

# RIVERBEND MIXED USE

## 316 N. 2ND STREET

### WILMINGTON, NORTH CAROLINA

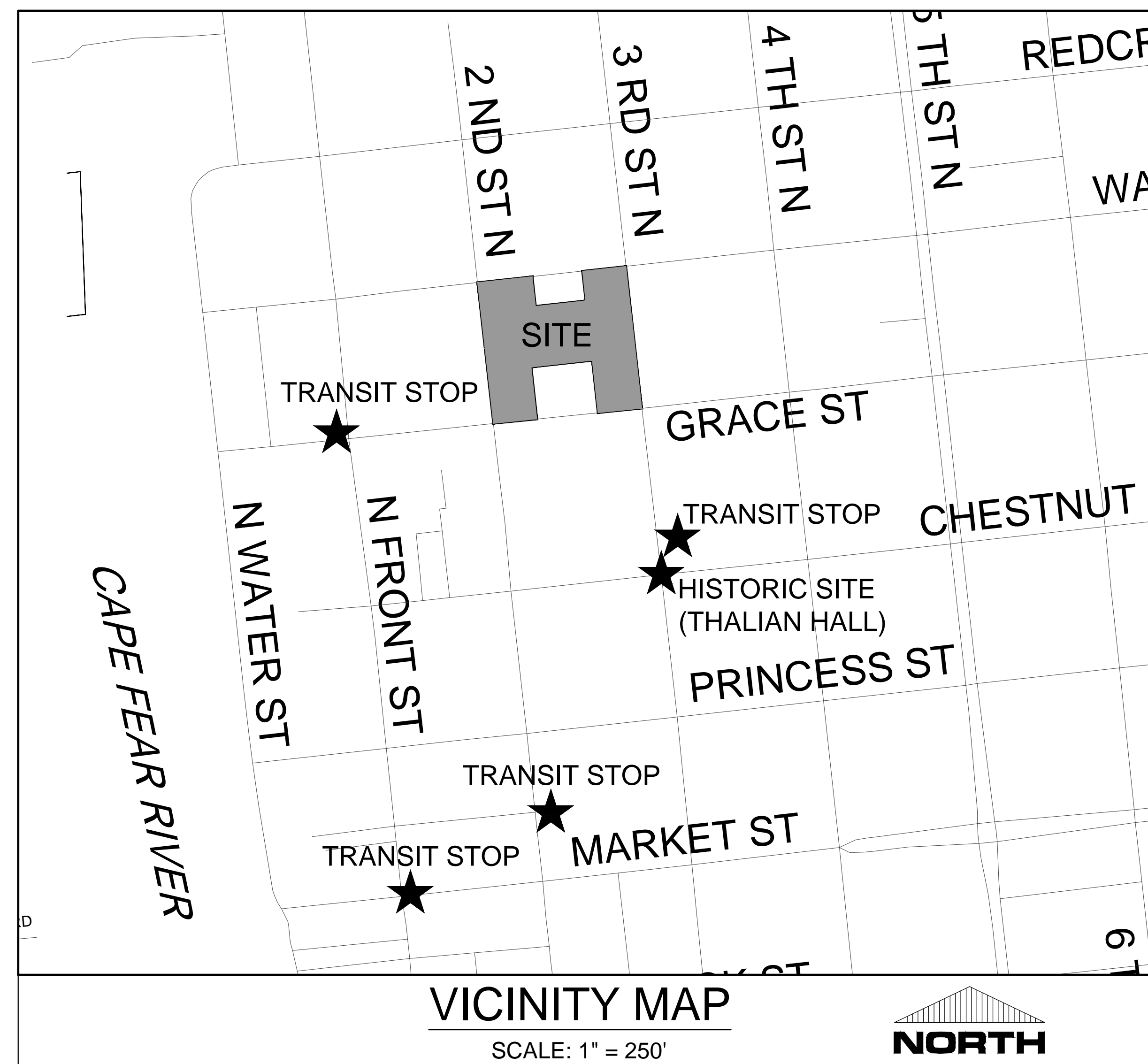
# DESIGN DOCUMENTS

## MARCH 2019

RIVERBEND  
316 N. 2ND STREET



**LS3P ASSOCIATES LTD.**  
101 NORTH THIRD STREET, SUITE 500  
WILMINGTON, NORTH CAROLINA 28401  
TEL. 910.790.9901 FAX 910.790.3111  
WWW.LS3P.COM



**OWNER / DEVELOPER:**  
RIVERBEND #1, LLC  
316 N. 2ND STREET  
WILMINGTON, NORTH CAROLINA 28401

**ARCHITECT:**  
LS3P  
101 N. 3RD STREET, SUITE 500  
WILMINGTON, NORTH CAROLINA 28401  
ATTN: DANNY ADAMS OR JAIME SMITH (910) 790-9901

**ENGINEER (CIVIL), SURVEY & LANDSCAPE ARCHITECT:**  
PARAMOUNTE ENGINEERING, INC.  
122 CINEMA DRIVE  
WILMINGTON, NORTH CAROLINA 28403  
ATTN: J. BRANCH SMITH, P.E. (910) 791-6707

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
C-0.0	COVER SHEET
C-1.0	GENERAL NOTES
C-2.0	SITE PLAN
C-2.1	SITE INVENTORY PLAN
C-2.2	DEMOLITION & EC PLAN
C-3.0	GRADING & DRAINAGE PLAN
C-3.1	UTILITY PLAN
C-4.0-4.1	SITE DETAILS
L-1.0	LANDSCAPE PLAN

**NOTICE REQUIRED**

ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED PRIOR TO THE BEGINNING OF ANY CONSTRUCTION IN THE VICINITY OF SAID UTILITIES.

CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.

CONTRACTORS SHALL CONTACT OVERHEAD ELECTRIC PROVIDER TO COMPLY WITH FEDERAL OSHA 1910.333 MINIMUM APPROACH DISTANCE TO ENERGIZED POWERLINES AND OSH 29 CFR 1926.1407-1411 MUST BE FOLLOWED.

CONTRACTOR SHALL CONTACT AT&T PRIOR TO ANY DEMOLITION TO ALLOW FOR AT&T TO DISCONNECT COMMUNICATIONS CABLES COMING INTO THE SITE.

**CONTACT THESE UTILITIES**

**CITY OF WILMINGTON PLANNING & DEVELOPMENT**  
ATTN: JEFF WALTON, PLANNER  
PH: 910-341-4655  
ATTN: ZONING INSPECTIONS  
PH: 910-254-0900

**PIEDMONT NATURAL GAS**  
ATTN: CATHY PLEASANT  
PH: 910-251-2827

**EMERGENCY DIAL 911  
POLICE - FIRE - RESCUE**  
ATTN: CITY OF WILMINGTON FIRE & LIFE SAFETY  
PH: 910-343-6696

**CAPE FEAR PUBLIC UTILITY AUTHORITY (WATER & SEWER)**  
ENGINEERING/INSPECTIONS  
PH: 910-332-6560  
OPERATIONS/MAINTENANCE  
PH: 910-332-6550

**DUKE ENERGY**  
DISTRIBUTION CONSTRUCTION SERVICE  
DEP CSC PH: 1-800-462-2777

**AT&T/BELL SOUTH**  
ATTN: STEVE DAYVAULT (BUILDING ENGINEERING)  
PH: 910-341-0741  
ATTN: JAMES BATSON, ENGINEERING  
PH: 910-341-1621

**SPECTRUM / TIME WARNER**  
GENERAL PH: 800-892-4357  
STEVE BARNETTE 910-772-5755

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



Approved Construction Plan

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

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

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



**PREPARED BY:**  
**PARAMOUNTE ENGINEERING, INC.**  
122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (O) (910) 791-6760 (F)  
NC License #: C-2846  
PROJECT # 16163.PE

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**REVISIONS:**

No.	Description	Date

PROJECT: 16163.PE  
DATE: MARCH 19, 2019  
DRAWN BY: RPB  
CHECKED BY: JBS

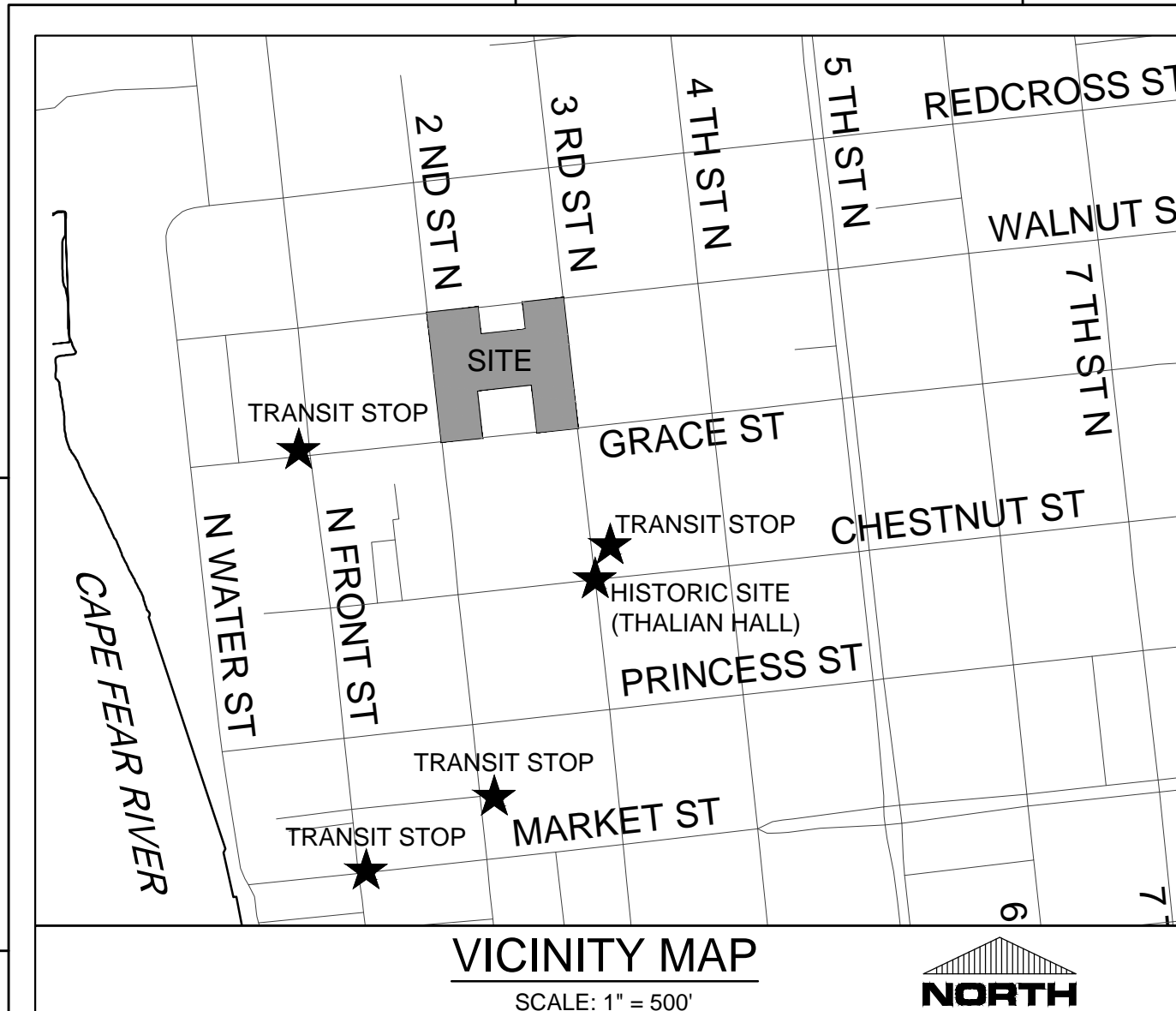
**COVER**

**C-0**

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SOLUTIONS THROUGH LISTENING  
SERVICE BY DESIGN  
DESIGN DEVELOPMENT





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122 Cinema Drive  
Wilmington, North Carolina 28403  
(910) 791-6707 (C) (910) 791-6700 (F)  
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**RIVERBEND #1, LLC**  
P.O. BOX 1087  
WEST END, NC 27376

**RIVERBEND**  
316 N. 2ND STREET



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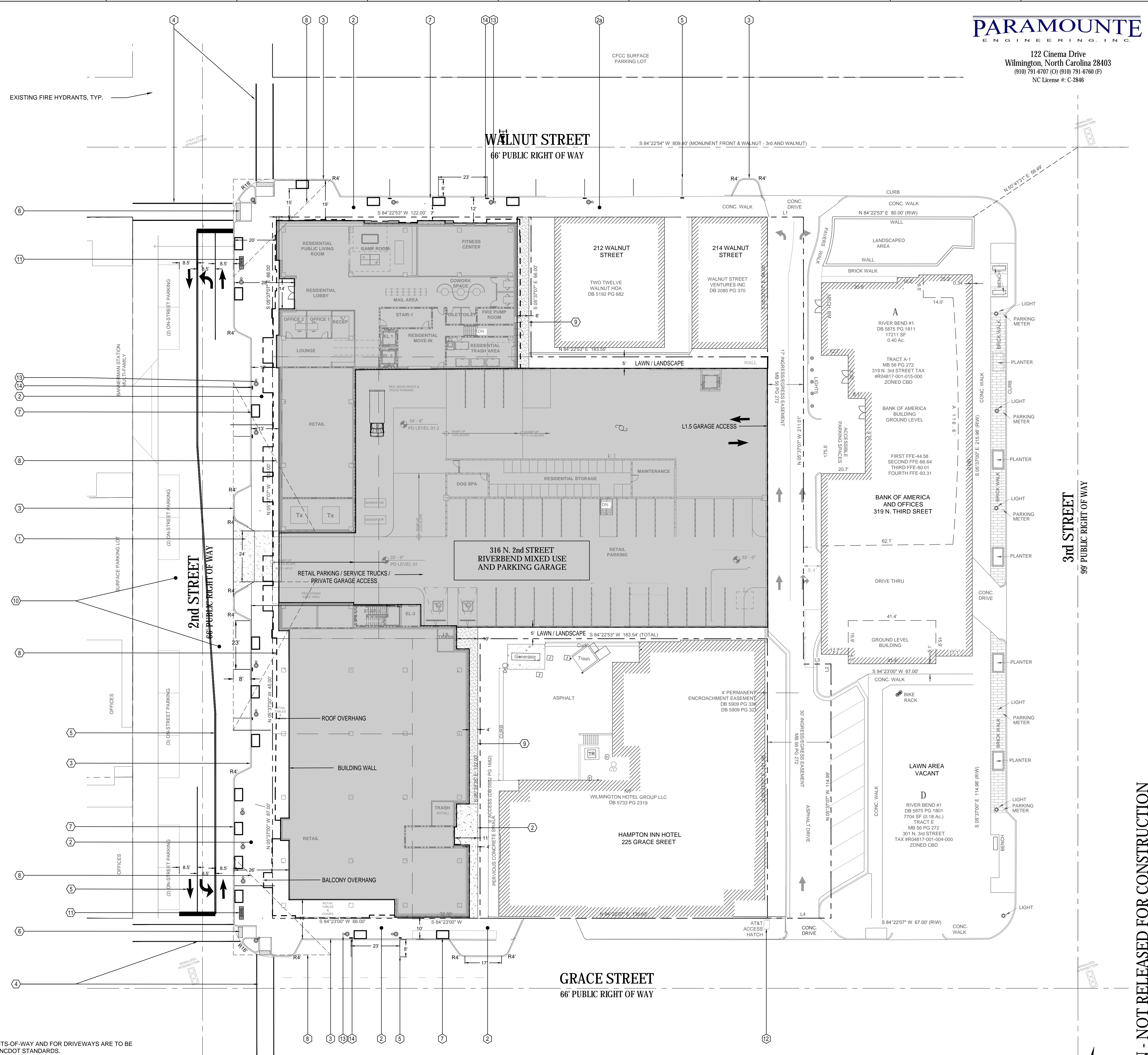
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**SITE LAYOUT**  
**C-2.0**

