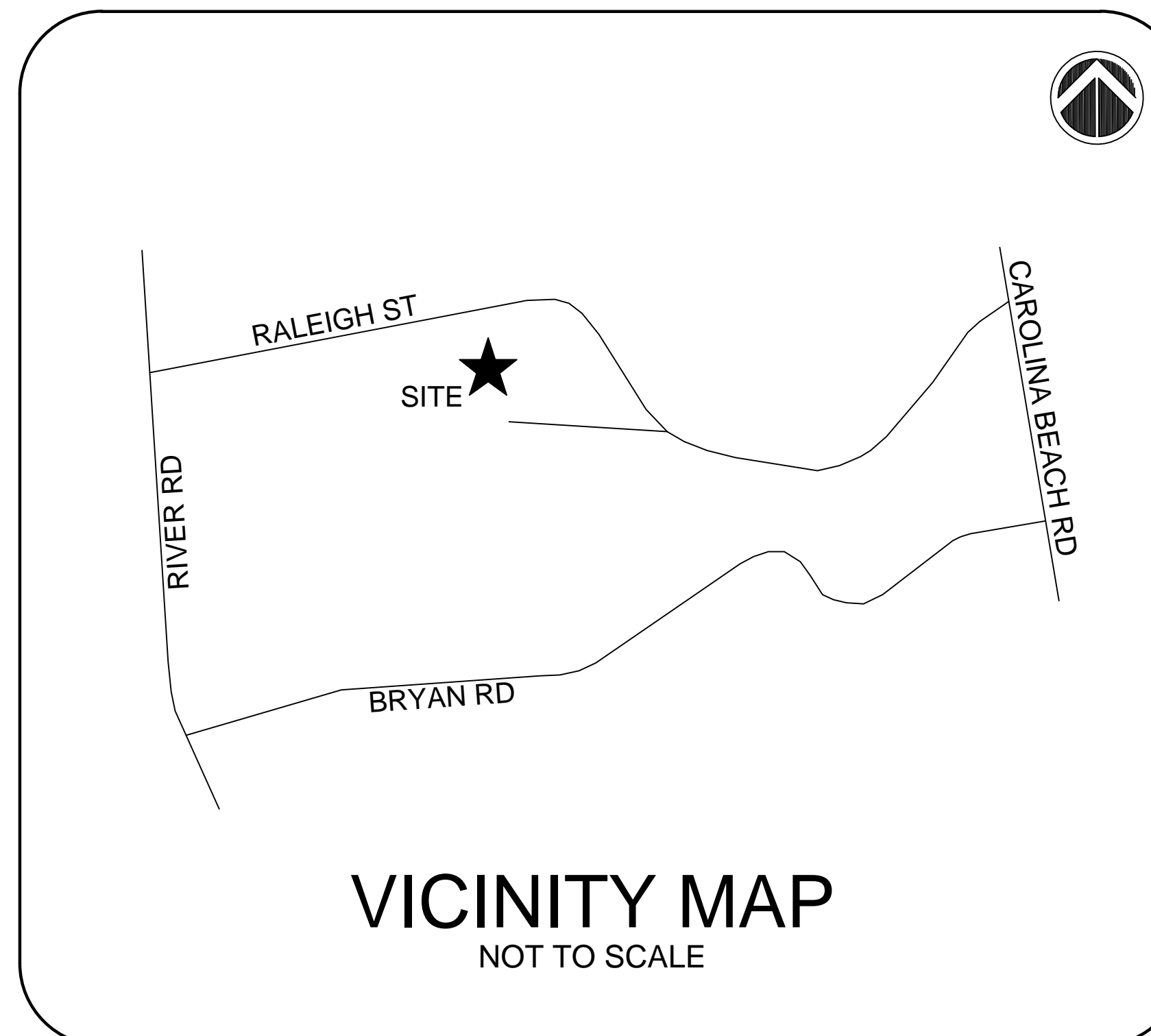


# CONSTRUCTION PLANS FOR CIVIL WORKS CONTRACTING

Wilmington, North Carolina



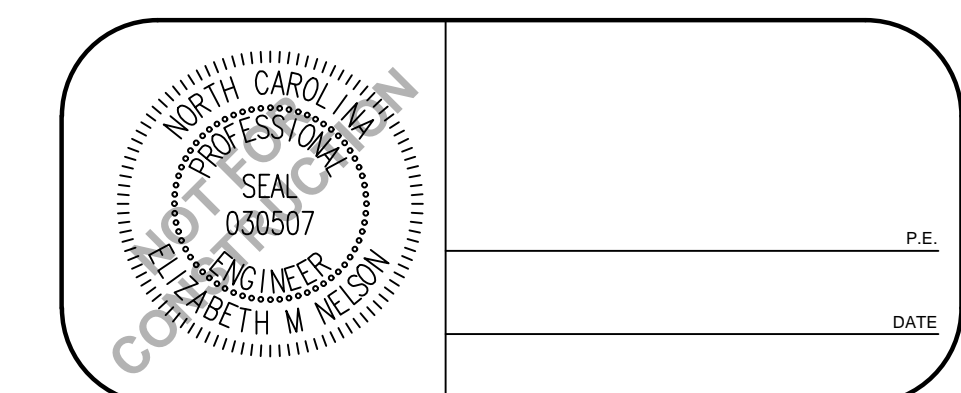
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CG121	FINAL SEDIMENTATION & EROSION CONTROL PLAN (INCLUDING OFFSITE)
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TOTAL WATERLINE MAIN EXTENSION = 1,850 LF  
TOTAL GRAVITY SEWER MAIN EXTENSION = 334 LF

## CAPE FEAR ENGINEERING

151 Poole Rd., Suite 100; Belville, NC, 28451  
TEL (910) 383-1044; FAX (910) 383-1045  
www.capefearengineering.com  
N.C. LICENSE # C-1621



**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

**Approved Construction Plan**  
Name: \_\_\_\_\_ Date: \_\_\_\_\_  
Planning: \_\_\_\_\_  
Traffic: \_\_\_\_\_  
Fire: \_\_\_\_\_

**EXISTING CONDITION NOTES:**

- THE DRAWING IS BASED ON SURVEY BY CAPE FEAR ENGINEERING, INC. ON OCTOBER 10 THROUGH 14, AND OCTOBER 17, AND NOVEMBER 11, 2016.
- ALL HORIZONTAL DATUM IS BASED ON NAD 83 NORTH CAROLINA STATE PLANE US FOOT. ALL VERTICAL DATUM IS BASED ON NAVD 88.
- ADJOINING PROPERTY OWNERS BASED ON INFORMATION FOUND IN THE NEW HANOVER COUNTY REGISTER OF DEEDS.
- REFERENCE: MAP BOOK 49, PAGE 176, DEED BOOK 5910, PAGE 2592.
- NO BOUNDARY WORK PERFORMED. BOUNDARY BASED ON A MAP BY HANOVER DESIGNS FOR N.C. STATE PORTS AUTHORITY, RALEIGH STREET DIVISION.
- NO WETLANDS ARE PRESENT WITHIN THE PROJECT BOUNDARY, AS DETERMINED BY NEEDHAM ENVIRONMENTAL INC. ON DECEMBER 02, 2016.
- THE PROJECT SITE LIES WITHIN FLOOD ZONE "X" AS DESCRIBED ON THE FLOOD INSURANCE RATE MAP COMMUNITY MAP 372031 PANEL 2500J WITH AN EFFECTIVE DATE OF APRIL 3, 2006.
- THIS PROJECT IS IN THE CAMA LAND USE CLASSIFICATION OF URBAN.
- WASTE DISPOSAL TO BE PROVIDED BY A ROLL-OUT CONTAINER.
- SOIL DATA DIGITIZED FROM MAP CREATED BY USDA NRCS WEB SOIL SURVEY.
- THERE ARE NO KNOWN CONSERVATION RESOURCES WITHIN THE PROJECT BOUNDARY.
- THERE ARE NO KNOWN LOCAL, STATE, OR FEDERALLY RECOGNIZED HISTORIC STRUCTURE(S) OR ARCHEOLOGICAL RESOURCES WITHIN THE PROJECT BOUNDARY.
- THERE ARE NO EXISTING OR KNOWN PROPOSED THOROUGHFARES, BIKE ROUTES, PEDESTRIAN SIDEWALKS, PEDESTRIAN TRAILS OR TRANSIT FACILITIES WITHIN OR ADJACENT TO THE SUBJECT PROJECT BOUNDARY.
- EXISTING UTILITY INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION, VERIFICATION, SUPPORT AND PROTECTION OF ALL ABOVE GROUND AND UNDERGROUND UTILITIES TO REMAIN IN PLACE, INCLUDING ANY UTILITIES NOT INDICATED ON THESE DRAWINGS. ANY CONFLICTS OR DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY.
- CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, TREES, PAVEMENT, UTILITIES, AND OTHER PROPERTY UNLESS THEY ARE TO BE DEMOLISHED. ANY PROPERTY NOT AUTHORIZED FOR REMOVAL, BUT DAMAGED BY THE CONTRACTOR SHALL BE RESTORED BY THE CONTRACTOR TO THE ENGINEER'S OR OWNER'S SATISFACTION AT NO ADDITIONAL EXPENSE TO THE OWNER.
- CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE PROPERTY IRONS, MONUMENTS, OTHER PERMANENT POINTS AND LINES OF REFERENCE AND CONSTRUCTION STAKES. PROPERTY IRONS, MONUMENTS, AND OTHER PERMANENT POINTS OF REFERENCE DESTROYED BY THE CONTRACTOR SHALL BE REPLACED BY A NORTH CAROLINA LICENSED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL MAKE SURE THAT WORK PERFORMED ON THIS PROJECT SHALL NOT IMPACT THE OPERATION OF ANY ADJACENT PROPERTIES.
- THE CONTRACTOR SHALL SEQUENCE WORK AS NECESSARY TO ENSURE THAT ALL UTILITY SERVICES, INCLUDING FIRE HYDRANTS, REMAIN OPERATIONAL DURING CONSTRUCTION.
- THE CONTRACTOR SHALL RESTORE ANY ACCESS ROADS AND STAGING AREAS USED BACK TO THEIR ORIGINAL CONDITION. ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE PROJECT PLANS.
- THE CONTRACTOR SHALL TAKE ADEQUATE PROTECTIVE MEASURES TO ENSURE THAT EXISTING PAVEMENT SURFACES ARE NOT DAMAGED FROM TRACKED CONSTRUCTION EQUIPMENT OR ANY OTHER POSSIBLE SOURCE WHEN EQUIPMENT IS BEING MOVED DURING AND AFTER WORK IS BEING CONDUCTED. THE CONTRACTOR SHALL REPAIR ANY PAVED AREAS DAMAGED DURING CONSTRUCTION.
- EXISTING PAVEMENTS AND ALL OTHER AREAS ADJACENT TO THE SITE SHALL BE KEPT CLEAN AT ALL TIMES. DO NOT ALLOW BUILD UP OF SOIL, MUD, DUST OR OTHER DEBRIS.
- ANY AND ALL MATERIAL QUANTITIES INDICATED ON THIS PLAN SET ARE FOR REFERENCE ONLY. THE CONTRACTOR MUST VERIFY ALL MATERIALS QUANTITIES SHOWN.

**TREE PROTECTION NOTES:**

- TREE PROTECTION FENCING SHALL BE INSTALLED AS REQUIRED PRIOR TO LAND DISTURBING OPERATIONS (INCLUDING TREE REMOVAL) AND IN SUCH A MANNER THAT CLEARLY AND ADEQUATELY SEPARATES ALL TREES TO BE REMOVED FROM TREES TO REMAIN.
- AT THE START OF GRADING INVOLVING THE STRIPPING OF TOPSOIL OR LOWERING OF EXISTING GRADE AROUND A TREE TO REMAIN, A CLEAN, SHARP, VERTICAL CUT SHALL BE MADE AT THE EDGE OF THE TREE SAVE AREA AT THE SAME TIME AS OTHER EROSION CONTROL MEASURES ARE INSTALLED. THE TREE PROTECTION FENCING SHALL BE INSTALLED ON THE SIDE OF THE CUT FURTHEST AWAY FROM THE TREE TRUNK.
- NO STORAGE OF MATERIALS, FILL, OR EQUIPMENT SHALL BE PERMITTED WITHIN THE PROTECTED AREA(S). NO TRESPASSING SHALL BE ALLOWED WITHIN THE BOUNDARY OF THE PROTECTED AREA(S), AND SHALL BE

POSTED ON THE PROTECTION FENCE. A PROTECTION FENCE CONSTRUCTED OF MATERIAL RESISTANT TO DEGRADATION BY SUN, WIND, AND MOISTURE FOR THE DURATION OF CONSTRUCTION SHALL BE INSTALLED AT THE SAME TIME AS THE EROSION CONTROL MEASURES.

- THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION PRIOR TO THE CERTIFICATE OF OCCUPANCY (CO) IS SCHEDULED. FENCING SHALL BE REMOVED PRIOR TO FINAL INSPECTION.

**SITE NOTES:**

PARID: R06400-002-009-000

SITE ADDRESS: 190 RALEIGH STREET

PROPERTY IS ZONED: IND- INDUSTRIAL DISTRICT.

OWNER: CS PROPERTY DEVELOPMENT, LLC  
3329-C WRIGHTSVILLE AVENUE  
WILMINGTON, NC 28403  
(910) 859-8574

PROPOSED USE: CIVIL WORKS CONTRACTING  
CONTRACTOR'S OFFICE

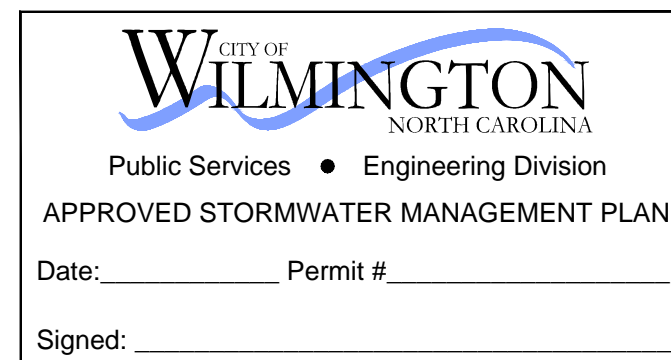
AREA OF SITE IS 10.0 ACRES.

**SETBACKS**

FRONT - 50'  
CORNER LOT SIDE - 50'  
INTERIOR LOT SIDE - 0'  
REAR - 0' (ABUTTING STREET 50')  
BUILDING HEIGHT: 35' MAXIMUM

**ABBREVIATIONS**

GFA	GROSS FLOOR AREA
NRCS	NATURAL RESOURCES CONSERVATION SERVICE
USDA	UNITED STATES DEPARTMENT OF AGRICULTURE
EX	EXISTING
TC	TOP OF CURB
TP	TOP OF PAVEMENT
TSW	TOP OF SIDEWALK

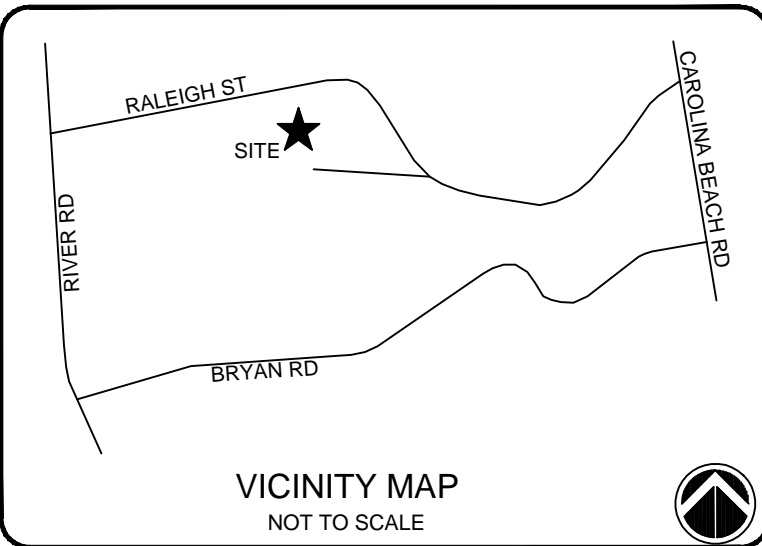


**Approved Construction Plan**

Name	Date
Planning	
Traffic	
Fire	

**LEGEND**

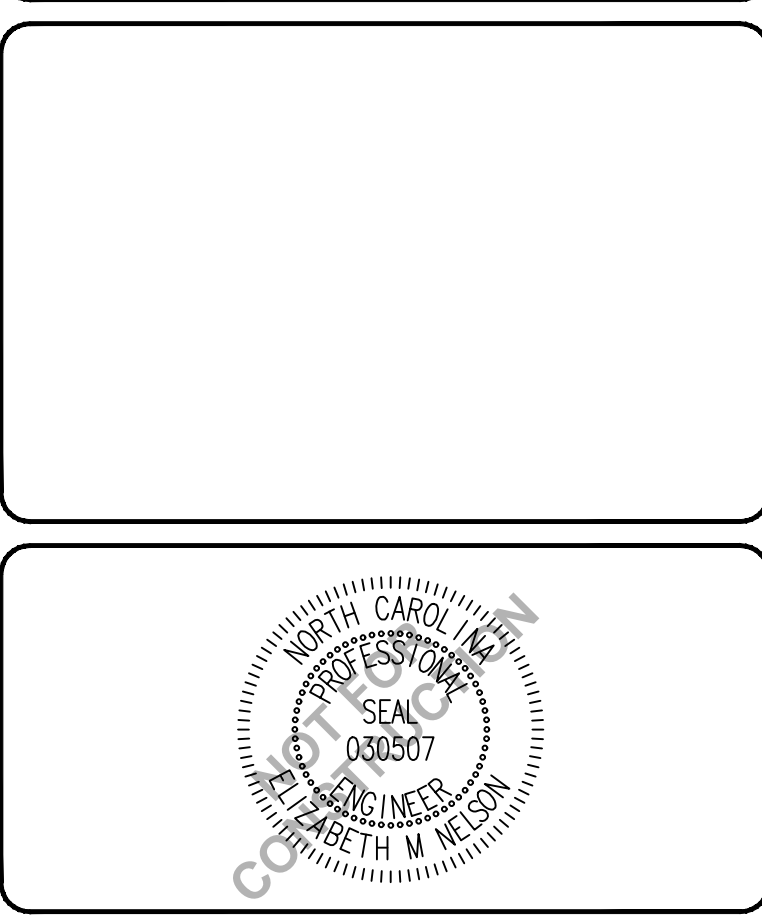
	EXISTING	PROPOSED
PROPERTY BOUNDARY	---	---
ADJACENT PROPERTY	---	---
EASEMENT	---	---
GAS LINE	---G---	
ASPHALT PAVEMENT	---	---
ASPHALT TO BE DEMOLISHED	---	---
ASPHALT ROAD WIDENING		---
CHAIN LINK FENCE	- X - X - X - X -	- X - X - X - X -
TELEPHONE PEDESTAL	Ⓣ	
OAK TREE	⊙	
PINE TREE	●	
CEDAR TREE	⊗	
MAGNOLIA	⊕	
IRON ROD FOUND	•	
EXISTING IRON PIPE	• EIP	
RIGHT-OF-WAY DISK	• RW DISK	
CONTOURS	---19--- ---20---	---
LIMITS OF DISTURBANCE		---
TEMPORARY CONSTRUCTION ENTRANCE		---
SILT FENCE		---
SILT FENCE OUTLET		---
GRASS (SEE VEGETATION SCHEDULE ON SHEET C-506)		---
TREE PROTECTION		---
WATER LINE	---W---	---
WATERLINE VALVE	⊗	WV
FIRE HYDRANT	⊙	FH
SANITARY SEWER MANHOLE	⊙	SSMH
SANITARY SEWER LINE	---SS---	SS
SOIL SURVEY BOUNDARY	---	---
BUILDING	---	---
CONCRETE PAVEMENT	---	---
ABC	---	---
CONCRETE SIDEWALK	---	---
CURB AND GUTTER	---	---
GATE		---
SIGN		---
STORMDRAIN PIPE		---
STORMDRAIN INLET		---
FLARED END SECTION		---
STORMWATER CONTROL MEASURE		---
SPOT ELEVATION		• 5091EX
SETBACK LINE		---



**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
C	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
B	ISSUED FOR TRC REVIEW	EMN	05/17/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17



**CAPE FEAR ENGINEERING**

151 Poole Rd., Suite 100, Belville, NC, 28451  
TEL (910) 383-1044; FAX (910) 383-1045  
www.capefearengineering.com  
N.C. LICENSE # C-1621

PROJECT NUMBER	275-77
SCALE	N/A
DATE	21 FEB 17

**CIVIL WORKS CONTRACTING**  
RALEIGH STREET  
WILMINGTON, NC

**GENERAL NOTES & LEGEND**

PROJECT NUMBER	275-77
SHEET NUMBER	C-001

PARID: R06400-002-005-000  
 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

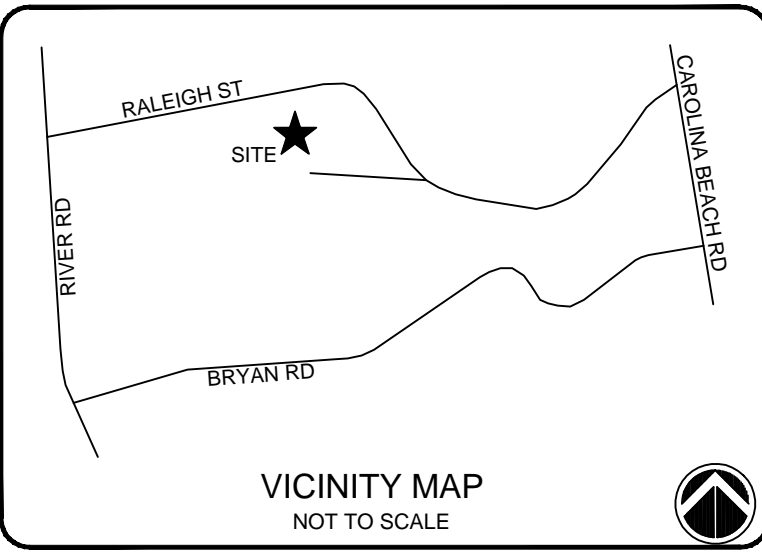
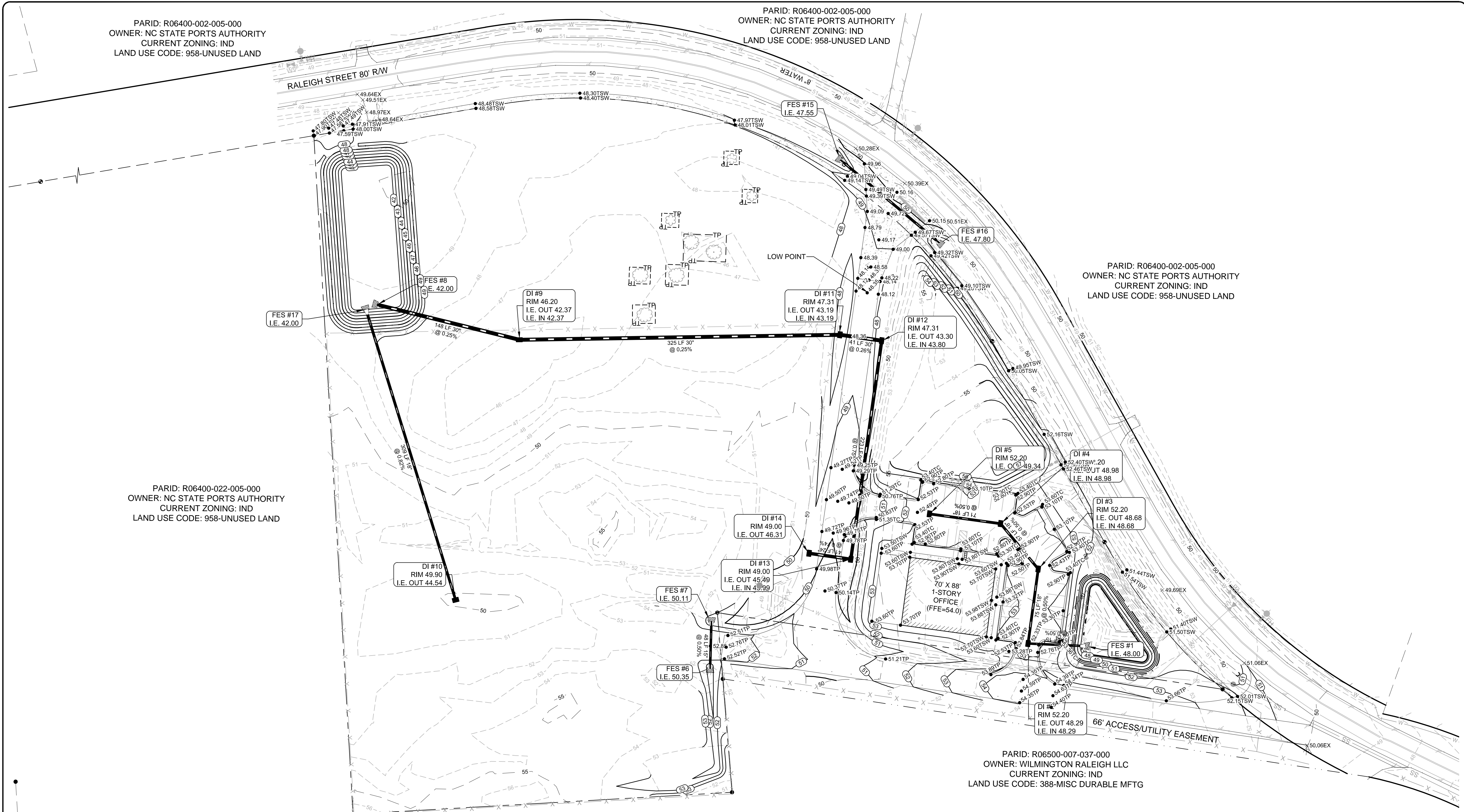
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 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06400-002-005-000  
 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06400-022-005-000  
 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06500-007-037-000  
 OWNER: WILMINGTON RALEIGH LLC  
 CURRENT ZONING: IND  
 LAND USE CODE: 388-MISC DURABLE MFTG

