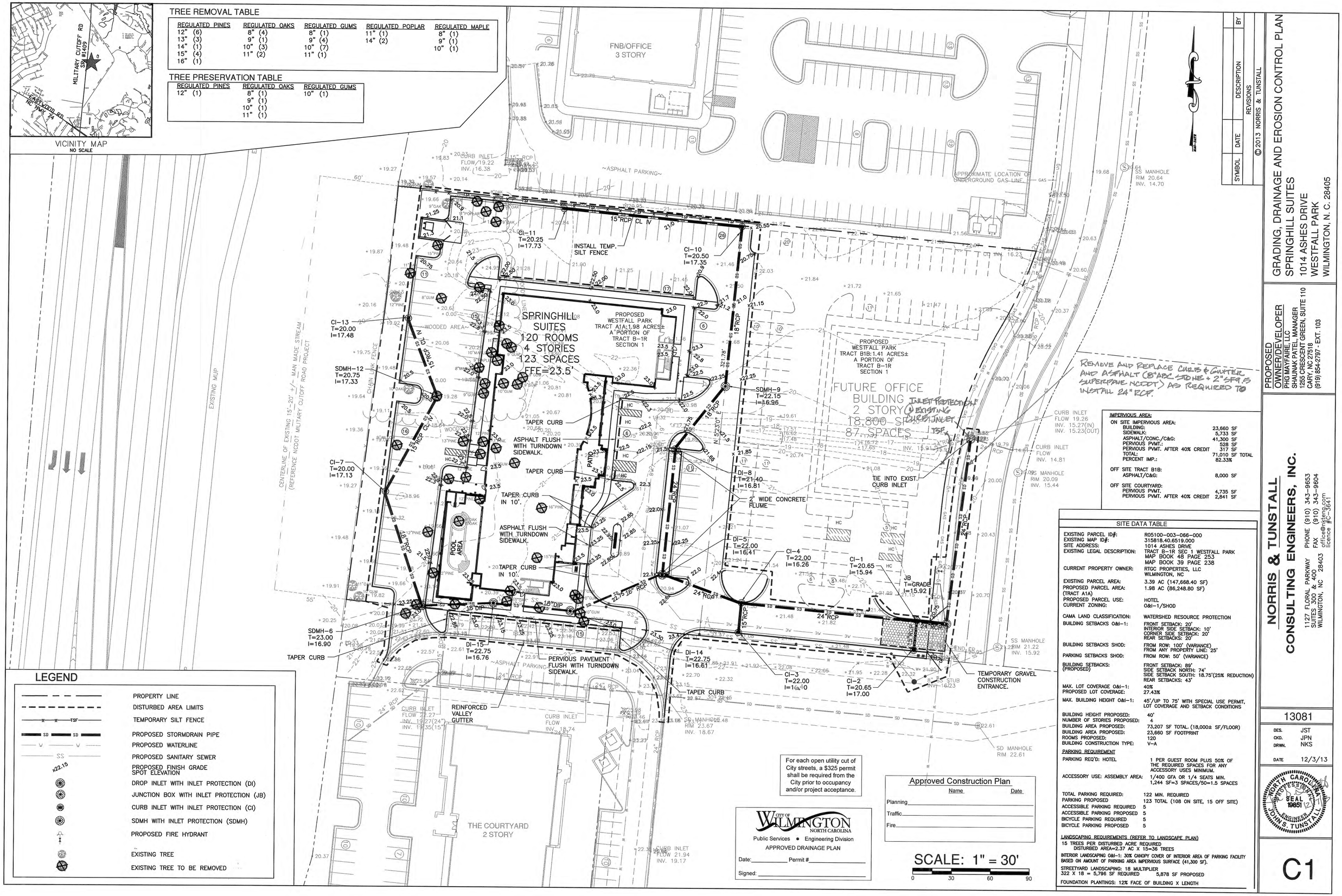
TREE REMOVAL TABLE

REGULATED PINES	REGULATED OAKS	REGULATED GUMS	REGULATED POPLAR	REGULATED MAPLE
12" (6)	8" (4)	8" (1)	11" (1)	8" (1)
13" (3)	9" (1)	9" (4)	14" (2)	9" (1)
14" (1)	10" (3)	10" (7)		10" (1)
15" (4)	11" (2)	11" (1)		
16" (1)				

