a parking lot. The proposed carport will screen the parking area from the property on the east side.
Density	UDC 5.17.3D	20 units/acre	20.47 units/acre	There are 4 existing units on the property. No increase to the number of units is proposed. The density will be the same as the existing conditions.
Lot Area per Unit	UDC 5.17.3D	2175 sf	2128 sf	There are 4 existing units on the property. No increase to the number of units is proposed. The Lot area per unit will be the same as the existing conditions.
Open Space	UDC 5.17.3D	40%	27%	The proposed site provides higher quality open space and active open space than the existing site. The larger building footprint is needed to provide the solar panels and sustainability elements that will achieve net zero energy.
Front Setback	UDC 5.17.3D	25 ft or AVE	11.06 ft	The existing homes to the south have similar front setbacks. The building on the PUD to the north is set back over 70 ft and is an exception to the other homes along N. Division.
Side Setback	UDC 5.17.3D	12 ft +	3.73 ft	This is an improvement from the existing condition that only provides 1.36 ft side setback.
Landmark Tree Mitigation	UDC 5.23.6.F.1	Native trees with no cultivars	2 native Serviceberries and 3 native cultivars 'Winter King' Hawthorn	Since there are solar panels on the carport in between the landscape beds that help to make this project net zero, the trees there need to stay relatively short. There are also very small landscape areas there for the trees that will be surrounded by pavement. The petitioner's consultants think that our native hawthorn would survive here well, however, the straight native species is subject to Cedar Hawthorn Rust. The cultivar Winter King Hawthorn is therefore proposed as an alternate, which is resistant to the rust.
Tree in the Public Right of Way	UDC 5.20.10.B	2 street trees in front of property at Division	1 street tree (existing) on Division and 1 street tree in the ROW immediately to the south	Due to an existing utility pole south of the existing honey locust that sits in front of the property, the additional required street tree will be planted in the ROW immediately south of the project on the other side of the driveway approach, where a street tree was recently removed.

SOLID WASTE NARRATIVE
THE DEVELOPMENT PROPOSES TO PROVIDE TWO (2) 96 GAL TRASH AND ONE (1) 96 GAL RECYCLING CONTAINERS STORED IN A SCREENED AREA AT THE REAR OF THE BUILDING. ONE CONTAINER FOR COMPOST IS ALSO PROVIDED. CONTAINERS WILL BE WHEELED OUT TO THE CURBSIDE BY THE RESIDENTS AND WHEELED BACK TO THE STORAGE AREA BY THE RESIDENTS ON COLLECTION DAYS FOR PICK UP. CARTS ARE PROPOSED TO BE SERVICED ONCE PER WEEK. THE CALCULATIONS SHOW THAT ONLY ONE TRASH CART IS REQUIRED HOWEVER TWO ARE BEING PROPOSED. THE EXISTING TREE IN THE RIGHT-OF-WAY WILL BE TRIMMED TO PROVIDE THE REQUIRED CLEARANCE.

Category	Value	Source
Solid Waste Generation		
Residential (Apartment)	2.5 lbs daily/person	Wastecare Corporation Industry Standards/National Solid Waste Management Association
Approximately 30% of waste is recycled from USEPA data & City of Ann Arbor Data		
Proposed Residential Building		
530 Division	24 ea	Students
Total Waste	420 lbs/week	Waste per Day
Trash Generated	294 lbs/week	60 lbs/day
Recycle Generated	126 lbs/week	420 lbs/week
Conversion Factors		
96 gal waste cart =	336 lbs	max capacity from City of Ann Arbor's website
Containers Required		
Trash Cart 294/336 =	0.875 carts per week	
Recycle Cart 126/336 =	0.375 carts per week	
Containers Provided		
Trash Carts	2 ea	96 gallon
Recycle Carts	1 ea	96 gallon





LEGEND

Project boundary	---
Limits of soil disturbance	--- LOD
50-feet beyond limits of soil disturbance	---
Soil type boundary	---
Existing tree	○
Existing landmark tree	○ LM
Existing tree to remain, but mitigated	○ *
Tree protection fence	○ SP-E
Critical root zone of existing tree	○
Critical root zone of existing landmark tree	○

NOTE: Refer to civil plans for elements not listed above.

NATURAL FEATURES

Natural Features on site and within fifty (50) feet beyond:
 There are no endangered species habitat on site.
 The site does not include any 100 year flood plain.
 There is one (1) landmark tree within the property boundary and four(4) landmark trees within fifty (50) feet of the limits of disturbance, as indicated on the Natural Features Plan and the Existing Tree Inventory.
 There are no steep slopes on the site.
 There are no existing watercourses on site.
 There are no wetlands on site.
 There are no wetlands on site.

SOILS

According to the NRCS soil survey, the soils on site include:
 FoB - Fpx Sandy Loam, 2 to 6 percent slopes
 According to the NRCS soil survey, the soils off site include:
 FoA - Fpx Sandy Loam, 0 to 2 percent slopes

MITIGATION SUMMARY

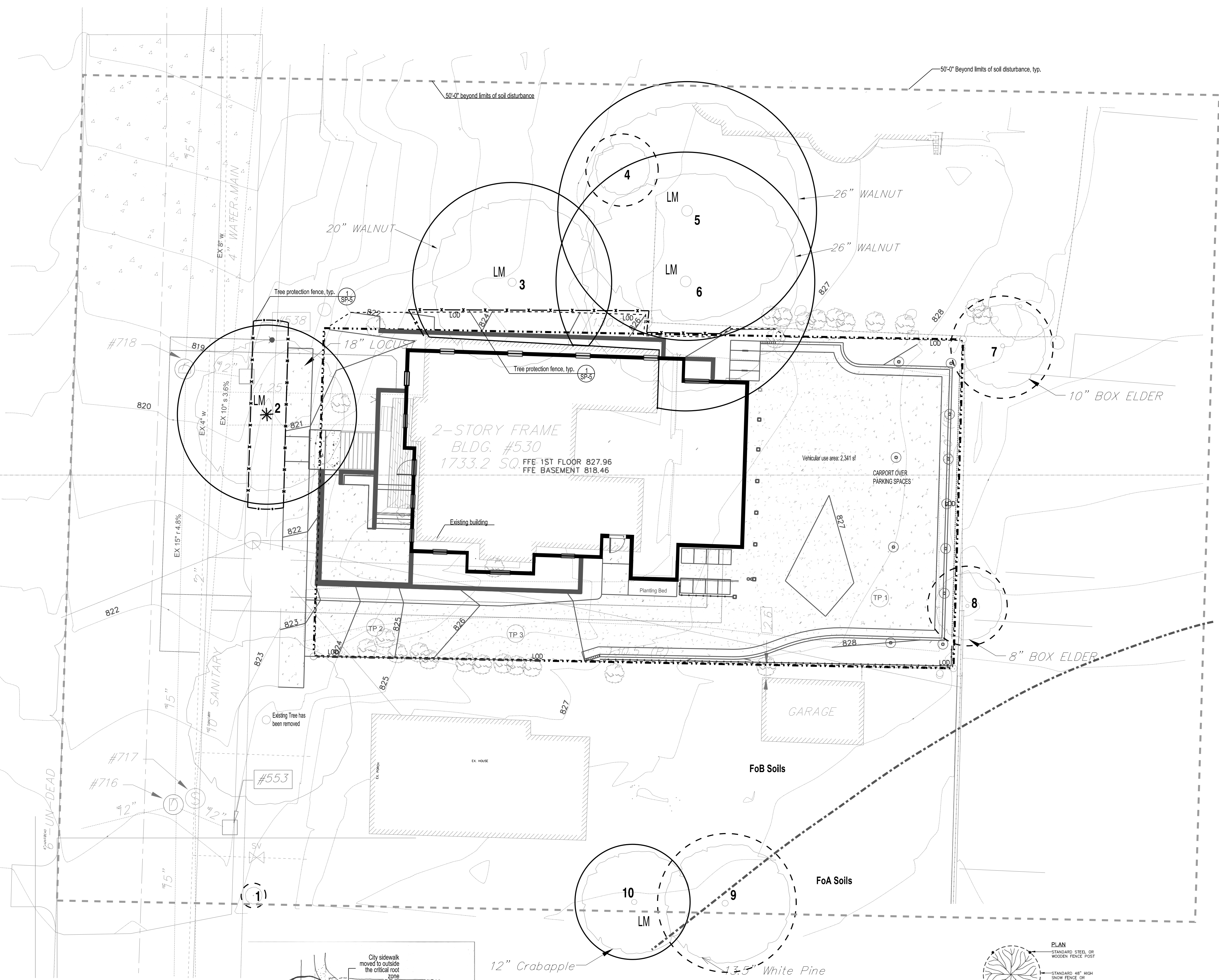
Mitigation is required for disturbance to the critical root zone of one landmark tree- a 18" DBH Honey Locust.
 All mitigation for landmark tree removal shall be in the form of tree replacement on the site. Refer to sheet SP-6 for the location and species of proposed mitigation plantings.

Summary Table	Number of Trees	Number of Diameter Inches
Landmark trees removed	0	0
Landmark trees to remain but mitigated as removals*	1	18
Landmark trees preserved	see above	see above
TOTAL number of trees mitigated as removals	1	18
TOTAL mitigation required	18" x 50% = 9"	

EXISTING TREE INVENTORY

Trees on Site						
Tree #	DBH (in.)	Common Name	Scientific Name	Score	Landmark	Mitigation Notes
2	18	Honey Locust	Gleditsia triacanthos	58	LM	X Tree to remain, but will be mitigated

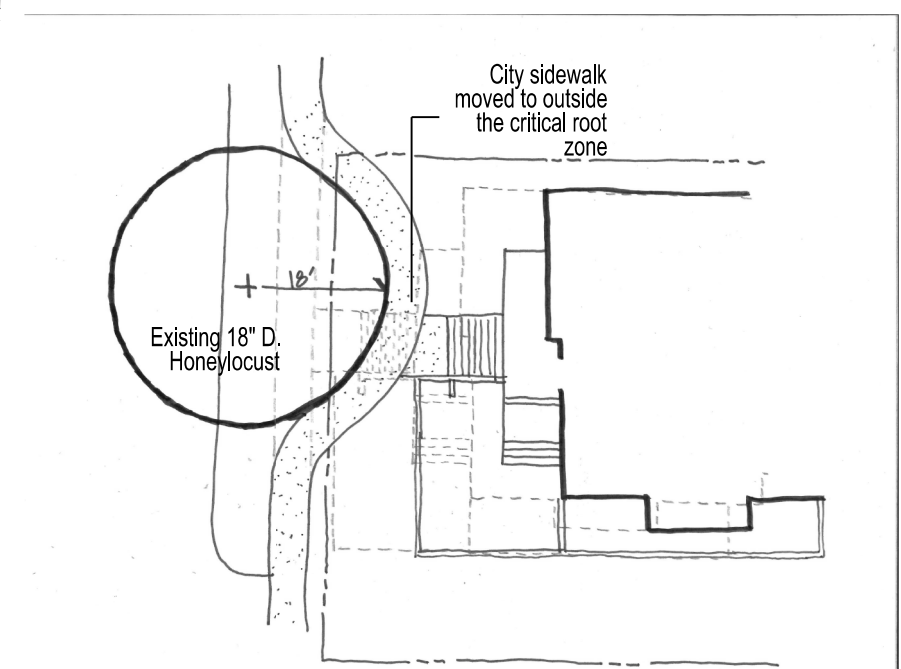
Trees within 50 feet of limits of soil disturbance						
Tree #	DBH (in.)	Common Name	Scientific Name	Score	Landmark	Mitigation Notes
1	2.5"	Serviceberry	Amelanchier spp.			
3	20"	Black Walnut	Juglans nigra	44	LM	unbalanced and lacking a full crown; root flare buried; significant roots may have been cut
4	7"	Red Oak	Quercus rubra			unbalanced; two codominate leaders at light angle; possible fill against trunk and over roots
5	26"	Black Walnut	Juglans nigra	46	LM	unbalanced and lacking a full crown; previous branch failures; construction fill over roots
6	26"	Black Walnut	Juglans nigra	45	LM	Tree consists of 4 stems sprouting from cut stump. Individual DBH's are 8", 7.5", 8.5", and 9"
7	10"	Acer negundo	Box Elder			Tree consists of 3 stems sprouting from cut stump. Individual DBH's are 7", 7.5" and 7"
9	13.5"	White Pine	Pinus strobus			
10	12"	Crabapple	Malus spp.	36	LM	Cracks and dead/missing bark; over-extended branches; signs of fireblight



ALTERNATIVES ANALYSIS

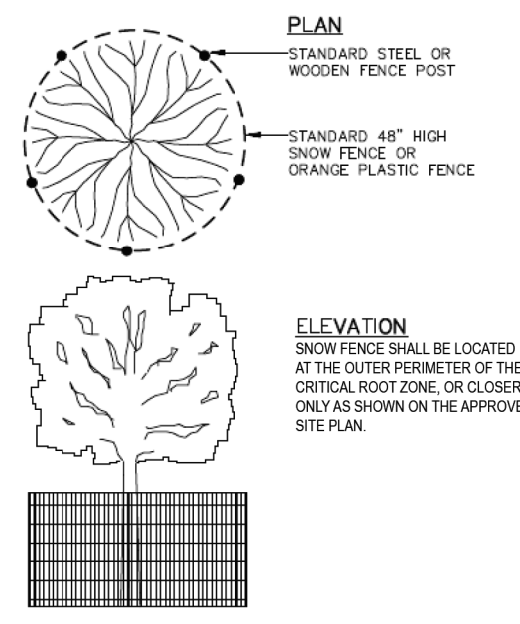
Tree #2 Honey Locust is located within the existing right of way. The tree is currently being impacted by the street and sidewalk. The alternatives analysis explores moving the city sidewalk to the edge of critical root zone. This walk configuration is inconsistent with the city sidewalk pattern in this area. Therefore, the location of the proposed sidewalk replacement will not change. The critical root zone within the tree lawn will be protected.

