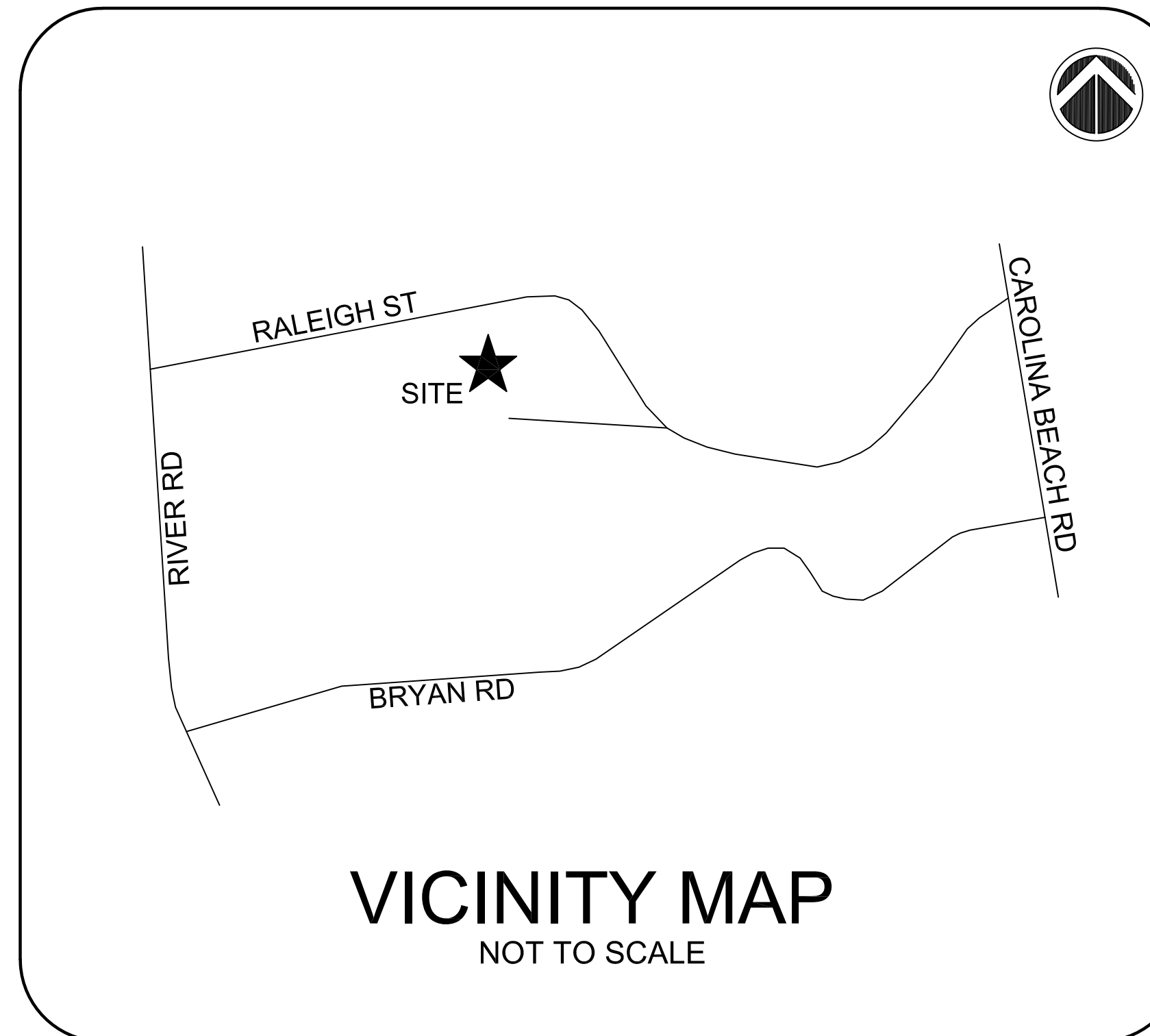


CONSTRUCTION PLANS FOR CIVIL WORKS CONTRACTING

Wilmington, North Carolina



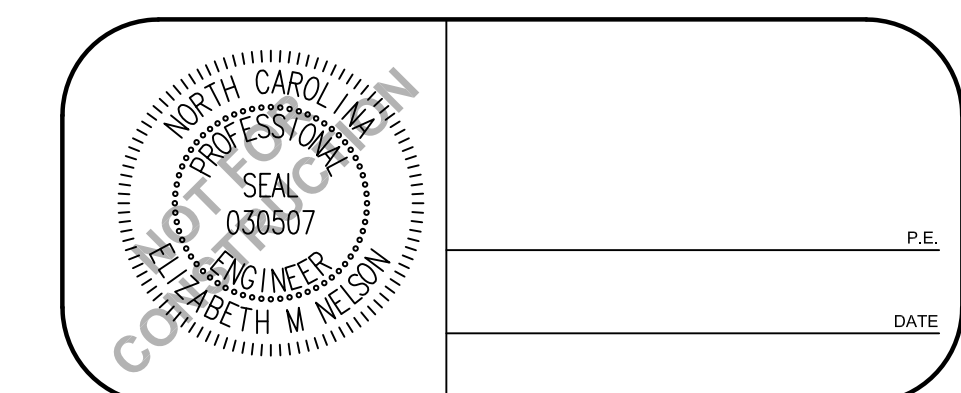
INDEX

COVER	
C-001	GENERAL NOTES & LEGEND
VF100	EXISTING CONDITIONS & DEMOLITION PLAN
CS100	SITE & UTILITY PLAN
CU100	OFFSITE UTILITY PLAN AND PROFILE
CU101	OFFSITE UTILITY PLAN AND PROFILE
CG100	STORMWATER & GRADING PLAN
CG120	INITIAL SEDIMENTATION & EROSION CONTROL PLAN
CG121	FINAL SEDIMENTATION & EROSION CONTROL PLAN (INCLUDING OFFSITE)
LS100	LANDSCAPE PLAN
D-500	SITE DETAILS
D-501	SITE DETAILS
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D-503	STORMWATER DETAILS
D-504	STORMWATER DETAILS
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SSD-2	CFPUA SANITARY SEWER STANDARD DETAILS 2
SSD-3	CFPUA SANITARY SEWER STANDARD DETAILS 3
WSD-1	CFPUA WATER STANDARD DETAILS 1
WSD-2	CFPUA WATER STANDARD DETAILS 2

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 _____

PATH:P:\275\275-77 - ENGINEERING\DWG\CONSTRUCTION\275-77 MASTER.DWG

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.

SITE NOTES:

- CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION..
- NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE AND INSTALLED ACCORDING TO CFPWA STANDARDS.
- LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANTS.
- ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
- INTERNATIONAL BUILDING CODE TYPE IIB CONSTRUCTION IS PROPOSED.

SITE DATA:

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

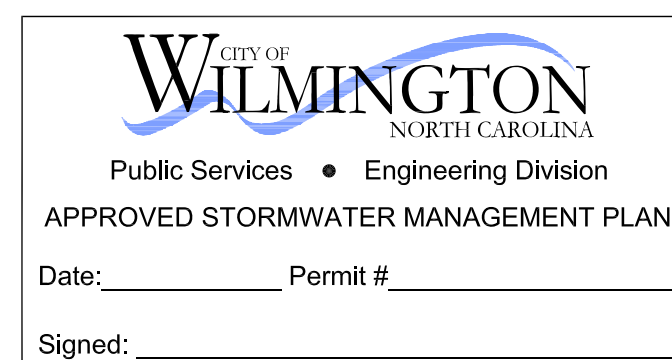
PROPOSED USE: CIVIL WORKS CONTRACTING
CONTRACTOR'S OFFICE

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 _____

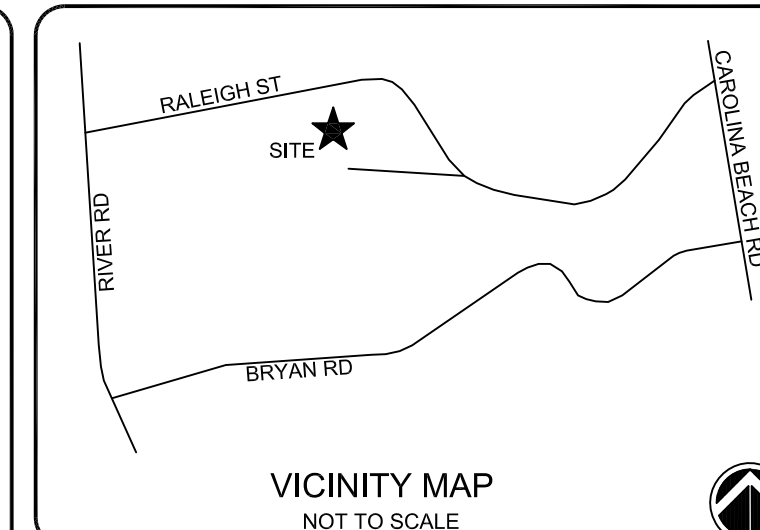
Planning _____

Traffic _____

Fire _____

LEGEND

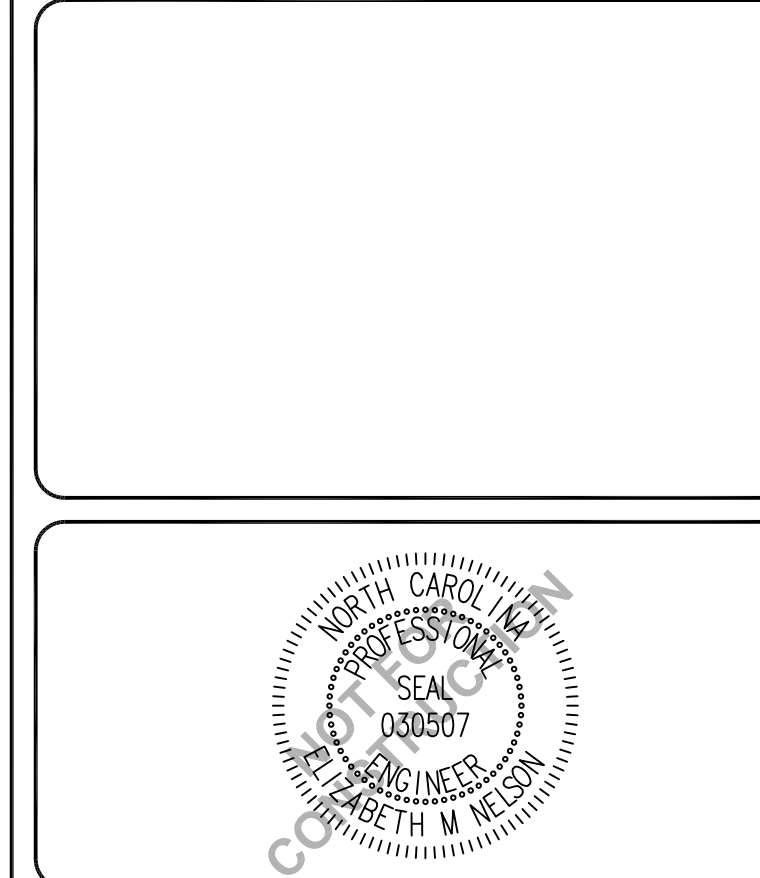
	EXISTING	PROPOSED
PROPERTY BOUNDARY	---	---
ADJACENT PROPERTY	---	---
EASEMENT	---	---
GAS LINE	---G---	---
ASPHALT PAVEMENT	---	---
ASPHALT TO BE DEMOLISHED	---	---
ASPHALT ROAD WIDENING	---	---
CHAIN LINK FENCE	- X - X - X - X -	- X - X - X - X -
TELEPHONE PEDESTAL	⊙	---
OAK TREE	⊙	---
PINE TREE	●	---
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	---	---
INLET PROTECTION	---	---
SILT FENCE	---	---
SILT FENCE OUTLET	---	---
GRASS (SEE VEGETATION SCHEDULE ON SHEET C-506)	---	---
TREE PROTECTION	---	---
WATER LINE	---W---	---
WATERLINE VALVE	⊗	---
FIRE HYDRANT	⊙	---
SANITARY SEWER MANHOLE	⊙	---
SANITARY SEWER LINE	---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	XXXXXX	---
SETBACK LINE	---	---



NOTES:

ISSUED FOR REGULATORY REVIEW

REV. #	DESCRIPTION	REV. BY	DATE
D	REVISED PER CITY OF WILMINGTON COMMENTS	EMN	07/21/17
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
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:	N/A
DATE:	21 FEB 17

CIVIL WORKS CONTRACTING
RALEIGH STREET
WILMINGTON, NC

GENERAL NOTES & LEGEND

PROJECT NUMBER	SHEET NUMBER
275-77	C-001

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

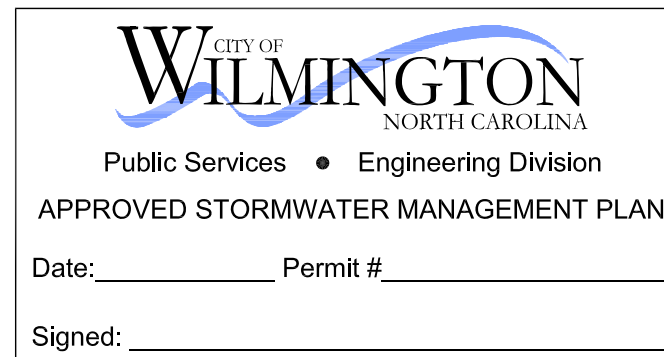
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 OWNER: NC STATE PORTS AUTHORITY
 CURRENT ZONING: IND
 LAND USE CODE: 958-UNUSED LAND

PARID: R06400-002-005-000
 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

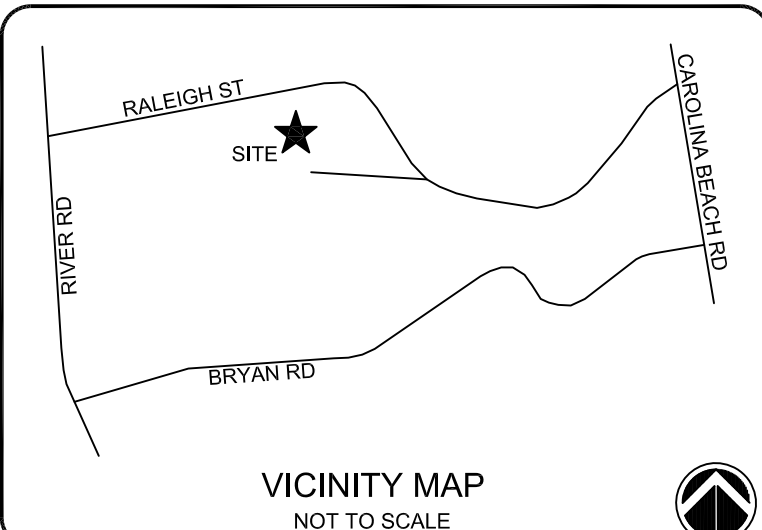
PARID: R06500-007-037-000
 OWNER: WILMINGTON RALEIGH LLC
 CURRENT ZONING: IND
 LAND USE CODE: 388-MISC DURABLE MFTG

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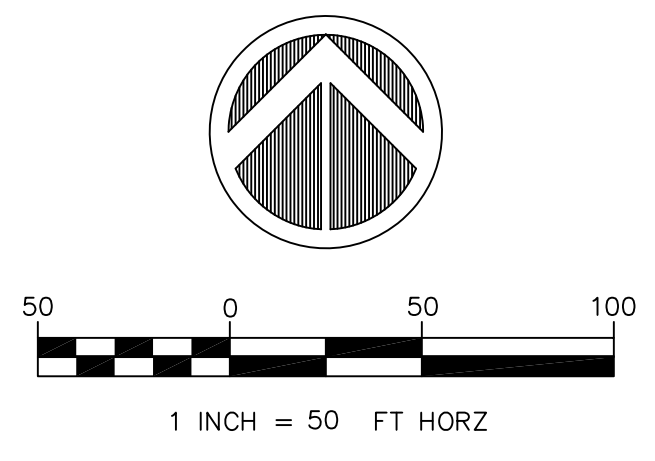
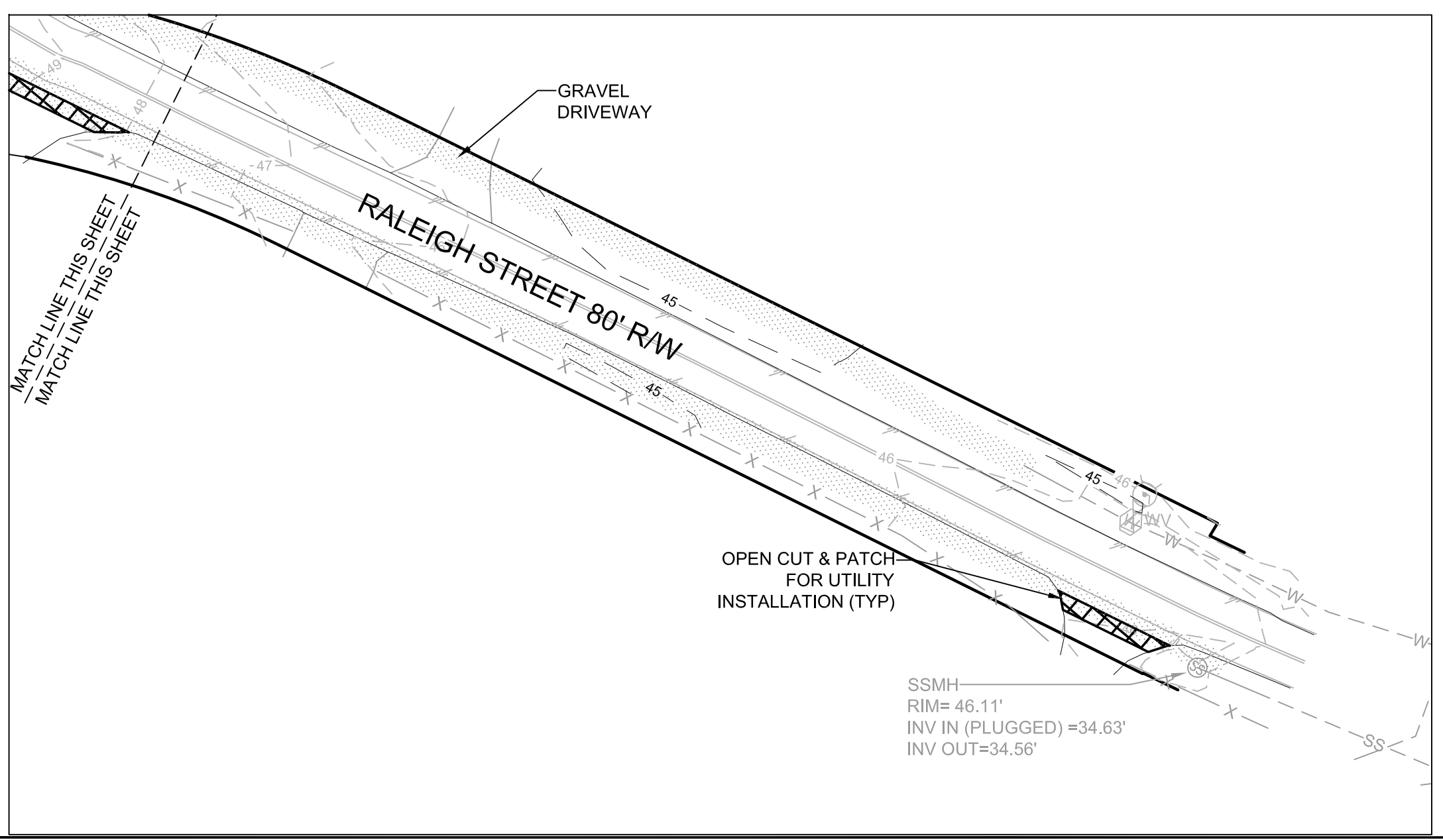
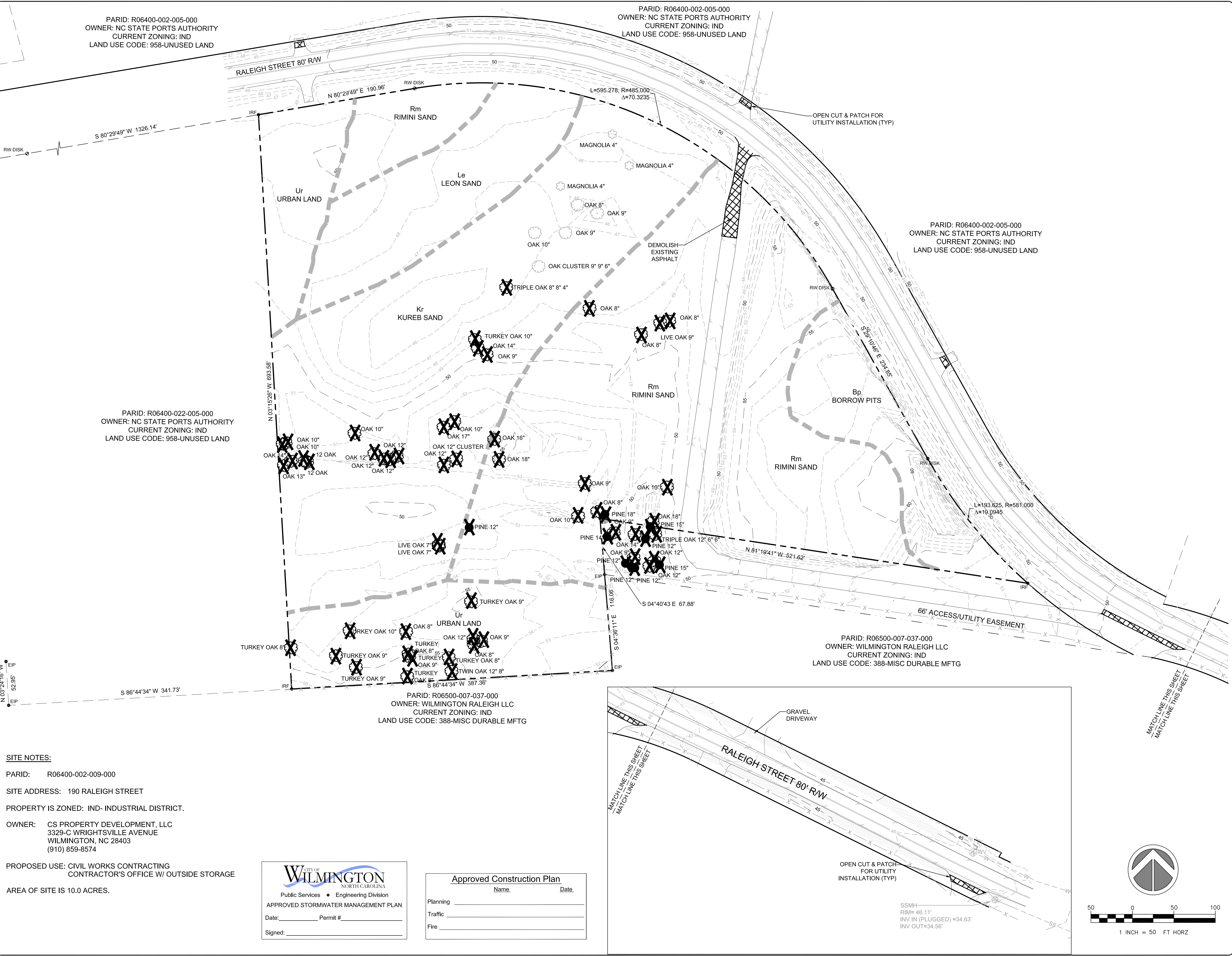
PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	17 FEB 17