TREE PRESERVATION TABLE

REGULATED PINES	REGULATED OAKS	REGULATED GUMS
12" (1)	8" (1)	10" (1)
	9" (1)	
	10" (1)	
	11" (1)	

VICINITY MAP
NO SCALE



LEGEND

- PROPERTY LINE
- DISTURBED AREA LIMITS
- TEMPORARY SILT FENCE
- PROPOSED STORMDRAIN PIPE
- PROPOSED WATERLINE
- PROPOSED SANITARY SEWER
- PROPOSED FINISH GRADE SPOT ELEVATION
- DROP INLET WITH INLET PROTECTION (DI)
- JUNCTION BOX WITH INLET PROTECTION (JB)
- CURB INLET WITH INLET PROTECTION (CI)
- SDMH WITH INLET PROTECTION (SDMH)
- PROPOSED FIRE HYDRANT
- EXISTING TREE
- EXISTING TREE TO BE REMOVED

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 DRAINAGE PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

SCALE: 1" = 30'
0 30 60 90

IMPERVIOUS AREA:

ON SITE IMPERVIOUS AREA:	
BUILDING:	23,660 SF
SIDEWALK:	5,733 SF
ASPHALT/CONC./C&G:	41,300 SF
PERVIOUS PVMT.:	528 SF
PERVIOUS PVMT. AFTER 40% CREDIT	317 SF
TOTAL:	71,010 SF TOTAL
PERCENT IMP.:	82.33%
OFF SITE TRACT B1B:	
ASPHALT/C&G:	8,000 SF
OFF SITE COURTYARD:	
PERVIOUS PVMT.	4,735 SF
PERVIOUS PVMT. AFTER 40% CREDIT	2,841 SF

SITE DATA TABLE

EXISTING PARCEL ID#:	R05100-003-066-000
EXISTING MAP ID#:	315818.40.6519.000
SITE ADDRESS:	1014 ASHES DRIVE
EXISTING LEGAL DESCRIPTION:	TRACT B-1R SEC 1 WESTFALL PARK MAP BOOK 48 PAGE 253 MAP BOOK 39 PAGE 238
CURRENT PROPERTY OWNER:	RTGC PROPERTIES, LLC WILMINGTON, NC
EXISTING PARCEL AREA:	3.39 AC (147,668.40 SF)
PROPOSED PARCEL AREA: (TRACT A1A)	1.98 AC (86,248.80 SF)
PROPOSED PARCEL USE:	HOTEL
CURRENT ZONING:	O&I-1/SHOD
CAMA LAND CLASSIFICATION:	WATERSHED RESOURCE PROTECTION
BUILDING SETBACKS O&I-1:	FRONT SETBACK: 20' INTERIOR SIDE SETBACK: 10' CORNER SIDE SETBACK: 20' REAR SETBACKS: 20'
BUILDING SETBACKS SHOD:	FROM ROW: 100' (VARIANCE) FROM ANY PROPERTY LINE: 25'
PARKING SETBACKS SHOD:	FROM ROW: 50' (VARIANCE)
BUILDING SETBACKS: (PROPOSED)	FRONT SETBACK: 89' SIDE SETBACK NORTH: 74' SIDE SETBACK SOUTH: 18.75'(25% REDUCTION) REAR SETBACKS: 43'
MAX. LOT COVERAGE O&I-1:	40%
PROPOSED LOT COVERAGE:	27.43%
MAX. BUILDING HEIGHT O&I-1:	45'/UP TO 75' WITH SPECIAL USE PERMIT, LOT COVERAGE AND SETBACK CONDITIONS
BUILDING HEIGHT PROPOSED:	40'
NUMBER OF STORIES PROPOSED:	4
BUILDING AREA PROPOSED:	73,207 SF TOTAL. (18,000± SF/FLOOR)
BUILDING AREA PROPOSED:	23,660 SF FOOTPRINT
ROOMS PROPOSED:	120
BUILDING CONSTRUCTION TYPE:	V-A
PARKING REQUIREMENT	
PARKING REQ'D: HOTEL	1 PER GUEST ROOM PLUS 50% OF THE REQUIRED SPACES FOR ANY ACCESSORY USES MINIMUM.
ACCESSORY USE: ASSEMBLY AREA:	1/400 GFA OR 1/4 SEATS MIN. 1,244 SF=3 SPACES/50=1.5 SPACES
TOTAL PARKING REQUIRED:	122 MIN. REQUIRED
PARKING PROPOSED	123 TOTAL (108 ON SITE, 15 OFF SITE)
ACCESSIBLE PARKING REQUIRED	5
ACCESSIBLE PARKING PROPOSED	5
BICYCLE PARKING REQUIRED	5
BICYCLE PARKING PROPOSED	5

