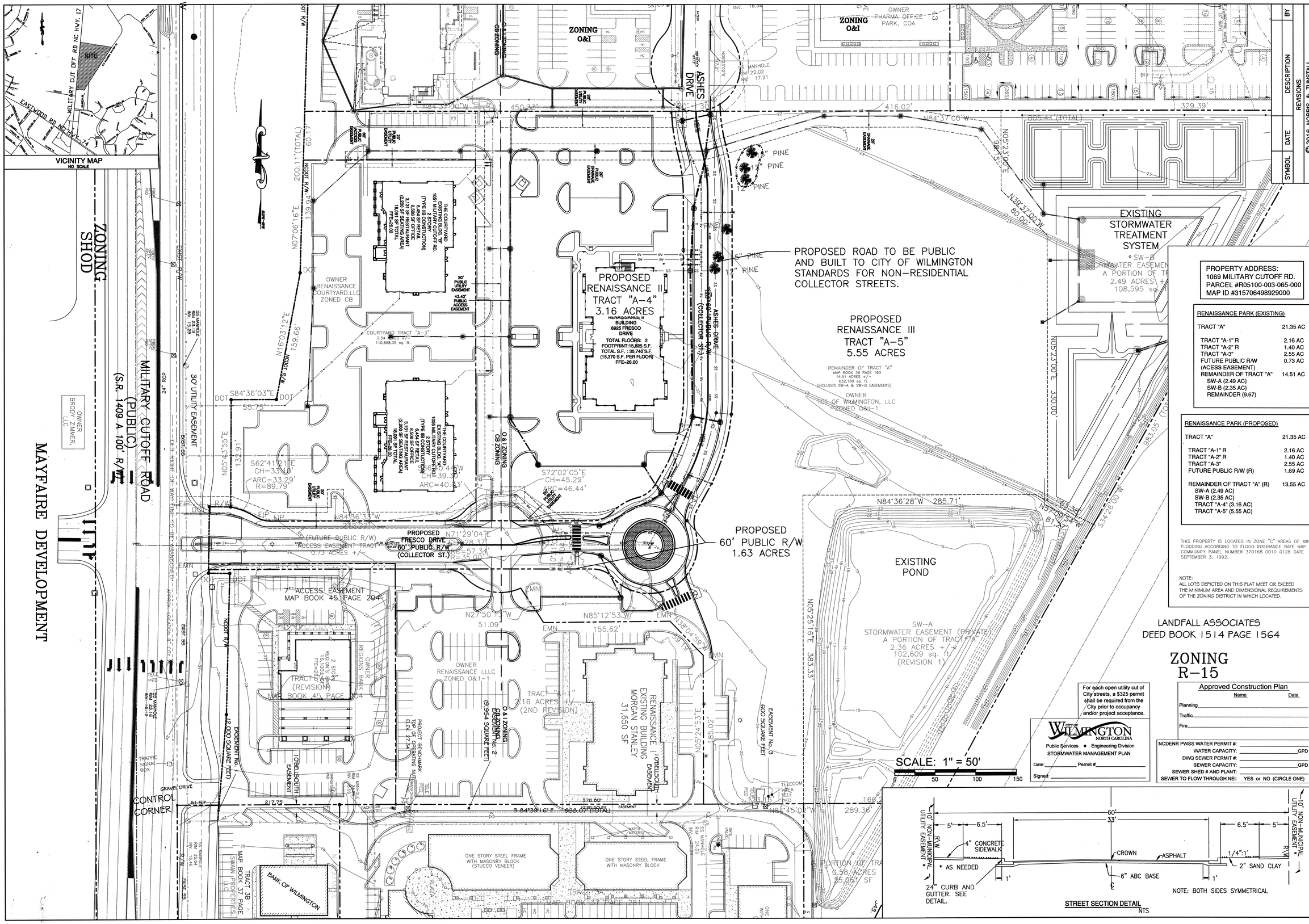

PROPERTY ADDRESS:
1069 MILITARY CUTOFF RD.
PARCEL #R05100-003-065-000
MAP ID #315706498929000

RENAISSANCE PARK (EXISTING)	
TRACT "A"	21.35 AC
TRACT "A-1" R	2.16 AC
TRACT "A-2" R	1.40 AC
TRACT "A-3"	2.55 AC
FUTURE PUBLIC R/W	0.73 AC
(ACESS EASEMENT)	
REMAINDER OF TRACT "A"	14.51 AC
SW-A (2.49 AC)	
SW-B (2.35 AC)	
REMAINDER (9.67)	

RENAISSANCE PARK (PROPOSED)	
TRACT "A"	21.35 AC
TRACT "A-1" R	2.16 AC
TRACT "A-2" R	1.40 AC
TRACT "A-3"	2.55 AC
FUTURE PUBLIC R/W (R)	1.69 AC
REMAINDER OF TRACT "A" (R)	13.55 AC
SW-A (2.49 AC)	
SW-B (2.35 AC)	
TRACT "A-4" (3.16 AC)	
TRACT "A-5" (5.55 AC)	

THIS PROPERTY IS LOCATED IN ZONE "C" AREAS OF MINIMAL FLOODING ACCORDING TO FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 370168 0010 0128 DATE SEPTEMBER 3, 1992.

NOTE:
ALL LOTS DEPICTED ON THIS PLAT MEET OR EXCEED THE MINIMUM AREA AND DIMENSIONAL REQUIREMENTS OF THE ZONING DISTRICT IN WHICH LOCATED.

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

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

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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SUBDIVISION REVIEW PLAN
RENAISSANCE II OFFICE BUILDING
1022 ASHES DRIVE
WILMINGTON, NORTH CAROLINA

OWNER:
TCT OF WILMINGTON, LLC
1123 MILITARY CUTOFF RD.
WILMINGTON, N.C. 28405
(910) 256-7704

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
902 MARKET STREET
WILMINGTON, NC 28401
PHONE (910) 343-9653
1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-5900
licence #C-3641

16009

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	4/11/16

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

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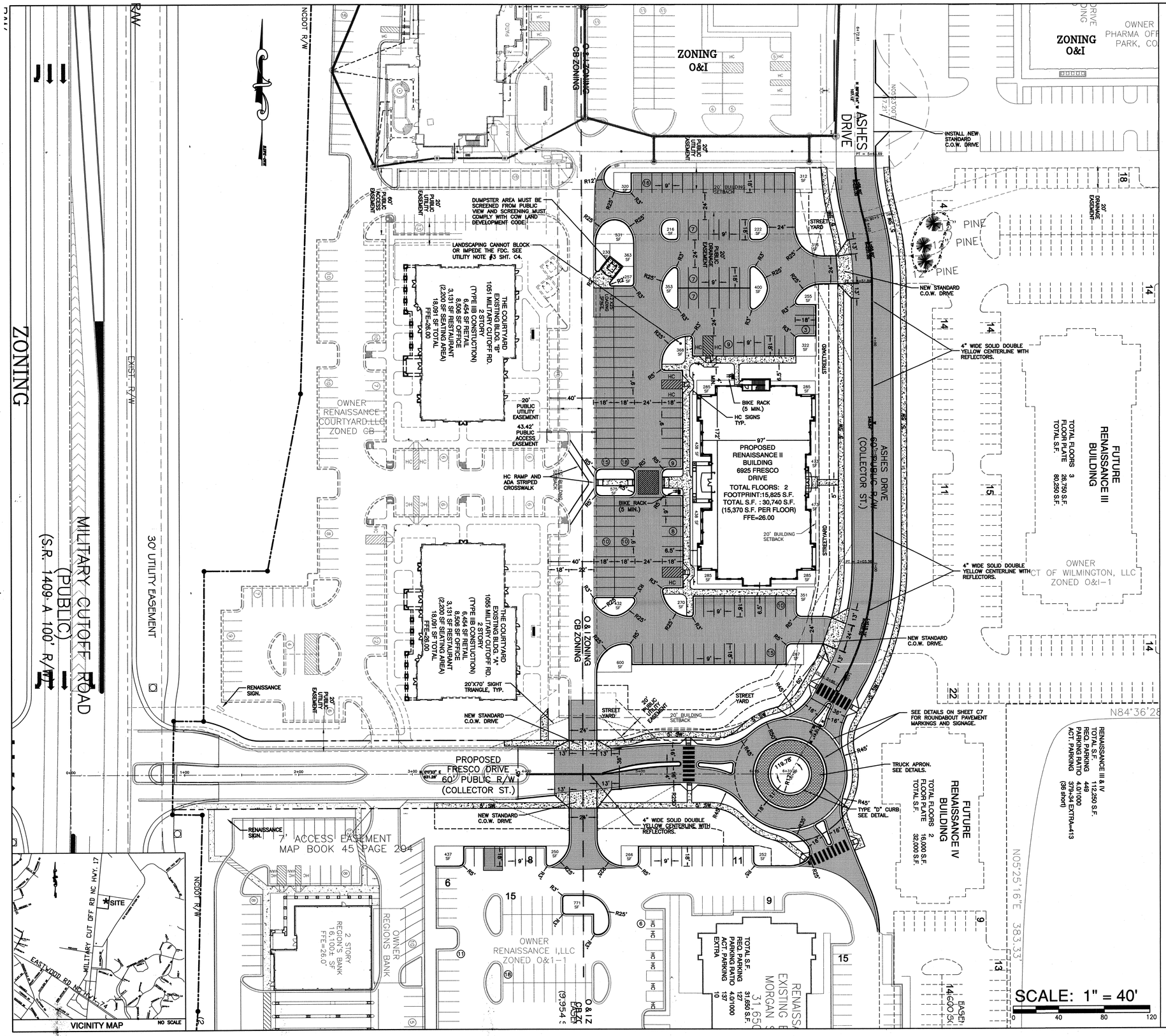

SITE DATA TABLE

USE:	PROFESSIONAL OFFICE
SITE AREA:	3.16 ACRES (137,426 SF)
ACCESS EASEMENT WITHIN SITE:	.80 ACRES (34,718 SF)
PARCEL ID#:	R05100-003-065-000
MAP ID#:	315706.49.8929.000
DISTURBED AREA:	4.48 ACRES
ZONING:	O & I-1
CAMA LAND USE:	RESOURCE PROTECTION
BUILDING SETBACKS: (REQUIRED)	FRONT SETBACK: 20' INTERIOR SIDE SETBACK: 130' CORNER SIDE SETBACK: 20' REAR SETBACKS: 20'
BUILDING SETBACKS: (PROPOSED)	FRONT SETBACK: 136' INTERIOR SIDE SETBACK: 187'± CORNER SIDE SETBACK: 110'± REAR SETBACKS: 187'±
MAX. BUILDING LOT COVERAGE:	40%
PROPOSED BUILDING LOT COVERAGE:	11%
MAX. BUILDING HEIGHT:	45'
BUILDING CONSTRUCTION TYPE:	IIB
BUILDING MATERIAL:	BRICK, CALCIUM SILICATE MASONRY UNITS, HARD COAT STUCCO AT PARAPET
BUILDING	
BUILDING HEIGHT:	43' (2 STORY)
BUILDING SQUARE FOOTAGE:	30,740 SF TOTAL (15,370 PER FLOOR)
PARKING REQ'D: OFFICE	200/SF MAX, 300/SF MIN.
TOTAL PARKING REQ'D:	154 MAX/102 MIN. REQUIRED
PROPOSED PARKING PROV'D:	144 (INCLUDES 5 HC)
BICYCLE PARKING REQ'D:	10
BICYCLE PARKING PROV'D:	10
PROPOSED IMPERVIOUS AREA:	
BUILDING:	15,825 SF (ROOF AREA)
ASPHALT, CURB & GUTTER	51,678 SF
SIDEWALK:	4,150 SF
TOTAL:	71,653 SF
EXISTING IMPERVIOUS AREA WITHIN ACCESS EASEMENT:	25,000 SF
TOTAL IMPERVIOUS AREA:	96,653 SF
% SITE IMPERVIOUS AREA:	70%
AREA WITHIN NEW R/W:	46,000 SF
IMPERVIOUS AREA WITHIN NEW R/W:	38,635 SF
LANDSCAPING:	
FOUNDATION PLANTINGS (12%):	
FRONT: 45' X 156' X .12 = 842 SF REQD.	876 SF PROVIDED
SIDE (2): 45' X 104' X .12 = 562 SF REQD.	570 (2) SF PROVIDED
REAR: 45' X 156' X .12 = 842 SF REQD.	946 SF PROVIDED
TOTAL REQUIRED=2,808 SF TOTAL PROVIDED=2,962 SF	
LANDSCAPING REQ'D INTERIOR:	
ASPHALT, CONCRETE CURB & GUTTER 14% REQUIRED	51,678 SF
(14%) X (51,678) = 7,235 SF	7,300 SF PROVIDED
STREETYARD LANDSCAPING:	
PRIMARY: PROPOSED PUBLIC R/W FRESCO DR. 18' MULTIPLYER (241'-24) X 18' = 3,906 SF	3,918 SF PROVIDED
SECONDARY: ASHES DR. 9' MULTIPLYER (451'-48') X 9' = 3,627 SF	3,763 SF PROVIDED

SITE DATA TABLE - EXISTING RENNAISSANCE I, PHASE I

USE:	OFFICE
SITE AREA:	2.16 ACRES
DISTURBED AREA:	
ZONING:	O & I-1 AND CB
CAMA LAND USE:	RESOURCE PROTECTION
BUILDING SETBACKS: (EXISTING)	FRONT: 230' SIDE: 33' NORTH, 11' SOUTH REAR: 45'
BUILDING HEIGHT:	32' (2 STORY)
BUILDING SQUARE FOOTAGE:	31,650 SF (15,825 SF EACH FLOOR)
PARKING REQ'D: O & I ZONE. PARKING GROUP (OFFICE):	200/SF MAX, 300/SF MIN. 158 MAX/105 MIN. REQUIRED
PROPOSED PARKING PROV'D:	137 REGULAR (6 ARE HC)
IMPERVIOUS AREA-PHI DRAINAGE AREA:	
EXISTING BUILDING:	15,825 SF (ROOF AREA)
EXISTING ASPHALT/CURB & GUTTER	68,950 SF
EXISTING SIDEWALKS/CONCRETE PADS	6,850 SF
TOTAL EXISTING IMPERVIOUS AREA:	91,625 SF TOTAL
STREETYARD LANDSCAPING: (331-24) X 18 = 5,526 SF REQUIRED	5,526 SF PROVIDED
INTERIOR LANDSCAPE PROVIDED:	1,976 SF PROVIDED

TREE REMOVAL TABLE

REGULATED PINES
12" (2)
15" (1)

LEGEND

- PROPERTY LINE
- ASPHALT PAVEMENT
- CONCRETE

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

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

Date:_____ Permit #_____

Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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LAYOUT PLAN
RENAISSANCE II OFFICE BUILDING
1022 ASHES DRIVE
WILMINGTON, NORTH CAROLINA

OWNER:
TCT OF WILMINGTON, LLC
1123 MILITARY CUTOFF RD.
WILMINGTON, N.C. 28405
(910) 256-7704

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
902 MARKET STREET
WILMINGTON, NC 28401
PHONE (910) 343-9653
1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-5900
licence #C-3641

