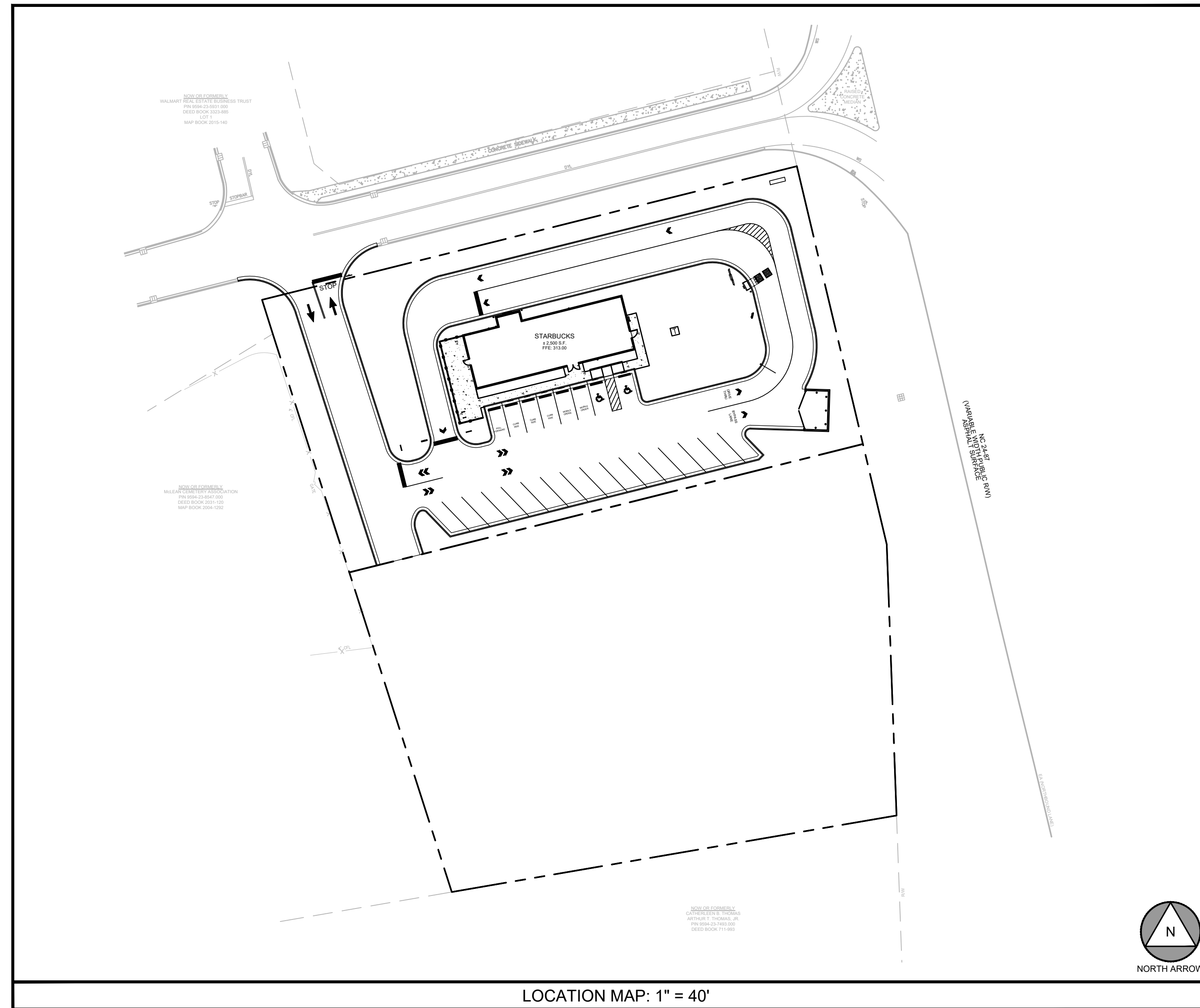
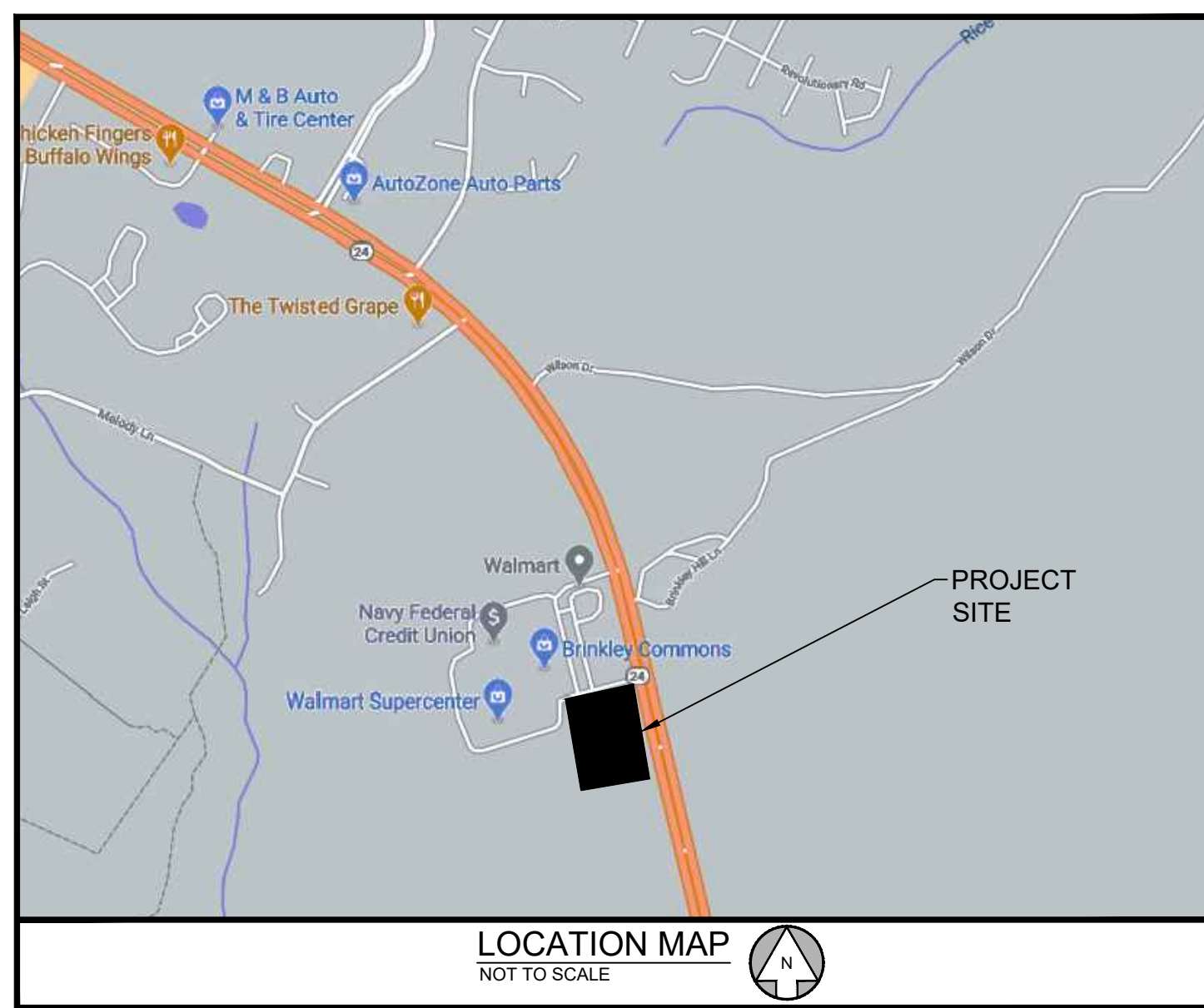
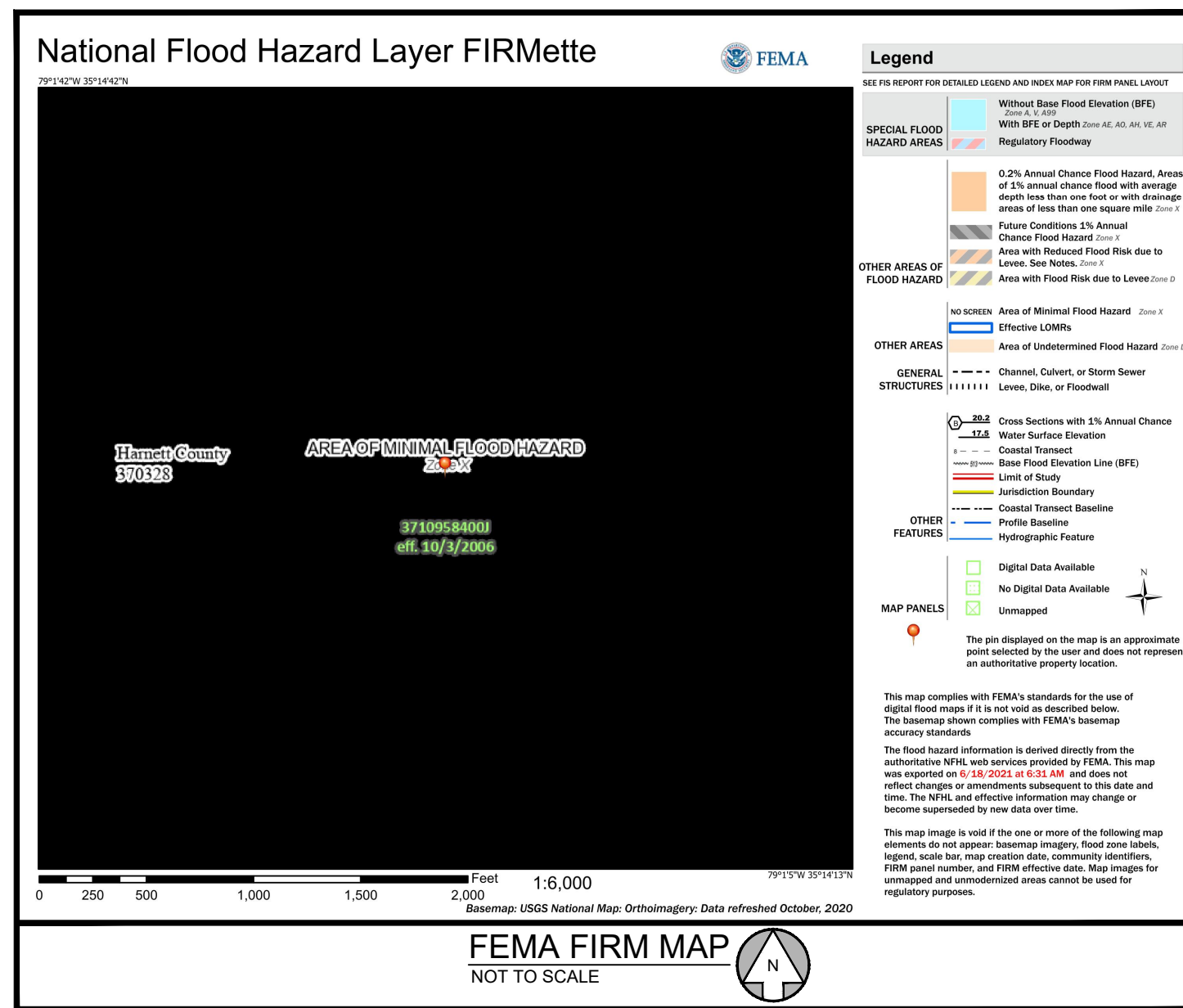


# STARBUCKS - SPOUT SPRINGS

2822 NC 24-87  
 LAND LOT 6, PARCEL 9594-33-0677.000  
 CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326



LOCATION MAP: 1" = 40'



FLOOD PLAIN IS NOT PRESENT ON THIS SITE AS SHOWN ON THE FEMA FIRM MAP NUMBER 3710958400J, DATED OCTOBER 3, 2006

SHEET INDEX	
SHEET #	SHEET TITLE
C-0.0	COVER
---	SURVEY
C-0.1	GENERAL NOTES
C-1.0	DEMOLITION PLAN
C-2.0	EROSION CONTROL PLAN - PHASE I
C-2.1	EROSION CONTROL PLAN - PHASE 2
C-2.2	EROSION CONTROL PLAN - PHASE 3
C-2.3	EROSION CONTROL DETAILS - 1
C-2.4	EROSION CONTROL DETAILS - 2
C-3.0	SITE PLAN
C-4.0	GRADING PLAN
C-5.0	UTILITY PLAN
C-5.1	UTILITY NOTES
C-6.0	STORM PROFILES
C-6.1	SANITARY PROFILE
C-7.0	CONSTRUCTION DETAILS - 1
C-7.1	CONSTRUCTION DETAILS - 2
C-7.2	CONSTRUCTION DETAILS - 3
C-7.3	CONSTRUCTION DETAILS - 4
C-7.4	CONSTRUCTION DETAILS - 5
L-1.0	LANDSCAPE PLAN
L-1.1	LANDSCAPE DETAILS
L-1.2	TREE PROTECTION PLAN

### SITE SUMMARY

<b>SITE AREA</b>	
SITE AREA:	0.93 ACRES (40,572 S.F.)
IMPERVIOUS AREA:	26,115 S.F. (64.4%)
PERVIOUS AREA:	14,457 S.F. (35.6%)
<b>ZONING CLASSIFICATION</b>	
JURISDICTION:	HARNETT COUNTY
ZONING:	COMMERCIAL
ADJACENT ZONING:	COMMERCIAL
<b>BUILDING SETBACKS</b>	
FRONT:	50'
SIDE:	20'/20' (CORNER)
REAR:	25'
<b>BUILDING SUMMARY</b>	
BUILDING AREA:	2,500 S.F. (64 SEATS)
BUILDING COVERAGE:	6.16%
<b>PARKING SUMMARY</b>	
PARKING REQ.:	1 SPACES / 4 SEATS + 2 / EMPLOYEE
	18 SPACES
PARKING PROV.:	9.6 SPACES / 1,000 S.F.
	24 SPACES
STANDARD STALL DIMENSIONS:	9' x 18'
MIN. DRIVE WIDTH:	24'

### DISTURBED AREA

TOTAL SITE AREA = 1.99 ACRES  
 STARBUCKS SITE AREA = 0.93 ACRES  
 TOTAL DISTURBED AREA = 0.96 ACRES

### MAINTENANCE

THE PARTY LISTED BELOW WILL BE RESPONSIBLE FOR THE MAINTENANCE OF PARKING AREAS, DRIVE AISLES, AND ALL LANDSCAPE BUFFERING.  
 PRIMAX PROPERTIES, LLC  
 704.954.7216

**AS-BUILT NOTE:**  
 CONTRACTOR SHALL PROVIDE THE NECESSARY SIGNED/SEALED AS-BUILT SURVEY(S) TO ENGINEER AS REQUIRED FOR FINAL APPROVAL BY THE LOCAL JURISDICTION AT LEAST 30 DAYS PRIOR TO PROJECT COMPLETION. AS-BUILT SURVEY(S) SHALL INCLUDE ALL RIM ELEVATIONS, INVERTS, PIPE SIZES & MATERIALS, AND PIPE SLOPES FOR ALL STORM AND SANITARY SEWERS. IN JURISDICTIONS WHERE AN AS-BUILT HYDROLOGY ANALYSIS OR STORMWATER CERTIFICATION IS REQUIRED BY THE ENGINEER OF RECORD, THE CONTRACTOR SHALL ALSO SUPPLY ALL NECESSARY DOCUMENTATION REQUIRED FOR THE ENGINEER TO DETERMINE UNDERGROUND POND(S), IF APPLICABLE, PROVIDE THE ADEQUATE STORAGE VOLUMES. SUCH DOCUMENTATION MAY INCLUDE, BUT SHALL NOT BE LIMITED TO, PHOTOGRAPHS OF SYSTEM INSTALLATION, COMPACTION REPORTS UNDER AND ABOVE THE SYSTEM, DELIVERY TICKETS, SHOP DRAWINGS, ELEVATIONS OF STONE BEDDING (TOP AND BOTTOM), AS WELL AS THE HORIZONTAL LIMITS OF STONE.

THE APPROVAL OF THESE PLANS AND THE ISSUANCE OF THIS LAND DISTURBANCE PERMIT DOES NOT IN ANY WAY SUGGEST THAT ALL OTHER REQUIREMENTS FOR THE LEGAL OR APPROPRIATE OPERATIONS FOR THIS ACTIVITY, WHICH MAY REQUIRE ADDITIONAL PERMITTING HAVE BEEN MET. THE ONUS IS ON THE OWNER/DEVELOPER/BUILDER TO DISCOVER WHAT ADDITIONAL PERMITTING OR APPROVALS MAY BE NECESSARY TO OPERATE FROM THIS POINT IN AN APPROPRIATE AND LEGAL MANNER. PLAN APPROVAL OR PERMIT ISSUANCE DOES NOT ABSOLVE THE APPLICANT FROM COMPLYING WITH ALL APPLICABLE LAWS, STANDARDS, OR OTHER PERMITS WHICH MAY BE REQUIRED FOR THIS PROJECT.

ATTENTION IS DRAWN TO THE FACT THAT THE SCALE OF THESE DRAWINGS MAY HAVE BEEN DISTORTED DURING THE REPRODUCTION PROCESS.

IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

### 24 HOUR CONTACT:

ROBERT THORNTON  
 704.305.4117  
 PRIMAX PROPERTIES, LLC

### LAND USE

COMPACT MIXED USE

### THOROUGHFARE

NC 87 IS ON HARNETT COUNTY'S THOROUGHFARE PLAN

### MILITARY CORRIDOR

THIS DEVELOPMENT IS WITHIN THE FIVE MILE MILITARY CORRIDOR OVERLAY ZONE, AND MAY BE SUBJECT TO MILITARY TRAINING ACTIVITIES

### OWNER CERTIFICATION

AS THE OWNER OF RECORD, I HEREBY FORMALLY CONSENT TO THE PROPOSED DEVELOPMENT SHOWN ON THE SITE PLAN AND ALL REGULATIONS AND REQUIREMENTS OF THE HARNETT COUNTY ORDINANCES.

*Robert Thornton* 8/3/21  
 OWNER SIGNATURE DATE

### HOURS OF OPERATION

MON 5 AM - 10 PM  
 TUE 5 AM - 10 PM  
 WED 5 AM - 10 PM  
 THUR 5 AM - 10 PM  
 FRI 5 AM - 10 PM  
 SAT 5 AM - 10 PM  
 SUN 5 AM - 10 PM

PROJECT TEAM	
<b>OWNER/DEVELOPER</b> PRIMAX PROPERTIES, LLC 1100 E MOREHEAD STREET CHARLOTTE, NC 28204 CHRIS NEILL 704.954.7216	<b>CIVIL ENGINEERING</b> LECRAW ENGINEERING, INC. 3475 CORPORATE WAY SUITE A DULUTH, GA 30096 678.546.8100 MR. MICHAEL TOOTHAKER, PROJ. MGR.
<b>ARCHITECT</b> GDP GROUP 1801 WATERMARK DRIVE SUITE 210 COLUMBUS, OH 43215 614.859.1604 ANDY KAISER	<b>SURVEYOR</b> BARRETT SURVEYING GROUP PLLC 7 KINGSBURY WAY GREENVILLE, SC 29617 864.834.3732 R. SCOTT BARRETT, PLS
<b>ELECTRIC</b> CENTRAL ELECTRIC MEMBERSHIP CORPORATION 128 WILSON ROAD SANFORD, NC 27332 919.774.4900	<b>NATURAL GAS</b> PIEDMONT NATURAL GAS 1.800.752.7504
<b>TELEPHONE</b> SPECTRUM 884.901.2114	<b>WATER &amp; SEWER</b> HARNETT REGIONAL WATER 700 MCKINNEY PARKWAY LILLINGTON, NC 27546 910.893.7525
<b>PLANNING &amp; ZONING</b> HARNETT COUNTY PLANNING SERVICES 420 MCKINNEY PARKWAY LILLINGTON, NC 27546 910.893.7525	<b>ENGINEERING</b> HARNETT COUNTY PLANNING SERVICES 420 MCKINNEY PARKWAY LILLINGTON, NC 27546 910.893.7525

PREPARED IN THE OFFICE OF:  
**LECRAW ENGINEERING**  
 CORPORATION  
 3475 CORPORATE WAY  
 SUITE A  
 DULUTH, GA 30096  
 PHONE - 678.546.8100  
 FAX - 770.441.0298  
 WWW.LECRAWENGINEERING.COM  
 C-5354

NO.	DATE	BY	REVISION
1	08/02/21	MAT	DRB & HRW COMMENTS
2	08/02/21	MAT	DRB & HRW COMMENTS

CLIENT  
**PRIMAX PROPERTIES, LLC**  
 1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

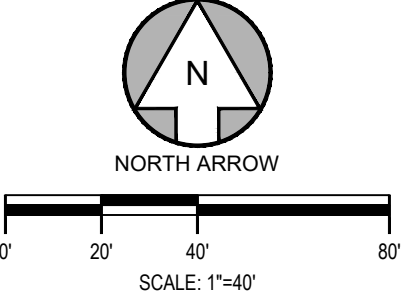
PROJECT  
**STARBUCKS - SPOUT SPRINGS**  
 2822 NC 24-87  
 LAND LOT 6, PARCEL 9594-33-0677.000  
 CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:  
  
 9/30/21

DESIGN TEAM:  
 DRAWN BY: MAT  
 DESIGNED BY: MAT  
 REVIEWED BY: MSL

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SCALE & NORTH ARROW:



JOB #: 077025  
 DATE: JULY 2, 2021

COVER  
**C-0.0**

Drawing name: C:\Users\michael.toothaker\LeCraw\Engineering\Projects\Shared\Folder1\LeCraw\Engineering\077025 - 00 - COVER.dwg COVER Sep 30, 2021, 12:16pm By: michael.toothaker

### STANDARD LEGEND

PROPERTY LINE	WIRE FENCE	GRAVEL SURFACE
ADJACENT LINE	OVERHEAD ELECTRIC LINE	CONCRETE
RIGHT-OF-WAY	STORM DRAIN LINE	CONCRETE SIDEWALK
SETBACK LINE	SANITARY SEWER LINE	TRAFFIC SIGNAL POLE
CHAIN LINK FENCE	WATER METER	UTILITY POLE
WOOD FENCE	WATER VALVE	CRAMP TOP PIPE
● BOLLARD	CRAMP TOP PIPE	CURB & GUTTER
○ CATCH BASIN	CRAMP TOP PIPE	EDGE OF ASPHALT
○ CATCH BASIN MANHOLE	CRAMP TOP PIPE	FOUND
○ CENTERLINE	CRAMP TOP PIPE	MEASURED
○ CLEANOUT	CRAMP TOP PIPE	OPEN TOP PIPE
○ DROPPLET	CRAMP TOP PIPE	REBAR
○ ELECTRIC MANHOLE	CRAMP TOP PIPE	RECORD
○ ELECTRIC METER	CRAMP TOP PIPE	R/W
○ ELECTRIC TRANSFORMER	CRAMP TOP PIPE	RIGHT OF WAY
○ FIBER OPTIC CABLE MARKER	CRAMP TOP PIPE	SE
○ FIRE DEEP CONNECTION	CRAMP TOP PIPE	SOLID ROD
○ FIRE HYDRANT	CRAMP TOP PIPE	SQ. FT.
○ GAS METER	CRAMP TOP PIPE	WHITE STRIPE
○ GAS VALVE	CRAMP TOP PIPE	

### SIGNIFICANT OBSERVATIONS

THERE WERE NO ABOVE-GROUND ENCROACHMENTS OR PROJECTIONS OBSERVED AT TIME OF FIELD SURVEY.

### NOTES PERTAINING TO TABLE "A" ITEMS

ITEM 2: AS PER HARNETT COUNTY GIS, THE PROPERTY ADDRESS OF THE SUBJECT PROPERTY IS 2778 NC-24, CAMERON, NC 28326.

ITEM 11: UNDERGROUND UTILITIES ARE SHOWN HEREON BASED SOLELY ON OBSERVED EVIDENCE COLLECTED PURSUANT TO SECTION 5.5, AND PAINT MARKINGS PROVIDED BY BLOOD HOUND LLC. PLANS WERE NOT PROVIDED TO SURVEYOR BY UTILITY COMPANIES OR CLIENT. MARKINGS WERE NOT PROVIDED BY 811 UTILITY LOCATE SERVICE.

ITEM 16: ON THE DATE OF FIELD SURVEY THERE WAS NO OBSERVED EVIDENCE OF CURRENT EARTH MOVING, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.

ITEM 17: SURVEYOR IS UNAWARE OF ANY PROPOSED CHANGES IN STREET RIGHT-OF-WAY LINES, AVAILABLE FROM THE CONTROLLING JURISDICTION, ON THE DATE OF FIELD SURVEY THERE WAS NO OBSERVED EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS.

### REFERENCE PLATS

1. PLAT ENTITLED "SUBDIVISION PLAT FOR SPOUT SPRINGS RETAIL INVESTMENTS, LLC", DATED 04/02/2014, PREPARED BY FREELAND & ASSOCIATES, INC., RECORDED IN THE HARNETT COUNTY REGISTER OF DEEDS OFFICE IN PLAT BOOK 2015, PAGE 140.

### MISCELLANEOUS NOTES

1. GROSS LAND AREA OF THE SUBJECT PROPERTY: 1.990 ACRES OR 86,672 SQUARE FEET.

2. THIS PROPERTY IS DESIGNATED BY HARNETT COUNTY AS TAX PARCEL 9594-33-0677.000.

3. THERE ARE NO REGULAR PARKING SPACES AND NO HANDICAP PARKING SPACES FOR A TOTAL OF 0 PAINTED PARKING SPACES OBSERVED ON THE SUBJECT PROPERTY.

4. BEARINGS ARE BASED ON THE NC STATE PLANE COORDINATE SYSTEM NAD83(2011) DERIVED FROM RTK-GPS OBSERVATION UTILIZING THE NC REAL TIME NETWORK.

5. THE SUBJECT PROPERTY HAS IN-DIRECT ACCESS TO THE PUBLIC RIGHT OF WAY OF NC 24-87 VIA ACCESS EASEMENT DESCRIBED IN DEED BOOK 3303 PAGE 847.

6. ON THE DATE OF FIELD SURVEY THERE WAS NO EVIDENCE OF CEMETERIES OR BURIAL GROUNDS LOCATED ON THE SUBJECT PROPERTY.

7. THIS PLAT SHALL NOT BE FILED WITH PUBLIC AUTHORITIES WITHOUT THE SEAL, SIGNATURE AND DATE AFFIXED. FURTHERMORE, IF THIS PLAT DOES NOT HAVE A SEAL THAT IS SIGNED AND DATED, IT SHALL NOT BE USED FOR ANY PURPOSE OTHER THAN A PRELIMINARY STUDY DRAWING AND WILL BE CONSIDERED A WORK IN PROGRESS.

8. THIS SURVEY IS BEING PROVIDED SOLELY FOR THE USE OF THE CURRENT PARTIES AND THAT NO LICENSE HAS BEEN CREATED, EXPRESS OR IMPLIED, TO COPY THE SURVEY EXCEPT AS IS NECESSARY IN CONJUNCTION WITH THE ORIGINAL TRANSACTION.

9. BUILDING AREA REPRESENTS GROSS AREA DERIVED FROM MEASUREMENTS ALONG EXTERIOR PERIMETER OF BUILDING AT GROUND LEVEL.

10. ANYTHING SHOWN OUTSIDE THE DEFINED BOUNDARY LIMITS OF PARCEL SHOWN HEREON IS FOR DESCRIPTIVE PURPOSES ONLY.

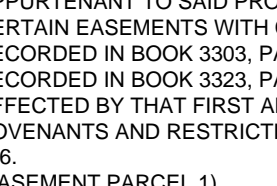
11. THE BOUNDARY LINES OF THE PROPERTY ARE CONTIGUOUS WITH THE BOUNDARY LINES OF ALL ADJOINING STREETS, HIGHWAYS, RIGHTS OF WAY AND EASEMENTS, PUBLIC OR PRIVATE, AS DESCRIBED IN THEIR MOST RECENT RESPECTIVE LEGAL DESCRIPTIONS OF RECORD, UNLESS OTHERWISE SHOWN HEREON.

### GLOBAL POSITIONING SYSTEM NOTE

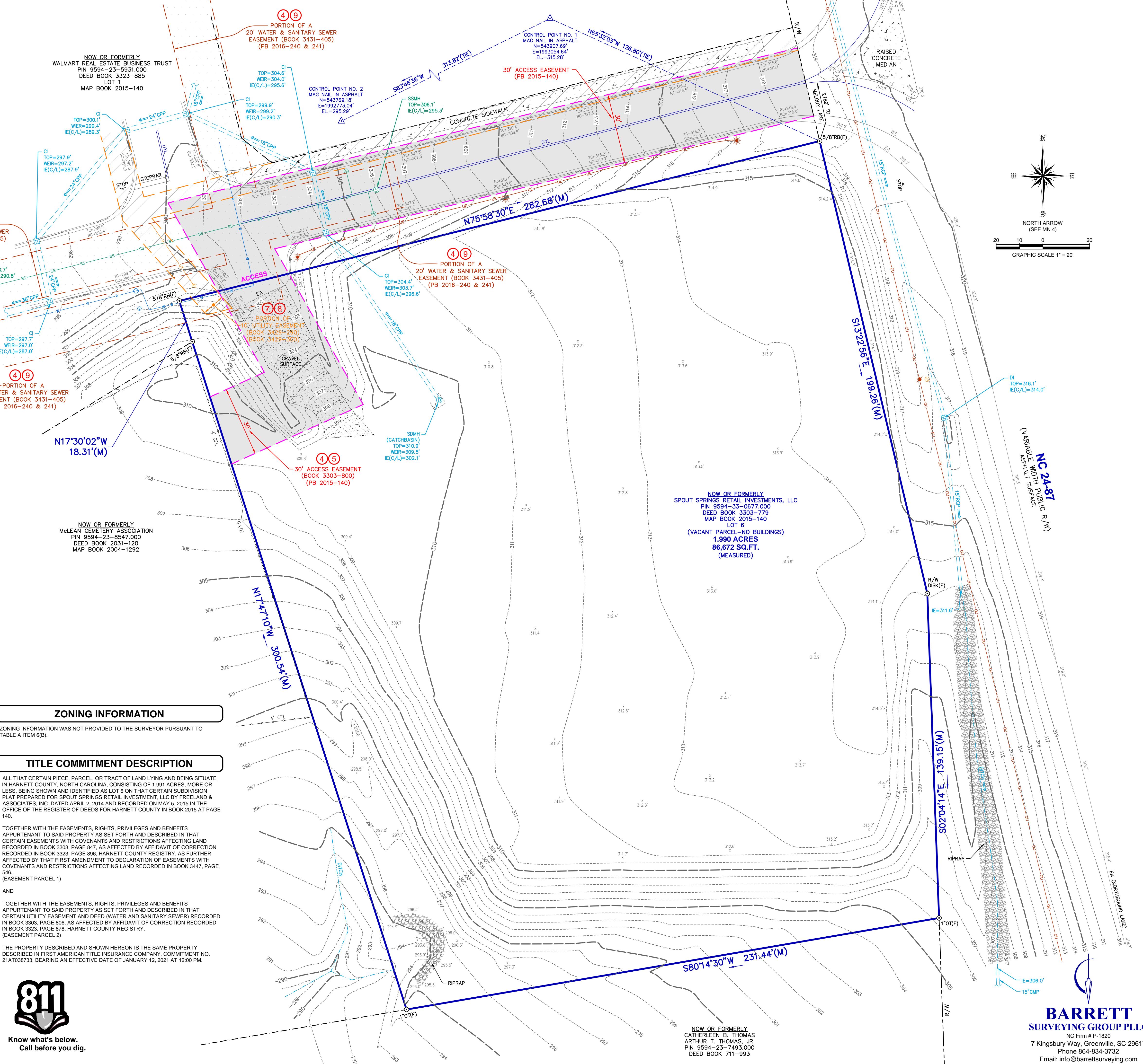
MANUFACTURER: SOKKIA MODEL NO.: GRX2  
 DUAL FREQUENCY RECEIVERS WERE USED DURING THE COURSE OF FIELD SURVEY.  
 TYPE OF GPS SURVEY PERFORMED: REAL TIME KINEMATIC (RTK)  
 PRECISION: RELATIVE POSITIONAL ACCURACY: HORIZONTAL: 0.0492  
 VERTICAL: 0.0984-FIXED, RTK POSITION: EXTRAPOLATION  
 HORIZONTAL DATUM: NO STATE PLANE COORDINATES (NAD83(2011))  
 VERTICAL DATUM: NAVD83, GEOID MODAL: GEOID03 GRID NO. 7 FOR CONUS

### FLOOD MAP INFORMATION

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY LIES WITHIN ZONE "X", AS SHOWN ON THE FLOOD INSURANCE RATE MAP NO. 371098400J, WHICH BEARS AN EFFECTIVE DATE OF 10/03/2006, AND IS NOT IN A SPECIAL FLOOD HAZARD AREA. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE. ZONE "X" DENOTES AREA OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.



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### LOCATION MAP - NOT TO SCALE



### SCHEDULE "B-2" ITEMS


- TERMS, PROVISIONS, COVENANTS, CONDITIONS, EASEMENTS AND RESTRICTIONS AS PROVIDED IN INSTRUMENT RECORDED IN BOOK 3303, PAGE 847; BOOK 3323, PAGE 896 AND BOOK 3447, PAGE 546, AND ALL RECORDED SUPPLEMENTS AND AMENDMENTS THERE TO, HARNETT COUNTY REGISTRY, BUT OMITTING ANY COVENANT, CONDITION, EASEMENT, AND/OR RESTRICTION, IF ANY, BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILY STATUS, MARITAL STATUS, SOURCE OF INCOME, DISABILITY, HANDICAP OR NATIONAL ORIGIN UNLESS AND ONLY TO THE EXTENT THAT THE COVENANT, CONDITION, EASEMENT OR RESTRICTION (A) IS EXEMPT UNDER TITLE 42 OF THE UNITED STATES CODE OR (B) RELATED TO A HANDICAP, BUT DOES NOT DISCRIMINATE AGAINST HANDICAPPED PERSONS. PERTAINS TO PROPERTY, EASEMENTS ARE GENERAL AND BLANKET IN NATURE, NOTHING PLOTTABLE.
- EASEMENTS AND ANY OTHER FACTS AS SHOWN IN BOOK OF MAPS 2015, PAGE 140 AND BOOK OF MAPS 2016, PAGE 240 AND PAGE 241, HARNETT COUNTY REGISTRY. PLOTTABLE MATTERS ON OR ABUTTING THE SUBJECT PROPERTY FROM DOCUMENTS ARE SHOWN HEREON.
- 30' ACCESS EASEMENT FOR INGRESS, EGRESS AND REGRESS FROM CEMETERY TO HIGHWAY 87 RECORDED IN DEED 2031, PAGE 120 AND PLAT BOOK 2004, PAGE 1292, AS AFFECTED BY TERMINATION AND RELOCATION OF EASEMENT RECORDED IN BOOK 3303, PAGE 800. RELOCATED 30' ACCESS EASEMENT IS PLOTTED AND SHOWN HEREON.
- TERMS AND CONDITIONS OF THE LEASE BY AND BETWEEN SPOUT SPRINGS RETAIL INVESTMENT, LLC AS LANDLORD AND DOLLAR TREE STORES, AS TENANT, AS EVIDENCE BY MEMORANDUM OF LEASE RECORDED IN BOOK 3311, PAGE 341. LEASE DOES NOT PERTAIN TO SUBJECT PROPERTY. NOTHING PLOTTED.
- EASEMENT(S) TO CAROLINA POWER AND LIGHT COMPANY RECORDED IN BOOK 3429, PAGE 290, HARNETT COUNTY REGISTRY. DOES BENEFIT AND BURDEN THE SUBJECT PROPERTY. PORTION OF EASEMENT IS PLOTTED AND SHOWN HEREON. RIGHTS OF ACCESS ARE GENERAL AND BLANKET IN NATURE. NOTHING PLOTTABLE.
- EASEMENT TO CENTRAL ELECTRIC MEMBERSHIP CORPORATION RECORDED IN BOOK 3429, PAGE 300, HARNETT COUNTY REGISTRY. DOES BENEFIT AND BURDEN THE SUBJECT PROPERTY. PORTION OF EASEMENT IS PLOTTED AND SHOWN HEREON. RIGHTS OF ACCESS ARE GENERAL AND BLANKET IN NATURE. NOTHING PLOTTABLE.
- UTILITY EASEMENT AND DEED RECORDED IN BOOK 3431, PAGE 405, HARNETT COUNTY REGISTRY. DOES BENEFIT AND BURDEN THE SUBJECT PROPERTY. PORTION OF EASEMENT IS PLOTTED AND SHOWN HEREON. RIGHTS OF ACCESS ARE GENERAL AND BLANKET IN NATURE. NOTHING PLOTTABLE.
- ASSIGNMENT OF UTILITY EASEMENT AND DEED REGARDING EASEMENT RECORDED IN BOOK 3303, PAGE 896 AND BOOK 3431, PAGE 411, HARNETT COUNTY REGISTRY. BASED ON EXHIBIT "C" OF THE ABOVE REFERENCED DOCUMENT THE EASEMENT IS NOT ON OR DOES NOT TOUCH THE SUBJECT PROPERTY. NOTHING PLOTTED.
- MEMORANDUM OF LEASE RECORDED IN BOOK 3511, PAGE 766, HARNETT COUNTY REGISTRY. (EASEMENT PARCELS) EASEMENT REFERENCED IN DOCUMENT IS NOT ON THE SUBJECT PROPERTY. NOTHING PLOTTED.

### ALTA/NSPS CERTIFICATION

TO: PRIMAX PROPERTIES, LLC; CAROLINA BANK, ISAO/ATIMA; SEYMOUR FAMILY GST IRREVOCABLE TRUST U/A/D JUNE 25, 2004 AND COMMONWEALTH LAND TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 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(C), 8, 9, 11, 13, 14, 16, 17, AND 20 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON 12/23/2020.

DATE OF PLAT: 01/06/2021



R. SCOTT BARRETT, PLS DATE 4/19/2021  
 NC REGISTRATION NO. 1-4513  
 THIS DOCUMENT SHOULD BE CONSIDERED INVALID WITHOUT LICENSED SURVEYOR'S SIGNATURE AND SEAL.

I CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK 3303, PAGE 778, LOT 6 AS SHOWN IN PLAT BOOK 2015, PAGE 140); THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY MEETS OR EXCEEDS 1:15,000; AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600).

01/14/21	ADDED & ADDRESS TITLE COMMITMENT	JBS
DATE	REVISION HISTORY	BY

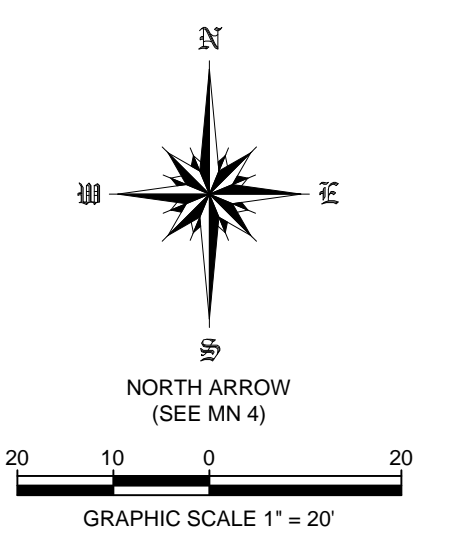
### ALTA/NSPS LAND TITLE SURVEY

PREPARED FOR:

## PRIMAX PROPERTIES, LLC

PROPERTY ADDRESS:  
2778 NC-24, Cameron, NC 28326

FIELD BY:	SB-BS-HB	TAX PARCEL:	9594-33-0677.000	FIELD DATE:	12/23/2020
DRAWN BY:	SB	COUNTY:	HARNETT	PLAT DATE:	01/06/2021
JOB No.	20-154	STATE:	NORTH CAROLINA	SHEET:	1 OF 1



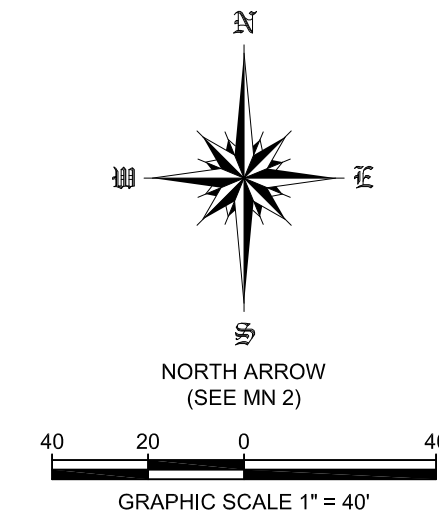
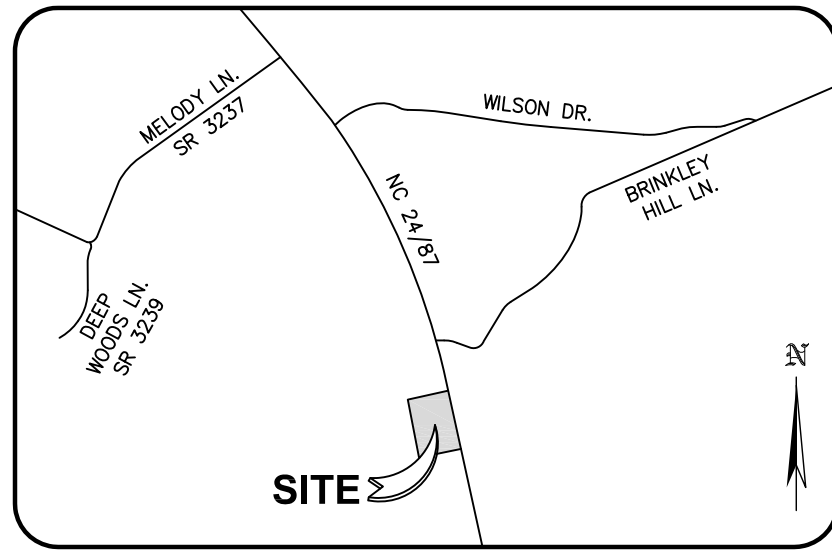


**BARRETT SURVEYING GROUP PLLC**  
 NC Firm # P-1820  
 7 Kingsbury Way, Greenville, SC 29617  
 Phone 864-834-3732  
 Email: info@barrettsurveying.com

NOW OR FORMERLY  
 CATHERLEEN B. THOMAS  
 ARTHUR T. THOMAS, JR.  
 PIN 9594-23-7493.000  
 DEED BOOK 711-993

© Survey Project 2020 Project 001-544-Camden-NC-28326-544.dwg

**LOCATION MAP - NOT TO SCALE**



**STANDARD LEGEND**

- PROPERTY LINE
- - - ADJOINER LINE
- - - RIGHT OF WAY
- - - SETBACK LINE
- - - CHAIN LINK FENCE
- - - WOOD FENCE
- - - GAS LINE
- - - WATER LINE
- ⊕ BENCHMARK
- ⊙ BOLLARD
- ⊙ CABLE TV PEDESTAL
- ⊙ CATCH BASIN
- ⊙ CATCH BASIN MANHOLE
- ⊙ CENTERLINE
- ⊙ CLEANOUT
- ⊙ CONTROL POINT AS NOTED
- ⊙ DROP INLET
- ⊙ ELECTRIC MANHOLE
- ⊙ ELECTRIC METER
- ⊙ ELECTRIC TRANSFORMER
- ⊙ FIBER OPTIC CABLE MARKER
- ⊙ FIRE DEP. CONNECTION
- ⊙ FIRE HYDRANT
- ⊙ GAS METER
- ⊙ GAS VALVE
- ⊙ GREASE TRAP MANHOLE
- ⊙ GUY ANCHOR
- ⊙ HANDICAP PARKING
- ⊙ HEADWALL
- ⊙ HVAC UNIT
- ⊙ LIGHT POLE
- ⊙ MONUMENT AS NOTED
- ⊙ NO MONUMENT FOUND/SET
- ⊙ SANITARY SEWER MANHOLE
- ⊙ SIGN AS NOTED
- ⊙ STORM DRAINAGE MANHOLE
- ⊙ TELEPHONE MANHOLE
- ⊙ TELEPHONE PEDESTAL
- ⊙ TEST PIT BORING
- ⊙ P.O.C. POINT OF COMMENCEMENT
- ⊙ P.O.B. POINT OF BEGINNING
- ⊙ SDMH STORM DRAIN SEWER MANHOLE
- ⊙ SSMH SANITARY SEWER MANHOLE
- ⊙ CPP CORRUGATED PLASTIC PIPE
- ⊙ RCP REINFORCED CONCRETE PIPE
- ⊙ WIRE FENCE
- ⊙ OVERHEAD ELECTRIC LINE
- ⊙ OVERHEAD UTILITY LINE
- ⊙ SETBACK LINE
- ⊙ SETBACK LINE
- ⊙ SANITARY SEWER LINE
- ⊙ TRAFFIC SIGNAL LINE
- ⊙ UNDERGROUND ELECTRIC LINE
- ⊙ UNDERGROUND TELEPHONE LINE
- ⊙ TRAFFIC SIGNAL POLE
- ⊙ UTILITY POLE
- ⊙ WATER METER
- ⊙ WATER VALVE
- ⊙ CB CATCHBASIN
- ⊙ CT CRIMP TOP PIPE
- ⊙ DI DROP INLET
- ⊙ C&G CURB & GUTTER
- ⊙ EA EDGE OF ASPHALT
- ⊙ EL ELEVATION
- ⊙ (F) FOUND
- ⊙ IE INVERT ELEVATION
- ⊙ (M) MEASURED
- ⊙ (OT) OPEN TOP PIPE
- ⊙ (RB) REBAR
- ⊙ (R) RECORD
- ⊙ R/W RIGHT OF WAY
- ⊙ (S) SET
- ⊙ SR SOLID ROD
- ⊙ SQ.FT. SQUARE FEET

**LINE TABLE  
20' SANITARY SEWER EASEMENT**

LINE	BEARING	DISTANCE
L1	S14°01'29"E	30.11'
L2	S60°58'31"W	22.29'
L3	S14°01'31"E	110.55'
L4	N14°01'31"W	125.89'
L5	N60°58'31"E	22.29'
L6	N14°01'29"W	14.76'

**LINE TABLE  
30' ACCESS EASEMENT**

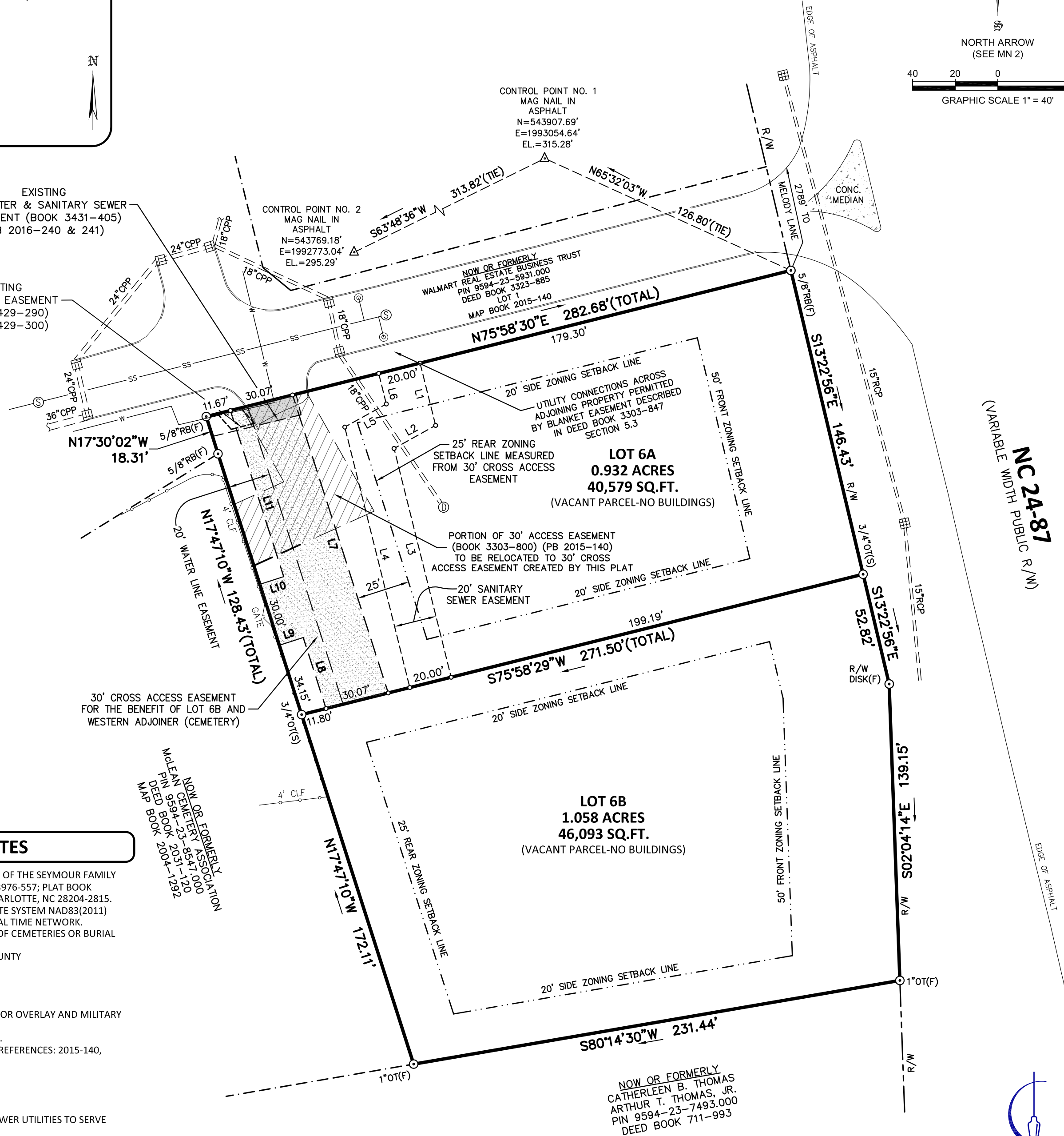
LINE	BEARING	DISTANCE
L7	S17°47'53"E	146.74'
L8	N17°47'53"W	34.92'
L9	S72°12'07"W	12.63'
L10	N72°12'07"E	12.63'
L11	N17°47'53"W	81.82'

**MISCELLANEOUS NOTES**

- OWNER OF RECORD: RICHARD G. SEYMOUR, SOLE TRUSTEE OF THE SEYMOUR FAMILY GST IRREVOCABLE TRUST U/A/D JUNE 25, 2004; DEED BOOK 3976-557; PLAT BOOK 2015-140. OWNER ADDRESS: 1100 E. MOREHEAD STREET, CHARLOTTE, NC 28204-2815.
- BEARINGS ARE BASED ON THE NC STATE PLANE COORDINATE SYSTEM NAD83(2011) DERIVED FROM RTK-GPS OBSERVATION UTILIZING THE NC REAL TIME NETWORK.
- ON THE DATE OF FIELD SURVEY THERE WAS NO EVIDENCE OF CEMETERIES OR BURIAL GROUNDS LOCATED ON THE SUBJECT PROPERTY.
- THIS PROPERTY IS ZONED "COMMERCIAL" BY HARNETT COUNTY  
BUILDING SETBACKS:  
FRONT: 50' (NC 24/87)  
SIDE: 20'  
REAR: 25'
- THIS PROPERTY IS LOCATED WITHIN THE HIGHWAY CORRIDOR OVERLAY AND MILITARY CORRIDOR OVERLAY DISTRICTS.
- FIRM 3710958400J, ZONE "X", EFFECTIVE DATE 10/03/2006.
- REFERENCE DEED(S): 3303-847, 3323-896, 3447-546; PLAT REFERENCES: 2015-140, 2004-1292
- GROSS LAND AREA: 1.989 ACRES - 83,672 SQ.FT.
- NO ACCESS TO NC 24/87. INTERNAL ACCESS TO NC 24/87.
- PID# 019594 0107 06
- PROPERTIES WILL BE SERVED BY SEWER.
- THESE LOTS WILL REQUIRE EXTENSION OF WATER AND SEWER UTILITIES TO SERVE THE PROPERTY WITH PUBLIC WATER AND SEWER.

