

# Administrative Site Plan

# South Main

## Town of Rolesville

## Wake County, North Carolina



**SITE DATA:**

SITE ADDRESS:	503 SOUTH MAIN
PIN:	0753971338
SITE AREA	1.80 AC (78,408 SF)
IMPERVIOUS PROPOSED	1.37 ACRES (59,677 SF)
IMPERVIOUS PERCENT (%)	76%
WATERSHED:	MILBURNIE LAKE - NEUSE
HUC:	0302020107
LATITUDE:	35.916120
LONGITUDE:	-78.468430
ZONING DISTRICT	GC
FUTURE LAND USE	COMMERCIAL
OPEN SPACE SIZE REQD:	3920 SF (5%)
OPEN SPACE SIZE PROVIDED:	4150 SF (5%)
OPEN AREA SUMMARY:	ACTIVE OPEN AREA 1 = 2042 SF ACTIVE OPEN AREA 2 = 1172 SF ACTIVE OPEN AREA 3 = 936
BUILDING SETBACKS	20' (FRONT) 15' (SIDE) 35' (REAR)
BUILDING HEIGHT (MAX)	35'
PARKING SUMMARY:	
RESIDENTIAL UPPER STORY: MIN 1 / UNIT	11/1 = 11 SPACES
COMMERCIAL: MIN 2.5 SPACE / 1000 SF	13,500 / 1000 * 2.5 = 34 SPACES
PARKING MIN REQUIRED:	45 SPACES
PARKING PROVIDED:	63 SPACES
BIKE PARKING (REQUIRED / PROVIDED)	1 PER BLDG
TOTAL DENUDED AREA	87,654 SF (2.01 ACRES)

**PROJECT INFORMATION:**

PROJECT:	MAIN STREET COMMERCIAL
OWNER / DEVELOPER:	TOY STORAGE, LLC 2700 GRESHAM LAKE RD. RALEIGH, NC 27615 (919) 604-0505
PHONE:	(919) 210-3934
CONTACT:	ALLEN MASSEY
EMAIL:	STORIT@AOL.COM
ENGINEER:	KEITH P. GETTLE, PE GETTLE ENGINEERING AND DESIGN, PLLC 3616 WAXWING CT. WAKE FOREST, NC 27587
PHONE:	(919) 210-3934
EMAIL:	KPGETTLE@GMAIL.COM
SURVEYOR:	CAWTHORNE MOSS AND PANCIERA P.C. 333 SOUTH WHITE STREET WAKE FOREST NORTH CAROLINA 27588 (919) 556-3148
PHONE:	(919) 556-3148
PROJECT ADDRESS:	503 SOUTH MAIN STREET, ROLESVILLE NC
PIN:	1758784708
ZONING:	GC
EXIST USE:	VACANT
OVERLAY:	NONE
FLOOD ZONE:	NO FLOOD HAZARDS AREAS PER FEMA FIRM 3720175800K
IMPERVIOUS:	EXISTING: 4195 SF (.1 ACRES)

SHEET	DESCRIPTION
	Cover Sheet
	Existing Conditions Survey
	Standard Notes
	Existing Conditions & Demolition Plan
	Site Plan
	Grading Plan
	Utility Plan
	Utility Plan - SS Extension
	Landscape Plan
	Lighting Plan (TBD)
	Standard Site Details
	Site and Stormwater Details
	BMP Device Detail
	Sanitary Sewer Details
	Water Details
	Phase 1 - Erosion Control Plan
	Phase 2 - Erosion Control Plan
	Phase 3 - Erosion Control Plan
	Phase 4 - Erosion Control Plan
	Erosion Control Details
	Erosion Control Details
	ECG01 Requirements

**GENERAL NOTES**

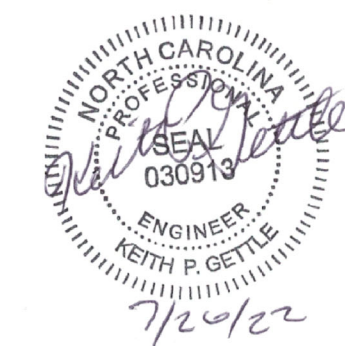
- BOUNDARY AND TOPO INFORMATION TAKEN FROM CAWTHORNE, MOSS & PANCIERA, P.C., SURVEYING, TITLED TOPOGRAPHIC SURVEY FOR TOY STORAGE LLC, DATED MARCH 3, 2022.
- CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES & SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM HIS ACTIVITIES. CALL UTILITY LOCATOR SERVICE AT LEAST 48 HOURS PRIOR TO DIGGING.
- ALL CONSTRUCTION WILL BE IN STRICT CONFORMANCE TO THE TOWN OF ROLESVILLE, CITY OF RALEIGH, WAKE COUNTY AND NCDOT STANDARDS AND SPECIFICATIONS.
- NO CHANGES MAY BE MADE TO THE APPROVED DRAWINGS WITHOUT WRITTEN PERMISSION FROM THE ISSUING AUTHORITY.

**LEGEND**

	NEW	EXISTING
DRAINAGE STRUCTURE	□ □ □ □ □	□ □ □ □ □
SANITARY SEWER MANHOLE	⊙	⊙
SANITARY SEWER CLEANOUT	— C.O.	— C.O.
WATER VALVE	⊙	⊙
FIRE HYDRANT	⊙	⊙
OVERHEAD UTILITY LINE	— OH	— OH
UNDERGROUND ELECTRIC LINE	— E	— E
UNDERGROUND TELECOM/DATA LINE	— TD	— TD
FIBER OPTIC CABLE	— FO	— FO
GAS LINE	— G	— G
STORM DRAINAGE PIPE	— SD	— SD
SANITARY SEWER LINE	— SS	— SS
WATER LINE	— W	— W
SURFACE ELEVATION CONTOUR	400	400
SURFACE SPOT ELEVATION	308.44	308.44
CLEARING LIMIT/TREE LINE	~ ~ ~ ~ ~	~ ~ ~ ~ ~
LIMIT OF DISTURBANCE	— — — — —	— — — — —
ELECTRICAL TRANSFORMER PAD	T	T
TOWNHOME PARKING (NUMBER)	71	

**PUBLIC IMPROVEMENT QUANTITIES**

PHASE NUMBER(S)	PHASE 1
NUMBER OF LOT (S)	1
LOT NUMBERS BY PHASE	1
NUMBER OF UNITS	1
LIVABLE OF UNITS	11 UNITS
OPEN SPACE (YES/NO)	YES
NUMBER OF OPEN SPACE LOTS	0
PUBLIC WATER (LF)	0
PUBLIC SEWER (LF)	0
PUBLIC STREET (LF) - FULL	0
PUBLIC STREET (LF) - PARTIAL	0
STREET SIGNS (LF)	0
WATER SERVICE STUBS	1
WATER SERVICE ABANDONED	2
SEWER SERVICE STUBS (NEW)	1
SEWER SERVICE REMOVED	0



**PRELIMINARY  
DO NOT USE FOR  
CONSTRUCTION**

**SITE PERMITTING APPROVAL**

**Water and Sewer Permits (if applicable)**  
The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

**CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION**

Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction, is not to be considered as approval or endorsement of the project or the City's Public Utilities Handbook. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization below is not a permit, nor shall it be construed to permit any violation of City, State or Federal Law. All construction must be in accordance with all local, State, and Federal rules and regulations.

**Electronic Approval:** This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be called upon or used. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval \_\_\_\_\_  
City of Raleigh Review Officer \_\_\_\_\_

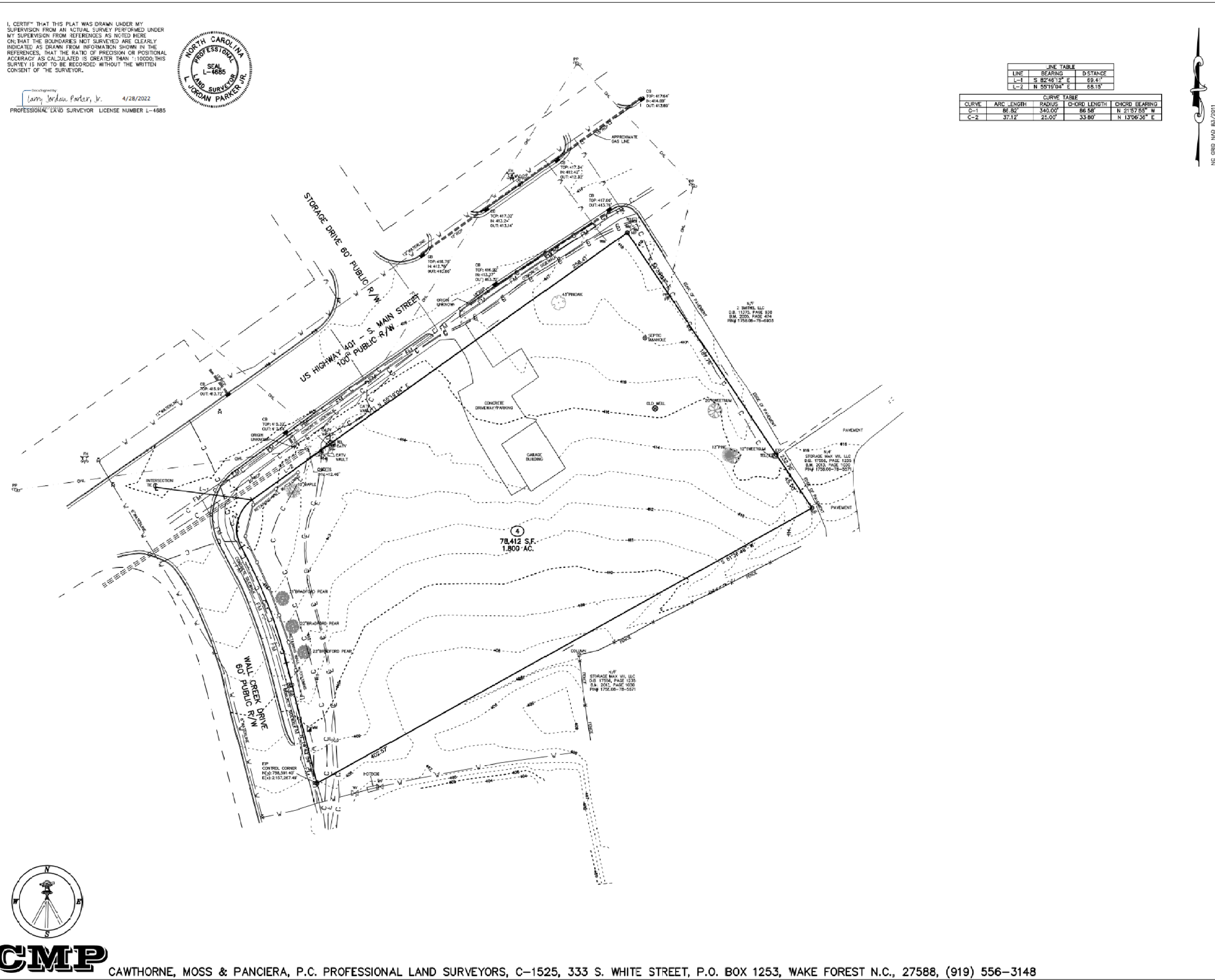


I, CERTIFY THAT THIS PLAN WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY PERFORMED UNDER MY SUPERVISION FROM REFERENCES AS NOTED HERE ON; THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION SHOWN IN THE REFERENCES; THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY AS CALIBRATED IS GREATER THAN 1:10000; THIS SURVEY IS NOT TO BE RECORDED WITHOUT THE WRITTEN CONSENT OF THE SURVEYOR.

Prepared by: Jerry Jordan Parker, Jr. 4/28/2022  
 PROFESSIONAL LAND SURVEYOR LICENSE NUMBER L-4885



CAWTHORNE, MOSS & PANCIERA, P.C. PROFESSIONAL LAND SURVEYORS, C-1525, 333 S. WHITE STREET, P.O. BOX 1253, WAKE FOREST N.C., 27588, (919) 556-3148



LINE TABLE			
LINE	BEARING	DISTANCE	
L-1	S 82°41'12" E	89.61'	
L-2	N 59°19'04" E	68.15'	

CURVE TABLE				
CURVE	ARC LENGTH	RADIUS	C-ORIG LENGTH	CHORD BEARING
C-1	86.50'	340.00'	86.50'	N 21°57'55" W
C-2	37.12'	22.00'	33.80'	N 13°26'36" E



VICINITY MAP

**LEGEND:**

- EP - EXISTING IRON PIPE
- EB - EXISTING IRON BAR
- BP - BENT IRON PIPE
- BB - BENT IRON BAR
- CB - CONCRETE CURB
- CP - CONCRETE CURB
- EPK - EXISTING PV NAIL
- SPK - SET IRON NAIL
- NP - NEW IRON PIPE SET
- RP - RIGHT OF WAY
- CATV - CABLE TV BOX
- EB - ELECTRIC BOX
- TEL - TELEPHONE PEDESTAL
- IP - IRON PIPE
- OP - OVERHEAD PIPE
- LP - LIGHT POLE
- WP - WATER PIPE
- MP - WATER MAIN
- CCO - SEWER CLEAN-OUT
- CO - CONCRETE
- CB - CATCH BASIN
- MANH - MANHOLE
- FH - FIRE HYDRANT

- NOTES:**
- THIS PLAN SUBJECT TO ALL EASEMENTS, AGREEMENTS AND RIGHTS OF WAY OF RECORD PRIOR TO THE DATE OF THIS PLAN.
  - UNDERGROUND UTILITIES HAVE BEEN MARKED OR LOCATED FOR THIS PLAN BY SO MAPPING, PLLC.
  - ALL BEARINGS AND DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS.
  - ALL ELEVATIONS ARE BASED ON NAVD 83.
  - ALL CONTOURS ARE AT 1' INTERVALS HIGHLIGHTED EVERY 5'.

**LINE TYPE LEGEND**

- PROPERTY LINE - LINE SURVEYED
- - - RIGHT-OF-WAY
- - - ADJOINING LINE - LINE NOT SURVEYED
- - - CONCRETE LINE
- - - BUILDING SETBACK
- - - EASEMENT
- - - BUFFER
- - - FLOOD HAZARDOUS SOILS
- - - ELECTRIC LINE
- - - FORCE MAIN (EMER)
- - - WATER LINE
- - - COMMUNICATION
- - - GAS

TOPOGRAPHIC SURVEY FOR  
**TOY STORAGE, LLC**  
 503 S. MAIN STREET  
 LOT 4, HESS INC.  
 OWNER: TOY STORAGE, LLC  
 REF: D.B. 18244, PAGE 2611  
 TOWN OF ROLESVILLE  
 WAKE COUNTY, NORTH CAROLINA

SCALE 1"=30'

MARCH 3, 2022  
 REVISED APRIL 22, 2022  
 ZONED R-1  
 PIN #1758.07-78-4708

**Gettle Engineering and Design, PLLC**  
 3616 Waxwing Court,  
 Wake Forest, North Carolina 27587  
 (919) 210-3934 Firm License P-2538

NO.	DATE	REVISION/DESCRIPTION	BY
1	07-26-2022	INITIAL SUBMITTAL	BY
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6	DATE	COMMENT	BY
8	DATE	COMMENT	BY



**Existing Conditions Survey**  
 South Main  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

Project No. XXXXX  
 Dwg No.

PRELIMINARY  
 DO NOT USE FOR  
 CONSTRUCTION



UTILITY SPECIFICATIONS

EXISTING CONDITIONS

INFORMATION ABOUT EXISTING UNDERGROUND FACILITIES AND SUBSURFACE CONDITIONS INDICATED ON THESE DRAWINGS IS NOT BASED ON AN EXHAUSTIVE INVESTIGATION OF SUCH FACILITIES OR CONDITIONS...

PROTECTION AND SAFETY

PRIOR TO BEGINNING WORK, AND AS NEEDED DURING THE COURSE OF PROJECT WORK, CONTRACTOR SHALL NOTIFY ALL APPLICABLE UTILITY LOCATION SERVICES AND UTILITY PROVIDERS TO REASONABLY VERIFY THE LOCATION OF ALL KNOWN OR SUSPECTED UTILITIES...

COMPLIANCE

ALL WATER SYSTEM AND SANITARY SEWER WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING: 1. REQUIREMENTS OF THE CITY OF RALEIGH, INCLUDING THE LATEST EDITION OF CONSTRUCTION STANDARDS AND SPECIFICATIONS...

NOTIFICATIONS

NOTIFY THE ENGINEER AT LEAST TWO BUSINESS DAYS PRIOR TO BEGINNING OR RESUMING WATERLINE OR SANITARY SEWER WORK, THE ENGINEER MUST OBSERVE CONSTRUCTION, INSTALLATION, BACKFILLING, AND TESTING WORK...

TRENCHING AND BACKFILLING

WHERE ROCK OR OTHER HARD MATERIAL OCCURS AT THE DESIGNED TRENCH BOTTOM, OVEREXCAVATE TRENCH DEPTH 6 INCHES AND REPLACE OVEREXCAVATION MATERIAL WITH #67 STONE BEDDING...

STORAGE AND HANDLING

PIPING, FITTINGS, GASKETS, AND OTHER MATERIALS SHALL BE KEPT CLEAN WHILE BEING STORED AND DURING CONSTRUCTION ACTIVITIES. PIPE BUNDLES SHALL BE STORED ON FLAT SURFACES WITH UNIFORM SUPPORT...

WATER SYSTEM

PROVIDE ALL WATER SYSTEM MATERIALS IN ACCORDANCE WITH LOCAL WATER AUTHORITY REQUIREMENTS. INSTALL WATERLINES TO PROVIDE 36" COVER TO FINISHED GRADE, UNLESS OTHERWISE SHOWN OR APPROVED BY THE ENGINEER AND INSPECTOR...

BACKFLOW PREVENTION

BACKFLOW PREVENTER ASSEMBLIES AND ENCLOSURES SHALL CONFORM TO ALL LOCAL WATER AUTHORITY REQUIREMENTS, AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS...

FIRE PROTECTION

WATER MAINS SHALL BE INSTALLED AND MADE OPERATIONAL AS SOON AS PRACTICAL TO PROVIDE ACTIVE FIRE HYDRANT SERVICE DURING BUILDING CONSTRUCTION.

UTILITY SPECIFICATIONS (cont.)

SANITARY SEWER

SANITARY SEWER MAIN PIPING SHALL BE DUCTILE IRON PIPE PER AWWA C151, PRESSURE CLASS 350, WITH INTERIOR EPOXY LINING AND EXTERIOR BITUMINOUS SEAL. JOINTS SHALL BE PUSH-ON TYPE WITH RUBBER GASKETS PER ASTM F111...

CONNECTIONS

FOR CONNECTIONS TO EXISTING UTILITY AND DRAINAGE LINES, CONTRACTOR SHALL VERIFY EXISTING PIPE SIZE AND MATERIAL, AND PROVIDE APPROPRIATE CONNECTION FITTINGS.

TESTING AND ACCEPTANCE

THE GEOTECHNICAL ENGINEER SHALL PROVIDE MATERIAL AND DENSITY TESTING DURING THE COURSE OF THE WORK. PRIOR TO PLACEMENT OF ANY BASE OR PAVEMENT, CONTRACTOR SHALL PROVIDE PROOF-ROLLING OF ALL TRENCH AREAS TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER...

OTHER

CONTRACTOR SHALL PROVIDE PRIMARY COORDINATION WITH UTILITY SERVICE PROVIDERS FOR BUILDING UTILITY SERVICES. THIS WORK SHALL INCLUDE MAKING APPLICATIONS FOR SERVICE, COORDINATING AND SCHEDULING WORK BY OTHERS, VERIFYING ROUTINGS AND EQUIPMENT LOCATIONS...

GENERAL GRADING AND STORM DRAINAGE SPECIFICATIONS

EXISTING CONDITIONS

INFORMATION ABOUT EXISTING UNDERGROUND FACILITIES AND SUBSURFACE CONDITIONS INDICATED ON THESE DRAWINGS IS NOT BASED ON AN EXHAUSTIVE INVESTIGATION OF SUCH FACILITIES OR CONDITIONS...

PROTECTION AND SAFETY

PRIOR TO BEGINNING WORK, AND AS NEEDED DURING THE COURSE OF PROJECT WORK, CONTRACTOR SHALL NOTIFY ALL APPLICABLE UTILITY LOCATION SERVICES AND UTILITY PROVIDERS TO REASONABLY VERIFY THE LOCATION OF ALL KNOWN OR SUSPECTED UTILITIES...

COMPLIANCE

ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS AND REQUIREMENTS OF THE CITY OF RALEIGH, TOWN OF ROLESVILLE, WAKE COUNTY SEDIMENTATION AND EROSION CONTROL OFFICE, AND THE N.C. STATE BUILDING CODES.

NOTIFICATIONS

NOTIFY THE ENGINEER AT LEAST TWO BUSINESS DAYS PRIOR TO BEGINNING OR RESUMING ANY STORM DRAINAGE OR STORMWATER IMPOUNDMENT BASIN WORK...

QUALITY CONTROL

ALL EARTHWORK OPERATIONS, INCLUDING TOPSOIL STRIPPING, STOCKPILING, EXCAVATION, FILLING, COMPACTING, TRENCHING, BACKFILLING, RETAINING WALLS, AND FINE-GRADING, SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER...

CLEARING & GRUBBING

ALL VEGETATIVE MATERIAL DISLOCATED BY CLEARING AND GRUBBING ACTIVITIES SHALL BE COMPLETELY REMOVED FROM THE PROJECT SITE AND LEGALLY DISPOSED. NO ONSITE BURNING OF CLEARING WASTE SHALL OCCUR.

GRADING

STRUCTURAL FILL IS DEFINED AS SOIL CLASSIFIED AS SM, SC, ML, AND CL, FREE OF VEGETATIVE MATTER, DEBRIS OR OTHER UNSUITABLE MATTER, FREE OF ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION...

TRENCHING AND BACKFILLING

WHERE ROCK OR OTHER HARD MATERIAL OCCURS AT THE DESIGNED TRENCH BOTTOM, OVEREXCAVATE TRENCH DEPTH 6 INCHES AND REPLACE OVEREXCAVATION MATERIAL WITH #67 STONE BEDDING...

STORM DRAINAGE SYSTEM

STORM DRAINAGE STRUCTURES SHALL CONFORM TO ROLESVILLE AND NCDOT STANDARDS, AND MAY BE CONSTRUCTED OF EITHER SOLID MASONRY OR PRE-CAST CONCRETE. "KNOCK-OUT" TYPE PRE-CAST STRUCTURES SHALL NOT BE USED WHERE THE DESIGNED PIPE CONFIGURATION WOULD REQUIRE REMOVAL OF STRUCTURAL CORNERS OR ALTERATION OF DESIGNED PIPE ENTRY ANGLES...

SURFACE DRAINAGE

ALL SPOT ELEVATIONS SHOWN ARE FINISHED SURFACE ELEVATIONS. SPOT ELEVATIONS SHALL TAKE PRECEDENCE OVER ELEVATION CONTOURS. ALL ELEVATIONS SHOWN ON CURB AND GUTTER REFER TO TOP OF CURB, UNLESS OTHERWISE INDICATED.

ACCESSIBILITY

FINISHED WALKWAY ELEVATIONS ABUTTING EXTERIOR DOORWAY THRESHOLDS SHALL BE ONE-FOURTH INCH BELOW THE ADJOINING FINISHED FLOOR ELEVATION. EXTERIOR PADS AND WALKWAYS SHALL SLOPE AWAY FROM THE BUILDING AT A SLOPE NO LESS THAN 1.0% AND NO GREATER THAN 2.0%.

BMP NOTES

SEE THE DETAIL SHEET FOR SPECIFICS REGARDING THE BIORETENTION DEVICE. THE BMP WILL BE LOCATED IN A DRAINAGE EASEMENT WITH ACCESS TO THE PUBLIC RIGHT OF WAY.

CITY OF RALEIGH UTILITY NOTES

1. ALL MATERIALS & CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS, DETAILS & SPECIFICATIONS (REFERENCE: COR PUD HANDBOOK, CURRENT EDITION).

WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATERMAIN, DIP MATERIALS OR STEEL EASEMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.

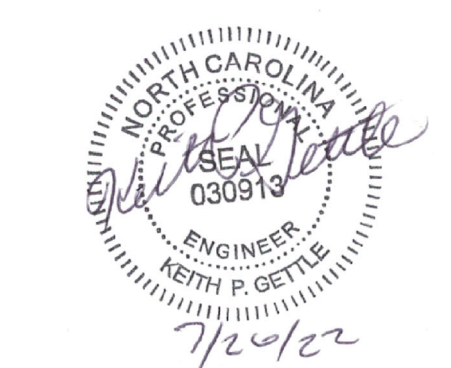
ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED. ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION.

INSTALL 1/2" COPPER WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'x2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW AND PRESSURE.

GREASE INTERCEPTOR / OIL WATER SEPARATOR SIZING CALCULATIONS AND INSTALLATION SPECIFICATIONS SHALL BE APPROVED BY THE CORPUD FOG PROGRAM COORDINATOR PRIOR TO ISSUANCE OF A BUILDING PERMIT. CONTACT TIM BEASLEY AT (919)996-2334 OR TIMOTHY.BEASLEY@RALEIGH.NC.GOV FOR MORE INFORMATION.

Gettle Engineering and Design, PLLC
3616 Waxwing Court,
Wake Forest, North Carolina 27587
(919) 210-3934 Firm License P-2538

Table with 10 columns: NO., DATE, INITIALS, COMMENT, BY. Rows 1-10.



Standard Notes
South Main
503 South Main Street
Rolesville, Wake County, North Carolina

Project No. XXXXX
Dwg No. C1

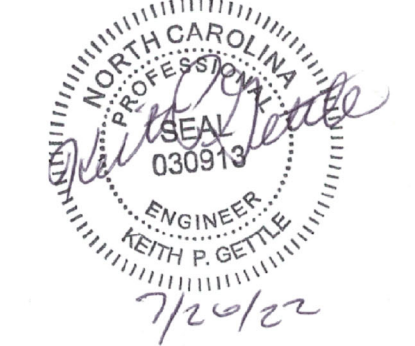
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NO.		DATE	REVISION DESCRIPTION

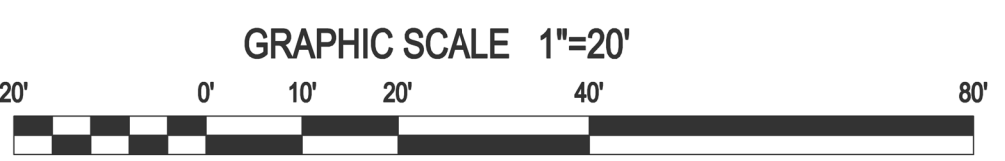
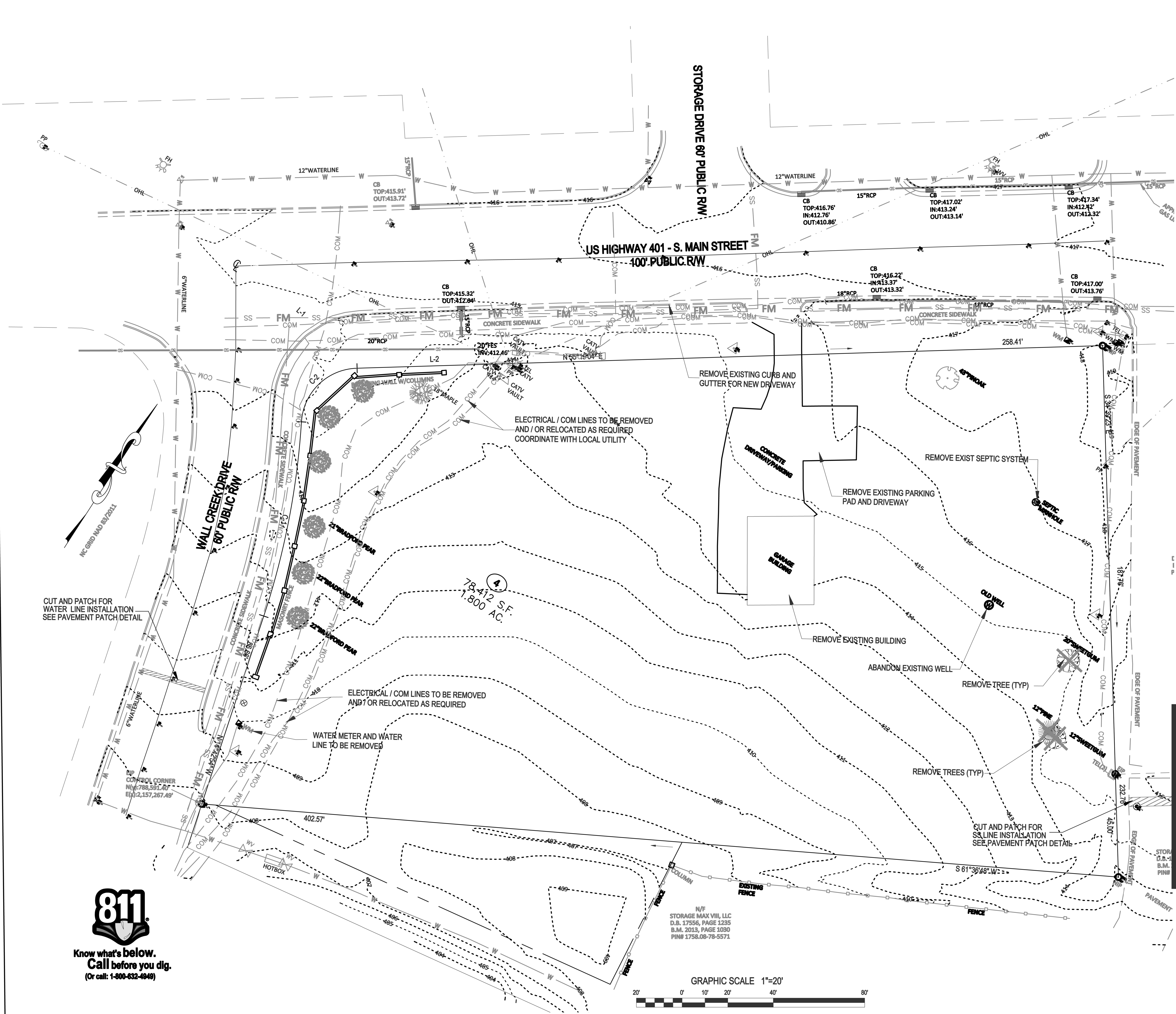


**Existing Conditions / Demolition Plan**  
**South Main**  
503 South Main Street  
Rolesville, Wake County, North Carolina

Project No. XXXXX  
Dwg No. **C2**

- DEMOLITION NOTES**
- DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS EXCEPT WHEN PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE ACCEPTABLE TEMPORARY UTILITY SERVICES. (1) NOTIFY OWNER NOT LESS THAN ONE WEEK IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS. (2) DO NOT PROCEED WITH UTILITY INTERRUPTIONS WITHOUT RECEIVING OWNER WRITTEN PERMISSION. (3) COORDINATE ALL UTILITY RELOCATION WITH APPROPRIATE UTILITY PROVIDER.
  - SUBSURFACE FEATURES ARE SHOWN IN APPROXIMATE LOCATION. CONTRACTOR IS RESPONSIBLE FOR SUBSURFACE UTILITY EXPLORATION TO DETERMINE UTILITY LOCATIONS AND DEPTHS.
  - VERIFY LOCATIONS AND SIZES OF ALL EXISTING FEATURES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
  - LOCATE EXISTING UTILITIES PRIOR TO CONSTRUCTION, AND REPAIR OR REPLACE ANY DAMAGES TO EXISTING UTILITIES RESULTING FROM CONSTRUCTION.

- NOTES**
- SEE SHEET C1 FOR STANDARD NOTES.



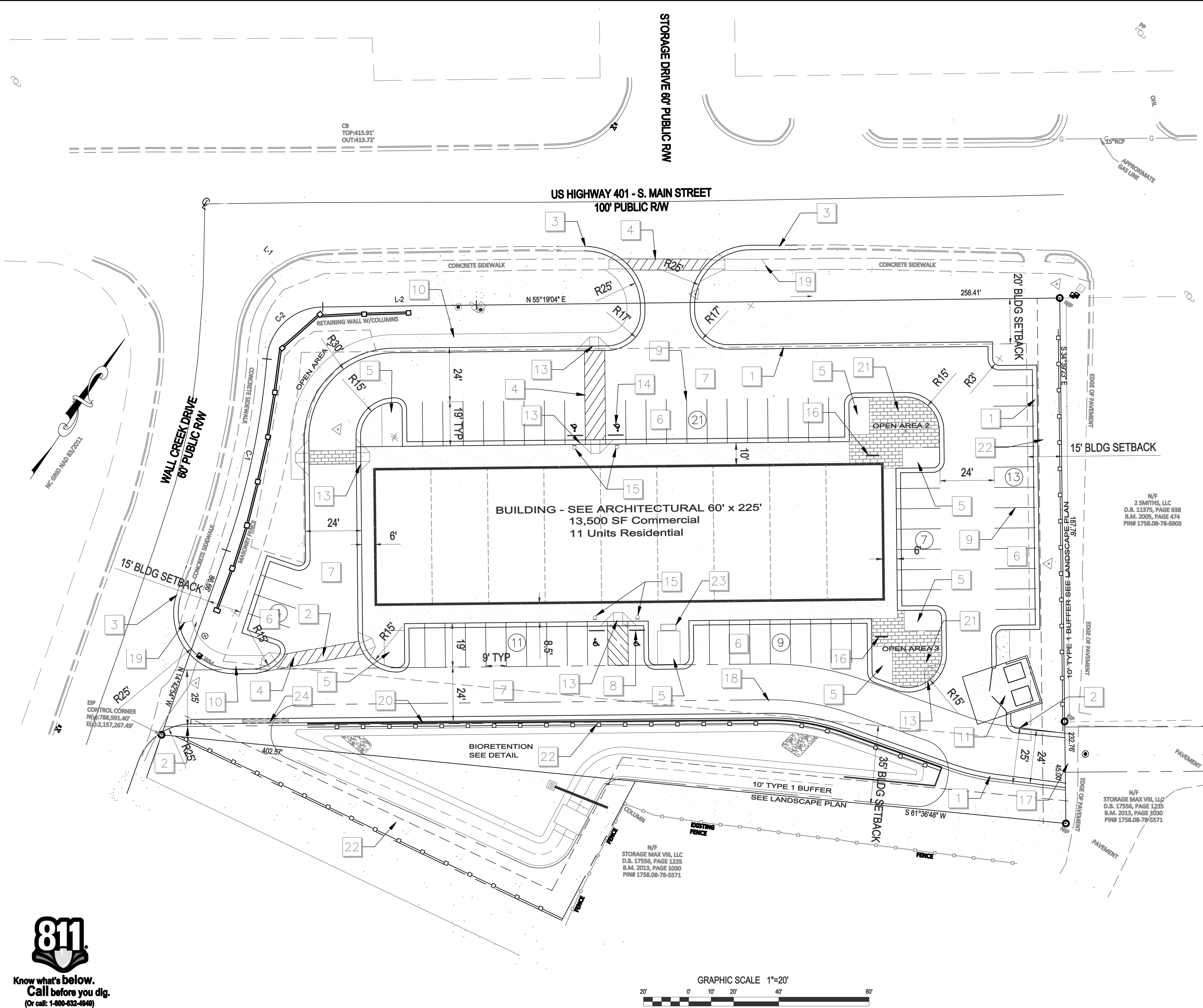
N/F STORAGE MAX VILL, LLC  
D.B. 17556, PAGE 1235  
B.M. 2013, PAGE 1030  
PIN# 1758-08-78-5571



Know what's below.  
Call before you dig.  
(Or call: 1-800-632-4646)

MATCH LINE SEE SHEET C6





- KEY**      **KEYED NOTES - SITE PLAN**
- 1 24" STANDARD CONCRETE CURB AND GUTTER - ON SITE
  - 2 25' CROSS ACCESS EASEMENT WITH 24" WIDE DRIVE
  - 3 TRANSITION FROM 30" CURB & GUTTER TO 24" CURB & GUTTER AT CURB TURNOUT. TIE INTO EXISTING CURB PAINTED STRIPING FOR CROSOWALK
  - 4 LANDSCAPE ISLAND - SEE LANDSCAPE PLAN
  - 5 STANDARD-DUTY BITUMINOUS PAVING - PRIMARILY IN PARKING AREAS
  - 6 HEAVY-DUTY BITUMINOUS PAVING - PRIMARILY IN DRIVE AISLES - SEE DETAIL
  - 7 WHEEL STOP - SET 24" CLEAR FROM EDGE OF SPACE AT HANDICAP PARKING.
  - 8 PAINTED PARKING SPACE STRIPING USING 4" WIDE WHITE STRIPES.
  - 9 4" THK. STANDARD CONCRETE WALK, 6" WIDE UNLESS OTHERWISE NOTED.
  - 10 DUMPSTER ENCLOSURE & PAD - SEE DETAIL
  - 11 LIGHT POLE AND FIXTURE - SEE LIGHTING PLAN
  - 12 HANDICAP RAMP, SEE DETAIL.
  - 13 PAINTED UNIVERSAL HANDICAPPED SYMBOL AND HANDICAPPED ACCESS AISLE STRIPING.
  - 14 HANDICAP PARKING SIGNAGE - SEE DETAIL TYPICAL AT HANDICAP PARKING SPACES
  - 15 BICYCLE PARKING RACK - SEE DETAIL
  - 16 TIE INTO EXISTING ROADWAY
  - 17 BMP EASEMENT
  - 18 TIE INTO EXISTING SIDEWALK
  - 19 SEGMENTAL BLOCK WALL AT THE BMP
  - 20 PAVERS AT OPEN AREA
  - 21 FENCE
  - 22 MAIL KIOSK - SEE DETAIL
  - 23 ROLL TYPE GUTTER (AREA SHADED)

- SITE NOTES**
1. WHERE NEW CURB AND GUTTER IS INSTALLED IN A PUBLIC STREET RIGHT-OF-WAY, USE 90" CURB AND GUTTER. IN OTHER LOCATIONS, USE 24" CURB AND GUTTER.
  2. ALL CURB DIMENSIONS ARE MEASURED TO BACK OF CURB, AND ALL CURB RADII ARE 3 FEET, UNLESS INDICATED OTHERWISE.
  3. USE REVERSE-PITCH CURB AND GUTTER WHERE ADJACENT PAVEMENT SLOPES AWAY FROM CURB, AND STANDARD-PITCH CURB AND GUTTER ELSEWHERE, UNLESS OTHERWISE NOTED. PROVIDE POSITIVE DRAINAGE ALONG AND FROM ALL GUTTERS.
  4. ALL SITE CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI UNLESS OTHERWISE INDICATED.
  5. ALL BASE AND PAVING WORK SHALL COMPLY WITH LOCAL STANDARDS. INDICATED PAVEMENT THICKNESSES REFER TO COMPACTED THICKNESSES.
  6. INSTALL ALL PAVEMENT WITH POSITIVE SURFACE DRAINAGE.
  7. ALL HANDICAPPED PARKING SPACES, AISLES, RAMP, SIGNAGE, PAVEMENT MARKINGS, CROSOWALKS, AND ACCESSIBLE ROUTES SHALL MEET APPLICABLE REQUIREMENTS OF THE NORTH CAROLINA ACCESSIBILITY CODE.
  8. ALL HANDICAP ACCESSIBLE PARKING SPACES SHALL HAVE AN RT-8 AND RT-40 SIGN. ALL SIGNS FOR VAN ACCESSIBLE SPACES SHALL ALSO INCLUDE A "VAN ACCESSIBLE" SIGN.
  9. CONTRACTOR SHALL PROVIDE ADEQUATE TRAFFIC CONTROL MEASURES DURING THE COURSE OF PROJECT WORK IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS, THE I.C. SUPPLEMENT TO THE MUTCD, ANY REGULATORY AGENCY REQUIREMENTS, AND PROJECT-SPECIFIC SAFETY CONSIDERATIONS.
  10. TIE-INS TO EXISTING PAVEMENT, CURBS, WALKS, ETC. SHALL BE MADE WITH NEAT EDGES AND SMOOTH, GRADUAL TRANSITIONS THAT ARE SAFE, FUNCTIONAL, DURABLE, AND VISUALLY ACCEPTABLE TO THE OWNER AND REVIEW AUTHORITIES.
  11. BUILDING SIZE, CONFIGURATION, ARCHITECTURAL ELEMENTS, UTILITY STUBS, AND OTHER BUILDING FEATURES SHOWN ON THESE DRAWINGS ARE TAKEN FROM INFORMATION PROVIDED BY OTHERS. BUILDING LINES SHOWN GENERALLY REPRESENT THE EXTERIOR FACE OF THE BUILDING, BUT SHOULD NOT BE USED FOR BUILDING STAGING OR CONSTRUCTION. REFER TO BUILDING PLANS FOR ACTUAL BUILDING DIMENSIONS, DOOR LOCATIONS, COLUMN AND FOOTING LOCATIONS, WALL THICKNESSES, OVERHANGS, ROOF LINES, AND OTHER FEATURES. CONTRACTOR SHALL COORDINATE UTILITY AND DRAINAGE LOCATIONS, ELEVATIONS, MATERIALS, AND SIZES WITH INFORMATION SHOWN ON THE BUILDING DRAWINGS, AND SHALL VERIFY THAT BUILDING ELEMENTS WILL NOT ENCRoACH INTO REQUIRED SETBACKS.