Tree #3 and #6 are located in the property to the north at 538 Division. They are currently being impacted by the location of the existing building footprint. The proposed footprint is between 1.3' and 2.5' further south (away from the trees) and proposed retaining walls will generally maintain grades at the property line, with some minor grading to direct water away from wall.



Alternative analysis
NO SCALE

Alternative analysis shows moving the 5' city sidewalk to the edge of the critical root zone of the existing 18" landmark Honey Locust. This configuration of the walk is not consistent with the city sidewalk pattern in this area and would necessitate moving the building 12' to the east.



TREE PROTECTION DETAIL
NOT TO SCALE
1 Tree protection fence
NO SCALE

Project: 530 Division
Ann Arbor MI

Date: 1/19/2022
1/27/2022
5/25/2022
Issued for: Review
Review
Site Plan Submission

Scale: 1" = 10'-0"
Drawn by: SMN & KR

North
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
CONTRACTOR is responsible to field verify location of all underground utilities prior to any work.

Title: Natural Features
Plan and Overlay

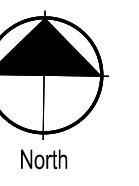
Sheet: SP-5



Project:
530 Division
Ann Arbor MI

Date: 1/19/2022
Reviewed: 1/27/2022
Site Plan Submission: 2/14/2022
Site Plan Submission: 5/24/2022

Scale: 1" = 10'-0"
Drawn by: KR



BEFORE YOU DIG CALL MISS DIG 800-482-7171
CONTRACTOR is responsible to field verify location of all underground utilities prior to any work.

Title:
Landscape Plan

Sheet:
SP-6

LEGEND

	Proposed canopy trees	Tree Planting	3 SP-5
	Proposed ornamental trees	Tree Planting	3 SP-6
	Proposed shrubs	Shrub and Perennial Planting	1 SP-6
	Proposed perennials	Shrub and Perennial Planting	1 SP-6
	Fragaria virginiana (f)	- see plant schedule	
	Woodland groundcover		
	Proposed vines		
	Proposed wood screen fence		

NOTES

1. 2" Undyed, shredded hardwood mulch shall be applied to all areas being planted.
2. All diseased, damaged, or dead material shown on the landscape plan shall be replaced by the end of the following growing season.
3. Show to be stored in the turn around area and shall not be piled on woody species. Walks will not be salled eliminating damage to material from salt. Parking spaces are covered and will not need snow removed, only the drive lane.
4. Contractor shall weed and maintain landscape for one (1) year maintenance and guarantee period.
5. Any fertilizer application beyond the initial topsoil and seeding shall be a phosphorus-free fertilizer.
6. All species deviations from the approved site plan must be approved in writing prior to installation by the City of Ann Arbor.
7. Any compacted soil should be scarified and decompacted 12" before planting beds.

PUD: LANDSCAPE MITIGATIONS TO CITY CODE

Conflicting Land Use Buffer

City Code requires a Conflicting Land Use Buffer in between the Vehicular Use Area and the residentially-zoned neighbors to the east and south. Due to site constraints of providing parking and a viable building size, the location of the neighbor's driveway to the south at the property line (which is functionally shared at the entry) the petitioner for the PUD requests to provide screening in the form of a 4 foot vegetated fence where practical on the south side and along the length of the east side and not to provide the 15' wide planting bed with trees and shrubs. If necessary, we request a landscape modification for the non-compliant conflicting land use buffer.

Mitigation Narrative

The petitioner will try to save the 18" honey locust at the street to the west of the property, however, realizes that it will be substantially affected by construction and will mitigate for it ahead of any potential impacts. To meet this requirement, the petitioner proposes five Serviceberry trees.

Street Trees

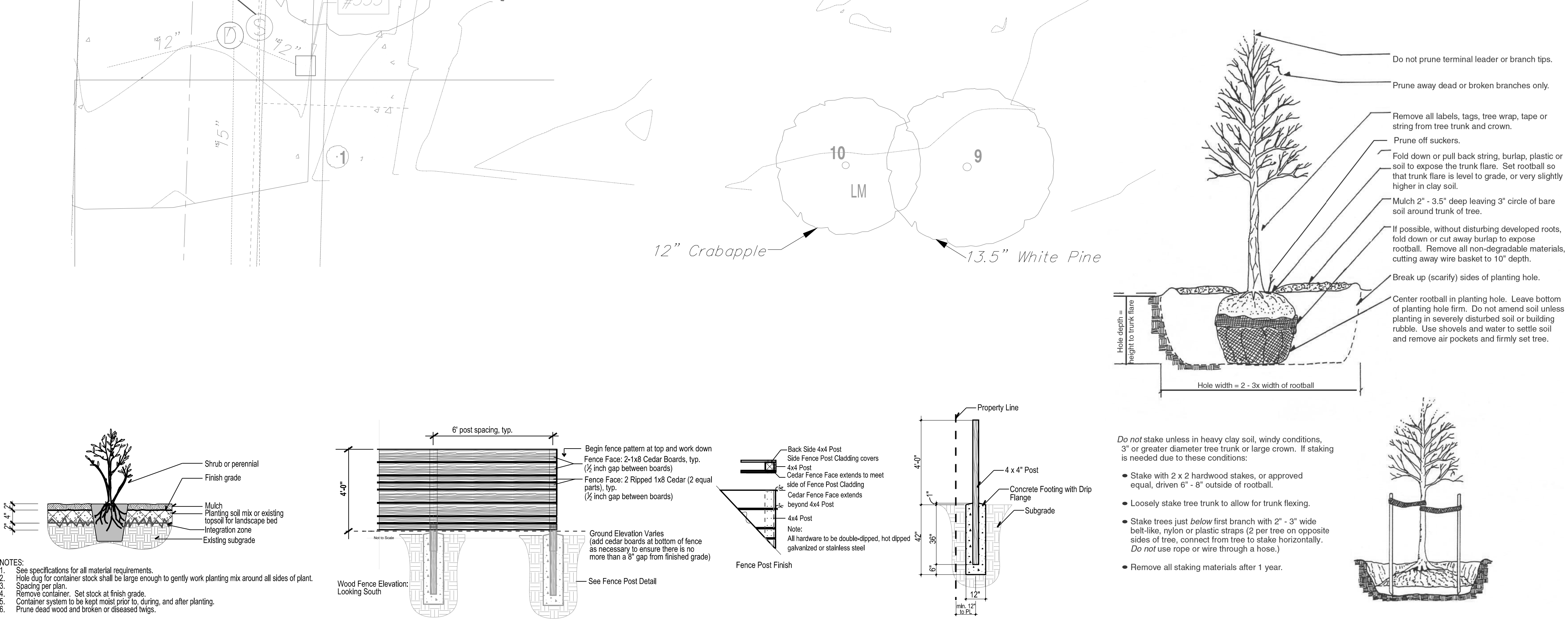
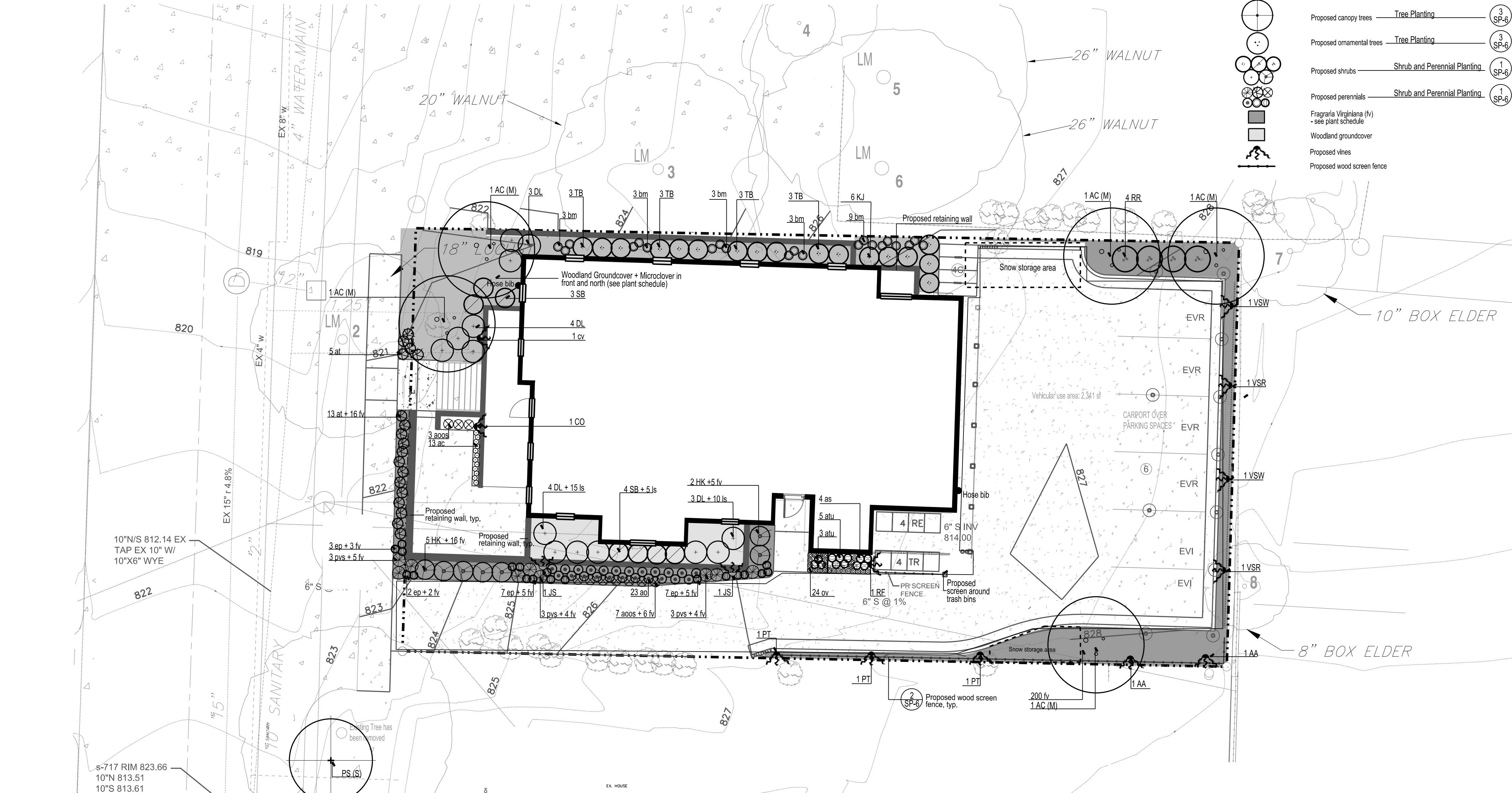
The honey locust at the road is also serving as one of the two required street trees for the project. If the honey locust dies due to construction, the petitioner will replace it with a 2" Sargent Cherry, as there are overhead lines in the ROW. Due to an existing utility pole south of the honey locust that sits in front of the property, the additional required street tree will be planted in the ROW immediately south of the project on the other side of the driveway approach, where a street tree was recently removed.