LANDSCAPING REQUIREMENTS (REFER TO LANDSCAPE PLAN)

15 TREES PER DISTURBED ACRE REQUIRED
DISTURBED AREA=2.37 AC X 15=36 TREES

INTERIOR LANDSCAPING O&I-1: 30% CANOPY COVER OF INTERIOR AREA OF PARKING FACILITY BASED ON AMOUNT OF PARKING AREA IMPERVIOUS SURFACE (41,300 SF).

STREETYARD LANDSCAPING: 18 MULTIPLIER
322 X 18 = 5,796 SF REQUIRED 5,878 SF PROPOSED

FOUNDATION PLANTINGS: 12% FACE OF BUILDING X LENGTH

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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GRADING, DRAINAGE AND EROSION CONTROL PLAN
SPRINGHILL SUITES
1014 ASHES DRIVE
WESTFALL PARK
WILMINGTON, N. C. 28405

PROPOSED OWNER/DEVELOPER
PHG MAYFAIRE, LLC
SHAUNAK PATEL MANAGER
1255 CRESCENT GREEN, SUITE 110
CARY, NC 27519
(919) 854-2797 - EXT. 103

NORRIS & TUNSTALL
CONSULTING ENGINEERS, INC.
1127 FLORAL PARKWAY
SUITES 300 & 400
WILMINGTON, NC 28403
PHONE (910) 343-9653
FAX (910) 343-9604
office@njteng.com
licence #C-3641