CIVIL WORKS CONTRACTING
 RALEIGH STREET
 WILMINGTON, NC

EXISTING CONDITIONS & DEMOLITION PLAN

PROJECT NUMBER	SHEET NUMBER
275-77	VF100

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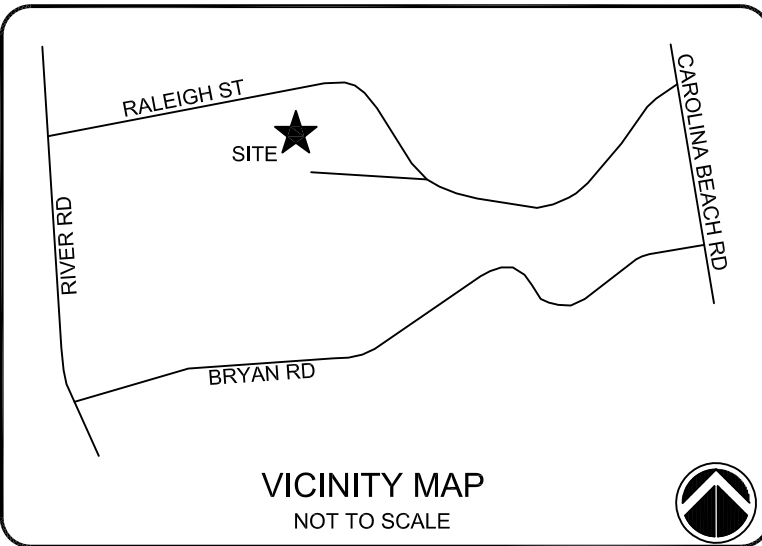


1 - 8" x 6" TEE
1 - FIRE HYDRANT ASSEMBLY
1 - END OF LINE VALVE

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

Approved Construction Plan

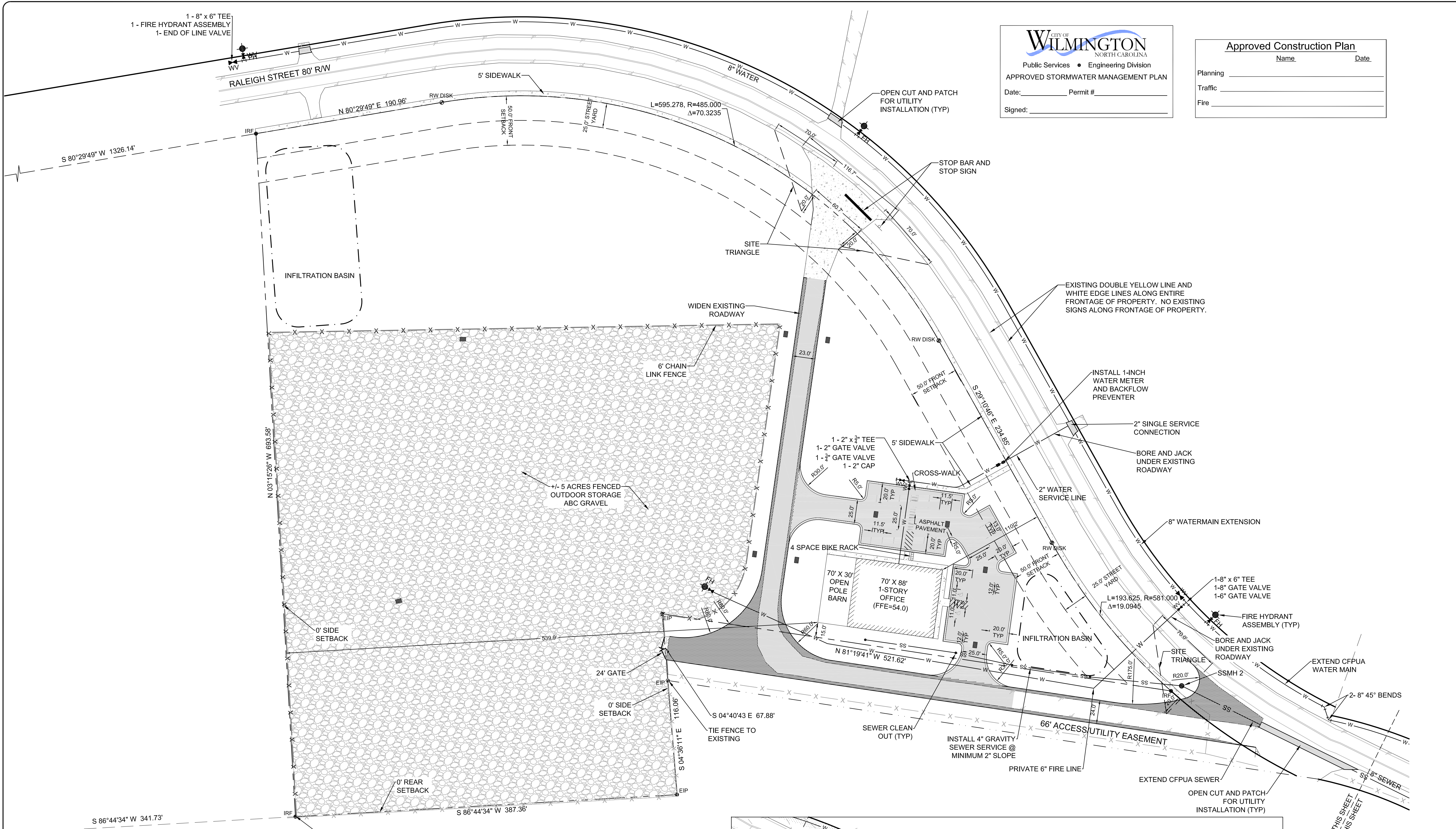
Name	Date
Planning	
Traffic	
Fire	



NOTES:

ISSUED FOR REGULATORY REVIEW

REV. #	DESCRIPTION	REV. BY	DATE
D	REVISED PER CITY OF WILMINGTON COMMENTS	EMN	07/21/17
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:
HEIGHT 25'; PROPOSED 1-STORY, 6,160 SF WITH 2,100 SF
POLE BARN, TYPE IIB CONSTRUCTION PER INTERNATIONAL
BUILDING CODE.

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

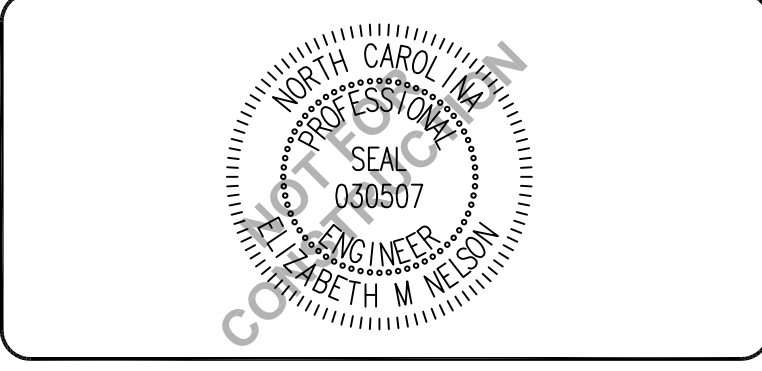
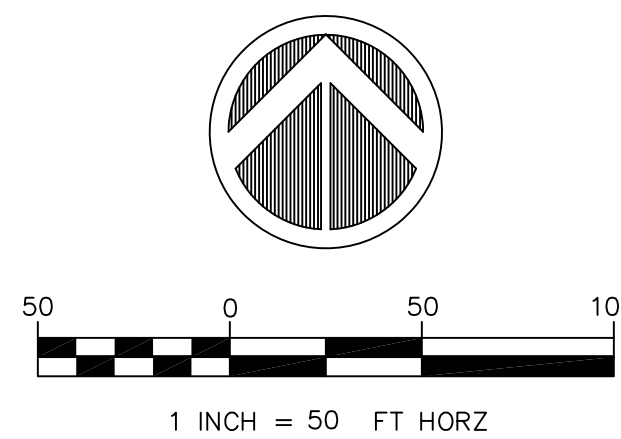
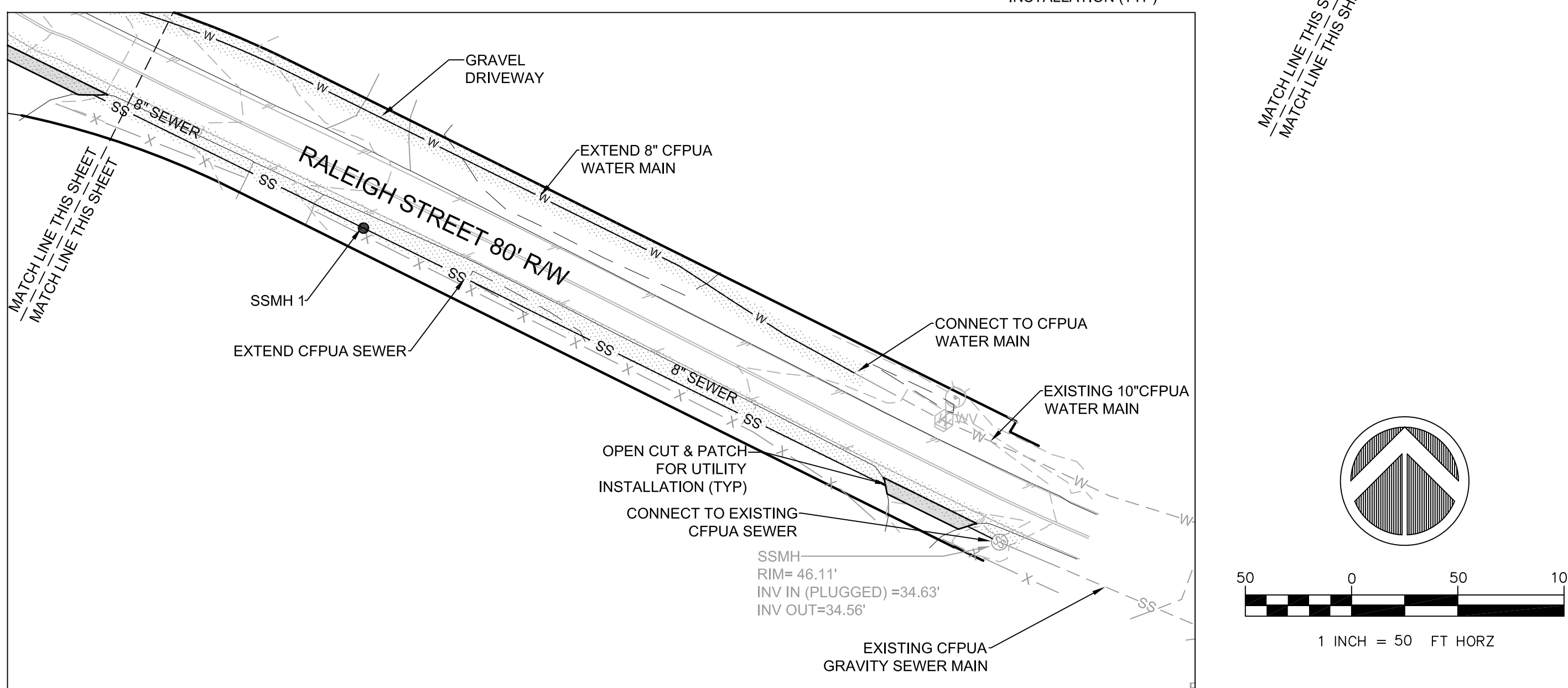
EXISTING IMPERVIOUS: 16,883 SF / 473,572 SF OR 3.6%
ROADWAY: 7,603 SF
ROADWAY WITHIN ACCESS EASEMENT: 9,280 SF

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	SHEET NUMBER
275-77	CS100

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

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

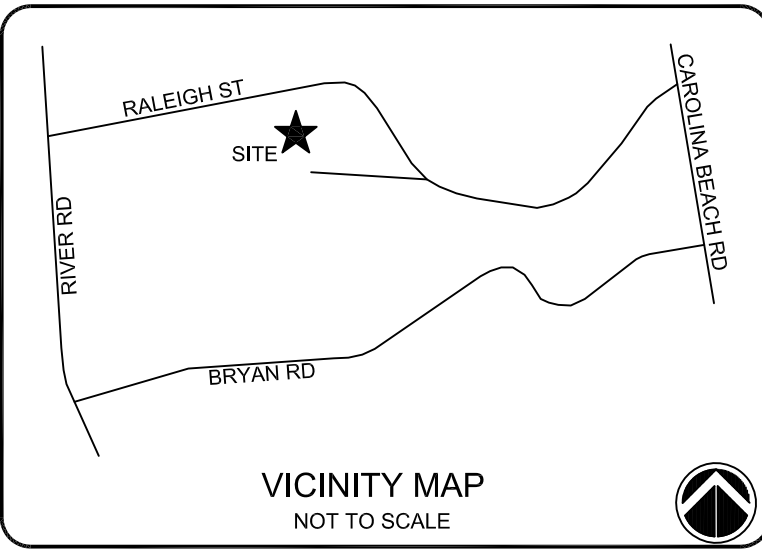
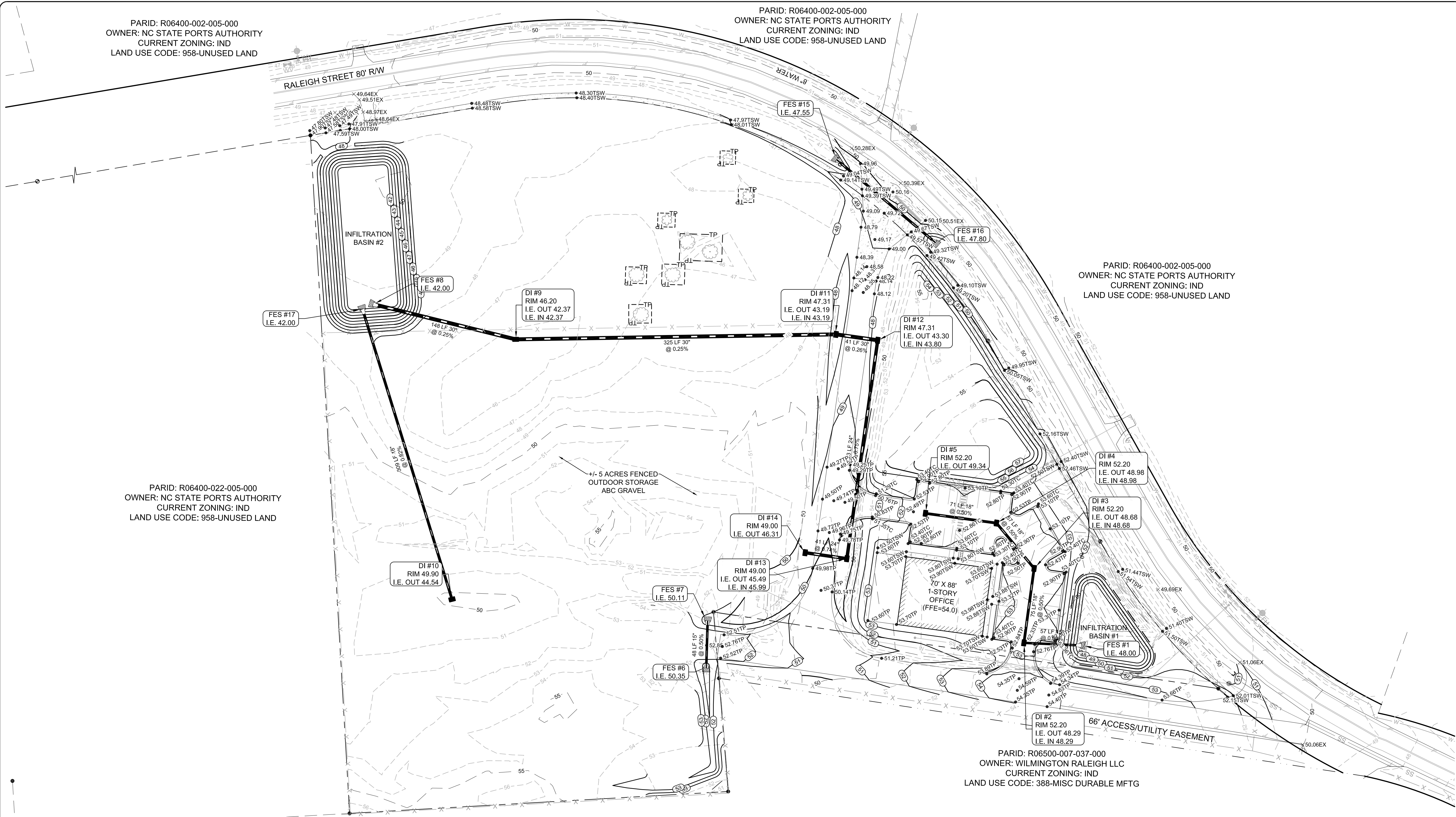
PARID: R06400-002-005-000
 OWNER: NC STATE PORTS AUTHORITY
 CURRENT ZONING: IND
 LAND USE CODE: 958-UNUSED LAND

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

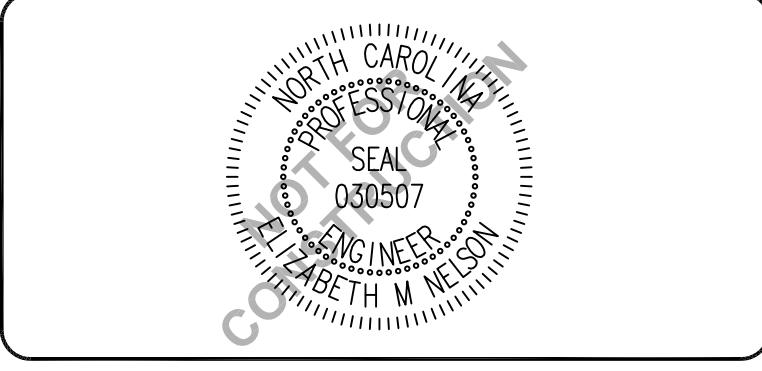
PARID: R06500-007-037-000
 OWNER: WILMINGTON RALEIGH LLC
 CURRENT ZONING: IND
 LAND USE CODE: 388-MISC DURABLE MFTG



NOTES:
 SEE SHEET C-001 FOR GENERAL NOTES AND LEGEND

ISSUED FOR REGULATORY REVIEW

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

PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	10 JULY 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: _____

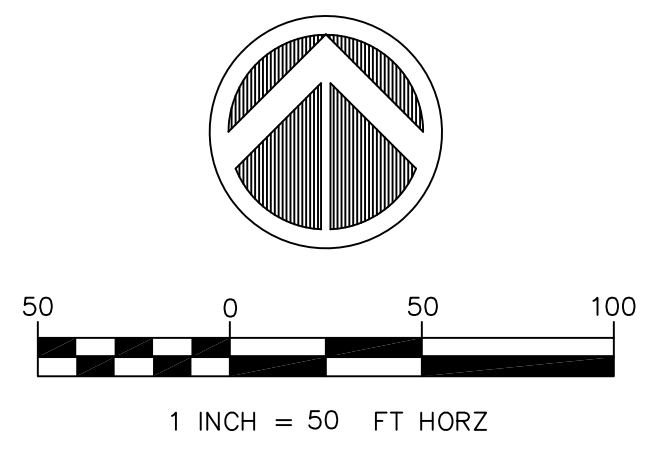
Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

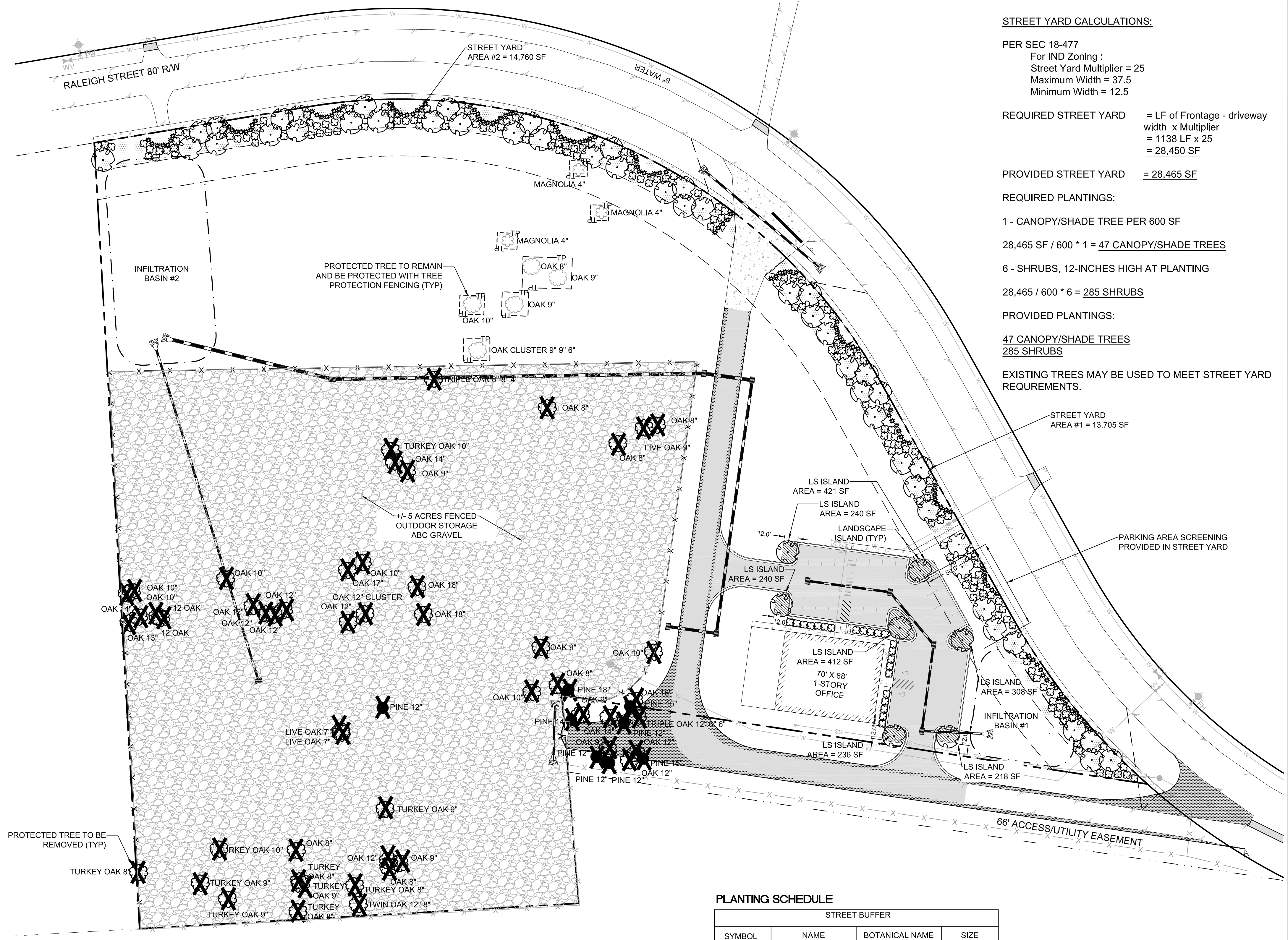


TREE MITIGATION CALCULATIONS:

- 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

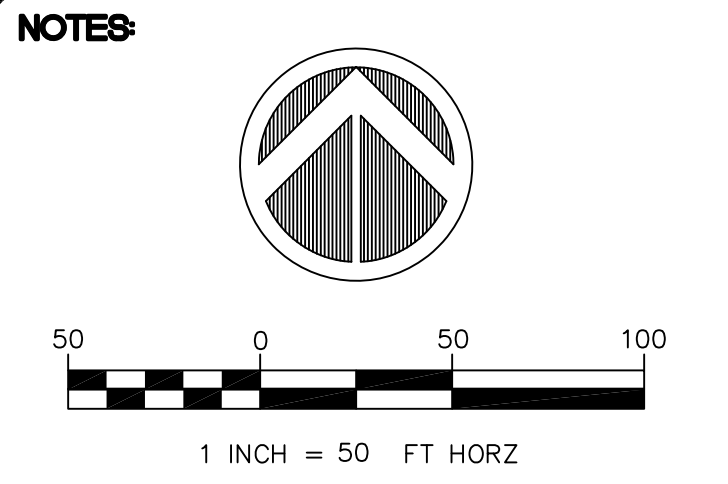
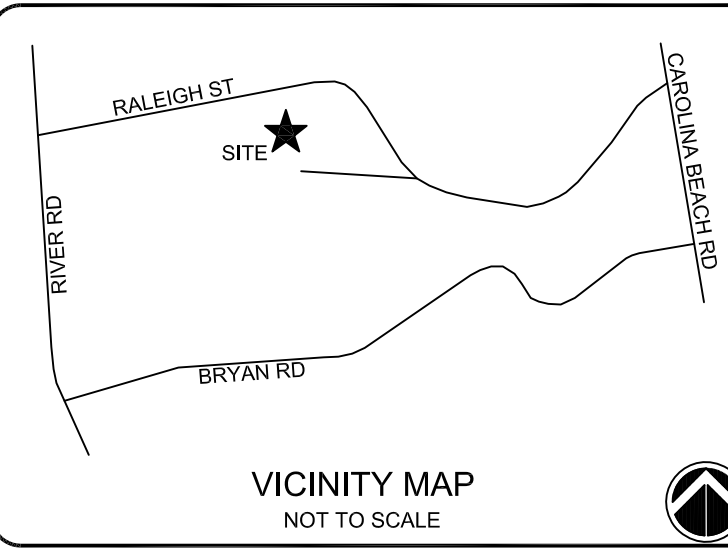
REQUIRED STREET YARD = LF of Frontage - driveway width x Multiplier = 1138 LF x 25 = 28,465 SF
 PROVIDED STREET YARD = 28,465 SF

REQUIRED PLANTINGS:
 1 - CANOPY/SHADE TREE PER 600 SF
 28,465 SF / 600 * 1 = 47 CANOPY/SHADE TREES

6 - SHRUBS, 12-INCHES HIGH AT PLANTING
 28,465 / 600 * 6 = 285 SHRUBS

PROVIDED PLANTINGS:
 47 CANOPY/SHADE TREES
 285 SHRUBS

EXISTING TREES MAY BE USED TO MEET STREET YARD REQUIREMENTS.