PARID: R06500-007-037-000  
 OWNER: WILMINGTON RALEIGH LLC  
 CURRENT ZONING: IND  
 LAND USE CODE: 388-MISC DURABLE MFTG



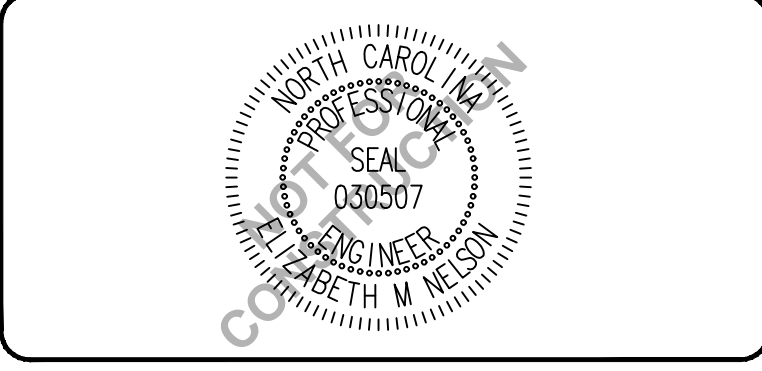
**NOTES:**  
 SEE SHEET C-001 FOR GENERAL NOTES AND LEGEND  
 REQUIRED GROUNDCOVER TIMES:  
 (SEE SEQUENCE OF DISTURBANCE NOTES ON C-506)

7 DAY MAXIMUM

14 DAY MAXIMUM

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
C	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
B	ISSUED TO CITY OF WILMINGTON FOR TRC REVIEW	EMN	05/17/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17



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 N.C. LICENSE # C-1621

PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	21 FEB 17

CIVIL WORKS CONTRACTING  
 RALEIGH STREET  
 WILMINGTON, NC

STORMWATER & GRADING PLAN

PROJECT NUMBER	SHEET NUMBER
275-77	CG100

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
 Signed: \_\_\_\_\_

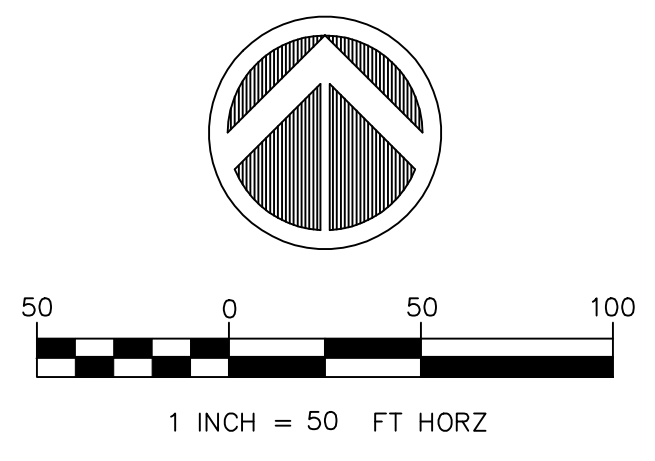
**Approved Construction Plan**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Planning: \_\_\_\_\_

Traffic: \_\_\_\_\_

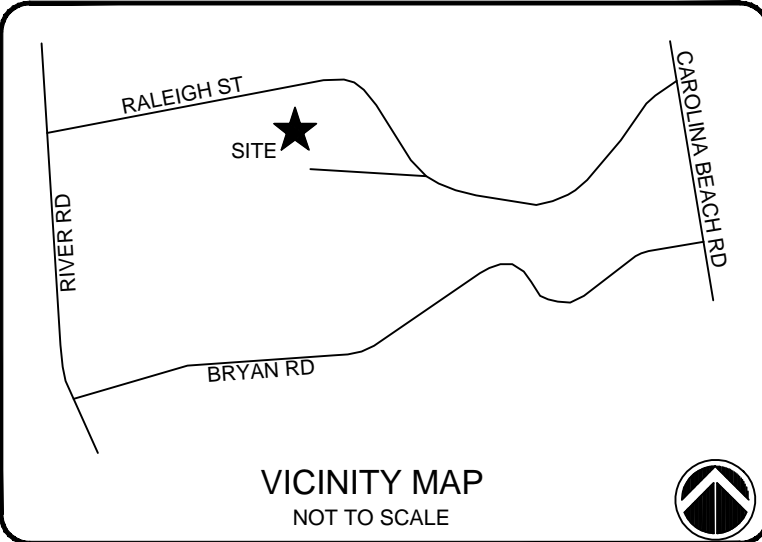
Fire: \_\_\_\_\_



1 - 8" x 6" TEE  
1 - FIRE HYDRANT ASSEMBLY  
1 - END OF LINE VALVE

**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

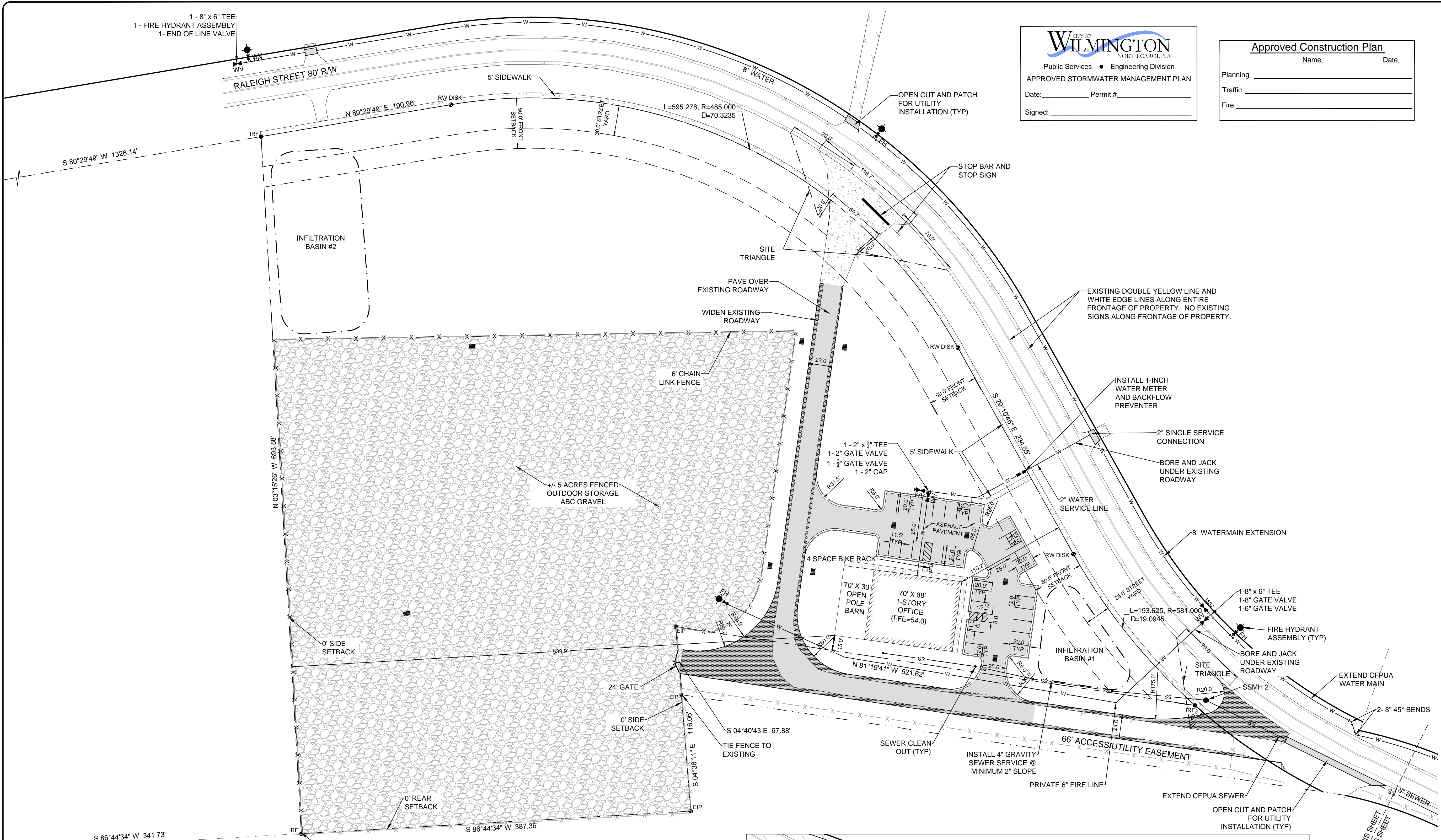
**Approved Construction Plan**  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_  
Signed: \_\_\_\_\_



**NOTES:**

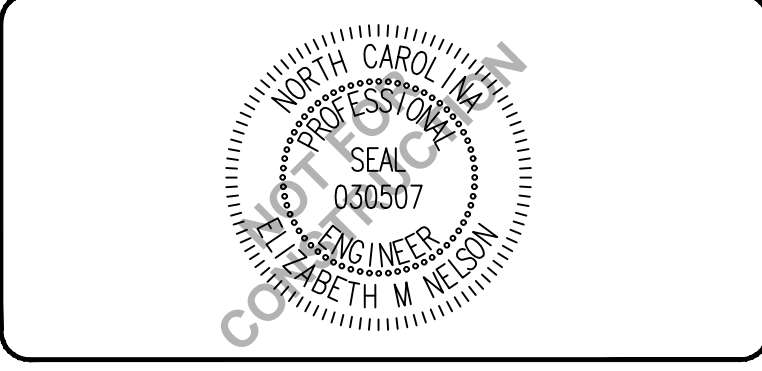
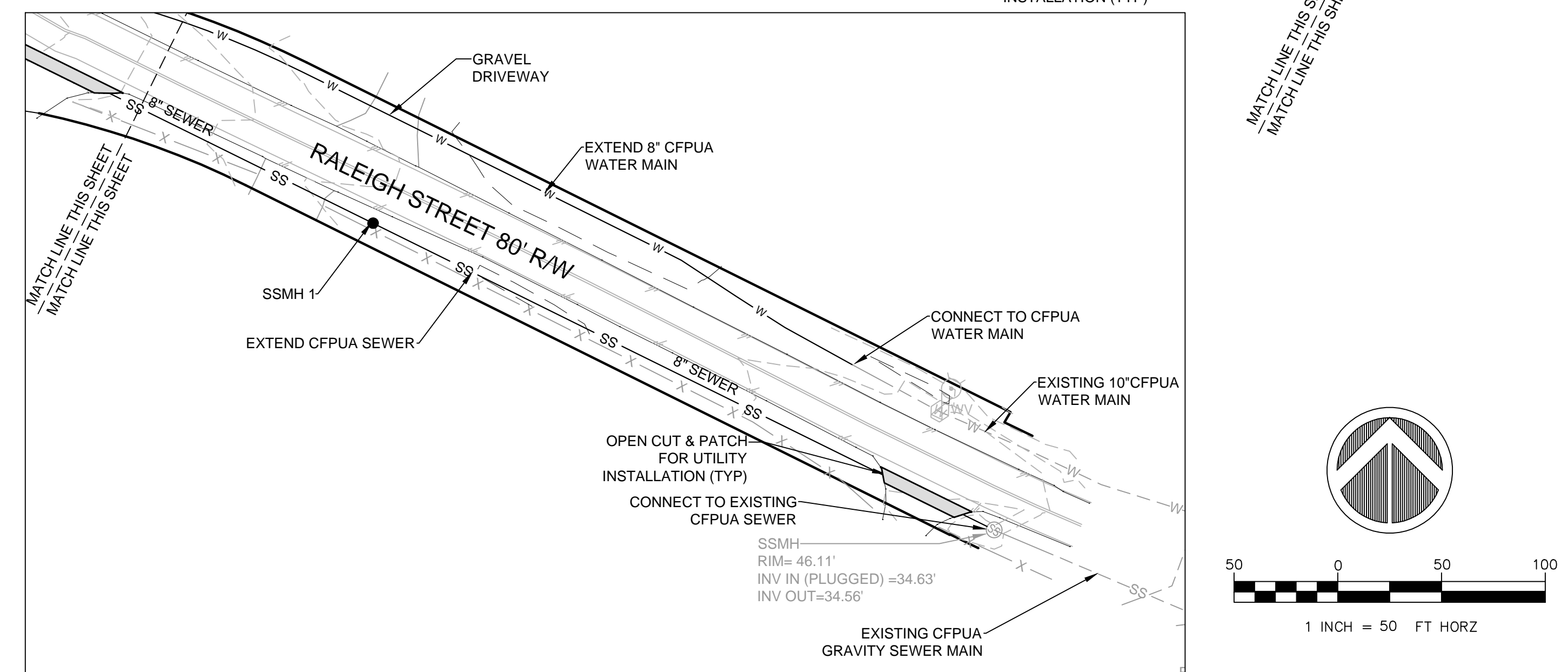
**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
C	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
B	ISSUED TO CITY OF WILMINGTON FOR TRC REVIEW	EMN	05/17/17
A	ISSUED TO CITY OF WILMINGTON FOR CONCEPT PLAN REVIEW	EMN	03/01/17



**SITE NOTES:**  
 PARID: R06400-002-009-000  
 SITE ADDRESS: 190 RALEIGH STREET  
 PROPERTY IS ZONED: IND- INDUSTRIAL DISTRICT.  
 OWNER: CS PROPERTY DEVELOPMENT, LLC  
3329-C WRIGHTSVILLE AVENUE  
WILMINGTON, NC 28403  
(910) 859-8574  
 PROPOSED USE: CIVIL WORKS CONTRACTING  
CONTRACTOR'S OFFICE W/ OUTSIDE STORAGE  
 AREA OF SITE IS 10.0 ACRES.  
 SETBACKS  
 FRONT - 50'  
 CORNER LOT SIDE - 50'  
 INTERIOR LOT SIDE - 0'  
 REAR - 0' (ABUTTING STREET 50')  
 BUILDING HEIGHT: 35' MAXIMUM  
 BUILDING:  
 PROPOSED 1-STORY, 6,160 SF WITH 2,100 SF POLE BARN  
 HEIGHT 25'

**IMPERVIOUS AREA CALCULATIONS:**  
 SITE AREA = 435,596 SF OR 10.0 AC  
 EASEMENT RIGHT-OF-WAY = 37,976 SF  
 TOTAL PROJECT AREA = 473,572 SF  
 EXISTING IMPERVIOUS: 16,883 SF / 473,572 SF OR 3.6%  
 ROADWAY: 7,603 SF  
 ROADWAY WITHIN ACCESS EASEMENT: 9,280 SF  
 NEW IMPERVIOUS AREA: 346,887 SF  
 BUILDING (WITH POLE BARN) = 8,260 SF  
 ROADWAY AND PARKING LOT = 27,207 SF  
 SIDEWALKS = 1,437 SF  
 ABC OUTSIDE STORAGE = 216,523 SF  
 FUTURE & RESERVE = 93,460 SF  
 FINAL IMPERVIOUS: 363,770 SF / 473,572 SF = 76.8%  
 BUILDING LOT COVERAGE:  
 8,260 SF / 435,596 SF = 1.9%  
 PARKING  
 REQUIRED: 6,160 SF BUILDING (1-STORY)  
 MINIMUM @ 1 SPACE PER 300 SF OF GFA = 21  
 MAXIMUM @ 1 SPACE PER 200 SF OF GFA = 31  
 PROVIDED:  
 REGULAR = 29 SPACES  
 HANDICAPPED = 2 SPACES  
 TOTAL PARKING SPACES PROVIDED: 31 SPACES



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 www.capefearengineering.com  
 N.C. LICENSE # C-1621

PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	01 MAR 17

CIVIL WORKS CONTRACTING  
 RALEIGH STREET  
 WILMINGTON, NC

SITE & UTILITY PLAN

PROJECT NUMBER	275-77	SHEET NUMBER	CS100
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PATH: P:\275\275-77\_CNC OFFICE BLDG. RALEIGH ST - ENGINEERING\DWG\CONSTRUCTION\275-77\_MASTER(1).DWG

PARID: R06400-002-005-000  
 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06400-002-005-000  
 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

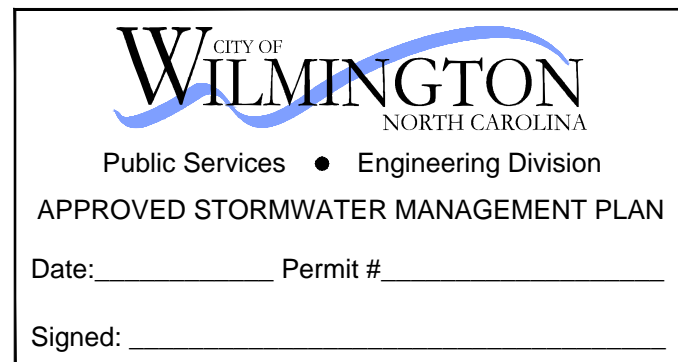
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 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06400-022-005-000  
 OWNER: NC STATE PORTS AUTHORITY  
 CURRENT ZONING: IND  
 LAND USE CODE: 958-UNUSED LAND

PARID: R06500-007-037-000  
 OWNER: WILMINGTON RALEIGH LLC  
 CURRENT ZONING: IND  
 LAND USE CODE: 388-MISC DURABLE MFTG

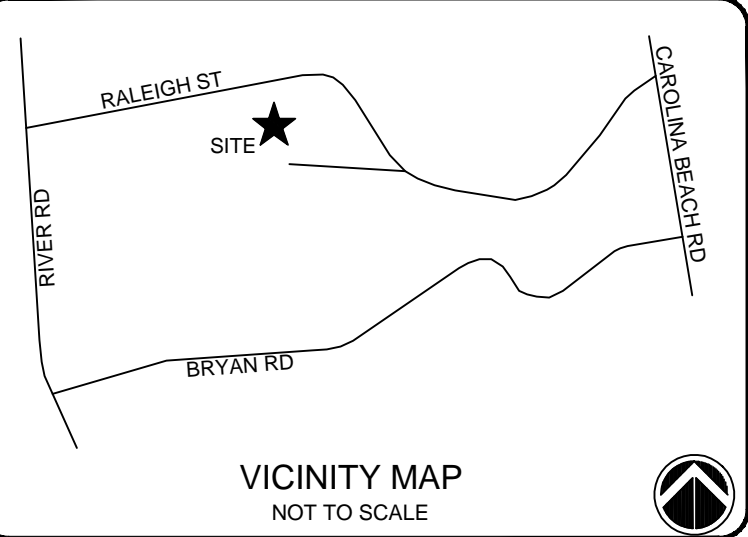
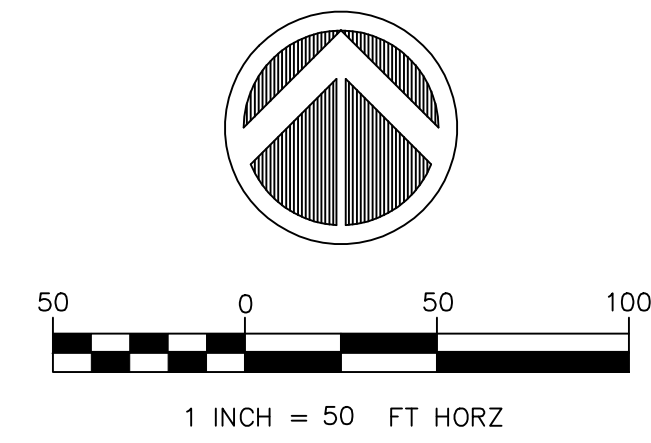
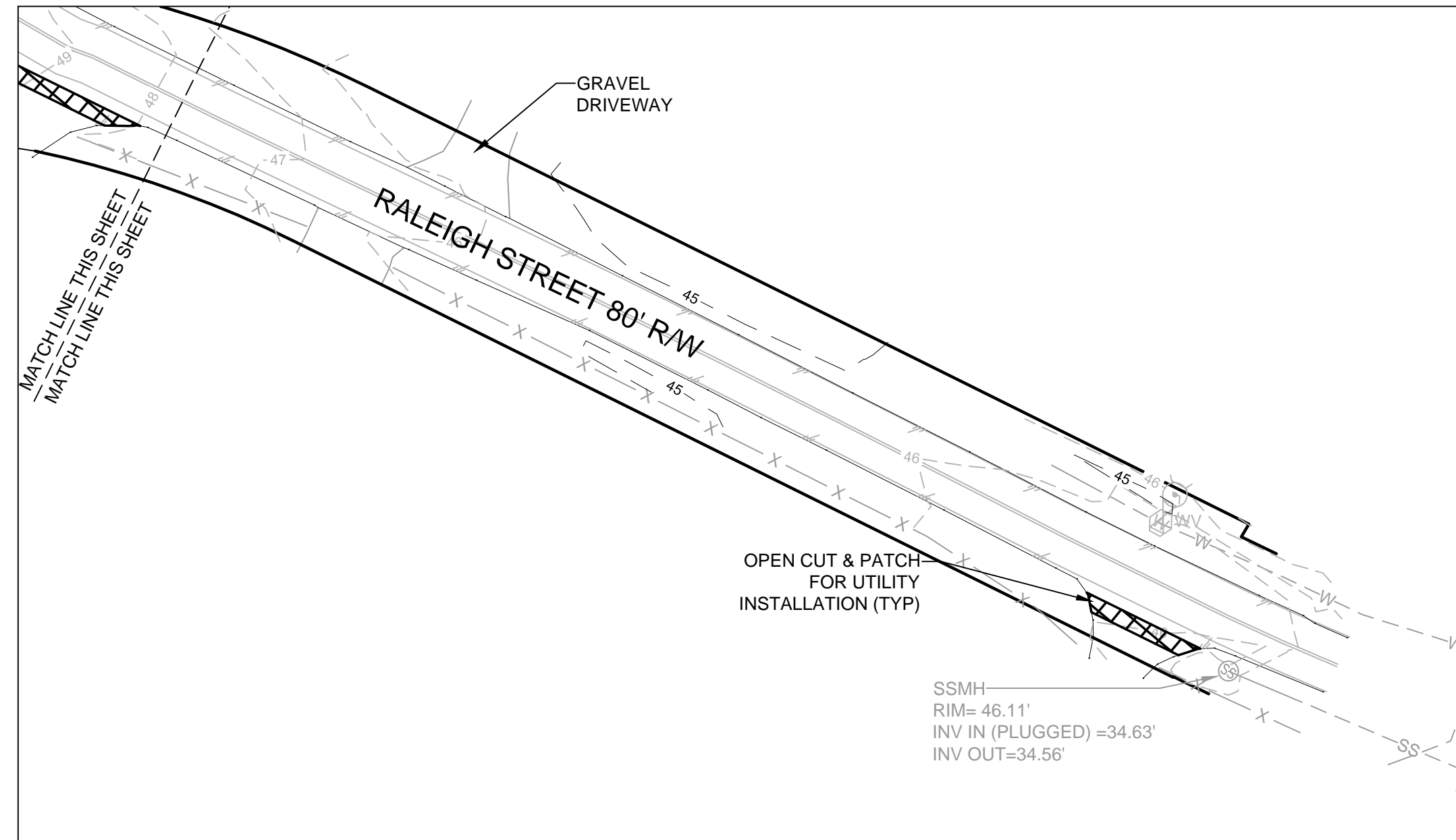
PARID: R06500-007-037-000  
 OWNER: WILMINGTON RALEIGH LLC  
 CURRENT ZONING: IND  
 LAND USE CODE: 388-MISC DURABLE MFTG

**SITE NOTES:**  
 PARID: R06400-002-009-000  
 SITE ADDRESS: 190 RALEIGH STREET  
 PROPERTY IS ZONED: IND- INDUSTRIAL DISTRICT.  
 OWNER: CS PROPERTY DEVELOPMENT, LLC  
 3329-C WRIGHTSVILLE AVENUE  
 WILMINGTON, NC 28403  
 (910) 859-8574  
 PROPOSED USE: CIVIL WORKS CONTRACTING  
 CONTRACTOR'S OFFICE W/ OUTSIDE STORAGE  
 AREA OF SITE IS 10.0 ACRES.