**OPEN AREA SUMMARY**

ACTIVE OPEN AREA 1 = 2042 SF  
 ACTIVE OPEN AREA 2 = 1172 SF  
 ACTIVE OPEN AREA 3 = 936

**NOTES**

1. SEE SHEET C1 FOR STANDARD NOTES.

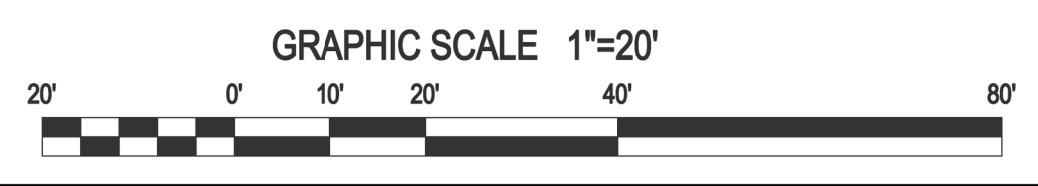
**Gettle Engineering and Design, PLLC**  
 3616 Waxwing Court,  
 Wake Forest, North Carolina 27587  
 (919) 210-3334      Firm License P-2538

NO.	DATE	BY	REVISION/DESCRIPTION
1	07-28-2022		INITIAL SUBMITTAL
2			COMMENT
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22			COMMENT
23			COMMENT
24			COMMENT



**Site Plan**  
 South Main  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

Project No. XXXXX  
 Dwg No. **C3**





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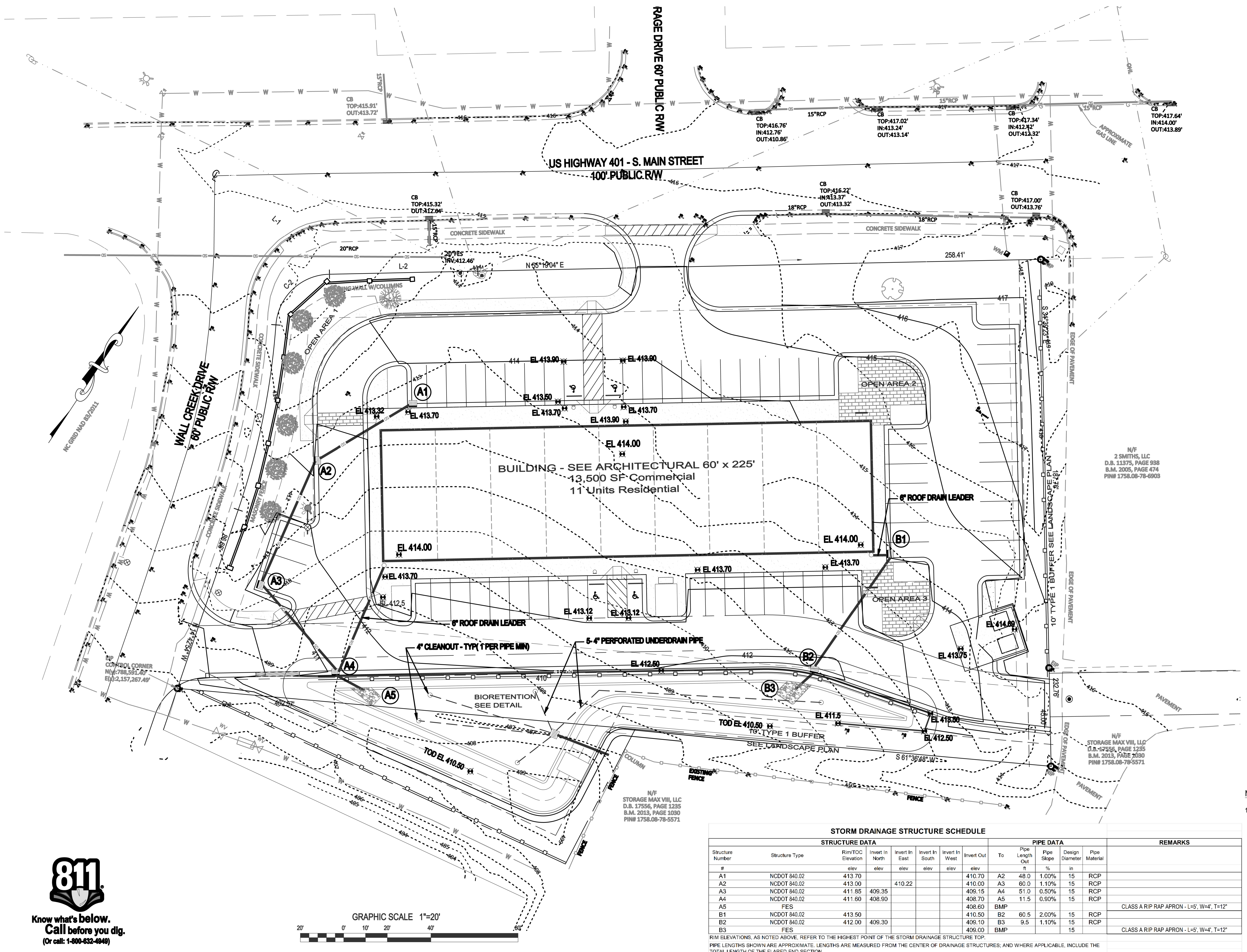
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5			COMMENT
6			COMMENT
			REVISION DESCRIPTION



**Grading \ Storm Drainage**  
South Main  
503 South Main Street  
Rolesville, Wake County, North Carolina

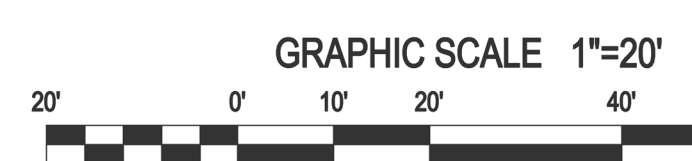
Project No. XXXXX  
Dwg No. **C4**



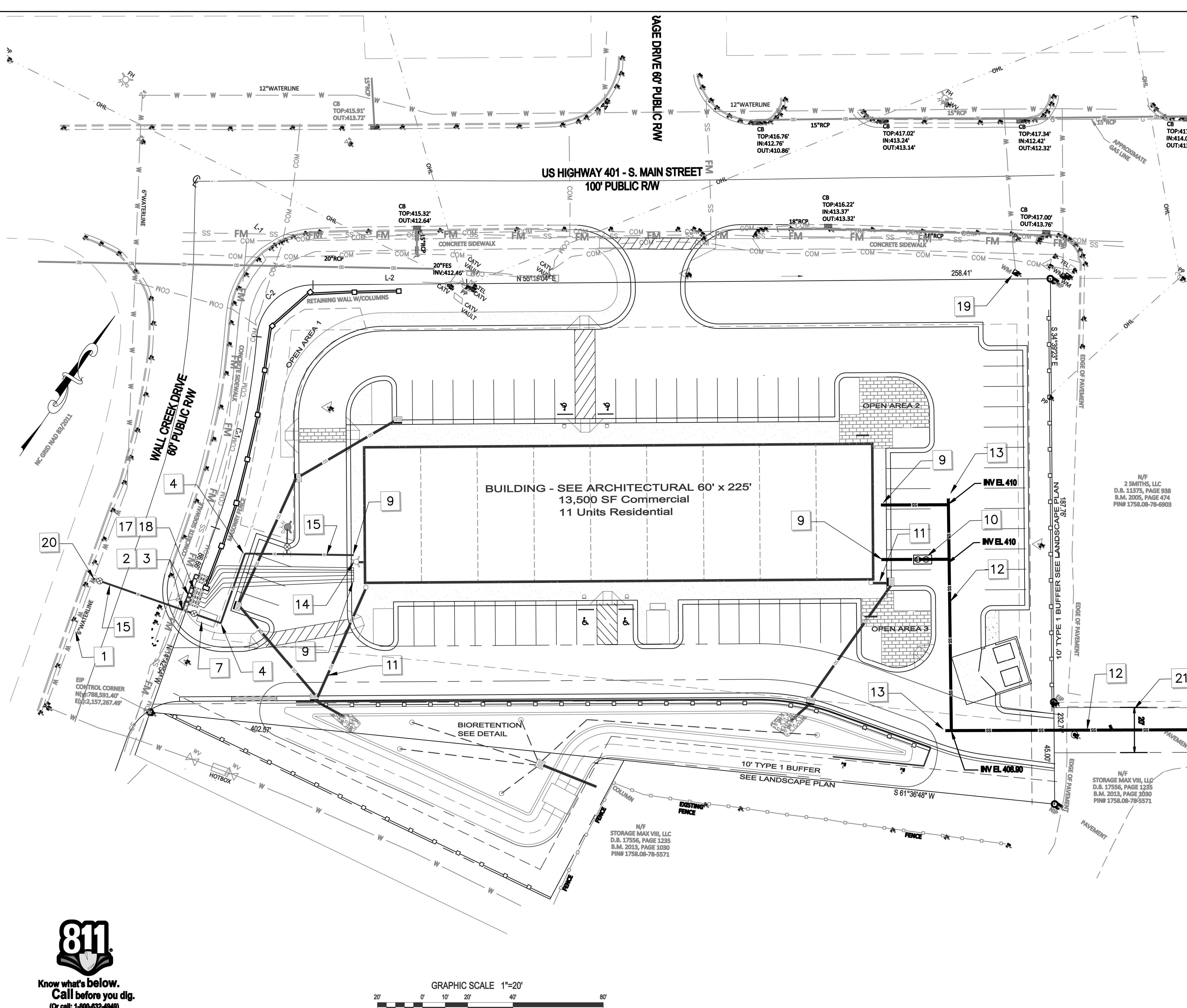
NOTES  
1. SEE SHEET C1 FOR STANDARD NOTES.

STORM DRAINAGE STRUCTURE SCHEDULE												
STRUCTURE DATA						PIPE DATA						REMARKS
Structure Number	Structure Type	Rim/Top Elevation	Invert In North	Invert In East	Invert In South	Invert In West	Invert Out	To	Pipe Length ft	Pipe Slope %	Design Diameter in	
A1	NCDOT 840.02	413.70	elev			elev	410.70	A2	48.0	1.00%	15	RCP
A2	NCDOT 840.02	413.00		410.22			410.00	A3	60.0	1.10%	15	RCP
A3	NCDOT 840.02	411.85	409.35				409.15	A4	51.0	0.50%	15	RCP
A4	NCDOT 840.02	411.60	408.50				408.70	A5	11.5	0.90%	15	RCP
A5	FES						408.60	BMP				
B1	NCDOT 840.02	413.50					410.50	B2	60.5	2.00%	15	RCP
B2	NCDOT 840.02	412.00	409.30				409.10	B3	9.5	1.10%	15	RCP
B3	FES						409.00	BMP				

RIM ELEVATIONS, AS NOTED ABOVE, REFER TO THE HIGHEST POINT OF THE STORM DRAINAGE STRUCTURE TOP.  
PIPE LENGTHS SHOWN ARE APPROXIMATE. LENGTHS ARE MEASURED FROM THE CENTER OF DRAINAGE STRUCTURES; AND WHERE APPLICABLE, INCLUDE THE TOTAL LENGTH OF THE FLARED END SECTION.







- KEY**
- EXISTING WATER LINE LOCATION SHOWN IS APPROXIMATE. COORDINATE WITH CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO STARTING WATERLINE CONSTRUCTION. CONFORM TO ALL WATER AUTHORITY STANDARDS AND REQUIREMENTS, AND TO ALL RIGHT-OF-WAY ENCROACHMENT CONDITIONS. VERIFY EXISTING PIPE SIZE AND MATERIAL, AND NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES.
  - CORPORATION STOP.
  - COPPER SERVICE LINE.
  - 90 DEGREE, OR 45 DEGREE, OR 22.5 DEGREE 90° BEND AND RESTRAINT.
  - UNDERGROUND ELECTRIC SERVICE LINE AND PAD-MOUNTED TRANSFORMER (SHOWN SCHEMATICALLY). CONTRACTOR SHALL HAVE APPLICATION FOR ELECTRIC SERVICE, COORDINATE INSTALLATION, AND PROVIDE ALL MATERIALS AND WORK NOT PROVIDED BY THE ELECTRIC COMPANY. VERIFY ROUTE AND LOCATIONS WITH ARCHITECT AND SERVICE PROVIDER.
  - ELECTRIC METER LOCATION ON BUILDING (SHOWN SCHEMATICALLY). VERIFY EXACT LOCATION WITH ARCHITECT AND SERVICE PROVIDER.
  - BACKFLOW PREVENTER DEVICE (BFD) LOCATED IN AN "ABOVE GROUND" HEATED ENCLOSURE.
  - INSTALL SITE LIGHTING CIRCUIT IN BUILDING ELECTRICAL PANEL AND ROUTE TO SITE LIGHTING FIXTURES. PROVIDE AND INSTALL CONDUIT AS NEEDED. VERIFY DETAILS WITH OWNER AND ARCHITECT, AND SERVICE PROVIDER. EXTEND SITE UTILITIES TO A POINT WITHIN 6 FEET OF THE BUILDING WALLS. BUILDING PLUMBER SHALL MAKE ALL UTILITY CONNECTIONS.
  - OIL/WATER SEPARATOR OF TRAFFIC RATED ACCESS LIDS.
  - DOWNSPOUT PIPE HEADER. TIE INTO STORM DRAIN STRUCTURE. FIELD VERIFY LOCATION / ELEVATION.
  - 4" PVC, 80% SLOPE, PRIVATE SANITARY SEWER MAIN WITH CLEANOUTS AT ALL BENDS AND A MAX SPACING OF 75 FEET-MIN 2% SLOPE.
  - SANITARY SEWER CLEANOUT (SEE DETAIL AND NOTES). USE TRAFFIC BEARING CLEANOUT IN PAVEMENT AREAS.
  - FIRE DEPARTMENT CONNECTION TYPE SHALL BE 6 INCH STOVE, WITH M FITTINGS AS NEEDED.
  - DUCTILE IRON PIPE WATER LINE, 3/4" BELOW FINISH GRADE.
  - FIRE HYDRANT ASSEMBLY WITH 4" VALVE AND BOX. SEE COR DETAIL W4.
  - 1" GONG METER ASSEMBLY - SEE COR DETAIL W28.
  - 1" RP BACKFLOW ASSEMBLY BY WATTS OR APPROVED EQUAL.
  - EXISTING WATER METER TO BE REMOVED / ABANDONED.
  - 6" TAPPING SLEEVE AND 4" GATE VALVE.
  - 2" PRIVATE SANITARY SEWER ASSEMBLY.

**KEYED NOTES UTILITY PLAN**

**Gettle Engineering and Design, PLLC**  
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 Wake Forest, North Carolina 27587  
 Firm License P-2538  
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7		DATE	COMMENT
8		DATE	COMMENT

**NOTES**

- SEE SHEET C1 FOR STANDARD AND UTILITY NOTES.

MATCH LINE SEE SHEET C6

**SITE PERMITTING APPROVAL**

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

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City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

**CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION**

Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be considered to represent total compliance with all legal requirements for development and construction. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization is not a permit, nor shall it be construed to permit any violation of City, State or Federal Law. All construction must be in accordance with all Local, State, and Federal laws and regulations.

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be used to obtain any modification to this approval once issued and shall constitute this approval.

City of Raleigh Development Approval: \_\_\_\_\_  
 City of Raleigh Review Officer: \_\_\_\_\_



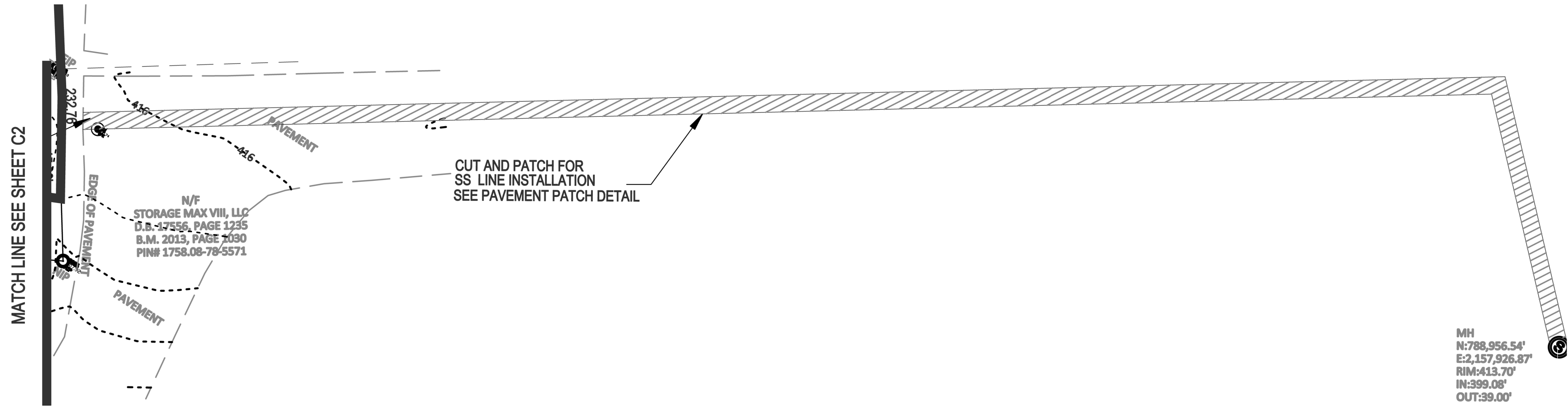
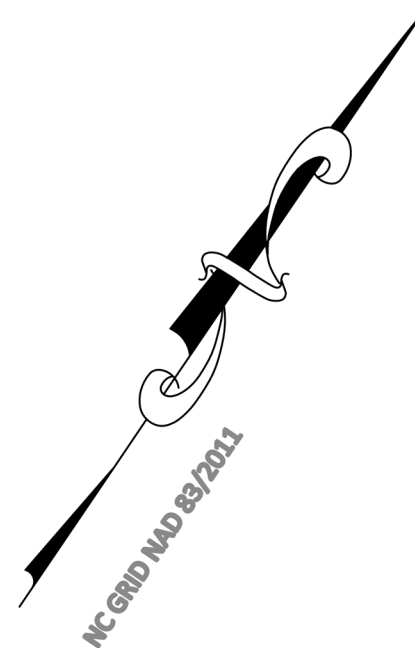
**Utility Plan**  
**South Main**  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

Project No. XXXXX  
 Dwg No. **C5**

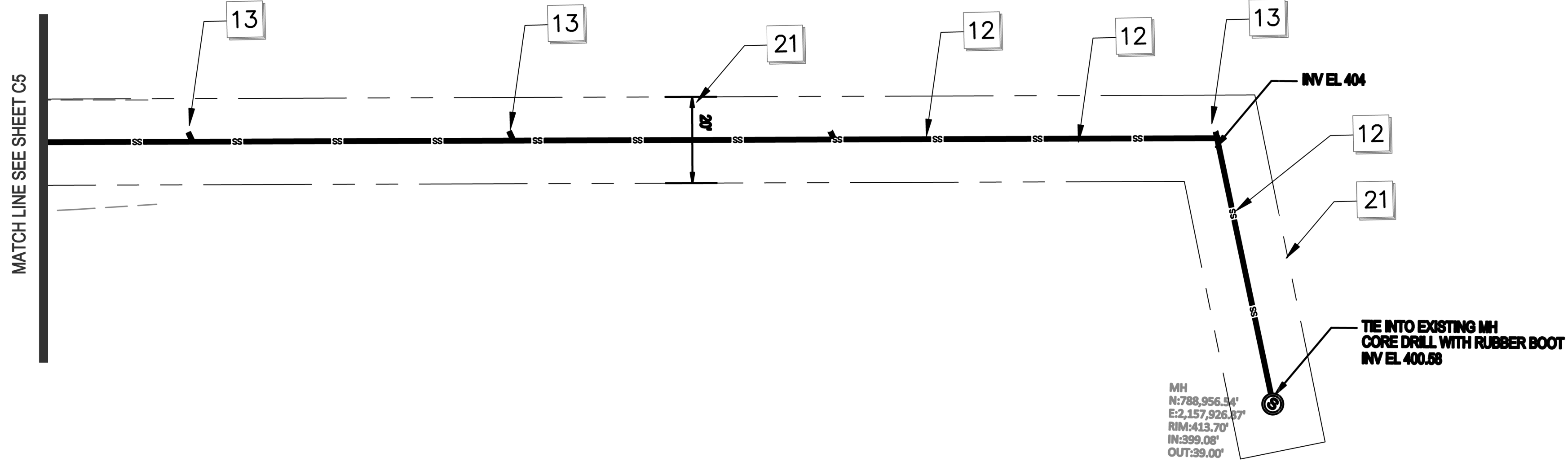


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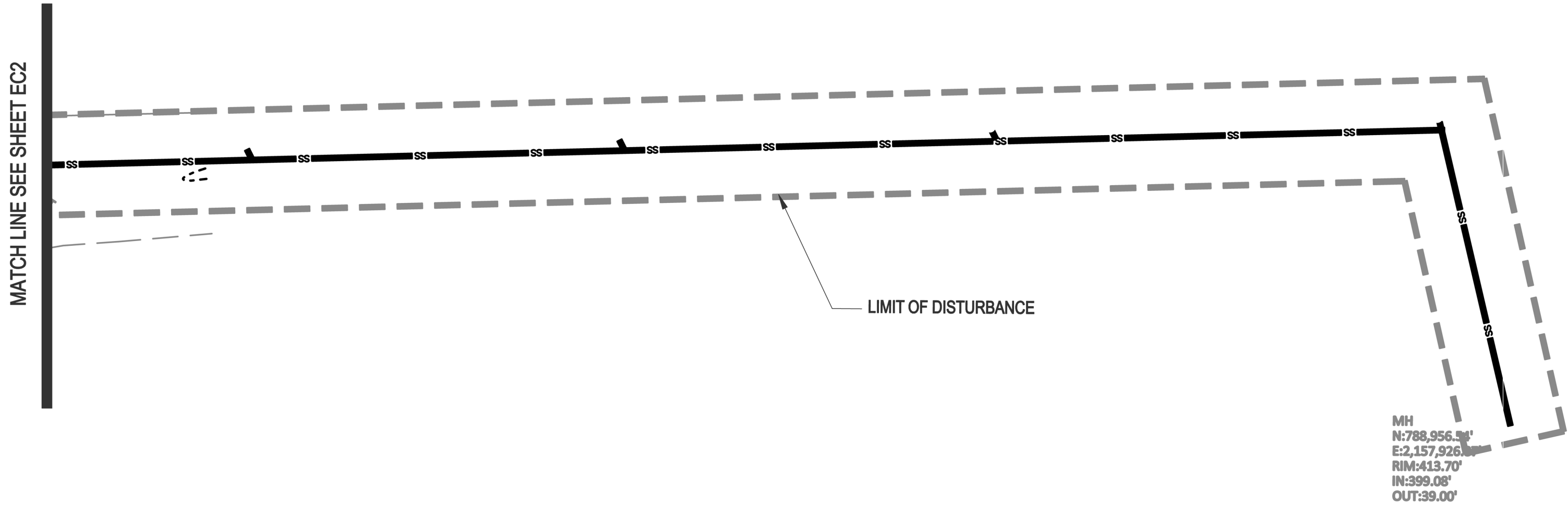
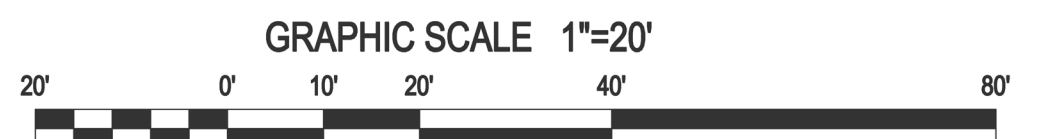




**SS Extension - Existing Conditions**



**SS Extension - Utility Plan**



**SS Extension - Erosion Control**



- KEY**
- KEYED NOTES UTILITY PLAN**
- 1 IF EXISTING WATER LINE LOCATION SHOWN IS APPROXIMATE, COORDINATE WITH CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO STARTING WATERLINE CONSTRUCTION. CONFORM TO ALL WATER AUTHORITY STANDARDS AND REQUIREMENTS, AND TO ALL RIGHT-OF-WAY ENCROACHMENT CONDITIONS. VERIFY EXISTING PIPE SIZE AND MATERIAL, AND NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES.
  - 2 CORPORATION STOP.
  - 3 2" COPPER SERVICE LINE
  - 4 90 DEGREE, OR 45 DEGREE, OR 22.5 DEGREE (W/ 90° AND RESTRAINT).
  - 5 UNDERGROUND ELECTRIC SERVICE LINE AND PAD-MOUNTED TRANSFORMER (SHOWN SCHEMATICALLY), CONTRACTOR SHALL MAKE APPLICATION FOR ELECTRIC SERVICE, COORDINATE INSTALLATION, AND PROVIDE ALL MATERIALS AND WORK NOT PROVIDED BY THE ELECTRIC COMPANY. VERIFY ROUTE AND LOCATIONS WITH ARCHITECT AND SERVICE PROVIDER.
  - 6 ELECTRIC METER LOCATION ON BUILDING (SHOWN SCHEMATICALLY), VERIFY EXACT LOCATION WITH ARCHITECT AND SERVICE PROVIDER.
  - 7 6" BACKFLOW PREVENTER DEVICE (BFD) LOCATED IN AN "ABOVE GROUND" HEATED ENCLOSURE.
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  - 9 EXTEND SITE UTILITIES TO A POINT WITHIN 6 FEET OF THE BUILDING WALLS, BUILDING PLUMBER SHALL MAKE ALL UTILITY CONNECTIONS.
  - 10 OIL/WATER SEPARATOR w/ TRAFFIC RATED ACCESS LIDS
  - 11 DOWNSPOUT PIPE HEADER. TIE INTO STORM DRAIN STRUCTURE. FIELD VERIFY LOCATION / ELEVATION.
  - 12 4" PVC, 80R-SS, PRIVATE SANITARY SEWER MAIN WITH CLEANOUTS AT ALL BENDS AND A MAX SPACING OF 75 FEET-MIN 2% SLOPE.
  - 13 SANITARY SEWER CLEANOUT (SEE DETAIL AND NOTES). USE TRAFFIC BEARING CLEANOUT IN PAVEMENT AREAS.
  - 14 PIPE DEPARTMENT CONNECTION TYPE SHALL BE 8 INCH STONZ, WITH MJ FITTINGS AS NEEDED.
  - 15 4" DUCTILE IRON PIPE WATER LINE, 6" BELOW FINISH GRADE
  - 16 FIRE HYDRANT ASSEMBLY WITH 4" VALVE AND BOX. SEE OUR DETAIL WM.
  - 17 4" GAND METER ASSEMBLY - SEE OUR DETAIL W28
  - 18 4" RP BACKFLOW ASSEMBLY BY WATTS OR APPROVED EQUAL
  - 19 EXISTING WATER METER TO BE REMOVED / ABANDONED
  - 20 6" TAPPING SLEEVE AND 4" GATE VALVE
  - 21 20" PRIVATE SANITARY SEWER BASEMENT

- NOTES**
1. SEE SHEET C1 FOR SITE AND UTILITY NOTES.

**SITE PERMITTING APPROVAL**

*Water and Sewer Permits (if applicable)*

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City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

**CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION**

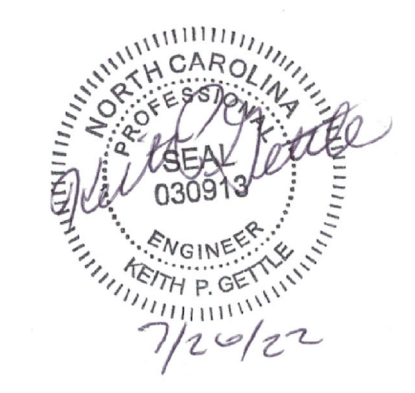
Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be considered to represent total compliance with all legal requirements for development and construction. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization does not constitute, nor shall it be construed to permit any violation of City, State or Federal Law. All construction must be in accordance with all local, state, and Federal laws and regulations.

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City of Raleigh Development Approval: \_\_\_\_\_  
City of Raleigh Review Officer: \_\_\_\_\_

**Gettle Engineering and Design, PLLC**  
3616 Waxwing Court,  
Wake Forest, North Carolina 27587  
(919) 210-3334 Firm License P-2538

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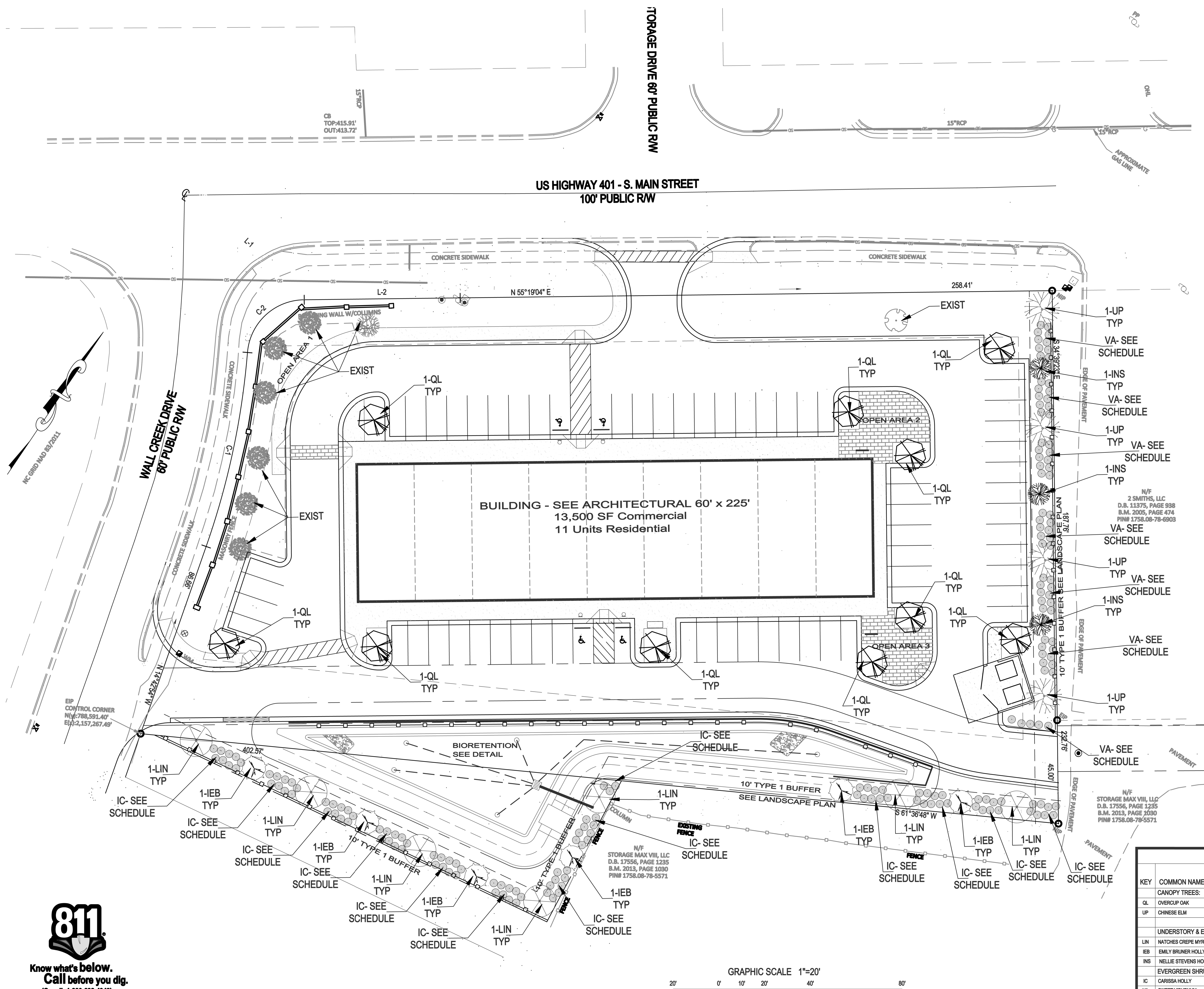
**Utility Plan - SS Extension**  
**South Main**  
503 South Main Street  
Rolesville, Wake County, North Carolina

Project No. XXXXX  
Dwg No. **C6**



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DO NOT USE FOR  
CONSTRUCTION



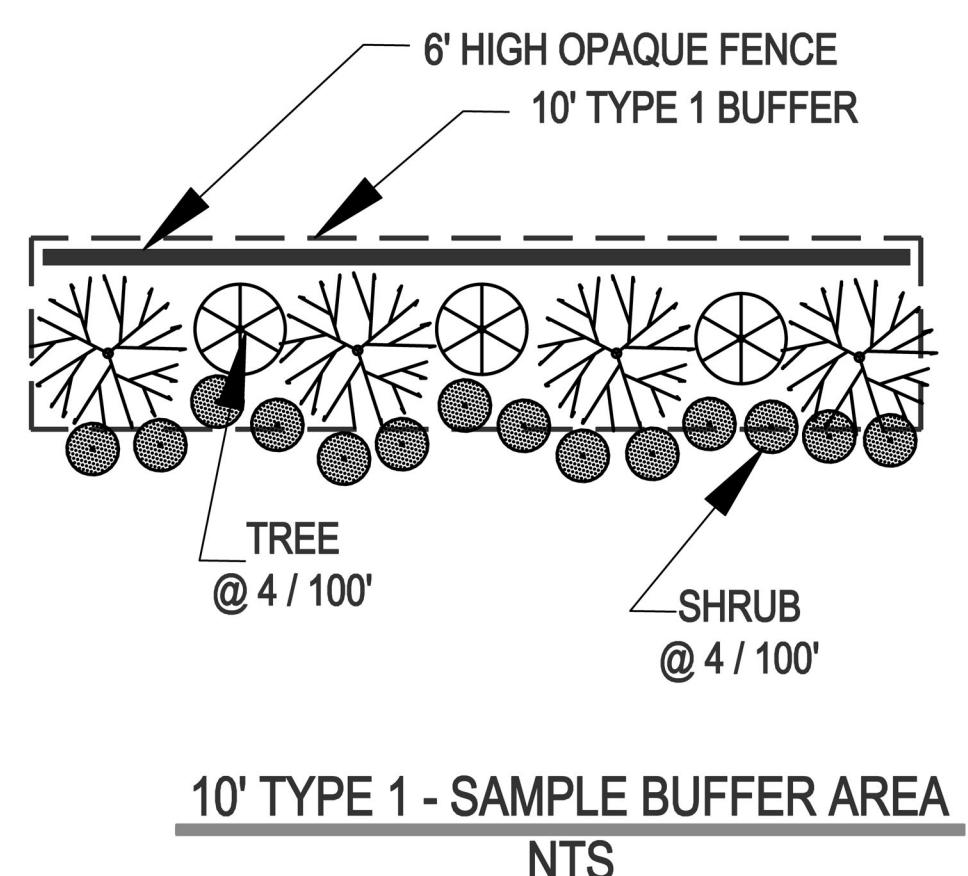


- GENERAL PLANTING NOTES**
1. ALL LAWN AREAS TO BE SEEDED WITH "REBEL IV", CONFEDERATE PLUS, OR FESCO TALL TURF TYPE FESCUE.
  2. ALL MULCH TO BE DOUBLE SHREDDED HARDWOOD. NO PINE STRAW MULCH ADJACENT TO STRUCTURES.
  3. PLANT MATERIAL ON THIS SITE MUST BE INSTALLED IN CONFORMANCE WITH THE GENERAL PLANTING NOTES AND DETAILS ON THIS PLAN OR TO THE STANDARDS OF THE TOWN OF ROLESVILLE'S CODE OF ORDINANCES.
  4. ALL PLANTS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
  5. OWNERS SHALL MAINTAIN ALL PLANT BEDS AND PLANT MATERIAL IN GOOD HEALTH, AND ANY DEAD, UNHEALTHY, OR MISSING PLANTS SHALL BE REPLACED WITH LOCALLY ADAPTED VEGETATION WHICH CONFORMS TO THE INITIAL PLANTING STANDARDS OF THE LANDSCAPING ORDINANCE.
  6. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR LOCATING ANY UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK.
  7. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UNDERGROUND UTILITIES, SITE FEATURES, OR STRUCTURES.
  8. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED PERMITS AND LICENSES TO PERFORM THE REQUIRED WORK.
  9. ALL PLANT BEDS SHALL BE TREATED WITH PRE-EMERGENT WEED CONTROL (I.E. TREFLAN).
  10. ALL PLANTS SHALL BE VIGOROUS, HEALTHY MATERIAL FREE FROM PESTS AND DISEASE.

**SCOPE OF WORK**  
 FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED OR INDICATED BY THE DRAWINGS AND SPECIFICATIONS TO COMPLETE THE WORK INCLUDING INSTALLATION OF ALL TREES, SHRUBS, GROUNDCOVER, ANNUALS, SEED, SOD AND MULCH.

**MATERIALS AND WORK**  
 THE SELECTION OF ALL MATERIALS AND THE EXECUTION OF ALL WORK REQUIRED UNDER THE CONTRACT SHALL BE SUBJECT TO APPROVAL BY THE OWNER. THE OWNER SHALL HAVE THE RIGHT TO REJECT AND SUBSTITUTE ALL MATERIALS AND ANY AND ALL WORK, WHICH IN HIS OPINION, DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT.

**RETAINING EXISTING VEGETATION**  
 ALL EXISTING HEALTHY VEGETATION (NON INVASIVE TREES, SHRUBS, ETC) THAT EXISTS OUTSIDE THE PROPOSED DISTURBED AREAS OF THIS DEVELOPMENT IS TO BE RETAINED TO THE MOST PRACTICAL EXTENT POSSIBLE.



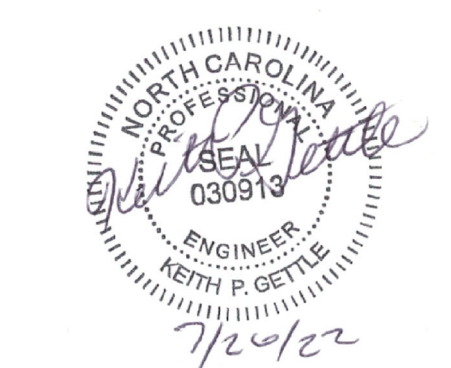
10' TYPE 1 - SAMPLE BUFFER AREA  
 NTS

- NOTES**
1. SEE SHEET C1 FOR SITE STANDARD NOTES.
  2. SEE SHEET D2 FOR LANDSCAPE DETAILS

PLANT LIST								
KEY	COMMON NAME	BOTANICAL NAME	CAL	HGT	SPD	ROOT	REMARKS	QUAN
CANOPY TREES:								
QL	OVERCUP OAK	Quercus lyrata	2 1/2"	14'	7'	B&B		10
UP	CHINESE ELM	Ulmus Parvifolia	2 1/2"	14'	7'	B&B		4
UNDERSTORY & EVERGREEN TREES:								
LIN	NATCHES CREPE MYRTLE	Lag. indica 'Natchez'	-	8'	4'	B&B		2
IEB	EMILY BRUNER HOLLY	Ilex x 'Emily Bruner'	-	8'	4'	B&B		2
INS	NELLIE STEVENS HOLLY	Ilex x NR STEVENS	-	2'	B&B			3
EVERGREEN SHRUBS:								
IC	CARISSA HOLLY	Ilex Cornuta 'Carissa'	-	24"	10"	cont.	9' O/C 10' TYPE 1 BUFFER SOUTH	142
VA	SWEET VIBURNUM	Viburnum Awabuki 'Chindo'	-	4'	2'	cont.	FULL 10' O/C 10' TYPE 1 BUFFER EAST	78

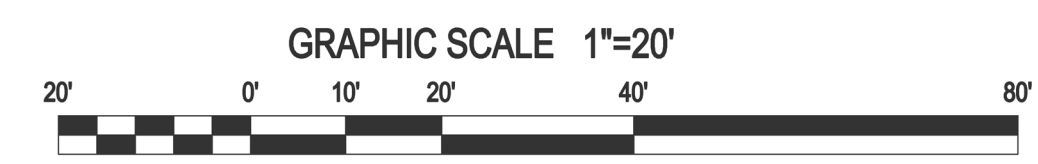
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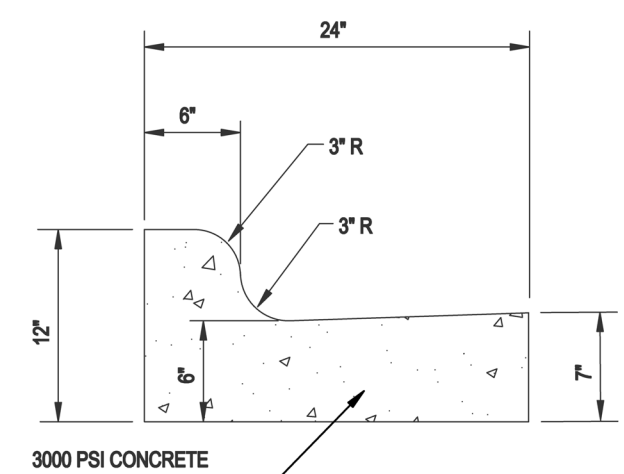


**Landscape Plan**  
 South Main Street  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

Project No. XXXXX  
 Dwg No. **C7**



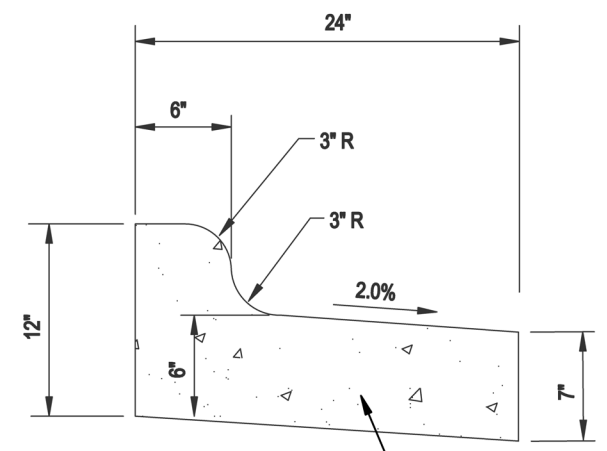




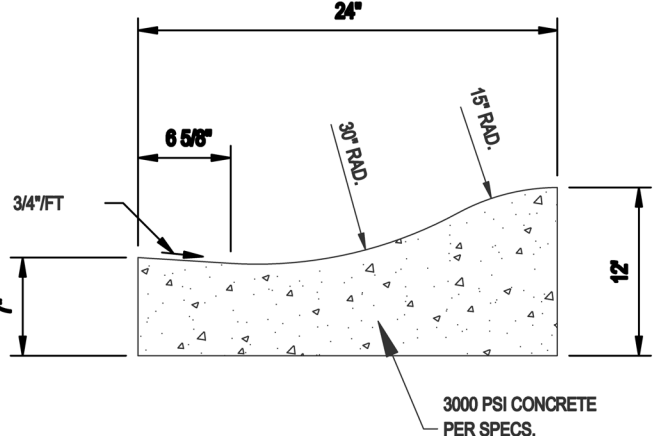
**STANDARD 24\"/>**

**CURB AND GUTTER**

- NOTES:**
- 10' MAXIMUM BETWEEN CONSTRUCTION JOINTS. 15' MAXIMUM BETWEEN CONSTRUCTION JOINTS TO SCALE ON MACHINE POURS.
  - 1/2" EXPANSION JOINT EVERY 90'.
  - 3000 PSI CONCRETE MINIMUM, 4" SLUMP MAXIMUM.
  - LIQUID MEMBRANE CURING COMPOUND SHALL MEET THE REQUIREMENTS OF SECTION 1028-2 OF NCDOT STANDARDS & SPECIFICATIONS FOR ROADS AND STRUCTURES.
  - ALL CONSTRUCTION JOINTS SHALL BE FILLED WITH JOINT FILLER AND SEALER IN ACCORDANCE WITH NCDOT ROADWAY STANDARD DETAIL 94631. THE JOINT MATERIAL SHALL CONFORM TO SECTION 1028-2 OF NCDOT'S STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
  - ABC STONE REQUIRED UNDER ALL CURB & GUTTER.

