

# THE GARNET

## RESIDENTIAL CONDOMINIUMS

### CITY OF ANN ARBOR WASHTENAW COUNTY

# PUD & SITE PLAN

## SP19-045

**OWNER:**  
325 E. SUMMIT CONDOS, LLC  
KELLY ANDERSON  
345 GLENWOOD ST.  
ANN ARBOR, MI 48103  
PHONE: 734-260-2432

**ARCHITECT:**  
J. BRADLEY MOORE & ASSOCIATES ARCHITECTS  
J BRADLEY MOORE  
4844 JACKSON RD.  
SUITE #150  
ANN ARBOR, MI48103  
PHONE: 734-930-1500

**DEVELOPER/PETITIONER:**  
325 E. SUMMIT CONDOS, LLC  
325 E SUMMIT  
ANN ARBOR, MI 48104  
PHONE: 734-260-2432

**ENGINEER/PETITIONER'S AGENT:**  
MACON ENGINEERING, LLC  
KATHY KEINATH, P.E.  
P.O. BOX 314  
CHELSEA, MICHIGAN 48118  
PHONE: 734-216-9941

**SURVEYOR:**  
ALPINE ENGINEERING, INC.  
JOHN D. HEIKKINEN, PS  
46892 WEST ROAD  
SUITE 109  
NOVI, MICHIGAN 48377  
(248) 926-3701 (BUS)

**STATEMENT OF INTEREST IN LAND:**

325 E. SUMMIT CONDOS, LLC IS ACTING AS THE OWNER, PETITIONER AND DEVELOPER OF THE SITE.

**DEVELOPMENT PROGRAM**

THE PROPOSED DEVELOPMENT WILL BE A RESIDENTIAL USE INCLUDING TEN (10) RESIDENTIAL CONDOMINIUM UNITS. THERE WILL BE FOURTEEN (14) COVERED PARKING SPACES PROVIDED IN THE LOWER LEVEL PARKING GARAGE. THE DEVELOPMENT HAS BEEN PLANNED TO PROVIDE ADEQUATE PARKING, INGRESS AND EGRESS, PEDESTRIAN CONNECTIONS AND ALL OTHER REQUIRED SITE ELEMENTS. THE SITE IS TO BE DEVELOPED IN ONE PHASE. THE PROPOSED PROJECT IS SCHEDULED TO BEGIN UPON APPROVAL AND BE COMPLETED IN 2019. PRELIMINARY DEVELOPMENT COSTS ARE CURRENTLY ESTIMATED TO BE \$4,500,000.

**COMMUNITY ANALYSIS**

THE PROPOSED PROJECT IS LOCATED ON EAST SUMMIT STREET AT THE BROADWAY STREET INTERSECTION AND JUST WEST OF THE HURON RIVER. THE SITE IS ZONED C1B. THE PROPOSED REZONING IS PUD. THERE IS ONE EXISTING BUILDING ON THE SITE THAT WILL BE REMOVED. THE USE OF THE PROPOSED BUILDING IS RESIDENTIAL AND WILL BE MARKETED TO YOUNG PROFESSIONALS AND EMPTY NESTERS. THE PROPERTY TO THE WEST, AND NORTH IS ZONED C1B. THE PROPERTIES ACROSS THE STREETS TO THE SOUTH AND EAST ARE CURRENTLY ZONED R4C RESIDENTIAL. THE PROPOSED DEVELOPMENT WILL NOT HAVE A NEGATIVE IMPACT ON PUBLIC SCHOOLS, AIR OR WATER QUALITY. THERE ARE NO HISTORICAL SITES OR STRUCTURES ON THE SITE. THE GENERAL DESCRIPTION OF NATURAL FEATURES DESCRIBES IN DETAIL THE IMPACTS TO THE NATURAL FEATURES ON THE SITE. THE LANDMARK TREES ON THE SITE WILL BE PROTECTED AND REMAIN ON THE SITE.

THE PROPOSED DEVELOPMENT WILL BE AN IMPROVEMENT TO THE EXISTING SITE WHICH INCLUDES ONE OLDER BUILDING. THE INTENDED USE AS A RESIDENTIAL PROPERTY WILL BE CONSISTENT WITH OTHER RESIDENTIAL USES IN THE NEIGHBORHOOD. THE PROJECT WILL BE HARMONIOUS WITH THE OTHER PROPERTIES IN THE NEIGHBORHOOD AND WILL NOT HAVE A NEGATIVE IMPACT TO THE SURROUNDING DEVELOPMENTS.

**STANDARD SIDEWALK REPAIR AND MAINTENANCE NOTE:**

PER CHAPTER 49, SECTION 4:58 OF THE CITY CODE, 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.

**SOIL TYPES**

THE SOIL ON THE SITE IS FOX SERIES F<sub>0</sub>C BASED ON SOIL DATA MAPS FROM WASHTENAW COUNTY AND THE CITY. FOX SOILS ARE CLASSIFIED AS HYDRAULIC SOILS GROUP B WITH A TYPICAL INFILTRATION RATE OF 0.6 IN/HR. SOIL INFILTRATION TESTING WAS NOT PERFORMED DUE TO THE HISTORY OF CONTAMINATION AT THE SITE.

**LEGAL DESCRIPTION**

LOTS 2, 4 & 6 BLK 8 MAP OF ORMSBY & PAGES ADDN  
TAX ID 09-09-20-415-003  
ADDRESS 325 SUMMIT

**TRAFFIC IMPACT ANALYSIS**

VEHICULAR, PEDESTRIAN AND BICYCLE ROUTES ARE SHOWN ON THE PLANS. NO TRUCK TRAFFIC TO THE SITE IS ANTICIPATED. NO NEW CURB CUTS WILL BE REQUIRED. THE SITE WILL BE ACCESSED FROM THE EXISTING SHARED DRIVEWAY. 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
Condominiums	230	10	DU	1	5	6	5	2	7

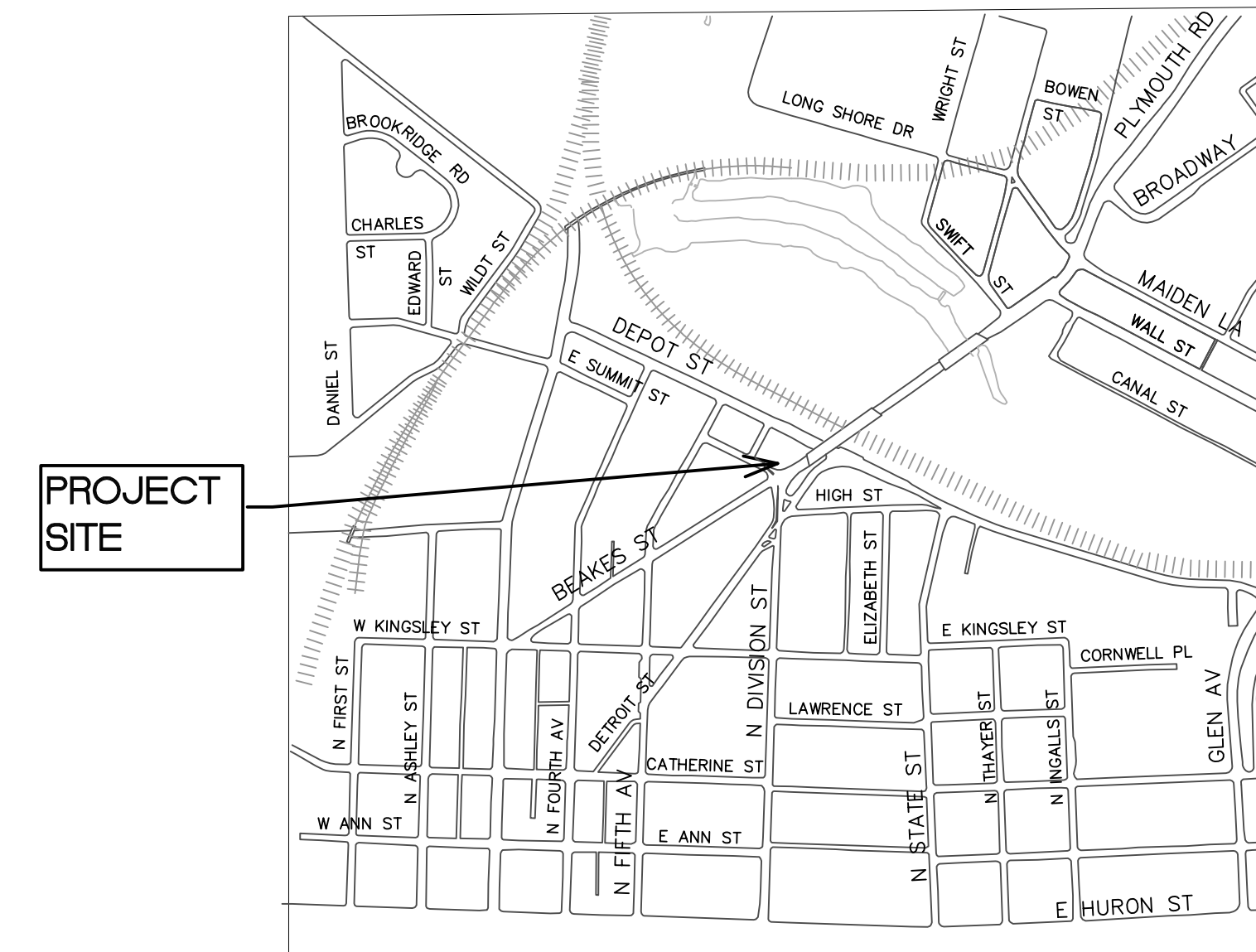
Trip Rates taken from ITE Trip Generation manual, 10th Edition

**COMPARISON CHART**

	EXISTING	EXISTING REQUIRED	PROPOSED
<b>ZONING</b>	C1B	n/a	PUD
<b>USES</b>	Office	n/a	Residential
<b>NUMBER OF UNITS</b>	n/a	n/a	10
<b>BUILDING</b>			
EXISTING BUILDINGS	2,500 sf	n/a	n/a
USABLE SQUARE FOOTAGE	2,500 sf	n/a	16,790 sf
<b>PROPERTY REGULATIONS</b>			
LOT AREA MIN	8,571 sf	3,000 sf	8,571 sf
LOT WIDTH MIN	77.42 ft	20.00 ft	77.42 ft
BUILDING HEIGHT AVE	25 ft	4 stories/50 ft	56 ft 6.75 in
USABLE FLOOR AREA (FAR) MAX	29%	150%	196%
<b>PROPERTY SETBACKS</b>			
FRONT SUMMIT	9.26 ft	10 ft to 25 ft	10.30 ft
FRONT BROADWAY	63.40 ft	10 ft to 25 ft	7.18 ft
SIDE NORTH	19.71 ft	None	0.31 ft
SIDE WEST	1.00 ft	None	0.01 ft
<b>OFF STREET PARKING</b>			
PARKING:			
1 SPACE PER UNIT RESIDENTIAL	6	7.5	11
1/333 sf to 1/250 sf OFFICE			
BICYCLE PARKING			
1 PER 5 UNITS RESIDENTIAL	0	0 Total	7A / 12B / 4C
1/3000 sf OFFICE		30%A, 70% C	

**PARKS CONTRIBUTION**

10 DWELLING UNITS X .0125 ACRES(THE AMOUNT DESIRED TO KEEP PACE WITH EXISTING PARKLAND DENSITY)X \$50,000/ACRE (THE AVERAGE COST FOR PARKLAND/ACRE) = \$6,250



VICINITY MAP  
N.T.S.

**GENERAL DESCRIPTION OF NATURAL FEATURES**

THERE ARE NO FLOODPLAINS, WATERCOURSES, STEEP SLOPES, WOODLAND, ENDANGERED SPECIES HABITAT, OR WETLANDS ON THE SITE.

THERE IS A TOTAL OF NINE (9) TREES LOCATED ON THE PROPERTY. TWO OF THE TREES ARE LANDMARK TREES. ONE LANDMARK (No. 6) IS A 16" HONEY LOCUST. THE OTHER (No. 7) IS AN 18" HONEY LOCUST. A COMPETE TREE INVENTORY IS PROVIDED ON SHEET SP-07. THE LANDMARK TREES CURRENTLY HAVE IMPACT TO THEIR CRITICAL ROOT ZONES BY EXISTING RETAINING WALLS, SIDEWALK AND PAVEMENT ON THE SITE.

**NATURAL FEATURES STATEMENT OF IMPACT**

ONE OF THE LANDMARK TREES, No.7, THE 18" HONEY LOCUST, IS PROPOSED TO BE PROTECTED AND SAVED. DETAILS OF THE PROTECTION PLAN ARE PROVIDED ON THE NATURAL FEATURES SHEET. THE OTHER LANDMARK TREE, No.6, THE 16" HONEY LOCUST, WILL NEED TO BE REMOVED. THIS TREE CURRENTLY HAS IMPACT TO APPROXIMATELY 20% OF THE CRITICAL ROOT ZONE DUE TO EXISTING RETAINING WALLS AND PAVEMENT ON THE SITE. MITIGATION WILL BE PROVIDED FOR THE REMOVED TREE BY PROVIDING REPLACEMENT TREES ON THE SITE AS SHOWN ON THE NATURAL FEATURES AND LANDSCAPING SHEETS. THE LANDSCAPING PLAN SHOWS NOTES, CALCULATIONS AND DRAWINGS FOR THE PROPOSED MITIGATION. SHEET SP-04 DESCRIBES THE ANALYSIS FOR THE IMPACT TO THE LANDMARK TREE THAT IS PROPOSED TO BE REMOVED.

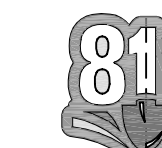
**SOLID WASTE DISPOSAL PLAN**

THE DEVELOPMENT PROPOSES TO PROVIDE BOTH REFUSE AND RECYCLING DUMPSTERS FOR STORAGE IN THE AREA PROVIDED IN THE LOWER LEVEL PARKING GARAGE. ONE 2 CY DUMPSTER FOR TRASH AND ONE 2 CY DUMPSTER FOR RECYCLING WILL BE PROVIDED. ONE LIFT PER WEEK IS ANTICIPATED. THIS AREA WOULD BE ACCESSIBLE FROM THE DRIVEWAY ALONG THE WEST SIDE OF THE BUILDING. TRUCKS WOULD ACCESS THE SITE FROM THE EXISTING ALLEY ON DEPOT STREET AND THEN DRIVE NORTHERLY TO THE LOCATION OF THE DUMPSTERS IN THE PICK UP AREA AS SHOWN ON THE LAYOUT PLAN. DUMPSTERS WILL BE ROLLED OUT AND PLACED IN THE PICK UP AREA BY MAINTENANCE PERSONNEL FOR DISPOSAL. THE TRUCK WOULD EXIT THE SITE AT THE NORTH END OF THE DRIVEWAY ONTO SUMMIT STREET. THE TRUCKS WILL HAVE CLEAR ACCESS STRAIGHT THROUGH THE SITE FROM DEPOT STREET TO SUMMIT STREET.

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		A2.1C	EAST ELEVATION
		A2.2C	NORTH ELEVATION
		A2.3C	WEST ELEVATION

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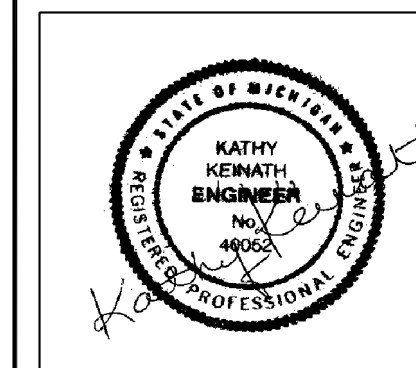


Know what's below.  
Call before you dig.

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING RECORDS. THE CONSTRUCTION APPLICANT WARRANTS THAT THE INFORMATION SHOWN IS CORRECT. ALL SUCH UTILITIES IN THE AREA, EXCEPT IN SERVICE OR PROPOSED, ARE SHOWN FOR INFORMATION ONLY AND ARE NOT TO BE USED FOR ANY OTHER PURPOSE. THE EXACT LOCATION, DEPTH, AND CHARACTERISTICS OF UTILITIES ARE NOT GUARANTEED. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF UTILITIES AS NECESSARY FOR ANY PROJECT. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES SHOWN HEREON. THE USER SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES SHOWN HEREON.