SOLUTIONS THROUGH LISTENING  
SERVICE BY DESIGN  
DESIGN DEVELOPMENT



**SITE DATA TABULATION**

OWNER: RIVERBEND #1, LLC  
PROJECT: RIVERBEND @ 2ND AND GRACE  
PROJECT ADDRESS: 316 N. 2ND STREET  
TAX PARCEL IDENTIFICATION #: R04817-001-012-000, R04817-001-002-000, R04817-001-001-000, R04720-005-001-000, R04817-001-014-000, R04817-001-009-000  
CURRENT ZONING: CENTRAL BUSINESS DISTRICT (CBD)  
CAMA LAND USE CLASSIFICATION: URBAN  
MINIMUM ALLOWABLE BUILDING HEIGHT: 100'  
BY RIGHT BUILDING HEIGHT: 132'  
MAXIMUM ALLOWABLE BUILDING HEIGHT: 132'  
EXISTING LAND USE: VACANT LAND / AUTO PARKING  
PROPOSED LAND USE: RETAIL / RESIDENTIAL  
PROPOSED RIVERBEND RECOMBINATION LOT: 59,222 SF (1.36 AC)

**SETBACK STANDARDS**

MINIMUM FRONT SETBACK (2nd St.)	PROVIDED (WEST)	REQUIRED
		AT LEAST 50% OF BUILDING SET AT PROPERTY LINE
MINIMUM SIDE SETBACK (WALNUT ST.)	(NORTH)	AT LEAST 50% OF BUILDING SET AT PROPERTY LINE
MINIMUM SIDE SETBACK (GRACE ST.)	(SOUTH)	0 FT.
MINIMUM REAR SETBACK ENCROACHMENT	(EAST)	0 FT.
	4.5' INTO PUBLIC ROW	

**SITE AND IMPERVIOUS INFORMATION**

PROPOSED IMPERVIOUS AREA

TOTAL BUILDING (WITHIN PROPERTY)	46,975 (ROOFTOP = 49,230 SF)
CONCRETE/SIDEWALKS (WITHIN PROPERTY)	2,740 SF
ALLEY PAVEMENT	5,987 SF
PERVIOUS CONCRETE SIDEWALKS	800 SF (NOT COUNTED AS SCM)
TOTAL PROPOSED IMP. AREA	56,502 SF (1.297 AC)

EXISTING IMPERVIOUS AREA (SW8 091026)

TRACT A1 (BOA)	15,032 SF = 15,587 ALLOCATED
TRACT C	28,445 SF = 28,948 ALLOCATED
TRACT D	2,593 SF = 7,788 ALLOCATED
TOTAL SW8 091026 ALLOCATION =	52,323 SF
OTHER TRACTS NOT YET PERMITTED:	
TRACTS B, E, F, G, H =	27,636 SF
RIVERBEND LOT EXISTING IMPERVIOUS	56,584 SF (27,636 + 28,948)
TRACT B, C, E, F, H, G =	

THEREFORE, RIVERBEND LOT = 56,502 SF < 56,584 SF REDEVELOPMENT EXCLUSION (PER NC GS 214.7a1 AND NC RULES 02H.1000 STORMWATER MANAGEMENT)

THEREFORE TRACTS A & D WILL REMAIN WITH THE ALLOCATIONS PER SW8 091026

**BUILDING INFORMATION**

CONSTRUCTION TYPE:	II
NUMBER OF EXISTING BUILDINGS	0
NUMBER OF PROPOSED BUILDINGS	1 (6-STORIES)
NUMBER OF UNITS	113 UNITS

**TOTAL AREA PER FLOORS:**

GROUND / L1.5:	
Retail	= 12,200 sf
Parking	= 18,887 sf (36 spaces)
Residential (Lobby-Service)	= 7,520 sf
<b>L1.5:</b>	
Parking	= 10,932 sf (10 spaces)
<b>L2:</b>	
Parking	= 23,823 sf (81 spaces)
Residential	= 24,100 sf
<b>L3:</b>	
Parking	= 23,823 sf (78 spaces)
Residential	= 24,100 sf
<b>L7:</b>	
Parking	= 20,572 sf (65 spaces)
Residential	= 24,100 sf
<b>TOTALS:</b>	
Retail	= 12,200 sf
Parking	= 169,506 sf (504 spaces)
Residential	= 129,020 sf

PROPOSED BUILDING GSF: 140,220 SF

PERCENT OPEN/GLAZED ALONG GRACE STREET: 50% PER CBD ZONING  
PERCENT OPEN/GLAZED ALONG 2ND STREET: 50% PER CBD ZONING

**PARKING GARAGE(S)**

MINIMUM PARKING REQUIRED: N/A  
MAXIMUM PARKING ALLOWED: N/A  
TOTAL PARKING PROVIDED: 504 SPACES (TOTAL)  
ACCESSIBLE PARKING REQUIRED: 11 SPACES (2%)  
ACCESSIBLE PARKING PROVIDED: 11 SPACES DISPersed ON EA. LEVEL  
BICYCLE RACK(S)/SPACES PROVIDED: (2) RACKS WITH 5 SPACES EA.

**ON-STREET PARKING**

EXISTING ALONG GRACE STREET: 3 SPACES (IN FRONT OF SITE)  
PROPOSED ALONG GRACE STREET: 3 SPACES  
EXISTING ALONG 2ND STREET: 4 SPACES (IN FRONT OF SITE)  
PROPOSED ALONG 2ND STREET: 6 SPACES  
EXISTING ALONG WALNUT STREET: 8 SPACES TO ALLEY  
PROPOSED ALONG WALNUT STREET: 8 SPACES TO ALLEY

**UTILITY INFORMATION**

OVERHEAD/UNDERGROUND ELECTRIC  
OVERHEAD LINES, TRANSFORMERS, AND TRAFFIC CABINETS ALONG 2ND STREET  
PROPOSED TO BE BURIED BY DUKE ENERGY.  
NOTE: OWNER TO CONTACT CITY OF WILMINGTON, AT&T, SPECTRUM, ETC. FOR OTHER OVERHEAD UTILITIES RELOCATION.

WATER & SEWER  
113 RESIDENTIAL UNITS X 360 GPD = 40,680 GPD  
12,200 SF RETAIL (MAX. 250 SEATS = 250x40 = 10,000 GPD)  
TOTAL = 50,680 GPD REQUESTED  
METER SIZE TBD PER PLUMBING ENGINEER

GAS SERVICE  
TO BE DESIGNED AND SERVICED BY PIEDMONT NATURAL GAS/DUKE ENERGY

- GENERAL NOTES:**
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
  - ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
  - ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
  - ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
  - IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS.
  - ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
  - THERE ARE NO REGULATED TREES LOCATED ON SITE.

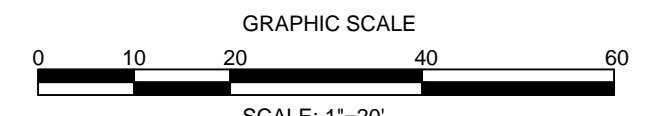
- KEY NOTES:**
- CONCRETE DRIVE APRON: CITY STD. DETAIL SD 3-03-04
  - PUBLIC STREET SIDEWALK SCORING PATTERN TBD CITY STD. DETAIL 3-10
  - BROKEN SIDEWALK NOTE: IF SIDEWALK PANELS DO NOT MEET CITY STDS AND/OR TRIP HAZARDS THEY MUST BE REPLACED.
  - 6" VERTICAL CURB: CITY STD. DETAIL 3-11 & STREET CROSS-SECTION DETAIL
  - CITY CROSSWALK MARKINGS: CITY STD. DETAIL 11-01
  - PAVEMENT MARKING AND STRIPING: CITY STD. DETAILS 11-01, 11-04, 11-11
  - CURB RAMPS: CITY STD. DETAIL 3-08
  - TREE GRATES: SEE DETAILS
  - SIGHT DISTANCE TRIANGLES: CITY STD. 46X46 INTERSECTIONS, CITY STD. 20X70 DRIVEWAYS
  - GARBAGE ROLL-OUT SIDEWALK: PREVIOUS CONCRETE, SEE DETAILS
  - ASPHALT OVERLAY: 2ND STREET SECTION (SEE DETAILS)
  - BICYCLE RACKS (5 BIKE MIN.): SHOP DRAWING SUBMITTAL FOR ARCHITECT/ENGINEER APPROVAL
  - COMMUNICATIONS: + AT&T TELEPHONE/FIBER
  - STREET LIGHT: CITY INSTALLED LIGHT (STD DETAIL 9-04) CONTRACTOR TO PROVIDE BASE
  - PARKING METER: CITY INSTALLED METER CONTRACTOR TO PROVIDE BASE

**WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED PLAN - NO PERMIT REQUIRED  
Signed: \_\_\_\_\_

**Approved Construction Plan**

Name	Date
Planning	
Traffic	
Fire	

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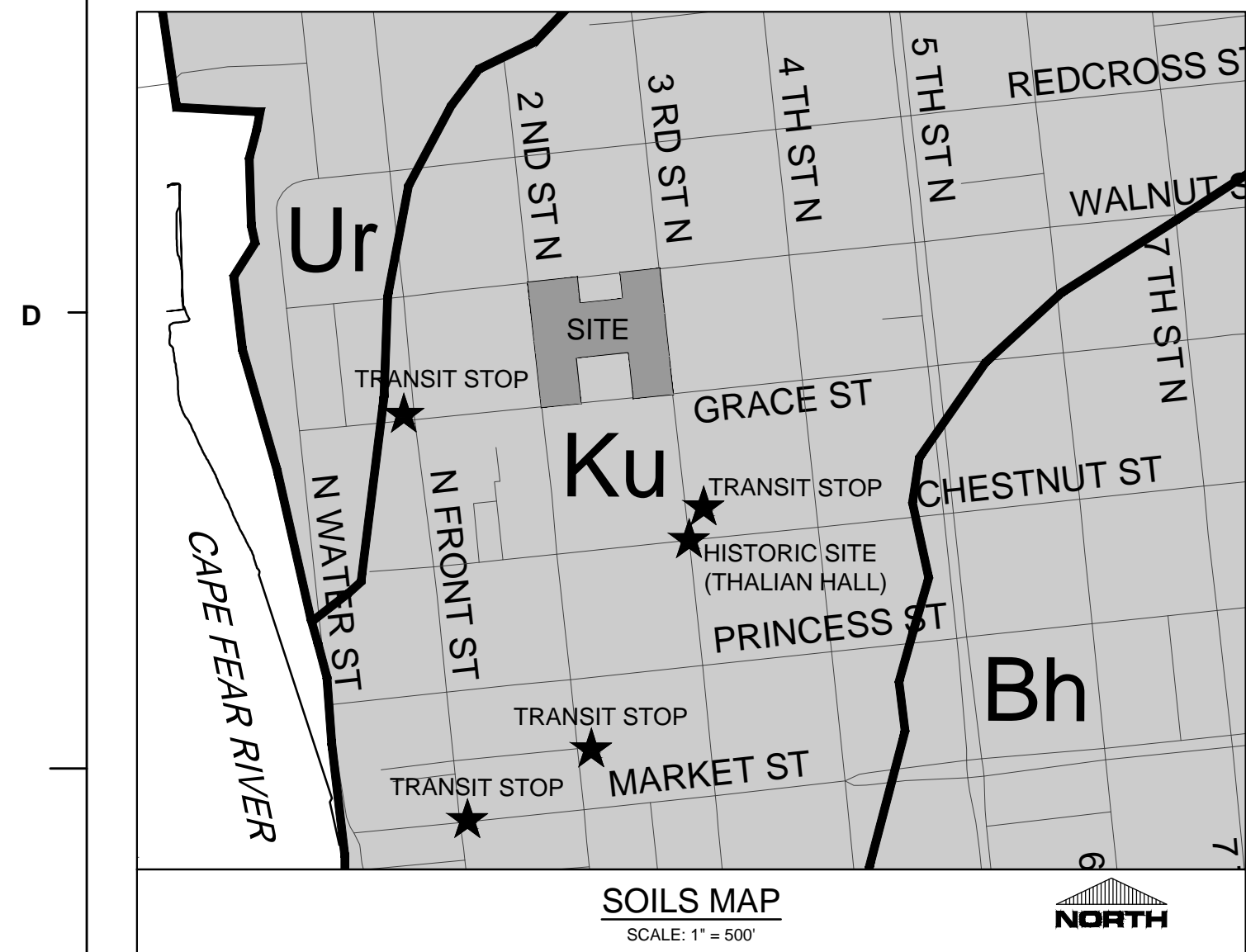
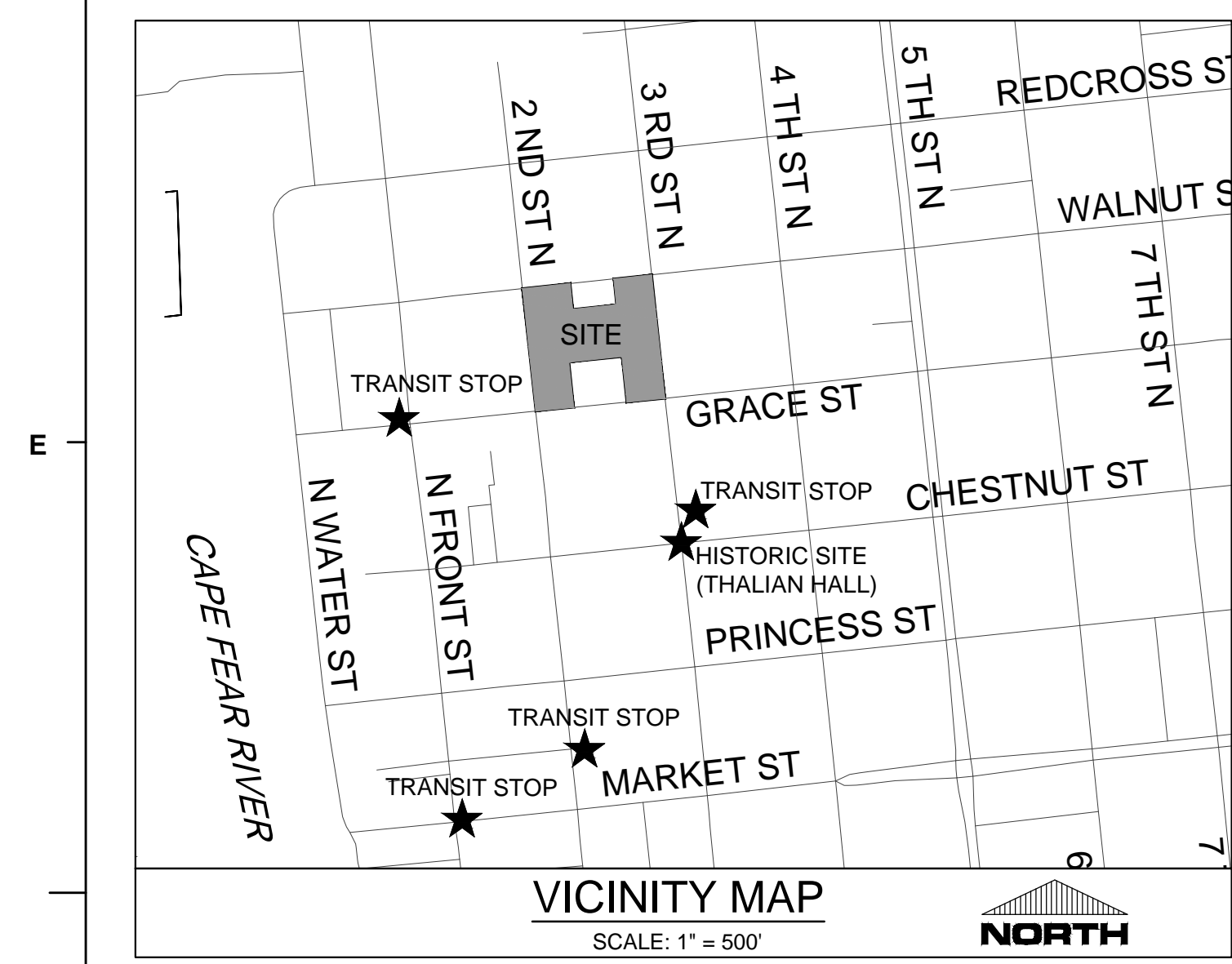