16009

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	4/11/16

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

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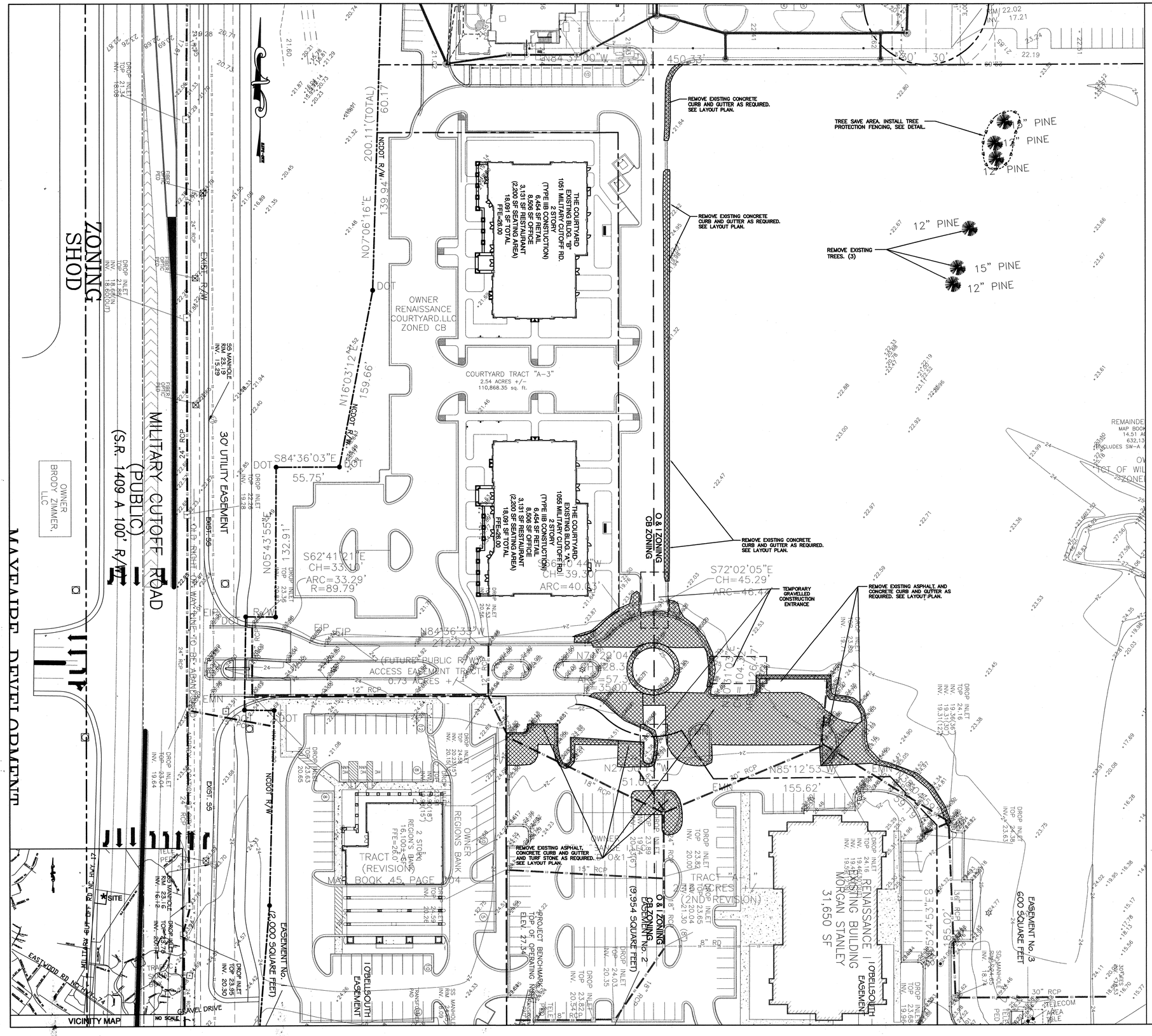

DEMOLITION NOTES

1. THE DEMOLITION WORK LIMITS SHOWN ARE APPROXIMATE. THE SITE WORK CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND FIELD DETERMINING THE EXACT DEMOLITION LIMITS. QUESTIONS DURING BIDDING SHALL BE DIRECTED TO THE OWNER'S / DEVELOPER'S GENERAL CONTRACTOR. REMOVE THE EXISTING SITE FEATURES WITHIN THE DEMOLITION WORK LIMITS. SAWCUT, REMOVE, REPAIR, PATCH, REPLACE AND ABANDON AS REQUIRED THE EXISTING CONCRETE CURB AND GUTTER, EXISTING CONCRETE, EXISTING ASPHALT PAVEMENT, EXISTING SITE FEATURES AND EXISTING UTILITIES AS REQUIRED WITHIN THE DEMOLITION LIMITS. REPAIR AND PATCH THE AREA WITH NEW ASPHALT PAVEMENT UP TO THE EXISTING ADJACENT ASPHALT PAVEMENT GRADE. INSTALL THE NEW ASPHALT PAVEMENT AND NEW 24" CONCRETE CURB AND GUTTER FOR POSITIVE DRAINAGE. THE GENERAL CONTRACTOR, SITE WORK CONTRACTOR AND LANDSCAPE CONTRACTOR SHALL COORDINATE THE DEMOLITION WORK, REPAIR WORK AND REMOVAL, STORAGE AND REPLACEMENT OF THE EXISTING LANDSCAPING PRIOR TO BEGINNING ANY DEMOLITION OR CONSTRUCTION ACTIVITIES.

2. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIARIZED WITH FIELD DEMOLITION CONDITIONS.

3. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE SITE GRADES PRIOR TO BEGINNING CONSTRUCTION. CONTACT THE ENGINEER FOR DIRECTION AS REQUIRED DURING CONSTRUCTION.

4. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER DISPOSAL OF ALL DEMOLISHED DEBRIS ASSOCIATED WITH THE PROJECT.

5. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST GENERATED BY THE WORK, INCLUDING BUT NOT LIMITED TO DEMOLITION AND CONSTRUCTION ACTIVITIES, SITE VEHICULAR TRAFFIC AND RELATED OPERATIONS.

6. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND IDENTIFYING ALL EXISTING UTILITIES. ANY UTILITIES ENCOUNTERED THAT HAVE NOT BEEN IDENTIFIED NEED TO BE BROUGHT TO THE ATTENTION OF THE OWNER.

7. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF DISCONNECTING AND ABANDONING ALL EXISTING UTILITIES WITH APPLICABLE AGENCIES AND AUTHORITIES UNLESS OTHERWISE NOTED. ALL EXISTING UTILITIES AND ASSOCIATED PIPING, ETC. NOT IN USE ON THE SITE SHALL BE PROPERLY ABANDONED AND REMOVED AS REQUIRED. COORDINATE WITH THE OWNER.

8. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ANY EXISTING UTILITIES THAT REMAIN IN SERVICE OR ARE WITHIN THE PUBLIC RIGHT OF WAY DURING DEMOLITION.

9. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE REMOVAL OR RELOCATION OF ANY EXISTING UTILITY POLES / GUY LINES AND LIGHT POLES WITH THE OWNER AND THE APPLICABLE UTILITY COMPANY AS REQUIRED.

10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A TRAFFIC CONTROL PLAN AND DEVICES DURING CONSTRUCTION WORK IN ACCORDANCE WITH THE MUTCD, NCDOT AND CITY OF WILMINGTON STANDARDS.

11. THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS AND SLOPES ON AND OFF SITE IN ACCORDANCE WITH THE EROSION CONTROL MEASURES SPECIFIED ON THE PLANS AND IN THE SPECIFICATIONS. IN ADDITION TO THE EROSION CONTROL MEASURES SPECIFIED, THE CONTRACTOR SHALL INSTALL EROSION CONTROL BLANKETS /TURF REINFORCEMENT MATS IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATION AS REQUIRED WHERE NORMAL SEED / SOD STABILIZATION IS UNSUCCESSFUL. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO DETERMINE WHO IS RESPONSIBLE FOR PROVIDING THE PERMANENT STABILIZATION MEASURES AND THE TYPE OF PERMANENT MEASURES PRIOR TO BEGINNING DEMOLITION AND CONSTRUCTION. THE PERMANENT STABILIZATION MEASURES SHALL BE IN PLACE AND ACCEPTABLE TO THE OWNERS REPRESENTATIVE AND ENGINEER PRIOR TO PROJECT CLOSEOUT. COORDINATE INSPECTION WITH THE OWNER AND ENGINEER PRIOR TO PROJECT CLOSEOUT.

TREE REMOVAL TABLE

REGULATED PINES
12" (2)
15" (1)

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

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

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

LEGEND

PROPERTY LINE
TO BE REMOVED

SCALE: 1" = 40'
0 40 80 120

SYMBOL	DATE	DESCRIPTION	BY

REVISIONS

© 2016 NORRIS & TUNSTALL

EXISTING SITE CONDITIONS AND DEMOLITION PLAN
RENAISSANCE II OFFICE BUILDING
1022 ASHES DRIVE
WILMINGTON, NORTH CAROLINA

OWNER:
TCT OF WILMINGTON, LLC
1123 MILITARY CUTOFF RD.
WILMINGTON, N.C. 28405
(910) 256-7704

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
902 MARKET STREET
WILMINGTON, NC 28401
PHONE (910) 343-9653
1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-5900
licence #C-3641

16009

DES. JST
CKD. JPN
DRWN. NKS
DATE 4/11/16

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

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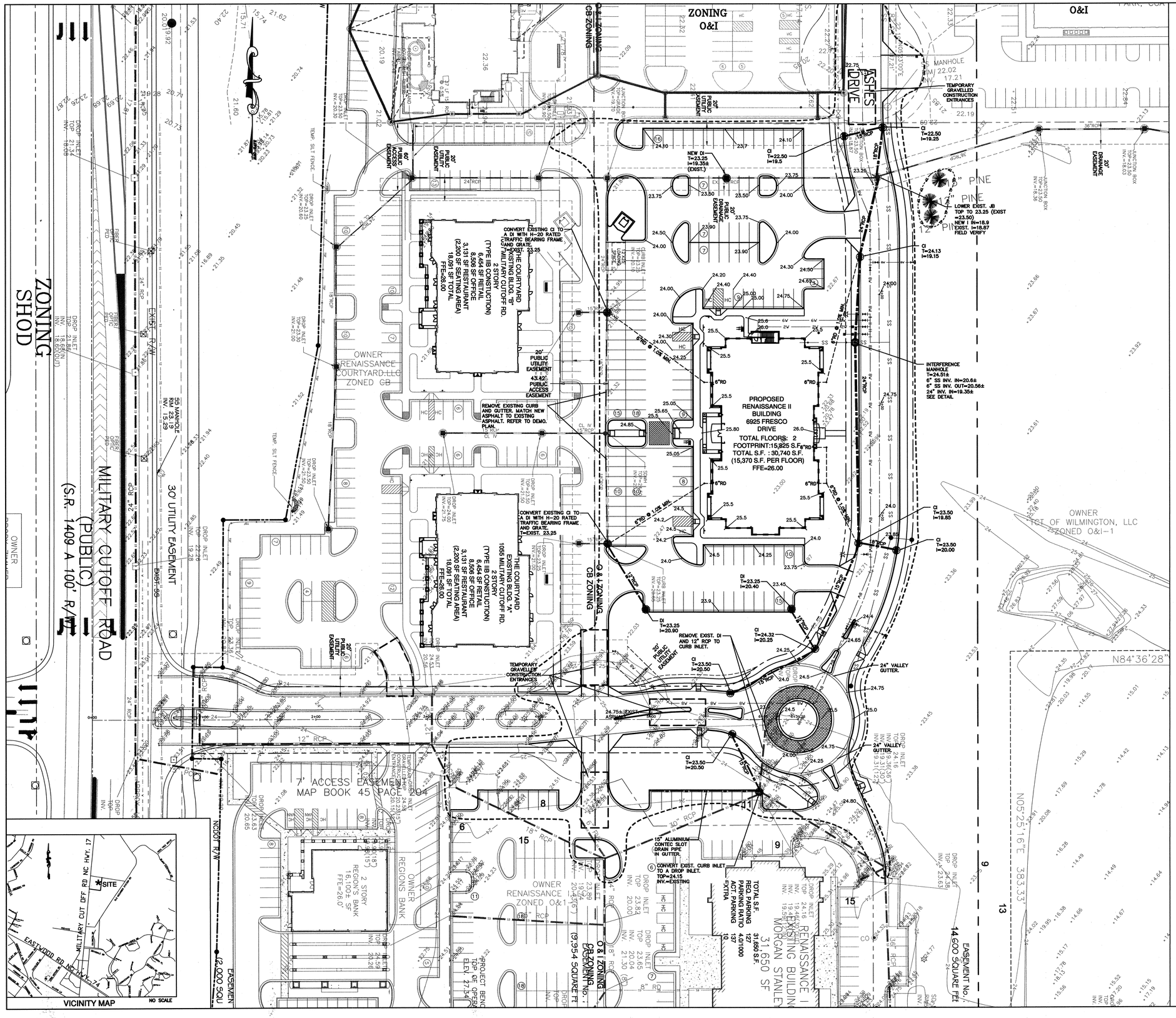

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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GRADING, DRAINAGE AND EROSION CONTROL PLAN
RENAISSANCE II OFFICE BUILDING
1022 ASHES DRIVE
WILMINGTON, NORTH CAROLINA

OWNER:
TCT OF WILMINGTON, LLC
1123 MILITARY CUTOFF RD.
WILMINGTON, N.C. 28405
(910) 256-7704

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

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

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

NCDENR PWSS WATER PERMIT #:	
WATER CAPACITY:	GPD
DWQ SEWER PERMIT #:	
SEWER CAPACITY:	GPD
SEWER SHED # AND PLANT:	
SEWER TO FLOW THROUGH NEI:	YES or NO (CIRCLE ONE)

LEGEND

PROPERTY LINE	
EXISTING SPOT ELEVATION	22.84
EXISTING CONTOUR	20
DISTURBED AREA	
PROPOSED CONTOUR	36
PROPOSED FINISH GRADE SPOT ELEVATION	23.5
STORMDRAIN PIPE	15"RCP
TEMPORARY SILT FENCE	TSF
EROSION CONTROL AROUND INLETS	
PROPOSED SANITARY SEWER	SS
PROPOSED WATER LINE	W

SCALE: 1" = 40'
0 40 80 120

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
902 MARKET STREET
WILMINGTON, NC 28401
PHONE (910) 343-9653
1429 ASH-LITTLE RIVER RD. NW
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16009

DES.	JST
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NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