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

THE GARNET  
SUMMIT & BROADWAY  
ANN ARBOR, MI  
SITE PLAN  
COVER



12-18-19

11-20-19

5-31-19

4-25-19

3-15-19

1-22-19

10-25-18

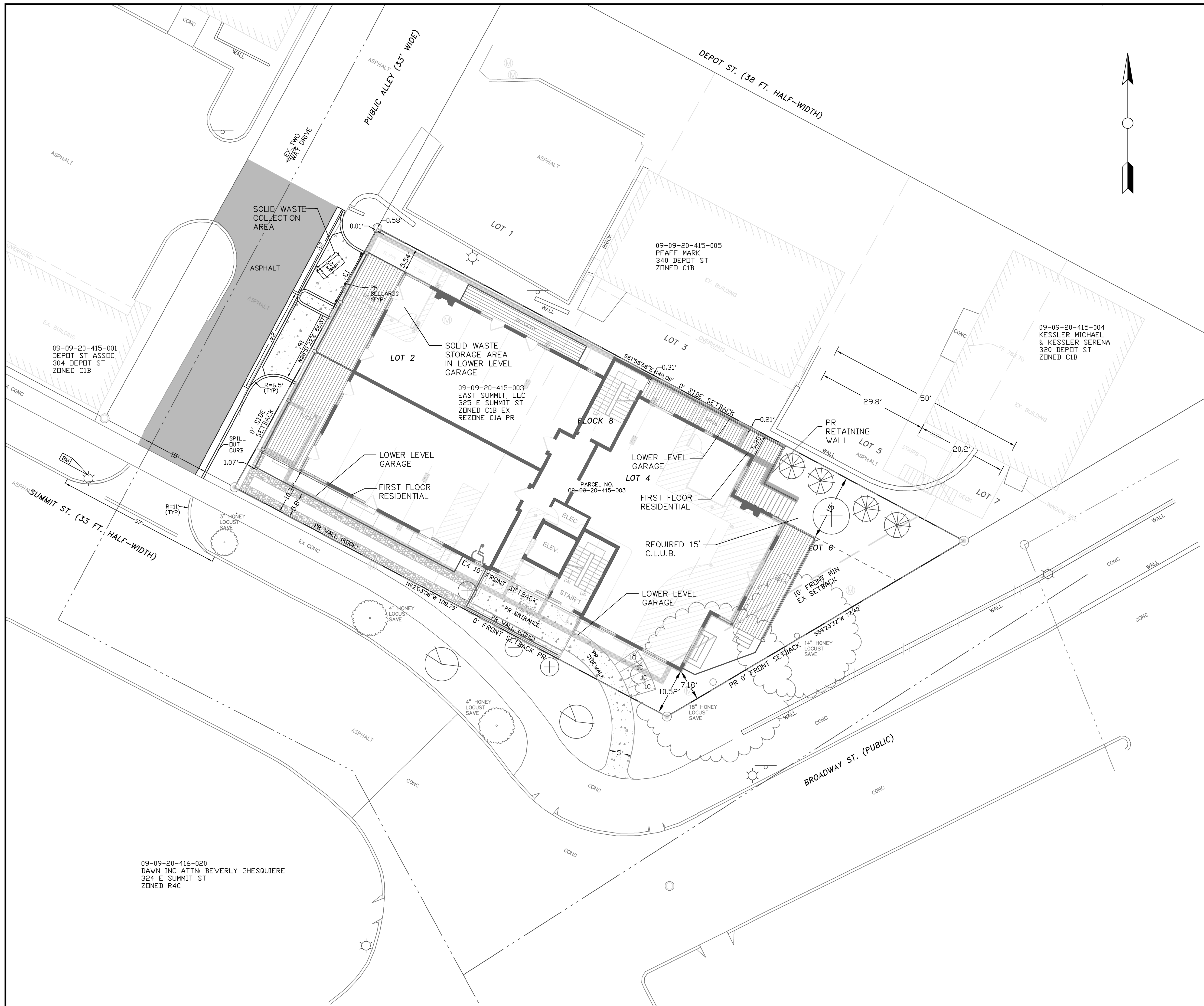
SCALE N.T.S.

SHEET NO. SP-01

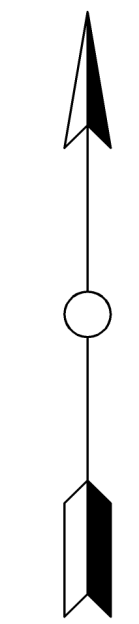








- LEGEND**
- EX. CATCH BASIN
  - EX. MANHOLE
  - ⊖ EX. END SECTION
  - ⊕ EX. CLEANOUT
  - ⊗ EX. HYDRANT
  - ⊘ EX. GATE VALVE
  - ⊙ EX. WATER SHUTOFF
  - ⊚ EX. FIRE DEPT. CONNECTION
  - ☆ EX. LIGHTPOLE
  - ⊛ EX. UTILITY POLE
  - ⊜ EX. GUY ANCHOR
  - ⊝ EX. HAND-HOLE
  - ⊞ EX. PEDESTAL
  - ⊟ EX. TRANSFORMER
  - ⊠ EX. GENERATOR
  - ⊡ EX. GAS METER
  - ⊢ EX. ELECTRIC METER
  - ⊣ EX. AIR CONDITIONER
  - ⊤ EX. SIGN
  - ⊥ EX. POST/BOLLARD
  - ⊦ EX. MONITOR WELL
  - ⊧ FOUND IRON
  - ⊨ SET IRON
  - ⊩ EX. GAS SHUTOFF
  - ⊪ EX. GAS VENT
  - EX. FENCE
  - EX. SANITARY SEWER
  - EX. STORM SEWER
  - EX. WATER MAIN
  - EX. ELECTRIC CABLE
  - EX. COMMUNICATION
  - EX. GAS LINE
  - EX. OVERHEAD LINE
  - PR. STORM SEWER
  - PR. SANITARY SEWER
  - PR. WATER MAIN
  - PR. SILT FENCE
  - PR. TREE FENCE
  - ⊙ PR. INLET FILTER
  - PR. CONCRETE
  - PR. ASPHALT
  - PR. CURB
  - PR. CONTOUR LINE
  - 700.00 X PR. SPOT GRADE



**811**  
Know what's below.  
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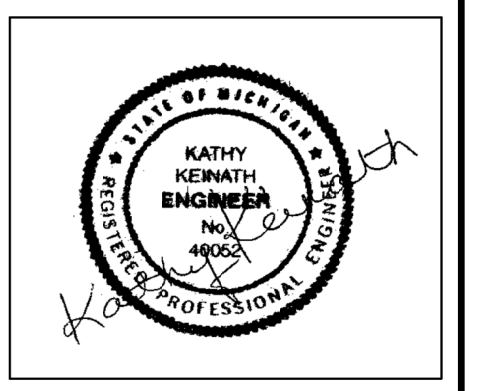
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THE GARNET  
SUMMIT & BROADWAY  
ANN ARBOR, MI  
SITE PLAN  
LAYOUT

**STANDARD SIDEWALK REPAIR AND MAINTENANCE NOTE:**  
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**LAYOUT NOTES:**  
1. MECHANICAL EQUIPMENT MAY NOT BE LOCATED WITHIN THE CONFLICTING LAND USE BUFFER.



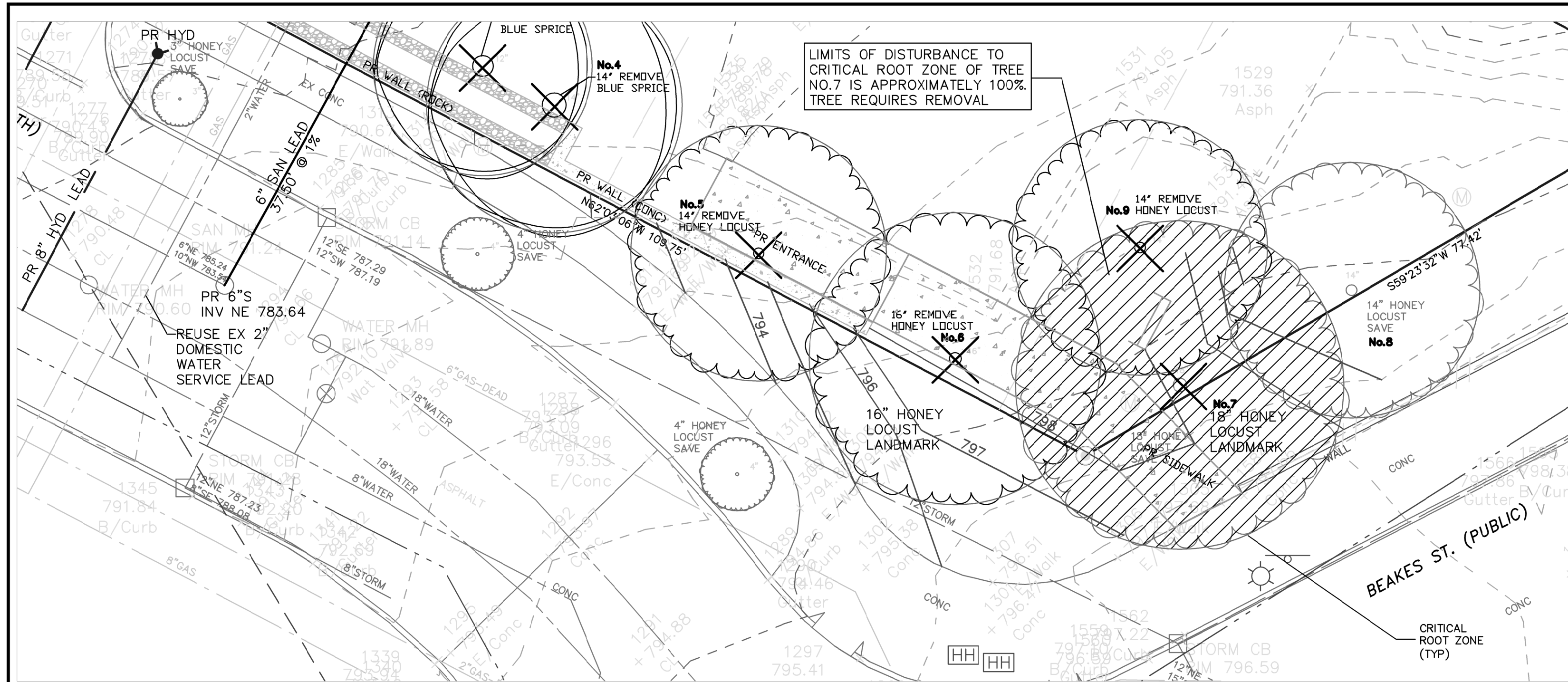
09-09-20-416-020  
DAWN INC ATTN: BEVERLY GHESQUIERE  
324 E SUMMIT ST  
ZONED R4C

12-18-19
11-20-19
5-31-19
4-25-19
3-15-19
1-22-19
DATE 10-25-18
SCALE 1"=10'
SHEET NO.

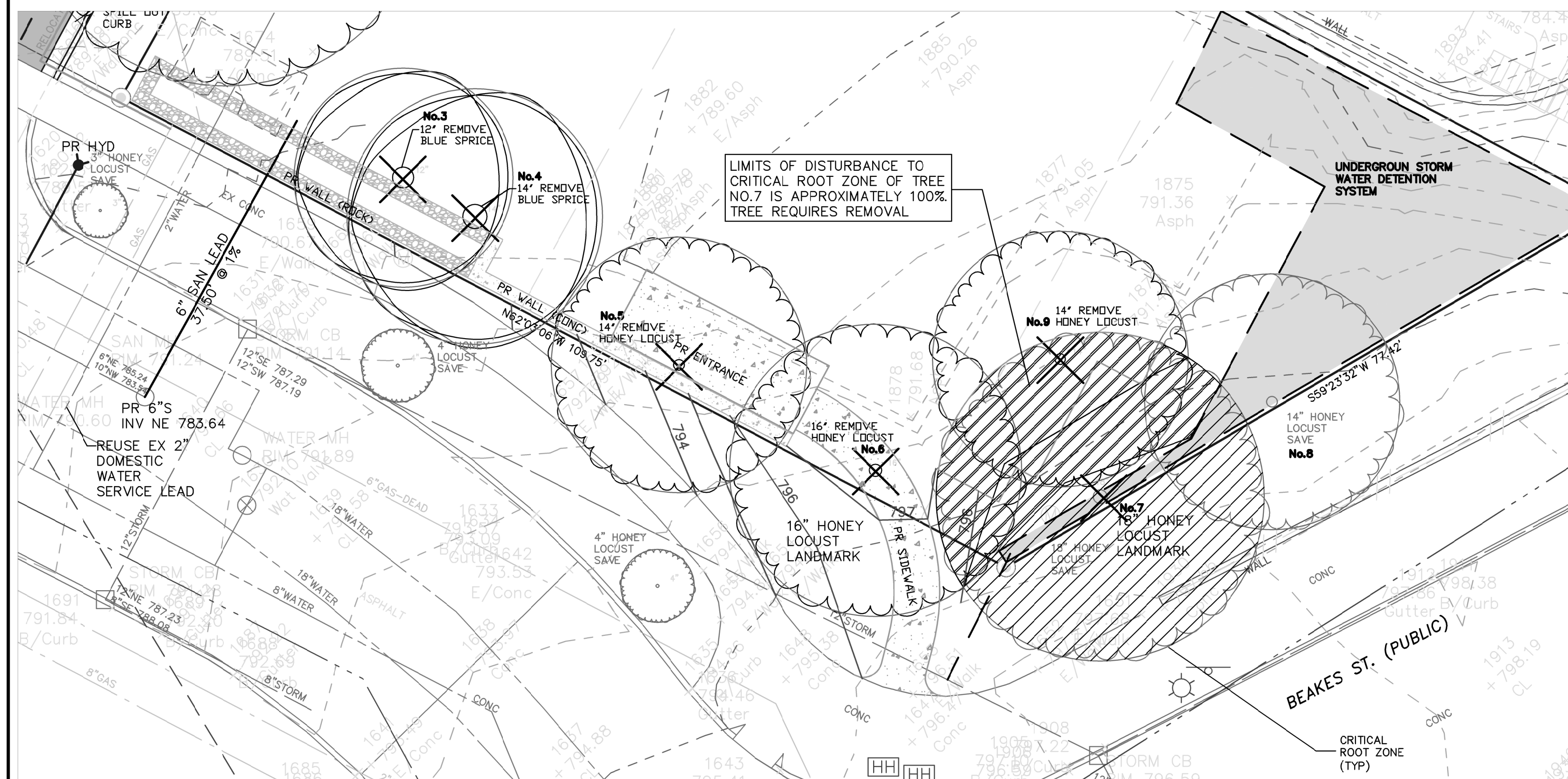
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SP-03