**GLOBAL POSITIONING SYSTEM NOTE**

MANUFACTURER: SOKKIA MODEL NO.: GRX2  
DUEL FREQUENCY RECEIVERS WERE USED DURING THE COURSE OF FIELD SURVEY.  
TYPE OF GPS SURVEY PERFORMED: REAL TIME KINEMATIC (RTK)  
PRECISION: RELATIVE POSITIONAL ACCURACY: HORIZONTAL: 0.0492,  
VERTICAL: 0.0984-FIXED, RTK POSITION: EXTRAPOLATION  
HORIZONTAL DATUM: NC STATE PLANE COORDINATES (NAD83)(2011)  
VERTICAL DATUM: NAVD88, GEOID MODAL: GEOID03 GRID NO. 7 FOR CONUS



**REVIEW OFFICER CERTIFICATION:**

State of North Carolina  
County of Harnett  
I, \_\_\_\_\_ (printed name), Review Officer for Harnett County, certify that the map or plat to which this certification is affixed meets all statutory requirements for recording as of this \_\_\_\_ day of \_\_\_\_ 2021.  
Review Officer \_\_\_\_\_

**CERTIFICATE OF ACCURACY:**

"I, R. Scott Barrett, PLS certify that this plat was drawn under my supervision from an actual survey made under my supervision (deed description recorded in Book 3976, page 140, and plat recorded in Plat Book 2015, Page 140); that the ratio of precision or positional accuracy as calculated is greater than 1:15,000; that this plat was prepared in accordance with G.S. 47-30 as amended. Witness my original signature, registration license number and seal this \_\_\_\_ day of June, A.D., 2021.  
This survey creates a subdivision of land within the area of a county or municipality that has an ordinance that regulates parcels of land.  
R. Scott Barrett, PLS  
Registration License Number: L-4513



**CERTIFICATE OF OWNERSHIP AND DEDICATION:**

I (We) hereby certify that I am (we are) the owner(s) of the property shown and described hereon and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish minimum building lines, and dedicate all streets, alleys, walks, parks, and other sites to public or private use as noted. Further, I (we) certify the land as shown hereon is within the planning jurisdiction of Harnett County, North Carolina.  
Date \_\_\_\_\_ Owner \_\_\_\_\_

DATE	REVISION HISTORY	BY

**MINOR SUBDIVISION PLAT**

LOT 6  
SPOUT SPRINGS RETAIL INVESTMENT, LLC  
RECORDED IN PLAT BOOK 2015, PAGE 140

PREPARED FOR:  
Richard G Seymour, trustee of the Seymour Family GST Irrevocable Trust,  
dated June 25, 2004

PROPERTY ADDRESS:  
2822 NC 24-57, Cameron, NC 28326  
(Anderson Creek Township)

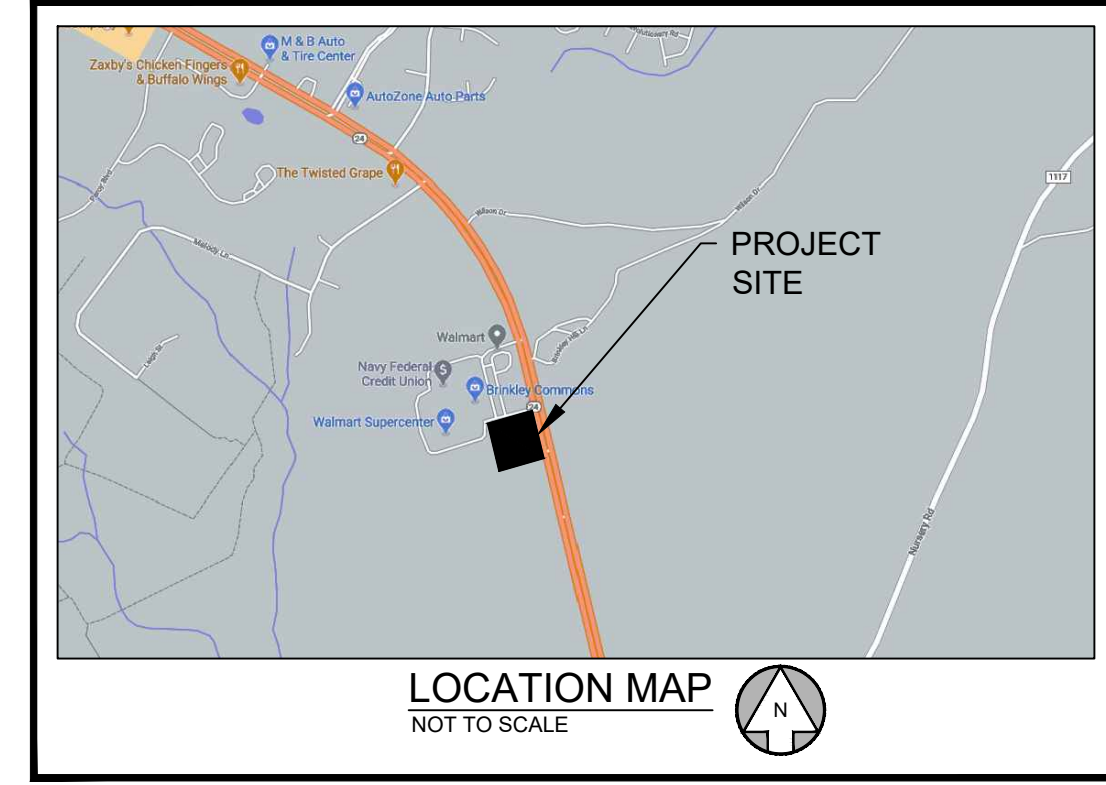
FIELD BY:	SB-BS-HB	TAX PARCEL:	9594-33-0677.000	FIELD DATE:	12/23/2020
DRAWN BY:	SB	COUNTY:	HARNETT	PLAT DATE:	06/11/2021
JOB. No.	20-154S	STATE:	NORTH CAROLINA	SHEET:	1 OF 1

**BARRETT SURVEYING GROUP PLLC**  
NC Firm # P-1820  
223-B North Poinsett Highway  
Travelers Rest, SC 29690  
Phone 864-834-3732  
Email: info@barrettsurveying.com

DEMOLITION NOTES	GENERAL NOTES	EROSION CONTROL NOTES	GRADING AND DRAINAGE NOTES	UTILITY NOTES																																				
<p><b>DEMOLITION NOTES:</b></p> <p>THE CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES ON SITE PRIOR TO ANY DEMOLITION.</p> <p>THE CONTRACTOR SHALL PERFORM DEMOLITION ACTIVITIES AS NOTED AND SHOWN ON THESE PLANS.</p> <p>IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND PAY FEES REQUIRED FOR DEMOLITION AND HAUL-OFF FROM THE APPROPRIATE AUTHORITIES. THESE FEES ARE TO BE INCLUDED WITH THE BID.</p> <p>THE CONTRACTOR SHALL PREPARE ALL DOCUMENTS AND ACQUIRE APPROPRIATE PERMITS AS REQUIRED PRIOR TO THE COMMENCEMENT OF DEMOLITION.</p> <p>THE DEMOLITION PLAN IS INTENDED TO DEPICT GENERAL DEMOLITION AND UTILITY WORK. IT IS NOT INTENDED TO IDENTIFY EACH ELEMENT OF DEMOLITION OR RELOCATION. CONTRACTOR SHALL COORDINATE WITH THE OWNER AND APPROPRIATE UTILITY COMPANY PRIOR TO WORK.</p> <p>IN ACCORDANCE WITH THE DEMOLITION PLAN, CONTRACTOR TO COMPLETELY DEMOLISH AND DISPOSE OF OFFSITE IN A LAWFUL MANNER EXISTING BUILDINGS, INCLUDING FOUNDATIONS AND ALL APPURTENANCES LOCATED ON AND AROUND THE PROPERTY INCLUDING BUT NOT LIMITED TO BOLLARDS, GAS METERS, AIR CONDITIONING UNITS, SIGNS, CURBS, SIDEWALKS, ELECTRIC METERS, FENCING, ETC.</p> <p>REMOVE AND/OR PLUG EXISTING UTILITIES SUCH AS SANITARY SEWER, WATER, GAS, ELECTRIC, AND TELEPHONE AS SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING EACH UTILITY COMPANY TO COORDINATE REMOVAL OF ALL UTILITIES AND FOR DETERMINING HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES PRIOR TO COMMENCING WORK.</p> <p>THE CONTRACTOR SHALL CUT AND PLUG, OR ARRAANGE FOR THE APPROPRIATE UTILITY COMPANY TO CUT AND PLUG, ALL SERVICE PIPING AT THE STREET LINE OR MAIN, AS REQUIRED, OR AS OTHERWISE NOTED. ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN. THE CONTRACTOR SHALL INVESTIGATE THE SITE PRIOR TO BIDDING TO DETERMINE THE EXTEND OF SERVICE PIPING TO BE REMOVED, CUT OR PLUGGED.</p> <p>THE CONTRACTOR SHALL ARRANGE FOR RESETTING OF CURB BOXES, VALVE BOXES AND REMOVAL AND/OR RELOCATION OF OVERHEAD UTILITIES AND POLES WITH THE APPROPRIATE UTILITY COMPANY.</p> <p>INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AND TREE PROTECTION PRIOR TO BEGINNING DEMOLITION WORK.</p> <p>THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.</p> <p>THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING ROAD SURFACE.</p> <p>SAWCUT AT INTERFACE OF PAVEMENT OR CURB TO REMAIN. SAWCUT EXISTING PAVEMENT AT THE R/W.</p> <p>ALL EXISTING ITEMS TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE SOLE EXPENSE OF THE CONTRACTOR.</p> <p>THE CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO THE ADJOINING PROPERTIES DURING THE DEMOLITION PROCESS.</p> <p>SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER IMMEDIATELY FOR DIRECTION BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.</p> <p>ASBESTOS OR HAZARDOUS MATERIAL, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIAL CONTRACTOR AND DISPOSED OF PROPERLY.</p>	<p><b>GENERAL NOTES:</b></p> <p>ALL WORK AND MATERIALS SHALL COMPLY WITH ALL STATE, CITY AND COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.</p> <p>CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS, BUILDING UTILITY ENTRANCE LOCATIONS, EXACT LOCATIONS AND DIMENSIONS OF ENTRIES, SIDEWALKS, DOWNSPOUTS, AND BOLLARDS IN BUILDING SIDEWALKS.</p> <p>UNLESS SHOWN OTHERWISE ON THE PLANS, CONTRACTOR SHALL APPLY 4" OF TOP SOIL TO ALL DISTURBED AREAS OF THE SITE, PLANT GRASS SEED OR SOO, APPLY STRAW, AND WATER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A HEALTHY STAND OF GRASS ON ALL SEEDED OR SOODED AREAS. IF A HEALTHY STAND OF GRASS CAN NOT BE ESTABLISHED BY THE TIME THE BUILDING BECOMES OCCUPIED, THEN SOO SHALL BE INSTALLED AND WATER UNTIL GRASS IS ESTABLISHED.</p> <p>ALL ISLANDS WITH CURB &amp; GUTTER SHALL BE LANDSCAPED. THOSE ISLANDS ARE TO HAVE CURB &amp; GUTTER AS SHOWN ON THE CONSTRUCTION DRAWINGS.</p> <p>ALL DIMENSIONS AND RADII ARE REFERENCED TO THE FACE OF CURB UNLESS OTHERWISE NOTED. ALL BUILDING DIMENSIONS ARE REFERENCED TO THE OUTSIDE FACE OF THE STRUCTURE UNLESS OTHERWISE NOTED.</p> <p>CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BID. AREAS TO BE DISTURBED SHALL BE IMPROVED PER THESE PLANS OR RESTORED TO THEIR ORIGINAL OR BETTER CONDITION.</p> <p>ACCESSIBLE SIGNS WITH A "VAN" MARKINGS SHALL HAVE ADDITIONAL SIGN MOUNTED BELOW THE SYMBOL OF ACCESSIBILITY SIGN DENOTING VAN ACCESSIBILITY. ALL ACCESSIBLE SIGNS SHALL MEET THE CURRENT MINIMUM ADA AND LOCAL STANDARDS.</p> <p>REFER TO THE DETAIL SHEETS FOR DETAILS OF ON-SITE SIGNAGE, STRIPING, AND PAVEMENT MARKING. REFER TO SITE PLAN FOR ADDITIONAL DIMENSIONAL INFORMATION.</p> <p>ALL HEIGHTS AND SETBACKS SHALL MEET THE MINIMUM STANDARDS SET FORTH IN THE LOCAL CODE.</p> <p>THE CONTRACTOR SHALL EMPLOY ALL NECESSARY BARRICADES, SIGNS, FENCES, FLASHING LIGHTS, TRAFFIC MEN, ETC. FOR MAINTENANCE AND PROTECTION OF TRAFFIC AS REQUIRED.</p> <p>THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.</p> <p>CONTRACTOR AGREES TO REPAIR ANY DAMAGE TO THE PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE STANDARDS OF THE GOVERNING DOT.</p> <p>THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE OWNER ANY DISCREPANCIES FOUND BETWEEN THE ACTUAL FIELD CONDITIONS AND THE CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.</p> <p><b>TRAFFIC CONTROL:</b></p> <p>REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION) FOR DETAILS OF STANDARD TRAFFIC CONTROL SIGNS AND STANDARDS.</p> <p>THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.</p> <p>STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND SEEDED, TEMPORARILY OR PERMANENTLY IN ACCORDANCE WITH THE STATE REGULATIONS. TOPSOILING, PERMANENT SEEDING AND GRASS ESTABLISHMENT IS REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.</p> <p>ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.</p> <p>WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED, AT NO ADDITIONAL COST TO THE OWNER, WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.</p> <p>ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPAIRED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.</p> <p>SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.</p> <p>STABILIZATION MEASURES SHALL BE APPLIED TO STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.</p> <p>LIMITS OF GRADING SHOWN ON THE PLAN ARE MAXIMUM LIMITS FOR EROSION CONTROL PURPOSES ONLY. SURVEYOR TO DETERMINE ACTUAL LIMIT.</p> <p><b>MAINTENANCE:</b></p> <p>ALL MEASURES STATED ON THE EROSION AND SEDIMENT CONTROL PLANS, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:</p> <p>CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE CONSTRUCTION DRAWINGS. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.</p> <p>INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.</p> <p>ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.</p> <p>SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.</p> <p>THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.</p> <p>OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.</p>	<p><b>EROSION CONTROL:</b></p> <p>CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THESE DRAWINGS. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.</p> <p>BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.</p> <p>CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL.</p> <p>ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE CONTAINED AND PROPERLY TREATED OR DISPOSED.</p> <p>SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.</p> <p>DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.</p> <p>RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR JURISDICTIONAL WATERS.</p> <p>ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THE EROSION AND SEDIMENT CONTROL PLANS SHALL BE INITIATED AS SOON AS PRACTICABLE.</p> <p>DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDDED. THESE AREAS SHALL BE SEEDDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE EROSION CONTROL PLANS AND/OR LANDSCAPE PLAN.</p> <p>IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.</p> <p>ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.</p> <p>CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT FROM THE EROSION CONTROL BASINS AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.</p> <p>SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.</p> <p>ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.</p> <p>ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STATE EROSION AND SEDIMENT CONTROL REGULATIONS, U.S. DEPARTMENT OF AGRICULTURE, AND U.S. SOIL CONSERVATION SERVICE REGULATIONS.</p> <p>THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.</p> <p>STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND SEEDED, TEMPORARILY OR PERMANENTLY IN ACCORDANCE WITH THE STATE REGULATIONS. TOPSOILING, PERMANENT SEEDING AND GRASS ESTABLISHMENT IS REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.</p> <p>ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.</p> <p>WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED, AT NO ADDITIONAL COST TO THE OWNER, WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.</p> <p>ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPAIRED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.</p> <p>SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.</p> <p>STABILIZATION MEASURES SHALL BE APPLIED TO STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.</p> <p>LIMITS OF GRADING SHOWN ON THE PLAN ARE MAXIMUM LIMITS FOR EROSION CONTROL PURPOSES ONLY. SURVEYOR TO DETERMINE ACTUAL LIMIT.</p> <p><b>MAINTENANCE:</b></p> <p>ALL MEASURES STATED ON THE EROSION AND SEDIMENT CONTROL PLANS, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:</p> <p>CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE CONSTRUCTION DRAWINGS. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.</p> <p>INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.</p> <p>ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.</p> <p>SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.</p> <p>THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.</p> <p>OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.</p>	<p><b>GRADING:</b></p> <p>THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.</p> <p>ALL CUT OR FILL SLOPES SHALL BE 2:1 OR FLATTER UNLESS OTHERWISE NOTED.</p> <p>EXISTING AND PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT</p> <p>CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.</p> <p>CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.</p> <p>TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY BY BARRETT SURVEYING GROUP PLLC.</p> <p>ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL GRASS AND MAINTAIN DISTURBED AREAS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.</p> <p>CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.</p> <p>ALL WORK AND MATERIALS SHALL COMPLY WITH ALL STATE AND LOCAL REGULATIONS AND CODES AND O.S.H.A. STANDARDS.</p> <p>ALL PROPOSED CONTOURS AND SPOT ELEVATIONS REFLECT FINISHED GRADES.</p> <p>ALL ELEVATIONS ARE IN REFERENCE TO THE BENCHMARK, AND THIS MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.</p> <p>THE CONTRACTOR SHALL IMMEDIATELY REPORT TO OWNER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.</p> <p>THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES, AND SHALL REPAIR ALL DAMAGE TO EXISTING UTILITIES THAT OCCUR DURING CONSTRUCTION.</p> <p>CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.</p> <p>ALL SITE PREPARATION AND UNSUITABLE SOIL REMOVAL, AS WELL AS THE PLACEMENT OF FILL MATERIALS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT (BY OTHERS).</p> <p>LIMITS OF CLEARING SHOWN ON GRADING PLAN ARE BASED UPON THE APPROXIMATE CUT AND FILL SLOPE LIMITS, OR OTHER GRADING REQUIREMENTS.</p> <p>THE PROPOSED CONTOURS SHOWN IN DRIVES AND PARKING LOTS AND SIDEWALKS ARE FINISHED ELEVATIONS INCLUDING PAVEMENT. REFER TO PAVEMENT CROSS SECTION DATA TO ESTABLISH CORRECT SUBBASE OR AGGREGATE BASE COURSE ELEVATIONS.</p> <p>CONTRACTOR SHALL INSURE POSITIVE DRAINAGE SO THAT RUNOFF WILL DRAIN BY GRAVITY FLOW ACROSS NEW PAVEMENT AREAS TO NEW OR EXISTING DRAINAGE INLETS OR SHEET OVERLAND.</p> <p>ANY GRADING BEYOND THE LIMITS OF CONSTRUCTION AS SHOWN ON THE GRADING PLAN IS PROHIBITED.</p> <p>THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SHEETING, SHORING, BRACING AND SPECIAL EXCAVATION MEASURES REQUIRED TO MEET OSHA, FEDERAL, STATE AND LOCAL REGULATIONS PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THESE DRAWINGS. THE DESIGN ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE DESIGN(S) TO INSTALL SAID ITEMS.</p> <p>THE CONTRACTOR SHALL INCLUDE IN THE BID ANY DEWATERING AND MOISTURE CONDITIONING NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.</p> <p>ALL FOUNDATION EXCAVATION SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL REPRESENTATIVE TO DETERMINE WHETHER UNSUITABLE MATERIAL MUST BE REMOVED. ALL UNSUITABLE MATERIAL SHALL BE REMOVED, BACKFILLED AND COMPACTED AS REQUIRED BY THE GEOTECHNICAL REPRESENTATIVE.</p> <p>GRADES, ELEVATIONS AND LOCATIONS SHOWN ARE APPROXIMATE. AS DIRECTED BY THE ENGINEER, THEY MAY BE ADJUSTED TO ACCOMMODATE UNFORESEEN CONDITIONS, STATIONS, OFFSETS AND ELEVATIONS REFER TO THE CENTER OF DROP INLETS, MANHOLES AND JUNCTION BOXES, AND THE MIDPOINT OF THE LIP FOR CATCH BASINS.</p> <p>CONTRACTOR TO ENSURE THAT ALL ADA ROUTES, SIDEWALKS, PATHS, ETC. HAVE A LONGITUDINAL SLOPE OF LESS THAN 5% AND A CROSS SLOPE OF LESS THAN 2%. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY, AND PRIOR TO POURING OF CONCRETE, IF ANY ADA ROUTES EXCEED THE CRITERIA LISTED ABOVE.</p> <p><b>DRAINAGE:</b></p> <p>CONTRACTOR TO CONFIRM STRUCTURE ELEVATIONS SHOWN AND PROVIDE SHOP DRAWINGS TO OWNER &amp; ENGINEER FOR REVIEW PRIOR TO ORDERING OF OR INSTALLATION OF STRUCTURES.</p> <p>PRECAST STRUCTURES MAY BE USED AT CONTRACTORS OPTION.</p> <p>STORM PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:</p> <p>TYPE 1: RCP, CLASS III PER ASTM C-76, WITH FLEXIBLE PLASTIC BITUMEN GASKETS AT JOINTS.</p> <p>TYPE 2: SPIRAL RIB METAL PIPE TYPE 1R, ALUMINIZED COATED AS SPECIFIED ON CONSTRUCTION DRAWINGS. ONLY PERMITTED WHEN SPECIFICALLY INDICATED ON CONSTRUCTION DRAWINGS. PIPE ENDS SHALL BE RE-CORRUGATED AND INSTALLED WITH SEMI-CORRUGATED HUGGER-TYPE BANDS AND "O" RING GASKETS IN ACCORDANCE WITH PIPE MANUFACTURER'S INSTALLATION REQUIREMENTS. SPIRAL RIB METAL PIPE MUST COMPLY WITH ASTM A 790 TYPE 1R, ACCEPTABLE MANUFACTURER: CONTECH, INC., ULTRA FLO OR ULTRA FLO II, CALDWELL CULVERT CO. "SMOOTH RIB" OR APPROVED EQUAL.</p> <p>TYPE 3: HIGH DENSITY POLYETHYLENE, ADS N-12 ST 18 PIPE (PER AASHTO M294) OR APPROVED EQUAL, SHALL HAVE A SMOOTH INTERIOR AND ANNUAL EXTERIOR CORRUGATIONS. 4- THROUGH 60-INCH SHALL MEET AASHTO M294. PIPE SHALL BE JOINED USING A BELL &amp; SPIGOT JOINT MEETING AASHTO M294. THE JOINT SHALL BE SOIL-TIGHT AND GASKETS, WHEN APPLICABLE, SHALL MEET THE REQUIREMENTS OF ASTM F417. FITTINGS SHALL CONFORM TO ASTM F 2306. MATERIAL FOR PIPE PRODUCTION SHALL BE AN ENGINEERED COMPOUND OF VIRGIN AND RECYCLED HIGH DENSITY POLYETHYLENE CONFORMING WITH THE MINIMUM REQUIREMENTS OF CELL CLASSIFICATION 424420C (ESCR TEST CONDITION B) FOR 4- THROUGH 60-INCH (100 TO 250 MM) DIAMETERS, AND 434420C (ESCR TEST CONDITION B) FOR 12- THROUGH 60-INCH DIAMETERS, AS DEFINED AND DESCRIBED IN THE LATEST VERSION OF ASTM D3350, EXCEPT THAT CARBON BLACK CONTENT SHOULD NOT EXCEED 4%. INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321 OR PER MANUFACTURER'S RECOMMENDATION.</p> <p>EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.</p> <p>IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.</p> <p>ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.</p> <p>ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RING &amp; COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".</p> <p>ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.</p> <p>ALL STORM DRAINAGE WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE CLASS III REINFORCED CONCRETE PIPE, UNLESS OTHERWISE SHOWN.</p> <p>A MINIMUM GRADE OF 0.50% SHALL BE MAINTAINED ON ALL PIPES.</p> <p>ALL PIPE LENGTHS AND SLOPES ARE APPROXIMATE.</p> <p>ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.</p> <p>SUBSURFACE DRAINAGE FACILITIES MAY BE REQUIRED IN THE STREET RIGHT-OF-WAY IF DEEMED NECESSARY BY THE INSPECTOR.</p> <p>UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:</p> <p>A. NO MORE THAN 500 LF OF TRENCH MAY BE OPENED AT ONE TIME.</p> <p>B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.</p> <p>C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.</p> <p>D. MATERIAL USED FOR BACK-FILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.</p> <p>E. DESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL REGULATIONS.</p> <p>F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.</p> <p>THIS PLAN DETAILS PIPES UP TO 5FT FROM THE BUILDING FACE. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING CONNECTIONS. CONTRACTOR SHALL SUPPLY AND INSTALL PIPE ADAPTERS AS NECESSARY.</p> <p>STRUCTURE TOP ELEVATIONS SHOWN HERE ARE APPROXIMATE. CONTRACTOR SHALL ADJUST AS NECESSARY.</p>	<p><b>UTILITY NOTES:</b></p> <p>ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.</p> <p>CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72-HOURS BEFORE CONNECTING TO ANY EXISTING LINE.</p> <p>SANITARY SEWER PIPE, AS SHOWN ON PLANS, SHALL BE AS FOLLOWS:</p> <p>PVC (SDR-35 OR C-900 DR18) PER HARNETT COUNTY REGIONAL WATER DUCTILE IRON PIPE PER AWWA C150</p> <p>PIPE RUNS BETWEEN MANHOLES TO BE THE SAME CLASS.</p> <p>WATER LINES, AS SHOWN ON PLANS, SHALL BE AS FOLLOWS:</p> <p>PVC SDR21 PER HARNETT COUNTY REGIONAL WATER DUCTILE IRON PIPE (CLASS 200 FSI) PER HARNETT COUNTY REGIONAL WATER EITHER COPPER TUBE TYPE "L" (SOFT) PER ANSI #16.22</p> <p>PVC, 200 P.S.I. PER ASTM D1784 AND D2241.</p> <p>MINIMUM TRENCH WIDTH SHALL BE 2 FEET.</p> <p>ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH THRUST BLOCKING AS CALLED OUT IN THE SPECIFICATIONS.</p> <p>ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 24" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).</p> <p>CONTRACTOR SHALL MAINTAIN A MINIMUM OF 3'-0" COVER ON ALL WATERLINES UNLESS OTHERWISE SPECIFIED BY UTILITY PROVIDER.</p> <p>IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATERLINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING. THE WATERLINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 18" CLEARANCE. MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 50).</p> <p>LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.</p> <p>TOPS OF EXISTING MANHOLES SHALL BE RAISED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS, AND TO BE ONE FOOT ABOVE FINISHED GROUND ELEVATIONS IN UNPAVED AREAS WITH WATER TIGHT LIDS.</p> <p>ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3,000 P.S.I.</p> <p>DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES.</p> <p>EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.</p> <p>REFER TO INTERIOR PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES.</p> <p>CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL JURISDICTION WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.</p> <p>THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS WAS PROVIDED BY THE LAND SURVEYOR AND IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.</p> <p>CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.</p> <p>IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.</p> <p>ALL EXISTING AND PROPOSED UTILITY MAIN LENGTHS SHOWN ARE APPROXIMATE.</p> <p>ALL EXISTING UTILITIES PROPOSED TO BE RELOCATED ON THESE PLANS SHALL BE PLACED UNDERGROUND, UNLESS OTHERWISE NOTED.</p> <p>CONTRACTOR TO REFERENCE MEP PLANS FOR ALL GREASE TRAP SIZING, DETAILS, CLEANOUTS, SAMPLE WELLS, AND VENT PIPING. GREASE TRAPS SHOWN ON CIVIL DRAWINGS ARE FOR REFERENCE ONLY.</p>	<div data-bbox="2823 71 3006 327"> <p>© 2021 LeCraw Engineering, Inc. 3475 COCKSCREW LANE SUITE A DULUTH, GA 30096 PHONE - 770-546-8100 FAX - 770-441-0298 WWW.LECRAWENGINEERING.COM C-001</p> </div> <table border="1" data-bbox="2823 347 3006 735"> <thead> <tr> <th>DATE</th> <th>DRAWN BY</th> <th>CHECKED BY</th> </tr> </thead> <tbody> <tr> <td>09/30/21</td> <td>MSL</td> <td>MSL</td> </tr> <tr> <td>08/02/21</td> <td>MAT</td> <td>MSL</td> </tr> <tr> <td>08/02/21</td> <td>MAT</td> <td>MSL</td> </tr> <tr> <td></td> <td>DRB &amp; HRW COMMENTS</td> <td></td> </tr> <tr> <td></td> <td>DRB &amp; HRW COMMENTS</td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> </tr> <tr> <td>1</td> <td></td> <td></td> </tr> <tr> <td></td> <td>REV</td> <td></td> </tr> </tbody> </table> <div data-bbox="2823 756 3006 1308"> <p>CLIENT <b>PRIMAX PROPERTIES, LLC</b> 1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204</p> <p>PROJECT <b>STARBUCKS - SPOUT SPRINGS</b> 2822 NC 24-87 LAND LOT 6, PARCEL 9594-33-0877.000 CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326</p> </div> <div data-bbox="2823 1318 3006 1512"> <p>SEAL:</p> <p>9/30/21</p> </div> <table border="1" data-bbox="2823 1522 3006 1604"> <thead> <tr> <th colspan="2">DESIGN TEAM:</th> </tr> </thead> <tbody> <tr> <td>DRAWN BY:</td> <td>MAT</td> </tr> <tr> <td>DESIGNED BY:</td> <td>MAT</td> </tr> <tr> <td>REVIEWED BY:</td> <td>MSL</td> </tr> </tbody> </table> <div data-bbox="2823 1614 3006 1747"> <p>Know what's below. Call before you dig.</p> <p>SCALE &amp; NORTH ARROW:</p> </div> <div data-bbox="2823 1757 3006 1931"> <p>NORTH ARROW</p> <p>0 10' 20' 40'</p> <p>SCALE: 1"=20'</p> </div> <div data-bbox="2823 1941 3006 2013"> <p>GENERAL NOTES</p> <p><b>C-0.1</b></p> </div>	DATE	DRAWN BY	CHECKED BY	09/30/21	MSL	MSL	08/02/21	MAT	MSL	08/02/21	MAT	MSL		DRB & HRW COMMENTS			DRB & HRW COMMENTS		2			1				REV		DESIGN TEAM:		DRAWN BY:	MAT	DESIGNED BY:	MAT	REVIEWED BY:	MSL
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Drawing name: C:\Users\michael.bozhaker\LeCraw\_Engineering\Dropbox\Shared\Folders\LeCraw\_Engineering\077025 - Primax - Retail Development - Spout Springs\_NCCADD\CONSTR\077025 - 01 - GEN NOTES.dwg GENERAL NOTES - Sep 30, 2021 12:16pm by: michael.bozhaker

Drawing name: C:\Users\michael.boothaker\LeCraw Engineering\Dropbox\Shared Folder\LeCraw Engineering\077025 - Primax - Retail Development - Spout Springs\_NCCADD\CONSTR\077025 - 02 - DEMO.dwg DEMOLITION PLAN Sep 30, 2021 12:16pm By: michael.boothaker



- GENERAL DEMOLITION NOTES:**
- 1) CONTRACTOR TO ENSURE ALL APPROPRIATE EROSION CONTROL MEASURES, INCLUDING TREE PROTECTION FENCING, ARE IN PLACE PRIOR TO ANY DEMOLITION ACTIVITY TAKING PLACE.
  - 2) CONTRACTOR TO ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS CONCERNING THE REMOVAL, DEMOLITION, AND/OR DISPOSAL OF POSSIBLE HARMFUL MATERIALS INCLUDING LEAD PAINT, ASBESTOS, ETC. DURING ALL PHASES OF CONSTRUCTION.
  - 3) CONTRACTOR TO SAW CUT EXISTING PAVEMENT FULL DEPTH AT EDGE OF DEMOLITION LIMITS.
  - 4) ALL ITEMS NOTED FOR REMOVAL/DEMOLITION SHALL BE REMOVED FROM THE SITE OR DISPOSED OF IN A LEGAL MANNER.
  - 5) BOUNDARY & TOPOGRAPHIC SURVEY BY BARRETT SURVEYING GROUP PLLC, DATED 12/23/2020. BENCHMARK IS NOTED ON SURVEY.
  - 6) FLOOD PLAIN IS NOT PRESENT ON THIS SITE AS SHOWN ON THE FEMA FIRM MAP NUMBER 3710958400J, DATED OCTOBER 3, 2006.
  - 7) VERTICAL DEPTH OF ALL DRY AND PRESSURIZED UTILITIES IS UNKNOWN. CONTRACTOR TO NOTIFY OWNER AND ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE FOUND.

**LEGEND:**

- DEMOLISH EXISTING STRUCTURES
- DEMOLISH EXISTING PAVEMENT
- DEMOLISH EXISTING UTILITIES
- DEMOLISH EXISTING CURB/GUTTER
- DEMOLISH EXISTING TREE

**CAUTION**  
THE UTILITIES SHOWN ARE SHOWN FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS OF UNDERGROUND UTILITIES, AND IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATIONS OF ALL UTILITIES SHOWN AS WELL AS THOSE NOT SHOWN WITHIN THE CONSTRUCTION LIMITS. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

PREPARED IN THE OFFICE OF:  
**LECRAW ENGINEERING**  
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CS-254

REV #	DATE	DRAWN	CHECKED	BY
1	08/30/21	DRB & HRW COMMENTS	MAT	MSL
2	09/30/21	DRB & HRW COMMENTS	MAT	MSL

CLIENT  
**PRIMAX PROPERTIES, LLC**  
1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT  
**STARBUCKS - SPOUT SPRINGS**  
2822 NC 24-87  
LAND LOT 6, PARCEL 9594-33-0677.000  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:  
  
9/30/21

DESIGN TEAM:

DRAWN BY:	MAT
DESIGNED BY:	MAT
REVIEWED BY:	MSL

Know what's below. Call before you dig.

SCALE & NORTH ARROW:  
20'

JOB #: 077025  
DATE: JULY 2, 2021

DEMOLITION PLAN  
**C-1.0**

NOW OR FORMERLY  
WALMART REAL ESTATE BUSINESS TRUST  
PIN 9594-23-5931.000  
DEED BOOK 2013-885  
LOT 1  
MAP BOOK 2015-140

**EROSION CONTROL NOTES:**

- TOTAL AREA DISTURBED - 0.96 ACRES  
TOTAL SITE AREA - 1.99 ACRES  
UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NCDENR EROSION AND SEDIMENT CONTROL HANDBOOK.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT THE PROJECT CONSTRUCTION ALL EROSION CONTROL MEASURES SHOWN WITHIN THESE PLANS IN ACCORDANCE WITH APPLICABLE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS.
- CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
- EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION.
- THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE NCDENR EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
- APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS. A REVISED PLAN SHOWING OFF-SITE IMPACTS SHOULD BE SUBMITTED AND APPROVED PRIOR TO BEGINNING OFF-SITE GRADING. CONTACT PROJECT ENGINEER AND PROJECT EROSION CONTROL INSPECTOR TO ENSURE ADDITIONAL EROSION CONTROL MEASURES ARE INSTALLED PRIOR TO OFF-SITE GRADING.
- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS, STAGING OR STORAGE AREAS, IF APPLICABLE), THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO NCDENR FOR APPROVAL. CONTRACTOR SHALL PAY ALL FEES REQUIRED AND SHALL INSTALL NECESSARY MEASURES AT NO SEPARATE PAYMENT. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER A COPY OF THE AMENDED PERMIT.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED CONTINUOUSLY, RELOCATED WHEN AND AS NECESSARY, AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDING AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RE-SEEDING AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS.
- STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND SEEDING, TEMPORARILY OR PERMANENTLY IN ACCORDANCE WITH THE NCDENR SEDIMENT CONTROL REGULATIONS. PERMANENT SEEDING AND GRASS ESTABLISHMENT IS REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
- WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.
- TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREA. SIX INCHES OF STONE SHALL BE USED FOR THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE.
- ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.
- SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UP-SLOPE LAND DISTURBANCE TAKES PLACE.
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS COMPLETED.
- DURING DE-WATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

**24 HOUR CONTACT:**

ROBERT THORNTON - 704.305.4117  
PRIMAX PROPERTIES, LLC

**NOTE:**

CONTRACTOR IS RESPONSIBLE FOR THE SEQUENCE AND TIMING OF ALL EROSION AND SEDIMENT CONTROL MEASURES. PHASING PLANS ARE ONLY A GENERAL GUIDE TO EROSION AND SEDIMENT CONTROL REQUIREMENTS AS DEVELOPMENT OCCURS.

TEMPORARY SEDIMENT TRAP - NO. 1 (PHASE 1)			
Drainage Area	18,393	SF =	0.42 AC
Req. Sediment Storage	764	CF	(DA x 67 cy/ac x 27 cft/cy)
Side Slope	= 2:1 max		
Top of embankment	309	FT	
Bottom of excavation	305	FT	
Spillway invert elevation	307.5	FT	
Excavation Depth	4.0	FT	
Storage Depth	2.5	FT	
Req. Surface Area	306	SF	me / Depth
Sed. Trap dimensions:	L = 15	FT	W = 30
Provided Area	450	SF	
Provided Storage	1,125	CF	
Cleanout Volume	375	CF	

**PROPERTY OWNER:**

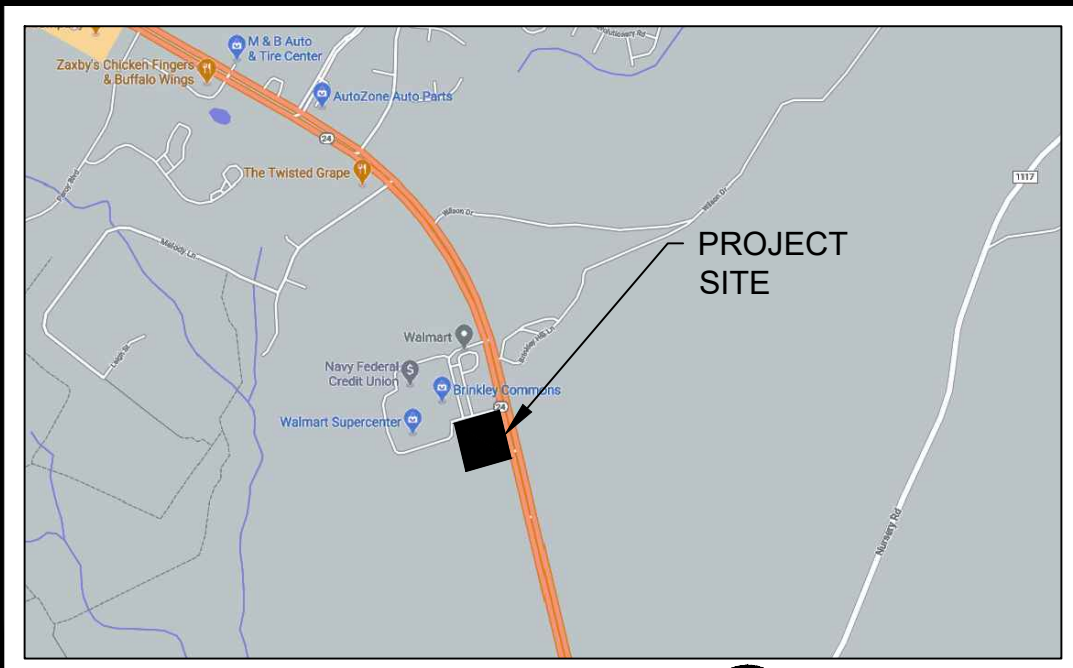
PRIMAX PROPERTIES, LLC  
1100 E. MOREHEAD STREET  
CHARLOTTE, NC 28204  
704.954.7216  
CONTACT:  
CHRIS NEILL

**SEDIMENT & EROSION CONTROL NOTES:**

- THE EROSION AND SEDIMENTATION CONTROL MEASURES (BMPs) WERE DESIGNED USING THE NORTH CAROLINA NCDENR AND THE LOCAL JURISDICTION REQUIREMENTS AND SHALL BE INSTALLED ACCORDINGLY. CONTRACTOR SHALL PERFORM ALL ACTIVITIES IN STRICT COMPLIANCE WITH THE NORTH CAROLINA NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (GENERAL PERMIT).
- REFER TO THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS FOR EROSION CONTROL DETAILS AND DESIGN TABLES FOR SEDIMENT BASINS, DIVERSION DITCHES AND CULVERTS, SLOPE DRAINS, RIP-RAP APRONS AND OTHER EROSION CONTROL MEASURES.
- EXISTING BOUNDARIES, TOPOGRAPHY, 100-YR FLOODPLAIN, UTILITY AND ROAD INFORMATION TAKEN FROM AN EXISTING CONDITIONS SURVEY. ALL EXISTING INFORMATION IS TO BE FIELD VERIFIED BY THE CONTRACTOR.
- SEE THE LANDSCAPE PLAN FOR LOCATIONS OF PROPOSED PLANTINGS AND FINAL STABILIZATION.
- TEMPORARY DIVERSION DITCHES AND BERMS AND THE TEMPORARY SEDIMENT TRAP WILL BE MAINTAINED AS THE SITE IS BROUGHT TO GRADE.
- DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE EROSION CONTROL INSPECTORS SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
- SEE THE GENERAL NOTES SHEET AND THE GRADING AND DRAINAGE PLAN FOR OTHER NOTES REGARDING GRADING ACTIVITIES.
- SEE SITE PLAN, GRADING AND DRAINAGE PLAN, UTILITY PLAN, PLANTING PLAN AND OTHER PLAN SHEETS FOR PERMANENT SITE APPURTENANCES SHOWN ON THIS SHEET.
- WHERE THE LIMITS OF DISTURBANCE AND TEMPORARY FENCE (SF OR TPF) LIMITS ARE ADJACENT, THE TEMPORARY FENCE LINE IS THE LIMITS OF DISTURBANCE. THE LINE TYPES ARE SHOWN SEPARATED FOR ILLUSTRATIVE PURPOSES ONLY.
- CONTRACTOR SHALL NOT DISTURB ANY EXISTING VEGETATIVE GROUND COVER OR TREES OUTSIDE OF THE LIMITS OF DISTURBANCE OR WITHIN ANY REQUIRED BUFFER LIMITS UNLESS OTHERWISE NOTED OR ILLUSTRATED.
- PROVIDE CONTROLS FOR POLLUTANTS, INCLUDING, BUT NOT LIMITED TO DUST CONTROL, DE-WATERING, SCUD WASTE DISPOSAL, AND HAZARDOUS MATERIALS.
- CLEAR ONLY AS REQUIRED TO INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES OUTLINED IN THE PHASE 1 CONSTRUCTION SEQUENCE. MASS CLEARING AND GRUBBING CAN BEGIN ONLY AFTER ALL DOWNSTREAM MEASURES HAVE BEEN INSTALLED.
- USE ROCK OR WASHED STONE TO BRING CONSTRUCTION EXIT TO GRADE. IMPLEMENT WHEEL WASHES AS NECESSARY THROUGHOUT ALL PHASES OF CONSTRUCTION.
- DIVERT STORM WATER RUNOFF OFF THE FACE OF THE SEDIMENT BASIN SLOPES USING DIVERSION DITCHES AND SLOPE DRAINS. CONTRACTOR SHALL MAINTAIN AND RELOCATE DIVERSION DITCHES AND SLOPE DRAINS TO ENSURE STORM WATER RUNOFF DOES NOT ERODE THE FACE OF FINAL SLOPES.
- MAINTAIN POSITIVE FLOW TO THE SEDIMENT BASINS THROUGHOUT ALL PHASES OF CONSTRUCTION. PLACE EXCAVATED SOILS ALONG DOWNSTREAM EDGE OF THE DIVERSION DITCHES TO PROVIDE ADDITIONAL CAPACITY.
- REFER TO THE GRADING AND DRAINAGE PLAN FOR FINAL SITE AND PAVEMENT GRADES AND ELEVATIONS OF THE PROPOSED STORM SEWER SYSTEMS.
- LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE APPROVED EROSION AND SEDIMENT CONTROL DRAWINGS DURING CONSTRUCTION OPERATIONS.
- GENERAL CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
- ALL WORK SHALL BE CONFINED TO PERMIT LIMITS SHOWN ON PLANS. UNLESS OTHERWISE NOTED, THE SITE PLAN PROPERTY LIMITS SHALL BE CONSIDERED THE PERMIT LIMITS.
- SUFFICIENT EROSION CONTROL PRACTICES MUST BE INSTALLED AND MAINTAINED TO RETAIN SEDIMENT WITHIN THE BOUNDARIES OF THE SITE.
- ADDITIONAL EROSION CONTROL MEASURES OR SILT BARRIERS TO BE PLACED AS SHOWN AND/OR DIRECTED BY THE PROJECT ENGINEER AND/OR LOCAL JURISDICTIONAL INSPECTOR.
- ALL TREE PROTECTION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION AND SHALL BE MAINTAINED IN PROPER WORKING ORDER UNTIL ALL DISTURBED AREAS ARE STABILIZED AND GROUND COVER IS ESTABLISHED. CONSTRUCTION ENTRANCE POINTS SHALL BE INSTALLED BY THE CONTRACTOR AT CONSTRUCTION ACCESS POINTS PRIOR TO LAND DISTURBANCE.
- ALL EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION IN ACCORDANCE WITH EASEMENT PLANS PRIOR TO ACCEPTANCE.
- CONSTRUCTION LIMITS SHALL NOT BE EXCEEDED WITHOUT THE APPROVAL OF THE LOCAL JURISDICTION AND NCDENR.

**CONSTRUCTION SEQUENCE:**

- CONTRACTOR SHALL ENSURE THAT ALL NECESSARY PERMITS HAVE BEEN RECEIVED AND THAT THOSE REQUIRED TO BE DISPLAYED ON-SITE ARE AVAILABLE.
- CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION MEETING AT LEAST 48 HOURS BEFORE THE ACTUAL START OF CONSTRUCTION. CONTACT NCDENR INSPECTOR.
- CONTRACTOR SHALL CONTACT CAROLINA ONE CALL AND ALL UTILITIES HAVING BURIED UTILITIES AT LEAST 72 HOURS PRIOR TO DIGGING OR AS DIRECTED AT THE PRE-CONSTRUCTION MEETING.
- CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION ENTRANCES AT EACH POINT OF ACCESS TO STORAGE AND CONSTRUCTION AREAS.
- INITIAL PHASE SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH PLANS BEFORE STARTING WORK INCLUDING SILT FENCE, TEMPORARY SEDIMENT BASIN, DIVERSION DITCHES, TREE PROTECTION, ETC. CLEARING ONLY AS NECESSARY FOR THE INSTALLATION OF THESE MEASURES.
- CONTRACTOR SHALL INCLUDE A RAIN GAUGE AND LOG BOOK CONTAINING THE INSPECTION RECORDS FOR THE SITE.
- CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL MEASURES. ALL APPLICABLE ERS CONTROL MEASURES MUST BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- STOCKPILE RIP-RAP ON SITE AND INSTALL ALL OTHER EROSION CONTROL MEASURES WHERE THE WORK IS OCCURRING. THE CONTRACTOR SHALL NOT INSTALL EROSION CONTROL MEASURES IN AREAS WHERE THE WORK WILL NOT OCCUR FOR SOME TIME. ADDITIONAL EROSION CONTROL MEASURES SHALL BE REQUIRED BY THE ENGINEER OR UPON RECOMMENDATION OF NCDENR INSPECTION PERSONNEL AS CONDITIONS WARRANT.
- IN AREAS WHERE IT IS NOT FEASIBLE TO INSTALL EROSION CONTROL DEVICES, ALL DISTURBED AREAS MUST BE SEEDING AND MULCHED BY THE CONTRACTOR WITHIN THREE DAYS OF INITIAL DISTURBANCE. TEMPORARY SEEDING SHALL BE REQUIRED ON ALL OTHER AREAS TO BE DISTURBED FOR A PERIOD OF 10 DAYS OR LONGER.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISHED GRADE.
- UPON COMPLETION OF THE INSTALLATION AND WITH APPROVAL OF NCDENR, ALL EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED OF IN AN ACCEPTABLE MANNER. EACH SECTION SHALL BE SEEDING AT THE EARLIEST POSSIBLE DATE. COORDINATE WITH THE EROSION CONTROL INSPECTOR PRIOR TO REMOVAL OF EROSION CONTROL MEASURES.
- CONTRACTOR SHALL NOT CONVERT TO PERMANENT BMP FACILITY UNTIL UPSTREAM AREAS ARE STABILIZED. AS PART OF THE CONVERSION FROM THE TO THE PERMANENT STORMWATER BMP ALL ACCUMULATED SEDIMENT WITHIN THE BASIN SHALL BE REMOVED AND DISPOSED OF IN AN ACCEPTABLE MANNER. FINAL EROSION CONTROL MEASURES AND PERMANENTLY SEEDING/SOD EXPOSED AREAS.
- ONCE GROUND COVER IS FIRMLY ESTABLISHED, ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITH THE APPROVAL OF NCDENR INSPECTOR.
- ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N.C. EROSION & SEDIMENT CONTROL PLANNING AND DESIGN MANUAL NCDOT, U.S. DEPT. OF AGRICULTURE, AND COUNTY STANDARDS.



**GENERAL SITE NOTES:**

- ALL BEST MANAGEMENT PRACTICES ARE TO BE IN ACCORDANCE WITH THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN NORTH CAROLINA, PUBLISHED BY THE NORTH CAROLINA DIVISION OF WATER RESOURCES.
  - BOUNDARY & TOPOGRAPHIC SURVEY BY BARRETT SURVEYING GROUP PLLC, DATED 12/23/2020. BENCHMARK IS NOTED ON SURVEY.
  - SOIL TYPES FOR ENTIRE DISTURBED AREA IS VAB, GAB PER NRCS WEB SOIL SURVEY.
  - THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.
  - EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE. ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION.
  - SEDIMENT STORAGE MAINTENANCE INDICATORS MUST BE INSTALLED IN SEDIMENT STORAGE STRUCTURES, AS REQUIRED, INDICATING THE 1/3 FULL VOLUME.
  - MAINTENANCE OF ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE PROPERTY OWNER.
  - WASHOUT OF CONCRETE DRUM AT CONSTRUCTION SITE IS PROHIBITED AND NOT ALLOWED IN WASH AREAS.
- TOTAL SITE AREA = 1.99 ACRES  
TOTAL DISTURBED AREA = 0.96 ACRES

**EROSION CONTROL NARRATIVE:**

STARBUCKS, SPOUT SPRINGS, NC

CONTRACTOR WILL FIRST INSTALL THE CONSTRUCTION ENTRANCE. THE CONTRACTOR SHALL THEN MOBILIZE ON SITE AND INSTALL THE TEMPORARY EROSION CONTROL DEVICES INCLUDING SILT FENCE, TREE PROTECTION FENCE, DIVERSION DIKE, AND TEMPORARY SEDIMENT TRAP IN ACCORDANCE WITH THE PLANS. BEGIN DEMOLITION, CLEARING AND SITE GRADING OPERATIONS. STABILIZATION OF EXISTING STRUCTURES IS REQUIRED IMMEDIATELY AFTER INSTALLATION. THE ON-SITE SANITARY SEWER AND WATER SYSTEMS MAY ALSO BE INSTALLED ONCE THE SITE IS BROUGHT TO GRADE. THE SITE PAD WILL BE PREPARED FOR THE PROPOSED BUILDING. THE ROUGH GRADE WILL THEN BE ESTABLISHED FOR THE SITE. THE DIVERSION AND TEMPORARY SEDIMENT TRAP SHALL BE MODIFIED ACCORDINGLY TO CAPTURE AND TREAT RUNOFF FROM THE GRADED AREA. INSTALLATION OF CURBS AND GUTTER WILL BE PERFORMED AFTER GRADING THE SITE. BASE STONE WILL THEN BE PLACED AND FINE GRADED. ALL DISTURBED AREAS WILL BE DRESSED AND SEEDING/STABILIZED PER THE APPROVED EROSION CONTROL AND LANDSCAPE PLANS. PAVING AND STRIPING WILL THEN BE COMPLETED. ALL LANDSCAPING WILL BE COMPLETED PER APPROVED PLANS. ALL ACCUMULATED SEDIMENT BEHIND SILT FENCE AND OTHER SEDIMENT DEVICES SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER. WITHIN 21 DAYS OF FINAL SITE STABILIZATION, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES FROM THE SITE. CONTRACTOR SHALL MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL LAND DISTURBANCE AND FINAL VEGETATION STABILIZATION OF THE SITE.

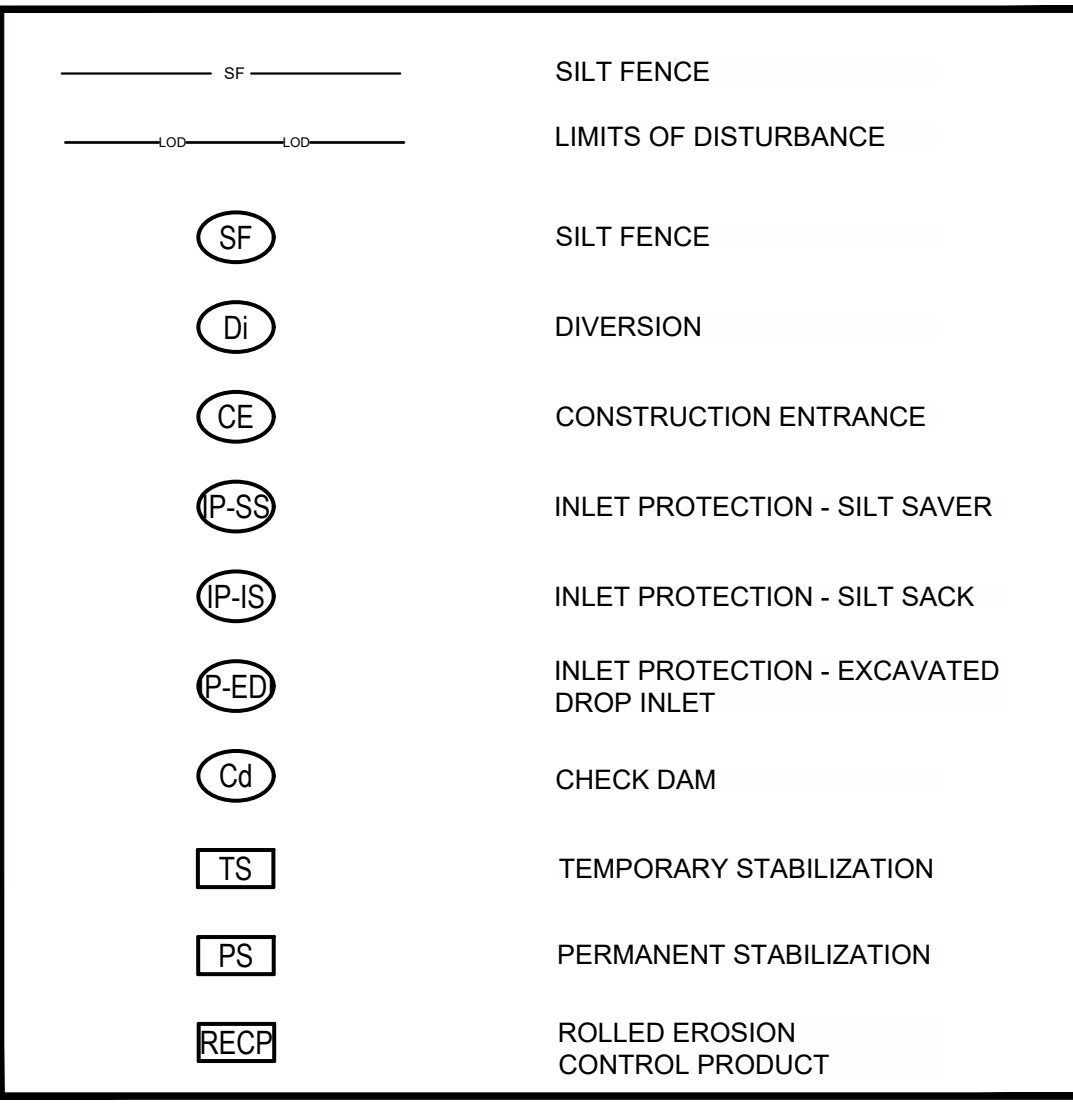
THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE INTENDED TO TRAP ANY STORMWATER RUNOFF FROM THE CONSTRUCTION SITE AND DETAIN IT LONG ENOUGH FOR SEDIMENT AND POLLUTANTS TO SETTLE OUT OF THE STORMWATER BEFORE DISCHARGE. VARIOUS EROSION CONTROL MEASURES ARE USED TO PREVENT POLLUTANT-LADEN STORMWATER RUNOFF FROM FLOWING ONTO ADJACENT PROPERTIES. THE CONTRACTOR SHALL AT HIS EXPENSE IMPLEMENT ADDITIONAL BMPs, AS NECESSARY, TO PREVENT THE ESCAPE OF SEDIMENT FROM THE SITE.

**EROSION CONTROL INSPECTIONS:**

IN ADDITION TO THE REQUIREMENT DURING CONSTRUCTION FOR INSPECTION AFTER EVERY RAINFALL, THE APPLICANT SHALL INSPECT THE EROSION AND SEDIMENT CONTROL DEVICES AND OFF-SITE ROADWAYS DAILY. MAKE ANY NECESSARY REPAIRS OR ADJUSTMENTS TO THE DEVICES. REMOVE DEPOSITION OF WET OR DRY SILT ON ADJACENT ROADWAYS AND MAINTAIN INSPECTION LOGS DOCUMENTING THE DAILY INSPECTIONS AND ANY NECESSARY REPAIRS.

**SOIL SERIES**

GaB: GLEAD LOAMY SAND, 2 TO 8% SLOPES  
VaB: VAULOUSE LOAMY SAND, 2 TO 8% SLOPES



LECRAW ENGINEERING, INC.  
3475 COUNTRY WAY  
SUITE A  
DULUTH, GA 30096  
PHONE - 770 548 6100  
FAX - 770 441 0298  
WWW.LECRAWENGINEERING.COM  
C-25A

REV #	DATE	BY	CHKD
1	08/02/21	MSL	
2	08/02/21	MAT	
1	08/02/21	MAT	
2	08/02/21	MAT	

CLIENT  
**PRIMAX PROPERTIES, LLC**  
1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT  
**STARBUCKS - SPOUT SPRINGS**

LAND LOT 6, PARCEL 9594-33-0877.000  
2822 NC 24-87  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:

9/30/21

DESIGN TEAM:

DRAWN BY: MAT  
DESIGNED BY: MSL  
REVIEWED BY: MSL

SCALE & NORTH ARROW:

SCALE: 1"=20'

JOB #: 077025  
DATE: JULY 2, 2021

EROSION CONTROL PLAN - PHASE I

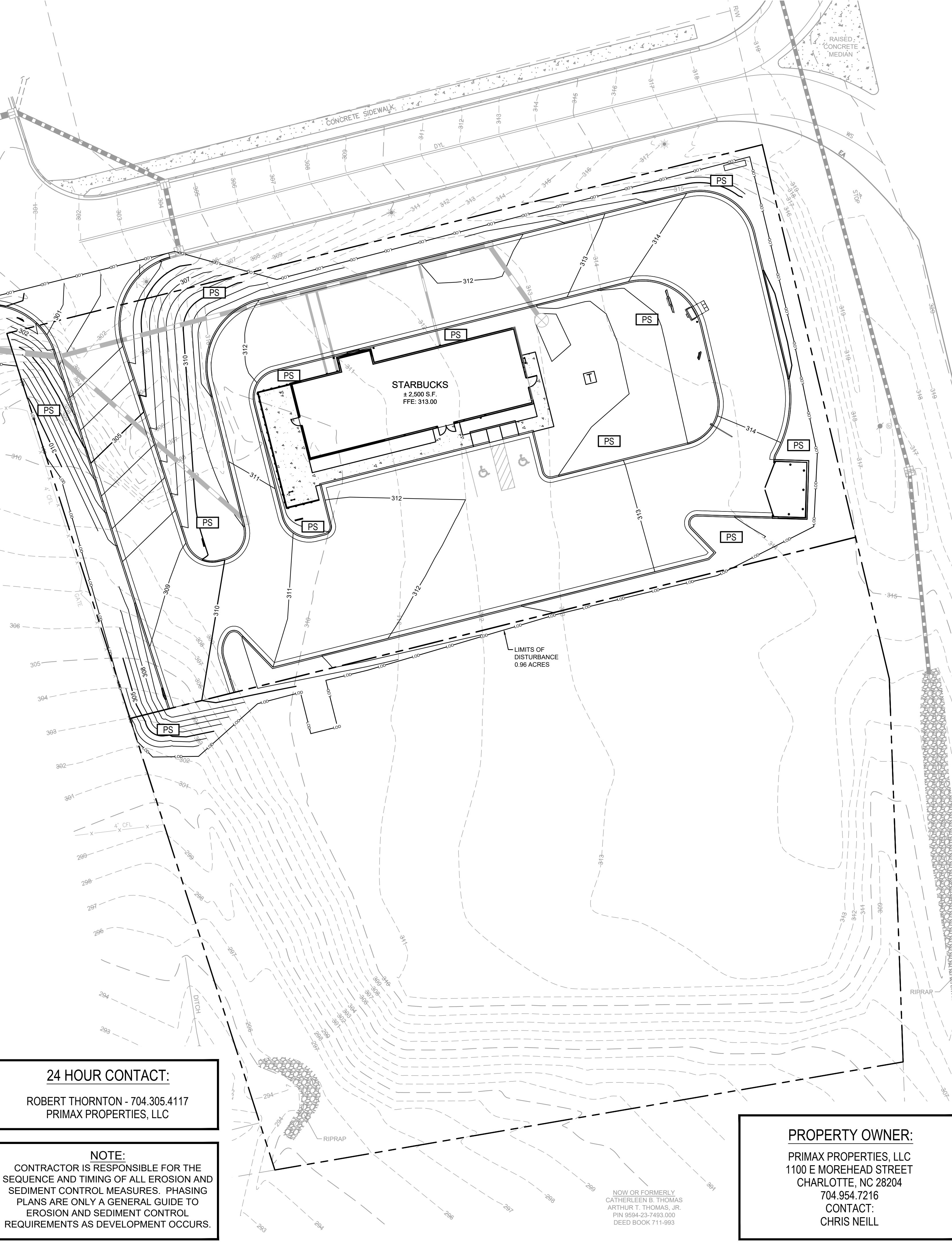
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NOW OR FORMERLY  
WALMART REAL ESTATE BUSINESS TRUST  
PIN 9594-23-5931.000  
DEED BOOK 133-885  
LOT 1  
MAP BOOK 2015-140

**EROSION CONTROL NOTES:**

- TOTAL AREA DISTURBED - 0.96 ACRES  
TOTAL SITE AREA - 1.99 ACRES
- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NCDENR EROSION AND SEDIMENT CONTROL HANDBOOK.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT THE PROJECT CONSTRUCTION ALL EROSION CONTROL MEASURES SHOWN WITHIN THESE PLANS IN ACCORDANCE WITH APPLICABLE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS.
- CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
- EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE NCDENR EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
- APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS. A REVISED PLAN SHOWING OFF-SITE IMPACTS SHOULD BE SUBMITTED AND APPROVED PRIOR TO BEGINNING OFF-SITE GRADING. CONTACT PROJECT ENGINEER AND PROJECT EROSION CONTROL INSPECTOR TO ENSURE ADDITIONAL EROSION CONTROL MEASURES ARE INSTALLED PRIOR TO OFF-SITE GRADING.
- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS, STAGING OR STORAGE AREAS, IF APPLICABLE), THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO NCDENR FOR APPROVAL. CONTRACTOR SHALL PAY ALL FEES REQUIRED AND SHALL INSTALL NECESSARY MEASURES AT NO SEPARATE PAYMENT. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER A COPY OF THE AMENDED PERMIT.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED CONTINUOUSLY, RELOCATED WHEN AND AS NECESSARY, AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDING AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RE-SEEDING AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS.
- STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND SEEDING, TEMPORARILY OR PERMANENTLY, IN ACCORDANCE WITH THE NCDENR SEDIMENT CONTROL REGULATIONS. PERMANENT SEEDING AND GRASS ESTABLISHMENT IS REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
- WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.
- TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREA. SIX INCHES OF STONE SHALL BE USED FOR THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE.
- ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.
- SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UP-SLOPE LAND DISTURBANCE TAKES PLACE.
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS COMPLETED.
- DURING DE-WATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.