LANDSCAPE REQUIREMENTS

	Required by Code	Proposed by PUD
CONFLICTING LAND USE BUFFER		
Portion of parcel adjacent to residential zoning (LF)	195	136*
Continuous screening (LF)	195	136*
*Min. 4' in height; min. 15' wide *Proposed fence does not include southwest property boundary that is a shared driveway		
Trees	13	7
*One tree for every 15 LF of abutting land *See PUD Landscape Modifications		
Evergreen trees	7	0
*50% of the trees shall be evergreen *See PUD Landscape Modifications		
STREET TREES		
Public right-of-way street frontage (LF)	66	2
Street trees	2	2
*1 tree per every 45 LF of frontage; min. 2" caliper		
*If existing 18" honey locust dies due to construction impacts, the petitioner will replace the tree with an additional 2" Sargent Cherry in roughly the same location, per direction of City Forester.		
STREET TREE ESCROW		
Public right-of-way street frontage (LF)	66	0
*Street Tree Escrow Requirement		
NATURAL FEATURES MITIGATION		
Landmark trees to be mitigated (see SP-5)	18"	tree #2 to remain within right of way
Mitigation Trees	9"	10"
*50% of DBH of landmark tree; min 1" caliper		
INTERIOR LANDSCAPE ISLANDS		
Vehicular use area (SF)	2,341	0
no interior landscape islands required; vehicular use area is less than 3,300 sf		

Plant Schedule

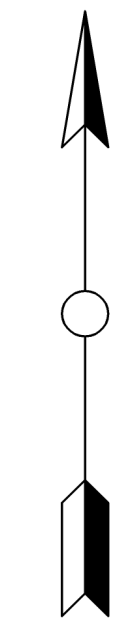
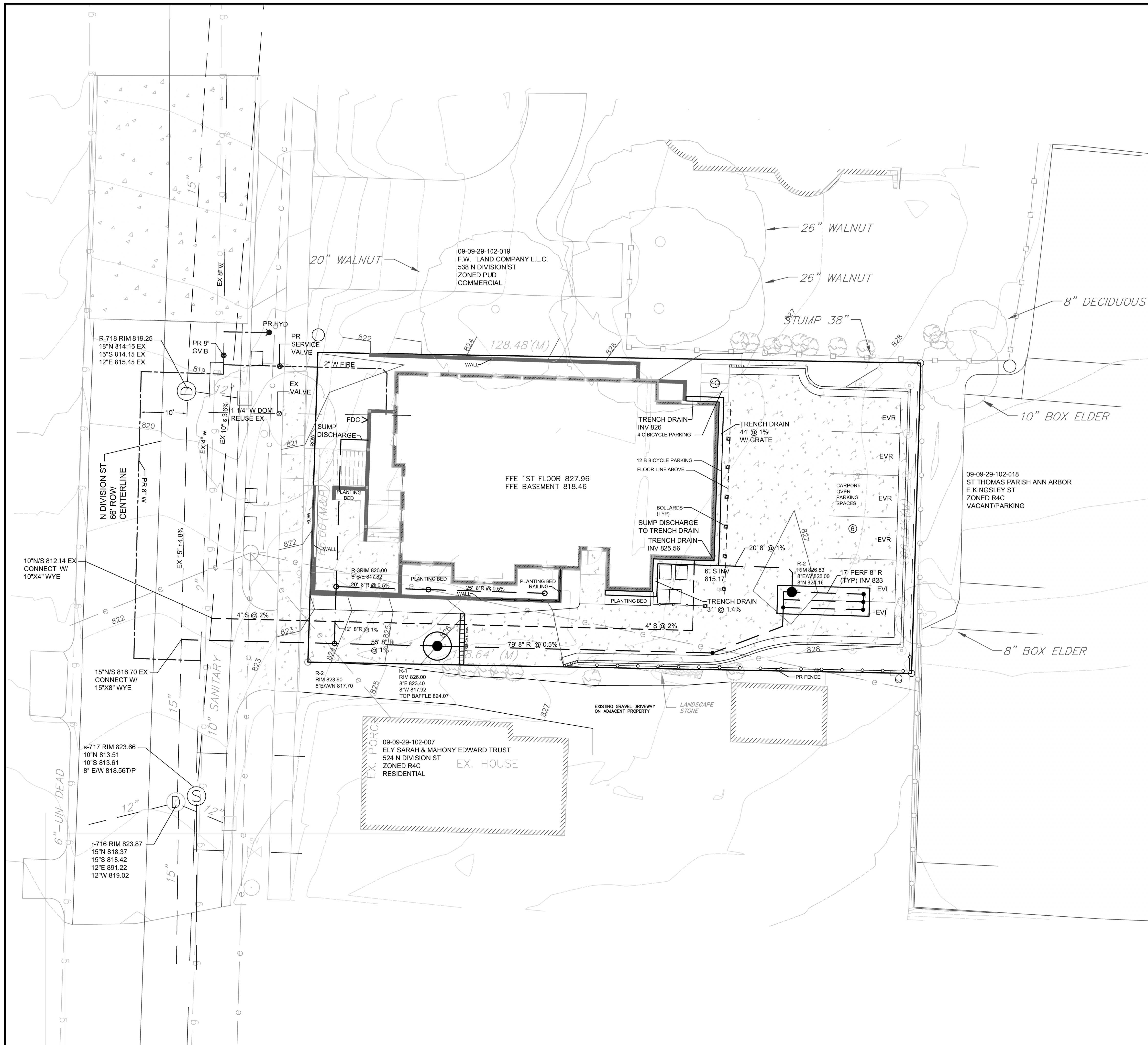
Key	Qty	Type*	Botanical Name	Common Name	Spacing	Size	Comments
AC	5	S	Amelanchier canadensis	Serviceberry	as shown	6-7' B&B	Minimum 2" caliper above root flare before separation into multi-stem
PS	1	M	Prunus sargentii	Sargent Cherry	as shown	2" cal.	
	1	S					
	5						Total required trees
Shrubs							
Key	Qty	Botanical Name	Common Name	Spacing	Size	Comments	
DL	14	Diervilla lonicera 'Michigan Sunset'	Michigan Sunset Bush Honeysuckle	36" o.c.	#3 cont.		
HK	7	Hypericum kalmianum 'Blues Festival'	Blues Festival St. Johns Wort	36" o.c.	#3 cont.		
KJ	6	Kerria japonica 'Golden Guinea'	Golden Guinea Kerria	36" o.c.	#3 cont.		
JS	2	Juniperus sabina 'Calgary Carpet'	Calgary Carpet Juniper	as shown	#3 cont.		
RR	4	Ribes rubrum	Red Currant	42" o.c.	#3 cont.		
SB	7	Spirea betulifolia 'Tor'	Tor Spirea	36" o.c.	#3 cont.		
TB	12	Taxus baccata 'Repandens'	Spreading English Yew	36" o.c.	#3 cont.		
Perennials and Groundcovers							
Key	Qty	Botanical Name	Common Name	Spacing	Size	Comments	
ac	13	Allium cernuum	Wild Nodding Onion	15" o.c.	quart cont.	Plant in groups of 3-5	
at	18	Anemone faberemontana 'Blue Ice'	Blue Ice Blue Star	18" o.c.	#1 cont.		
ao	23	Asparagus officinalis	Asparagus	18" o.c.	#1 cont.		
aoos	10	Aster oblongifolius 'October Skies'	October Skies Aster	18" o.c.	#1 cont.		
bm	21	Brunnera macrophylla 'Diane's Gold'	Diane's Gold Brunnera	15" o.c.	#1 cont.		
ep	19	Echinacea purpurea	Purple Coneflower	15" o.c.	#1 cont.		
fv	271	Fragaria virginiana	Wild Strawberry	18" o.c.	plug in flat		
ls	30	Liriope spicata	Creeping Lilyturf	24" o.c.	#1 cont.		
prv	9	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	24" o.c.	#1 cont.		
Woodland Groundcover							
Key	Qty	Botanical Name	Common Name	Spacing	Size	Comments	
ac	11	Allium cernuum	Wild Nodding Onion	18" o.c.	quart cont.	Plant in groups of 3-5	
as	12	Ageratina altissima	White Snakeroot	18" o.c.	quart cont.	Plant in groups of 3-5	
dm	32	Dryopteris marginalis	Marginal Wood Fern	18" o.c.	2" pots	Plant in groups of 3-5	
em	12	Eurybia macrophylla	Bigleaf Aster	18" o.c.	quart cont.	Plant in groups of 3-5	
gm	12	Geranium maculatum	Wild Geranium	18" o.c.	quart cont.	Plant in groups of 3-5	
ph	12	Penstemon hirsutus	Penstemon	18" o.c.	quart cont.	Plant in groups of 3-5	
sc	12	Solidago caesia	Bluestem Goldenrod	18" o.c.	quart cont.	Plant in groups of 3-5	
td	12	Thalictrum dioicum	Early Meadow Rue	18" o.c.	quart cont.	Plant in groups of 3-5	
Seed Mix							
Key	Qty	Botanical Name	Common Name	Spacing	Size	Comments	
		Microcover	"MiniClover" from Outsidetrade.com			Rate: 100 lbs. per acre	
Vines							
Key	Qty	Botanical Name	Common Name	Spacing	Size	Comments	
VSR	2	Vitis 'Swenson Red'	Swenson Red Grape	as shown	#1 cont.		
VSW	2	Vitis 'Swenson White'	Swenson White Grape	as shown	#1 cont.		
AA	2	Actinidia arguta 'Michigan State'	Michigan State Hardy Kiwi	as shown	#1 cont.	need one male and one female plant	
RT	1	Rubus fruticosus 'Triple Crown'	Triple Crown Thornless Blackberry	as shown	#1 cont.		
PT	3	Parthenocissus tricuspidata	Boston Ivy	as shown	#1 cont.		
CO	1	Clematis occidentalis	Native Purple Clematis	as shown	#1 cont.		
CV	1	Clematis virginiana	Virgin's Bower	as shown	#1 cont.		
Culinary Herbs							
Key	Qty	Botanical Name	Common Name	Spacing	Size	Comments	
so	3	Salvia officinalis	Sage	18" o.c.	4" cont.	group together	
tv	3	Thymus vulgaris	Thyme	18" o.c.	4" cont.	group together	
atu	11	Allium tuberosum	Garlic Chives	18" o.c.	4" cont.	group together	
as	3	Allium schoenoprasum	Chives	18" o.c.	4" cont.	group together	
ov	24	Origanum vulgare	Oregano	18" o.c.	4" cont.	group together	



1 Shrub, perennial, and vine planting
NO SCALE

2 Wood Screen Fence
NO SCALE

3 Tree planting
NO SCALE



LEGEND

---900---	CONTOUR - MJR	⊙	SANITARY MANHOLE
---901---	CONTOUR - MNR	⊙	STORM MANHOLE
---	SANITARY SEWER	⊙	STORM CATCH BASIN
---	STORM SEWER	⊙	SERVICE VALVE
---	WATER MAIN	⊙	LIGHT POLE
---	GAS MAIN	⊙	UTILITY POLE
---	TELEPHONE	⊙	TRANSFORMER
---	OVERHEAD UTILITIES	⊙	TELEPHONE RISER
---	CHAIN LINK FENCE	⊙	ELECTRIC METER
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		(M)	MEASURED
		(P)	PLATTED
---	PR STORM SEWER	---	PR SANITARY SEWER
---	PR SANITARY SEWER	---	PR WATER MAIN
---	PR WATER MAIN	---	PR SILT FENCE
---	PR SILT FENCE	---	PR TREE FENCE
---	PR TREE FENCE	---	PR INLET FILTER
---	PR INLET FILTER	---	PR CONCRETE
---	PR CONCRETE	---	PR CURB
---	PR CURB	---	PR CONTOUR LINE
---	PR CONTOUR LINE	---	PR SPOT GRADE
---	PR SPOT GRADE		

- NOTES:**
1. FIRE WALLS DO NOT EXIST.
 2. NO BOOSTER PUMPS ARE PROPOSED FOR THE BUILDING'S WATER SERVICE.
 3. THERE IS A FIRE SUPPRESSION SYSTEM IN THE BUILDING.
 4. A KNOX BOX IS TO BE PROVIDED FOR FIRE ACCESS TO THE SPRINKLER RISER AS REQUIRED BY THE FIRE DEPARTMENT.