ISSUED FOR REGULATORY REVIEW

C	REVISED PER COMMENTS BY CITY OF WILMINGTON	EMN	07/21/17
B	ISSUED FOR REGULATORY REVIEW	EMN	06/30/17
A	ISSUED FOR TRC REVIEW	EMN	05/17/17
REV. #	DESCRIPTION	REV. BY	DATE
	REVISIONS		

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 = 210 SF
 PLANTING FOUNDATIONS PROVIDED:
 BUILDING FACE NORTH = 664 SF
 BUILDING FACE EAST = 300 SF

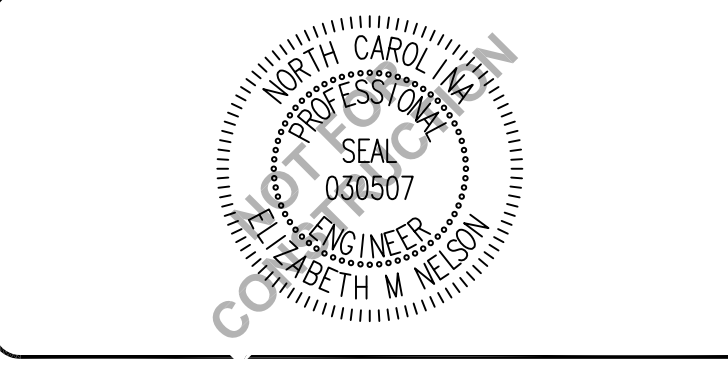
LANDSCAPING CALCULATIONS

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

PLANTING SCHEDULE

STREET BUFFER			
SYMBOL	NAME	BOTANICAL NAME	SIZE
TREES			
	SHADE/CANOPY	QUERCUS VIRGINIANA	2" DIA.
SHRUBS			
	SHRUB 1	ABELIA GRANDIFLORA	3 Gal.
	SHRUB 2	PITOSPORUM TOBIRA	1 Gal.
PARKING LOT LANDSCAPE ISLANDS			
SYMBOL	NAME	BOTANICAL NAME	SIZE
TREES			
	SHADE/CANOPY	LAGERSTROEMIA INDICA	2" DIA.
GROUND COVERS			
	GROUND COVER	JUNIPERUS HORIZONTALIS	3 Gal.
FOUNDATIONS PLANTINGS			
SYMBOL	NAME	BOTANICAL NAME	SIZE
SHRUBS			
	SHRUB 1	BURFORDI NANA	1 Gal.

CITY OF WILMINGTON
 NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: _____ Permit # _____
 Signed: _____
Approved Construction Plan
 Name: _____ Date: _____
 Planning: _____
 Traffic: _____
 Fire: _____



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

PROJECT NUMBER	275-77	SHEET NUMBER	LS100
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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, ADJUSTMENTS OR REPAIRS. AS PERMITTED BY NCDWR, 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	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807</p>	SD 3-104
DRAWN BY JSR	GUIDELINES FOR SEDIMENT CONTROL BMPs		SHEET 1 OF 2
CHECKED BY BDR, P.E.			
SCALE NOT TO SCALE			

LOW FLOW INLET FILTERS

INLET PROTECTION-SEDIMENT TUBE

DATE: SEPTEMBER, 2012	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807</p>	SD 3-104
DRAWN BY JSR	GUIDELINES FOR SEDIMENT CONTROL BMPs		SHEET 2 OF 2
CHECKED BY BDR, P.E.			
SCALE NOT TO SCALE			

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)

3" MIN
8" MAX

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	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807</p>	SD 15-09
DRAWN BY JSR	TREE PROTECTION DURING CONSTRUCTION		SHEET 1 OF 2
CHECKED BY RDG, P.E.			
SCALE NOT TO SCALE			

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	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807</p>	SD 15-09
DRAWN BY JSR	TREE PROTECTION DURING CONSTRUCTION		SHEET 2 OF 2
CHECKED BY RDG, P.E.			
SCALE NOT TO SCALE			

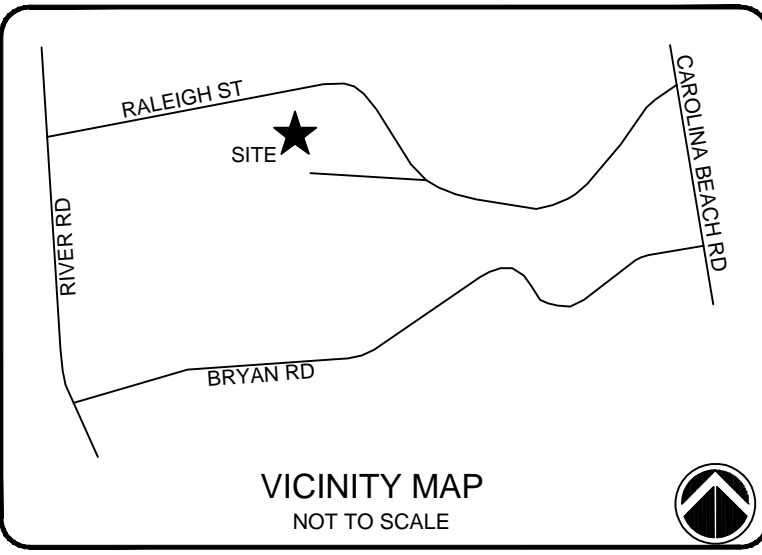
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: _____ Permit # _____
Signed: _____

Approved Construction Plan

Name _____ Date _____

Planning _____
Traffic _____
Fire _____

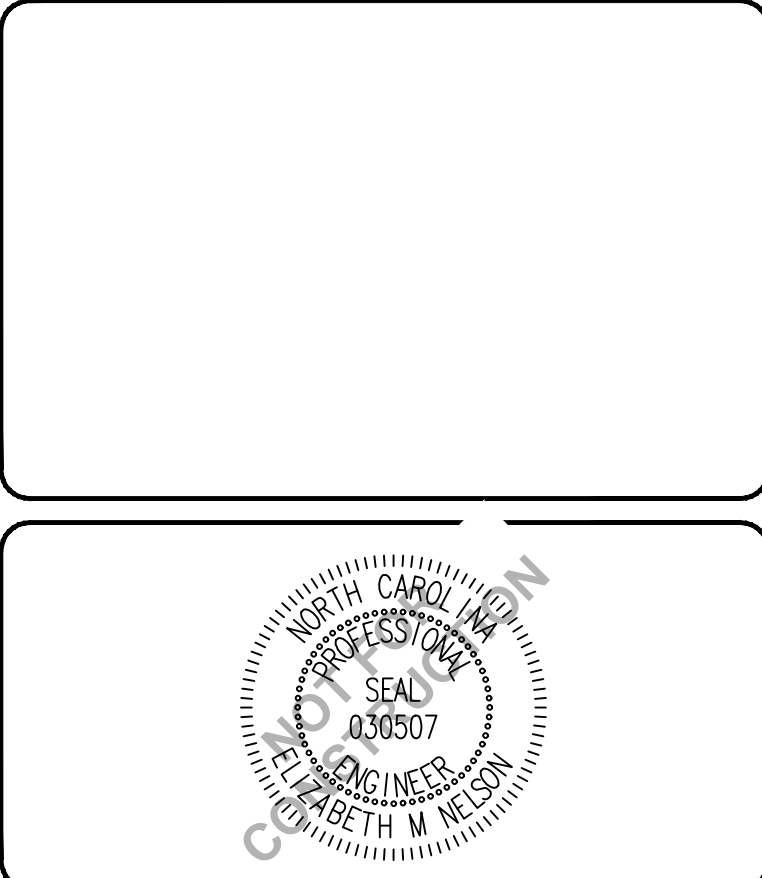
Signed: _____



NOTES:

ISSUED FOR REGULATORY REVIEW

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



CAPE FEAR ENGINEERING

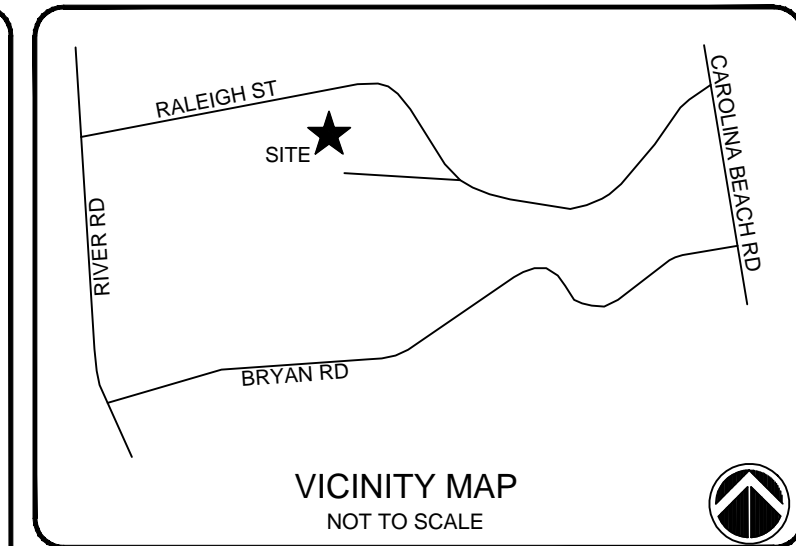
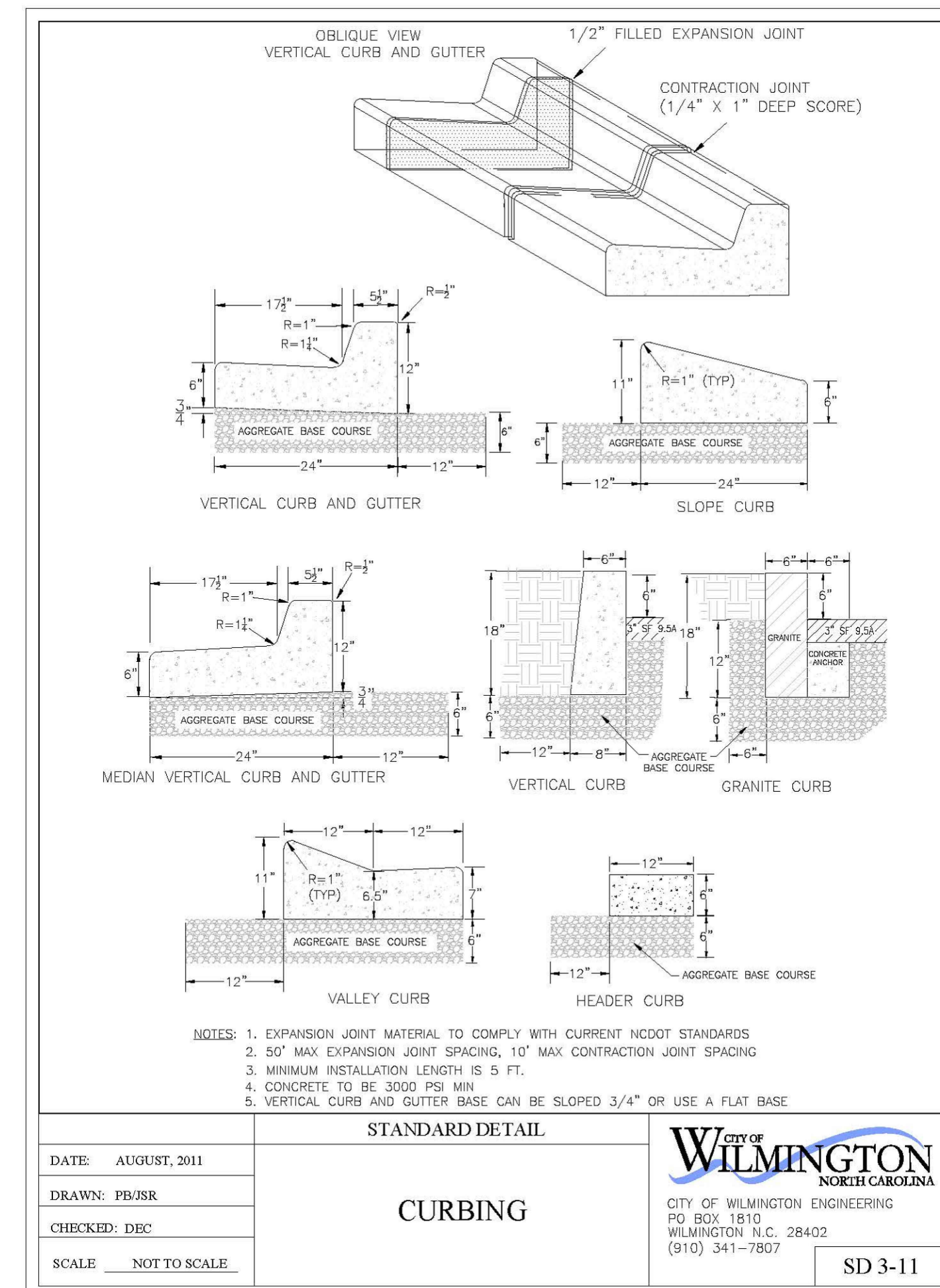
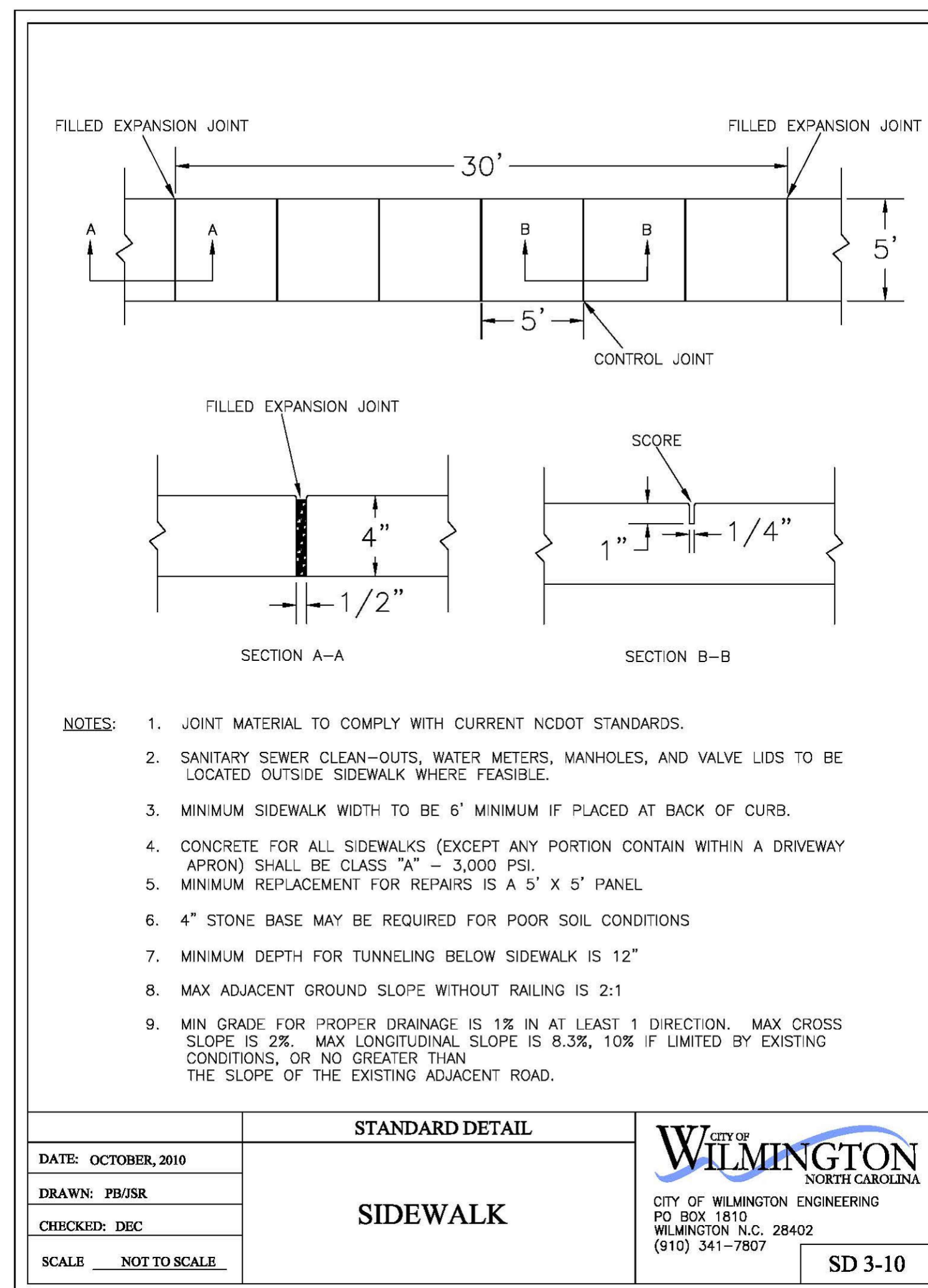
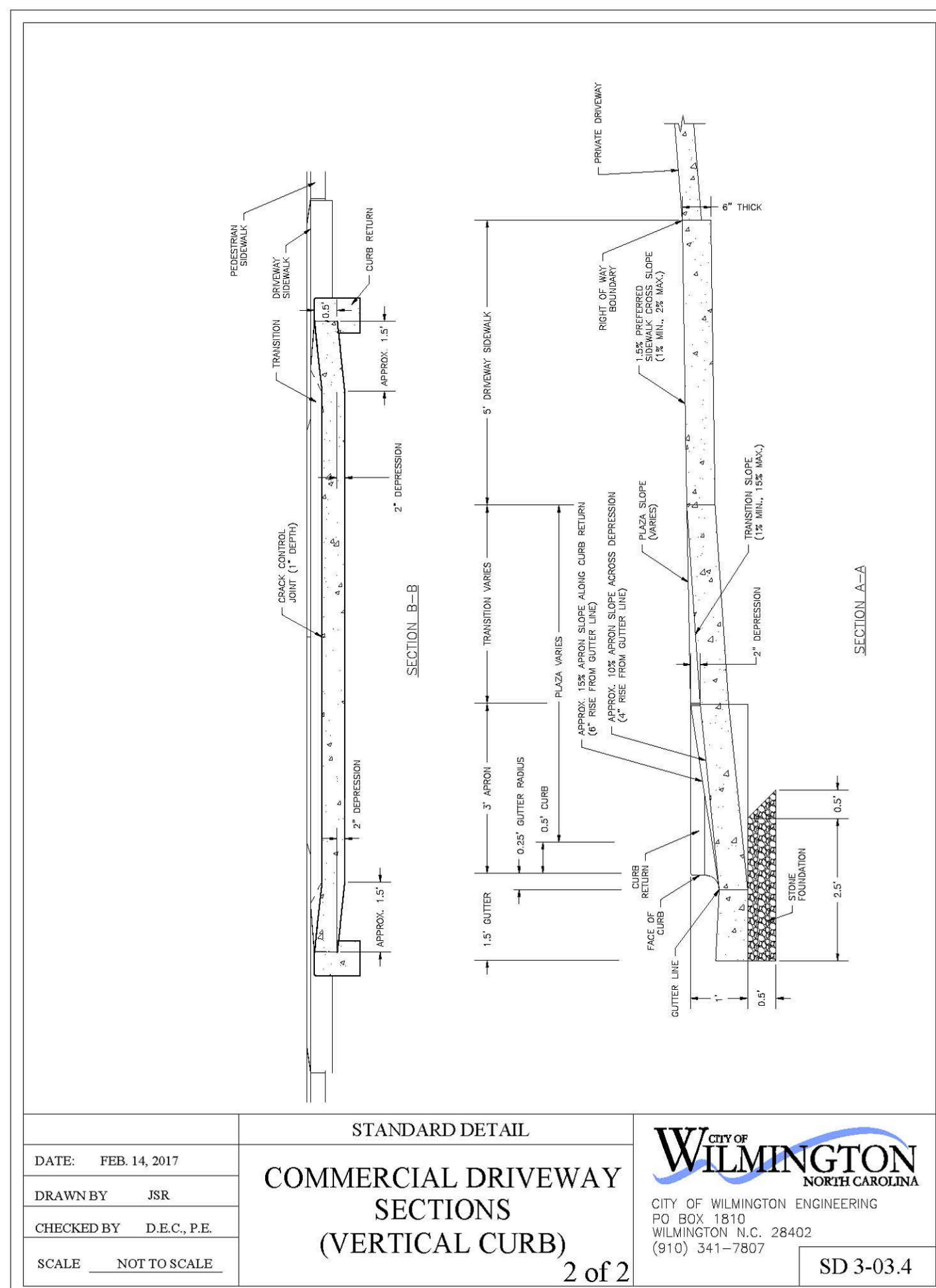
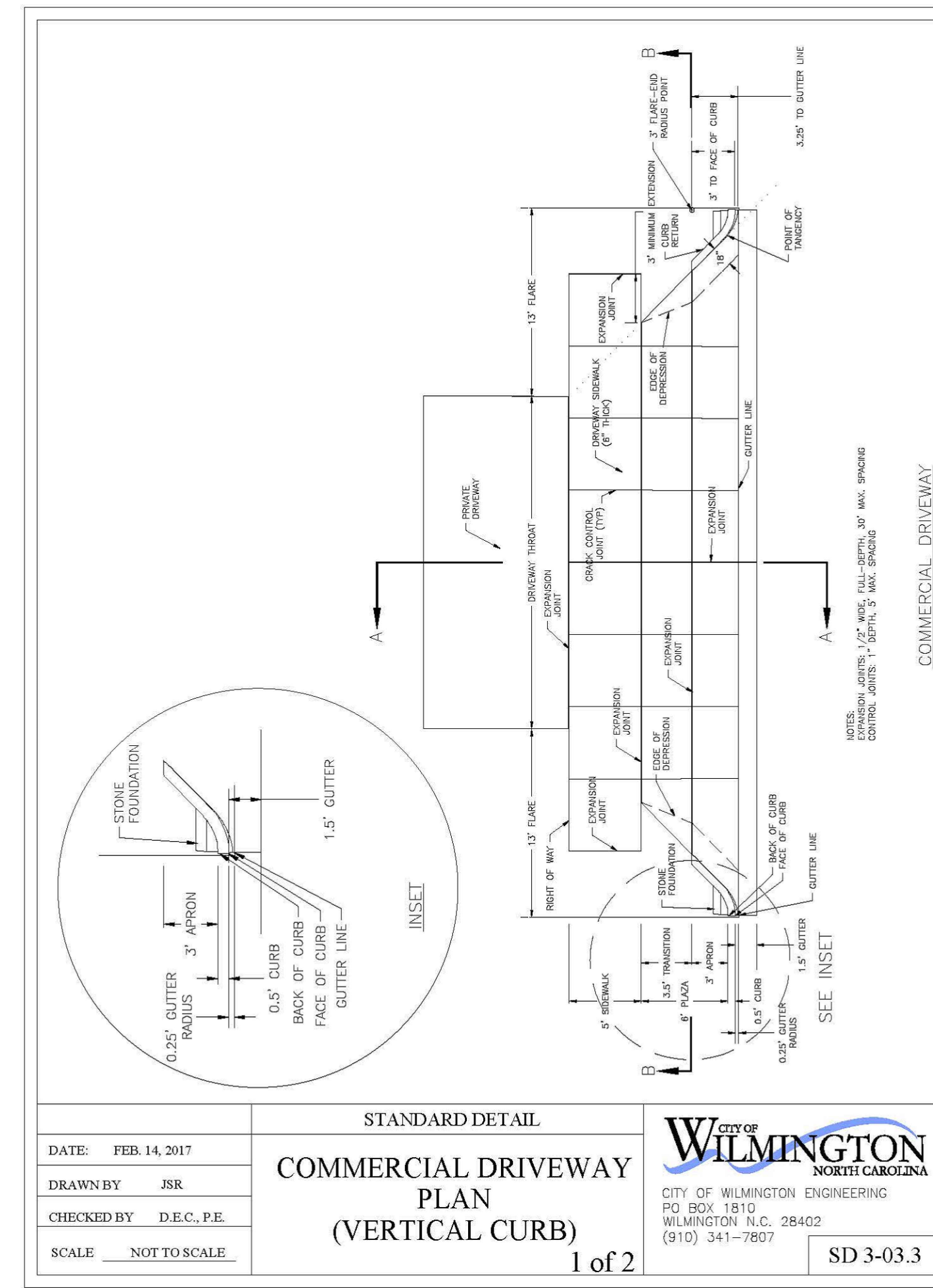
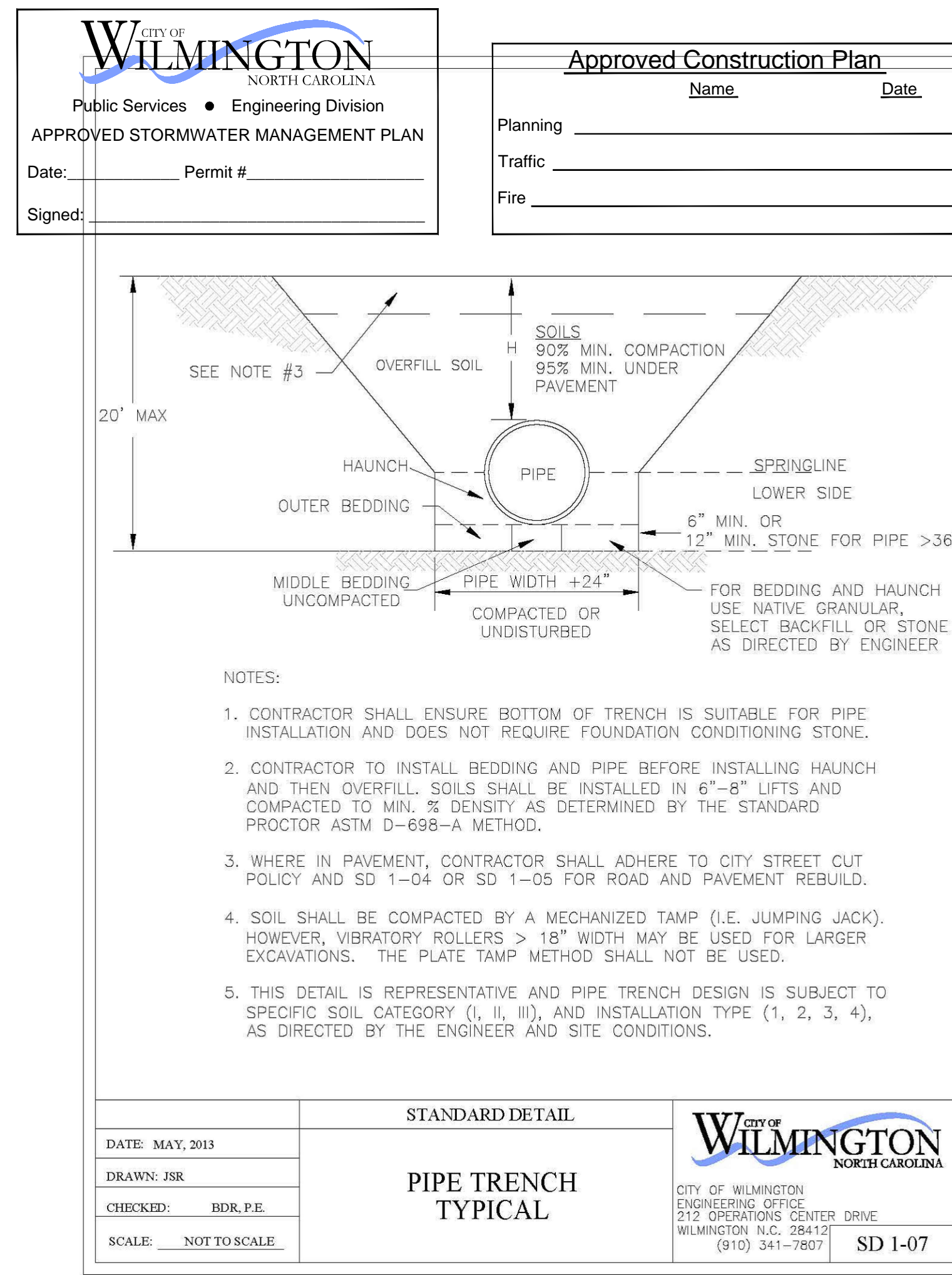
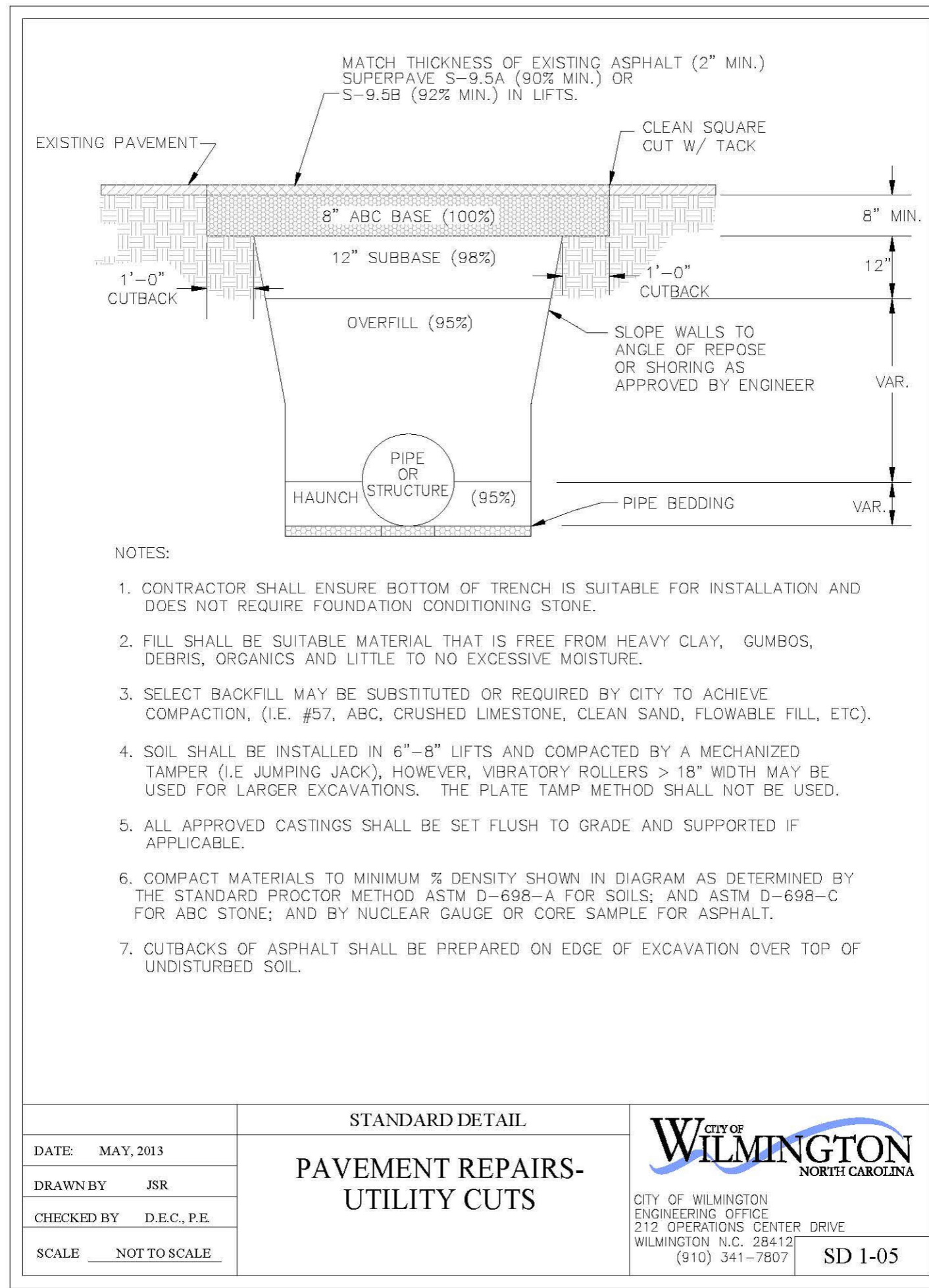
151 Poole Rd., Suite 100, Belville, NC, 28451
TEL (910) 383-1044; FAX (910) 383-1045
www.capefearengineering.com
N.C. LICENSE # C-1621