**24 HOUR CONTACT:**  
ROBERT THORNTON - 704.305.4117  
PRIMAX PROPERTIES, LLC

**NOTE:**  
CONTRACTOR IS RESPONSIBLE FOR THE SEQUENCE AND TIMING OF ALL EROSION AND SEDIMENT CONTROL MEASURES. PHASING PLANS ARE ONLY A GENERAL GUIDE TO EROSION AND SEDIMENT CONTROL REQUIREMENTS AS DEVELOPMENT OCCURS.

**PROPERTY OWNER:**  
PRIMAX PROPERTIES, LLC  
1100 E MOREHEAD STREET  
CHARLOTTE, NC 28204  
704.954.7216  
CONTACT:  
CHRIS NEILL

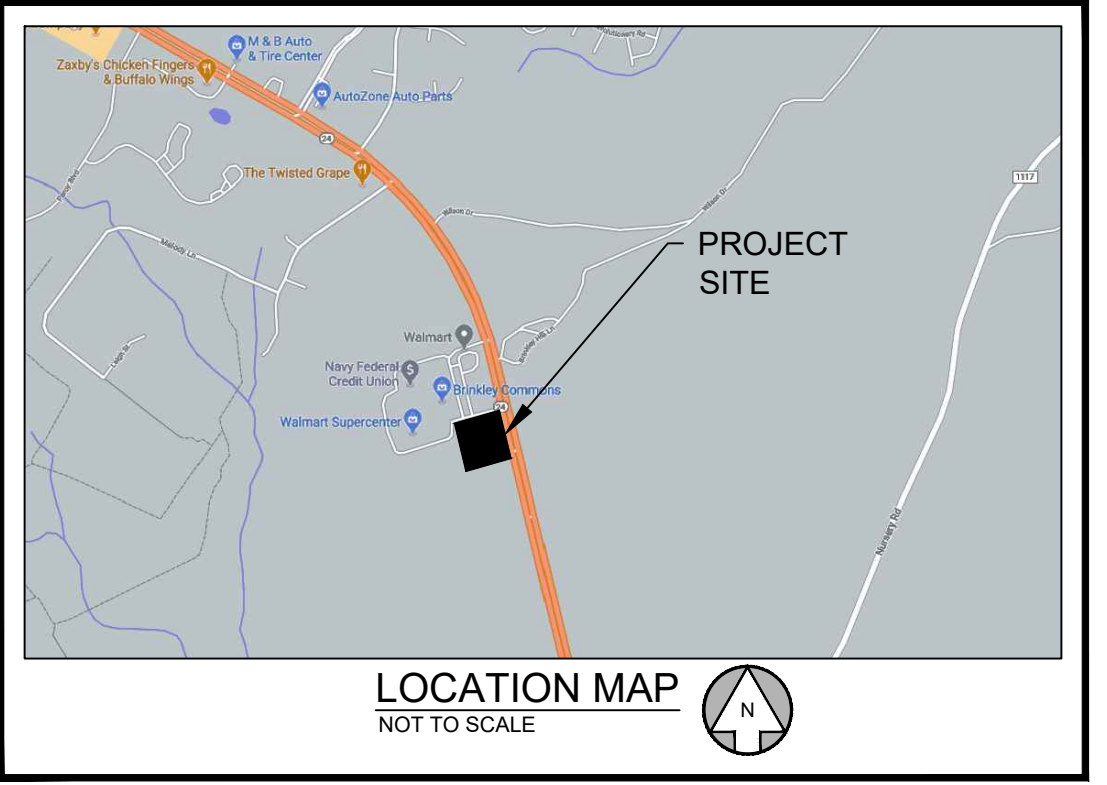
NOW OR FORMERLY  
CATHERLEEN B. THOMAS  
ARTHUR T. THOMAS, JR.  
PIN 9594-23-7493.000  
DEED BOOK 711-993

**SEDIMENT & EROSION CONTROL NOTES:**

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- USE ROCK OR WASHED STONE TO BRING CONSTRUCTION EXIT TO GRADE. IMPLEMENT WHEEL WASHES AS NECESSARY THROUGHOUT ALL PHASES OF CONSTRUCTION.
- DIVERT STORM WATER RUNOFF OFF THE FACE OF THE SEDIMENT BASIN SLOPES USING DIVERSION DITCHES AND SLOPE DRAINS. CONTRACTOR SHALL MAINTAIN AND RELOCATE DIVERSION DITCHES AND SLOPE DRAINS TO ENSURE STORM WATER RUNOFF DOES NOT ERODE THE FACE OF FINAL SLOPES.
- MAINTAIN POSITIVE FLOW TO THE SEDIMENT BASINS THROUGHOUT ALL PHASES OF CONSTRUCTION. PLACE EXCAVATED SOILS ALONG DOWNSTREAM EDGE OF THE DIVERSION DITCHES TO PROVIDE ADDITIONAL CAPACITY.
- REFER TO THE GRADING AND DRAINAGE PLAN FOR FINAL SITE AND PAVEMENT GRADES AND ELEVATIONS OF THE PROPOSED STORM SEWER SYSTEMS.
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- SUFFICIENT EROSION CONTROL PRACTICES MUST BE INSTALLED AND MAINTAINED TO RETAIN SEDIMENT WITHIN THE BOUNDARIES OF THE SITE.
- ADDITIONAL EROSION CONTROL MEASURES OR SILT BARRIERS TO BE PLACED AS SHOWN AND/OR DIRECTED BY THE PROJECT ENGINEER AND/OR LOCAL JURISDICTIONAL INSPECTOR.
- FOR ALL CONSTRUCTION ALONG AND/OR ACROSS WATERWAYS, BANK PROTECTION AND STABILIZATION SHALL BE REQUIRED AS PER LOCAL JURISDICTIONAL EROSION CONTROL LAWS.
- ALL TREE PROTECTION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION AND SHALL BE MAINTAINED IN PROPER WORKING ORDER UNTIL ALL DISTURBED AREAS ARE STABILIZED AND GROUND COVER IS ESTABLISHED. CONSTRUCTION ENTRANCE PADS SHALL BE INSTALLED BY THE CONTRACTOR AT CONSTRUCTION ACCESS POINTS PRIOR TO LAND DISTURBANCE.
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- CONTRACTOR SHALL CONTACT CAROLINA ONE CALL AND ALL UTILITIES HAVING BURIED UTILITIES AT LEAST 72 HOURS PRIOR TO DIGGING OR AS DIRECTED AT THE PRE-CONSTRUCTION MEETING.
- CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION ENTRANCES AT EACH POINT OF ACCESS TO STORAGE AND CONSTRUCTION AREAS.
- INITIAL PHASE SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH PLANS BEFORE STARTING WORK INCLUDING SILT FENCE, TEMPORARY SEDIMENT BASIN, DIVERSION DITCHES, TREE PROTECTION, ETC. CLEARING ONLY AS NECESSARY FOR THE INSTALLATION OF THESE MEASURES.
- CONTRACTOR SHALL INCLUDE A RAIN GAUGE AND LOG BOOK CONTAINING THE INSPECTION RECORDS FOR THE SITE.
- CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL MEASURES. ALL APPLICABLE ERS CONTROL MEASURES MUST BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED.
- STOCKPILE RIP-RAP ON SITE AND INSTALL ALL OTHER EROSION CONTROL MEASURES WHERE THE WORK IS OCCURRING. THE CONTRACTOR SHALL NOT INSTALL EROSION CONTROL MEASURES IN AREAS WHERE THE WORK WILL NOT OCCUR FOR SOME TIME. ADDITIONAL EROSION CONTROL MEASURES SHALL BE REQUIRED BY THE ENGINEER OR UPON RECOMMENDATION OF NCDENR INSPECTION PERSONNEL AS CONDITIONS WARRANT.
- IN AREAS WHERE IT IS NOT FEASIBLE TO INSTALL EROSION CONTROL DEVICES, ALL DISTURBED AREAS MUST BE SEEDING AND MULCHED BY THE CONTRACTOR WITHIN THREE DAYS OF INITIAL DISTURBANCE. TEMPORARY SEEDING SHALL BE REQUIRED ON ALL OTHER AREAS TO BE DISTURBED FOR A PERIOD OF 10 DAYS OR LONGER.
- STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISHED GRADE.
- UPON COMPLETION OF THE INSTALLATION AND WITH APPROVAL OF NCDENR, ALL EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED OF IN AN ACCEPTABLE MANNER. EACH SECTION SHALL BE SEEDING AT THE EARLIEST POSSIBLE DATE. COORDINATE WITH THE EROSION CONTROL INSPECTOR PRIOR TO REMOVAL OF EROSION CONTROL MEASURES.
- CONTRACTOR SHALL NOT CONVERT TO PERMANENT BMP FACILITY UNTIL UPSTREAM AREAS ARE STABILIZED. AS PART OF THE CONVERSION FROM THE TO THE PERMANENT STORMWATER BMP ALL ACCUMULATED SEDIMENT WITHIN THE BASIN SHALL BE REMOVED AND DISPOSED OF IN AN ACCEPTABLE MANNER. FINAL EROSION CONTROL MEASURES AND PERMANENTLY SEED/SOD EXPOSED AREAS.
- ONCE GROUND COVER IS FIRMLY ESTABLISHED, ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITH THE APPROVAL OF NCDENR INSPECTOR.
- ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N.C. EROSION & SEDIMENT CONTROL PLANNING AND DESIGN MANUAL NCDOT, U.S. DEPT. OF AGRICULTURE, AND COUNTY STANDARDS.



**GENERAL SITE NOTES:**

- ALL BEST MANAGEMENT PRACTICES ARE TO BE IN ACCORDANCE WITH THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN NORTH CAROLINA, PUBLISHED BY THE NORTH CAROLINA DIVISION OF WATER RESOURCES.
  - BOUNDARY & TOPOGRAPHIC SURVEY BY BARRETT SURVEYING GROUP PLLC, DATED 12/23/2020. BENCHMARK IS NOTED ON SURVEY.
  - SOIL TYPES FOR ENTIRE DISTURBED AREA IS VAB, GAB PER NRCS WEB SOIL SURVEY.
  - THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.
  - EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE. ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION.
  - SEDIMENT STORAGE MAINTENANCE INDICATORS MUST BE INSTALLED IN SEDIMENT STORAGE STRUCTURES, AS REQUIRED, INDICATING THE 1/3 FULL VOLUME.
  - EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE PROPERTY OWNER.
  - WASHOUT OF CONCRETE DRUM AT CONSTRUCTION SITE IS PROHIBITED AND NOT ALLOWED IN WASH AREAS.
- TOTAL SITE AREA = 1.99 ACRES  
TOTAL DISTURBED AREA = 0.96 ACRES

**EROSION CONTROL NARRATIVE:**

STARBUCKS, SPOUT SPRINGS, NC

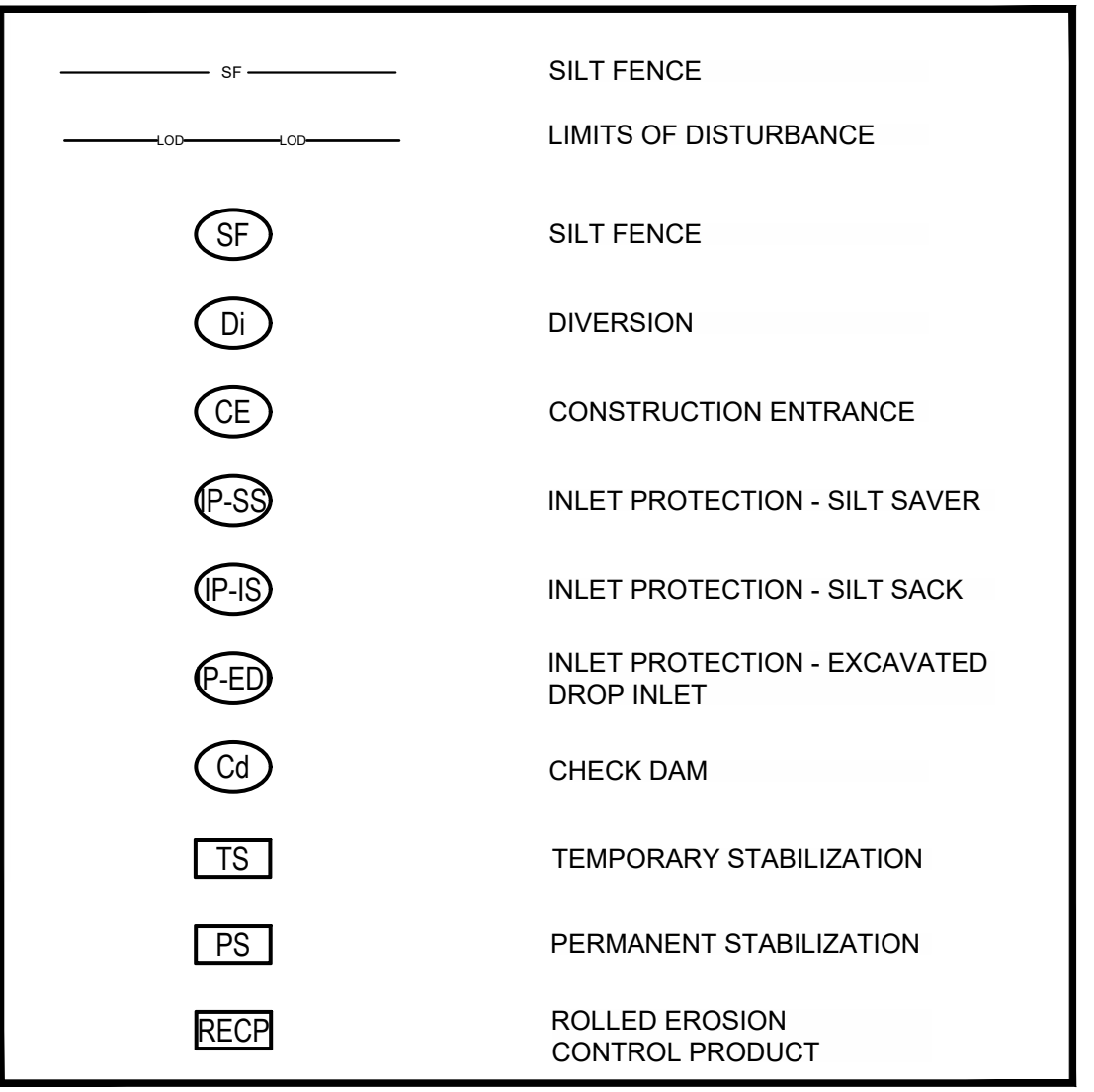
CONTRACTOR WILL FIRST INSTALL THE CONSTRUCTION ENTRANCE. THE CONTRACTOR SHALL THEN MOBILIZE ON SITE AND INSTALL THE TEMPORARY EROSION CONTROL DEVICES INCLUDING SILT FENCE, TREE PROTECTION FENCE, DIVERSION DIKE, AND TEMPORARY SEDIMENT TRAP IN ACCORDANCE WITH THE PLANS. BEGIN DEMOLITION, CLEARING AND SITE GRADING OPERATIONS. STABILIZATION OF EXISTING STRUCTURES IS REQUIRED IMMEDIATELY AFTER INSTALLATION. THE ON-SITE SANITARY SEWER AND WATER SYSTEMS MAY ALSO BE INSTALLED ONCE THE SITE IS BROUGHT TO GRADE. THE SITE PAD WILL BE PREPARED FOR THE PROPOSED BUILDING. THE ROUGH GRADE WILL THEN BE ESTABLISHED FOR THE SITE. THE DIVERSION AND TEMPORARY SEDIMENT TRAP SHALL BE MODIFIED ACCORDINGLY TO CAPTURE AND TREAT RUNOFF FROM THE GRADED AREA. INSTALLATION OF CURB AND GUTTER WILL BE PERFORMED AFTER GRADING THE SITE. BASE STONE WILL THEN BE PLACED AND FINE GRADED. ALL DISTURBED AREAS WILL BE DRESSED AND SEEDING/STABILIZED PER THE APPROVED EROSION CONTROL AND LANDSCAPE PLANS. PAVING AND STRINGING WILL THEN BE COMPLETED. PER APPROVED PLANS, ALL ACCUMULATED SEDIMENT BEHIND SILT FENCE AND OTHER SEDIMENT DEVICES SHALL BE REMOVED AND DISPOSED OF IN A LEGAL MANNER. WITHIN 21 DAYS OF FINAL SITE STABILIZATION, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES FROM THE SITE. CONTRACTOR SHALL MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL LAND DISTURBANCE AND FINAL VEGETATION STABILIZATION OF THE SITE.

THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE INTENDED TO TRAP ANY STORMWATER RUNOFF FROM THE CONSTRUCTION SITE AND DETAIN IT LONG ENOUGH FOR SEDIMENT AND POLLUTANTS TO SETTLE OUT OF THE STORMWATER BEFORE DISCHARGE. VARIOUS EROSION CONTROL MEASURES ARE USED TO PREVENT POLLUTANT-LADEN STORMWATER RUNOFF FROM FLOWING ONTO ADJACENT PROPERTIES. THE CONTRACTOR SHALL AT HIS EXPENSE IMPLEMENT ADDITIONAL BMPs, AS NECESSARY, TO PREVENT THE ESCAPE OF SEDIMENT FROM THE SITE.

**EROSION CONTROL INSPECTIONS:**

IN ADDITION TO THE REQUIREMENT DURING CONSTRUCTION FOR INSPECTION AFTER EVERY RAINFALL, THE APPLICANT SHALL INSPECT THE EROSION AND SEDIMENT CONTROL DEVICES AND OFF-SITE ROADWAYS DAILY. MAKE ANY NECESSARY REPAIRS OR ADJUSTMENTS TO THE DEVICES. REMOVE DEPOSITION OF WET OR DRY SILT ON ADJACENT ROADWAYS AND MAINTAIN INSPECTION LOGS DOCUMENTING THE DAILY INSPECTIONS AND ANY NECESSARY REPAIRS.

**SOIL SERIES**  
GaB: GLEAD LOAMY SAND, 2 TO 8% SLOPES  
VaB: VAULOUSE LOAMY SAND, 2 TO 8% SLOPES



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C-25A

NO.	DATE	BY	REVISION
1	08/02/21	MSL	ISSUED FOR PERMIT
2	08/02/21	MSL	DRB & HRW COMMENTS
3	08/02/21	MSL	DRB & HRW COMMENTS

CLIENT  
**PRIMAX PROPERTIES, LLC**  
1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT  
**STARBUCKS - SPOUT SPRINGS**  
LAND LOT 6, PARCEL 9594-33-0877.000  
2822 NC 24-87  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:  
NORTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
SEAL  
36603  
MARK S. LECRAW  
9/30/21

DESIGN TEAM:  
DRAWN BY: MAT  
DESIGNED BY: MAT  
REVIEWED BY: MSL

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NORTH ARROW  
SCALE: 1"=20'

JOB #: 077025  
DATE: JULY 2, 2021

EROSION CONTROL PLAN - PHASE 3  
**C-2.2**



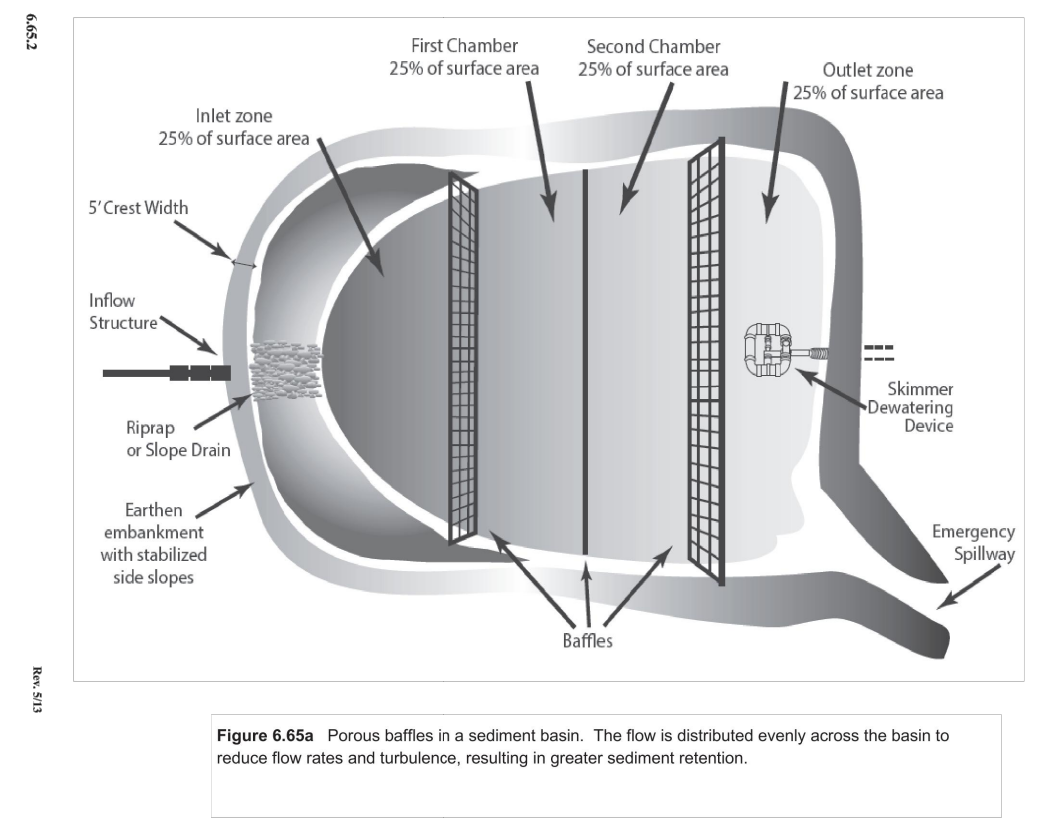


Figure 6.65a Porous baffles in a sediment basin. The flow is distributed evenly across the basin to reduce flow rates and turbulence, resulting in greater sediment retention.

**Practice Standards and Specifications**

Baffles need to be installed correctly in order to fully provide their benefits. Refer to Figure 6.65b and the following key points:

- The baffle material needs to be secured at the bottom and sides using staples.
- Most of the sediment will accumulate in the first bay, so this should be readily accessible for maintenance.

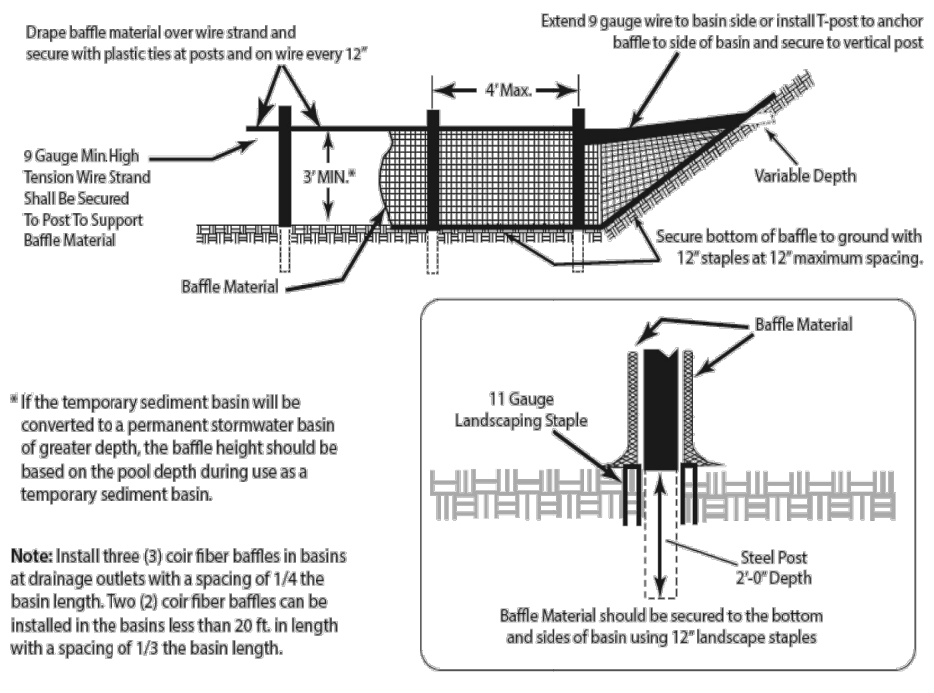


Figure 6.65b Color Fiber Baffle Detail  
Cross section of a porous baffle in a sediment basin.

**POROUS BAFFLE**  
NOT TO SCALE

**SEEDING MIXTURE**

SPECIES	RATE (LB/ACRE)
RYE (GRAIN)	120
ANNUAL LESPEDEZA (KOBÉ IN PIEDMONT AND COASTAL PLAIN, KOREAN IN MOUNTAINS)	50

OMIT ANNUAL LESPEDEZA WHEN DURATION OF TEMPORARY COVER IS NOT TO EXTEND BEYOND JUNE.

**SEEDING DATES**

MOUNTAINS —	ABOVE 2500 FEET: FEB. 15 - MAY 15
	BELOW 2500 FEET: FEB. 1 - MAY 1
PIEDMONT —	JAN. 1 - MAY 1
COASTAL PLAIN —	DEC. 1 - APR. 15

**SOIL AMENDMENTS**  
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

**MULCH**  
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

**MAINTENANCE**  
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

**TEMPORARY SEEDING (LATE WINTER AND EARLY SPRING)**  
NOT TO SCALE

3

**SEEDING MIXTURE**

SPECIES	RATE (LB/ACRE)
GERMAN MILLET	40

IN THE PIEDMONT AND MOUNTAINS, A SMALL-STEMMED SUDANGRASS MAY BE SUBSTITUTED AT A RATE OF 50 LB/ACRE.

**SEEDING DATES**

MOUNTAINS —	MAY 15 - AUG. 15
PIEDMONT —	MAY 1 - AUG. 15
COASTAL PLAIN —	APR. 15 - AUG. 15

**SOIL AMENDMENTS**  
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10 FERTILIZER.

**MULCH**  
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

**MAINTENANCE**  
REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

**TEMPORARY SEEDING (SUMMER)**  
NOT TO SCALE

4

**SEEDING MIXTURE**

SPECIES	RATE (LB/ACRE)
RYE (GRAIN)	120

**SEEDING DATES**

MOUNTAINS —	AUG. 15 - DEC. 15
COASTAL PLAIN AND PIEDMONT —	AUG. 15 - DEC. 30

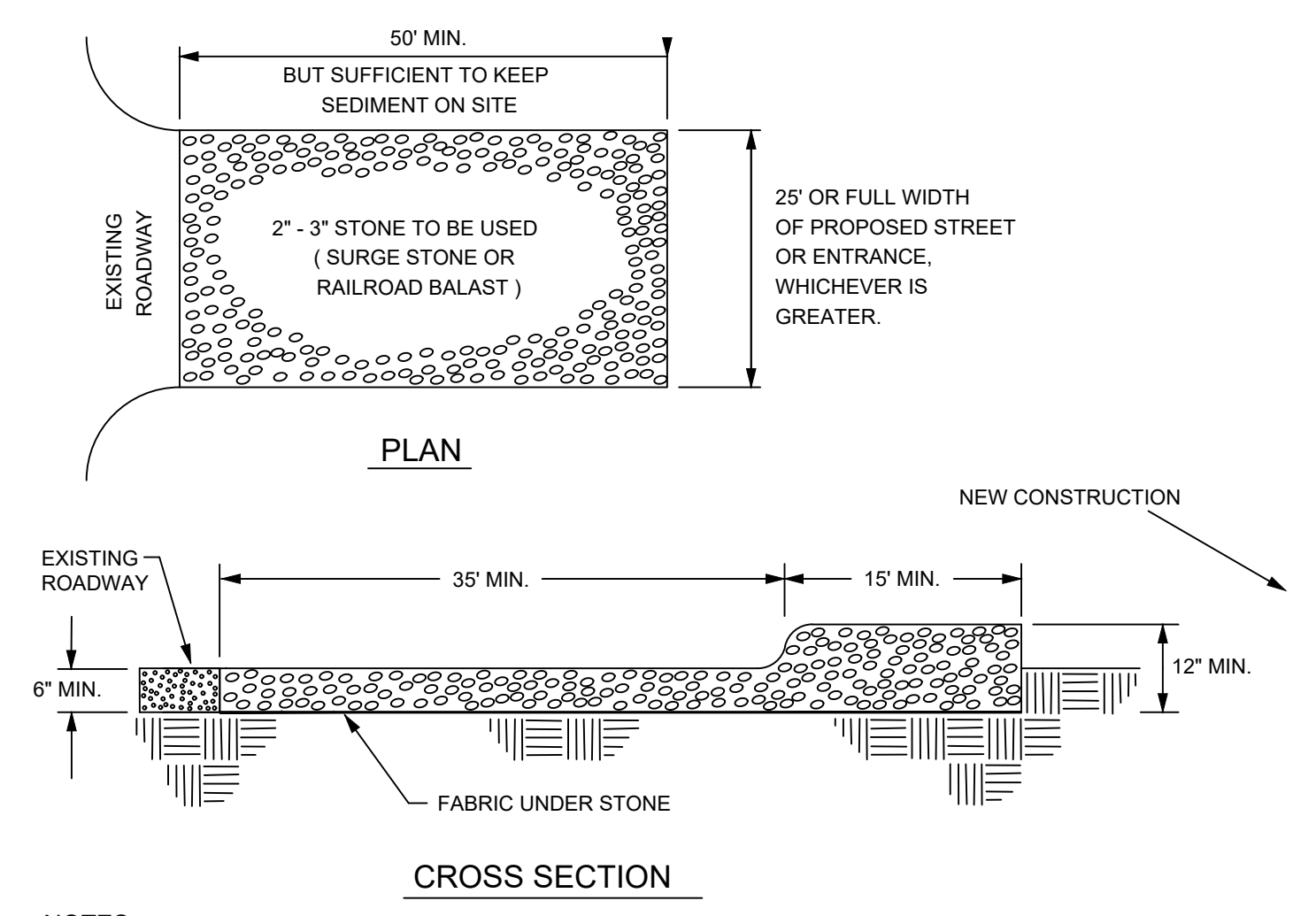
**SOIL AMENDMENTS**  
FOLLOW SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER.

**MULCH**  
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

**MAINTENANCE**  
REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50 LB/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBÉ (PIEDMONT AND COASTAL PLAIN) OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

**TEMPORARY SEEDING (FALL)**  
NOT TO SCALE

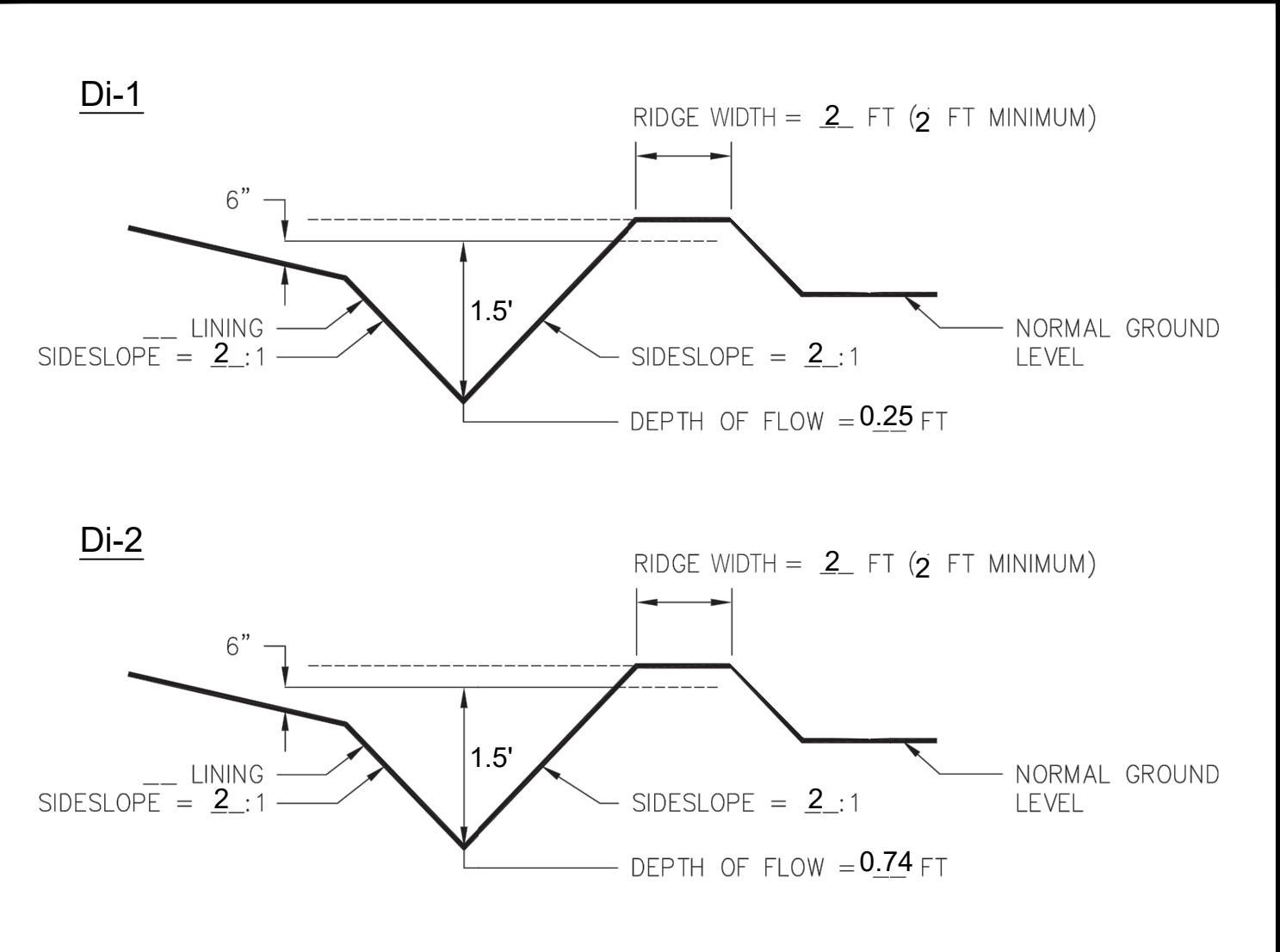
5



- NOTES:**
- PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.
  - IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING THE PUBLIC ROAD.
  - IF A PROJECT CONTINUES TO PULL MUD AND DEBRIS ON TO THE PUBLIC ROAD, THE GOVERNING AUTHORITY WILL CLEAN THE AREA AND INVOICE THE FINANCIALLY RESPONSIBLE PERSON AS INDICATED ON THE FINANCIAL RESPONSIBILITY FORM.

**CONSTRUCTION ENTRANCE**  
NOT TO SCALE

6



**DIVERSION DIKE**  
NOT TO SCALE

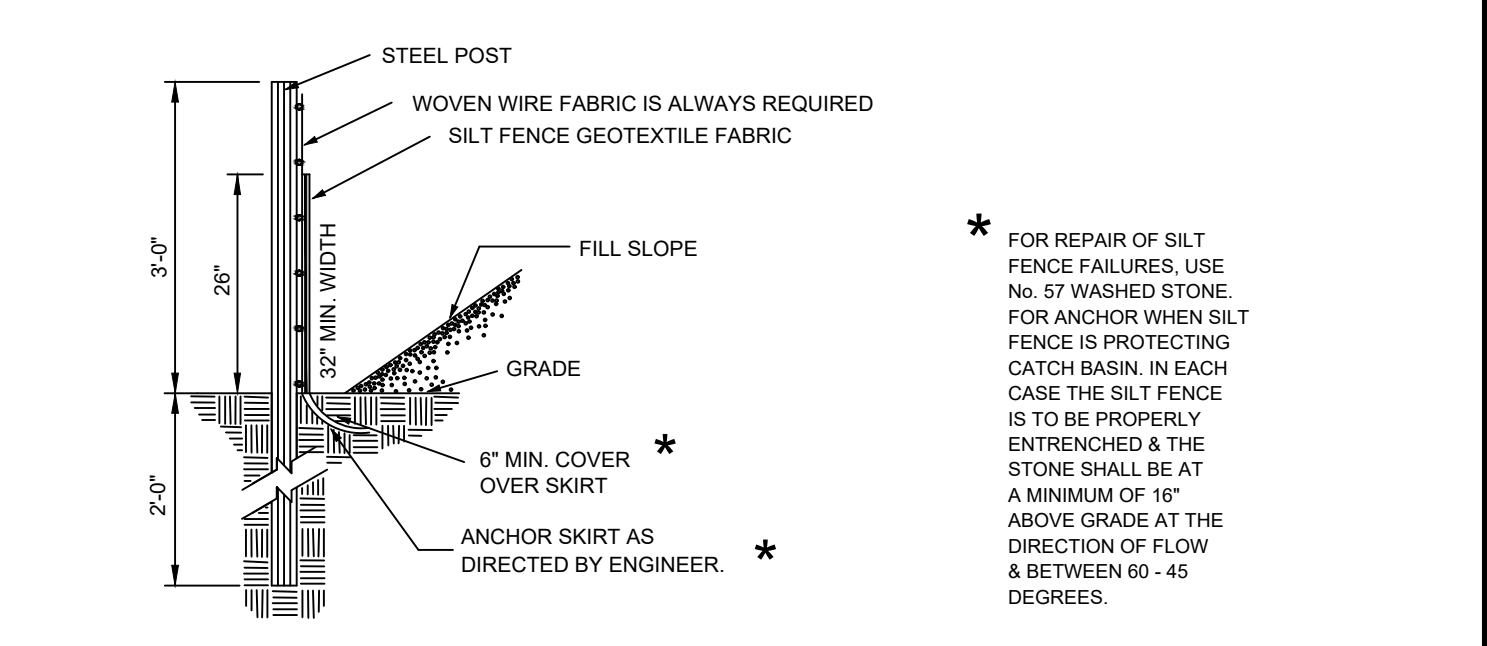
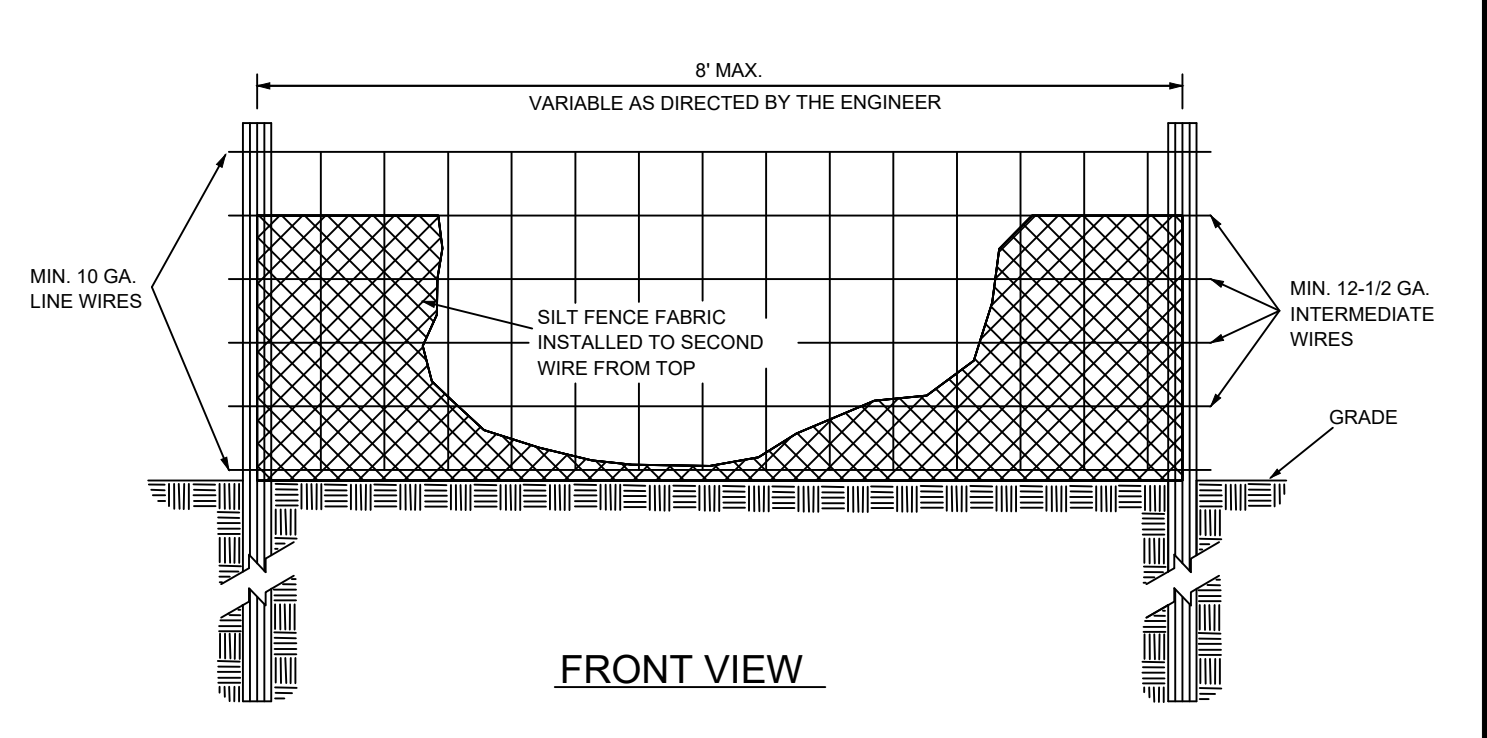
7

**SCHEDULE OF MAJOR ACTIVITIES**

DESCRIPTION	AUG. - AUG.			
	1	2	3	4
INSTALL & MAINTAIN SEDIMENT CONTROL STRUCTURES	█	█	█	█
CLEARING AND GRUBBING	█			
GRADING	█	█	█	█
TEMPORARY MULCHING/SEEDING AS NECESSARY TO STABILIZE	█	█	█	█
UTILITIES	█	█	█	█
BUILDING RENOVATION		█	█	█
PAVING			█	█
FINAL STABILIZATION / PERMANENT VEGETATION				█
REMOVE SEDIMENT CONTROL STRUCTURES				█

**ACTIVITIES SCHEDULE**  
NOT TO SCALE

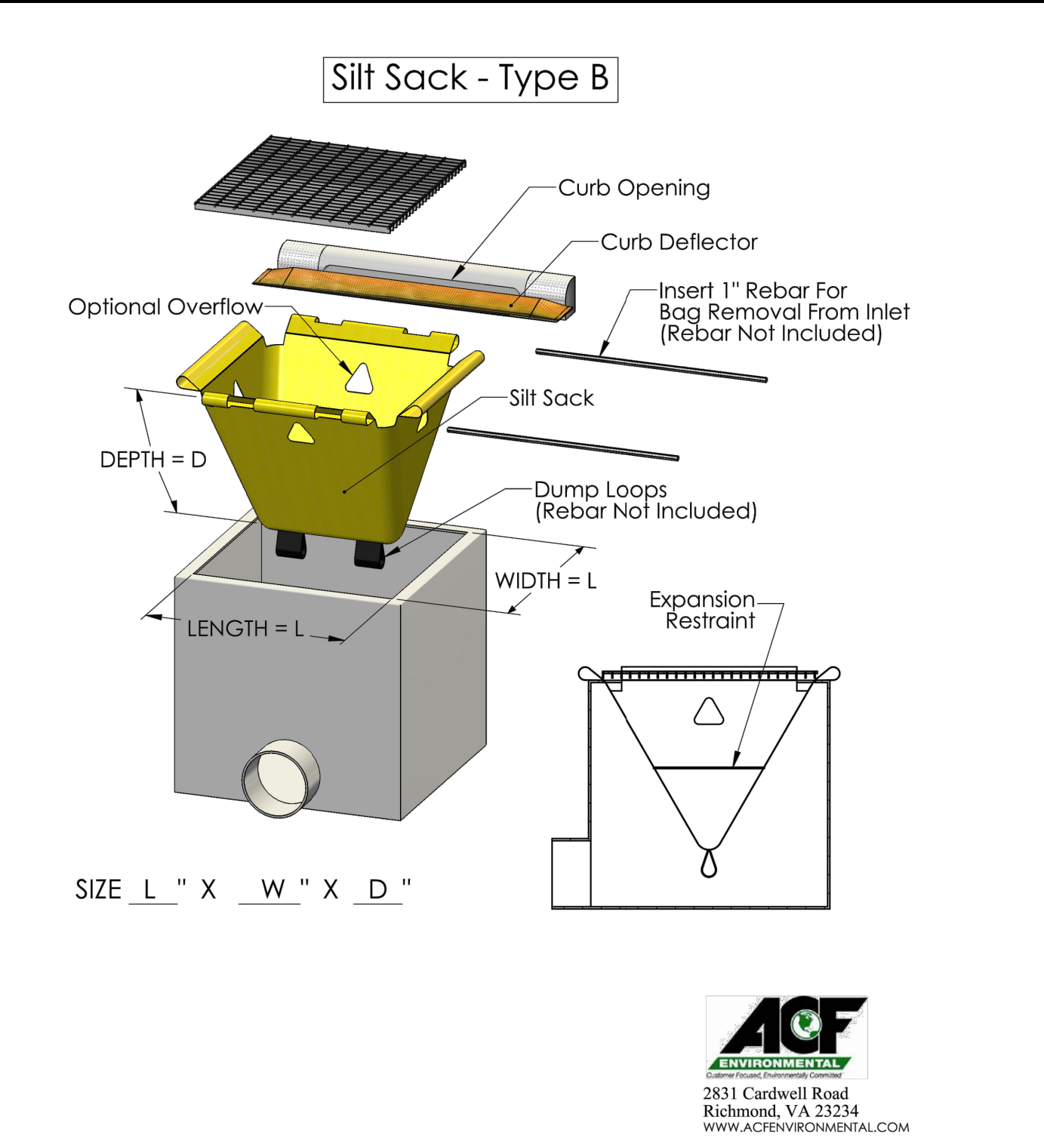
8



- NOTES:**
- END OF SILT FENCE SHOULD BE TURNED UPHILL.
  - SEE N.C. STATE DENR PRACTICE STANDARDS & SPECIFICATIONS SEDIMENT FENCE SET FOR CONDITIONS WHERE PRACTICE APPLIES. PLANNING CONSIDERATIONS & DESIGN CRITERIA. (HOWEVER FLOW SHALL NOT RUN PARALLEL WITH THE TOE OF THE FENCE).

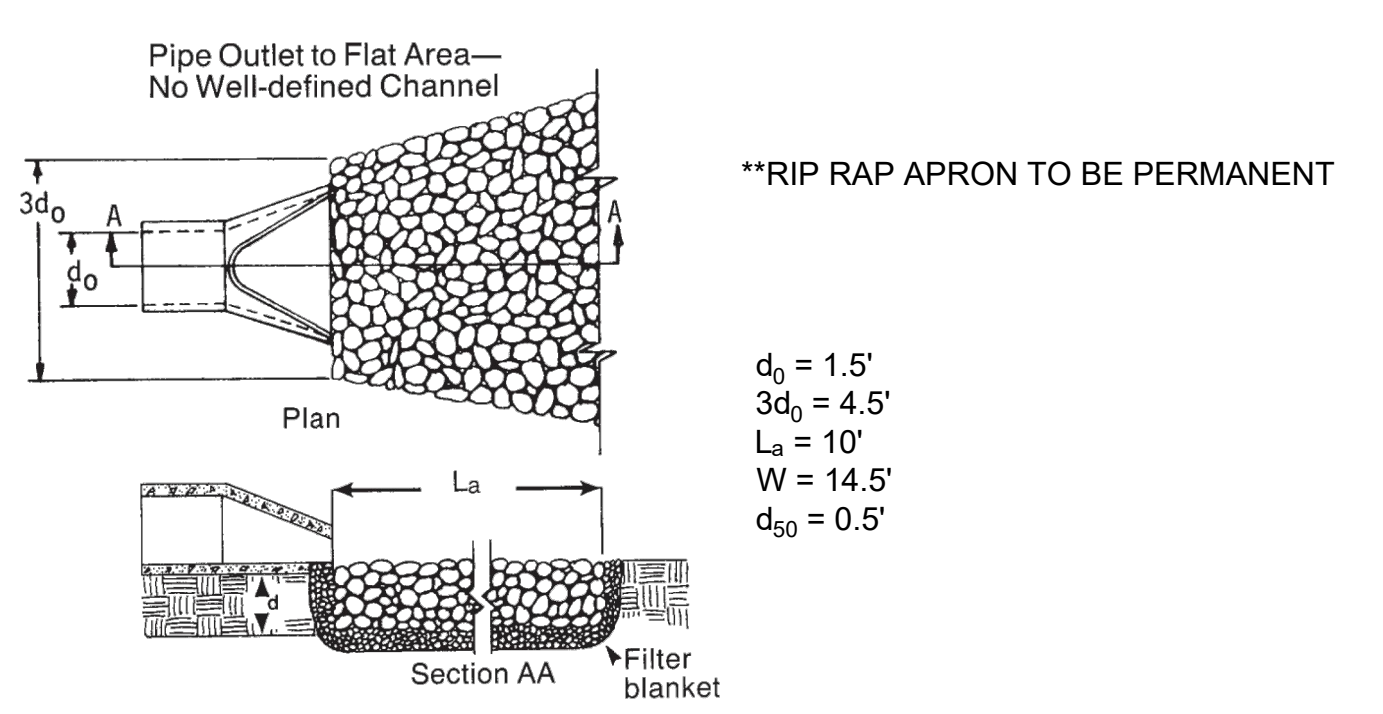
**SILT FENCE WITH WIRE BACKING**  
NOT TO SCALE

9



**SILT SACK**  
NOT TO SCALE

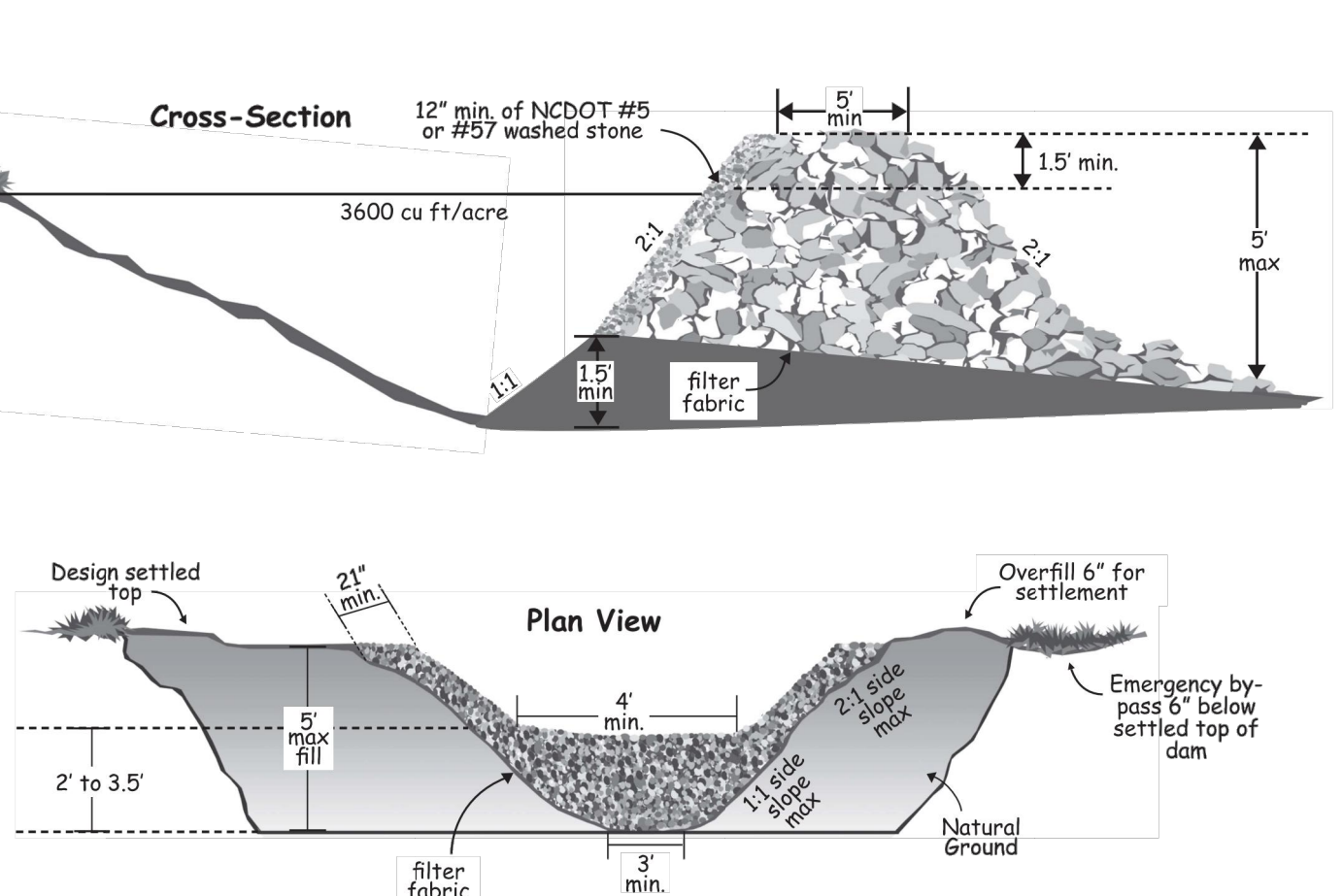
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- Notes**
- $L_a$  is the length of the riprap apron.
  - $d = 1.5$  times the maximum stone diameter but not less than 6".
  - In a well-defined channel extend the apron up the channel banks to an elevation of 6" above the maximum tailwater depth or to the top of the bank, whichever is less.
  - A filter blanket or filter fabric should be installed between the riprap and soil foundation.
- Materials**—Ensure that riprap consists of a well-graded mixture of stone. Larger stone should predominate, with sufficient smaller sizes to fill the voids between the stones. The diameter of the largest stone size should be no greater than 1.5 times the  $d_{50}$  size.
- Thickness**—Make the minimum thickness of riprap 1.5 times the maximum stone diameter.
- Stone quality**—Select stone for riprap from field stone or quarry stone. The stone should be hard, angular, and highly weather-resistant. The specific gravity of the individual stones should be at least 2.5.
- Filter**—Install a filter to prevent soil movement through the openings in the riprap. The filter should consist of a graded gravel layer or a synthetic filter cloth. Design filter blankets by the method described in Practice 6.15, Riprap.

**PIPE RIP RAP APRON DETAIL**  
NOT TO SCALE

11



**TEMPORARY SEDIMENT TRAP**  
NOT TO SCALE

12

**Figure 6.11a Calendar for permanent seeding recommendations by region.**

Region	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mtains												
Piedmont												
Coastal Plain												

Figure 6.11a Calendar for permanent seeding recommendations by region.

**Table 6.11a Tolerance, Maintenance, and Propagation Characteristics of Erosion Control Plants**

Plant	Region		Drainage	Planting	Tolerance	Maintenance
	Piedmont	Coastal Plain				
Bermudagrass	●	●	●	●	●	●
Bermudagrass (common)	●	●	●	●	●	●
Bermudagrass (hybrid)	●	●	●	●	●	●
Centipedegrass	●	●	●	●	●	●
Fescue, tall	●	●	●	●	●	●
Fescue, mid	●	●	●	●	●	●
Gambusia	●	●	●	●	●	●
Kentucky bluegrass	●	●	●	●	●	●
Hybrid Bermudagrass	●	●	●	●	●	●
Tall fescue mixture	●	●	●	●	●	●
Common Bermudagrass	●	●	●	●	●	●
Centipedegrass	●	●	●	●	●	●
Legumes	●	●	●	●	●	●
Crown vetch	●	●	●	●	●	●
Kobe lespedeza	●	●	●	●	●	●
Korean lespedeza	●	●	●	●	●	●
Sericea lespedeza	●	●	●	●	●	●

Table 6.11a Low-maintenance Mixtures — Piedmont

Seeding No.	Site	Plants	lb/acre
1P	Steep slopes or poor soils	Tall fescue Sericea lespedeza <sup>2</sup> Kobe lespedeza Nurse plant <sup>3</sup>	100 90 10
2P	Gentle slopes, average soil	Tall fescue Sericea lespedeza <sup>2</sup> Kobe lespedeza Nurse plant <sup>3</sup>	80 20 10
3P	Channels	Tall fescue Nurse plant <sup>3</sup>	200

<sup>1</sup> Seeding numbers refer to seeding specifications in the N.C. Erosion and Sediment Control Planning and Design Manual (1998). "P" indicates Piedmont.  
<sup>2</sup> After Aug. 15 use unscarified seed for sericea lespedeza.  
<sup>3</sup> Between May 1 and Aug. 15, add 10 lb/acre German millet or 15 lb/acre Sudangrass. Prior to May 1 or after Aug. 15, add 40 lb/acre eye-grain.