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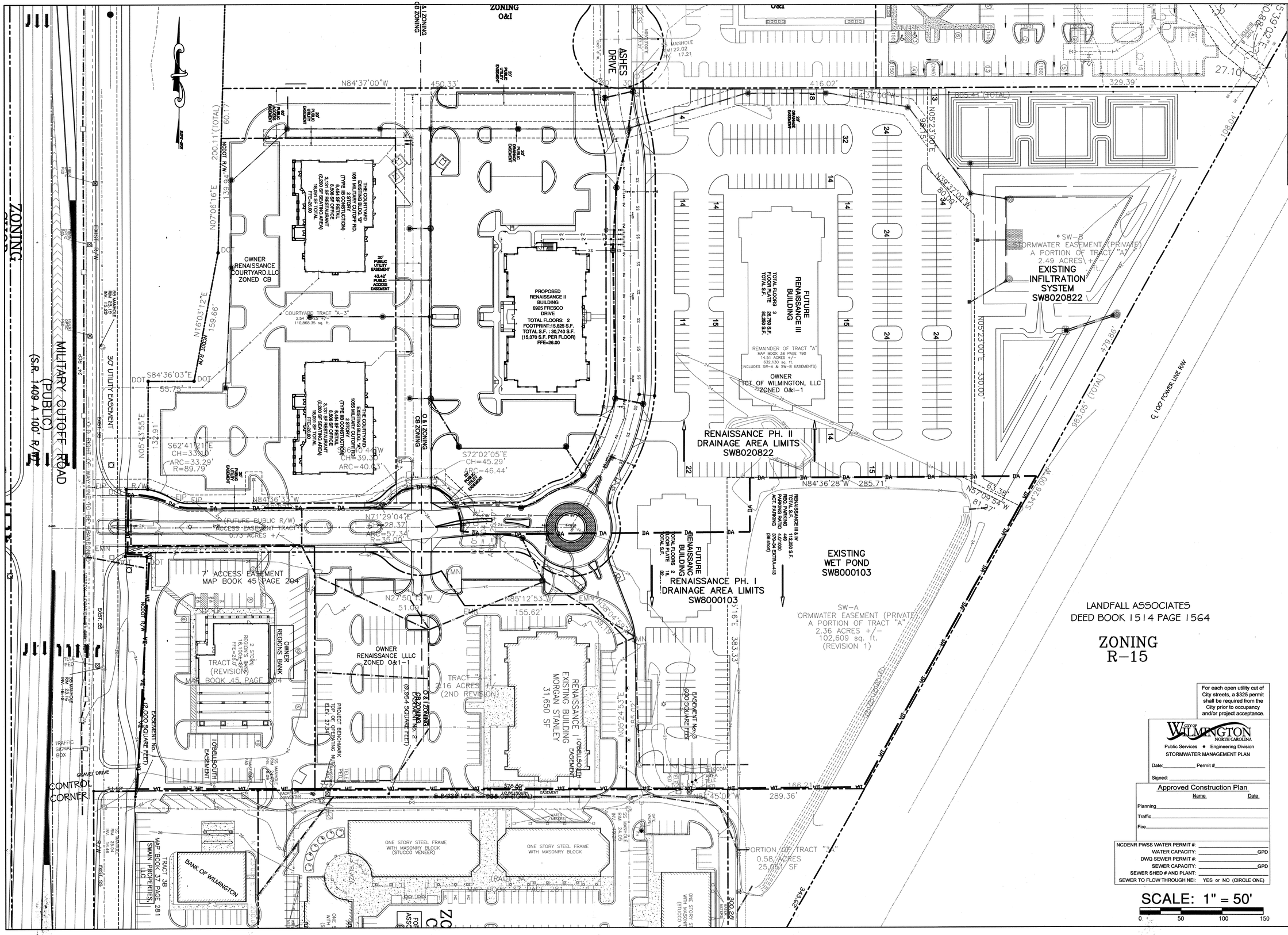
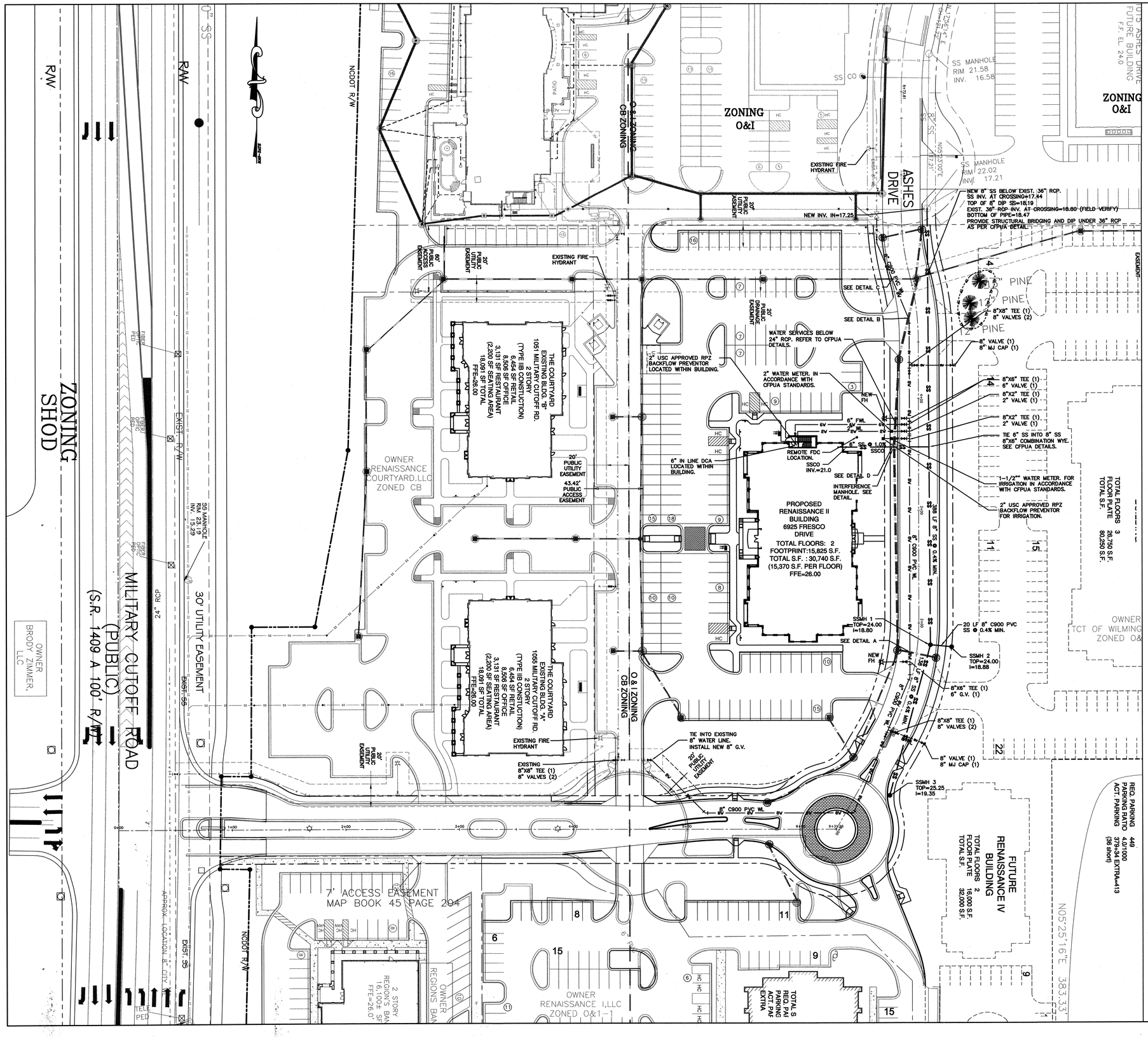

ZONING
O&I
ASHES DRIVE
MILITARY CUTOFF ROAD
(PUBLIC)
(S.R. 1409 A 100' R/W)
ZONING
B-1
OWNER
RENAISSANCE COURTYARD,LLC
ZONED CB
COURTYARD TRACT "A-3"
2.54 ac.
110,868.35 sq. ft.
THE COURTYARD
EXISTING BLDG. "B"
1051 MILITARY CUTOFF RD.
2 STORY
(TYPE IIB CONSTUCTION)
6,464 SF RETAIL
6,464 SF OFFICE
3,181 SF RESTAURANT
(2,200 SF SEATING AREA)
16,109 SF TOTAL
FFE=26.00
THE COURTYARD
EXISTING BLDG. "A"
1055 MILITARY CUTOFF RD.
2 STORY
(TYPE IIB CONSTUCTION)
6,464 SF RETAIL
6,464 SF OFFICE
3,181 SF RESTAURANT
(2,200 SF SEATING AREA)
16,109 SF TOTAL
FFE=26.00
PROPOSED
RENAISSANCE II
BUILDING
6925 FRESCO
DRIVE
TOTAL FLOORS: 2
FOOTPRINT:15,825 S.F.
TOTAL S.F. : 30,740 S.F.
(15,370 S.F. PER FLOOR)
FFE=26.00
FUTURE
RENAISSANCE III
BUILDING
TOTAL FLOORS 3
FLOOR PLATE 26,750 S.F.
TOTAL S.F. 80,250 S.F.
REMAINDER OF TRACT "A"
MAP BOOK 38 PAGE 190
14.51 ACRES +/-
632,130 sq. ft.
(INCLUDES SW-A & SW-B EASEMENTS)
OWNER
TCT OF WILMINGTON, LLC
ZONED O&I-1
SW-B
STORMWATER EASEMENT (PRIVATE)
A PORTION OF TRACT "A"
2.49 ACRES +/-
EXISTING
INFILTRATION
SYSTEM
SW8020822
RENAISSANCE PH. II
DRAINAGE AREA LIMITS
SW8020822
RENAISSANCE PH. I
DRAINAGE AREA LIMITS
SW8000103
EXISTING
WET POND
SW8000103
SW-A
ORMWATER EASEMENT (PRIVATE)
A PORTION OF TRACT "A"
2.36 ACRES +/-
102,609 sq. ft.
(REVISION 1)
LANDFALL ASSOCIATES
DEED BOOK 1514 PAGE 1564
ZONING
R-15
100' POWER LINE R/W
7' ACCESS EASEMENT
MAP BOOK 45 PAGE 204
TRACT "A"
(REVISION)
MAP BOOK 45 PAGE 204
OWNER
REGIONS BANK
OWNER
RENAISSANCE I,LLC
ZONED O&I-1
TRACT "A"
2.16 ACRES +/-
(2ND REVISION)
RENAISSANCE I
EXISTING BUILDING
MORGAN STANLEY
31,650 SF
EASEMENT No. 2
(9,954 SQUARE FEET)
EASEMENT No. 3
600 SQUARE FEET
EASEMENT No. 1
(12,600 SQUARE FEET)
BELLSOUTH EASEMENT
PORTION OF TRACT "A"
0.58 ACRES
25,061 SF
ONE STORY STEEL FRAME
WITH MASONRY BLOCK
(STUCCO VENEER)
ONE STORY STEEL FRAME
WITH MASONRY BLOCK
TRACT 3A
MAP BOOK 37 PAGE 281
TRACT 3B
MAP BOOK 37 PAGE 281
SWAIN PROPERTIES, LLC
BANK OF WILMINGTON
CONTROL CORNER
GRAVEL DRIVE
30' UTILITY EASEMENT
N84°37'00"W
450.33'
416.02'
329.39'
N05°23'00"E
330.00'
479.66'
N84°36'28"W
285.71'
N84°36'33"W
N71°29'04"E
S72°02'05"E
CH=45.29'
ARC=46.44'
S62°41'21"E
CH=33.29'
ARC=33.29'
R=89.79'
S84°36'03"E
55.75'
N05°43'55"E
132.91'
N16°03'12"E
159.66'
N07°06'16"E
139.94'
200.11'(TOTAL)
60.17'
N27°50'51"W
51.09'
N85°12'53"W
155.62'
N05°24'53"E
185.00'
N84°45'00"W
289.36'
166.21'
N35°04'59"W
383.33'
N39°27'00"W
80.30'
N05°23'00"E
98.15'
805.41'(TOTAL)
98.05'(TOTAL)
S39°02'00"E
S34°28'00"W
63.38'
N57°09'54"W
81.27'
27.10'
102.04'
EXIST. R/W
EXIST. 24' RD
EXIST. 26'
EXIST. 25'
EXIST. 30'
EXIST. 60'
EXIST. 100' R/W
EXIST. 80'
EXIST. 60' R/W
EXIST. 50' R/W
EXIST. 40' R/W
EXIST. 20' R/W
EXIST. 15' R/W
EXIST. 10' R/W
EXIST. 5' R/W
EXIST. 4' R/W
EXIST. 3' R/W
EXIST. 2' R/W
EXIST. 1' R/W
EXIST. 0' R/W
EXIST. 0' R/W
EXIST. 0



SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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UTILITY PLAN
RENAISSANCE II OFFICE BUILDING
1022 ASHES DRIVE
WILMINGTON, NORTH CAROLINA

OWNER:
TCT OF WILMINGTON, LLC
1123 MILITARY CUTOFF RD.
WILMINGTON, N.C. 28405
(910) 256-7704

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
902 MARKET STREET
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PHONE (910) 343-9653
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For each open utility cut of City streets, a $325 permit shall be required from the City prior to occupancy and/or project acceptance.

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

Date:_____ Permit #_____

Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____ GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____ GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

16009

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	4/11/16

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

LEGEND

PROPERTY LINE	
PROPOSED WATERLINE	—v—v—v—
PROPOSED SANITARY SEWER	—SS—

SCALE: 1" = 40'
0 40 80 120

C4

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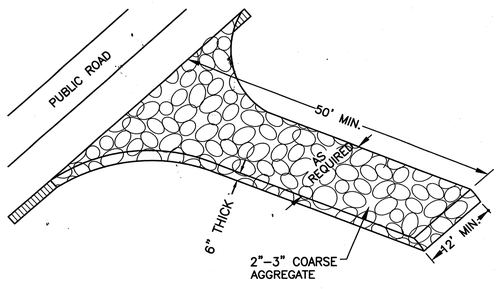
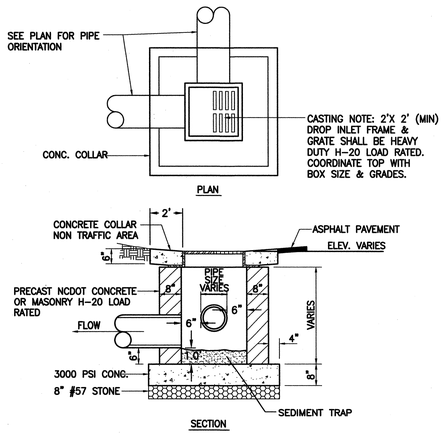


NOT TO SCALE

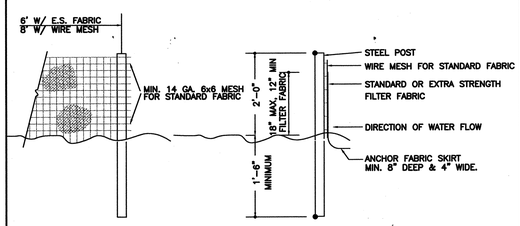
1 TEMPORARY GRAVELLED CONSTRUCTION ENTRANCE



MUST COMPLY WITH CITY OF WILMINGTON STANDARDS

NOT TO SCALE

2 DROP INLET DETAIL

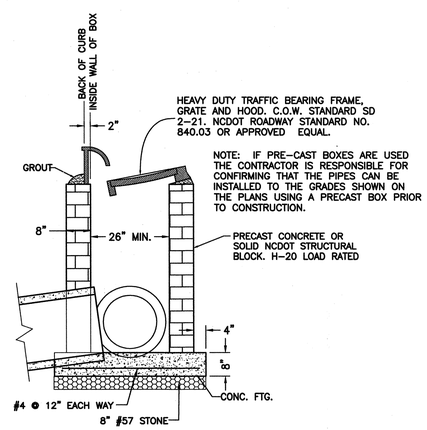


NOTES:

1. SYN. FENCE FABRIC SHALL BE MIN. OF 30" IN WIDTH WITH 30 LB/IN TENSILE STRENGTH FOR STANDARD FABRIC AND 50 LB/IN FOR EXTRA STRENGTH.
2. FABRIC SHALL BE CONTINUOUS LENGTH. IF JOINTS ARE NECESSARY, LAP FABRIC POST TO POST.
3. STEEL POST SHALL BE MIN 4' IN HEIGHT AND BE OF THE SELF-FASTENER STEEL ANGLE TYPE.