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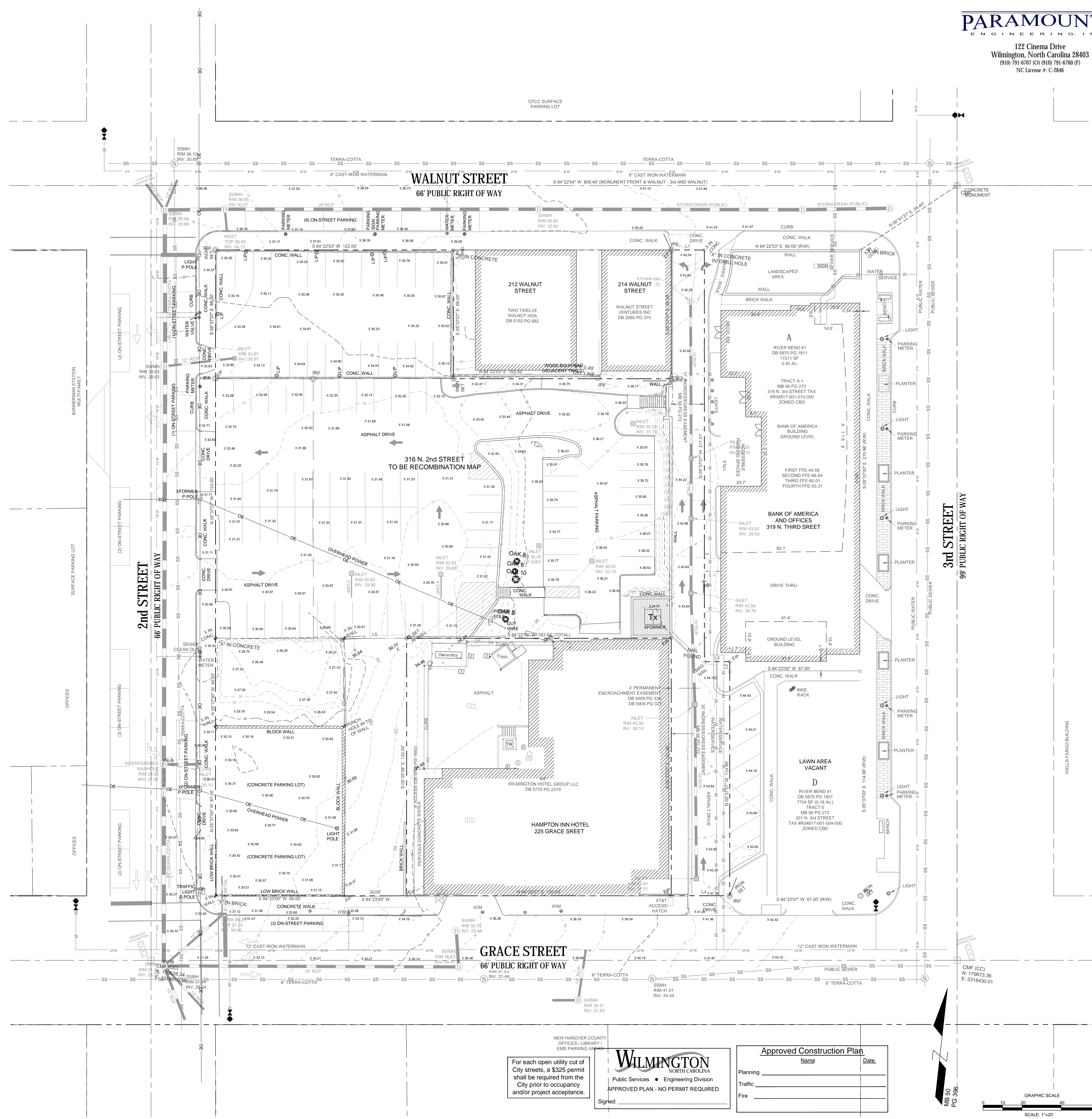


**SITE INVENTORY DATA**

- PREPARER OF THE PLAN: PARAMOUNTE ENGINEERING  
122 CINEMA DRIVE  
WILMINGTON, NC 28403
- APPLICANT NAME: RIVERBEND #1, LLC
- SITE ADDRESS: 229 GRACE STREET  
WILMINGTON, NC 28401
- PROPERTY OWNER: RIVERBEND #1, LLC
- DEVELOPER: RIVERBEND #1, LLC
- PROPERTY BOUNDARY: RECOMBINATION PLAT
- ZONING: CBD
- ADJACENT PROPERTY INFORMATION (OWNER AND ZONING): SEE PLAN
- VICINITY MAP: SEE MAP ABOVE
- TOPOGRAPHY: SEE PLAN
- 100 YEAR FLOOD PLAIN BOUNDARY: SITE IS NOT LOCATED IN THE 100 YEAR FLOOD PLAIN
- LOCATION OF EXISTING DITCHES, CREEKS, AND STREAMS: N/A
- SOILS: KUREB (KU) (SEE SOILS MAP ABOVE)
- CAMA AEC & ASSOCIATED SETBACKS: N/A
- CAMA LAND CLASSIFICATION: URBAN
- CONSERVATION RESOURCES: N/A
- LOCAL, STATE, OR FEDERAL HISTORIC OR ARCHAEOLOGICAL SITE: N/A
- LOCATION OF CEMETERIES, BURIAL SITES, OR BURIAL GROUNDS: N/A
- SQUARE FOOTAGE OF FORESTED AREA, HABITAT, AND DOMINANT SPECIES: N/A
- SECTION 404 WETLANDS AND SECTION 20 WATERS: N/A
- PROTECTED SPECIES OR HABITAT: N/A
- THOROUGHFARES, BIKE ROUTES, SIDEWALKS, TRANSIT FACILITIES (EXISTING OR PROPOSED): T.B.D.

**LEGEND:**

- OHE — OVERHEAD ELECTRIC
- UGT — BURIED TELEPHONE LINE
- G — BURIED GAS LINE
- UTV — BURIED TV CABLE
- FO — BURIED FIBER OPTIC
- W — WATER LINE
- FM — FORCEMAIN LINE
- SS — SANITARY SEWER LINE
- SD — STORM DRAINAGE LINE
- WET — WETLAND DELINEATION
- X — CHAINLINK FENCE
- — — — — EXISTING CONTOUR
- — — — — RIGHT OF WAY BOUNDARY
- — — — — BOUNDARY LINE
- — — — — ADJOINER LINE

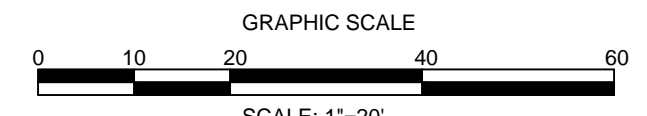


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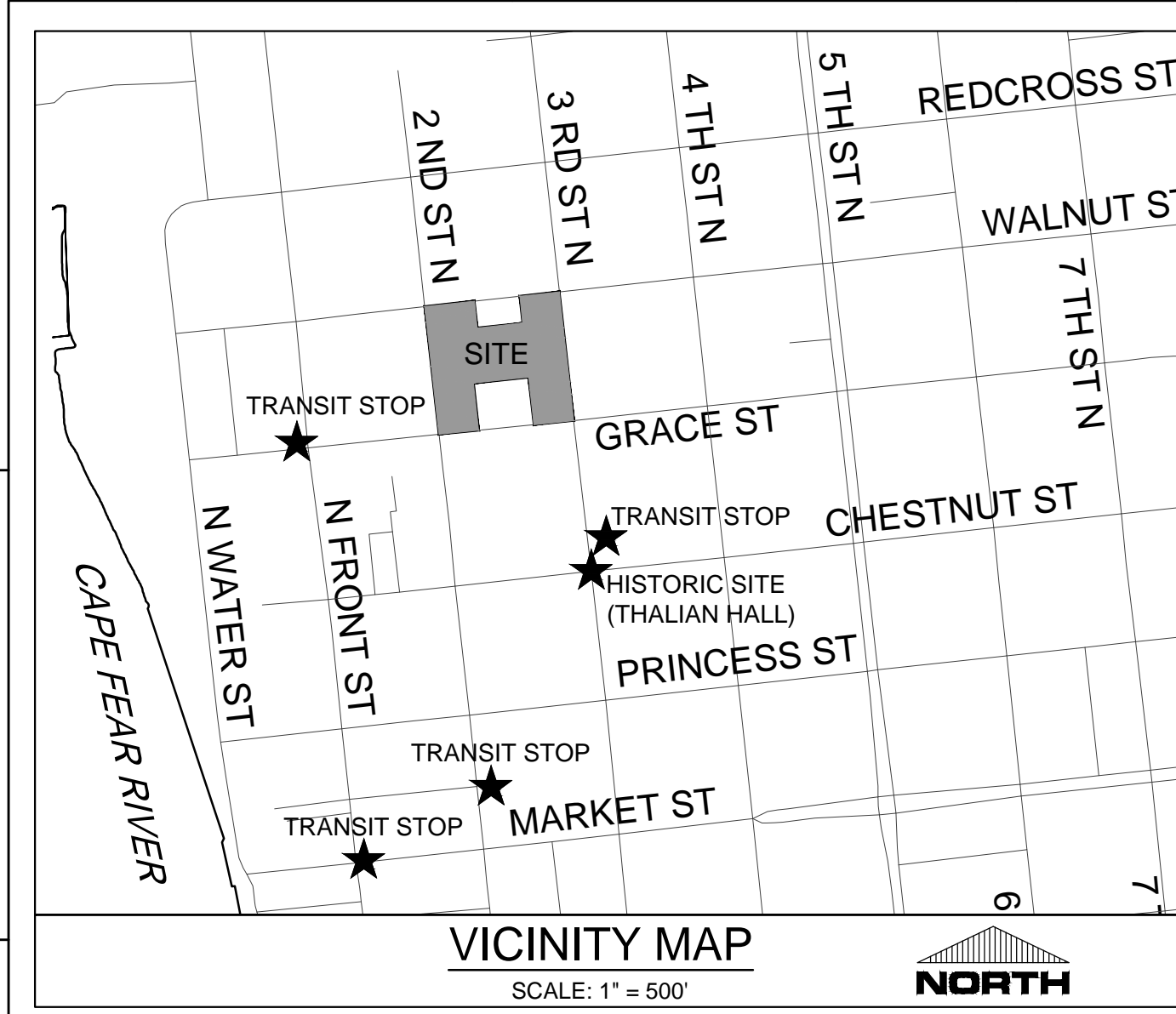
**WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED PLAN - NO PERMIT REQUIRED  
Signed: \_\_\_\_\_

**Approved Construction Plan**

Name	Date
Planning	_____
Traffic	_____
Fire	_____



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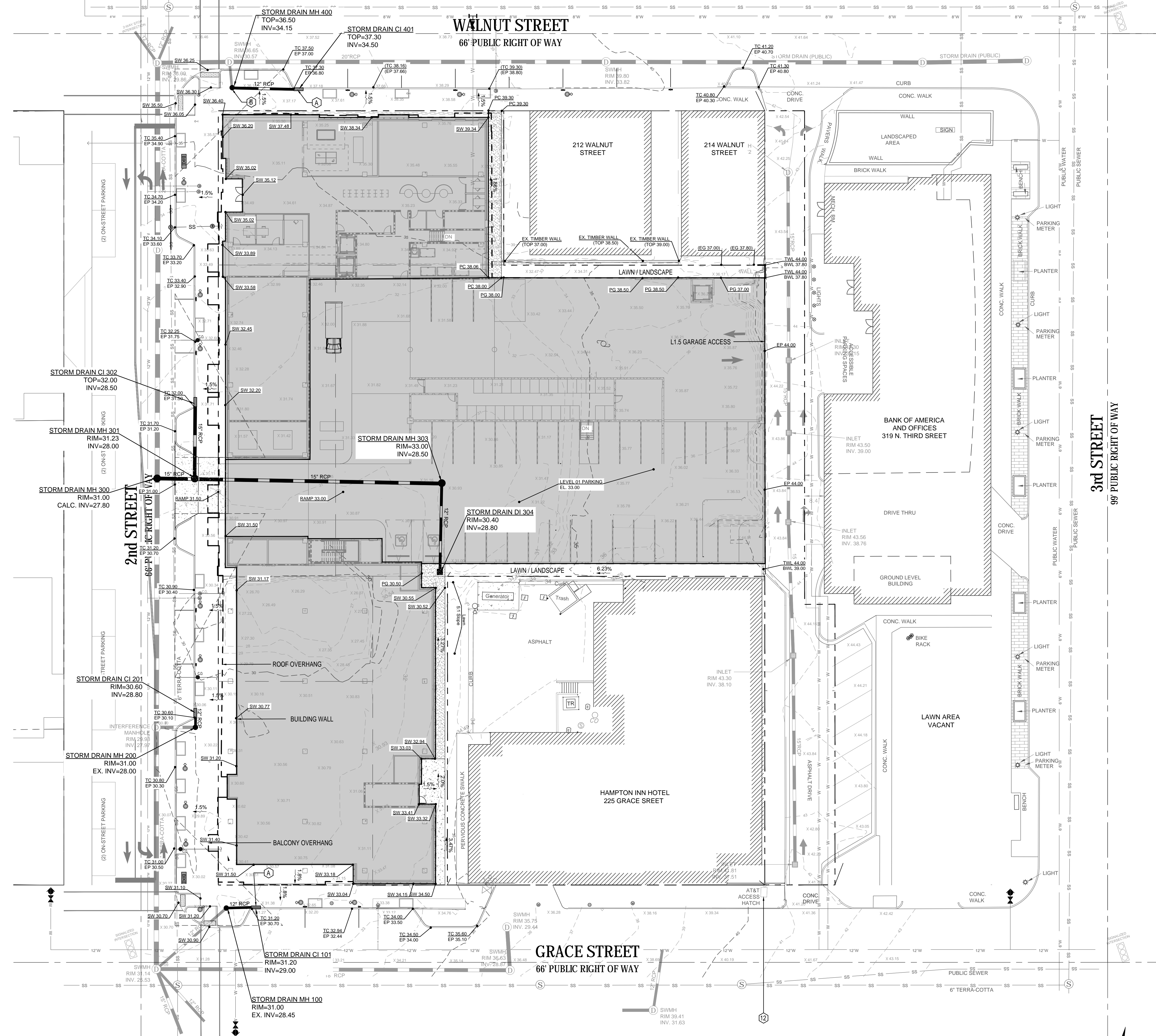
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**GRADING,  
DRAINAGE,  
UTILITY PLAN**

**C-3.0**



**BUILDING PAD NOTE:**

- SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND TECHNICAL SPECIFICATIONS.

**GRADING NOTES:**

- SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE STOCKPILE LOCATIONS ON SITE IF NOT SPECIFIED. SEE GENERAL NOTES SHEET (C-1.0, TYP.) FOR GRADING, DRAINAGE, AND EROSION CONTROL, SEQUENCE NOTES AND REQUIREMENTS. IN ADDITION, REFERENCE TECHNICAL SPECIFICATIONS AND DETAIL SHEETS FOR MORE INFORMATION.
- SEE GRADING AND DRAINAGE PLANS FOR FINISH GRADES AND STORM PIPE SCHEDULE.
- A GEOTECHNICAL ENGINEER OR INSPECTORS SHALL BE CONSULTED TO CONFIRM SUITABILITY OF SUBGRADE MATERIAL AND PROPER COMPACTION PER EARTHWORK SPECIFICATIONS IN FILL AREAS.