**PERMANENT SEEDING**  
NOT TO SCALE

2

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REV #	DATE	BY	CHECKED
1	08/02/21	MAT	MSL
2	08/02/21	MAT	MSL

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2831 Cardwell Road  
Richmond, VA 23234  
WWW.ACFENVIRONMENTAL.COM

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1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT: **STARBUCKS - SPOUT SPRINGS**  
2822 NC 24-87  
LAND LOT 6, PARCEL 9594-33-0877.000  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:  
NORTH CAROLINA PROFESSIONAL SEAL  
36603  
MARK S. LECRAW  
9/30/21

DESIGN TEAM:  
DRAWN BY: MAT  
DESIGNED BY: MAT  
REVIEWED BY: MSL

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NORTH ARROW  
SCALE: 1"=20'

JOB #: 077025  
DATE: JULY 2, 2021  
EROSION CONTROL DETAILS - 1  
**C-2.3**

**GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT**

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

**SECTION E: GROUND STABILIZATION**

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed -7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones
(d) Slopes 3:1 to 4:1	14	-10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

**Note:** After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

**GROUND STABILIZATION SPECIFICATION**

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> <li>Temporary grass seed covered with straw or other mulches and tackifiers</li> <li>Hydroseeding</li> <li>Rolled erosion control products with or without temporary grass seed</li> <li>Appropriately applied straw or other mulch</li> <li>Plastic sheeting</li> </ul>	<ul style="list-style-type: none"> <li>Permanent grass seed covered with straw or other mulches and tackifiers</li> <li>Geotextile fabrics such as permanent soil reinforcement matting</li> <li>Hydroseeding</li> <li>Shrubs or other permanent plantings covered with mulch</li> <li>Uniform and evenly distributed ground cover sufficient to restrain erosion</li> <li>Structural methods such as concrete, asphalt or retaining walls</li> <li>Rolled erosion control products with grass seed</li> </ul>

**POLYACRYLAMIDES (PAMS) AND FLOCCULANTS**

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

**EQUIPMENT AND VEHICLE MAINTENANCE**

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

**LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE**

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflowing. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

**PAINT AND OTHER LIQUID WASTE**

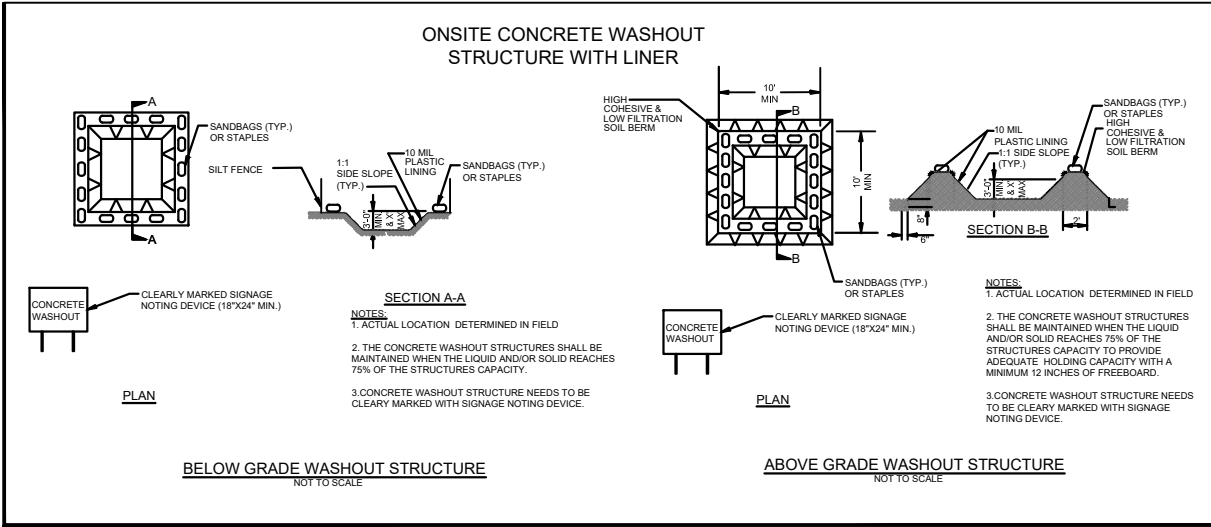
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

**PORTABLE TOILETS**

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

**EARTHEN STOCKPILE MANAGEMENT**

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



**CONCRETE WASHOUTS**

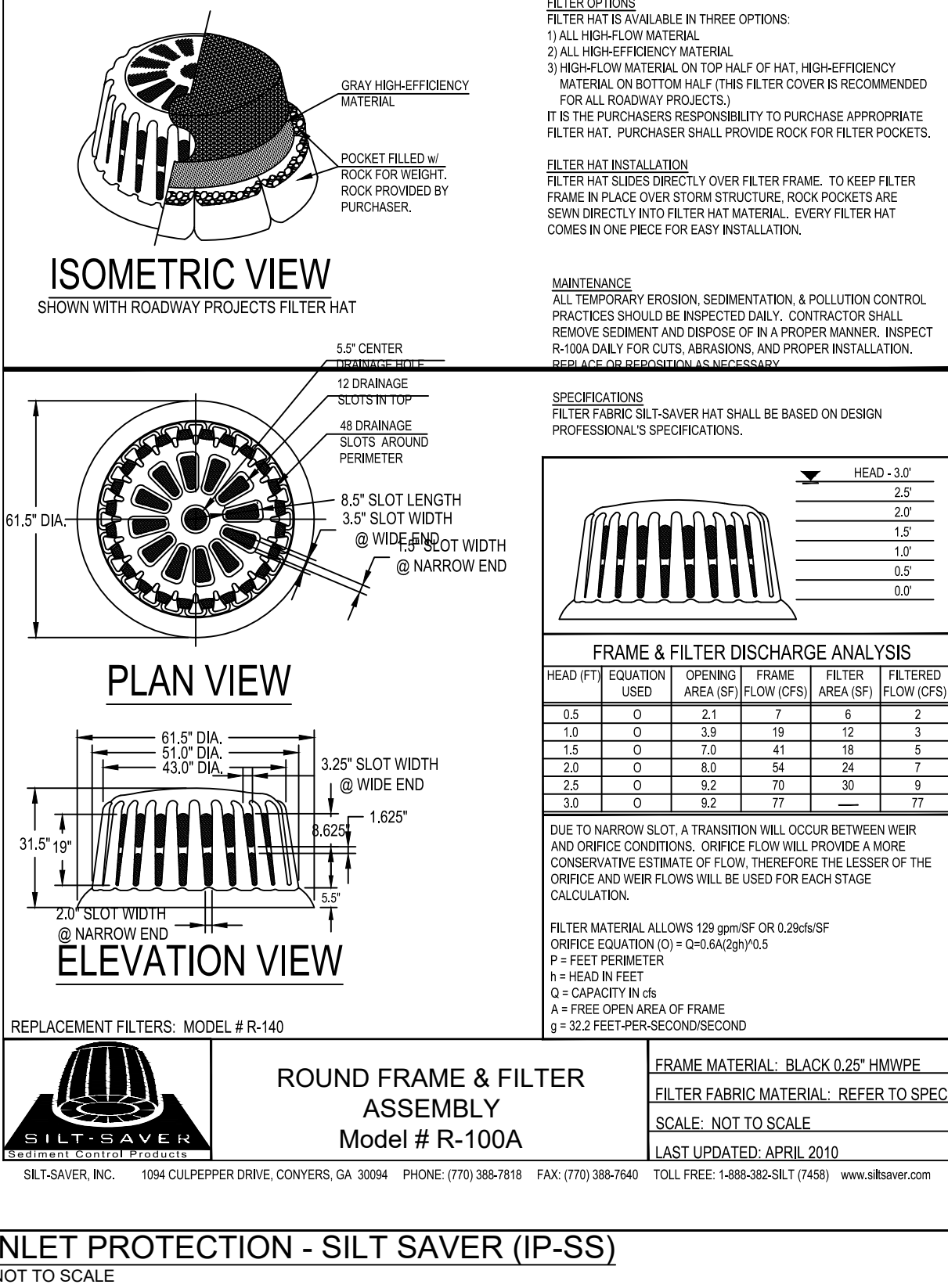
- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

**HERBICIDES, PESTICIDES AND RODENTICIDES**

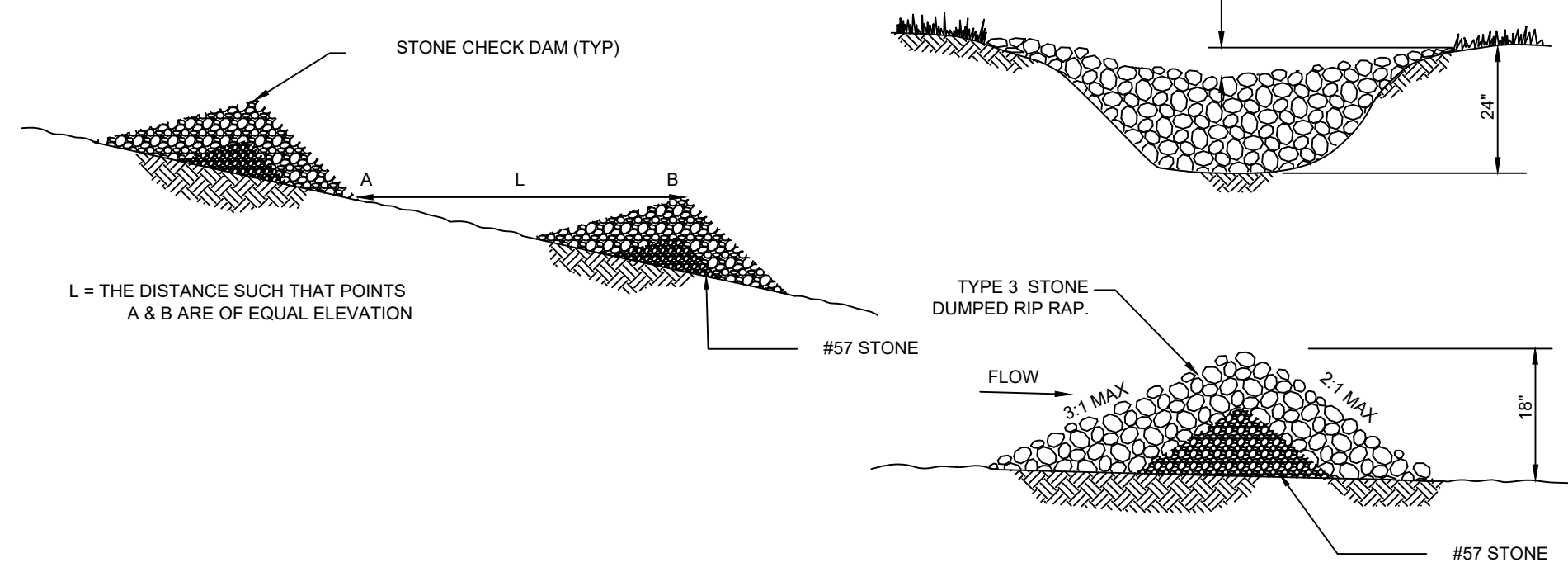
- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

**HAZARDOUS AND TOXIC WASTE**

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

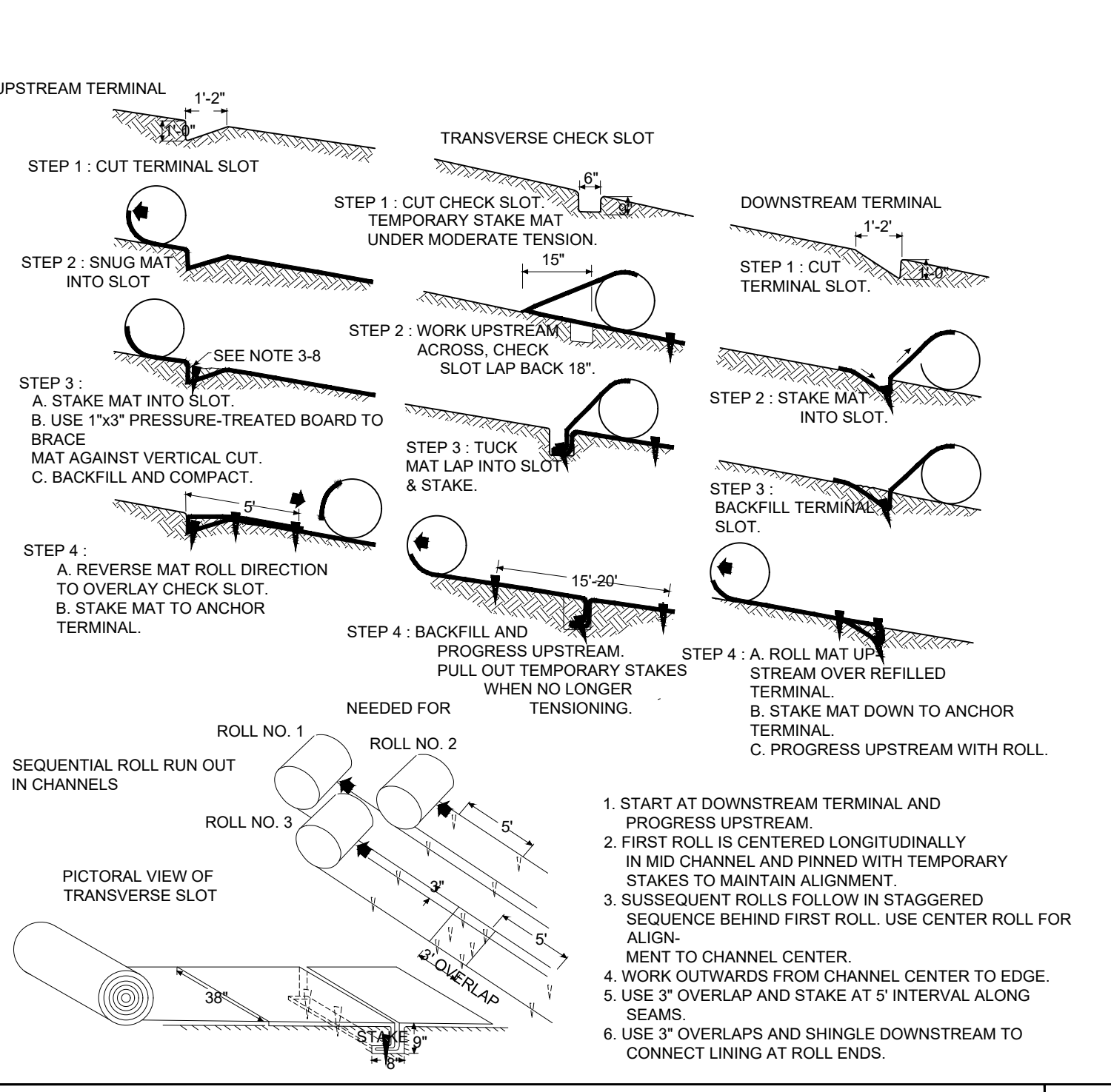


**INLET PROTECTION - SILT SAVER (IP-SS)**  
NOT TO SCALE

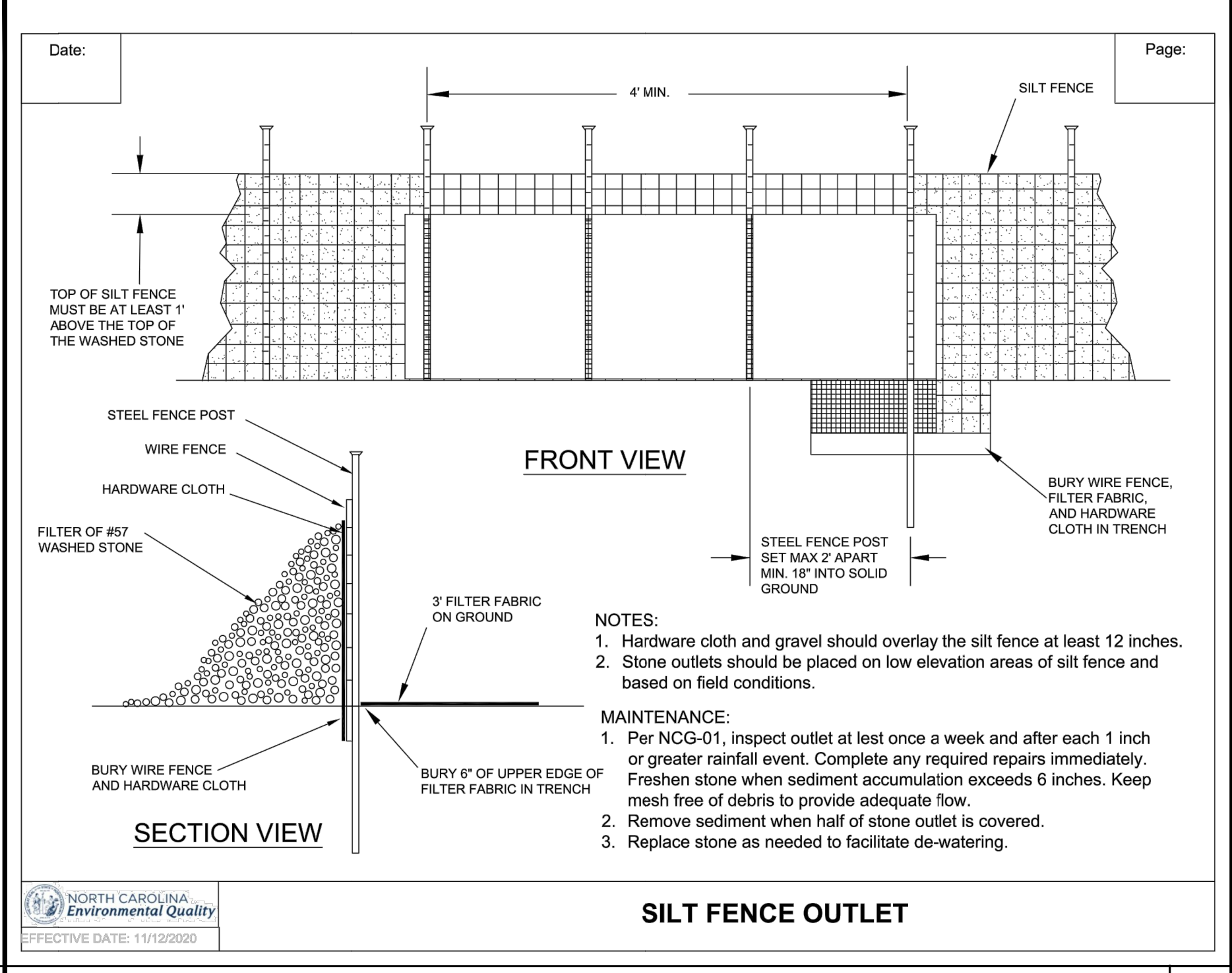


**STONE CHECK DAM - (Cd-S)**  
NOT TO SCALE

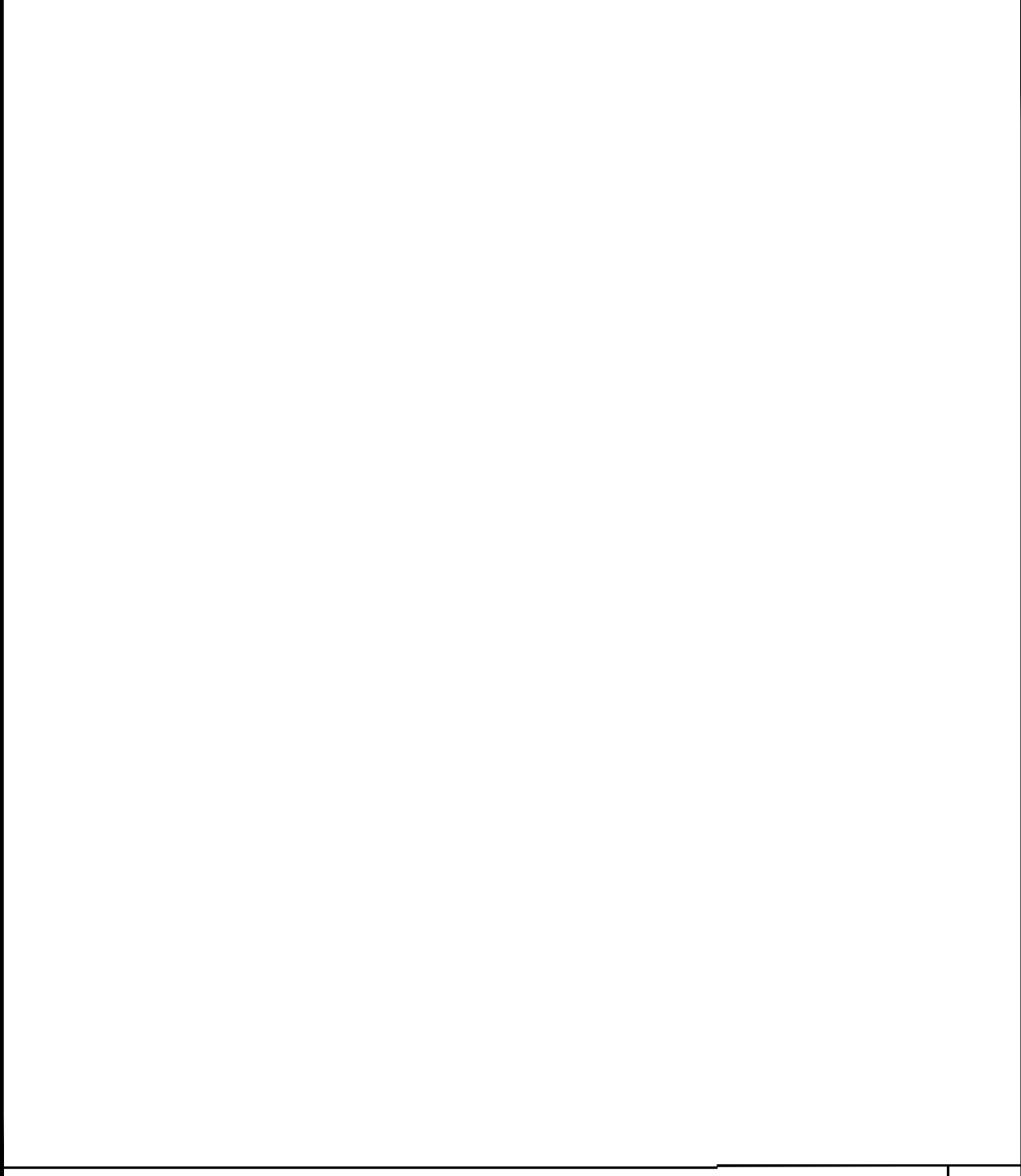
**NCG01 GROUND STABILIZATION AND MATERIALS HANDLING EFFECTIVE: 04/01/19**



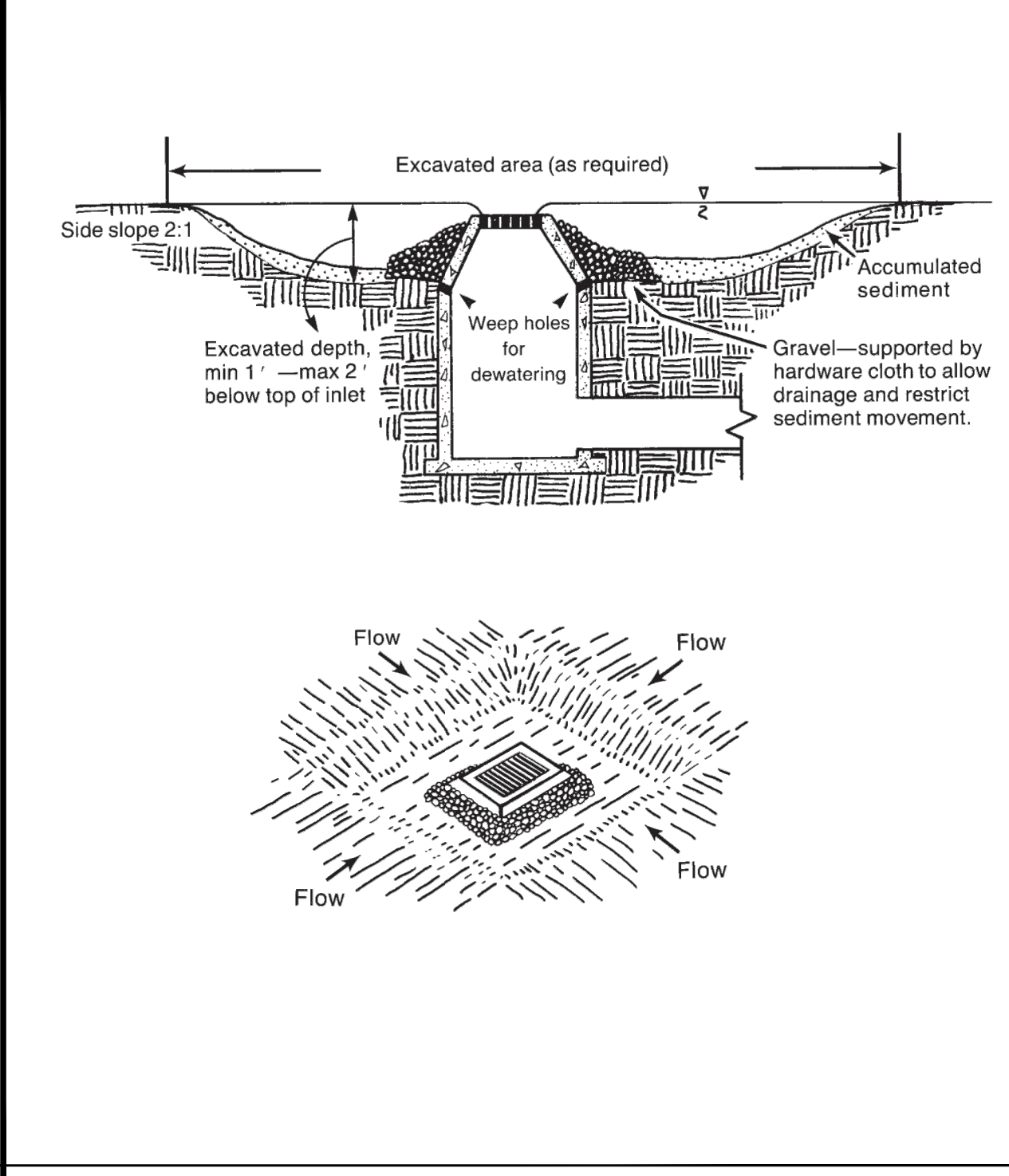
**ROLLED EROSION CONTROL PRODUCTS (RECP)**  
NOT TO SCALE



**SILT FENCE OUTLET**  
NOT TO SCALE



**INLET PROTECTION - EXCAVATED DROP INLET (IP-EDI)**  
NOT TO SCALE



**INLET PROTECTION - SILT SAVER (IP-SS)**  
NOT TO SCALE

**LECRAW ENGINEERING**  
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WWW.LECRAWENGINEERING.COM  
C-2-24

**PRIMAX PROPERTIES, LLC**  
1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

**STARBUCKS - SPOUT SPRINGS**  
2822 NC 24-87  
LAND LOT 6, PARCEL 9594-33-0877.000  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

**DESIGN TEAM:**  
DRAWN BY: MAT  
DESIGNED BY: MAT  
REVIEWED BY: MS

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

**SCALE & NORTH ARROW:**  
NORTH ARROW  
SCALE: 1"=20'

JOB #: 077025  
DATE: JULY 2, 2021  
EROSION CONTROL DETAILS - 2

NOW OR FORMERLY  
WALMART REAL ESTATE BUSINESS TRUST  
PIN 9594-23-5931.000  
DEED BOOK 3323-885  
LOT 1  
MAP BOOK 2015-140

EXISTING 8" PVC  
SEWER LINE  
PER HARNETT COUNTY  
GIS MAP

EXISTING 8" DIP  
WATER LINE  
PER HARNETT COUNTY  
GIS MAP

24" WIDE SECTION  
OF MOUNTABLE CURB  
TO ALLOW FOR  
ACCESS TO CEMETERY

NOW OR FORMERLY  
MCLEAN CEMETERY ASSOCIATION  
PIN 9594-23-8547.000  
DEED BOOK 2031-120  
MAP BOOK 2004-1292

NOW OR FORMERLY  
CATHERLEEN B. THOMAS  
ARTHUR T. THOMAS, JR.  
PIN 9594-23-7493.000  
DEED BOOK 711-993

**WATER & SEWER USAGE CALCULATIONS:**

QUICK SERVICE RESTAURANT = 40 GALLONS / SEAT @ 54 SEATS = 2,160 GALLONS PER DAY

**MILITARY CORRIDOR**

THIS DEVELOPMENT IS WITHIN THE FIVE MILE MILITARY CORRIDOR OVERLAY ZONE, AND MAY BE SUBJECT TO MILITARY TRAINING ACTIVITIES

**OWNER CERTIFICATION**

AS THE OWNER OF RECORD, I HEREBY FORMALLY CONSENT TO THE PROPOSED DEVELOPMENT SHOWN ON THE SITE PLAN AND ALL REGULATIONS AND REQUIREMENTS OF THE HARNETT COUNTY ORDINANCES.

*Handwritten Signature*  
OWNER SIGNATURE DATE 8/3/21

**HARNETT COUNTY SIGN NOTES**

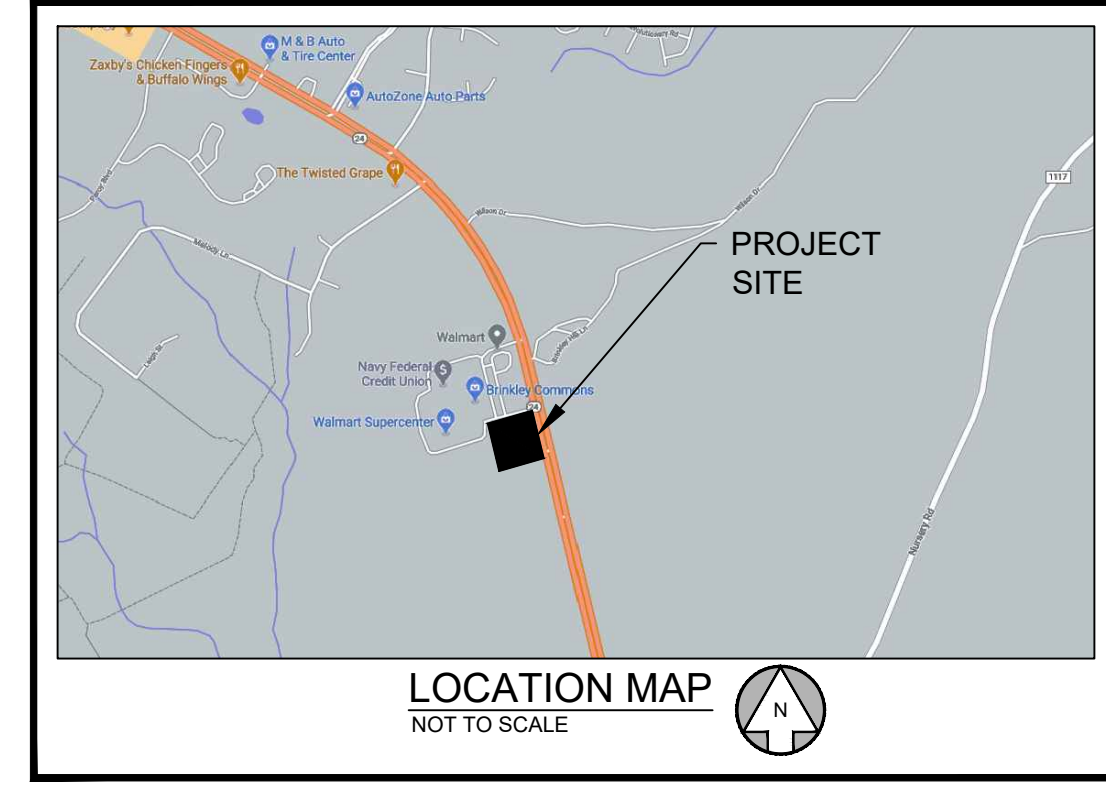
SIGNS REQUIRE A SEPARATE PERMIT & REVIEW; WALL SIGN DIMENSIONS ARE AT A 1:1 RATIO; THE TOTAL SQUARE FOOTAGE OF THE SIGN SHALL NOT EXCEED THE LINEAR FEET OF THE WALL IT IS TO BE MOUNTED ON. GROUND SIGNS SHOULD HAVE A MAXIMUM SIGN AREA NO GREATER THAN 150 SQUARE FEET, MAXIMUM SIGN HEIGHT IS 15'. IF ON POLES ALL POLES/SUPPORT SHALL BE ENCASED WITH A MINIMUM WIDTH OF 14" WIDTH OF THE SIGN.

**THOROUGHFARE**

NC 87 IS ON HARNETT COUNTY'S THOROUGHFARE PLAN

**LAND USE**

COMPACT MIXED USE



**SITE SUMMARY**

<b>SITE AREA</b>	
SITE AREA:	0.93 ACRES (40,572 S.F.)
IMPERVIOUS AREA:	26,115 S.F. (64.4%)
PERVIOUS AREA:	14,457 S.F. (35.6%)
<b>ZONING CLASSIFICATION</b>	
JURISDICTION:	HARNETT COUNTY
ZONING:	COMMERCIAL
ADJACENT ZONING:	COMMERCIAL
<b>BUILDING SETBACKS</b>	
FRONT:	50'
SIDE:	20'/20' (CORNER)
REAR:	25'
<b>BUILDING SUMMARY</b>	
BUILDING AREA:	2,500 S.F. (54 SEATS)
BUILDING COVERAGE:	6.16%
<b>PARKING SUMMARY</b>	
PARKING REQ.:	1 SPACES / 4 SEATS + 2 / EMPLOYEE
	18 SPACES
PARKING PROV.:	9.6 SPACES / 1,000 S.F.
	24 SPACES
STANDARD STALL DIMENSIONS:	9' x 18'
MIN. DRIVE WIDTH:	24'

**KEY NOTES**

1	24" CURB & GUTTER, SEE SHEET C-7.0 FOR DETAIL
2	24" WHITE STOP BAR, SEE SHEET C-7.0 FOR DETAIL
3	HEAVY DUTY PAVEMENT, SEE SHEET C-7.0 FOR PAVEMENT SPECIFICATIONS
4	STANDARD DUTY PAVEMENT, SEE SHEET C-7.0 FOR PAVEMENT SPECIFICATIONS
5	CONCRETE SIDEWALK, SEE SHEET C-7.0 FOR DETAIL
6	NC DOT STANDARD ADA RAMP WITH DETECTABLE WARNING, SEE SHEET C-7.1 FOR DETAIL
7	CONTRACTOR TO TIE INTO AND MATCH EXISTING CURB & GUTTER
8	LANDSCAPE AREA, SEE SHEET L-1.0 FOR LANDSCAPE PLANTING DESIGN
9	ADA PARKING AREA, SEE SHEET C-7.0 FOR DETAIL(S)
10	ADA PARKING SIGN, SEE SHEET C-7.0 FOR DETAIL
11	DUMPSTER ENCLOSURE, REFER TO ARCHITECTURAL PLANS FOR DETAILS
12	STOP SIGN (R1-1), SEE SHEET C-7.0 FOR MOUNTING DETAIL
13	DO NOT ENTER SIGN (R5-1), SEE SHEET C-7.0 FOR MOUNTING DETAIL
14	CONCRETE WHEEL STOP PLACED 2' FROM FACE OF CURB OR SIDEWALK, SEE SHEET C-7.0 FOR DETAIL
15	CONCRETE TRANSFORMER PAD PER UTILITY OWNER'S REQUIREMENTS
16	TYPICAL PAVEMENT MARKINGS, SEE SHEET C-7.0 & C-7.1 FOR DETAILS
17	4" WIDE SINGLE SOLID WHITE LINE (SSWL)
18	4" WIDE DOUBLE SOLID YELLOW LINE (DSYL)
19	CONCRETE BOLLARD, SEE SHEET C-7.0 FOR DETAILS
20	MOBILE ORDER / CURBSIDE PICK UP SIGN, SEE SHEET C-7.0 FOR MOUNTING DETAIL
21	DIRECTIONAL SIGNAGE, REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION
22	BIKE RACK, SEE SHEET C-7.2 FOR DETAILS

**GENERAL SITE NOTES:**

- ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS SPECIFIED OTHERWISE.
- ALL TREES SHALL HAVE PROPER PROTECTION DURING CONSTRUCTION UNLESS APPROVED PLANS INDICATE OTHERWISE.
- BOUNDARY & TOPOGRAPHIC SURVEY BY BARRETT SURVEYING GROUP PLLC, DATED 12/23/2020. BENCHMARK IS NOTED ON SURVEY.
- FLOOD PLAIN IS NOT PRESENT ON THIS SITE AS SHOWN ON THE FEMA FIRM MAP NUMBER 3710958400J, DATED OCTOBER 3, 2006.
- 1 HANDICAP SPACE IS REQUIRED TO BE VAN ACCESSIBLE WITH A MINIMUM 96" WIDE ACCESS AREA.
- ACCESSIBLE PARKING AREAS, INCLUDING AISLES, SHALL SLOPE NO MORE THAN 2% IN ANY DIRECTION.
- THE OWNER IS RESPONSIBLE FOR OBTAINING ANY NECESSARY AGREEMENTS FROM ADJACENT PROPERTY OWNERS IN ORDER TO PERFORM THE REQUIRED OFFSITE WORK, INCLUDING, STORM DRAINAGE, CURB AND GUTTER AND PAVEMENT TIE-INS AND GRADING.
- REFERENCE ARCH PLANS FOR DIRECTIONAL SIGNAGE, SITE SIGNAGE, BUILDING DIMENSIONS, ETC.
- ALL NEW PAVEMENT SHALL MEET OR EXCEED GEOTECHNICAL SPECIFICATION. SEE REPORT PREPARED BY ECS SOUTHEAST LLP DATED FEBRUARY 5, 2021.

**PAVEMENT LEGEND**

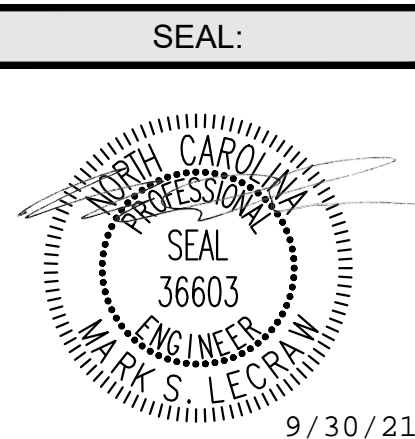
	CONCRETE PAVEMENT (SEE DETAIL ON SHEET C-7.0)
	HEAVY DUTY PAVEMENT (SEE DETAIL ON SHEET C-7.0)

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DULUTH, GA 30096  
PHONE - 678 546 8100  
FAX - 770 441 0298  
WWW.LECRAWENGINEERING.COM  
C-3-04

NO.	DATE	BY	CHECKED BY
1	08/02/21	MAT	
2	08/30/21	MAT	

CLIENT  
**PRIMAX PROPERTIES, LLC**  
1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT  
**STARBUCKS - SPOUT SPRINGS**  
2822 NC 24-87  
LAND LOT 6, PARCEL 9594-33-0877.000  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326



DESIGN TEAM:  
DRAWN BY: MAT  
DESIGNED BY: MAT  
REVIEWED BY: MSJ

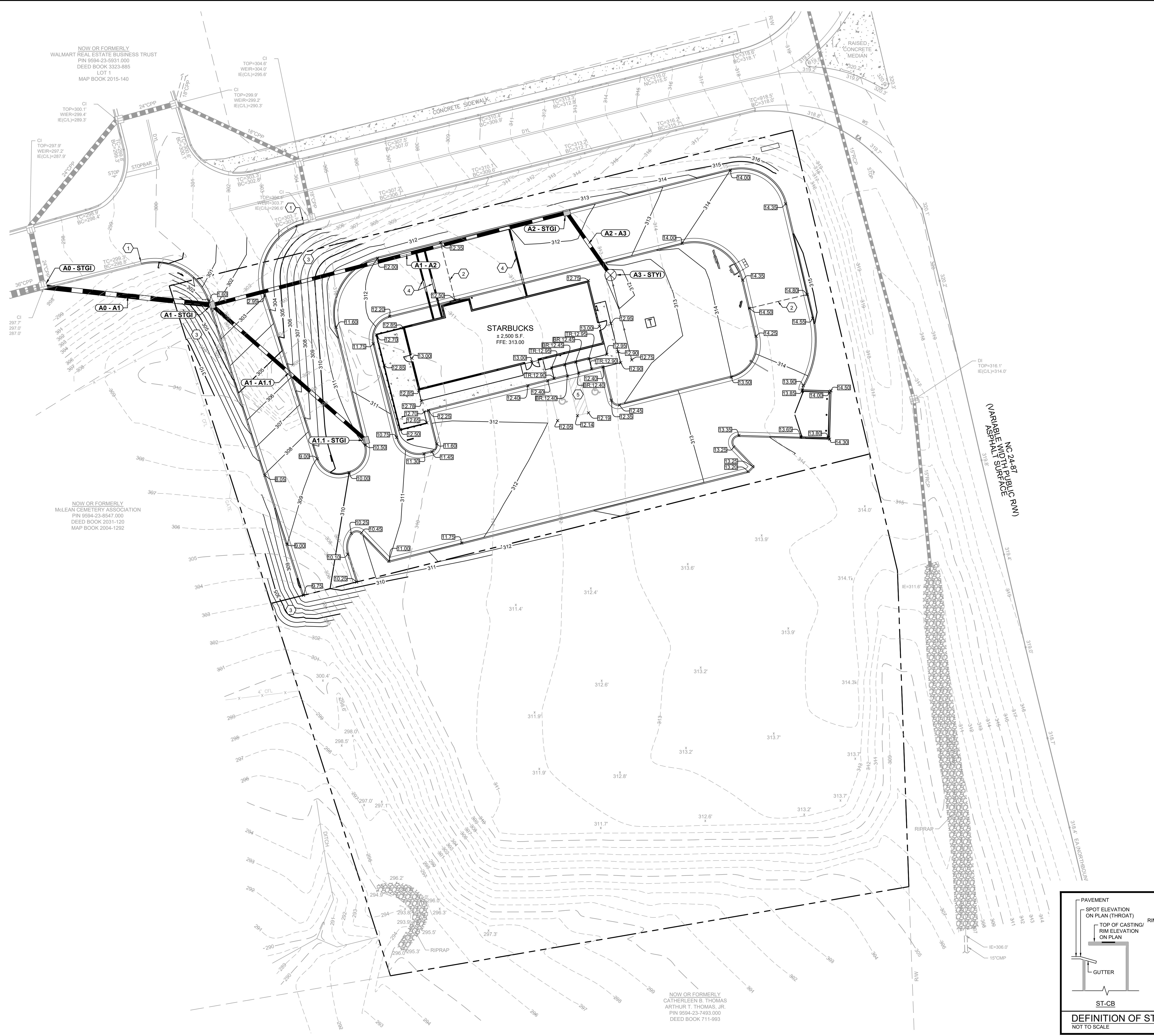
**811**  
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SCALE & NORTH ARROW:

JOB #: 077025  
DATE: JULY 2, 2021  
SITE PLAN  
**C-3-0**

Drawing name: C:\Users\michael.boothaker\LeCraw\Engineering\Dropbox\Shared Folder\LeCraw\Engineering\077025-06 - SITE PLAN - C-3.0 SITE PLAN Sep 30, 2021 12:17pm by michael.boothaker

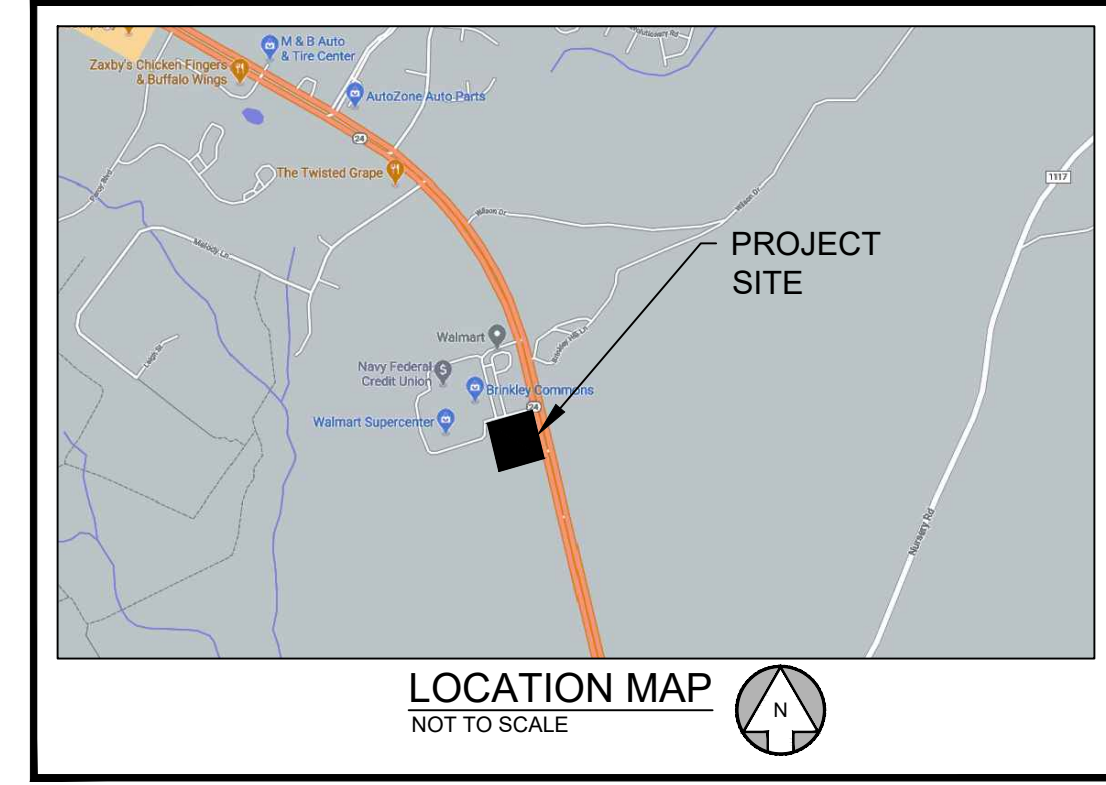
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NOW OR FORMERLY  
WALMART REAL ESTATE BUSINESS TRUST  
PIN 9594-23-5931.000  
DEED BOOK 3323-885  
LOT 1  
MAP BOOK 2015-140

NOW OR FORMERLY  
MCLEAN CEMETERY ASSOCIATION  
PIN 9594-23-8547.000  
DEED BOOK 2031-120  
MAP BOOK 2004-1292

NOW OR FORMERLY  
CATHERLEEN B. THOMAS  
ARTHUR T. THOMAS, JR.  
PIN 9594-23-7493.000  
DEED BOOK 711-993



**GENERAL GRADING NOTES:**

- 1) ALL CRITICAL SPOT GRADES ALONG CURB ARE BOTTOM OF CURB ELEVATIONS UNLESS OTHERWISE SPECIFIED.
- 2) NO SLOPES ARE TO BE STEEPER THAN 2:1.
- 3) ALL LAND DISTURBANCE TO BE STABILIZED WITH VEGETATION UPON COMPLETION OF DEMOLITION.
- 4) ALL TREES TO HAVE PROPER PROTECTION UNLESS APPROVED PLANS INDICATE OTHERWISE.
- 5) BOUNDARY & TOPOGRAPHIC INFORMATION FROM SURVEY BY BARRETT SURVEYING GROUP PLLC, DATED 12/23/2020.
- 6) FLOOD PLAIN IS NOT PRESENT ON THIS SITE AS SHOWN ON THE FEMA FIRM MAP NUMBER 3710958400J, DATED OCTOBER 3, 2006.
- 7) EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE ACCOMPLISHED PRIOR TO ANY OTHER CONSTRUCTION ON THE SITE AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
- 8) OWNER IS RESPONSIBLE FOR MAINTENANCE OF ALL STORM SEWER ON PRIVATE PROPERTY.
- 9) THE OWNER IS RESPONSIBLE FOR OBTAINING ANY NECESSARY AGREEMENTS FROM ADJACENT PROPERTY OWNERS IN ORDER TO PERFORM THE REQUIRED OFFSITE WORK, INCLUDING, STORM DRAINAGE, CURB AND GUTTER AND PAVEMENT TIE-INS AND GRADING.
- 10) VERTICAL DEPTH OF ALL DRY AND PRESSURIZED UTILITIES IS UNKNOWN. CONTRACTOR TO NOTIFY OWNER AND ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE FOUND.
- 11) SIDEWALKS ADJACENT TO BUILDING AND ALONG ADA ROUTES TO HAVE MAXIMUM CROSS SLOPE OF 2%.

**STRUCTURE TYPES:**  
STGI: PER NCDOT STD 840.03  
STJB: PER NCDOT STD 840.31

**SPOT GRADE LEGEND:**  
TR: TOP OF RAMP BR: BOTTOM OF RAMP FFE: FINISHED FLOOR ELEVATION

**KEY NOTES**

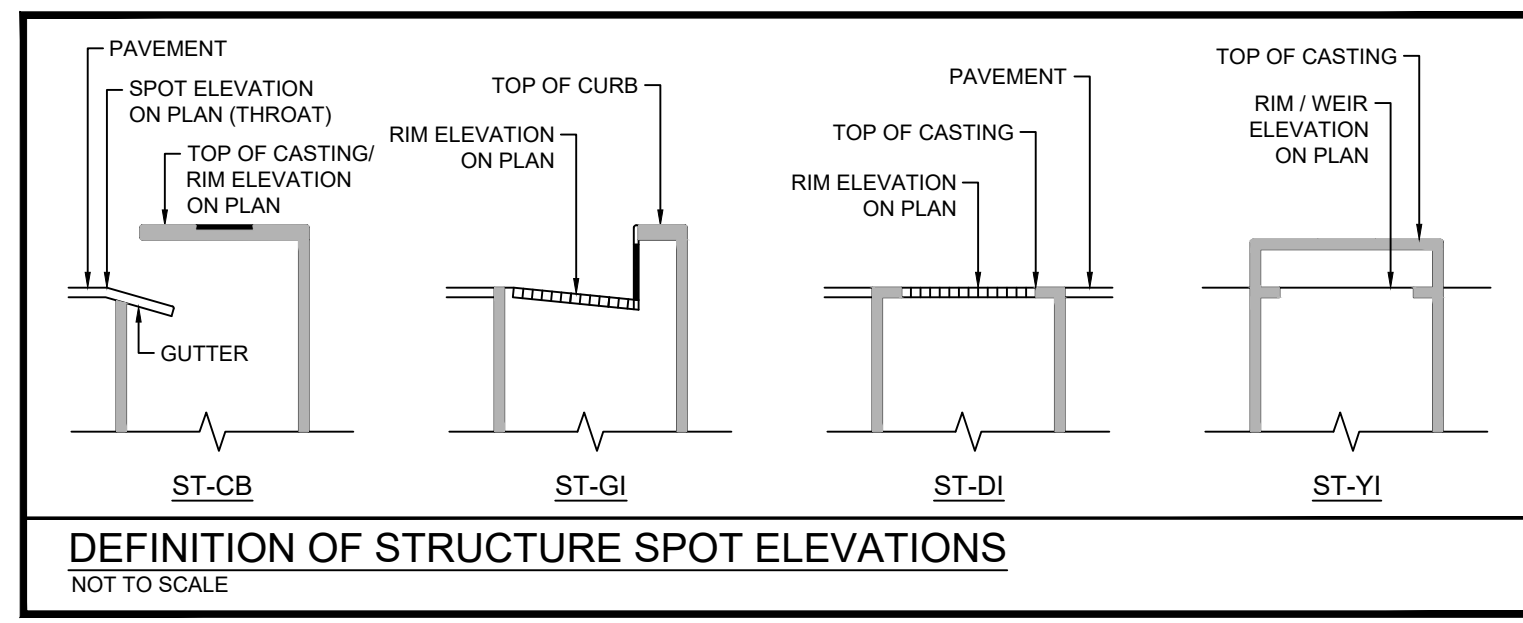
1	CONTRACTOR TO TIE INTO AND MATCH EXISTING GRADE
2	RIDGE LINE
3	2:1 SLOPE
4	8" HDPE HEADER PIPE FOR ROOF DRAIN CONNECTION, MINIMUM SLOPE OF 1%. CONNECT TO 18" STORM PIPE USING INERST-A-TEE
5	ADA PARKING AREA, MAXIMUM SLOPE OF 2% IN ANY DIRECTION

**STORM STRUCTURES**

NAME:	TYPE:	STATION:	RIM:	INV IN: (PIPE)	INV OUT: (PIPE)
A0 - STGI	HOOD & GRATE INLET (EXISTING)	0+00.00	297.70	290.00 (A0 - A1)	
A1 - STGI	HOOD & GRATE INLET	0+74.64	301.81	297.96 (A1 - A2) 297.96 (A1 - A1.1)	297.46 (A0 - A1)
A1.1 - STGI	HOOD & GRATE INLET	0+90.21	310.55		305.18 (A1 - A1.1)
A2 - STGI	HOOD & GRATE INLET	2+35.96	311.72	306.01 (A2 - A3)	306.03 (A1 - A2)
A3 - STYI	YARD INLET	2+69.51	311.50		306.68 (A2 - A3)

**STORM PIPES**

NAME:	SIZE:	LENGTH:	SLOPE:	INV UP:	INV DOWN:	MATERIAL:
A0 - A1	24"	74.64	10.00%	297.46 (A1 - STGI)	290.00 (A0 - STGI)	HDPE
A1 - A1.1	18"	90.21	8.00%	305.18 (A1.1 - STGI)	297.96 (A1 - STGI)	HDPE
A1 - A2	18"	161.32	5.00%	306.03 (A2 - STGI)	297.96 (A1 - STGI)	HDPE
A2 - A3	18"	33.55	2.00%	306.68 (A3 - STYI)	306.01 (A2 - STGI)	HDPE



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FAX - 770 441 0298  
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C-3542

NO.	DATE	BY	CHECKED
1	08/02/21	MAT	MSL
2	08/18/21	MAT	MSL

CLIENT  
**PRIMAX PROPERTIES, LLC**  
1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT  
**STARBUCKS - SPOUT SPRINGS**  
2822 NC 24-87  
LAND LOT 6, PARCEL 9594-33-0877.000  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:  
  
9/30/21

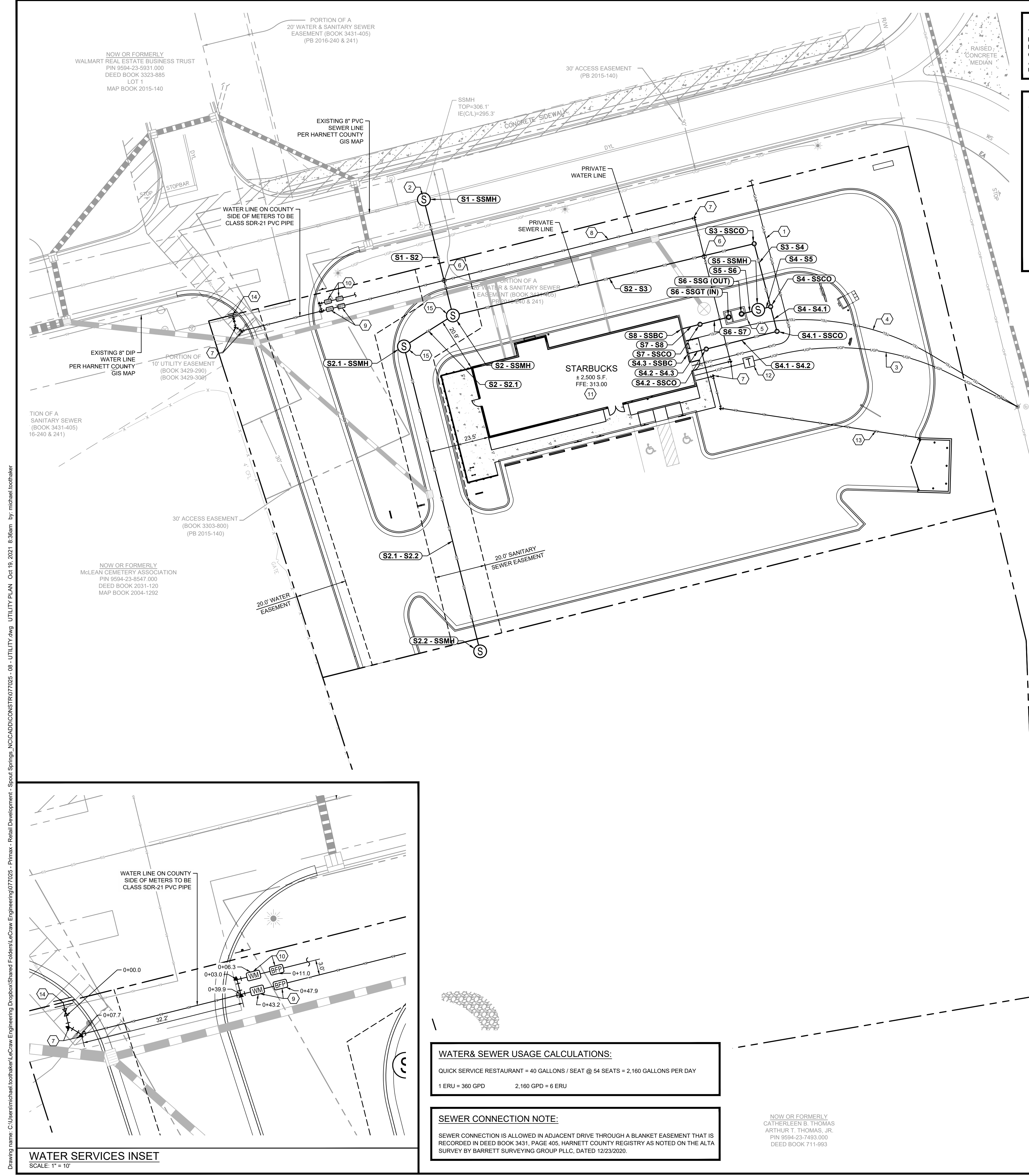
DESIGN TEAM:  
DRAWN BY: MAT  
DESIGNED BY: MAT  
REVIEWED BY: MSL

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Know what's below.  
Call before you dig.