SANITARY SEWER MITIGATION CALCULATIONS

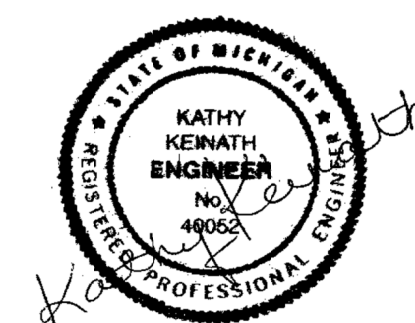
Existing Residential Units 601-1200 sf	4 unit
Design Dry Weather Flow Rate	250 gpd/unit
Total Existing Dry Weather Flow	1,000 gpd
Proposed Residential Units over 1200 sf	4
Design Dry Weather Flow Rate	300 gpd/unit
Peaking Factor	4
System Recovery Factor	10%
Proposed Dry Weather Flow	1,200 gpd
Flow to be mitigated	880.00 gpd
Flow to be mitigated	1 gpm

Existing building has footing drains connected to sanitary sewer and will be disconnected for credit.
Proposed building to have all low flow fixtures.

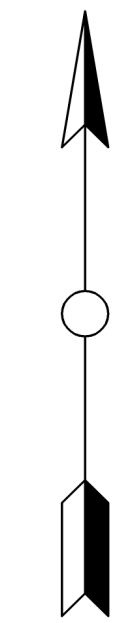
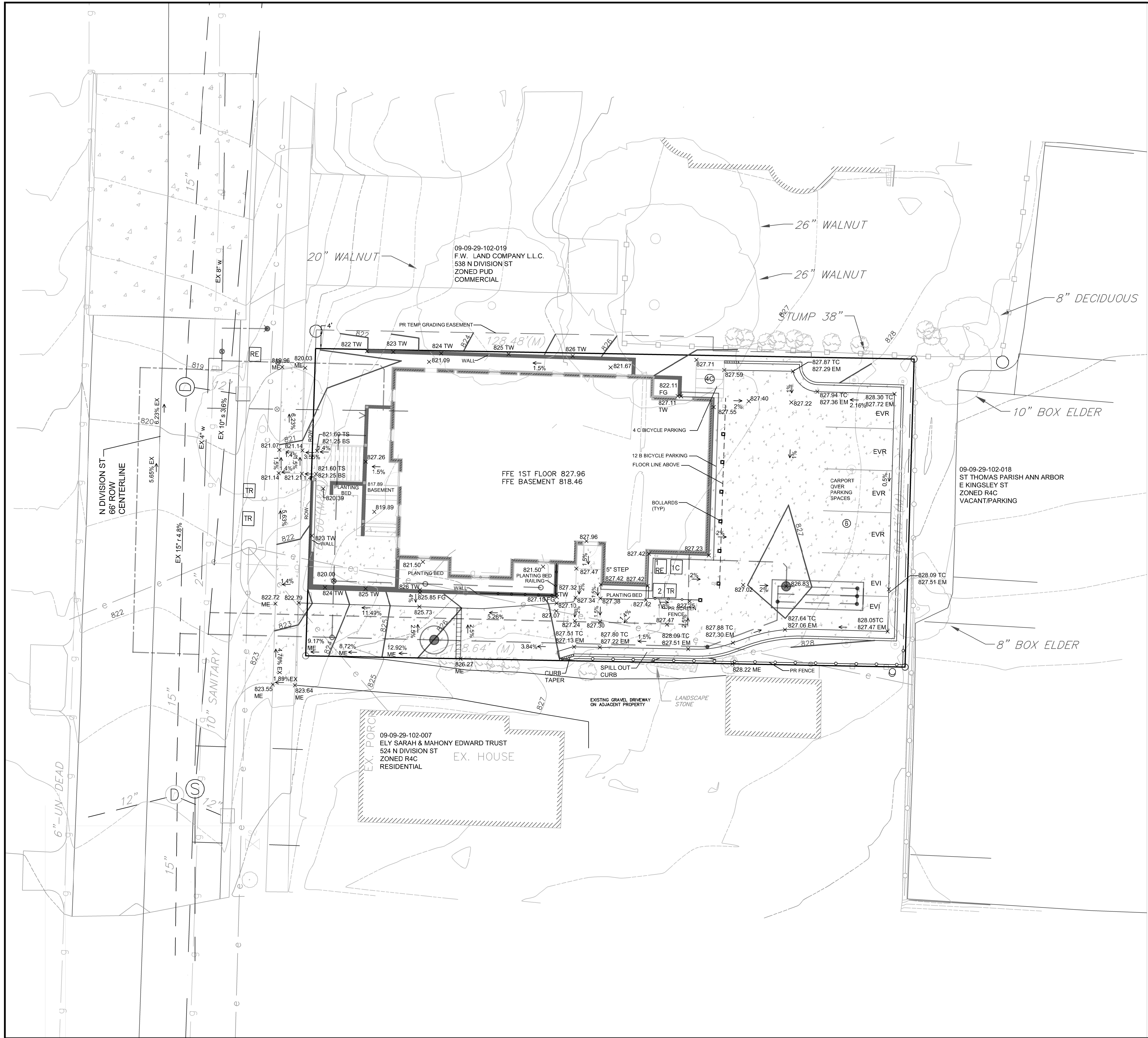


Macon Engineering, LLC.
P.O. Box 314, Chelsea, MI 48118 734-216-9941

530 DIVISION SITE PLAN UTILITIES PLAN



9-14-22
5-25-22
5-5-22
1-26-22
DATE 1-15-22
SCALE 1"=10'
SHEET NO. SP-07



LEGEND

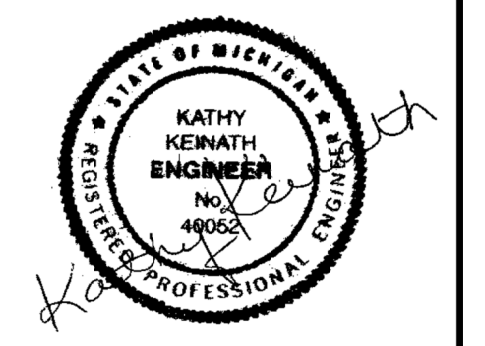
---900---	CONTOUR - MJR	⊙	SANITARY MANHOLE
---901---	CONTOUR - MNR	⊙	STORM MANHOLE
---	SANITARY SEWER	⊙	STORM CATCH BASIN
---	STORM SEWER	⊙	SERVICE VALVE
---	WATER MAIN	⊙	LIGHT POLE
---	GAS MAIN	⊙	UTILITY POLE
---	TELEPHONE	⊙	TRANSFORMER
---	OVERHEAD UTILITIES	⊙	ELECTRIC METER
---	CHAIN LINK FENCE	⊙	TELEPHONE RISER
---	WOOD FENCE	⊙	GAS METER
---	PROPERTY LINE	⊙	STREET SIGN
---	CURB	⊙	LANDSCAPE STONE
---	STRUCTURE	⊙	DECIDUOUS TREE
---	ASPHALT	⊙	SHRUB
---	CONCRETE	⊙	STUMP
---	GRAVEL	⊙	SET PROPERTY IRON
---	LANDSCAPE STONE	⊙	FOUND PROPERTY IRON
		⊙	MEASURED
		(M)	PLATTED
---	PR STORM SEWER	---	PR STORM SEWER
---	PR SANITARY SEWER	---	PR SANITARY SEWER
---	PR WATER MAIN	---	PR WATER MAIN
---	PR SILT FENCE	---	PR SILT FENCE
---	PR TREE FENCE	---	PR TREE FENCE
---	PR INLET FILTER	---	PR INLET FILTER
---	PR CONCRETE	---	PR CONCRETE
---	PR CURB	---	PR CURB
---	PR CONTOUR LINE	---	PR CONTOUR LINE
---	PR SPOT GRADE	---	PR SPOT GRADE