**DRAINAGE NOTES:**

- ALL PUBLIC STORM DRAINAGE STRUCTURES SHALL MEET CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS AND SHALL BE TRAFFIC RATED FOR H-20 LOADS AT A MINIMUM. PRIVATE DRAINAGE SYSTEMS SHALL BE PER APPROVED PLANS AND SPECIFICATIONS. PUBLIC DRAINAGE SHALL BE WITHIN THE CITY ROW AND PRIVATE DRAINAGE SHALL BE INSIDE THE PROPERTY LINES.
- MANHOLE AND CURB INLET RIM ELEVATIONS SHOWN ABOVE ARE FLUSH WITH PROPOSED GRADE AND SIDEWALKS. CONTRACTOR SHALL PROVIDE 6" CLEARANCE ABOVE PROPOSED GRADE WHEN PLACED IN A GRASS/PERVIOUS AREA, AND A FLUSH CONDITION WITH PROPOSED PAVEMENT OR IMPERVIOUS COVER.
- SEE STRUCTURAL OR ARCHITECTURAL DETAILS FOR DOWNSPOUT DETAILS AND CONNECTIONS INSIDE THE STRUCTURE.
- CONTRACTOR SHALL ADJUST EXISTING FRAMES AND GRATES OF EX. UTILITY INFRASTRUCTURE WITHIN ASPHALT OVERLAY AREAS TO MATCH PROPOSED GRADES.
- THE CONTRACTOR SHALL USE STORM PIPE PER THE CITY SPECIFICATIONS (TYPICALLY CONCRETE OR HP PIPE). EITHER WAY THE CONTRACTOR SHALL FOLLOW THE TRENCH DETAILS AND SPECIFICATIONS, AND THE PIPE MANUFACTURER SPECIFICATIONS.

**SPOT GRADE LEGEND:**

- CI = CURB INLET CATCH BASIN
- DI = DROP INLET
- MH = STORM MANHOLE

**B/C/T/C = TOP OF CURB ELEVATION**  
**GC = GUTTER CURB (FLOW LINE) ELEVATION**  
**PG = PROPOSED GRADE (GROUND)**  
**EP = EDGE OF PAVEMENT**  
**EC = EDGE OF CONCRETE**

**HP = HIGH POINT ELEVATION**  
**LP = LOW POINT ELEVATION**  
**CL = CENTERLINE**  
**INV = INVERT**  
**TWL = TOP OF WALL ELEVATION**  
**BWL = BOTTOM OF WALL ELEVATION**  
**EX = EXISTING GRADE**  
**(XX) = EXISTING ELEVATIONS, TYP.**

**KEY NOTES:**

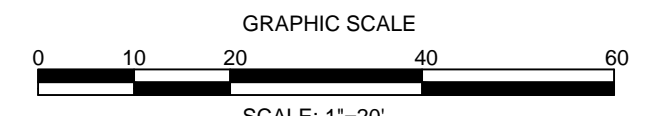
- (A) CATCH BASIN INLETS: CITY STD DETAIL 2-16
- (B) STORM MANHOLES: CITY STD DETAIL 2-93 OR MODIFIED VERSION GIVEN DEPTHS

**WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED PLAN - NO PERMIT REQUIRED  
Signed: \_\_\_\_\_

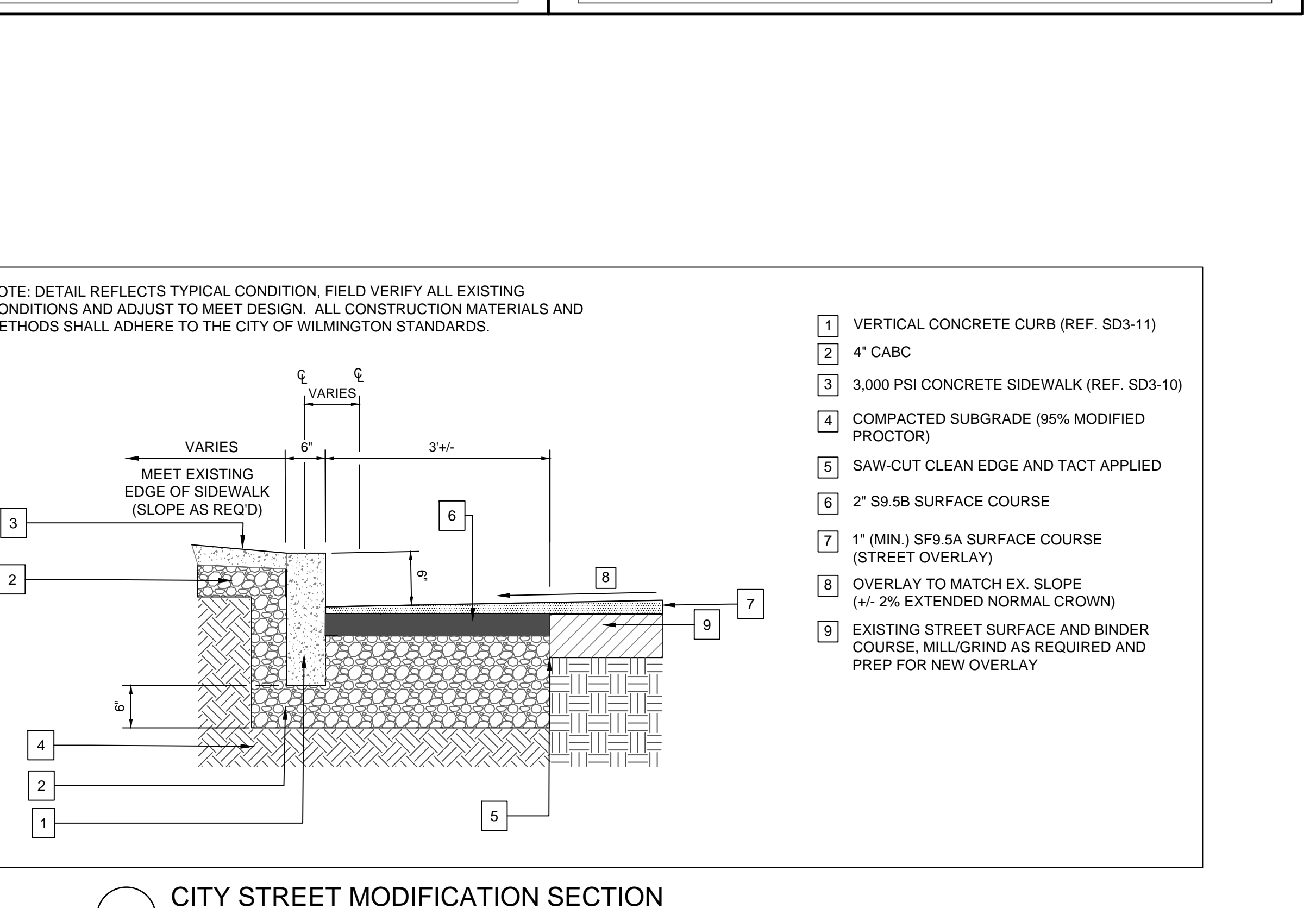
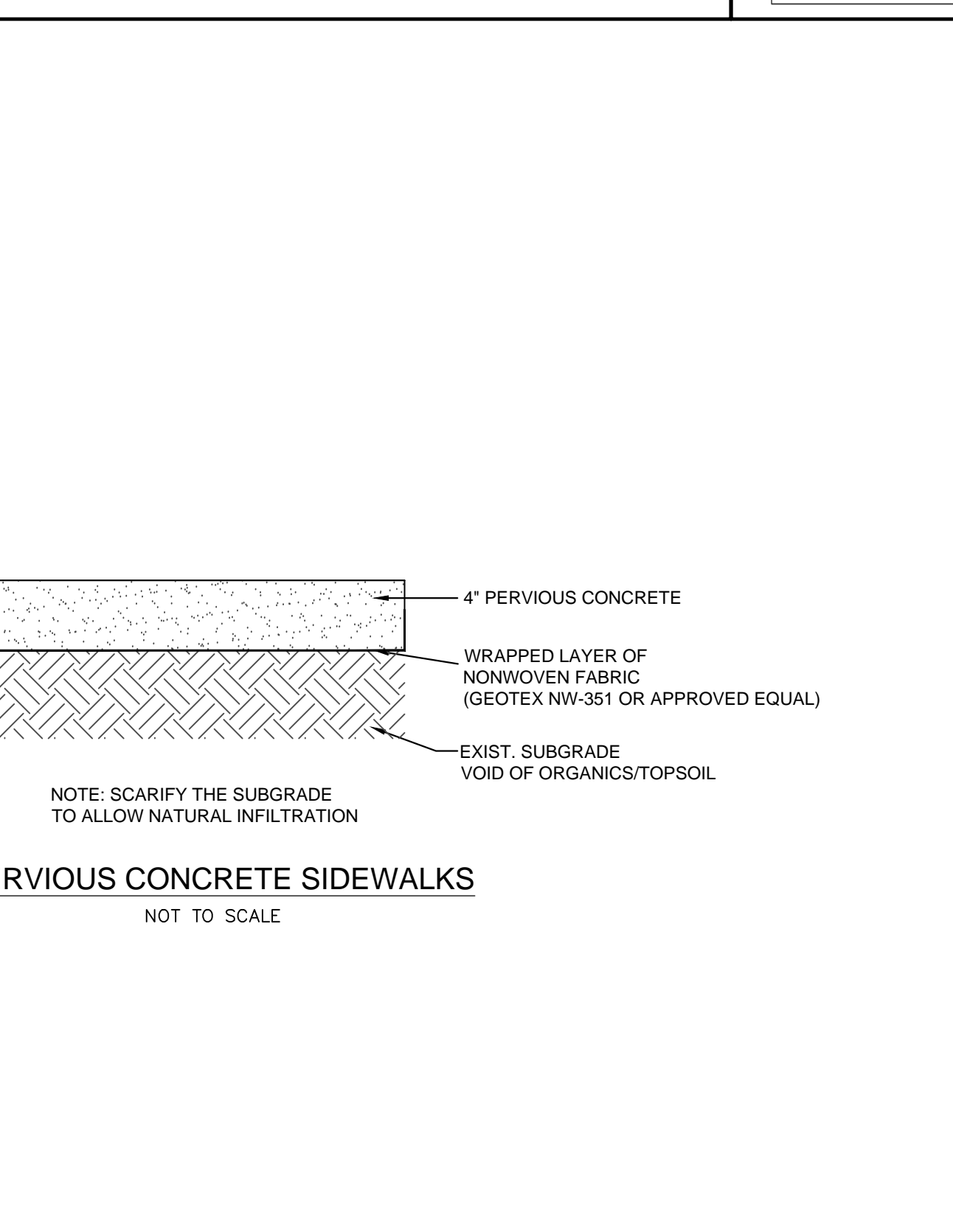
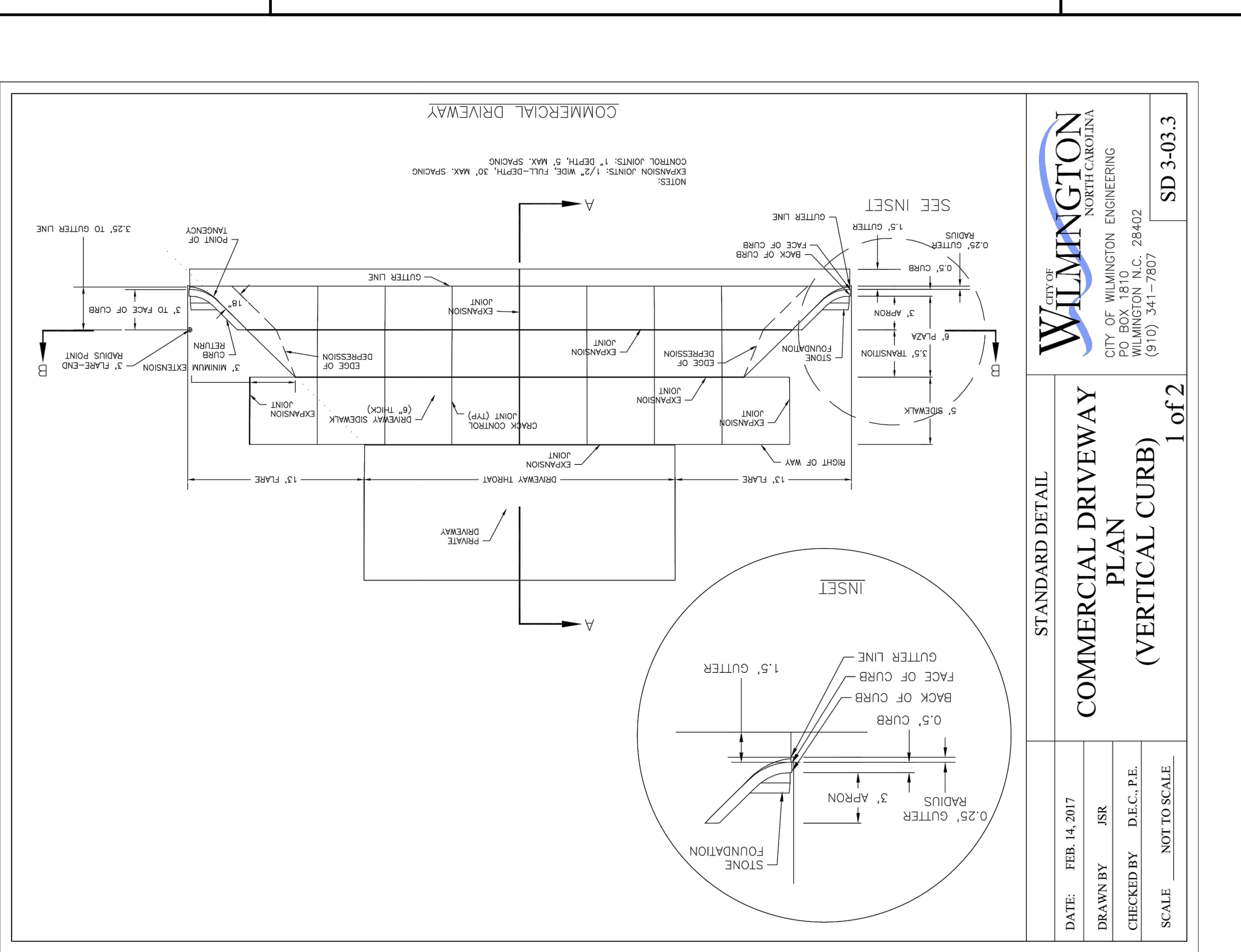
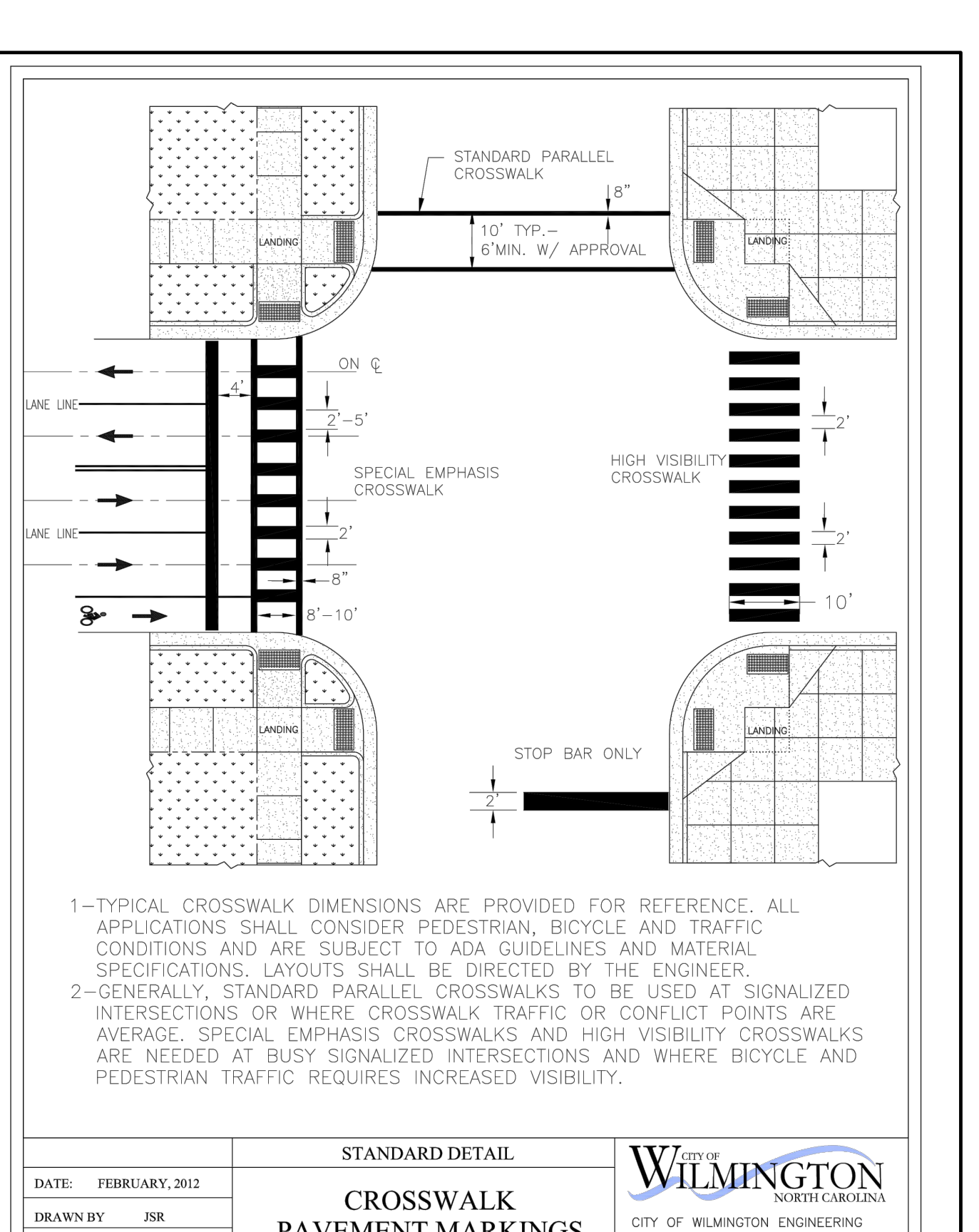
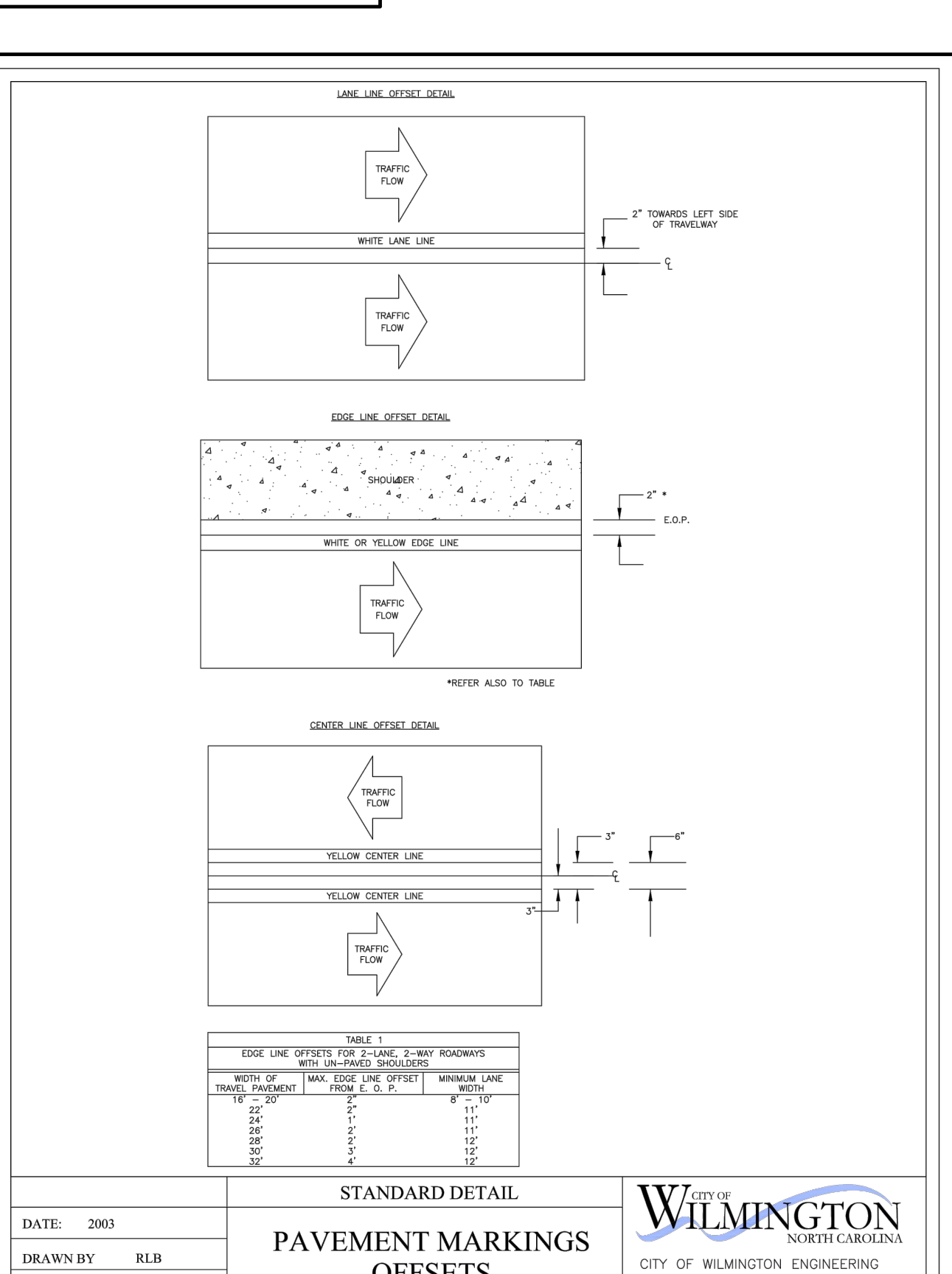