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

CIVIL WORKS CONTRACTING
RALEIGH STREET
WILMINGTON, NC

SITE DETAILS

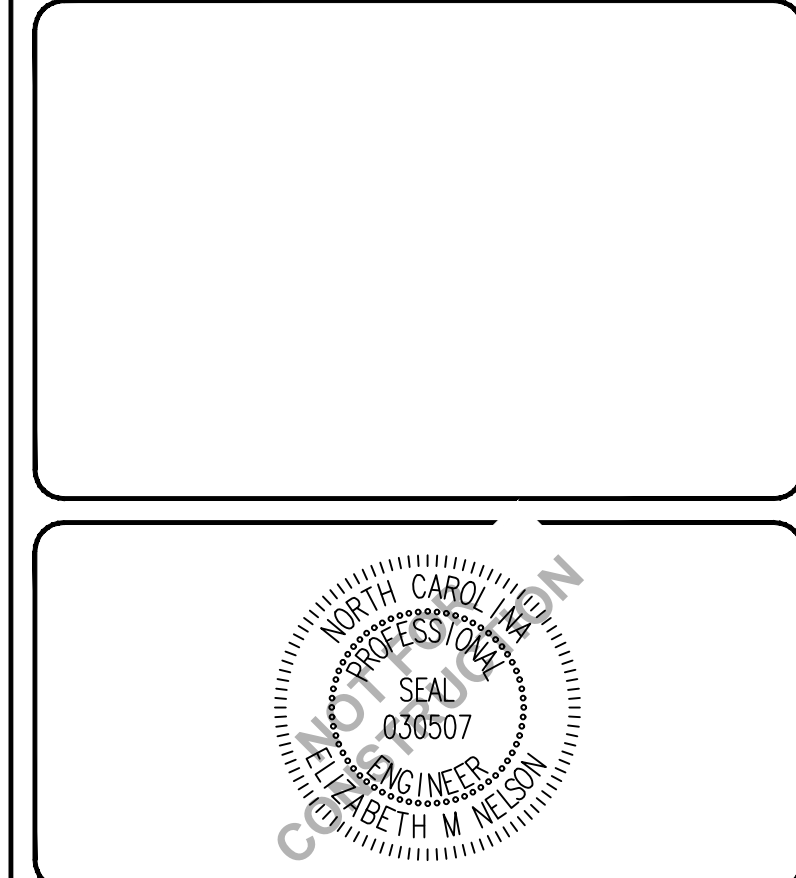
PROJECT NUMBER	275-77	SHEET NUMBER	D-500
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NOTES:

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



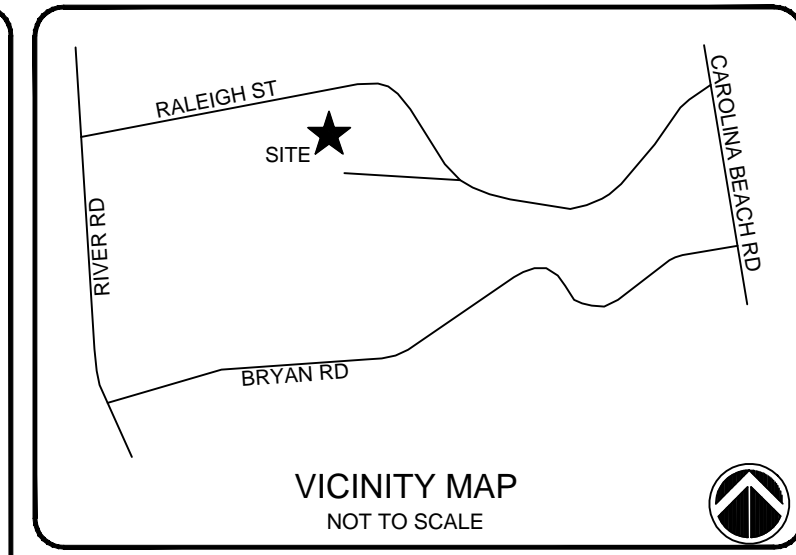
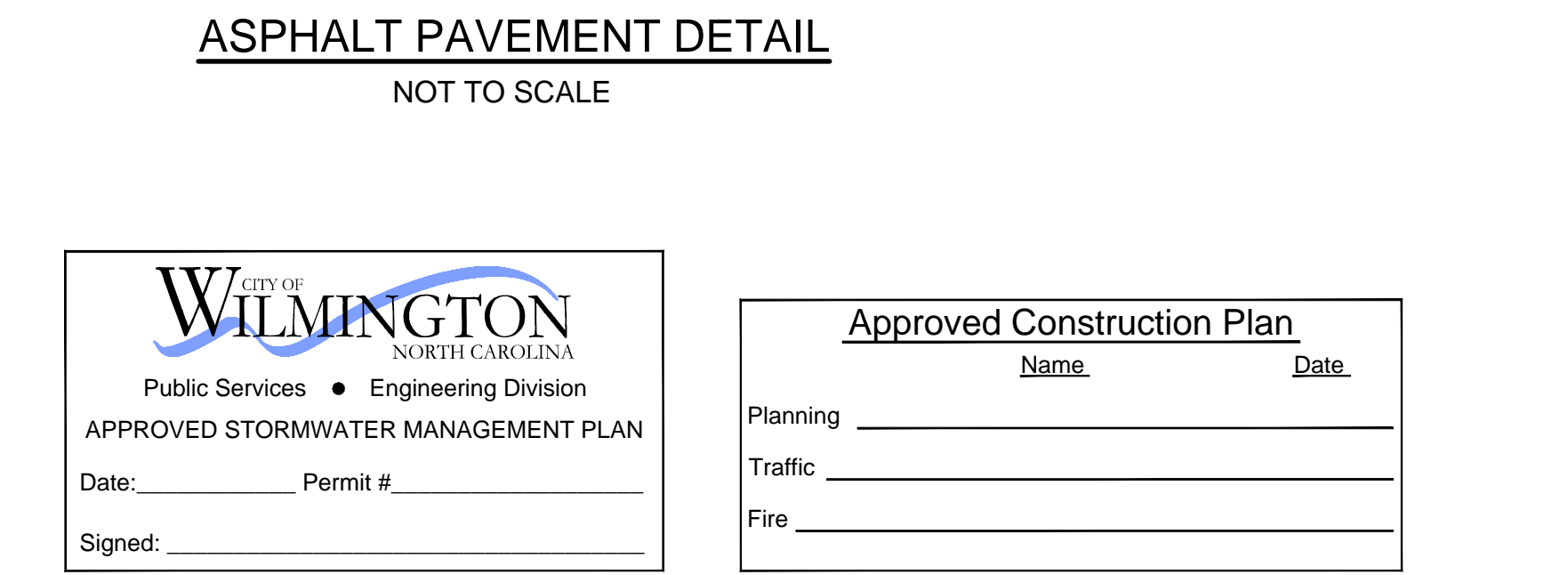
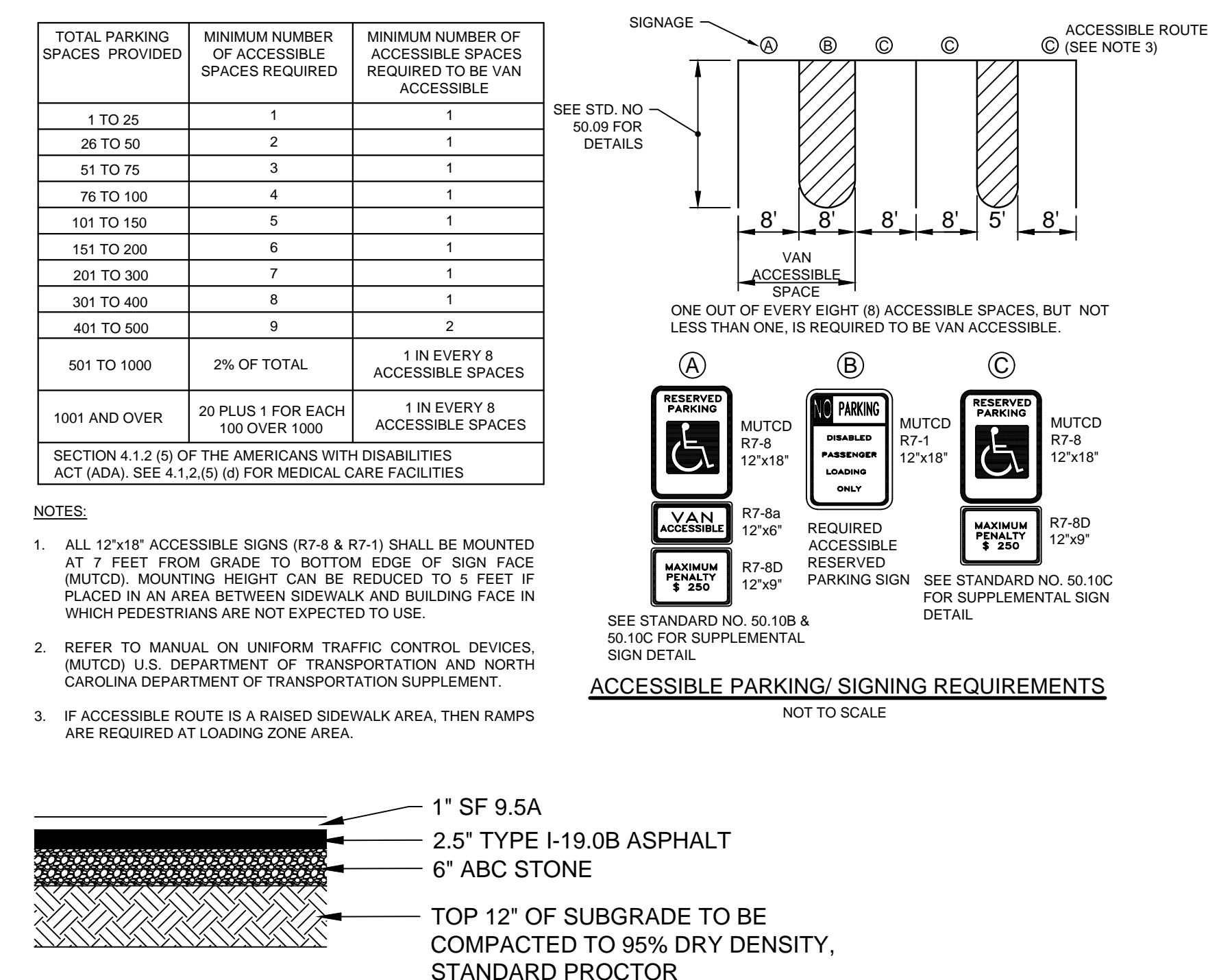
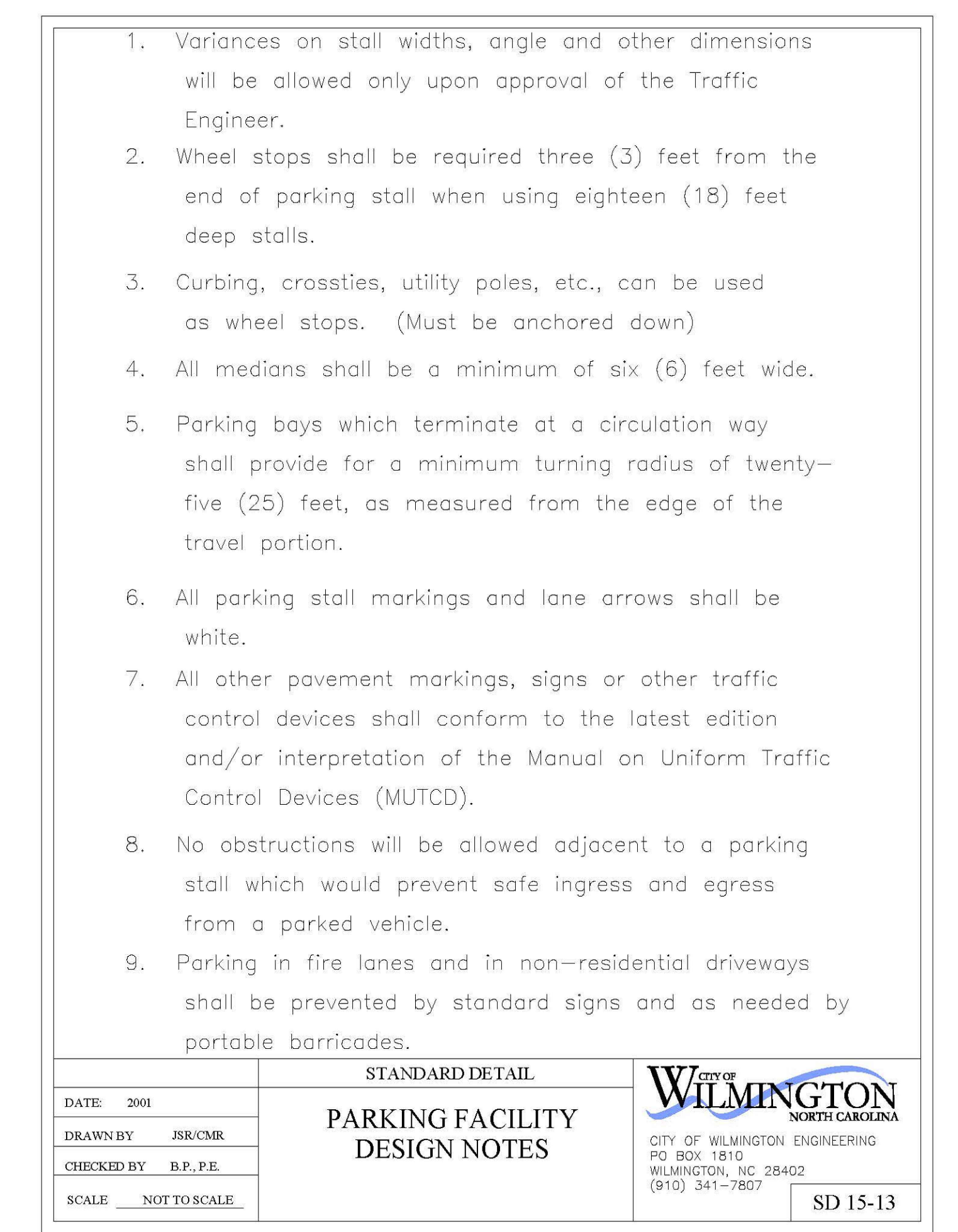
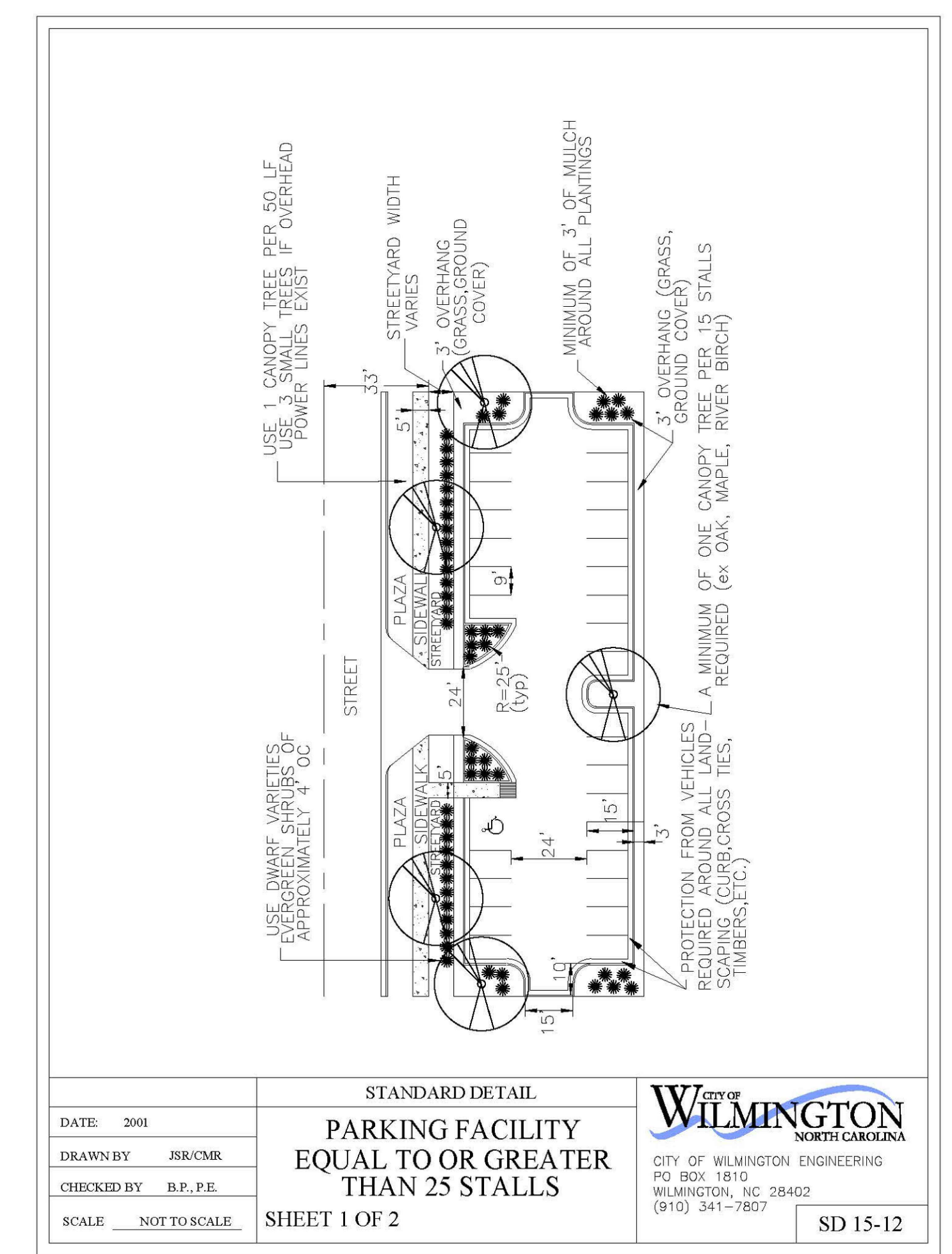
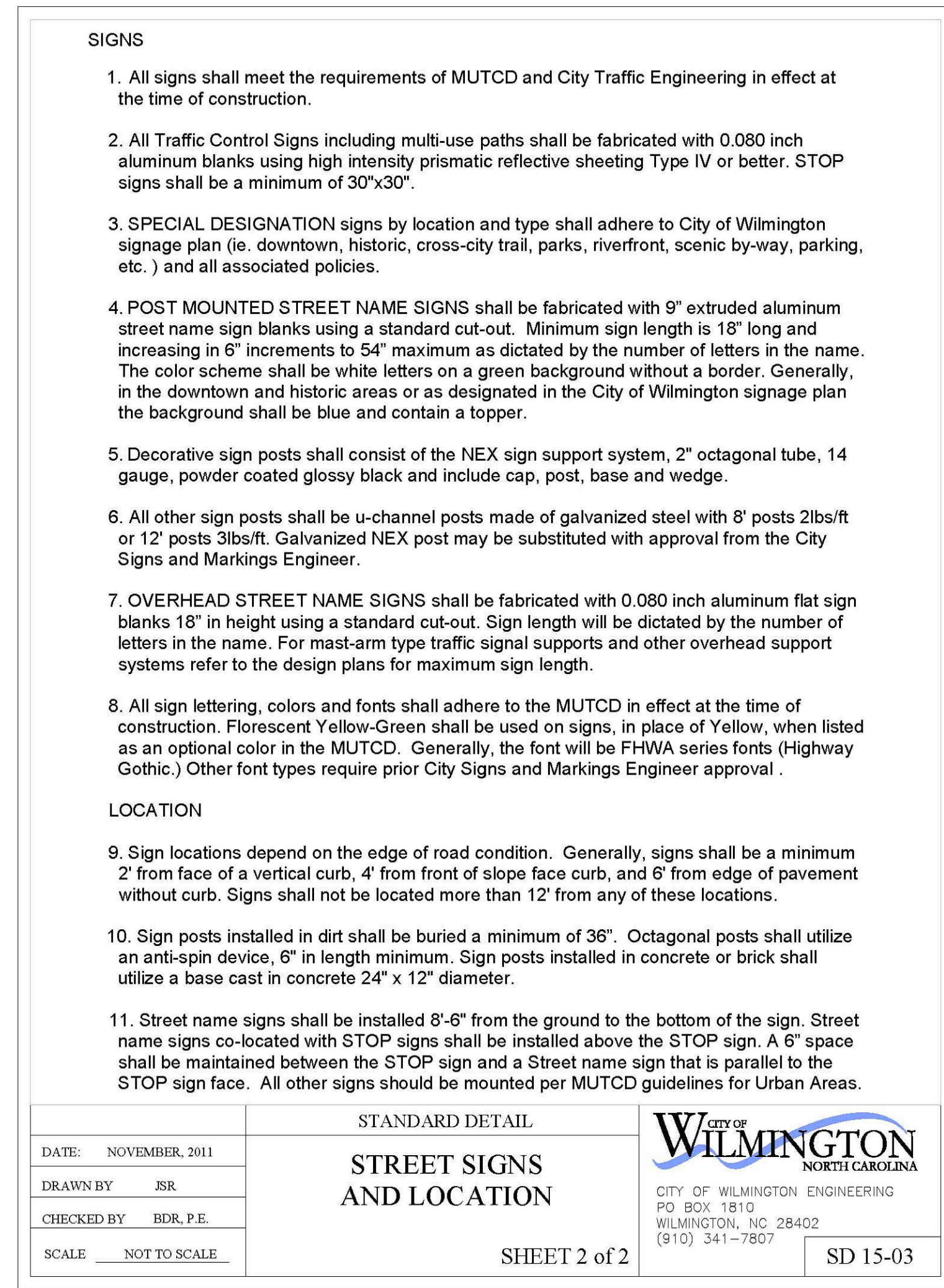
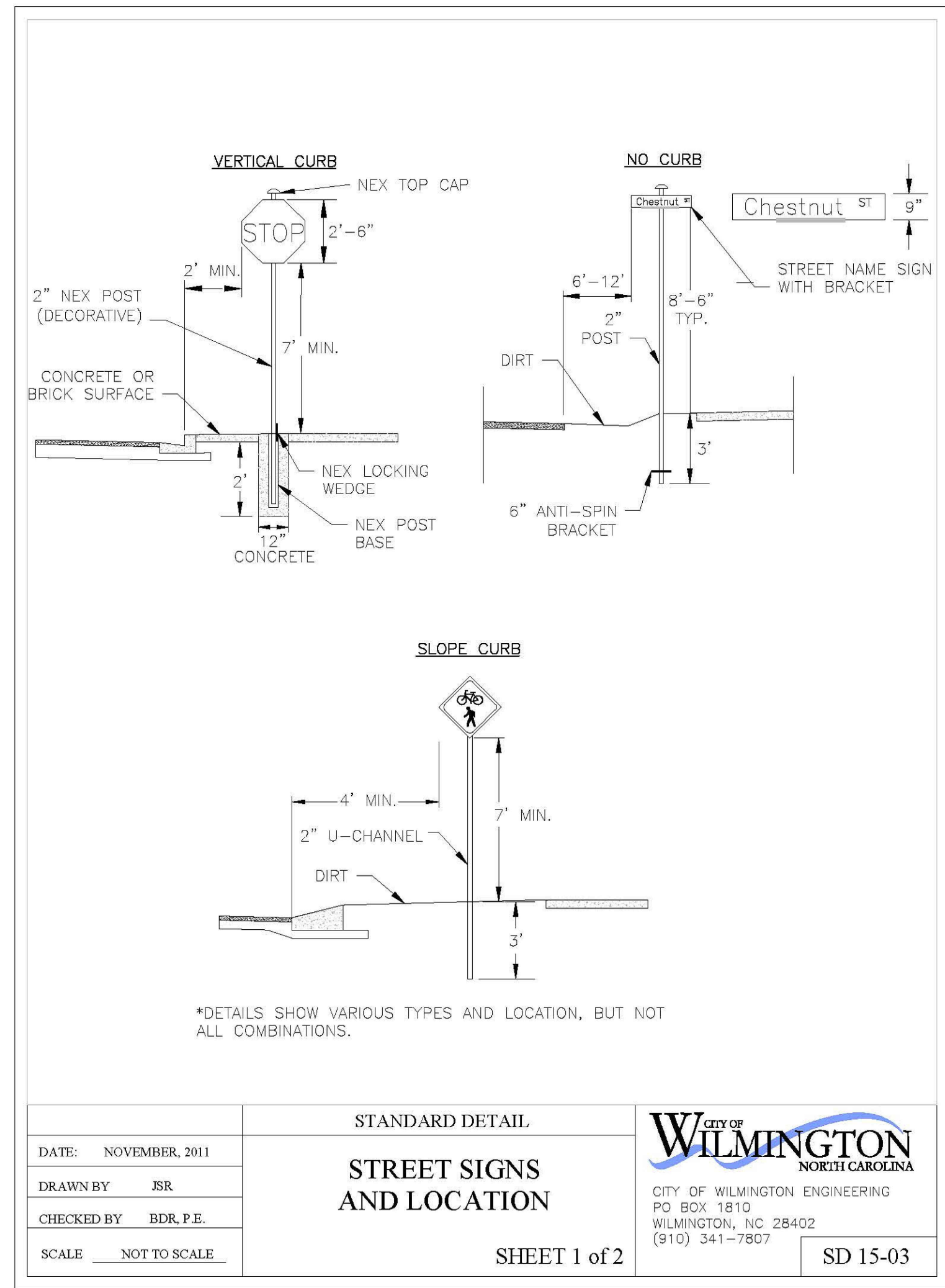
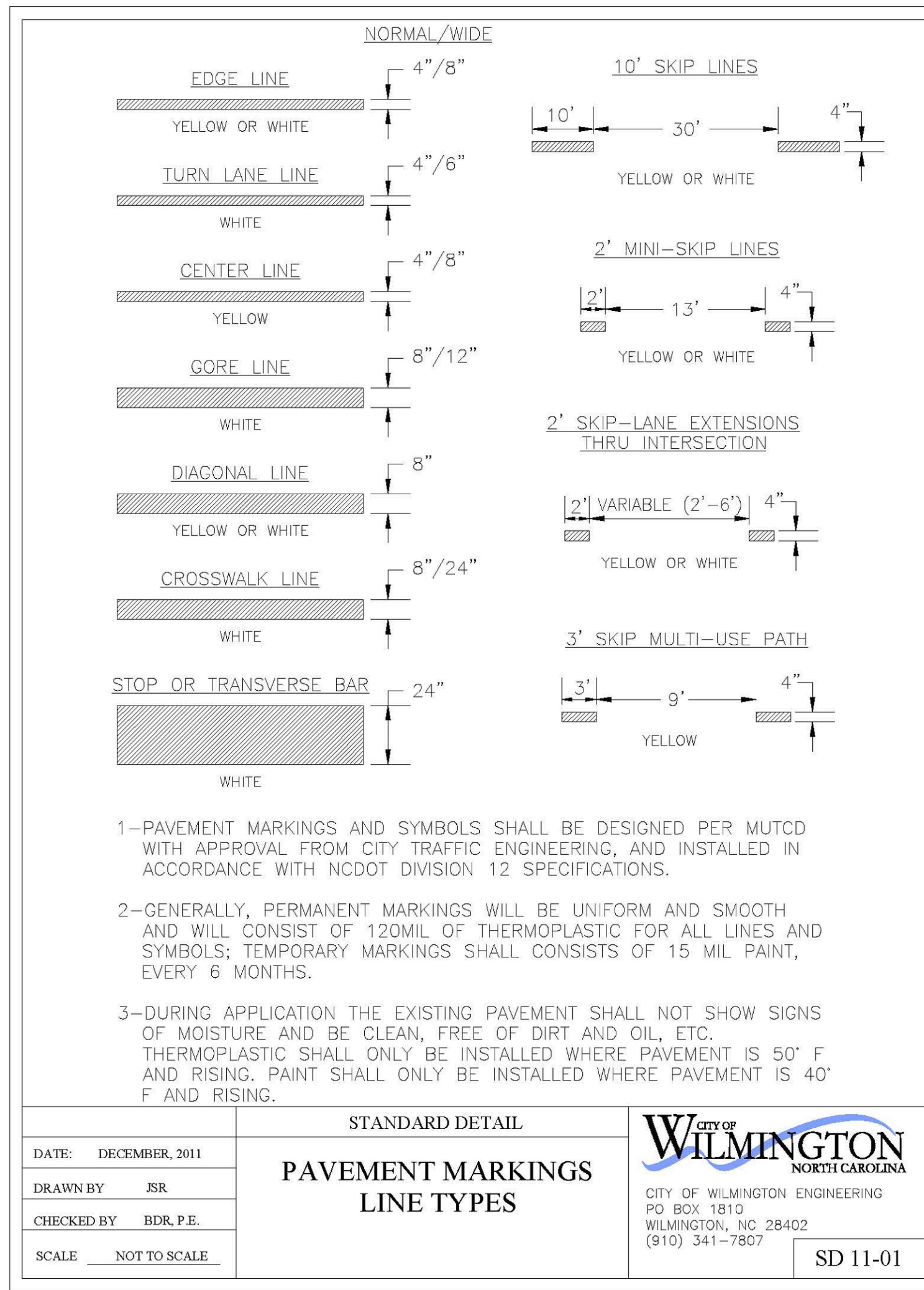
CAPE FEAR ENGINEERING
151 Poole Rd., Suite 100, Belville, NC, 28451
TEL (910) 383-1044; FAX (910) 383-1045
www.capefearengineering.com
N.C. LICENSE # C-1621

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

CIVIL WORKS CONTRACTING
RALEIGH STREET
WILMINGTON, NC

SITE DETAILS

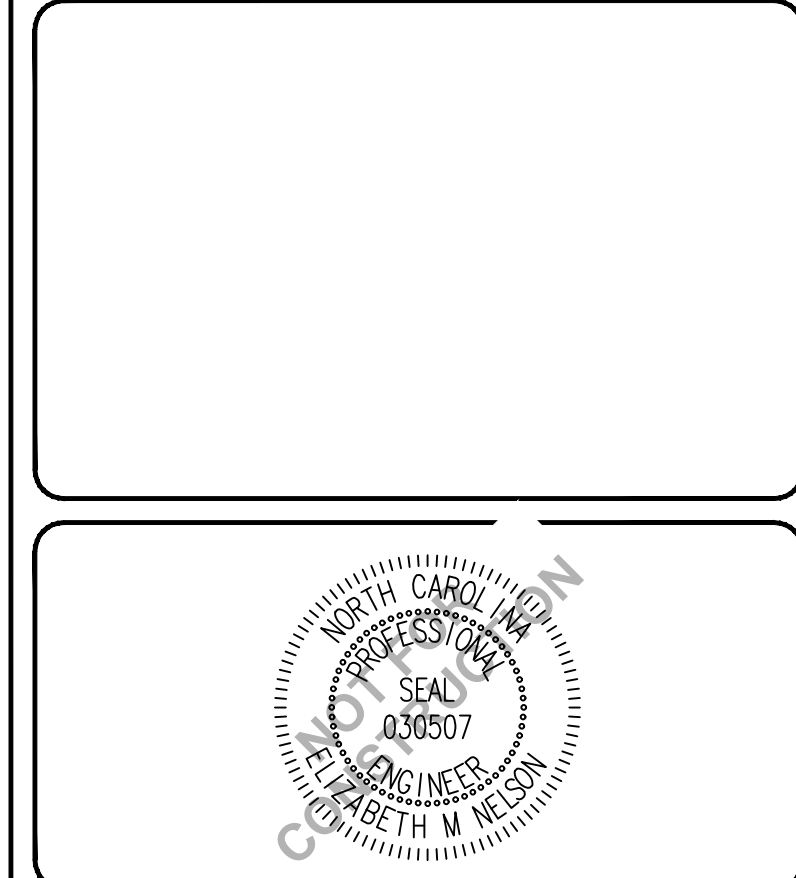
PROJECT NUMBER	275-77	SHEET NUMBER	D-501
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NOTES:

ISSUED FOR REGULATORY REVIEW

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



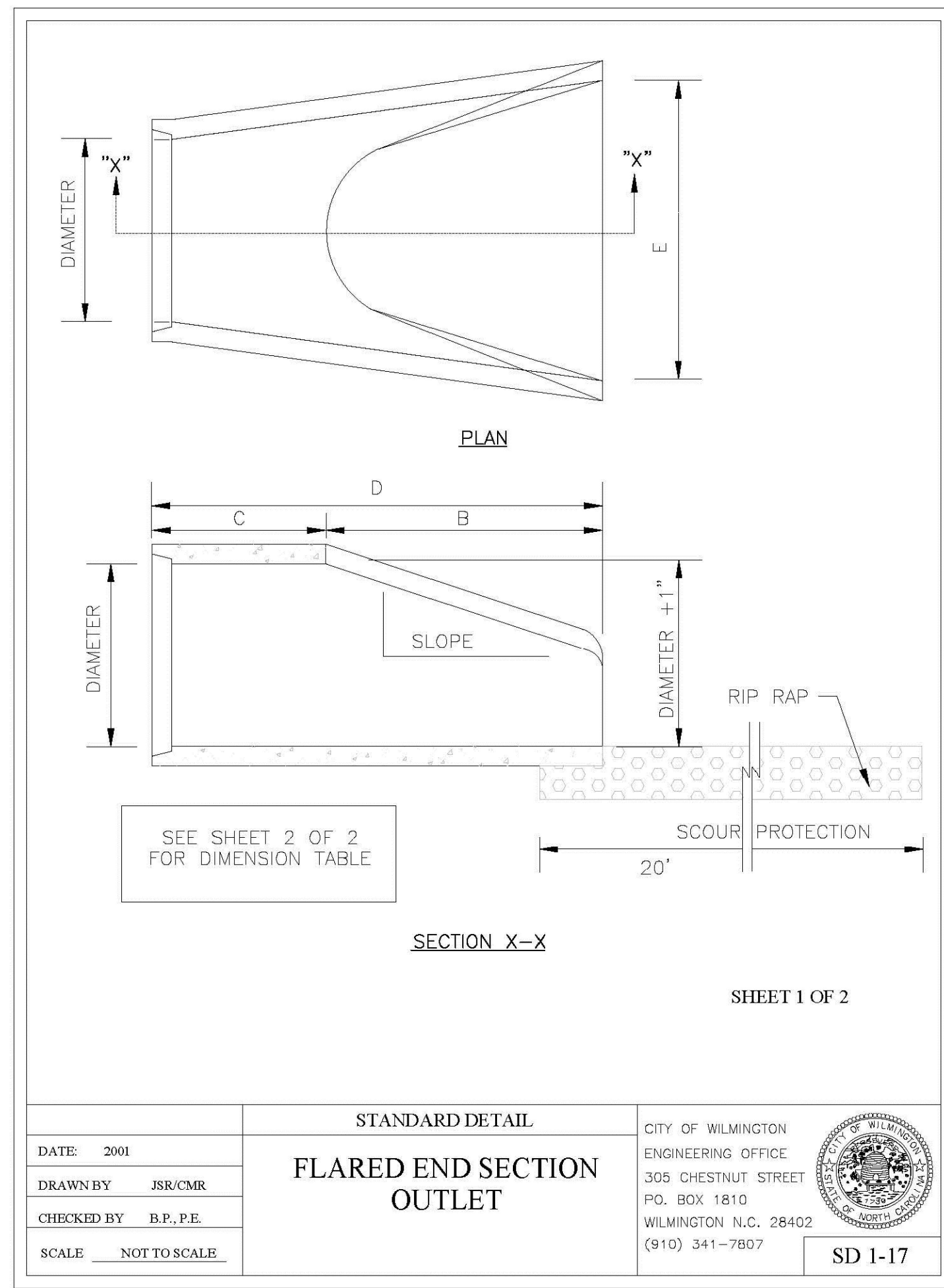
CAPE FEAR ENGINEERING
 151 Poole Rd., Suite 100; Belville, NC, 28451
 TEL (910) 383-1044; FAX (910) 383-1045
 www.capefearengineering.com
 N.C. LICENSE # C-1621