SCALE & NORTH ARROW:  
  
SCALE: 1"=20'

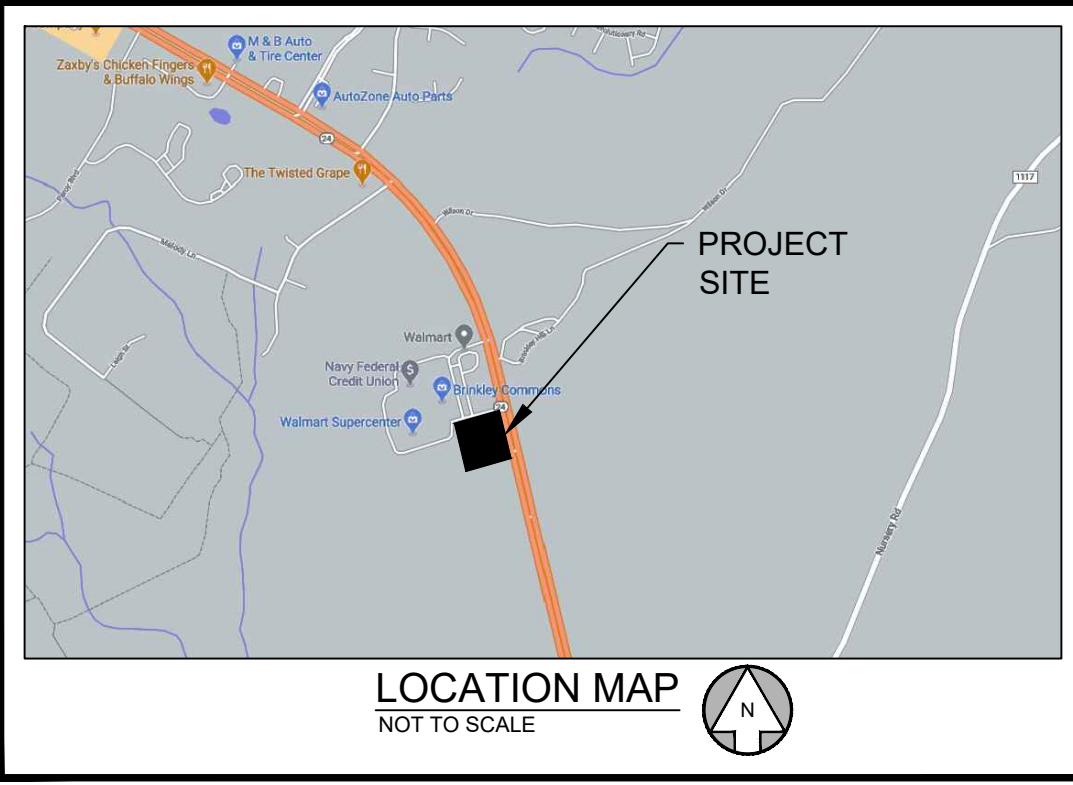
JOB #: 077025  
DATE: JULY 2, 2021

GRADING PLAN  
**C-4.0**



**CAUTION**  
 THE UTILITIES SHOWN ARE SHOWN FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS OF UNDERGROUND UTILITIES, AND IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATIONS OF ALL UTILITIES SHOWN AS WELL AS THOSE NOT SHOWN WITHIN THE CONSTRUCTION LIMITS. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

- HARNETT COUNTY NOTES:**
- 1.) PROPOSED SEWER MAIN EXTENSIONS MUST MEET NCDEQ-DWR STANDARDS
  - 2.) THE PROPOSED WATER MAIN AND THE SANITARY SEWER COLLECTION LINES FOR THE PROPOSED DEVELOPMENT MUST BE INSTALLED BY A LICENSED UTILITY CONTRACTOR AND CERTIFIED BY THE P. E. OF RECORD BEFORE THE LOTS CAN BE SERVED BY WATER AND SANITARY SEWER.
  - 3.) HRW MAINTENANCE ENDS AT THE FIRST CLEANOUT AND WATER METER.
  - 4.) THE UTILITY CONTRACTOR MUST PROVIDE HRW WITH A ONE (1) YEAR WARRANTY ON THE WATER AND SANITARY SEWER UTILITIES TO COVER ALL REPAIRS DUE TO POOR WORKMANSHIP, DEFECTIVE MATERIALS.
  - 5.) PROFESSIONAL ENGINEER (P. E.) MUST PROVIDE HRW WITH A SET OF AS-BUILT RECORD DRAWINGS (IN MYLAR, BOND, AND DIGITAL FORMATS), THE P. E. CERTIFICATION THAT THE TAPS AND ASSOCIATED UTILITIES WERE INSTALLED IN ACCORDANCE WITH APPROVED PLANS MARKED AS "RELEASED FOR CONSTRUCTION" BY HRW.
  - 6.) ALL CLEANOUTS, INCLUDING THOSE LOCATED IN TRAFFIC AREAS, SHALL BE LOCATED WITHIN THE CAST IRON VALVE BOX AS IDENTIFIED ON STANDARD DETAIL S-29.



- GENERAL UTILITY NOTES:**
- 1.) CONTRACTOR TO NOTIFY OWNER/DEVELOPER AND ENGINEER IMMEDIATELY IF FIELD CONDITIONS DIFFER FROM DESIGN ASSUMPTIONS.
  - 2.) LOCATION OF UNDERGROUND UTILITIES SHOWN IS BASED ON A SURVEY BY BARRETT SURVEYING GROUP PLLC, DATED 12/23/2020. APPROPRIATE UTILITY COMPANIES SHOULD BE CONTACTED FOR VERIFICATION OF LOCATIONS PRIOR TO ANY CONSTRUCTION ACTIVITY.
  - 3.) MAINTAIN 10' HORIZONTAL SEPARATION BETWEEN WATER AND SEWER LINES.
  - 4.) REFER TO ARCHMEP PLANS FOR ON SITE UTILITY CONDUITS FOR SITE LIGHTING, ETC. AND UTILITY ENTRY AND EXIT LOCATIONS
  - 5.) VERTICAL DEPTH OF ALL DRY AND PRESSURIZED UTILITIES IS UNKNOWN. CONTRACTOR TO NOTIFY OWNER AND ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE FOUND.

**KEY NOTES**

1	UNDERGROUND GAS SERVICE, CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER FOR EXACT LOCATION AND CONTINUATION
2	LOCATION OF EXISTING SANITARY SEWER MANHOLE FOR PROPOSED SEWER CONNECTION
3	UNDERGROUND POWER SERVICE, CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER FOR EXACT LOCATION AND CONTINUATION.
4	UNDERGROUND TELEPHONE SERVICE, CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER FOR EXACT LOCATION AND CONTINUATION
5	1,500 GALLON GREASE TRAP, SEE MEP PLANS FOR DETAILS
6	CONTRACTOR TO BEND WATER LINE AS NECESSARY TO ENSURE MINIMUM OF 24" VERTICAL CLEARANCE
7	90° BEND WITH THRUST BLOCK
8	2" PVC SDR-21 DOMESTIC WATER LINE
9	PROPOSED 2" DOMESTIC LINE WATER METER AND ZURN WILKINS 375XL BACKFLOW DEVICE PER UTILITY PROVIDER STANDARDS AND SPECIFICATIONS
10	PROPOSED 1" IRRIGATION LINE WATER METER AND ZURN WILKINS 375XL BACKFLOW DEVICE PER UTILITY PROVIDER STANDARDS AND SPECIFICATIONS
11	REFER TO ARCH PLANS FOR ALL LOCATIONS AND INTERNAL CONNECTIONS
12	PROPOSED TRANSFORMER PER UTILITY PROVIDER STANDARDS AND SPECIFICATIONS
13	3/4" WATER LINE FROM BUILDING TO HOSE BIBB AT DUMPSTER ENCLOSURE, SEE MEP PLANS FOR ADDITIONAL INFORMATION
14	8"x8"x2" TAPPING SLEEVE AND VALVE PER HARNETT REGIONAL WATER STANDARDS
15	OUTSIDE DROP MANHOLE, TO BE 5" DIAMETER AND EPOXY COATED PER HARNETT REGIONAL WATER STANDARDS

**SANITARY STRUCTURES**

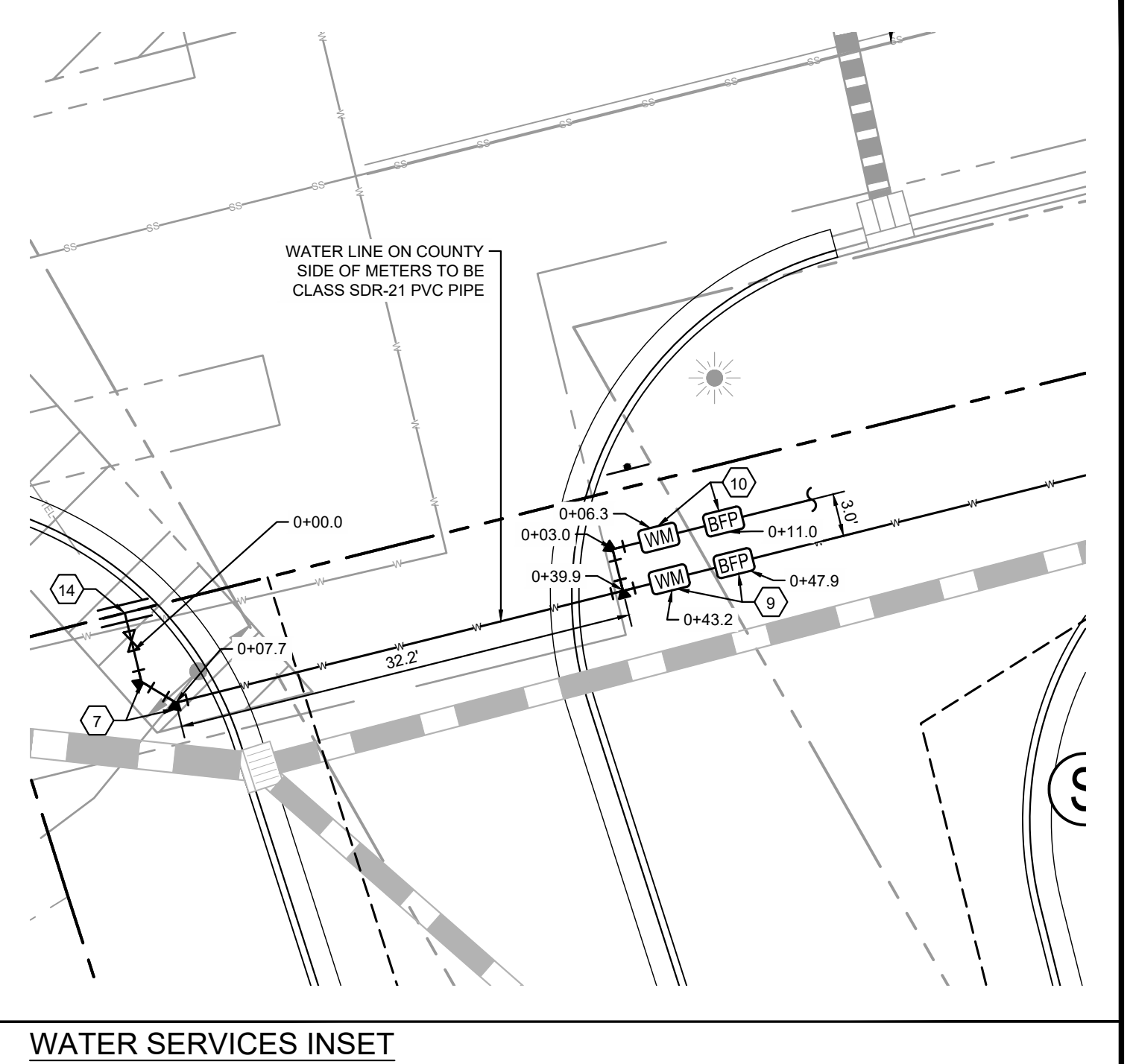
NAME:	TYPE:	STATION:	RIM:	INV IN: (PIPE)	INV OUT: (PIPE)
S1 - SSMH	MANHOLE (EXISTING)	0+00.00	306.10	296.40 (S1 - S2)	295.30 (EX MAIN)
S2 - SSMH	MANHOLE	0+46.89	312.15	299.14 (S2 - S3)	297.69 (S1 - S2)
S2.1 - SSMH	MANHOLE	0+22.67	311.77	303.81 (S2.1 - S2.2)	303.62 (S2 - S2.1)
S2.2 - SSMH	MANHOLE	1+45.89	310.05		305.05 (S2.1 - S2.2)
S3 - SSCO	CLEANOUT	1+68.26	313.12	308.19 (S3 - S4)	305.21 (S2 - S3)
S4 - SSCO	CLEANOUT	1+93.77	313.11	308.45 (S4 - S5)	308.45 (S4 - S4.1)
S4.1 - SSCO	CLEANOUT	0+10.00	313.05	308.70 (S4.1 - S4.2)	308.70 (S4 - S4.1)
S4.2 - SSCO	CLEANOUT	0+38.60	312.56	309.42 (S4.2 - S4.3)	309.42 (S4.1 - S4.2)
S4.3 - SSBC	BLDG CONNECTION	0+45.60	312.98		309.60 (S4.2 - S4.3)
S5 - SSMH	MANHOLE (TEST)	1+98.77	312.82	308.63 (S5 - S6)	308.50 (S4 - S5)
S6 - SSG (OUT)	GREASE TRAP	2+05.52	312.42		308.70 (S5 - S6)
S6 - SSGT (IN)	GREASE TRAP	2+10.68	312.12	308.81 (S6 - S7)	
S7 - SSCO	CLEANOUT	2+22.27	312.14	308.93 (S7 - S8)	308.93 (S6 - S7)
S8 - SSBC	BLDG CONNECTION	2+29.26	312.85		309.00 (S7 - S8)

**SANITARY PIPES**

NAME:	SIZE:	LENGTH:	SLOPE:	INV UP:	INV DOWN:	MATERIAL:
S1 - S2	8"	46.89	2.75%	297.69 (S2 - SSMH)	296.40 (S1 - SSMH)	PVC SDR-35
S2 - S2.1	8"	22.67	1.00%	303.62 (S2.1 - SSMH)	303.39 (S2 - SSMH)	PVC SDR-35
S2 - S3	4"	121.37	5.00%	305.21 (S3 - SSCO)	299.14 (S2 - SSMH)	PVC SDR-35
S2.1 - S2.2	8"	123.22	1.00%	305.05 (S2.2 - SSMH)	303.81 (S2.1 - SSMH)	PVC SDR-35
S3 - S4	4"	25.50	1.00%	308.45 (S4 - SSCO)	308.19 (S3 - SSCO)	PVC SDR-35
S4 - S4.1	4"	10.00	2.52%	308.70 (S4.1 - SSCO)	308.45 (S4 - SSCO)	PVC SDR-35
S4 - S5	4"	5.00	1.00%	308.50 (S5 - SSMH)	308.45 (S4 - SSCO)	PVC SDR-35
S4.1 - S4.2	4"	28.60	2.52%	309.42 (S4.2 - SSCO)	308.70 (S4.1 - SSCO)	PVC SDR-35
S4.2 - S4.3	4"	7.00	2.52%	309.60 (S4.3 - SSBC)	309.42 (S4.2 - SSCO)	PVC SDR-35
S5 - S6	4"	6.75	1.00%	308.70 (S6 - SSG (OUT))	308.63 (S5 - SSMH)	PVC SDR-35
S6 - S7	4"	11.58	1.00%	308.93 (S7 - SSCO)	308.81 (S6 - SSGT (IN))	PVC SDR-35
S7 - S8	4"	7.00	1.00%	309.00 (S8 - SSBC)	308.93 (S7 - SSCO)	PVC SDR-35

**WATER & SEWER USAGE CALCULATIONS:**  
 QUICK SERVICE RESTAURANT = 40 GALLONS / SEAT @ 54 SEATS = 2,160 GALLONS PER DAY  
 1 ERU = 360 GPD      2,160 GPD = 6 ERU

**SEWER CONNECTION NOTE:**  
 SEWER CONNECTION IS ALLOWED IN ADJACENT DRIVE THROUGH A BLANKET EASEMENT THAT IS RECORDED IN DEED BOOK 3431, PAGE 405, HARNETT COUNTY REGISTRY AS NOTED ON THE ALTA SURVEY BY BARRETT SURVEYING GROUP PLLC, DATED 12/23/2020.



**WATER SERVICES INSET**  
 SCALE: 1" = 10'

PREPARED IN THE OFFICE OF:  
**LECRAW ENGINEERING**  
 © 2021 LECRAW ENGINEERING, INC.  
 3475 COASTAL DRIVE, SUITE A  
 DULUTH, GA 30096  
 PHONE - 678-546-8100  
 FAX - 770-441-0298  
 WWW.LECRAWENGINEERING.COM  
 C-5-5A

NO.	DATE	BY	REVISION
1	08/02/21	MSL	DRAWN
2	08/02/21	MAT	CHECKED
3	10/02/21	MAT	REVISED

CLIENT:  
**PRIMAX PROPERTIES, LLC**  
 1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT:  
**STARBUCKS - SPOUT SPRINGS**  
 2822 NC 24-87  
 LAND LOT 6, PARCEL 9594-33-0877.000  
 CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:  
  
 10/19/21

**DESIGN TEAM:**  
 DRAWN BY: MAT  
 DESIGNED BY: MAT  
 REVIEWED BY: MSL

**811**  
 Know what's below.  
 Call before you dig.  
 SCALE & NORTH ARROW:  
  
 SCALE: 1"=20'

JOB #: 077025  
 DATE: JULY 2, 2021  
**UTILITY PLAN**  
**C-5.0**

**HARNETT COUNTY UTILITY NOTES:**

**WATER**

- A. THE FIRE MARSHAL'S OFFICE SHALL APPROVE ALL HYDRANT TYPES AND LOCATIONS IN NEW SUBDIVISIONS. HOWEVER, HARNETT REGIONAL WATER PREFERS THE CONTRACTORS TO INSTALL ONE OF THE FOLLOWING FIRE HYDRANTS:
  1. MUELLER - SUPER CENTURION 250 A-423 MODEL WITH A 5/2" MAIN VALVE OPENING THREE WAY TWO HOSE NOZZLES AND ONE PUMPER NOZZLE), 2. AMERICAN DARLING - MARK B-848 MODEL WITH A 5/2" MAIN VALVE OPENING THREE WAY TWO HOSE NOZZLES AND ONE PUMPER NOZZLE), 3. WATERMATIC P-47-250 MODEL WITH A 5/2" MAIN VALVE OPENING THREE WAY TWO HOSE NOZZLES AND ONE PUMPER NOZZLE) OR APPROVED EQUAL FOR STANDARDIZATION.
  - B. FIRE HYDRANTS ARE INSTALLED AT CERTAIN ELEVATIONS, ANY GRADE CHANGE NEAR ANY FIRE HYDRANT, WHICH IMPEDES ITS OPERATION, SHALL BECOME THE RESPONSIBILITY OF THE UTILITY CONTRACTOR FOR CORRECTION. CORRECTIONS WILL BE MONITORED BY THE HRW UTILITY CONSTRUCTION INSPECTOR AND THE HARNETT COUNTY FIRE MARSHAL.
  - C. THE PROFESSIONAL ENGINEER (PE) SHALL OBTAIN AND PROVIDE THE NCDCE "AUTHORIZATION TO CONSTRUCT" PERMIT TO THE UTILITY CONTRACTOR BEFORE THE CONSTRUCTION OF THE WATER LINE SHALL BEGIN. THE UTILITY CONTRACTOR MUST POST A COPY OF THE NCDCE "AUTHORIZATION TO CONSTRUCT" PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDCE) ON SITE PRIOR TO THE START OF CONSTRUCTION. THE PERMIT MUST BE MAINTAINED ON SITE THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS OF THE PROPOSED WATER LINES THAT WILL SERVE THIS PROJECT.
  - D. THE UTILITY CONTRACTOR SHALL NOTIFY HARNETT REGIONAL WATER (HRW) AND THE PROFESSIONAL ENGINEER (PE) AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. THE UTILITY CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH MR. ALAN MOSS, HRW UTILITY CONSTRUCTION INSPECTOR AT LEAST TWO (2) DAYS BEFORE CONSTRUCTION WILL BEGIN AND THE UTILITY CONTRACTOR MUST COORDINATE WITH HRW FOR REGULAR INSPECTION VISITATIONS AND ACCEPTANCE OF THE WASTEWATER SYSTEM(S). CONSTRUCTION WORK SHALL BE PERFORMED ONLY DURING THE NORMAL WORKING HOURS OF HRW WHICH IS 8:00 AM - 5:00 PM MONDAY THROUGH FRIDAY. HOLIDAY AND WEEKEND WORK IS NOT PERMITTED BY HRW.
  - E. THE PROFESSIONAL ENGINEER (PE) SHALL PROVIDE HRW AND THE UTILITY CONTRACTOR WITH A SET OF NCDCE APPROVED PLANS MARKED "RELEASED FOR CONSTRUCTION" AT LEAST TWO DAYS PRIOR TO CONSTRUCTION COMMENCING. THE REGISTERED LAND SURVEYOR (RLS) SHOULD STAKE OUT ALL LOT CORNERS AND THE GRADE STAKES FOR THE PROPOSED FINISH GRADE FOR EACH STREET BEFORE THE UTILITY CONTRACTOR BEGINS CONSTRUCTION OF THE WATER LINE(S). THE GRADE STAKES SHOULD BE SET WITH A CONSISTENT OFFSET FROM THE STREET CENTERLINE SO AS NOT TO INTERFERE WITH THE STREET GRADING AND UTILITY CONSTRUCTION.
  - F. THE UTILITY CONTRACTOR SHALL PROVIDE THE HRW UTILITY CONSTRUCTION INSPECTOR WITH MATERIAL SUBMITTALS AND SHOP DRAWINGS FOR ALL PROJECT MATERIALS PRIOR TO THE CONSTRUCTION OF ANY WATER LINE EXTENSIONS(S), AND ASSOCIATED WATER SERVICES IN HARNETT COUNTY. THE MATERIALS TO BE USED ON THE PROJECT MUST MEET THE ESTABLISHED SPECIFICATIONS OF HRW AND BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION. ALL SUBSTANDARD MATERIALS OR MATERIALS NOT APPROVED FOR USE IN HARNETT COUNTY FOUND ON THE PROJECT SITE MUST BE REMOVED IMMEDIATELY WHEN NOTIFIED BY THE HRW UTILITY CONSTRUCTION INSPECTOR.
  - G. THE WATER MAINS, FIRE HYDRANTS, METER SETTERS AND ALL ASSOCIATED APPURTENANCES SHALL BE CONSTRUCTED IN STRICT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT REGIONAL WATER (HRW). THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE NEWLY INSTALLED WATER MAINS, WATER SERVICE LINES AND ALL ASSOCIATED METER SETTERS AND METER BOXES FOR OTHER UTILITY COMPANIES AND THEIR CONTRACTORS UNTIL THE NEW WATER MAINS) HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF ENVIRONMENTAL HEALTH, PUBLIC WATER SUPPLY SECTION (NCDCE, DEH, PWS) AND ACCEPTED BY HRW.
  - H. PRIOR TO ACCEPTANCE, ALL SERVICES WILL BE INSPECTED TO INSURE THAT THEY ARE INSTALLED AT THE PROPER DEPTH. ALL METER BOXES MUST BE FLUSH WITH THE GROUND LEVEL AT FINISH GRADE AND THE METER SETTERS MUST BE A MINIMUM OF 8" BELOW THE METER BOX LID. METER SETTERS SHALL BE CENTERED IN THE METER BOX AND SUPPORTED BY BRICK, BLOCK OR STONE.
  - I. THE UTILITY CONTRACTOR SHALL PROVIDE THE PROFESSIONAL ENGINEER AND HRW UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE DRAWINGS IDENTIFYING THE COMPLETE WATER SYSTEM INSTALLED FOR EACH PROJECT. THE RED LINE DRAWINGS SHOULD IDENTIFY THE MATERIALS, PIPE SIZES AND APPROXIMATE DEPTHS OF THE WATER MAINS AS WELL AS THE GATE VALVES, FIRE HYDRANTS, METER SETTERS, BLOW OFF ASSEMBLIES AND ALL ASSOCIATED APPURTENANCES FOR ALL WATER LINE(S) CONSTRUCTED IN HARNETT COUNTY. THE RED LINE DRAWINGS SHOULD CLEARLY IDENTIFY ANY DEVIATIONS FROM THE NCDCE APPROVED PLANS. ALL CHANGE ORDERS MUST BE APPROVED BY HRW AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.
  - J. POTABLE WATER MAINS CROSSING OTHER UTILITIES AND NON-POTABLE WATER LINES (SANITARY SEWER, STORM SEWER, RCP, ETC.) SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWENTY-FOUR (24") INCHES BETWEEN THE POTABLE WATER MAIN AND ALL OTHER UTILITIES, NOTDUT THE NEW WATER MAINS TO BE INSTALLED UNDER THE STORM WATER LINES. THE POTABLE WATER MAIN SHALL BE INSTALLED WITH TWENTY-FOUR (24") INCHES OF VERTICAL SEPARATION AND WITH DUCTILE IRON PIPE WHEN DESIGNED TO BE PLACED UNDER A NONPOTABLE WATER LINE SUCH AS SANITARY SEWER OR STORM SEWER LINES. IF THESE SEPARATIONS CANNOT BE MAINTAINED, THEN THE WATER MAIN SHALL BE INSTALLED WITH DUCTILE IRON PIPE. BOTH THE POTABLE WATER MAIN AND THE NON-POTABLE WATER LINE MUST BE CAST IRON OR DUCTILE IRON PIPE (DIP) IF THE STATE MINIMUM SEPARATIONS CANNOT BE MAINTAINED. THE DUCTILE IRON PIPE MUST BE LAID SO THE MECHANICAL JOINTS ARE AT LEAST (10) FEET FROM THE POINT WHERE THE POTABLE WATER MAIN CROSSES THE NON-POTABLE WATER LINE.
  - K. POTABLE WATER MAINS INSTALLED PARALLEL TO NON-POTABLE WATER LINES (SANITARY SEWER, STORM SEWER, RCP, ETC.) SHALL BE LAID TO PROVIDE A MINIMUM HORIZONTAL DISTANCE OF TEN (10) FEET BETWEEN THE POTABLE WATER MAIN AND SANITARY SEWER MAINS, SEWER LATERALS AND SERVICES. THE HORIZONTAL SEPARATION BETWEEN THE POTABLE WATER MAIN AND ANY OTHER UTILITY OR STORM SEWER SHALL NOT BE LESS THAN FIVE (5) FEET. THE POTABLE WATER MAIN MUST BE DUCTILE IRON PIPE IF THIS HORIZONTAL SEPARATION OF TEN (10) FEET CANNOT BE MAINTAINED. THE DUCTILE IRON PIPE SHALL EXTEND AT LEAST TEN (10) FEET BEYOND THE POINT WHERE THE MINIMUM REQUIRED HORIZONTAL SEPARATION OF TEN (10) FEET CAN BE RE-ESTABLISHED.
  - L. METER SETTERS SHALL BE INSTALLED IN PAIRS ON EVERY OTHER LOT LINE WHERE POSSIBLE TO LEAVE ADEQUATE SPACE FOR OTHER UTILITIES TO BE INSTALLED AT A LATER TIME. THE METER SETTERS SHALL BE INSTALLED AT LEAST ONE (1) FOOT INSIDE THE RIGHT-OF-WAY AND AT LEAST THREE (3) TO FIVE (5) FEET FROM THE PROPERTY LINE BETWEEN THE LOTS. HRW REQUIRES THAT METER BOXES FOR 3/2" SERVICES SHALL BE 12" WIDE X 17" LONG ABS PLASTIC BOXES AT LEAST 18" IN HEIGHT WITH CAST IRON LIDS/COVERS. METER BOXES FOR 1" SERVICES SHALL BE 17" WIDE X 21" LONG ABS PLASTIC BOXES AT LEAST 18" IN HEIGHT WITH PLASTIC LIDS AND CAST IRON FLIP COVERS IN THE CENTER OF THE METER BOXES FOR 2" SERVICES SHALL BE 20" WIDE X 32" LONG ABS PLASTIC BOXES AT LEAST 20" IN HEIGHT WITH PLASTIC LIDS AND CAST IRON FLIP COVERS IN THE CENTER OF THE LIDS.
  - M. MASTER METERS MUST BE INSTALLED IN CONCRETE VAULTS SIZED FOR THE METER ASSEMBLY AND ASSOCIATED APPURTENANCES SO AS TO PROVIDE AT LEAST EIGHTEEN (18) INCHES OF CLEARANCE BETWEEN THE BOTTOM OF THE CONCRETE VAULT AND THE BOTTOM OF THE METER SETTER. THE MASTER METER MUST BE PROVIDED TEST PORTS IF THE METER IS NOT EQUIPPED WITH TEST PORTS FROM THE MANUFACTURER IN ACCORDANCE WITH THE HRW ESTABLISHED STANDARD SPECIFICATIONS AND DETAILS. DUCTILE IRON PIPE MUST BE USED FOR THE MASTER METER VALVE PIPING AND VALVE VALVE PIPING. THE UTILITY CONTRACTOR MUST PROVIDE SHOP DRAWINGS FOR THE METER VAULTS TO HRW PRIOR TO ORDERING THE CONCRETE VAULTS.
  - N. THE UTILITY CONTRACTOR WILL INSTALL POLYETHYLENE SDR-9 WATER SERVICE LINES THAT CROSS UNDER THE PAVEMENT INSIDE A SCHEDULE 40 PVC CONDUIT TO ALLOW FOR REMOVAL AND REPLACEMENT IN THE FUTURE. TWO (2) INDEPENDENT 3/2" WATER SERVICE LINES MAY BE INSTALLED INSIDE ONE (1) - TWO (2) INCH SCHEDULE 40 PVC CONDUIT OR TWO (2) INDEPENDENT 1" WATER SERVICE LINES MAY BE INSTALLED INSIDE ONE - THREE (3) INCH SCHEDULE 40 PVC CONDUIT, BUT EACH WATER SERVICE SHALL BE TAPPED DIRECTLY TO THE WATER MAIN. SPLIT SERVICES ARE NOT ALLOWED BY HRW. IF SIDEWALKS ARE PROPOSED, THE CONDUIT MUST EXTEND PAST THE SIDEWALK.
  - O. THE WATER MAINS(S), FIRE HYDRANTS, GATE VALVES, SERVICE LINES, METER SETTERS AND ASSOCIATED APPURTENANCES MUST BE RATED FOR 200 PSI AND HYDROSTATICALLY PRESSURE TESTED TO 200 PSI. THE HYDROSTATIC PRESSURE TEST(S) MUST BE WITNESSED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR MUST NOTIFY HRW WHEN THEY ARE READY TO BEGIN FILLING IN LINES AND COORDINATE WITH HARNETT REGIONAL WATER TO WITNESS ALL PRESSURE TESTING.
  - P. THE UTILITY CONTRACTOR SHALL CONDUCT A PNEUMATIC PRESSURE TEST USING COMPRESSED AIR OR OTHER INERT GAS ON THE STAINLESS STEEL TAPPING SLEEVE(S) PRIOR TO MAKING THE TAP ON THE EXISTING WATER THIS PNEUMATIC PRESSURE TEST MUST BE WITNESSED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STAINLESS STEEL TAPPING SLEEVE(S) OR APPROVED EQUAL FOR ALL TAPS MADE IN HARNETT COUNTY. ALL NEW WATER LINE EXTENSIONS MUST BEGIN WITH A RESILIENT WEDGE

- R. TYPE GATE VALVE SIZED EQUAL TO THE DIAMETER OF THE NEW WATER LINE EXTENSION IN ORDER TO PROVIDE A MEANS OF ISOLATION BETWEEN HARNETT REGIONAL WATER'S EXISTING WATER MAINS AND THE NEW WATER LINE EXTENSIONS. E. UNDER CONSTRUCTION.
- S. ALL WATER MAINS WILL BE CONSTRUCTED WITH SDR-21 PVC PIPE OR CLASS 50 DUCTILE IRON PIPE RATED FOR AT LEAST 200 PSI OR GREATER. ALL PIPES MUST BE PROTECTED DURING LAUNCH, TRANSPORT, UNLOADING, STAGING, AND INSTALLATION. PVC PIPE MUST BE PROTECTED FROM EXTENDED EXPOSURE TO SUNLIGHT PRIOR TO INSTALLATION.
- T. ALL WATER MAINS SHALL BE CLEANED AND DISINFECTED IN STRICT ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT REGIONAL WATER. ALL WATER SAMPLES COLLECTED FOR BACTERIA TESTING WILL BE COLLECTED BY THE HRW UTILITY CONSTRUCTION INSPECTOR AND TESTED IN THE HRW LABORATORY. ALL FITTINGS LARGER THAN TWO (2) INCHES DIAMETER SHALL BE DUCTILE IRW WHICH WILL BE MECHANICALLY ASSEMBLED WITH GRIP RINGS AS "MEGALUG" FITTINGS ARE NOT APPROVED BY HARNETT REGIONAL WATER FOR PIPE SIZES SMALLER THAN TWELVE INCHES (12") DIAMETER. PVC PIPE USED FOR WATER MAINS SHALL BE CONNECTED BY SPLIT JOINT OR MECHANICAL JOINT WITH GRIP RINGS. GULF FLEX JOINTS ARE NOT ALLOWED ON PVC PIPE USED FOR WATER MAINS IN HARNETT COUNTY.
- U. HRW REQUIRES THAT THE UTILITY CONTRACTOR INSTALL TRACER WIRE IN THE TRENCH WITH ALL WATER LINES. THE TRACER WIRE SHALL BE 12 GA. INSULATED, SOLID COPPER CONDUCTOR AND IT SHALL BE TERMINATED AT THE TOP OF THE VALVE BOXES OR MANHOLES. NO SPLICED WIRE CONNECTIONS SHALL BE MADE UNDERGROUND ON TRACER WIRE INSTALLED IN HARNETT COUNTY. THE TRACER WIRE MAY BE SECURED WITH DUCT TAPE TO THE TOP OF THE PIPE BEFORE BACKFILLING.
- V. THE UTILITY CONTRACTOR WILL PROVIDE PROFESSIONAL ENGINEER (PE) AND THE HRW UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE FIELD DRAWINGS TO IDENTIFY THE INSTALLED LOCATIONS OF THE WATER LINE(S) AND ALL ASSOCIATED SERVICES. ALL CHANGE ORDERS MUST BE PRE-APPROVED BY HRW AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.
- W. THE UTILITY CONTRACTOR SHALL SPLIT DIG TO EXPOSE EACH UTILITY PIPE OR LINE WHICH MAY CONFLICT WITH CONSTRUCTION OF PROPOSED WATER LINE. EXTENSIONS WELL IN ADVANCE TO VERIFY LOCATIONS OF THE EXISTING UTILITIES. THE UTILITY CONTRACTOR SHALL PROVIDE BOTH HORIZONTAL AND VERTICAL CLEARANCES TO THE PROFESSIONAL ENGINEER (PE) TO ALLOW THE PE TO ADJUST THE WATER LINE DESIGN AND PROVIDE THE FINAL INSPECTION LIST TO THE UTILITY CONTRACTOR. THE REGISTERED LAND SURVEYOR (RLS) SHALL STAKE OUT ALL LOT CORNERS AND ESTABLISH GRADE STAKES FOR EACH STREET AND SEWER LINE. THE UTILITY CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION AND/OR SECURING EXISTING UTILITY POLES, PIPES, WIRES, CABLES, SIGNS AND/OR UTILITIES INCLUDING SERVICES IN ACCORDANCE WITH THE UTILITY OWNER REQUIREMENTS DURING THE UTILITY CONTRACTOR WORK. THE UTILITY CONTRACTOR SHALL COORDINATE WITH HRW PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN ESTABLISHED UTILITY EASEMENTS OR NCDOT RIGHT-OF-WAYS THE UTILITY CONTRACTOR IS REQUIRED TO HAVE A SIGNED NCDOT ENCROACHMENT AGREEMENT POSTED ON SITE AND NOTIFY ALL CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH G.S. 87-102. THE UTILITY CONTRACTOR MUST CALL THE NC ONE CALL CENTER AT 811 OR (800) 532-4949 TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. EXISTING UTILITIES SHOWN IN THESE PLANS ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED OR VERIFIED BY THE P.E. (I.E. TELEPHONE, CABLE, WATER, ELECTRICAL, POWER, GAS, ETC.). THE UTILITY CONTRACTOR WILL BE RESPONSIBLE TO REPAIR ANY AND ALL DAMAGES TO THE SATISFACTION OF THE RELATED UTILITY COMPANY.
- Y. THE UTILITY CONTRACTOR SHALL PROVIDE HRW WITH AT LEAST ONE (1) FIRE HYDRANT WRENCH AND ONE (1) BREAK-AWAY FLANGE KIT FOR EVERY SUBDIVISION DURING THE UTILITY CONTRACTOR WORK. THESE ITEMS MUST BE PROVIDED TO HRW BEFORE THE FINAL INSPECTION WILL BE SCHEDULED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. IN ADDITION, THE UTILITY CONTRACTOR SHALL INSTALL A 4" X 4" CONCRETE VALVE MARKER AT THE EDGE OF THE RIGHT-OF-WAY TO IDENTIFY THE LOCATION OF EACH GATE VALVE INSTALLED IN THE SYSTEM. THE UTILITY CONTRACTOR SHALL PROVIDE THE FINAL INSPECTION LIST. THE CONTRACTOR SHALL MEASURE THE DISTANCE FROM THE CENTER OF THE CONCRETE MARKER TO THE CENTER OF THE VALVE BOX. THIS DISTANCE (IN LINEAR SHALL BE STAMPED ON THE BRASS PLATE LOCATED ON THE TOP OF THE CONCRETE VALVE MARKER. IN LIEU OF INSTALLING THE CONCRETE VALVE MARKER, THE UTILITY CONTRACTOR MAY PROVIDE THE FINAL INSPECTION LIST FROM TWO INDEPENDENT PERMANENT ABOVE GROUND STRUCTURES TO THE PROFESSIONAL ENGINEER (PE) IN THE RED LINE DRAWINGS TO IDENTIFY THE VALVE LOCATIONS. THE PROFESSIONAL ENGINEER (PE) MUST INCLUDE THESE MEASUREMENTS IN THE AS-BUILT RECORD DRAWINGS SUBMITTED TO HRW.
- Z. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY AND ALL DAMAGES DUE TO LEAKAGE DAMAGE FROM POOR WORKMANSHIP DURING THE ONE YEAR WARRANTY PERIOD ONCE THE WATER SYSTEM IMPROVEMENTS HAVE BEEN ACCEPTED BY HARNETT REGIONAL WATER. HARNETT REGIONAL WATER WILL PROVIDE MAINTENANCE AND REPAIRS WHEN REQUESTED AND BILL THE DEVELOPER DURING THE WARRANTY PERIOD. THE UTILITY CONTRACTOR SHALL PROVIDE 48 HOURS OF NOTIFICATION OF WARRANTY THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO DAMAGES RESULTING FROM FAILURE TO LOCATE THE NEW WATER LINES AND ASSOCIATED APPURTENANCES FOR OTHER UTILITIES AND THEIR CONTRACTORS UNTIL THE WATER LINES HAVE AND APPROVED BY HRW. THE UTILITY CONTRACTOR SHALL PROVIDE THE FINAL INSPECTION LIST. THE UTILITY CONTRACTOR SHALL PROVIDE THE FINAL INSPECTION LIST TO THE UTILITY CONTRACTOR. THE REGISTERED LAND SURVEYOR (RLS) SHALL STAKE OUT ALL LOT CORNERS AND ESTABLISH GRADE STAKES FOR EACH STREET AND SEWER LINE. THE UTILITY CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION OF EXISTING UTILITIES AND/OR SECURING EXISTING UTILITY POLES, PIPES, WIRES, CABLES, SIGNS AND/OR UTILITIES INCLUDING SERVICES IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS DURING SANITARY SEWER LINE INSTALLATION, GRADING AND STREET CONSTRUCTION.
- AA. THE UTILITY CONTRACTOR SHALL PROVIDE THE PROFESSIONAL ENGINEER AND HRW UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE DRAWINGS IDENTIFYING THE COMPLETE WATER SYSTEM INSTALLED FOR EACH PROJECT. THE RED LINE DRAWINGS SHOULD IDENTIFY THE MATERIALS, PIPE SIZES AND APPROXIMATE DEPTHS OF THE SEWER LINES AS WELL AS THE INSTALLED LOCATIONS OF THE MANHOLES(S), SANITARY SEWER GRAVITY LINE(S), SANITARY SEWER SERVICE LATERALS, CLEAN-OUTS, SEWER LIFT STATIONS(S) AND ASSOCIATED FORCE MAIN(S). THE RED LINE DRAWINGS SHOULD CLEARLY IDENTIFY ANY DEVIATIONS FROM THE NCDCE APPROVED PLANS. ALL CHANGE ORDERS MUST BE APPROVED BY HRW AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.
- AB. PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN ESTABLISHED UTILITY EASEMENTS OR NCDOT RIGHT-OF-WAYS THE UTILITY CONTRACTOR IS REQUIRED TO NOTIFY ALL CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH G.S. 87-102. THE UTILITY CONTRACTOR MUST CALL THE NC ONE CALL CENTER AT 811 OR (800) 532-4949 TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. EXISTING UTILITIES SHOWN IN THESE PLANS ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED BY THE P.E. (I.E. TELEPHONE, CABLE, WATER, SEWER, ELECTRICAL, POWER, FIBER, OPTICAL, NATURAL, GAS, ETC.).
- AC. THE UTILITY CONTRACTOR SHALL SPLIT DIG TO EXPOSE EACH EXISTING UTILITY PIPE OR LINE WHICH MAY CONFLICT WITH CONSTRUCTION OF PROPOSED SANITARY SEWER LINE EXTENSIONS WELL IN ADVANCE TO VERIFY LOCATIONS OF THE EXISTING UTILITIES. THE UTILITY CONTRACTOR SHALL PROVIDE BOTH HORIZONTAL AND VERTICAL CLEARANCES TO THE PROFESSIONAL ENGINEER (PE) TO ALLOW THE PE TO ADJUST THE SANITARY SEWER LINE DESIGN IN ORDER TO AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES. THE UTILITY CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION OF EXISTING UTILITIES AND/OR SECURING EXISTING UTILITY POLES, PIPES, WIRES, CABLES, SIGNS AND/OR UTILITIES INCLUDING SERVICES IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS DURING SANITARY SEWER LINE INSTALLATION, GRADING AND STREET CONSTRUCTION.
- AD. WHEN MAKING A TAP ON AN EXISTING SEWER FORCE MAIN, THE UTILITY CONTRACTOR MUST HAVE A PERMIT FROM THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDCE) PRIOR TO BEGIN THE TAP WORK. THE UTILITY CONTRACTOR SHALL CONDUCT A PNEUMATIC PRESSURE TEST USING COMPRESSED AIR OR OTHER INERT GAS ON THE STAINLESS STEEL TAPPING SLEEVE AND GATE VALVE PRIOR TO MAKING THE TAP ON AN EXISTING SANITARY SEWER FORCE MAIN. THIS PNEUMATIC PRESSURE TEST MUST BE WITNESSED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STAINLESS STEEL TAPPING SLEEVE(S) OR APPROVED EQUAL FOR ALL TAPS MADE ON SANITARY SEWER FORCE MAINS IN HARNETT COUNTY. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STYLE 'CB' SEWER SADDLES WITH STAINLESS STEEL BANDS OR APPROVED EQUAL FOR ALL TAPS MADE ON EXISTING SANITARY SEWER GRAVITY LINES IN HARNETT COUNTY.
- AE. THE UTILITY CONTRACTOR SHALL TAP FOR A GREASE TRAP FOR EACH SANITARY SEWER SERVICE LATERAL THAT WILL BE CONNECTED TO A RESTAURANT, FOOD PROCESSING FACILITY AND ANY OTHER COMMERCIAL OR INDUSTRIAL FACILITY AS REQUIRED BY THE HARNETT COUNTY FAT, OIL & GREASE ORDINANCE. THE GREASE TRAP MUST BE RATED FOR A MINIMUM CAPACITY OF AT LEAST 1,000 GALLONS UNLESS OTHERWISE APPROVED IN WRITING BY THE HRW UTILITY CONSTRUCTION COORDINATOR. GARBAGE DISPOSALS SHOULD NOT BE INSTALLED IN HOMES AND BUSINESSES THAT DISCHARGE WASTEWATER TO THE HARNETT REGIONAL WATER'S SANITARY SEWER SYSTEM AS THEY ARE NOT APPROVED BY HRW.
- AF. EACH SEWER LIFT STATION MUST BE PROVIDED WITH THREE PHASE POWER (AT LEAST 480 VOLTS) AND WIRING TO MEET THE MINIMUM REQUIREMENTS OF THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE AND HARNETT REGIONAL WATER STANDARD SPECIFICATIONS AND DETAILS. IF THREE PHASE POWER IS NOT AVAILABLE FROM THE POWER COMPANY OTHER ARRANGEMENTS MUST BE APPROVED BY HRW ENGINEERING PRIOR TO THE START OF CONSTRUCTION. THE INSPECTOR WITHIN HARNETT COUNTY SHALL VERIFY THAT THE SEWER LIFT MANHOLE IN THE HARNETT REGIONAL WATER SEWER COLLECTIONS SYSTEM, THE UTILITY CONTRACTOR MUST PROVIDE A PROTECTIVE COATING (EPOXY) FOR THE INTERIOR SURFACES OF THE MANHOLE TO PROTECT IT AGAINST CORROSION, EROSION AND DETEIORATION FROM THE RELEASE OF SEWER GASES SUCH AS METHANE AND HYDROGEN SULFIDE.
- AG. THE SEWER LIFT STATION DESIGN AND ASSOCIATED EQUIPMENT MUST MEET OR

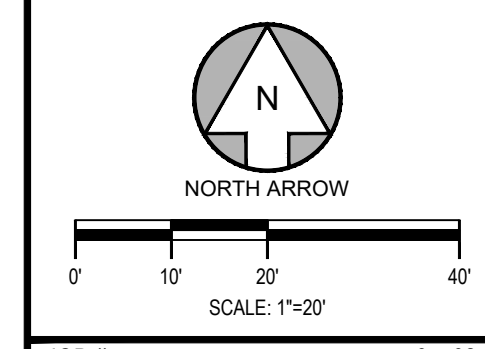
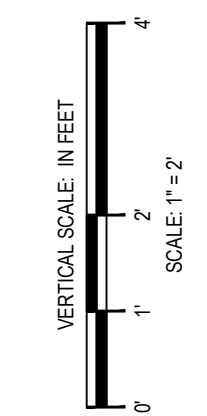
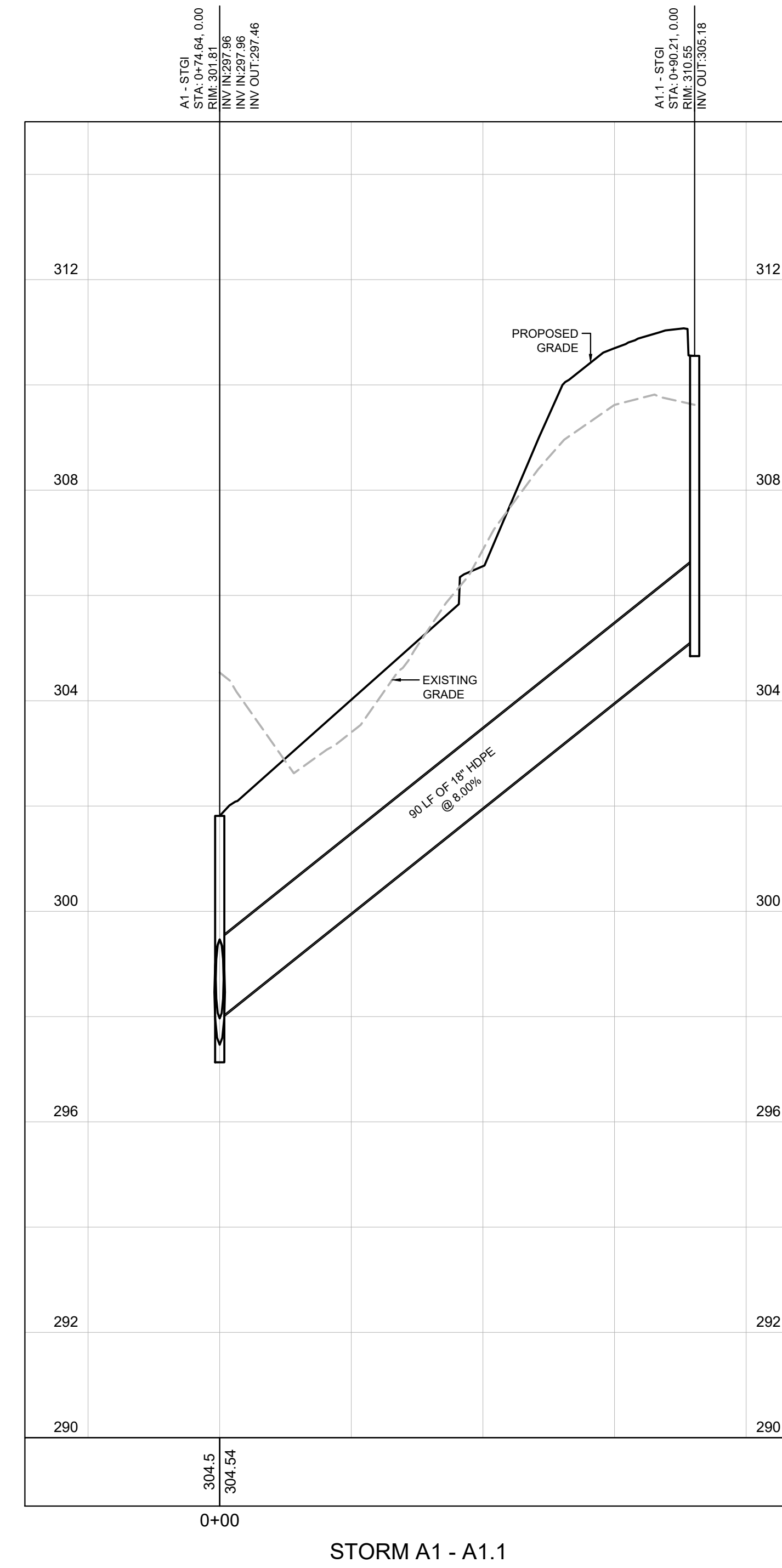
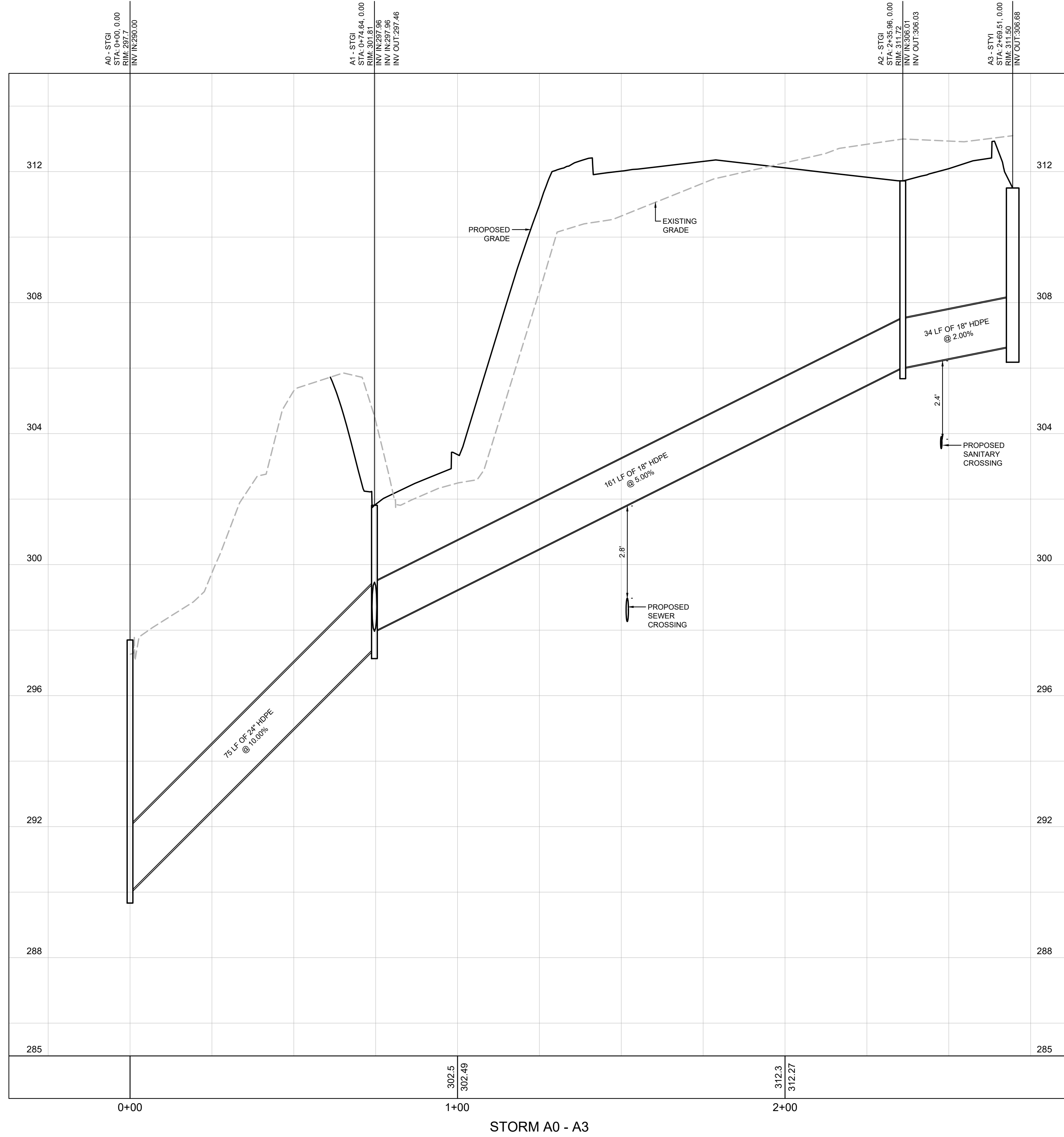
- BE REMOVED IMMEDIATELY WHEN NOTIFIED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. THE SANITARY SEWER LATERAL CONNECTIONS SHOULD BE INSTALLED 90° (PERPENDICULAR) TO THE SANITARY SEWER GRAVITY LINES WITH SCHEDULE 40 PVC PIPE. HRW REQUIRES THE UTILITY CONTRACTOR TO PROVIDE THE PROFESSIONAL ENGINEER (PE) WITH ACCURATE MEASUREMENTS FOR LOCATING SANITARY SEWER SERVICE LATERAL AND ASSOCIATED EACH SANITARY SEWER CLEAN-OUT. THESE MEASUREMENTS SHOULD BE TAKEN FROM THE NEAREST DOWNSTREAM MANHOLE UP ALONG THE SANITARY SEWER MAIN TO THE IN-LINE WYE FITTING (OR TAPPING SADDLE) AND THEN ANOTHER FROM THE IN-LINE WYE FITTING OR TAPPING TO THE 4" X 4" LONG SWEEP COMBINATION WYE FITTING AT THE BOTTOM OF THE SEWER CLEAN-OUT STACK. THESE FIELD MEASUREMENTS MUST BE PROVIDED TO THE PROFESSIONAL ENGINEER (PE) IN THE RED LINE DRAWINGS FROM THE UTILITY CONTRACTOR FOR PROPER DOCUMENTATION IN THE AS-BUILT RECORD DRAWINGS. THE MECHANICAL JOINTS MUST BE ASSEMBLED WITH GRIP RINGS AS
- F. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE THE NEWLY INSTALLED SANITARY SEWER GRAVITY LINE(S), SANITARY SEWER FORCE MAIN(S), SANITARY SEWER SERVICE LATERAL(S) AND ALL ASSOCIATED SEWER CLEAN-OUT(S) IN THE PROPOSED SANITARY SEWER SYSTEM FOR OTHER UTILITY COMPANIES AND THEIR CONTRACTORS UNTIL THE NEW SANITARY SEWER LINE(S) AND ASSOCIATED APPURTENANCES HAVE BEEN APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDCE) AND ACCEPTED BY HRW. ALL NEW SANITARY SEWER LINES MUST HAVE AT LEAST THREE (3) FT. FEET OF COVER AND EXTEND UNDER ALL EXISTING WATER MAIN AND STORM WATER LINES WITH A LEAST 24" OF VERTICAL CLEARANCE BELOW THE BOTTOM OF THE EXISTING WATER MAIN AND STORM WATER LINES. ALL DUCTILE IRON SEWER PIPING MUST BE 401 EPOXY COATED OR APPROVED EQUAL.
- G. THE SANITARY SEWER GRAVITY LINE(S), MANHOLE(S), SANITARY SEWER SERVICE LATERAL(S) AND ASSOCIATED CLEAN-OUT(S) SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE HARNETT REGIONAL WATER. THE SANITARY SEWER GRAVITY LINE(S) MUST PNEUMATICALLY PRESSURE TESTED WITH COMPRESSED AIR AT 5 PSI AND THE SANITARY SEWER FORCE MAIN(S) MUST HYDROSTATICALLY PRESSURE TESTED WITH WATER OR AIR AT 200 PSI.
- H. SANITARY SEWER MANHOLES MUST BE VACUUM TESTED TO 10 INCHES OF MERCURY AND CANNOT DROP BELOW FOUR INCHES IN 90 SECONDS FOR 4 FT. DIAMETER MANHOLES, 75 SECONDS FOR 6 FT. DIAMETER MANHOLES. THE TEST MUST BE IN ACCORDANCE WITH THE FOLLOWING STANDARDS: FOR DUCTILE IRON PIPELINES TEST IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF ASTM C924. FOR PVC PIPELINES TEST IN ACCORDANCE WITH ASTM F417-98 AND ACPHQA LBN-4 VACUUM TESTING SHALL BE PERFORMED IN ACCORDANCE WITH ASTM C1244. THE HRW UTILITY CONSTRUCTION INSPECTOR AND ENGINEER MUST WITNESS ALL TESTS MENTIONED ABOVE.
- I. PRIOR TO ACCEPTANCE, ALL SEWER SERVICE LATERALS WILL BE INSPECTED DURING WATER LINE CONSTRUCTION TO INSURE THAT THEY ARE INSTALLED AT THE PROPER DEPTH. ALL SEWER CLEAN-OUTS MUST BE INSTALLED SO THE 4" X 4" LONG SWEEP COMBINATION WYE IS AT LEAST THREE (3) FEET BUT NO MORE THAN FOUR (4) FEET BELOW THE FINISH GRADE UNLESS OTHERWISE APPROVED IN WRITING BY HRW. THE SEWER CLEAN-OUTS SHALL HAVE A FOUR (4) SCHEDULE 40 PVC PIPE STUBBED UP FROM BOTH ENDS OF THE 4" X 4" LONG SWEEP COMBINATION WYE TO BE AT LEAST 24" FEET ABOVE THE FINISH GRADE AND COVER EACH END WITH A FOUR (4) INCH TEMPORARY CAP TO KEEP OUT DIRT, SAND, ROCKS, WATER AND CONSTRUCTION DEBRIS. THE VERTICAL STACK ON EACH CLEAN-OUT MUST BE PROVIDED WITH A CONCRETE DONUT FOR PROTECTION.
- J. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY AND ALL DAMAGES DUE TO LEAKAGE DAMAGE FROM POOR WORKMANSHIP DURING THE ONE YEAR WARRANTY PERIOD ONCE THE WATER SYSTEM IMPROVEMENTS HAVE BEEN ACCEPTED BY HARNETT REGIONAL WATER. HARNETT REGIONAL WATER WILL PROVIDE MAINTENANCE AND REPAIRS WHEN REQUESTED AND BILL THE DEVELOPER DURING THE WARRANTY PERIOD. THE UTILITY CONTRACTOR SHALL PROVIDE 48 HOURS OF NOTIFICATION OF WARRANTY THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO DAMAGES RESULTING FROM FAILURE TO LOCATE THE NEW WATER LINES AND ASSOCIATED APPURTENANCES FOR OTHER UTILITIES AND THEIR CONTRACTORS UNTIL THE WATER LINES HAVE AND APPROVED BY HRW. THE UTILITY CONTRACTOR SHALL PROVIDE THE FINAL INSPECTION LIST. THE UTILITY CONTRACTOR SHALL PROVIDE THE FINAL INSPECTION LIST TO THE UTILITY CONTRACTOR. THE REGISTERED LAND SURVEYOR (RLS) SHALL STAKE OUT ALL LOT CORNERS AND ESTABLISH GRADE STAKES FOR EACH STREET AND SEWER LINE. THE UTILITY CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION OF EXISTING UTILITIES AND/OR SECURING EXISTING UTILITY POLES, PIPES, WIRES, CABLES, SIGNS AND/OR UTILITIES INCLUDING SERVICES IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS DURING SANITARY SEWER LINE INSTALLATION, GRADING AND STREET CONSTRUCTION.
- K. HRW REQUIRES THAT THE UTILITY CONTRACTOR INSTALL TRACER WIRE IN THE TRENCH WITH ALL SANITARY SEWER FORCE MAINS. THE TRACER WIRE SHALL BE 12 GA. INSULATED, SOLID COPPER CONDUCTOR AND IT SHALL BE TERMINATED AT THE TOP OF THE VALVE BOXES OR MANHOLES. NO SPLICED WIRE CONNECTIONS SHALL BE MADE UNDERGROUND ON TRACER WIRE INSTALLED IN HARNETT COUNTY. THE TRACER WIRE MAY BE SECURED WITH DUCT TAPE TO THE TOP OF THE PIPE BEFORE BACKFILLING. THE TRACER WIRE IS NOT REQUIRED FOR THE GRAVITY SEWER (LINE(S) BETWEEN MANHOLES.
- L. THE UTILITY CONTRACTOR SHALL PROVIDE THE PROFESSIONAL ENGINEER AND HRW UTILITY CONSTRUCTION INSPECTOR WITH A SET OF RED LINE DRAWINGS IDENTIFYING THE COMPLETE SEWER SYSTEM INSTALLED FOR EACH PROJECT. THE RED LINE DRAWINGS SHOULD IDENTIFY THE MATERIALS, PIPE SIZES AND APPROXIMATE DEPTHS OF THE SEWER LINES AS WELL AS THE INSTALLED LOCATIONS OF THE MANHOLES(S), SANITARY SEWER GRAVITY LINE(S), SANITARY SEWER SERVICE LATERALS, CLEAN-OUTS, SEWER LIFT STATIONS(S) AND ASSOCIATED FORCE MAIN(S). THE RED LINE DRAWINGS SHOULD CLEARLY IDENTIFY ANY DEVIATIONS FROM THE NCDCE APPROVED PLANS. ALL CHANGE ORDERS MUST BE APPROVED BY HRW AND THE PROFESSIONAL ENGINEER (PE) IN WRITING AND PROPERLY DOCUMENTED IN THE RED LINE FIELD DRAWINGS.
- M. PRIOR TO THE COMMENCEMENT OF ANY WORK WITHIN ESTABLISHED UTILITY EASEMENTS OR NCDOT RIGHT-OF-WAYS THE UTILITY CONTRACTOR IS REQUIRED TO NOTIFY ALL CONCERNED UTILITY COMPANIES IN ACCORDANCE WITH G.S. 87-102. THE UTILITY CONTRACTOR MUST CALL THE NC ONE CALL CENTER AT 811 OR (800) 532-4949 TO VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. EXISTING UTILITIES SHOWN IN THESE PLANS ARE TAKEN FROM MAPS FURNISHED BY VARIOUS UTILITY COMPANIES AND HAVE NOT BEEN PHYSICALLY LOCATED BY THE P.E. (I.E. TELEPHONE, CABLE, WATER, SEWER, ELECTRICAL, POWER, FIBER, OPTICAL, NATURAL, GAS, ETC.).
- N. THE UTILITY CONTRACTOR SHALL SPLIT DIG TO EXPOSE EACH EXISTING UTILITY PIPE OR LINE WHICH MAY CONFLICT WITH CONSTRUCTION OF PROPOSED SANITARY SEWER LINE EXTENSIONS WELL IN ADVANCE TO VERIFY LOCATIONS OF THE EXISTING UTILITIES. THE UTILITY CONTRACTOR SHALL PROVIDE BOTH HORIZONTAL AND VERTICAL CLEARANCES TO THE PROFESSIONAL ENGINEER (PE) TO ALLOW THE PE TO ADJUST THE SANITARY SEWER LINE DESIGN IN ORDER TO AVOID CONFLICTS WITH EXISTING UNDERGROUND UTILITIES. THE UTILITY CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION OF EXISTING UTILITIES AND/OR SECURING EXISTING UTILITY POLES, PIPES, WIRES, CABLES, SIGNS AND/OR UTILITIES INCLUDING SERVICES IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS DURING SANITARY SEWER LINE INSTALLATION, GRADING AND STREET CONSTRUCTION.
- O. WHEN MAKING A TAP ON AN EXISTING SEWER FORCE MAIN, THE UTILITY CONTRACTOR MUST HAVE A PERMIT FROM THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDCE) PRIOR TO BEGIN THE TAP WORK. THE UTILITY CONTRACTOR SHALL CONDUCT A PNEUMATIC PRESSURE TEST USING COMPRESSED AIR OR OTHER INERT GAS ON THE STAINLESS STEEL TAPPING SLEEVE AND GATE VALVE PRIOR TO MAKING THE TAP ON AN EXISTING SANITARY SEWER FORCE MAIN. THIS PNEUMATIC PRESSURE TEST MUST BE WITNESSED BY THE HRW UTILITY CONSTRUCTION INSPECTOR. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STAINLESS STEEL TAPPING SLEEVE(S) OR APPROVED EQUAL FOR ALL TAPS MADE ON SANITARY SEWER FORCE MAINS IN HARNETT COUNTY. THE UTILITY CONTRACTOR SHALL USE ROMAC BRAND STYLE 'CB' SEWER SADDLES WITH STAINLESS STEEL BANDS OR APPROVED EQUAL FOR ALL TAPS MADE ON EXISTING SANITARY SEWER GRAVITY LINES IN HARNETT COUNTY.
- P. THE UTILITY CONTRACTOR SHALL TAP FOR A GREASE TRAP FOR EACH SANITARY SEWER SERVICE LATERAL THAT WILL BE CONNECTED TO A RESTAURANT, FOOD PROCESSING FACILITY AND ANY OTHER COMMERCIAL OR INDUSTRIAL FACILITY AS REQUIRED BY THE HARNETT COUNTY FAT, OIL & GREASE ORDINANCE. THE GREASE TRAP MUST BE RATED FOR A MINIMUM CAPACITY OF AT LEAST 1,000 GALLONS UNLESS OTHERWISE APPROVED IN WRITING BY THE HRW UTILITY CONSTRUCTION COORDINATOR. GARBAGE DISPOSALS SHOULD NOT BE INSTALLED IN HOMES AND BUSINESSES THAT DISCHARGE WASTEWATER TO THE HARNETT REGIONAL WATER'S SANITARY SEWER SYSTEM AS THEY ARE NOT APPROVED BY HRW.
- Q. EACH SEWER LIFT STATION MUST BE PROVIDED WITH THREE PHASE POWER (AT LEAST 480 VOLTS) AND WIRING TO MEET THE MINIMUM REQUIREMENTS OF THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE AND HARNETT REGIONAL WATER STANDARD SPECIFICATIONS AND DETAILS. IF THREE PHASE POWER IS NOT AVAILABLE FROM THE POWER COMPANY OTHER ARRANGEMENTS MUST BE APPROVED BY HRW ENGINEERING PRIOR TO THE START OF CONSTRUCTION. THE INSPECTOR WITHIN HARNETT COUNTY SHALL VERIFY THAT THE SEWER LIFT MANHOLE IN THE HARNETT REGIONAL WATER SEWER COLLECTIONS SYSTEM, THE UTILITY CONTRACTOR MUST PROVIDE A PROTECTIVE COATING (EPOXY) FOR THE INTERIOR SURFACES OF THE MANHOLE TO PROTECT IT AGAINST CORROSION, EROSION AND DETEIORATION FROM THE RELEASE OF SEWER GASES SUCH AS METHANE AND HYDROGEN SULFIDE.
- R. THE SEWER LIFT STATION DESIGN AND ASSOCIATED EQUIPMENT MUST MEET OR