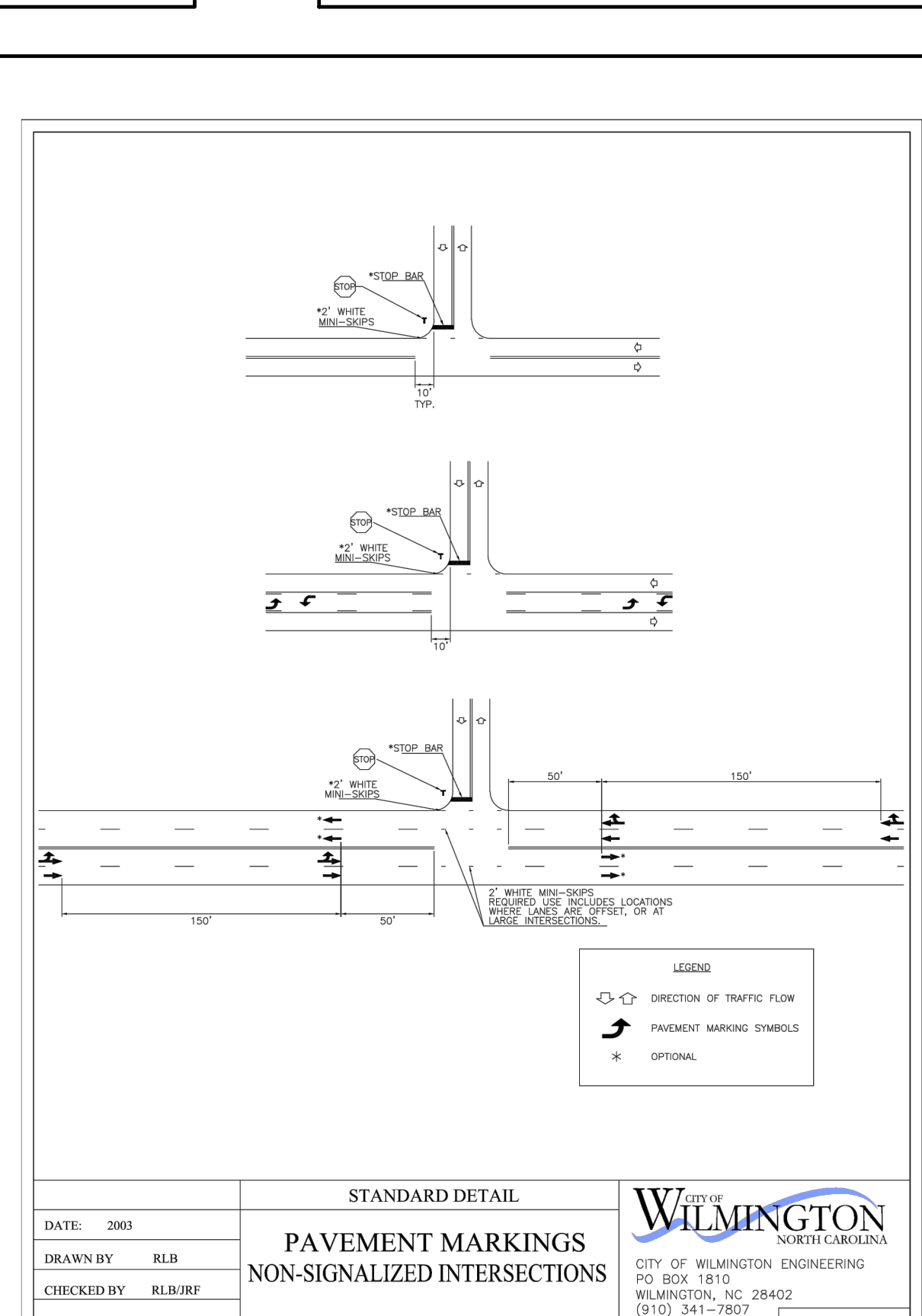
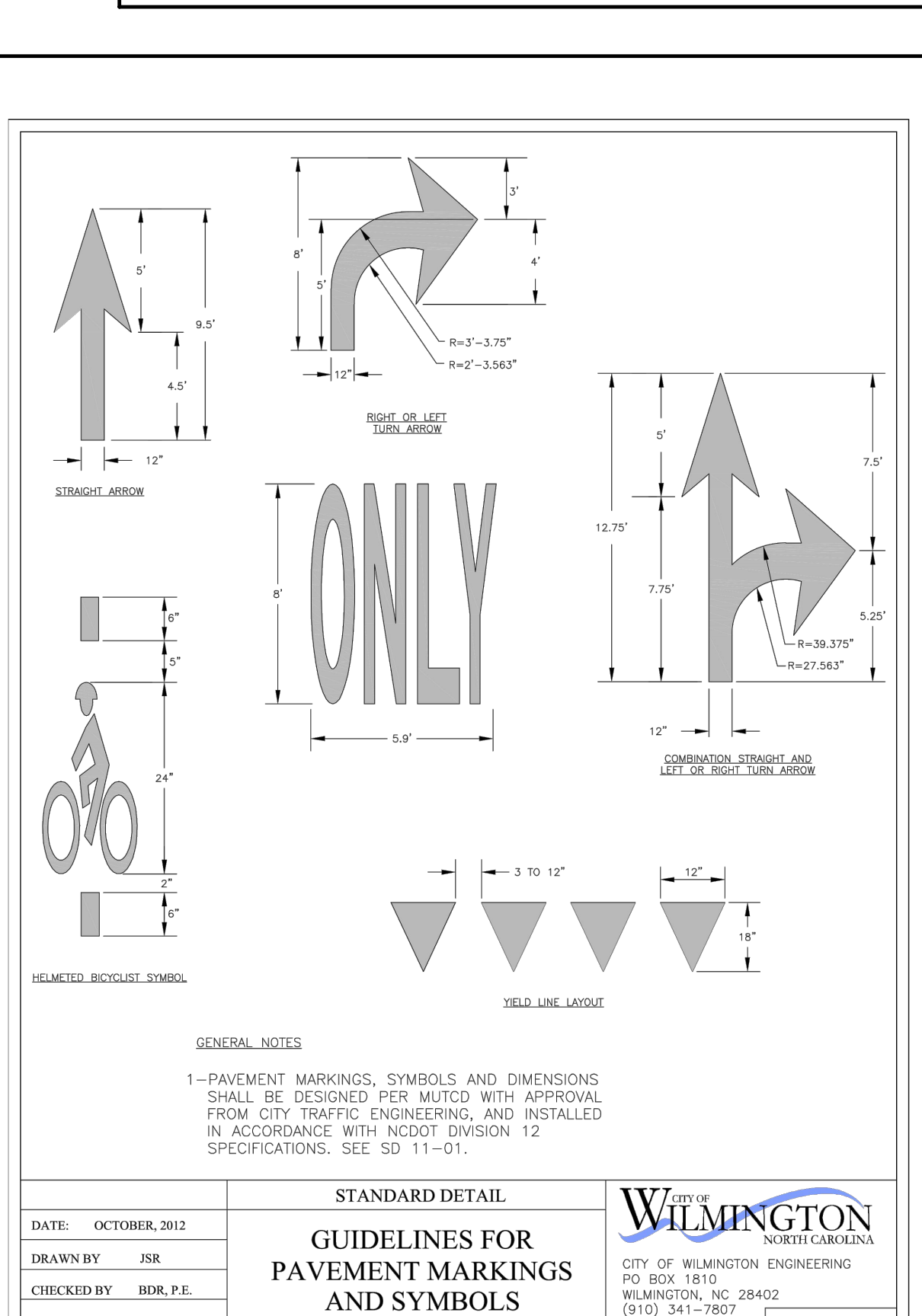
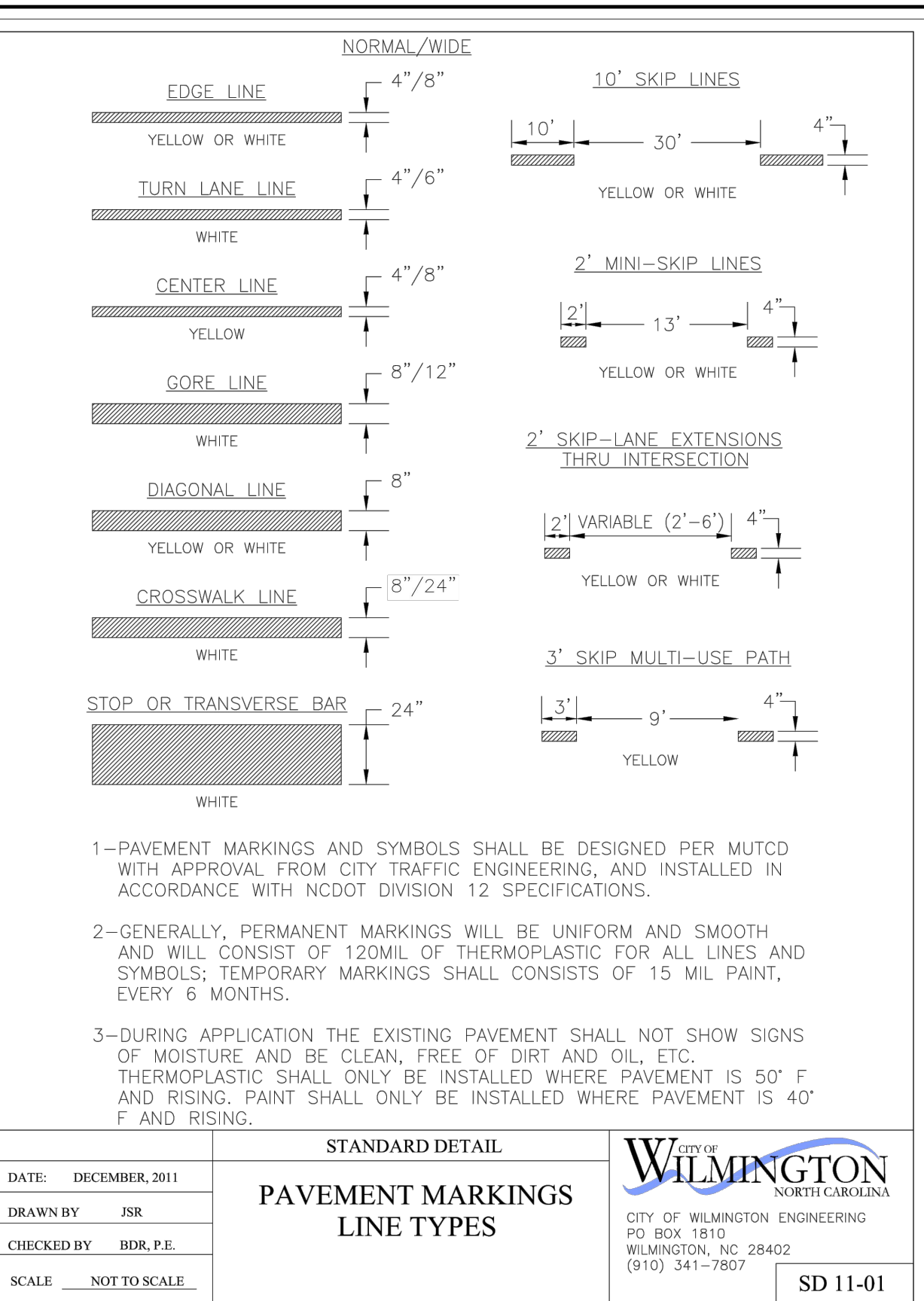
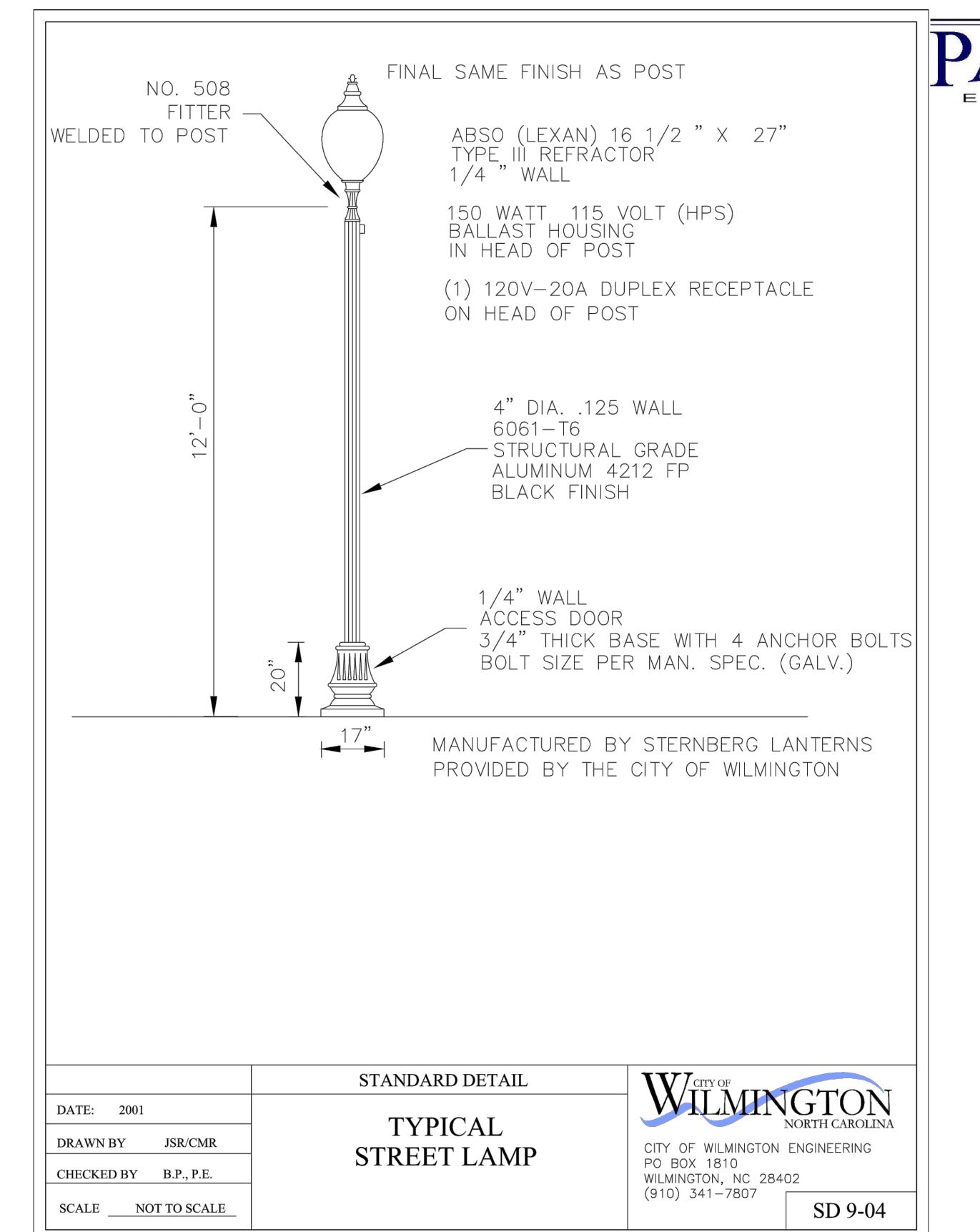
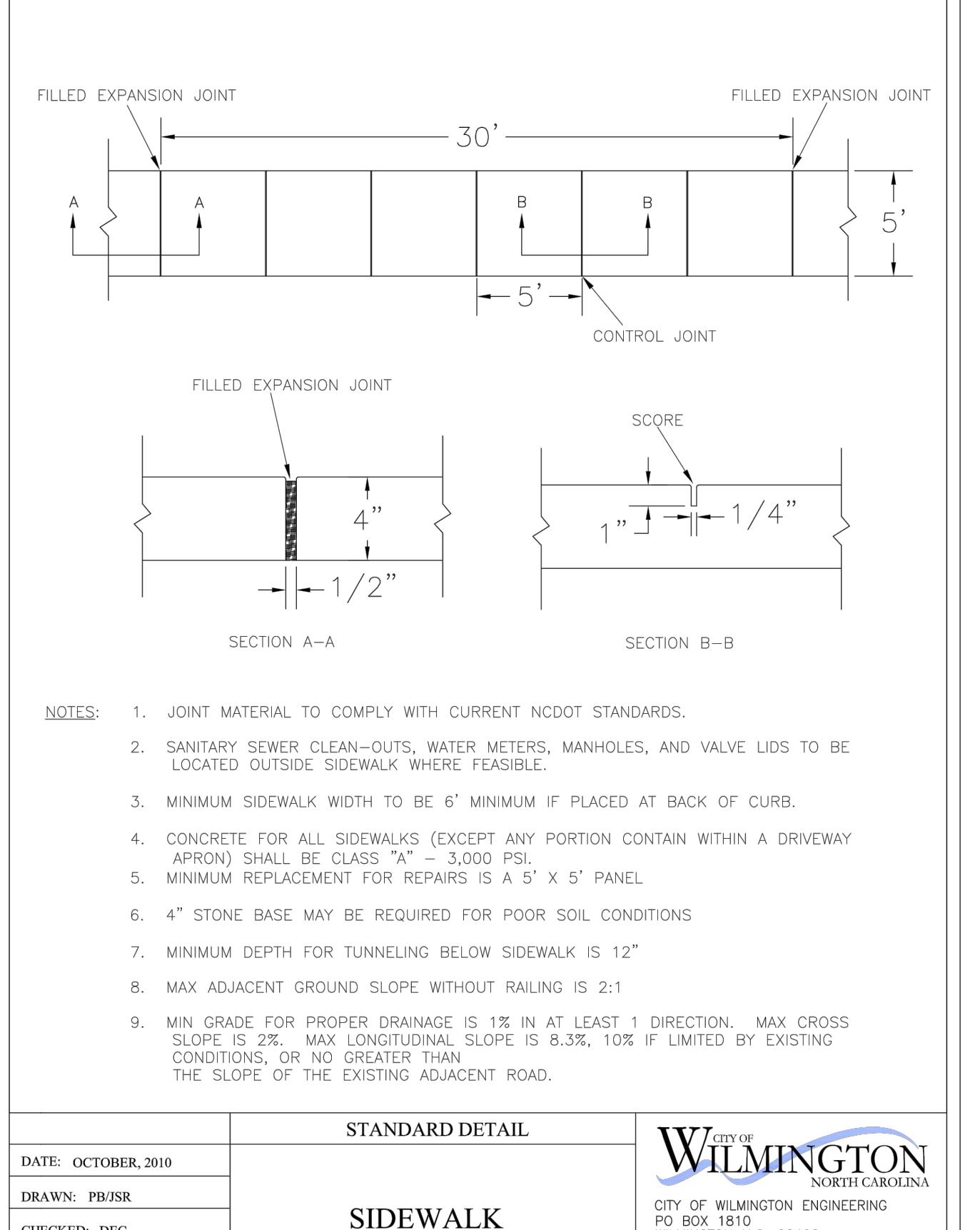
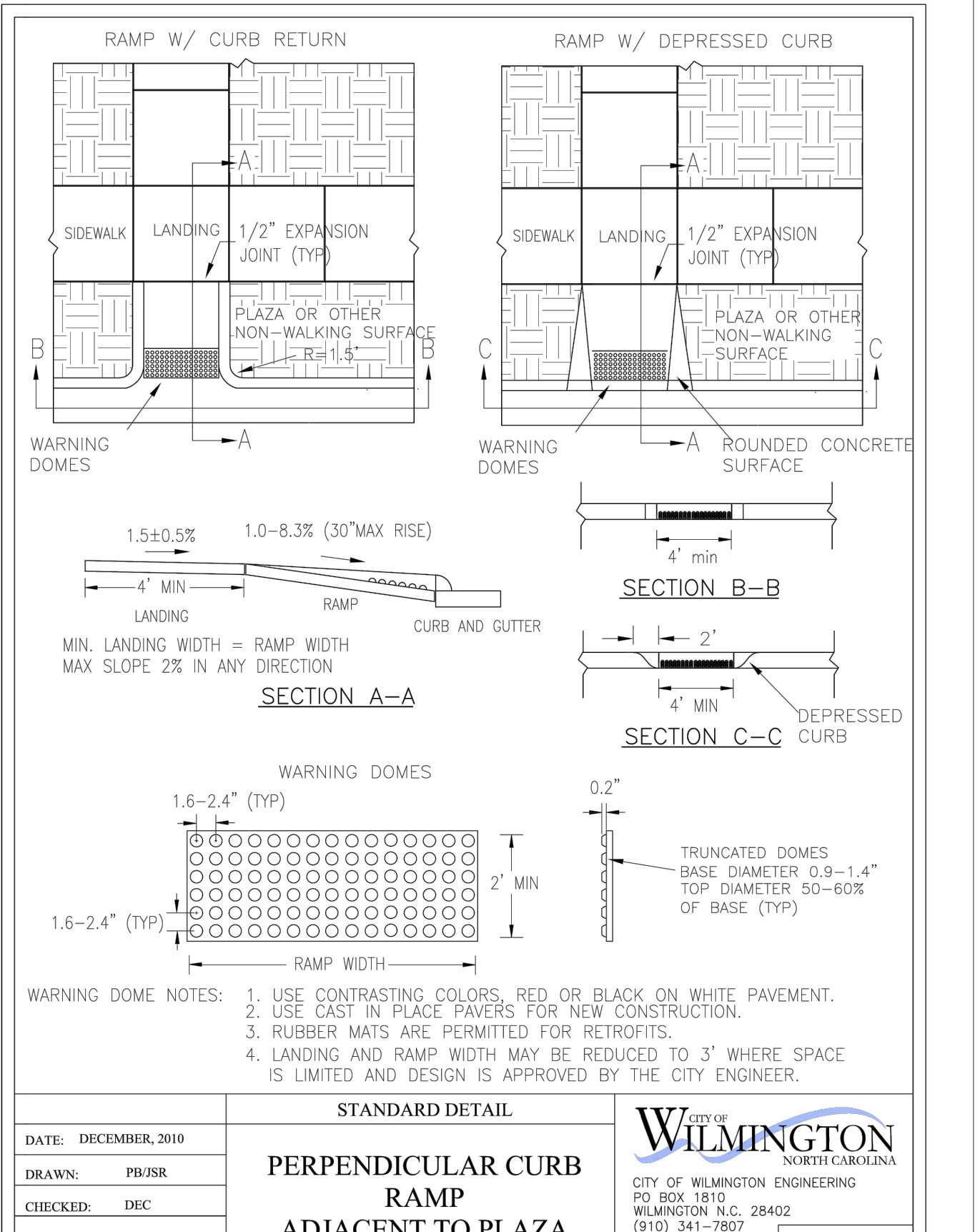
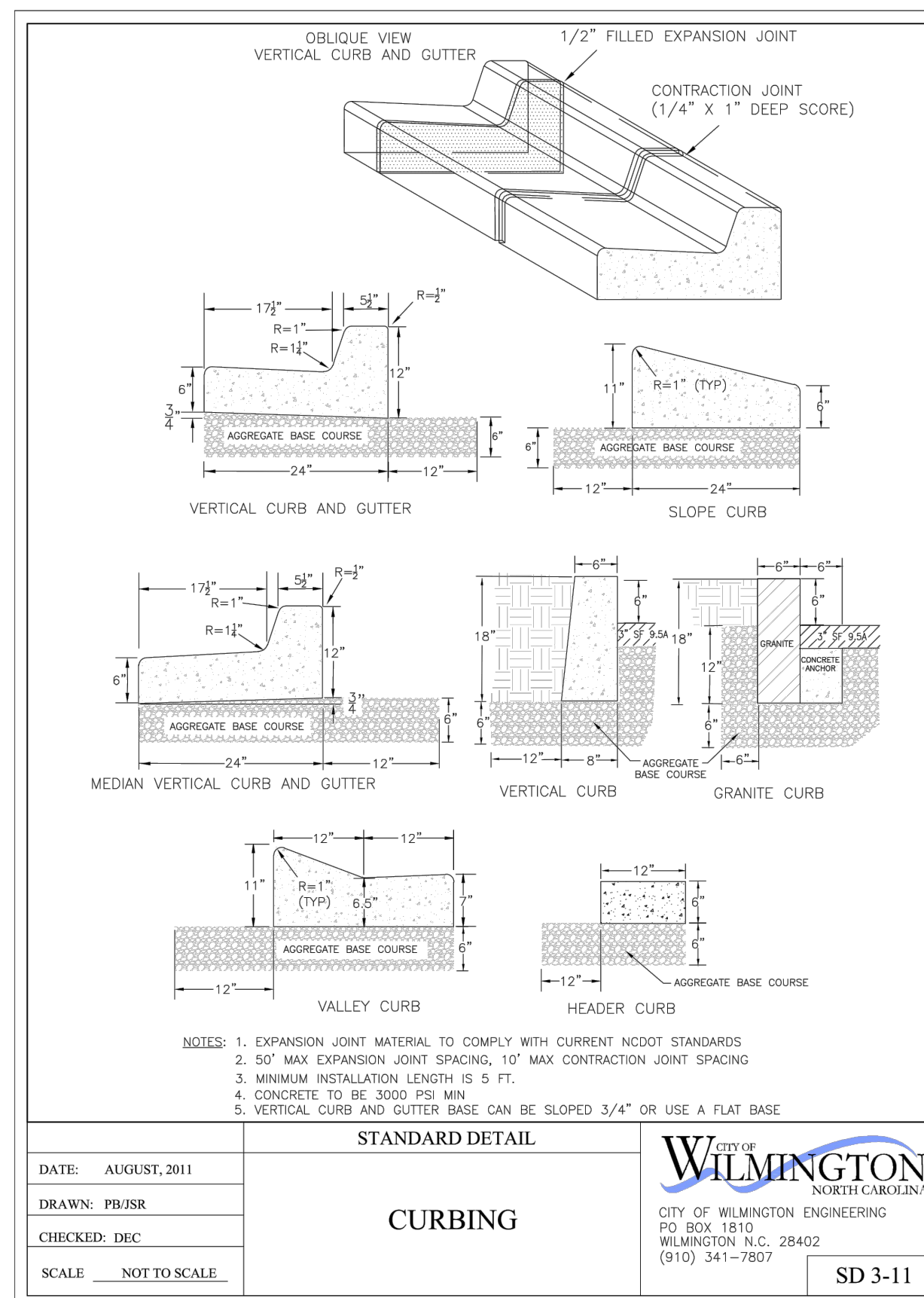
Approved Construction Plan