**Approved Construction Plan**

Name	Date
Planning _____	_____
Traffic _____	_____
Fire _____	_____



**NOTES:**  
 1. SEE SHEET C-001 FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS.

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REVISIONS	REV. BY	DATE
C	ISSUED FOR REGULATORY REVIEW		EMN	06/30/17
B	ISSUED FOR REGULATORY REVIEW		EMN	06/30/17
A	ISSUED FOR TRC REVIEW		EMN	05/17/17



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 www.capefearengineering.com  
 N.C. LICENSE # C-1621

PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	17 FEB 17

CIVIL WORKS CONTRACTING  
 RALEIGH STREET  
 WILMINGTON, NC

EXISTING CONDITIONS  
 & DEMOLITION PLAN

PROJECT NUMBER	SHEET NUMBER
275-77	VF100

PATH: P:\275\275-77\_CWC OFFICE BLDG RALEIGH ST - ENGINEERING\DWG\CONSTRUCTION\275-77\_MASTER(1).DWG

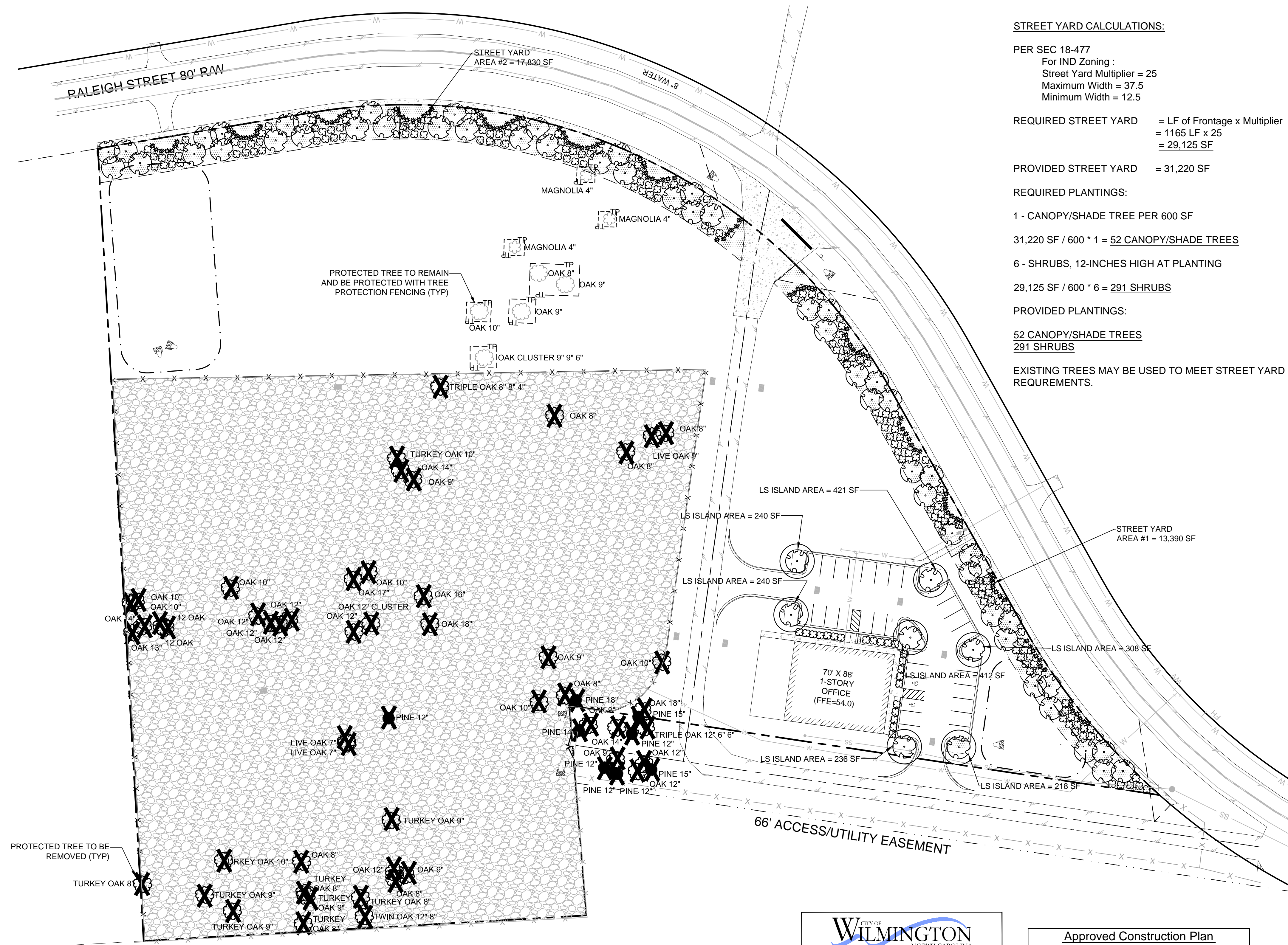
**TREE MITIGATION CALCULATIONS:**

PER SEC 18-456:  
 Regulated Trees  
 - Hardwoods > 8" DBH  
 - Conifer > 12" DBH  
 - Dogwoods, Magnolias, Ornamental Flowering, American Hollies > 4" DBH

Significant Trees  
 - Hardwood, Long Lead Pine, Pocosin (pond) Pine, Black Pine, and non-pine conifer trees > 24" DBH  
 - All other pines > 32" DBH  
 - Dogwoods, Magnolias, Ornamental Flowering, American Hollies > 8" DBH

Regulated Trees to be Removed and Required Mitigation (Per Section 18-460)  
 The total number of replacement trees shall be determined for regulated trees removed by multiplying the total DBH of the removed regulated tree(s) by the percentage for the type of tree in Table IV and dividing by three (3)

**ALL REGULATED TREES TO BE REMOVED INSIDE OF PROPOSED CONTRACTOR LAY DOWN AREA ARE CONSIDERED EXEMPT FROM MITIGATION PER SECTION 18-461 SINCE LAYDOWN AREA IS AN ESSENTIAL SITE IMPROVEMENT FOR PROPOSED FACILITY. ALL REGULATED TREES OUTSIDE OF LAYDOWN AREA HAVE BEEN PRESERVED.**



**STREET YARD CALCULATIONS:**

PER SEC 18-477  
 For IND Zoning :  
 Street Yard Multiplier = 25  
 Maximum Width = 37.5  
 Minimum Width = 12.5

REQUIRED STREET YARD = LF of Frontage x Multiplier = 1165 LF x 25 = 29,125 SF

PROVIDED STREET YARD = 31,220 SF

**REQUIRED PLANTINGS:**

1 - CANOPY/SHADE TREE PER 600 SF  
 31,220 SF / 600 \* 1 = 52 CANOPY/SHADE TREES

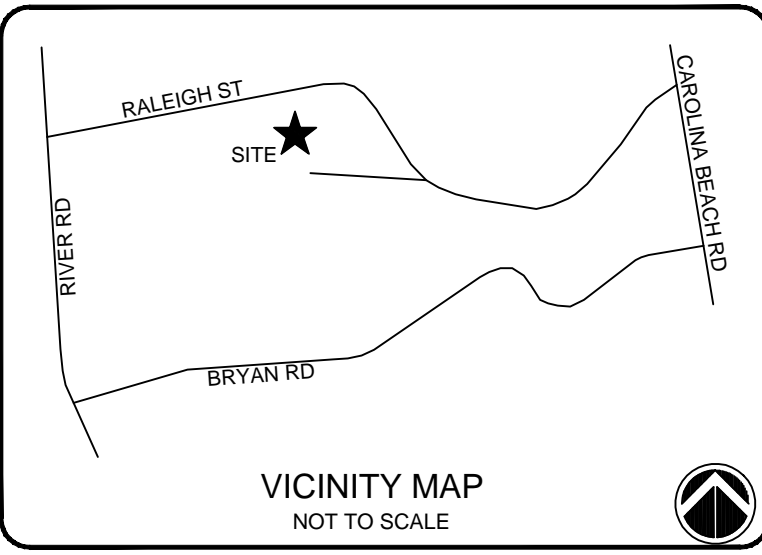
6 - SHRUBS, 12-INCHES HIGH AT PLANTING

29,125 SF / 600 \* 6 = 291 SHRUBS

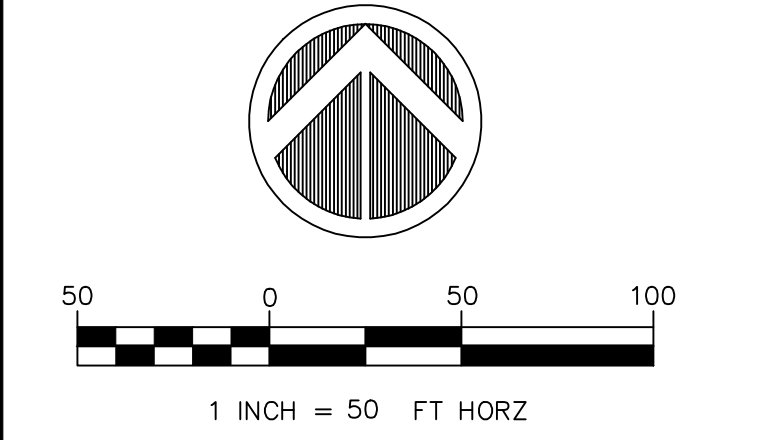
**PROVIDED PLANTINGS:**

52 CANOPY/SHADE TREES  
 291 SHRUBS

EXISTING TREES MAY BE USED TO MEET STREET YARD REQUIREMENTS.



**NOTES:**



**ISSUED FOR REGULATORY REVIEW**

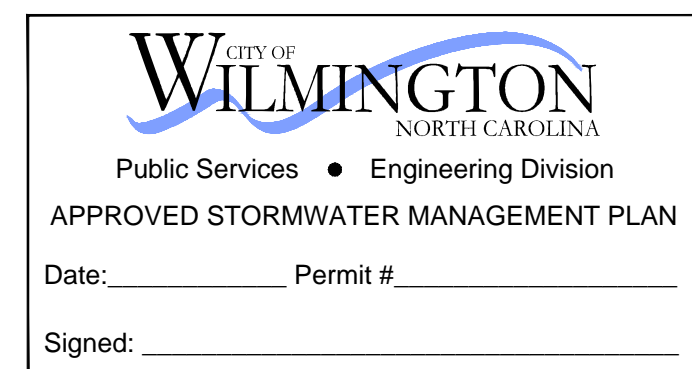
REV. #	DESCRIPTION	REV. BY	DATE
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR TRC REVIEW	EMN	05/17/17

**LANDSCAPING CALCULATIONS**

PER SEC 18-490  
 BUILDING HEIGHT = 25 FT  
 BUILDING FACE LENGTH NORTH = 88 FT  
 BUILDING FACE LENGTH EAST = 70 FT  
 PLANTING FOUNDATIONS REQUIRED:  
 12% OF BUILDING FACE AREA  
 BUILDING FACE AREA NORTH = 264 SF  
 BUILDING FACE AREA EAST = 195 SF  
 PLANTING FOUNDATIONS PROVIDED:  
 BUILDING FACE NORTH = 664 SF  
 BUILDING FACE EAST = 300 SF

**LANDSCAPING CALCULATIONS**

PER SEC 18-481  
 PARKING AREA = 14,021 SF  
 SHADING REQUIRED:  
 20% OF PARKING AREA = 2,804 SF  
 SHADING AREA PROVIDED:  
 7 - CANOPY TREES @ 707 SF EACH = 4,949 SF



**Approved Construction Plan**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

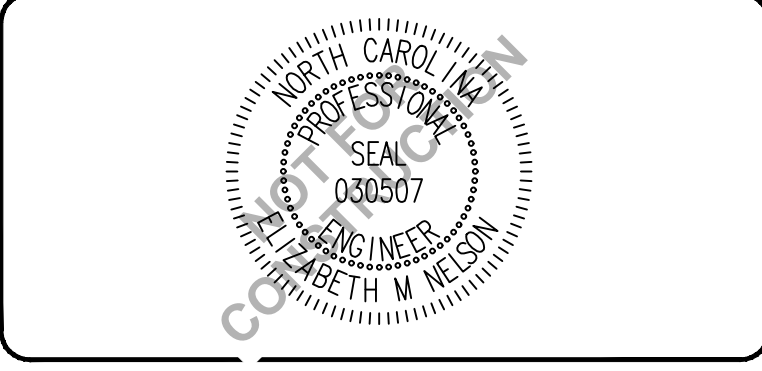
Planning: \_\_\_\_\_

Traffic: \_\_\_\_\_

Fire: \_\_\_\_\_

**PLANTING SCHEDULE**

SYMBOL	NAME	BOTANICAL NAME	SIZE	REMARKS
<b>TREES</b>				
(Symbol)	SHADE/CANOPY	TBD	2" DIA.	
<b>SHRUBS</b>				
(Symbol)	SHRUB 1	TBD	3 Gal.	
(Symbol)	SHRUB 2	TBD	3 Gal.	



**CAPE FEAR ENGINEERING**  
 151 Poole Rd., Suite 100, Belville, NC, 28451  
 TEL (910) 383-1044; FAX (910) 383-1045  
 www.capefearengineering.com  
 N.C. LICENSE # C-1621

PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	24 FEB 17

**CWC OFFICE  
 RALEIGH STREET  
 WILMINGTON, NC**

**LANDSCAPE PLAN**

**TEMPORARY SILT FENCE**

**TEMPORARY CONSTRUCTION ENTRANCE**

**ROCK CHECK DAM**

LAND DISTURBING ACTIVITIES MUST BE MANAGED TO AVOID SEDIMENT RUN-OFF AND POLLUTION FROM CONSTRUCTION SITES. WHERE PERMITTED LOCALLY BY NEW HAMPSHIRE COUNTY, AN EROSION AND SEDIMENT CONTROL (EASC) PLAN WILL CONTAIN DETAILS AND GUIDANCE. EASC PLANS ARE PERFORMANCE BASED AND OTHER REQUIREMENTS OR REPAIRS. AS PERMITTED BY NCDNR, DIVISIONS OF WATER QUALITY AND LAND RESOURCES, A STORMWATER PERMIT WILL REQUIRE SELF-MONITORING REPORTS (WEEKLY, >1" RAIN EVENT) OR SELF-INSPECTION REPORTS AFTER EACH CONSTRUCTION PHASE, BASED ON ELEMENTS OF THE EASC PLAN.

DATE:	SEPTEMBER, 2012
DRAWN BY:	JSR
CHECKED BY:	BDR, P.E.
SCALE:	NOT TO SCALE

STANDARD DETAIL	
<b>GUIDELINES FOR SEDIMENT CONTROL BMPs</b>	
CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807	
SD 3-104	SHEET 1 OF 2

**LOW FLOW INLET FILTERS**

**INLET PROTECTION-SEDIMENT TUBE**

DATE:	SEPTEMBER, 2012
DRAWN BY:	JSR
CHECKED BY:	BDR, P.E.
SCALE:	NOT TO SCALE

STANDARD DETAIL	
<b>GUIDELINES FOR SEDIMENT CONTROL BMPs</b>	
CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807	
SD 3-104	SHEET 2 OF 2

**NOTE:** THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.

**NOTE:** CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.

**CRZ**  
**DBH**  
**ORANGE SAFETY FENCE OR ORANGE SILT FENCE (TYPICAL)**

**NOTES:**

- PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
- CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
- IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
- WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
- FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
- FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

DATE:	JAN, 2015
DRAWN BY:	JSR
CHECKED BY:	RDG, P.E.
SCALE:	NOT TO SCALE

STANDARD DETAIL	
<b>TREE PROTECTION DURING CONSTRUCTION</b>	
CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807	
SD 15-09	SHEET 1 OF 2

**FRONT VIEW**

**SIDE VIEW**

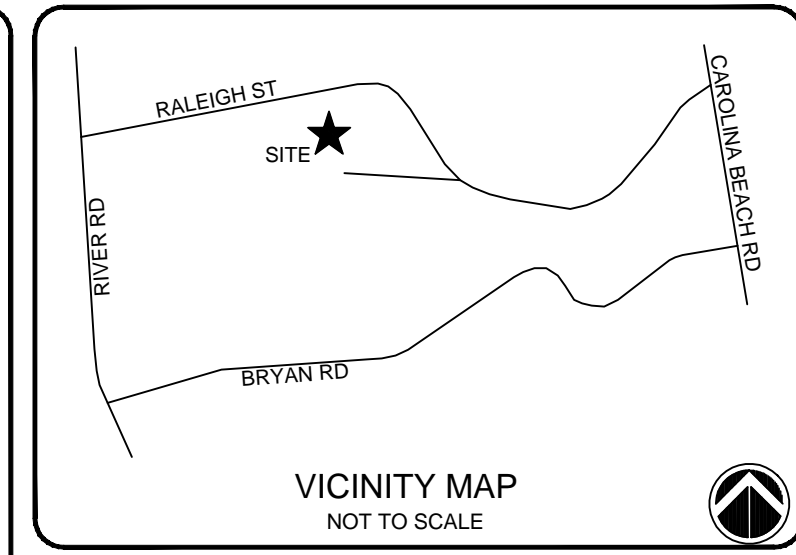
**WARNING SIGN DETAIL**

**NOTES:**

- THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
- WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
- SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
- ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
- TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
- ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

DATE:	JAN, 2015
DRAWN BY:	JSR
CHECKED BY:	RDG, P.E.
SCALE:	NOT TO SCALE

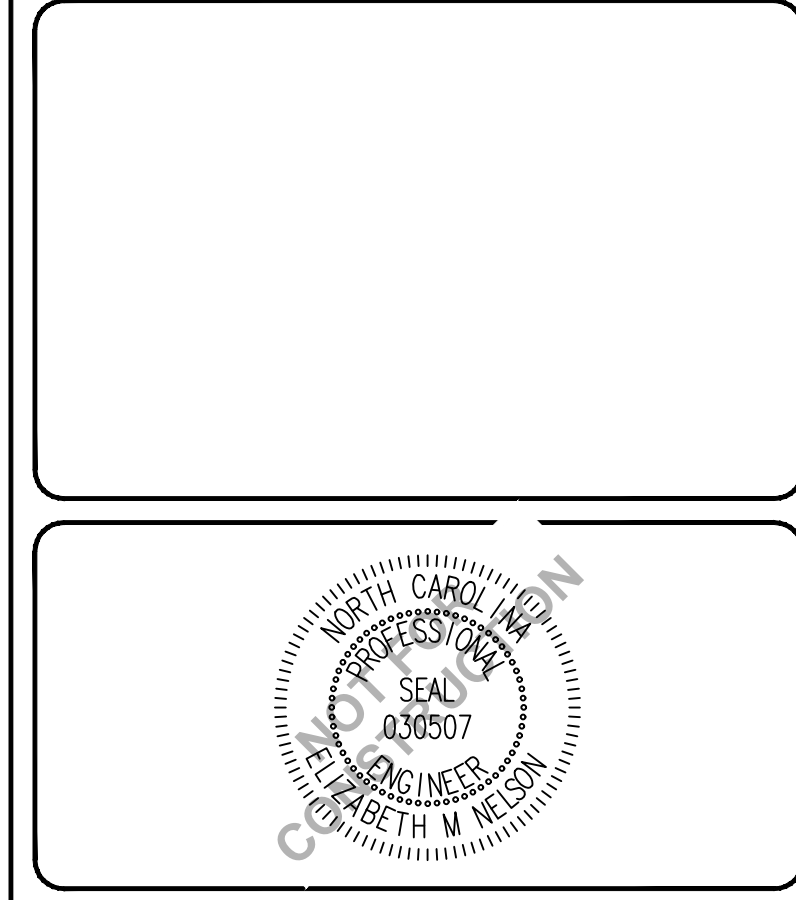
STANDARD DETAIL	
<b>TREE PROTECTION DURING CONSTRUCTION</b>	
CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807	
SD 15-09	SHEET 2 OF 2



**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17
REV. #	DESCRIPTION	REV. BY	DATE
REVISIONS			



**CAPE FEAR ENGINEERING**

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TEL (910) 383-1044; FAX (910) 383-1045  
www.capefearengineering.com  
N.C. LICENSE # C-1621