- EXCEED THE MINIMUM REQUIREMENTS FOR HARNETT COUNTY SEWER LIFT STATIONS. EACH SANITARY SEWER LIFT STATION MUST BE CONSTRUCTED WITH AN ALL-WEATHER ACCESS ROAD THAT IS AT LEAST 20 FEET WIDE. THE LIFT STATION SITE MUST BE COVERED WITH WEED BLOCKING MATERIAL AND AT LEAST SIX (6) INCHES OF ASPHALT (CRUSH AND FILL).
- T. ONCE A SEWER LIFT STATION HAS BEEN INSTALLED, THE UTILITY CONTRACTOR IS REQUIRED TO SCHEDULE A DRAW DOWN TEST WITH HRW ENGINEERING AND COLLECTIONS STAFF, THE PROFESSIONAL ENGINEER (PE), THE ELECTRICIAN, THE ORIGINAL EQUIPMENT MANUFACTURERS (OEM) REPRESENTATIVES FOR BOTH THE PUMPS AND THE GENERATOR. THIS DRAW DOWN TEST MUST BE COMPLETED WITH POWER SUPPLIED FROM THE ELECTRICAL UTILITY COMPANY AND WITH POWER SUPPLIED BY THE EMERGENCY GENERATOR WITH SATISFACTORY RESULTS BEFORE FINAL INSPECTIONS ARE CONDUCTED BY THE HRW UTILITY CONSTRUCTION INSPECTOR.
- U. ONCE THE UTILITY CONTRACTOR COMPLETES THE INSTALLATION OF A SEWER LIFT STATION, THE PROFESSIONAL ENGINEER (PE) MUST SUBMIT THE SEWER PERMIT CERTIFICATION AND AS-BUILT RECORD DRAWINGS TO THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDCE) AND HRW FOR FINAL APPROVAL. THE UTILITY CONTRACTOR SHALL PROVIDE THE NECESSARY STAFF WITH THREE ORIGINAL OPERATION & MAINTENANCE (O&M) MANUALS ALONG WITH THE ASSOCIATED PUMP CURVES AND ELECTRICAL SCHEMATICS FOR THE ASSOCIATED SEWER LIFT STATION EQUIPMENT INCLUDING ALL WARRANTY INFORMATION AND DOCUMENTATION.
- V. ONCE THE UTILITY CONTRACTOR COMPLETES THE INSTALLATION OF A SEWER LIFT STATION, THE DEVELOPER MUST PAY HRW THE ESTABLISHED SYSTEM CONTROL AND DATA ACQUISITION (SCADA) FEES BEFORE THE SCADA SYSTEM WILL BE INSTALLED AT THE NEW SEWER LIFT STATION. THE SCADA SYSTEM MUST BE INSTALLED AND OPERATIONAL BEFORE THE UTILITIES MAY BE ACCEPTED BY HRW AND PLACED INTO OPERATION.
- W. HRW REQUIRES THE UTILITY CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT AND DEVICES FOR THE TESTING AND INSPECTION OF THE SANITARY SEWER SYSTEM. THE EQUIPMENT AND DEVICES MAY INCLUDE BUT NOT LIMITED TO LAMPING WITH MIRRORS, MANDELS, SEWER BALLS, PLUGS, AIR COMPRESSORS AND ASSOCIATED COMPRESSOR LINES. HRW UTILITY CONSTRUCTION INSPECTOR DEEMS THAT A CLOSED CIRCUIT VIDEO CAMERA INSPECTION OF THE NEWLY CONSTRUCTED SEWER SYSTEM IS NECESSARY, THEN ALL COSTS FOR THE CLOSED CIRCUIT CAMERA INSPECTION WILL BE THE RESPONSIBILITY OF THE UTILITY CONTRACTOR. ALL CLOSED CIRCUIT VIDEO CAMERA INSPECTIONS MUST BE APPROVED BY HRW AND ACCEPTED BY HRW FOR RECORD KEEPING, REVIEW AND APPROVAL OF THE SEWER SYSTEM.
- X. ANY USE OF SEWER PLUGS TO TEMPORARILY BLOCK HARNETT REGIONAL WATER'S EXISTING SANITARY SEWER LINES MUST BE COORDINATED WITH THE HRW COLLECTIONS SUPERVISOR AT LEAST TWO (2) DAYS IN ADVANCE OF INSTALLING THE PLUGS. THE SEWER PLUGS MUST BE REMOVED AS SOON AS POSSIBLE ONCE THE NEW SANITARY SEWER LINES HAVE BEEN INSPECTED, PRESSURE TESTED, MANDEL TESTED, APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDCE) AND ACCEPTED BY HRW TO ALLOW THE SEWER TO FLOW AS DESIGNED IN HARNETT REGIONAL WATER'S EXISTING SANITARY SEWER LINES OR BOTH ENDS OF THE 4" X 4" LONG SWEEP COMBINATION WYE TO BE AT LEAST 24" FEET ABOVE THE FINISH GRADE AND COVER EACH END WITH A FOUR (4) INCH TEMPORARY CAP TO KEEP OUT DIRT, SAND, ROCKS, WATER AND CONSTRUCTION DEBRIS. THE VERTICAL STACK ON EACH CLEAN-OUT MUST BE PROVIDED WITH A CONCRETE DONUT FOR PROTECTION.
- Y. ONCE THE SANITARY SEWER GRAVITY LINE(S) HAVE BEEN INSTALLED, PNEUMATICALLY PRESSURE TESTED AND IN PLACE FOR AT LEAST 30 DAYS, THE UTILITY CONTRACTOR MUST CONTACT THE HRW UTILITY CONSTRUCTION INSPECTOR TO WITNESS THE MANDEL TEST ON EACH PVC SANITARY SEWER GRAVITY LINE. THE UTILITY CONTRACTOR WILL NOTIFY HRW TO SCHEDULE THE MANDEL TESTING. THE MANDEL AND PROVING RING MUST BE SUPPLIED BY THE UTILITY CONTRACTOR. CLOSED CIRCUIT VIDEO CAMERA INSPECTIONS (AT THE UTILITY CONTRACTOR'S EXPENSE) MAY BE REQUIRED BY THE HRW UTILITY CONSTRUCTION INSPECTOR IF THE MANDEL AND MIRROR TAMPING TESTING CANNOT BE COMPLETED WITH SATISFACTORY RESULTS. THE SANITARY SEWER GRAVITY LINE(S) SHALL BE INSPECTED TO INSURE THAT THEY ARE INSTALLED AT THE PROPER DEPTH. ALL SEWER CLEAN-OUTS MUST BE INSTALLED SO THE 4" X 4" LONG SWEEP COMBINATION WYE IS AT LEAST THREE (3) FEET BUT NO MORE THAN FOUR (4) FEET BELOW THE FINISH GRADE UNLESS OTHERWISE APPROVED IN WRITING BY HRW. THE SEWER CLEAN-OUTS SHALL HAVE A FOUR (4) SCHEDULE 40 PVC PIPE STUBBED UP FROM BOTH ENDS OF THE 4" X 4" LONG SWEEP COMBINATION WYE TO BE AT LEAST 24" FEET ABOVE THE FINISH GRADE AND COVER EACH END WITH A FOUR (4) INCH TEMPORARY CAP TO KEEP OUT DIRT, SAND, ROCKS, WATER AND CONSTRUCTION DEBRIS. THE VERTICAL STACK ON EACH CLEAN-OUT MUST BE PROVIDED WITH A CONCRETE DONUT FOR PROTECTION.
- Z. THE UTILITY CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY AND ALL DAMAGES DUE TO LEAKAGE DAMAGE FROM POOR WORKMANSHIP DURING THE ONE YEAR WARRANTY PERIOD ONCE THE WATER SYSTEM IMPROVEMENTS HAVE BEEN ACCEPTED BY HARNETT REGIONAL WATER. HARNETT REGIONAL WATER WILL PROVIDE MAINTENANCE AND REPAIRS WHEN REQUESTED AND BILL THE DEVELOPER DURING THE WARRANTY PERIOD. THE UTILITY CONTRACTOR SHALL PROVIDE 48 HOURS OF NOTIFICATION OF WARRANTY THE UTILITY CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL REPAIRS DUE TO DAMAGES RESULTING FROM FAILURE TO LOCATE THE NEW WATER LINES AND ASSOCIATED APPURTENANCES FOR OTHER UTILITIES AND THEIR CONTRACTORS UNTIL THE WATER LINES HAVE AND APPROVED BY HRW. THE UTILITY CONTRACTOR SHALL PROVIDE THE FINAL INSPECTION LIST. THE UTILITY CONTRACTOR SHALL PROVIDE THE FINAL INSPECTION LIST TO THE UTILITY CONTRACTOR. THE REGISTERED LAND SURVEYOR (RLS) SHALL STAKE OUT ALL LOT CORNERS AND ESTABLISH GRADE STAKES FOR EACH STREET AND SEWER LINE. THE UTILITY CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND BE RESPONSIBLE FOR TEMPORARY RELOCATION OF EXISTING UTILITIES AND/OR SECURING EXISTING UTILITY POLES, PIPES, WIRES, CABLES, SIGNS AND/OR UTILITIES INCLUDING SERVICES IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS DURING SANITARY SEWER LINE INSTALLATION, GRADING AND STREET CONSTRUCTION.
- AA. THE ENGINEER OF RECORD IS RESPONSIBLE TO INSURE THAT CONSTRUCTION IS, AT ALL TIMES, IN COMPLIANCE WITH ACCEPTED SANITARY ENGINEERING PRACTICES AND APPROVED PLANS AND SPECIFICATIONS. NO FIELD CHANGES TO THE APPROVED PLANS ARE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY HRW. A COPY OF EACH ENGINEER'S FIELD REPORT IS TO BE SUBMITTED TO HRW AS EACH SUCH INSPECTION IS MADE ON SYSTEM IMPROVEMENTS OR TESTING IS PERFORMED BY THE CONTRACTOR. WATER AND SEWER INFRASTRUCTURE MUST PASS ALL APPLICABLE REGULATORY AGENCIES. THESE TESTS INCLUDE, BUT ARE NOT LIMITED TO: AIR TEST, VACUUM TEST, MANDEL TEST, VISUAL TEST, PRESSURE TEST, BACTERIOLOGICAL TEST, ETC. A HRW INSPECTOR MUST BE PRESENT DURING TESTING AND ALL TEST RESULTS SHALL BE SUBMITTED TO HRW. ALL TESTS MUST BE SATISFIED BEFORE THE FINAL INSPECTION. THE ENGINEER OF RECORD MUST REQUEST IN WRITING TO SCHEDULE THE FINAL INSPECTION ONCE ALL CONSTRUCTION IS COMPLETE. THE DEVELOPER'S ENGINEER OF RECORD AND THE HRW UTILITY CONSTRUCTION INSPECTOR SHALL PREPARE A WRITTEN PUNCH LIST OF ANY DEFECTS OR DEFICIENCIES NOTED DURING THE FINAL INSPECTION. THE ENGINEER OF RECORD WILL SCHEDULE ANOTHER INSPECTION. IN THE EVENT THE NUMBER OF INSPECTIONS PERFORMED BY THE HRW EXCEEDS TWO, ADDITIONAL FEES MAY BE ACCESSED TO THE DEVELOPER.

**HARNETT COUNTY WATER CONSTRUCTION NOTES:**

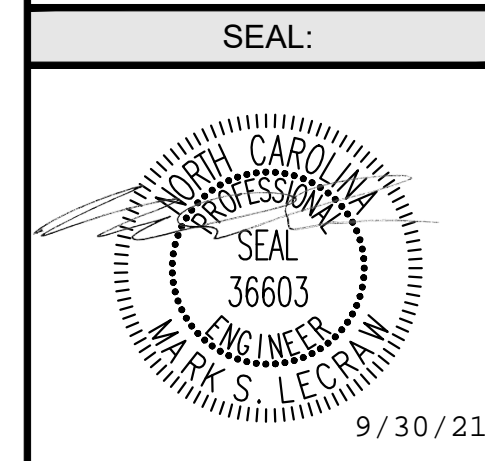
1. THE CONTRACTOR WILL NOTIFY THE ENGINEER OF RECORD AND MR. ALAN MOSS, UTILITY CONSTRUCTION INSPECTOR WITH HARNETT REGIONAL WATER (HRW) AT LEAST TWO (2) DAYS PRIOR TO CONSTRUCTION COMMENCING. PRIOR TO CONSTRUCTION, THE REGISTERED PROFESSIONAL ENGINEER (PE) AND THE UTILITY CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH HRW. THE OWNER/DEVELOPER MAY ATTEND THIS MEETING IF DESIRED.
2. ONCE THE PROJECT IS APPROVED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT & NATURAL RESOURCES (NCDENR) THEN HRW WILL MARK THE UTILITY PLANS FOR "RELEASED FOR CONSTRUCTION". THE UTILITY CONTRACTOR MUST WORK OFF THE UTILITY PLANS RELEASED BY HRW. IF THE UTILITY CONTRACTOR IS WORKING FROM OTHER PLANS THEN THE CONSTRUCTION MUST STOP UNTIL THE UTILITY PLANS MARKED "RELEASED FOR CONSTRUCTION" ARE ISSUED BY HRW.
3. THE DEVELOPER'S ENGINEER OF RECORD WILL REVIEW ALL SHOP DRAWINGS FOR CONFORMANCE WITH HRW SPECIFICATIONS PRIOR TO SUBMITTAL TO HRW. THE SHOP DRAWING SUBMITTAL TO HRW SHALL INCLUDE A COVER LETTER BY THE DEVELOPER'S ENGINEER OF RECORD CERTIFYING CONFORMANCE WITH HRW SPECIFICATIONS AND SUMMARIZING ANY EXCEPTIONS OR CONCERNS RELATIVE TO APPROVED DRAWINGS AND/OR HRW STANDARDS.
4. ALL WATER MAINS, VALVES, FITTINGS AND APPURTENANCES SHALL BE HYDROSTATICALLY TEST PER HRW SPECIFICATIONS.
5. ALL WATER SAMPLES FOR BACTERIA TESTING MUST BE COLLECTED BY THE CONTRACTOR AND WITNESSED BY A REPRESENTATIVE OF HRW. THE CONTRACTOR MUST COORDINATE WITH THE ENGINEER OF RECORD AND MR. ALAN MOSS, UTILITY CONSTRUCTION INSPECTOR HRW FOR REGULAR INSPECTION VISITATIONS AND ACCEPTANCE OF THE SYSTEM.
6. THE DEVELOPER SHALL, AT HIS EXPENSE, RETAIN THE SERVICES OF THE ENGINEER OF RECORD FOR THE PURPOSES OF PROVIDING NECESSARY INSPECTIONS AND SUPERVISION OF THE CONSTRUCTION WORK, RECORD DRAWINGS AND ENGINEER CERTIFICATIONS. THE ENGINEER OF RECORD SHALL BE RESPONSIBLE TO INSURE THAT CONSTRUCTION IS, AT ALL TIMES, IN COMPLIANCE WITH ACCEPTED SANITARY ENGINEERING PRACTICES AND THE APPROVED PLANS AND SPECIFICATIONS. A COPY OF EACH ENGINEER'S FIELD REPORT IS TO BE SUBMITTED TO HRW AS EACH SUCH INSPECTION IS MADE.
7. A DIGITAL COPY OF THE "RECORD DRAWINGS" MUST BE SUBMITTED TO HRW. PREFERABLY, THE DEVELOPER SHALL SUBMIT THE "RECORD DRAWINGS" SHOULD BE PRODUCED IN AUTOCAD (DWG) OR (DXF) FORMAT. THE "RECORD DRAWINGS" THAT INCLUDE GRAVITY SEWER LINE EXTENSIONS, SEWER LIFT STATIONS AND/OR SEWER FORCE MAINS WILL CONTAIN THE FOLLOWING DETAILED INFORMATION:  
 1. LOT NUMBERS THAT WILL BE SERVED BY THE SEWER SYSTEM.  
 2. WILL BE CLEARLY IDENTIFIED ON EACH PAGE OF THE "AS-BUILT" OR "RECORD" DRAWINGS.  
 3. THE DISTANCE FOR EACH SEWER SERVICE LATERAL SHALL BE MEASURED FROM THE DOWN GRADE MANHOLE ALONG THE SEWER MAIN TO THE CONNECTING WYE AND ASSOCIATED SEWER CLEANOUT FOR EACH LOT.  
 4. THE DIRECTION FOR EACH SEWER SERVICE LATERAL SHALL BE MARKED AS LEFT OR RIGHT FACING UP GRADE FROM THE NEAREST DOWN GRADE MANHOLE.  
 5. DIRECTION FLOW ARROWS SHALL BE PLACED ON EACH SEWER LINE (GRAVITY AND FORCE MAIN) ON THE OVERALL LAYOUT SHEET FOR EACH PHASE OR SECTION OF THE SEWER SYSTEM.  
 6. THE ENGINEER WILL SUBMIT IN WRITING ITEMS 1 THROUGH 13 ARE COMPLETE AND THAT WARRANTY WILL BEGIN ON THE DATE WHEN THE SYSTEM IS ACCEPTED BY NCDCE AND TERMINATE 12 MONTHS THEREAFTER.
8. PRIOR TO ACCEPTANCE, ALL SERVICES WILL BE INSPECTED TO ENSURE THAT THEY ARE INSTALLED AT THE PROPER DEPTH. ALL METER BOXES MUST BE FLUSH WITH THE GROUND LEVEL AND THE METER SETTERS ARE TO BE A MINIMUM OF 8" BELOW THE BOX LID. WATER SERVICE WILL BE MIN ONLY UPON SUBMISSION OF FINAL CERTIFICATION FROM NCDCE, RECEIPT OF APPLICABLE FEES AND WARRANTY ACCEPTANCE BY THE DISTRICT.
9. UPON RECEIPT OF FINAL CERTIFICATIONS AND ITEMS 1 THROUGH 14, A COPY WILL BE FORWARDED TO MR. ALAN MOSS, UTILITY CONSTRUCTION INSPECTOR HRW FOR FINAL INSPECTION.
10. THE CONTRACTOR WILL NOTIFY HRW WHEN THEY ARE READY TO BEGIN FILLING IN LINES AND COORDINATE THIS WITH MR. ALAN MOSS, UTILITY CONSTRUCTION INSPECTOR HRW.
11. THE DEVELOPER/CONTRACTOR WILL BE JOINTLY RESPONSIBLE FOR ANY REPAIRS MADE DURING THE WARRANTY PERIOD. HRW WILL PROVIDE MAINTENANCE WHEN REQUESTED AND BILL THE DEVELOPER/CONTRACTOR.
12. HRW REQUIRES THAT THE CURRENT WATER AND SEWER SYSTEM DEVELOPMENT FEES BE PAID IN ACCORDANCE WITH THE LATEST HARNETT COUNTY WATER AND SEWER USE ORDINANCE.
13. FIRE HYDRANTS ARE INSTALLED AT CERTAIN ELEVATIONS, ANY GRADE CHANGE IN THE VICINITY OF ANY FIRE HYDRANT WHICH IMPEDES

Drawing name: C:\Users\michael.boothaker\LeCraw Engineering\Dropbox\Shared\Folder\LeCraw Engineering\077025 - Primax - Retail Development - Spout Springs\_NCCADD\CONSTR\077025 - 09 - PROFILES.dwg STORM PROFILES Sep 30, 2021 12:18pm By: michael.boothaker



JOB #: 077025  
DATE: JULY 2, 2021

STORM PROFILES  
**C-6.0**



DESIGN TEAM:  
DRAWN BY: MAT  
DESIGNED BY: MAT  
REVIEWED BY: MSJ

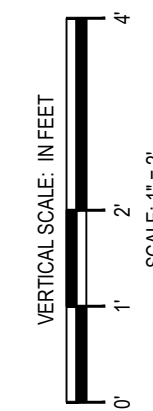
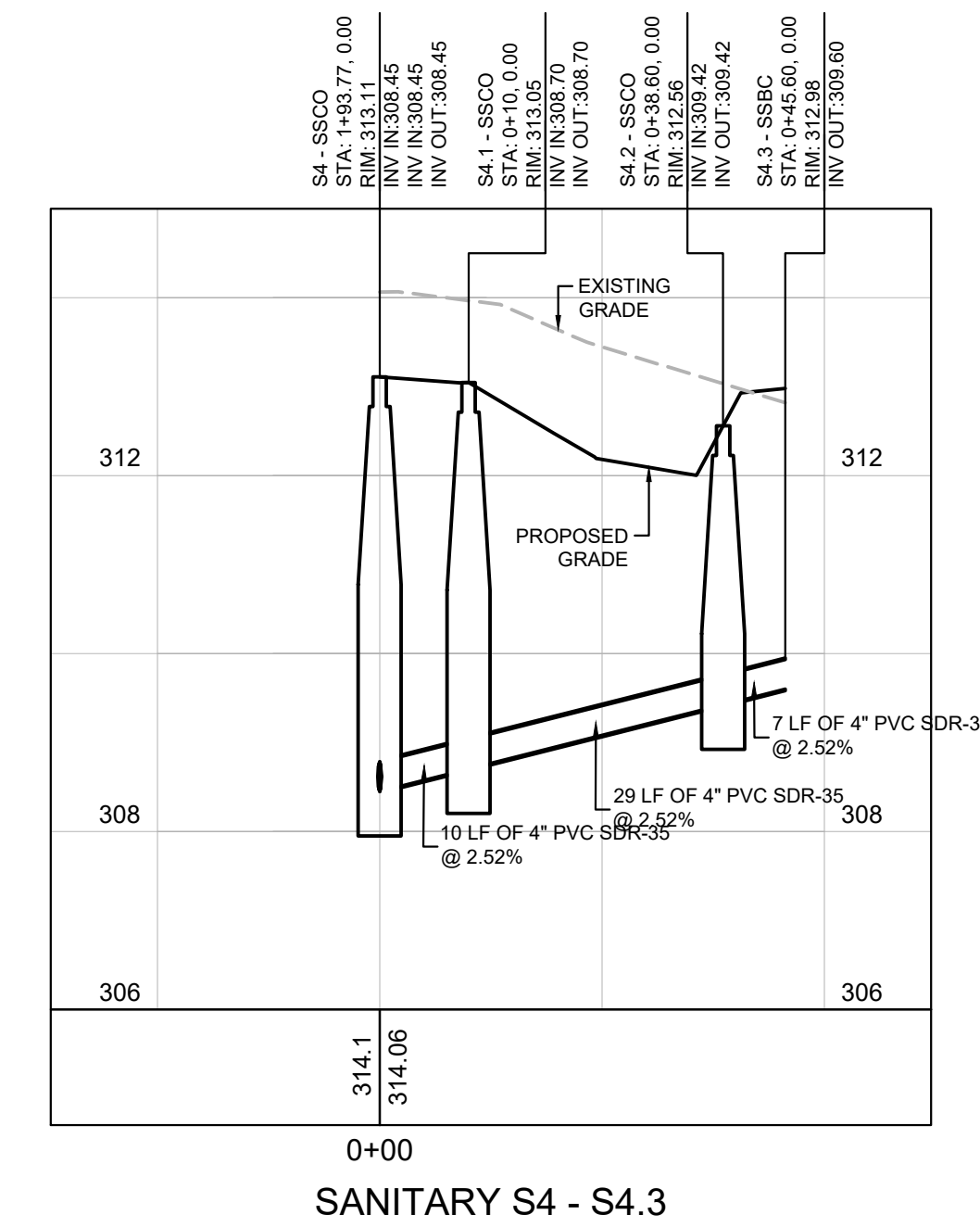
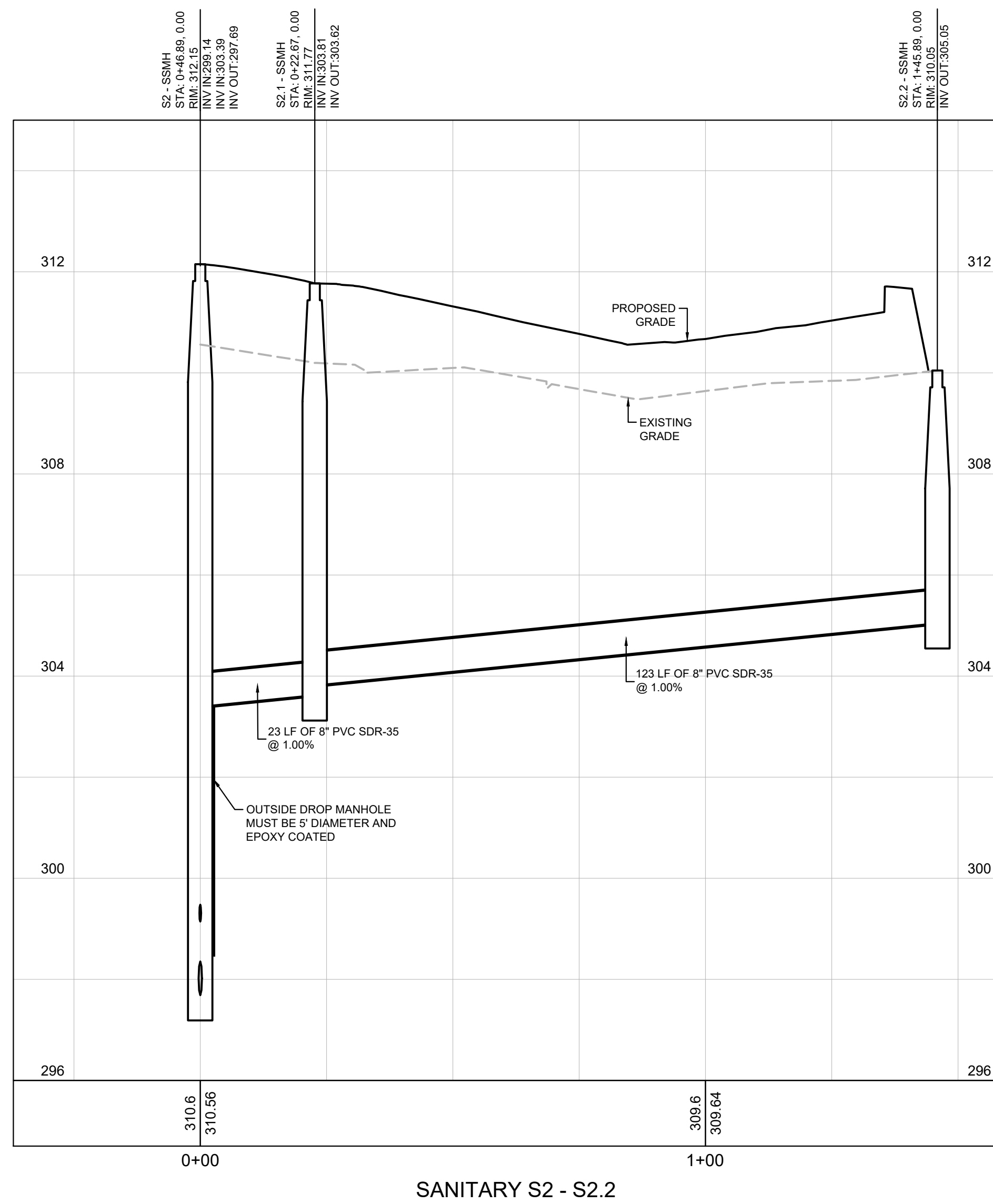
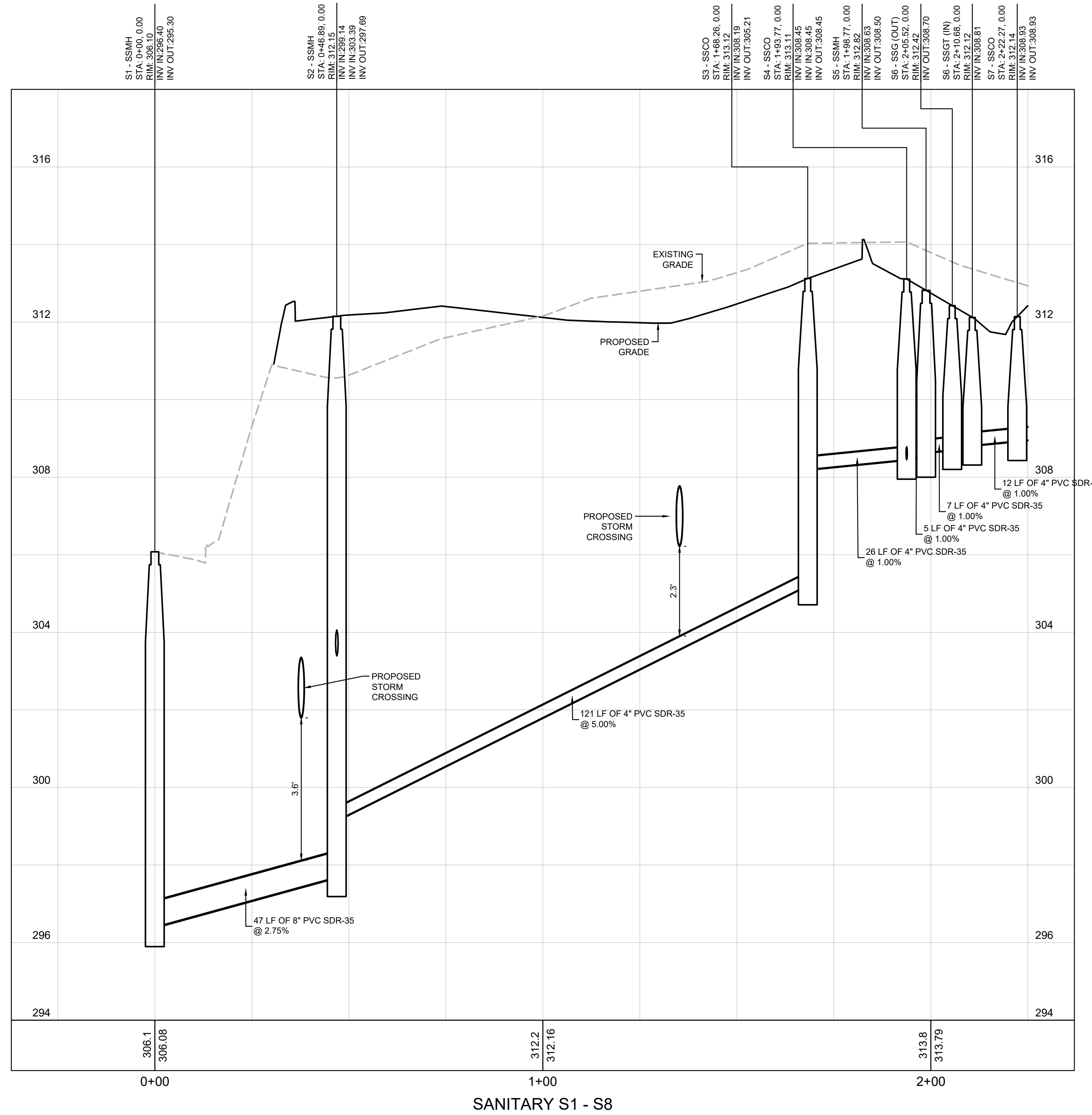
CLIENT:  
**PRIMAX PROPERTIES, LLC**  
1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT:  
**STARBUCKS - SPOUT SPRINGS**  
2822 NC 24-87  
LAND LOT 6, PARCEL 9594-33-0677.000  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

REV #	DATE	DRAWN	CHECKED	BY
1	08/18/21	MAT	MSJ	
2	09/30/21	MAT	MSJ	

PREPARED IN THE OFFICE OF:  
**LECRAW ENGINEERING**  
© 2021 LECRAW ENGINEERING, INC.  
3475 COVINGTON WAY  
DULUTH, GA 30096  
PHONE - 678-546-8100  
FAX - 770-441-0288  
WWW.LECRAWENGINEERING.COM  
CC-3545

Drawing name: C:\Users\michael.toothaker\LeCraw\Engineering\Dropbox\Shared Folders\LeCraw\Engineering\Dropbox\Shared Folders\077025 - Primax - Retail Development - Spout Springs\_NCCADD\CONSTR\077025-09 - PROFILES.dwg SANITARY PROFILE - Oct 19, 2021, 10:31am by: michael.toothaker



PREPARED IN THE OFFICE OF:  
**LECRAW ENGINEERING**  
 3475 COVINGTON WAY  
 DULUTH, GA 30096  
 PHONE - 678 546 8100  
 FAX - 770 441 0288  
 WWW.LECRAWENGINEERING.COM  
 C-5545

REV #	DATE	DRAWN	CHECKED	BY
1	08/02/21	MAT	MSL	
2	08/02/21	MAT	MSL	
3	10/19/21	MAT	MSL	

CLIENT  
**PRIMAX PROPERTIES, LLC**  
 1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT  
**STARBUCKS - SPOUT SPRINGS**  
 2822 NC 24-87  
 LAND LOT 6, PARCEL 9594-33-0677.000  
 CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:  
  
 10/19/21

DESIGN TEAM:

DRAWN BY:	MAT
DESIGNED BY:	MAT
REVIEWED BY:	MSL

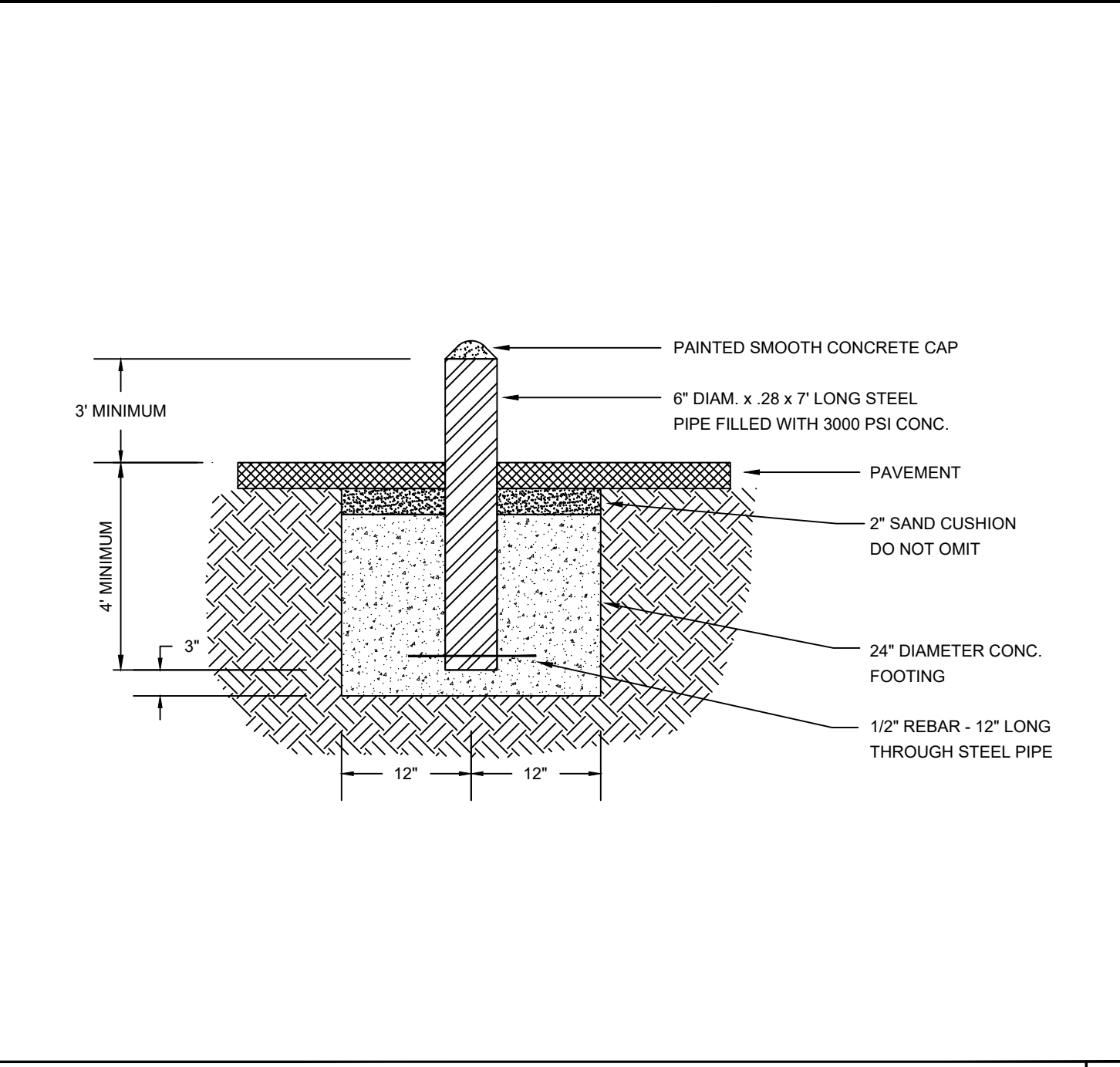
**811**  
 Know what's below.  
 Call before you dig.

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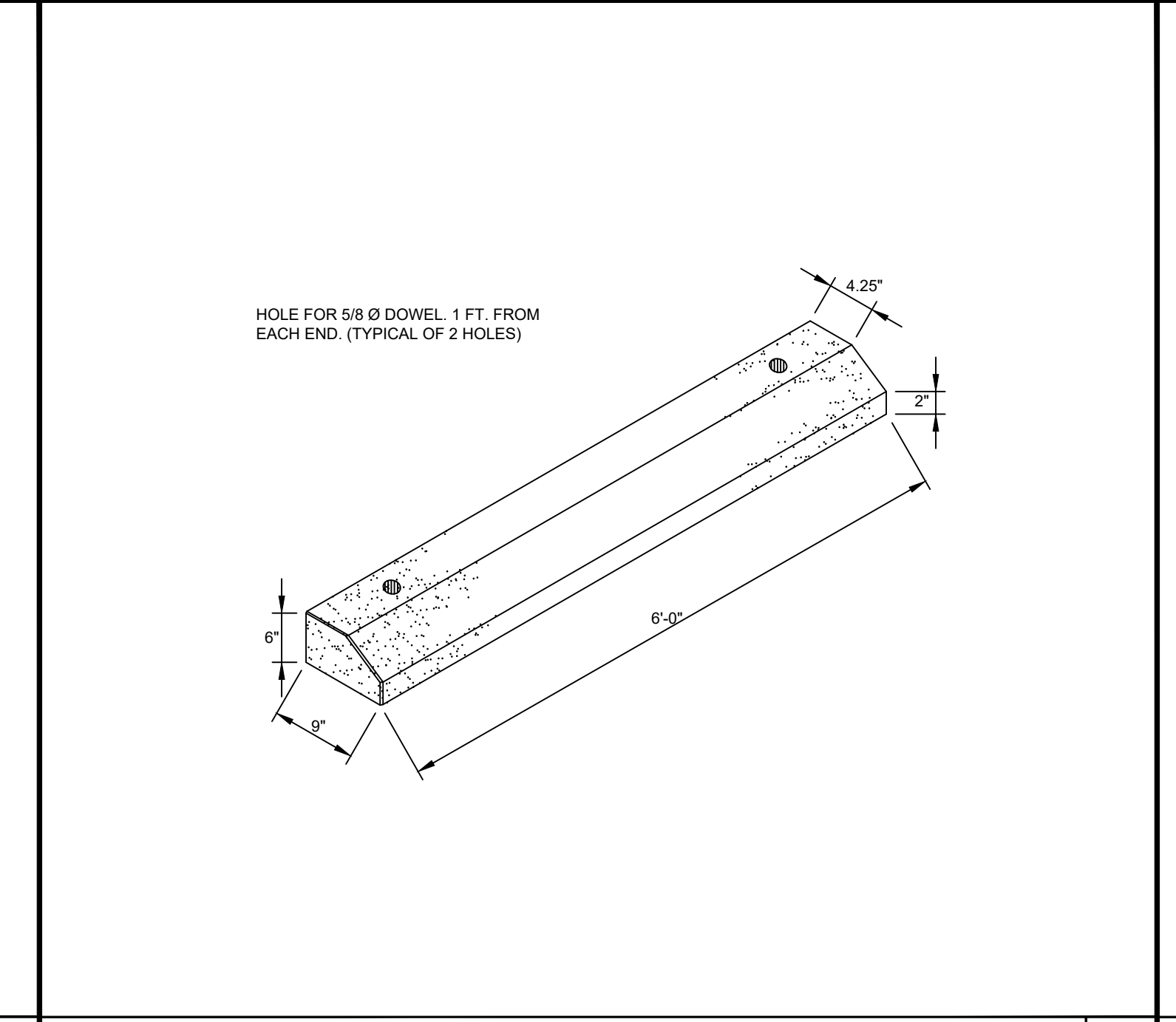
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 DATE: JULY 2, 2021  
**SANITARY PROFILE**  
**C-6.1**



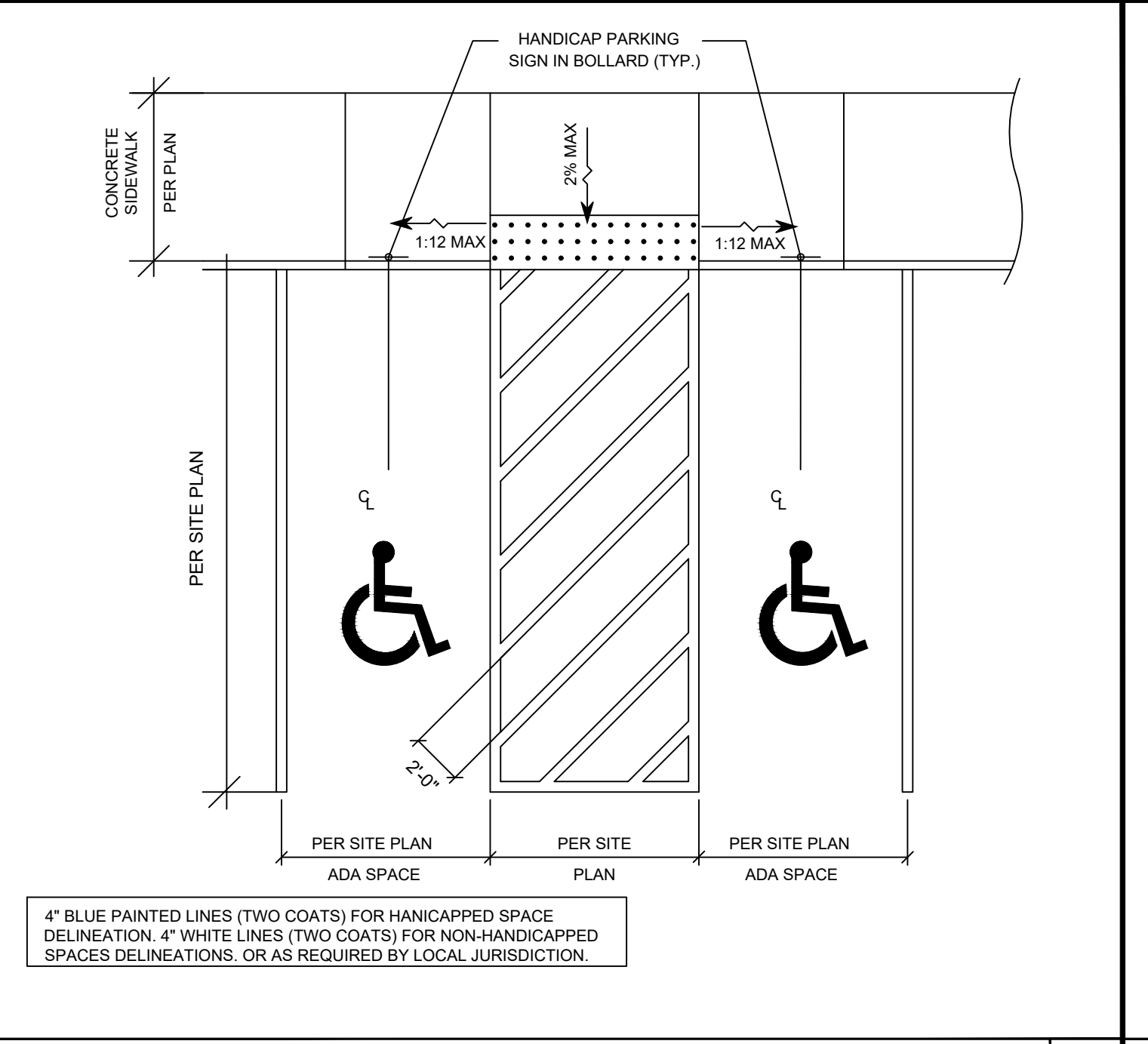
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**BOLLARD DETAIL**  
NOT TO SCALE



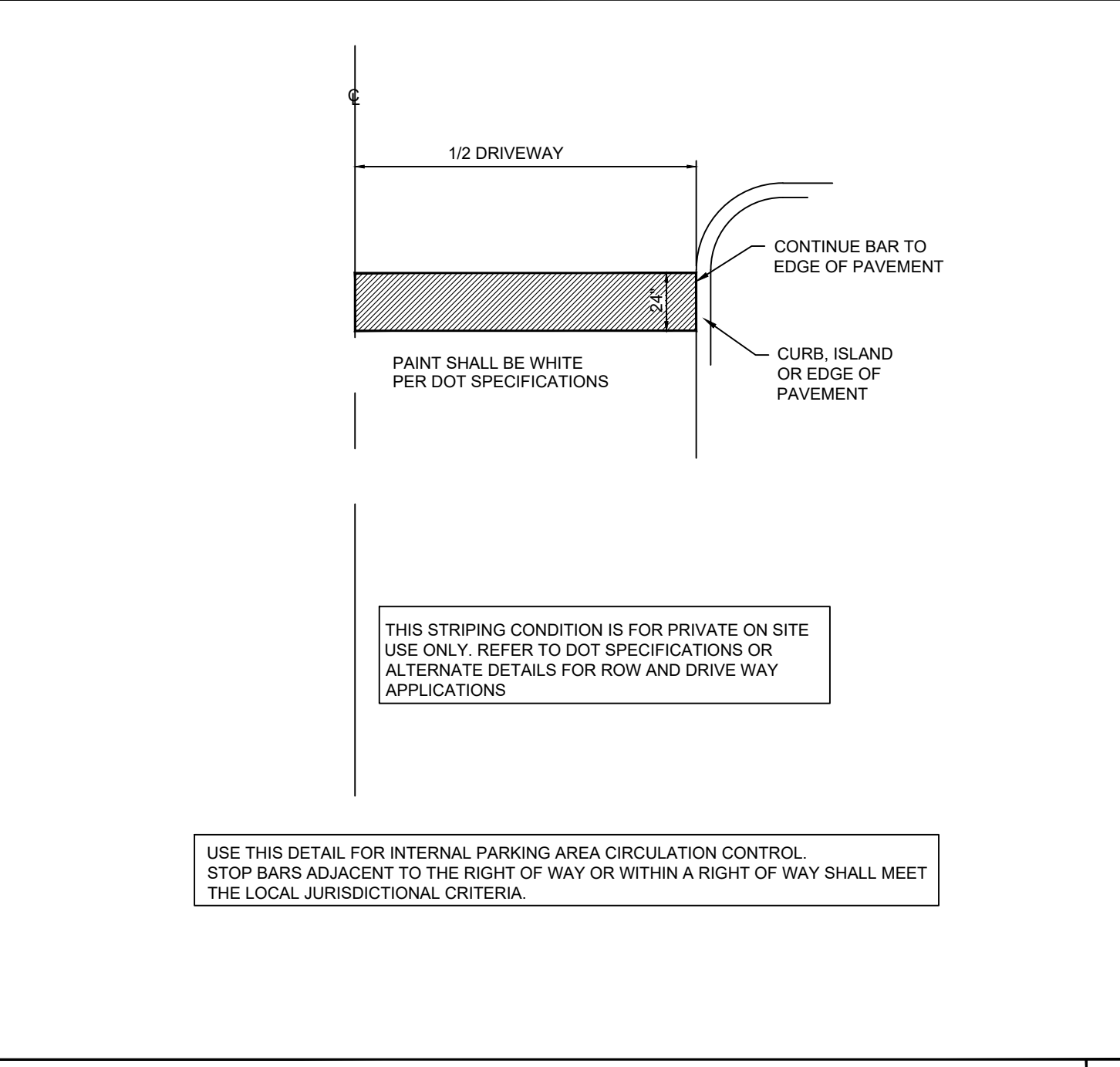
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NOT TO SCALE