ALTERNATIVE ANALYSIS 1  
NATURAL FEATURES IMPACT



ALTERNATIVE ANALYSIS 2  
NATURAL FEATURES IMPACT

**NATURAL FEATURES ALTERNATIVE ANALYSIS:**

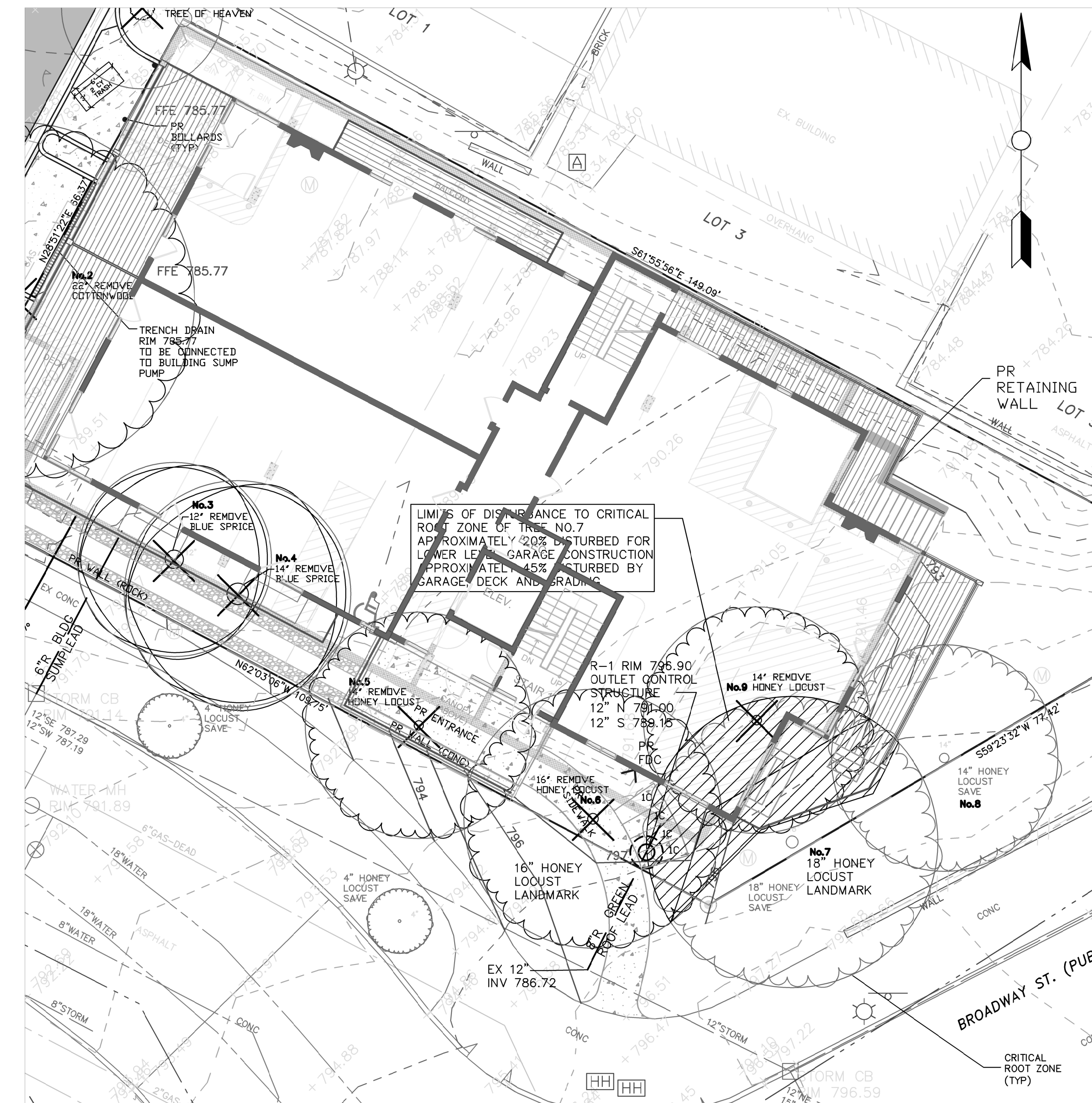
THE PROPOSED BUILDING LAYOUT AND GRADING FOR THE SITE WAS DEVELOPED TAKING INTO CONSIDERATION THE EXISTING TOPOGRAPHY OF THE SITE, PEDESTRIAN ACCESS TO THE SITE, VEHICULAR ACCESS TO THE SITE AND IMPACTS TO THE NATURAL FEATURES AND SURROUNDING PROPERTIES. THE DRAWINGS ON THIS SHEET ILLUSTRATE THE EXISTING NATURAL FEATURES BOTH ON THE EXISTING SITE AND THE PROPOSED SITE.

**ALTERNATIVE ANALYSIS 1**

THE PROPOSED BUILDING LAYOUT AND GRADING FOR THE SITE WAS DEVELOPED TAKING INTO CONSIDERATION THE EXISTING TOPOGRAPHY OF THE SITE, PEDESTRIAN ACCESS TO THE SITE, VEHICULAR ACCESS TO THE SITE AND IMPACTS TO THE NATURAL FEATURES AND SURROUNDING PROPERTIES. THE DRAWINGS ON THIS SHEET ILLUSTRATE THE EXISTING NATURAL FEATURES BOTH ON THE EXISTING SITE AND THE PROPOSED SITE.

**ALTERNATIVE ANALYSIS 2**

THIS ALTERNATIVE ILLUSTRATES UNDERGROUND STORM WATER MANAGEMENT IN THE OPEN AREAS ALONG THE EAST SIDE OF THE BUILDING AND CONNECTING TO THE EXISTING STORM SEWER LOCATED IN THE RIGHT-OF-WAY. THIS OPTION WOULD HAVE RESULTED IN 100% DISTURBANCE TO TREE NO. 7 TO INSTALL THE UNDERGROUND SYSTEM. THE DEVELOPER HAS PROPOSED TO INSTALL A GREEN ROOF SYSTEM TO ELIMINATE THE NEED FOR UNDERGROUND DETENTION ON THE SITE AND MINIMIZE IMPACTS TO TREE NO. 7.



PROPOSED SITE  
NATURAL FEATURES IMPACT

**IDENTIFICATION OF EXISTING NATURAL FEATURES AND PROPOSED DISTURBANCE:** THERE ARE TWO LANDMARK TREES LOCATED ON THE SITE. ONE IS TREE NO. 6 WHICH IS A 16" HONEY LOCUST. THE OTHER IS TREE NO. 7 WHICH IS AN 18" HONEY LOCUST. THE CRITICAL ROOT ZONE OF TREE NO. 6 IS CURRENTLY IMPACTED BY EXISTING RETAINING WALLS ON THE SITE. TREE NO. 6 IS PROPOSED TO BE REMOVED AND MITIGATED. THE MITIGATION WILL BE PROVIDED BY FOUR (4) REPLACEMENT TREES AS REQUIRED AND SHOWN ON THE LANDSCAPING PLAN.

TREE NO. 7 IS PROPOSED TO BE PRESERVED AND REMAIN ON THE SITE. APPROXIMATELY 20% OF THE CRITICAL ROOT ZONE WOULD BE DISTURBED DURING CONSTRUCTION OF THE LOWER LEVEL GARAGE. THE DISTURBANCE FOR CONSTRUCTION OF THE DECKS AND MINOR GRADING WILL HAVE A MINIMAL IMPACT TO THE CRITICAL ROOT ZONE OF THE TREE. IF THE TREE DOES NOT SURVIVE WITHIN THREE YEARS OF COMPLETION OF CONSTRUCTION, THEN FOUR (4) REPLACEMENT TREES WILL BE PROVIDED AS REQUIRED AND SHOWN ON THE LANDSCAPE PLAN.

**NATURAL FEATURES PROTECTION PLAN**

THE DISTURBANCE TO TREE NO. 7 HAS BEEN LIMITED BY LOCATING THE LOWER LEVEL WALL AND FOUNDATION TO MINIMIZE EXCAVATION WITHIN THE CRITICAL ROOT ZONE. THE TREE WILL ALSO BE SURROUNDED BY TREE PROTECTION FENCING DURING CONSTRUCTION TO PREVENT DISTURBANCE TO THE EXISTING GRADE SURROUNDING THE TREE. GRADING ALONG THE EAST SIDE OF THE SITE HAS BEEN MINIMIZED TO THE EXTENT POSSIBLE TO REDUCE DISTURBANCE TO THE REMAINING TREES. TREE PROTECTION FENCING IS SHOWN ON THE SOIL EROSION CONTROL SHEET.

**PROPOSED MITIGATION:**

THE LOCATION OF THE PROPOSED MITIGATION TREES ARE SHOWN ON THE LANDSCAPE SHEET

**LANDMARK TREE MITIGATION**

16" Replacements @ 2.5 cal Tree No. 6	3.2	0	4	4
18" Replacements @ 2.5 cal Tree No. 7	3.6	0	4	4 *

\* Mitigation for 18" Landmark Honey Locust required only if the tree does not survive within three years of construction completion

TREE INVENTORY				
NUMBER	SIZE	SPECIES	LANDMARK	SAVE/REMOVE
1	10"	TREE OF HEAVEN	NO/INVASIVE	REMOVE
2	22"	COTTONWOOD	NO	REMOVE
3	12"	BLUE SPRUCE	NO	REMOVE
4	14"	BLUE SPRUCE	NO	REMOVE
5	14"	HONEY LOCUST	NO	REMOVE
6	16"	HONEY LOCUST	YES	REMOVE
7	18"	HONEY LOCUST	YES	SAVE
8	14"	HONEY LOCUST	NO	SAVE
9	14"	HONEY LOCUST	NO	REMOVE

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND SERVICE RECORDS. THE EXACT LOCATION OF ANY UTILITIES IS NOT GUARANTEED. THE EXACT LOCATION OF ANY UTILITIES IS NOT GUARANTEED. THE EXACT LOCATION OF ANY UTILITIES IS NOT GUARANTEED. THE EXACT LOCATION OF ANY UTILITIES IS NOT GUARANTEED.

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THE GARNET  
SUMMIT & BROADWAY  
ANN ARBOR, MI  
SITE PLAN  
NATURAL FEATURES PLAN

DATE	12-18-19
SCALE	1"=10'
SHEET NO.	SP-04

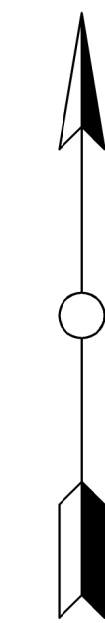
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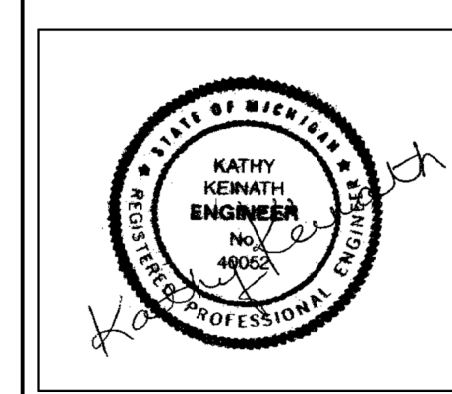


# Macon Engineering, LLC.

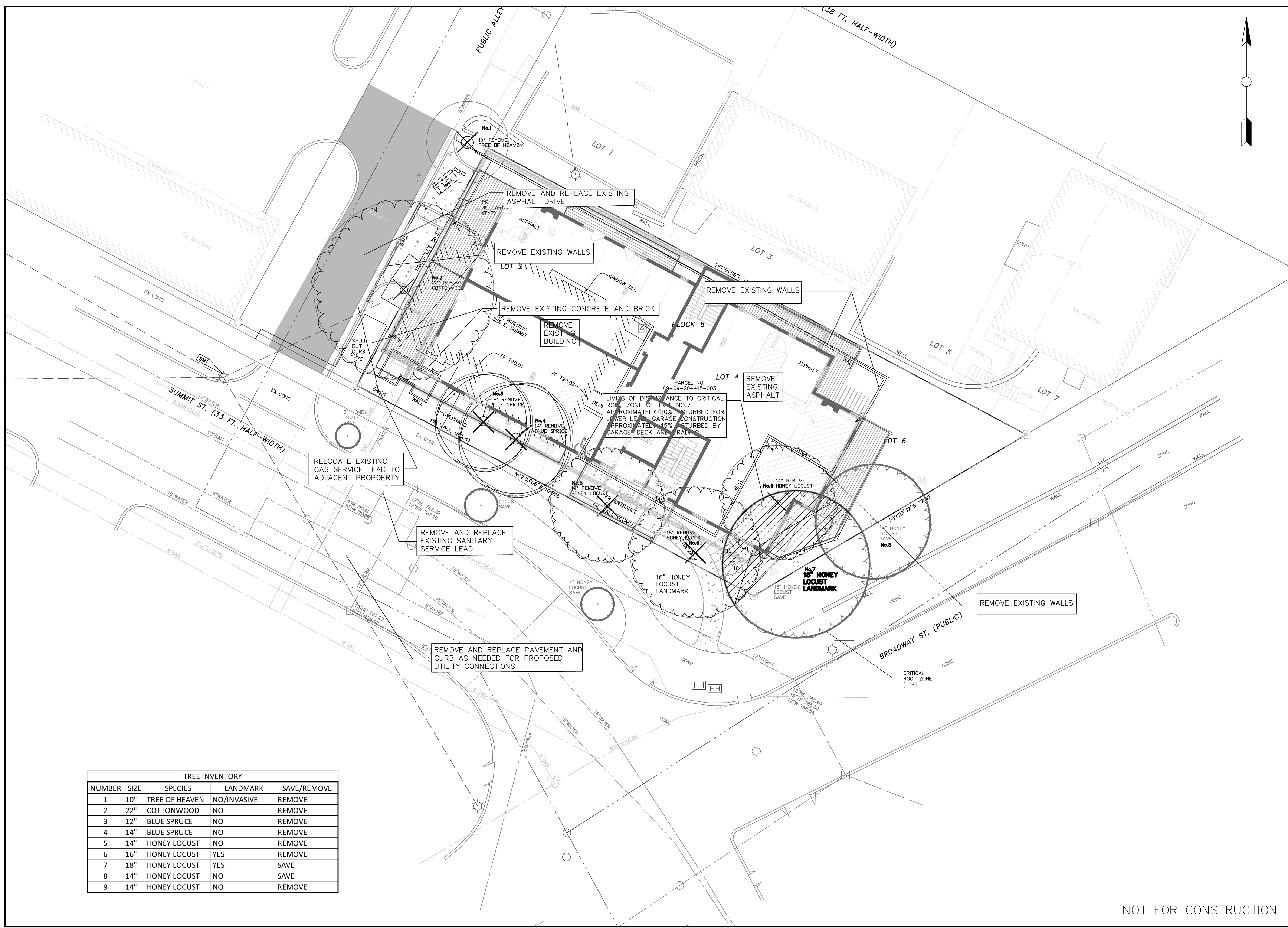
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THE GARNET  
SUMMIT & BROADWAY  
ANN ARBOR, MI

SITE PLAN  
NATURAL FEATURES  
OVERLAY PLAN



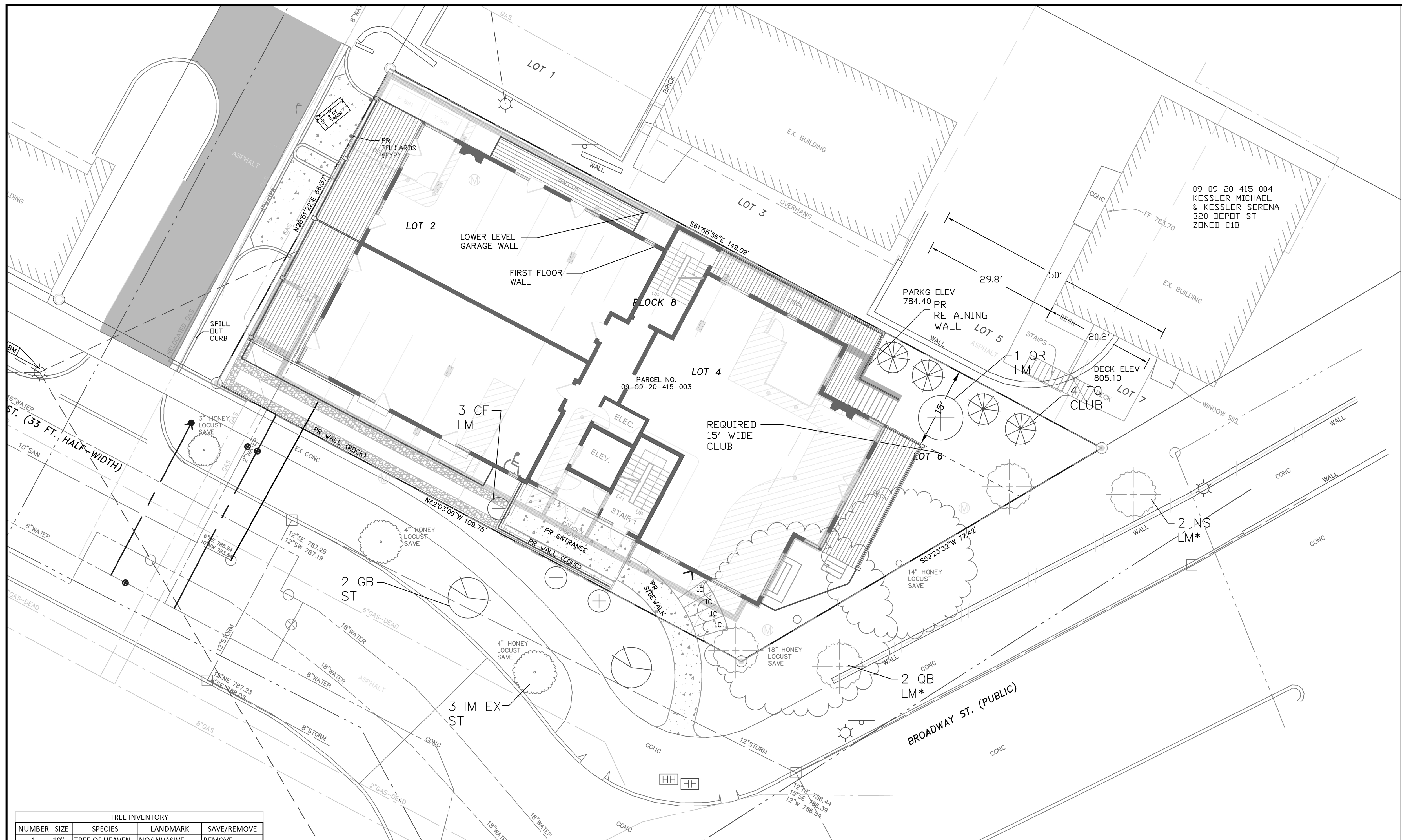
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	11-20-19
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SHEET NO.	SP-05