NOT TO SCALE

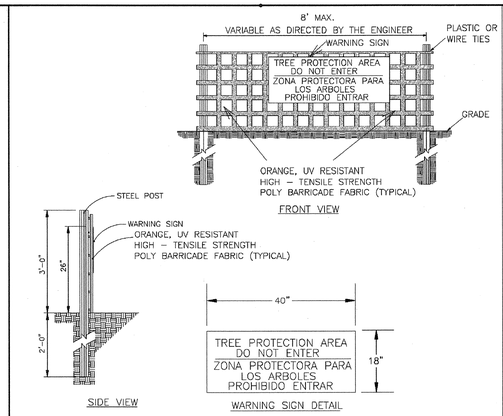
4 TEMPORARY SILT FENCE



MUST COMPLY WITH CITY OF WILMINGTON STANDARDS

NOT TO SCALE

5 CATCH BASIN DETAIL

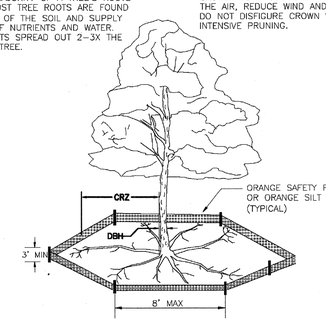


NOTES:

1. THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. 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.
4. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
5. TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
6. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

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.

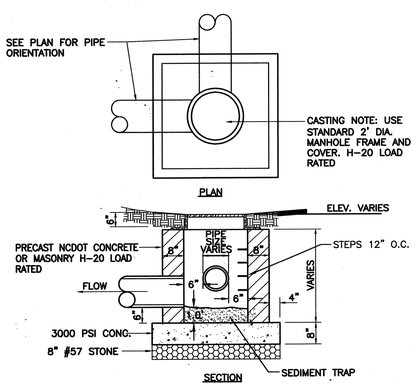


NOTES:

1. 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.
2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATTS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
4. 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.
5. 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.
6. 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.

NOT TO SCALE

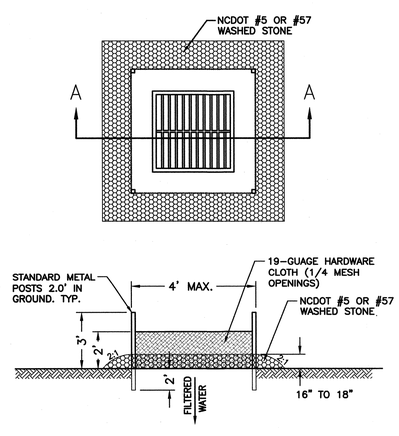
1 TREE PROTECTION



MUST COMPLY WITH CITY OF WILMINGTON STANDARDS

NOT TO SCALE

7 JUNCTION BOX DETAIL



CONSTRUCTION SEQUENCE:
1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.
2. DRIVE 5' STEEL POST 2' INTO THE GROUND SURROUNDING THE INLET. SPACE POST EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4' APART.
3. SURROUND THE POST WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POST AT THE TOP, MIDDLE AND BOTTOM. PLACING A 2' FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.
4. PLACE CLEAN GRAVEL (NCDOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16" AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.
5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.
6. COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GROUNDCOVER.

MAINTENANCE:
INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REMOVE SEDIMENT WHEN ACCUMULATION REACHES HALF THE DEPTH OF ROCK. REPLACE STONE WHEN IT NO LONGER DRAINS AS DESIGNED.

NOT TO SCALE

8 HARDWARE CLOTH AND GRAVEL INLET PROTECTION

EROSION CONTROL NOTES AND MAINTENANCE PLAN:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATION FOLLOWING EVERY RUNOFF-PRODUCING RAINFALL, BUT IN NO CASE, LESS THAN ONCE EVERY WEEK AND WITHIN 24 HOURS OF EVERY HALF-INCH RAINFALL.

2. ALL POINTS OF EGRESS WILL HAVE CONSTRUCTION ENTRANCES THAT WILL BE PERIODICALLY TOP-DRESSED WITH AN ADDITIONAL 2 INCHES OF #4 STONE TO MAINTAIN PROPER DEPTH. THEY WILL BE MAINTAINED IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. IMMEDIATELY REMOVE OBJECTIONABLE MATERIAL SPILLED WASHED OR TRACKED ONTO THE CONSTRUCTION ENTRANCE OR ROADWAYS.

3. SEDIMENT WILL BE REMOVED FROM HARDWARE CLOTH AND GRAVEL INLET PROTECTION, BLOCK AND GRAVEL INLET PROTECTION, ROCK DOUGHNUT INLET PROTECTION AND ROCK PIPE INLET PROTECTION WHEN THE DESIGNED STORAGE CAPACITY HAS BEEN HALF FILLED WITH SEDIMENT. ROCK WILL BE CLEANED OR REPLACED WHEN THE SEDIMENT POOL NO LONGER DRAINS AS DESIGNED. DEBRIS WILL BE REMOVED FROM THE ROCK AND HARDWARE CLOTH TO ALLOW PROPER DRAINAGE. SILT SACKS WILL BE EMPTIED ONCE A WEEK AND AFTER EVERY RAIN EVENT. SEDIMENT WILL BE REMOVED FROM AROUND WATTLES, BEAVER DAMS, DANDY SACKS AND SOCKS ONCE A WEEK AND AFTER EVERY RAIN EVENT.

4. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES HALF FILLED. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER. STAKES MUST BE STEEL. STAKE SPACING WILL BE 6 FEET MAX. WITH THE USE OF EXTRA STRENGTH FABRIC, WITHOUT WIRE BACKING. STAKE SPACING WILL BE 8 FEET MAX. WHEN STANDARD STRENGTH FABRIC AND WIRE BACKING ARE USED. IF ROCK FILTERS ARE DESIGNED AT LOW POINTS IN THE SEDIMENT FENCE, THE ROCK WILL BE REPAIRED OR REPLACED IF IT BECOMES HALF-FULL OF SEDIMENT, NO LONGER DRAINS AS DESIGNED OR IS DAMAGED.

5. LAND QUALITY REQUIRES:
ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY, AND MULCHED, ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN, TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL SLOPES WILL BE STABILIZED WITHIN 21 CALENDAR DAYS. ALL OTHER AREAS WILL BE STABILIZED WITHIN 15 WORKING DAYS.
WATER QUALITY REQUIRES:
ALL SEEDED AREAS WILL BE FERTILIZED, RESEEDED AS NECESSARY AND MULCHED ACCORDING TO SPECIFICATIONS IN THE VEGETATIVE PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, ALL SLOPES STEEPER THAN 3' HORIZONTAL TO 1' VERTICAL (3:1) AND ALL HIGH QUALITY WATER (HQW) ZONES SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN SEVEN (7) CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN FOURTEEN (14) CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.

TEMPORARY/PERMANENT GRASS SPECIFICATION:

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL 3 INCHES DEEP OVER ADVERSE SOIL CONDITIONS.

2. RIP THE ENTIRE AREA TO A 6 INCH DEPTH.

3. REMOVE ALL ROCKS, ROOTS AND OTHER OBSTRUCTIONS LEAVING SURFACES SMOOTH AND UNIFORM.

4. APPLY AGRICULTURAL LIME AND FERTILIZER UNIFORMLY AND MIX WITH SOIL.
LIME: 45 LBS. PER 1000 S.F.
PHOSPHOROUS: 20 LBS PER 1000 S.F.
FERTILIZER: 17 LBS. PER 1000 S.F.

5. CONTINUE TILLAGE UNTIL A WELL PULVERIZED, FIRM, UNIFORM SEED BED IS PREPARED 4-6 INCHES DEEP.

6. SEED ON A FRESHLY PREPARED SEED BED AND COVER SEED LIGHTLY.
2 – 3 LBS PER 1000 S.F. (SEE MIXTURE BELOW)

7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
GRAIN STRAW & HAY AT 75 TO 100 LBS PER 1000 S.F.
WOOD CHIPS AT 500 LBS. PER 1000 S.F.
JUTE & MESH AS PER MANUFACTURER

8. ASPHALT FOR ANCHORING MULCH SHALL BE TYPE SS-1 EMULSION AND APPLIED AT A RATE OF 1000 GAL. PER ACRE FOR SLOPE STABILIZATION, AND 150 GAL. PER TON OF STRAW FOR ANCHORING STRAW.

9. INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEED WITHIN THE PLANTING SEASON, IF POSSIBLE. IF GRASS STAND SHOULD BE OVER 60% DAMAGED, REESTABLISH FOLLOWING ORIGINAL LIME, FERTILIZER AND SEEDING RATES.

10. CONSULT CONSERVATION INSPECTOR ON MAINTENANCE, TREATMENT, AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

11. SEED FOR TEMPORARY AND PERMANENT APPLICATIONS SHALL BE:

20%	CARPET GRASS
28%	BERMUDA GRASS
20%	TURF FESCUE
10%	CREEPING RED FESCUE
20%	ANNUAL RYE GRAIN

*BERMUDA SEED SHALL BE HULLED FOR WARM WEATHER PLANTING. PURITY OF SEED SHALL BE A MIN. OF 98% AND GERMINATION SHALL BE A MIN. OF 85%.

ALL DISTURBED AREA SHALL BE SEEDED WITHIN 7-14 DAYS OF THE COMPLETION OF GRADING. SEE EROSION CONTROL AND MAINTENANCE NOTES. CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS, OTHER SEEDING SCHEDULES MAY BE POSSIBLE.

SITE WORK NOTES:

1. THE CONTRACTOR SHALL VISIT THE SITE TO BECOME FAMILIAR WITH FIELD CONSTRUCTION CONDITIONS.

2. CONTRACTOR SHALL COORDINATE WORK WITHIN NCDOT AND LOCAL RIGHT OF WAYS WITH PROPER AUTHORITIES AND SHALL MEET ANY REQUIREMENTS AS TO TRAFFIC CONTROL AND CONNECTION TO EXISTING STREETS.

3. CLEARING AND GRUBBING: REMOVE ALL TREES AS REQUIRED UNLESS OTHERWISE NOTED TO REMAIN, STUMPS, ROOTS, SHRUBBERY, ASPHALT, CONCRETE, STRUCTURES, BURIED UTILITIES, STORAGE TANKS, ETC. WITHIN LIMITS OF CONSTRUCTION.

4. STRIPPING: BEFORE EXCAVATING OR FILLING, REMOVE ALL TOPSOIL, WOOD, LEAVES, AND ANY OTHER UNSUITABLE MATERIAL.

5. MUCKING: REMOVE ANY SOFT, ORGANIC SILT MATERIALS AND EXISTING BURIED CONSTRUCTION DEBRIS AS REQUIRED AND FILL TO SUBGRADE ELEVATIONS WITH A CLEAN SELECT-FILL COMPACTED AS SPECIFIED.

6. DISPOSAL: CLEARED, GRUBBED, STRIPPED OR EXCAVATED SPOIL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES.

7. BORROW MATERIAL: THE CONTRACTOR SHALL FURNISH BORROW MATERIAL REQUIRED FROM OFF SITE AND OBTAIN ALL REQUIRED PERMITS ASSOCIATED WITH BORROW OPERATIONS.

8. FILL AND COMPACTION: AFTER STRIPPING THOSE AREAS DESIGNATED TO RECEIVE FILL SHOULD BE PROOFROLLED. THE TOP 8" OF SUBGRADE SHALL BE COMPACTED TO AT LEAST 98% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT. ANY AREA WHICH PUMPS OR RUTS EXCESSIVELY SHOULD BE UNDERCUT AND REPLACED WITH A CLEAN, SILTY OR CLAYEY SAND HAVING A UNIFIED SOIL CLASSIFICATION OF SP, SM, OR SC. FILL MATERIAL 5" OUTSIDE OF BUILDING AREAS SHALL THEN BE PLACED IN LAYERS NOT TO EXCEED 8" AND COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) WITH THE UPPER 12 INCHES OF SUBGRADE BEING COMPACTED TO 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. FILL MATERIALS WITHIN BUILDING AREAS TO A LINE OUTSIDE THE BUILDING AREAS SHALL BE PLACED IN LAYERS NOT TO EXCEED 8" AND COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) WITH THE UPPER 12 INCHES OF SUBGRADE BEING COMPACTED IN 6 INCH LAYERS TO 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. IN AREAS WHERE NO STRUCTURAL FILL IS TO BE PLACED THE UPPER 12 INCHES OF IN-PLACE SUBGRADE SHOULD BE COMPACTED TO AT LEAST 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. IF THE MATERIAL IS TOO DRY TO COMPACT TO THE REQUIRED DENSITY EACH LAYER SHALL BE WETTED IN ACCORDANCE WITH COMPACTION REQUIREMENTS. IF THE MATERIAL IS TOO WET TO SECURE PROPER COMPACTION, IT SHALL BE HARROWED REPEATEDLY OR OTHERWISE AERATED WITH SUITABLE EQUIPMENT UNTIL OPTIMUM MOISTURE CONTENT IS OBTAINED. FILL SHALL BE PLACED IN SUCH A MANNER THAT THE SURFACE WILL DRAIN READILY AT ALL TIMES. SEE STRUCTURAL NOTES AND SOILS REPORT FOR ADDITIONAL REQUIREMENTS.

9. LAYOUT: THE CONTRACTOR SHALL PROVIDE ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK.

10. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION.

11. EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION FROM SURVEY BY ARNOLD CARSON AND PROVIDED BY OWNER.

12. THE CONTRACTOR SHALL VERIFY DIMENSIONS AT JOBSITE.

13. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF RELOCATION OR DISCONNECTION OF ALL EXISTING UTILITIES WITH APPLICABLE AGENCIES AND AUTHORITIES.

14. ALL PAVEMENT AND BASE MATERIALS AND WORKMANSHIP SHALL CONFORM TO NCDOT STANDARDS.

15. WATER AND SEWER SERVICES SHALL BE INSTALLED TO MEET LOCAL AND STATE PLUMBING CODES. METER AND TAPS SHALL MEET ALL LOCAL REQUIREMENTS.

16. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE.

17. SEE SOILS REPORT FOR ADDITIONAL REQUIREMENTS.

18. CONTRACTOR SHALL NOTE THAT EARTHWORK QUANTITIES ARE HIS RESPONSIBILITY. PLANS DO NOT REPRESENT A BALANCED EARTHWORK CONDITION.

19. REINF. CONC. PIPE SHALL BE CLASS III W/RUBBER GASKETED JOINT OR "RAM NECK". INSTALL PER MANUFACTURER'S REQUIREMENTS.

20. USE WHITE LANE MARKING PAINT FOR ALL PAVEMENT MARKINGS. PAINT SHALL BE A CHLORINATED RUBBER ALKYD, FS TT-P-115, TYPE III, FACTORY MIXED, QUICK DRYING, NON-BLEEDING.