PROJECT NUMBER:	275-77
SCALE:	As Shown
DATE:	21 FEB 17

**CIVIL WORKS CONTRACTING**  
RALEIGH STREET  
WILMINGTON, NC

**SITE DETAILS**

PROJECT NUMBER	SHEET NUMBER
275-77	D-500

**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN

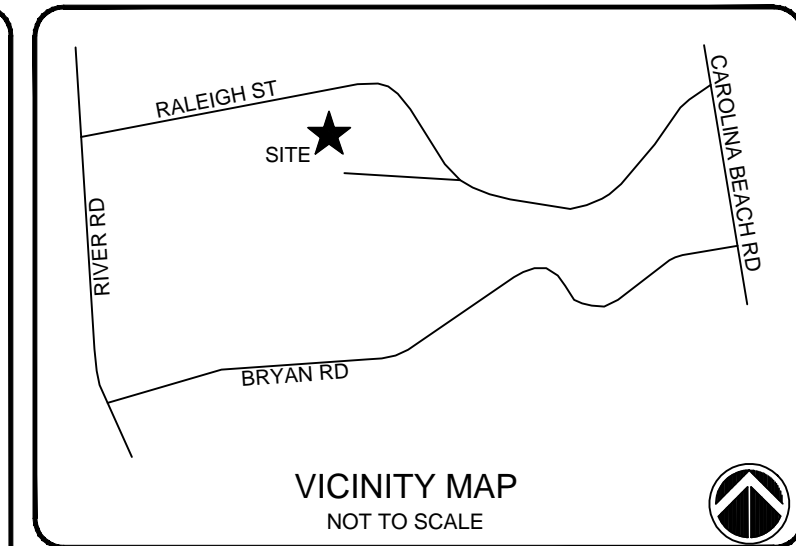
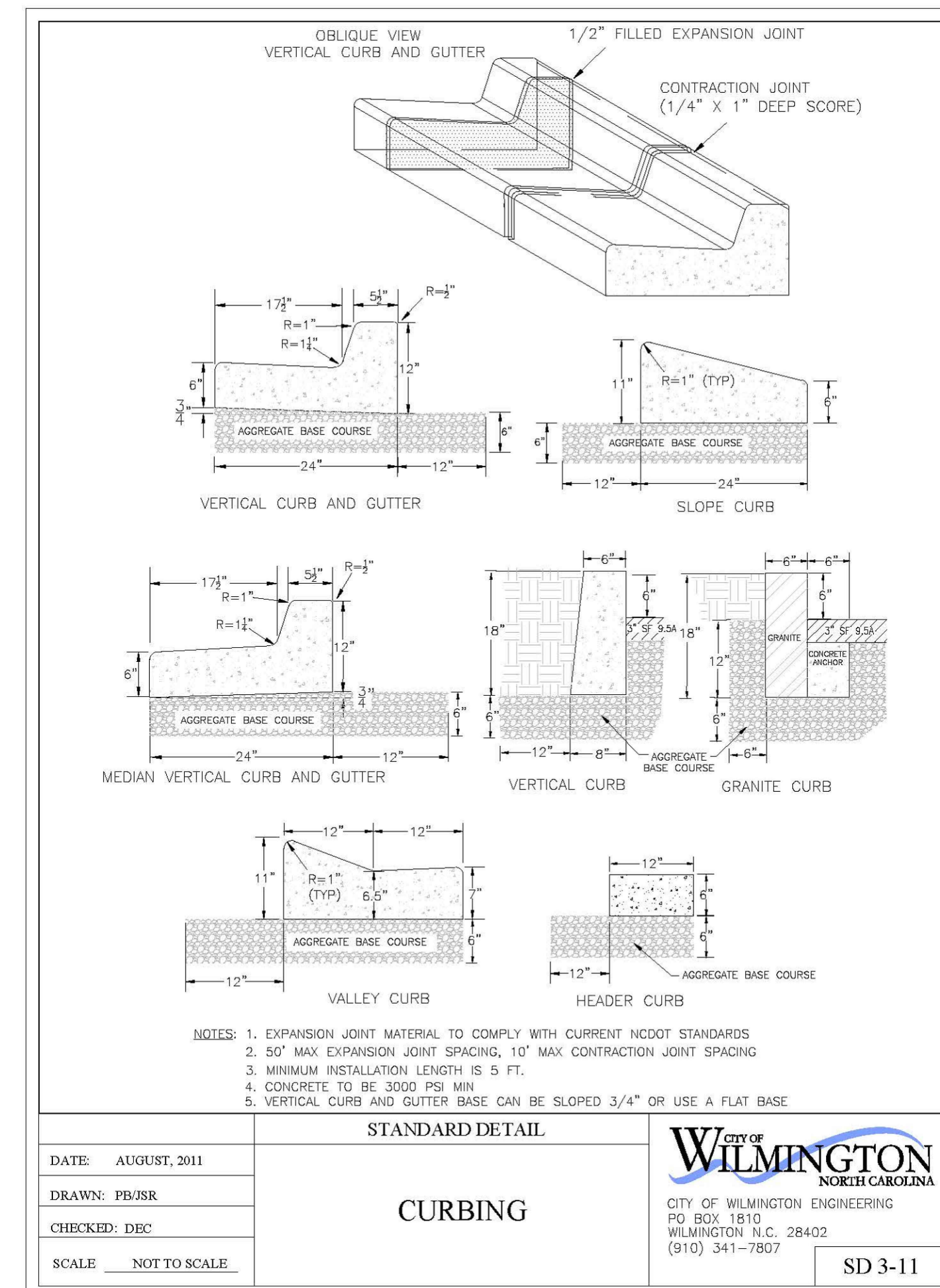
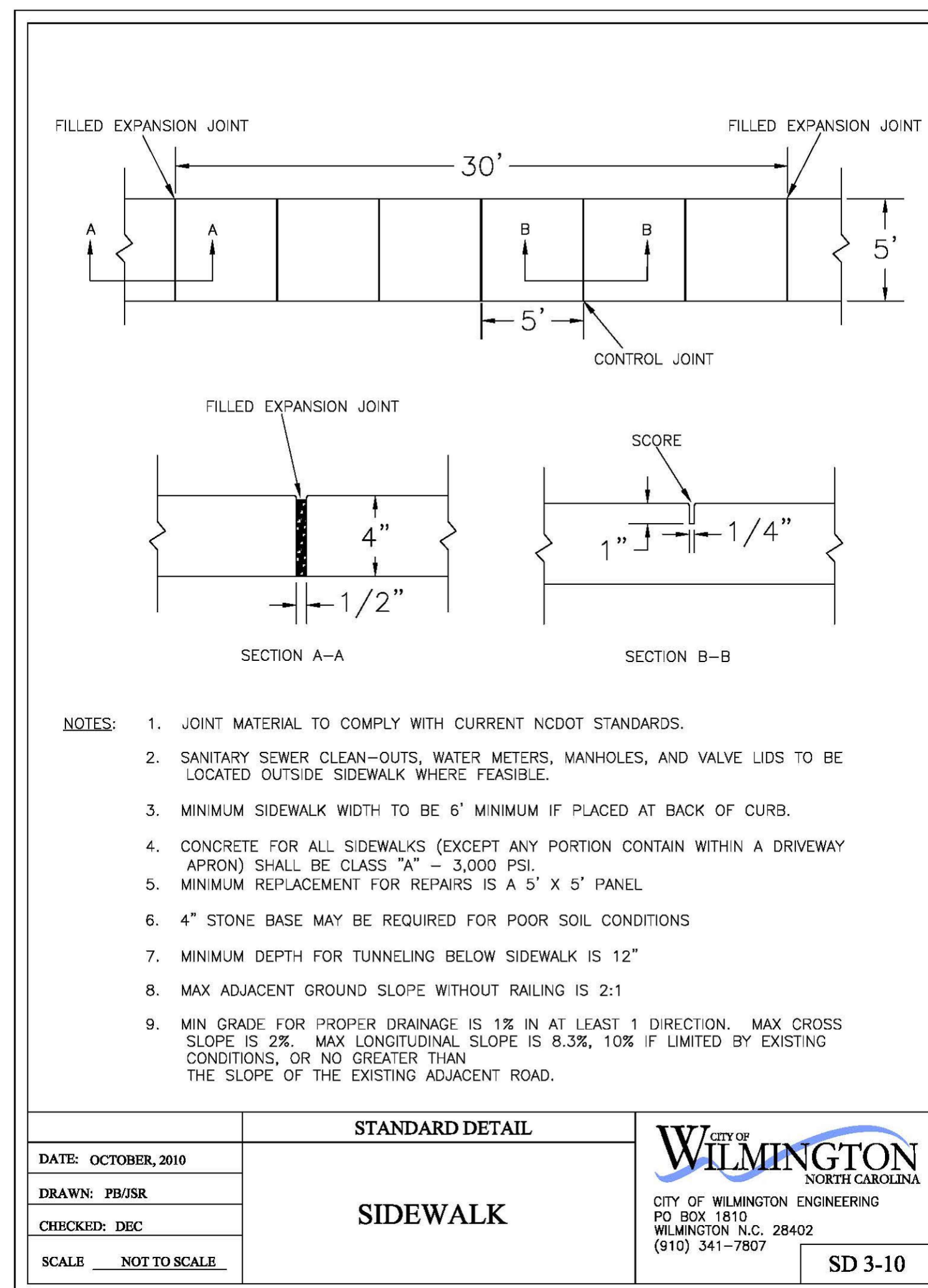
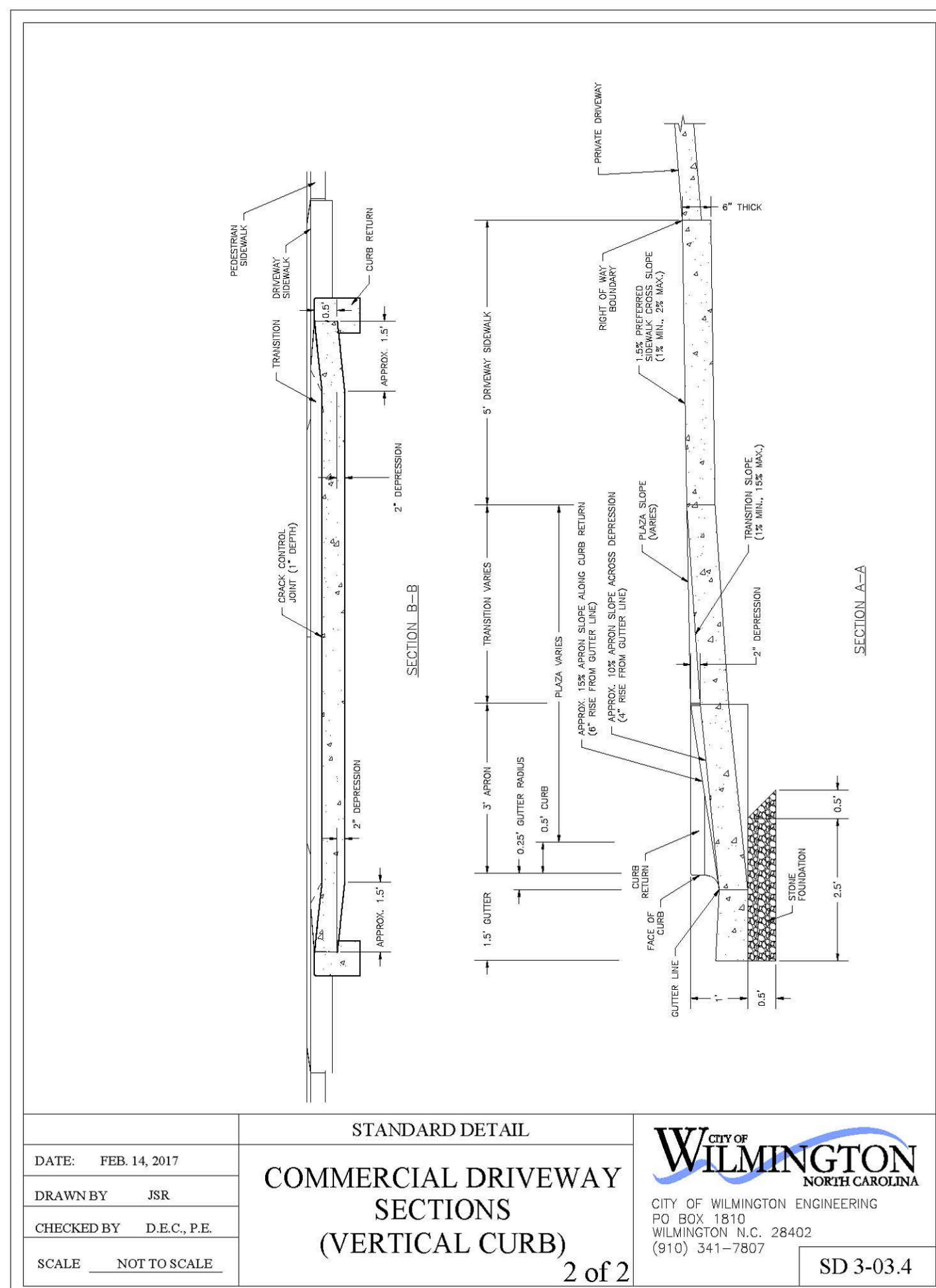
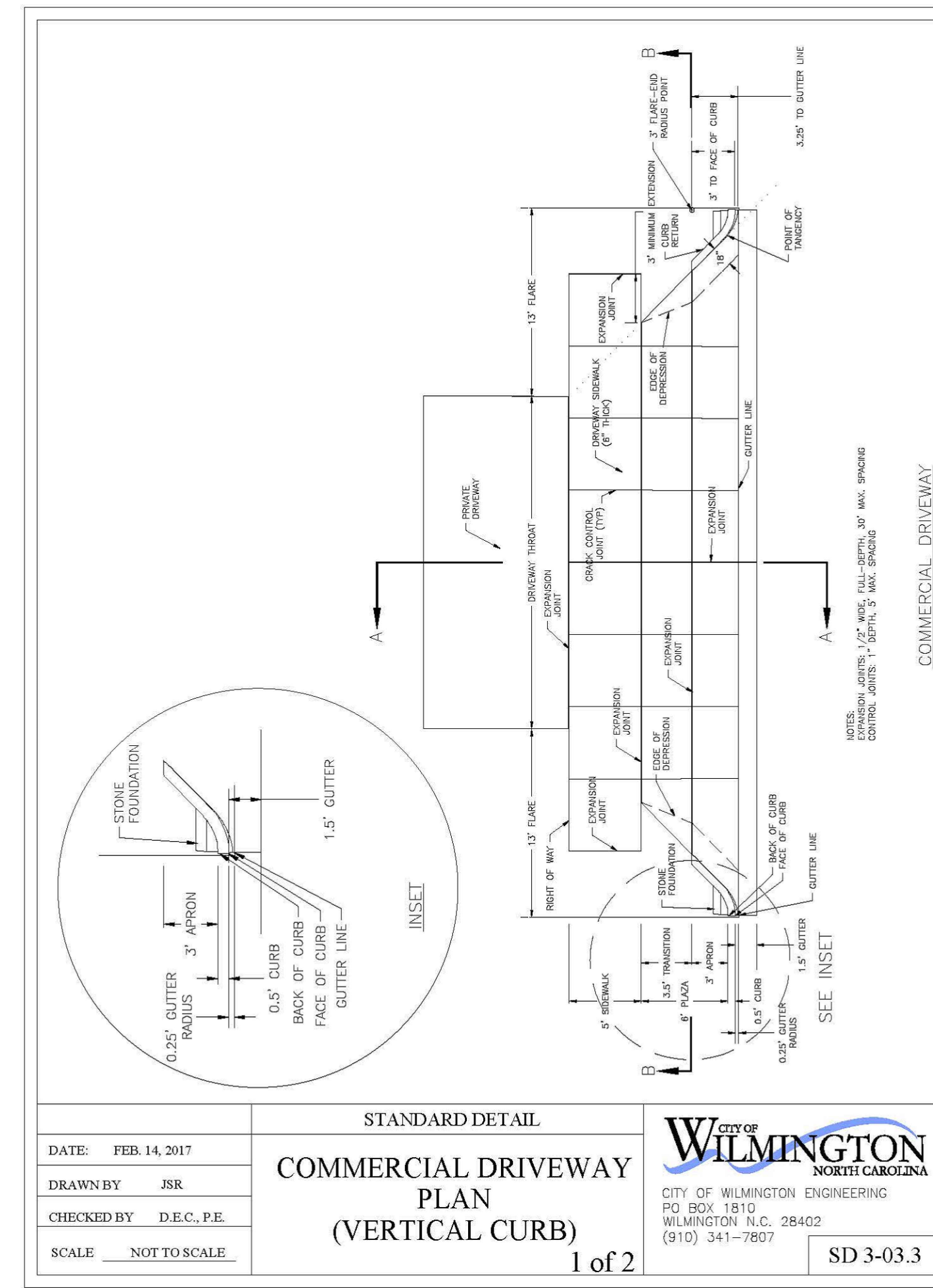
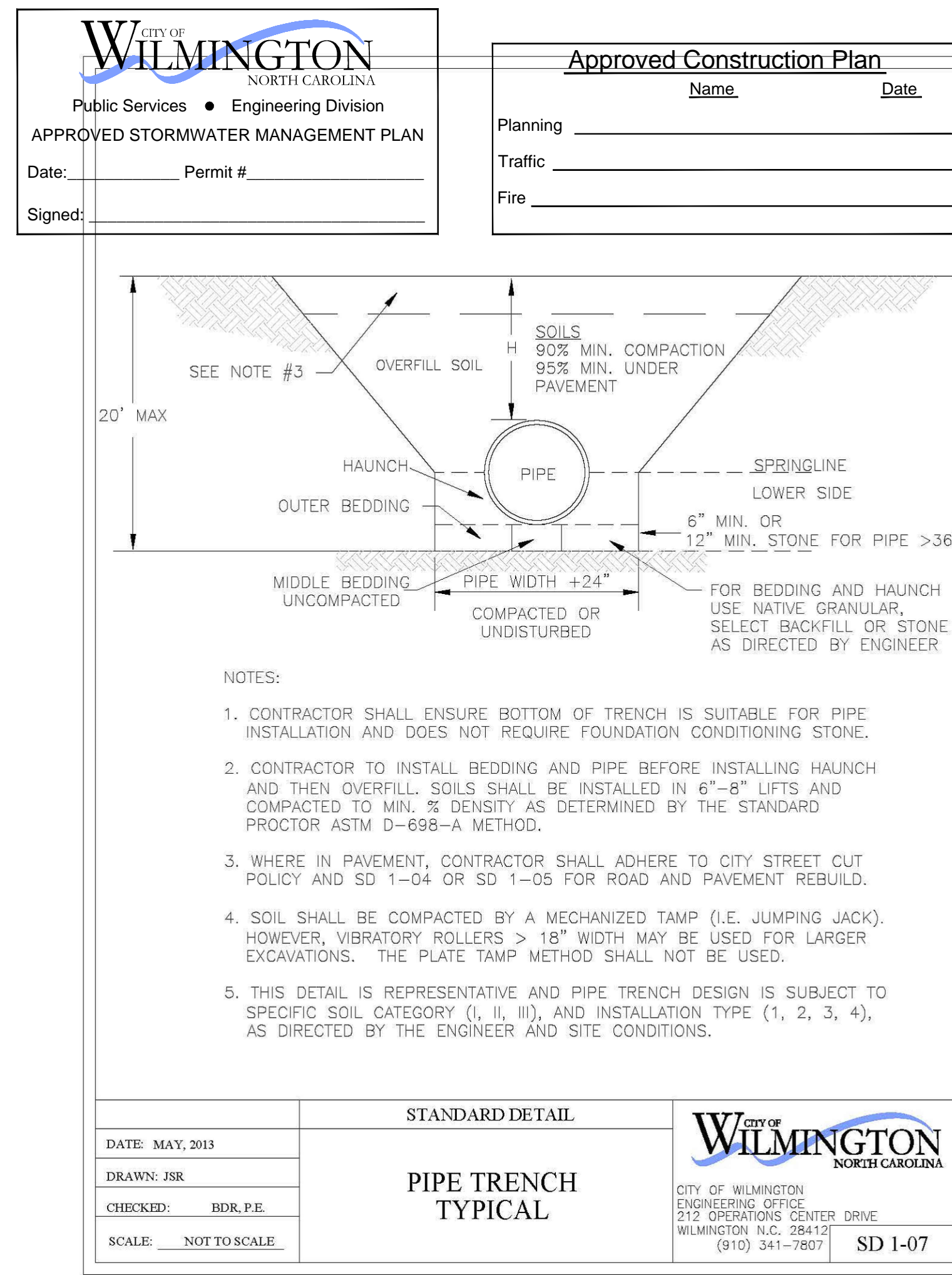
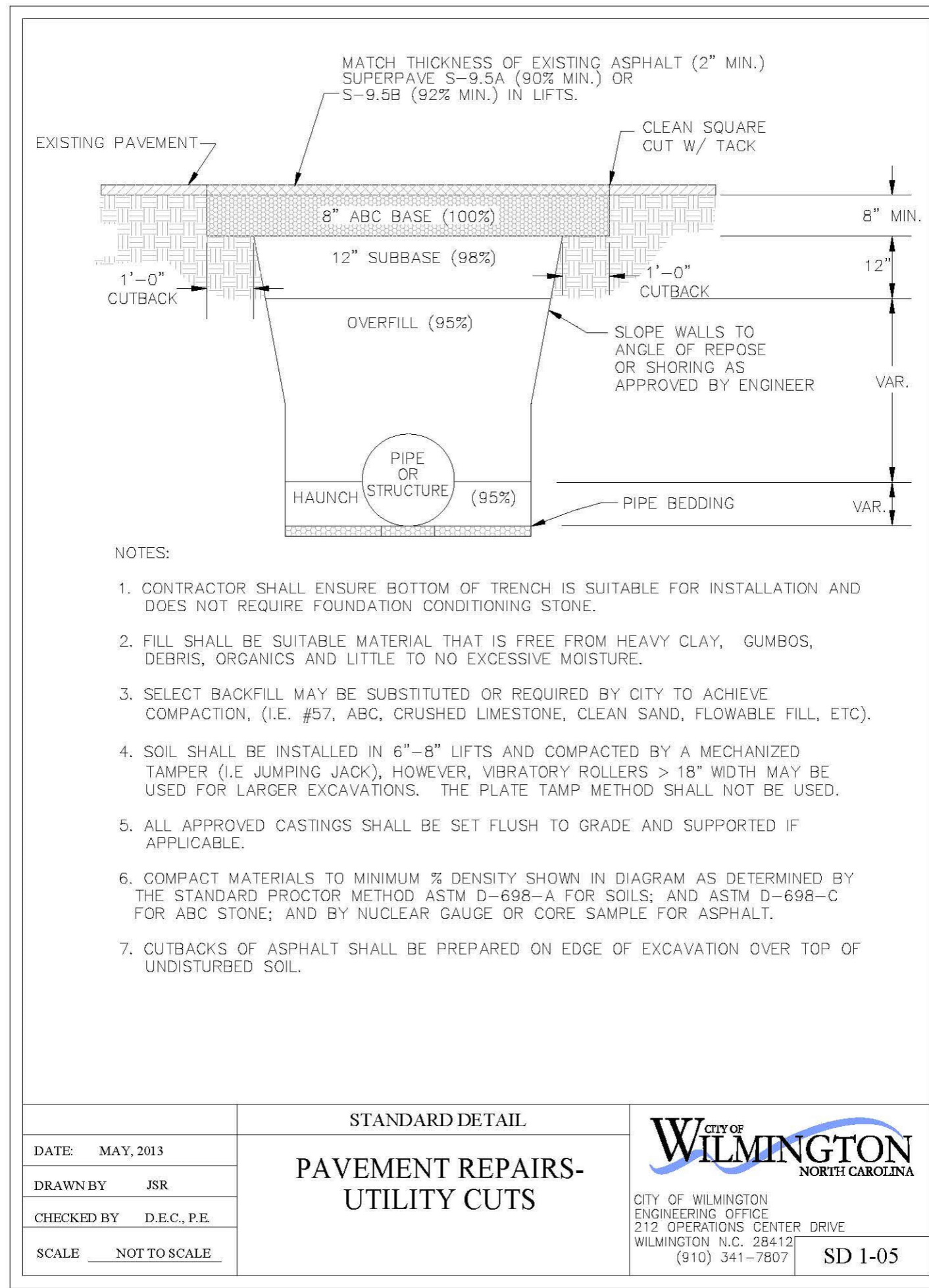
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

**Approved Construction Plan**

Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

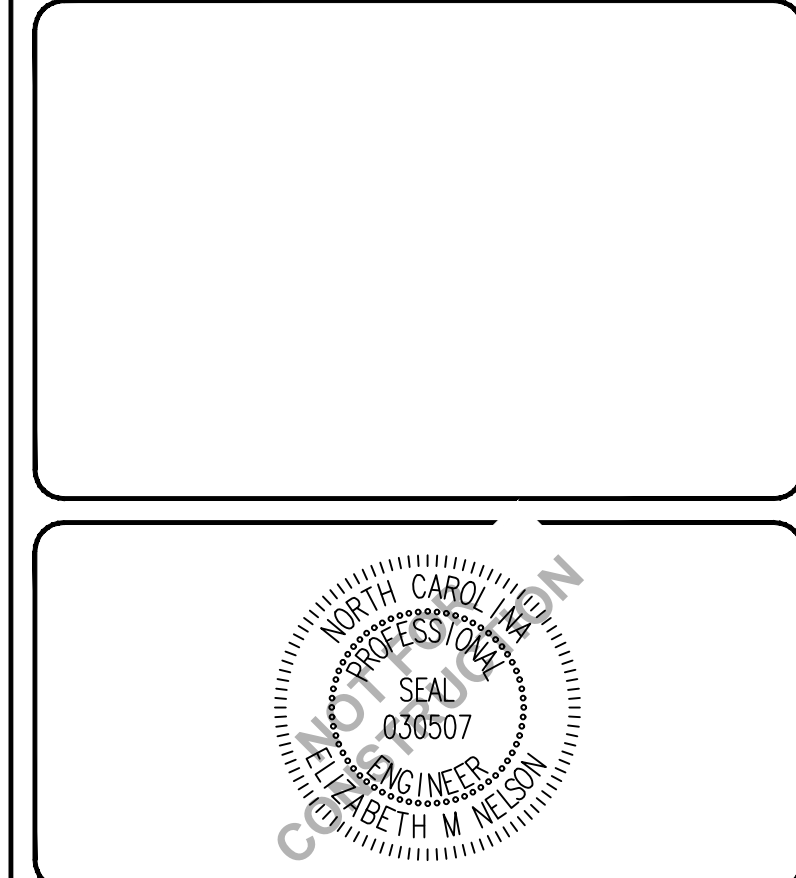
Signed: \_\_\_\_\_



**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
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N.C. LICENSE # C-1621