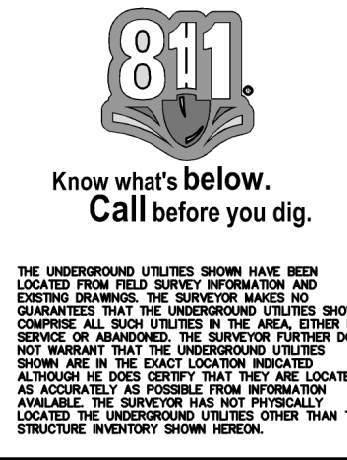
TREE INVENTORY				
NUMBER	SIZE	SPECIES	LANDMARK	SAVE/REMOVE
1	10"	TREE OF HEAVEN	NO/INVASIVE	REMOVE
2	22"	COTTONWOOD	NO	REMOVE
3	12"	BLUE SPRUCE	NO	REMOVE
4	14"	BLUE SPRUCE	NO	REMOVE
5	14"	HONEY LOCUST	NO	REMOVE
6	16"	HONEY LOCUST	YES	REMOVE
7	18"	HONEY LOCUST	YES	SAVE
8	14"	HONEY LOCUST	NO	SAVE
9	14"	HONEY LOCUST	NO	REMOVE

NOT FOR CONSTRUCTION



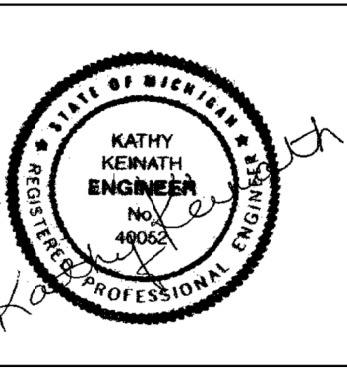


- LEGEND**
- EX. CATCH BASIN
  - EX. MANHOLE
  - EX. END SECTION
  - EX. CLEANOUT
  - EX. HYDRANT
  - EX. GATE VALVE
  - EX. WATER SHUTOFF
  - EX. FIRE DEPT. CONNECTION
  - EX. LIGHTPOLE
  - EX. UTILITY POLE
  - EX. GUY ANCHOR
  - EX. HANDHOLE
  - EX. REDESTAL
  - EX. TRANSFORMER
  - EX. GENERATOR
  - EX. GAS METER
  - EX. ELECTRIC METER
  - EX. AIR CONDITIONER
  - EX. SIGN
  - EX. POST/BOLLARD
  - EX. MONITOR WELL
  - FOUND IRON
  - SET IRON
  - EX. GAS SHUTOFF
  - EX. GAS VENT
  - EX. FENCE
  - EX. SANITARY SEWER
  - EX. STORM SEWER
  - EX. WATER MAIN
  - EX. ELECTRIC CABLE
  - EX. COMMUNICATION
  - EX. GAS LINE
  - EX. OVERHEAD LINE
  - PR. STORM SEWER
  - PR. SANITARY SEWER
  - PR. WATER MAIN
  - PR. SILT FENCE
  - PR. TREE FENCE
  - PR. INLET FILTER
  - PR. CURB
  - PR. CONTOUR LINE
  - 700.00 X
  - 700.00 X
  - PR. CONCRETE
  - PR. ASPHALT



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

THE GARNET  
 SUMMIT & BROADWAY  
 ANN ARBOR, MI  
 SITE PLAN  
 LANDSCAPE



**TREE INVENTORY**

NUMBER	SIZE	SPECIES	LANDMARK	SAVE/REMOVE
1	10"	TREE OF HEAVEN	NO/INVASIVE	REMOVE
2	22"	COTTONWOOD	NO	REMOVE
3	12"	BLUE SPRUCE	NO	REMOVE
4	14"	BLUE SPRUCE	NO	REMOVE
5	14"	HONEY LOCUST	NO	REMOVE
6	16"	HONEY LOCUST	YES	REMOVE
7	18"	HONEY LOCUST	YES	SAVE
8	14"	HONEY LOCUST	NO	SAVE
9	14"	HONEY LOCUST	NO	REMOVE

**LANDSCAPE REQUIREMENT CHART**

	Required	Existing	Proposed	Total
<b>STREET TREE REQUIREMENTS</b>				
Street frontage	203.67	ft		
Rate is 1 tree per 45 LF	4.5	3	2	5
Street Tree Escrow \$1.30 per LF of street frontage	203.67	ft	\$264.77	
<b>LANDMARK TREE MITIGATION</b>				
16" Replacements @ 2.5 cal Tree No. 6	3.2	0	4	4
18" Replacements @ 2.5 cal Tree No. 7	3.6	0	4	4
<b>CONFLICTING LAND USE BUFFER</b>				
50 ft Property Line, 1 tree/15 ft	3.3	0	4	4
Width (ft)	15	n/a	15	15
Length (ft)	50	n/a	50	50
<b>Vehicular Use Area</b>	None	None	None	
<b>Interior Landscape Areas Pertaining to Vehicular Use Areas</b>	None	None	None	
<b>Right-of-way Screening</b>	None	None	None	

\* Mitigation for 18" Landmark Honey Locust required if the tree does not survive within three years of construction completion

**PLANT LIST**

KEY	QTY	SPECIES	SIZE	SPECS	NATIVES	CATEGORY
NS	2*	Nyssa sylvatica Blackgum	2.5" cal	B&B	Native	LM
CF	3	Cornus florida Dogwood, flowering	2.5" cal	B&B	Native	LM
GB	2	Ginkgo biloba Ginkgo	2.5" cal	B&B	Native	ST
QR	1	Quercus rubra Red Oak	2.5" cal	B&B	Native	LM
QB	2*	Quercus bicolor Swamp White Oak	2.5" cal	B&B	Native	LM
TO	4	Thuja occidentalis Cedar	7'	B&B	Native	CLUB
<b>LEGEND</b>		<b>CATEGORY</b>				
ST		Street Tree Required				
LM		Landmark Tree Mitigation				
CLUB		Conflicting Land Use Buffer				

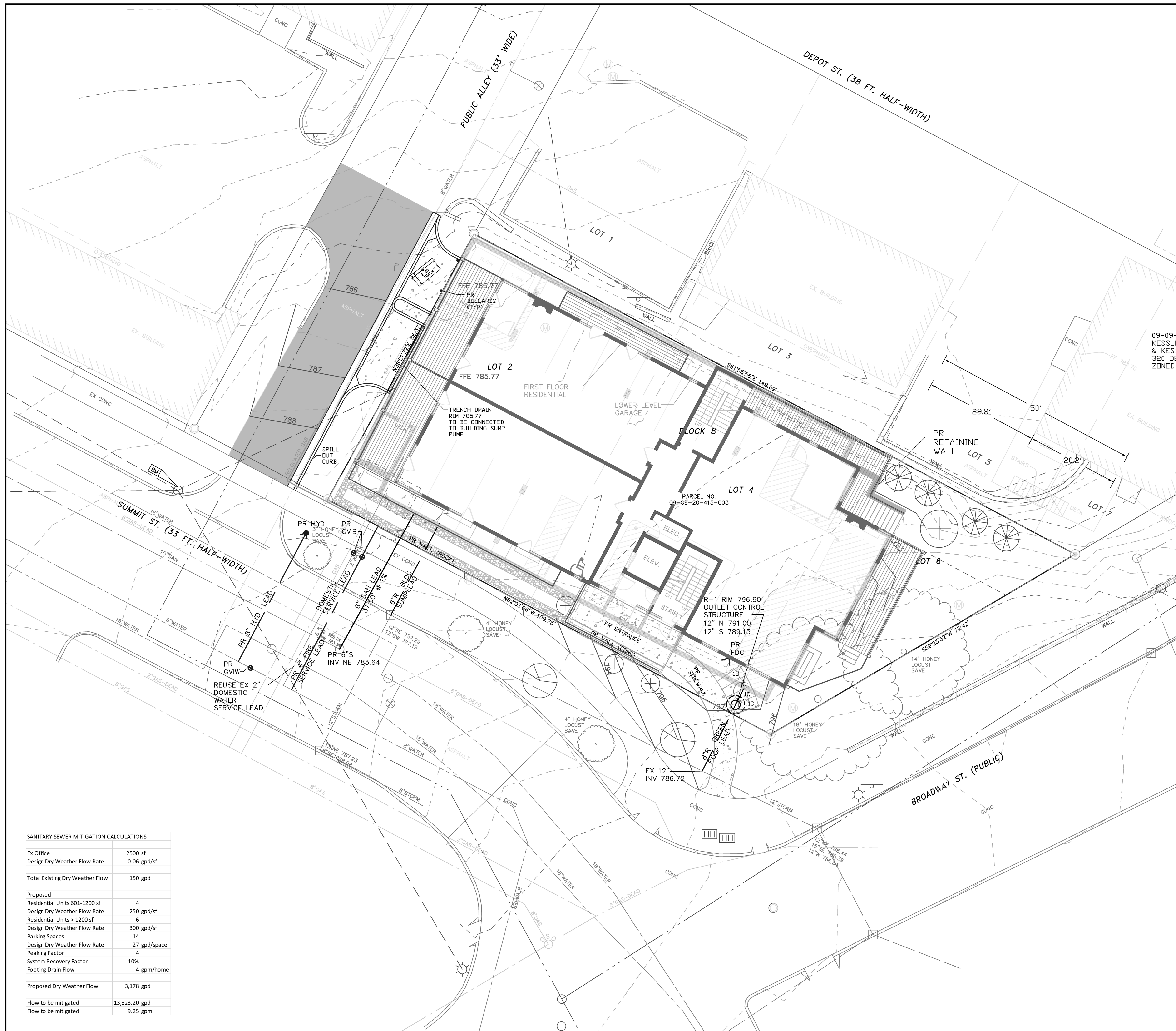
- LANDSCAPING SPECIFICATIONS:**
- ALL LANDSCAPING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH CITY STANDARDS AND IN ACCORDANCE WITH CURRENT INDUSTRY STANDARDS IN A NEAT, HEALTHY AND WEED FREE CONDITION. ANY DEAD, DISEASED OR DAMAGED PLANT MATERIAL IS TO BE REPLACED WITHIN ONE YEAR, OR THE NEXT APPROPRIATE PLANTING PERIOD, AS A CONTINUING OBLIGATION FOR THE DURATION OF THE SITE PLAN.
  - THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES. PLANT MATERIAL IS TO BE LOCATED SUCH THAT IT WILL NOT INTERFERE WITH ANY UNDERGROUND OR OVERHEAD UTILITIES. CANOPY AND EVERGREEN TREES SHALL NOT BE PLANTED WITHIN 15 FEET OF THE SANITARY SEWER.
  - PLANT TREES AND SHRUBS AT THE SAME GRADE LEVEL AT WHICH THEY WERE GROWN AT THE NURSERY. IF HEAVY CLAY SOILS ARE EVIDENT, PLANT TREES AND SHRUBS HIGHER, APPROXIMATELY 1/3 OF THE ROOT BALL ABOVE THE GRADE.
  - REMOVE ALL TWINE, WIRE, NURSERY TREE GUARDS, TAGS AND INORGANIC MATERIAL FROM ROOT BALLS.
  - PEEL BACK THE TOP 1 1/2" OF BURLAP FROM EARTH BALLS AND REMOVE ANY BURLAP AROUND TREE TRUNKS.
  - ALL LANDSCAPE AREAS SHALL BE EXCAVATED OF ALL BUILDING/CONSTRUCTION MATERIAL AND POOR SOILS TO A DEPTH OF 18-24" AND BACKFILLED WITH GOOD, MEDIUM TEXTURED PLANTING SOIL. APPLICATIONS OF FERTILIZER BEYOND THE INITIAL TOPSOIL AND SEEDING SHALL BE A FERTILIZER WITH NO PHOSPHORUS.
  - BACKFILL DIRECTLY BEHIND ALL CURBS AND ALONG SIDEWALKS AND COMPACT TO TOP OF CURB OR WALK TO SUPPORT VEHICLE AND PEDESTRIAN WEIGHT WITHOUT SETTLING.
  - ALL DISTURBED UNPAVED AREAS ARE TO BE RESTORED. AREAS OF INDIVIDUAL TREES ARE TO BE MULCHED WITH A MINIMUM OF 4 INCHES SHREDDED HARDWOOD BARK. LAWN TREES ARE TO BE MULCHED WITH A 4" DIAMETER SHREDDED BARK RING. BARK IS TO BE PULLED AWAY FROM THE TRUNK OF TREES LEAVING A 3" CLEAR AREA AROUND THE TRUNK.
  - ANY PLANT SUBSTITUTIONS SHALL HAVE PRIOR CITY APPROVAL.
  - TOPSOIL SHALL BE REMOVED FROM STOCKPILES AND SPREAD IN THE AREAS SHOWN ON THE PLANS. THE DEPTH OF TOPSOIL SHALL BE A MINIMUM OF 4 INCHES IN LAWN AREAS AND A MINIMUM OF 8 INCHES IN LANDSCAPE PLANTING AREAS.
  - AFTER THE TOPSOIL IS IN PLACE IT SHALL BE FINE GRADED REMOVING ALL ROOTS, STICKS, STONES AND DEBRIS GREATER THAN 2 INCHES IN ANY DIMENSION. THE TOPSOIL SHALL BE FINE GRADED TO THE LINES AND GRADES SHOWN ON THE PLANS.
  - THE TOPSOIL SOIL SHALL HAVE A PH OF 5.5 TO 7.6 AND AN ORGANIC CONTENT OF 3 TO 20%. THE GRADATION OF THE TOPSOIL SHALL BE 100% PASSING 2 INCH SIEVE, 85 TO 100% PASSING THE 1 INCH SIEVE, 65 TO 100% PASSING THE 3/4 INCH SIEVE AND 20 TO 80% PASSING THE NO. 200 SIEVE.
  - WATER LAWN AREAS AS NEEDED TO PROMOTE GROWTH. THE CONTRACTOR WILL BE RESPONSIBLE TO WATER, RESEED OR WORK WHEN NECESSARY TO INSURE THE GROWTH OF THE LAWN UNTIL A COMPLETE AND UNIFORM STAND OF GRASS HAS GROWN AND BEEN CUT AT LEAST TWICE.
  - UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL AREAS NOT RECEIVING STRUCTURES, PAVEMENT, RIP RAP, LANDSCAPING OR OTHER IMPROVEMENTS OR FUTURE IMPROVEMENTS SHALL BE CONSIDERED LAWN AREAS AND RECEIVE TOPSOIL AND SEEDING.
  - PLANTINGS SHALL BE SUPPLIED IN GOOD HEALTH, VIGOROUS, AND FREE OF INSECTS, LARVAE, EGGS, DEFECTS AND DISEASE.
  - PLANTING BEDS SHALL BE PREPARED BY LOOSENING THE TOP 1 FOOT OF TOPSOIL. PLANTS SHALL BE LOCATED PER THE PLANS. THE HOLES SHALL BE EXCAVATED WITH THE CENTER SLIGHTLY HIGHER TO PROMOTE DRAINAGE. BERM AROUND PLANTS TO FORM A BOWL SHAPE.