21. REFER TO THE PLUMBING DRAWINGS FOR LOCATION AND INVERTS OF NEW WASTE, WATER AND ROOF DRAIN LINES.

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

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
Signed:_____
Approved Construction Plan
Name Date
Planning_____
Traffic_____
Fire_____
NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

SYMBOL	DATE	DESCRIPTION	BY

REVISIONS

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NOTES AND DETAILS

RENAISSANCE II OFFICE BUILDING
1022 ASHES DRIVE
WILMINGTON, NORTH CAROLINA

OWNER:
TCT OF WILMINGTON, LLC
1123 MILITARY CUTOFF RD.
WILMINGTON, N.C. 28405
(910) 256-7704

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
902 MARKET STREET
WILMINGTON, NC 28401
PHONE (910) 343-9653
1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-5900
licence #C-3641

16009

DES. JST
CKD. JPN
DRWN. NKS
DATE 4/11/16

NORTH CAROLINA PROFESSIONAL SEAL 19651 ENGINEER JOHN S. TUNSTALL

C5

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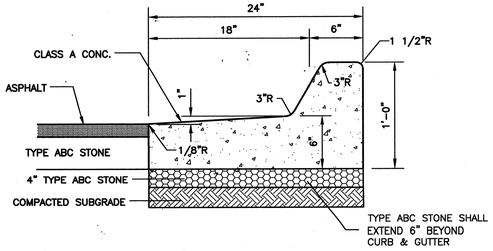
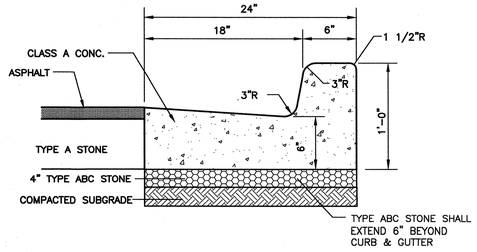


NOTE: CURB TYPE DEPENDS ON GRADES SHOWN ON GRADING PLAN. GRADES INDICATING FALL AWAY FROM CURB SHALL BE SPILL OFF TYPE CURB. GRADES INDICATING CURB ACCEPTING FLOW SHALL BE FLOW LINE TYPE.

NOT TO SCALE

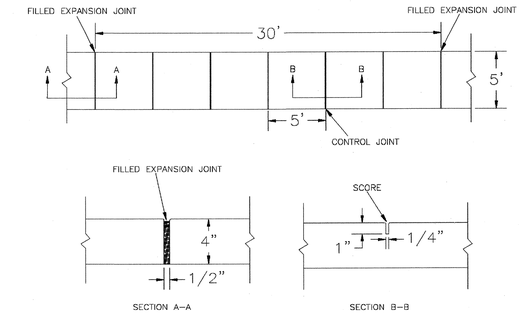
1 24" CURB AND GUTTER SECTION (SPILL-OFF)



NOTE: CURB TYPE DEPENDS ON GRADES SHOWN ON GRADING PLAN. GRADES INDICATING FALL AWAY FROM CURB SHALL BE SPILL OFF TYPE CURB. GRADES INDICATING CURB ACCEPTING FLOW SHALL BE FLOW LINE TYPE.

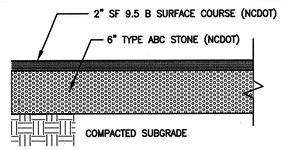
NOT TO SCALE

2 24" CURB AND GUTTER SECTION (FLOW-LINE)



NOTES:
1. JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
2. SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
3. MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
4. CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" - 3,000 PSI.
5. MINIMUM REPLACEMENT FOR REPAIRS IS A 5' X 5' PANEL
6. 4" STONE BASE MAY BE REQUIRED FOR POOR SOIL CONDITIONS
7. MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12"
8. MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
9. MIN GRADE FOR PROPER DRAINAGE IS 1% IN AT LEAST 1 DIRECTION. MAX CROSS SLOPE IS 2%. MAX LONGITUDINAL SLOPE IS 8.3%, 10% IF LIMITED BY EXISTING CONDITIONS, OR NO GREATER THAN THE SLOPE OF THE EXISTING ADJACENT ROAD.

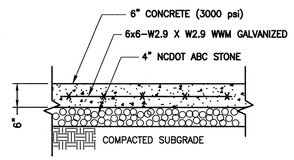
3 STANDARD SIDEWALK DETAIL



NOTE: PAVEMENT SECTION MAY VARY DEPENDING UPON FIELD CONDITIONS. CONTRACTOR SHALL COORDINATE w/OWNER & GEOTECHNICAL ENGINEER TO DETERMINE ACTUAL PAVEMENT SECTION.

NOT TO SCALE

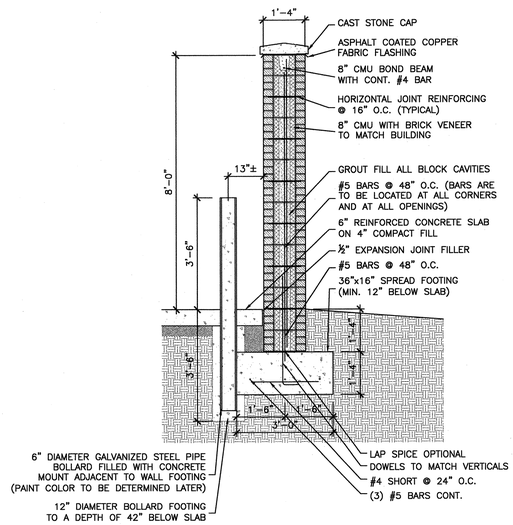
4 ON SITE ASPHALT PAVEMENT SECTION



NOTES:
1. CONTROL JOINTS SHALL BE EVERY 15 FT. (MAX.) AND EXPANSION JOINTS SHALL BE EVERY 50 FT. (MAX).
2. PAVEMENT SECTION MAY VARY DEPENDING UPON FIELD CONDITIONS. THE PAVING CONTRACTOR SHALL COORDINATE WITH OWNER REPRESENTATIVE AND GEOTECHNICAL ENGINEER TO DETERMINE ACTUAL PAVEMENT SECTION.

NOT TO SCALE

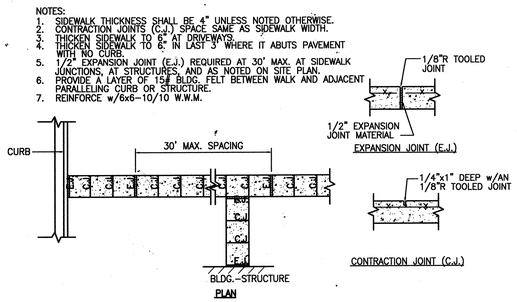
6 HEAVY DUTY CONCRETE PAVEMENT SECTION



NOT TO SCALE

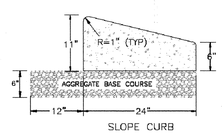
9 DUMPSTER SCREENING DETAIL

NOTES:
1. SIDEWALK THICKNESS SHALL BE 4" UNLESS NOTED OTHERWISE.
2. CONTRACTION JOINTS (C.J.) SPACE SAME AS SIDEWALK WIDTH.
3. THICKEN SIDEWALK TO 6" AT DRIVEWAYS.
4. THICKEN SIDEWALK TO 6" IN LAST 3' WHERE IT ABUTS PAVEMENT WITH NO CURB.
5. 1/2" EXPANSION JOINT (E.J.) REQUIRED AT 30' MAX. AT SIDEWALK JUNCTIONS, AT STRUCTURES, AND AS NOTED ON SITE PLAN.
6. PROVIDE A LAYER OF 15# BLDG. FELT BETWEEN WALK AND ADJACENT PARALLELING CURB OR STRUCTURE.
7. REINFORCE w/6x6-10/10 W.W.M.



NOT TO SCALE

7 SIDEWALK JOINT DETAIL



NOTES:
1. EXPANSION JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS
2. 50' MAX EXPANSION JOINT SPACING, 10' MAX CONTRACTION JOINT SPACING
3. MINIMUM INSTALLATION LENGTH IS 5 FT.
4. CONCRETE TO BE 3000 PSI MIN
5. VERTICAL CURB AND GUTTER BASE CAN BE SLOPED 3/4" OR USE A FLAT BASE

NOT TO SCALE

8 SLOPE CURB

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

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

CITY OF WILMINGTON STANDARD NOTES:

1. CONTACT THE NORTH CAROLINA ONE CALL CENTER PRIOR TO DOING ANY DIGGING AT 1-800-632-4949.
2. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING;
3. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
4. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
5. INSTALL REFLECTORS PER CITY AND NCDOT STANDARDS. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING LAYOUT PRIOR TO ACTUAL STRIPING.
6. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
7. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
8. 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 AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. POSTED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
9. CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
10. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
11. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS, AND CURBING WILL BE REPLACED.
12. CONTACT KAREN DIXON AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS.
13. PROJECT SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 343-3910 FOR INFORMATION.
14. IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
15. ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA WATER SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REGULATIONS. CALL 332-6558 FOR INFORMATION.
16. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCFCCCHR OR ASSE.
17. WHEN PVC WATER MAINS AND/OR POLYETHYLENE SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED SINGLE STRAND COPPER WIRE INSTALLED THE ENTIRE LENGTH AND SECURED TO ALL VALVES. THIS WIRE IS TO BE ACCESSIBLE AT ALL FIRE HYDRANTS AND WATER METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
18. THE NUMBER AND SPACING OF DRIVEWAYS FOR ALL INTERCONNECTED SITES WILL BE DETERMINED BY THE COMBINED FRONTAGE OF THE INTERCONNECTED PROPERTIES.
19. UNDERGROUND FIRE LINE MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC ROW TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
20. A LANDSCAPE PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEER DIVISION AND PARKS AND RECREATIN DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT.
21. IF AND IRRIGATION SYSTEM IS PLANNED FOR THE SITE, UTILIZE MOISTURE SENSORS.
22. ALL PROPOSED VEGETATION WITHIN THE SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30"-10'.

UTILITY NOTES FOR FIRE HYDRANTS:

1. FIRE HYDRANTS MUST BE WITHIN 150' OF THE FIRE DEPARTMENT CONNECTION.
2. THE FIRE DEPARTMENT CONNECTION MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
3. LANDSCAPING AND PARKING CANNOT BLOCK OR IMPEDE THE FIRE DEPARTMENT CONNECTIONS OR FIRE HYDRANTS. A 3' CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE FIRE HYDRANT CONNECTION AND THE FIRE HYDRANT.
4. FIRE HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
5. NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO CONSTRUCTION OF THE BUILDINGS.
6. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE.
7. THE CONTRACTOR SHALL MAINTAIN AN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
8. TEMPORARY STREET SIGNS SHALL BE INSTALLED AT EACH STREET INTERSECTION WHEN CONSTRUCTION OF NEW ROADWAYS ALLOWS PASSAGE BY VEHICLES.
9. UNDERGROUND FIRE LINE AND PRIVATE WATER MAINS MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT THE WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910-343-0696 FOR ADDITIONAL INFORMATION.
10. A MINIMUM OF 5' SHALL SEPARATE UNDERGROUND FIRE LINES OR PRIVATE WATER MAINS FROM OTHER UNDERGROUND UTILITIES.
11. HYDRANTS SHALL BE OF SUFFICIENT NUMBERS TO ACCOMODATE BASE FIRE FLOW REQUIREMENTS OF THE STRUCTURE.
12. BUILDING CONSTRUCTION TYPE: IIB

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

SYMBOL	DATE	DESCRIPTION	BY

REVISIONS

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NOTES AND DETAILS

RENAISSANCE II OFFICE BUILDING
1022 ASHES DRIVE
WILMINGTON, NORTH CAROLINA

OWNER:
TCT OF WILMINGTON, LLC
1123 MILITARY CUTOFF RD.
WILMINGTON, N.C. 28405
(910) 256-7704

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
902 MARKET STREET
WILMINGTON, NC 28401
PHONE (910) 343-9653
1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-5900
licence #C-3641

16009

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	4/11/16

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

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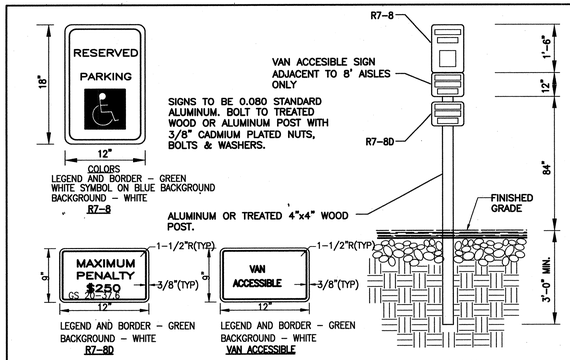


TYPICAL HANDICAPPED SIGN DETAIL

NOT TO SCALE

NOTE:

1. RAMP SHALL HAVE A DETECTABLE WARNING COMPLYING WITH ADA GUIDELINES:

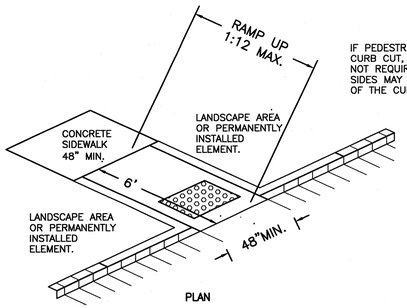
2. THE DETECTABLE WARNINGS AT CURB RAMPS SHALL BE 24 INCHES MINIMUM IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.

3. MARKED CROSSINGS THAT ARE RAISED TO THE SAME LEVEL AS THE ADJOINING SIDEWALK SHALL BE PRECEDED BY A 24 INCH DEEP DETECTABLE WARNING EXTENDING THE FULL WIDTH OF THE MARKED CROSSING.

4. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 IN (23 MM), A HEIGHT OF NOMINAL 0.2 IN (5 MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN (60 MM) AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHOULD CONTRAST BY AT LEAST 70% – REFER TO ADA GUIDELINES FOR DEFINITION OF "CONTRAST".

5. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.

NOTES ON DETECTABLE WARNING FOR WHEEL CHAIR RAMPS



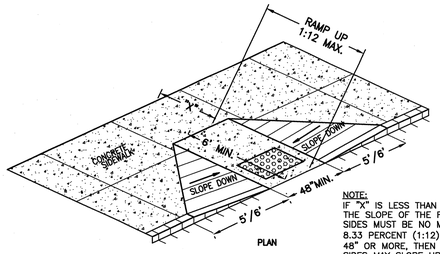
PLAN

* SEE NOTES ON DETECTABLE WARNING

IF PEDESTRIANS DO NOT CROSS THE CURB CUT, THEN SIDE FLARES ARE NOT REQUIRED AND CURB ON BOTH SIDES MAY RETURN FOR FULL DEPTH OF THE CURB CUT.

SIDEWALK, CURB CUT AND WHEEL CHAIR RAMP DETAIL

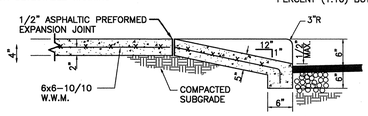
NOT TO SCALE



PLAN

* SEE NOTES ON DETECTABLE WARNING

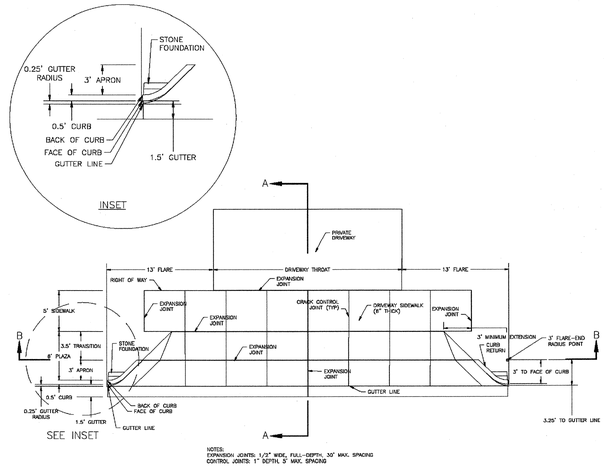
NOTE:
IF "X" IS LESS THAN 48" THEN THE SLOPE OF THE FLARED SIDES MUST BE NO MORE THAN 8.33 PERCENT (1:12). IF "X" IS 48" OR MORE, THEN THE FLARED SIDES MAY SLOPE UP TO 10 PERCENT (1:10) BUT NOT MORE.