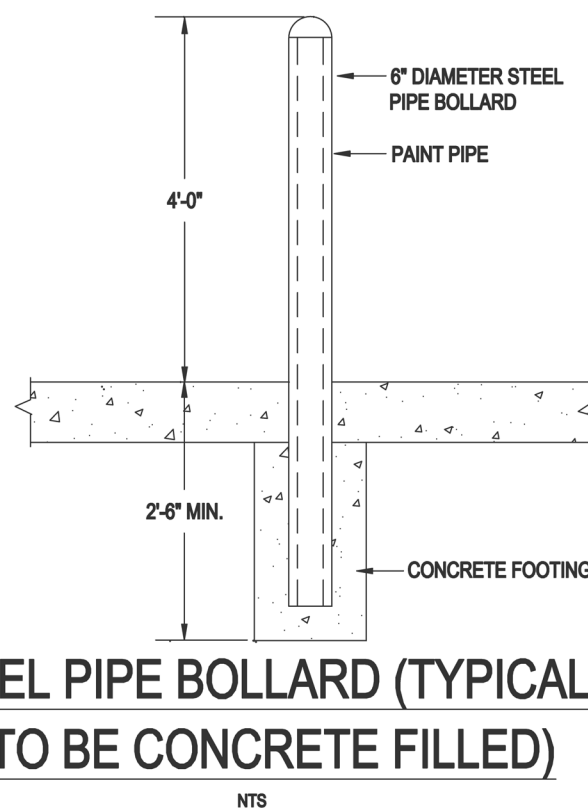


**24\"/>**



**24\"/>**

**STEEL PIPE BOLLARD (TYPICAL) (TO BE CONCRETE FILLED)**



**SPECIFICATIONS FOR CAST-IN-PLACE PORTLAND CEMENT CONCRETE**

1. NOTIFY THE ENGINEER AND ANY AGENCY HAVING JURISDICTION OVER THE CONCRETE AT LEAST TWO BUSINESS DAYS PRIOR TO PLACEMENT OF ANY CONCRETE.
2. ENSURE THAT SUBGRACES COMPLY WITH PROJECT REQUIREMENTS FOR ELEVATION, SLOPE, SOIL CHARACTERISTICS AND SENSITIVITY PRIOR TO PLACING ANY FORMS, BASE MATERIAL, OR CONCRETE.
3. VERIFY THAT CURRENT AND FORECASTED WEATHER CONDITIONS ARE APPROPRIATE FOR CONCRETE PLACEMENT.
4. CONCRETE MATERIALS AND WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS, AS APPLICABLE:

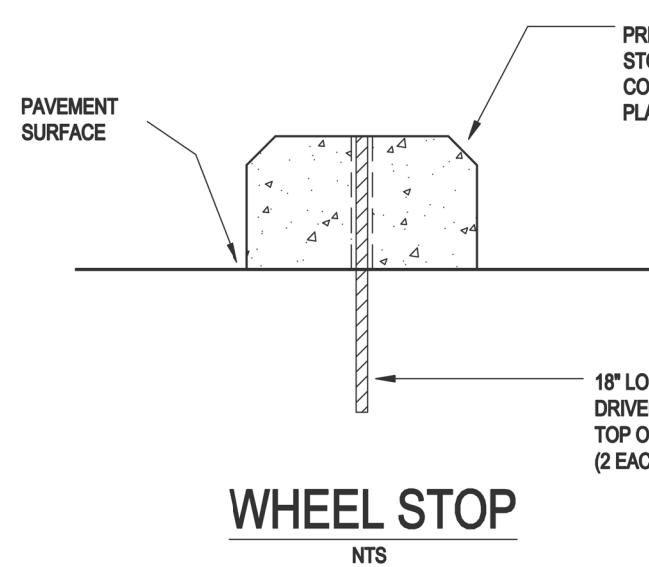
DESCRIPTION	STANDARD	COMMENT
PORTLAND CEMENT	ASTM C150	TYPE I OR ONLY
CONCRETE AGGREGATE	ASTM C33	NO. 57
MASONRY SAND	ASTM C144	NO. 20
ADDITIONAL AGGREGATE	ASTM C33	NO. 10
ADDITIONAL AGGREGATE	ASTM C33	NO. 5
ADDITIONAL AGGREGATE	ASTM C33	NO. 3
ADDITIONAL AGGREGATE	ASTM C33	NO. 1
ADDITIONAL AGGREGATE	ASTM C33	NO. 1/2
ADDITIONAL AGGREGATE	ASTM C33	NO. 3/4
ADDITIONAL AGGREGATE	ASTM C33	NO. 1 1/2
ADDITIONAL AGGREGATE	ASTM C33	NO. 2 1/2
ADDITIONAL AGGREGATE	ASTM C33	NO. 4 1/2
ADDITIONAL AGGREGATE	ASTM C33	NO. 9
ADDITIONAL AGGREGATE	ASTM C33	NO. 16
ADDITIONAL AGGREGATE	ASTM C33	NO. 25
ADDITIONAL AGGREGATE	ASTM C33	NO. 30
ADDITIONAL AGGREGATE	ASTM C33	NO. 35
ADDITIONAL AGGREGATE	ASTM C33	NO. 40
ADDITIONAL AGGREGATE	ASTM C33	NO. 45
ADDITIONAL AGGREGATE	ASTM C33	NO. 50
ADDITIONAL AGGREGATE	ASTM C33	NO. 55
ADDITIONAL AGGREGATE	ASTM C33	NO. 60
ADDITIONAL AGGREGATE	ASTM C33	NO. 65
ADDITIONAL AGGREGATE	ASTM C33	NO. 70
ADDITIONAL AGGREGATE	ASTM C33	NO. 75
ADDITIONAL AGGREGATE	ASTM C33	NO. 80
ADDITIONAL AGGREGATE	ASTM C33	NO. 85
ADDITIONAL AGGREGATE	ASTM C33	NO. 90
ADDITIONAL AGGREGATE	ASTM C33	NO. 95
ADDITIONAL AGGREGATE	ASTM C33	NO. 100

5. PROVIDE ALL CONCRETE MATERIALS AND WORK IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GOVERNING AUTHORITY REQUIREMENTS, AS APPLICABLE. IN CASE OF CONFLICTING REQUIREMENTS, THE MORE STRINGENT SHALL APPLY.
6. FOR CONCRETE WORK IN EXISTING OR ANTICIPATED FUTURE NCDOT RIGHTS OF WAY, COMPLY WITH REQUIREMENTS OF THE LATEST EDITION OF NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, AND AASHTO STANDARDS SPECIFIED THEREIN.
7. UNLESS OTHERWISE SPECIFIED OR REQUIRED, PROVIDE NORMAL WEIGHT CONCRETE HAVING A 28-DAY MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI WITH A MAXIMUM WATER/CEMENT RATIO OF 0.50, AND A SLOPE RANGE BETWEEN 1:5 AND 3:1 PROTECTIVE PROST LINE. PROVIDE AIR-EN TRAINED CONCRETE WITH AN AIR CONTENT OF 5% BY VOLUME, PLUS OR MINUS 1.5% UNLESS OTHERWISE SPECIFIED. SYNTHETIC FIBER REINFORCEMENT SHALL BE FIBRONOR 300 BY PROPLEX, AT A MINIMUM RATE OF 1.5 LBS. PER CUBIC YARD OF CONCRETE, OR APPROVED EQUAL.
8. UNLESS OTHERWISE SHOWN OR NOTED, PROVIDE CONTROL JOINTS AND EXPANSION JOINTS WITH MAXIMUM SPACING AND PHYSICAL CHARACTERISTICS AS FOLLOWS:

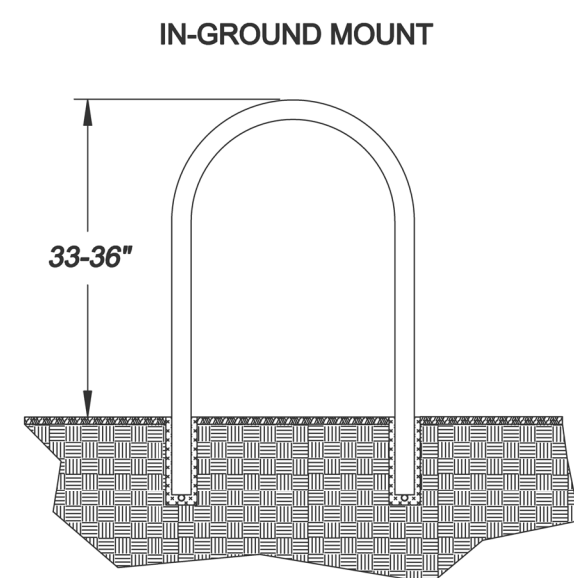
APPLY TO	MAX. SPACING (FT)	MAX. WIDTH (IN)	MAX. DEPTH (IN)	REMARKS
CONTROL	15	12	12	DO NOT EXCEED A FULL DEPTH OF 12 IN. UNLESS OTHERWISE APPROVED BY THE ENGINEER.
EXPANSION	30	30	30	DO NOT EXCEED A FULL DEPTH OF 30 IN. UNLESS OTHERWISE APPROVED BY THE ENGINEER.

11. PROVIDE EXPANSION JOINTS AGAINST ALL METAL FRAMES, CASTINGS, BOLLARDS, STRUCTURES, FOOTINGS, SANDS, APPROX. OR OTHER FIXED OBJECTS.
12. PROVIDE CONTROL JOINTS AGAINST ALL EXISTING OR ANTICIPATED FUTURE NCDOT RIGHTS OF WAY EDGES, WHERE PLACEMENT OPERATIONS ARE DISCONTINUED FOR LONGER THAN 30 MINUTES.
13. COMPLY WITH MATERIAL, SAMPLING AND TESTING REQUIREMENTS AS SPECIFIED FOR THE PROJECT.
14. PROVIDE ADEQUATE CONCRETE FINISHING, PROTECTION, AND CURING MEASURES, UNLESS OTHERWISE NOTED. PROVIDE A LIGHT-BROOM FINISH ON ALL SURFACES THAT WILL EXPERIENCE FOOT TRAFFIC.
15. EXPOSED CONCRETE SURFACES SHALL HAVE A UNIFORM APPEARANCE WITHOUT UNDESIRABLE CRACKS, AND WITH PROPER DIMENSIONS, ELEVATIONS, AND SLOPES. JOINTS SHALL BE TRACED, HEAT, AND PROPERLY SPACED WITH LEVEL SURFACE CONDITIONS ACROSS THE WIDTH OF EACH JOINT.
16. WASH OUT CONCRETE TRUCKS AND DRUMS IN APPROVED LOCATIONS ONLY.

**SPECIFICATION FOR CAST IN PLACE CEMENT**

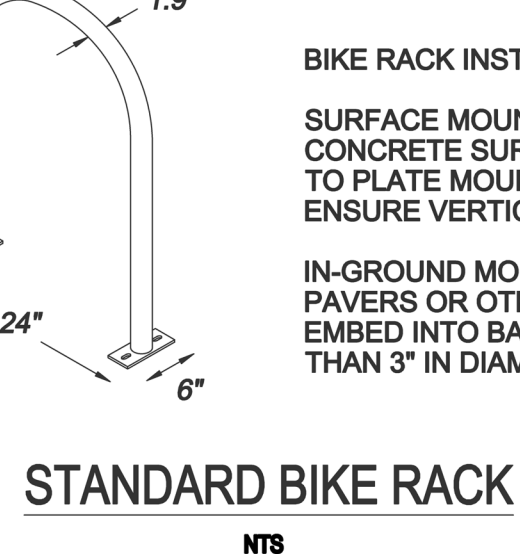


**WHEEL STOP**



**IN-GROUND MOUNT**

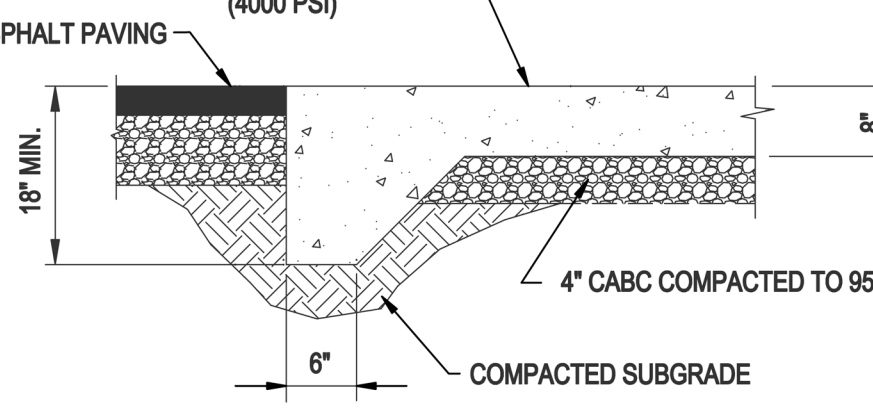
**SURFACE MOUNT**



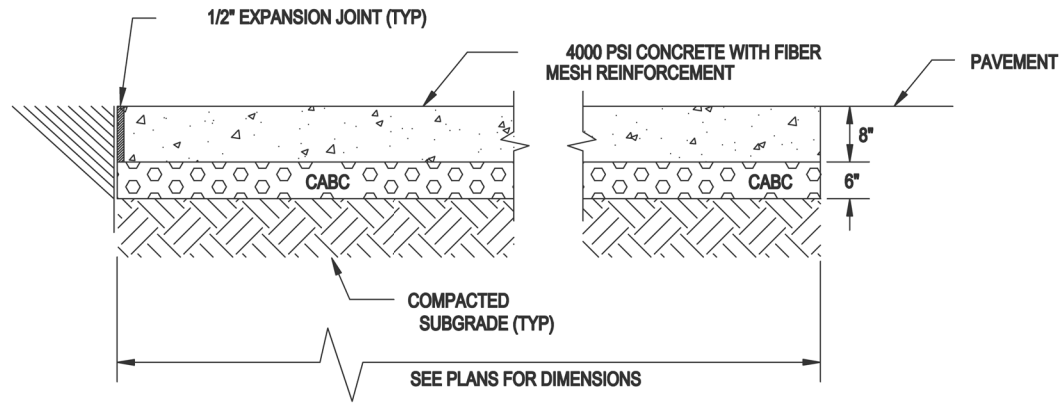
**STANDARD BIKE RACK**

**BIKE RACK INSTALLATION:**  
 SURFACE MOUNT - WHEN INSTALLED ON CONCRETE SURFACE, USE 3/8" ANCHORS TO PLATE MOUNT. SHIM AS NECESSARY TO ENSURE VERTICAL PLACEMENT.  
 IN-GROUND MOUNT - WHEN INSTALLED ON PAVERS OR OTHER NON-STABLE SURFACES, EMBED INTO BASE. CORE HOLES NO LESS THAN 3" IN DIAMETER AND 10" DEEP.

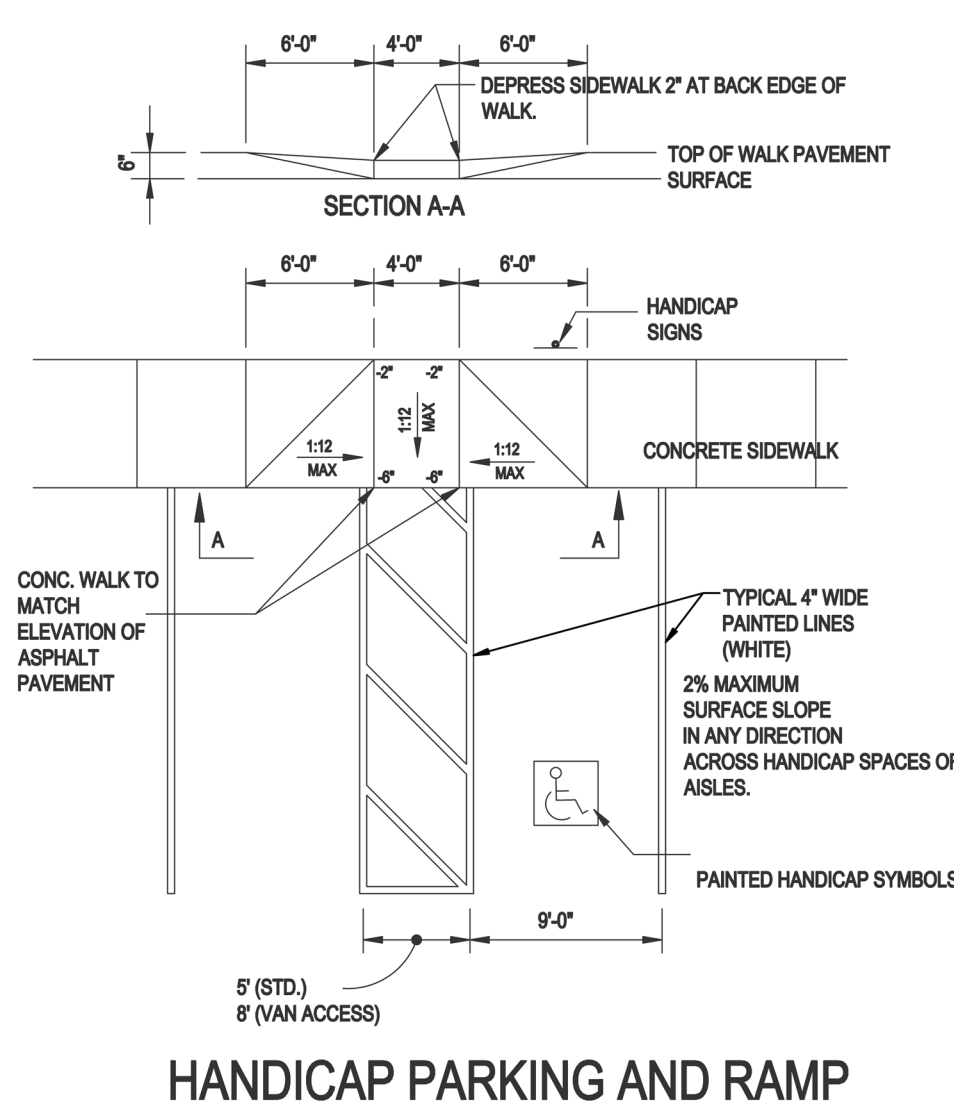
**TURNDOWN SIDEWALK**



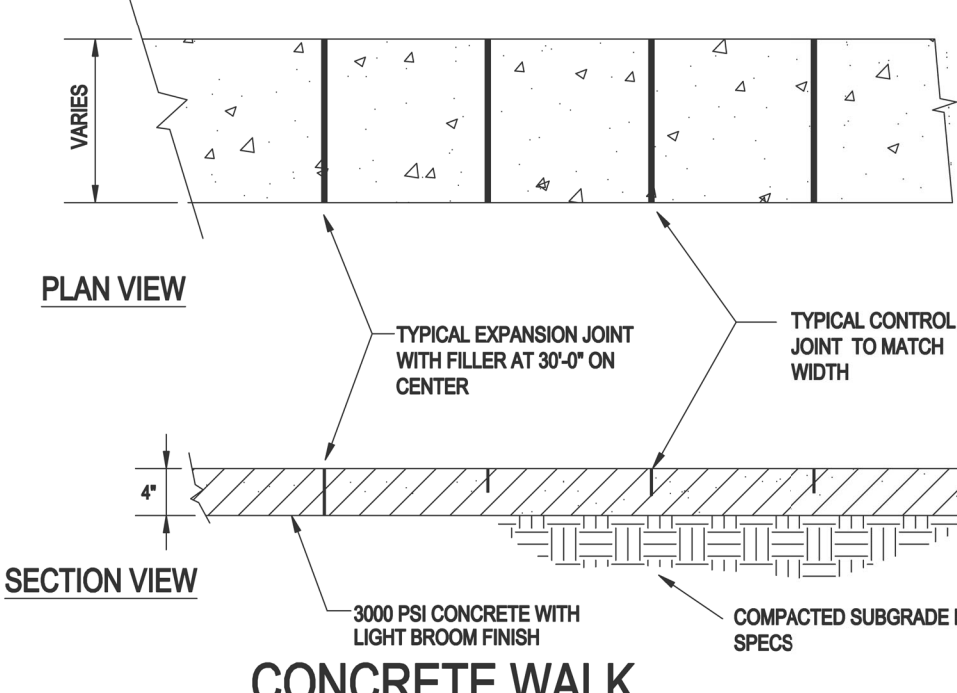
**TURNDOWN AT DUMPSTER PAD**



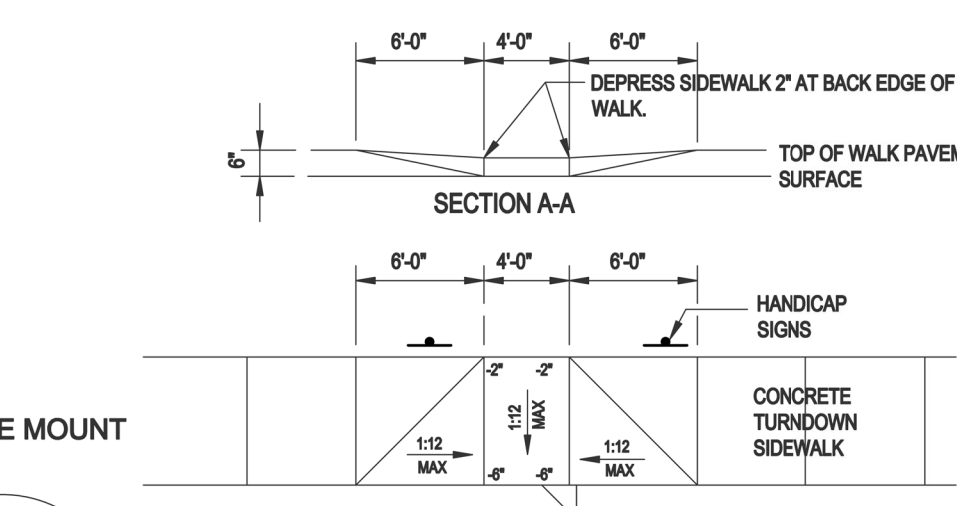
**CONCRETE PAVING DETAIL**



**HANDICAP PARKING AND RAMP**

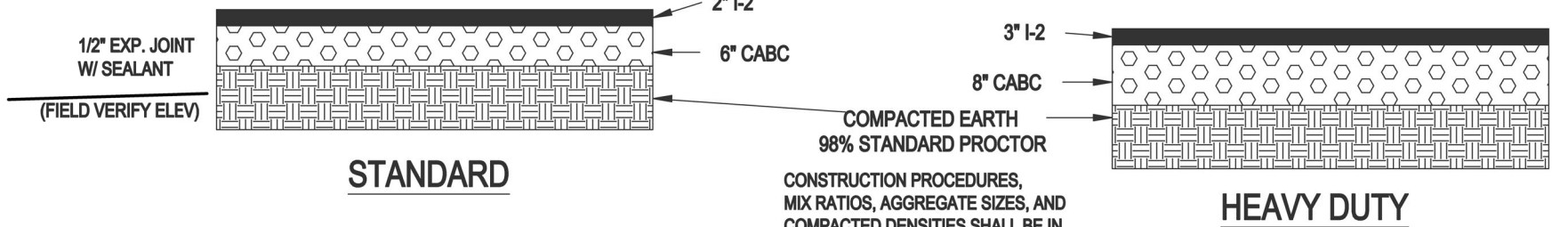


**CONCRETE WALK**



**SECTION A-A**

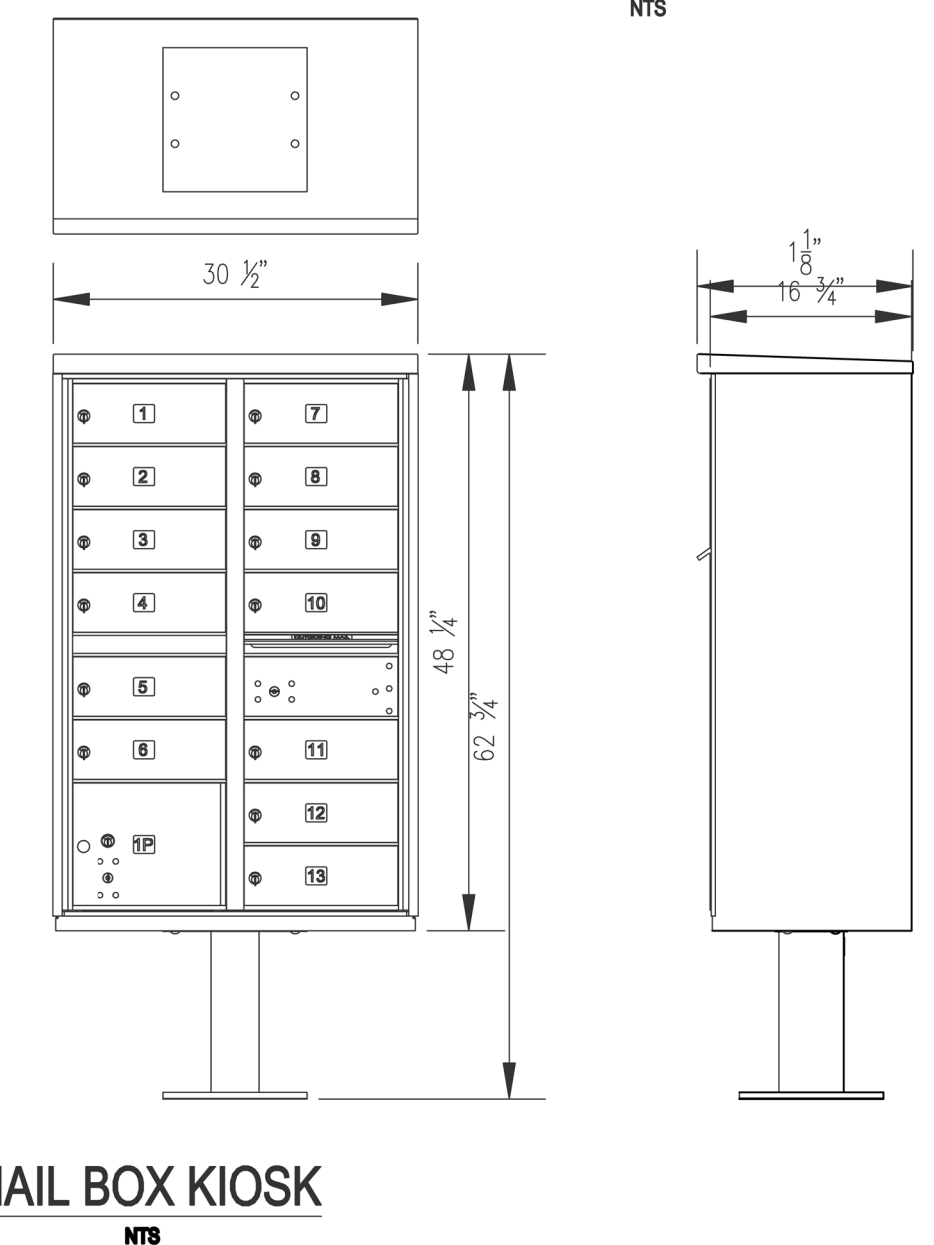
**SECTION A-A**



**PAVEMENT DETAIL**

**PAVEMENT DETAIL**

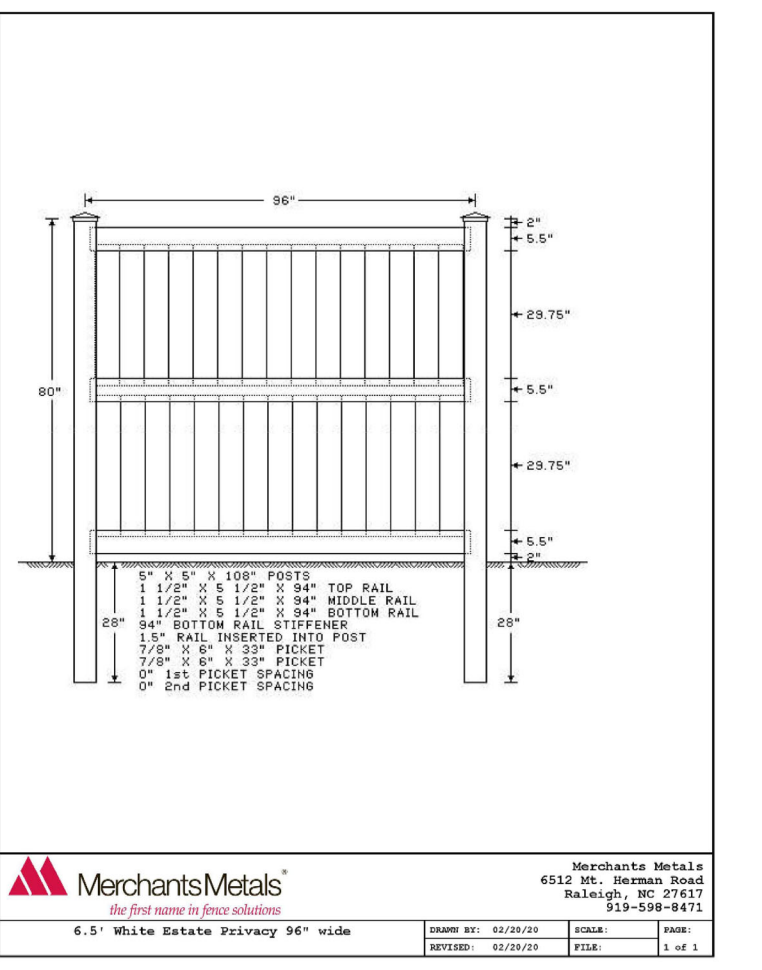
- NOTES**
1. SEE SHEET C1 FOR STANDARD NOTES.



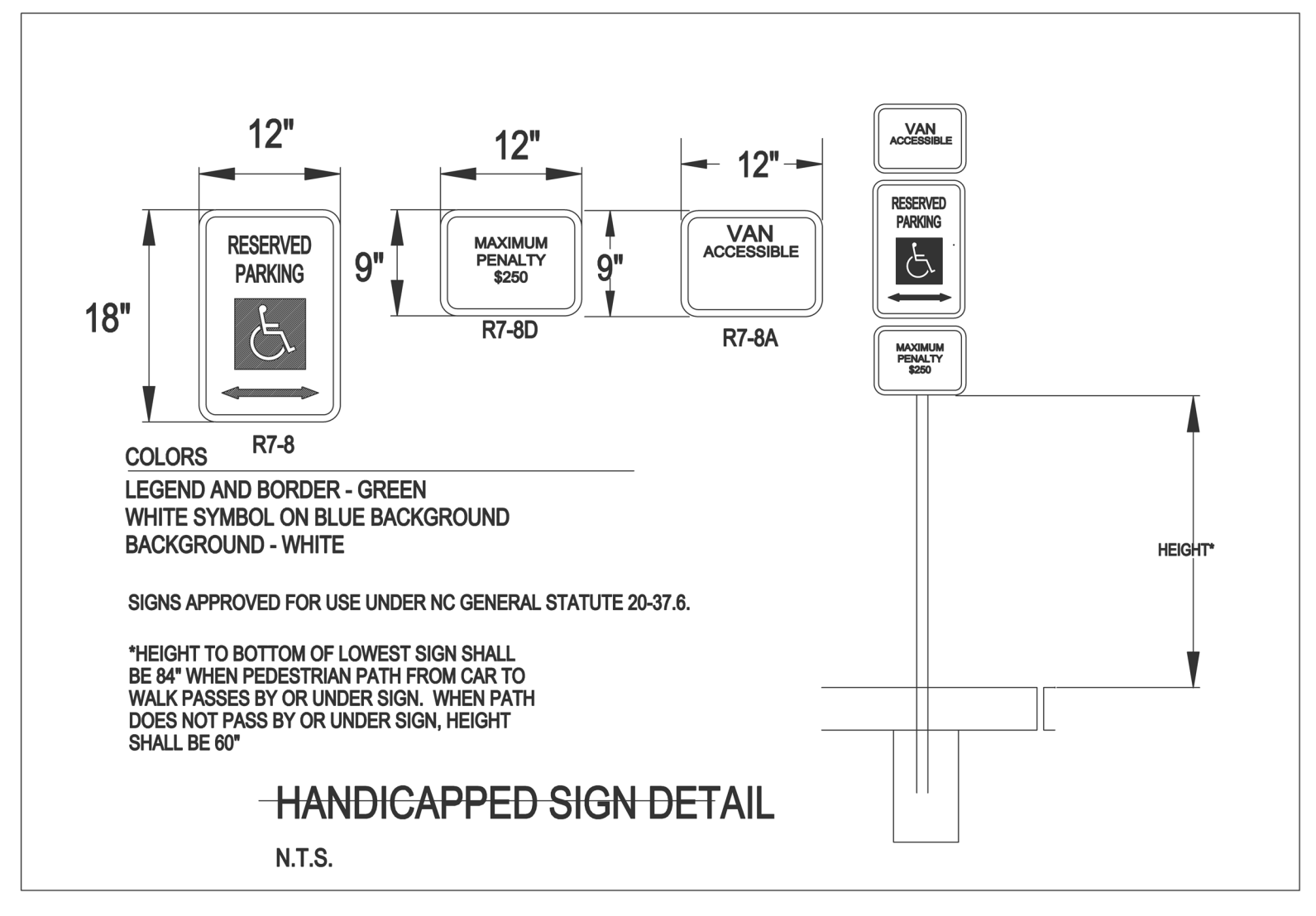
**MAIL BOX KIOSK**

**MAIL BOX KIOSK**

**MAIL BOX KIOSK**



**LANDSCAPE FENCE DETAIL (TYPICAL)**

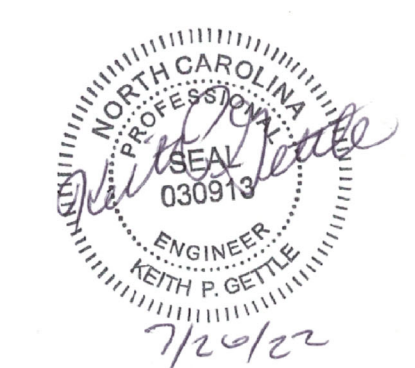


**HANDICAPPED SIGN DETAIL**

**HANDICAPPED SIGN DETAIL**

**Cettle Engineering and Design, PLLC**  
 3616 Waxwing Court,  
 Wake Forest, North Carolina 27587  
 (919) 210-3934 Firm License P-2538

NO.	DATE	INITIAL SUBMITTAL	BY	REVISION DESCRIPTION
1	07-28-2022	INITIAL SUBMITTAL	BY	
2		DATE	BY	
3		DATE	BY	
4		DATE	BY	
5		DATE	BY	
6		DATE	BY	