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



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

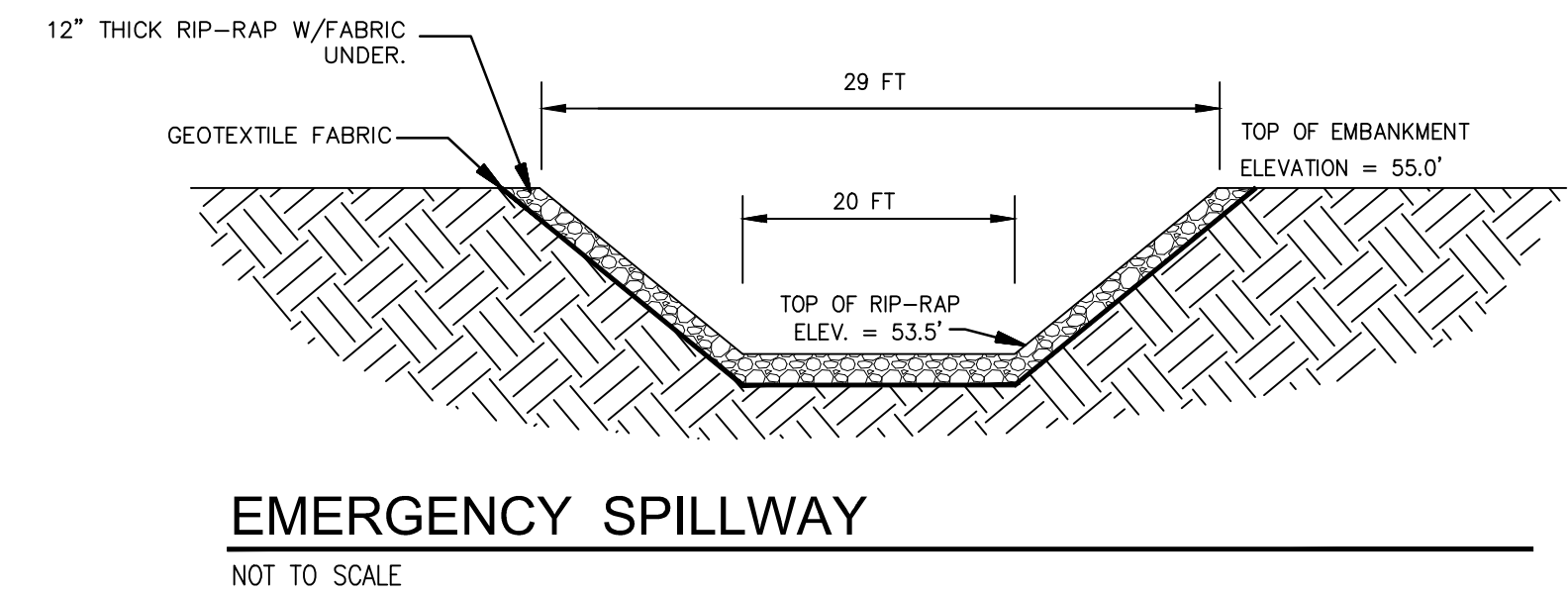
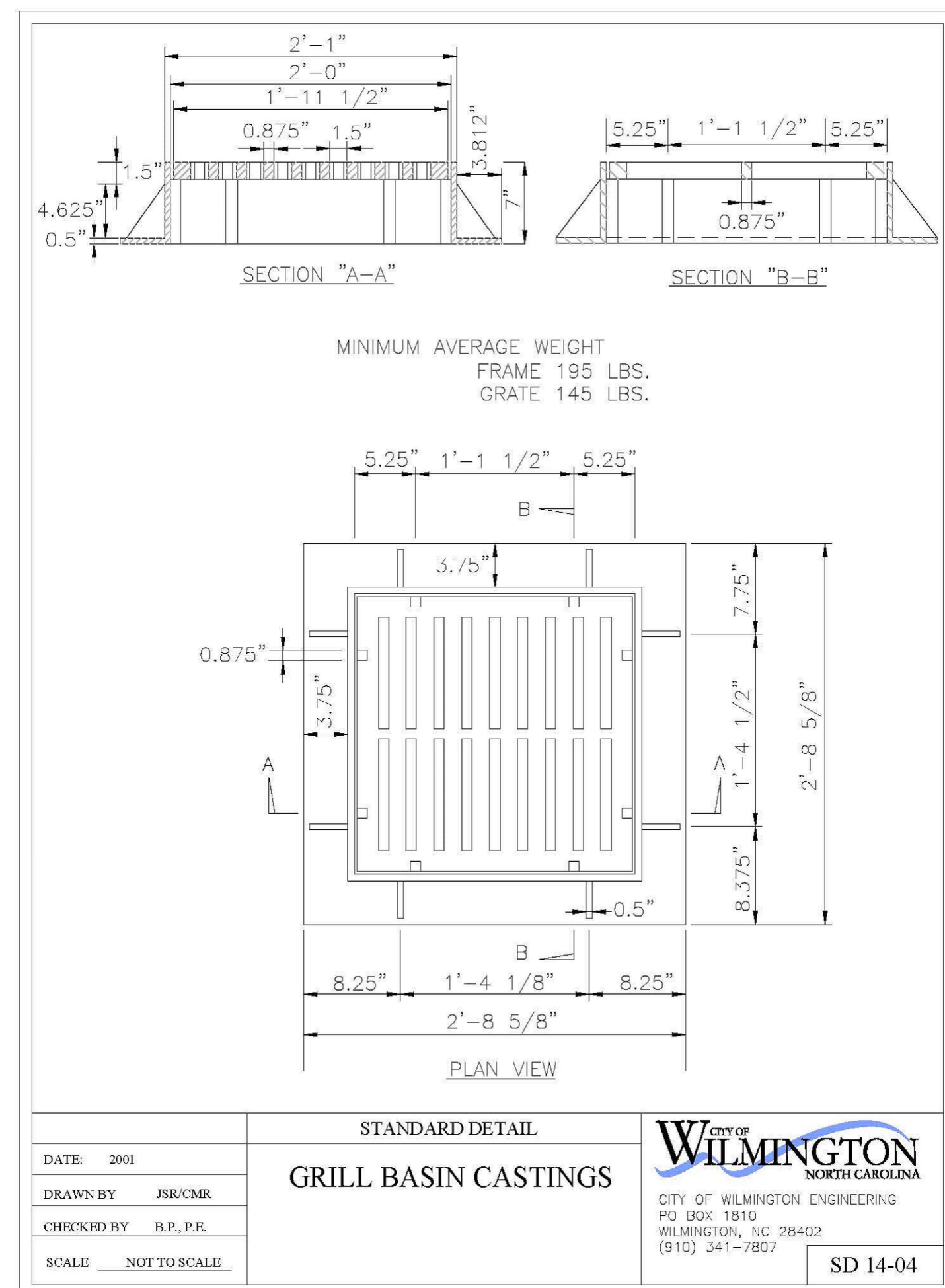
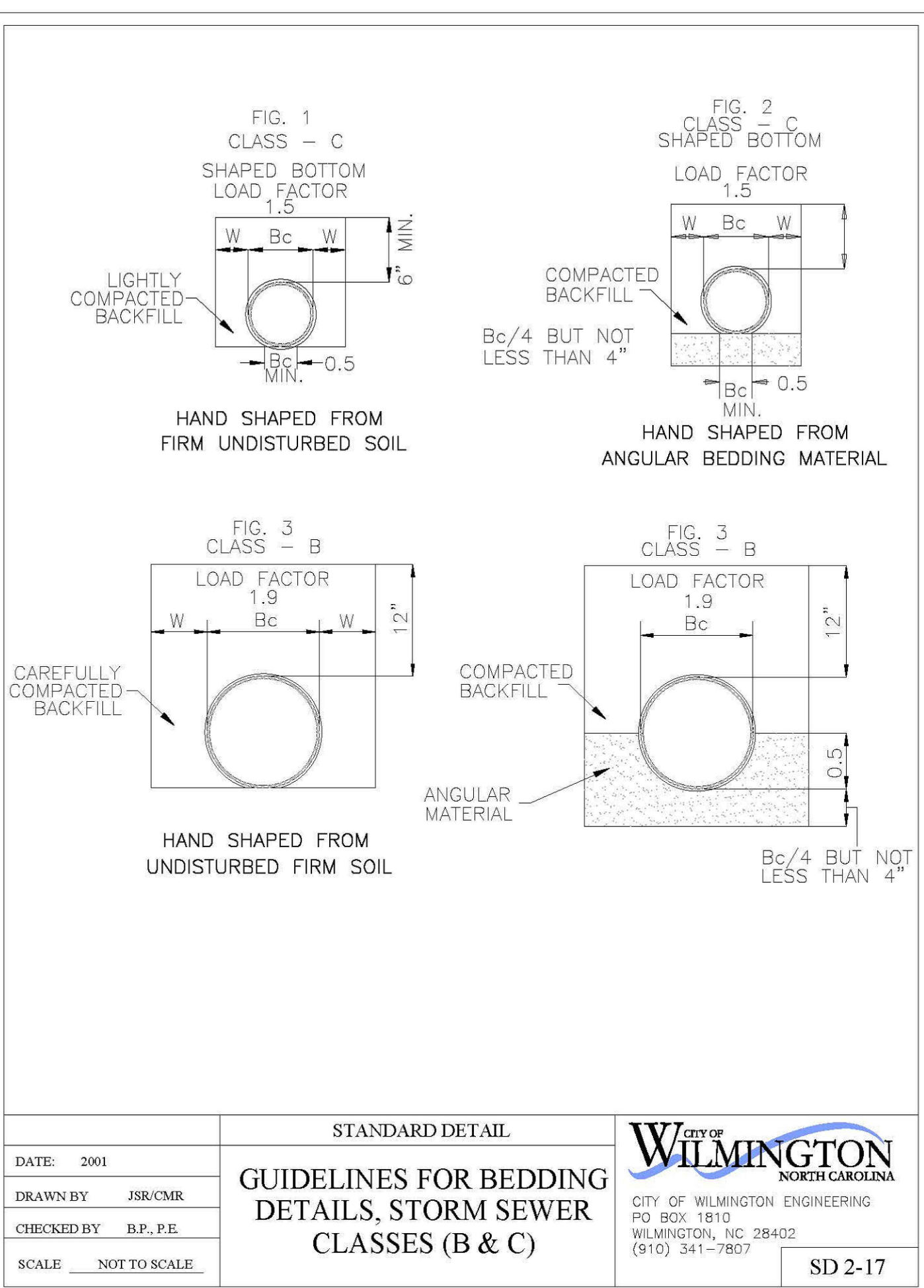
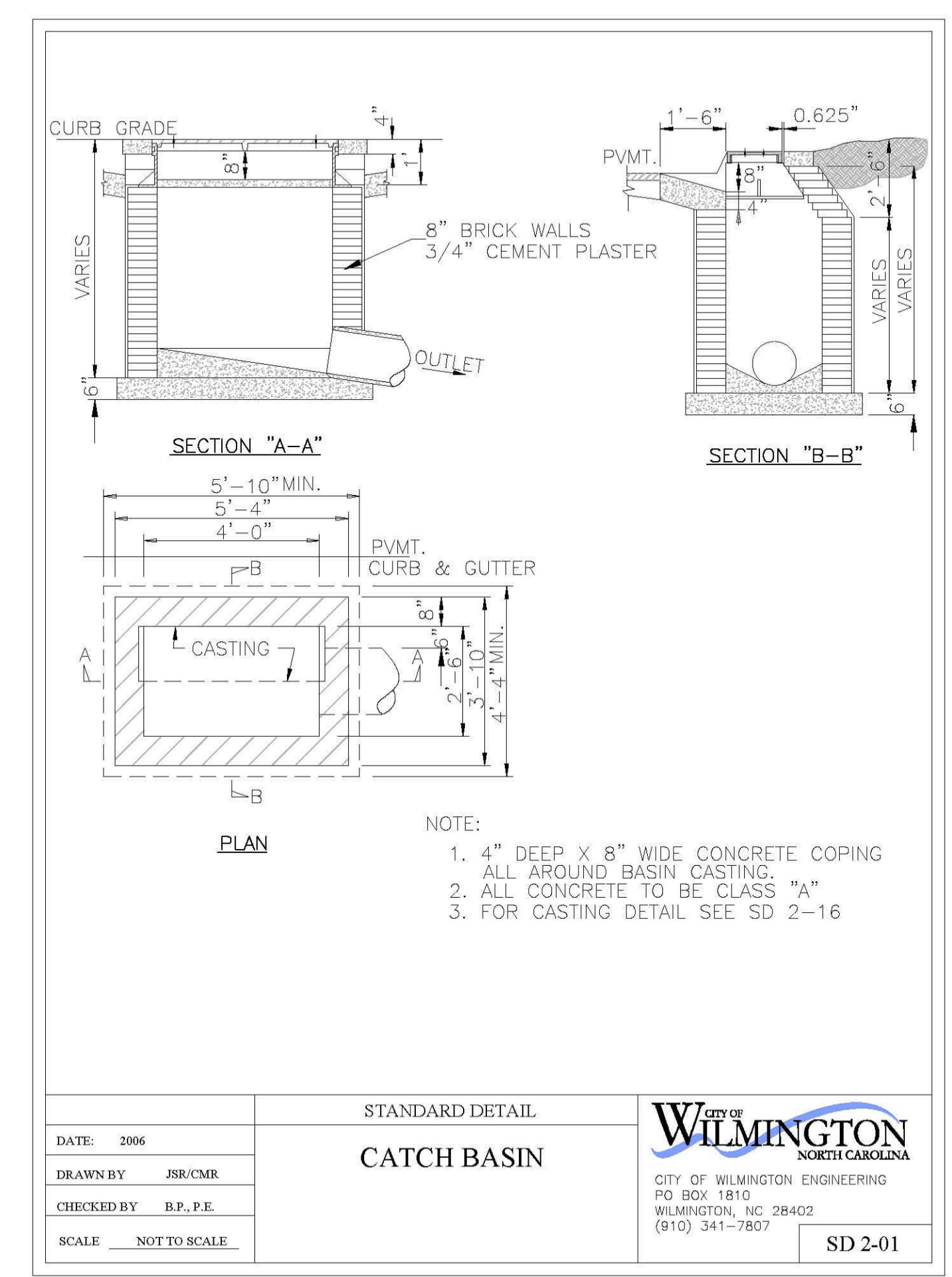
DIMENSIONS IN INCHES WEIGHTS IN POUNDS

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

STANDARD DETAIL
FLARED END SECTION OUTLET DIMENSION TABLE

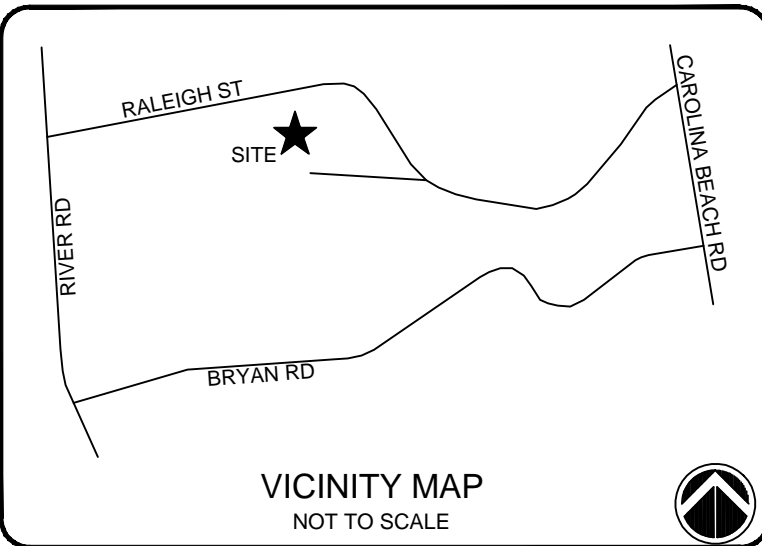
CITY OF WILMINGTON
ENGINEERING OFFICE
305 CHESTNUT STREET
PO. BOX 1810
WILMINGTON, N.C. 28402
(910) 341-7807

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: _____

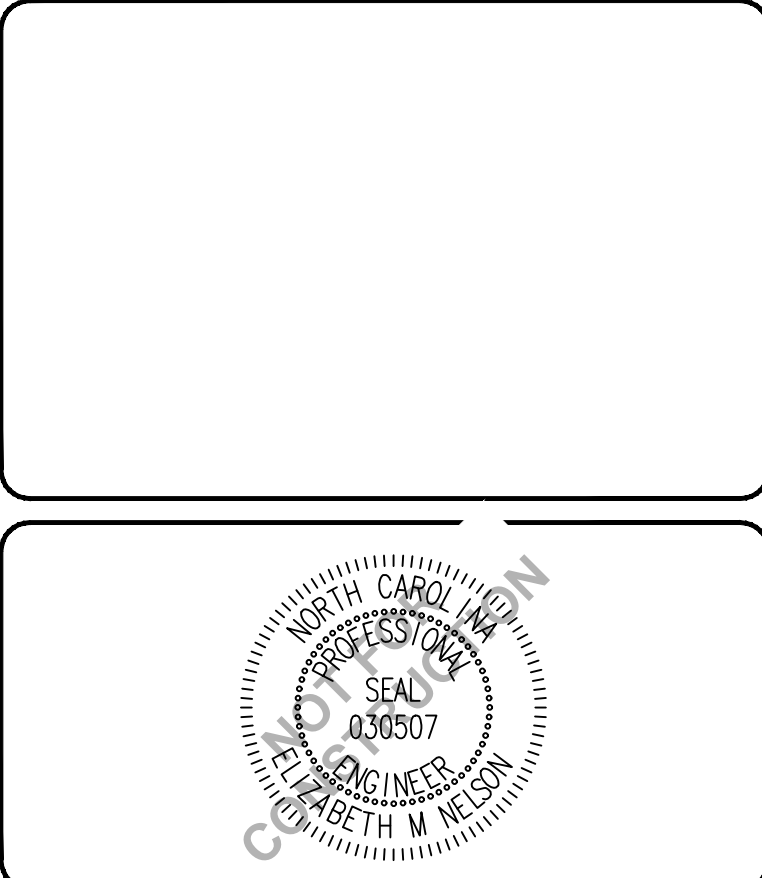


NOTES:

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



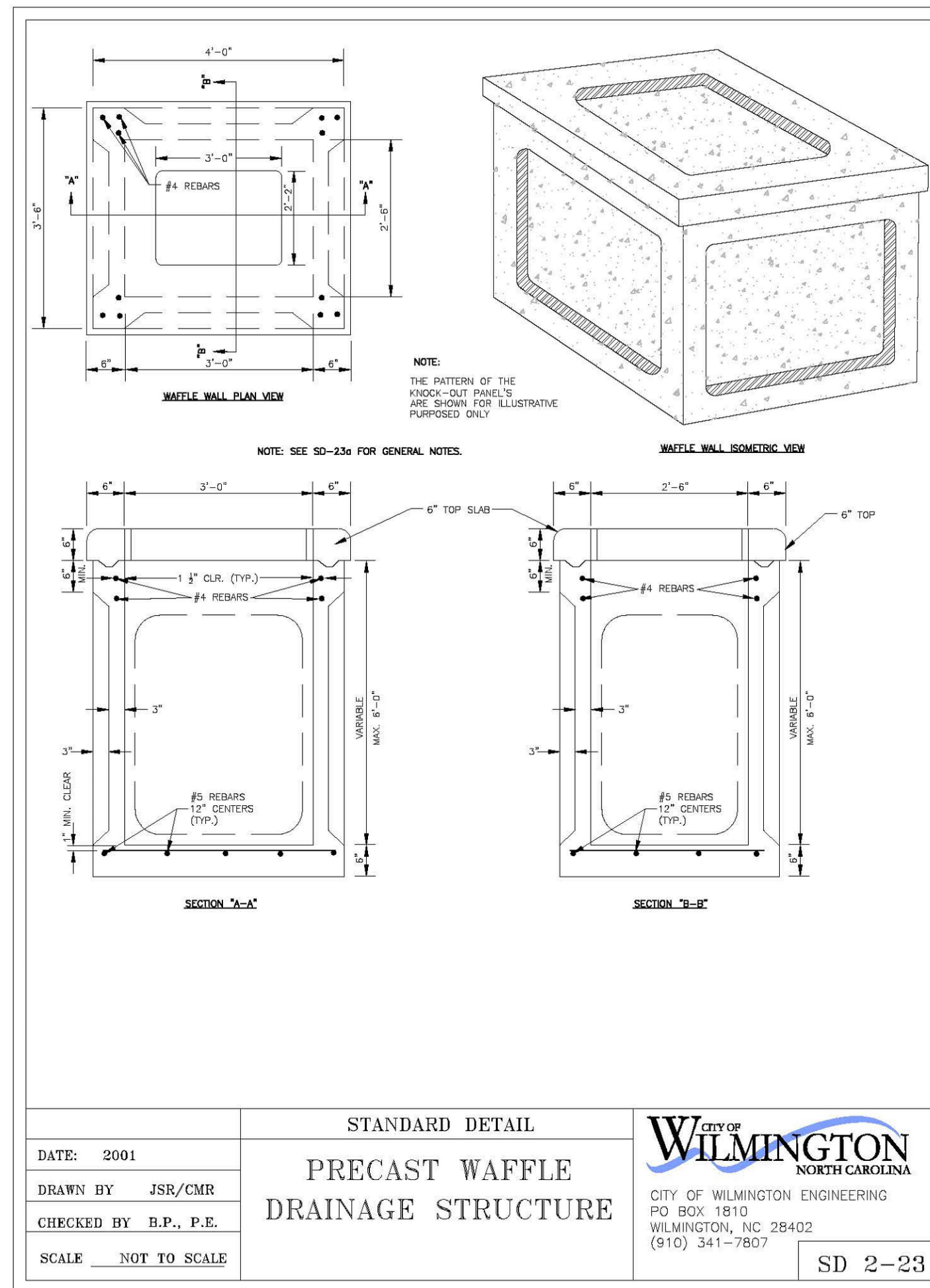
CAPE FEAR ENGINEERING
151 Poole Rd., Suite 100, Belville, NC, 28451
TEL (910) 383-1044; FAX (910) 383-1045
www.capefearengineering.com
N.C. LICENSE # C-1621