**LANDSCAPING NOTES:**  
 1. REFER TO DETAIL SHEET FOR PLANTING AND STAKING DETAILS

NOT FOR CONSTRUCTION

DATE	12-18-19
SCALE	1"=10'
SHEET NO.	SP-06



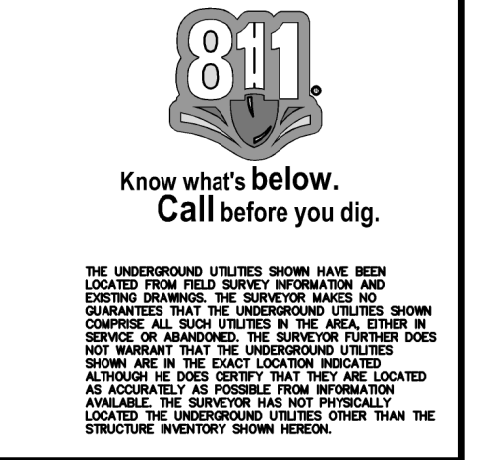


- LEGEND**
- EX. CATCH BASIN
  - EX. MANHOLE
  - △ EX. END SECTION
  - ⊙ EX. CLEANOUT
  - ▽ EX. HYDRANT
  - ⊕ EX. GATE VALVE
  - ⊖ EX. WATER SHUTOFF
  - ⊗ EX. FIRE DEPT. CONNECTION
  - ☆ EX. LIGHTPOLE
  - ⊙ EX. UTILITY POLE
  - ⊙ EX. GUY ANCHOR
  - ⊙ EX. HANGHOLE
  - ⊙ EX. PEDESTAL
  - ⊙ EX. TRANSFORMER
  - ⊙ EX. GENERATOR
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  - ⊙ EX. MONITOR WELL
  - ⊙ FOUND IRON
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  - EX. WATER MAIN
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  - EX. GAS LINE
  - EX. COMMUNICATION
  - EX. OVERHEAD LINE
  - PR STORM SEWER
  - PR SANITARY SEWER
  - PR WATER MAIN
  - PR SILT FENCE
  - PR TREE FENCE
  - PR INLET FILTER
  - PR CURB
  - 700 PR CONTOUR LINE
  - 700.00 X PR SPOT GRADE
  - PR CONCRETE
  - PR ASPHALT

- NOTES:
1. FIRE WALLS DO NOT EXIST.
  2. NO BOOSTER PUMPS ARE PROPOSED FOR THE BUILDING'S WATER SERVICE
  3. WATER SERVICE LEADS WILL ENTER THE BUILDING AT THE MECHANICAL ROOM IN THE PARKING LEVEL.

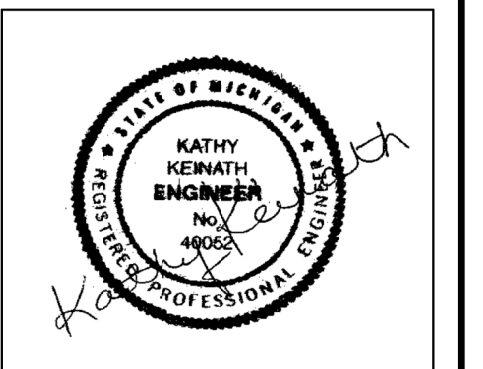
**SANITARY SEWER MITIGATION CALCULATIONS**

Ex Office	2500 sf
Design Dry Weather Flow Rate	0.06 gpd/sf
<b>Total Existing Dry Weather Flow</b>	<b>150 gpd</b>
Proposed	
Residential Units 601-1200 sf	4
Design Dry Weather Flow Rate	250 gpd/sf
Residential Units > 1200 sf	6
Design Dry Weather Flow Rate	300 gpd/sf
Parking Spaces	14
Design Dry Weather Flow Rate	27 gpd/space
Peaking Factor	4
System Recovery Factor	10%
Footing Drain Flow	4 gpm/home
<b>Proposed Dry Weather Flow</b>	<b>3,178 gpd</b>
Flow to be mitigated	13,323.20 gpd
Flow to be mitigated	9.25 gpm



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THE GARNET  
SUMMIT & BROADWAY  
ANN ARBOR, MI  
SITE PLAN  
UTILITIES



DATE	12-18-19
SCALE	1"=10'
SHEET NO.	SP-07

NOT FOR CONSTRUCTION



**PROPOSED AREA TO DETAIN**

Total Project Area =	0.20 ac	8571.43
Total Site Area Excluding "Self-Crediting" BMPs =		0.20 ac

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

Rational Method Variables

Cover Type	Soil Type	Area (sf)	Area (ac)	Coefficient (c)	(C)/Area
Building Roof	B	1,902	0.044	0.95	0.04
Concrete/Garage roof	B	1,151	0.026	0.95	0.03
Decks	B	864	0.020	0.95	0.02
Green Roof	B	3,075	0.071	0.40	0.03
Lawn	B	1,579	0.036	0.30	0.01
Rain Garden	B	0	0.000	0.95	0.00
		8,571 Total = Sum (C)(A)			0.12
		Area Total = Sum A (ac)			0.20
		Weighted C = Sum (C)(A)/Area Total			0.63

**NRCS Variables Pervious**

Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)/Area
Lawn	B	1,579	0.036	61	2
Rain Garden	B	0	0.000	98	0
Green Roof	B	3,075	0.071	65	5
		4,654 Total = Sum (CN)(A)			6.80
		Area Total = Sum A (ac)			0.11
		Weighted CN = Sum (CN)(A)/Area Total			64

**NRCS Variables Impervious**

Cover Type	Soil Type	Area (sf)	Area (ac)	Curve Number	(CN)/Area
Building Roof	B	1,902	0.044	98	4
Concrete/Garage roof	B	1,151	0.026	98	3
Decks	B	864	0.020	98	2
Rain Garden	B	0	0.000	98	0
		3917.00 Total = Sum (CN)(A)			8.81
		Area Total = Sum A (ac)			0.09
		Weighted CN = Sum (CN)(A)/Area Total			98

**W2: STANDARD METHOD RUNOFF VOLUME CALCULATIONS**  
First Flush Runoff Calculations (Vff)

$Vff = (1' / 12") (43560 \text{ sf} / 1 \text{ ac}) AC =$  Vff = 452 cf

**Green Roof Storage Volume Calculations**  
Area of green roof at Ponding Depth = 3,075 sf  
Area of green roof at Bottom = 3,075 sf  
Infiltration Area = 3,075 sf

Green Roof system provides 1.76" of storage. See detail sheet.

Surface Storage Volume = Area \* Depth  
Area = 3,075 sf  
Depth = 0.15 ft  
Volume = 461 cf

**OUTLET STRUCTURE**  
Xo = 791.00 Vo = 0 cf  
Xfull = 792.50 Vfull = 15 cf

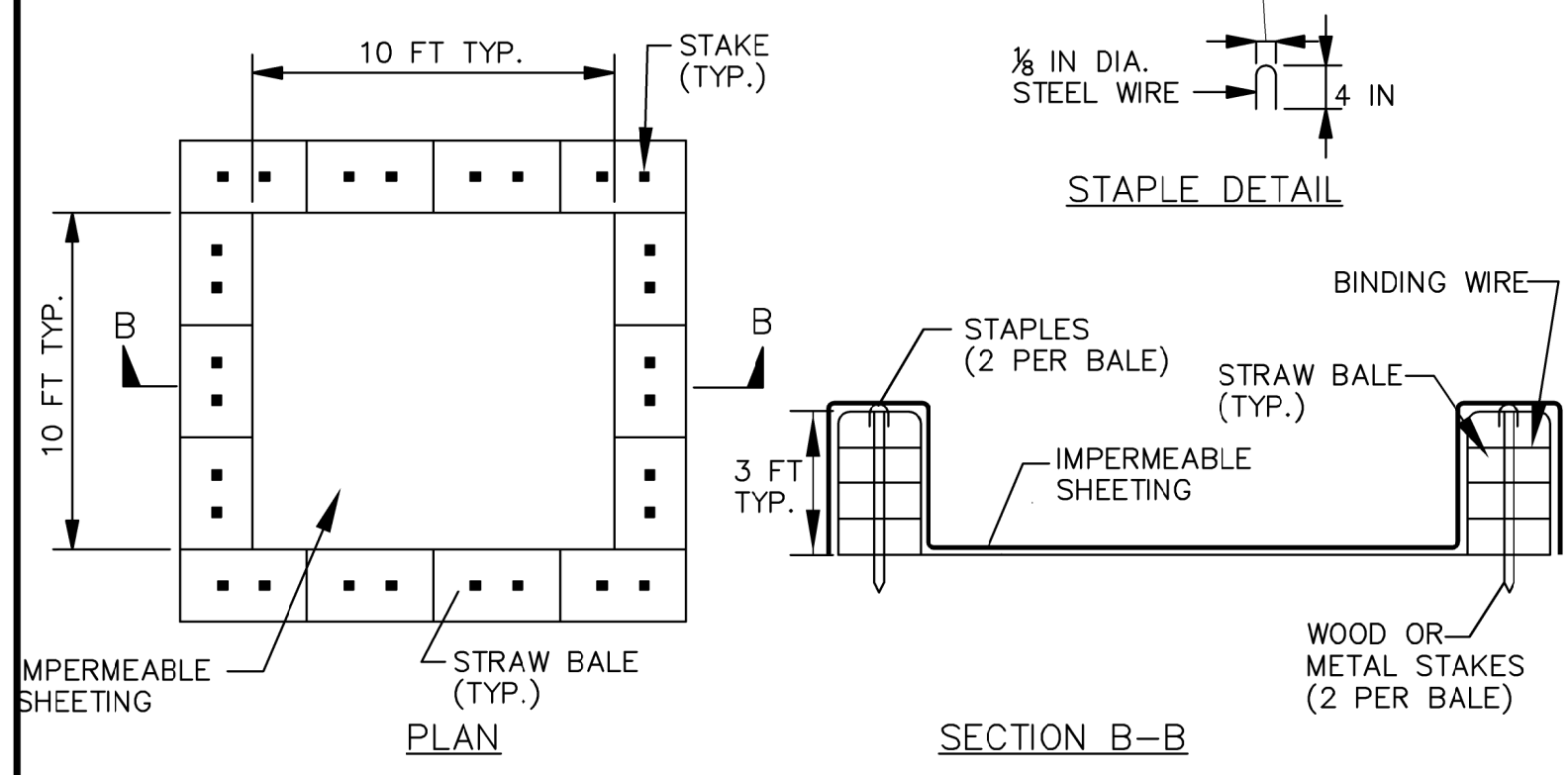
Top of Baffle = 792.50 ft

Qa = 0.030 cfs Qa = 0.15 cfs/acre \* 0.20 acres  
have = 0.750 ft  
A = 0.0069 sf  
Use: 2 0.75 in diameter holes Aff = 0.0061 sf @ 791.00  
Qnew = 0.026 cfs < Qa

**SOIL EROSION CONTROL COST ESTIMATE**

ITEM	QUANTITY	UNIT	PRICE	TOTAL PRICE
SILT FENCE	100	LF	\$2.00	\$200
SILT SACS	3	EA	\$50.00	\$150
MUD TRACKING	50	SY	\$50.00	\$2,500
TEMP SEED	100	SY	\$3.00	\$300
TOTAL				\$3,150

PROTECTING EXPOSED SURFACES \$2,000



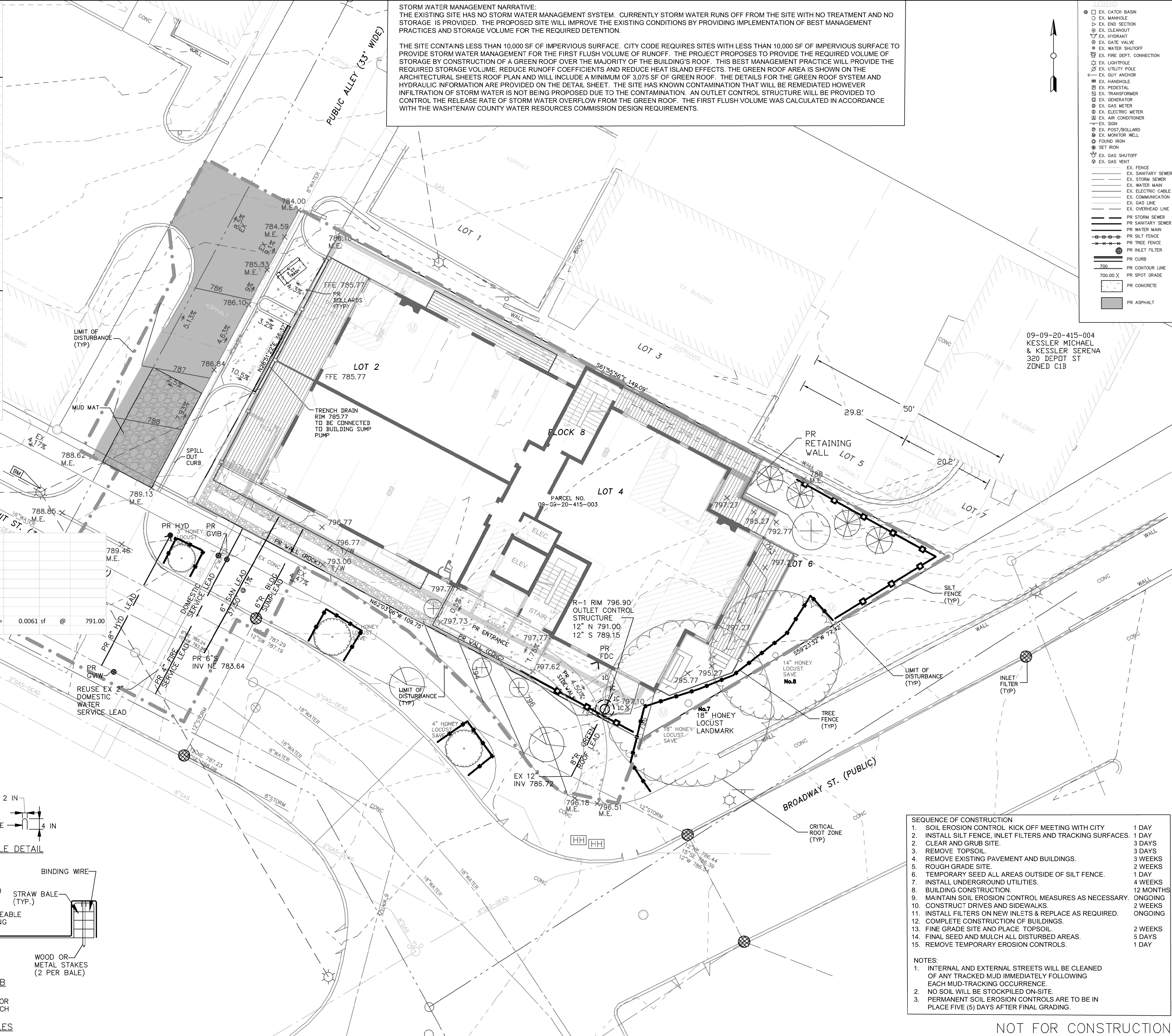
NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH  
**WASHOUT STRUCTURE WITH STRAW BALES**

**STORM WATER MANAGEMENT NARRATIVE:**  
THE EXISTING SITE HAS NO STORM WATER MANAGEMENT SYSTEM. CURRENTLY STORM WATER RUNS OFF FROM THE SITE WITH NO TREATMENT AND NO STORAGE IS PROVIDED. THE PROPOSED SITE WILL IMPROVE THE EXISTING CONDITIONS BY PROVIDING IMPLEMENTATION OF BEST MANAGEMENT PRACTICES AND STORAGE VOLUME FOR THE REQUIRED DETENTION.