Name	Date
Planning	_____
Traffic	_____
Fire	_____

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.



PRELIMINARY DESIGN - NOT RELEASED FOR CONSTRUCTION



**PARAMOUNT ENGINEERING, INC.**

122 Cinema Drive  
 Wilmington, North Carolina 28403  
 (910) 791-6707 (O) (910) 791-6760 (F)  
 NC License #: C-2846

**RIVERBEND**  
 316 N. 2ND STREET



**LS3P ASSOCIATES LTD.**  
 101 NORTH THIRD STREET, SUITE 500  
 WILMINGTON, NORTH CAROLINA 28401  
 TEL. 910.790.9901 FAX 910.790.3111  
 WWW.LS3P.COM

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REVISIONS:

No.	Description	Date

PROJECT: 16163.PE  
 DATE: MARCH 19, 2019  
 DRAWN BY: RPB  
 CHECKED BY: JBS

**DETAILS**

**C-4.0**

SOLUTIONS THROUGH LISTENING  
 SERVICE BY DESIGN  
 DESIGN DEVELOPMENT

PRELIMINARY DESIGN - NOT RELEASED FOR CONSTRUCTION



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REVISIONS:

No.	Description	Date

PROJECT: 16163.PE  
DATE: MARCH 19, 2019  
DRAWN BY: RPB  
CHECKED BY: JBS

**DETAILS**

**C-4.1**

SOLUTIONS THROUGH LISTENING  
SERVICE BY DESIGN  
DESIGN DEVELOPMENT

**STANDARD DETAIL**  
**GUIDELINES FOR STORM DRAIN MANHOLE**  
CITY OF WILMINGTON ENGINEERING  
PO BOX 1810  
WILMINGTON, NC 28402  
(910) 341-7807  
SD 2-203

**GENERAL NOTES:**

- USE 4000 PSI CONCRETE, PROVIDE FOR H-20 TRAFFIC LOADING.
- PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185.
- PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704
- PROVIDE FORMED OPENINGS, FOR PIPE TO PROVIDE REQUIRED SIZE AND LOCATION.
- SEAL OPENINGS WITH HYDRAULIC CEMENT.
- ALL ELEMENTS PRECAST TO MEET ASTM C913.
- SET ON 6" WASHED STONE
- FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH BRICK.
- PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS/LADDER INSTALLED IN ACCORDANCE WITH ASHA STANDARD 1910.27 AND AS FIELD CONDITIONS DICTATE.
- WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
- SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATION SS-S-21A, ASHTO M-19B, TYPE B - BUTYL RUBBER.
- USE FRAME AND GRATE AS PER SD-19.
- GROUT INVERT TO PROVIDE SMOOTH FLOW

**STANDARD DETAIL**  
**PRECAST DRAINAGE STRUCTURE GENERAL NOTES**  
CITY OF WILMINGTON ENGINEERING  
PO BOX 1810  
WILMINGTON, NC 28402  
(910) 341-7807  
SD 2-24a

**GENERAL NOTES:**

- USE 4000 PSI CONCRETE, PROVIDE FOR H-20 TRAFFIC LOADING.
- PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185.
- PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704
- PROVIDE FORMED OPENINGS, FOR PIPE TO PROVIDE REQUIRED SIZE AND LOCATION.
- SEAL OPENINGS WITH HYDRAULIC CEMENT.
- ALL ELEMENTS PRECAST TO MEET ASTM C913.
- SET ON 6" WASHED STONE
- FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH BRICK.
- PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS/LADDER INSTALLED IN ACCORDANCE WITH ASHA STANDARD 1910.27 AND AS FIELD CONDITIONS DICTATE.
- WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
- SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATION SS-S-21A, ASHTO M-19B, TYPE B - BUTYL RUBBER.
- USE FRAME AND GRATE AS PER SD-19.
- GROUT INVERT TO PROVIDE SMOOTH FLOW

**STANDARD DETAIL**  
**PRECAST DRAINAGE STRUCTURE SOLID WALL**  
CITY OF WILMINGTON ENGINEERING  
PO BOX 1810  
WILMINGTON, NC 28402  
(910) 341-7807  
SD 2-24

**GENERAL NOTES:**

- USE 4000 PSI CONCRETE, PROVIDE FOR H-20 TRAFFIC LOADING.
- PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185.
- PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704
- PROVIDE FORMED OPENINGS, FOR PIPE TO PROVIDE REQUIRED SIZE AND LOCATION.
- SEAL OPENINGS WITH HYDRAULIC CEMENT.
- ALL ELEMENTS PRECAST TO MEET ASTM C913.
- SET ON 6" WASHED STONE
- FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH BRICK.
- PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS/LADDER INSTALLED IN ACCORDANCE WITH ASHA STANDARD 1910.27 AND AS FIELD CONDITIONS DICTATE.
- WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
- SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATION SS-S-21A, ASHTO M-19B, TYPE B - BUTYL RUBBER.
- USE FRAME AND GRATE AS PER SD-19.
- GROUT INVERT TO PROVIDE SMOOTH FLOW

**STANDARD DETAIL**  
**CATCH BASIN CASTINGS DETAIL**  
CITY OF WILMINGTON ENGINEERING  
PO BOX 1810  
WILMINGTON, NC 28402  
(910) 341-7807  
SD 2-16

**GENERAL NOTES:**

- USE 4000 PSI CONCRETE, PROVIDE FOR H-20 TRAFFIC LOADING.
- PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185.
- PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704
- PROVIDE FORMED OPENINGS, FOR PIPE TO PROVIDE REQUIRED SIZE AND LOCATION.
- SEAL OPENINGS WITH HYDRAULIC CEMENT.
- ALL ELEMENTS PRECAST TO MEET ASTM C913.
- SET ON 6" WASHED STONE
- FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH BRICK.
- PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS/LADDER INSTALLED IN ACCORDANCE WITH ASHA STANDARD 1910.27 AND AS FIELD CONDITIONS DICTATE.
- WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
- SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATION SS-S-21A, ASHTO M-19B, TYPE B - BUTYL RUBBER.
- USE FRAME AND GRATE AS PER SD-19.
- GROUT INVERT TO PROVIDE SMOOTH FLOW

**STANDARD DETAIL**  
**SEWER SERVICE CONNECTION - SHORT SIDE**  
CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28402  
OFFICE: (910)332-6560  
SD 2-19

**GENERAL NOTES:**

- SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
- ALL SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF DIP, WITH PROTECTIVE LINING.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS.
- FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO MAIN.

**STANDARD DETAIL**  
**MANHOLE RIM ADJUSTMENTS**  
CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28402  
OFFICE: (910)332-6560  
SD 2-15

**GENERAL NOTES:**

- SIZE VARIES AS DIRECTED BY CITY OR NCDOT
- EXISTING ASPHALT
- EXISTING SUB-BASE
- PRECAST ECCENTRIC TOP
- FRAME & COVER
- MAX. 8" OF BRICK OR 2" 4" 8" PRECAST LEVELING RINGS

**STANDARD DETAIL**  
**SEWER SERVICE CONNECTION - TYPICAL CLEAN-OUT**  
CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28402  
OFFICE: (910)332-6560  
SD 2-13

**GENERAL NOTES:**

- FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO SYSTEM AND AT THE PROPERTY LINE, WITH REQUIRED EASEMENT.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS.

**STANDARD DETAIL**  
**PRECAST CONCRETE MANHOLE - ECCENTRIC CODE**  
CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28402  
OFFICE: (910)332-6560  
SD 2-11

**GENERAL NOTES:**

- FOR MANHOLES UP TO 12 FEET IN DEPTH MINIMUM BARREL DIAMETER SHALL BE 4 FEET. MANHOLES GREATER THAN 12 FEET IN DEPTH SHALL BE A MINIMUM OF 5 FEET IN DIAMETER.
- FOR LESS THAN 30" INSIDE DROP

**STANDARD DETAIL**  
**CATCH BASIN**  
CITY OF WILMINGTON ENGINEERING  
PO BOX 1810  
WILMINGTON, NC 28402  
(910) 341-7807  
SD 2-01

**GENERAL NOTES:**

- 4" DEEP X 8" WIDE CONCRETE COPING ALL AROUND BASIN CASTING.
- ALL CONCRETE TO BE CLASS "A"
- FOR CASTING DETAIL SEE SD 2-16

**STANDARD DETAIL**  
**COMMERCIAL WATER SERVICE - SINGLE AND LARGER METERS**  
CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28402  
OFFICE: (910)332-6560  
SD 2-14

**GENERAL NOTES:**

- NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
- SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY.
- METER BOXES SUBJECT TO TRAFFIC LOADS SHALL CONFORM TO ASTM A48, CLASS 305 AND ASHRAE 100 LOAD RATING STANDARDS.
- WATER SERVICE LINE SHALL TERMINATE 18" WITHIN RIGHT-OF-WAY LINE.
- WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
- SERVICE PIPING AND METER SETTER TO BE CENTERED IN THE METER BOX.

**STANDARD DETAIL**  
**SINGLE WATER SERVICE CONNECTION - TYPICAL SHORT-SIDE CONNECTION**  
CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28402  
OFFICE: (910)332-6560  
SD 2-11

**GENERAL NOTES:**

- NO JOINT SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
- SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY.
- METER BOXES SUBJECT TO TRAFFIC LOADS SHALL CONFORM TO ASTM A48, CLASS 305 AND ASHRAE 100 LOAD RATING STANDARDS.
- WATER SERVICE LINE SHALL TERMINATE 18" WITHIN RIGHT-OF-WAY LINE.
- WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.
- SERVICE PIPING AND METER SETTER TO BE CENTERED IN THE METER BOX.

**STANDARD DETAIL**  
**VALVE DETAIL**  
CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28402  
OFFICE: (910)332-6560  
SD 2-05

**GENERAL NOTES:**

- TRACER WIRE SHALL PENETRATE VALVE BOX THROUGH DRILLED HOLE APPROX. 6" BELOW GRADE WITH MINIMUM 2'-FEET EXTRA LENGTH COILED IN THE VALVE BOX. SEE WS-8.

**STANDARD DETAIL**  
**PIPE EMBEDMENT TYPES**  
CAPE FEAR PUBLIC UTILITY AUTHORITY  
235 GOVERNMENT CENTER DRIVE  
WILMINGTON, NC 28402  
OFFICE: (910)332-6560  
SD 2-04

**COMPACTION NOTES:**

- ALL ZONES: 95% STD EFFORT PER ASTM D698, EXCEPT AS STATED IN COMPACTION NOTE 2.
- 12" SUBGRADE UNDER PAVEMENT: 98% STD EFFORT PER ASTM D698.



REVISIONS:

No.	Description	Date

PROJECT: 16163.PE  
DATE: FEBRUARY 15, 2019  
DRAWN BY: AHE  
CHECKED BY: RPB

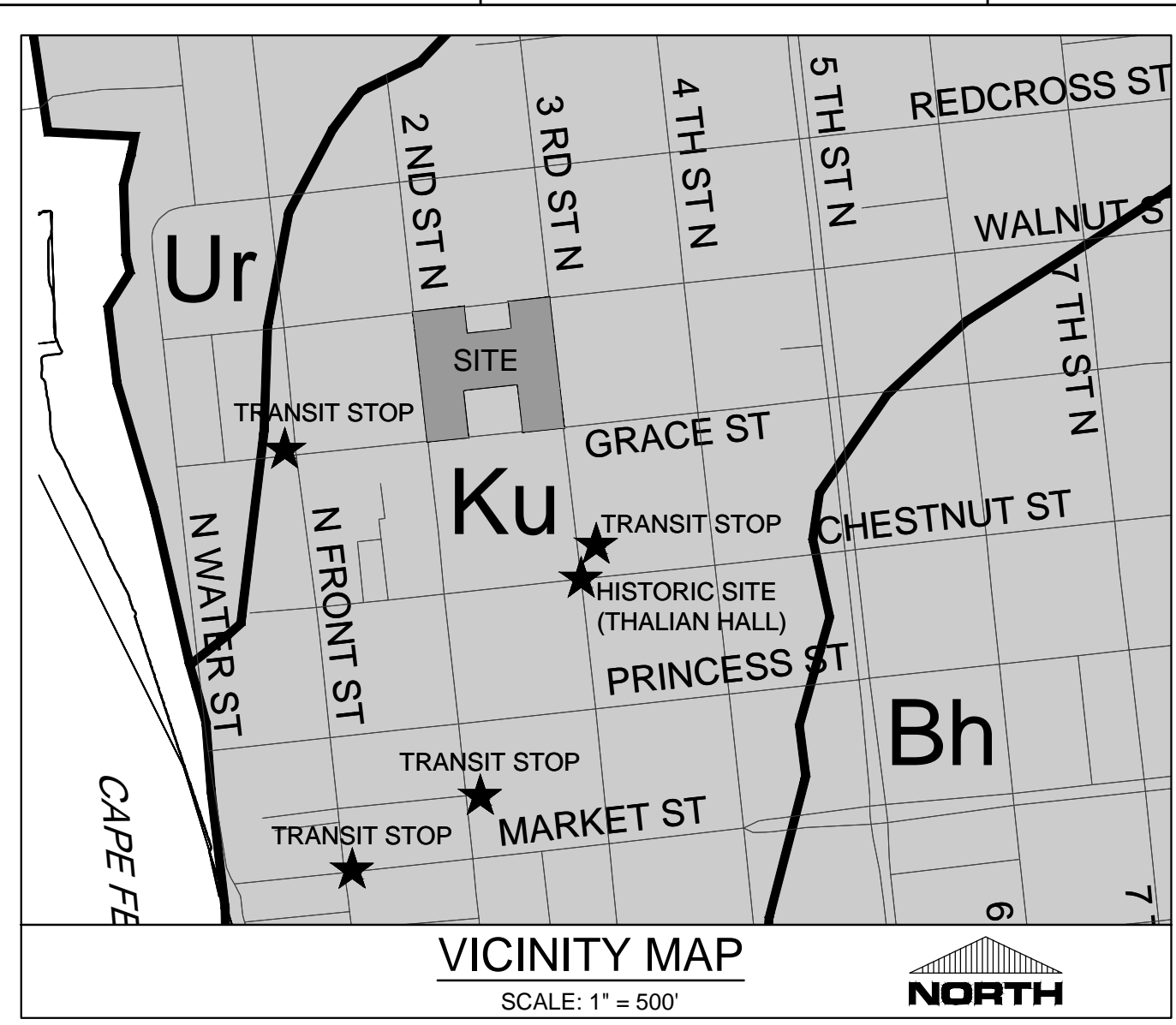
**LANDSCAPE PLAN**

**L-1.0**

SOLUTIONS THROUGH LISTENING

SERVICE BY DESIGN

DESIGN DEVELOPMENT



**SITE DATA TABULATION**

CURRENT ZONING: CBD (CENTRAL BUSINESS DISTRICT)

**LANDSCAPING**

**PARKING AREA LANDSCAPING:**  
PARKING AREA IS ENTIRELY LOCATED UNDER THE STRUCTURE OF THE BUILDING. NO LANDSCAPE IS PROVIDED IN PARKING AREAS

**BUILDING SETBACK:**

THE BUILDING WILL BE LOCATED ON OR SET BACK LESS THAN ONE FOOT FROM THE PROPERTY LINES. ENTIRE AREA FROM CURB TO BUILDING WILL BE HARDSCAPE OR STREET TREE PLANTING AS INDICATED ON THE PLAN.