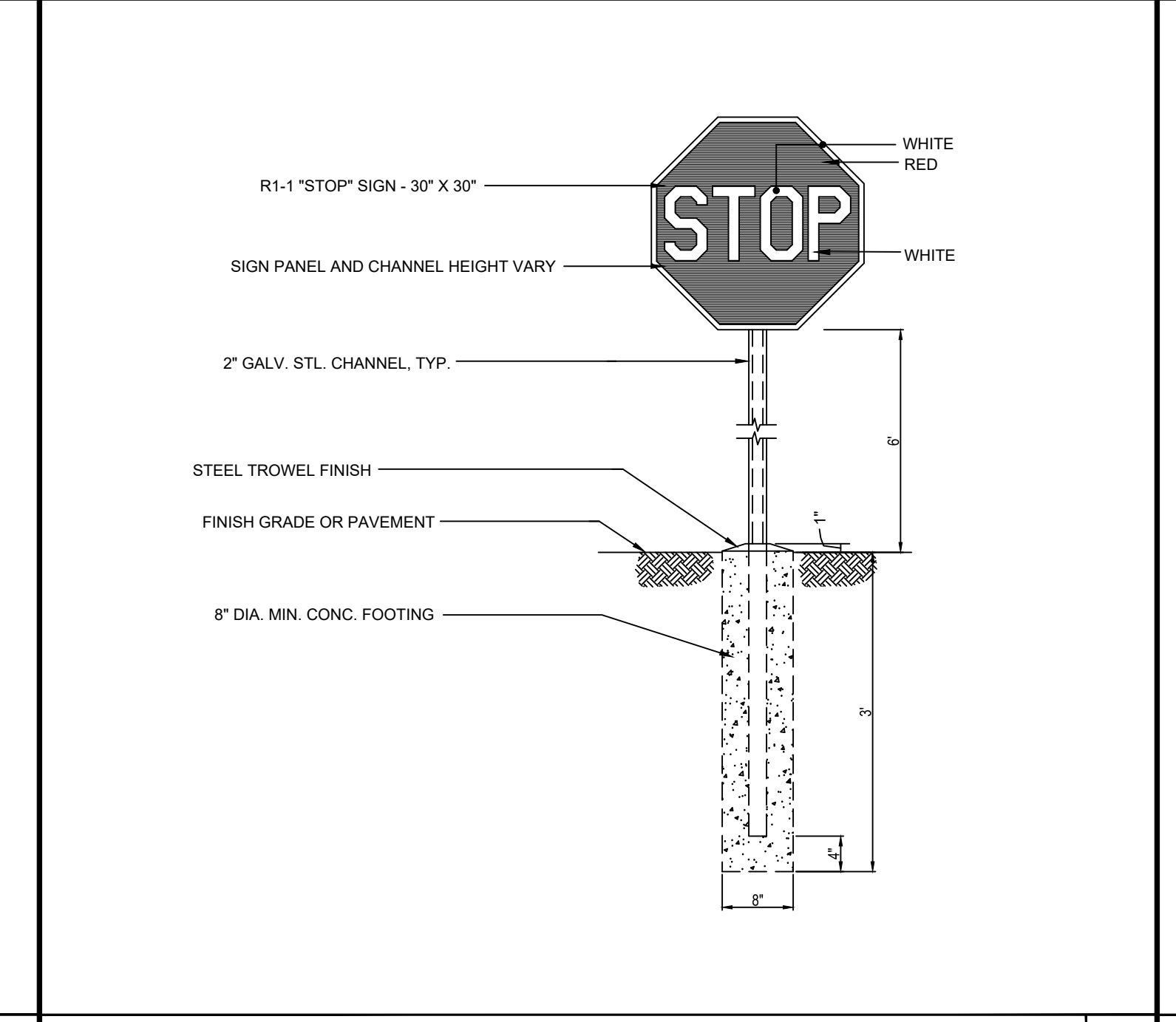
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NOT TO SCALE



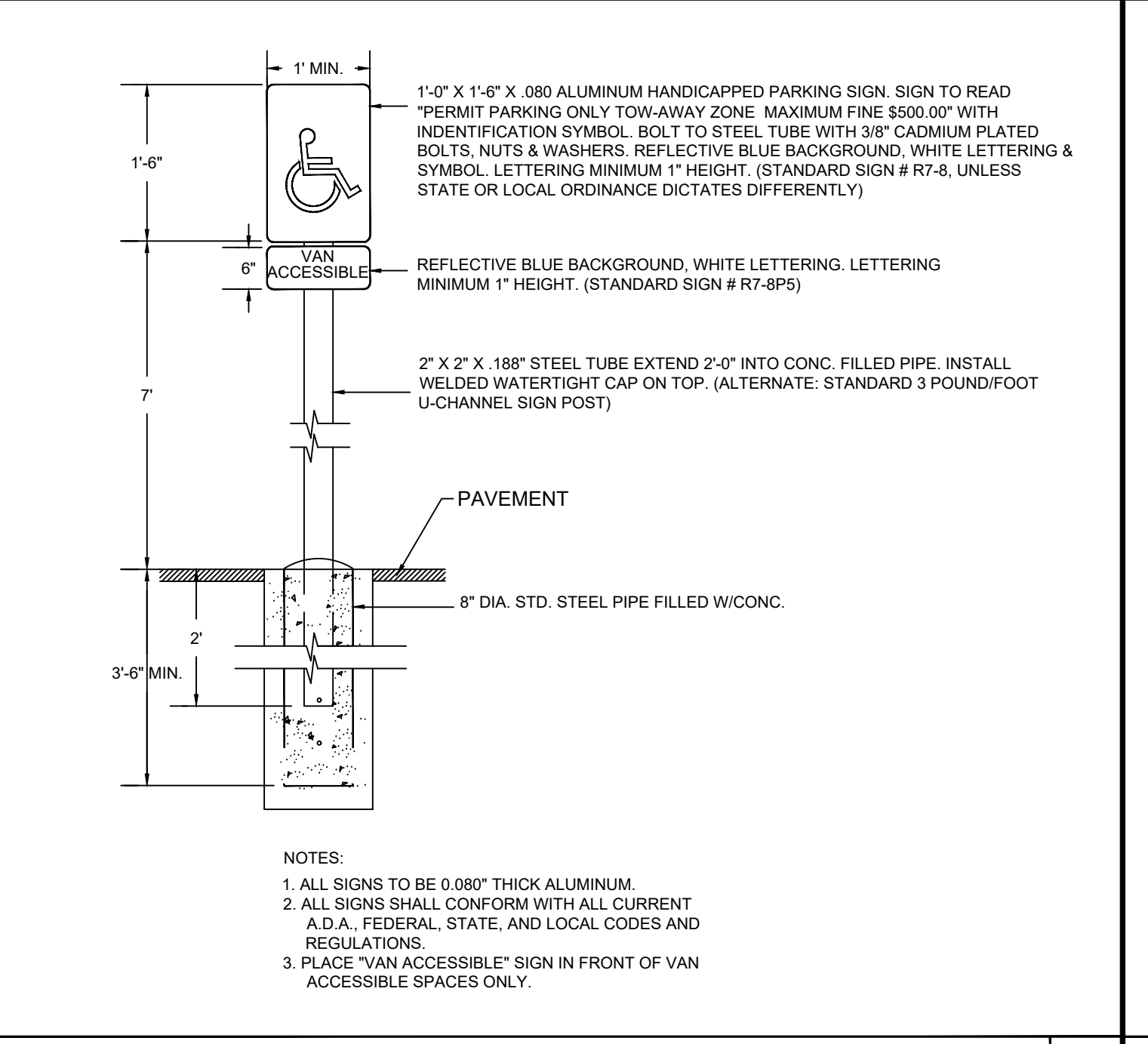
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NOT TO SCALE



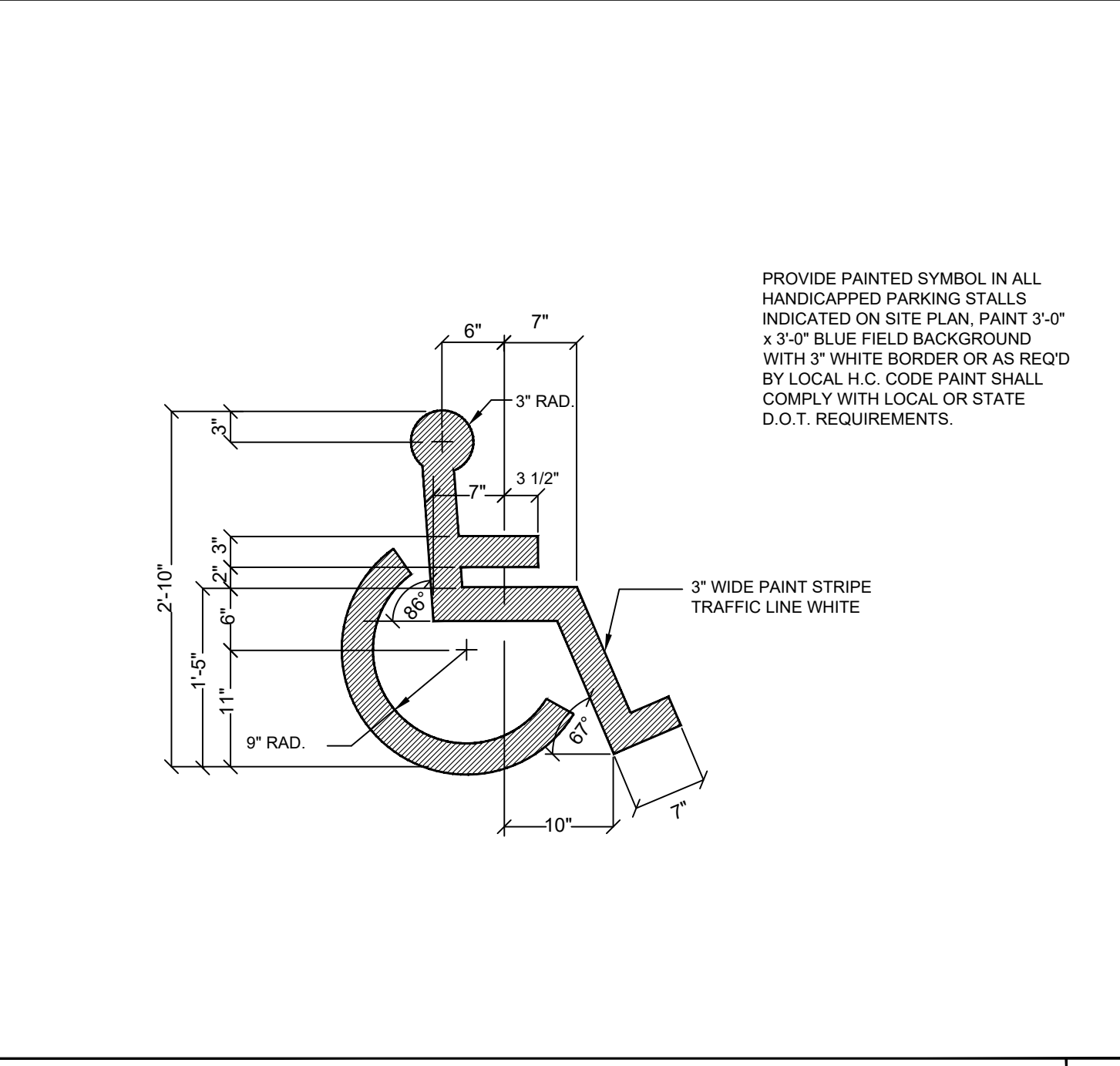
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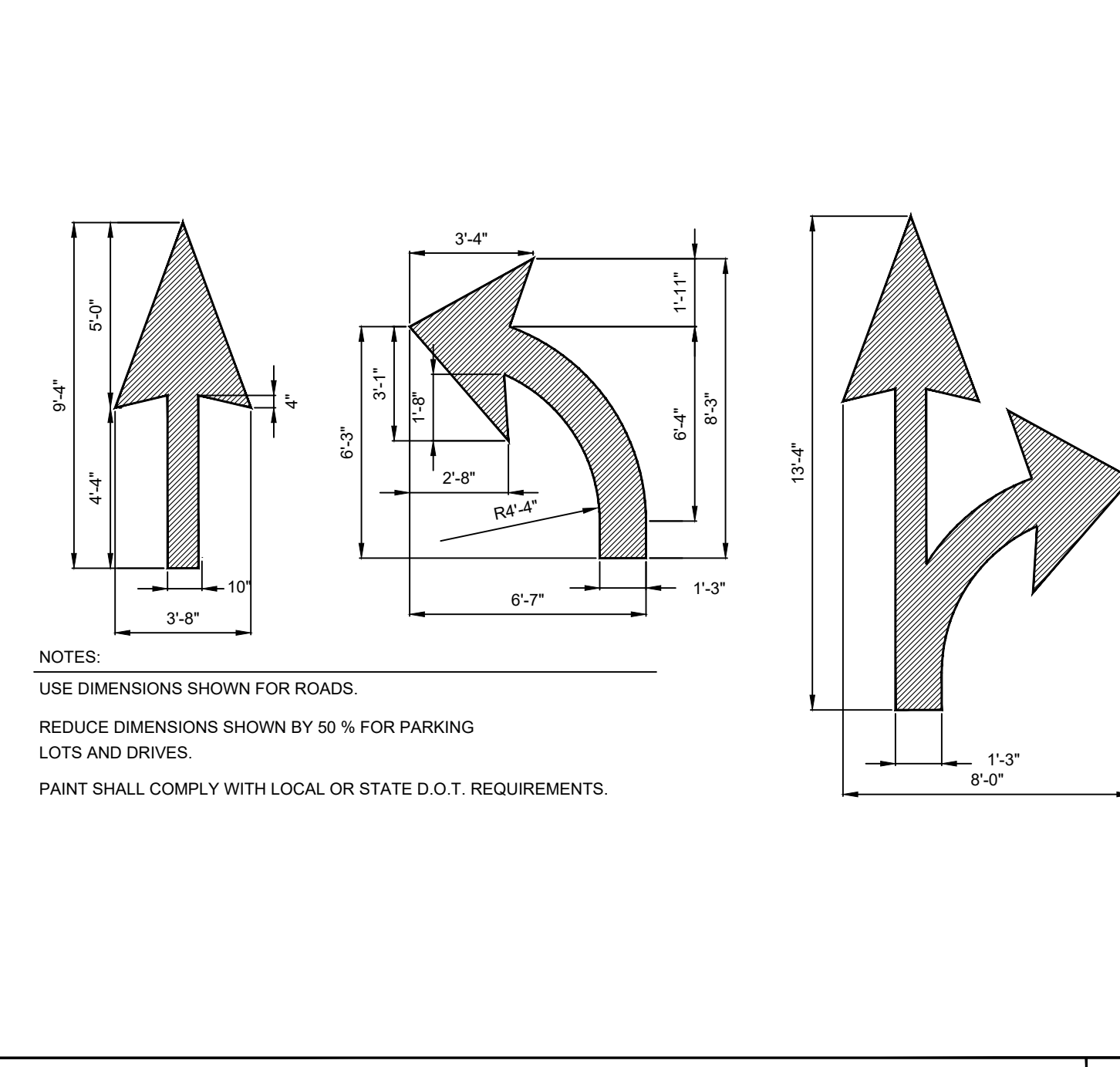
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NOT TO SCALE



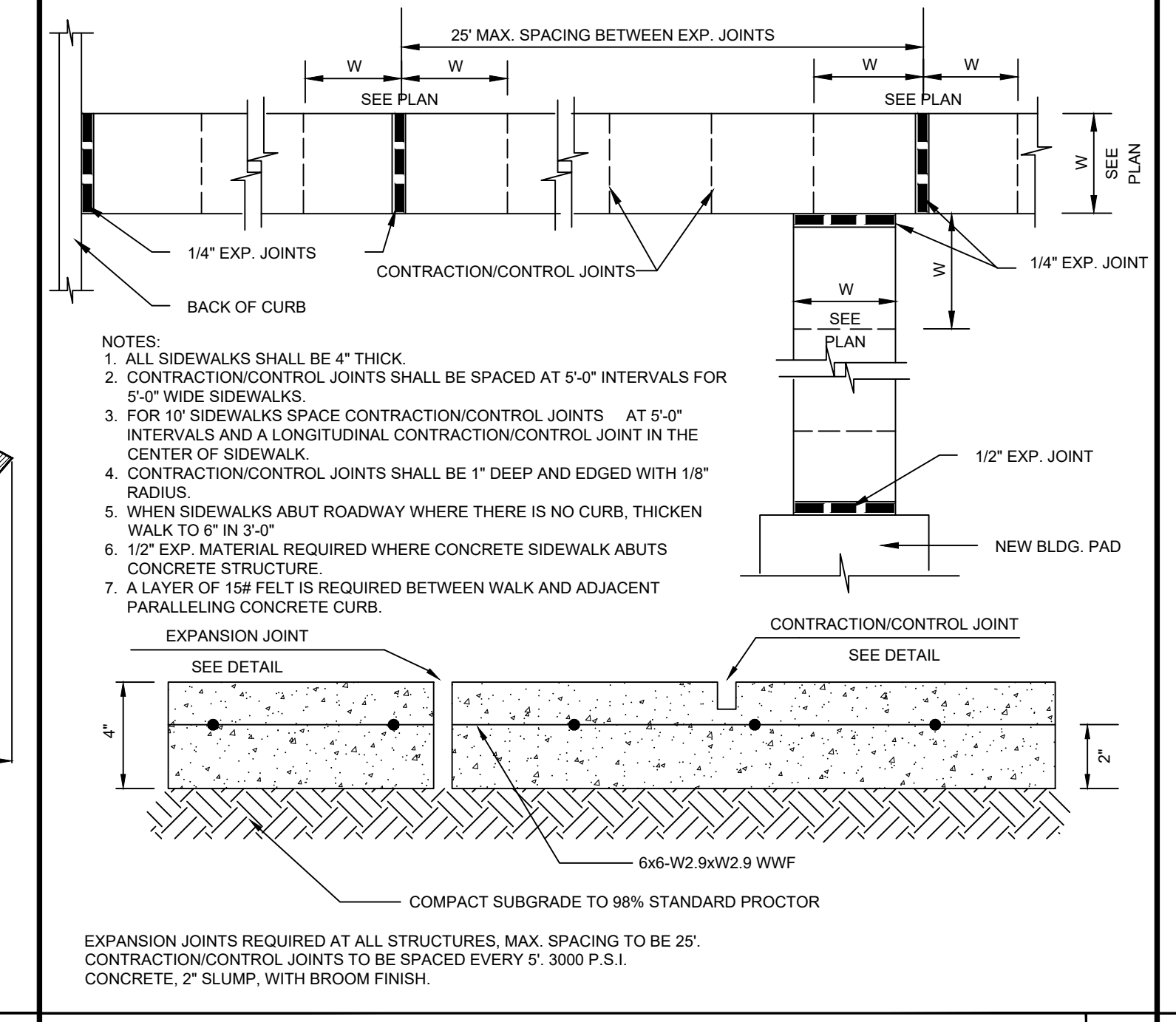
**ADA SIGN MOUNTING DETAIL**  
NOT TO SCALE



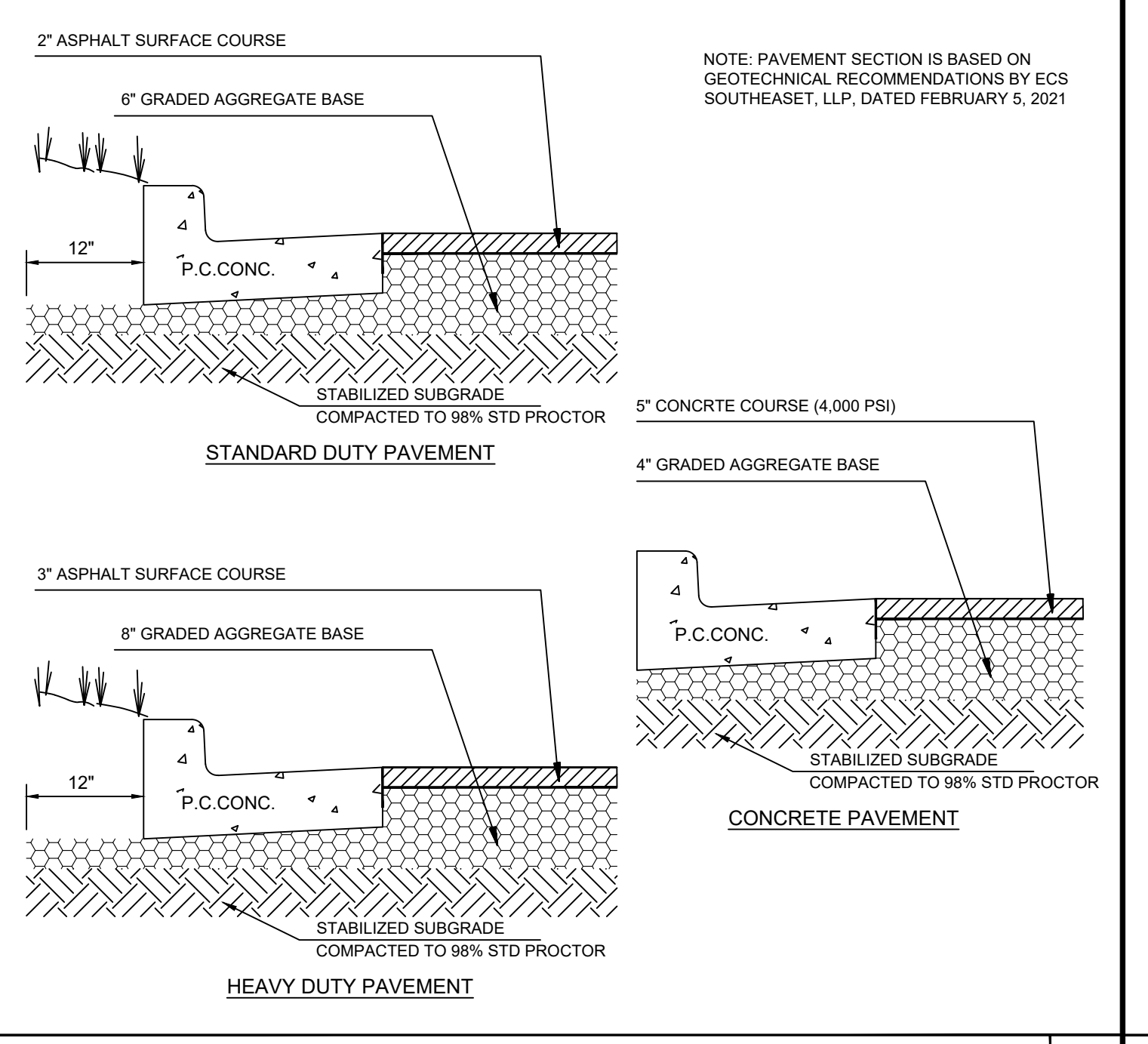
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NOT TO SCALE



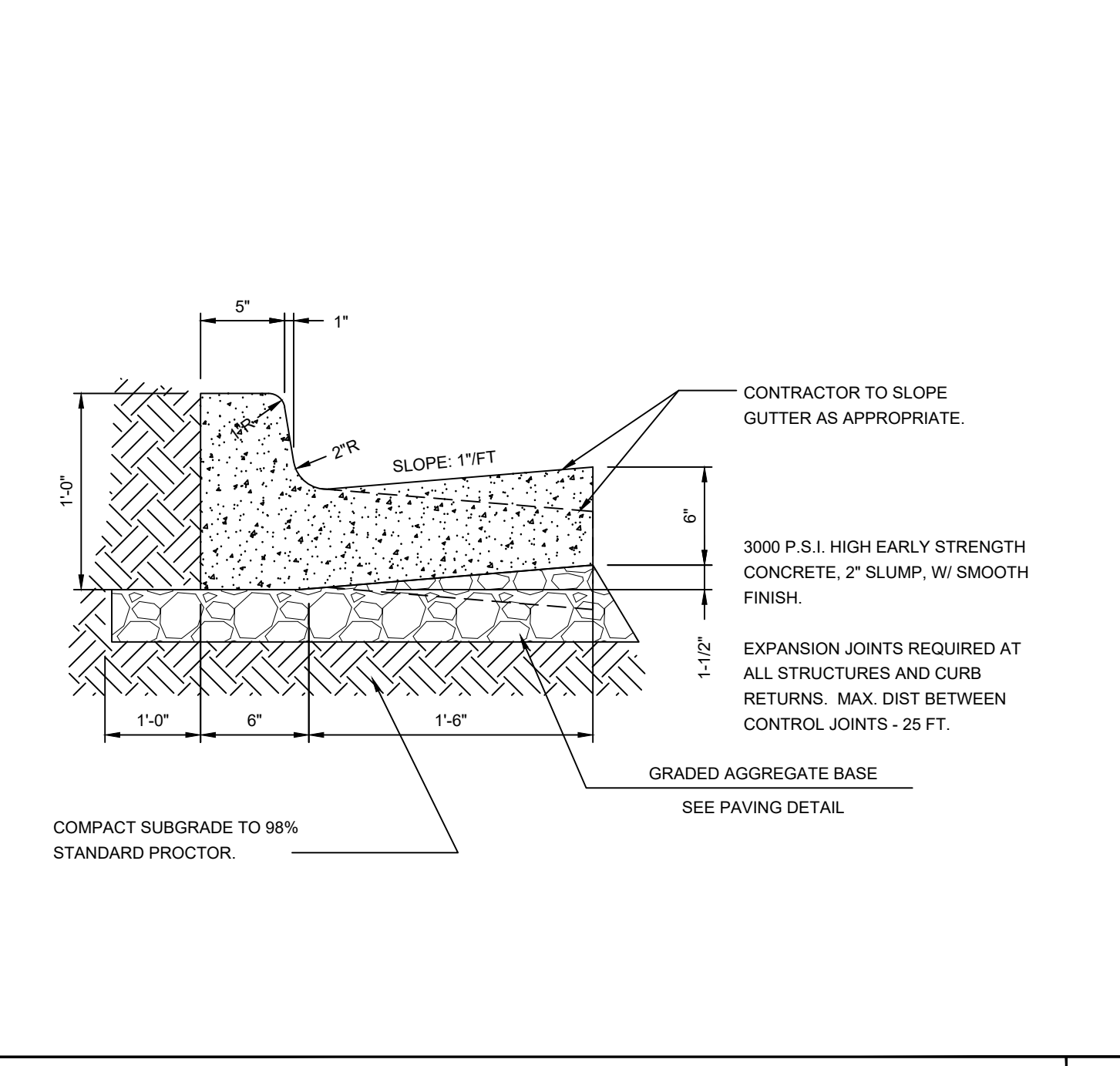
**PAVEMENT MARKING DETAIL**  
NOT TO SCALE



**SIDEWALK DETAIL**  
NOT TO SCALE



**PAVEMENT SECTION DETAIL**  
NOT TO SCALE

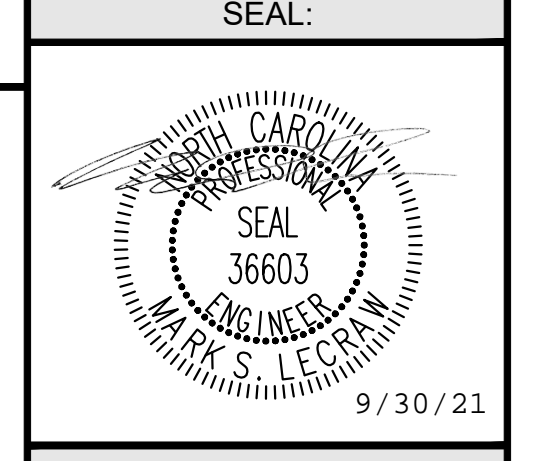


**CURB & GUTTER DETAIL**  
NOT TO SCALE

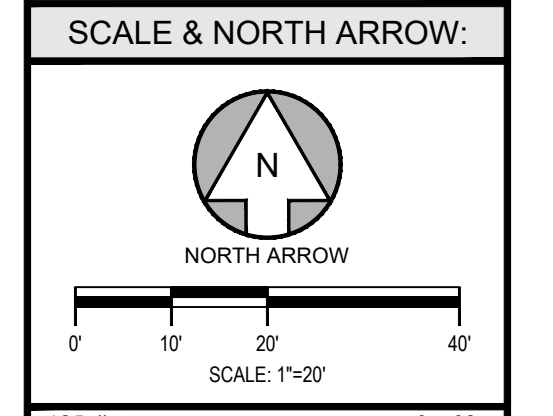
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DATE	1	CHECKED BY	MSL
DATE	08/18/21	DRAWN BY	MAT
DATE	09/30/21	DRB & HRV COMMENTS	1
DATE		DRB & HRV COMMENTS	2

CLIENT  
**PRIMAX PROPERTIES, LLC**  
1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT  
**STARBUCKS - SPOUT SPRINGS**  
2822 NC 24-87  
LAND LOT 6, PARCEL 9594-33-0877.000  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326



DESIGN TEAM:  
DRAWN BY: MAT  
DESIGNED BY: MAT  
REVIEWED BY: MSL



JOB #: 077025  
DATE: JULY 2, 2021  
CONSTRUCTION DETAILS - 1

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR EXISTING CURB AND GUTTER

**CURB RAMP**

SECTION A-A  
SECTION B-B

ISOMETRIC VIEW

PLAN VIEW

DETECTABLE WARNING DOMES

CONCRETE CURB RAMP AND EXISTING SIDEWALK WITH GRASS STRIP

EXISTING CURB AND GUTTER

846.06

NCDOT DETAIL NOT TO SCALE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR EXISTING CURB AND GUTTER

**CURB RAMP**

TYPE 1A  
TYPE 1B

TYPE 1

TYPE 2  
TYPE 3

CONCRETE CURB RAMP

EXISTING CURB AND GUTTER

846.06

NCDOT DETAIL NOT TO SCALE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR EXISTING CURB AND GUTTER

**CURB RAMP**

TYPE 2A  
TYPE 3

CONCRETE CURB RAMP

EXISTING CURB AND GUTTER

846.06

NCDOT DETAIL NOT TO SCALE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR EXISTING CURB AND GUTTER

**CURB RAMP**

CURB RAMPS AND EXISTING SIDEWALK

EXISTING CURB AND GUTTER

846.06

NCDOT DETAIL NOT TO SCALE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR EXISTING CURB AND GUTTER

**CURB RAMP**

EXISTING CURB AND GUTTER

846.06

CONCRETE CURB RAMP AND EXISTING SIDEWALK

EXISTING CURB AND GUTTER

846.06

NCDOT DETAIL NOT TO SCALE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR CONCRETE CURB, GUTTER AND CURB & GUTTER

CONCRETE CURB, GUTTER AND CURB & GUTTER

846.01

SECTION VIEWS OF JOINTS

SECTION VIEW OF CURBS OR CURBS AND GUTTERS

SECTION VIEW OF VALLEY GUTTER

SECTION VIEW OF LONGITUDINAL JOINT IN CURB AND GUTTER

SECTION VIEW OF TRANSVERSE EXPANSION JOINT IN CURB AND GUTTER

EXPRESSWAY GUTTER

SHOULDER BEEM GUTTER

EXPRESSWAY GUTTER

SECTION VIEWS OF EXPRESSWAY GUTTER IN SUPER ELEVATION

SECTION VIEWS OF CURB AND GUTTER SUPERELEVATION RATES

NCDOT DETAIL NOT TO SCALE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR CONCRETE CURB, GUTTER AND CURB & GUTTER

CONCRETE CURB, GUTTER AND CURB & GUTTER

846.01

SECTION VIEWS OF EXPRESSWAY GUTTER IN SUPER ELEVATION

SECTION VIEWS OF CURB AND GUTTER SUPERELEVATION RATES

NCDOT DETAIL NOT TO SCALE

STARBUCKS PAVEMENT MARKING DETAILS

NOT TO SCALE

8

FOR INFORMATIONAL PURPOSES ONLY

DESIGN TEAM:  
DRAWN BY: MAT  
DESIGNED BY: MAT  
REVIEWED BY: MSJ

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

SCALE & NORTH ARROW:  
NORTH ARROW  
SCALE: 1"=20'

JOB #: 077025  
DATE: JULY 2, 2021  
CONSTRUCTION DETAILS - 2

NCDOT DETAIL NOT TO SCALE

LECRAW ENGINEERING

PREPARED IN THE OFFICE OF:  
LECRAW ENGINEERING, INC.  
3475 COVINGTON WAY  
DULUTH, GA 30096  
PHONE - 678-546-8100  
FAX - 770-441-0298  
WWW.LECRAWENGINEERING.COM  
CS-545

CLIENT:  
PRIMAX PROPERTIES, LLC  
1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT:  
STARBUCKS - SPOUT SPRINGS  
2822 NC 24-87  
LAND LOT 6, PARCEL 9594-33-0877.000  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:

FOR INFORMATIONAL PURPOSES ONLY

DESIGN TEAM:  
DRAWN BY: MAT  
DESIGNED BY: MAT  
REVIEWED BY: MSJ

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

SCALE & NORTH ARROW:  
NORTH ARROW  
SCALE: 1"=20'

JOB #: 077025  
DATE: JULY 2, 2021  
CONSTRUCTION DETAILS - 2

C-7.1

NO.	DATE	BY	CHECKED
1	08/20/21	MAT	MSL
2	08/18/21	MAT	MSL

DRB & HRV COMMENTS  
 DRB & HRV COMMENTS

CLIENT  
**PRIMAX PROPERTIES, LLC**  
 1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT  
**STARBUCKS - SPOUT SPRINGS**  
 LAND LOT 6, PARCEL 9594-33-0877.000  
 CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:  
**FOR INFORMATIONAL PURPOSES ONLY**

DESIGN TEAM:  
 DRAWN BY: MAT  
 DESIGNED BY: MAT  
 REVIEWED BY: MSL

811  
 Know what's below.  
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SCALE & NORTH ARROW:  
 NORTH ARROW  
 SCALE: 1"=20'

JOB #: 077025  
 DATE: JULY 2, 2021  
 CONSTRUCTION DETAILS - 3

ROADWAY STANDARD DRAWING FOR  
**FRAME, GRATES, AND HOOD**  
 FOR USE ON STANDARD CATCH BASIN

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

NOTE: USE TYPE "F", "E", AND "G" GRATE UNLESS OTHERWISE NOTED.

840.03

ROADWAY STANDARD DRAWING FOR  
**CONCRETE CATCH BASIN**  
 12" THRU 54" PIPE

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

PIPE SIZE	WIDTH	HEIGHT	SPAN	MIN. HEIGHT	MIN. WIDTH	MIN. LENGTH	MIN. AREA	MIN. PERIMETER	MIN. VOLUME	MIN. WEIGHT	MIN. COST
12"	12"	12"	12"	12"	12"	12"	144	36	1728	144	144
18"	18"	18"	18"	18"	18"	18"	324	54	5832	324	324
24"	24"	24"	24"	24"	24"	24"	576	72	20736	576	576
30"	30"	30"	30"	30"	30"	30"	900	90	43740	900	900
36"	36"	36"	36"	36"	36"	36"	1296	108	77760	1296	1296
42"	42"	42"	42"	42"	42"	42"	1764	126	121680	1764	1764
48"	48"	48"	48"	48"	48"	48"	2304	144	180672	2304	2304
54"	54"	54"	54"	54"	54"	54"	2916	162	254256	2916	2916

840.02

ROADWAY STANDARD DRAWING FOR  
**CONCRETE CATCH BASIN**  
 12" THRU 54" PIPE

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

840.02

ROADWAY STANDARD DRAWING FOR  
**PRECAST CONCRETE ENDWALL**  
 FOR SINGLE 12" THRU 72" PIPE - 90° SKEW

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

PIPE DIA.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
12"	12"	12"	12"	12"	12"	12"	12"	12"	12"	12"
18"	18"	18"	18"	18"	18"	18"	18"	18"	18"	18"
24"	24"	24"	24"	24"	24"	24"	24"	24"	24"	24"
30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"
36"	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"
42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"
48"	48"	48"	48"	48"	48"	48"	48"	48"	48"	48"
54"	54"	54"	54"	54"	54"	54"	54"	54"	54"	54"

840.01

**HOOP RACK - Specifications and Space Use**

Product Name  
 Dero Hoop Rack  
 As manufactured by Dero Bike Racks

Bikes Parked per Unit: 2

Materials:  
 1.5" schedule 40 pipe (1.9" OD)

Finishes  
 An after fabrication hot dipped galvanized finish is standard. 250 TGIC powder coat colors and a stainless steel option are also available.

Our powder coat finish assures a high level of adhesion and durability by following these steps:  
 1. Sandblast  
 2. Iron phosphate pretreatment  
 3. Epoxy primer electrostatically applied  
 4. Final thick TGIC polyester powder coat

Stainless Steel: 304 grade stainless steel material finished in either a high polished shine or a satin finish.

A rubbery PVC Dip is also available

Installation Methods  
 • In ground mount is embedded into concrete base. Specify in ground mount for this option.  
 • Foot Mount has two 2.5"x6"x25" feet with two anchors per foot. Specify foot mount for this option.  
 • Rail Mounted Hoops are bolted to two parallel rails which can be left freestanding or anchored to the ground. Rails are heavy duty 3"x1.4"x3/16" thick galvanized mounting rails. Specify rail mount for this option.

SETBACKS  
**Wall Setbacks:**  
 For racks set parallel to a wall:  
 Minimum: 24"  
 Recommended: 36"  
**For racks set perpendicular to a wall:**  
 Minimum: 28"  
 Recommended: 36"  
**Distance Between Racks:**  
 Minimum: 24"  
 Recommended: 36"  
**Street Setbacks:**  
 Minimum: 24"  
 Recommended: 36"

840.03

DOWNSPOUT CONNECTION DETAIL

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

840.03

ROADWAY STANDARD DRAWING FOR  
**CONCRETE JUNCTION BOX**  
 (WITH OPTIONAL MANHOLE)  
 12" THRU 66" PIPE

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

PIPE SIZE	WIDTH	HEIGHT	SPAN	MIN. HEIGHT	MIN. WIDTH	MIN. LENGTH	MIN. AREA	MIN. PERIMETER	MIN. VOLUME	MIN. WEIGHT	MIN. COST
12"	12"	12"	12"	12"	12"	12"	144	36	1728	144	144
18"	18"	18"	18"	18"	18"	18"	324	54	5832	324	324
24"	24"	24"	24"	24"	24"	24"	576	72	20736	576	576
30"	30"	30"	30"	30"	30"	30"	900	90	43740	900	900
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42"	42"	42"	42"	42"	42"	42"	1764	126	121680	1764	1764
48"	48"	48"	48"	48"	48"	48"	2304	144	180672	2304	2304
54"	54"	54"	54"	54"	54"	54"	2916	162	254256	2916	2916
60"	60"	60"	60"	60"	60"	60"	3600	180	345600	3600	3600
66"	66"	66"	66"	66"	66"	66"	4356	198	453456	4356	4356

840.31

ROADWAY STANDARD DRAWING FOR  
**FRAME, GRATES, AND HOOD**  
 FOR USE ON STANDARD CATCH BASIN

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

840.03



Drawing name: C:\Users\michael.boothaker\OneDrive\Engineering\Dropbox\Shared\Harnett\LeCraw\Engineering\077025 - Primax - Retail Development - Spout Springs - NCCADD\CONSTR\077025 - 10 - DETAILS.dwg C-7.4 CONSTRUCTION DETAILS - 5 Sep 30, 2021 12:19pm by michael.boothaker

LAYING CONDITIONS	DESCRIPTION	PROJECT USE
TYPE 1	FLAT SYSTEM UNDEVELOPED EARTH TRUNK, EDGE CHANNEL	NOT USED
TYPE 2	FLAT SYSTEM UNDEVELOPED EARTH TRUNK, CHANNEL TO CENTERLINE OF PIPE	NOT USED
TYPE 3	PIPE BEDDED IN SAND, PARALLEL TO CENTERLINE OF TRUNK, CHANNEL TO CENTERLINE OF PIPE	ALL SOUTHERN POWER SYSTEMS
TYPE 4	PIPE BEDDED IN SAND, PARALLEL TO CENTERLINE OF TRUNK, CHANNEL TO CENTERLINE OF PIPE	ALL SOUTHERN POWER SYSTEMS
TYPE 5	PIPE BEDDED TO THE CENTERLINE OF TRUNK, CHANNEL TO CENTERLINE OF PIPE	ALL SOUTHERN POWER SYSTEMS

**TYPICAL SCADA ONE LINE DIAGRAM DETAIL**

Sheet No. 1 of 3

**Harnett County**  
WASTE WATER SYSTEM  
HARNETT COUNTY, NORTH CAROLINA

Scale: NOTED  
Date: 2020  
Drawn By: H.C.B.P./J.L.  
Checked By: M.W.E.  
Block No.:  
Page No.:  
Date: 08/18/21  
Sheet No.:  
2 of 3

**TYPICAL 5/4" METER SETTER INSTALLATION DETAIL**

**TYPICAL 1" METER SETTER INSTALLATION DETAIL**

**TYPICAL 2" METER SETTER INSTALLATION DETAIL**

**TYPICAL METER BOX DETAIL FOR 5/4" SERVICE**

**TYPICAL METER BOX DETAIL FOR 1" SERVICE**

**TYPICAL METER BOX DETAIL FOR 2" SERVICE**

Sheet No. 2 of 3

**Harnett County**  
WASTE WATER SYSTEM  
HARNETT COUNTY, NORTH CAROLINA

Scale: NOTED  
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Drawn By: H.C.B.P./J.L.  
Checked By: M.W.E.  
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2 of 3

**TYPICAL VALVE WAREHOUSE DETAIL**

**TYPICAL TAPPING SLEEVE AND VALVE ASSEMBLY DETAIL**

**TYPICAL VALVE BODY DETAIL**

**TYPICAL TYPIC COBBLER INSTALLATION DETAIL**

**TYPICAL TRACER WIRE INSTALLATION DETAIL**

**TYPICAL PERMANENT BLOW-OFF ASSEMBLY DETAIL**

**TYPICAL THRUST BLOCK DETAIL**

**TYPICAL TRENCH IN BITUMINOUS SURFACE AREAS DETAIL**

**TYPICAL DOMESTIC WATER SERVICE INSTALLATION DETAIL**

**TYPICAL WATER SERVICE CONNECTION TAPPING SLEEVE DETAIL**

Sheet No. 1 of 3

**Harnett County**  
WASTE WATER SYSTEM  
HARNETT COUNTY, NORTH CAROLINA

Scale: NOTED  
Date: 2020  
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Block No.:  
Page No.:  
Date: 08/18/21  
Sheet No.:  
1 of 3

**TYPICAL 4" METER & DOUBLE CHECK ASSEMBLY LAYOUT DETAIL**

**TYPICAL 6" METER & VAULT DETAIL**

**TYPICAL 8" METER & VAULT DETAIL**

Sheet No. 1 of 1

**Harnett County**  
WASTE WATER SYSTEM  
HARNETT COUNTY, NORTH CAROLINA

Scale: NOTED  
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1 of 1

PREPARED IN THE OFFICE OF  
**LECRAW ENGINEERING**  
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SUITE 100  
DULUTH, GA 30096  
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1	08/18/21	MAT	MAT
2	09/30/21	MAT	MAT

CLIENT  
**PRIMAX PROPERTIES, LLC**  
1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT  
**STARBUCKS - SPOUT SPRINGS**  
2822 NC 24-87  
LAND LOT 6, PARCEL 9594-33-0877.000  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:  
**FOR INFORMATION PURPOSES ONLY**

DESIGN TEAM:  
DRAWN BY: MAT  
DESIGNED BY: MAT  
REVIEWED BY: MSL

**811**  
Know what's below.  
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SCALE & NORTH ARROW:  
NORTH ARROW  
SCALE: 1"=20'

JOB #: 077025  
DATE: JULY 2, 2021  
CONSTRUCTION DETAILS - 5

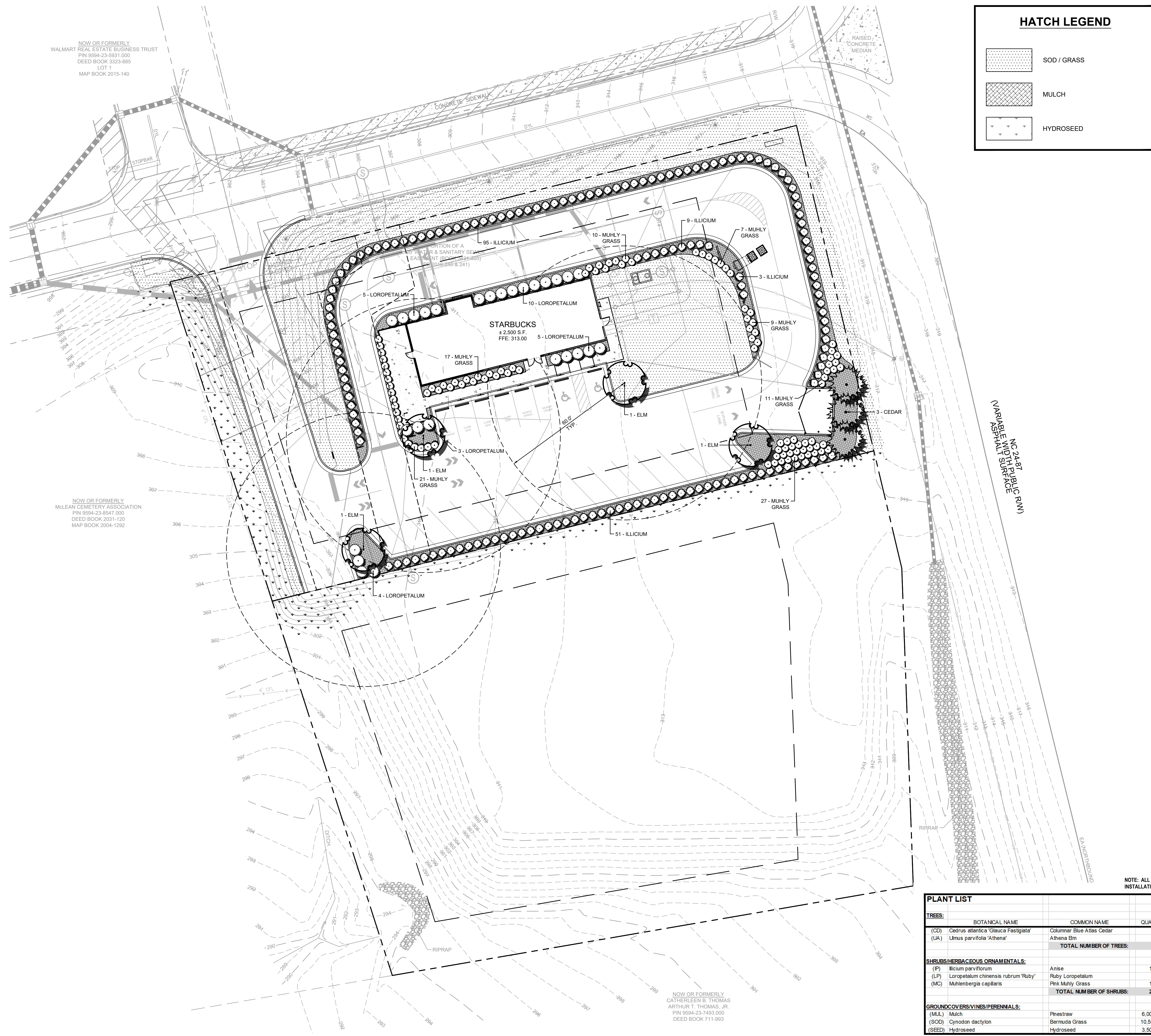
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NOW OR FORMERLY  
WALMART REAL ESTATE BUSINESS TRUST  
PIN 9594-23-5931.000  
DEED BOOK 3323-885  
LOT 1  
MAP BOOK 2015-140

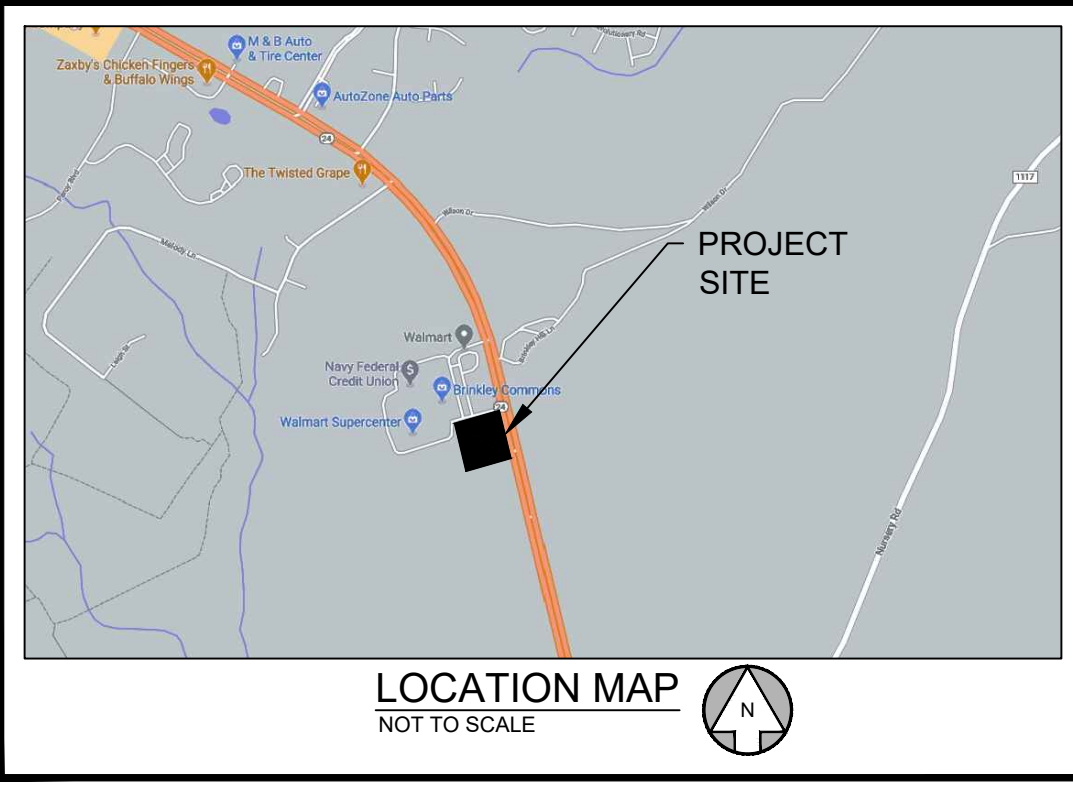
NOW OR FORMERLY  
McLEAN CEMETERY ASSOCIATION  
PIN 9594-23-8547.000  
DEED BOOK 2031-120  
MAP BOOK 2004-1292

NOW OR FORMERLY  
CATHERLEEN B. THOMAS  
ARTHUR T. THOMAS, JR.  
PIN 9594-23-7493.000  
DEED BOOK 711-993



### HATCH LEGEND

	SOD / GRASS
	MULCH
	HYDROSEED



### SITE SUMMARY

<b>SITE AREA</b>	
SITE AREA:	0.93 ACRES (40,572 S.F.)
IMPERVIOUS AREA:	26,115 S.F. (64.4%)
PERVIOUS AREA:	14,457 S.F. (35.6%)
<b>ZONING CLASSIFICATION</b>	
JURISDICTION:	HARNETT COUNTY
ZONING:	COMMERCIAL
ADJACENT ZONING:	COMMERCIAL
<b>BUILDING SETBACKS</b>	
FRONT:	50'
SIDE:	20'/20' (CORNER)
REAR:	25'
<b>BUILDING SUMMARY</b>	
BUILDING AREA:	2,500 S.F. (54 SEATS)
BUILDING COVERAGE:	6.16%
<b>PARKING SUMMARY</b>	
PARKING REQ.:	1 SPACES / 4 SEATS + 2 / EMPLOYEE
	18 SPACES
PARKING PROV.:	9.6 SPACES / 1,000 S.F.
	24 SPACES
STANDARD STALL DIMENSIONS:	9' x 18'
MIN. DRIVE WIDTH:	24'

### ORDINANCE REQUIREMENTS

<b>PARKING LOT REQUIREMENTS:</b>	24 S PACES
<b>PERIMETER PLANTINGS</b>	
EVERGREEN SCREEN MAINTAINED @ 3' HT. WITHIN 3 YEARS	
MIN. 18" HEIGHT AT PLANTING	
1 TREE / 10 SPACES =	3 TREES
2 SHRUBS / 10 SPACES =	6 SHRUBS
EACH SPACE MUST BE WITHIN 60' OF A TREE	

**HARNETT COUNTY UTILITY EASEMENT NOTE:**

NO TREES ARE TO BE PLANTED WITHIN ANY UTILITY EASEMENTS. ANY SHRUBS PLANTED WITHIN THE EASEMENTS ARE DONE SO AT THE OWNER'S RISK AND SHALL BE THE OWNER'S RESPONSIBILITY TO REPLACE IF REMOVED DUE TO MAINTENANCE OF UTILITY LINES. SHRUBS PLANTED WITHIN THE EASEMENTS SHALL NOT BE PLANTED DIRECTLY OVER A UTILITY LINE. PLANT LOCATIONS SHOWN ON THE PLAN MAY NEED SHIFT IN THE FIELD BASED ON THE BUILT CONDITION OF THE UTILITIES TO ENSURE THE AFORE MENTIONED REQUIREMENTS ARE MET.

### PLANT LIST

TREES:	BOTANICAL NAME	COMMON NAME	QUANTITY	MIN. SIZE	MIN SPACING	TREE TYPE	COMMENTS
(CD)	Cedrus atlantica 'Glauca Fastigiata'	Columnar Blue Atlas Cedar	3	8-10' HT	12' O.C.	EVERGREEN CANOPY	UPRIGHT HABIT
(JA)	Ulmus parvifolia 'Athena'	Athena Elm	4	3" CAL.	N/A	DECIDUOUS CANOPY	6' CLEAR BELOW CANOPY
			<b>TOTAL NUMBER OF TREES:</b>				
<b>SHRUBS/HERBACEOUS ORNAMENTALS:</b>							
(P)	Illicium parviflorum	Anise	158	18" HT.	5' O.C.		
(LP)	Loropetalum chinensis rubrum 'Ruby'	Ruby Loropetalum	27	5 GAL.	5' O.C.		
(MC)	Muhlenbergia capillaris	Pink Muhly Grass	102	3 GAL.	3' O.C.		
			<b>TOTAL NUMBER OF SHRUBS:</b>				
<b>GROUNDCOVERS/VINES/PERENNIALS:</b>							
(MUL)	Mulch	Pinestraw	6,000 S.F.				
(SOD)	Cynodon dactylon	Bermuda Grass	10,500 S.F.				
(SEED)	Hydroseed	Hydroseed	3,500 S.F.	BERMUDA GRASS MIX			

NOTE: ALL QUANTITIES ARE FOR A GENERAL GUIDE ONLY. CONTRACTOR SHALL CONFIRM ALL QUANTITIES PRIOR TO BIDDING AND INSTALLATION. LECRAW ENGINEERING, INC. SHALL TAKE NO RESPONSIBILITY FOR THE ACCURACY OF THE QUANTITIES PROVIDED.