811
Know what's below.
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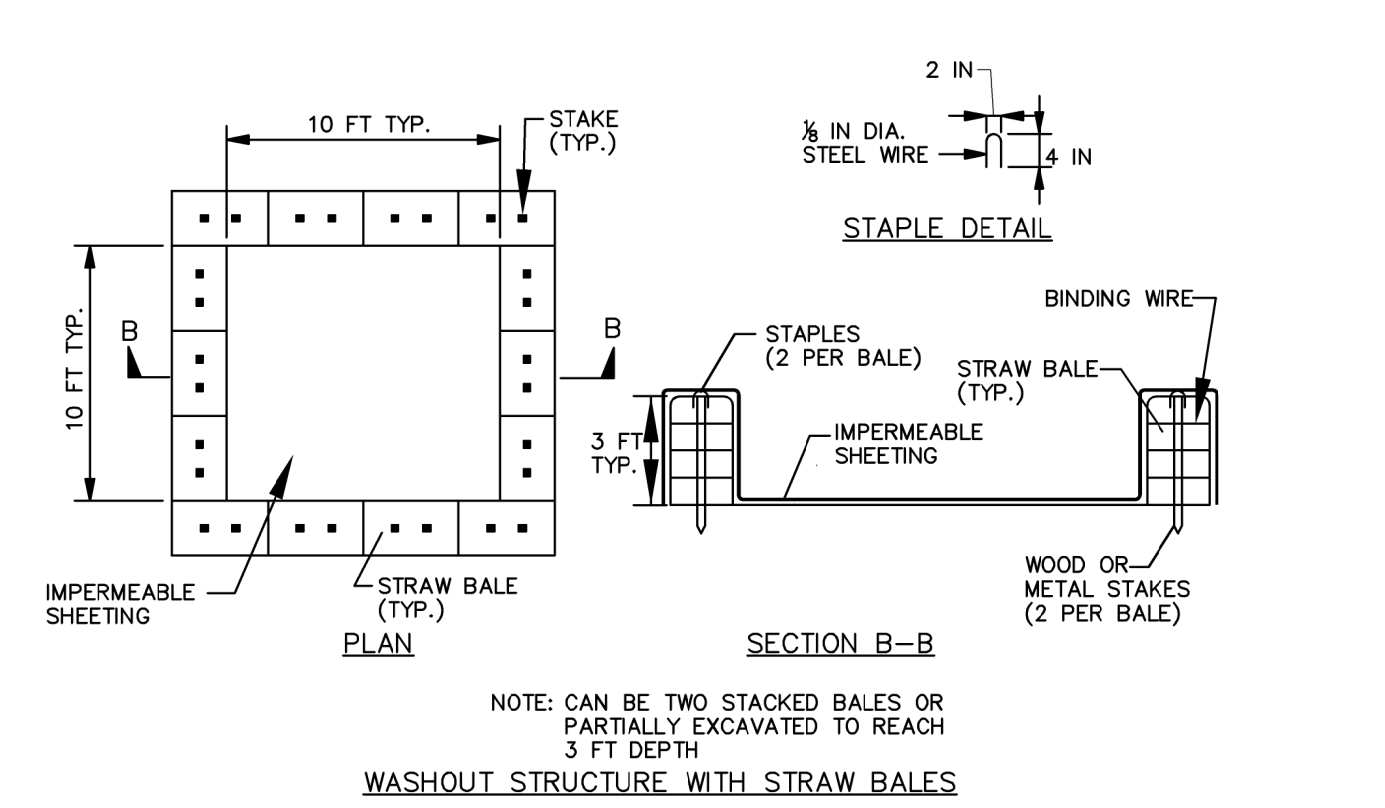
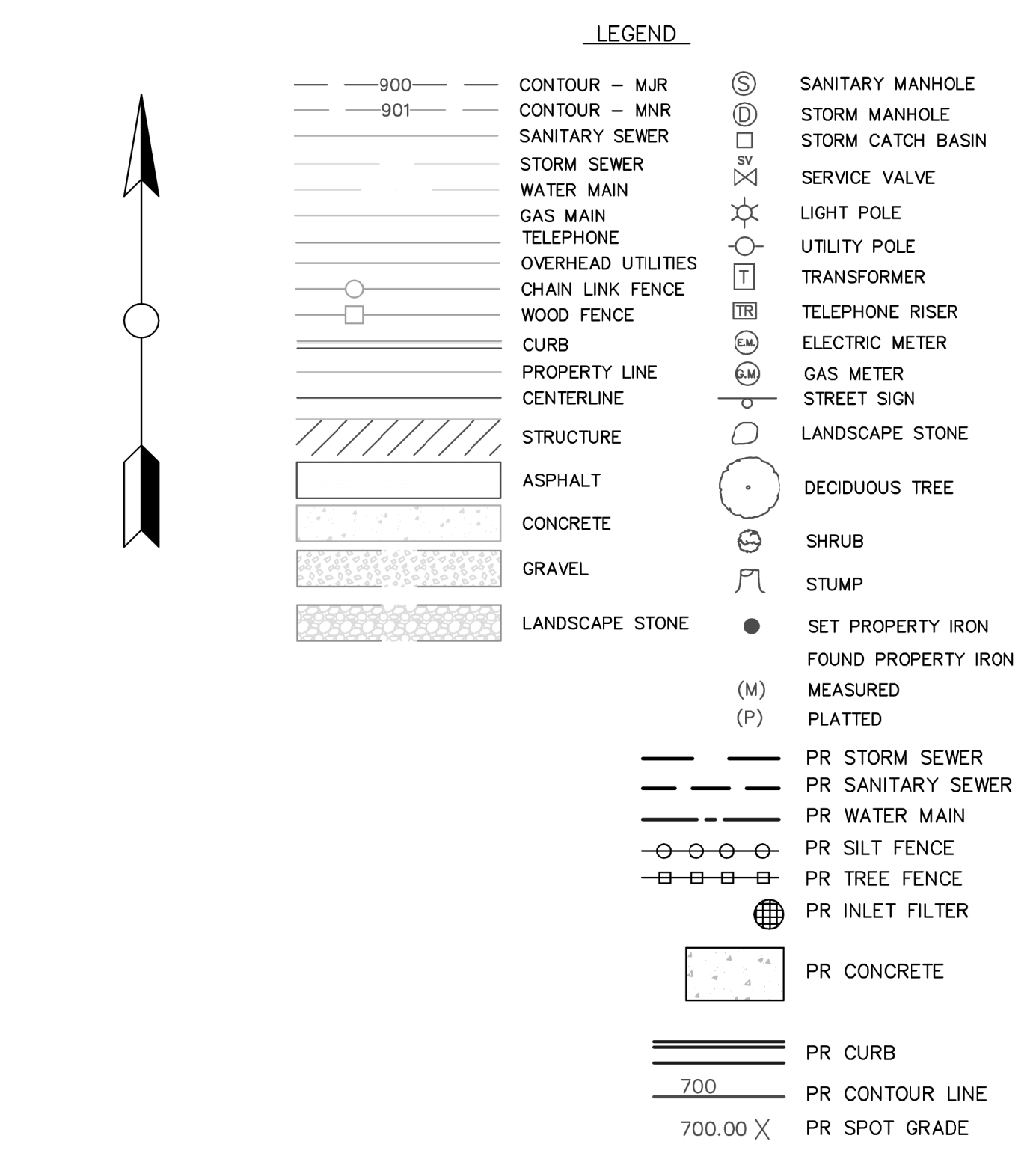
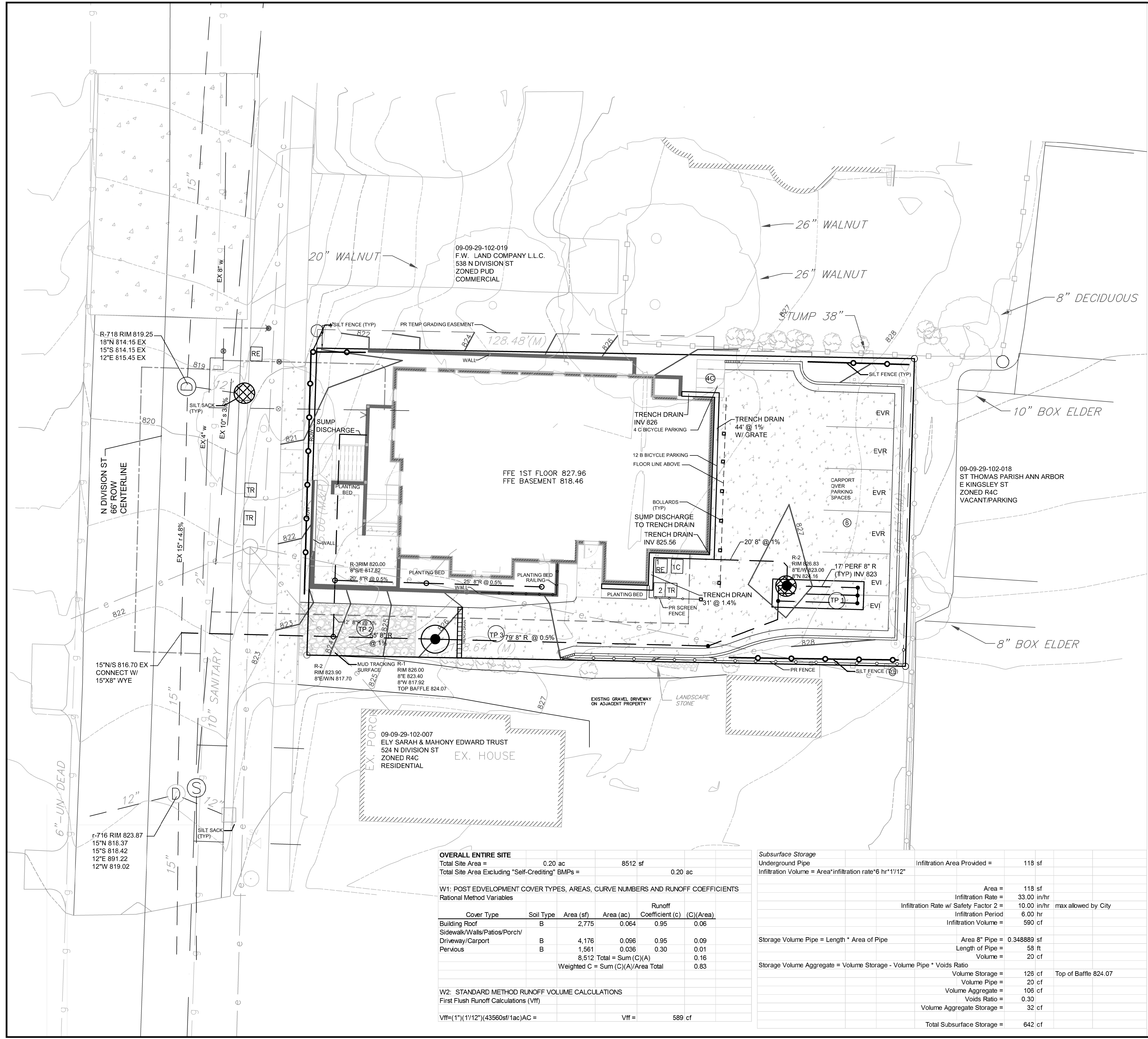
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO WARRANTY THAT THE UNDERGROUND UTILITIES SHOWN ARE ACCURATE. THE UNDERGROUND UTILITIES SHOWN ARE NOT GUARANTEED. THE SURVEYOR DOES NOT WARRANT THE ACCURACY OF ANY INFORMATION PROVIDED BY ANY OTHER PARTY. THE SURVEYOR HAS NOT BEEN ADVISED OF ANY CHANGES TO THE UTILITIES SHOWN SINCE THE DATE OF THE SURVEY. THE SURVEYOR HAS NOT BEEN ADVISED OF ANY CHANGES TO THE UTILITIES SHOWN SINCE THE DATE OF THE SURVEY. THE SURVEYOR HAS NOT BEEN ADVISED OF ANY CHANGES TO THE UTILITIES SHOWN SINCE THE DATE OF THE SURVEY.

Macon Engineering, LLC.
P.O. Box 314, Chelsea, MI 48118 734-216-9941

530 DIVISION
SITE PLAN
GRADING PLAN



DATE	9-14-22
SCALE	5-25-22
SHEET NO.	5-5-22
	1-26-22
	1-15-22
SCALE	1"=10'
SHEET NO.	SP-08



- SEQUENCE OF CONSTRUCTION**
- | | |
|---|-----------|
| 1. SOIL EROSION CONTROL KICK OFF MEETING WITH CITY | 1 DAY |
| 2. INSTALL INLET FILTERS, TRACKING SURFACE, SILT FENCE | 1 DAY |
| 3. REMOVE EXISTING BUILDING | 3 WEEKS |
| 4. ROUGH GRADE SITE | 2 WEEKS |
| 5. INSTALL UNDERGROUND UTILITIES | 4 WEEK |
| 6. GRADE FOR DRIVEWAYS, INSTALL FABRIC OVER INFILTRATION AREA | 1 WEEK |
| 7. INSTALL GRAVEL FOR DRIVEWAYS | 1 WEEK |
| 8. BUILDING CONSTRUCTION | 18 MONTHS |
| 9. MAINTAIN SOIL EROSION CONTROL MEASURES AS NECESSARY | ONGOING |
| 10. INSTALL CONCRETE FOR DRIVES AND SIDEWALKS | 2 WEEKS |
| 11. INSTALL FILTERS ON NEW INLETS & REPLACE AS REQUIRED | ONGOING |
| 12. COMPLETE CONSTRUCTION OF BUILDINGS | |
| 13. REMOVE TEMPORARY EROSION CONTROLS | 1 DAY |
- NOTES:**
- STREETS WILL BE CLEANED OF ANY TRACKED MUD IMMEDIATELY FOLLOWING EACH MUD-TRACKING OCCURRENCE.
 - NO SOIL WILL BE STOCKPILED ON-SITE.
 - PERMANENT SOIL EROSION CONTROLS ARE TO BE IN PLACE FIVE (5) DAYS AFTER FINAL GRADING.

SOIL EROSION CONTROL COST ESTIMATE

	QTY	UNIT	PRICE	TOTAL PRICE
SILT FENCE	125	LF	\$2.00	\$250
SILT SACKS	1	EA	\$50.00	\$50
MUD TRACKING	30	SY	\$50.00	\$1,500
TOTAL				\$1,800
PROTECTING EXPOSED SURFACES				\$2,000

STORM WATER MANAGEMENT NARRATIVE:
 THE EXISTING SITE HAS NO STORM WATER MANAGEMENT SYSTEM. THE PROPOSED SITE HAS LESS THAN 10,000 SF OF IMPERVIOUS SURFACE AND IS REQUIRED TO PROVIDE DETENTION FOR THE FIRST FLUSH STORM EVENT. THE INFILTRATION TESTING SHOWED THAT THE SOUTHEAST PORTION OF THE SITE HAD AN INFILTRATION RATE OF 33 IN/HR. THE VOLUME OF STORAGE REQUIRED FOR THE ENTIRE SITE HAS BEEN PROVIDED IN THE UNDERGROUND INFILTRATION AREA AT THE SOUTHEAST PART OF THE PROPOSED PARKING AREA. AN OVERFLOW PIPE HAS BEEN PROVIDED THAT DRAINS TO A MANHOLE WITH A BAFFLE. A TRENCH DRAIN HAS BEEN PROVIDED IN THE DRIVEWAY AT THE LOWEST ELEVATION POSSIBLE TO COLLECT RUNOFF FROM THE DRIVEWAY. THE TRENCH DRAIN DISCHARGES TO THE OVERFLOW PIPE FROM THE UNDERGROUND INFILTRATION AREA. THE OVERFLOW PIPE HAS BEEN DESIGNED WITH BACKFALL TO DIRECT THE FLOW TO THE INFILTRATION AREA. THE BAFFLE ELEVATION HAS BEEN SET TO ENSURE THAT THE UNDERGROUND INFILTRATION AREA PROVIDES MORE THAN THE REQUIRED CAPACITY FOR THE ENTIRE SITE. A PIPE FROM THE BAFFLE MANHOLE IS CONNECTED TO THE CITY'S STORM SEWER IN THE ROW. NON WOVEN GEOTEXTILE FABRIC WILL BE INSTALLED OVER THE INFILTRATION AREA. THE FABRIC WILL KEEP SEDIMENT OUT OF THE INFILTRATION AREA DURING CONSTRUCTION. A SILT SACK WILL ALSO BE PROVIDED AT THE STORM INLET TO CAPTURE SEDIMENT DURING CONSTRUCTION.