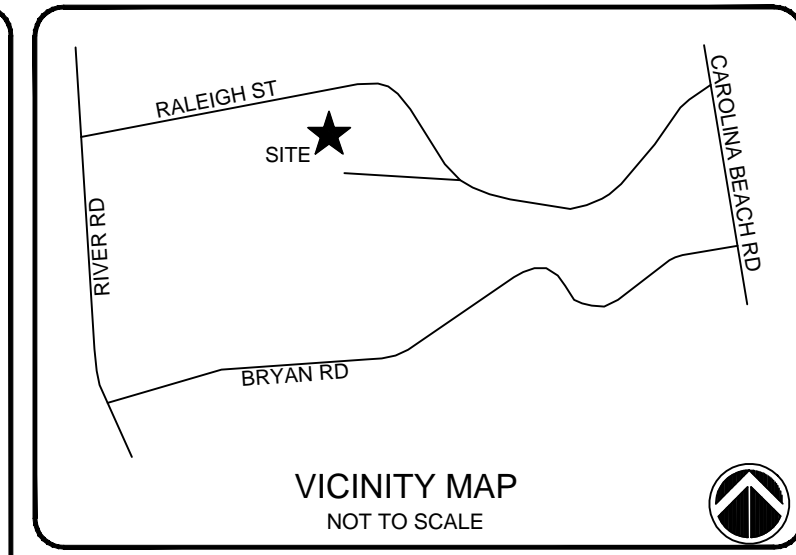
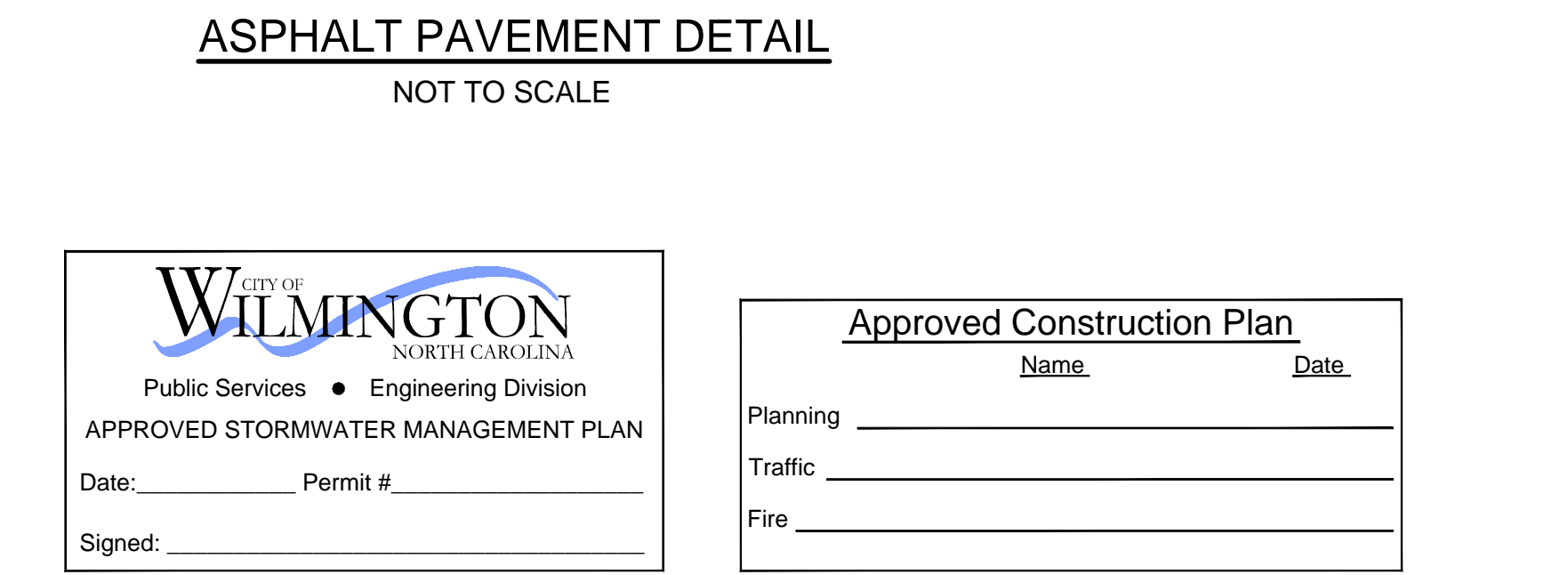
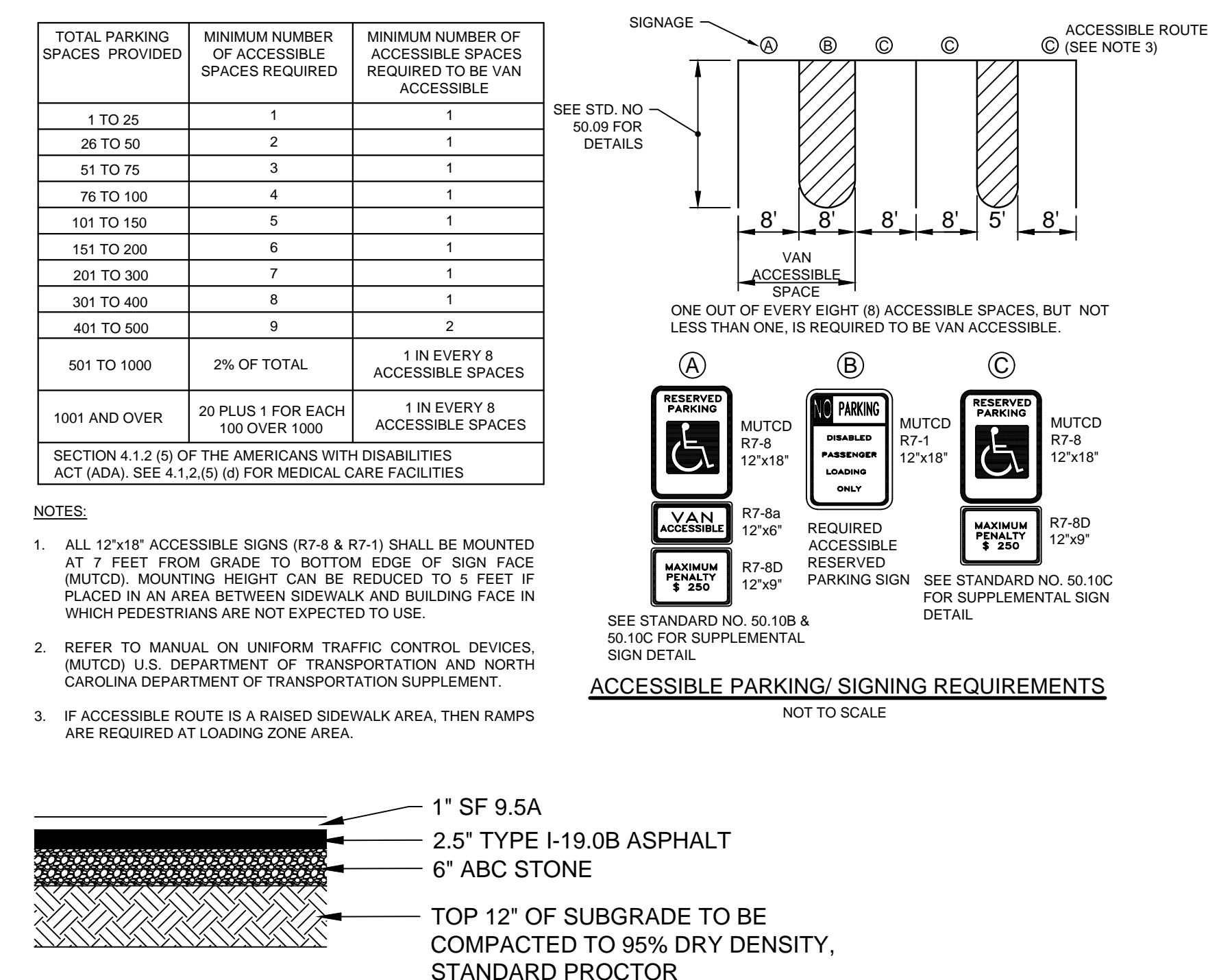
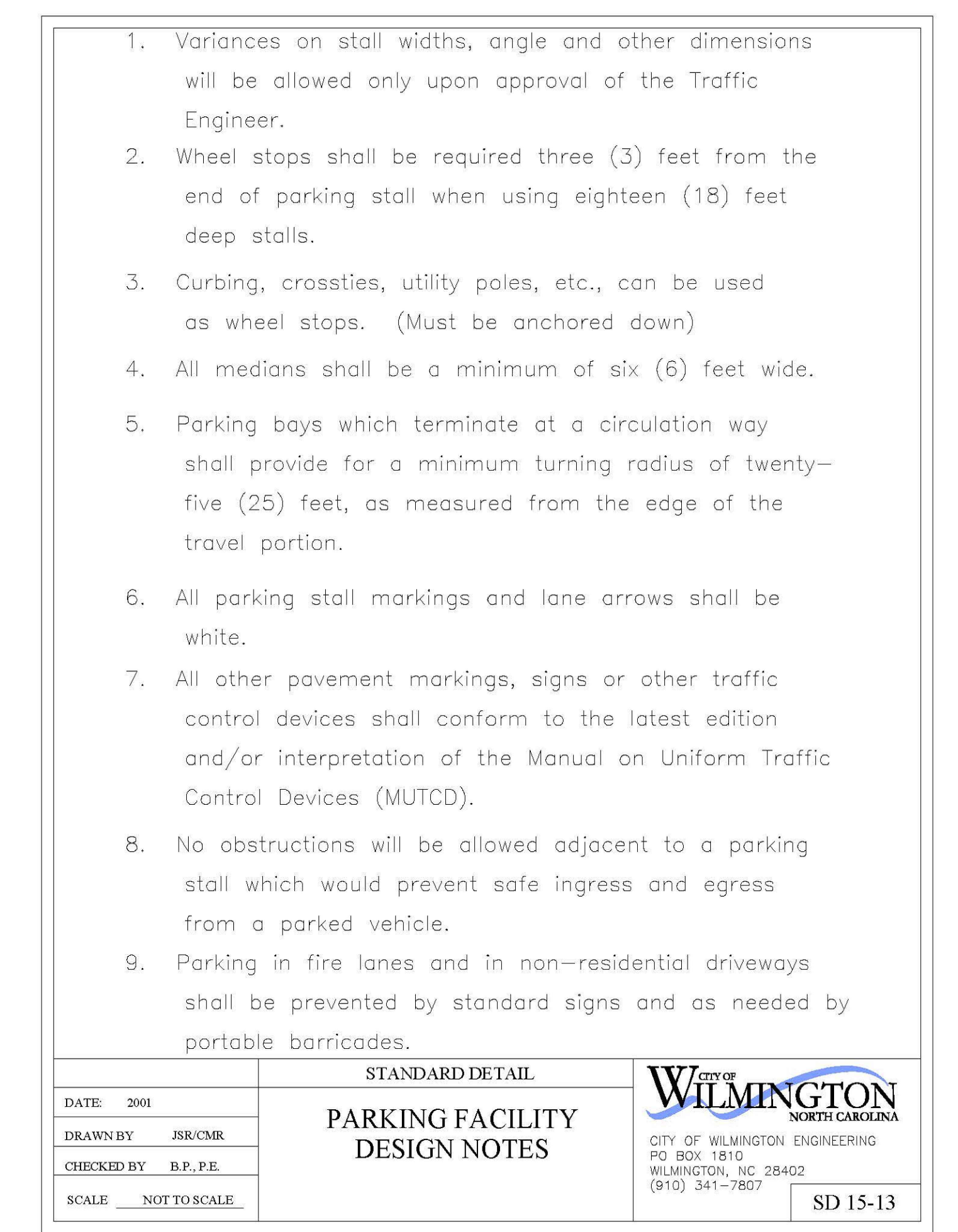
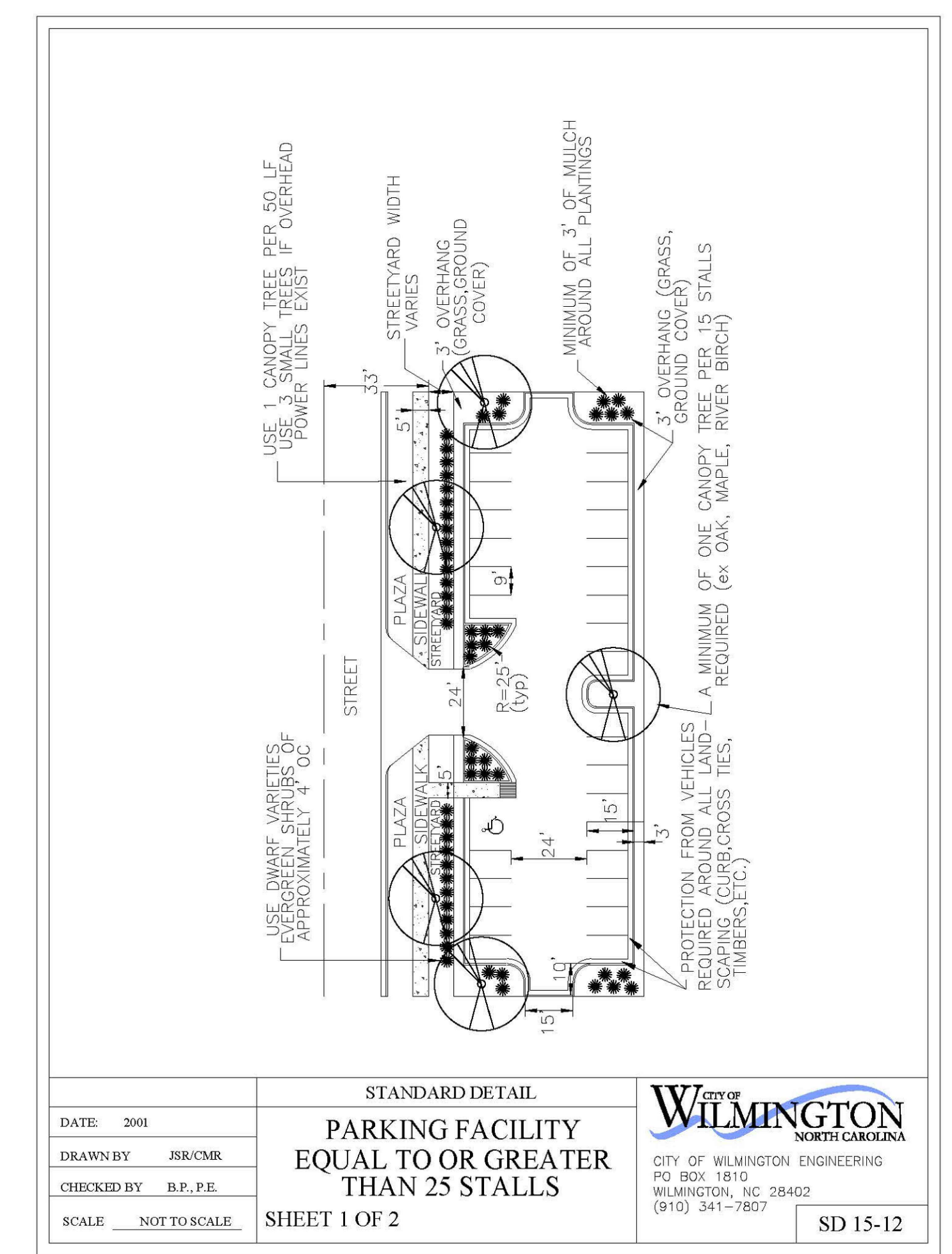
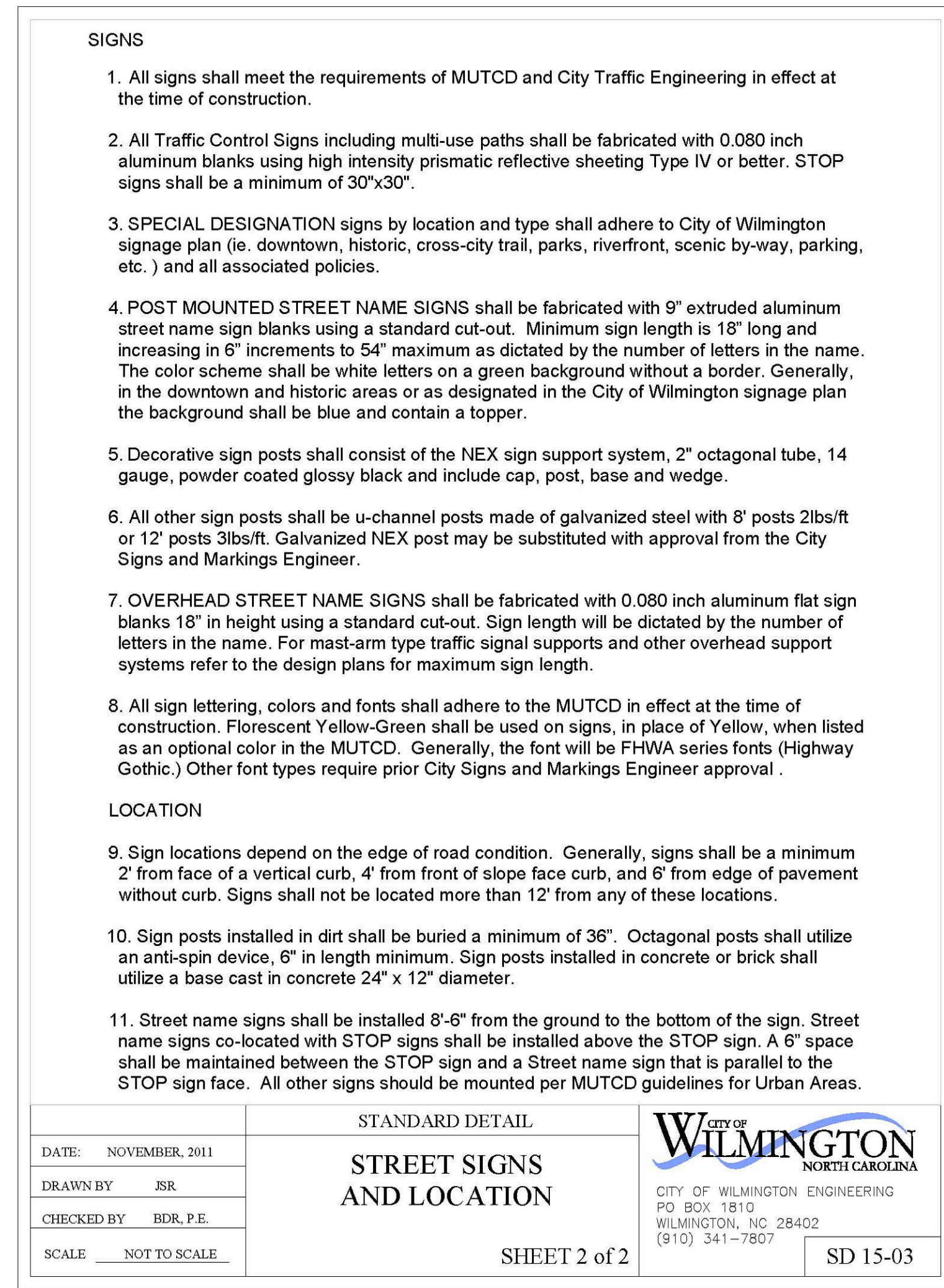
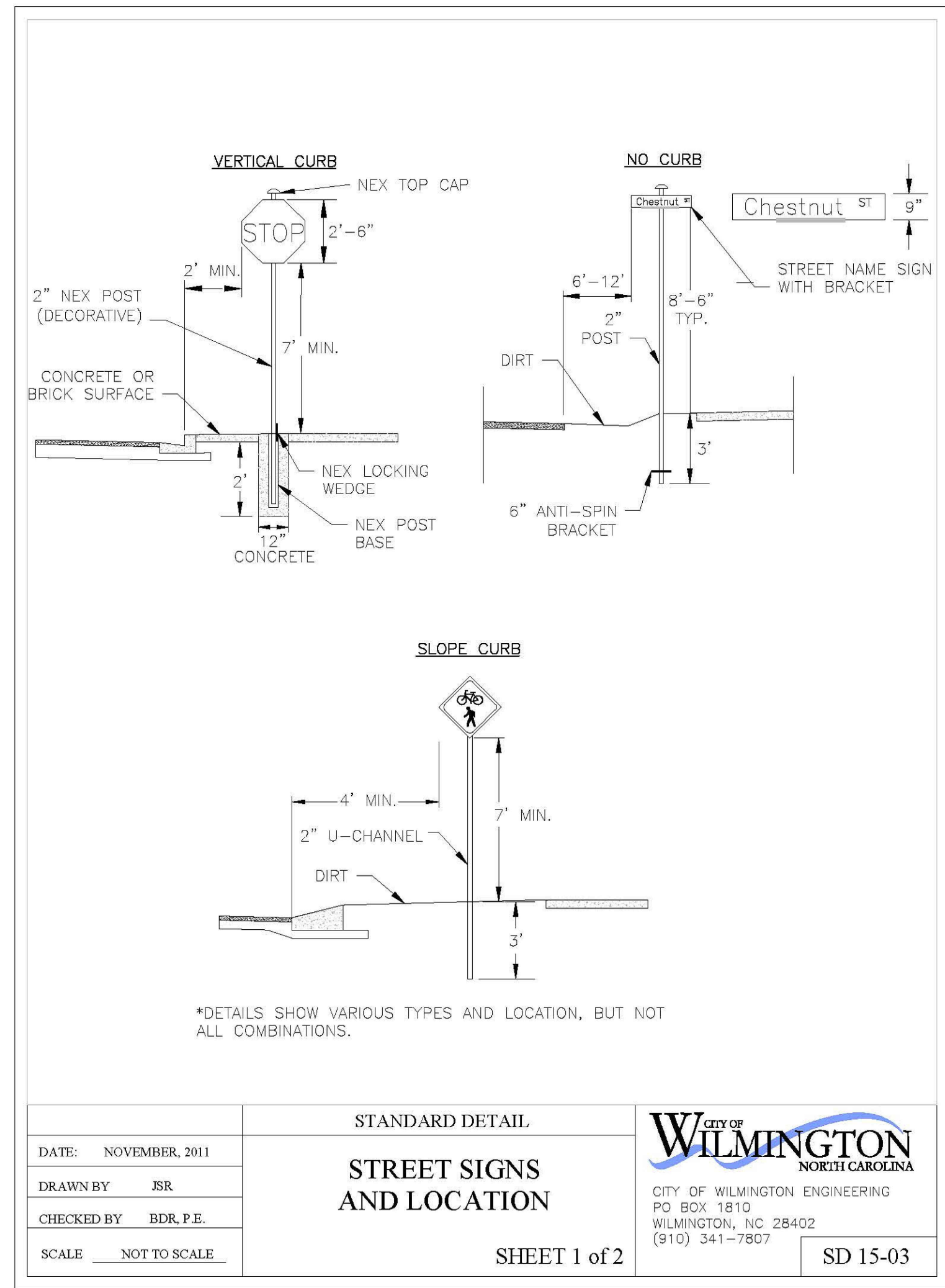
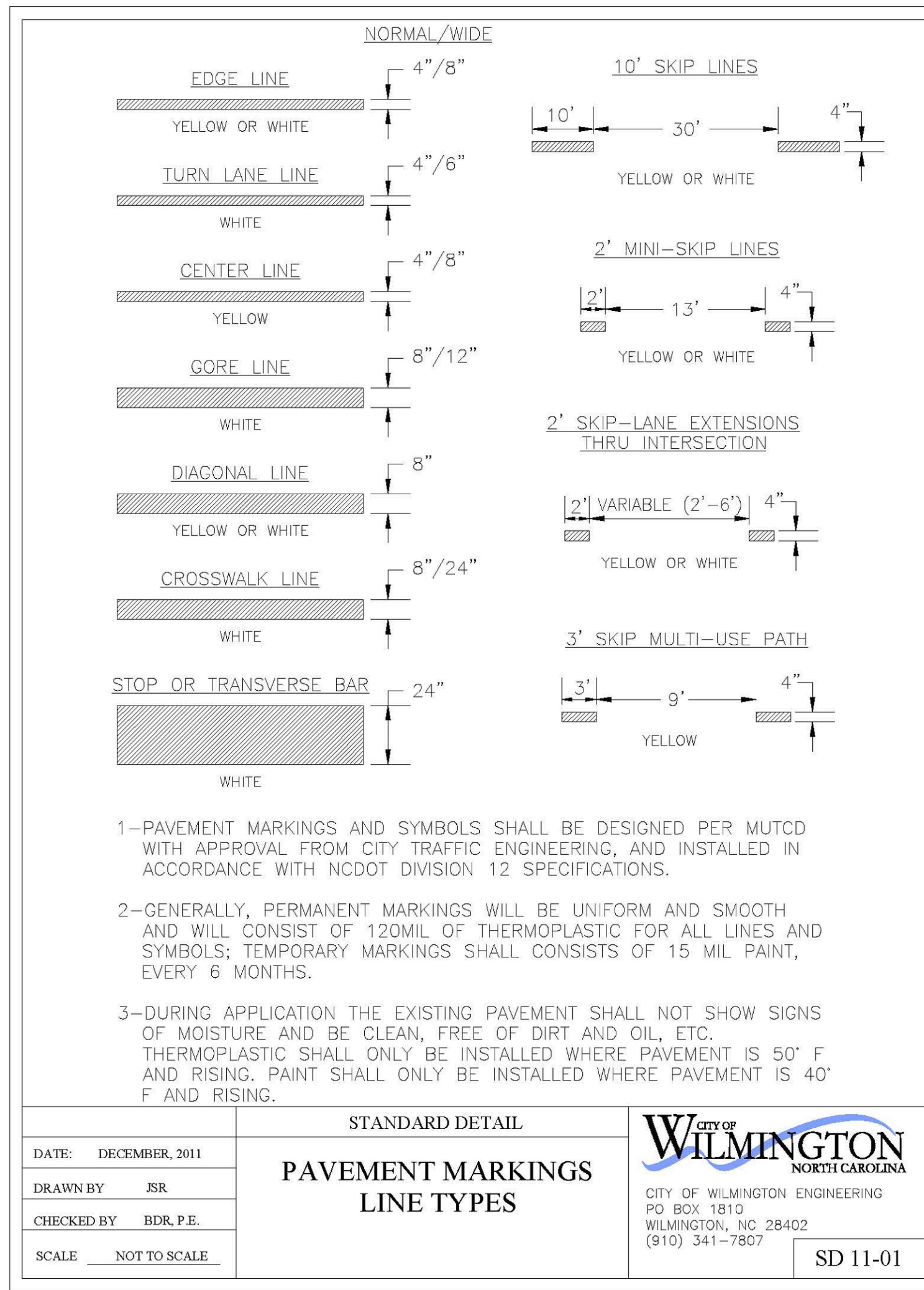
PROJECT NUMBER:	275-77
SCALE:	As Shown
DATE:	21 FEB 17

**CIVIL WORKS CONTRACTING**  
RALEIGH STREET  
WILMINGTON, NC

**SITE DETAILS**

PROJECT NUMBER	275-77	SHEET NUMBER	D-501
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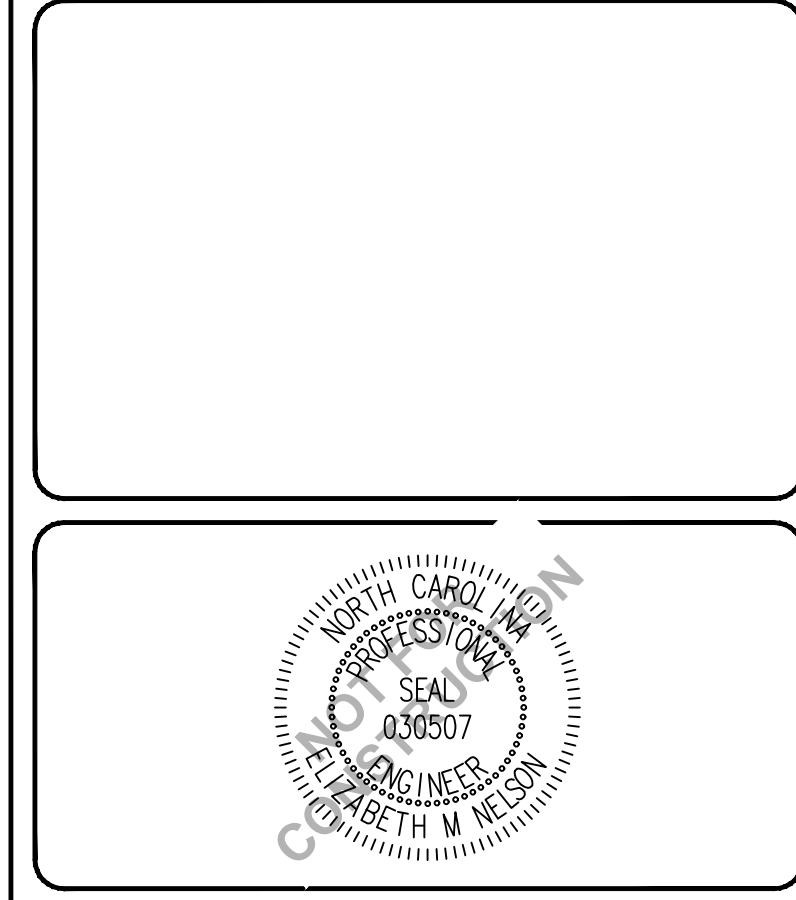