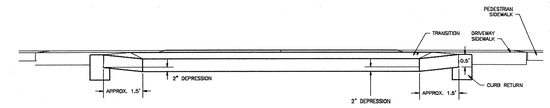


SECTION WHEEL CHAIR RAMP

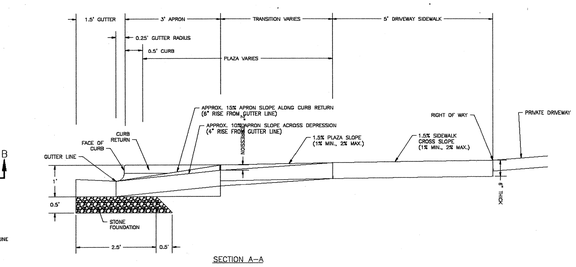
SIDEWALK, CURB CUT AND WHEEL CHAIR RAMP DETAIL

NOT TO SCALE



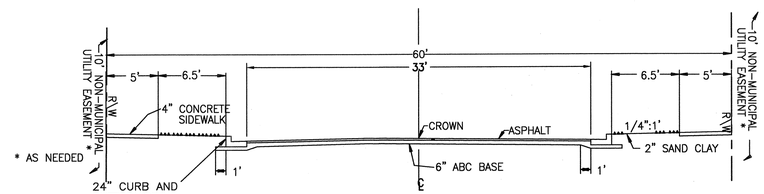


SECTION B-B



SECTION A-A

STANDARD CITY OF WILMINGTON DRIVE WAY DETAIL



NOTE: BOTH SIDES SYMMETRICAL

STREET SECTION DETAIL

NTS

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

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

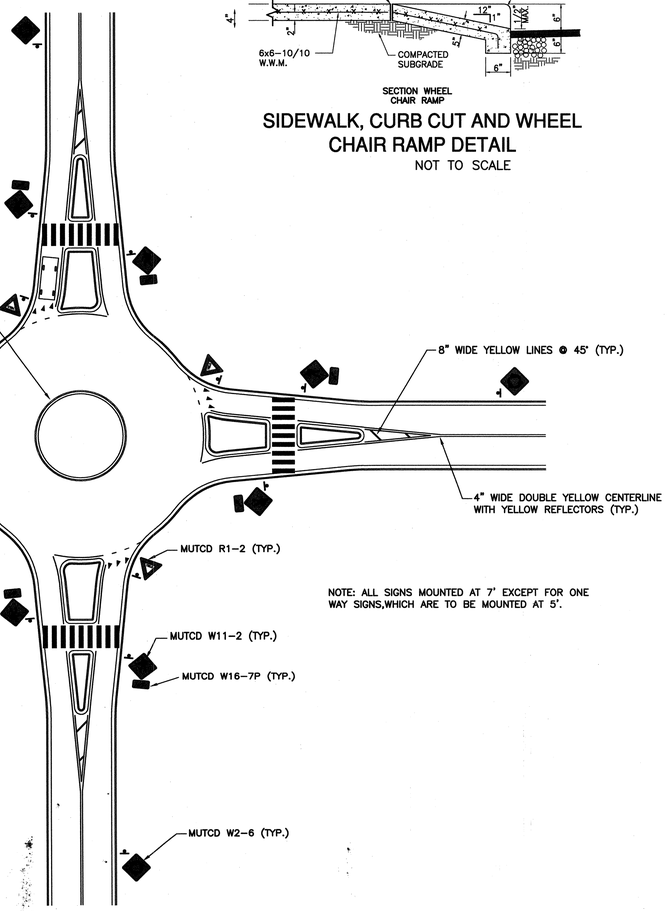
Date:_____ Permit #_____

Signed: _____

Approved Construction Plan

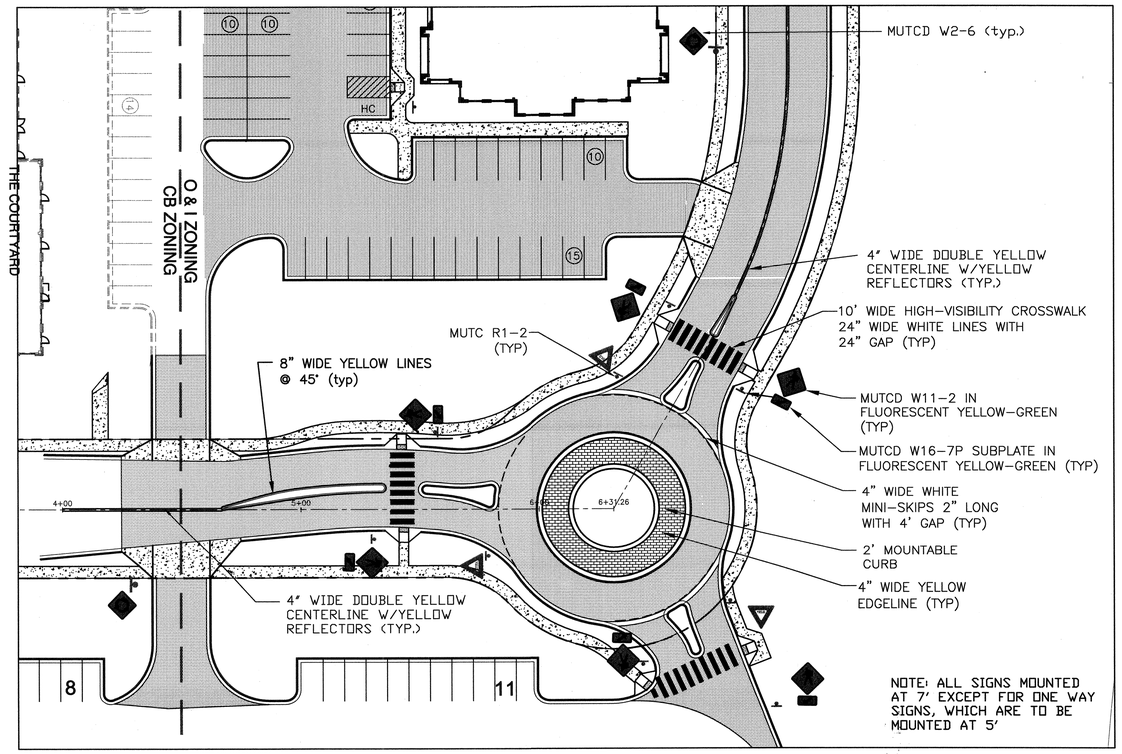
	Name	Date
Planning		
Traffic		
Fire		

NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)



NOTE: ALL SIGNS MOUNTED AT 7' EXCEPT FOR ONE WAY SIGNS,WHICH ARE TO BE MOUNTED AT 5'.

PAVEMENT MARKINGS
ROUNDABOUT
SD 11-14



NOTE: ALL SIGNS MOUNTED AT 7' EXCEPT FOR ONE WAY SIGNS, WHICH ARE TO BE MOUNTED AT 5'

PAVEMENT MARKINGS ROUNDABOUT

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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NOTES AND DETAILS
RENAISSANCE II OFFICE BUILDING
1022 ASHES DRIVE
WILMINGTON, NORTH CAROLINA

OWNER:
TCT OF WILMINGTON, LLC
1123 MILITARY CUTOFF RD.
WILMINGTON, N.C. 28405
(910) 256-7704

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
902 MARKET STREET
WILMINGTON, NC 28401
PHONE (910) 343-9653
1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-5900
licence #C-3641

16009

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	4/11/16

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

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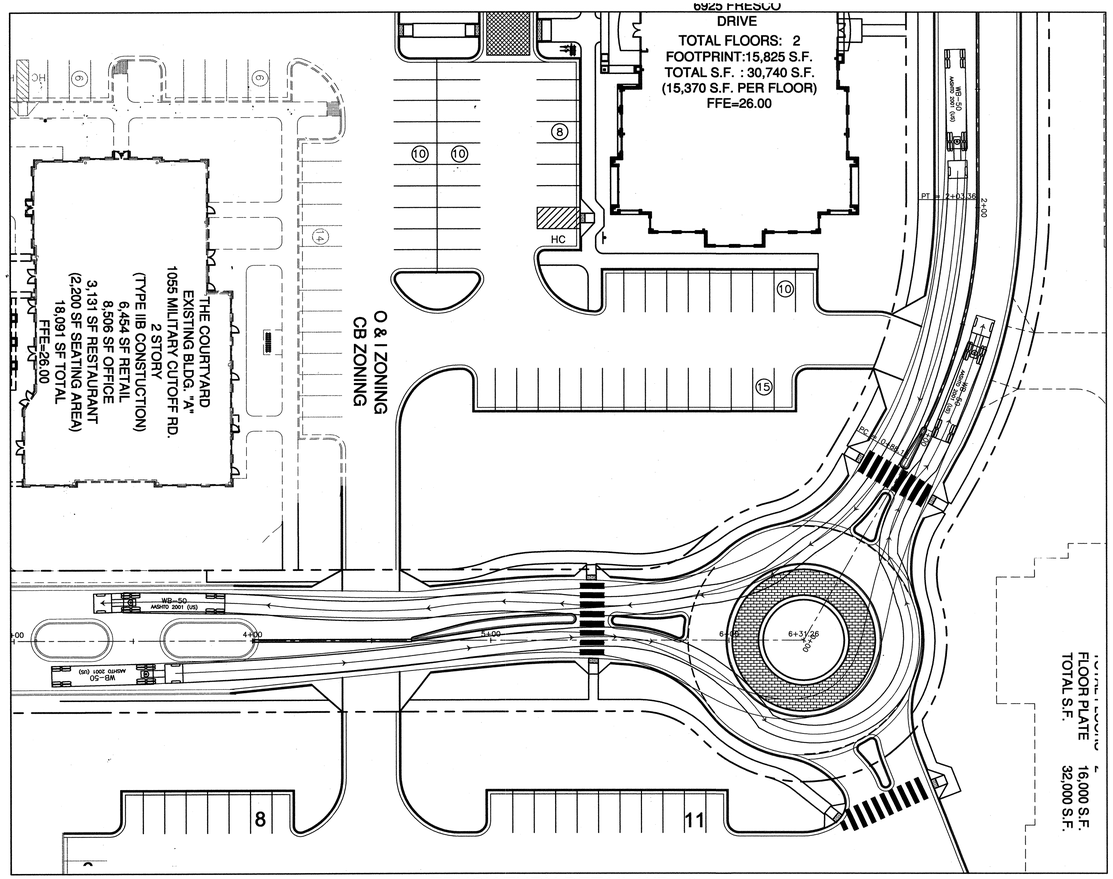
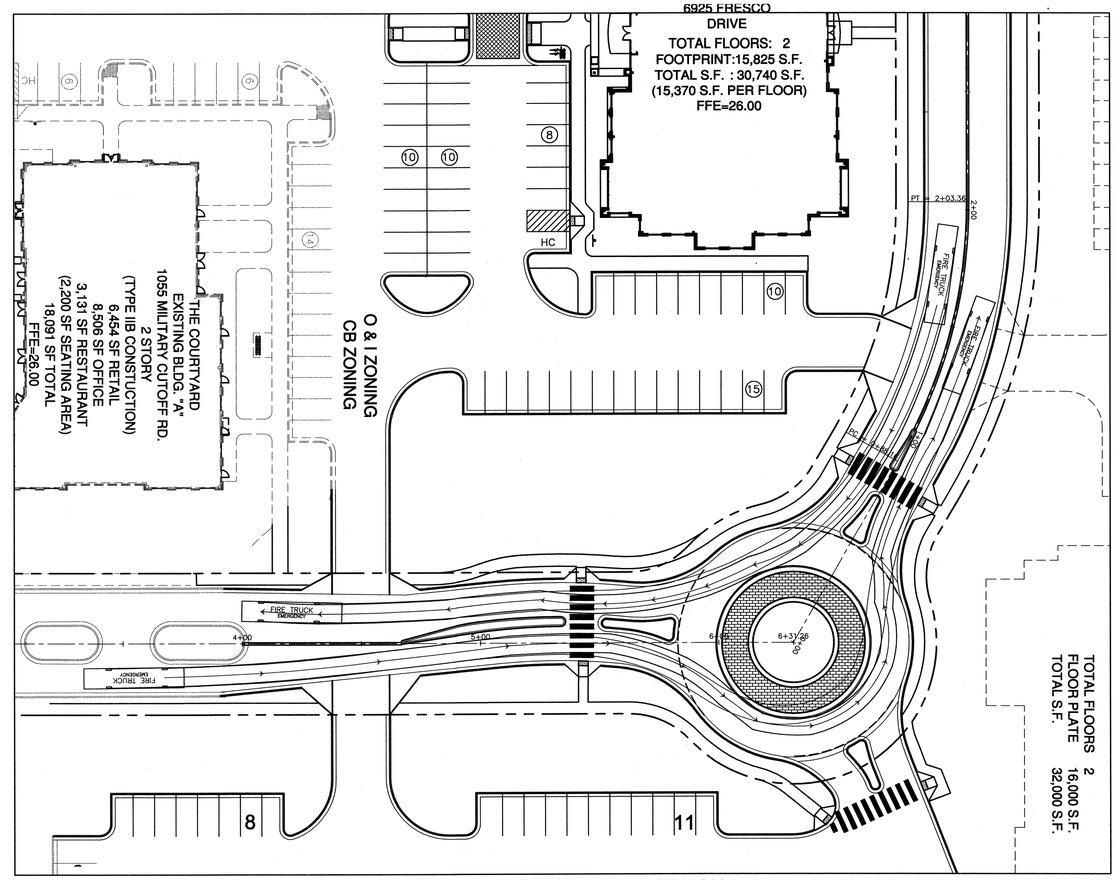


TRUCK TURN DETAIL WB-50
SCALE: 1"=30'



TRUCK TURN DETAIL FIRE TRUCK
SCALE: 1"=30'

TOTAL FLOORS 2
FLOOR PLATE 16,000 S.F.
TOTAL S.F. 32,000 S.F.