**STREET TREES:**

STREET TREE REQUIREMENT: 1 TREE/30 FT. OF FRONTAGE

WALNUT STREET REQUIRED: 122 FT OF FRONTAGE - 0' OF DRIVEWAY = 122 / 30 = 4 TREES

WALNUT STREET PROVIDED: 4 TREES

2ND STREET REQUIRED: 331 FT OF FRONTAGE - 24' OF DRIVEWAY = 307 / 30 = 10 TREES

2ND STREET PROVIDED: 10 TREES

GRACE STREET REQUIRED: 98 FT OF FRONTAGE - 79' OF DRIVEWAY = 19 / 30 = 1 TREE

GRACE STREET PROVIDED: 2 TREES

3RD STREET - EXISTING TREES TO REMAIN

**TREE REMOVAL:**

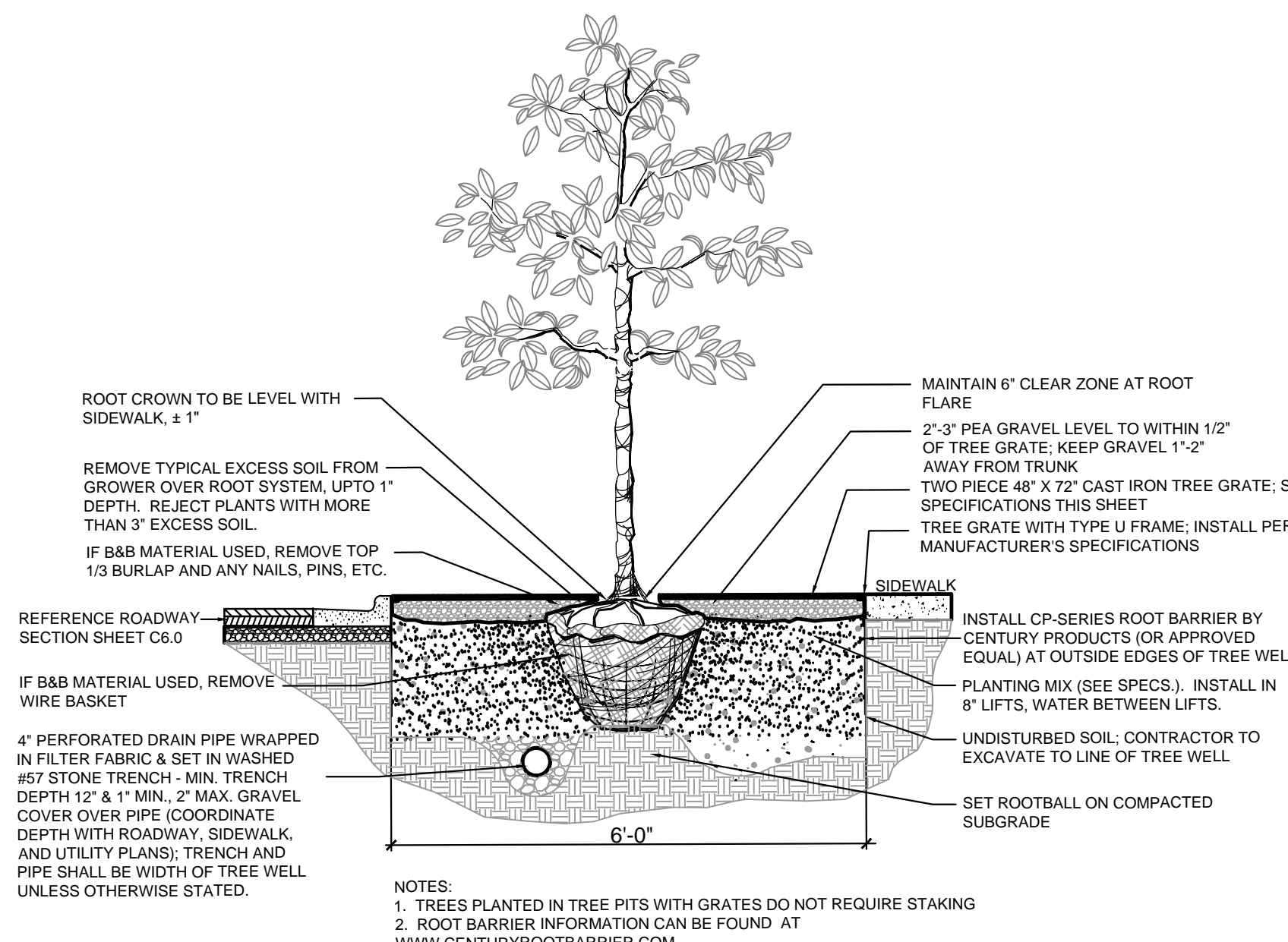
NO TREES EXIST ON THE SITE. NO MITIGATION REQUIRED

**LANDSCAPE NOTES:**

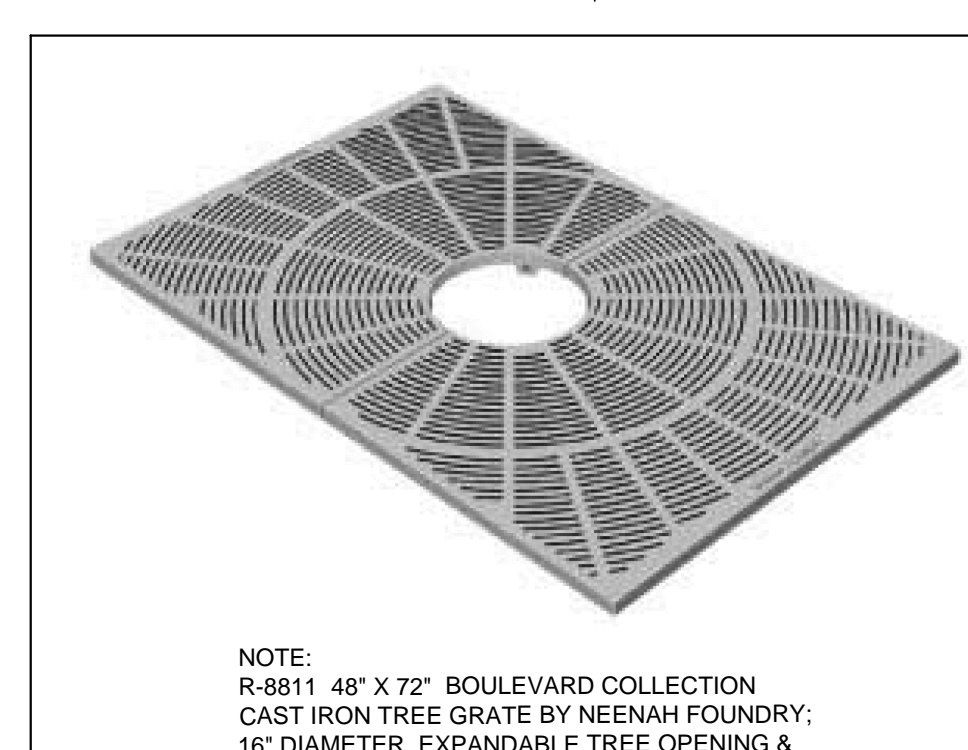
- Contractor is responsible for identifying all utilities prior to beginning construction. Reference City of Wilmington Notes on Site Plan for more information.
- Trees shall be located a minimum of 5 feet from sewer/water connections or as otherwise dictated by local regulations. Contractor shall be liable for damage to any and all public or private utilities.
- All plant material shall meet the current version of the American Association of Nurserymen's Standards.
- No existing trees shall be removed without approved tree removal permit from the City of Wilmington.
- All planting areas, mulch areas and tree wells (excluding seeded areas) shall be mulched with 3 inch minimum and 4 inch maximum depth double shredded hardwood mulch unless otherwise noted.
- Planting soil mix: Mix existing soil with the soil amendments and fertilizers in the quantities recommended by the soil testing laboratory, third party recognized by the State department of Agriculture or as otherwise approved by the Landscape Architect or Owner's Representative.
- Any and all substitutions of plant material shall be approved by Landscape Architect or Owner's Representative. Failure in obtaining approval may result in liability to the Contractor.
- The Contractor shall replace dead and/or unhealthy plant material within 12 months of acceptance of the installed material from the Owner or Owner's Representative.
- The Contractor shall prepare all seeded or sodded areas to assure that the subgrade has been raked and rolled to accept the sod/seed. All sod/seeded areas must be irrigated or hand watered. All sod shall be placed with staggered joints and no gaps between sod joints. Sod should be rolled after installation. All seeded and/or sodded areas should provide a smooth surface free of dips and unlevelled ground.
- Any irrigation shall be designed and installed by a licensed irrigation contractor in the state of North Carolina.
- The Contractor is responsible for hand watering the installed plant material for a period of 6 months from the acceptance from the Owner or Owner's Representative if irrigation has not been installed. During the first 3 months, all material including seeded or sodded areas shall be hand watered once weekly or as needed to ensure survival of plants. The remaining 3 months all material shall be hand watered once per week.
- Contractor is responsible for removing trash, debris and excess materials from the job site once the project is complete. Securing any materials left on site during the course of the project is the Contractor's responsibility and the Contractor will be required to replace any materials at the Contractor's cost.
- There are no known conservation resources associated with this parcel.
- Reference site plan and demolition plans for existing and proposed utility information.
- Contractor shall supply all tree guards and root barriers as specified or substituted materials as approved by Owner and City of Wilmington.
- Contractor is responsible for restoring/rebuilding the 3rd Street streetscape to existing conditions and as acceptable to City of Wilmington. Contractor is responsible for obtaining 3rd Street streetscape plans from City of Wilmington prior to installation of any materials along 3rd Street.
- Contractor is responsible for transplanting, holding/storing/stock piling and replanting/reinstalling all existing plant material and streetscape materials along 3rd Street. Contractor shall replace any damaged or unsatisfactory material with new material to match the same size, type and color of material installed back on site.
- If sidewalks, planters, benches, tree grates, brick pavers, or curbing are damaged during removal, storage, or construction, the applicant shall replace them using an approved contractor in accordance with NCDOT or City of Wilmington Standards.

**PLANT SCHEDULE**

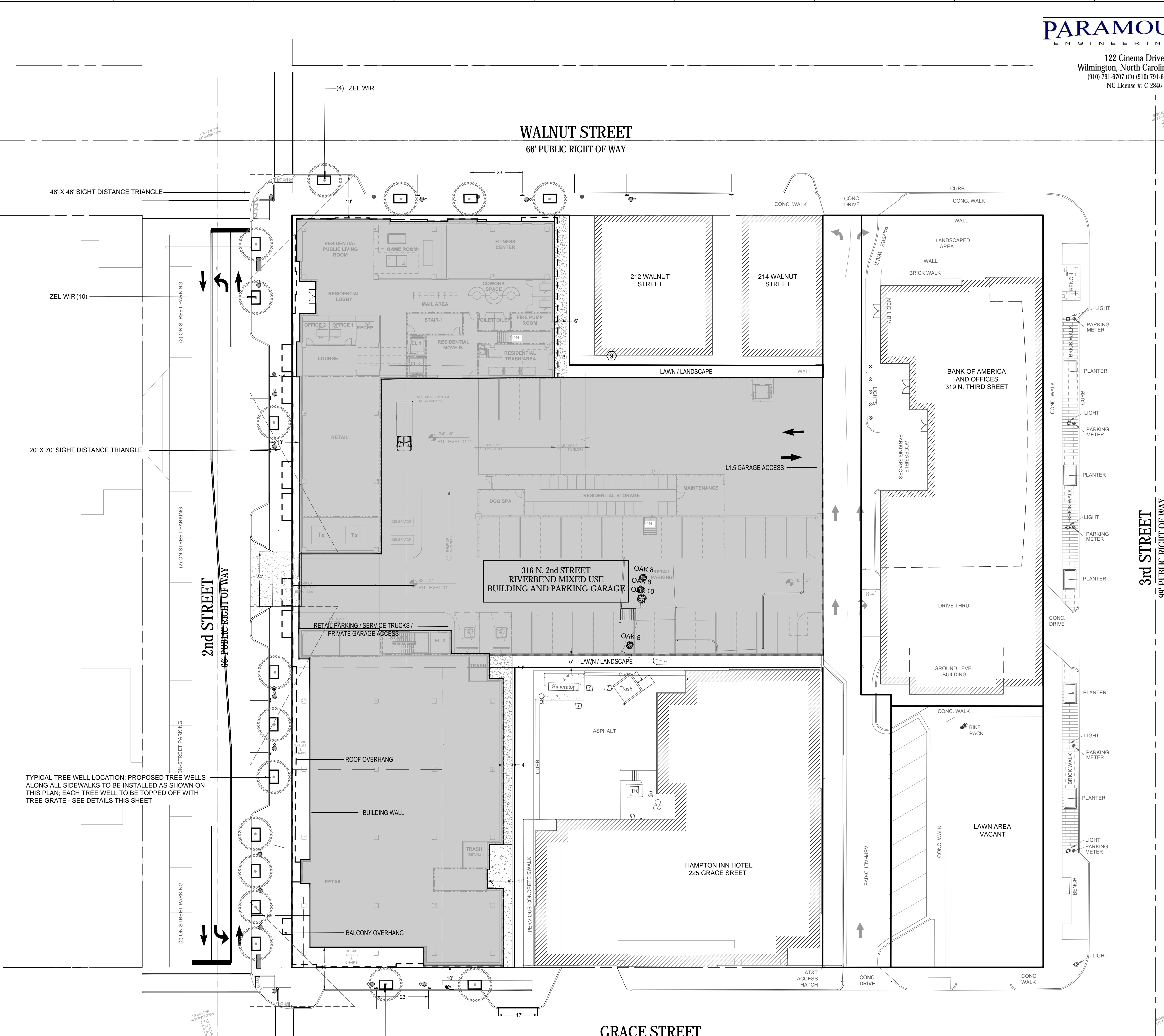
TREES	CODE	BOTANICAL / COMMON NAME	SIZE	QTY
	ZEL WIR	Zelkova serrata 'Wireless' Wireless Zelkova	2.5' cal	16



**(A) SINGLE STEM TREE INSTALLATION DETAIL FOR TREE WELL**



**(B) TREE GRATE SPECIFICATION FOR TREE WELL**



TYPICAL TREE WELL LOCATION: PROPOSED TREE WELLS ALONG ALL SIDEWALKS TO BE INSTALLED AS SHOWN ON THIS PLAN; EACH TREE WELL TO BE TOPPED OFF WITH TREE GRATE - SEE DETAILS THIS SHEET

**GRACE STREET**  
66' PUBLIC RIGHT OF WAY

**WALNUT STREET**  
66' PUBLIC RIGHT OF WAY

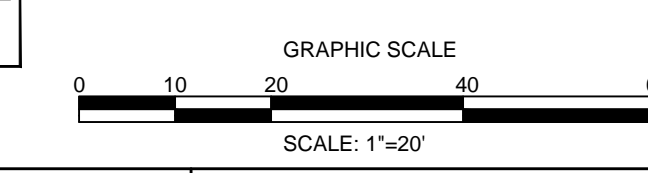
**2nd STREET**  
66' PUBLIC RIGHT OF WAY

**3rd STREET**  
99' PUBLIC RIGHT OF WAY

For each open utility cut of City streets, a \$325 permit shall be required from the City prior to occupancy and/or project acceptance.

**WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED PLAN - NO PERMIT REQUIRED  
Signed: \_\_\_\_\_

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



PRELIMINARY DESIGN - NOT RELEASED FOR CONSTRUCTION