**NOTES:**

ISSUED FOR REGULATORY REVIEW

REV. #	DESCRIPTION	EMN	REV. BY	DATE
A	ISSUED FOR REGULATORY REVIEW	EMN		02/21/17



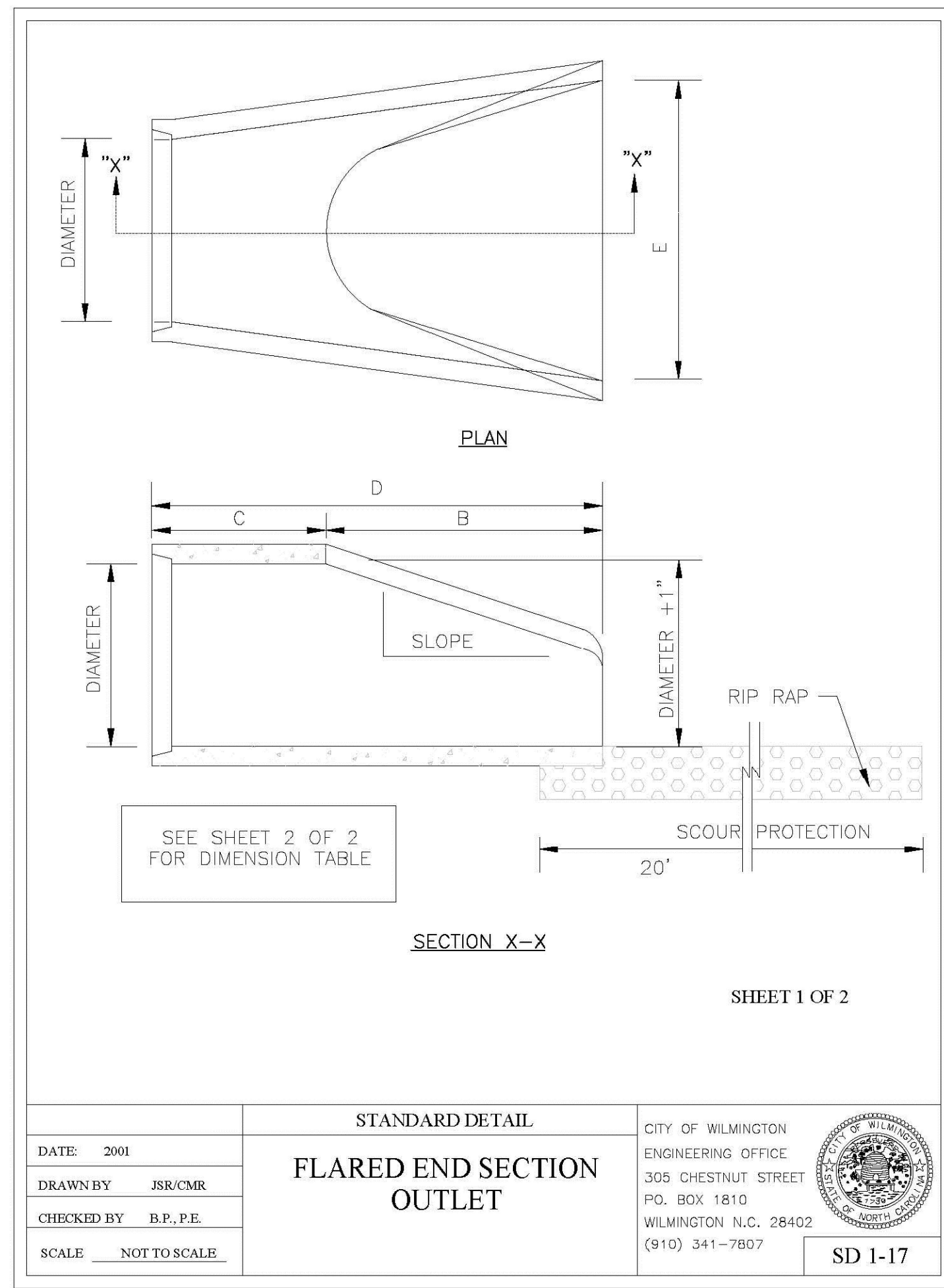
**CAPE FEAR ENGINEERING**  
 151 Poole Rd., Suite 100; Belville, NC, 28451  
 TEL (910) 383-1044; FAX (910) 383-1045  
 www.capefearengineering.com  
 N.C. LICENSE # C-1621

PROJECT NUMBER:	275-77
SCALE:	As Shown
DATE:	21 FEB 17

CIVIL WORKS CONTRACTING  
 RALEIGH STREET  
 WILMINGTON, NC

SITE DETAILS

PROJECT NUMBER	275-77	SHEET NUMBER	D-502
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NOTE:  
1. STRUCTURAL DESIGN OF END SECTION SHALL CONFORM WITH THAT OF STANDARD REINFORCED CONCRETE.

PIPE DIAMETER	WALL THICKNESS	SLOPE	B	C	D	E	UNIT WEIGHT
12	2 1/4	3:1	24	49	73	24	730
15	2 1/4	3:1	27	46	73	30	910
18	2 1/2	3:1	27	46	73	36	1190
21	2 3/4	3:1	36	37	73	42	1370
24	3	3:1	42	31 1/2	73 1/2	48	1770
27	3 1/4	3:1	48	25 1/2	73 1/2	54	2130
30	3 1/2	3:1	54	19 3/4	73 3/4	60	2380
33	3 3/4	3:1	60	36	96	66	3870
36	4	3:1	63	34 3/4	97 3/4	72	5320
42	4 1/2	3:1	63	35	98	78	5920
48	5	3:1	72	26	98	84	7470
54	5 1/2	2.4:1	66	34	100	90	8810
60	6	2:1	60	39	99	96	11180
72	7	2:1	78	21	99	108	13980

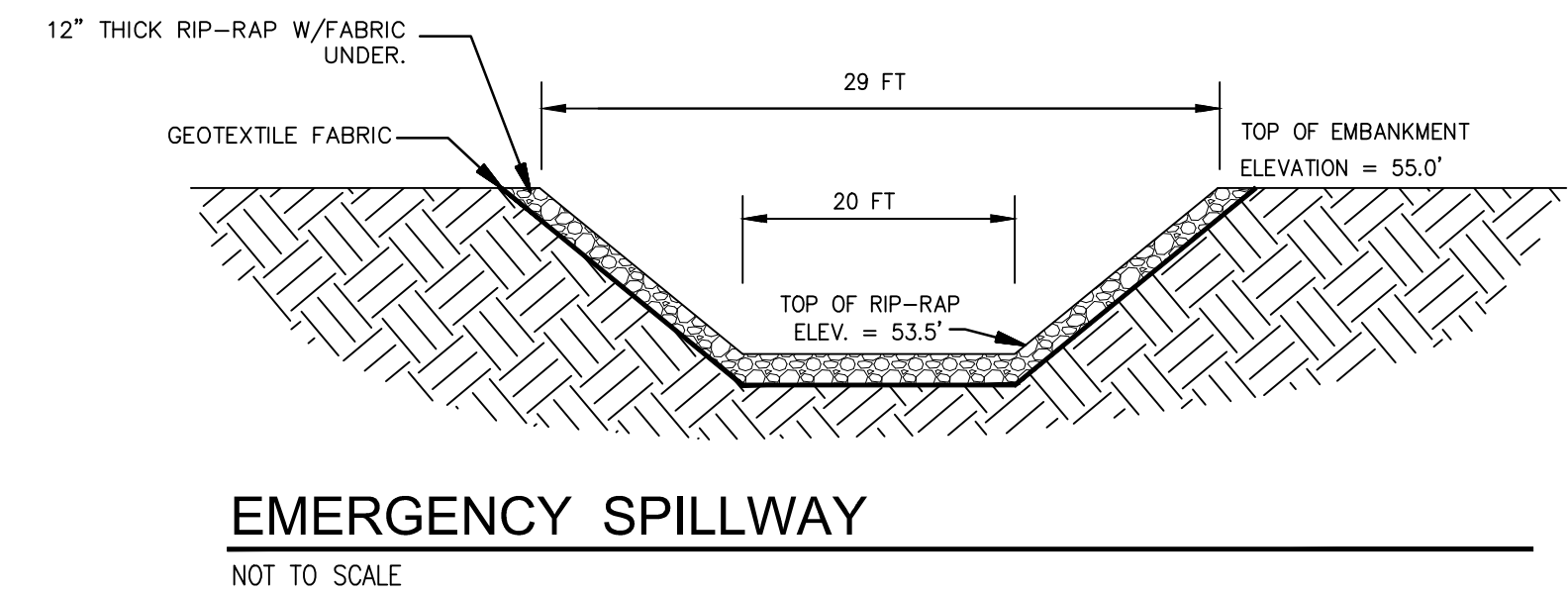
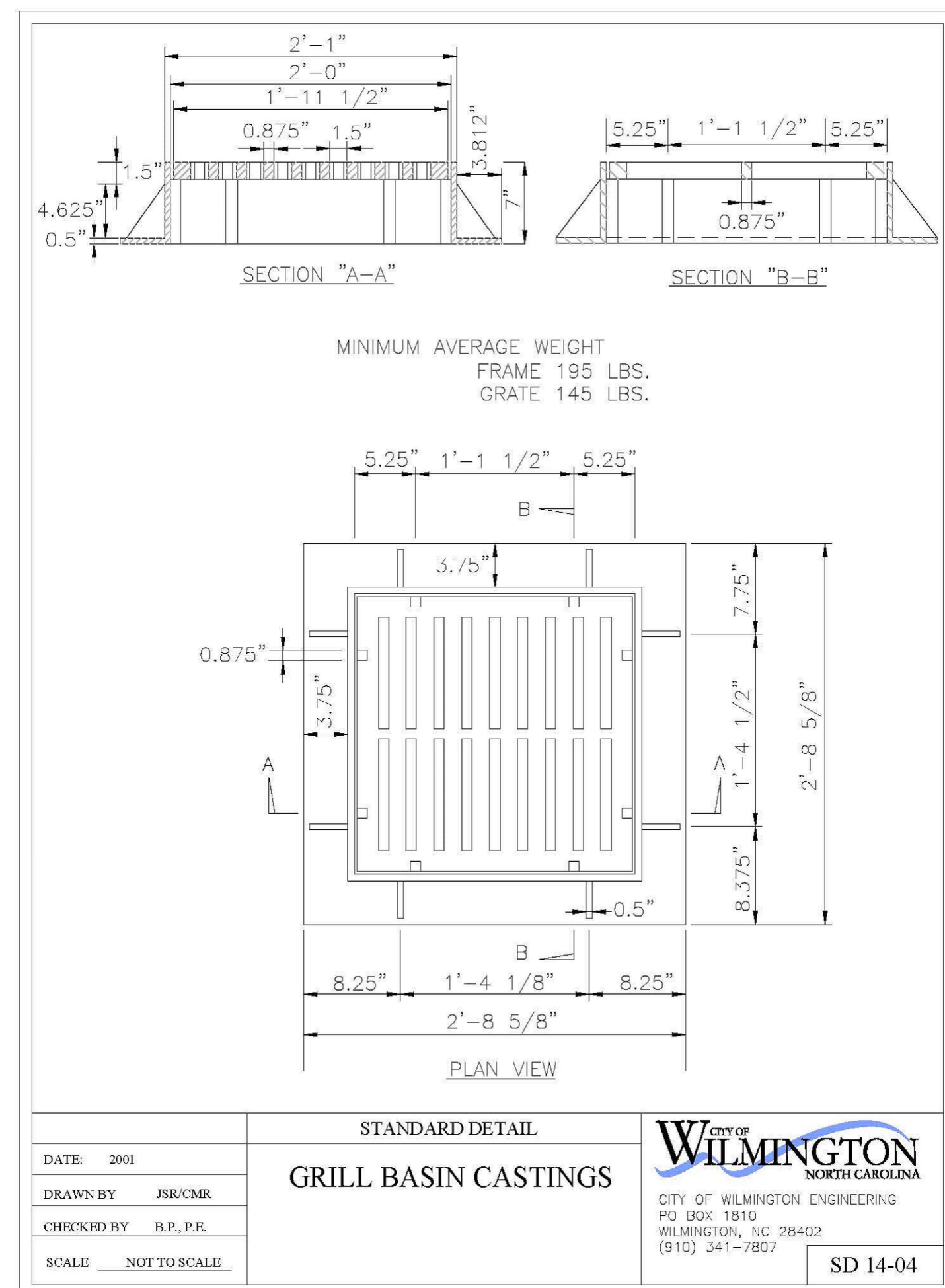
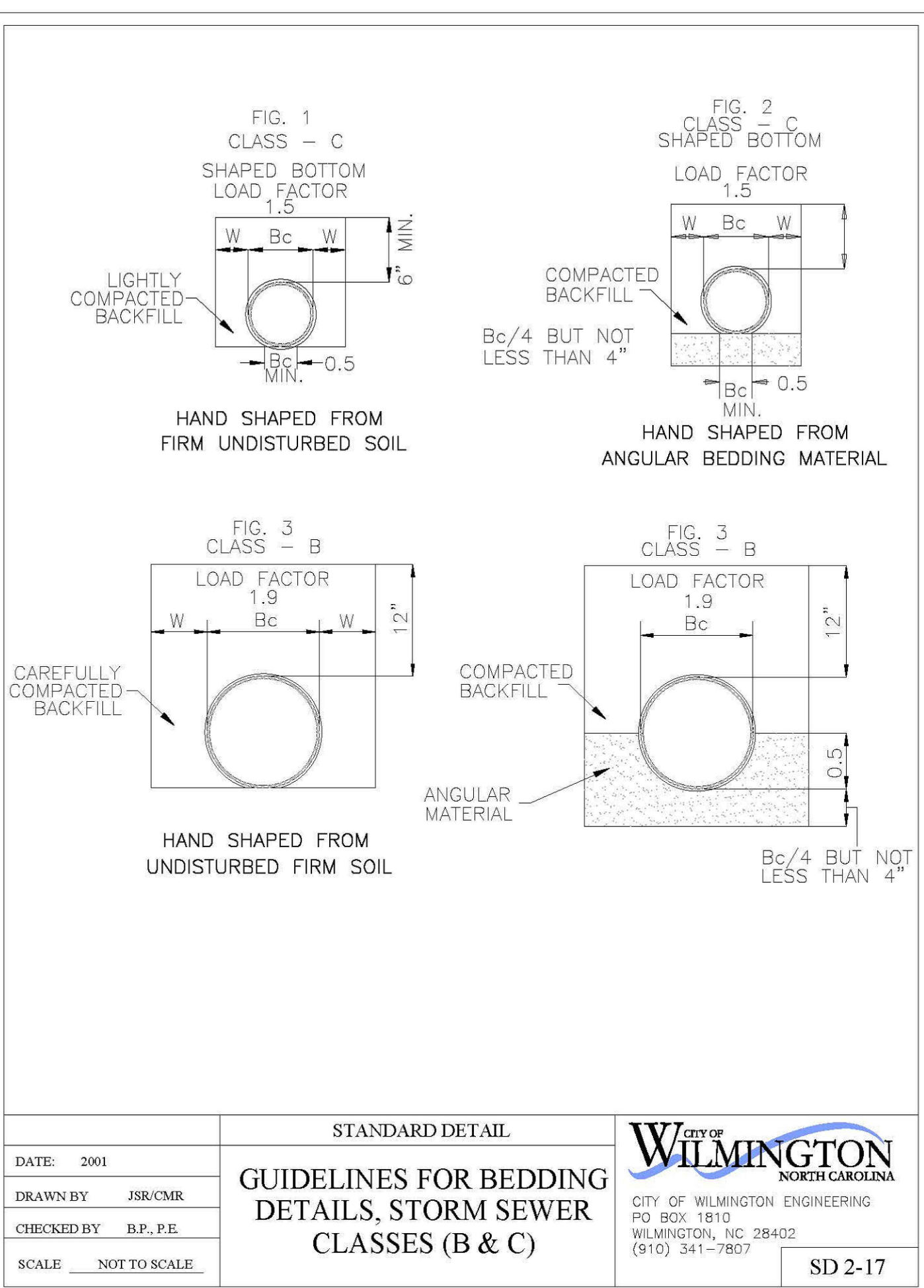
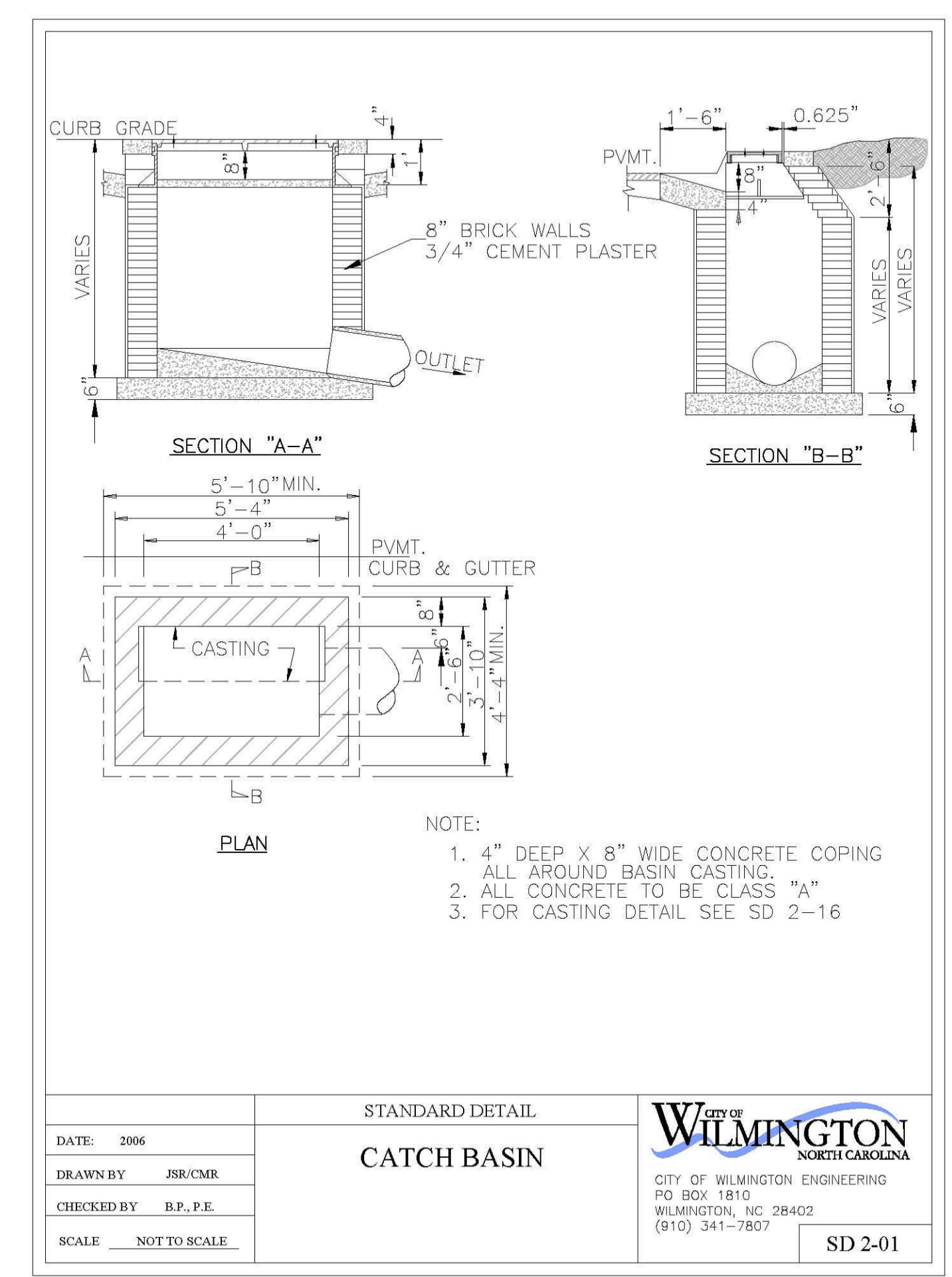
DIMENSIONS IN INCHES WEIGHTS IN POUNDS

DATE: 2001  
DRAWN BY: JSR/CMR  
CHECKED BY: B.P., P.E.  
SCALE: NOT TO SCALE

STANDARD DETAIL  
**FLARED END SECTION OUTLET DIMENSION TABLE**

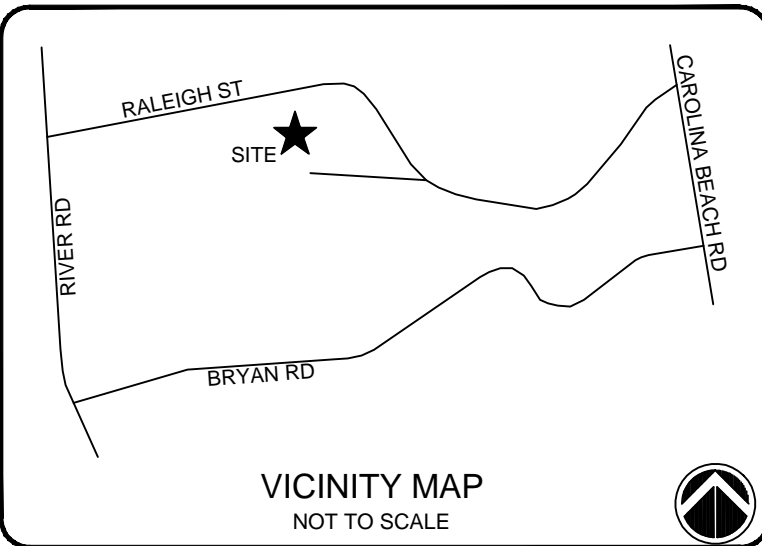
CITY OF WILMINGTON  
ENGINEERING OFFICE  
305 CHESTNUT STREET  
PO. BOX 1810  
WILMINGTON, N.C. 28402  
(910) 341-7807

SD 1-17



CITY OF WILMINGTON  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

**Approved Construction Plan**  
Name: \_\_\_\_\_ Date: \_\_\_\_\_  
Planning: \_\_\_\_\_  
Traffic: \_\_\_\_\_  
Fire: \_\_\_\_\_

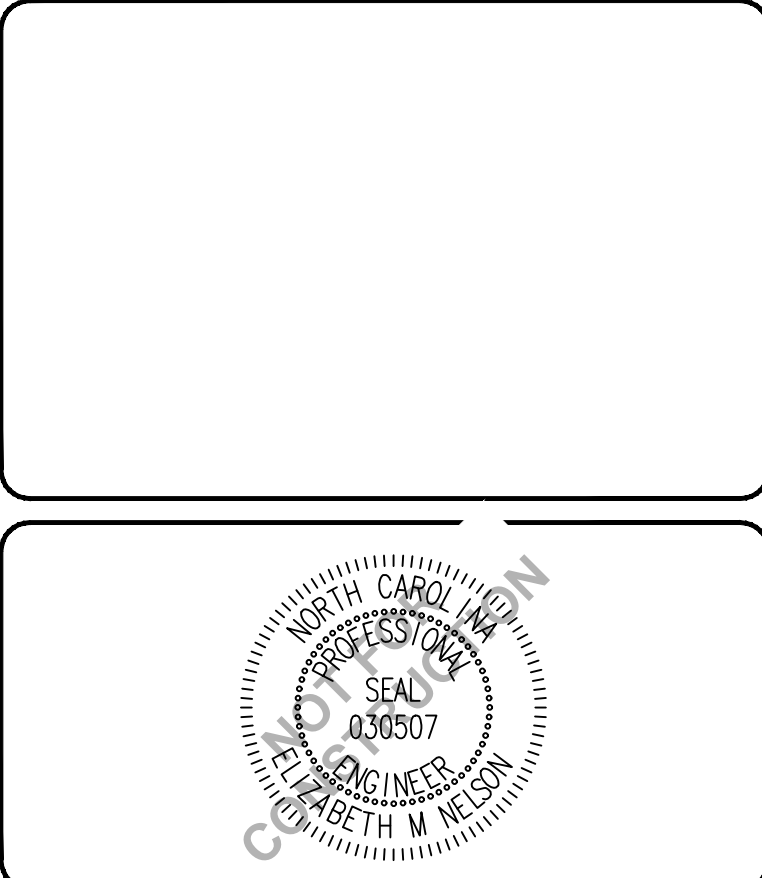


NOTES:

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17

REVISIONS



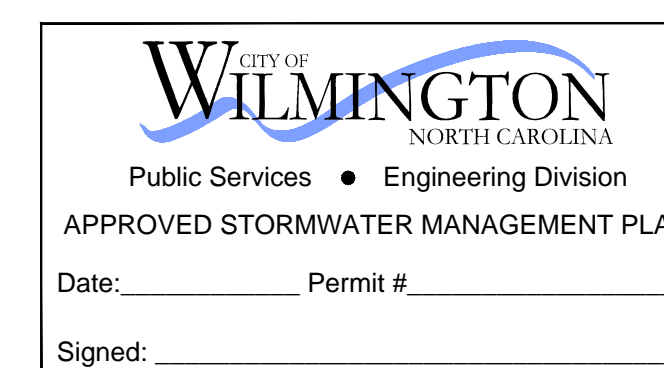
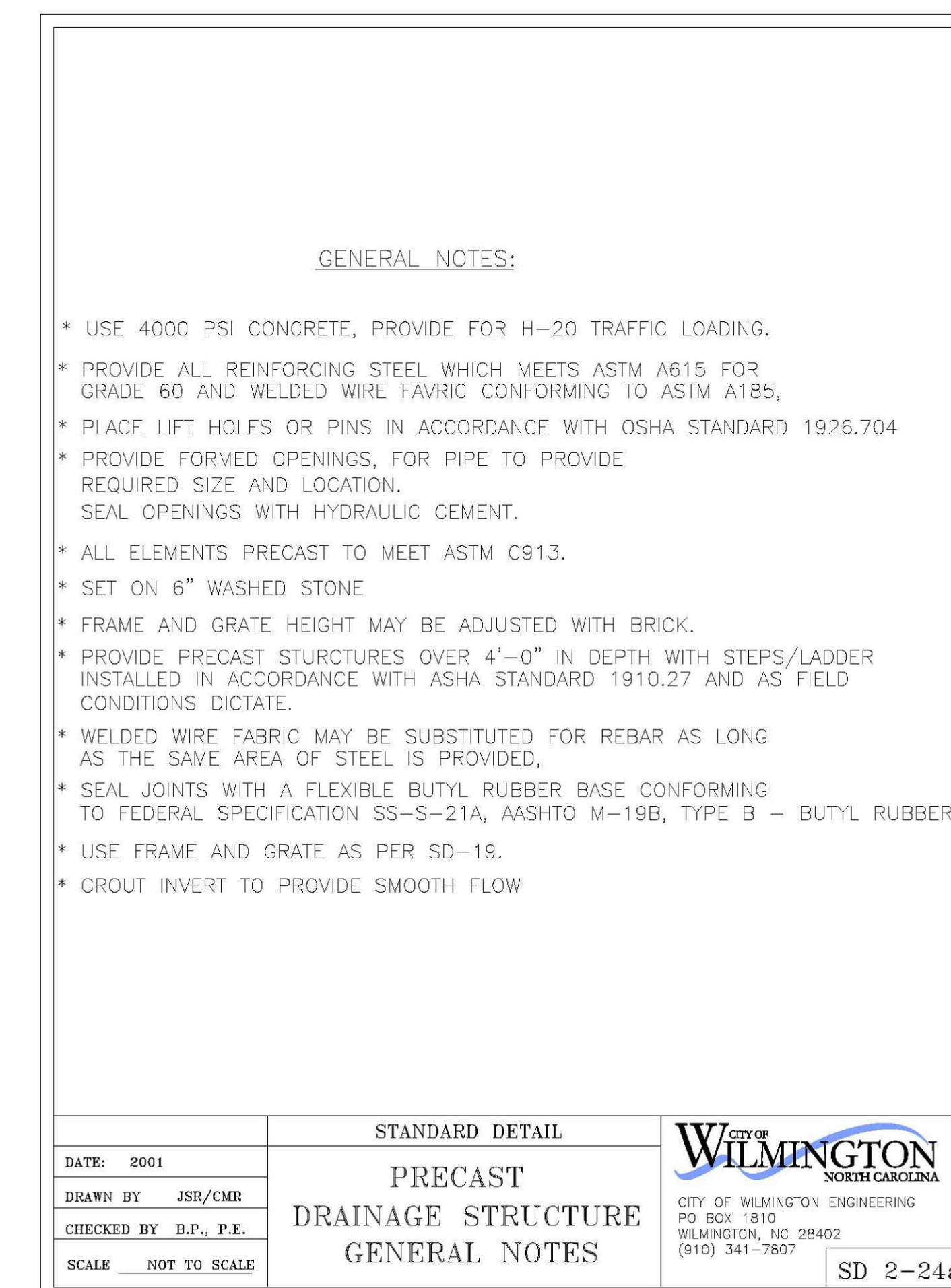
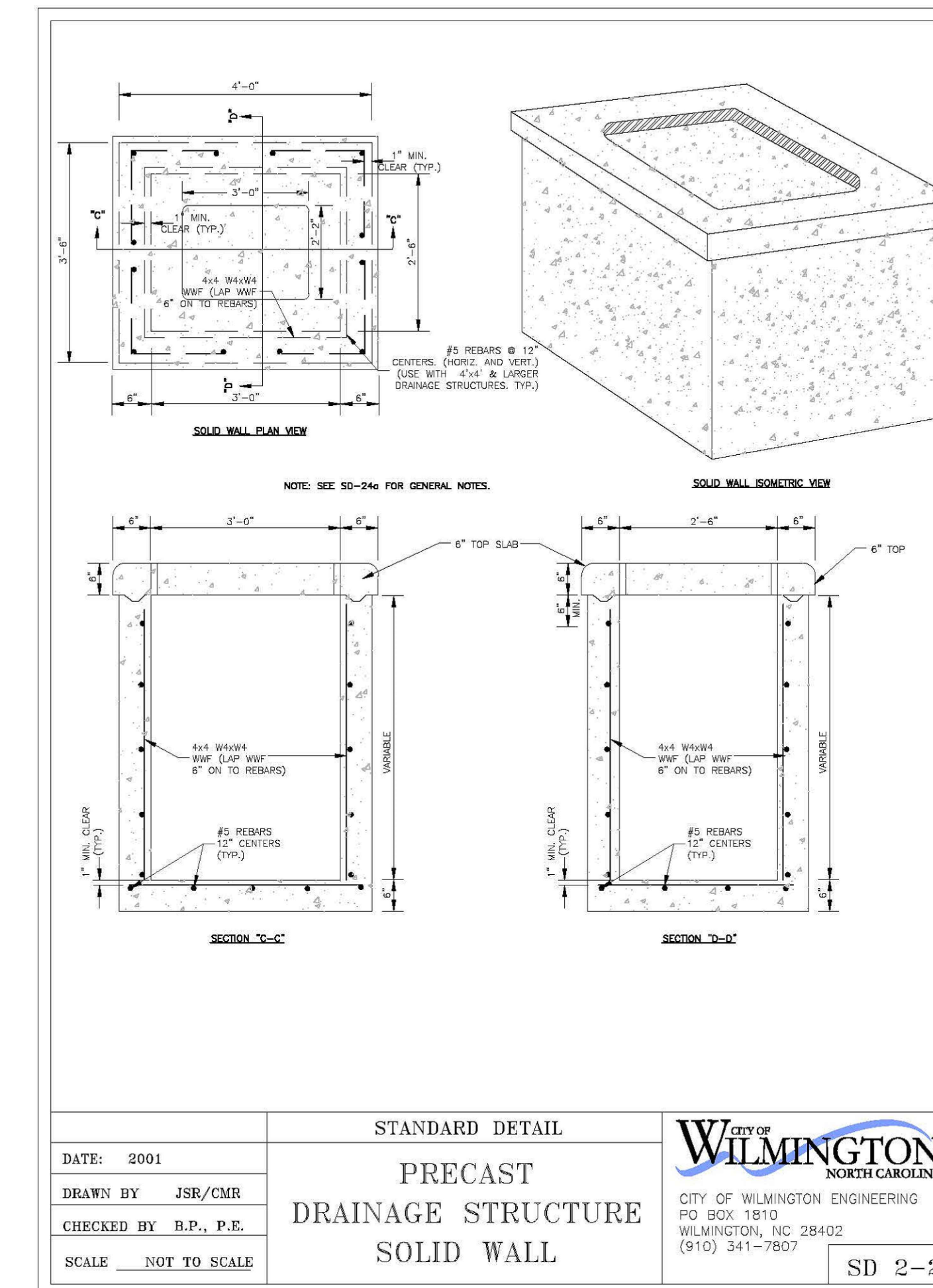
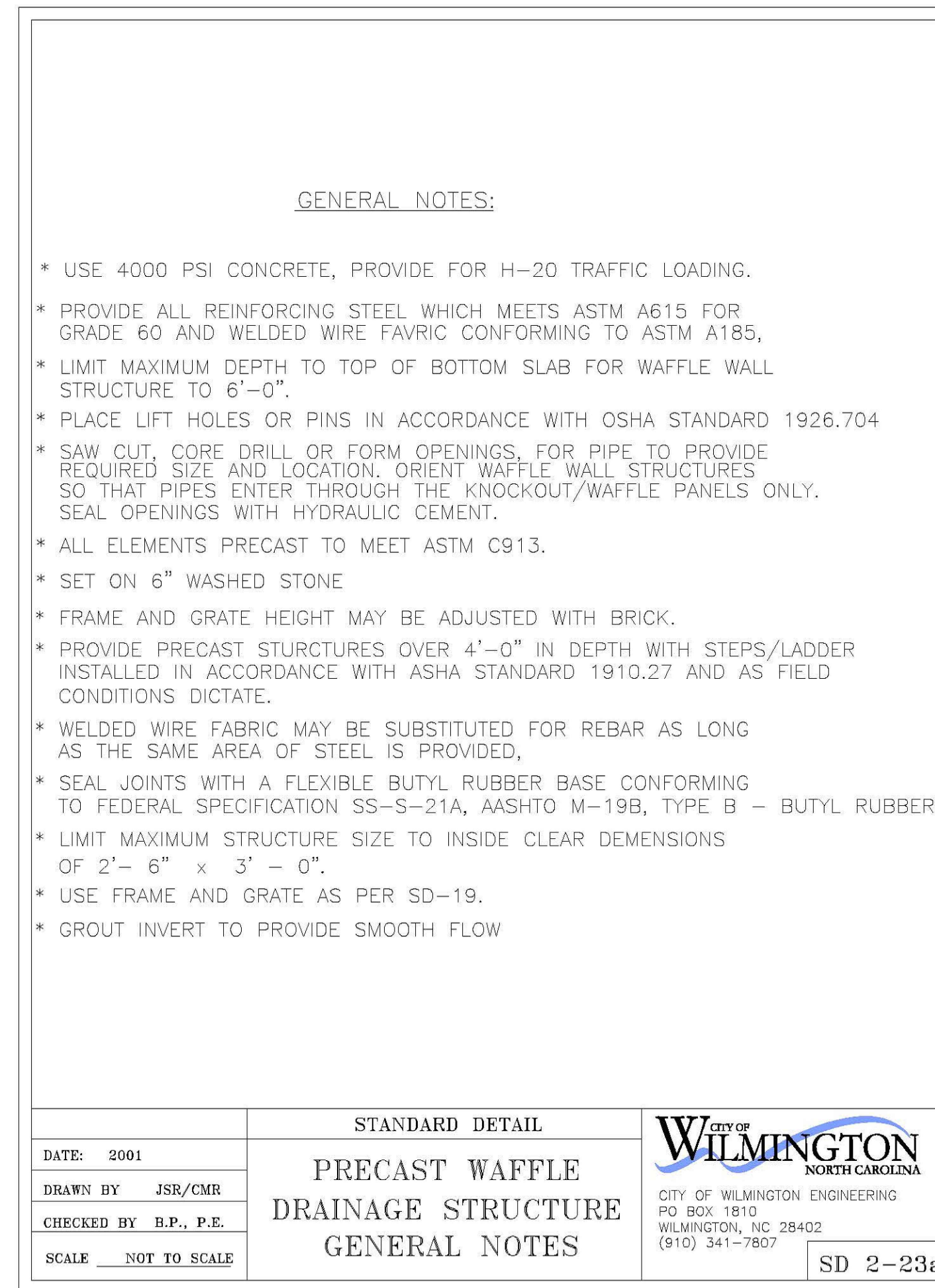
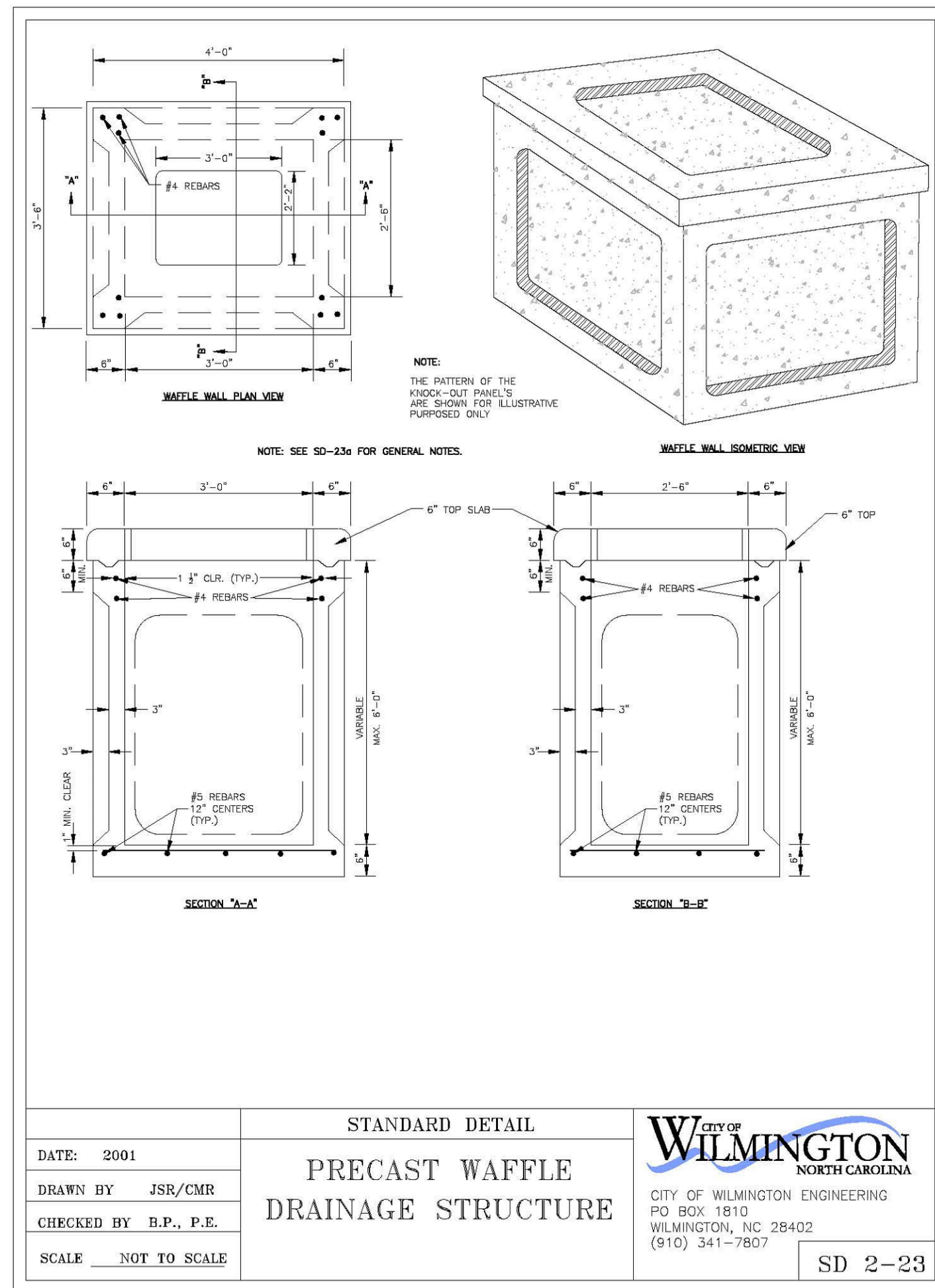
**CAPE FEAR ENGINEERING**  
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TEL (910) 383-1044; FAX (910) 383-1045  
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N.C. LICENSE # C-1621

PROJECT NUMBER: 275-77  
SCALE: As Shown  
DATE: 21 FEB 17

CIVIL WORKS CONTRACTING  
RALEIGH STREET  
WILMINGTON, NC

STORMWATER DETAILS

PROJECT NUMBER: 275-77  
SHEET NUMBER: D-503



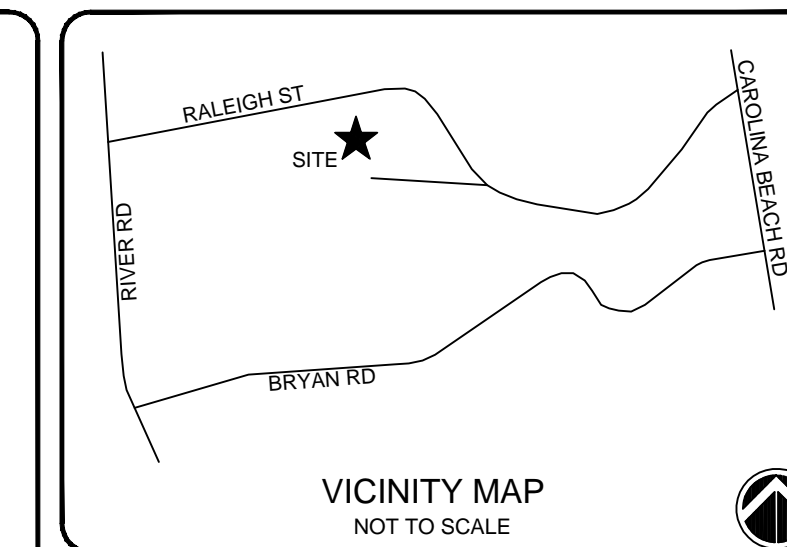
**Approved Construction Plan**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

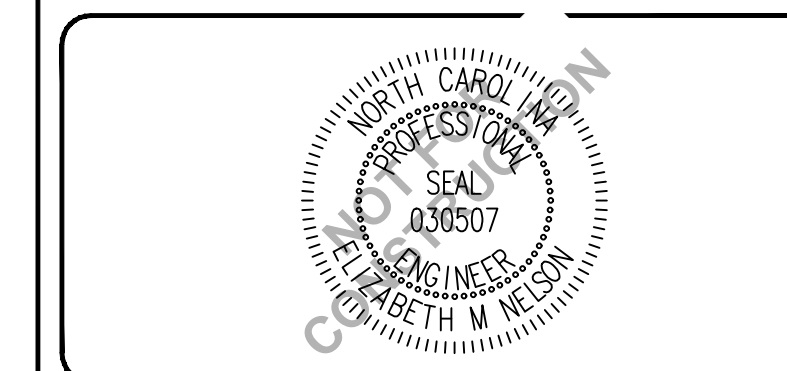
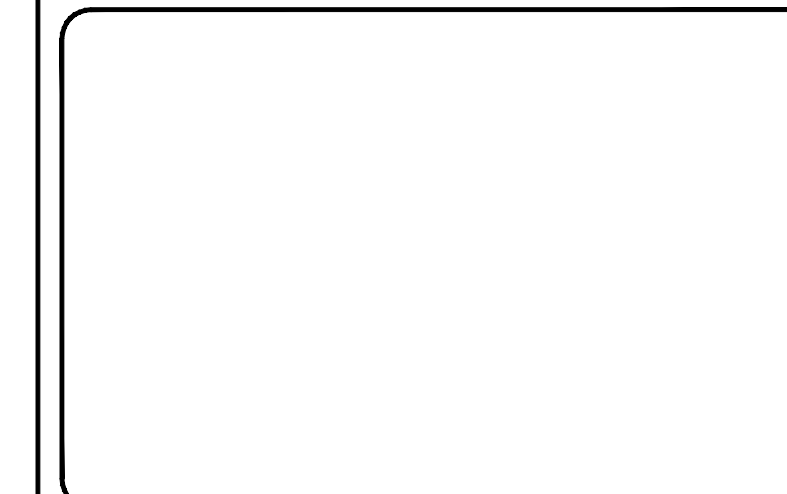
Fire \_\_\_\_\_