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

Approved Construction Plan
Name Date
Planning_____
Traffic_____
Fire_____

NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____GPD
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SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

TRUCK TURN DETAILS

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NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

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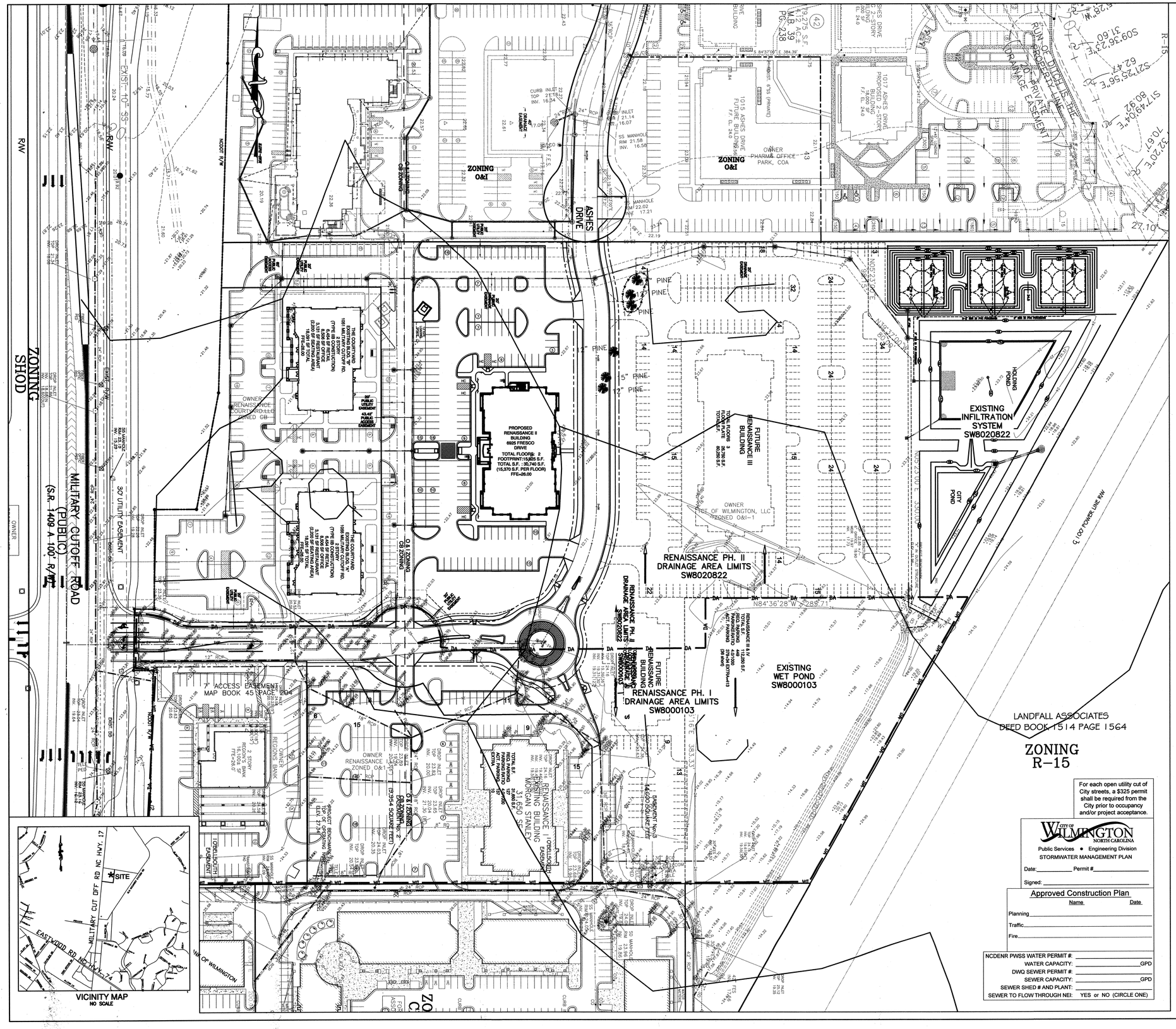

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CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
STORMWATER MANAGEMENT PLAN
Date:_____ Permit #_____
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	Name	Date
Planning		
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NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

SITE DATA TABLE

USE:	OFFICE
SITE AREA:	3.15 ACRES TOTAL (137,426 SF)
ACCESS EASEMENT WITHIN SITE:	.80 ACRES (34,718 SF)
PARCEL ID#:	R05100-003-065-000
MAP ID#:	315706.49.8929.000
DISTURBED AREA:	
ZONING:	O & I-1
CAMA LAND USE:	RESOURCE PROTECTION
BUILDING SETBACKS: (REQUIRED)	FRONT SETBACK: 20' INTERIOR SIDE SETBACK: 10' CORNER SIDE SETBACK: 20' REAR SETBACKS: 20'
BUILDING SETBACKS: (PROPOSED)	FRONT SETBACK: 20' INTERIOR SIDE SETBACK: 187'± CORNER SIDE SETBACK: 110'± REAR SETBACKS: 130'±
MAX. BUILDING LOT COVERAGE:	40%
PROPOSED BUILDING LOT COVERAGE:	11%
MAX. BUILDING HEIGHT:	45'
BUILDING CONSTRUCTION TYPE:	IIB
BUILDING	
BUILDING HEIGHT:	43' (2 STORY)
BUILDING SQUARE FOOTAGE:	30,740 SF TOTAL (15,370 PER FLOOR)
PARKING REQ'D: OFFICE	200/SF MAX, 300/SF MIN.
TOTAL PARKING REQ'D:	154 MAX/102 MIN. REQUIRED
PROPOSED PARKING PROV'D:	146 (INCLUDES 5 HC)
BICYCLE PARKING REQ'D:	10 SPACES
BICYCLE PARKING PROV'D:	10 SPACES
PROPOSED IMPERVIOUS AREA:	
BUILDING:	15,825 SF (ROOF AREA)
ASPHALT, CURB & GUTTER	51,678 SF
SIDEWALK:	4,150 SF
TOTAL:	71,653 SF
EXISTING IMPERVIOUS AREA WITHIN ACCESS EASEMENT:	25,000 SF
TOTAL IMPERVIOUS AREA:	96,653 SF
% SITE IMPERVIOUS AREA:	70%
AREA WITHIN NEW R/W:	46,000 SF
IMPERVIOUS AREA WITHIN NEW R/W:	38,635 SF

LANDSCAPING:

FOUNDATION PLANTINGS (12%):	
FRONT: 45' X 156' X .12 = 842 SF REQD.	876 SF PROVIDED
SIDE (2): 45' X 104' X .12 = 562 SF REQD.	570 (2) SF PROVIDED
REAR: 45' X 156' X .12 = 842 SF REQD.	946 SF PROVIDED
TOTAL REQUIRED=2,808 SF TOTAL PROVIDED=2,962 SF	
LANDSCAPING REQ'D INTERIOR:	
ASPHALT, CONCRETE CURB & GUTTER 14% REQUIRED (14%) X (51,678) = 7,235 SF	51,678 SF 7,300 SF PROVIDED
STREETYARD LANDSCAPING:	
PRIMARY: PROPOSED PUBLIC R/W FRESCO DR. 18' MULTIPLYER (241'-24) X 18' = 3,906 SF	3,918 SF PROVIDED
SECONDARY: ASHES DR. 9' MULTIPLYER (451'-48') X 9' = 3,627 SF	3,763 SF PROVIDED

SITE DATA TABLE - EXISTING RENNAISSANCE I, PHASE I

USE:	OFFICE
SITE AREA:	2.16 ACRES
DISTURBED AREA:	
ZONING:	O & I-1 AND CB
CAMA LAND USE:	RESOURCE PROTECTION
BUILDING SETBACKS: (EXISTING)	FRONT: 230' SIDE: 33' NORTH, 11' SOUTH REAR: 45'
BUILDING HEIGHT:	32' (2 STORY)
BUILDING SQUARE FOOTAGE:	31,650 SF (15,825 SF EACH FLOOR)
PARKING REQ'D: O & I ZONE PARKING GROUP (OFFICE):	200/SF MAX, 300/SF MIN. 158 MAX/105 MIN. REQUIRED
PROPOSED PARKING PROV'D:	137 REGULAR (6 ARE HC)
IMPERVIOUS AREA--PHI DRAINAGE AREA:	
EXISTING BUILDING:	15,825 SF (ROOF AREA)
EXISTING ASPHALT/CURB & GUTTER	68,950 SF
EXISTING SIDEWALKS/CONCRETE PADS	6,850 SF
TOTAL EXISTING IMPERVIOUS AREA:	91,625 SF TOTAL
STREETYARD LANDSCAPING: (331-24) X 18 = 5,526 SF REQUIRED	5,526 SF PROVIDED
INTERIOR LANDSCAPE PROVIDED:	1,976 SF PROVIDED

SITE INVENTORY MAP DATA

PREPARER:	NORRIS, KUSKE & TUNSTALL ENGINEERS
SOIL TYPE:	Ra, La, To
MILITARY CUT-OFF RD:	SHOD
100 YEAR FLOOD BOUNDARY:	OUTSIDE 100 YEAR FLOOD BOUNDARY
FLOOD ZONE:	THIS SITE IS LOCATED IN ZONE "C" ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP, COMMUNITY-PANEL NUMBER 370168 0085 E, DATED: 3 SEPT. 1992.
CONSERVATION OVERLAY DISTRICT:	NONE WITHIN SITE
HISTORICAL SITE:	NONE
CEMETARY:	NONE
FORESTED AREA:	VARIOUS (OAK, GUM, TULIP) SEE PLAN
WETLANDS:	NONE WITHIN SITE
ENDANGERED SPECIES/HABITAT:	NONE REPORTED

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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INVENTORY SITE PLAN
RENAISSANCE II OFFICE BUILDING
1022 ASHES DRIVE
WILMINGTON, NORTH CAROLINA

OWNER:
TCT OF WILMINGTON, LLC
1123 MILITARY CUTOFF RD.
WILMINGTON, N.C. 28405
(910) 256-7704

NORRIS & TUNSTALL
CONSULTING ENGINEERS, P.C.
902 MARKET STREET
WILMINGTON, NC 28401
PHONE (910) 343-9653
1429 ASH-LITTLE RIVER RD. NW
ASH, NC 28420
PHONE (910) 287-5900
licence #C-3641

16009

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	4/11/16

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN P. TUNSTALL

I1

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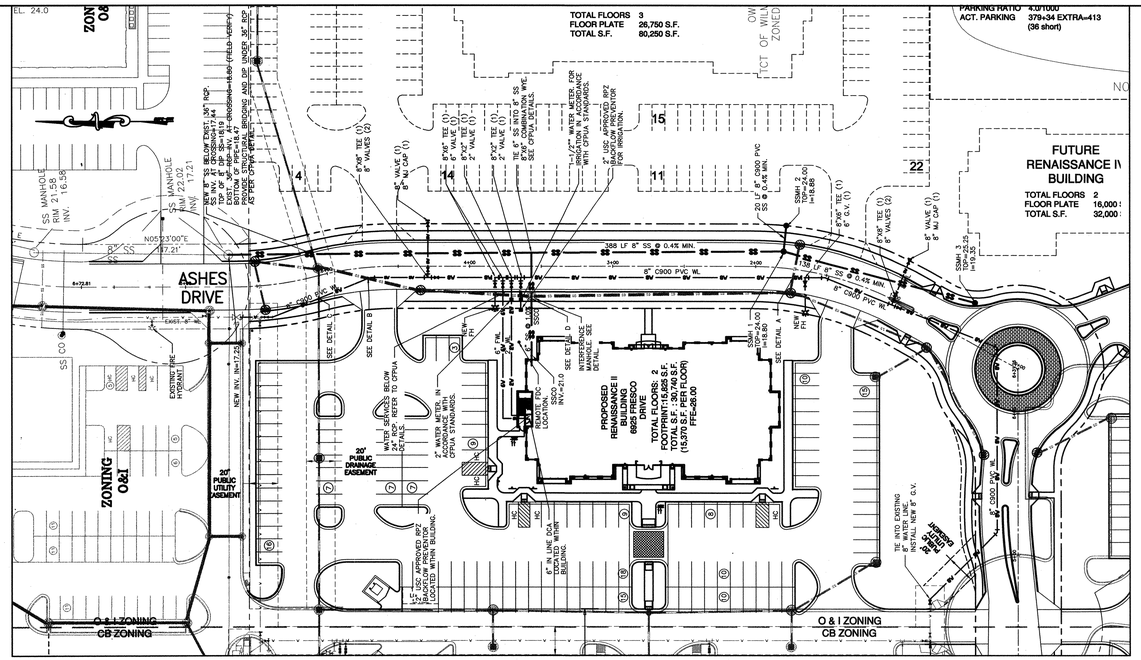
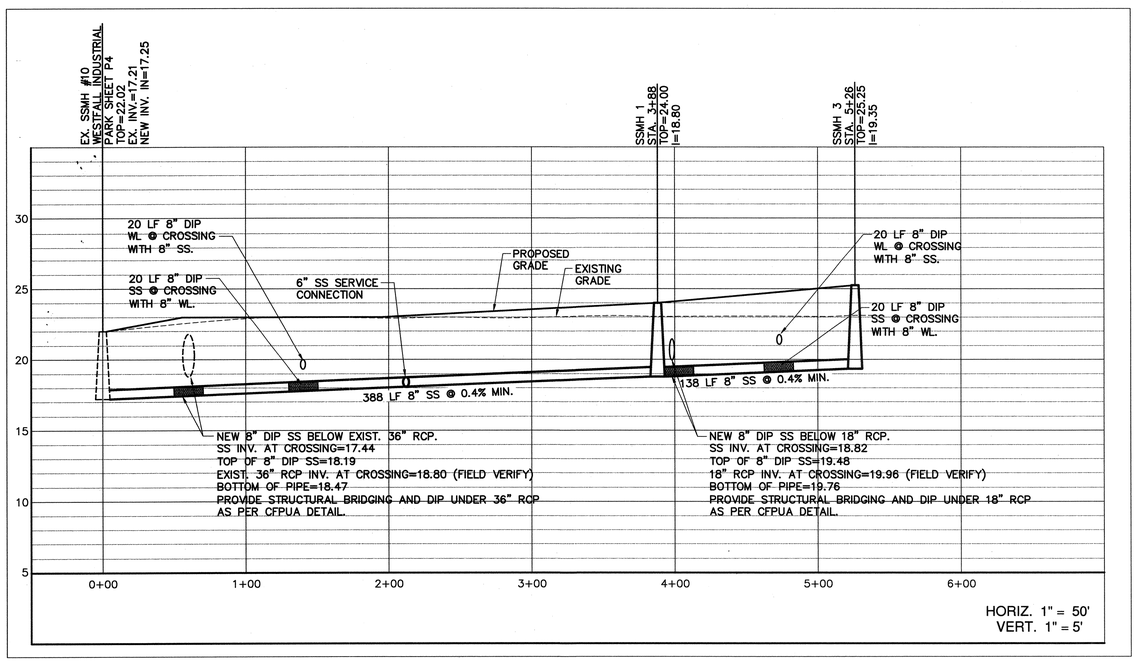
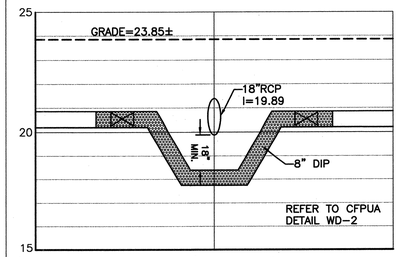
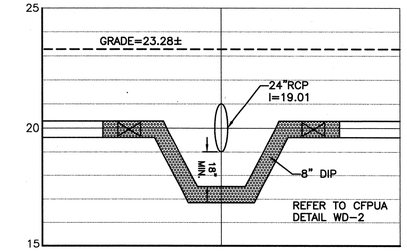


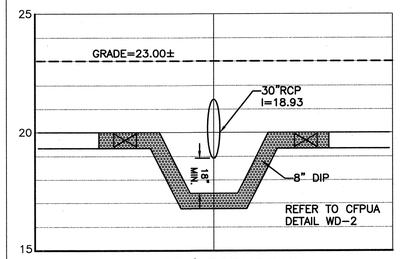




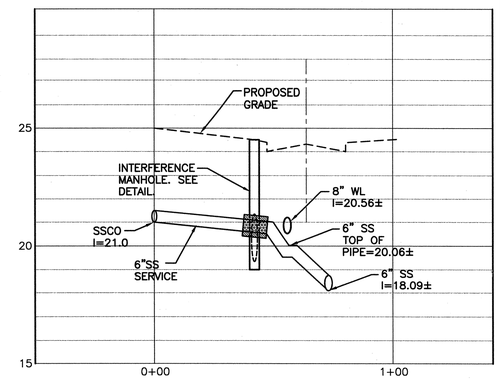
WATER/STORMDRAIN CROSSING "A"



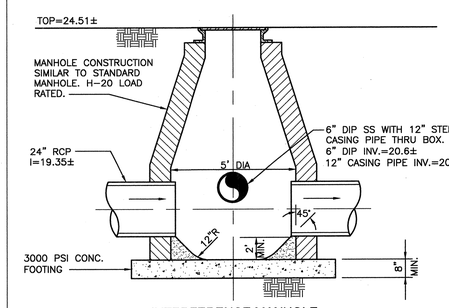
WATER/STORMDRAIN CROSSING "B"



WATER/STORMDRAIN CROSSING "C"



SEWER/STORMDRAIN/WATER CROSSING "D"



INTERFERENCE MANHOLE

NTS

NOTE: MUST BE GROUTED AND INSTALLED PER CFPUA BORE DETAIL.