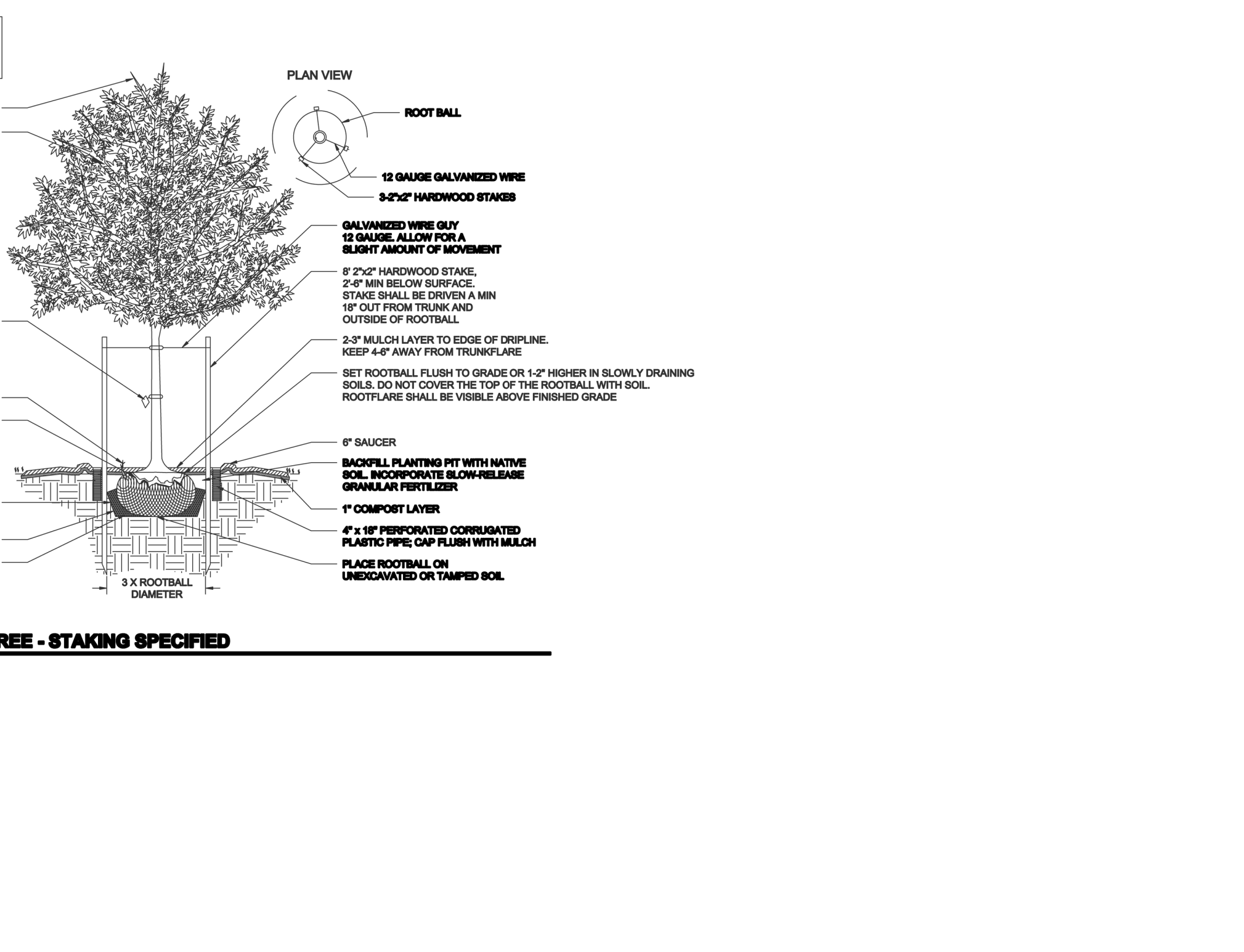
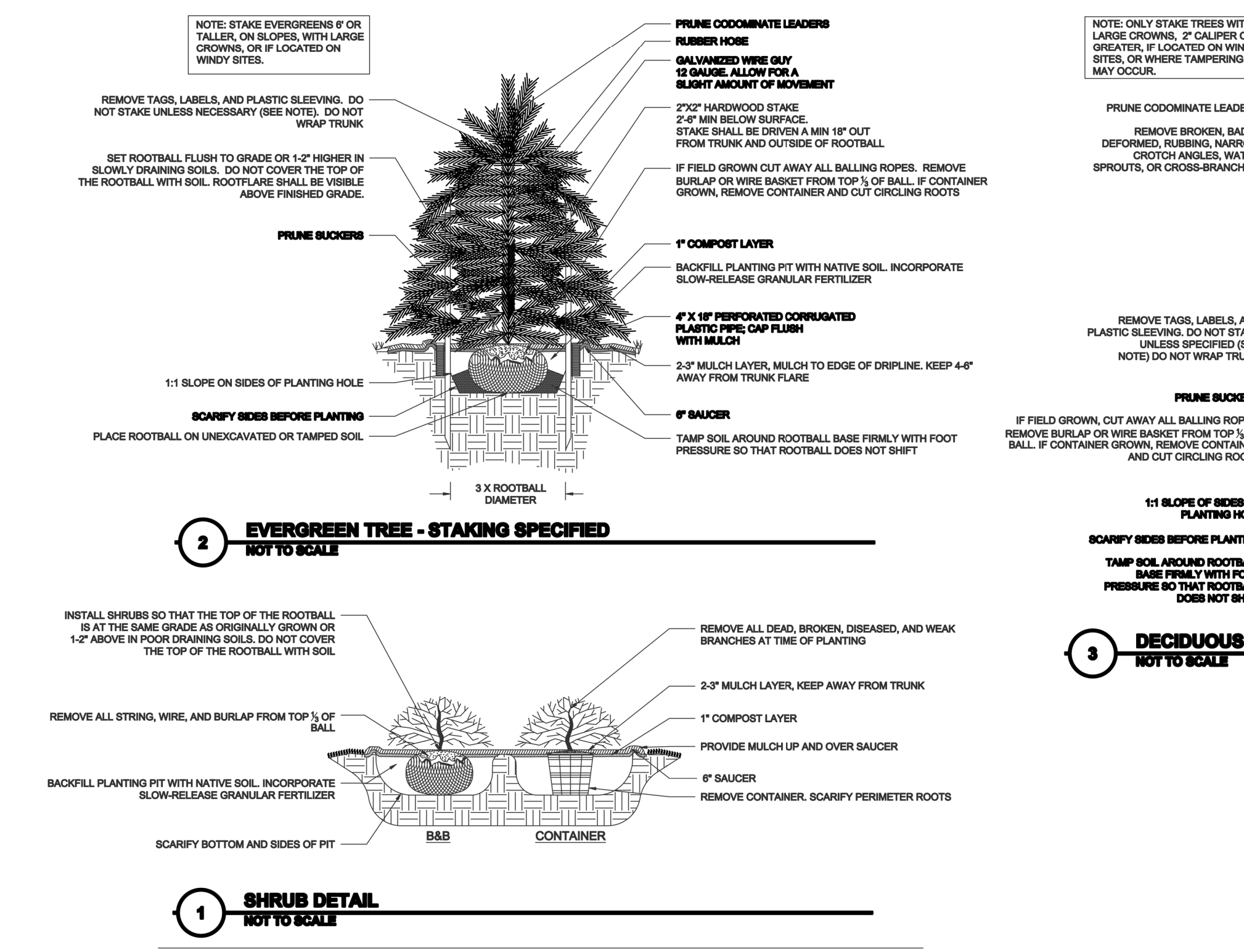
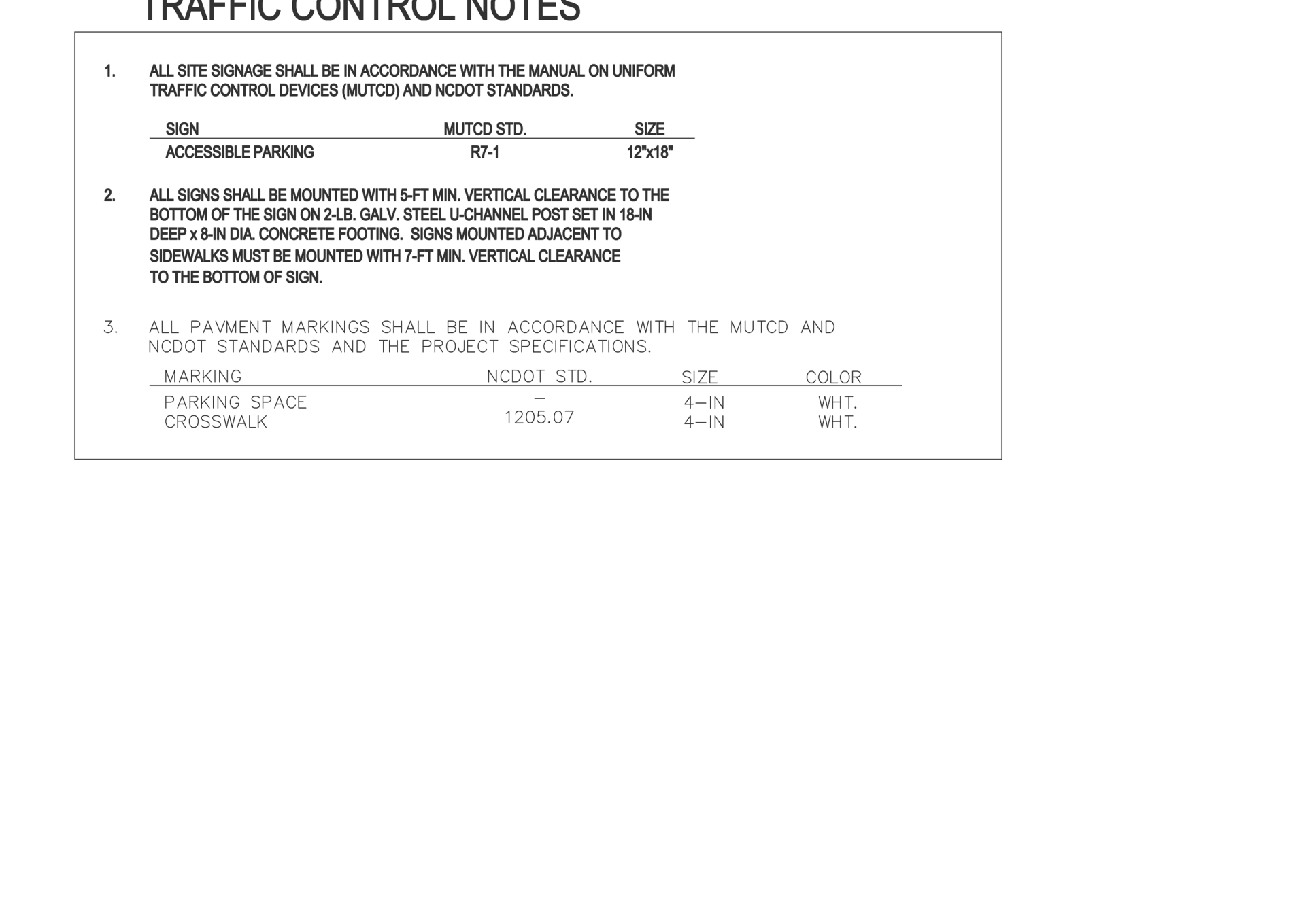
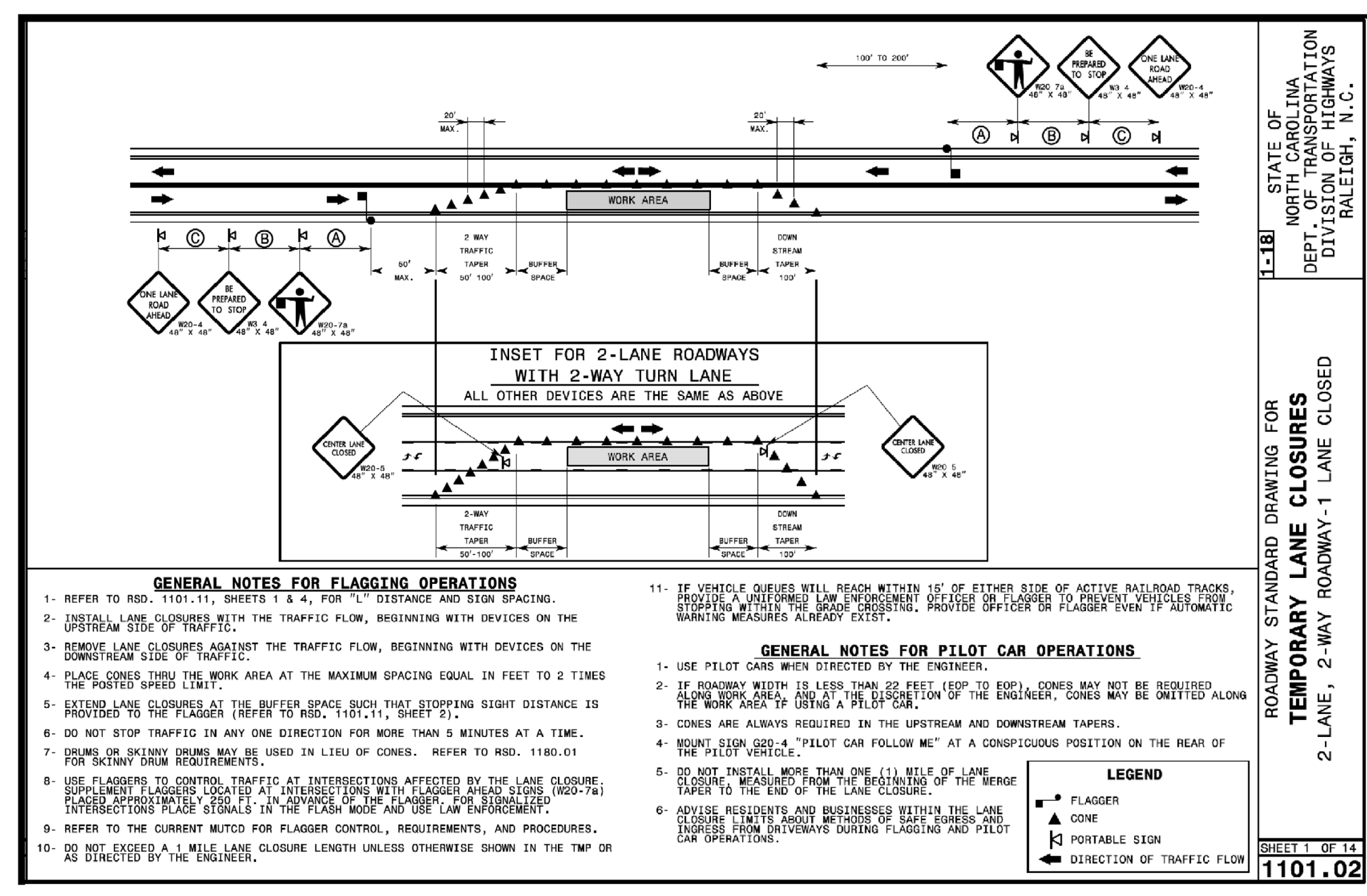
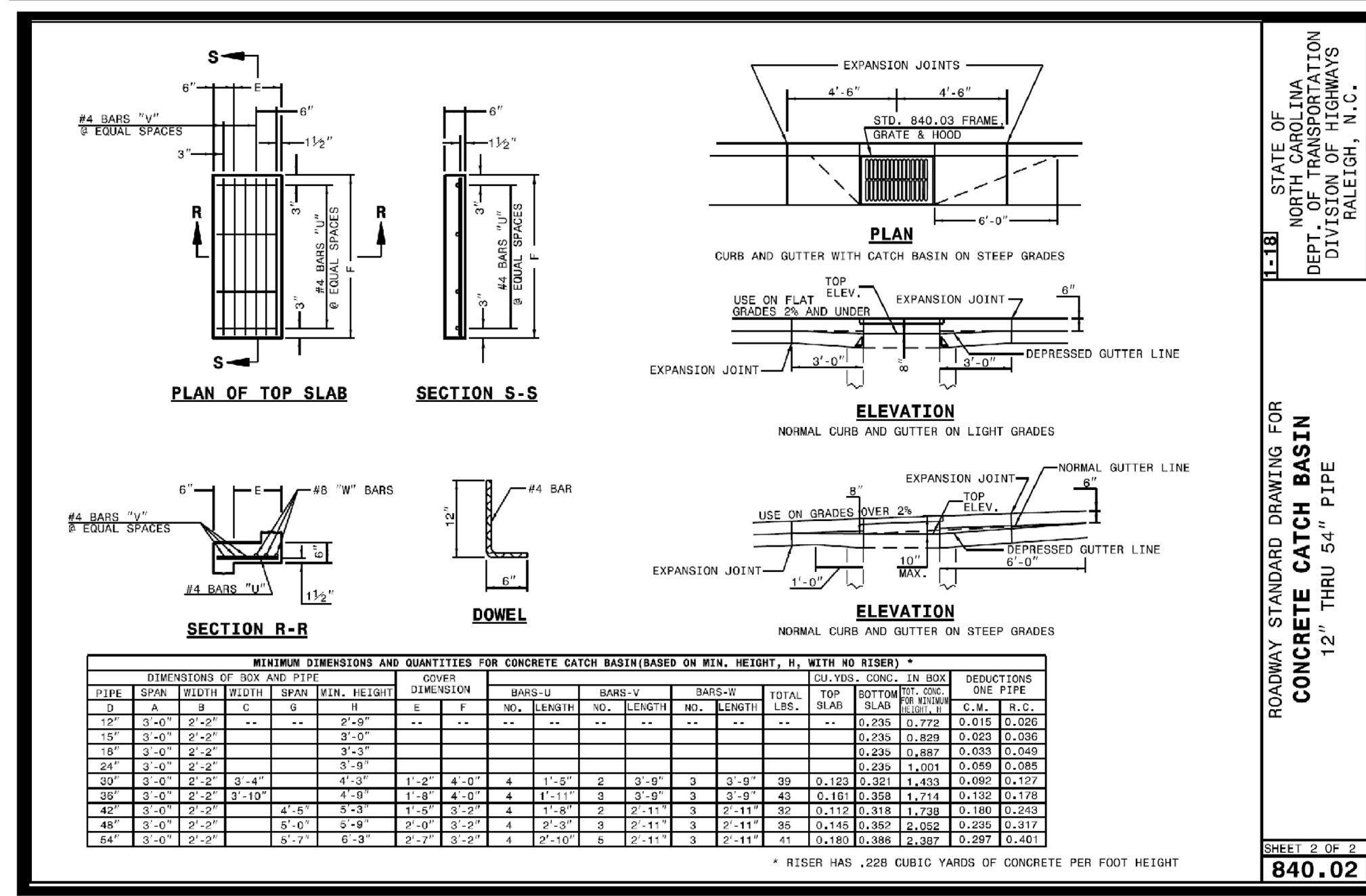
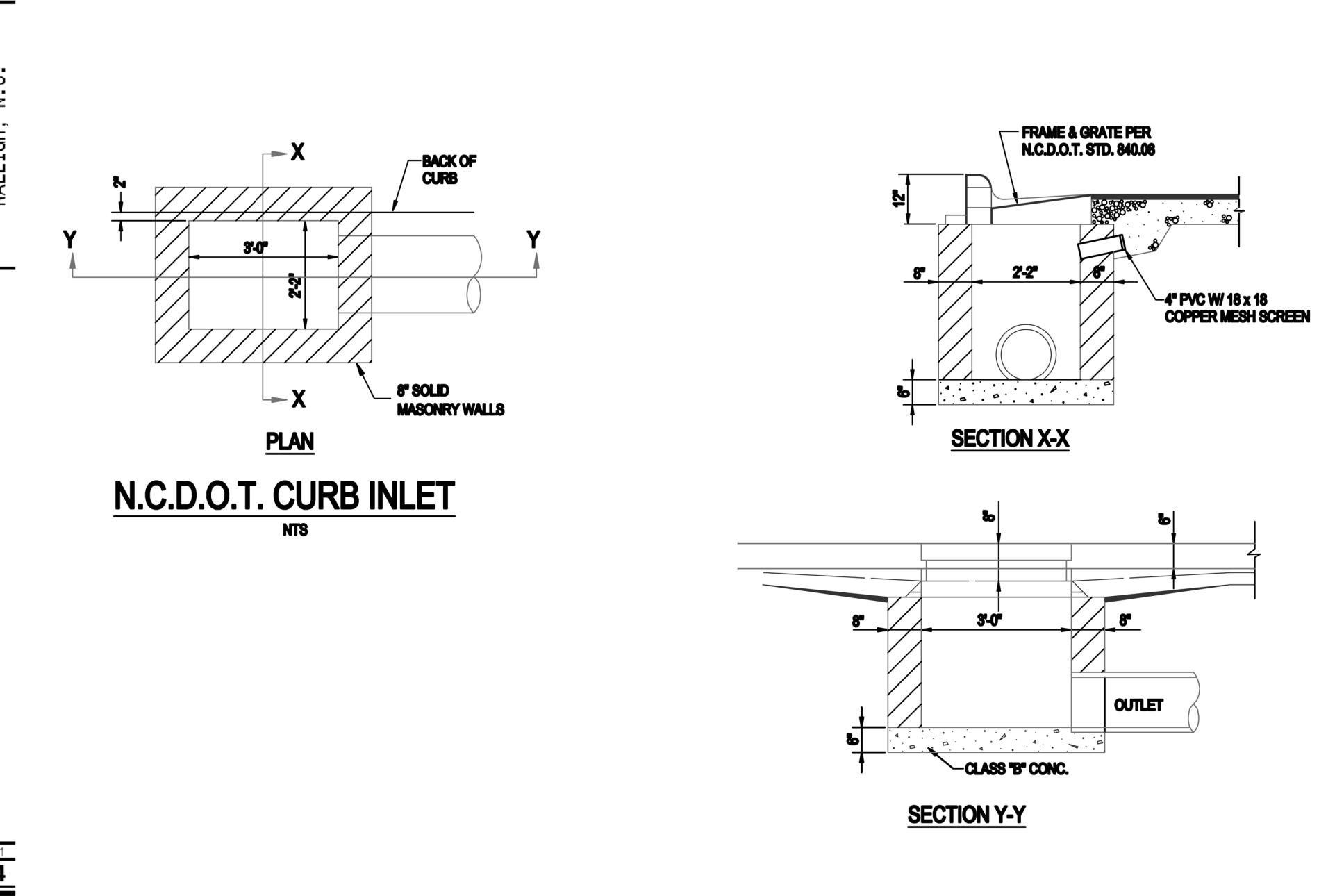
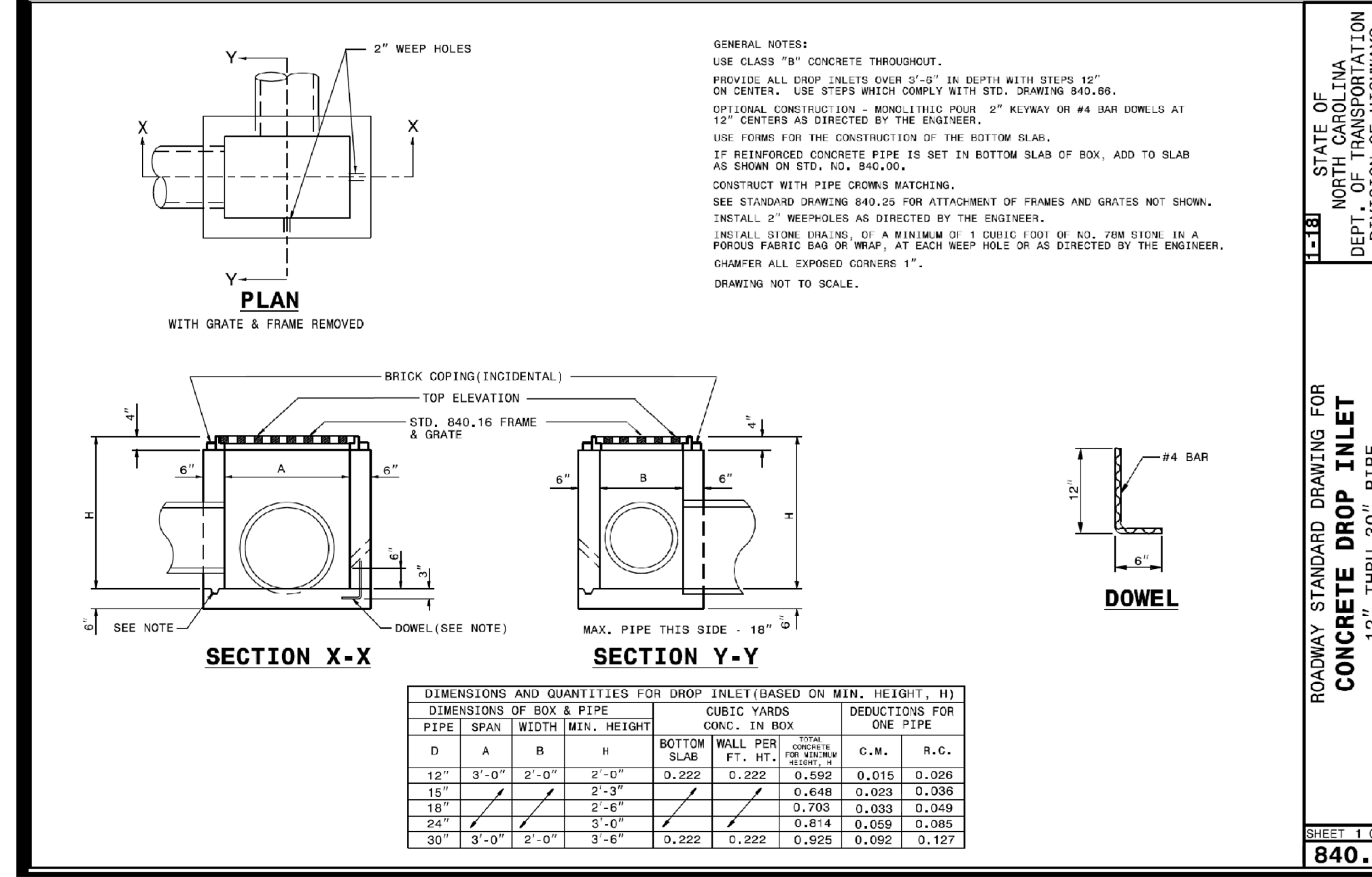
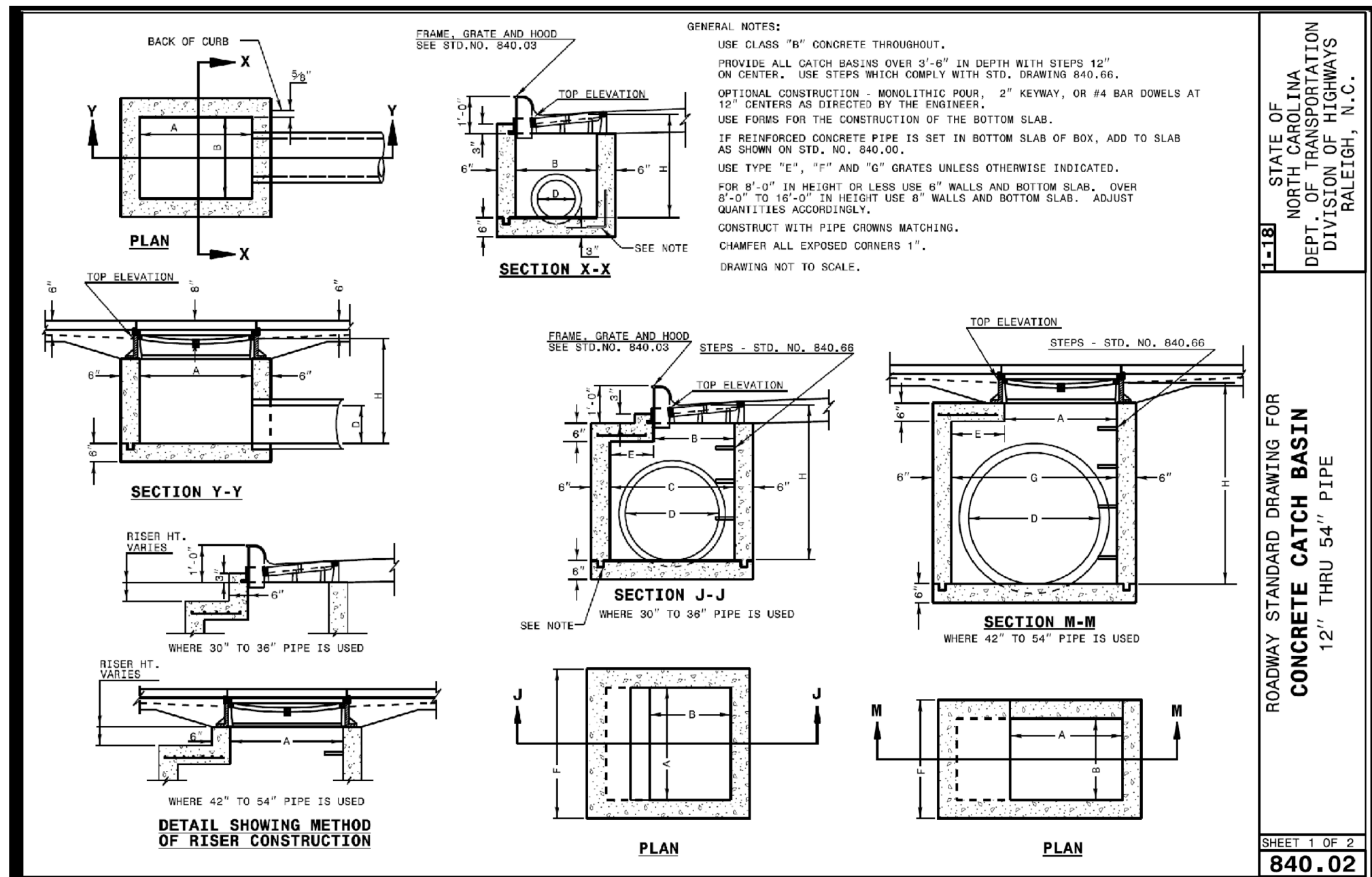


**Standard Site Details**  
 South Main  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

Project No. XXXXX  
 Dwg No. **D1**

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**Gettle Engineering and Design, PLLC**  
 3616 Waxwing Court,  
 Wake Forest, North Carolina 27587  
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CONSTRUCTION**

NO.	DATE	REVISION/DESCRIPTION
1	07/26/2022	INITIAL SUBMITTAL
2	DATE	COMMENT
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6	DATE	COMMENT
7	DATE	COMMENT
8	DATE	COMMENT

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

**ROADWAY STANDARD DRAWING FOR TEMPORARY LANE CLOSURES 2-LANE, 2-WAY ROADWAY-1 LANE CLOSED**

**SHEET 1 OF 1 1101.02**

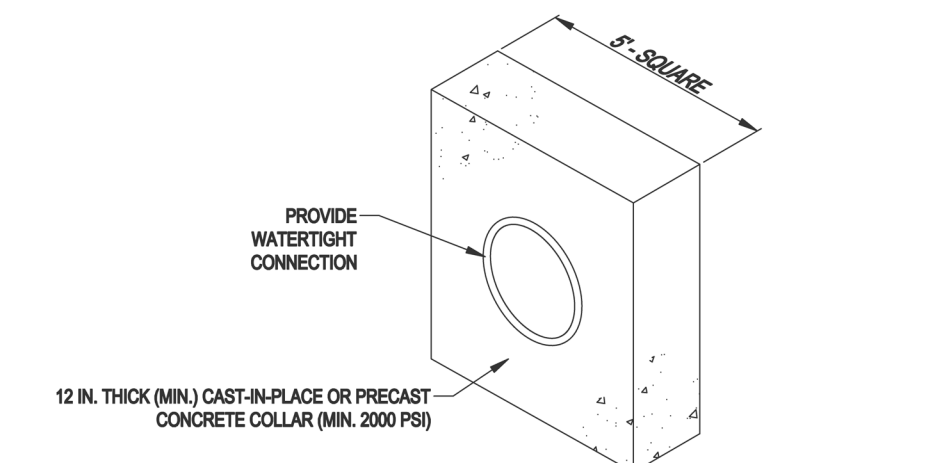
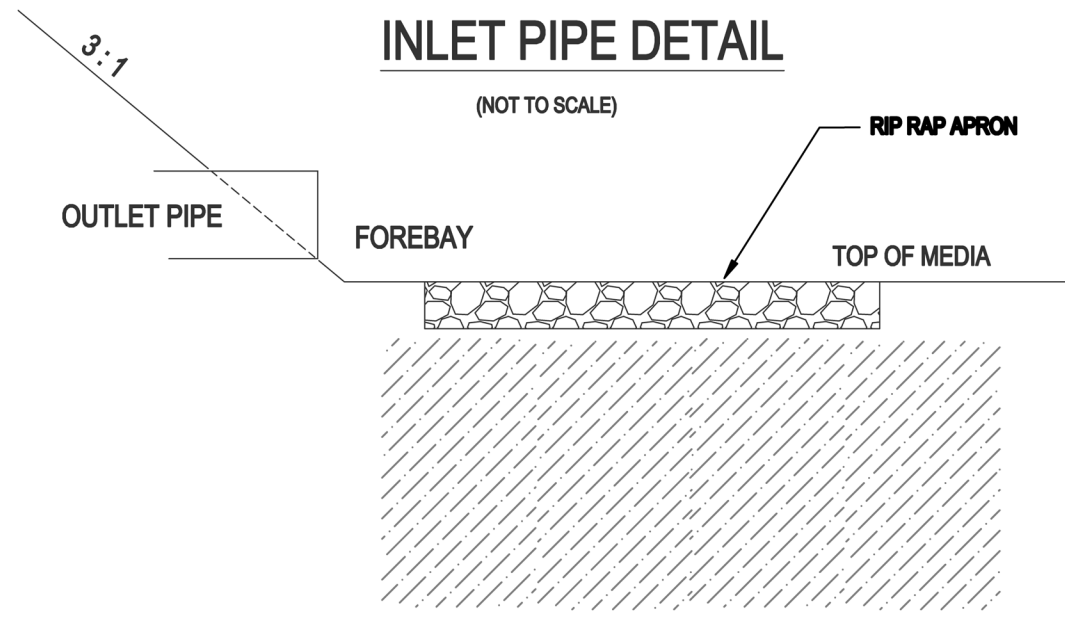
**Site and Stormwater Details**  
**South Main**  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

**NOTES**

- SEE SHEET C1 FOR STANDARD NOTES.
- SEE SHEET C4 FOR STORM DRAIN SCHEDULE.
- SEE SHEET C7 FOR LANDSCAPE PLAN.

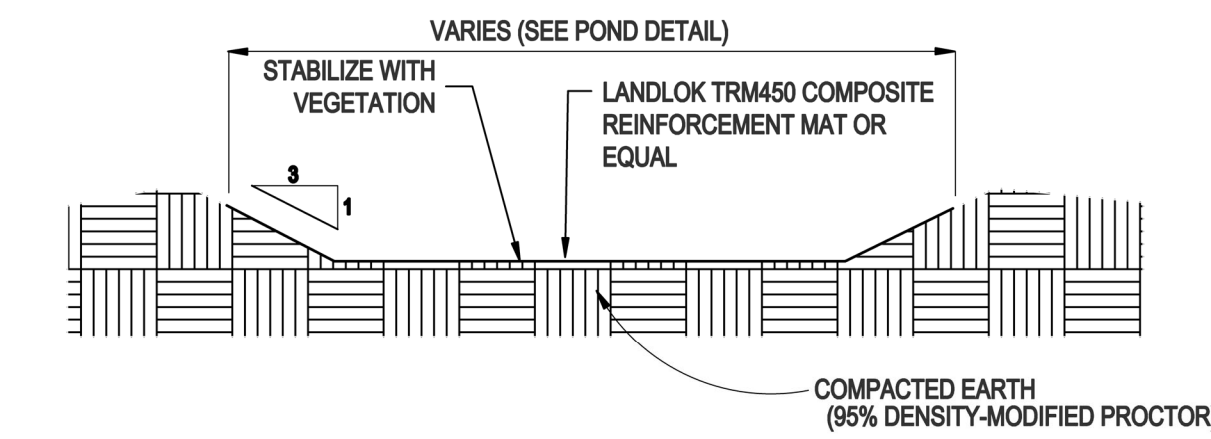
**Project No. XXXXX**  
**Dwg No. D2**





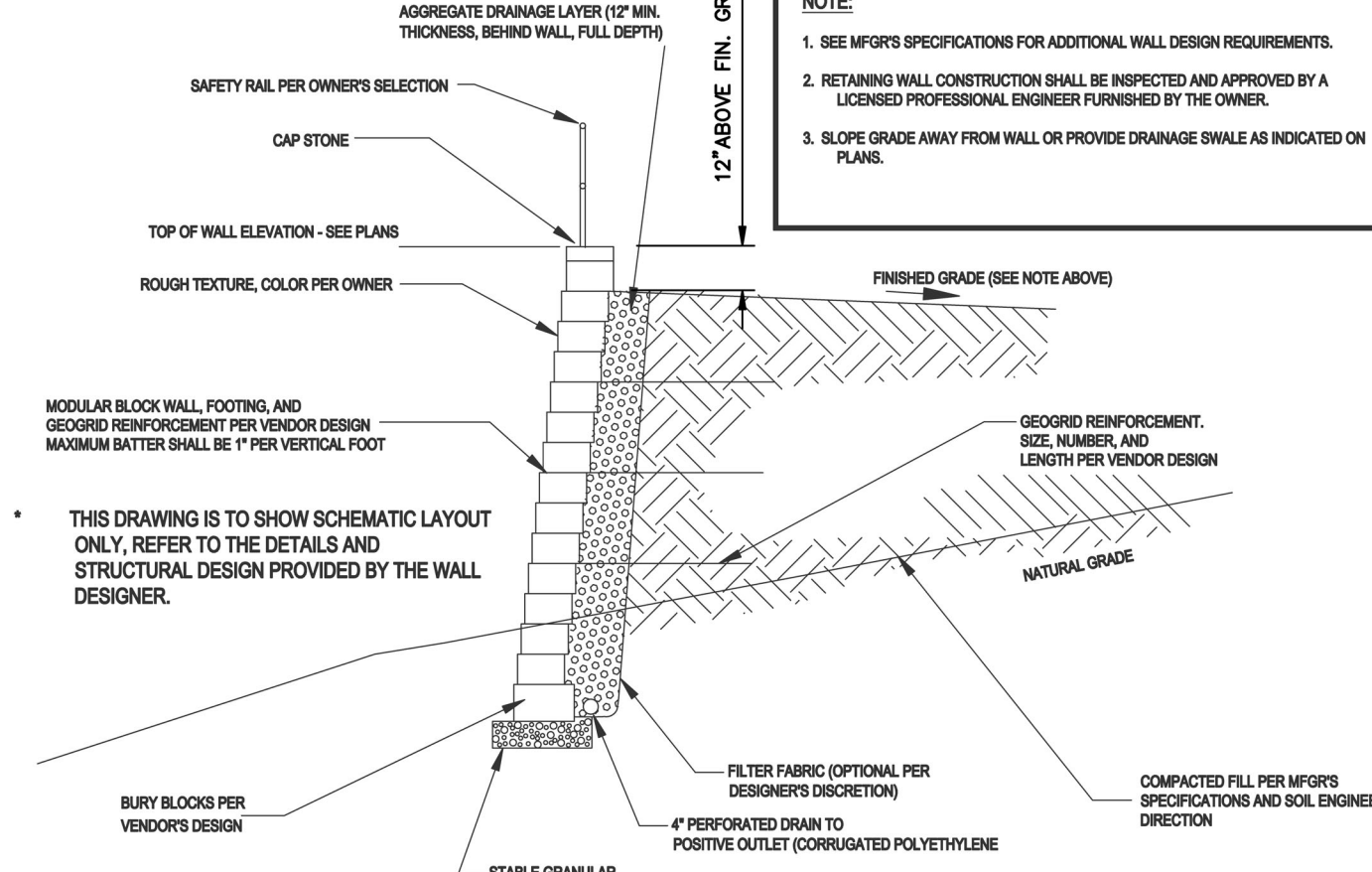
NOTES:  
 1. ALL COLLARS SHALL BE INSTALLED SO AS TO BE WATERTIGHT.  
 2. COLLAR SIZE AND SPACING SHALL BE AS INDICATED.

CONCRETE ANTI-SEEP COLLAR DETAIL (NOT TO SCALE)

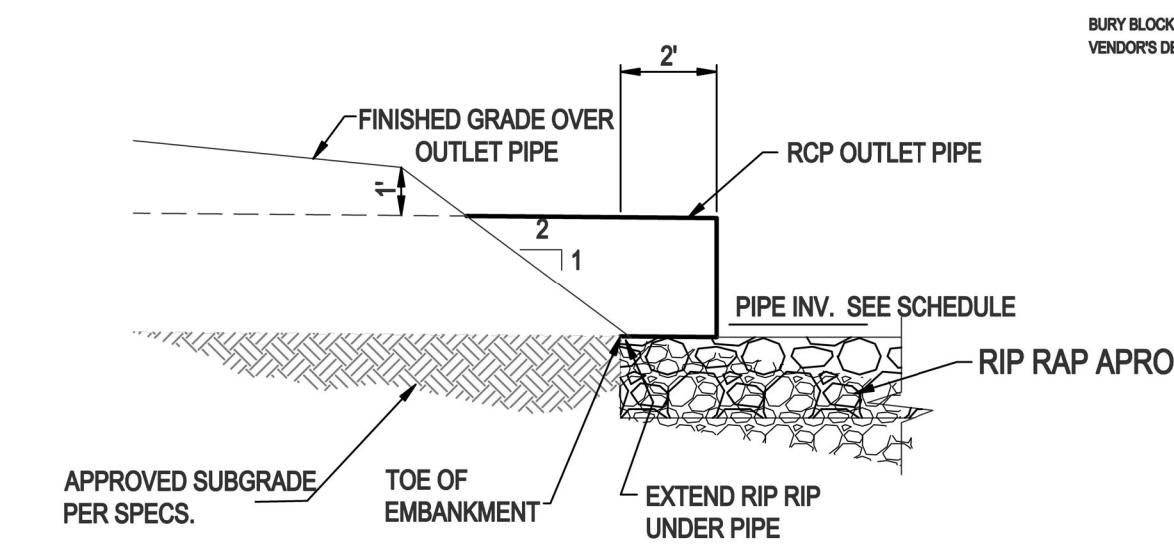


EMERGENCY SPILLWAY CROSS SECTION (NOT TO SCALE)

RETAINING OR MECHANICALLY STABILIZED EARTH WALLS EXCEEDING 6 FEET IN HEIGHT ON A SITE REQUIRE PERMITS AND SPECIAL INSPECTIONS BY THE ENGINEER OF RECORD, AND THE OWNER SHALL RESERVE FUNDS FOR SAME IN THE PROJECT BUDGET OR ENGAGE AN INDEPENDENT FIRM AT THEIR EXPENSE.



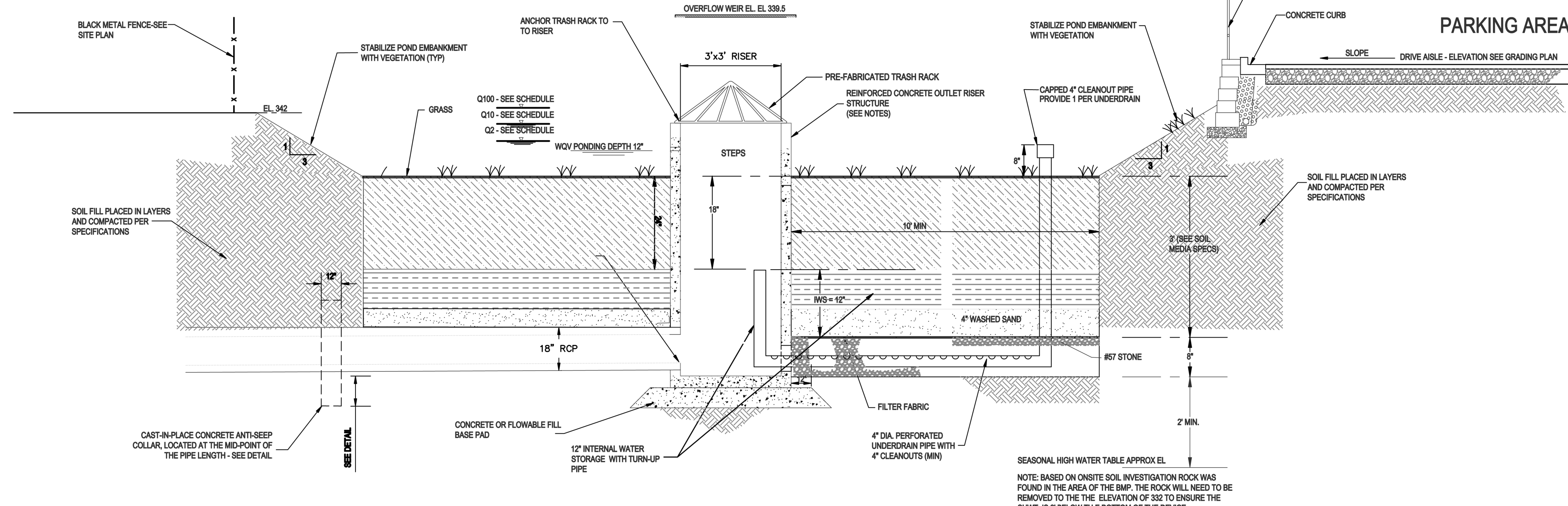
MODULAR BLOCK RETAINING WALL - SCHEMATIC (NTS)



OUTLET PIPE DETAIL (NOT TO SCALE)

NOTES:  
 1. SEE SHEET C1 FOR STANDARD NOTES.

BMP Schedule	
BMP (Elevations)	Bio
Top of Dam	410.50
Spillway	410.30
Top of Riser	410.00
Bottom Riser (invert)	407.20
Drawdown Orifice	n/a
Orifice Invert	n/a
Perm Pool or Media Surface	409.00
Forebay Bottom	n/a
Main Pond Bottom	n/a
Discharge Pipe (Dia)	18"
8" Drain Pipe	n/a
Discharge Pipe Length (feet)	25.00
FES Invert Out	407.00
Q2 Elevation	409.48
Q10 Elevation	409.61
Q100 Elevation	409.82



BIORETENTION SECTION (NTS)

**BIORETENTION FACILITY OPERATION AND MAINTENANCE:**

- \* WATERING: WATERING SHOULD NOT BE REQUIRED AFTER GRASS IS ESTABLISHED. HOWEVER, WATERING MAY BE REQUIRED DURING PROLONGED DRY PERIODS.
- \* EROSION CONTROL: INSPECT FLOW ENTRANCES, PONDING AREA, AND SURFACE OVERFLOW AREAS PERIODICALLY. REPLACE MATERIAL WHERE EROSION HAS OCCURRED. IF SEDIMENT IS DEPOSITED, DETERMINE THE SOURCE, REMOVE EXCESS DEPOSITS, AND CORRECT THE PROBLEM.
- \* VEGETATION: ROUTINE MAINTENANCE WILL BE NECESSARY TO ENSURE THAT THE GRASS IS HEALTHY AND TO REMOVE ANY WEEDS.
- \* NUTRIENTS AND PESTICIDES: NUTRIENTS AND PESTICIDES SHOULD NOT BE REQUIRED. IF NECESSARY, USE SPARINGLY.
- \* SOIL MEDIA: THE SOIL MEDIA SHOULD NOT NEED REPLACING. IF PROBLEMS OCCUR IN THE SOIL MEDIA, CONSULT A SOIL SPECIALIST.

**BIORETENTION FACILITY NOTES:**

- \* A 2.5 -FOOT DEEP, HOMOGENOUS SOIL MIXTURE OF 85 TO 88 PERCENT CONSTRUCTION SAND, 8 TO 12 PERCENT FINES (SILT AND CLAY), AND 3 TO 5 PERCENT ORGANIC MATTER SHALL BE USED. SOIL MEDIA SHOULD BE SENT TO THE NCDA LABS TO BE ANALYZED. P-INDEX FOR THESE SOIL MEDIA SHOULD RANGE BETWEEN 10 AND 30. THE INFILTRATION RATE OF THE SOIL SHALL BE BETWEEN 3.85 AND 6 IN/HR. SOIL CHARACTERISTICS SHALL BE VERIFIED BY A GEOTECHNICAL ENGINEER.
- \* THE BIORETENTION FACILITY SHALL BE PLANTED WITH GRASS. GRASS SHALL BE SODDED AND SHALL NOT BE GROWN IN AN IMPERMEABLE LAYER SUCH AS CLAY. HYBRID BERMUDA, CENTIPEDE, OR FESCUE/BLUEGRASS ARE RECOMMENDED.
- \* ALL CONSTRUCTION, MONITORING, AND MAINTENANCE GUIDELINES IN THE NCDWQ STORM WATER BMP MANUAL SHALL BE FOLLOWED.

**BIORETENTION GENERAL NOTES:**

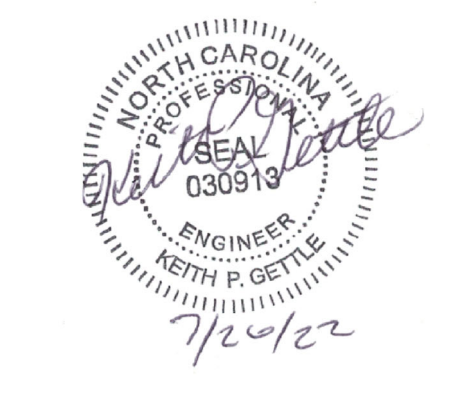
- OUTLET STRUCTURE AND PIPING**
  - THE RISER STRUCTURE SHALL CONSIST OF PRECAST CONCRETE BASE AND RISER SECTIONS OF THE TYPE AND DIMENSIONS SHOWN. SQUARE OR RECTANGULAR SECTIONS SHALL BE SOLID-WALL CATCH BASIN TYPE STRUCTURES, AND APPROVED FOR USE BY NCDOT. ALL RISER JOINTS SHALL BE SEALED WATERTIGHT USING FLEXIBLE BUTYL RUBBER JOINT MATERIAL, RUBBER GASKETS, OR OTHER SUITABLE MATERIAL. ALL PIPE CONNECTIONS TO THE RISER SHALL BE MADE WITH A WATER TIGHT FLEXIBLE CONNECTOR BOOT PER ASTM C923.
- CONCRETE**
  - CONCRETE WORK SHALL CONFORM TO PROJECT CONCRETE SPECIFICATIONS.
- FLOWABLE FILL**
  - FLOWABLE FILL SHALL CONSIST OF A MIXTURE OF PORTLAND CEMENT, AGGREGATE NOT GREATER THAN 3/8 INCH DIAMETER, WATER, AND OTHER APPROVED COMPONENTS, WITH A MINIMUM PH OF 4.0, AND A 28-DAY COMPRESSIVE STRENGTH OF AT LEAST 150 PSI. THE MIXTURE SHALL BE SUFFICIENTLY FLOWABLE TO BE SELF-LEVELING, FILLING ALL VOIDS UNDER THE PIPE AND PIPE HAUNCHES WITHOUT REQUIRING VIBRATION.
- FINAL SURFACE STABILIZATION**
  - STABILIZE ALL SURFACES OF THE EMBANKMENT, SPILLWAY, SLOPES, SPOIL AND BORROW AREAS THAT ARE NOT COVERED BY OTHER SPECIFIED MATERIALS WITH GRASS IN ACCORDANCE WITH PROJECT SPECIFICATIONS.

**BIORETENTION NOTES (CONT):**

- ALL DRAINAGE AREAS TO A BIORETENTION FACILITY ARE TO BE STABILIZED PRIOR TO INSTALLATION OF AMENDED SOILS, MULCH OR PLANTINGS.
- BIORETENTION PLANTING SOIL MEDIA SPECIFICATIONS:**
  - THE PLANTING SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN ONE-HALF INCH IN DIAMETER. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, JOHNSON GRASS, QUACK GRASS, MUGWORT, NUTSEDGE, POISON IVY, CANADA THISTLE, OR OTHER NOXIOUS WEEDS.
  - PLANTING MIX FOR BIORETENTION CELL - UNIFORM SOIL MIXTURE FREE OF STUMPS, STONES, OR LARGE ROOTS, CONTAINING THE FOLLOWING TYPES AND RATIOS (BY WEIGHT) OF COMPONENTS:
    - 85-88% SAND (ASTM C-33)
    - 8%-10% FINE SOIL MATERIAL (INCLUDES BOTH SILT OR CLAY)
    - 3%-5% ORGANICS / PINE BARK MULCH
  - SOIL SHALL HAVE A HYDRAULIC CONDUCTIVITY OF BETWEEN 1 IN/HR AND 6 IN/HR, WITH A 2 IN/HR RATE BEING OPTIMAL. PHOSPHOROUS INDEX SHALL BE BETWEEN 10 AND 30
  - GRADING - CLEARING, STRIPPING, EXCAVATION, FILLING, TRENCHING, BACKFILLING, COMPACTION AND FINE-GRADING WORK SHALL BE IN ACCORDANCE WITH APPLICABLE SECTIONS OF PROJECT SPECIFICATIONS.
  - UNDERDRAIN GRAVEL - CLEAN, HARD, ANGULAR GRAVEL CONFORMING TO NCDOT DESIGNATION # 57 OR # 8 AS APPROPRIATE.
  - GEOFILTER FABRIC - NON-WOVEN, NEEDLE-PUNCHED GEOTEXTILE WITH 135 LBS. PUNCTURE STRENGTH (ASTM D-4833); 220 LBS. TENSILE STRENGTH (ASTM D-4632); AND APPARENT OPENING SIZE OF U.S. STD. #80 SIEVE (ASTM D-4751).
  - UNDERDRAIN PIPING - NOMINAL 6" DIAMETER SCHEDULE 40 PVC, WITH 3/8" DIAMETER PERFORATIONS SPACED EQUALLY AROUND THE FULL PIPE PERIMETER. CLEANOUT PIPE AND FITTINGS SHALL BE SOLVENT-WELDED SCHEDULE 40 PVC PER THE DETAIL SHOWN AND EXTEND AT LEAST 8" ABOVE THE MULCH LAYER. MINIMUM 1 CLEANOUT PER 1000 SQUARE FEET OF SURFACE AREA OF THE DEVICE.