13081

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	12/3/13

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

C1

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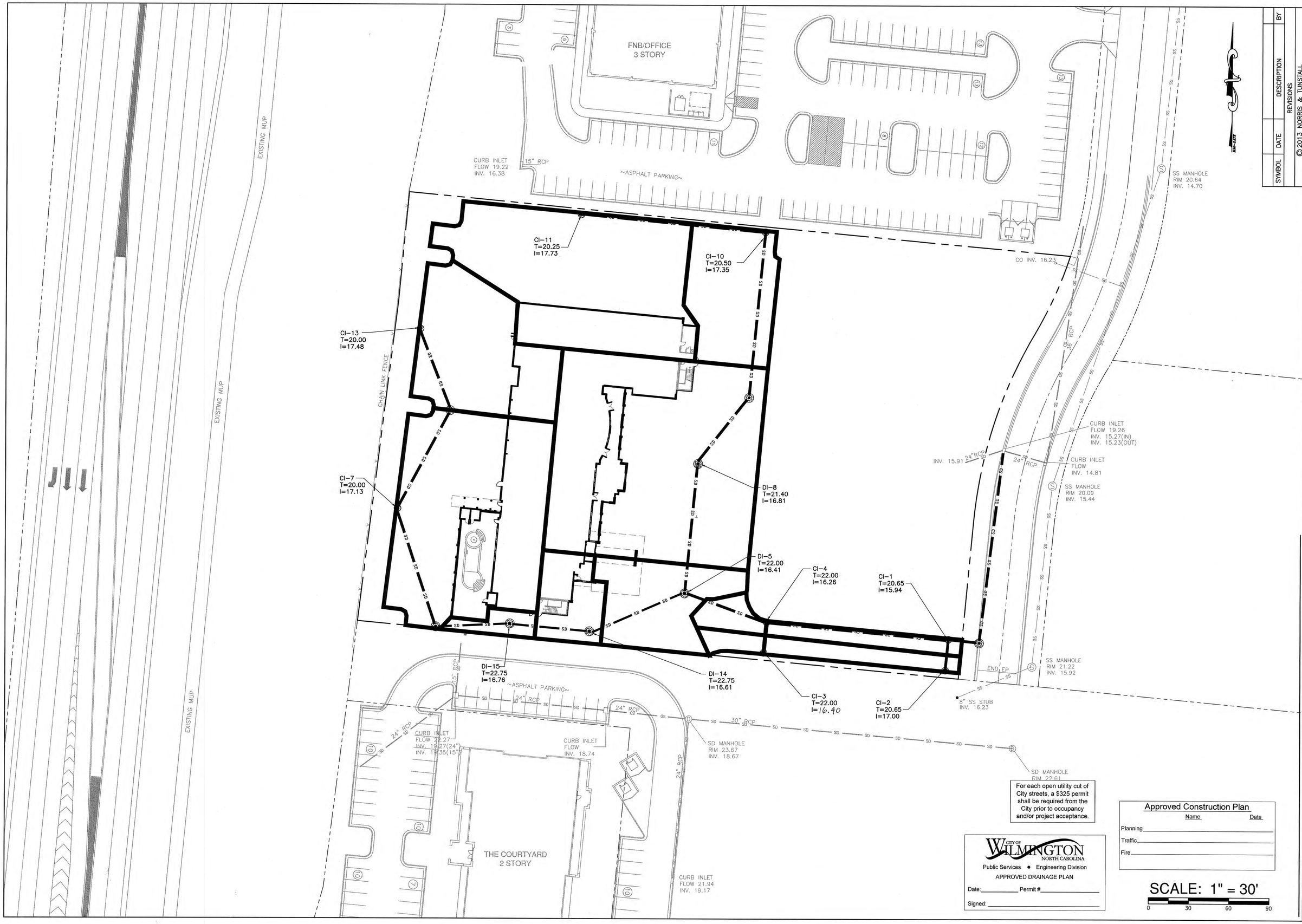

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Planning		
Traffic		
Fire		

SCALE: 1" = 30'

0 30 60 90

SYMBOL	DATE	DESCRIPTION	BY

REVISIONS

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DRAINAGE AREA PLAN
SPRINGHILL SUITES
1014 ASHES DRIVE
WESTFALL PARK
WILMINGTON, N. C. 28405