THE SITE CONTAINS LESS THAN 10,000 SF OF IMPERVIOUS SURFACE. CITY CODE REQUIRES SITES WITH LESS THAN 10,000 SF OF IMPERVIOUS SURFACE TO PROVIDE STORM WATER MANAGEMENT FOR THE FIRST FLUSH VOLUME OF RUNOFF. THE PROJECT PROPOSES TO PROVIDE THE REQUIRED VOLUME OF STORAGE BY CONSTRUCTION OF A GREEN ROOF OVER THE MAJORITY OF THE BUILDING'S ROOF. THIS BEST MANAGEMENT PRACTICE WILL PROVIDE THE REQUIRED STORAGE VOLUME, REDUCE RUNOFF COEFFICIENTS AND REDUCE HEAT ISLAND EFFECTS. THE GREEN ROOF AREA IS SHOWN ON THE ARCHITECTURAL SHEETS ROOF PLAN AND WILL INCLUDE A MINIMUM OF 3.075 SF OF GREEN ROOF. THE DETAILS FOR THE GREEN ROOF SYSTEM AND HYDRAULIC INFORMATION ARE PROVIDED ON THE DETAIL SHEET. THE SITE HAS KNOWN CONTAMINATION THAT WILL BE REMEDIATED HOWEVER INFILTRATION OF STORM WATER IS NOT BEING PROPOSED DUE TO THE CONTAMINATION. AN OUTLET CONTROL STRUCTURE WILL BE PROVIDED TO CONTROL THE RELEASE RATE OF STORM WATER OVERTFLOW FROM THE GREEN ROOF. THE FIRST FLUSH VOLUME WAS CALCULATED IN ACCORDANCE WITH THE WASHTENAW COUNTY WATER RESOURCES COMMISSION DESIGN REQUIREMENTS.

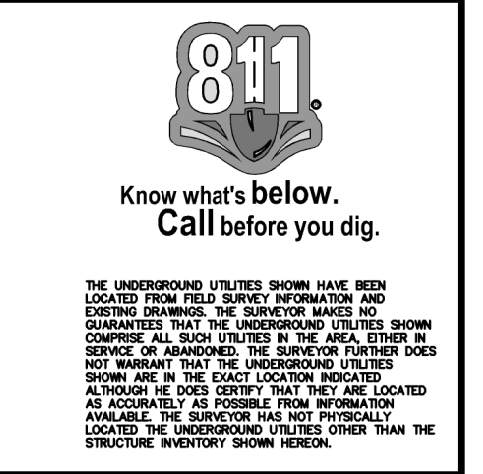
- LEGEND**
- EX. CATCH BASIN
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  - PR. INLET FILTER
  - PR. CURB
  - 700
  - 700.00 X
  - PR. CONCRETE
  - PR. ASPHALT

09-09-20-415-004  
KESSLER MICHAEL  
& KESSLER SERENA  
320 DEPOT ST  
ZONED C1B



- SEQUENCE OF CONSTRUCTION**
1. SOIL EROSION CONTROL KICK OFF MEETING WITH CITY 1 DAY
  2. INSTALL SILT FENCE, INLET FILTERS AND TRACKING SURFACES. 1 DAY
  3. CLEAR AND GRUB SITE. 3 DAYS
  4. REMOVE TOPSOIL. 3 DAYS
  5. REMOVE EXISTING PAVEMENT AND BUILDINGS. 3 WEEKS
  6. ROUGH GRADE SITE. 2 WEEKS
  7. TEMPORARY SEED ALL AREAS OUTSIDE OF SILT FENCE. 1 DAY
  8. INSTALL UNDERGROUND UTILITIES. 4 WEEKS
  9. BUILDING CONSTRUCTION. 12 MONTHS
  10. MAINTAIN SOIL EROSION CONTROL MEASURES AS NECESSARY. ONGOING
  11. CONSTRUCT DRIVES AND SIDEWALKS. 2 WEEKS
  12. COMPLETE CONSTRUCTION OF BUILDINGS. ONGOING
  13. INSTALL FILTERS ON NEW INLETS & REPLACE AS REQUIRED. ONGOING
  14. FINE GRADE SITE AND PLACE TOPSOIL. 2 WEEKS
  15. FINAL SEED AND MULCH ALL DISTURBED AREAS. 5 DAYS
  16. REMOVE TEMPORARY EROSION CONTROLS. 1 DAY

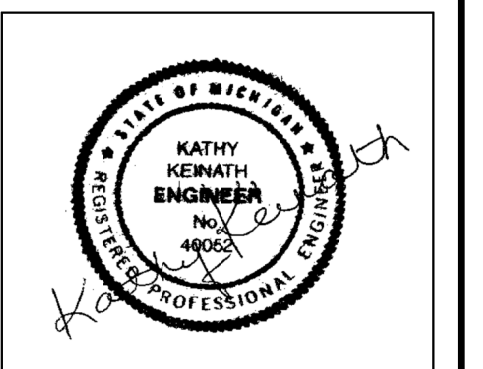
- NOTES:**
1. INTERNAL AND EXTERNAL STREETS WILL BE CLEANED OF ANY TRACKED MUD IMMEDIATELY FOLLOWING EACH MUD-TRACKING OCCURRENCE.
  2. NO SOIL WILL BE STOCKPILED ON-SITE.
  3. PERMANENT SOIL EROSION CONTROLS ARE TO BE IN PLACE FIVE (5) DAYS AFTER FINAL GRADING.



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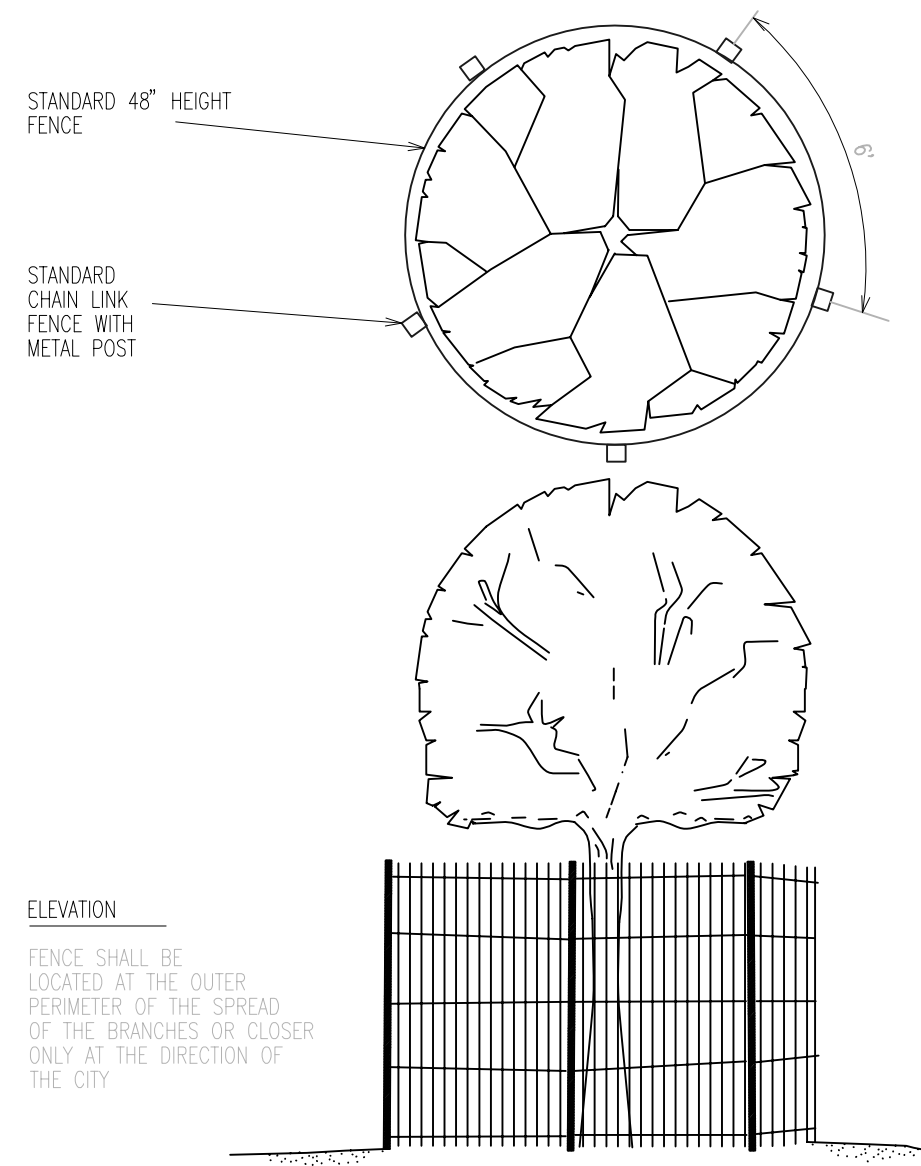
SITE PLAN  
STORM WATER  
MANAGEMENT, GRADING  
AND SOIL EROSION  
CONTROL



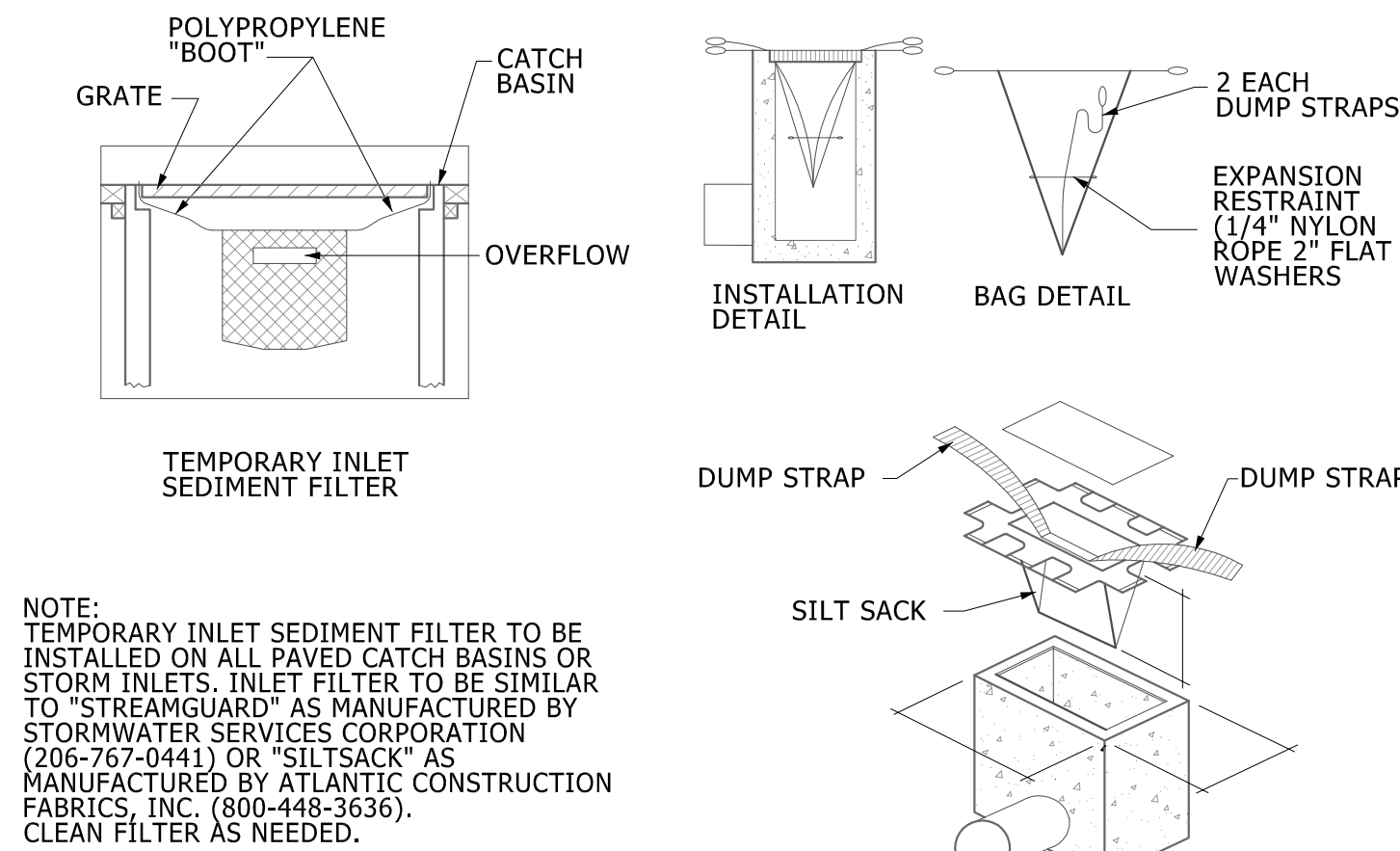
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DATE	11-20-19
DATE	5-31-19
DATE	4-25-19
DATE	3-15-19
DATE	1-22-19
DATE	10-25-18
SCALE	1" = 10'
SHEET NO.	SP-08