**Gettle Engineering and Design, PLLC**  
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1	07/26/2022	INTIAL SUBMITTAL	
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7	DATE	COMMENT	
8	DATE	COMMENT	
NO.	DATE	BY	REVISION/DESCRIPTION

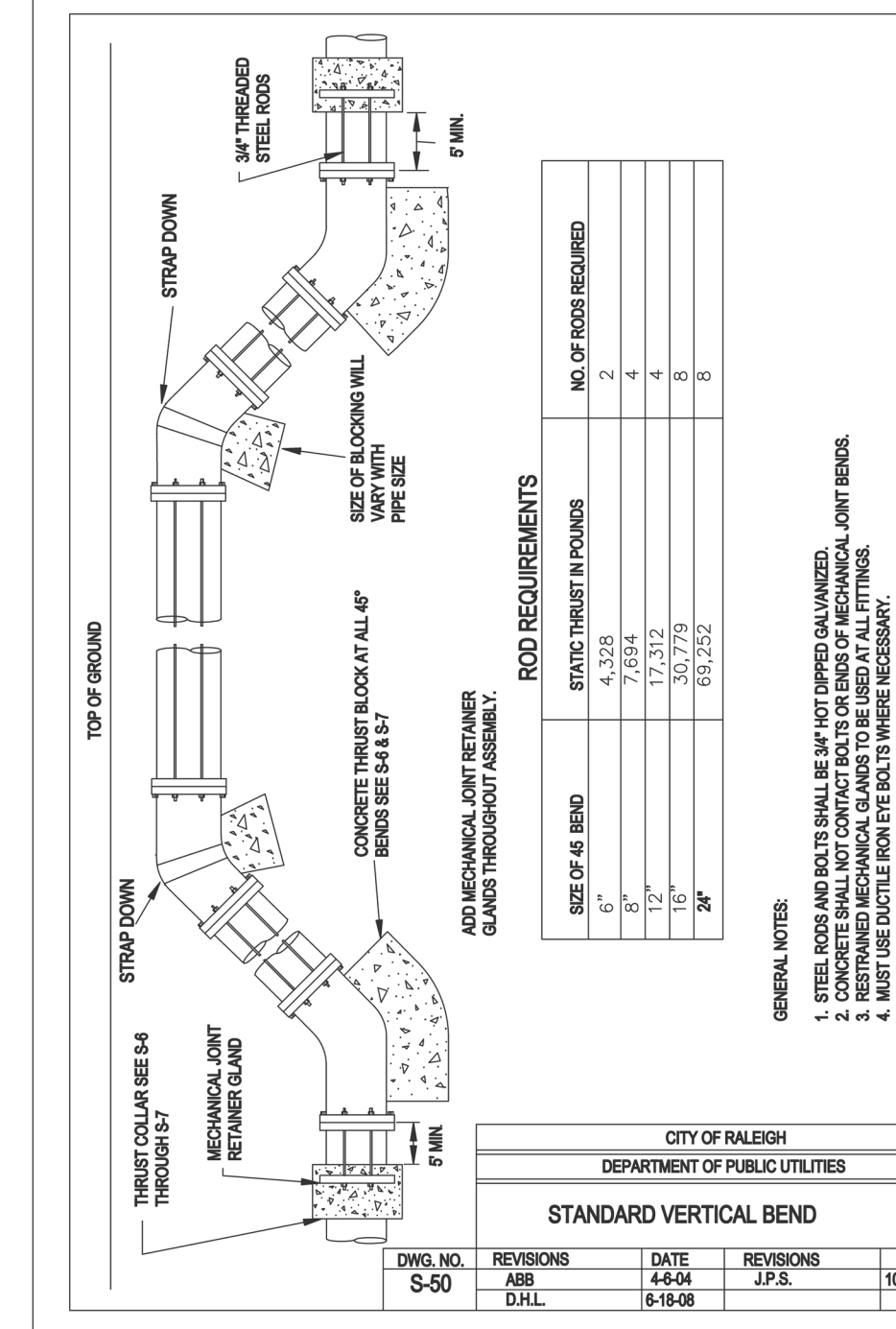
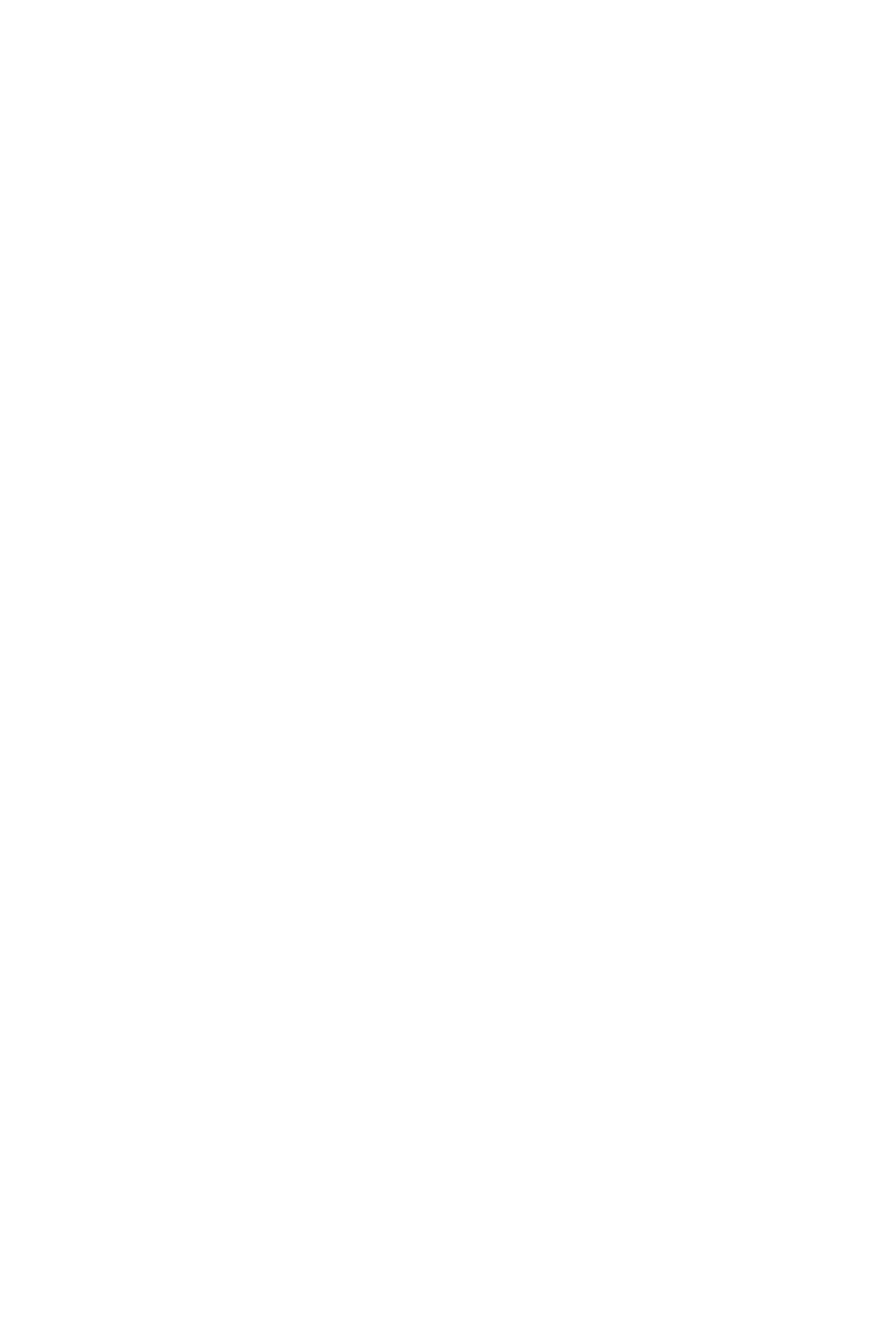
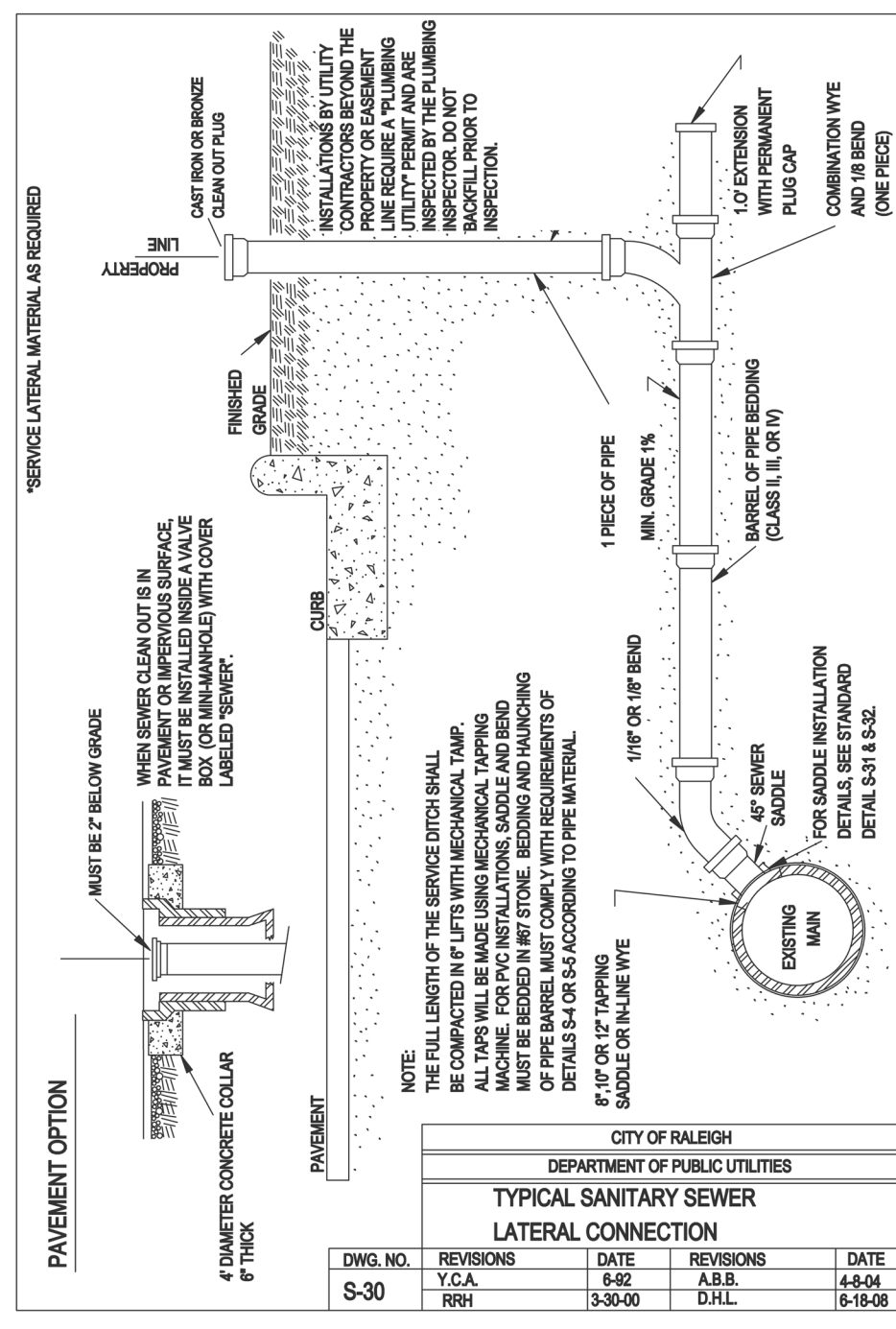
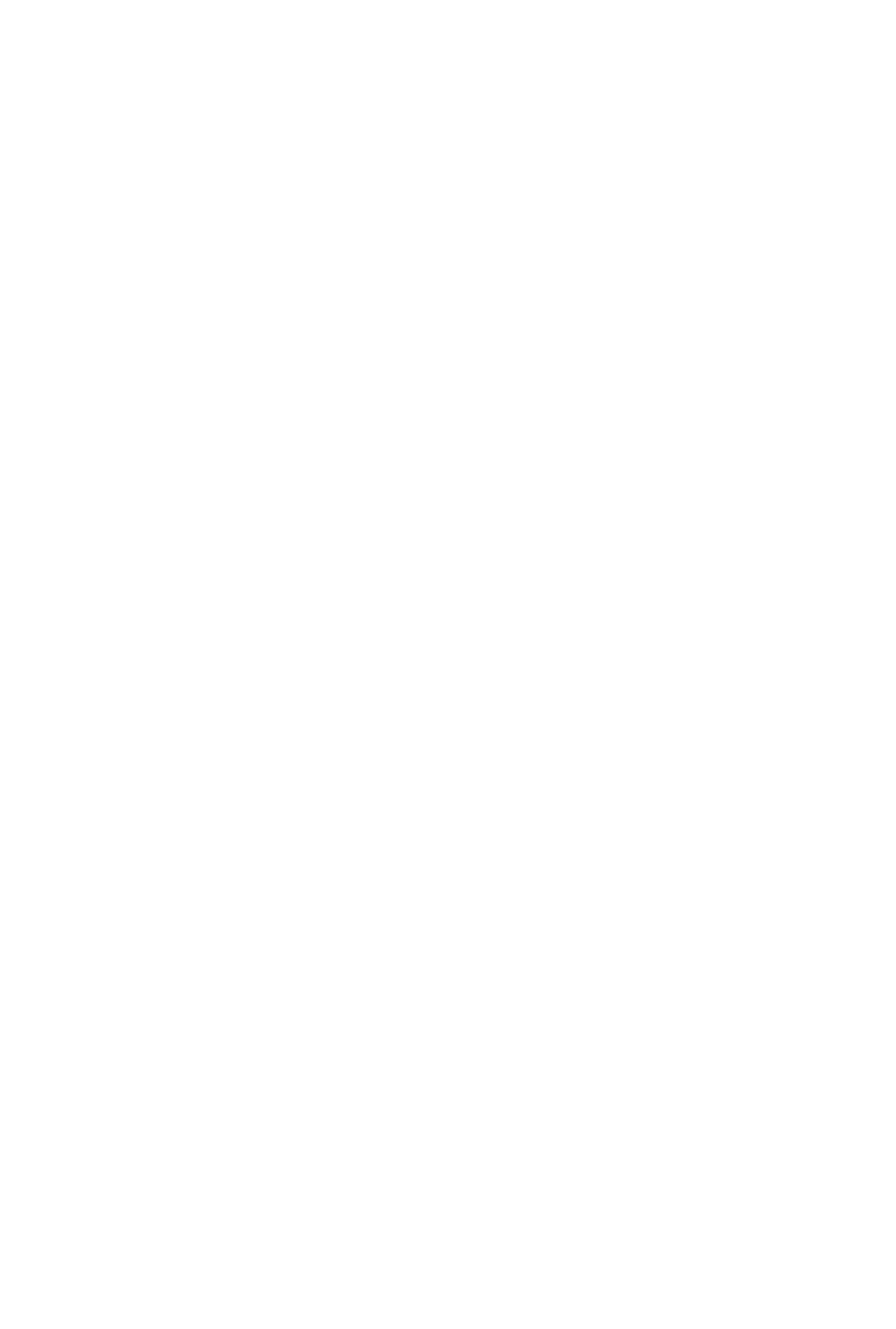
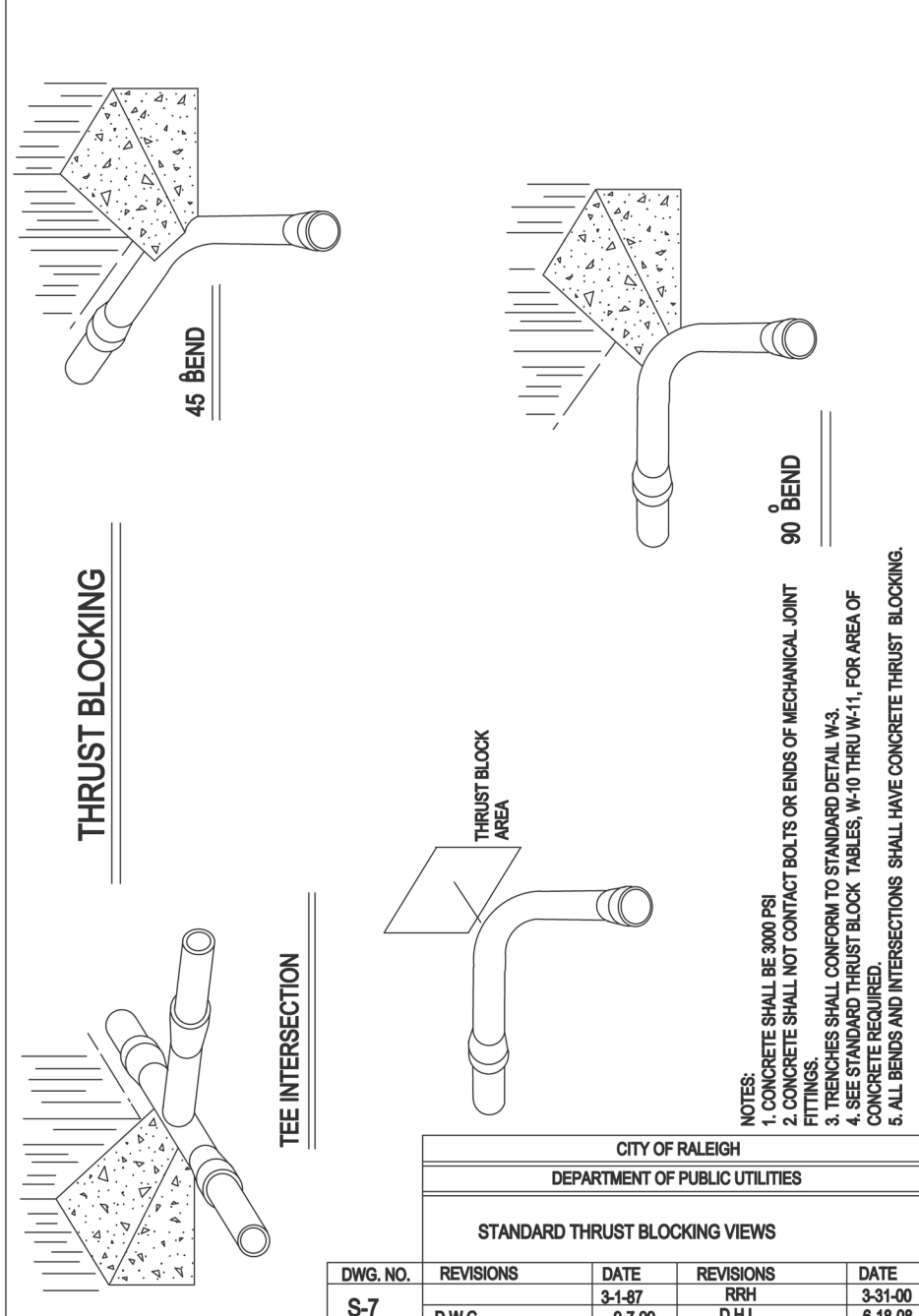
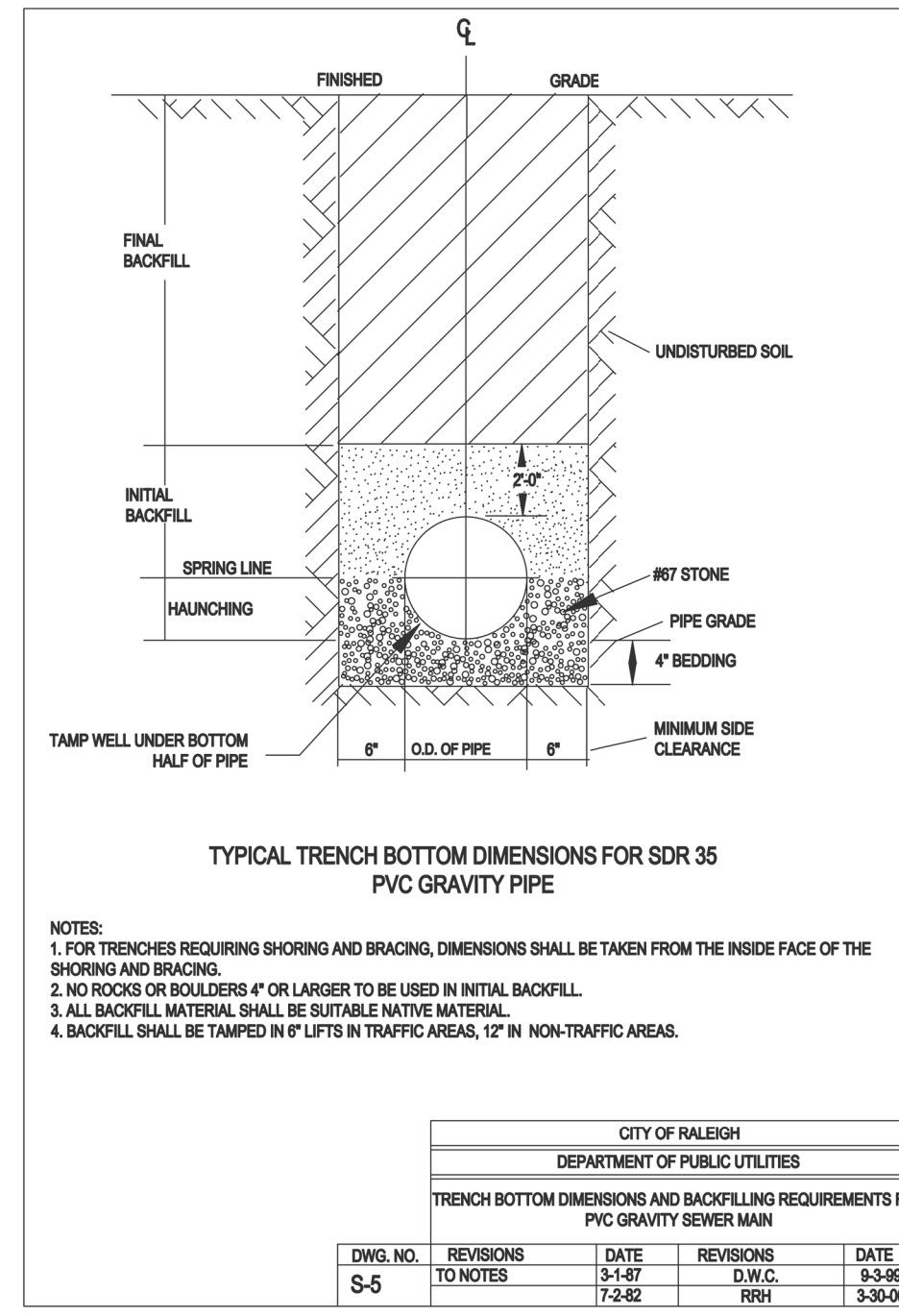
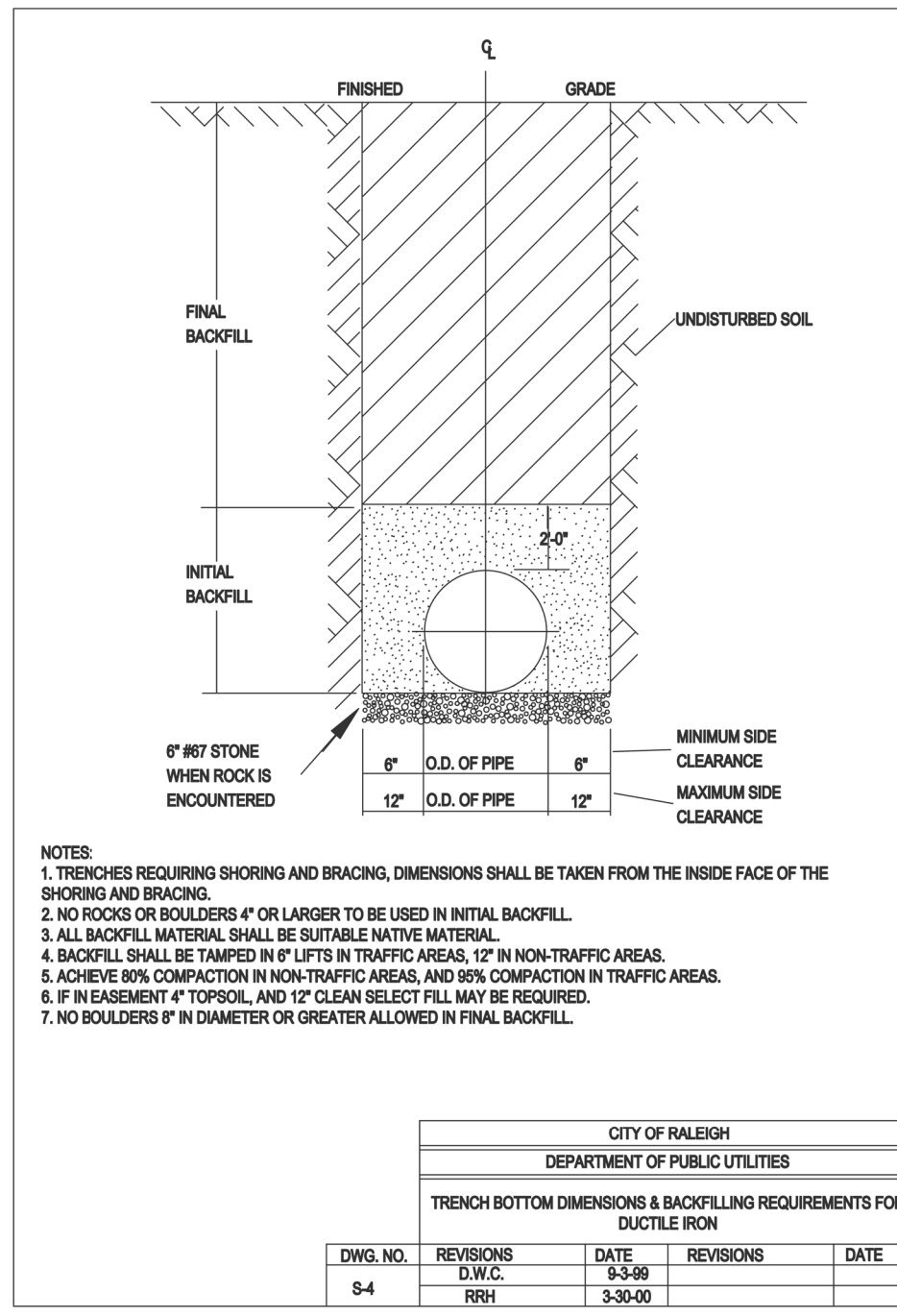
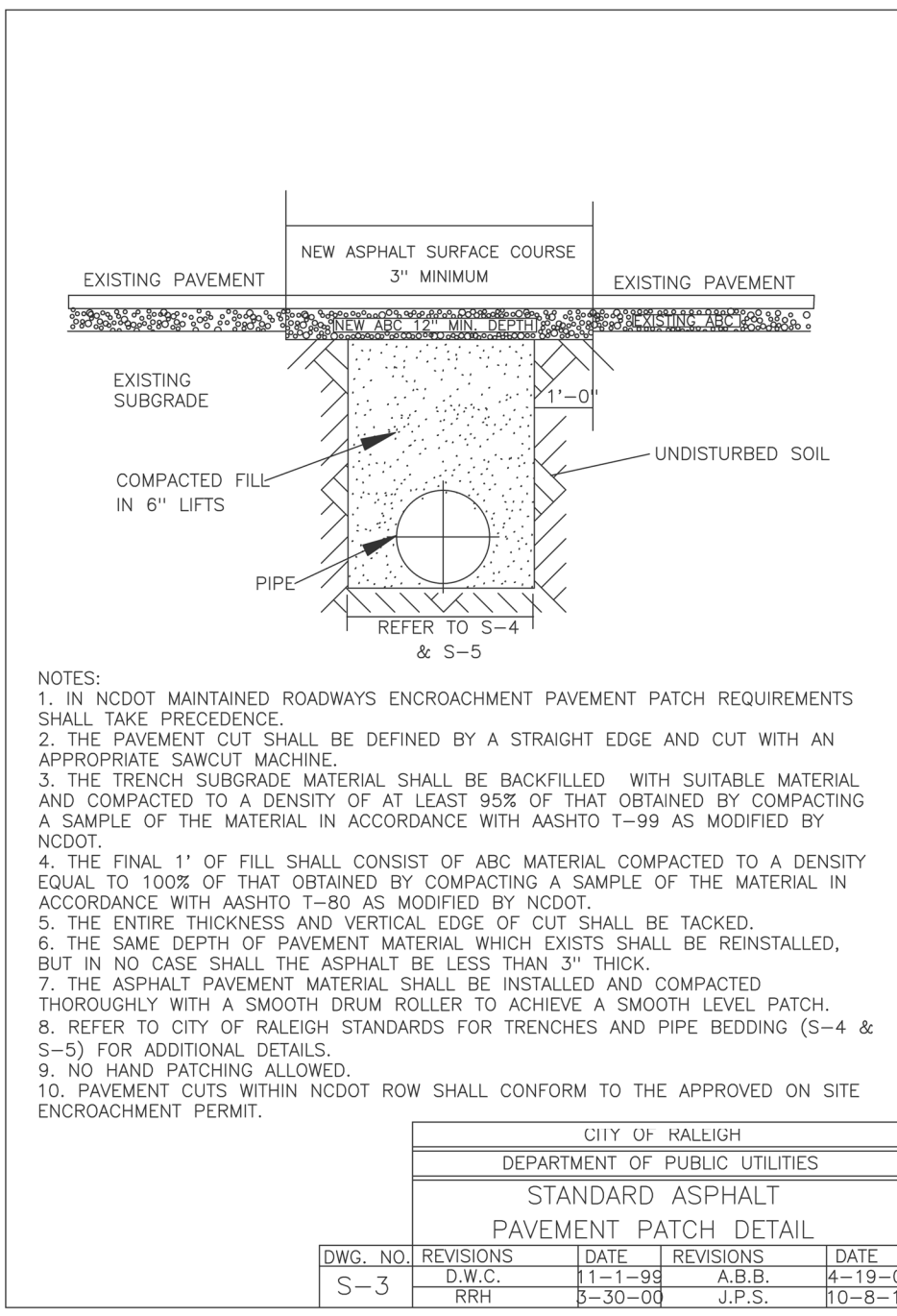


**BMP Device Detail**  
 South Main  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

Project No. XXXXX  
 Dwg No. **D3**

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1. SEE SHEET C1 FOR STANDARD NOTES.

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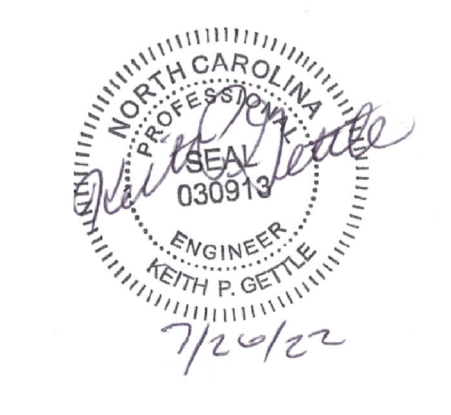
1. SEE SHEET C1 FOR STANDARD NOTES.

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Gettle Engineering and Design, PLLC  
3616 Waxwing Court,  
Wake Forest, North Carolina 27667  
(919) 210-3994 Firm License P-2538

NO.	DATE	REVISION DESCRIPTION	BY
1	07-26-2022	INITIAL SUBMITTAL	
2		DATE COMMENT	
3		DATE COMMENT	
4		DATE COMMENT	
5		DATE COMMENT	
6		DATE COMMENT	
7		DATE COMMENT	
8		DATE COMMENT	



Sanitary Sewer Details  
South Main  
503 South Main Street  
Rolesville, Wake County, North Carolina

Project No. XXXXX  
Dwg No. D4

SITE PERMITTING APPROVAL

Winter and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

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The City of Raleigh consents to the connection to its public sewer system and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

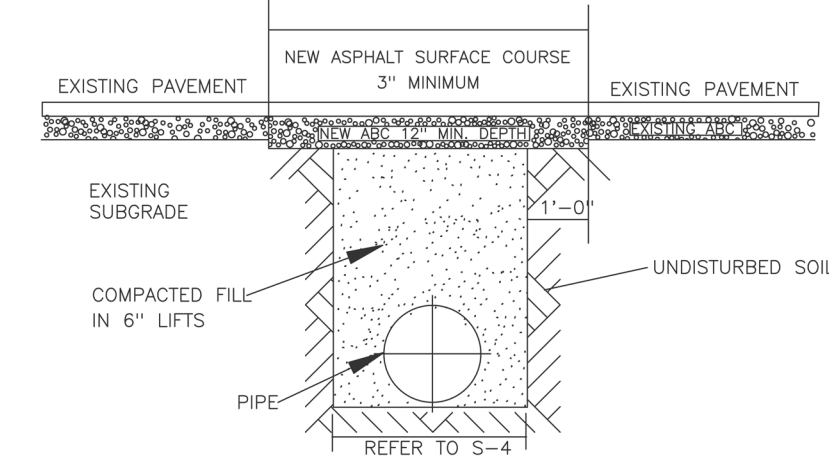
Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be construed to represent total compliance with all legal requirements for development and construction. The property owner, design consultant, and contractor are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization below is not a permit; one shall be obtained to permit any violation of City, State or Federal law. All Construction must be in accordance with all local, State, and Federal rules and regulations.

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plan kept on file with the City. This electronic approval may not be relied upon for any modification to this approval once issued and will expire on the date indicated.

City of Raleigh Development Approval \_\_\_\_\_

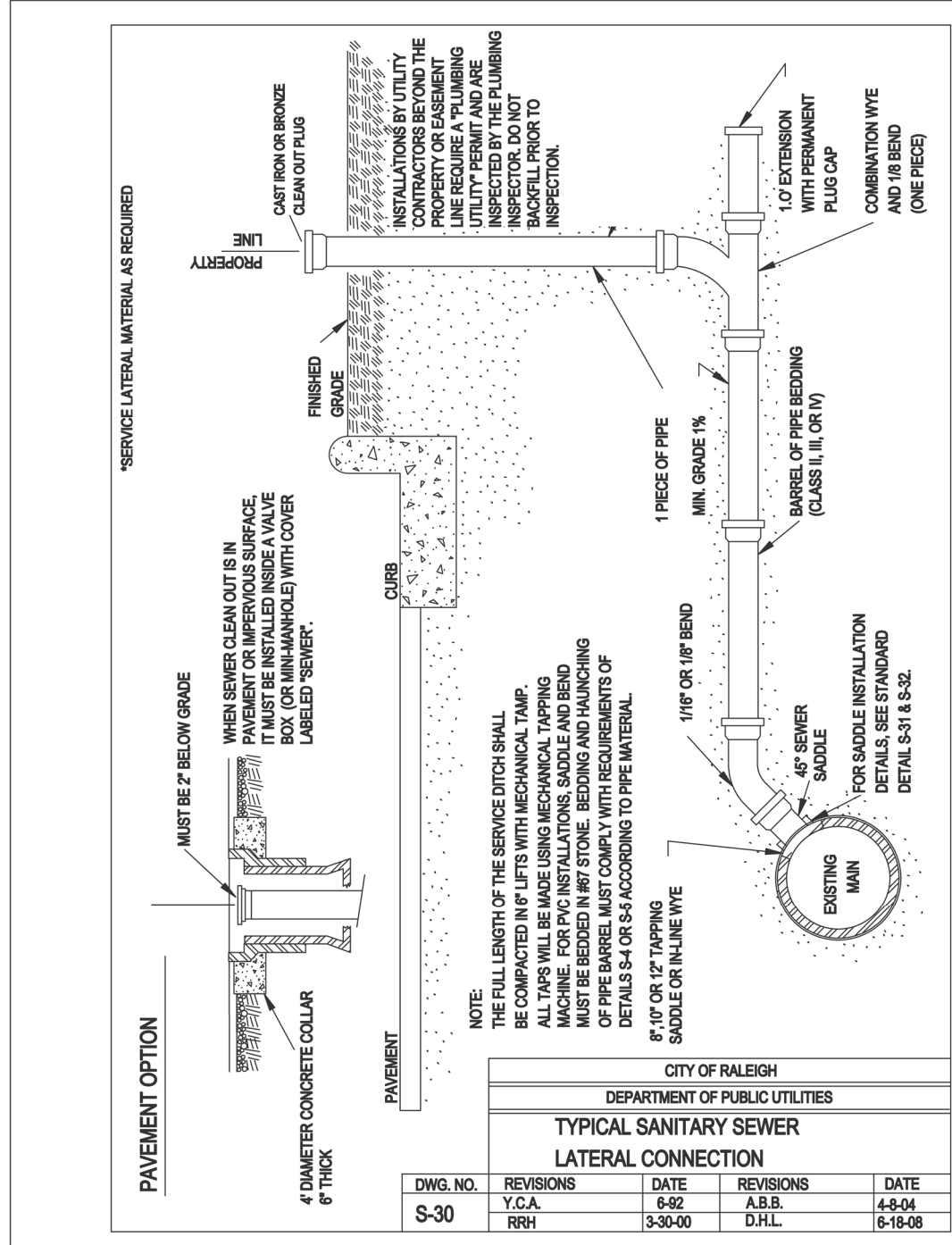
City of Raleigh Review Officer \_\_\_\_\_





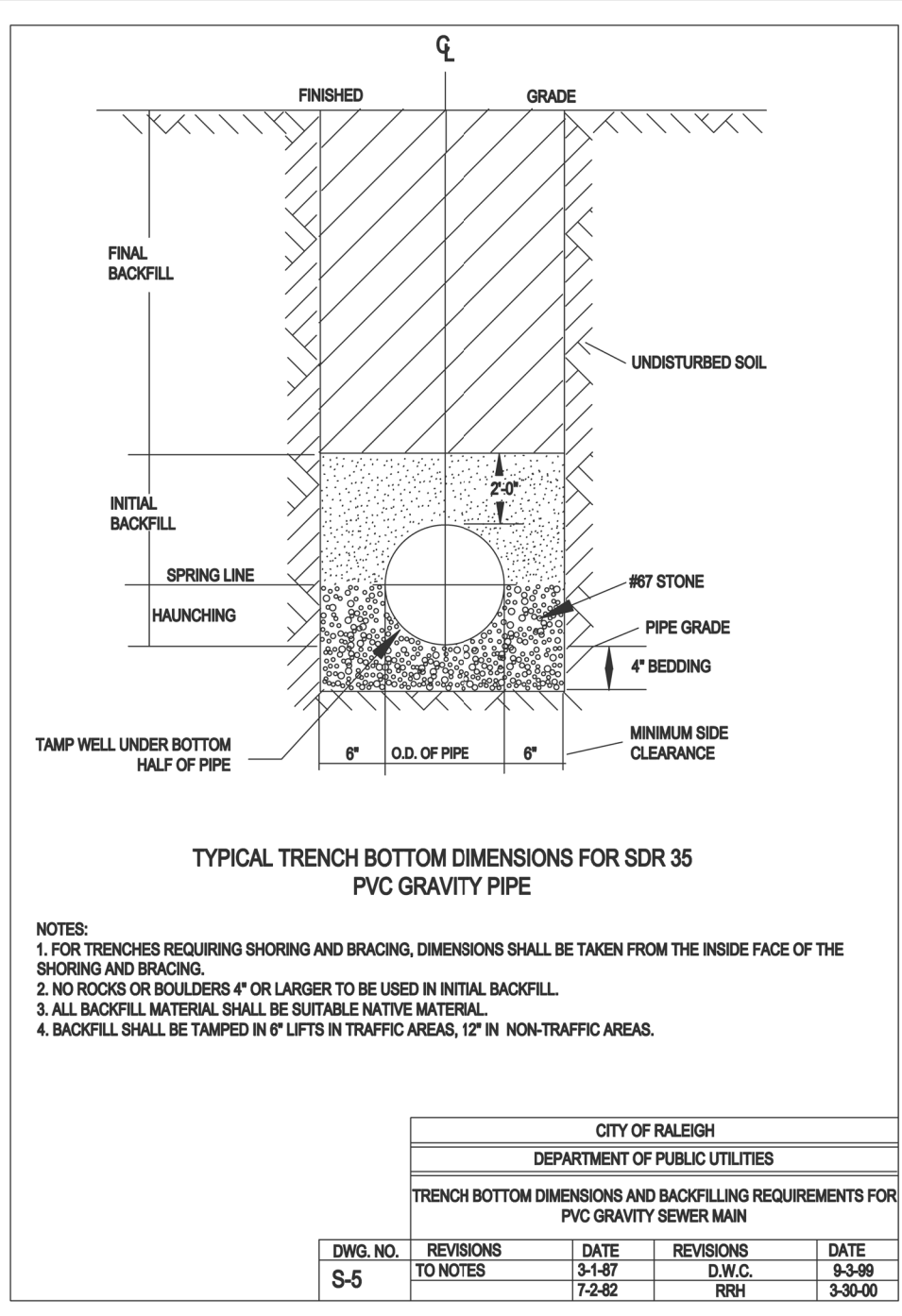
- NOTES:
1. IN NCDOT MAINTAINED ROADWAYS ENCROACHMENT PAVEMENT PATCH REQUIREMENTS SHALL TAKE PRECEDENCE.
  2. THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAWCUT MACHINE.
  3. THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
  4. THE FINAL 1" OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT.
  5. THE ENTIRE THICKNESS AND VERTICAL EDGE OF CUT SHALL BE TACKED.
  6. THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE LESS THAN 3" THICK.
  7. THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
  8. REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING (S-4 & S-5) FOR ADDITIONAL DETAILS.
  9. NO HAND PATCHING ALLOWED.
  10. PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
STANDARD ASPHALT PAVEMENT PATCH DETAIL					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-3	D.W.C.	11-1-93	A.B.B.	4-19-04	
	RRH	8-30-04	J.P.S.	10-8-19	



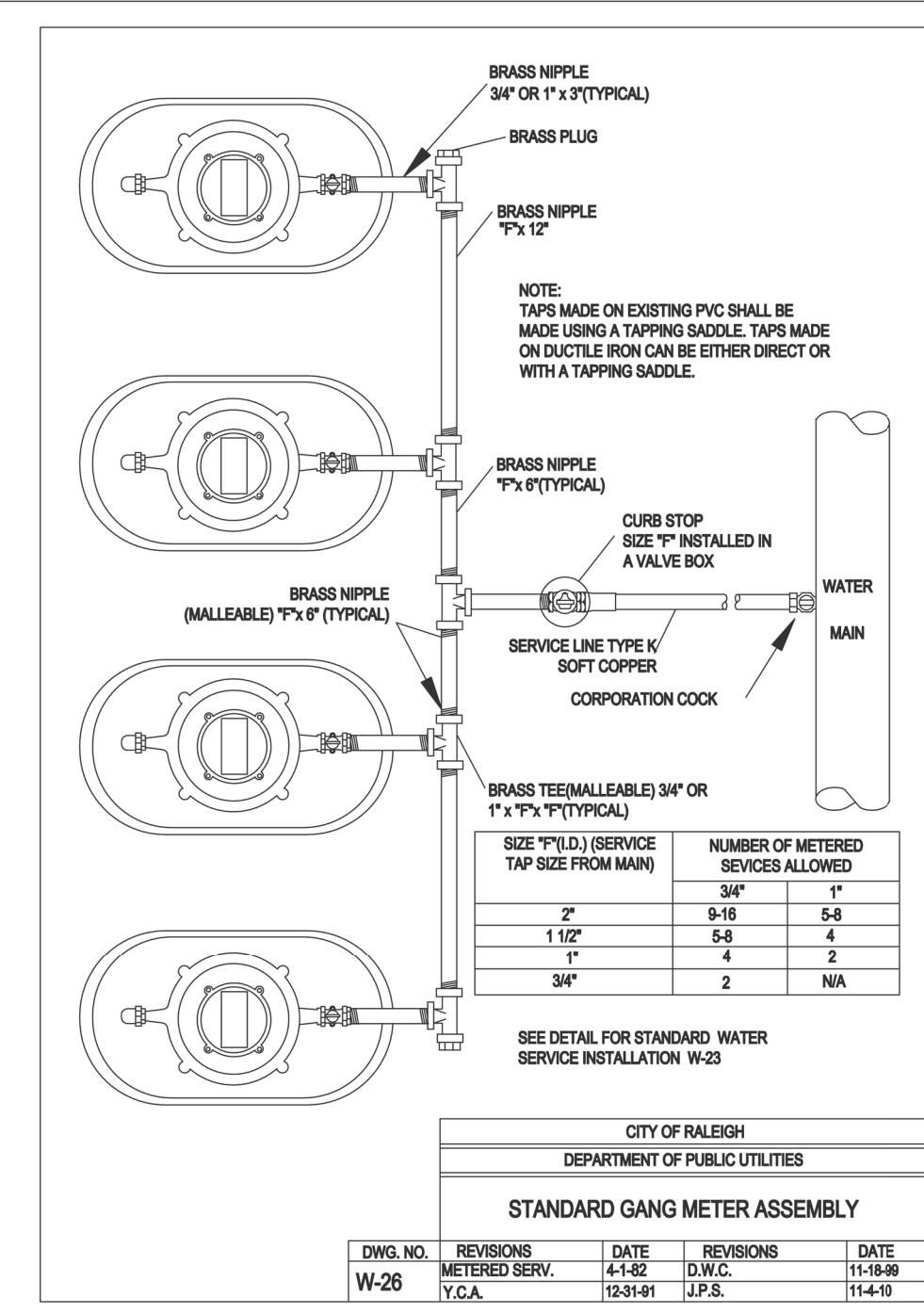
- NOTES:
1. ALL LENGTHS OF THE SERVICE LATERAL SHALL BE COMPACTED IN 6" LIFTS WITH MECHANICAL TAMP.
  2. ALL TAPS WILL BE MADE USING MECHANICAL TAPPING.
  3. ALL TAPPING SHALL BE MADE IN 18" STONE BEDDING AND HAUNCHING OF PIPE SUPPORTS MUST COMPLY WITH REQUIREMENTS OF AASHTO M-28.1.
  4. 18" OR 24" TAPPING SADDLE OR IN LINE WYE.
  5. 1/4" OR 1/2" END.
  6. 4" SEWER.
  7. SEE DETAIL FOR INSTALLATION DETAILS SEE STANDARD DETAIL S-1 & S-2.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
TYPICAL SANITARY SEWER LATERAL CONNECTION					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-30	Y.C.A.	6-42	A.B.B.	4-8-04	
	RRH	3-30-00	D.J.L.	6-18-00	



- NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
  2. NO RODS OR BOLTERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
  3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
  4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
TRENCH BOTTOM DIMENSIONS AND BACKFILL REQUIREMENTS FOR PVC GRAVITY SEWER MAIN					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-5	TO NOTES	3-1-87	D.W.C.	8-3-89	
		12-82	RRH	3-30-00	



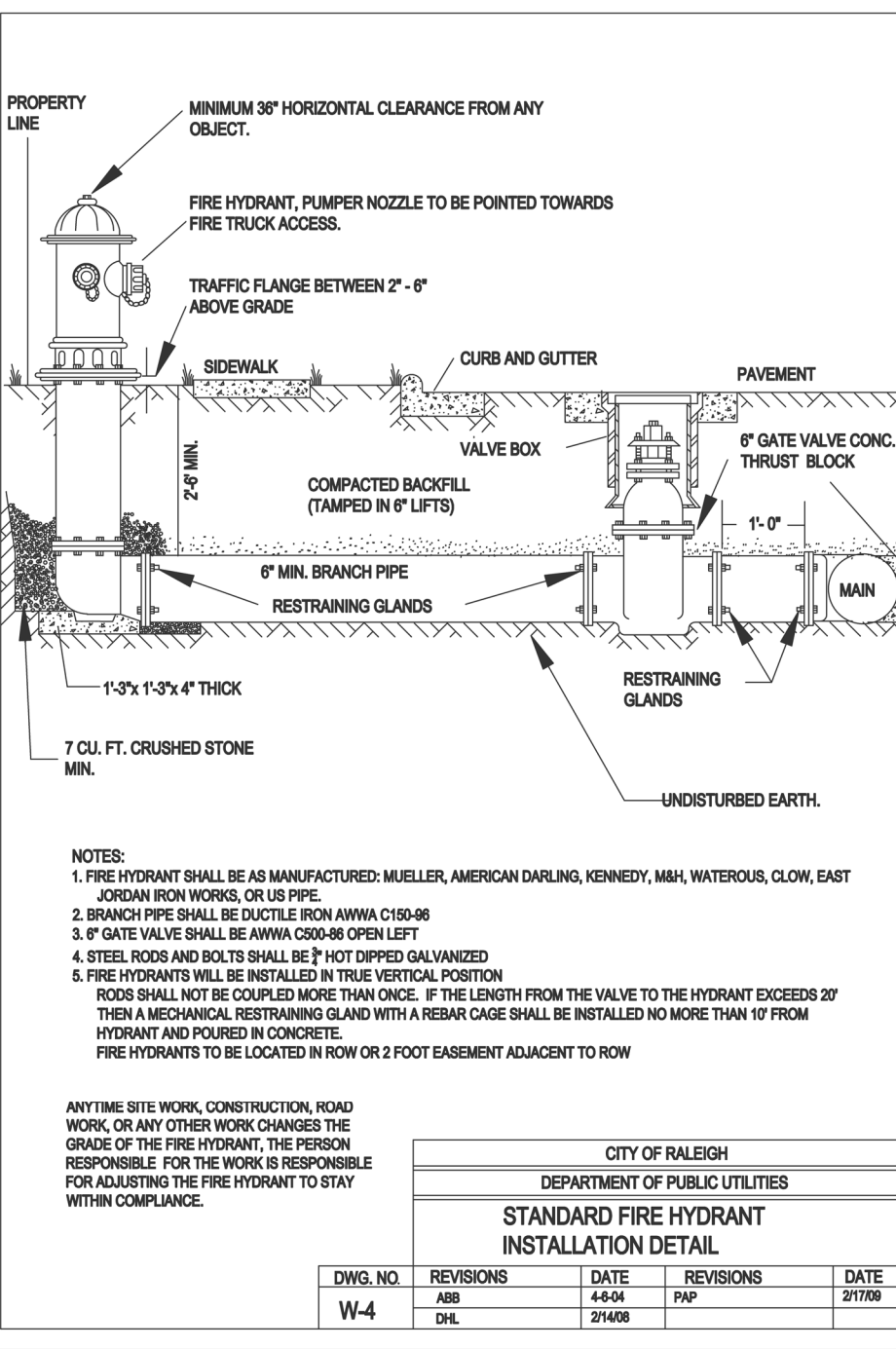
SIZE (P.I.D.) SERVICE TAP SIZE FROM MAIN	NUMBER OF METERS SERVICES ALLOWED	1"	1 1/2"	2"	3"
3/4"	1	1	1	1	1
1"	2	2	2	2	2
1 1/2"	4	4	4	4	4
2"	8	8	8	8	8
3"	16	16	16	16	16

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
STANDARD GANG METER ASSEMBLY					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-26	METERED SERV.	4-1-82	D.W.C.	11-18-89	
	Y.C.A.	12-31-81	J.P.S.	11-4-91	

LOCALLY AVAILABLE SIZES	
INTERCEPTORS CAPACITY (GAL.)	SEPARATORS CAPACITY (GAL.)
300	1000
500	1500
750	1800
1000	
1200	
1500	
2000	
2500	
3000	
4000	
6000	
8000	
9000	

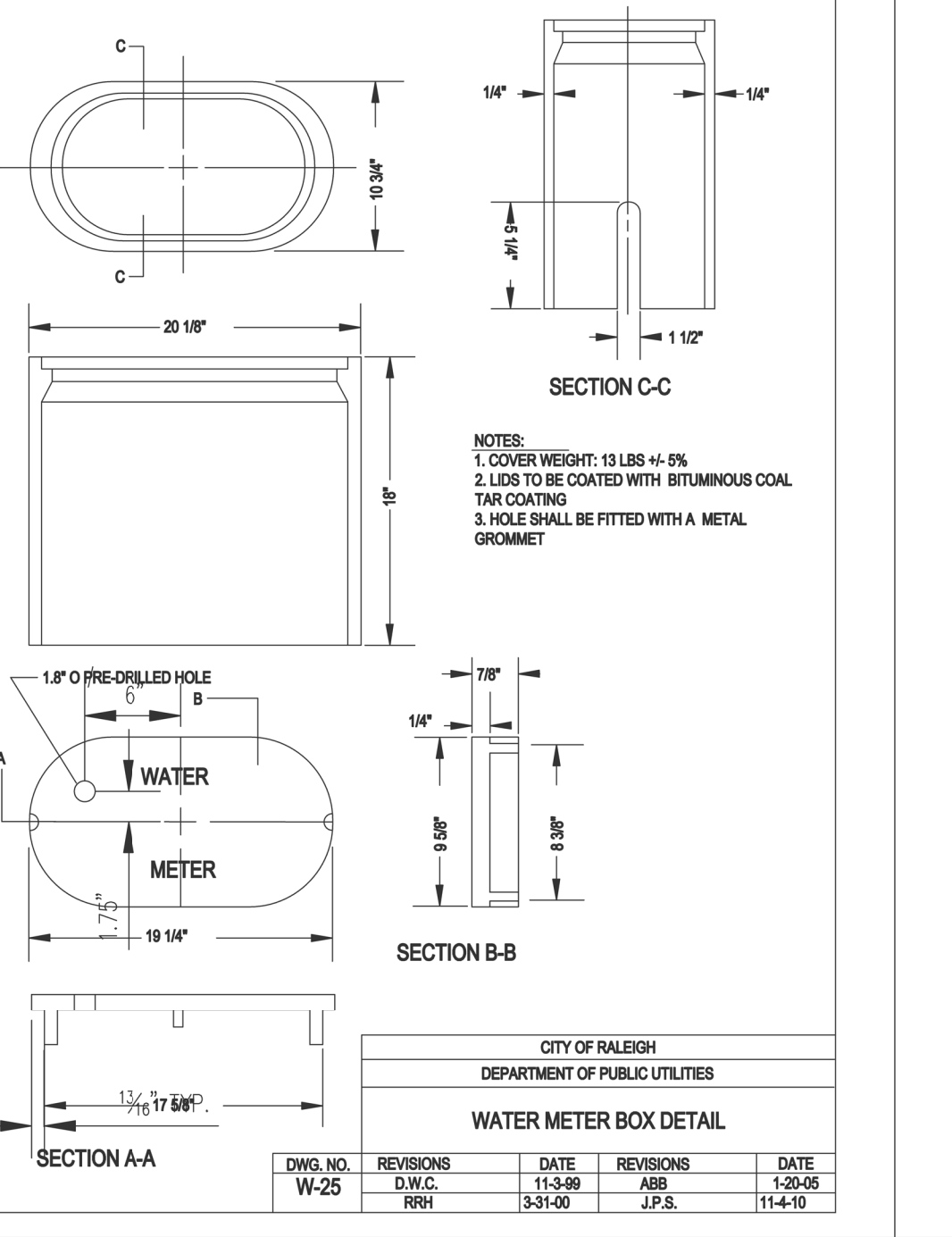
- NOTES:
1. BAFFLE WALL LOCATED AT A DISTANCE FROM INLET WALL 1/3 TO 1/2 OF THE TOTAL LENGTH OF THE INTERCEPTOR OR SEPARATOR AS SHOWN ON DETAIL S-41.
  2. EACH INTERCEPTOR OR SEPARATOR SHALL HAVE INLET AND OUTLET TEES. THE OUTLET TEE SHALL EXTEND 6" INTO THE LIQUID DEPTH. THE INLET TEE SHALL EXTEND 20" INTO THE LIQUID DEPTH. INLET AND OUTLET TEES MUST BE OPEN TO ALLOW THE COLLECTION OF OIL SAMPLE.
  3. ACCESS OPENINGS OVER EACH COMPARTMENT WITHIN THE INTERCEPTOR OR SEPARATOR SHALL BE 24" IN DIAMETER AND COUPON PVC HOLES. ALL COVERS SHALL BE CONSTRUCTED OF CAST IRON OR EQUIVALENT TRAFFIC BEARING MATERIAL. HATCHES COVERS MUST EXTEND TO FINISH GRADE AND BE INSTALLED TO EXCLUDE THE ENTRANCE OF STORMWATER INTO THE INTERCEPTOR OR SEPARATOR.
  4. ALL SIZE DUAL SWEEP CLEANOUTS SHALL BE INSTALLED ON THE INLET AND OUTLET SIDES OF THE INTERCEPTOR OR SEPARATOR.
  5. INTERCEPTORS AND SEPARATORS MUST BE VENTED IN ACCORDANCE WITH THE NC STATE PLUMBING CODE.
  6. CONCRETE 400 PSI @ 28 DAYS.
  7. DESIGN AC 308 BUILDING CODE.
  8. ASTM C1363 FOR GREASE INTERCEPTORS.
  9. ASTM C1364 FOR WATER AND WASTEWATER STRUCTURES WITH GREASE FOR REMOVAL STRUCTURAL DESIGN LOADS.
  10. INTERCEPTORS AND SEPARATORS SHALL BE DESIGNED TO WITHSTAND AN H-20 WHEEL LOAD.
  11. INTERCEPTORS OR SEPARATORS MADE OF POLYETHYLENE OR FIBERGLASS SHALL INCLUDE A MINIMUM 100 PSI TENSILE STRENGTH, 100 PSI FLEXURAL STRENGTH, AND WEAR OF FEDERAL MODULUS.
  12. ALL INTERCEPTORS AND SEPARATORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
DIMENSIONS: GREASE INTERCEPTORS OIL-WATER-SAND SEPARATORS					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-41	ABB	3/6/00	D.J.L.	6/18/00	



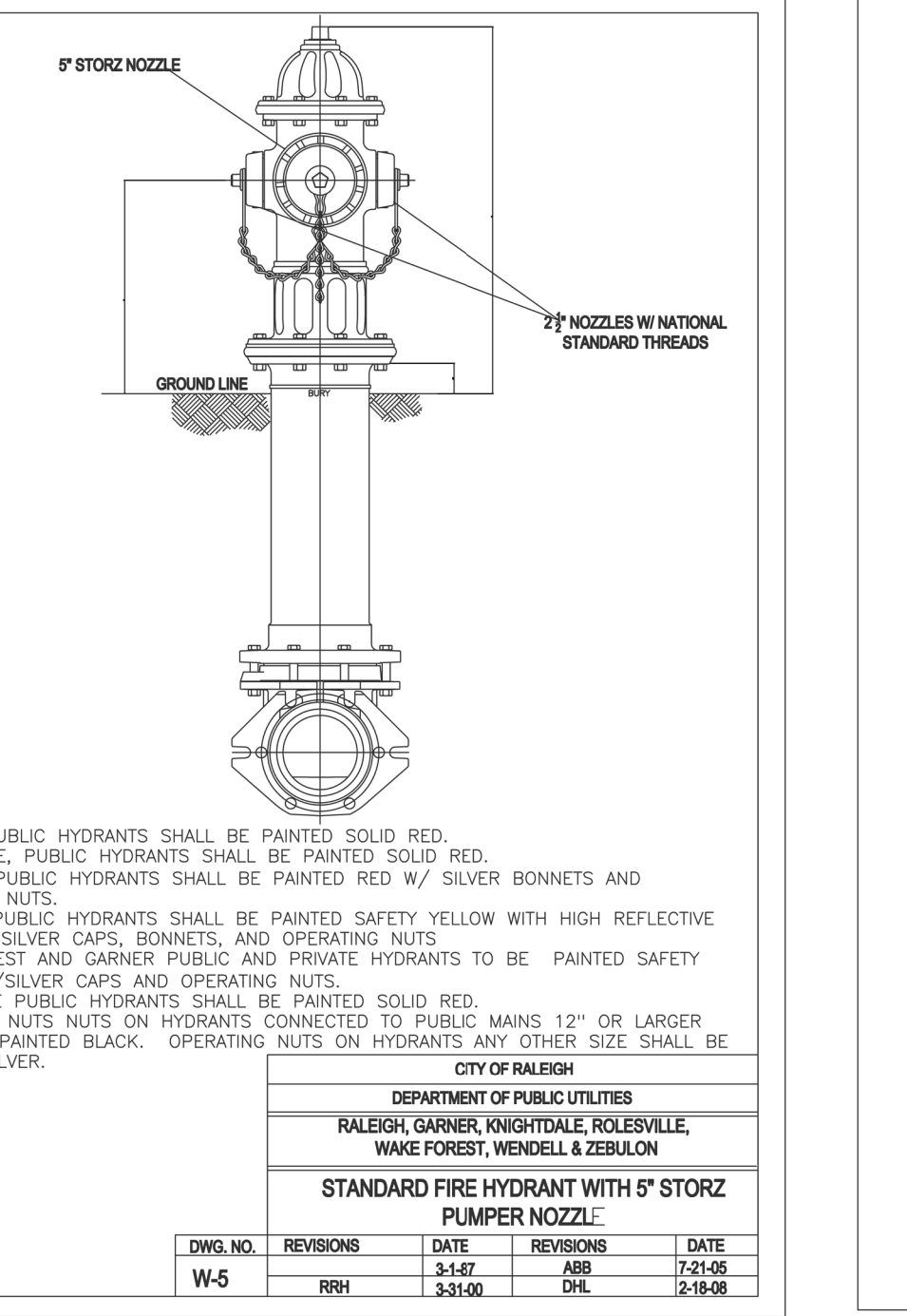
- NOTES:
1. FIRE HYDRANT SHALL BE AS MANUFACTURED: INVELLER, AMERICAN DAVLIN, KENNEDY, MAN, WATERLOO, CLOW, EAST JORDAN IRON WORKS, OR US PIPE.
  2. BRANCH PIPE SHALL BE DUCTILE IRON ANNA C100-6.
  3. GATE VALVE SHALL BE ANNA C100-6 OR EQUIVALENT.
  4. STEEL ROOF AND BOLTS SHALL BE 7" HOT DIPPED GALVANIZED.
  5. FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION.
  6. ROOF SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A RESTRAINING GLAND SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE.
  7. FIRE HYDRANTS TO BE LOCATED IN ROW OR 2 FOOT EASEMENT ADJACENT TO ROW.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
STANDARD FIRE HYDRANT INSTALLATION DETAIL					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-4	ABB	4/84	RRH	2/10/89	



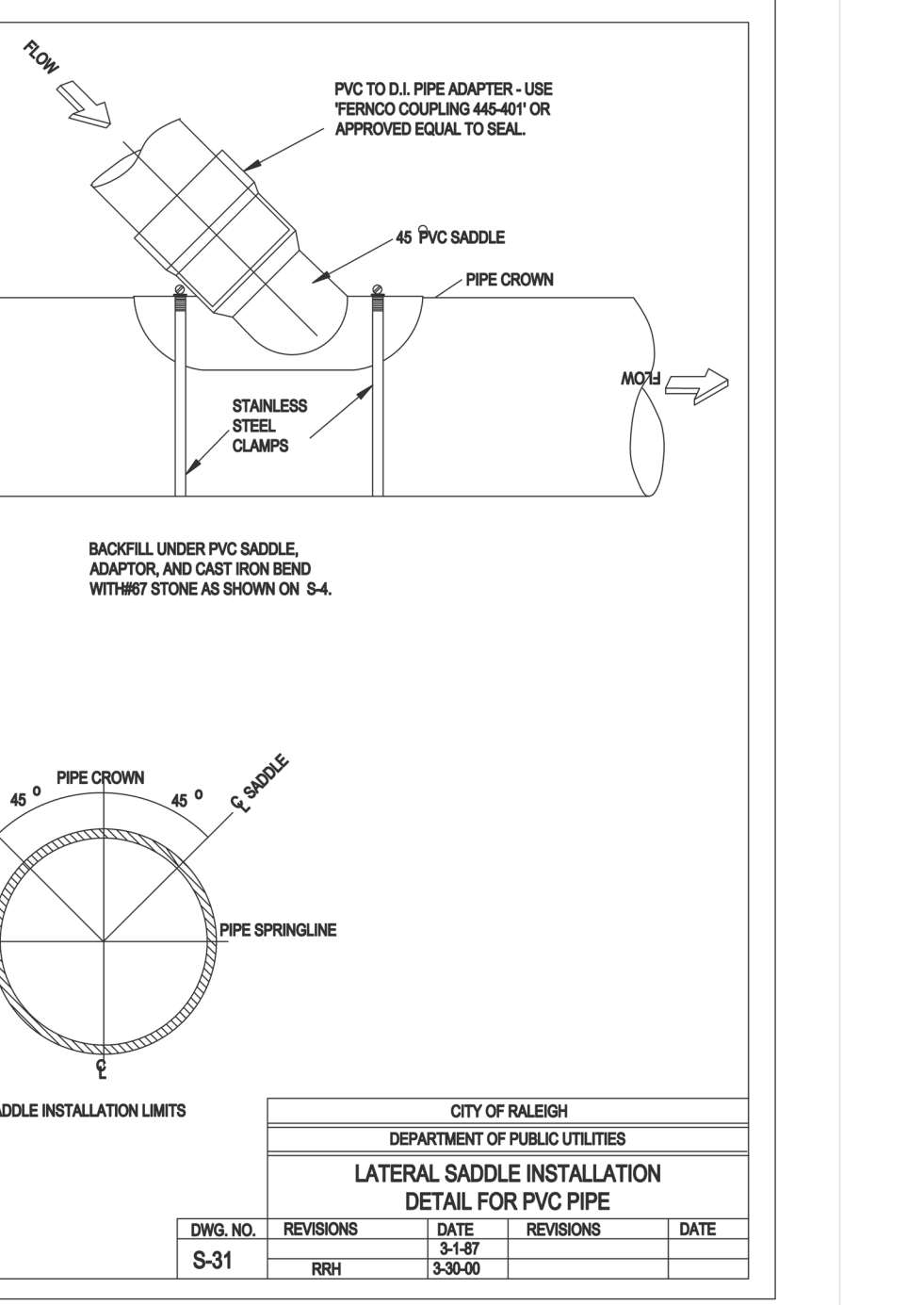
- NOTES:
1. COVER WEIGHT: 13 LBS +/- 5%.
  2. LID TO BE COATED WITH BITUMINOUS COAL TAR COATING.
  3. HOLE SHALL BE FITTED WITH A METAL GROMMET.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
WATER METER BOX DETAIL					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-25	RRH	11-30-89	ABB	12-26-89	
		3-31-00	J.P.S.	11-4-10	



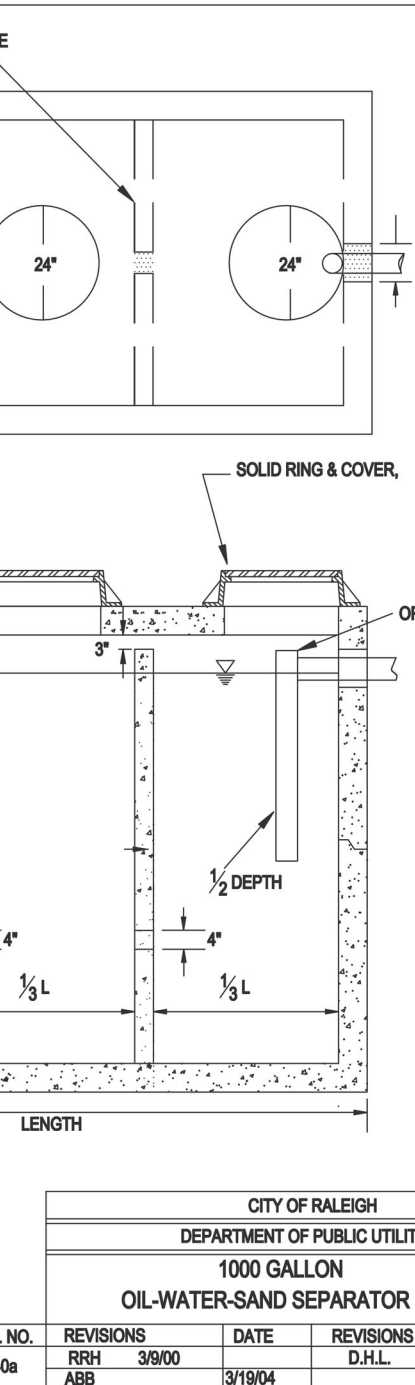
- NOTES:
1. RALEIGH PUBLIC HYDRANTS SHALL BE PAINTED SOLID RED.
  2. KNIGHTDALE, PUBLIC HYDRANTS SHALL BE PAINTED SOLID RED.
  3. ZEBULON PUBLIC HYDRANTS SHALL BE PAINTED RED W/ SILVER BONNETS AND OPERATING NUTS.
  4. WENDELL PUBLIC HYDRANTS SHALL BE PAINTED SAFETY YELLOW WITH HIGH REFLECTIVE ALUMINUM SILVER CAPS, BONNETS, AND OPERATING NUTS.
  5. WAKE FOREST AND GARNER PUBLIC AND PRIVATE HYDRANTS TO BE PAINTED SAFETY YELLOW W/ SILVER CAPS AND OPERATING NUTS.
  6. ROLESVILLE PUBLIC HYDRANTS SHALL BE PAINTED SOLID RED.
  7. OPERATING NUTS ON HYDRANTS CONNECTED TO PUBLIC MAINS 12" OR LARGER SHALL BE PAINTED BLACK. OPERATING NUTS ON HYDRANTS ANY OTHER SIZE SHALL BE PAINTED SILVER.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
RALPH GARNER, KNIGHTDALE, ROLESVILLE, WAKE FOREST, WENDELL & ZEBULON					
STANDARD FIRE HYDRANT WITH 5" STORZ PUMPER NOZZLE					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
W-5	RRH	3-1-87	ABB	7-21-88	
		3-31-00	D.H.	2-18-00	



- NOTES:
1. BACKFILL UNDER PVC SADDLE, ADAPTER, AND CAST IRON BEND WITH #87 STONE AS SHOWN ON S-4.

CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
LATERAL SADDLE INSTALLATION DETAIL FOR PVC PIPE					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-31	RRH	3-30-00			



CITY OF RALEIGH					
DEPARTMENT OF PUBLIC UTILITIES					
1000 GALLON OIL-WATER-SAND SEPARATOR					
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE	
S-40	RRH	3/9/00	D.H.L.	6/18/00	
	ABB				

- NOTES:
1. SEE SHEET C1 FOR STANDARD NOTES.

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # \_\_\_\_\_.

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook, City of Raleigh Public Utilities Department Permit # \_\_\_\_\_.

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City of Raleigh Public Utilities Department Permit # \_\_\_\_\_

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

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Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh employee (shown below). The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans filed on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval: \_\_\_\_\_

City of Raleigh Review Officer: \_\_\_\_\_

**Gettle Engineering and Design, PLLC**  
 3616 Waxwing Court,  
 Wake Forest, North Carolina 27587  
 (919) 210-3334 Firm License P-2538

NO.	DATE	BY	REVISION DESCRIPTION
1			
2			
3			
4			
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7			



**Water Details**  
**South Main**  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

Project No. XXXXX  
 Dwg No. **D5**



BASIN NUMBER	DRAIN AREA(ACRES)	BASIN SIZE	Q10 FLOW(CFS)	BASIN SURFACE AREA(SF)	REQUIRED SURFACE AREA(SF)	BASIN VOLUME (CF)	REQUIRED BASIN VOLUME (CF)	SPILLWAY LENGTH (FT)	SKIMMER / ORIFICE DIAMETER (IN.)	TOP OF BERM ELEV.	EMERGENCY SPILLWAY ELEV.	BOTTOM OF BASIN
1	1.53	44' x 74'	5.06	4264	2201	7499	2754	10	1.5/1	408.5	408	406

SEE SHEET EC6 FOR DESIGN CALCULATIONS

**LINE AND SYMBOL LEGEND**

- SILT FENCE OUTLET
- LIMITS OF DISTURBANCE
- SILT FENCE
- TEMPORARY DIVERSION
- PERIMETER FENCE
- CLEAR WATER DIVERSION DITCH
- CHECK DAM

**EROSION CONTROL CONSTRUCTION SEQUENCE - PHASE 1**

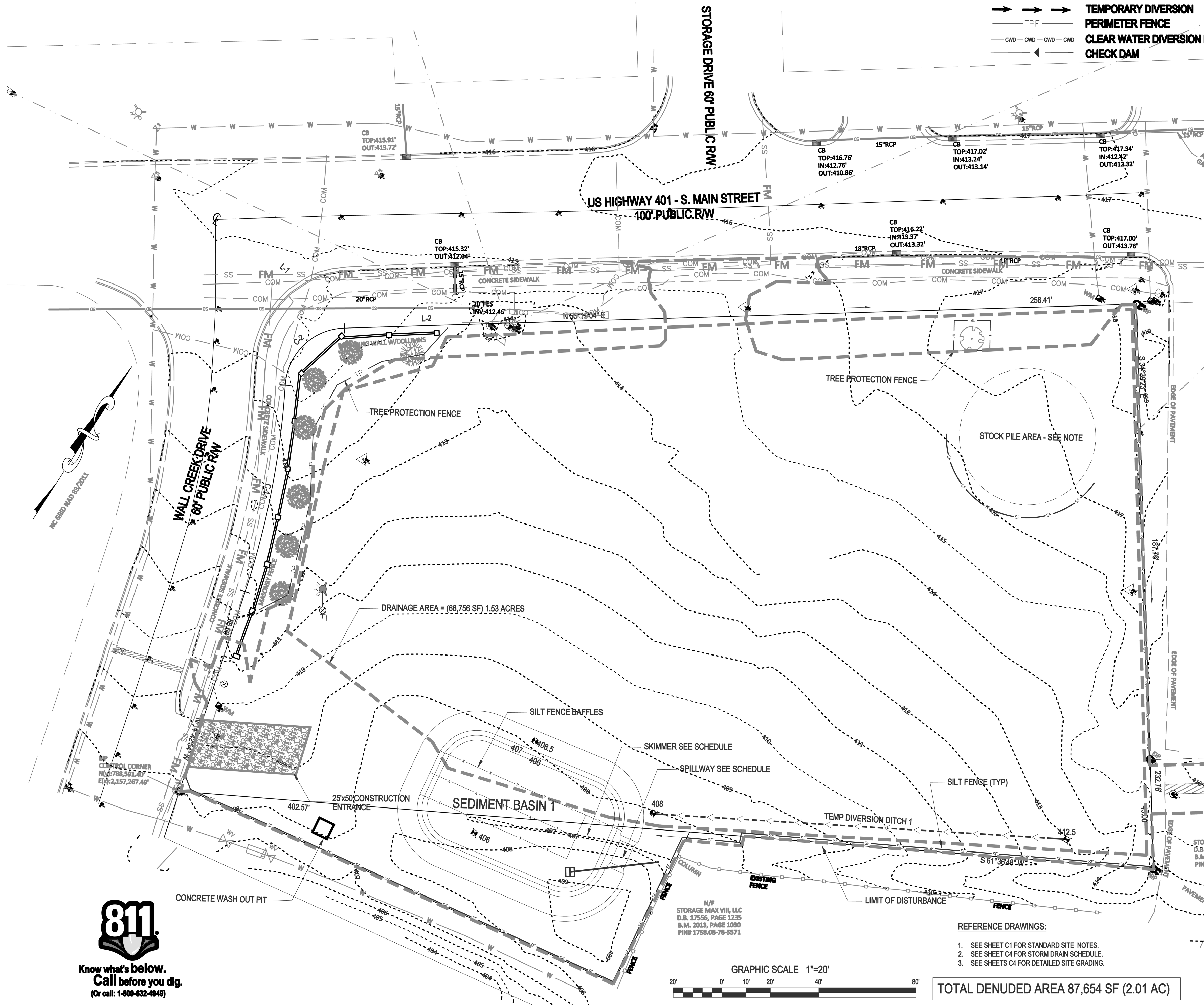
- SCHEDULE A PRECONSTRUCTION CONFERENCE WITH THE ENVIRONMENTAL WATERSHED MANAGER. OBTAIN A LAND DISTURBING PERMIT.
- INSTALL EROSION CONTROL MEASURES INCLUDING GRAVEL CONSTRUCTION ENTRANCE/EXIT, SEDIMENT TRAPPING MEASURES, STABILIZATION AT PIPE OUTLETS, AND OTHER MEASURES AS SHOWN ON THE APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES. SEED TEMPORARY DIVERSIONS, BERMS AND BASINS IMMEDIATELY AFTER CONSTRUCTION.
- CONTACT THE WATERSHED MANAGER FOR AN ONSITE INSPECTION TO OBTAIN A CERTIFICATE OF COMPLIANCE.
- BEGIN CLEARING AND GRUBBING. PERFORM ROUGH GRADING, INSTALLING AND MAINTAINING TEMPORARY DIVERSIONS AS NECESSARY. SEED AND MULCH PERIMETER SLOPES AS SOON AS POSSIBLE.
- STABILIZE DISTURBED AREAS WITHIN 14 WORKING DAYS AFTER COMPLETION OF ANY PHASE OF GRADING. STABILIZATION CONSISTS OF EITHER TEMPORARY MULCHING OR PERMANENT VEGETATION ON AREAS THAT ARE NOT PAVED.
- REGULARLY INSPECT AND MAINTAIN THE EROSION CONTROL DEVICES SO THEY CONTINUE TO FUNCTION PROPERLY.
- KEEP MUD AND DEBRIS OFF THE PUBLIC STREETS AT ALL TIMES. IF MUD OR DEBRIS IS TRACKED FROM THE SITE, USE A SHOVEL AND BROOM TO REMOVE IT IMMEDIATELY. IF MUD AND DEBRIS ARE NOT KEPT OFF THE STREET, ENFORCEMENT ACTION (REVOKING THE GRADING PERMIT AND/OR STOP WORK ORDER) MAY BE TAKEN.
- IF IT IS DETERMINED DURING THE COURSE OF CONSTRUCTION THAT SIGNIFICANT SEDIMENT IS LEAVING THE SITE DESPITE PROPER IMPLEMENTATION AND MAINTENANCE OF THE APPROVED EROSION CONTROL PLAN, THE PERSON RESPONSIBLE FOR THE LAND-DISTURBING ACTIVITY IS OBLIGATED TO TAKE ADDITIONAL PROTECTIVE ACTION.
- CONTINUE TO PHASE 2 EROSION CONTROL ACTIVITIES.

**STOCKPILE DESIGN CRITERIA**

- STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
- A 25-FOOT TEMPORARY MAINTENANCE AND ACCESS EASEMENT SHALL BE SHOWN AROUND ALL PROPOSED STOCKPILES (EROSION CONTROL MEASURES SURROUNDING THE STOCKPILE SHALL BE SHOWN AT THE OUTER LIMIT OF THIS EASEMENT).
- STOCKPILE FOOTPRINTS SHALL BE SETBACK A MINIMUM OF 25' FROM ADJACENT PROPERTY LINES.
- STOCKPILE HEIGHT SHALL NOT EXCEED 35 FEET.
- STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER.
- STOCKPILING MATERIALS ADJACENT TO A DITCH, DRAINAGEWAY, WATERCOURSE, WETLAND, STREAM BUFFER, OR OTHER BODY OF WATER SHALL BE AVOIDED UNLESS AN ALTERNATIVE LOCATION IS DEMONSTRATED TO BE UNAVAILABLE.
- ANY CONCENTRATED FLOW LIKELY TO AFFECT THE STOCKPILE SHALL BE DIVERTED TO AN APPROVED BMP.
- OFF-SITE SPOIL OR BORROW AREAS MUST BE IN COMPLIANCE WITH WAKE COUNTY UDO AND STATE REGULATIONS. ALL SPOIL AREAS OVER AN ACRE ARE REQUIRED TO HAVE AN APPROVED SEDIMENT CONTROL PLAN. DEVELOPER/CONTRACTOR SHALL NOTIFY WAKE COUNTY OF ANY OFFSITE DISPOSAL OF SOIL, PRIOR TO DISPOSAL. FILL OF FEMA FLOODWAYS AND ON-ENCROACHMENT AREAS ARE PROHIBITED EXCEPT AS OTHERWISE PROVIDED BY SUBSECTION 14-19-2 OF THE WAKE COUNTY UNIFIED DEVELOPMENT ORDINANCE (CERTIFICATIONS AND PERMITS REQUIRED).
- SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEPT IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
- IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
- THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUAL BASIS WHILE THE STOCKPILE IS IN USE.
- ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

**GENERAL NOTES:**

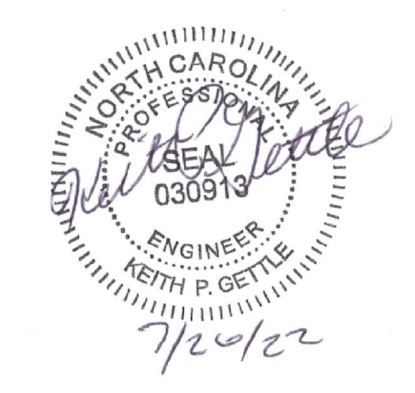
- INSTALL POLYACRYLAMIDE IMPREGNATED STRAW WATTLES (ie. TERRA TUBES) DIRECTLY BELOW STORM WATER OUTFALL. PLACE EROSION CONTROL LINER UNDERNEATH A SERIES OF WATTLES (SEE DETAIL).
- SURROUND THE SKIMMER WITH A BAFFLE AND "KEY" BOTH ENDS INTO THE SIDE OF THE BASIN. INSTALL A TARP UNDERNEATH THE SKIMMER, COVERING THE ENTIRE AREA AROUND THE SKIMMER. PROVIDE A 6'-8" BLOCK TO BE PLACED UNDER THE SKIMMER ALLOWING THE DEVICE TO REST ON AFTER DEWATERING.
- INSTALL STANDARD GRAVEL YARD INLET PROTECTION UNTIL CURB IS INSTALLED. INSTALL STANDARD GRAVEL BAG CURB INLET PROTECTION AT ALL CURB INLETS.
- SEE SHEET C1 FOR SITE SPECIFIC NOTES.



TOTAL DENUDED AREA 87,654 SF (2.01 AC)

**Gettle Engineering and Design, PLLC**  
 3616 Waxwing Court,  
 Wake Forest, North Carolina 27587  
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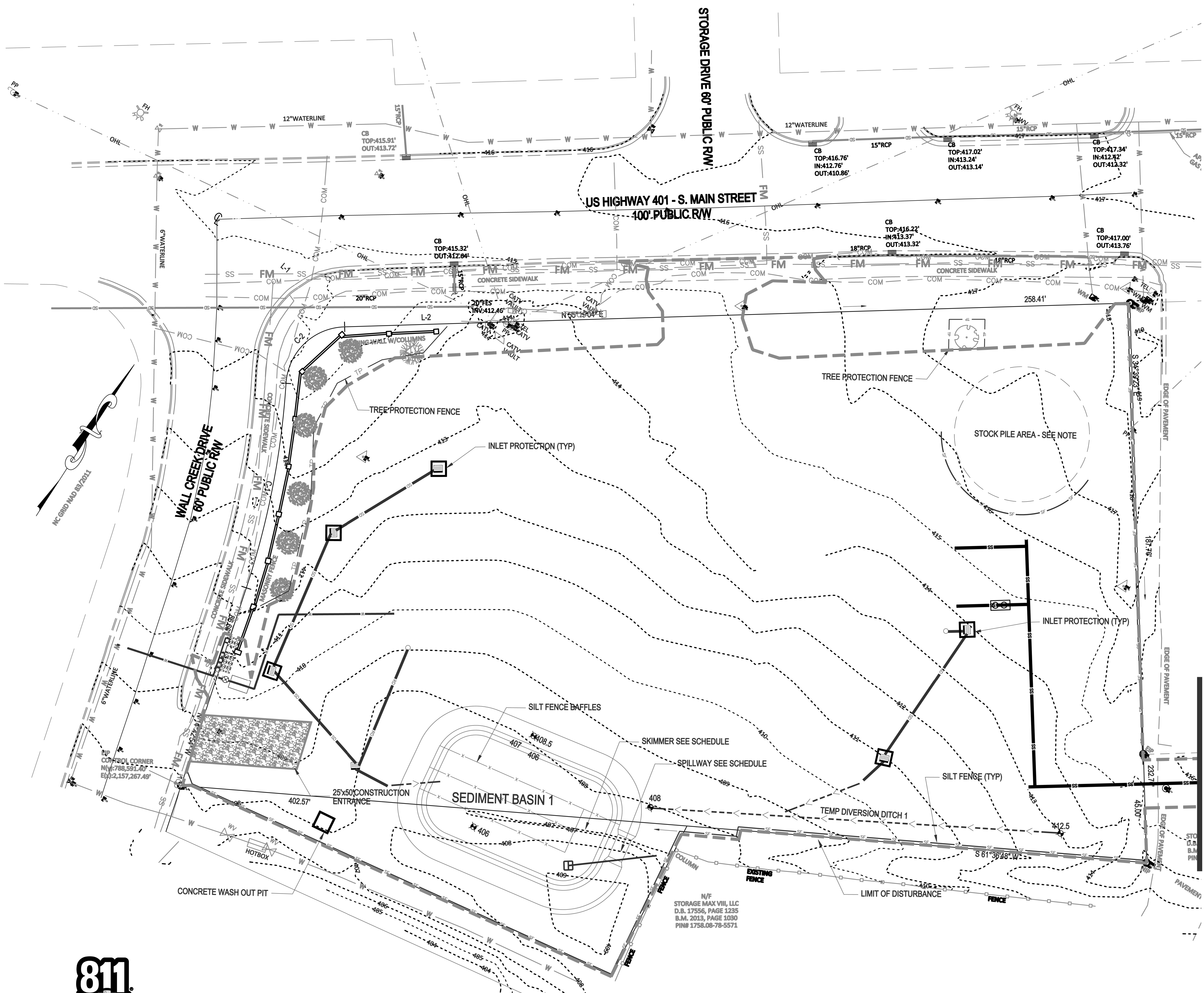
**Phase 1 - Erosion Control Plan**  
**South Main**  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

Project No. XXXXX  
 Dwg No. **EC1**



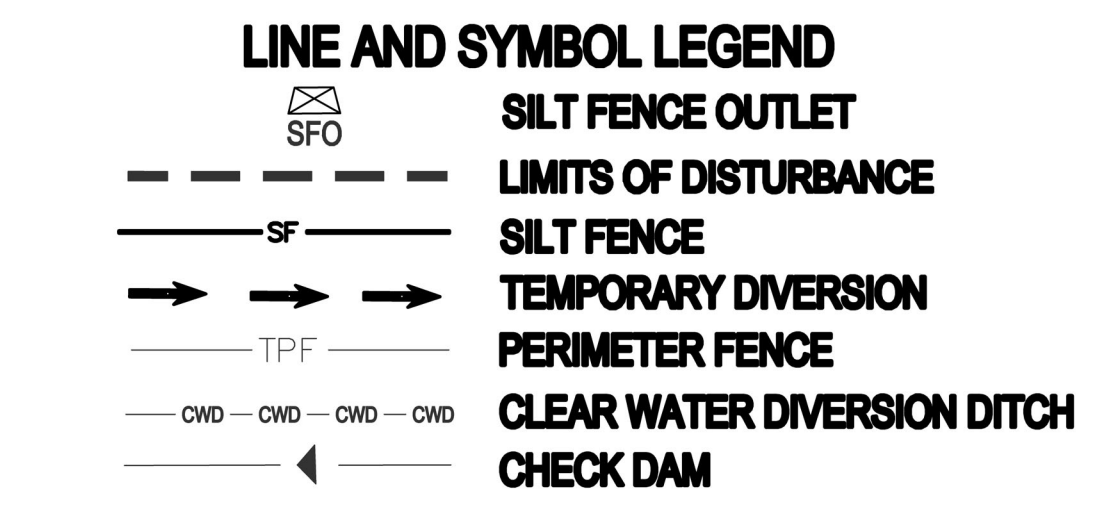
PRELIMINARY  
DO NOT USE FOR  
CONSTRUCTION





**EROSION CONTROL CONSTRUCTION SEQUENCE - PHASE 2**

1. INSTALL THE STORM DRAINAGE SYSTEM AND INLET PROTECTION, PROTECTING PIPE OPENINGS AND UNCOVERED STRUCTURES AS SHOWN.
2. INSTALL SANITARY SEWER SYSTEM AND WATER LINE PIPING PER UTILITY PLAN. ENSURE EXISTING UTILITIES ARE PROTECTED DURING CONSTRUCTION ACTIVITIES.
3. STABILIZE DISTURBED AREAS WITHIN 14 WORKING DAYS AFTER COMPLETION OF ANY PHASE OF GRADING. STABILIZATION CONSISTS OF EITHER TEMPORARY MULCHING OR PERMANENT VEGETATION ON AREAS THAT ARE NOT PAVED.
4. REGULARLY INSPECT AND MAINTAIN THE EROSION CONTROL DEVICES SO THEY CONTINUE TO FUNCTION PROPERLY.
5. KEEP MUD AND DEBRIS OFF THE PUBLIC STREETS AT ALL TIMES. IF MUD OR DEBRIS IS TRACKED FROM THE SITE, USE A SHOVEL AND BROOM TO REMOVE IT IMMEDIATELY. IF MUD AND DEBRIS ARE NOT KEPT OFF THE STREET, ENFORCEMENT ACTION (REVOKING THE GRADING PERMIT AND/OR STOP WORK ORDER) MAY BE TAKEN.
6. IF IT IS DETERMINED DURING THE COURSE OF CONSTRUCTION THAT SIGNIFICANT SEDIMENT IS LEAVING THE SITE DESPITE PROPER IMPLEMENTATION AND MAINTENANCE OF THE APPROVED EROSION CONTROL PLAN, THE PERSON RESPONSIBLE FOR THE LAND-DISTURBING ACTIVITY IS OBLIGATED TO TAKE ADDITIONAL PROTECTIVE ACTION.
7. CONTINUE TO PHASE 3 ACTIVITIES.