OVERALL ENTIRE SITE

Total Site Area =	0.20 ac	8512 sf
Total Site Area Excluding "Self-Creeping" BMPs =		0.20 ac

W1: POST EDVELOPMENT COVER TYPES, AREAS, CURVE NUMBERS AND RUNOFF COEFFICIENTS

Cover Type	Soil Type	Area (sf)	Area (ac)	Runoff Coefficient (c)	(C)/(Area)
Building Roof	B	2,775	0.064	0.95	0.06
Sidewalk/Walls/Patios/Porch/	B	4,176	0.096	0.95	0.09
Driveway/Carport	B	1,561	0.036	0.30	0.01
Pervious		8,512	Total = Sum (C)/A	0.16	
			Weighted C = Sum (C)/A/ Area Total	0.83	

W2: STANDARD METHOD RUNOFF VOLUME CALCULATIONS

First Flush Runoff Calculations (Vff)

Vff=(1")/(1"/12")(43560sf/1ac)AC = Vff = 589 cf

Subsurface Storage

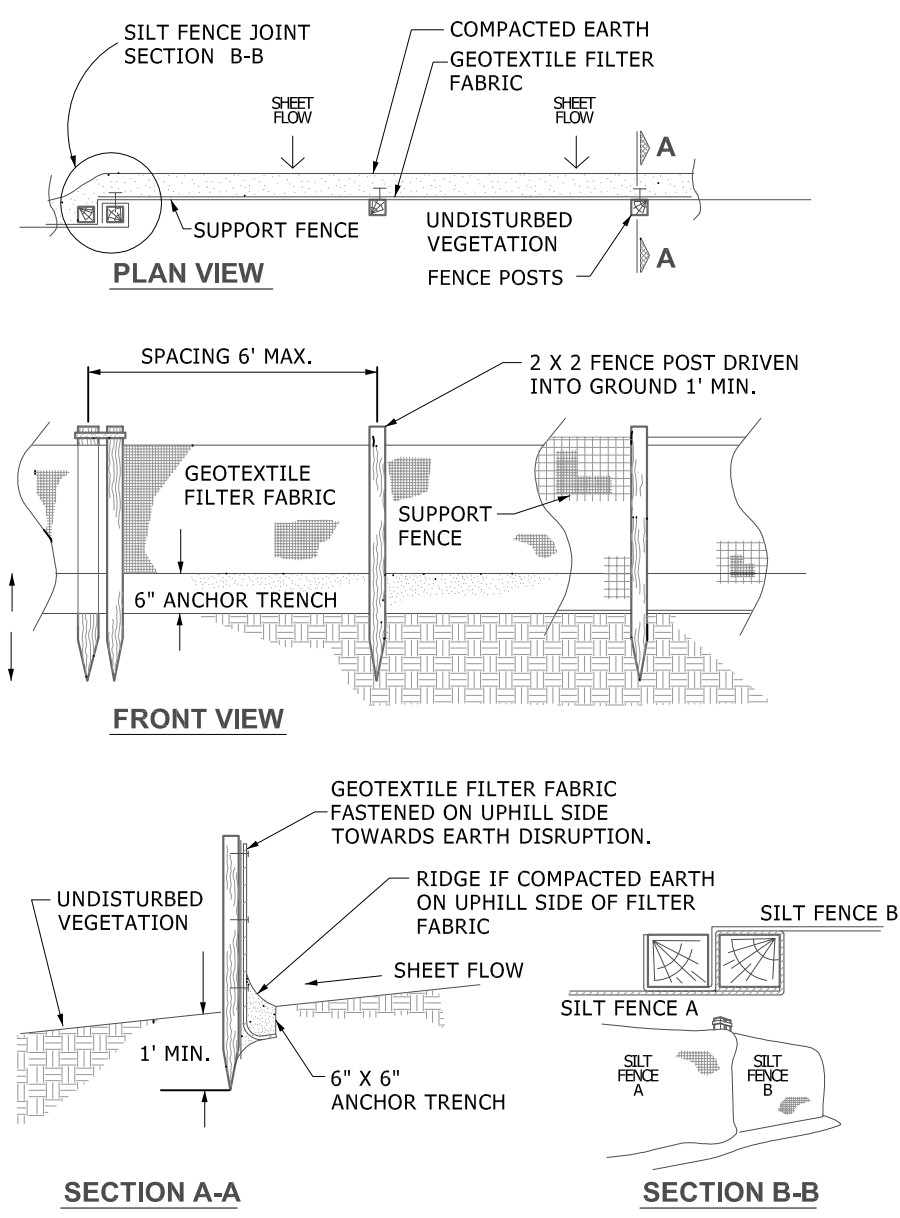
Underground Pipe	Infiltration Area Provided =	118 sf
Infiltration Volume = Area*infiltration rate*6 hr*1"/12"		
	Area =	118 sf
	Infiltration Rate =	33.00 in/hr
	Infiltration Rate w/ Safety Factor 2 =	10.00 in/hr max allowed by City
	Infiltration Period	6.00 hr
	Infiltration Volume =	590 cf
Storage Volume Pipe = Length * Area of Pipe	Area 8" Pipe =	0.348889 sf
	Length of Pipe =	58 ft
	Volume =	20 cf
Storage Volume Aggregate = Volume Storage - Volume Pipe * Voids Ratio	Volume Storage =	128 cf
	Volume Pipe =	20 cf
	Volume Aggregate =	108 cf
	Voids Ratio =	0.30
	Volume Aggregate Storage =	32 cf
	Total Subsurface Storage =	642 cf

Know what's below. Call before you dig.

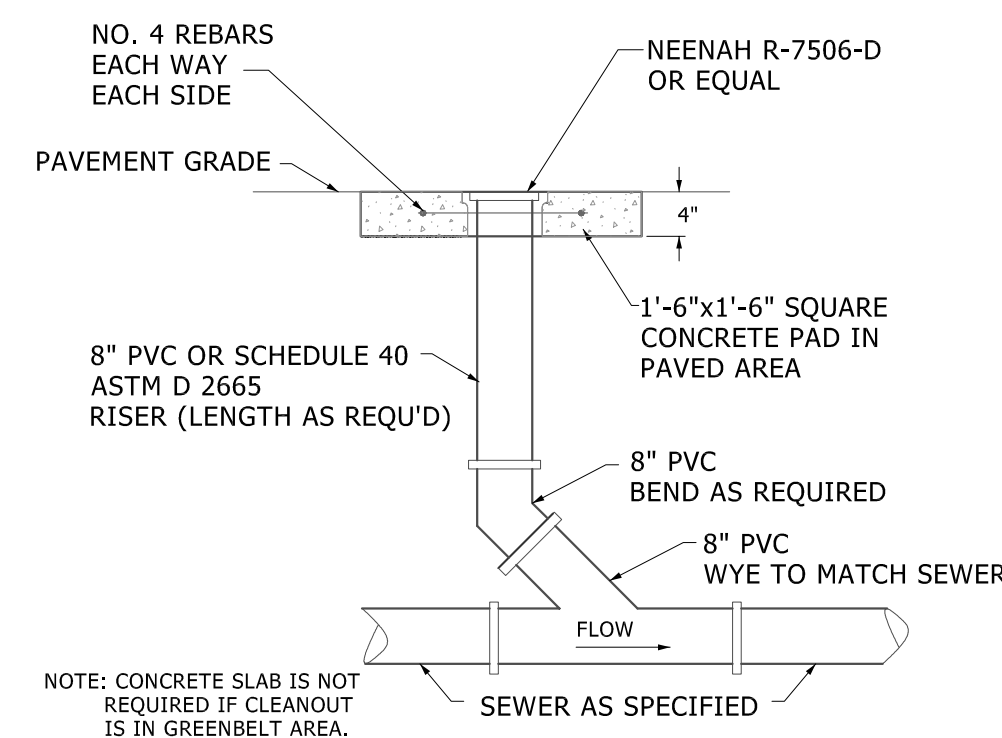
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530 DIVISION SITE PLAN
STORM WATER MANAGEMENT & SOIL EROSION CONTROL

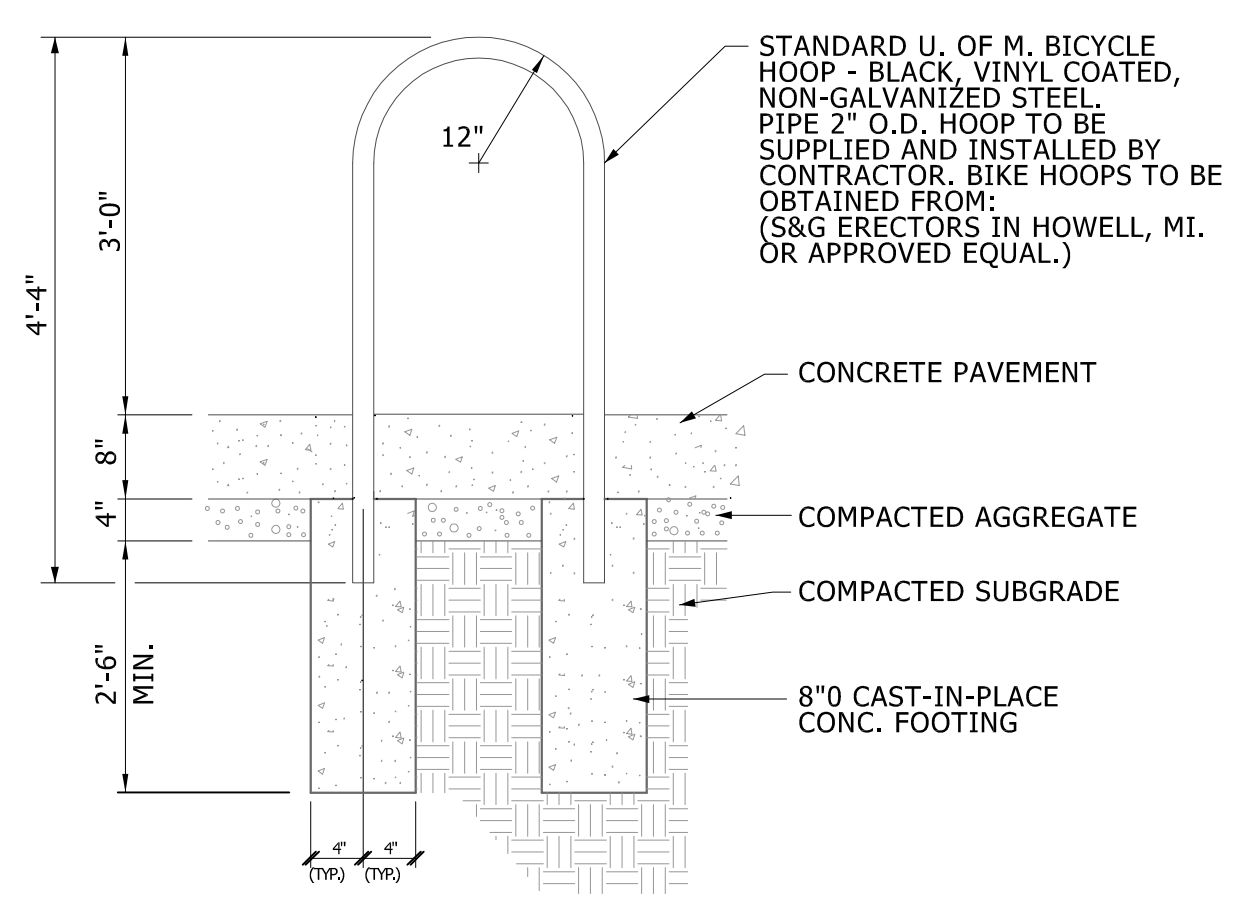
DATE	9-14-22
SCALE	1"=10'
SHEET NO.	SP-09