NOT FOR CONSTRUCTION





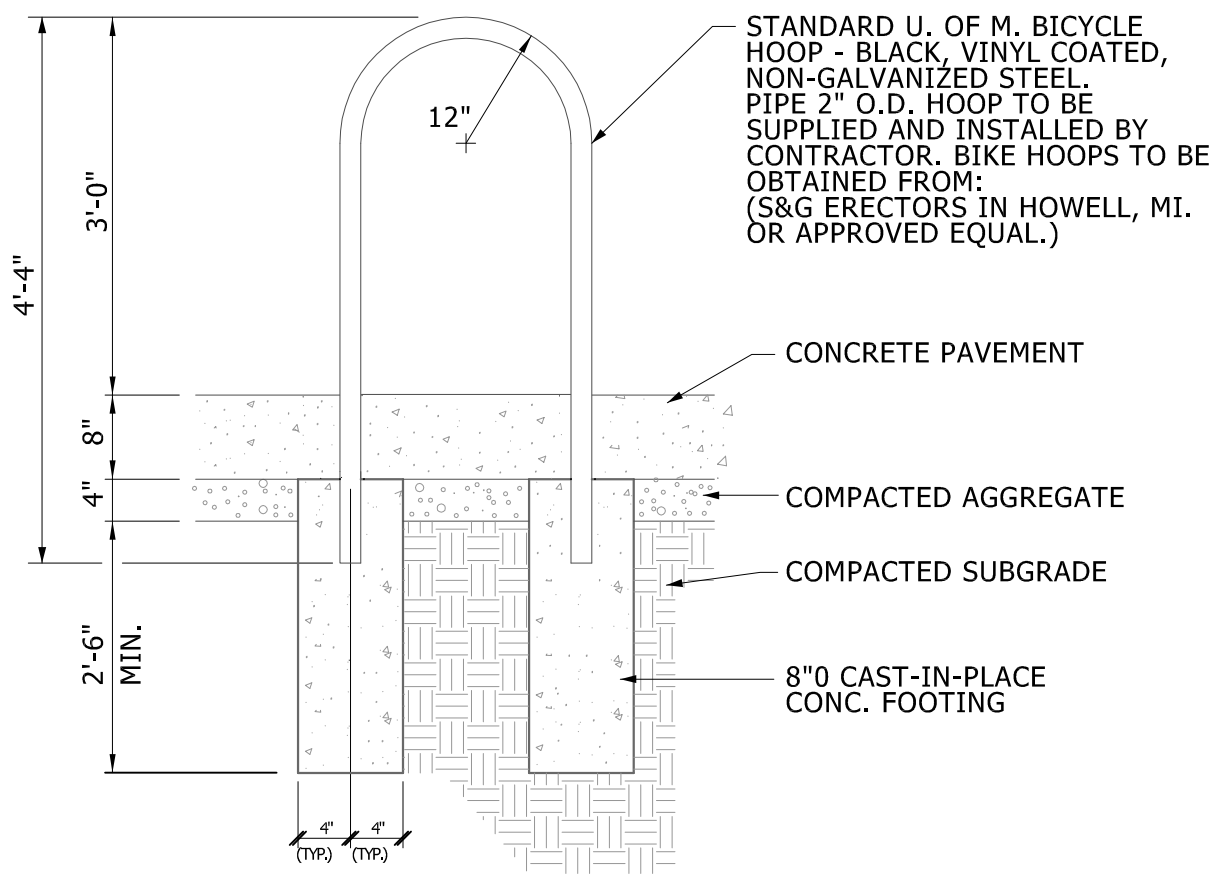
**TREE PROTECTION DETAIL**



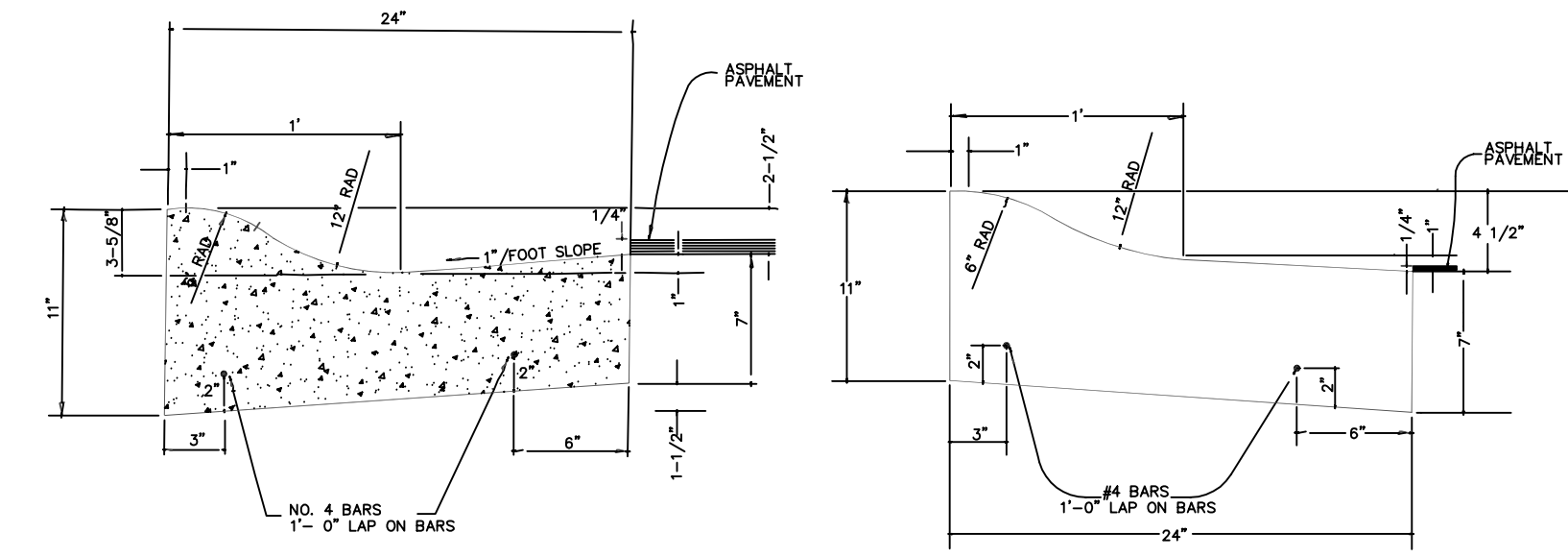
**TEMPORARY INLET SEDIMENT FILTER**

NOTE: TEMPORARY INLET SEDIMENT FILTER TO BE INSTALLED ON ALL PAVED CATCH BASINS OR STORM INLETS. INLET FILTER TO BE SIMILAR TO "STREANGUARD" 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.

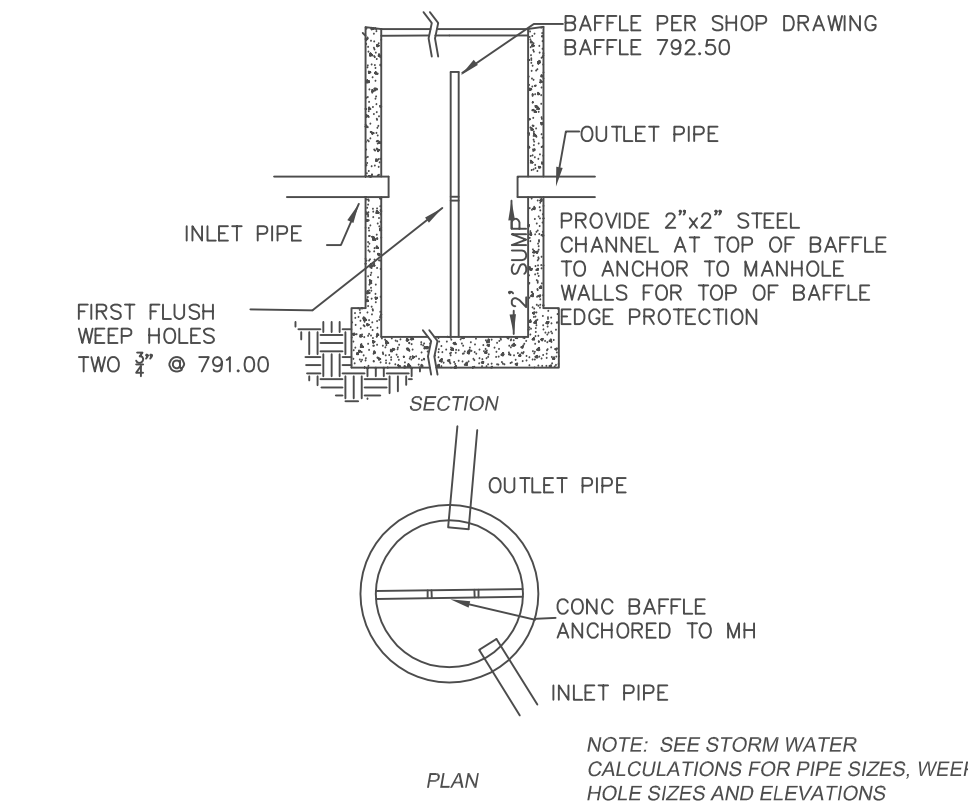
**SILT SACK DETAIL**



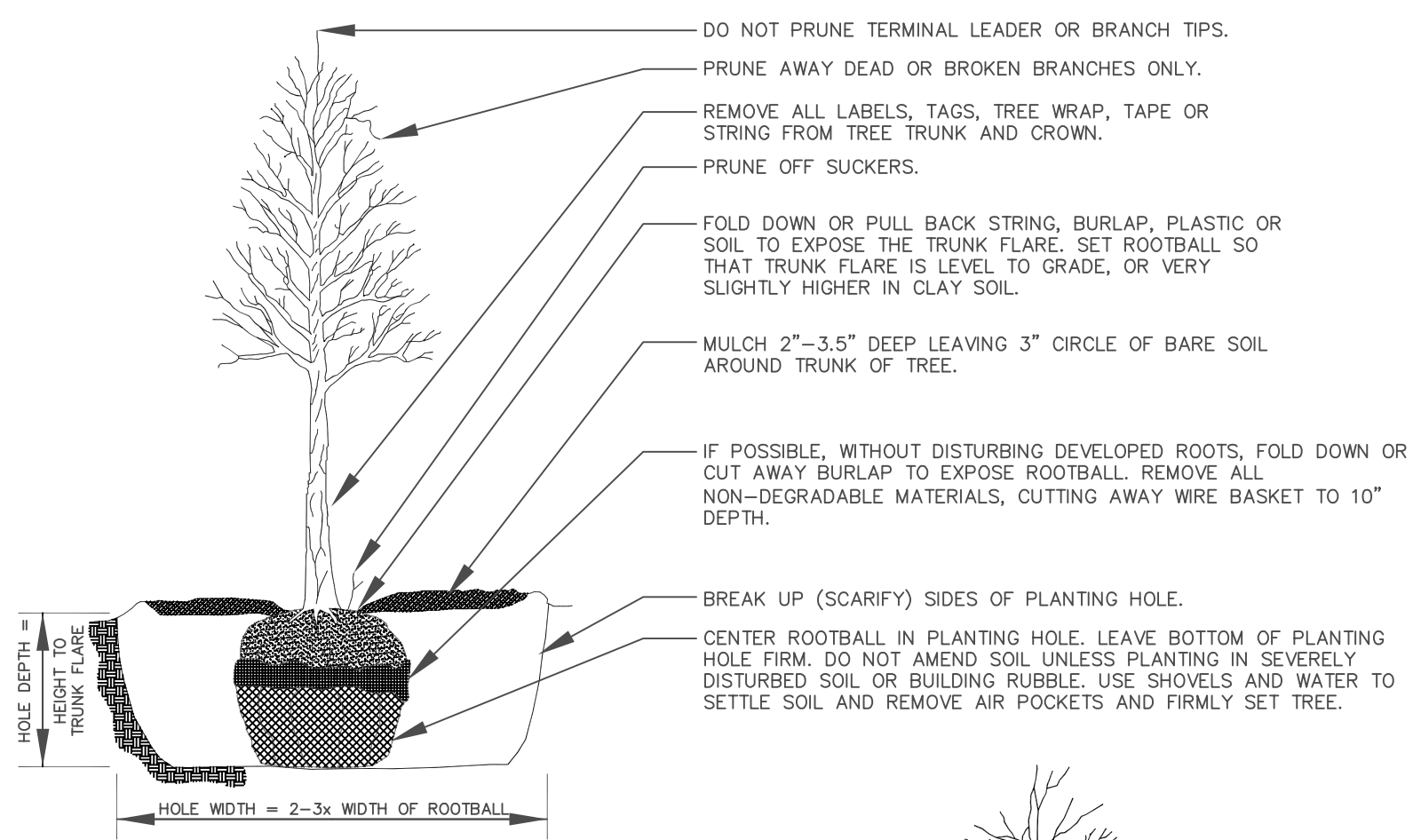
**BICYCLE HOOP DETAIL**



**MOUNTABLE CURB**

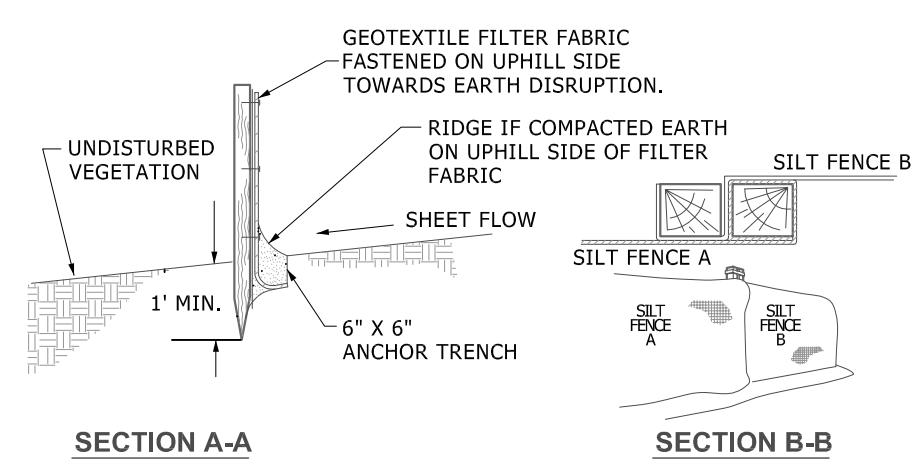
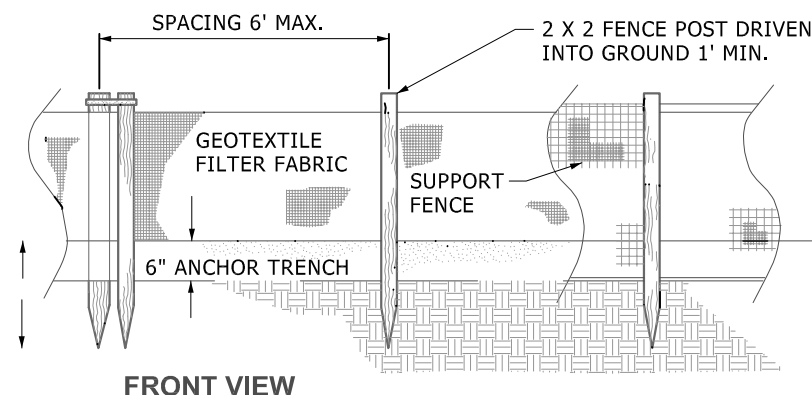
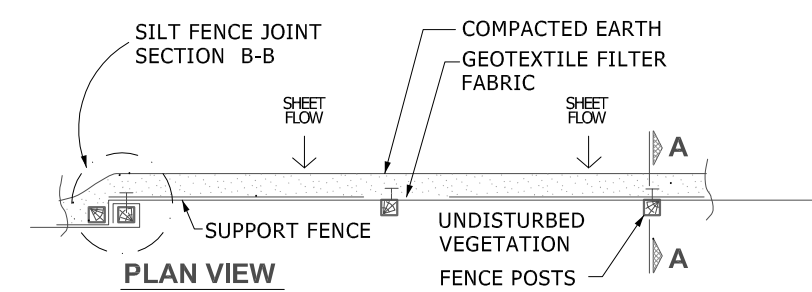
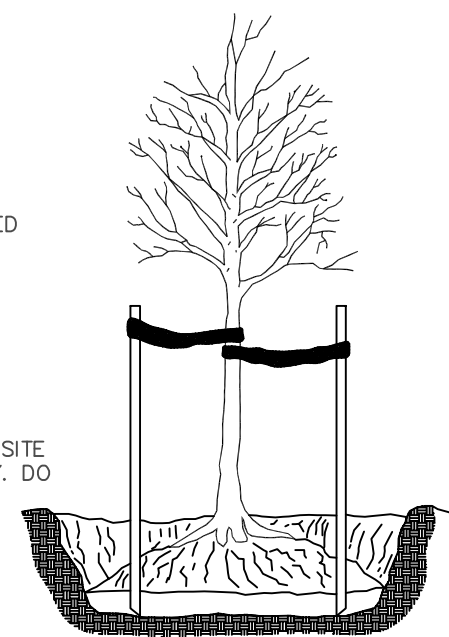


**4' DIAMETER OUTLET STRUCTURE**



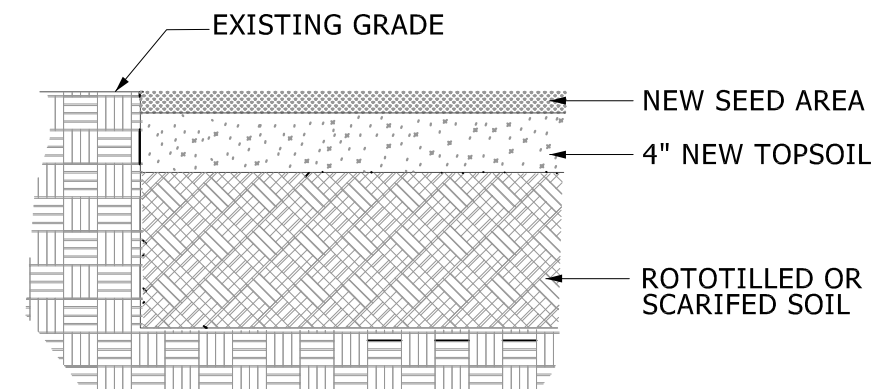
**TREE PLANTING**

- DO NOT PRUNE TERMINAL LEADER OR BRANCH TIPS.
- PRUNE AWAY DEAD OR BROKEN BRANCHES ONLY.
- REMOVE ALL LABELS, TAGS, TREE WRAP, TAPE OR STRING FROM TREE TRUNK AND CROWN.
- PRUNE OFF SUCKERS.
- FOLD DOWN OR PULL BACK STRING, BURLAP, PLASTIC OR SOIL TO EXPOSE THE TRUNK FLARE. SET ROOTBALL SO THAT TRUNK FLARE IS LEVEL TO GRADE, OR VERY SLIGHTLY HIGHER IN CLAY SOIL.
- MULCH 2"-3.5" DEEP LEAVING 3" CIRCLE OF BARE SOIL AROUND TRUNK OF TREE.
- IF POSSIBLE, WITHOUT DISTURBING DEVELOPED ROOTS, FOLD DOWN OR CUT AWAY BURLAP TO EXPOSE ROOTBALL. REMOVE ALL NON-DEGRADABLE MATERIALS, CUTTING AWAY WIRE BASKET TO 10" DEPTH.
- BREAK UP (SCARIFY) SIDES OF PLANTING HOLE.
- CENTER ROOTBALL IN PLANTING HOLE. LEAVE BOTTOM OF PLANTING HOLE FIRM. DO NOT AMEND SOIL UNLESS PLANTING IN SEVERELY DISTURBED SOIL OR BUILDING RUBBLE. USE SHOVELS AND WATER TO SETTLE SOIL AND REMOVE AIR POCKETS AND FIRMLY SET TREE.