HORIZ. 1" = 30'
VERT. 1" = 3'

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

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

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

NCDENR PWSS WATER PERMIT #: _____
WATER CAPACITY: _____GPD
DWQ SEWER PERMIT #: _____
SEWER CAPACITY: _____GPD
SEWER SHED # AND PLANT: _____
SEWER TO FLOW THROUGH NEI: YES or NO (CIRCLE ONE)

UTILITY NOTES:

1. MAINTAIN A 24" MINIMUM SEPARATION BETWEEN THE PROPOSED OR EXISTING STORM DRAIN AND THE PROPOSED OR EXISTING WATER LINE OR SEWER LINE. SEE DETAILS.
2. SANITARY SEWERS MUST MAINTAIN A MINIMUM SEPARATION FROM WATER LINES OF 10 FEET LATERALLY OR 18 INCHES VERTICALLY (WATER OVER SEWER). IF IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS DESCRIBED ABOVE OR ANYTIME THE SEWER IS OVER THE WATER MAIN, BOTH THE WATER MAIN AND SEWER MUST BE CONSTRUCTED OF FERROUS PIPE COMPLYING WITH PUBLIC WATER SUPPLY DESIGN STANDARDS AND BE PRESSURE TESTED TO 150 PSI TO ASSURE WATERTIGHTNESS BEFORE BACKFILLING OR EITHER THE WATER MAIN OR THE SEWER LINE MAY BE ENCASED IN A WATERTIGHT CARRIER PIPE WHICH EXTENDS 10 FEET ON BOTH SIDES OF THE CROSSING, MEASURED PERPENDICULAR TO THE WATER MAIN. THE CARRIER PIPE SHALL BE OF MATERIALS APPROVED BY THE REGULATORY AGENCY FOR USE IN WATER MAIN CONSTRUCTION.
3. RESTRAINING/BLOCKING: THE PLUGS, CAPS, TEES AND BENDS DEFLECTING 22-1/2 DEGREES OR MORE EITHER VERTICALLY OR HORIZONTALLY ON WATER LINES 6 INCHES IN DIAMETER OF LARGER SHALL BE PROVIDED WITH THRUST BLOCKING OR "MEGALUG" RETAINER GLAND AT EACH JOINT, INSTALLED PER MANUFACTURER'S REQUIREMENTS.

CFPUA STANDARD SEWER NOTES:

1. SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
2. WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. 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.
3. ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50 DIP WITH PROTECTO 401 CERAMIC EPOXY LINING.
4. MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
5. NO FLEXIBLE COUPLINGS SHALL BE USED.
6. ALL STAINLESS STEEL FASTENERS SHALL BE 316.
7. CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

REV NO.	DESCRIPTION	DATE
	REVISIONS	

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

Cape Fear Public Utility Authority
Stewardship. Sustainability. Service.

NORRIS & TUNSTALL
CONSULTING ENGINEERS, INC.
802 MARKET STREET PHONE (910) 343-9853
WILMINGTON, NC. 28401 FAX (910) 343-9804
licence #C-3641

RENAISSANCE II OFFICE BUILDING
WATERLINE LAYOUT AND SANITARY SEWER
PLAN & PROFILE

DATE: 4/11/16
SCALE: 1" = 50' 1" = 5'
DRAWN: NKS
CHECKED: JST
PROJECT NO: 16009

ASHES DRIVE

SHEET NO: PR1

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20' UTILITY EASEMENT		
LINE	DIRECTION	DISTANCE
L1	N05°43'55"E	12.72'
L2	S84°47'46"E	2.73'
L3	S62°47'46"E	53.61'
L4	S84°35'39"E	67.41'
L5	N05°26'18"E	28.32'
L6	S84°37'00"E	20.00'
L7	S05°26'18"W	28.28'
L8	S84°35'39"E	122.56'
L9	N60°26'00"E	59.05'
L10	N84°32'32"W	6.37'
L11	N05°23'00"E	10.00'
L12	S84°32'32"E	9.71'
L13	N05°23'27"E	384.07'
L14	N84°37'00"W	171.49'
L15	N05°23'00"E	20.00'
L16	S84°37'00"E	171.49'
L17	N05°23'27"E	49.16'
L18	S84°37'00"E	247.42'
L19	S05°23'00"W	20.00'
L20	N84°37'00"W	227.42'
L21	S05°23'27"W	445.68'
L22	S84°37'00"E	28.88'
L23	S05°23'00"W	20.00'
L24	N84°37'00"W	49.45'
L25	S60°26'00"W	54.84'
L26	N84°35'39"W	220.06'
L27	N62°47'46"W	52.53'
L28	N05°43'55"E	7.68'

20' DRAINAGE EASEMENT		
LINE	DIRECTION	DISTANCE
L29	N84°37'00"W	68.89'
L30	S05°23'00"W	37.87'
L31	N31°05'43"W	30.48'
L32	N75°17'31"W	82.48'
L33	N84°37'00"W	133.71'
L34	S78°50'58"W	140.68'
L35	N84°37'23"W	235.72'
L36	S05°24'53"W	20.00'
L37	S84°37'23"E	238.64'
L38	N78°50'58"E	140.68'
L39	S84°37'00"E	129.17'
L40	S75°17'31"E	72.72'
L41	S31°05'43"E	49.41'
L42	N05°23'00"E	33.64'

LEGEND:

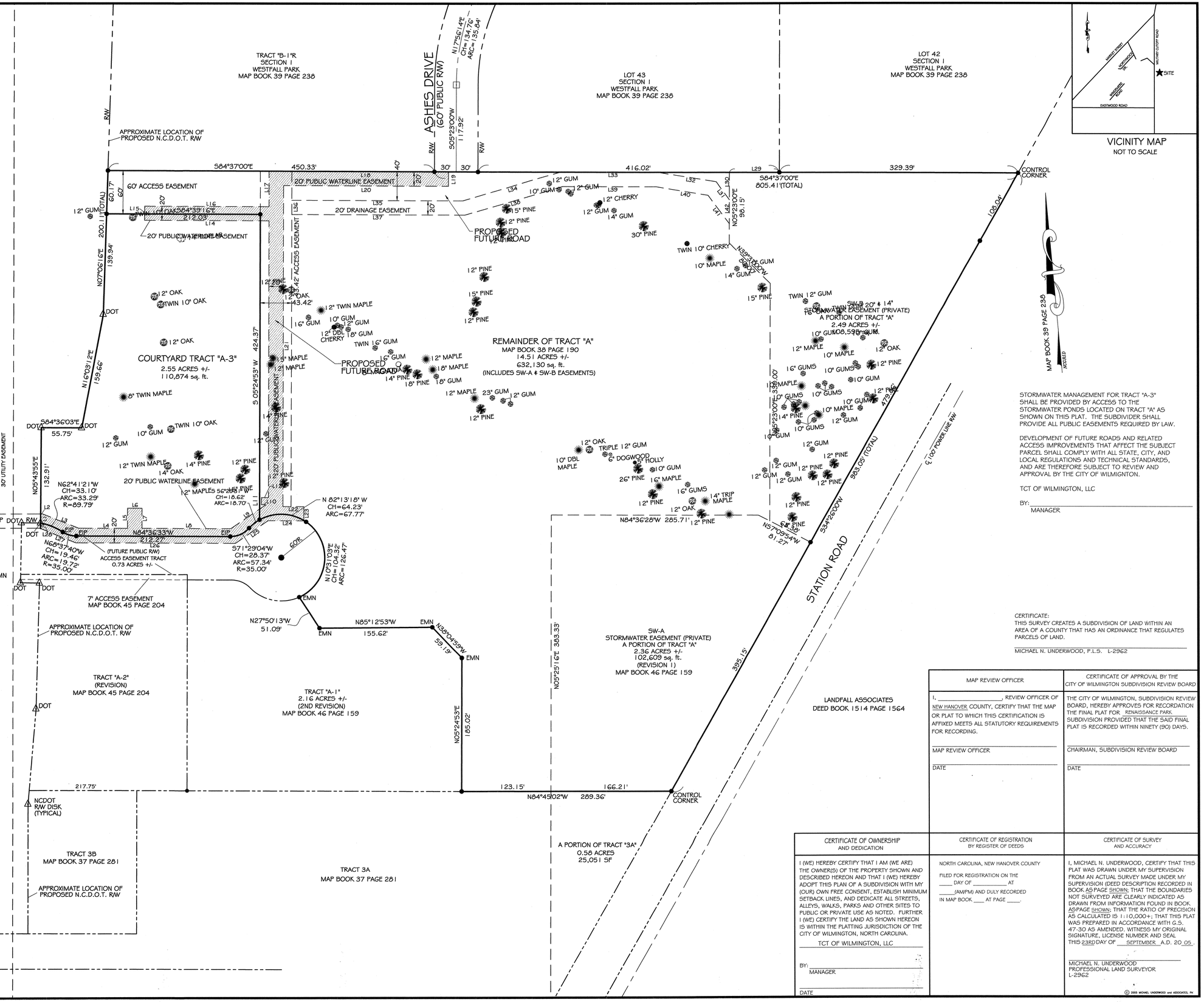
EMN	EXISTING MAG NAIL
EIP	EXISTING IRON PIPE
DOT	NC DOT R/W DISC
●	PROPERTY CORNER
⊡	EXISTING CONCRETE MONUMENT
▨	UTILITY EASEMENT

THIS PROPERTY IS LOCATED IN ZONE "C" AREAS OF MINIMAL FLOODING ACCORDING TO FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 370168 0010 0128 DATE SEPTEMBER 3, 1992.

NOTE:
ALL LOTS DEPICTED ON THIS PLAT MEET OR EXCEED THE MINIMUM AREA AND DIMENSIONAL REQUIREMENTS OF THE ZONING DISTRICT IN WHICH LOCATED.

SURVEY REFERENCE

MAP BOOK 38 PAGE 190
BOOK 2518 PAGE 0877
MAP BOOK 39 PAGE 233
MAP BOOK 45 PAGE 204
MAP BOOK 46 PAGE 159
MAP BOOK 39 PAGE 238



STORMWATER MANAGEMENT FOR TRACT "A-3" SHALL BE PROVIDED BY ACCESS TO THE STORMWATER PONDS LOCATED ON TRACT "A" AS SHOWN ON THIS PLAT. THE SUBDIVIDER SHALL PROVIDE ALL PUBLIC EASEMENTS REQUIRED BY LAW.

DEVELOPMENT OF FUTURE ROADS AND RELATED ACCESS IMPROVEMENTS THAT AFFECT THE SUBJECT PARCEL SHALL COMPLY WITH ALL STATE, CITY, AND LOCAL REGULATIONS AND TECHNICAL STANDARDS, AND ARE THEREFORE SUBJECT TO REVIEW AND APPROVAL BY THE CITY OF WILMIGNTON.

TCT OF WILMINGTON, LLC

BY: _____
MANAGER

CERTIFICATE:
THIS SURVEY CREATES A SUBDIVISION OF LAND WITHIN AN AREA OF A COUNTY THAT HAS AN ORDINANCE THAT REGULATES PARCELS OF LAND.

_____
MICHAEL N. UNDERWOOD, P.L.S. L-2962

MAP FOR RECORD:

COURTYARD @ RENAISSANCE PARK

COURTYARD TRACT "A-3"	REMAINDER OF TRACT A
2.55 ACRES +\-	14.51 ACRES +\-
110,874 sq. ft.	(INCLUDING STORMWATER EASEMENTS AREA)
WILMINGTON TOWNSHIP	NEW HANOVER COUNTY

WILMINGTON, NORTH CAROLINA

OWNER: TCT OF WILMINGTON, LLC
1410 COMMONWEALTH DRIVE
WILMINGTON, NC 28403

MICHAEL UNDERWOOD and ASSOCIATES, PA
102 CINEMA DRIVE, SUITE C
WILMINGTON, NC 28403
PHONE: 910-815-0650
FAX: 910-815-0393
E-MAIL: mua@bizec.rr.com

SURVEYED: DC/AL	APPROVED: MNU
DRAWN BY: BKL	DATE: 08-24-2005
CHECKED BY: WC	SCALE: 1"=60'

MAP REVIEW OFFICER	CERTIFICATE OF APPROVAL BY THE CITY OF WILMINGTON SUBDIVISION REVIEW BOARD
I, _____, REVIEW OFFICER OF NEW HANOVER COUNTY, CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.	THE CITY OF WILMINGTON, SUBDIVISION REVIEW BOARD, HEREBY APPROVES FOR RECORDATION THE FINAL PLAT FOR RENAISSANCE PARK SUBDIVISION PROVIDED THAT THE SAID FINAL PLAT IS RECORDED WITHIN NINETY (90) DAYS.
MAP REVIEW OFFICER	CHAIRMAN, SUBDIVISION REVIEW BOARD
DATE	DATE

CERTIFICATE OF OWNERSHIP AND DEDICATION	CERTIFICATE OF REGISTRATION BY REGISTER OF DEEDS	CERTIFICATE OF SURVEY AND ACCURACY
I (WE) HEREBY CERTIFY THAT I AM (WE ARE) THE OWNER(S) OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT I (WE) HEREBY ADOPT THIS PLAN OF A SUBDIVISION WITH MY (OUR) OWN FREE CONSENT, ESTABLISH MINIMUM SETBACK LINES, AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS AND OTHER SITES TO PUBLIC OR PRIVATE USE AS NOTED. FURTHER I (WE) CERTIFY THE LAND AS SHOWN HEREON IS WITHIN THE PLATTING JURISDICTION OF THE CITY OF WILMINGTON, NORTH CAROLINA. TCT OF WILMINGTON, LLC BY: _____ MANAGER	NORTH CAROLINA, NEW HANOVER COUNTY FILED FOR REGISTRATION ON THE ____ DAY OF _____ AT ____ (AM/PM) AND DULY RECORDED IN MAP BOOK ____ AT PAGE ____.	I, MICHAEL N. UNDERWOOD, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK AS PAGE SHOWN); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN BOOK AS PAGE SHOWN; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000+; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED. WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 23RD DAY OF SEPTEMBER A.D. 20 05. MICHAEL N. UNDERWOOD PROFESSIONAL LAND SURVEYOR L-2962
DATE		

© 2005 MICHAEL UNDERWOOD and ASSOCIATES, PA

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