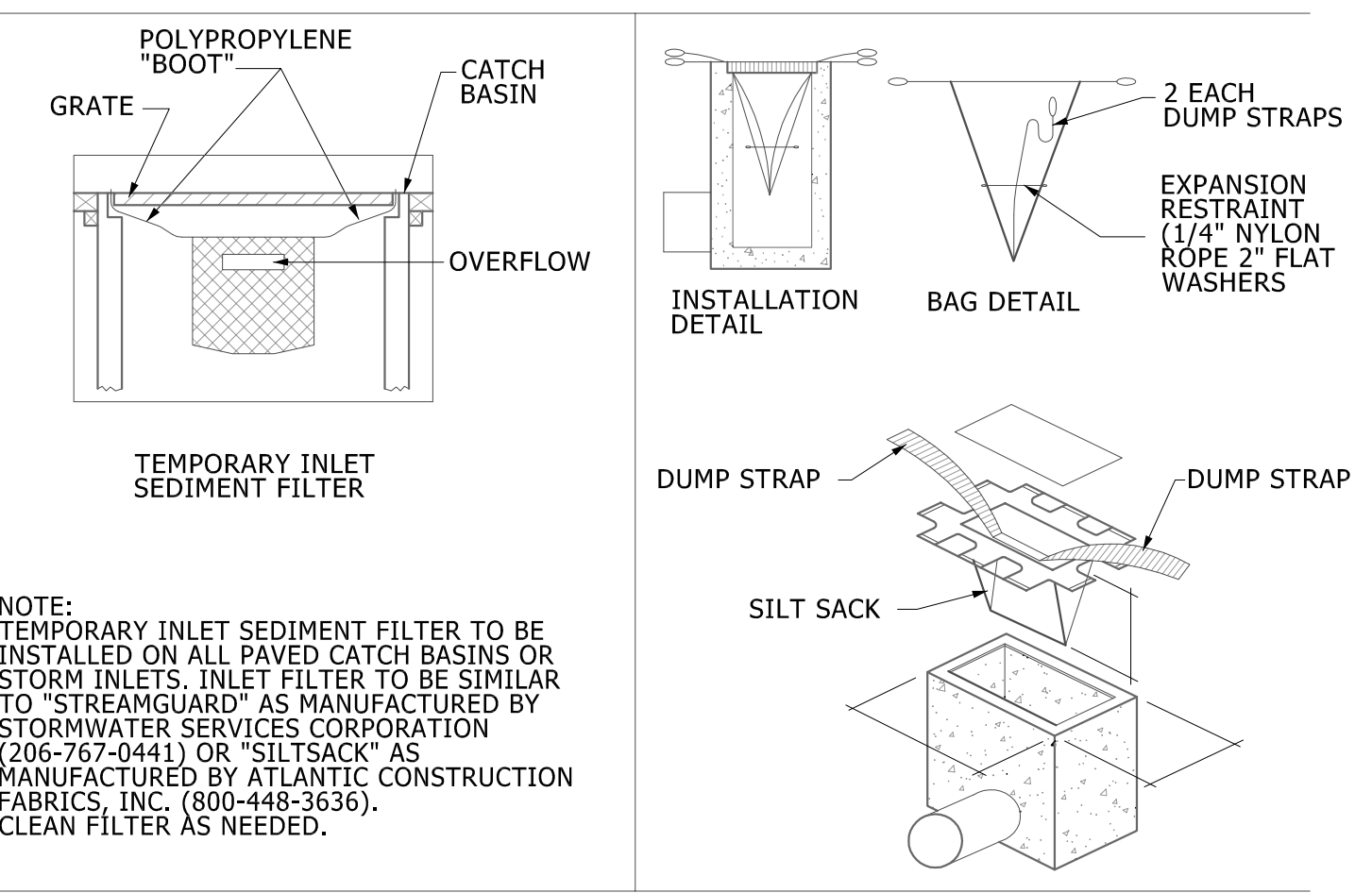
SILT FENCE DETAIL



SEWER CLEANOUT



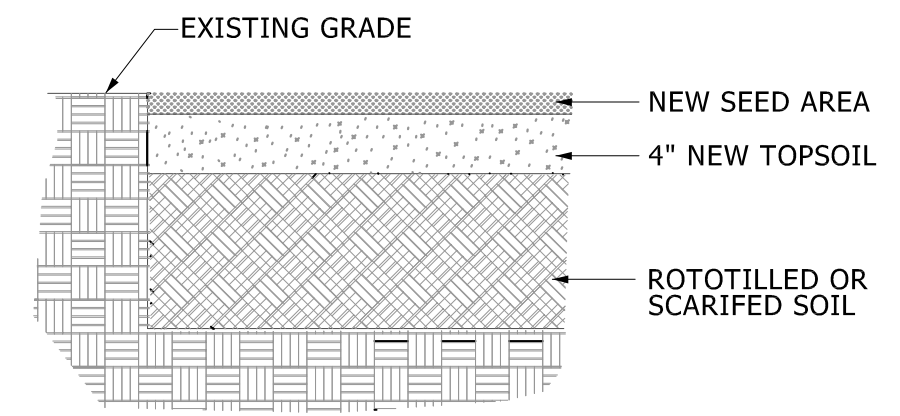
BICYCLE HOOP DETAIL



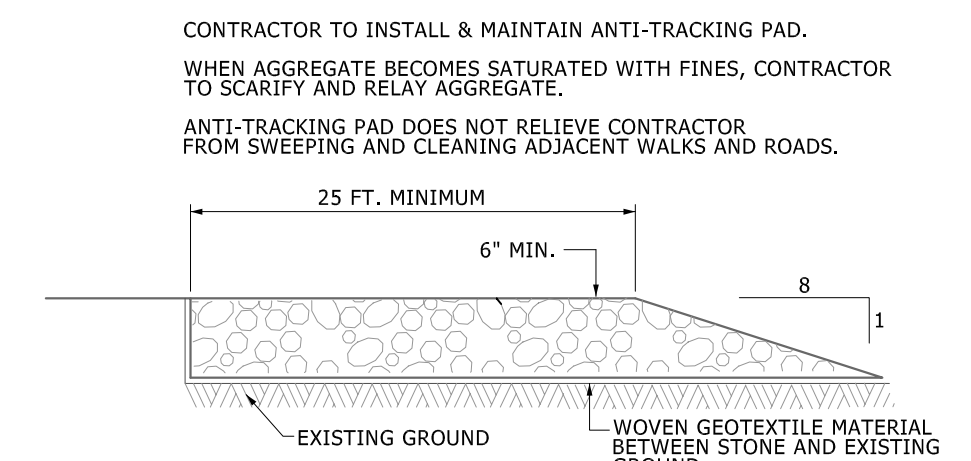
NOTE: TEMPORARY INLET SEDIMENT FILTER TO BE INSTALLED ON ALL PAVED CATCH BASINS OR STORM INLETS. INLET FILTER TO BE SIMILAR TO "STREAMGUARD" AS MANUFACTURED BY STORMWATER SERVICES CORPORATION (206-767-0441) OR "SILTSACK" AS MANUFACTURED BY ATLANTIC CONSTRUCTION FABRICS, INC. (800-448-3636). CLEAN FILTER AS NEEDED.

SILT SACK DETAIL

EROSION CONTROL BLANKETS SHALL BE PLACED ON ALL NEWLY SEEDED AREAS WITH SLOPES OF 1V TO 3H OR STEEPER. THE BLANKETS SHALL BE HIGH VELOCITY EXCELSIOR MULCH BLANKETS OR HIGH VELOCITY STRAW MULCH BLANKETS. NET ANCHORS SHALL BE PLACED AT MINIMUM INTERVALS OF 30 INCHES ALONG ALL JOINTS UNLESS MANUFACTURER'S RECOMMENDATIONS REQUIRE CLOSER SPACING.



NEW SEEDED AREA



WIDE MUD TRACKING SURFACE

PERMANENT MAINTENANCE TASKS AND SCHEDULE

TASKS	Catch Basin Inlet Castings	Swales	Overflow Control Structures	Rip-Rap	Rain Garden	Underground Detention	SCHEDULE
Inspect for sediment accumulation	X		X			X	Annually
Removal of sediment accumulation	X		X			X	Every 2 years as needed
Inspect for floatables and debris	X		X			X	Annually
Clearing of floatables and debris	X		X			X	Annually
Inspection for erosion						X	Annually
Re-establish permanent vegetation on eroded slopes						X	As needed
Inspect Storm system components during wet weather and compare to as-built plans	X		X			X	Annually
Make adjustments or replacements as determined by annual wet weather inspection						X	As needed
Keep records of inspections and maintenance activities and report to owner.						X	Annually
Keep records of costs for inspections, maintenance & repairs. report to owner.						X	Annually

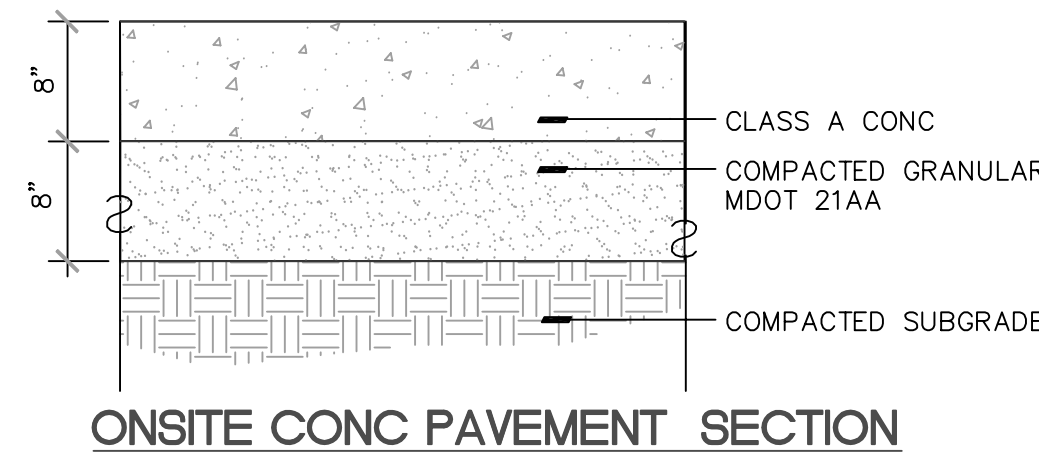
MAINTENANCE TASKS AND SCHEDULES DURING CONSTRUCTION

TASKS	Storm Sewer System	Catch Basin Sumps	Catch Basin Inlet Castings	Underground Detention	Outlet Structures	SCHEDULE
Inspect for sediment accumulation	X	X	X	X	X	Weekly
Remove sediment accumulation	X	X	X	X	X	As needed & prior to turnover
Inspect for floatables and debris	X	X	X	X	X	Quarterly
Clearing of floatables and debris	X	X	X	X	X	Quarterly & at turnover
Inspection for erosion						Weekly
Re-establish permanent vegetation on eroded slopes						As needed & prior to turnover
Inspect Storm system components during wet weather and compare to as-built plans	X	X	X	X	X	Annually and at turnover
Make adjustments or replacements as determined by annual wet weather inspection	X	X	X	X	X	As needed

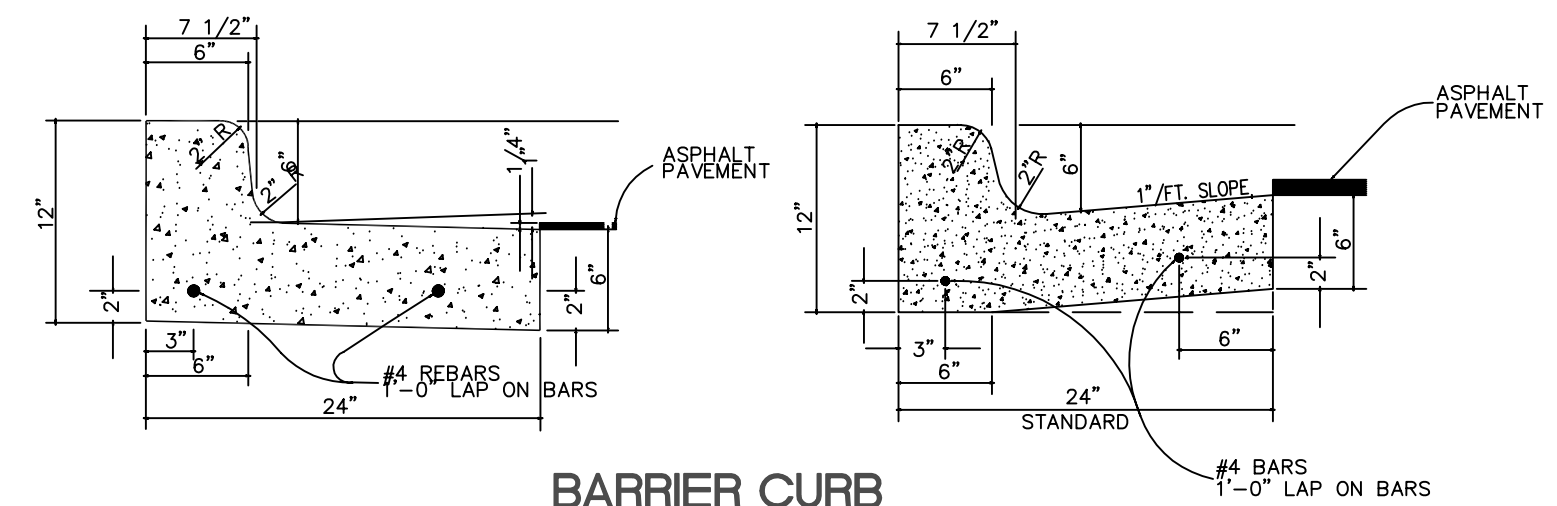
LONG TERM STORM WATER MAINTENANCE PLAN BUDGET

ITEM	ANNUAL COST
Inspection	\$250
Remove Sediment	\$500
Remove Debris	\$100
Repair Erosion	\$500
Record Keeping	\$100
Maintain Vegetation	\$500
Total Annual Cost	\$1,950