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

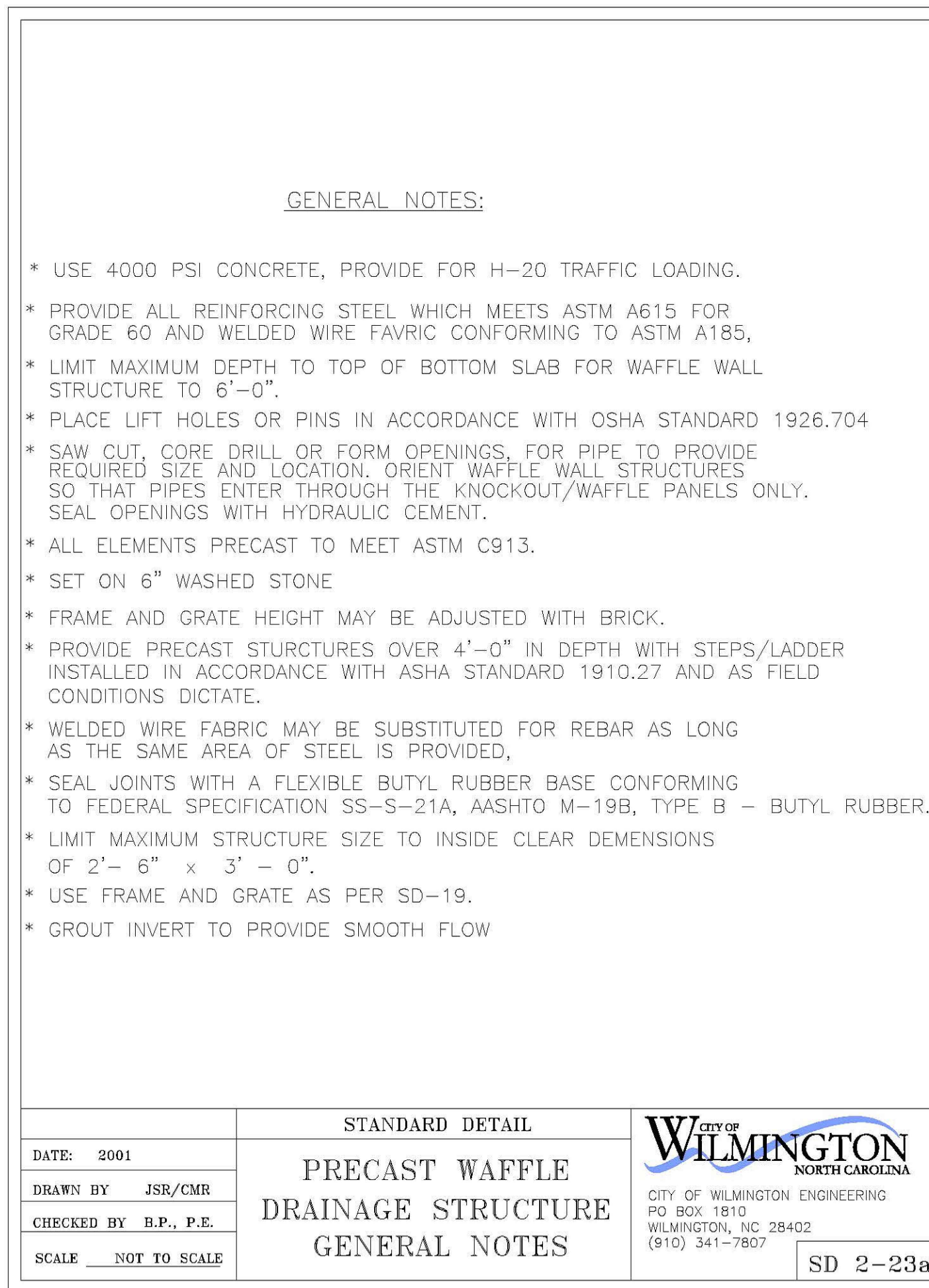
CIVIL WORKS CONTRACTING
RALEIGH STREET
WILMINGTON, NC

STORMWATER DETAILS

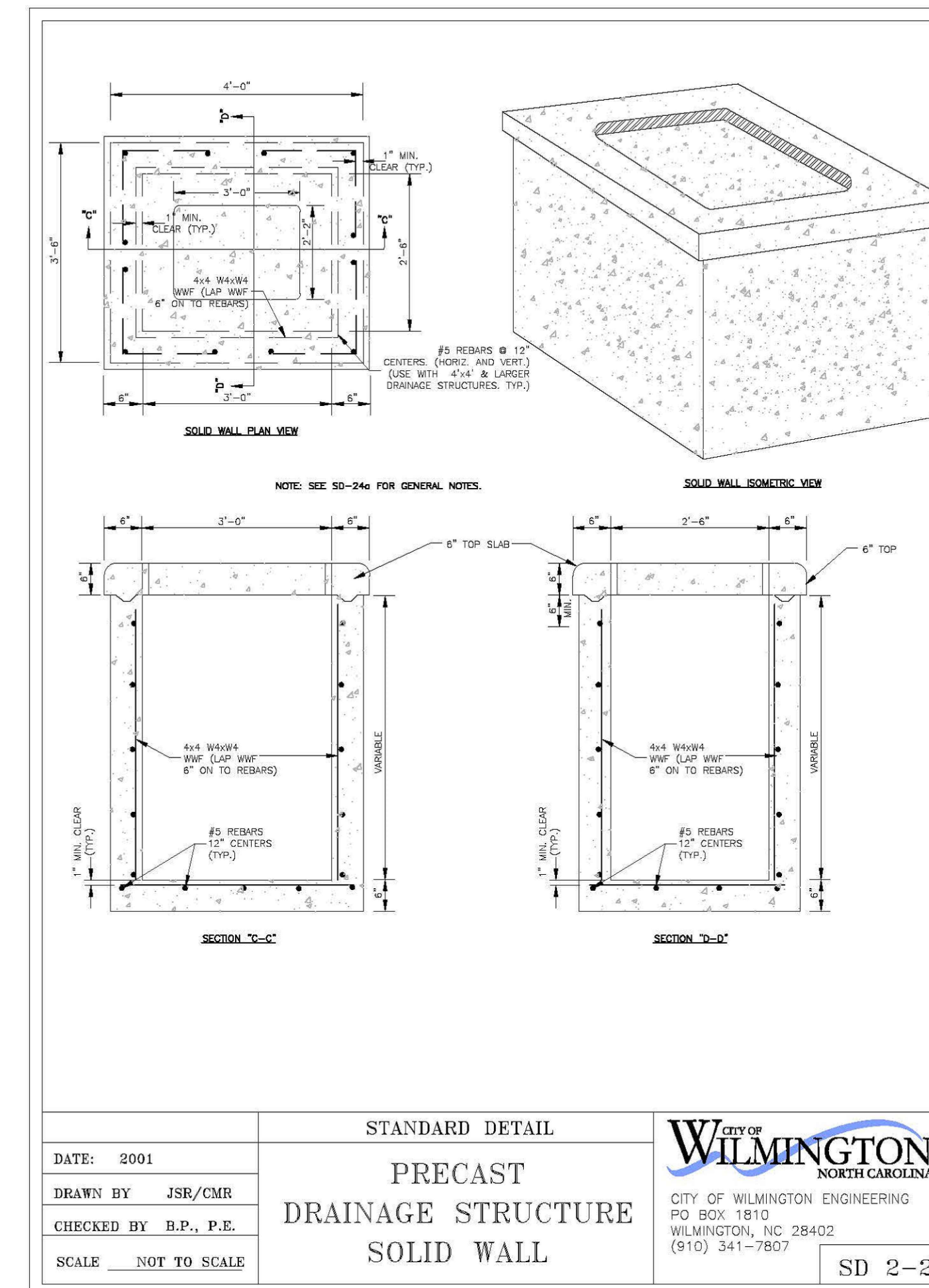
PROJECT NUMBER: 275-77
SHEET NUMBER: D-503



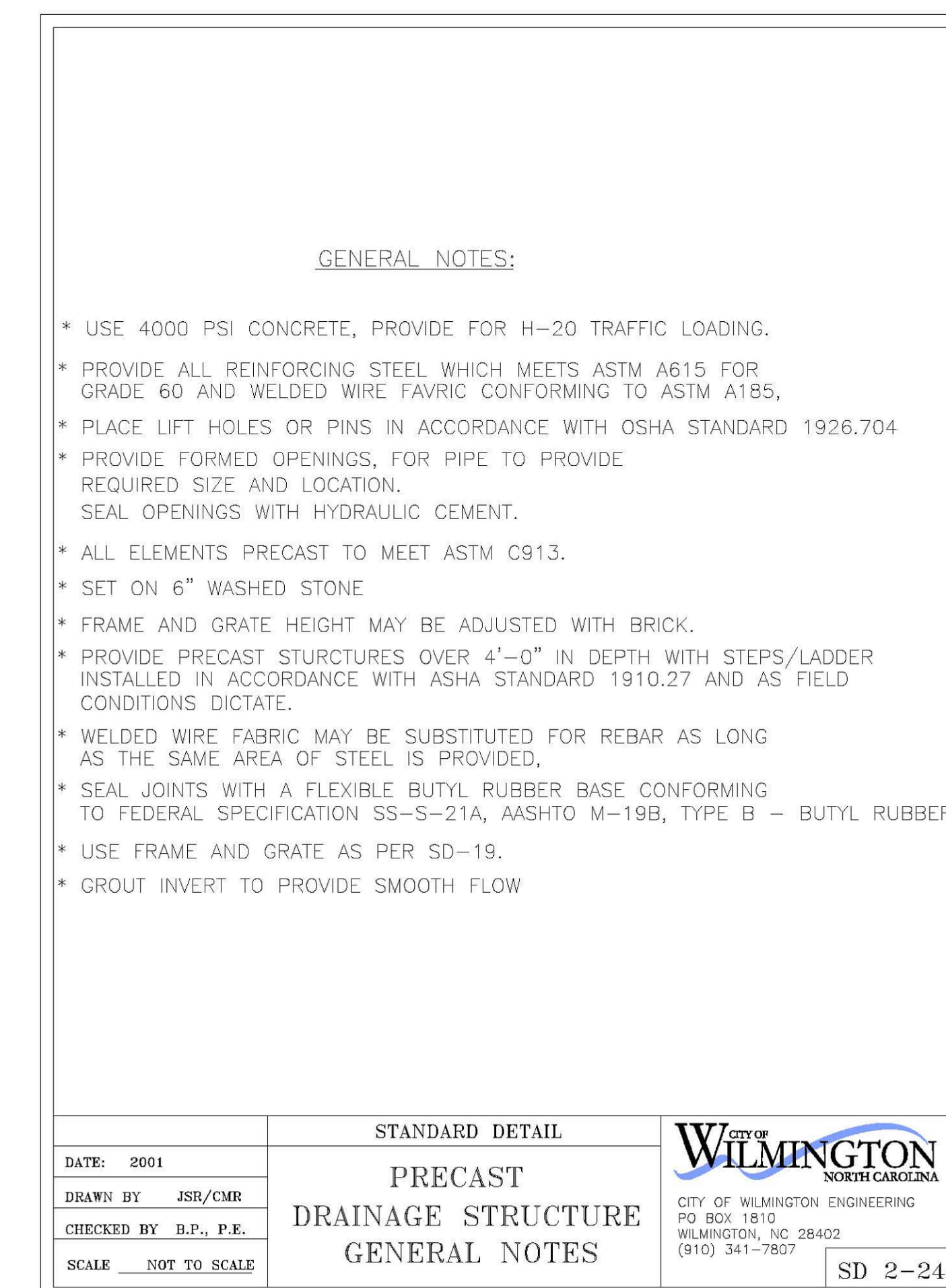
DATE: 2001	STANDARD DETAIL	 CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807	SD 2-23
DRAWN BY JSR/CMR	PRECAST WAFFLE DRAINAGE STRUCTURE		
CHECKED BY B.P., P.E.			
SCALE NOT TO SCALE			



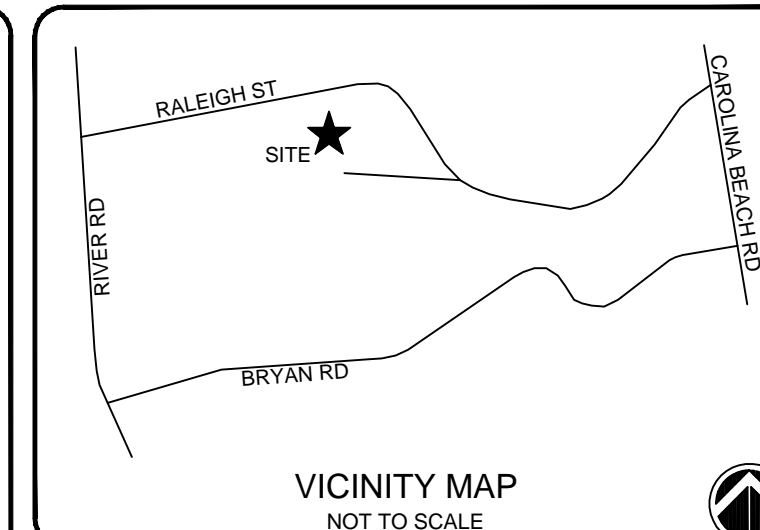
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DRAWN BY JSR/CMR	PRECAST WAFFLE DRAINAGE STRUCTURE GENERAL NOTES		
CHECKED BY B.P., P.E.			
SCALE NOT TO SCALE			



DATE: 2001	STANDARD DETAIL	 CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807	SD 2-24
DRAWN BY JSR/CMR	PRECAST WAFFLE DRAINAGE STRUCTURE SOLID WALL		
CHECKED BY B.P., P.E.			
SCALE NOT TO SCALE			



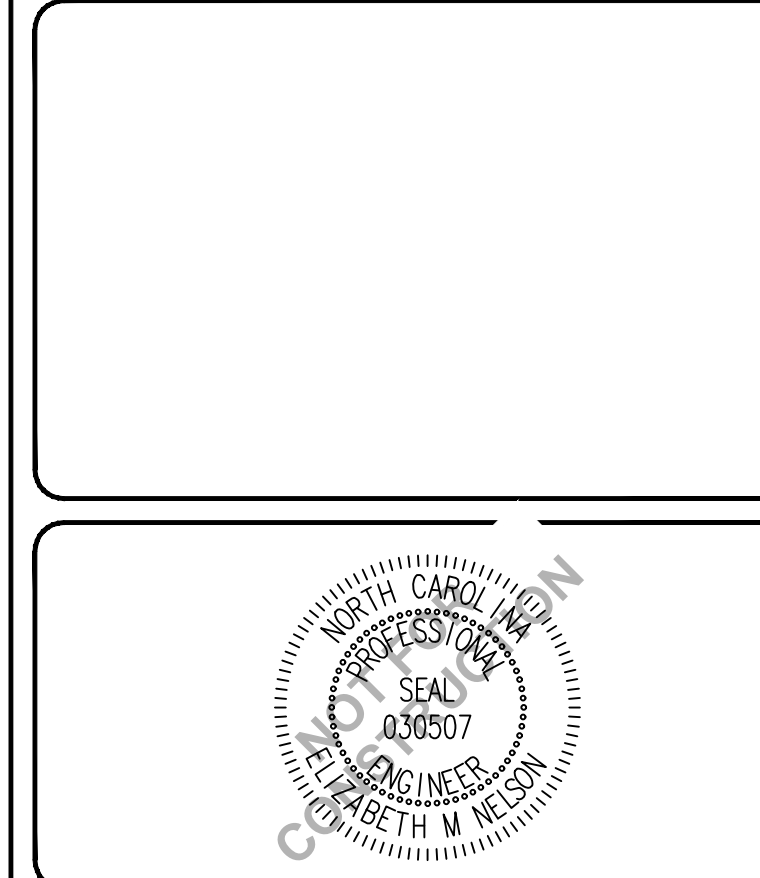
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CHECKED BY B.P., P.E.			
SCALE NOT TO SCALE			



NOTES:

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



CAPE FEAR ENGINEERING

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

CIVIL WORKS CONTRACTING
 RALEIGH STREET
 WILMINGTON, NC

STORMWATER DETAILS

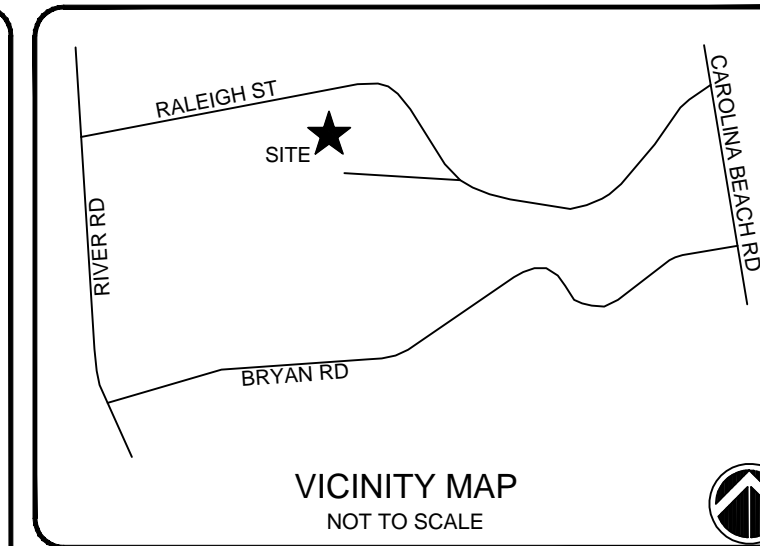
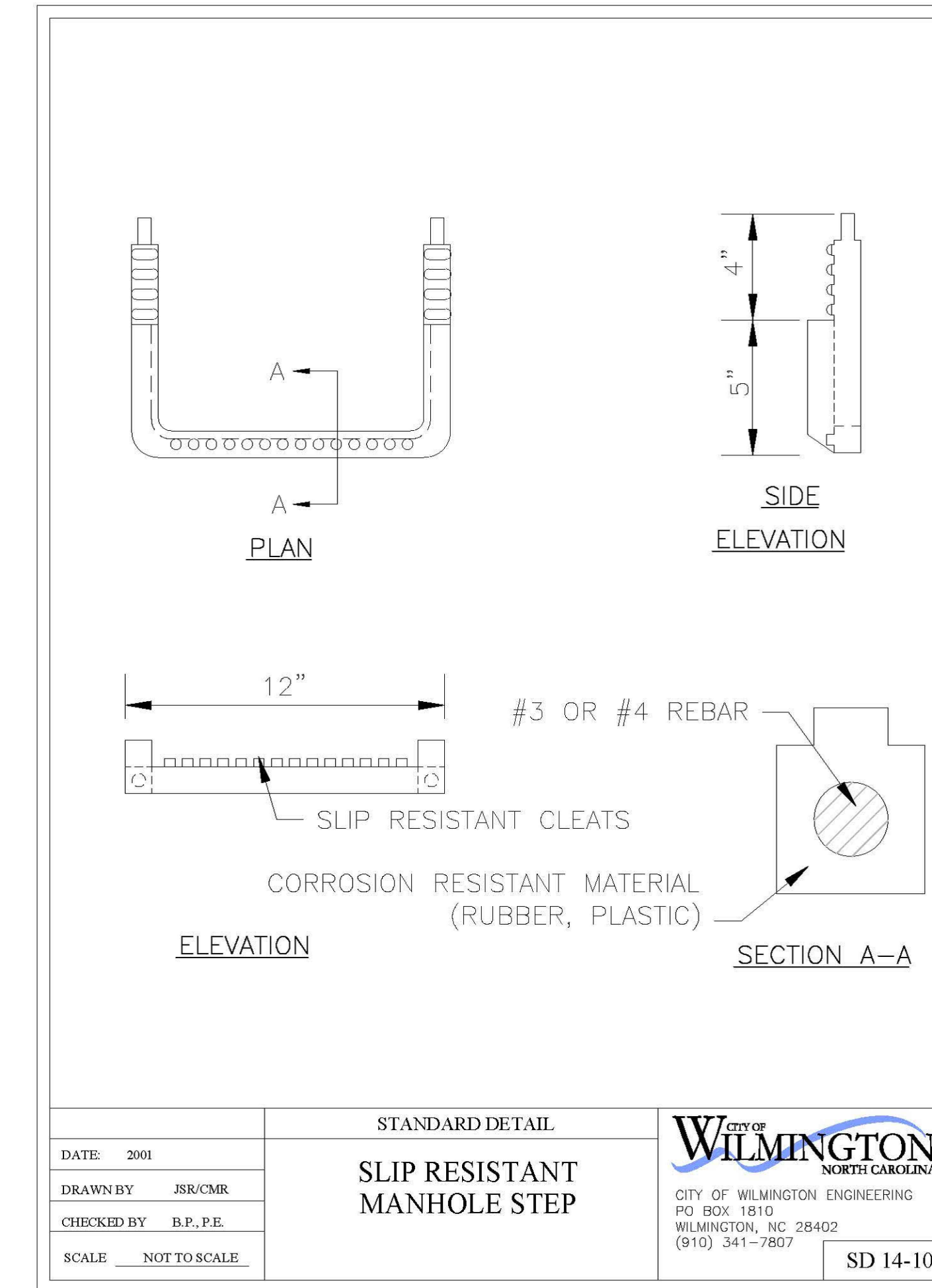
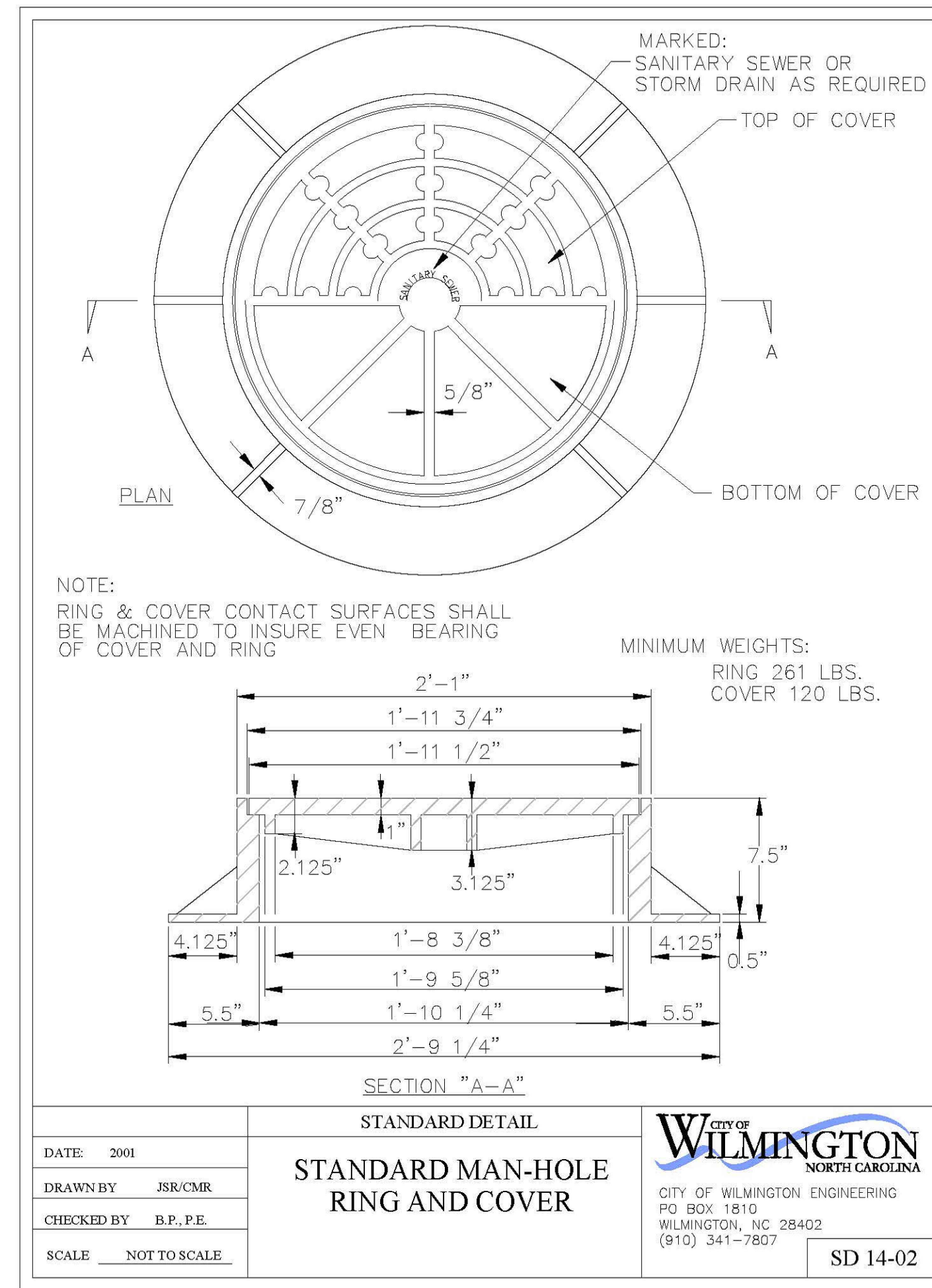
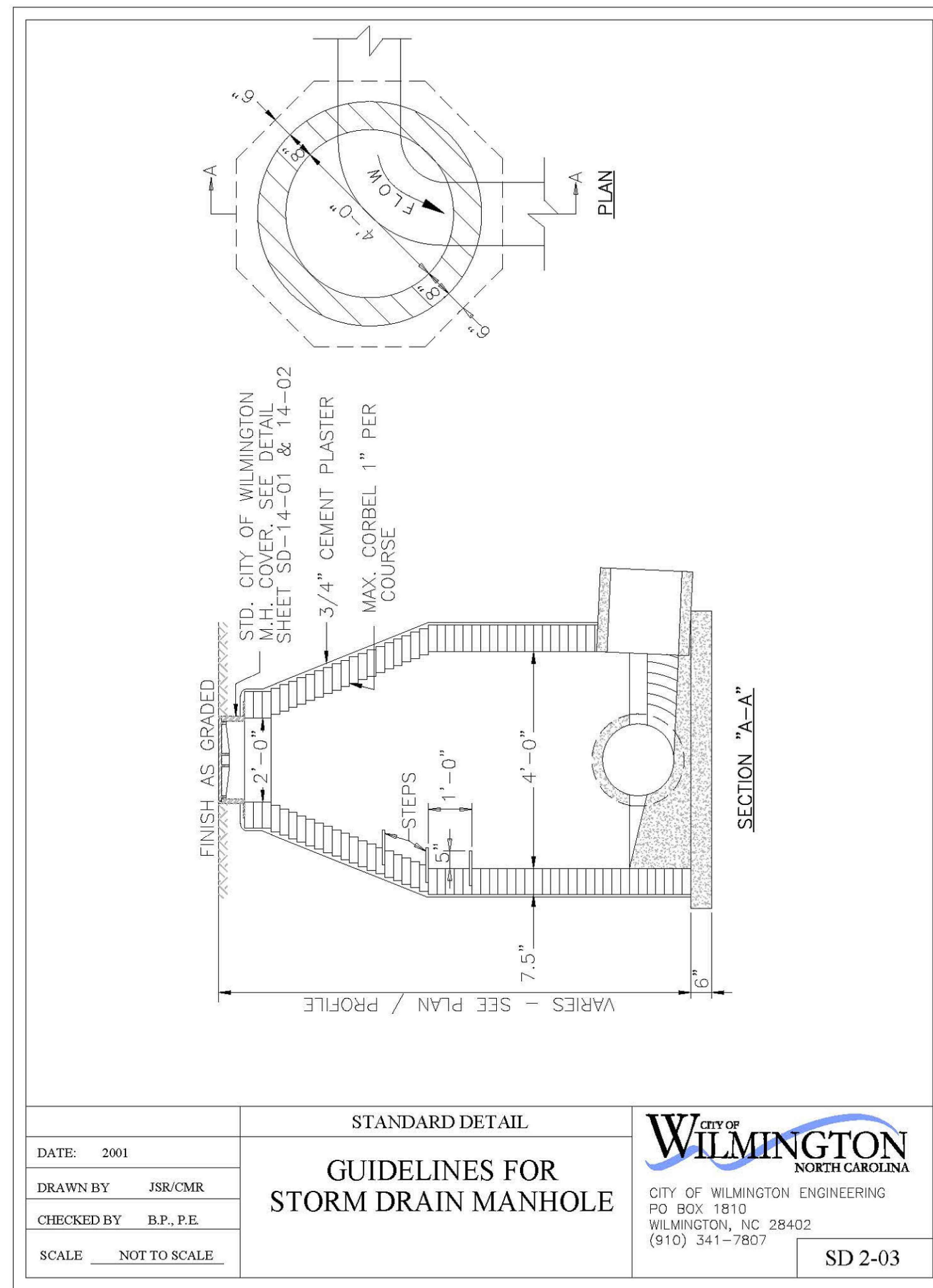
Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____
 Signed: _____