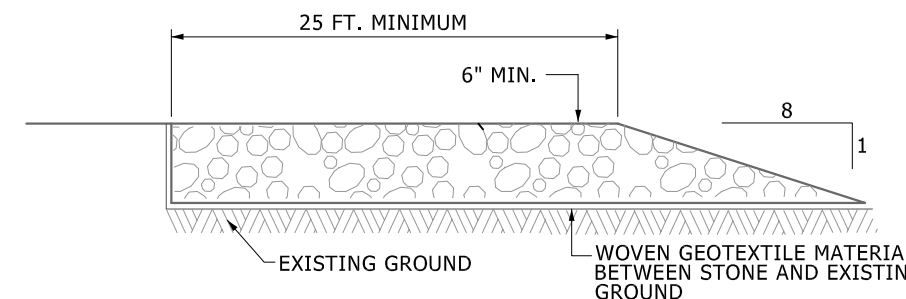
**SILT FENCE DETAIL**

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 EXCELSDOR 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**

CONTRACTOR TO INSTALL & MAINTAIN ANTI-TRACKING PAD. WHEN AGGREGATE BECOMES SATURATED WITH FINES, CONTRACTOR TO SCARIFY AND RELAY AGGREGATE. ANTI-TRACKING PAD DOES NOT RELIEVE CONTRACTOR FROM SWEEPING AND CLEANING ADJACENT WALKS AND ROADS.

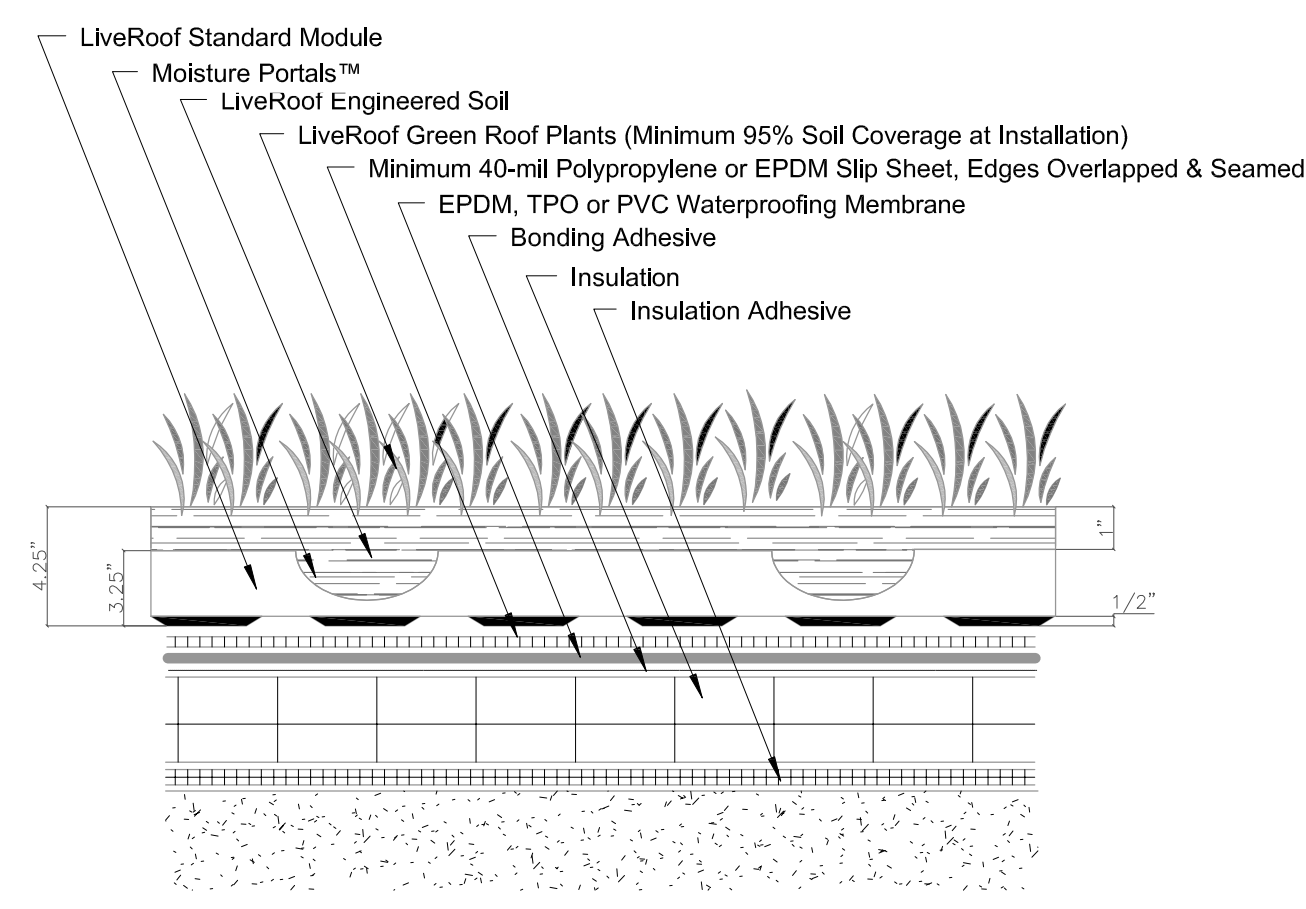


**MUD TRACKING PAD AREA**

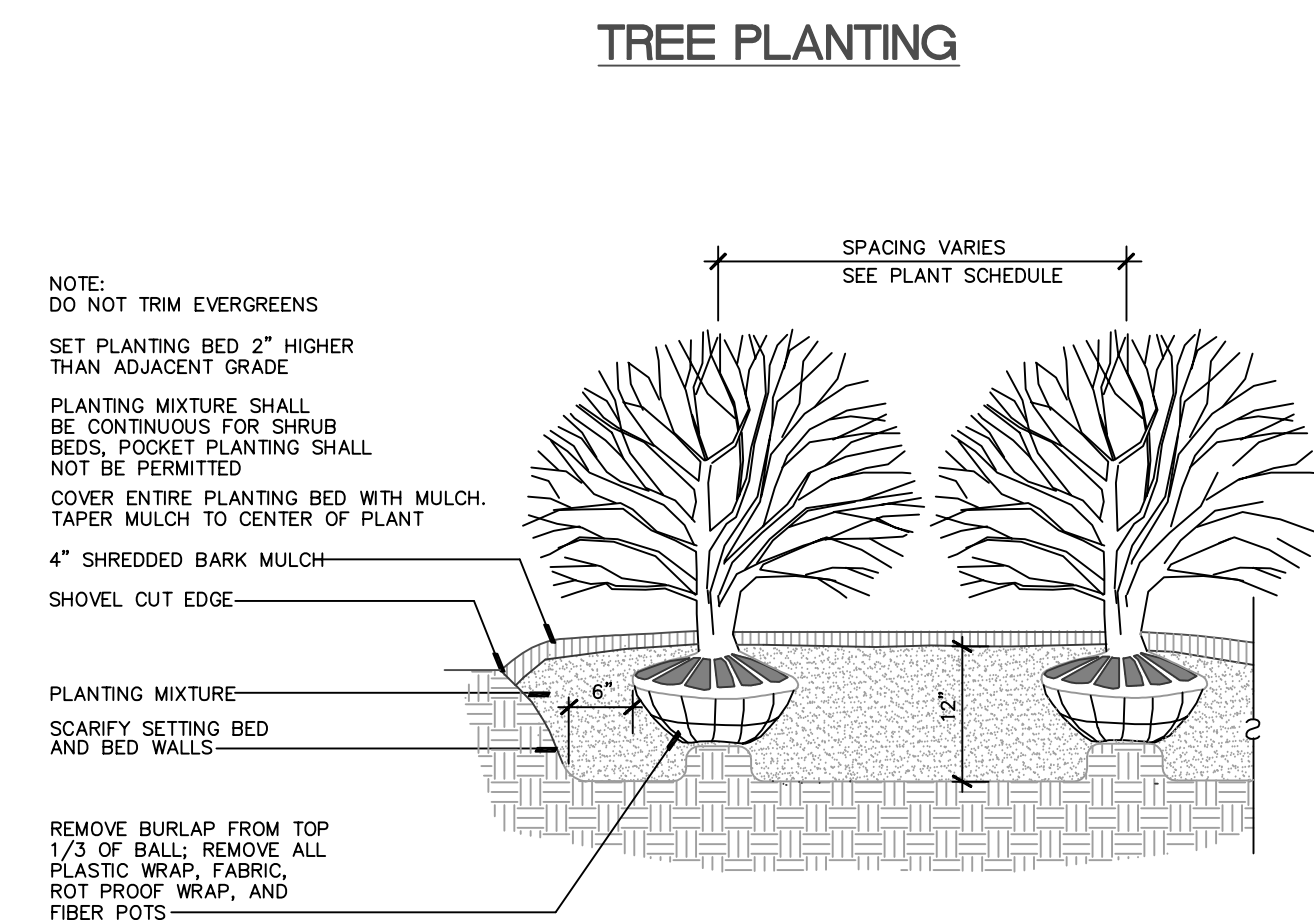
**GREEN ROOF MAINTENANCE SCHEDULE**

TASK	FREQUENCY	TIMING
PERFORM SOIL TEST	ANNUAL	MARCH
WEED	2/MONTH	APRIL - OCTOBER
FERTILIZE*	ANNUAL	APRIL - OCTOBER
CHECK FOR DISPLACED SOIL	MONTHLY	APRIL - OCTOBER
INSPECT DRAINS	2/MONTH	APRIL - OCTOBER
PEST CONTROL	MONTHLY	APRIL - OCTOBER
IRRIGATION	AS NEEDED	APRIL - OCTOBER

\*APPLICATIONS OF FERTILIZER SHALL BE A FERTILIZER WITH NO PHOSPHORUS.

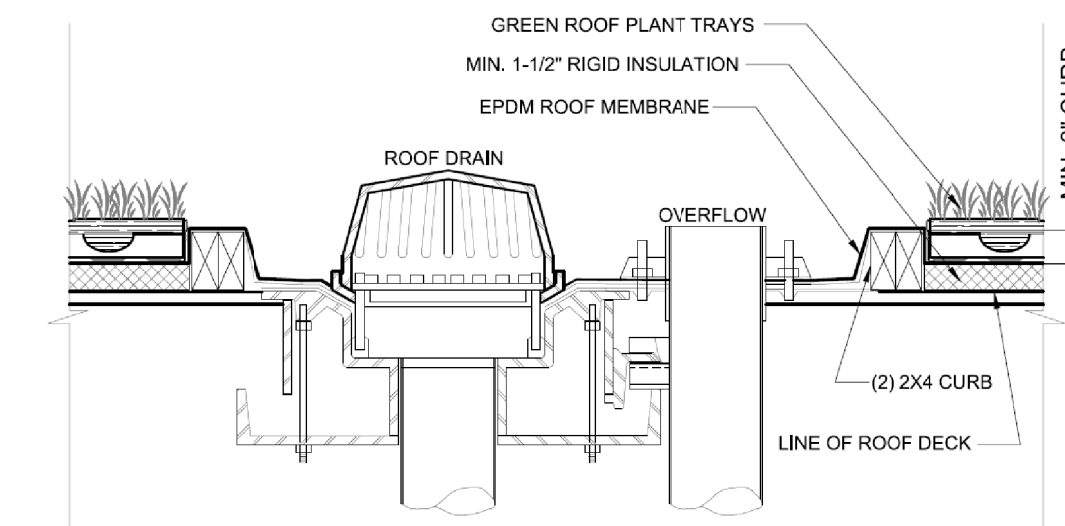


**GREEN ROOF DETAIL**



**SHRUB PLANTING**

- NOTE: DO NOT TRIM EVERGREENS
- SET PLANTING BED 2" HIGHER THAN ADJACENT GRADE
- PLANTING MIXTURE SHALL BE CONTINUOUS FOR SHRUB BEDS. POCKET PLANTING SHALL NOT BE PERMITTED
- COVER ENTIRE PLANTING BED WITH MULCH. TAPER MULCH TO CENTER OF PLANT
- 4" SHREDDED BARK MULCH
- SHOVEL OUT EDGE
- PLANTING MIXTURE
- SCARIFY SETTING BED AND BED WALLS
- REMOVE BURLAP FROM TOP 1/2 OF BALL; REMOVE ALL PLASTIC WRAP, FABRIC, ROT PROOF WRAP, AND FIBER POTS



**ROOF DRAIN DETAIL**

**LIVEROOF® ASSEMBLY - WATER HOLDING CAPACITY ANALYSIS**

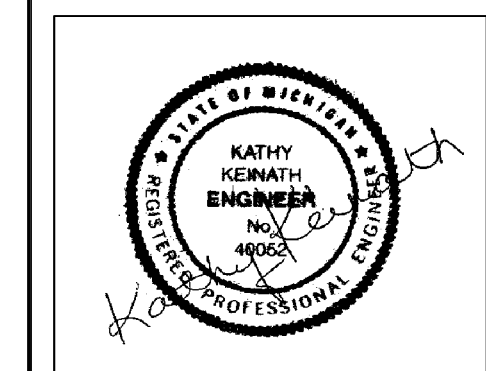
LIVEROOF® ENGINEERED GROWING MEDIUM		MOISTURE RETENTION CAPACITY FOR PROJECT	
Depth of Engineered Growing Medium (D)	4.25 in.	Growing Medium Moisture Storage (Wmedia)	1.61 in. = CH * D
Max. Water Holding Capacity (WH)	47.8%	Moisture held by plants (Wplants)	0.40 in. Per Penn State Univ. tests of sedum
		Initial moisture (Winitial)	0.25 in. Assumed initial system moisture when irrigation is used
Wilt Point (WP%)	10.0%	SYSTEM TOTAL STORAGE	1.76 in. The estimated depth of moisture that can be stored before media is fully saturated
Max. Available Capacity of Growing Medium to Hold Water	37.8%		= Wmedia + Wplants - Winitial

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

THE INFORMATION SHOWN HEREIN HAS BEEN LOCATED FROM THE OFFICIAL RECORDS AND FIELD SURVEYING. UNDEGROUND UTILITIES SHOWN COMPLETE ALL SUCH UTILITIES IN THE AREA, UNDER THE SUPERVISION OF AN ENGINEER. UNDEGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED AND SHALL BE USED AS SHOWN. THE INFORMATION IS FOR GENERAL INFORMATION ONLY AND DOES NOT CONSTITUTE A WARRANTY. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF UTILITIES OTHER THAN THE STRUCTURE INDICATED ON THIS PLAN.

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

**THE GARNET SUMMIT & BROADWAY ANN ARBOR, MI**  
SITE PLAN DETAILS



DATE	10-25-18
SCALE	N.T.S.
SHEET NO.	SP-9

NOT FOR CONSTRUCTION