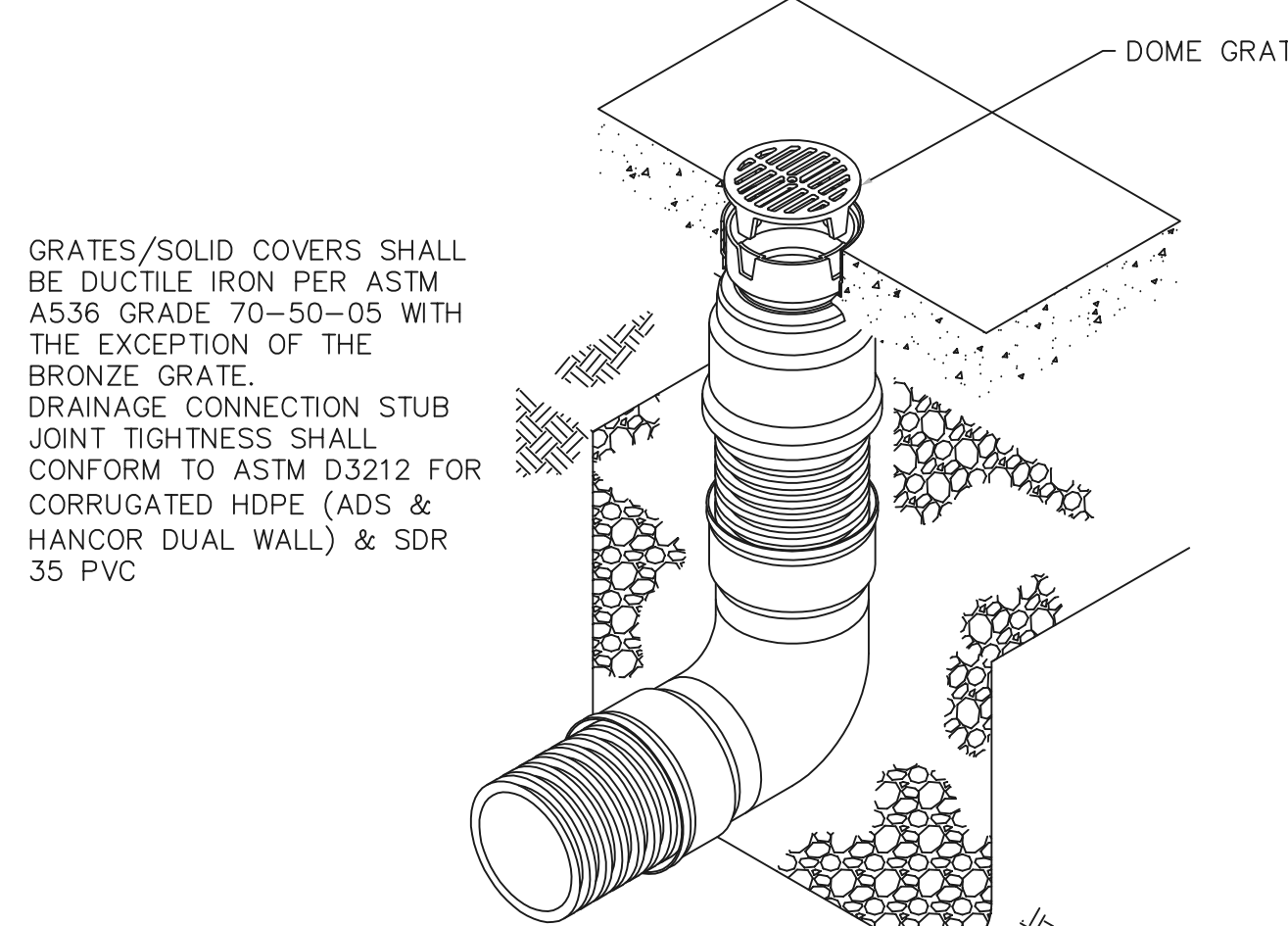
THE OWNER OF THE PROPERTY WILL BE RESPONSIBLE FOR STORM WATER MAINTENANCE.



ONSITE CONC PAVEMENT SECTION

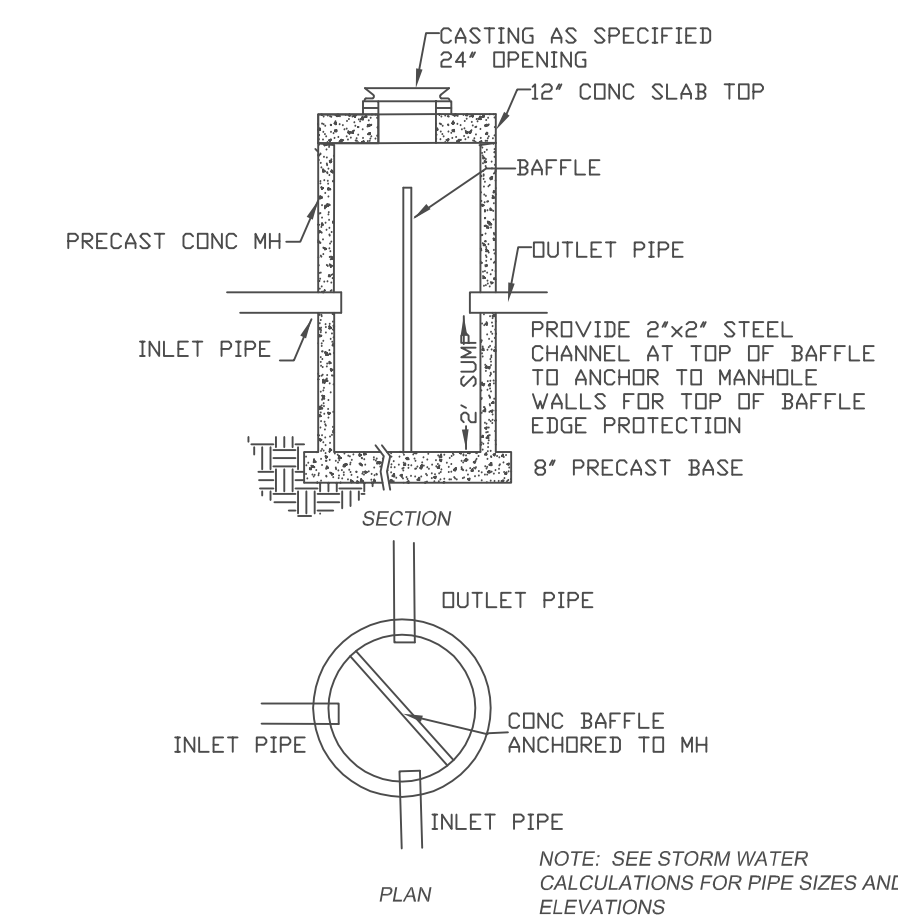


BARRIER CURB

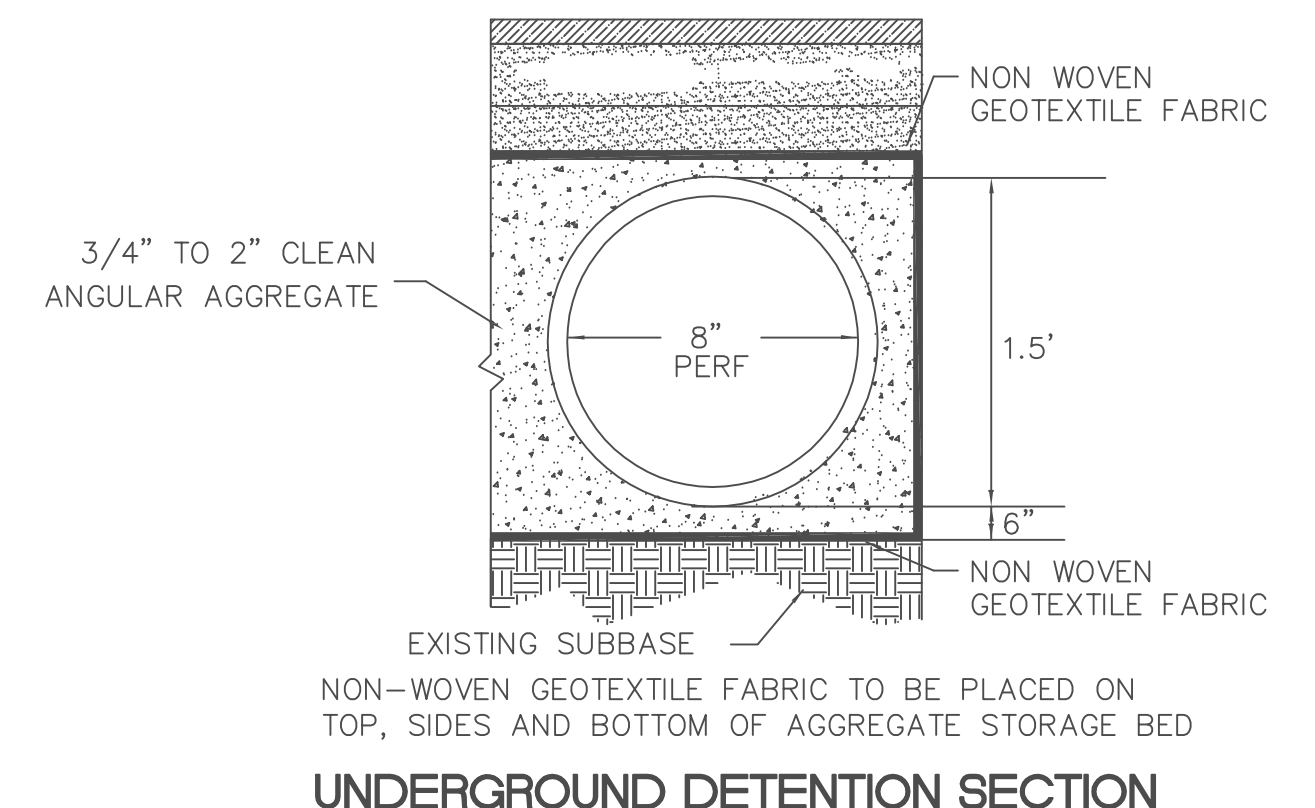


GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN/STANDARD	LIGHT DUTY	089CGS	7001-110-194
SOLID COVER	LIGHT DUTY	089CGC	7001-110-195
BRONZE	LIGHT DUTY	089CGB	7001-110-196
DOMES	N/A	089CGD	7001-110-197
DROP IN GRATE	LIGHT DUTY	0801DI	7001-110-019

NYLOPLAST INLINE YARD DRAIN



4" DIAMETER OUTLET STRUCTURE

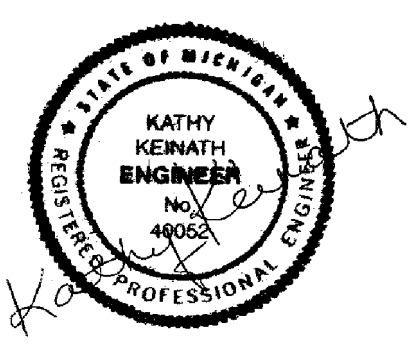


UNDERGROUND DETENTION SECTION



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530 DIVISION
ANN ARBOR, MI
SITE PLAN
DETAILS



DATE	9-14-22
SCALE	5-25-22
SHEET NO.	1-26-22
	1-15-22
	N.T.S
	SP-10