- REFERENCE DRAWINGS:
1. SEE SHEET C1 FOR STANDARD SITE NOTES.
  2. SEE SHEET C4 FOR STORM DRAIN SCHEDULE.
  3. SEE SHEETS C4 FOR DETAILED SITE GRADING.

Channel	Drain Area, ac	Channel Length, ft	Channel Drop, ft	C	Q2		Flow cfs	Channel Slope, ft/ft	n	Side Slope:1	Bottom Width, ft	Depth of Flow, ft	Velocity fps	Liner
					I, in/hr	S								
1	1.53	170	5	0.55	3.46	2.9	0.0265	0.024	3.00	2.0	0.28	3.60	Jute Mesh	



**811**  
 Know what's below.  
 Call before you dig.  
 (Or call: 1-800-632-4848)

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3		DATE	COMMENT
4		DATE	COMMENT
5		DATE	COMMENT
6		DATE	COMMENT
7		DATE	COMMENT



**Phase 2 - Erosion Control Plan**  
 South Main  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

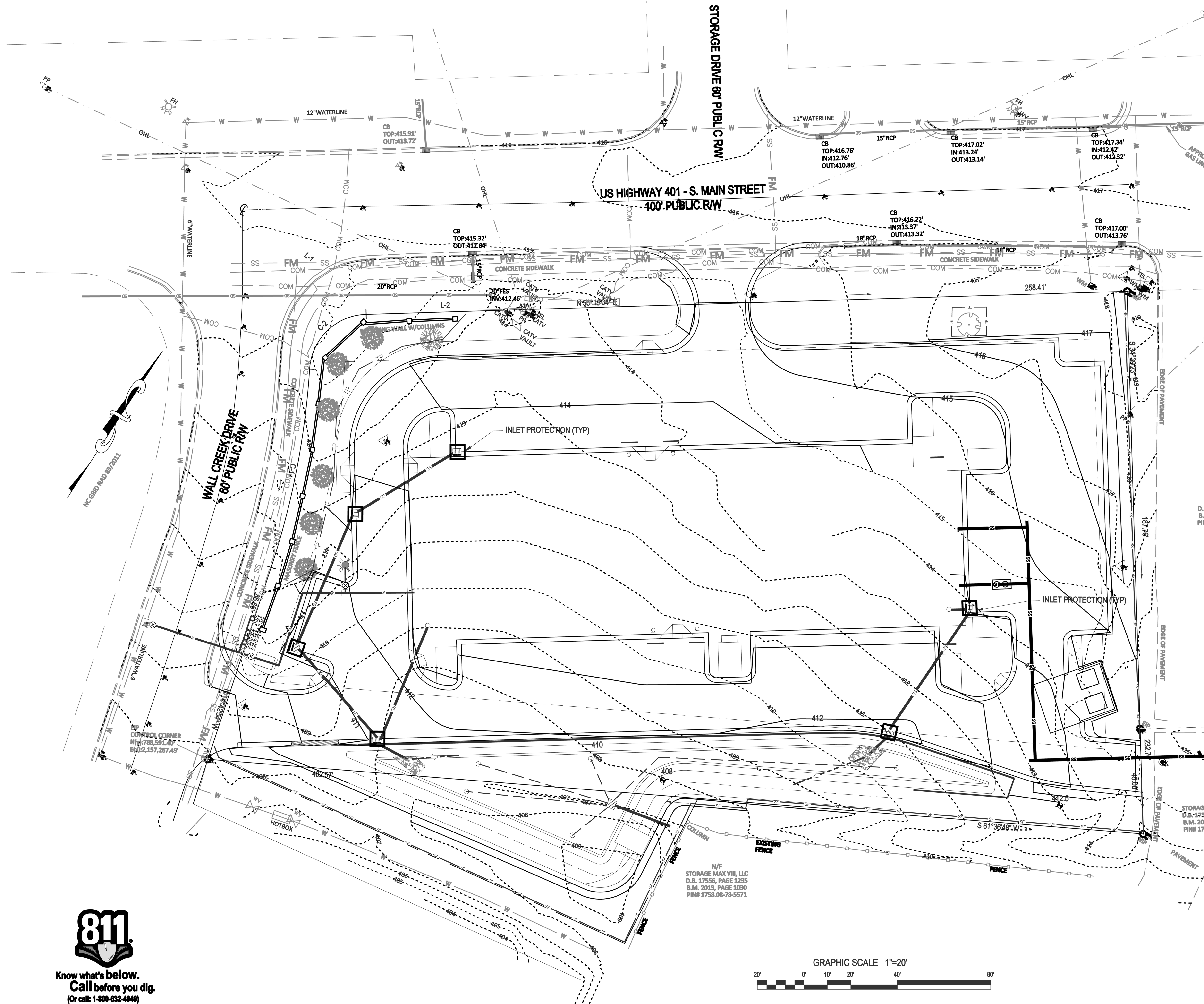
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 Dwg No. **EC2**

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N/F  
STORAGE MAX VIII, LLC  
D.B. 17556, PAGE 1235  
B.M. 2013, PAGE 1030  
PIN# 1758.08-79-5571



CONSTRUCTION SEQUENCE - PHASE 3

1. CONSTRUCT CONCRETE CURB IN ROADWAYS AND PARKING LOT. PLACE AND COMPACT STONE IN THE ROADWAYS AND PARKING LOT. REMOVE THE GRAVEL ENTRANCE.
2. COMPLETE FINE GRADING AND STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE.
3. ONCE THE SITE IS STABILIZED AND APPROVAL FROM STORMWATER INSPECTIONS TO SCHEDULE THE REMOVAL OF THE SEDIMENT BASIN (SEE NOTES BELOW), DEWATER SEDIMENT BASIN USING A SILT BAG AND MUCK OUT REMAINING SEDIMENT.
2. BEGIN INSTALLATION OF THE BMP AND ASSOCIATED STRUCTURES. CONTACT PROJECT ENGINEER TO INSPECT DURING INSTALLATION PROCESS. SURVEY INVERT ELEVATIONS FOR AS-BUILT INFORMATION REQUIRED BY THE TOWN OF ROLESVILLE AND WAKE COUNTY.
3. GRADE ANY REMAINING AREAS TO FINAL GRADE. UPON COMPLETION THE GROUND COVER SHALL BE PROVIDED AS FOLLOWS:
  - A. STABILIZE BASINS WITH GROUND COVER IMMEDIATELY AFTER INSTALLATION.
  - B. STABILIZE DIVERSION DITCHES INTENDED TO BE IN SERVICE FOR 30 DAYS OR MORE WITH TEMPORARY SEEDING AND EROSION CONTROL NETTING.
  - C. FOR ALL AREAS OF MODERATE AND/OR STEEP SLOPES, PROVIDE TEMPORARY GROUND COVER IF THE SLOPE HAS NOT BEEN DISTURBED FOR A PERIOD OF FOURTEEN (14) DAYS.
  - D. PROVIDE GROUND COVER SUFFICIENT TO RESTRAIN EROSION ON ANY PORTION OF THE SITE UPON WHICH FURTHER LAND-DISTURBING ACTIVITY IS NOT BEING UNDERTAKEN WITHIN FOURTEEN (14) CALENDAR DAYS OF TEMPORARILY OR PERMANENTLY SUSPENDING LAND DISTURBING ACTIVITY
  - E. ESTABLISH PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION WITHIN FOURTEEN (14) CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT AND/OR PRIOR TO FINAL INSPECTION.
4. ONCE THE BMP INSTALLATION IS COMPLETE, TEMPORARY MEASURES ARE REMOVED, THE SITE IS STABILIZED, CONTACT THE WATERSHED MANAGER TO SCHEDULE A STORMWATER INSPECTION.

REQUIRED WAKE COUNTY BASIN REMOVAL SEQUENCE

1. SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
2. CONTACT NDEQ - RALEIGH REGIONAL OFFICE (919) 791-4200 TO DETERMINE THE DIVISION OF ENERGY, MINERAL AND LAND RESOURCES CONTACT PERSON TO RECEIVE DEWATERING NOTIFICATIONS. AT LEAST 10 DAYS PRIOR TO BEGINNING DEWATERING ACTIVITY, SEND EMAIL TO NDEQ-DEMLR CONTACT PERSON AND COPY ENVIRONMENTAL CONSULTANT THAT MET YOU ON SITE. THE EMAIL SHOULD INCLUDE:
  - EASC JURISDICTION: WAKE COUNTY, WAKE COUNTY PROJECT: NAME, NUMBER, AND LOCATION (CITY/TOWN), ENVIRONMENTAL CONSULTANT NAME, AND ADDRESS
  - THE FOLLOWING: A) REASON FOR CONVERSION, B) BASIN #, C) DEWATERING METHOD, AND D) ALL OTHER NECESSARY INFO FROM PART II, SECTION G, ITEM 4 OF THE NCGS1. (KEEP EMAIL FOR YOUR NPDES MONITORING DOCUMENTATION)
3. AFTER RECEIVING POSITIVE CONFIRMATION FROM NDEQ-DEMLR THAT YOU MAY REMOVE THE BASIN OR ON > DAY 11, WHICHEVER IS SOONER, REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
4. PERFORM SEEDBED PREPARATION, SEED, MULCH AND ANCHOR ANY RESULTING BARE AREAS IMMEDIATELY.
5. INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
6. WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVICE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION. NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE.

LINE AND SYMBOL LEGEND

- SFO SILT FENCE OUTLET
- LIMITS OF DISTURBANCE
- SF SILT FENCE
- TD TEMPORARY DIVERSION
- PF PERIMETER FENCE
- CWD CLEAR WATER DIVERSION DITCH
- CD CHECK DAM

REFERENCE DRAWINGS:

1. SEE SHEET C1 FOR STANDARD SITE NOTES.
2. SEE SHEET C4 FOR STORM DRAIN SCHEDULE.
3. SEE SHEETS C4 FOR DETAILED SITE GRADING.

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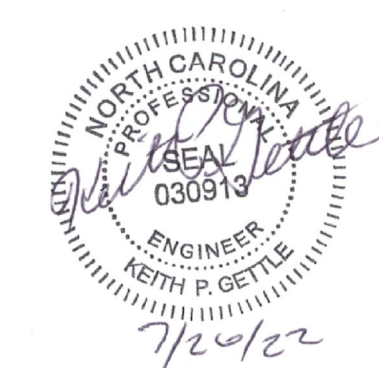
Phase 3 - Erosion Control Plan  
South Main  
503 South Main Street  
Rolesville, Wake County, North Carolina

Project No. XXXXX  
Dwg No.

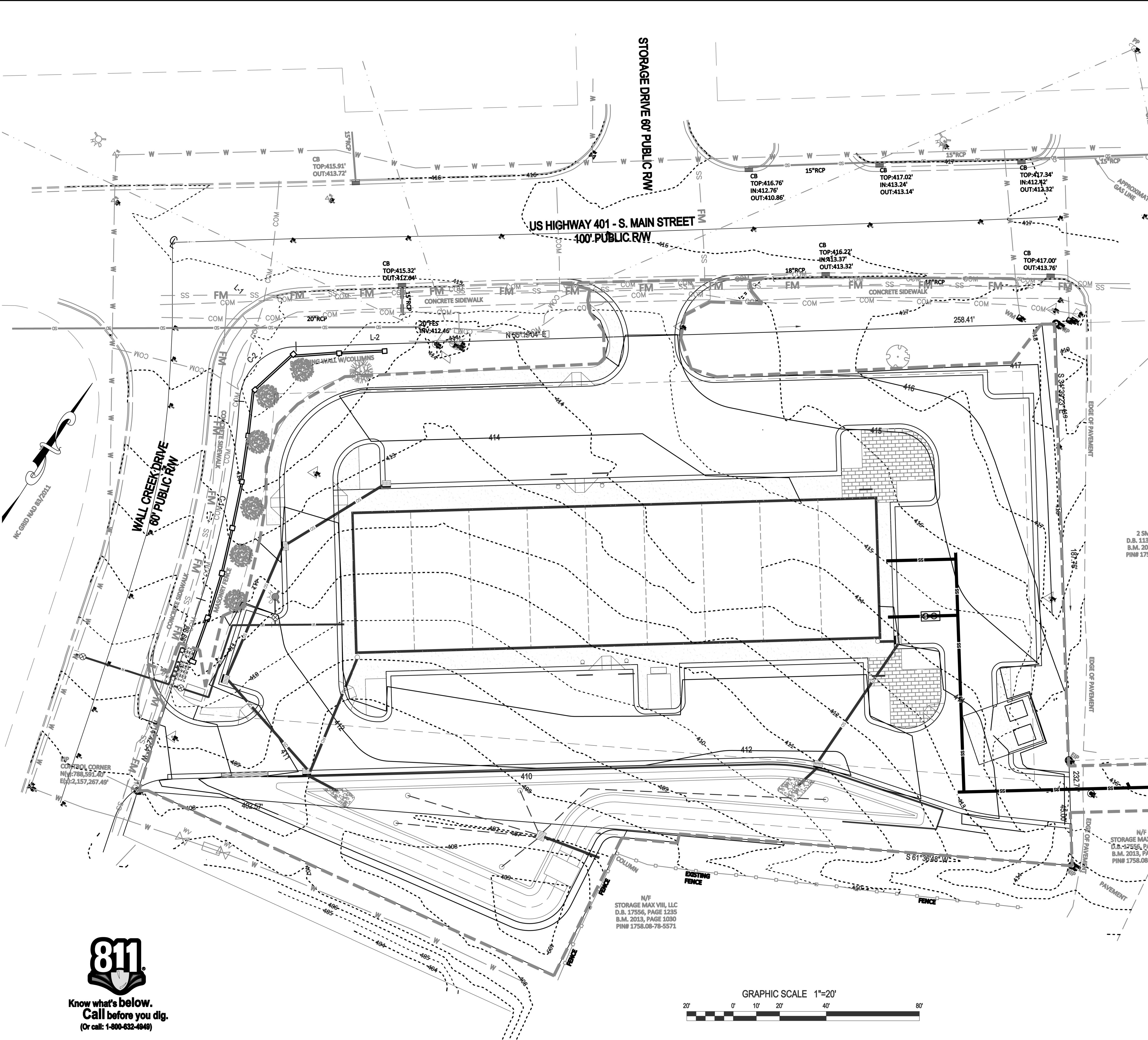
EC3

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7		DATE	COMMENT





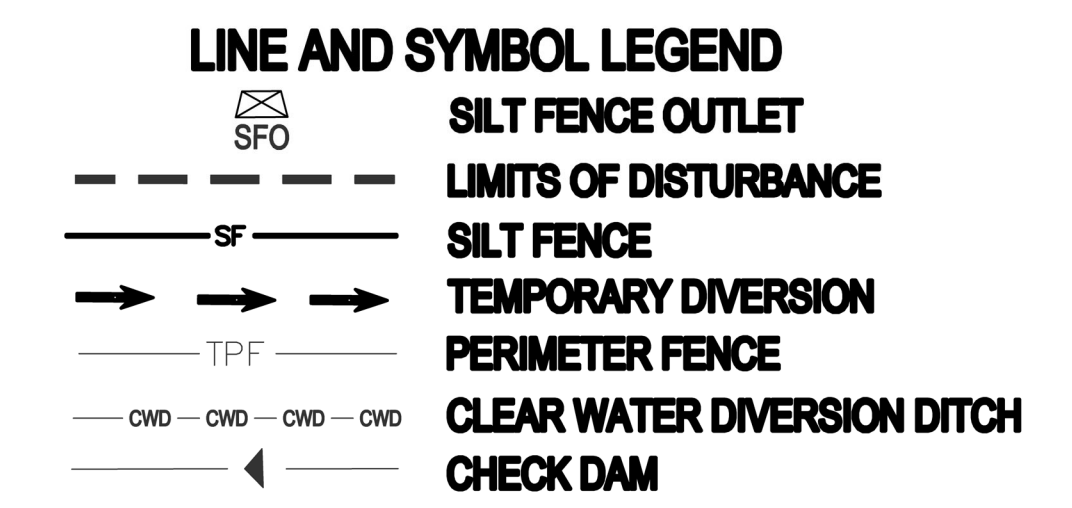


- CONSTRUCTION SEQUENCE - PHASE 4**
1. ENSURE THE SITE IS COMPLIANT WITH THE NCG01 SELF INSPECTION AND GROUND STABILIZATION AND MATERIAL HANDLING.
  2. FOR ALL AREAS OF MODERATE AND / OR STEEP SLOPES, PROVIDE TEMPORARY GROUND COVER IF THE SLOPE HAS NOT BEEN DISTURBED FOR A PERIOD OF FOURTEEN (14) DAYS.
  3. PROVIDE GROUND COVER SUFFICIENT TO RESTRAIN EROSION ON ANY PORTION OF THE SITE UPON WHICH FURTHER LAND-DISTURBING ACTIVITY IS NOT BEING UNDERTAKEN WITHIN FOURTEEN (14) CALENDAR DAYS OF TEMPORARILY OR PERMANENTLY SUSPENDING LAND DISTURBING ACTIVITY.
  4. REMOVE SILT FENCE AND TREE PROTECTION FENCING WHEN GRADING ACTIVITIES ARE COMPLETE AND THE PROJECT SITE IS STABILIZED.
  5. ONCE THE BMP INSTALLATION IS COMPLETE, TEMPORARY MEASURES ARE REMOVED, THE SITE IS STABILIZED, CONTACT THE WATERSHED MANAGER TO SCHEDULE A STORMWATER FINAL INSPECTION. BMP CERTIFICATIONS AND AS-BUILT PLANS MUST BE PROVIDED TO WAKE COUNTY / TOWN OF ROLESVILLE PRIOR TO FINAL PLATTING.
  6. ONCE THE STORMWATER FINAL INSPECTION IS APPROVED, CLOSE THE GRADING PERMIT AND OBTAIN A CERTIFICATE OF COMPLETION.

- NPDES NOTES**
1. THIS PAGE IS SUBMITTED TO COMPLY WITH NPDES GENERAL STORMWATER PERMIT NCG010000.
  2. THIS PAGE CAN BE APPROVED BY THE CITY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000 ONLY.
  3. THIS PAGE OF THE APPROVED PLANS IS ENFORCEABLE EXCLUSIVELY PURSUANT TO NPDES GENERAL STORMWATER PERMIT NCG010000.
  4. THE CITY / COUNTY IS NOT AUTHORIZED TO ENFORCE THIS PAGE OF THE PLANS AND IT IS NOT A PART OF THE APPROVED PLANS FOR PURPOSES OF ENFORCEMENT ACTION UNDER THE CITY / COUNTY CODE.
  5. DOCUMENTATION REQUIRED UNDER THE SITE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY SHALL BE SUBMITTED TO WAKE COUNTY.

**NPDES GROUND STABILIZATION SCHEDULE**

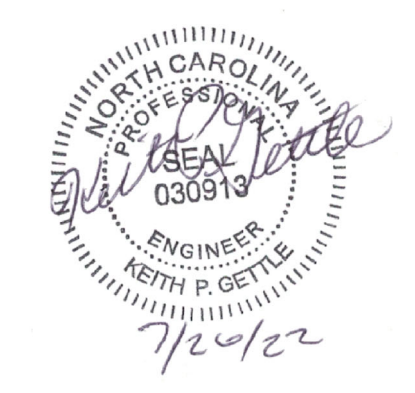
SITE AREA DESCRIPTION	STABILIZATION TIME FRAME	STABILIZATION TIME FRAME EXCEPTIONS	APPLICABLE AREA ON THIS SITE
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED	NONE
SLOPES 3:1 OR FLATTER	14 DAYS	7-DAYS FOR SLOPES GREATER THAN 60 FEET IN LENGTH	AS SHOWN
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE (EXCEPT FOR PERIMETERS AND HQW ZONES)	REMAINDER OF SITE



- REFERENCE DRAWINGS:**
1. SEE SHEET C1 FOR SITE STANDARD NOTES.
  2. SEE SHEET C4 FOR STORM DRAIN SCHEDULE.
  3. SEE SHEETS C4 FOR DETAILED SITE GRADING.

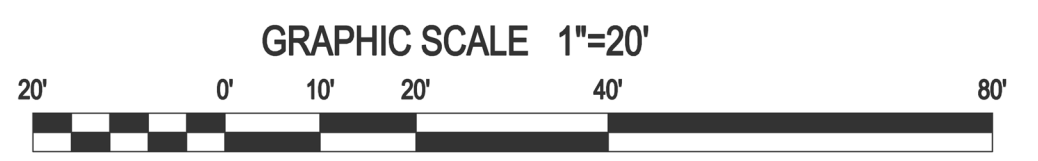
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6	DATE	BY	COMMENT
NO.	DATE	BY	REVISION DESCRIPTION



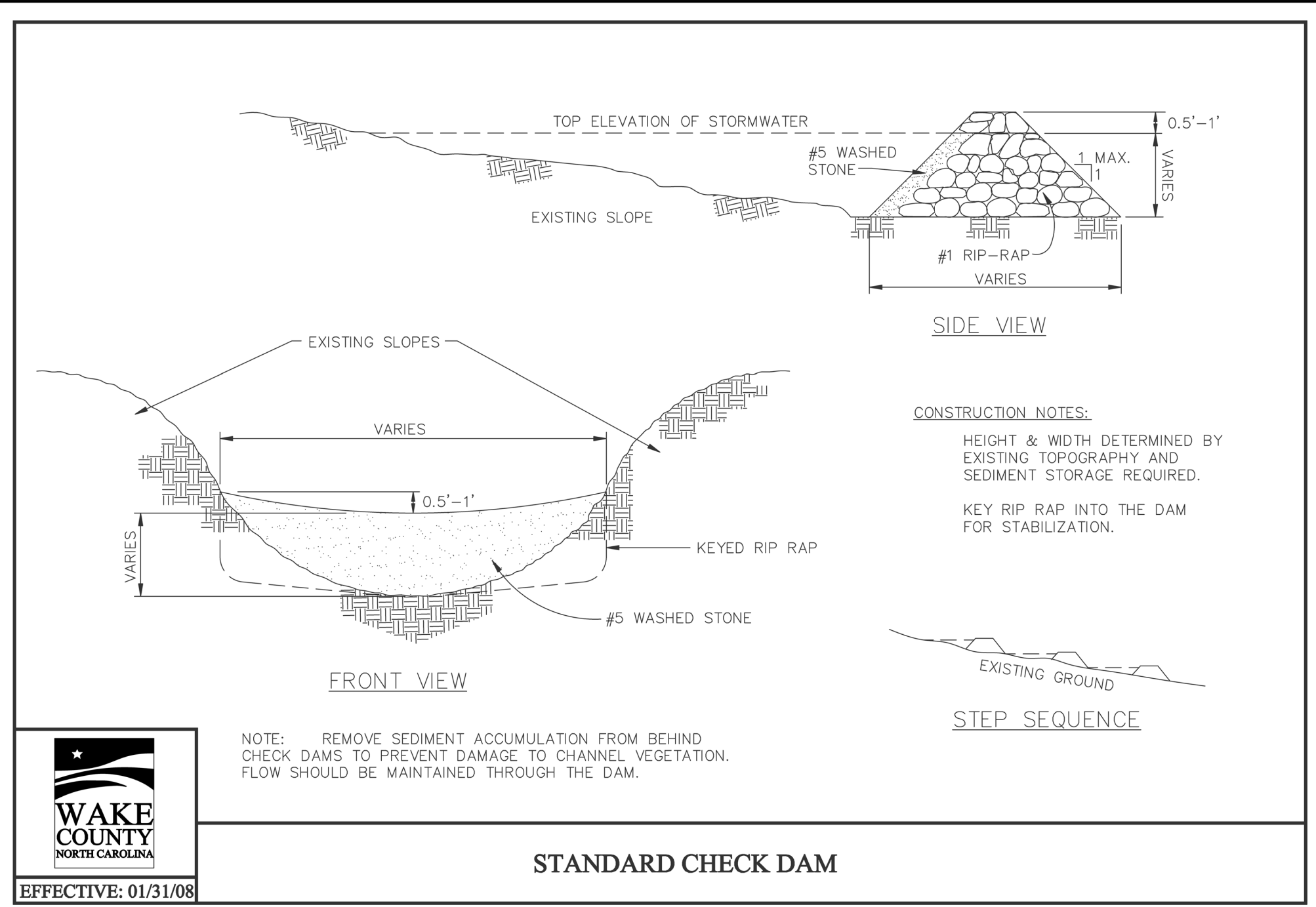
**Phase 4 - Erosion Control Plan**  
 South Main  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

Project No. XXXXX  
 Dwg No. **EC4**



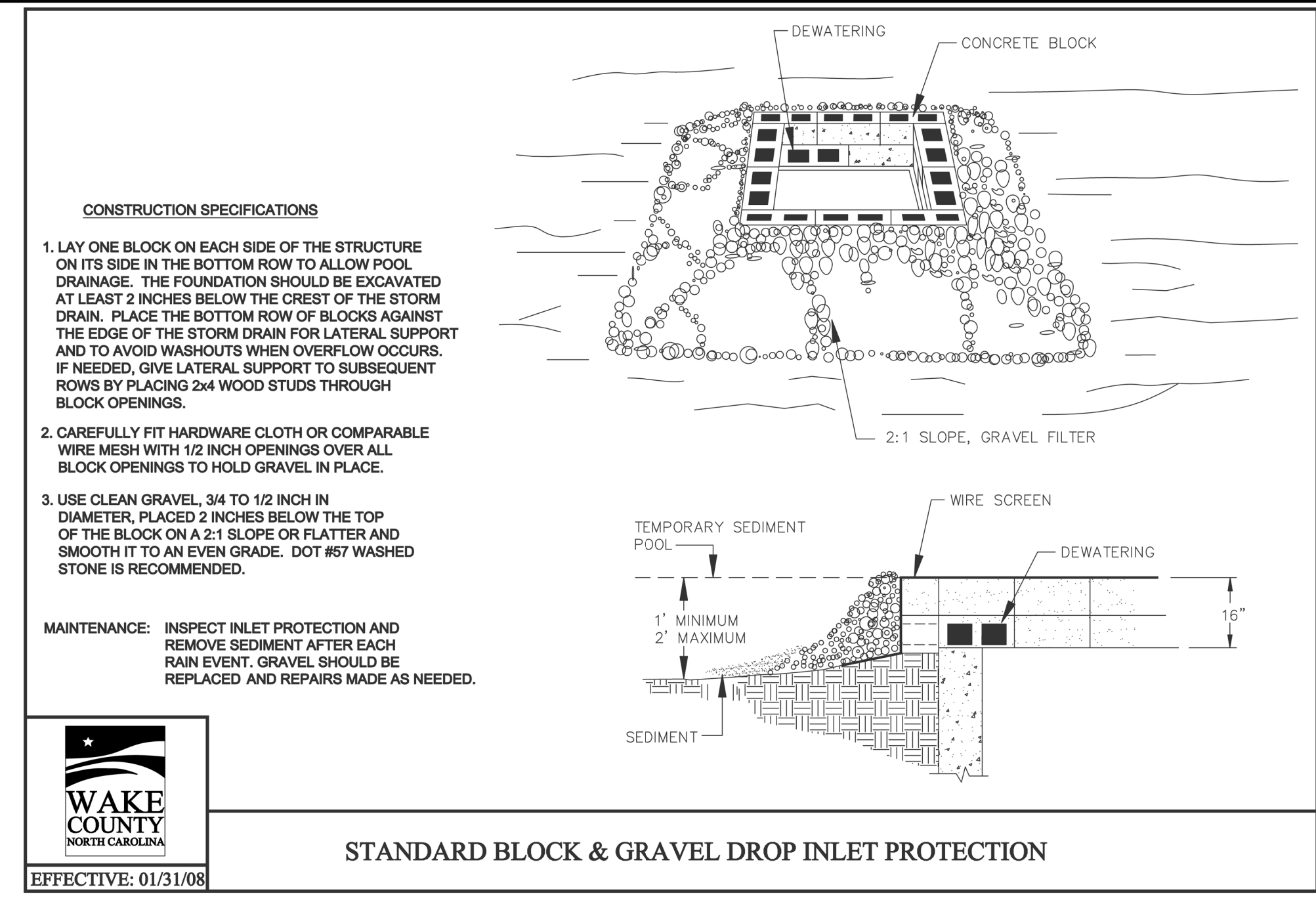
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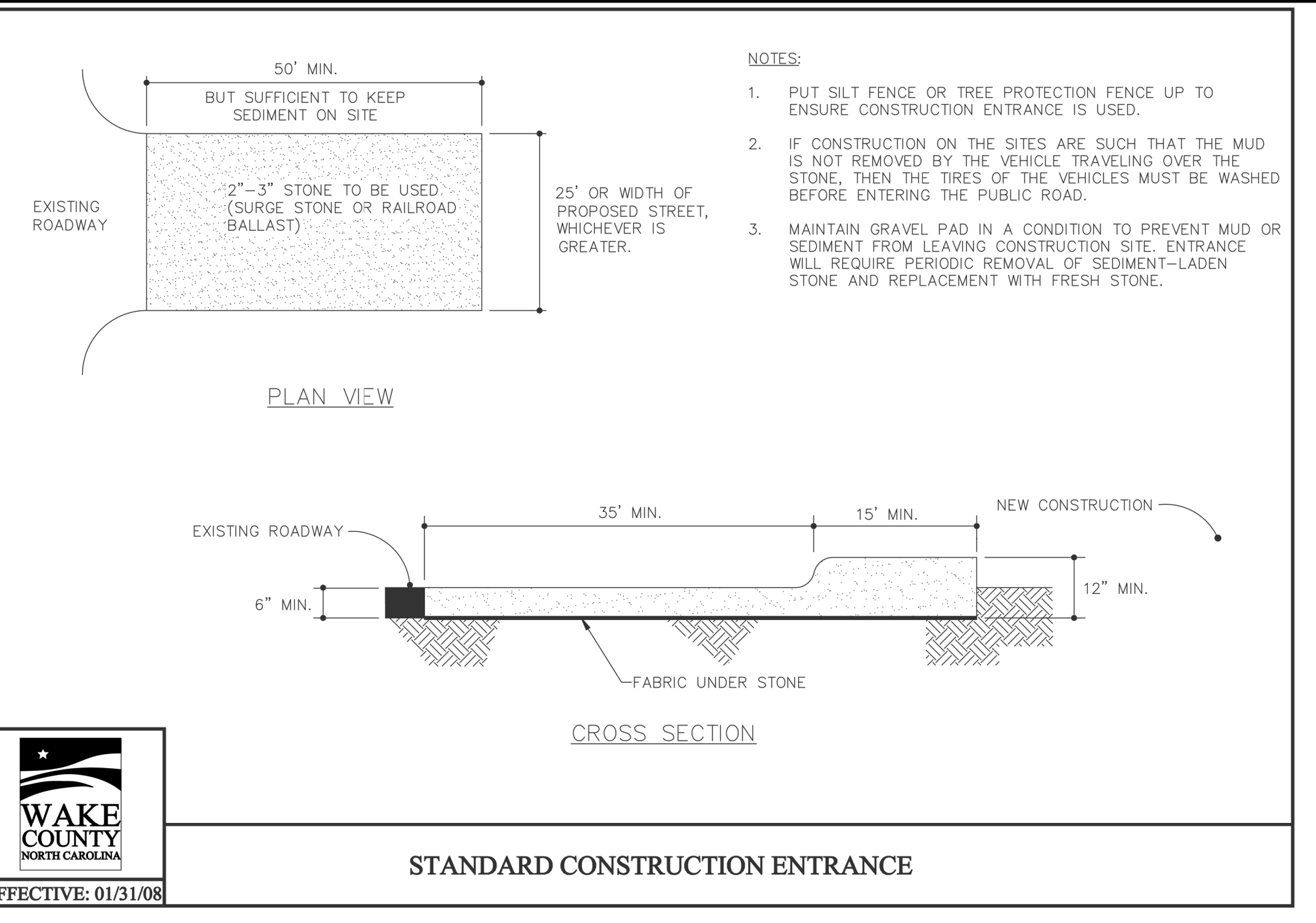
WAKE COUNTY  
NORTH CAROLINA  
EFFECTIVE: 01/31/08

STANDARD CHECK DAM



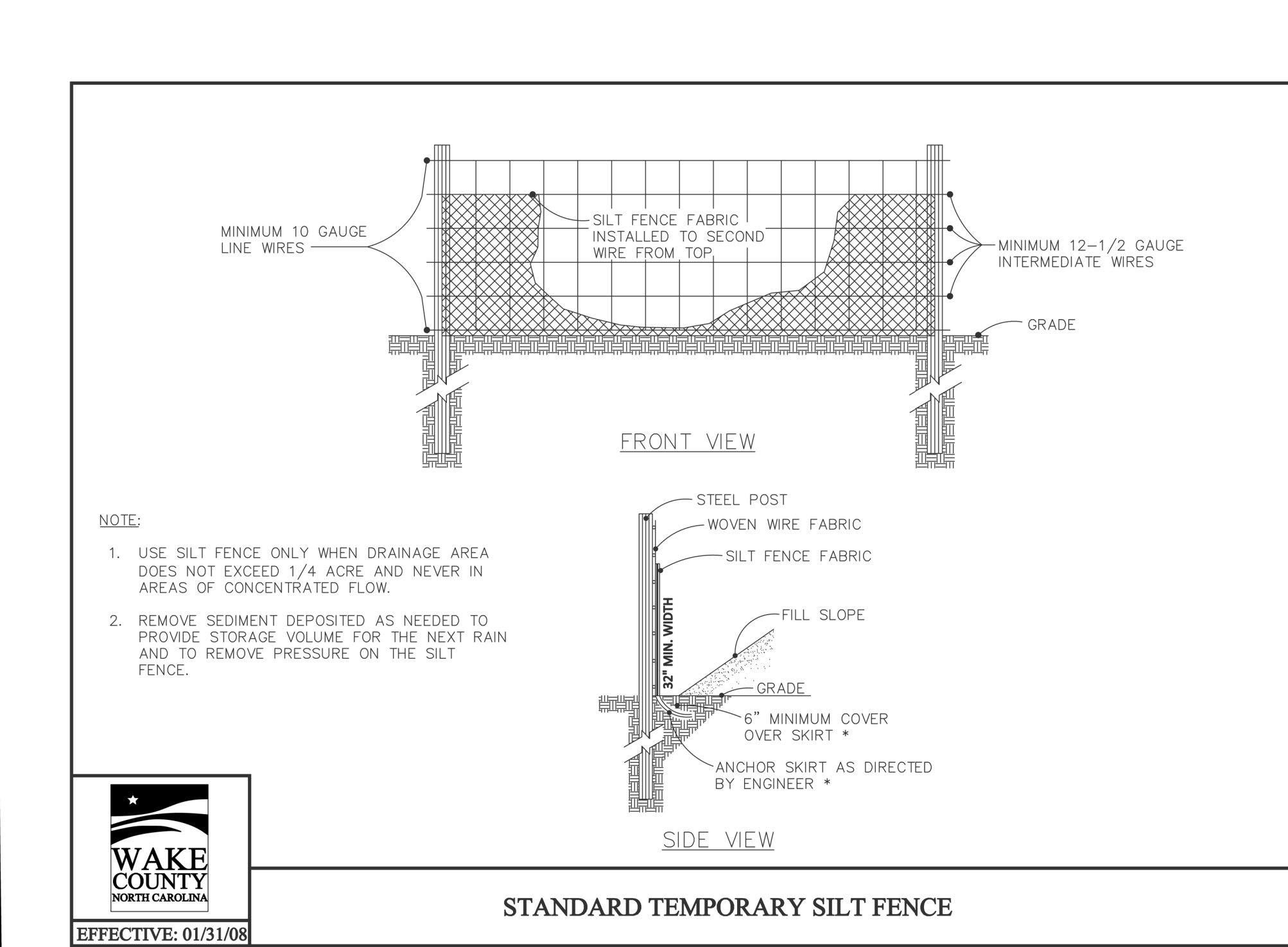
WAKE COUNTY  
NORTH CAROLINA  
EFFECTIVE: 01/31/08

STANDARD BLOCK & GRAVEL DROP INLET PROTECTION



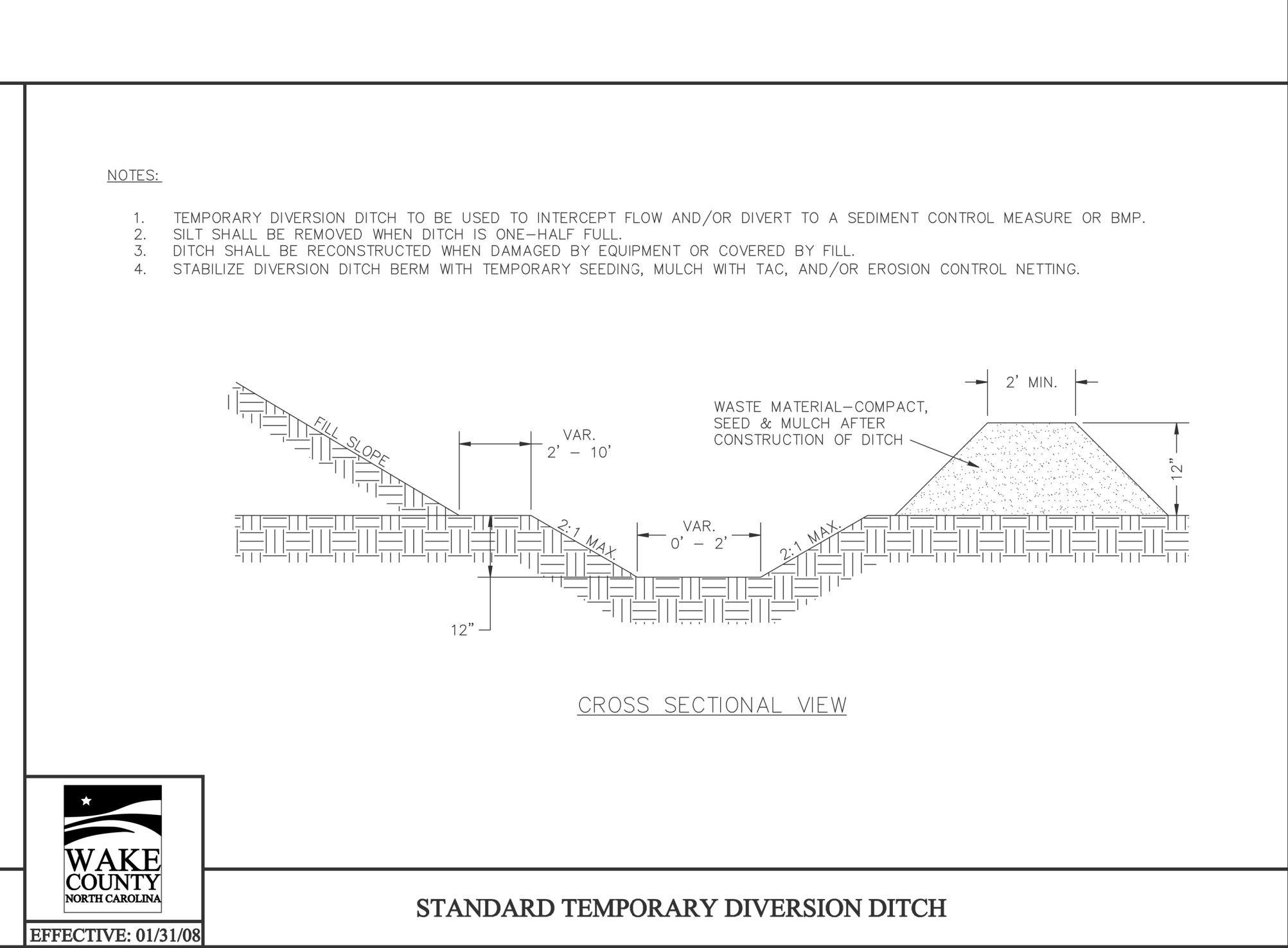
WAKE COUNTY  
NORTH CAROLINA  
EFFECTIVE: 01/31/08

STANDARD CONSTRUCTION ENTRANCE



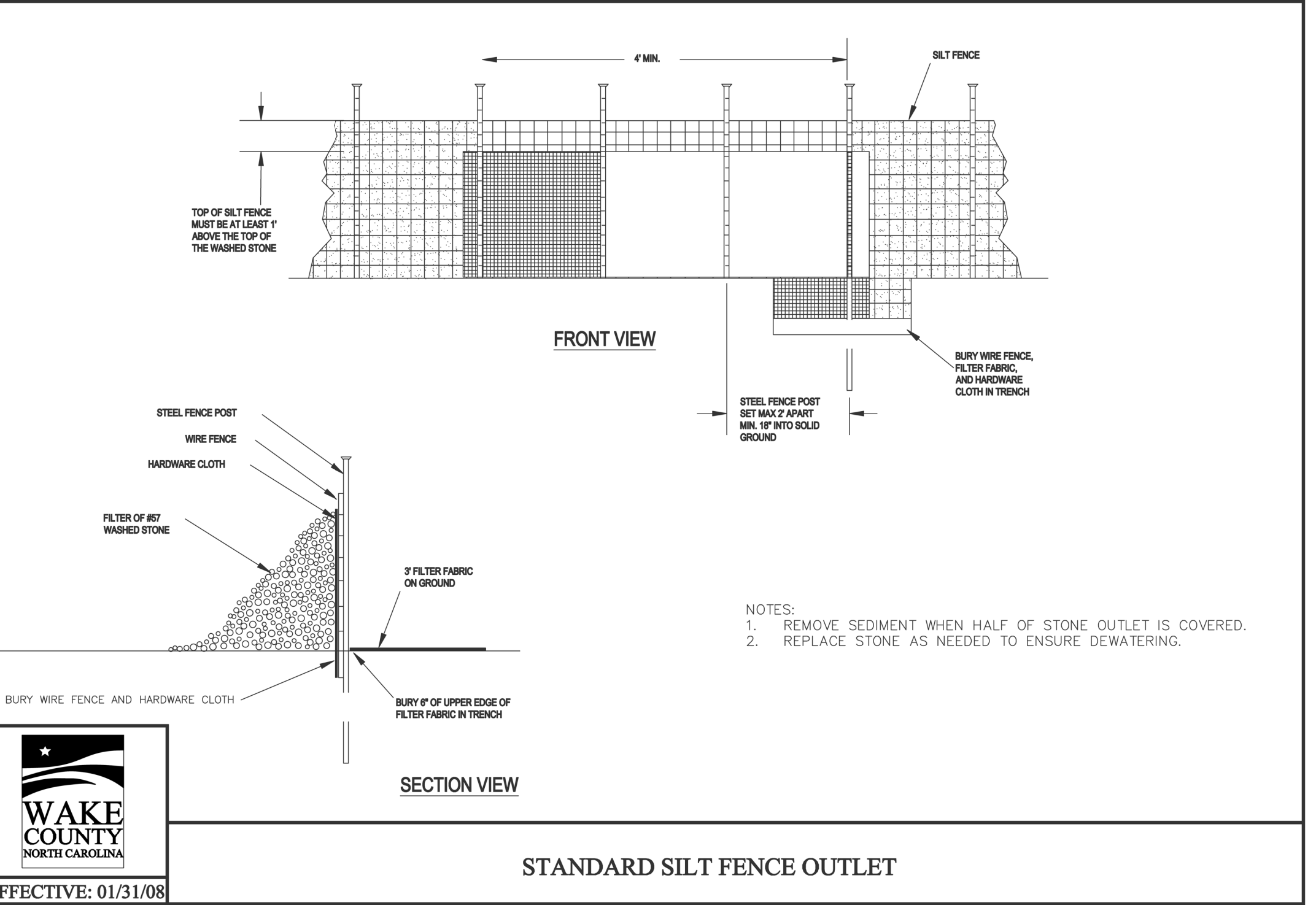
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NORTH CAROLINA  
EFFECTIVE: 01/31/08