PREPARED IN THE OFFICE OF:

**LECRAW ENGINEERING**

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CS-582

REV #	DATE	BY	CHECKED
1	08/02/21	MAT	MSL
2	08/02/21	MAT	MSL

CLIENT: PRIMAX PROPERTIES, LLC  
1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT: STARBUCKS - SPOUT SPRINGS

LAND LOT 6, PARCEL 9594-33-0877.000  
CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:

DESIGN TEAM:

DRAWN BY:	MAT
DESIGNED BY:	MAT
REVIEWED BY:	MSL

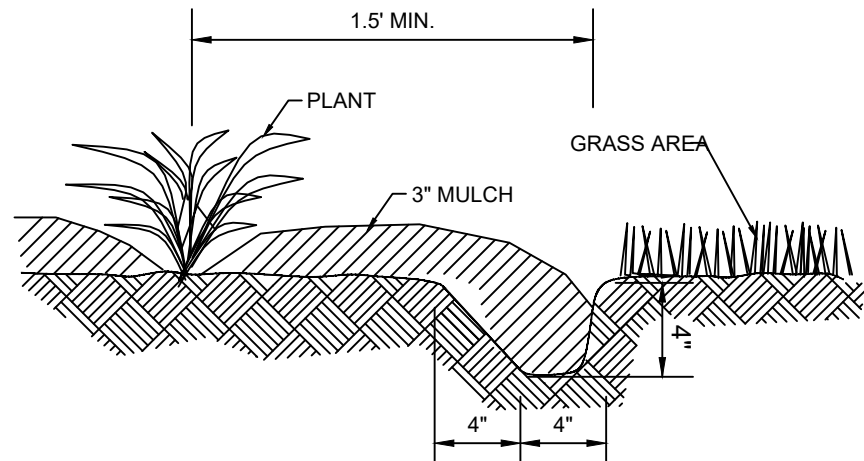
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SCALE: 1"=20'

JOB #: 077025  
DATE: JULY 2, 2021

LANDSCAPE PLAN  
**L-1.0**

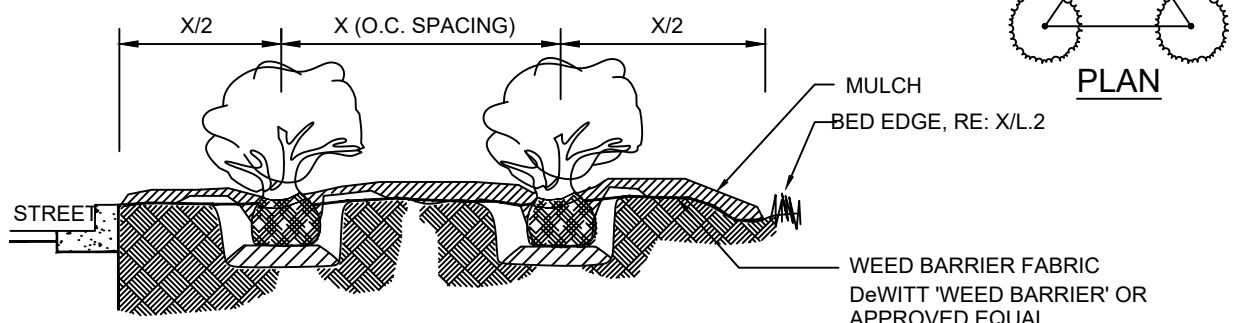
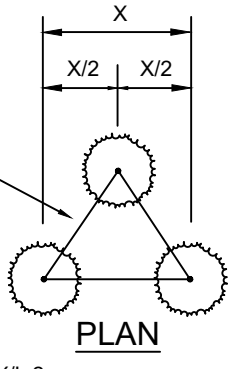


**PLANT BED EDGING DETAIL**

NOT TO SCALE

**NOTES:**

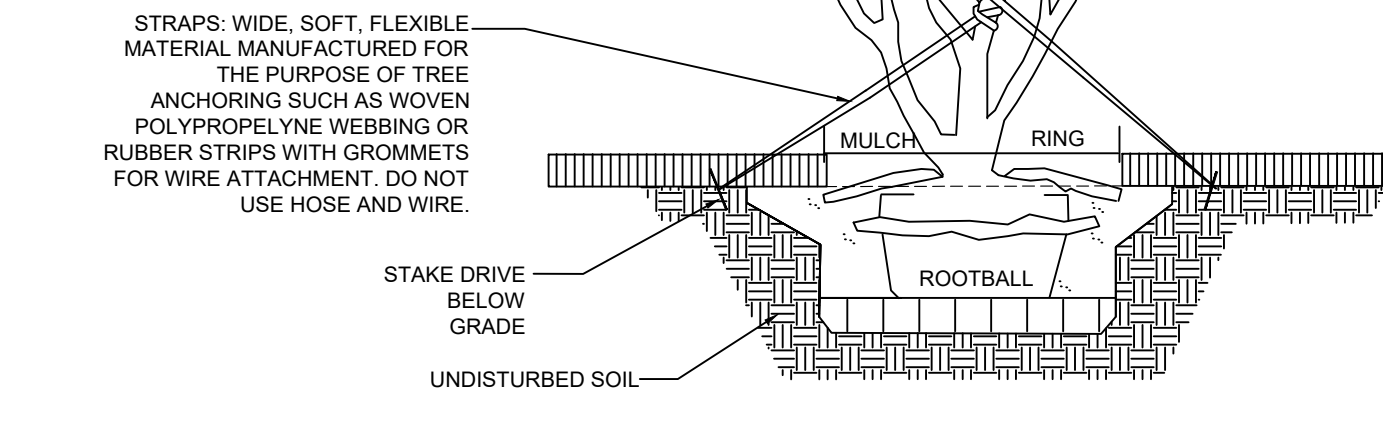
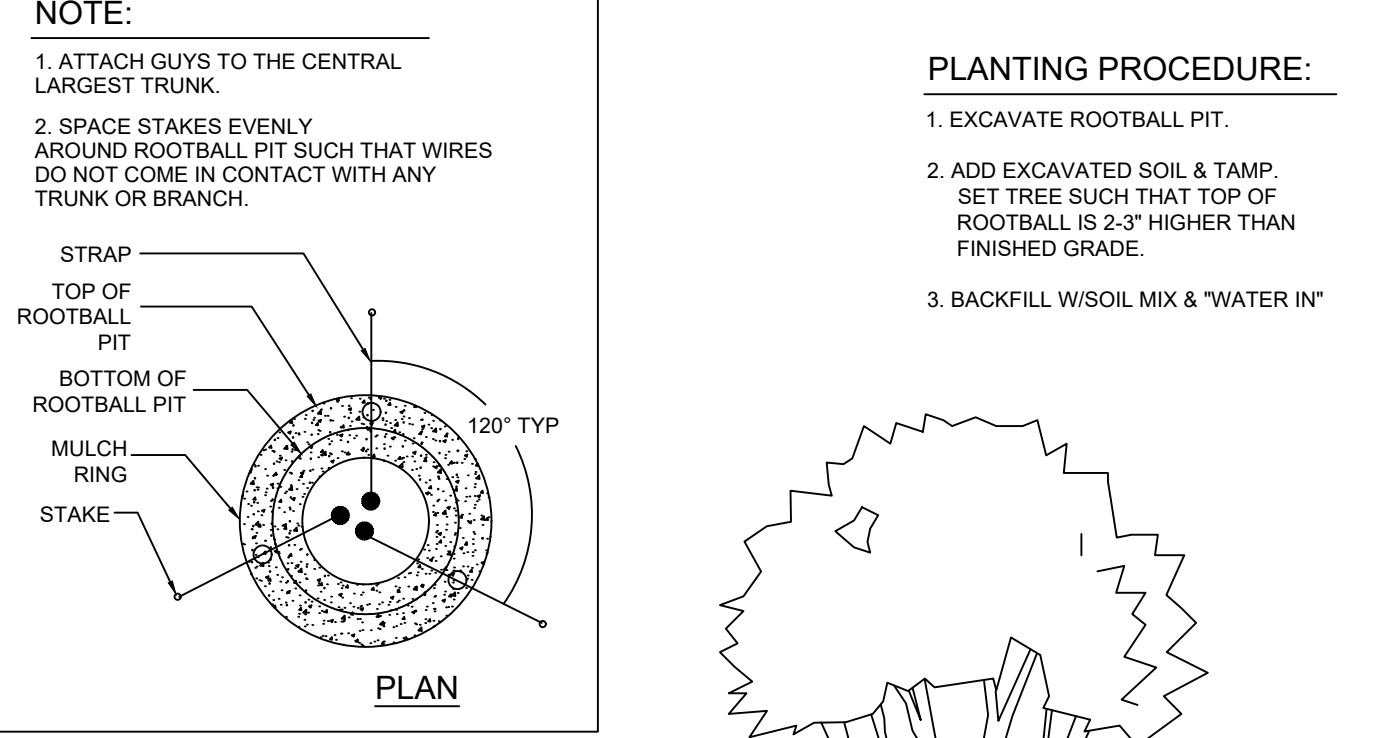
- LAYOUT PERIMETER PLANTING SPACES AS PER PLAN.
- FILL IN PLANTING BED WITH TRIANGULAR SPACING.
- ADJUST AS PER L.A.'S INSTRUCTIONS.



**SHRUB & GROUNDCOVER BED DETAIL**

NOT TO SCALE

1



**MULTI-TRUNK TREE PLANTING DETAIL**

NOT TO SCALE

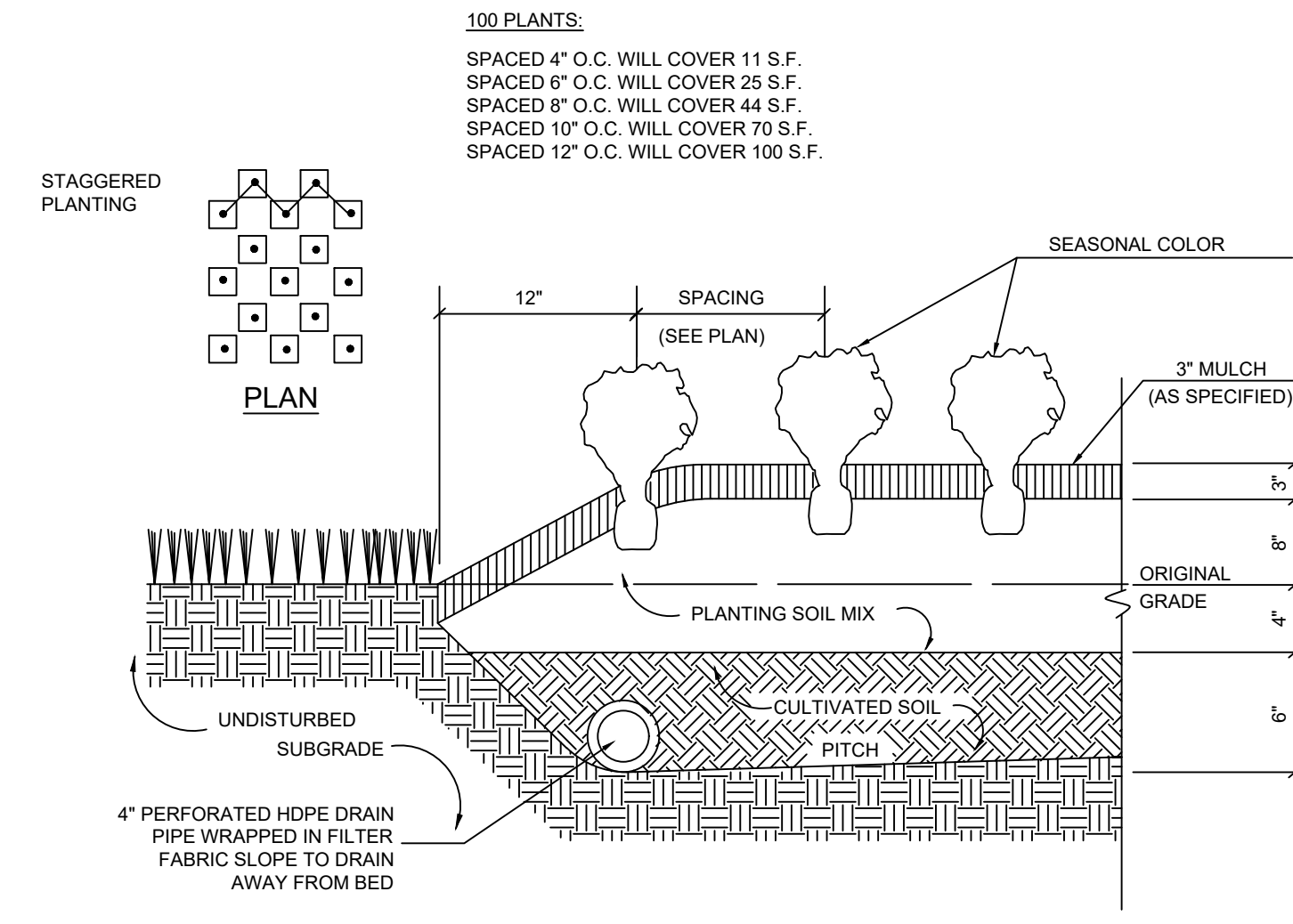
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**GENERAL IRRIGATION NOTES (BY OTHERS)**

- CONTRACTOR SHALL LOCATE UTILITIES AND SERVICES IN AND AROUND THE SITE PRIOR TO START OF WORK.
- THE CONTRACTOR SHALL MAKE ALL EFFORTS TO AVOID DAMAGE TO EXISTING STRUCTURES, PAVING, AND UTILITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REPAIR OF DAMAGE TO ON-SITE UTILITIES, STRUCTURES, OR PAVING RESULTING FROM IRRIGATION CONSTRUCTION. REPAIRS SHALL BE COMPLETED AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMING TO ALL CODES AND ORDINANCES RELEVANT TO THE WORK UNDER THIS CONTRACT.
- ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT OR OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS AND LABOR TO FULLY EXECUTE AND GUARANTEE, AS REQUIRED, ALL WORK IN ACCORDANCE WITH SPECIFICATIONS, AND ALSO AS PER INSTRUCTIONS OF THE LANDSCAPE ARCHITECT AND THE OWNER.
- CONTRACTOR SHALL USE ONLY NEW, COMMERCIAL GRADE MATERIAL.
- AUTOMATIC CONTROL CLOCK WILL BE LOCATED ON-SITE BY THE LANDSCAPE ARCHITECT OR OWNER.
- IRRIGATION DESIGNER SHALL LAYOUT SYSTEM TO MINIMIZE CONFLICTS WITH THE LOCATION OF PROPOSED PLANT MATERIALS (AS SHOWN ON THE PLANTING PLAN) AND OTHER SITE AMENITIES.
- ALL MAIN LINES SHALL BE INSTALLED A MAXIMUM OF 2' FROM THE BACK OF CURBS WHERE POSSIBLE. LATERALS LINES SHALL BE INSTALLED LIKEWISE WHERE POSSIBLE.
- THE CONTRACTOR SHALL ADJUST THE RADIUS AND ARC OF EACH HEAD TO MINIMIZE "OVERTHROW" AND TO ELIMINATE "DRY SPOTS." OVERTHROW ONTO PAVED AREAS SHALL NOT BE ALLOWED.
- ELECTRIC SUPPLY WILL BE STUBBED-OUT AT CONTROL CLOCK LOCATION BY OTHERS. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL CONNECTIONS FROM CONTROL VALVES TO THE CONTROL CLOCK.
- THE ENTIRE SYSTEM SHALL BE UNCONDITIONALLY GUARANTEED BY THE IRRIGATION CONTRACTOR AGAINST ALL DEFECTIVE WORK AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF TOTAL ACCEPTANCE.
- THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE AT TIME OF COMPLETION FOR PROVIDING "AS-BUILT" DRAWINGS, TO INCLUDE LOCATIONS OF ALL VALVES (MANUAL AND AUTOMATIC) WITH TRIANGULATED MEASUREMENTS TO EACH LOCATION AS WELL AS ANY DEVIATIONS IN LOCATION OF PIPING AND HEADS AS REPRESENTED BY THE CONTRACT DOCUMENTS.
- IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO HAVE ALL PLANTING AREAS MARKED BY THE LANDSCAPE ARCHITECT OR CONTRACTOR PRIOR TO INSTALLATION.
- ALL MAINLINES AND LATERAL LINES SHALL BE CLASS 200 PVC.
- ALL SLEEVES SHALL BE SCHEDULE 40 PVC.
- CONTRACTOR SHALL SUPPLY TWO QVC KEYS AND MATCHING HOSE SWIVELS; TWO OF EACH TYPE OF IRRIGATION HEAD; AS-BUILT IRRIGATION PLAN; AND LAMINATED DIAGRAM OF IRRIGATION ZONES.
- LAWN, SHRUBS/TREES, AND FLOWERS SHALL EACH BE ZONED SEPARATELY.
- CONTRACTOR SHALL VERIFY WATER SUPPLY G.P.M. AND P.S.I. PRIOR TO SYSTEM DESIGN AND CONSTRUCTION.

**GENERAL LANDSCAPE NOTES**

- ALL PLANT MATERIAL MUST BE HEALTHY, VIGOROUS, & FREE OF PESTS AND DISEASE.
- ALL PLANTS MUST BE CONTAINER GROWN OR BALLED & BURLAPPED.
- ALL TREES MUST HAVE A FULL HEAD, STRAIGHT TRUNK, SINGLE DOMINANT LEADER, & MEET ALL REQUIREMENTS SPECIFIED IN PLANT LIST.
- ALL PLANTS ARE SUBJECT TO REJECTION BY THE OWNER BEFORE, DURING, & AFTER INSTALLATION.
- STAKE TREES, IF ENVIRONMENTAL CONDITIONS WARRANT. (I.E. WIND OR STEEP SLOPES)
- ALL PLANTS & PLANT BEDS MUST BE COMPLETELY MULCHED WITH 3" OF CLEAN, ORGANIC MULCH (PINESTRAW, WOOD CHIPS).
- PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES & SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY & ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE LANDSCAPE CONSTRUCTION, AT NO ADDITIONAL COST TO OWNER.
- THE OWNER WILL CONTRACT FOR A PROGRAM OF LANDSCAPE MAINTENANCE SERVICES THROUGHOUT THE ONE (1) YEAR GUARANTEE PERIOD UNLESS OTHERWISE DETERMINED.
- THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR BEGINNING AT THE DATE OF TOTAL ACCEPTANCE AND SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE OR AT THE END OF THE GUARANTEE PERIOD (AS PER DIRECTION OF THE LANDSCAPE ARCHITECT).
- THE LANDSCAPE ARCHITECT WILL APPROVE THE STAKED LOCATION OF ALL PLANT MATERIAL PRIOR TO INSTALLATION.
- DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING.
- WATER TREES AFTER PLANTING.
- MAINTAIN ORIGINAL GRADE OR SLIGHTLY ABOVE GRADE AT THE TREE BASE.
- DO NOT BREAK ROOT BALL.
- SET TRUNKS PLUMB
- ALL DUG TREES IN LEAF SHALL BE ACCLIMATED FOR TWO WEEKS UNDER A MIST SYSTEM, AT THE NURSERY SOURCE, PRIOR TO INSTALLATION.
- ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, DEFOLIATES OR FAILS TO GERMINATE PRIOR TO TOTAL ACCEPTANCE OF THE WORK SHALL BE PROMPTLY REMOVED FROM THE SITE & REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS AT NO COST TO THE OWNER.
- STANDARDS SET FORTH IN THE LATEST EDITION OF "AMERICAN STANDARDS FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL OF THE SAME SPECIES, QUANTITY, SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.
- IF SUFFICIENT ADDITIONAL TOPSOIL IS AVAILABLE, THE CONTRACTOR SHALL BACKFILL THE PARKING LOT ISLANDS WITH 100% TOPSOIL. PLANTERS SHALL BE FREE OF DELETERIOUS MATERIAL AND SOIL SHALL BE SUITABLE FOR PLANTING. ALL ROCKS AND DEBRIS SHALL BE REMOVED FROM PLANTING BEDS, INCLUDING SODDED AREAS, PRIOR TO INSTALLATION.
- THE CONTRACTOR HAS THE COMPLETE RESPONSIBILITY FOR THE HANDLING OF ALL SURPLUS EXCAVATED MATERIALS INCLUDING THE REMOVAL OF ANY EXCESS MATERIALS FROM THE PROJECT SITE. THE CONTRACTOR SPECIFICALLY UNDERSTANDS AND AGREES THAT DUE TO THE SEQUENCE OF THE WORK, HE MAY NEED TO RETAIN SELECT EXAGGERATED MATERIALS ON SITE TO MEET LATER NEEDS OF THE PROJECT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AS TO ANY DECISIONS MADE TO HAUL OFF EXCESS MATERIAL OR TO RETAIN MATERIAL ON SITE FOR LATER USE. THE CONTRACTOR SHALL HAVE THE COMPLETE RESPONSIBILITY FOR HAVING ADEQUATE, SUITABLE MATERIAL ON-SITE TO REPLACE UNSUITABLE MATERIAL OR TO OTHERWISE CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL REMOVE & DISPOSE OF ALL PLANT MATERIAL EXISTING ON SITE THAT DOES NOT CONFORM WITH THE LANDSCAPE PLAN. ALL LANDSCAPED AREAS SHALL BE TREATED AS SPECIFIED ON THE LANDSCAPE PLAN OR AS DIRECTED BY THE LANDSCAPE ARCHITECT. THIS SHALL INCLUDE ALL GRASS AREAS USED FOR EROSION CONTROL PURPOSES.
- GRASS ALL DISTURBED AREAS (INCLUDING RIGHT-OF-WAY), UNLESS OTHERWISE INDICATED. AREAS TO BE SODDED SHALL BE CLEANED OF ALL STONES AND DEBRIS, RAKED SMOOTH AND CONFORM TO PROPOSED GRADES. IF SODDED, SOD SHALL BE ROLLED TO PROVIDE A CONSISTENTLY EVEN SURFACE.
- CONTRACTOR SHALL DESIGN AND INSTALL AUTOMATIC IRRIGATION SYSTEM TO PROVIDE 100% COVERAGE IN ACCORDANCE WITH SPRINKLER HEAD MANUFACTURER'S SPECIFICATIONS.



**SEASONAL COLOR PLANTING DETAIL**

NOT TO SCALE

**SHRUB & GROUNDCOVER PLANTING DETAIL**

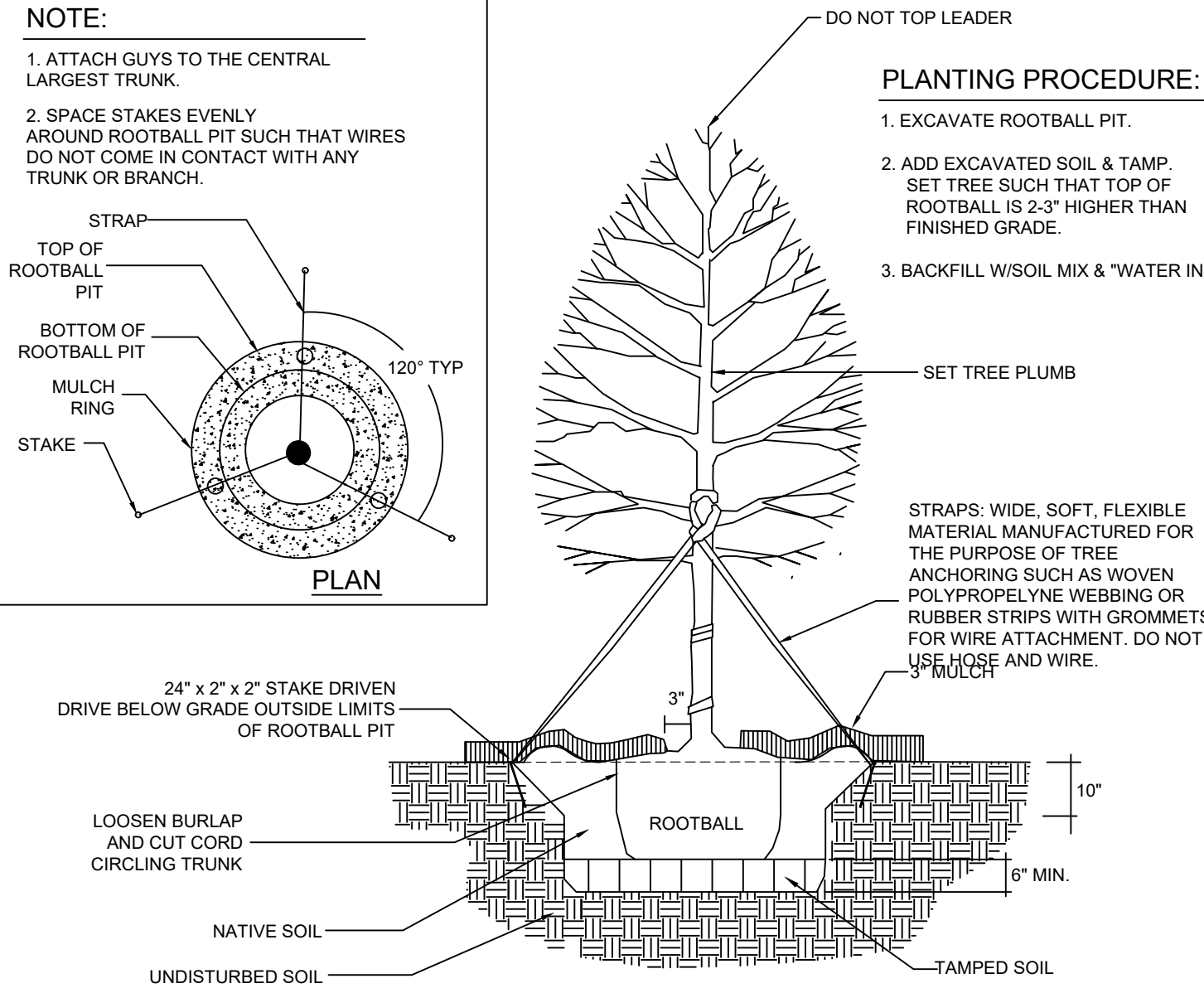
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**SHRUB & GROUNDCOVER PLANTING DETAIL**

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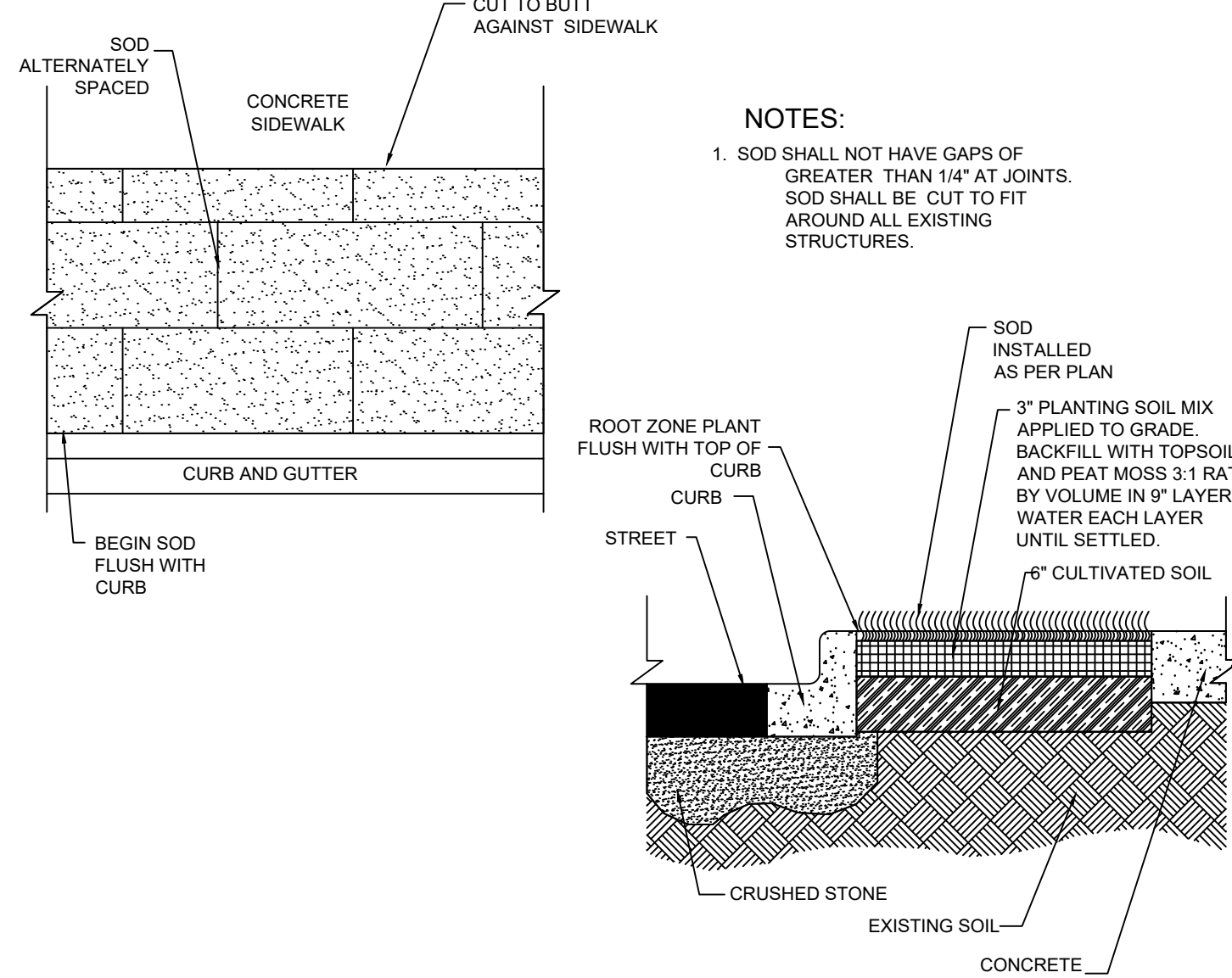
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**TYPICAL TREE PLANTING DETAIL**

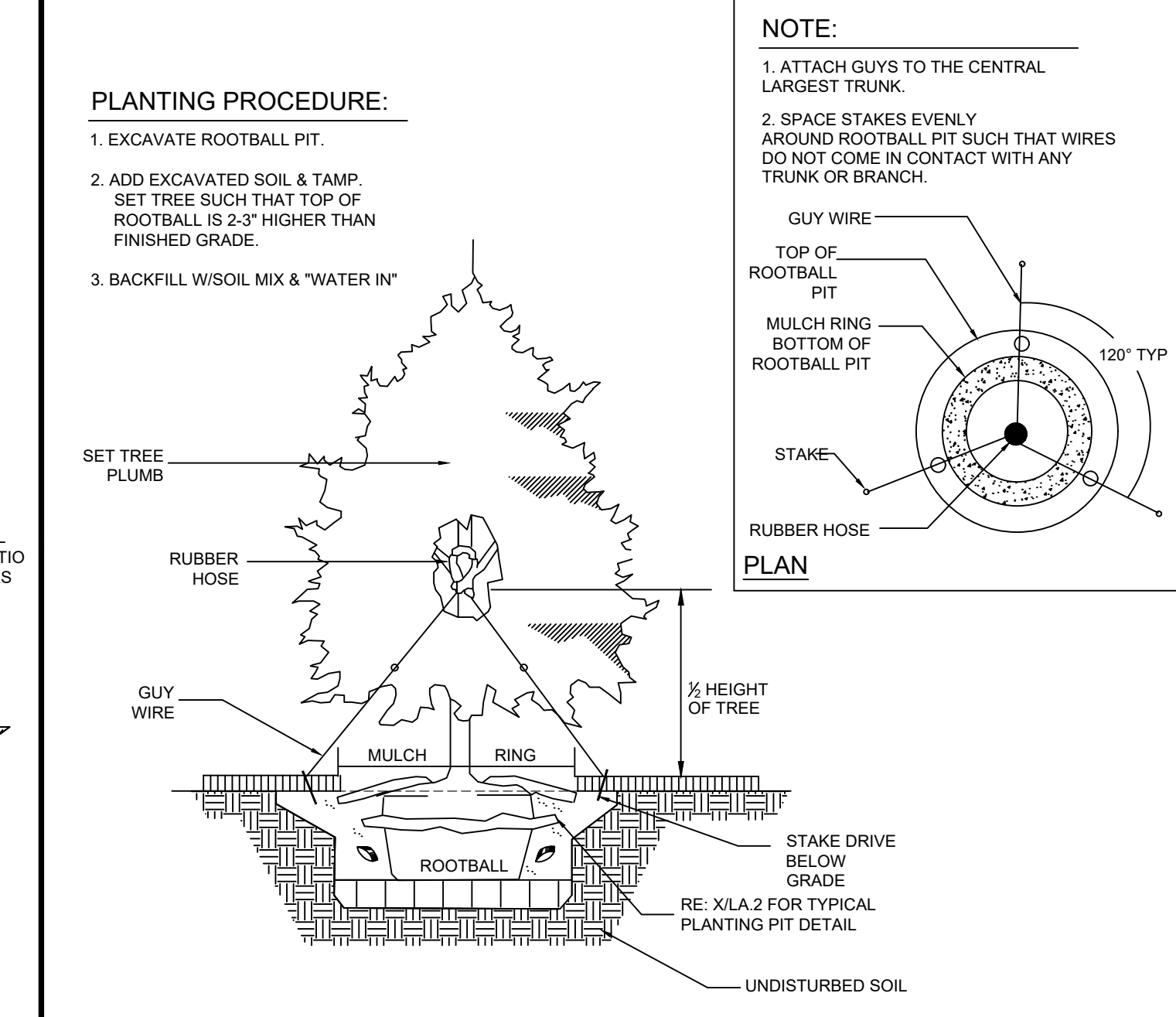
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**SOD PLACEMENT DETAIL**

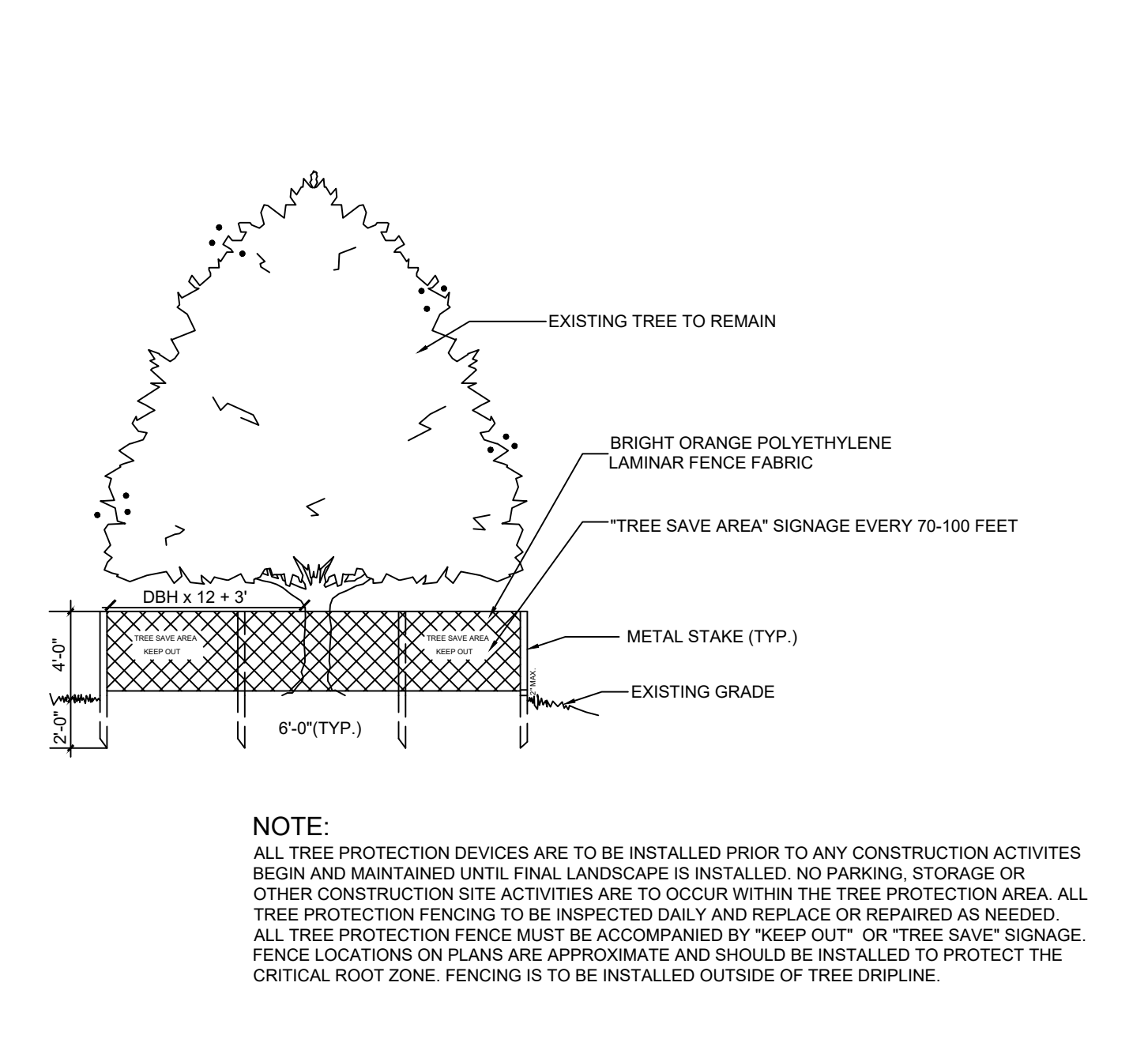
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**EVERGREEN TREE PLANTING DETAIL**

NOT TO SCALE

7



**TREE PROTECTION DETAIL**

NOT TO SCALE

8

PREPARED IN THE OFFICE OF:  
**LECRAW ENGINEERING**  
 3475 COOPER DRIVE, SUITE A  
 DULUTH, GA 30096  
 PHONE - 678 546 8100  
 FAX - 770 441 0288  
 WWW.LECRAWENGINEERING.COM  
 C-5345

REV #	DATE	CHECKED BY	DRAWN BY
1	08/02/21	MSL	MSL
2	09/02/21	MSL	MSL

CLIENT: **PRIMAX PROPERTIES, LLC**  
 1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT: **STARBUCKS - SPOUT SPRINGS**  
 LAND LOT 6, PARCEL 9594-33-0877.000  
 CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

SEAL:  
  
 MICHAEL TOOTHAKER

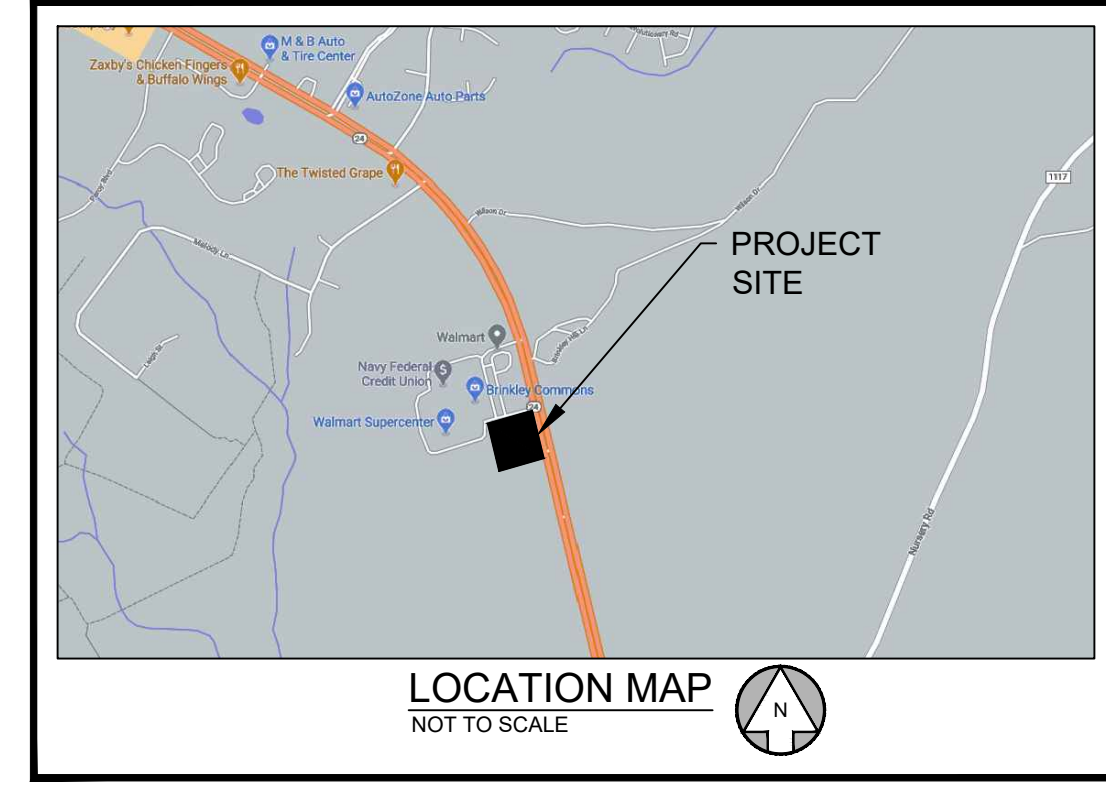
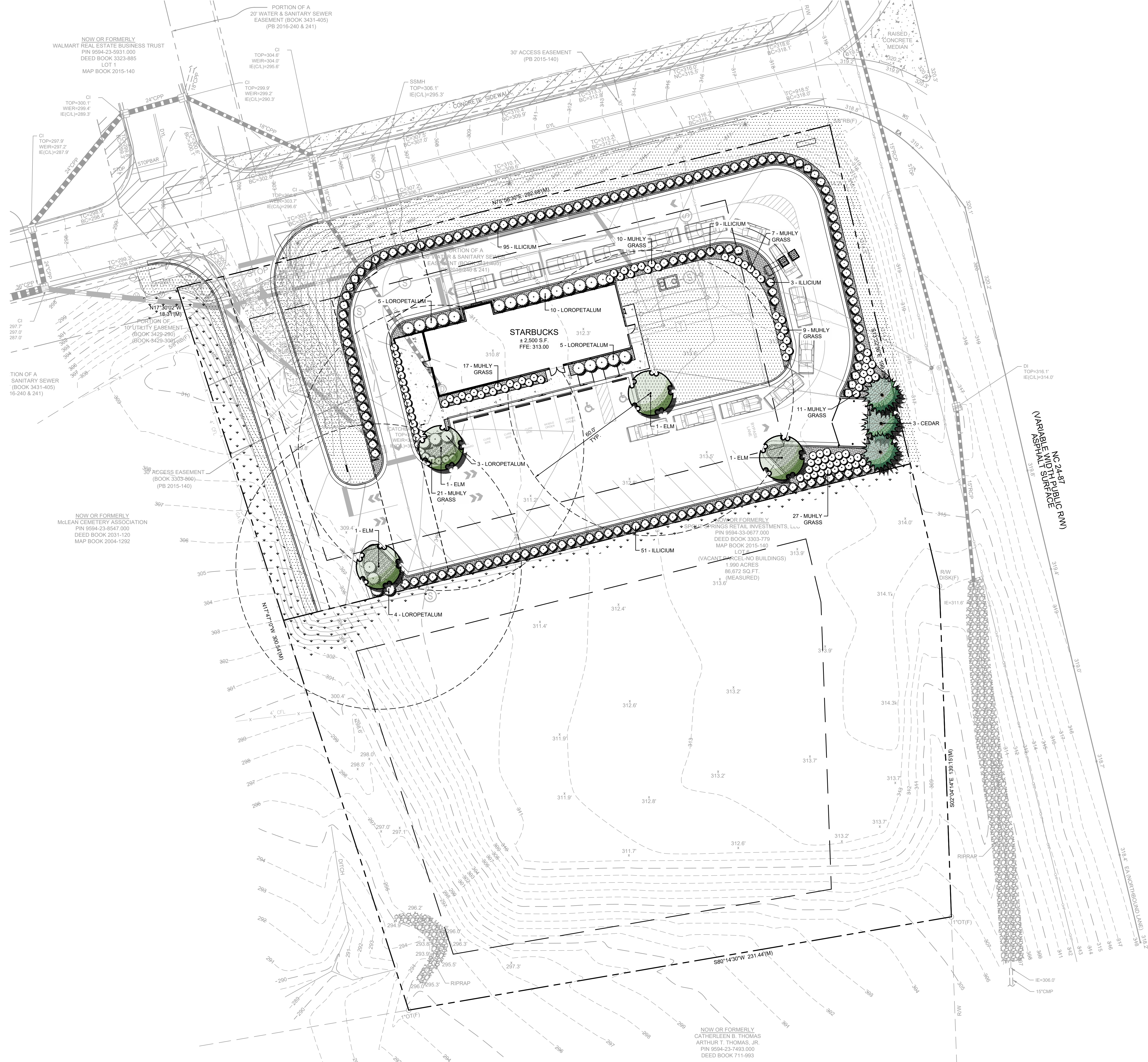
DESIGN TEAM:  
 DRAWN BY: MAT  
 DESIGNED BY: MAT  
 REVIEWED BY: MSL

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SCALE & NORTH ARROW:  
  
 SCALE: 1"=20'

LANDSCAPE DETAILS  
**L-1.1**

Drawing name: C:\Users\michael.boothaker\LeCraw\Engineering\077025 - 11 - LANDSCAPE.dwg TREE PROTECTION PLAN Sep 30, 2021 12:19pm by michael.boothaker



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CS-2542

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09/30/21	MAT	MSL	
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1100 E. MOREHEAD STREET - CHARLOTTE, NC 28204

PROJECT  
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CAMERON, HARNETT COUNTY, NORTH CAROLINA 28326

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Know what's below.  
Call before you dig.

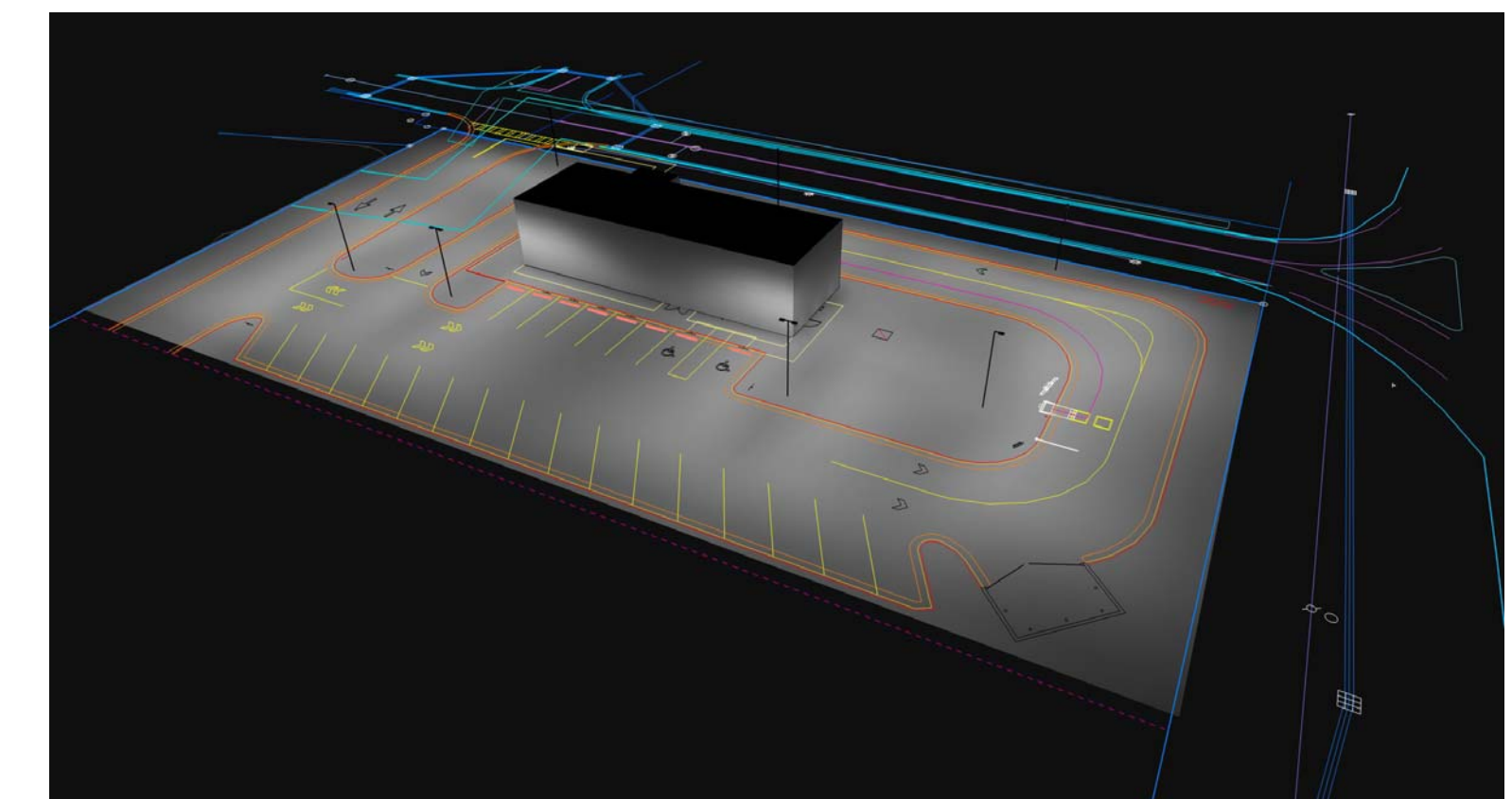
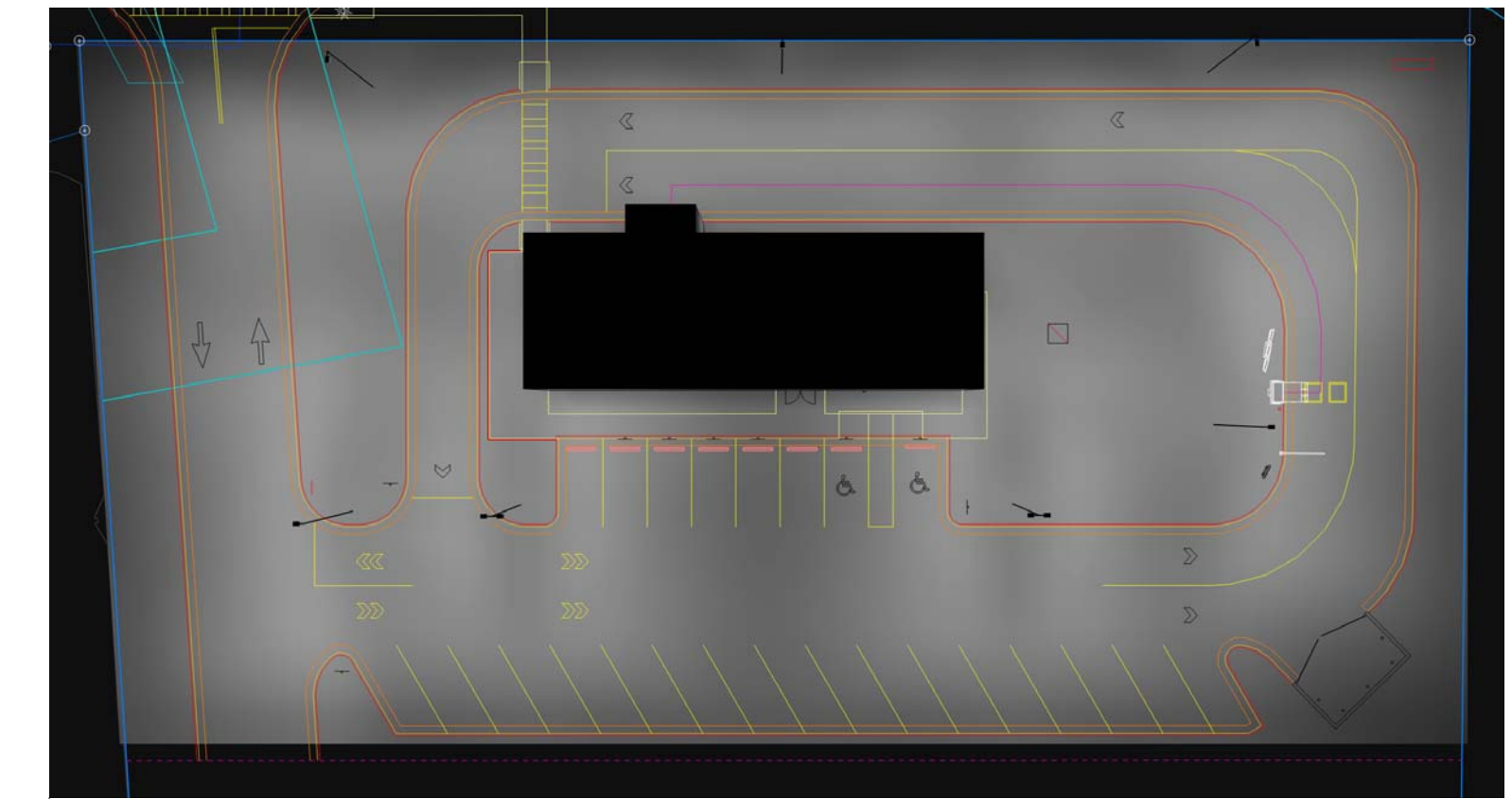
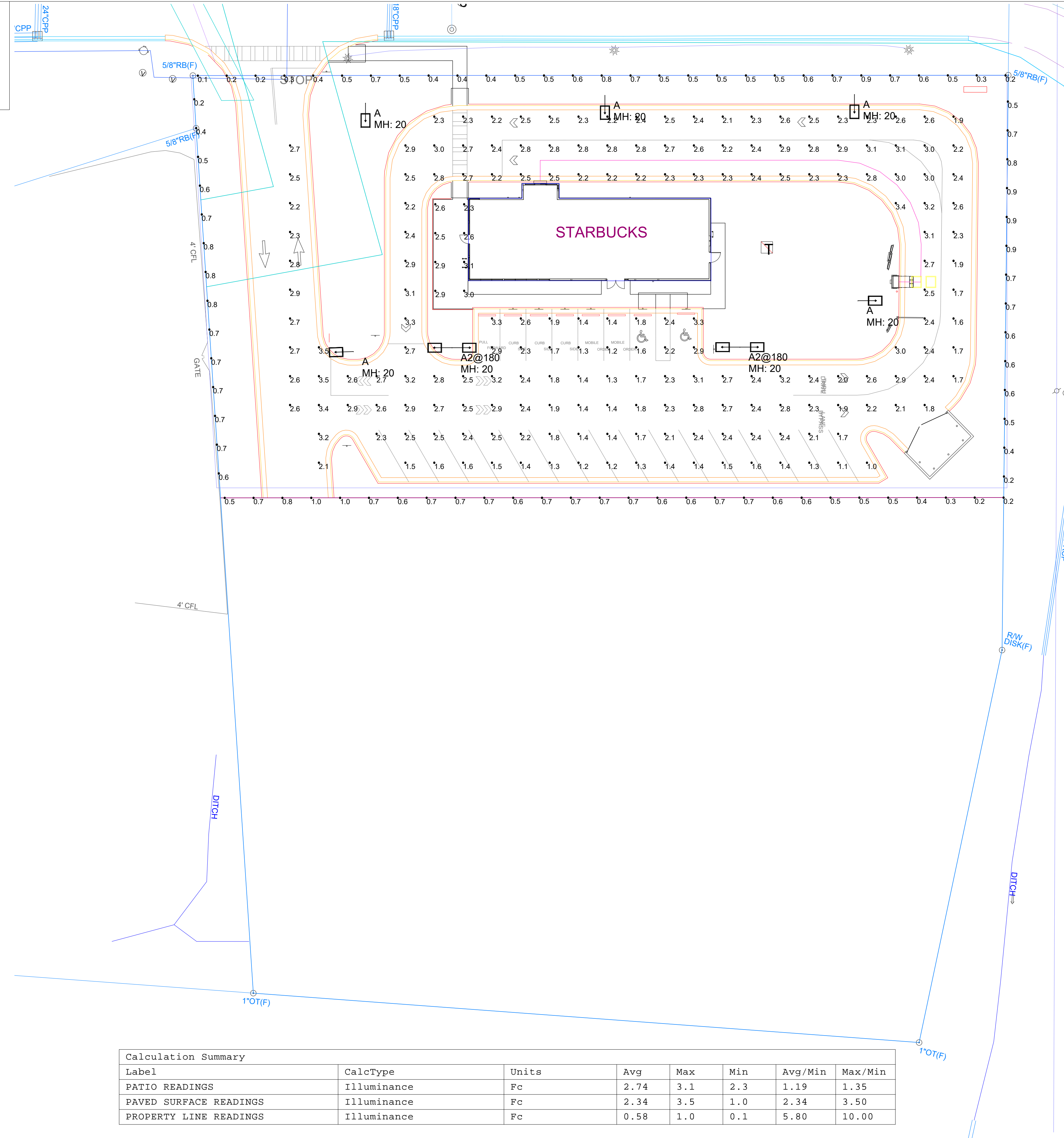
SCALE & NORTH ARROW:  
  
NORTH ARROW  
SCALE: 1"=20'  
0' 10' 20' 40'

JOB #: 077025  
DATE: JULY 2, 2021  
TREE PROTECTION PLAN  
**L-1.2**



NOTES:

1. THE FOOTCANDLE LEVELS AS SHOWN ARE BASED ON THE FOLLOWING CRITERIA. ANY SUBSTITUTIONS IN SPECIFIED FIXTURES OR CHANGES TO LAYOUT WILL AFFECT LIGHTING LEVELS SHOWN AND WILL NOT BE THE RESPONSIBILITY OF SECURITY LIGHTING.
2. DISTANCE BETWEEN READINGS 10



Mounting Height=20ft (18ft Pole + 2ft Base)  
 Tilt=0  
 Calculation Grids Are At Grade  
 Light Fixtures Are Full Cutoff

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PATIO READINGS	Illuminance	Fc	2.74	3.1	2.3	1.19	1.35
PAVED SURFACE READINGS	Illuminance	Fc	2.34	3.5	1.0	2.34	3.50
PROPERTY LINE READINGS	Illuminance	Fc	0.58	1.0	0.1	5.80	10.00

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	LLF	Description	Lum. Watts	EPA	Mtg Height	Pole Type
—□—	5	A	SINGLE	0.900	RAR1-160L-100-4K7-4W	90	.45	20	SES-18-40-1-XX-XX (4")
—□—	2	A2@180	BACK-BACK	0.900	RAR1-160L-100-4K7-4W	90	.9	20	SES-18-40-1-XX-XX (4")



2100 Golf Road, Suite 460, Rolling Meadows, IL 60008  
 1-800-544-6444

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES

SCALE 1" = 20' 0" DATE 6/10/2021

DRAWN BY BV

POINT-BY-POINT FOOTCANDLE PLOT FOR:  
 STARBUCKS  
 SPOUTS SPRINGS  
 HARNETT COUNTY, NC

DRAWING NUMBER

SL2103006-Rev2.AGI

1. THIS LIGHTING DESIGN IS BASED ON INFORMATION SUPPLIED BY OTHERS TO SECURITY LIGHTING SYSTEMS. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC.) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.
2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.
3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
4. THIS LAYOUT MAY NOT MEET TITLE 24 OR LOCAL ENERGY REQUIREMENTS. IF THIS LAYOUT NEEDS TO BE COMPLIANT WITH TITLE 24 OR OTHER ENERGY REQUIREMENTS, PLEASE CONSULT FACTORY WITH SPECIFIC DETAILS REGARDING PROJECT REQUIREMENTS SO THAT REVISIONS MAY BE MADE TO THE DRAWING.