**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

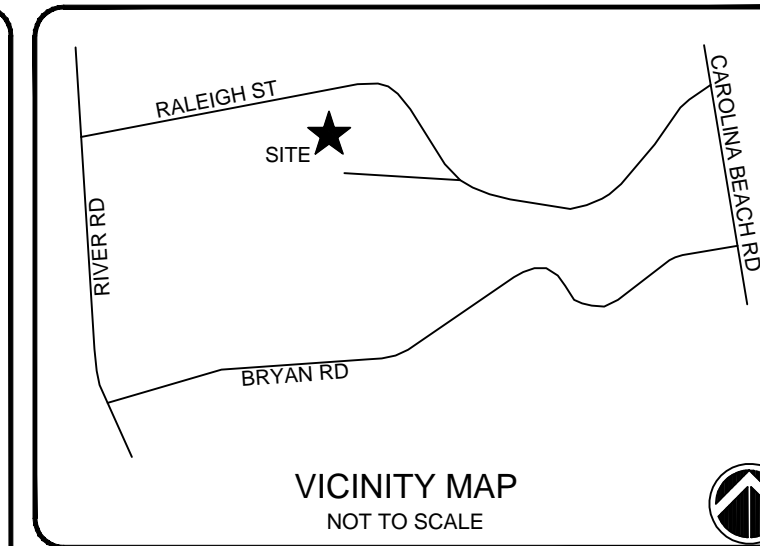
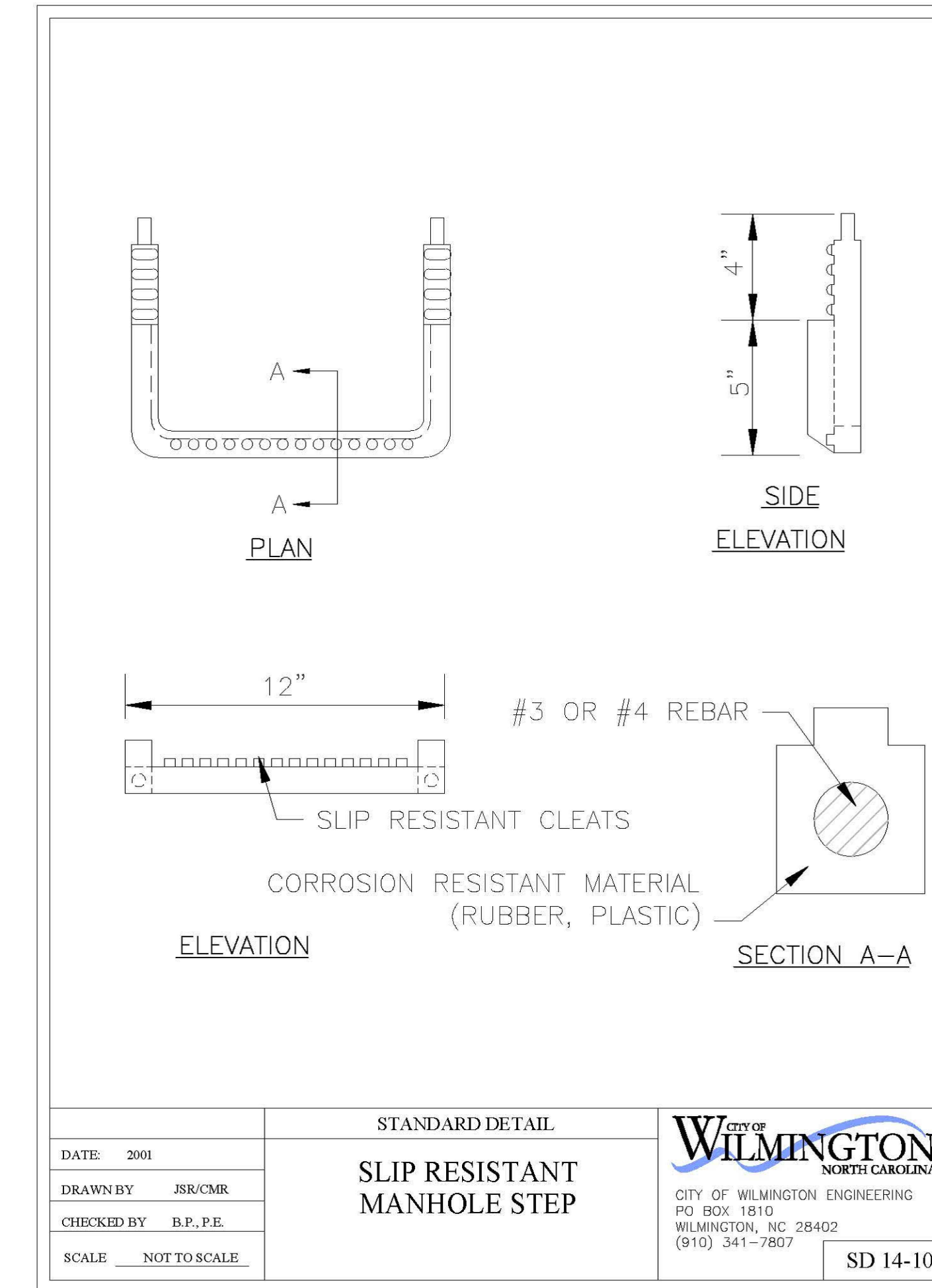
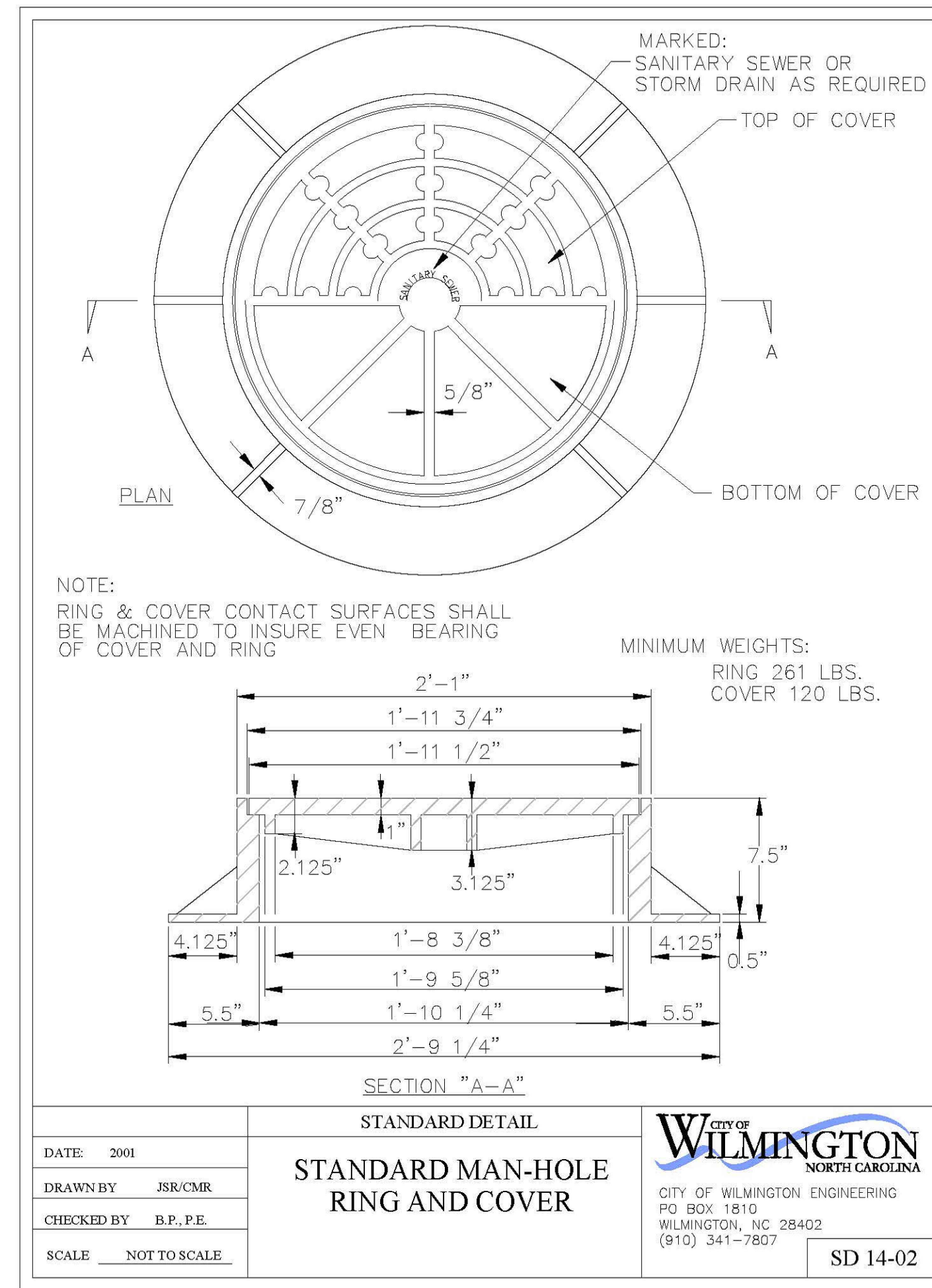
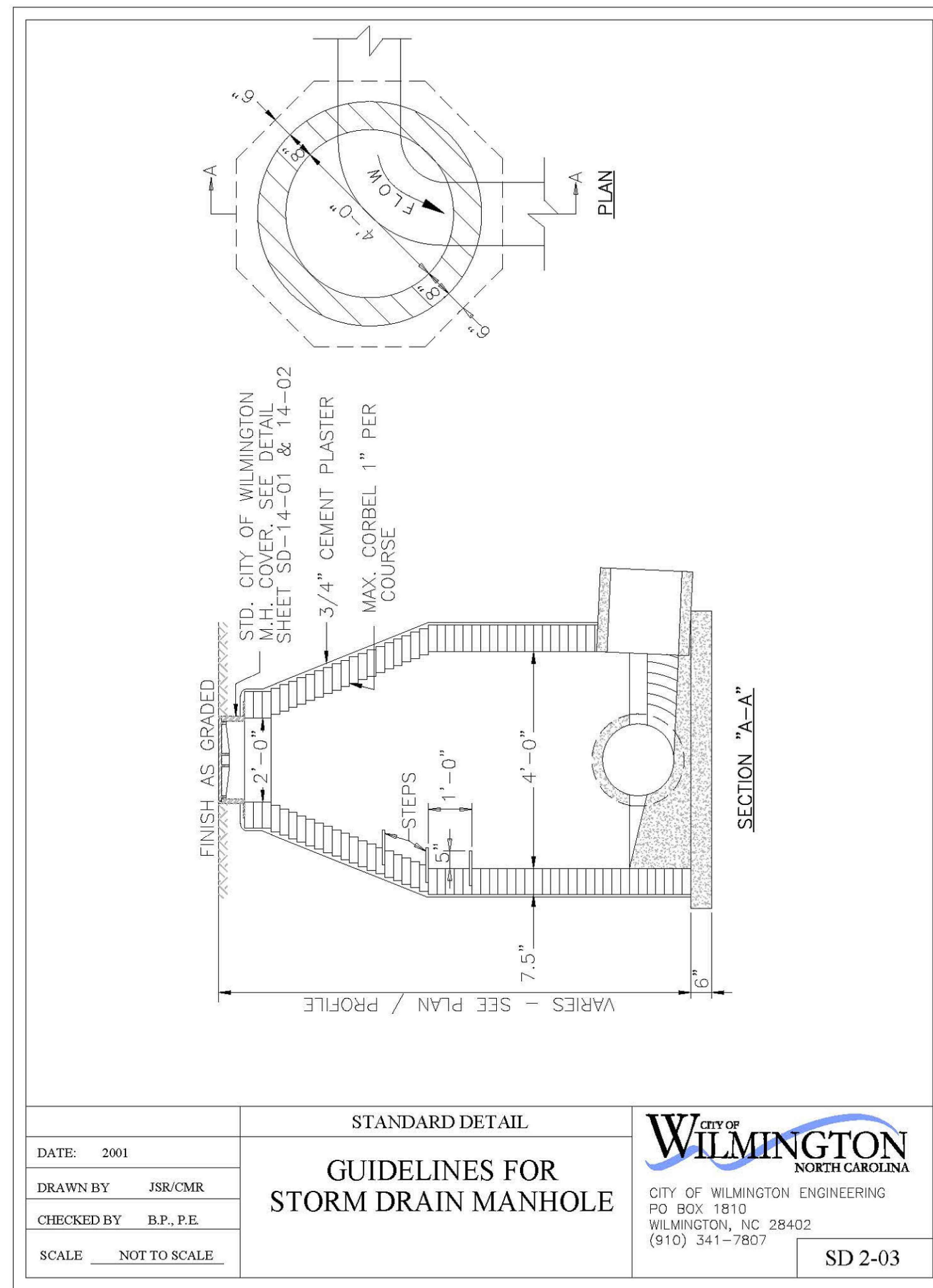
REV. #	DESCRIPTION	REV. BY	DATE
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17
REVISIONS			



PROJECT NUMBER: 275-77  
 SCALE: As Shown  
 DATE: 21 FEB 17

**CIVIL WORKS CONTRACTING**  
 RALEIGH STREET  
 WILMINGTON, NC

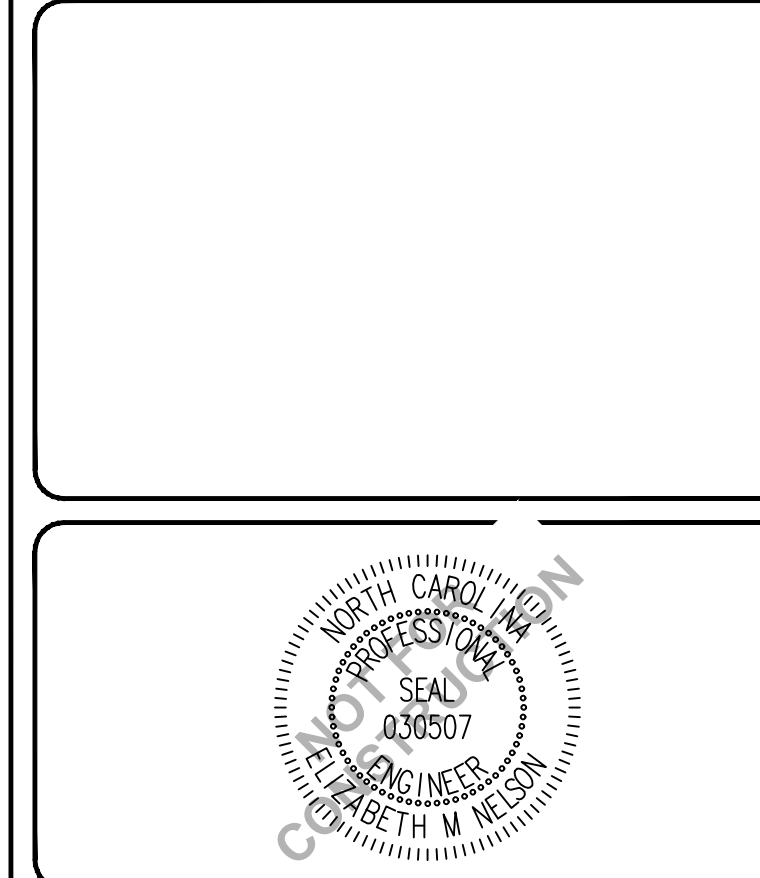
**STORMWATER DETAILS**



**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	REV. BY	DATE
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR REGULATORY REVIEW	EMN	02/21/17
REVISIONS			



**CAPE FEAR ENGINEERING**

151 Poole Rd., Suite 100, Belville, NC, 28451  
 TEL (910) 383-1044; FAX (910) 383-1045  
 www.capefearengineering.com  
 N.C. LICENSE # C-1621

PROJECT NUMBER:	275-77
SCALE:	As Shown
DATE:	21 FEB 17

**CIVIL WORKS CONTRACTING**  
 RALEIGH STREET  
 WILMINGTON, NC

**STORMWATER DETAILS**

PROJECT NUMBER	SHEET NUMBER
<b>275-77</b>	<b>D-505</b>

**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
 Signed: \_\_\_\_\_

**Approved Construction Plan**

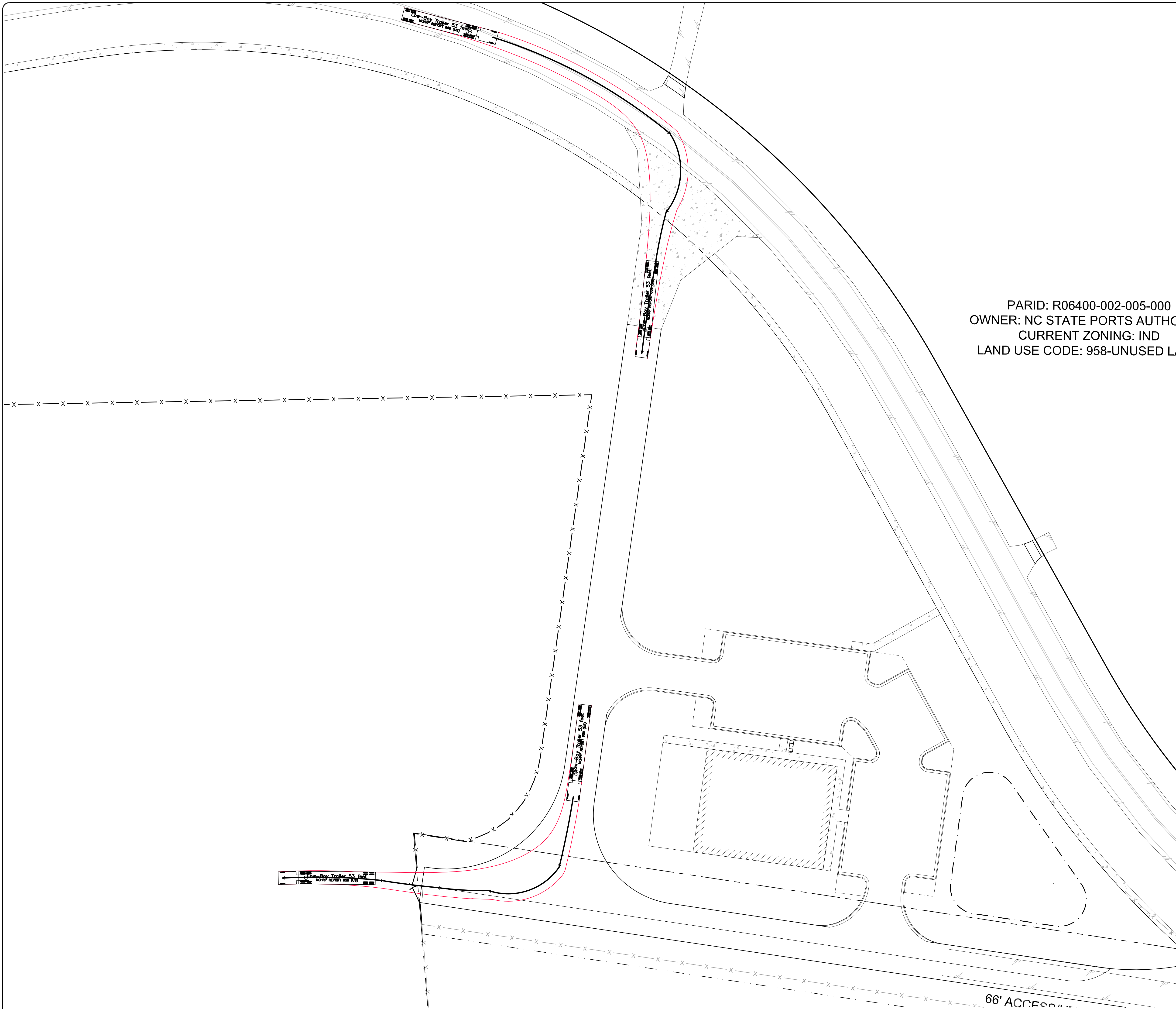
Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

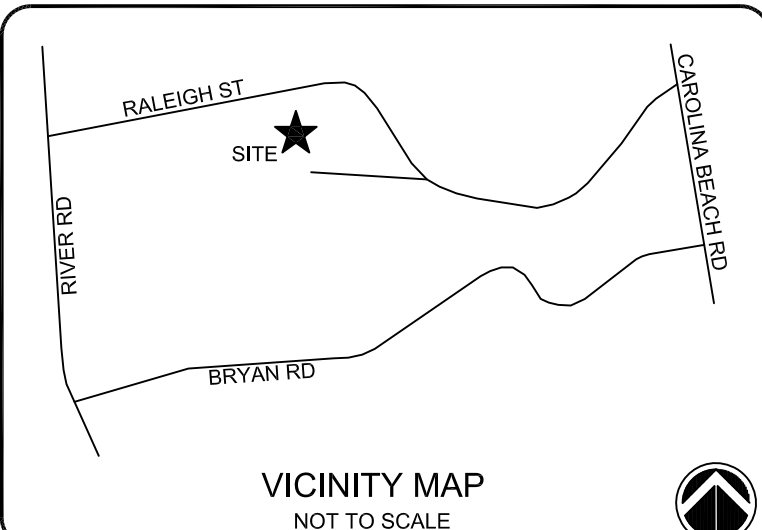
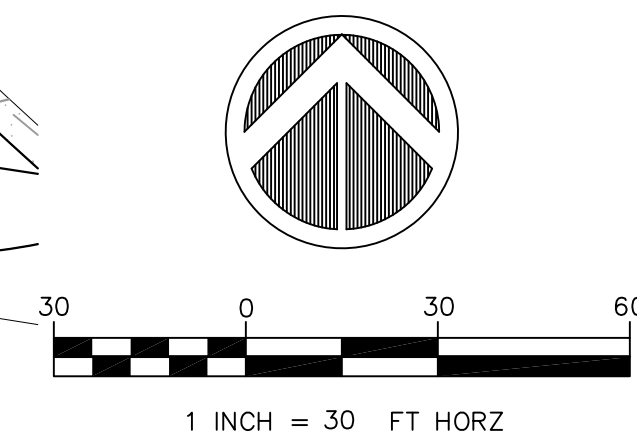
Traffic \_\_\_\_\_

Fire \_\_\_\_\_

PATH:P:\275\275-77 CWC OFFICE BLDG RALEIGH ST - ENGINEERING\DWG\CONSTRUCTION\EXHIBITS.DWG



PARID: R06400-002-005-000  
OWNER: NC STATE PORTS AUTHO  
CURRENT ZONING: IND  
LAND USE CODE: 958-UNUSED LA



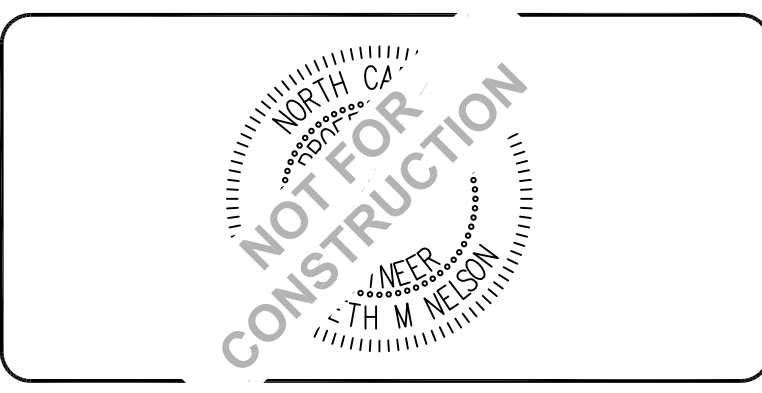
**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	DATE
REVISIONS		

A	ISSUED FOR REGULATORY REVIEW	EMN 06/30/17
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REVISIONS		
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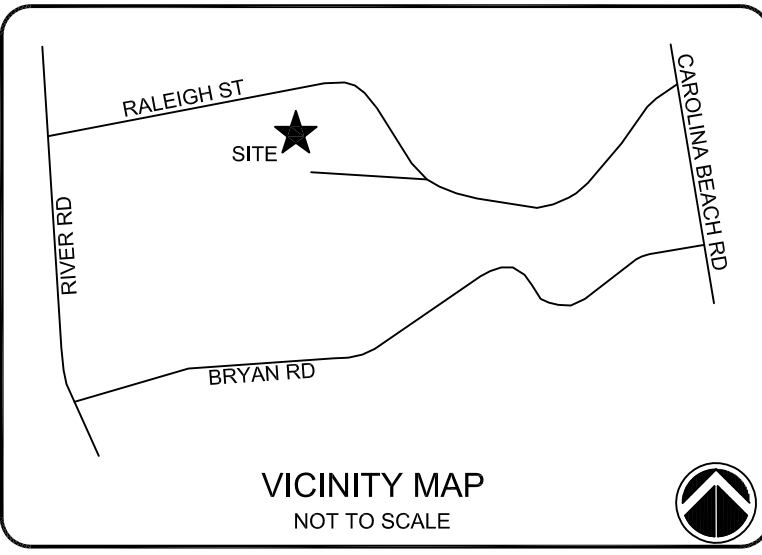
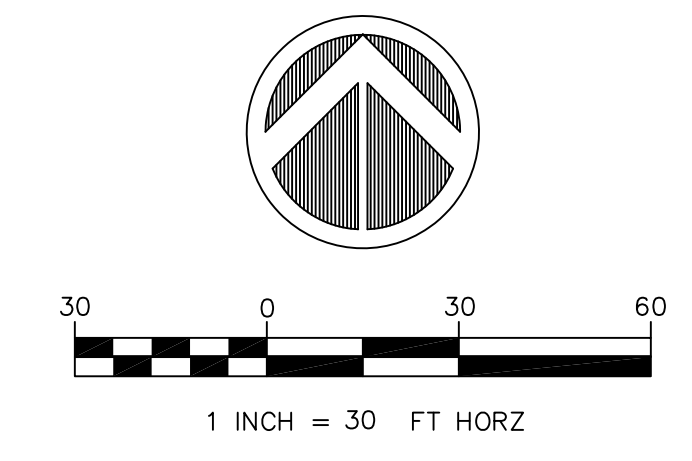
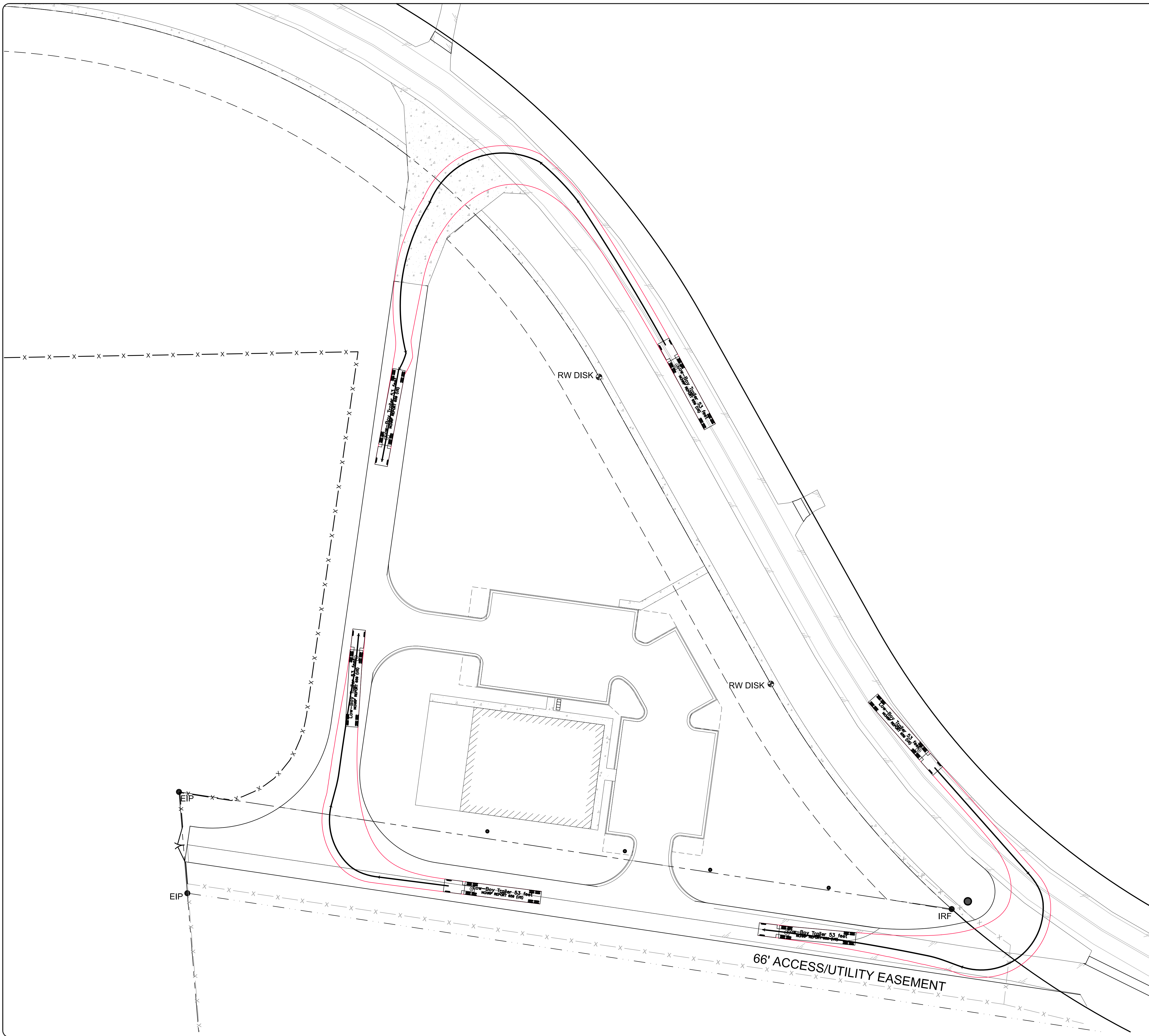
PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	01 MAR 17

**CIVIL WORKS CONTRACTING**  
RALEIGH STREET  
WILMINGTON, NC

**AUTOTURN EXHIBIT 1**

PROJECT NUMBER <b>275-77</b>	SHEET NUMBER <b>CS100</b>
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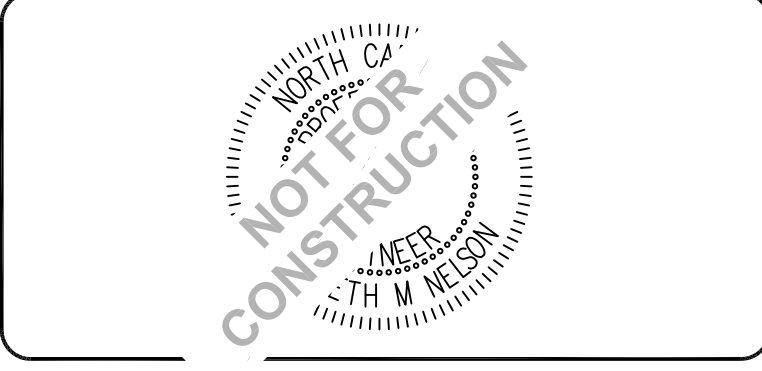
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**NOTES:**

**ISSUED FOR REGULATORY REVIEW**

REV. #	DESCRIPTION	EMN DATE	REV. BY
A	ISSUED FOR REGULATORY REVIEW	06/30/17	
REVISIONS			



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PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	01 MAR 17

**CIVIL WORKS CONTRACTING**  
 RALEIGH STREET  
 WILMINGTON, NC

**AUTOTURN EXHIBIT EXHIBIT 2**

PROJECT NUMBER	SHEET NUMBER
<b>275-77</b>	<b>CS100</b>