STANDARD TEMPORARY SILT FENCE



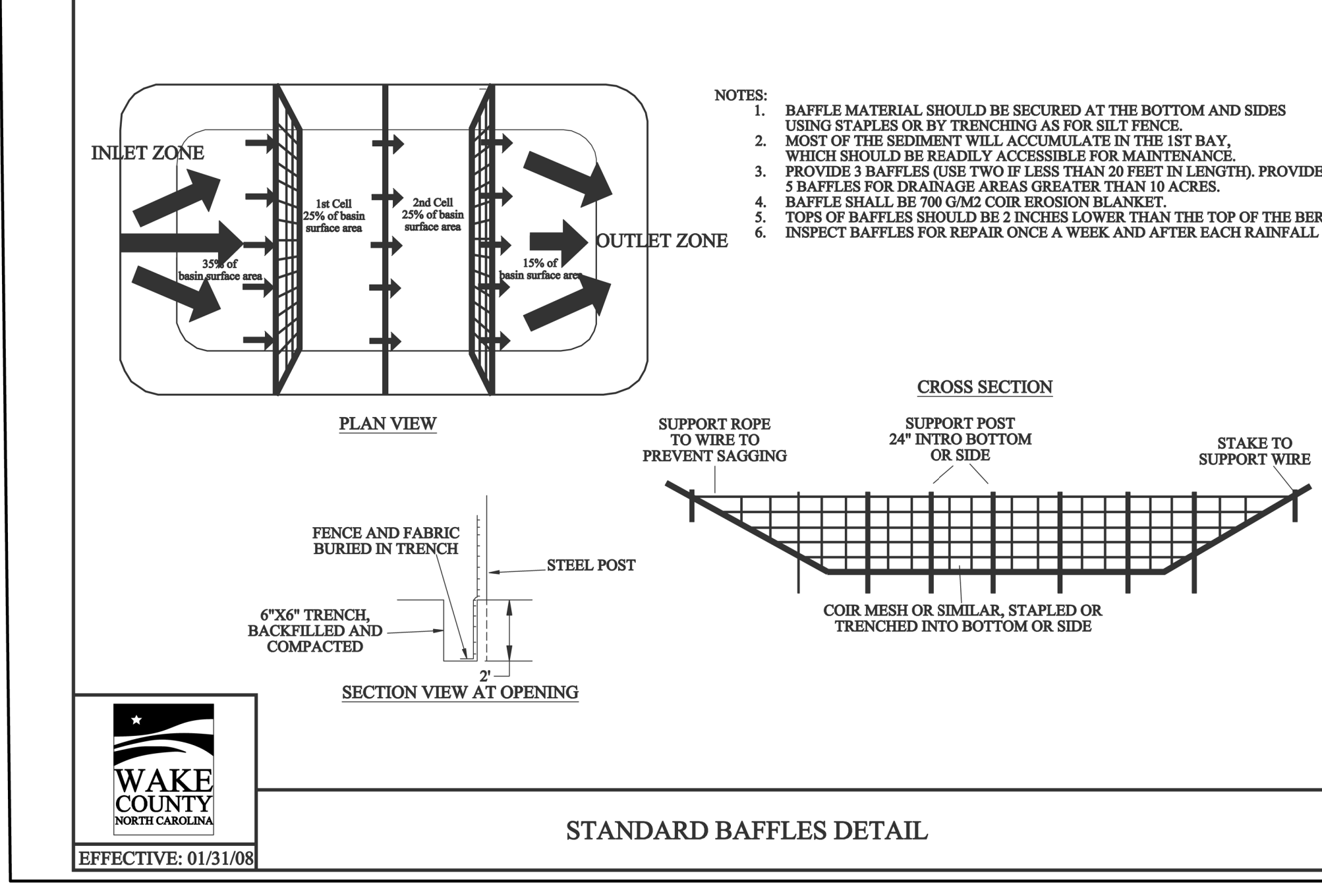
WAKE COUNTY  
NORTH CAROLINA  
EFFECTIVE: 01/31/08

STANDARD TEMPORARY DIVERSION DITCH



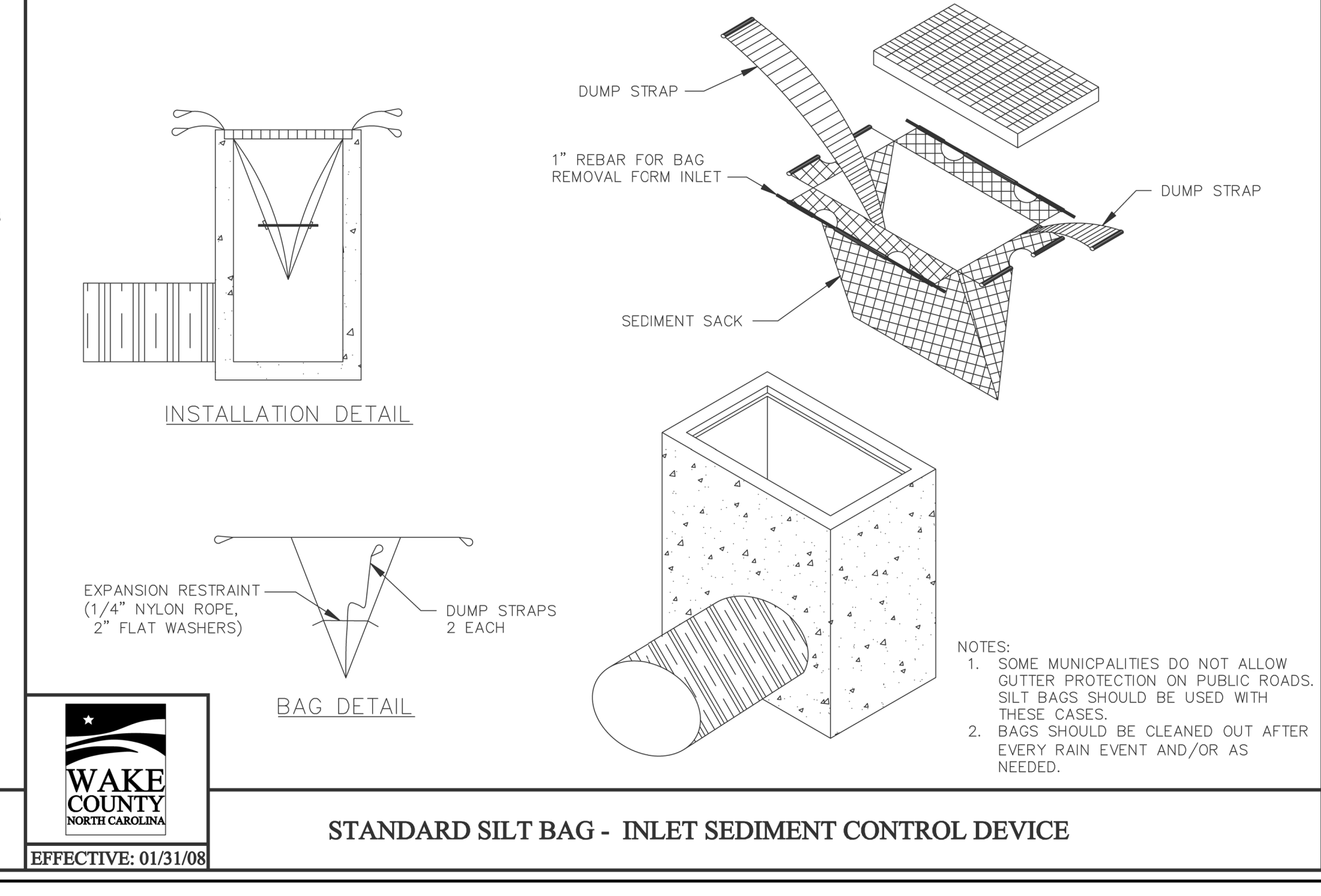
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NORTH CAROLINA  
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STANDARD SILT FENCE OUTLET



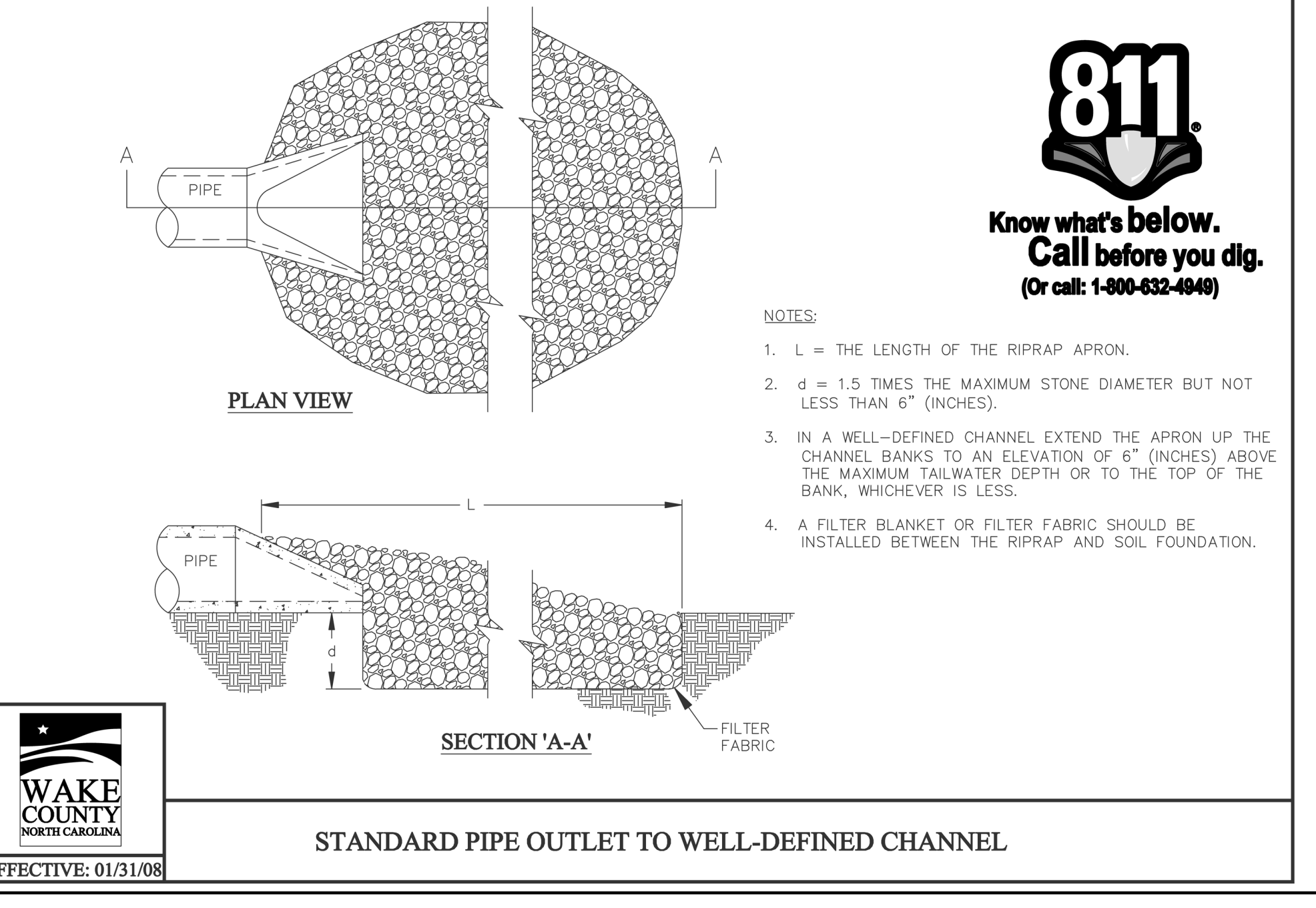
WAKE COUNTY  
NORTH CAROLINA  
EFFECTIVE: 01/31/08

STANDARD BAFFLES DETAIL



WAKE COUNTY  
NORTH CAROLINA  
EFFECTIVE: 01/31/08

STANDARD SILT BAG - INLET SEDIMENT CONTROL DEVICE



WAKE COUNTY  
NORTH CAROLINA  
EFFECTIVE: 01/31/08

STANDARD PIPE OUTLET TO WELL-DEFINED CHANNEL

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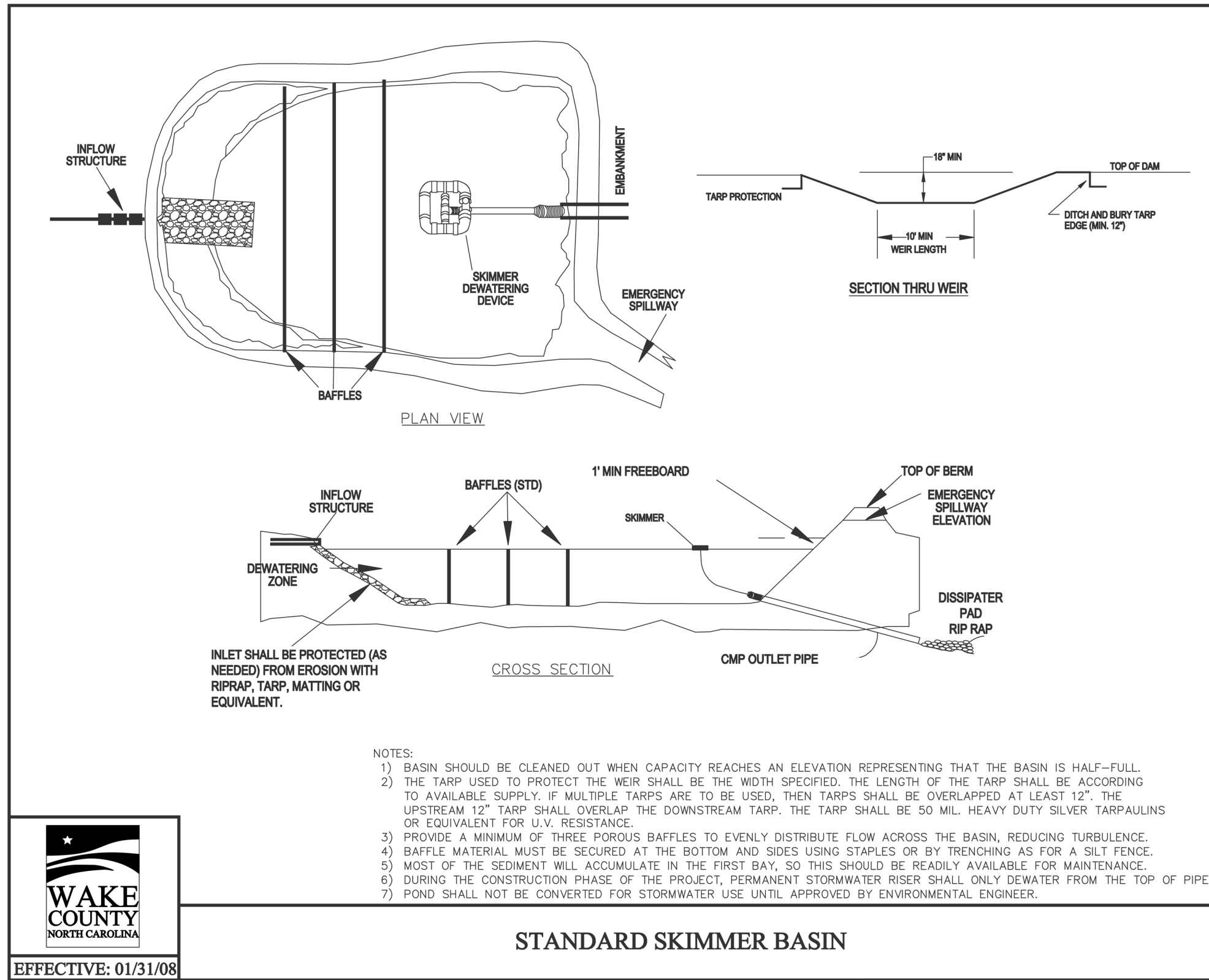
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7	DATE	BY	COMMENT
8	DATE	BY	COMMENT

WAKE COUNTY  
NORTH CAROLINA  
Professional Seal  
P. GETTLE  
ENGINEER  
030919  
12/2/22

**Erosion Control Details**  
South Main  
503 South Main Street  
Rolesville, Wake County, North Carolina

Project No. XXXXX  
Dwg No. **EC5**



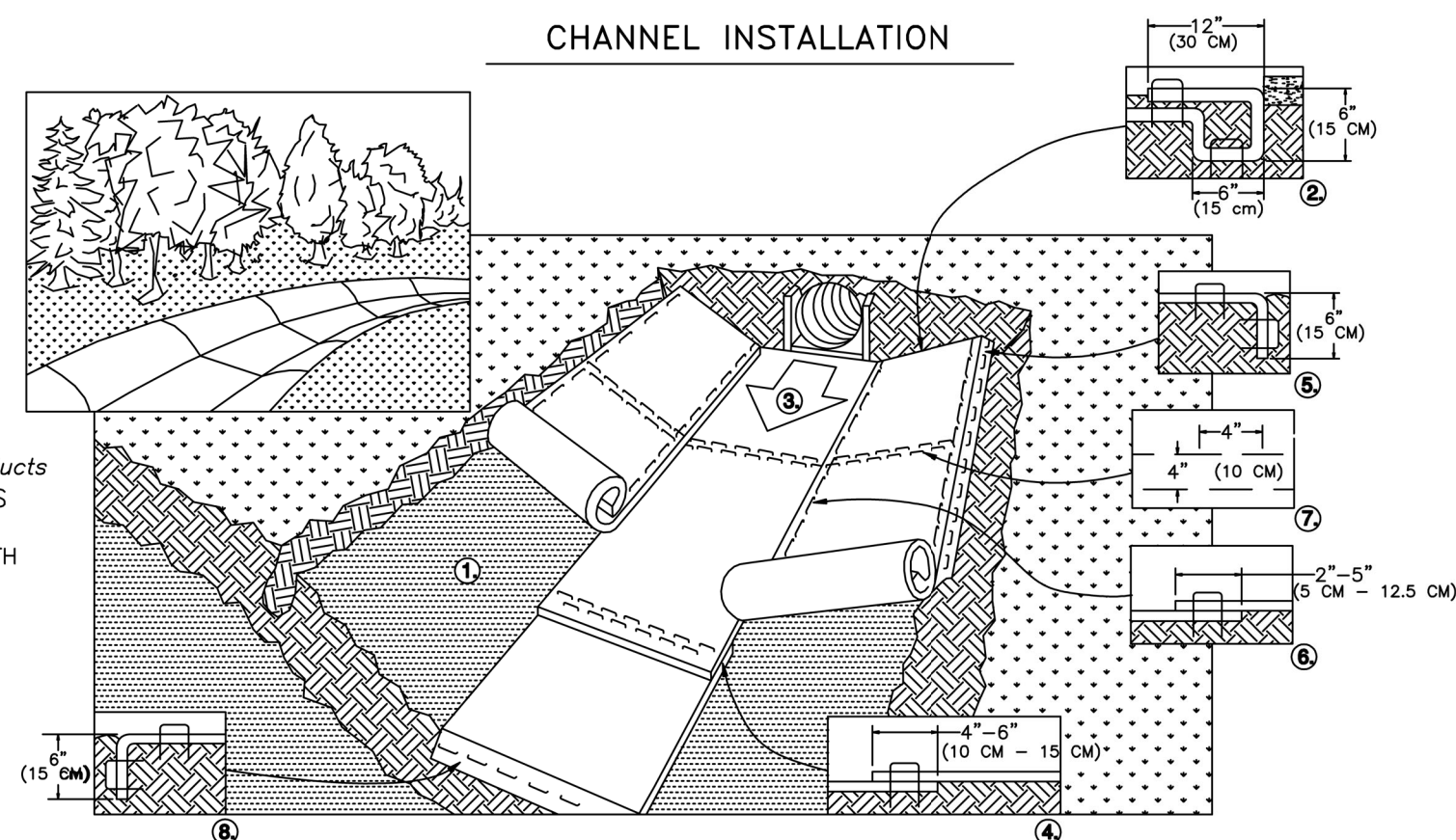


Skimmer Basin	
1.53 Drainage Area (Acres)	Okay
5.06 Peak Flow from 10-year Storm (cfs)	
2754 Required Volume (ft <sup>3</sup> )	
2201 Required Surface Area (ft <sup>2</sup> )	
33.2 Suggested Width (ft)	
66.3 Suggested Length (ft)	
52 Trial Top Width at Spillway Invert (ft)	
82 Trial Top Length at Spillway Invert (ft)	
2 Trial Side Slope Ratio Z:1	
2 Trial Depth (ft) (2 to 3.5 feet above grade)	
44 Bottom Width (ft)	
74 Bottom Length (ft)	
3256 Bottom Area (ft <sup>2</sup> )	
7499 Actual Volume (ft <sup>3</sup> )	Okay
4264 Actual Surface Area (ft <sup>2</sup> )	Okay
10 Trial Weir Length (ft)	
0.5 Suggested Trial Depth of Flow (ft)	
10.6 Spillway Capacity (cfs)	Okay
1.5 Skimmer Size (inches)	Skimmer Size (Inches)
0.125 Head on Skimmer (feet)	1.5
1 Orifice Size (1/4 inch increments)	2
3.37 Dewatering Time (days)	2.5
Required 3 to 5 days for Wake County	3
	4
	5
	6
	8

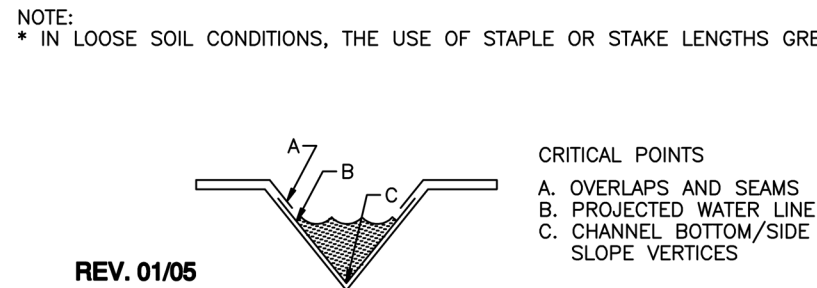


STANDARD SKIMMER BASIN

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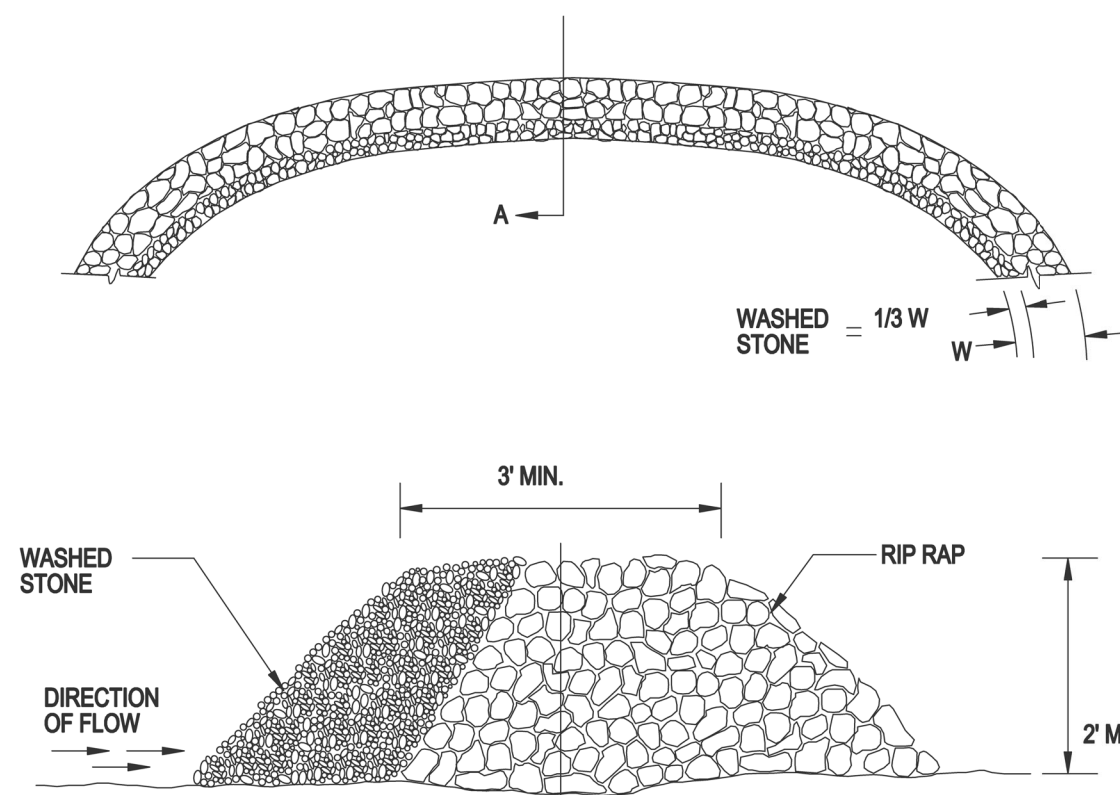
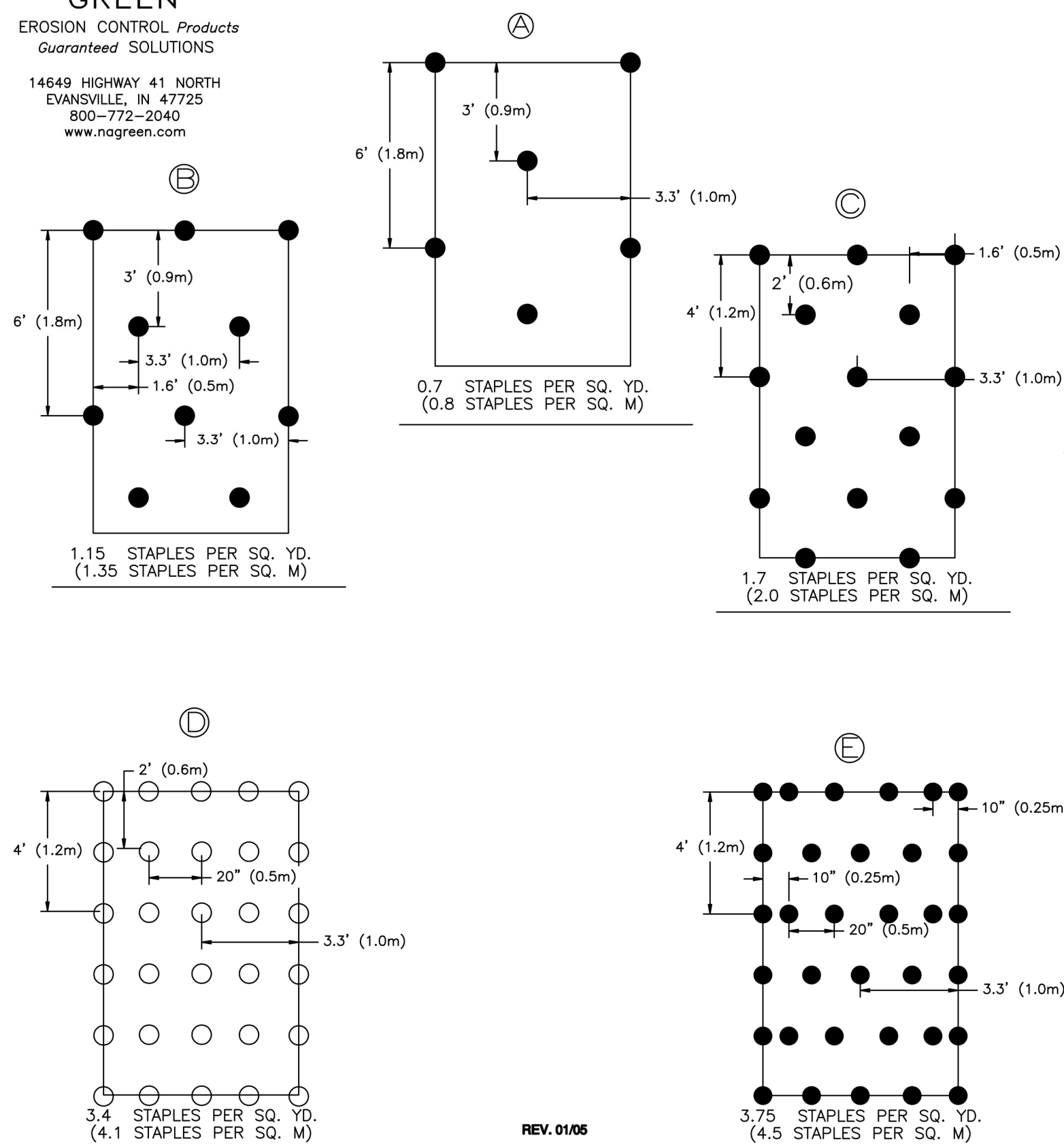
- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-0-SEED DO NOT SEED PREPARED AREA. CELL-0-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) ACROSS THE WIDTH OF THE RECP'S.
- ROLL CENTER RECP'S IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- PLACE CONSECUTIVE RECP'S END OVER END (SHINGLE STYLE) WITH A 4" - 6" (10 CM - 15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER TO SECURE RECP'S.
- FULL LENGTH EDGE OF RECP'S AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- ADJACENT RECP'S MUST BE OVERLAPPED APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) (DEPENDING ON RECP'S TYPE) AND STAPLED.
- IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M - 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
- THE TERMINAL END OF THE RECP'S MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



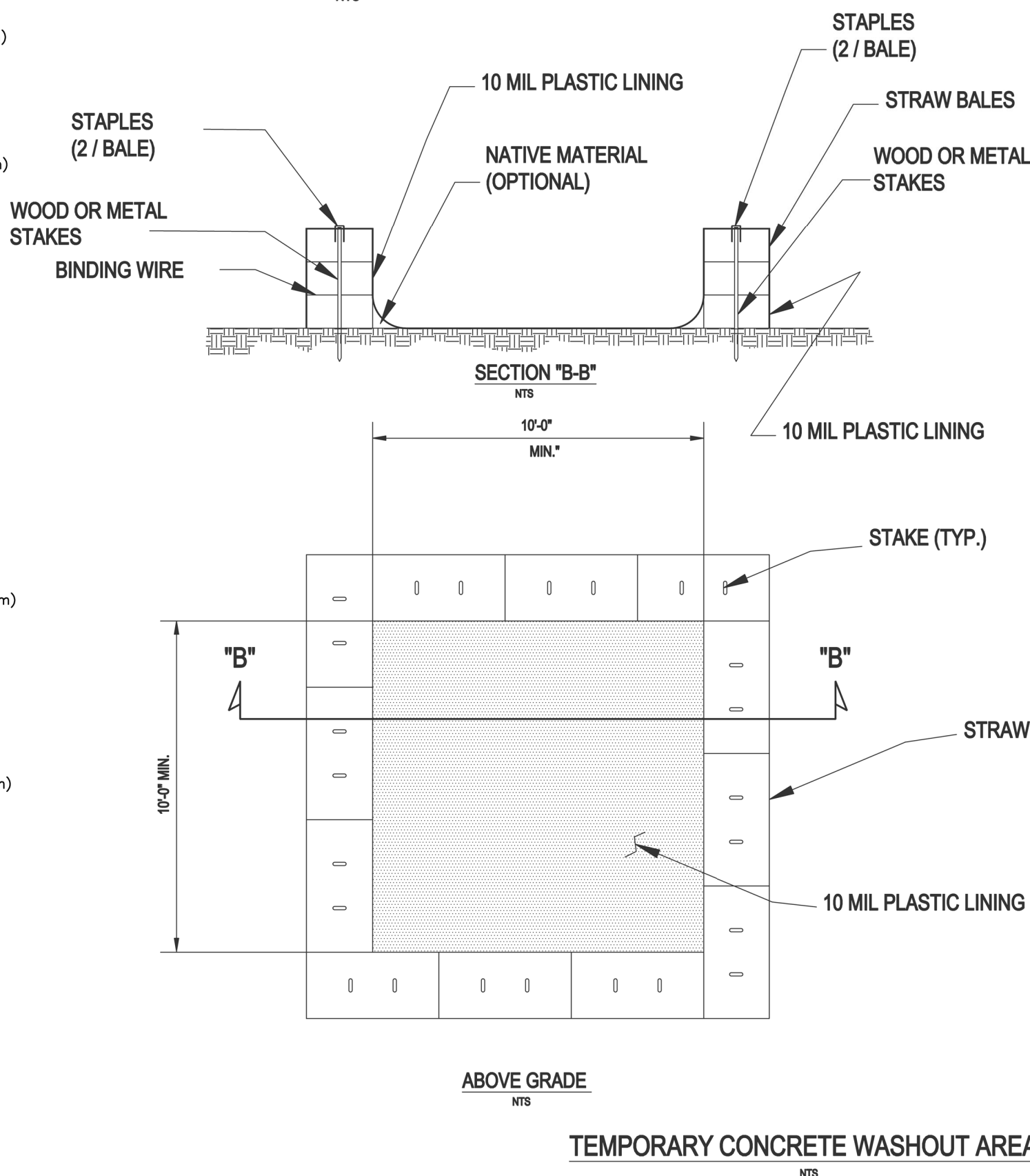
NOTE: HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE. \*\* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP'S.

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STAPLE PATTERN GUIDE  
 6.67' (2.03 M) WIDE ROLLS



STONE FILTER BERM



**SEEDING**  
 SEEDBED PREPARATION:  
 1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.  
 2. RIP THE ENTIRE AREA TO SIX INCHES DEEP.  
 3. REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.  
 4. APPLY AGRICULTURAL LIME, FERTILIZER AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL. (SEE MIXTURE BELOW).  
 5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.  
 6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.  
 7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.  
 8. INSPECT ALL SEEDING AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON. IF POSSIBLE, IF STAND SHOULD BE MORE THAN 80% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER AND SEEDING RATES.  
 9. CONSULT ENGINEER OR LANDSCAPE ARCHITECT ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

**MIXTURE:**  
 AGRICULTURAL LIMESTONE: 2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS)  
 FERTILIZER: 1,000 LBS/ACRE - 10-10-10  
 SUPERPHOSPHATE: 500 LBS/ACRE - 20% ANALYSIS  
 MULCH: 2 TONS/ACRE - SMALL GRAIN STRAW  
 ANCHOR: ASPHALT EMULSION AT 300 GAL/ACRE

**SEEDING SCHEDULE**  
 FOR SHOULDERS, SIDE DITCHES, SLOPES (MAX. 3:1):

DATE	TYPE	PLANTING RATE
AUG 15 - NOV 1	TALL FESCUE	300 LBS/ACRE
NOV 1 - MAR 1	TALL FESCUE & ABRUZZI RYE	300 LBS/ACRE
MAR 1 - APR 15	TALL FESCUE	300 LBS/ACRE
APR 15 - JUN 30	HULLED COMMON BERMOUDAGRASS	25 LBS/ACRE
JUL 1 - AUG 15	TALL FESCUE AND BROWNTOP MILLET OR SORGHUM-SUDAN HYBRIDS***	125 LBS/ACRE (TALL FESCUE); 35 LBS/ACRE (BROWNTOP MILLET); 30 LBS/ACRE (SORGHUM-SUDAN HYBRIDS)

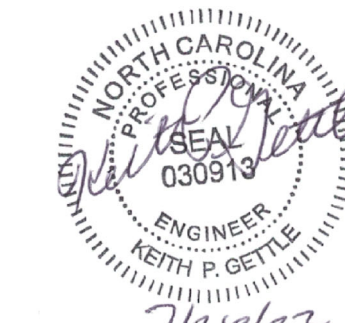
FOR SHOULDERS, SIDE DITCHES, SLOPES (3:1 TO 2:1):

DATE	TYPE	PLANTING RATE
MAR 1 - JUN 1	SERICEA LESPEDEZA (SCARIFIED) AND USE THE FOLLOWING COMBINATIONS:	50 LBS/ACRE (SERICEA LESPEDEZA);
MAR 1 - APR 15	ADD TALL FESCUE	120 LBS/ACRE
MAR 1 - JUN 30	OR ADD WEEPING LOVE GRASS	10 LBS/ACRE
MAR 1 - JUN 30	OR ADD HULLED COMMON BERMOUDAGRASS	25 LBS/ACRE
JUN 1 - SEPT 1	TALL FESCUE AND BROWNTOP MILLET OR SORGHUM-SUDAN HYBRIDS***	120 LBS/ACRE (TALL FESCUE); 35 LBS/ACRE (BROWNTOP MILLET); 30 LBS/ACRE (SORGHUM-SUDAN HYBRIDS)
SEPT 1 - MAR 1	SERICEA LESPEDEZA (UNHILLED) - 70 LBS/ACRE (SERICEA LESPEDEZA); UNSCARIFIED) AND TALL FESCUE	50 LBS/ACRE (TALL FESCUE); 25 LBS/ACRE (SERICEA LESPEDEZA)
NOV 1 - MAR 1	AND ABRUZZI RYE	25 LBS/ACRE

CONSULT ENGINEER OR LANDSCAPE ARCHITECT FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DESIGNATED AREAS. THE ABOVE VEGETATION RATES ARE THOSE THAT DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.  
 \*\*\* TEMPORARILY RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW MORE THAN 12" IN HEIGHT BEFORE MOWING; OTHERWISE, FESCUE MAY BE SHADED OUT.

- NOTES:**
- ACTUAL LAYOUT DETERMINED IN THE FIELD - SEE PLANS FOR LOCATION.
  - THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FEET OF THE FACILITY.
  - LOCATE THE WASHOUT AREA AT LEAST 50-FOET FROM SENSITIVE AREAS SUCH AS STORM DRAINS, OPEN DITCHES OR WATER BODIES, INCLUDING WETLANDS.
  - THE PLASTIC LINING MATERIAL SHOULD BE A MIN OF 10 MIL. POLYETHYLENE MATERIAL AND FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT MAY COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
  - WHEN THE FACILITY IS NO LONGER REQUIRED THE HARDENED CONCRETE, SLURRIES AND LIQUIDS SHALL BE PROPERLY DISPOSED OF OFF-SITE. MATERIAL USED TO CONSTRUCT THE FACILITY SHALL BE PROPERLY DISPOSED OF OFF-SITE. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY FACILITY SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.

NO.	DATE	BY	REVISION DESCRIPTION
1	07-26-2022	BY	INITIAL SUBMITTAL
2	DATE	BY	COMMENT
3	DATE	BY	COMMENT
4	DATE	BY	COMMENT
5	DATE	BY	COMMENT
6	DATE	BY	COMMENT
7	DATE	BY	COMMENT



**Erosion Control Details**  
 South Main  
 503 South Main Street  
 Rolesville, Wake County, North Carolina

Project No. XXXXX  
 Dwg No. **EC6**

**Gettle Engineering and Design, PLLC**  
 3616 Waxwing Court,  
 Wake Forest, North Carolina 27587  
 (919) 210-3334 Firm License P-2538

PRELIMINARY  
 DO NOT USE FOR  
 CONSTRUCTION



**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.

**Temporary and Permanent Groundcover\***

Site Area Description	Stabilization	Timeframe Exceptions
Perimeter ditches, swales, ditches, slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not deeper than 2', 10 days are allowed.
Slopes 2:1 or flatter	14 days	7 days for slopes greater than 50' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for catchments and HQW Zones.

\*For Falls Lake watershed, in disturbed areas where grading activities are incomplete, provide temporary groundcover no later than seven (7) days for slopes steeper than 3:1; ten (10) days for slopes equal to or flatter than 3:1; fourteen (14) days for areas with no slope.

**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>Reeled 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 fabric/sacs as permanent soil reinforcement matting</li> <li>Hydroseeding</li> <li>Straw or other permanent plantings covered with mulch</li> <li>Uniform and evenly distributed ground cover sufficient to retain erosion</li> <li>Structural methods such as concrete, asphalt or retaining walls</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.



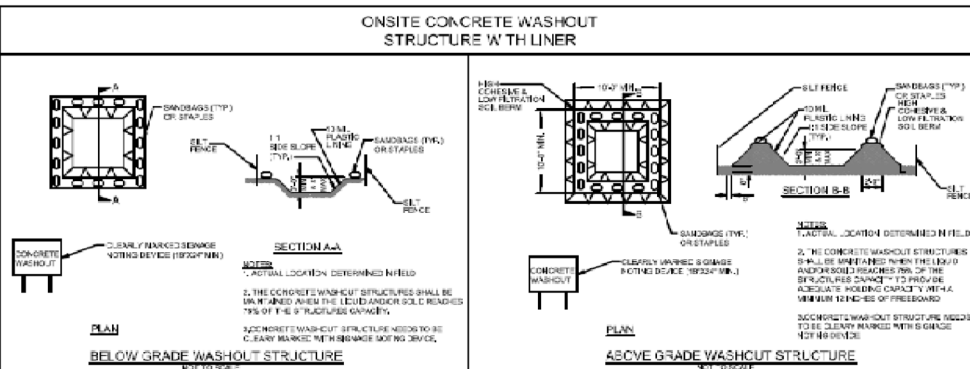
- EQUIPMENT AND VEHICLE MAINTENANCE**
- Maintain vehicles and equipment to prevent discharge of fluids.
  - Provide drip pans under any stored equipment.
  - Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
  - Collect all spent fluids, store in separate containers 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 of waste containers on site to manage the quantity of waste produced.
  - 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. 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 overflow.
  - Dispose waste off-site at an approved disposal facility.

- 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 control 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 earth-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 stockpiles 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 result in 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 accumulates 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 over events. Re-use 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.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING EFFECTIVE: 03/01/19

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION A: SELF-INSPECTION**  
Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the inspection record.

Inspect	Frequency (during normal business hours)	Inspection records must include [40 CFR 122.41]:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero". The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Identification of the measures inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Indication of whether the measures were operating properly. 5. Description of maintenance needs for the measures. 6. Corrective actions taken, and 7. Date of actions taken.
(3) Stormwater discharge outfalls (SDO)	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration. 5. Indication of visible sediment leaving the site. 6. Actions taken to correct/prevent sedimentation, and 7. Date of actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	If visible sediment on is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits. 2. Date of actions taken, and 3. An explanation into the actions taken to control future releases.
(5) Streams or wetlands on-site or within accessible	At least once per 7 calendar days and within 24 hours of a rain event > 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Evidence and actions taken to reduce sediment contribution, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.

NOTE: The rain inspection meets the required 7 calendar day inspection requirement.

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION B: RECORDKEEPING**  
**1. E&SC Plan Documentation**  
The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report to indicate the completion of the corrective action.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

- 2. Additional Documentation**  
In addition to the E&SC Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practicable:
- This general permit as well as the certificate of coverage, after it is received.
  - Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
  - All data used to complete the Notice of Intent and other inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION C: REPORTING**  
**1. Occurrences that must be reported**  
Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
- Oil spills:
  - They are 25 gallons or more,
  - They are less than 25 gallons but cannot be cleaned up within 24 hours,
  - They cause sheen on surface waters (regardless of volume), or
  - They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 112.3 and 40 CFR 117.3); or Section 102 of CERCLA (Ref: 40 CFR 302.4) or GS 143-215.65.
- Anticipated bypasses and unanticipated bypasses.
- Noncompliance with the conditions of this permit that may endanger health or the environment.

**2. Reporting Timeframes and Other Requirements**  
After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 856-0366 or (919) 733-3306.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> <li>Within 24 hours, an oral or electronic notification.</li> <li>Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.</li> <li>If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters commitments.</li> </ul>
(b) Oil spills and release of hazardous substances per item 1(b)-(c) above	<ul style="list-style-type: none"> <li>Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.</li> <li>A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.</li> <li>Within 24 hours, an oral or electronic notification.</li> <li>Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.</li> <li>Within 24 hours, an oral or electronic notification.</li> <li>Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>Within 24 hours, an oral or electronic notification.</li> <li>Within 7 calendar days, a report that contains a description of the noncompliance, and its causes, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.41(f)(6)]. Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	<ul style="list-style-type: none"> <li>Within 24 hours, an oral or electronic notification.</li> <li>Within 7 calendar days, a report that contains a description of the noncompliance, and its causes, the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.41(f)(6)]. Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING EFFECTIVE: 03/01/19



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**Gettle Engineering and Design, PLLC**  
3616 Waxwing Court,  
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1	07-26-2022		BY	
2			BY	
3			BY	
4			BY	
5			BY	
6			BY	
7			BY	



**NCG01 REQUIREMENTS**  
South Main  
503 South Main Street  
Rolesville, Wake County, North Carolina

Project No. XXXXX  
Dwg No. **EC7**