Approved Construction Plan

Name: _____ Date: _____

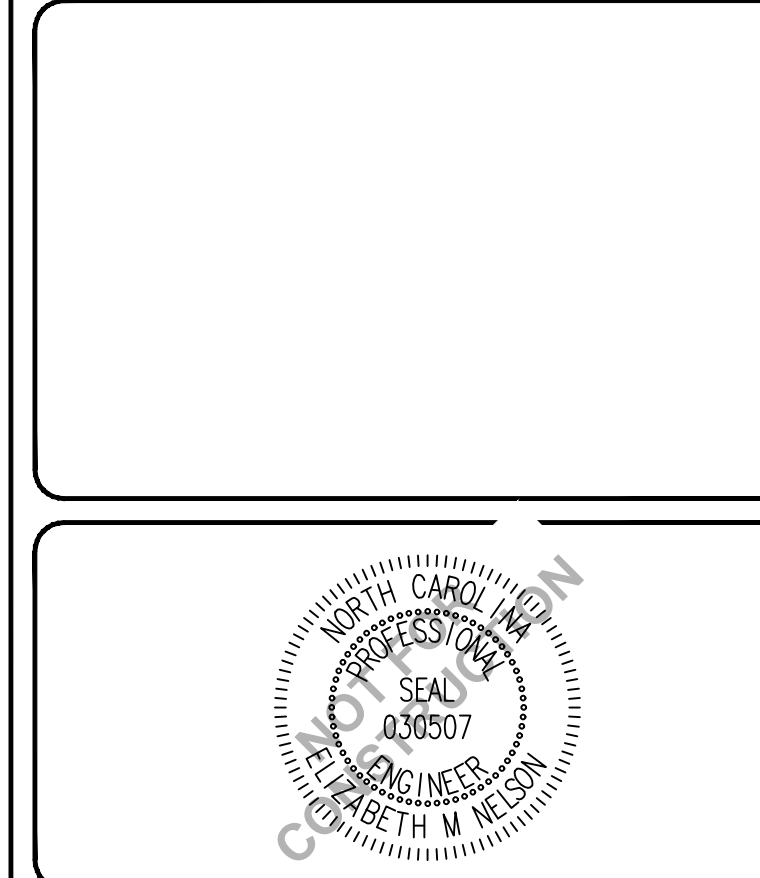
Planning _____
 Traffic _____
 Fire _____



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

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
275-77	D-505

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

Date: _____ Permit # _____

Signed: _____

Approved Construction Plan

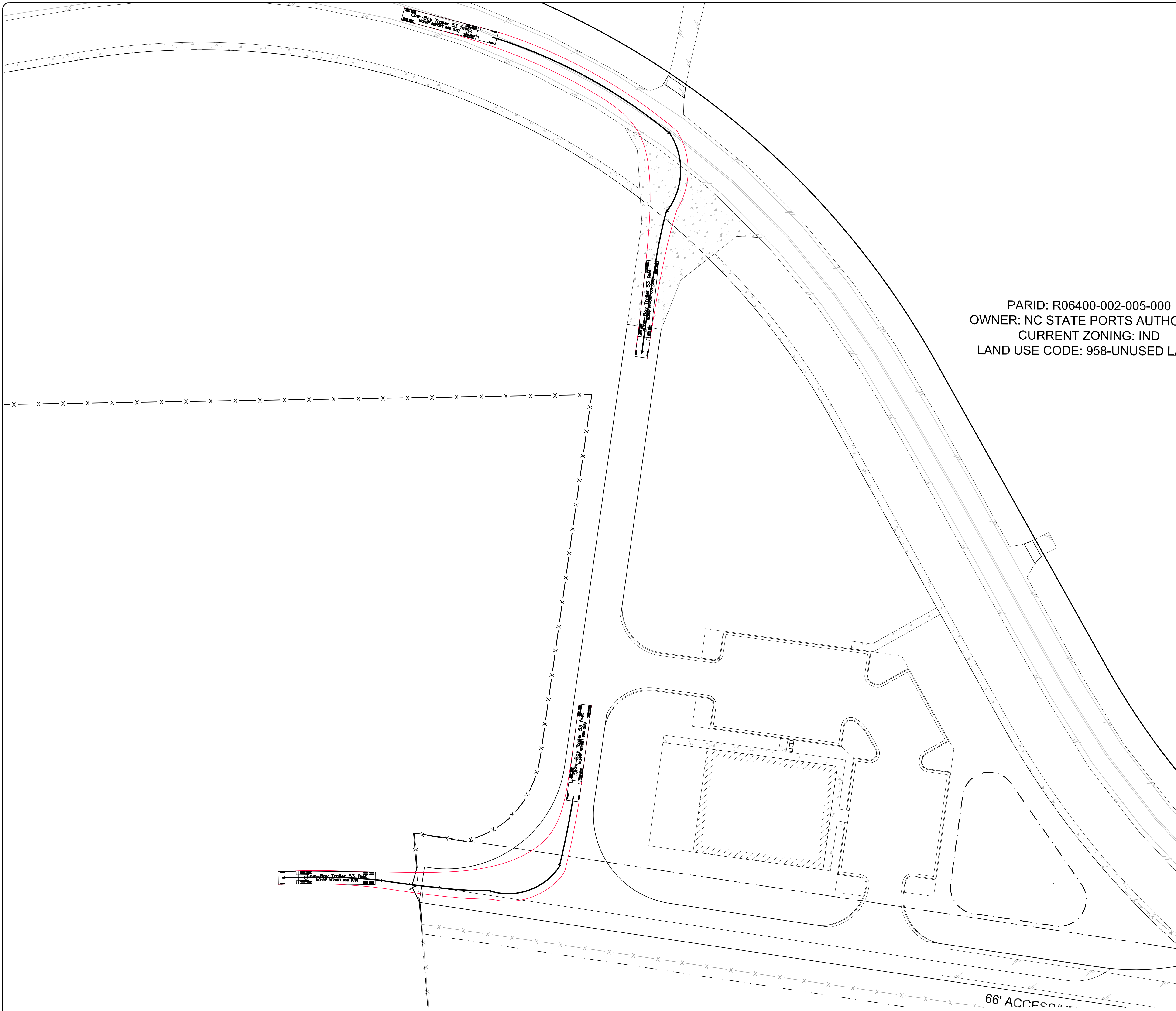
Name _____ Date _____

Planning _____

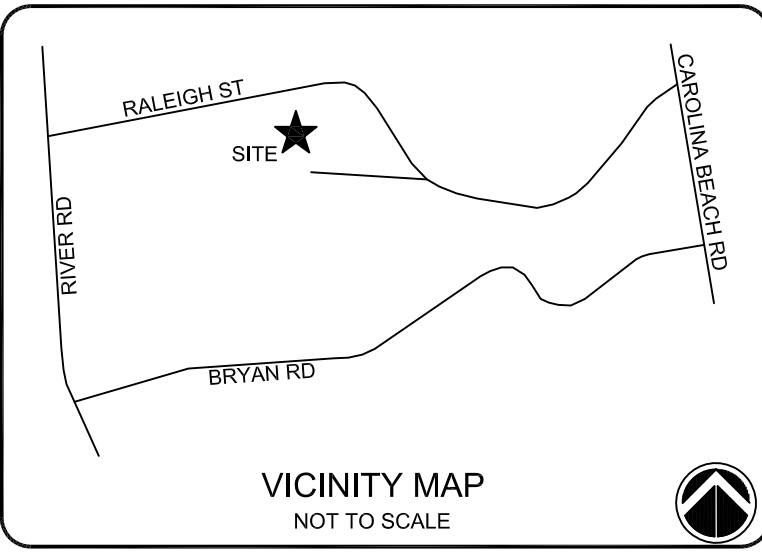
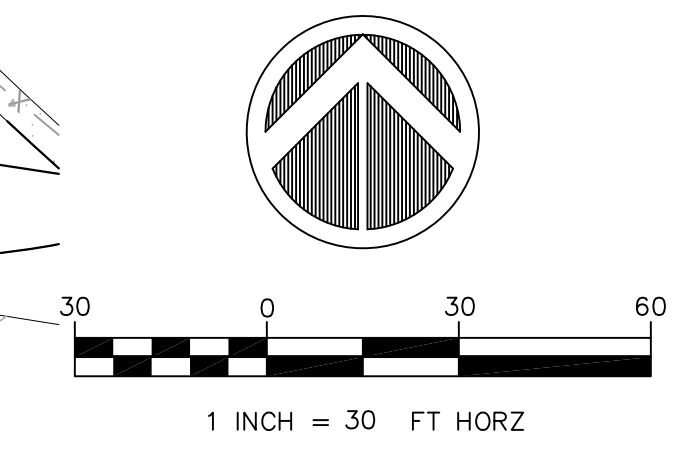
Traffic _____

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

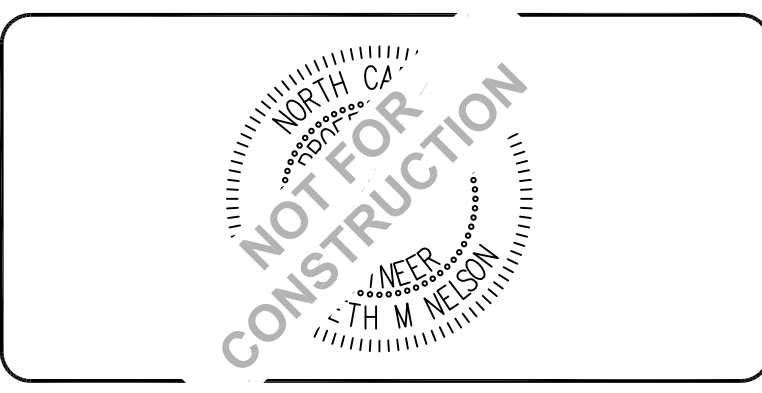


NOTES:

ISSUED FOR REGULATORY REVIEW

REV. #	DESCRIPTION	DATE
REVISIONS		

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



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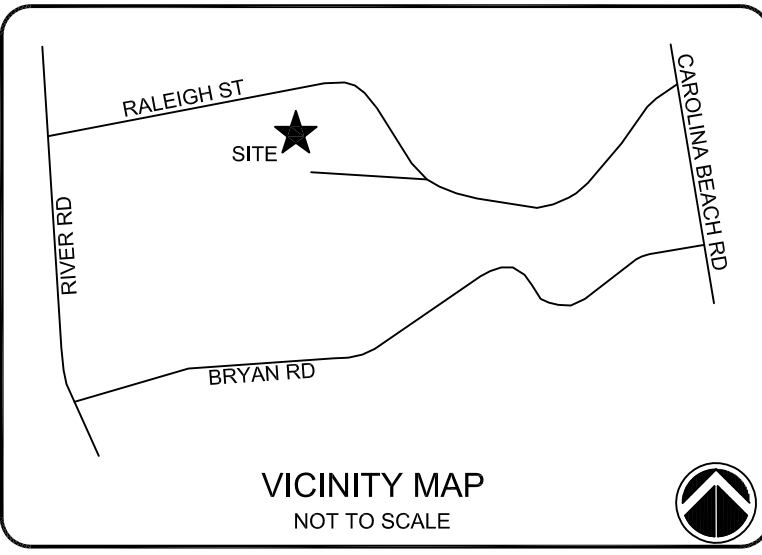
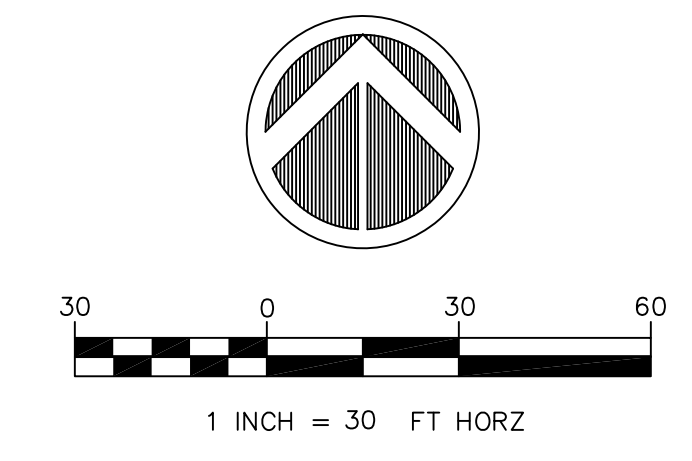
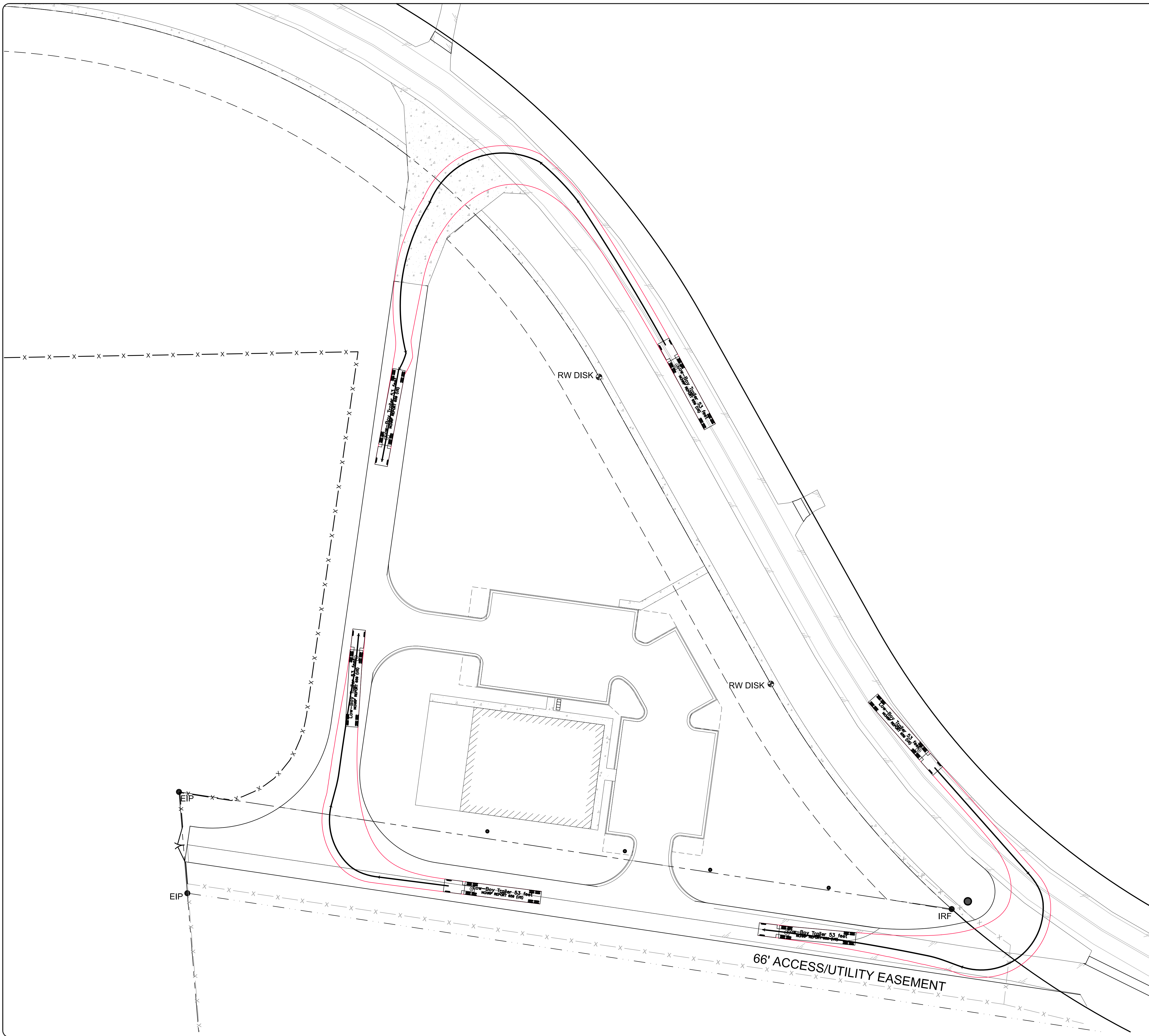
PROJECT NUMBER:	275-77
SCALE:	1" = 50'
DATE:	01 MAR 17

CIVIL WORKS CONTRACTING
RALEIGH STREET
WILMINGTON, NC

AUTOTURN EXHIBIT 1

PROJECT NUMBER	SHEET NUMBER
275-77	CS100

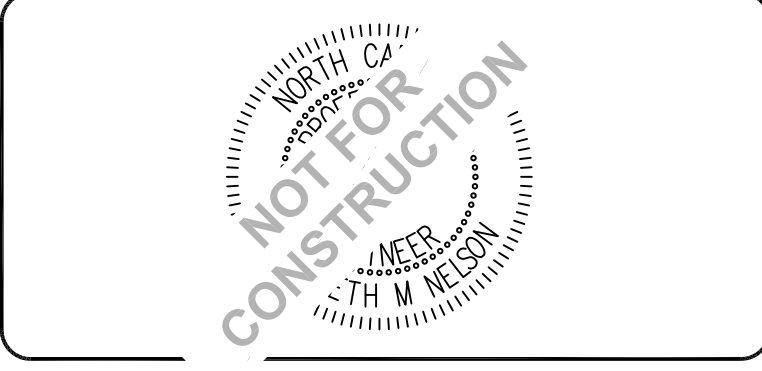
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NOTES:

ISSUED FOR REGULATORY REVIEW

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



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PROJECT NUMBER:	275-77
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CIVIL WORKS CONTRACTING
 RALEIGH STREET
 WILMINGTON, NC

AUTOTURN EXHIBIT EXHIBIT 2

PROJECT NUMBER	SHEET NUMBER
275-77	CS100