PROPOSED OWNER/DEVELOPER
PHG MAYFAIRE, LLC
SHAUNAK PATEL, MANAGER
1255 CRESCENT GREEN, SUITE 110
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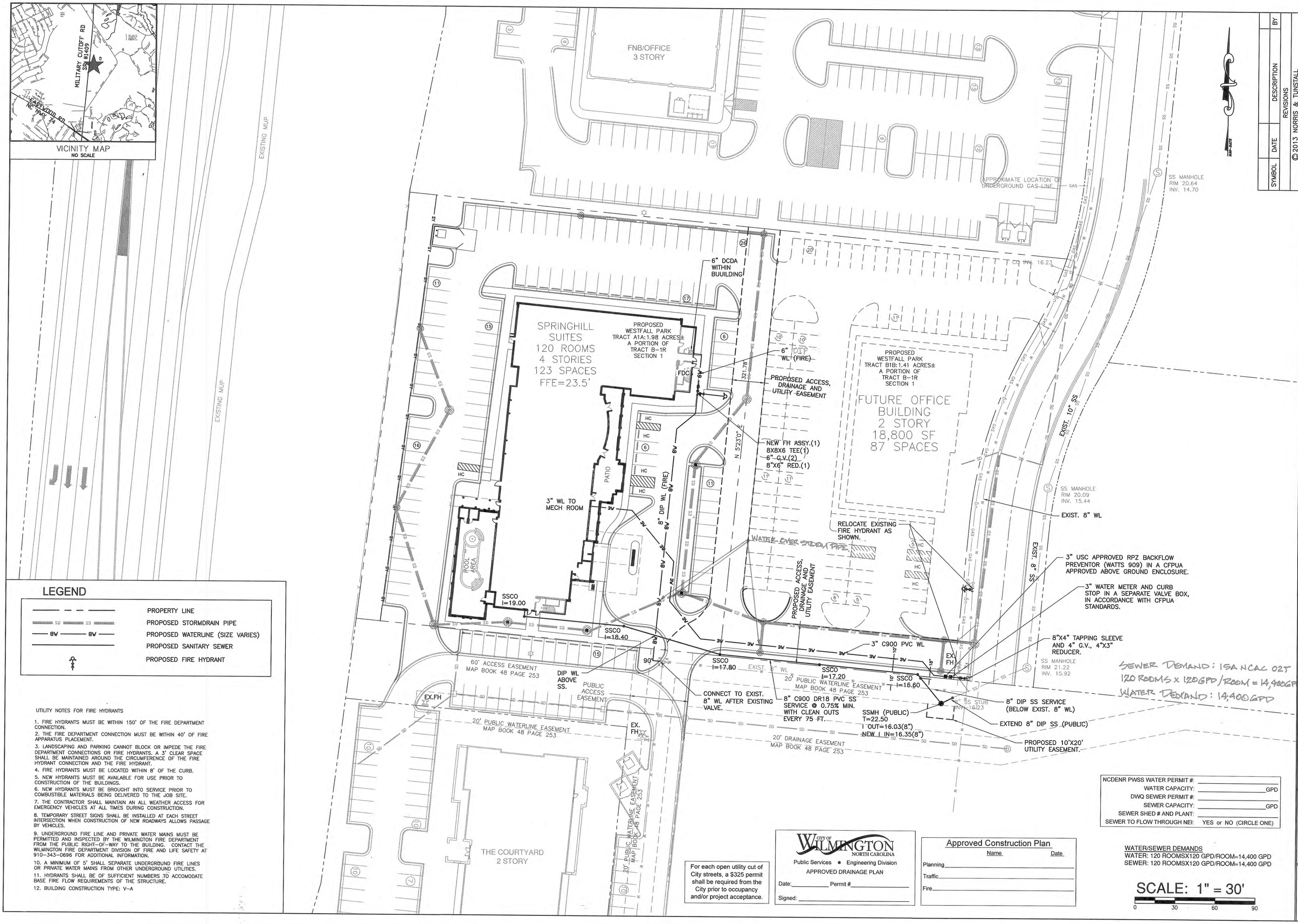
C1.1



LEGEND

- PROPERTY LINE
- PROPOSED STORMDRAIN PIPE
- PROPOSED WATERLINE (SIZE VARIES)
- PROPOSED SANITARY SEWER
- PROPOSED FIRE HYDRANT

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: V-A

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APPROVED DRAINAGE PLAN
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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)

WATER/SEWER DEMANDS
WATER: 120 ROOMSX120 GPD/ROOM=14,400 GPD
SEWER: 120 ROOMSX120 GPD/ROOM=14,400 GPD

SCALE: 1" = 30'
0 30 60 90

SYMBOL	DATE	DESCRIPTION	BY
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UTILITY PLAN
SPRINGHILL SUITES
1014 ASHES DRIVE
WESTFALL PARK
WILMINGTON, N. C. 28405

PROPOSED OWNER/DEVELOPER
PHG MAYFAIRE, LLC
SHAUNAK PATEL, MANAGER
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NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

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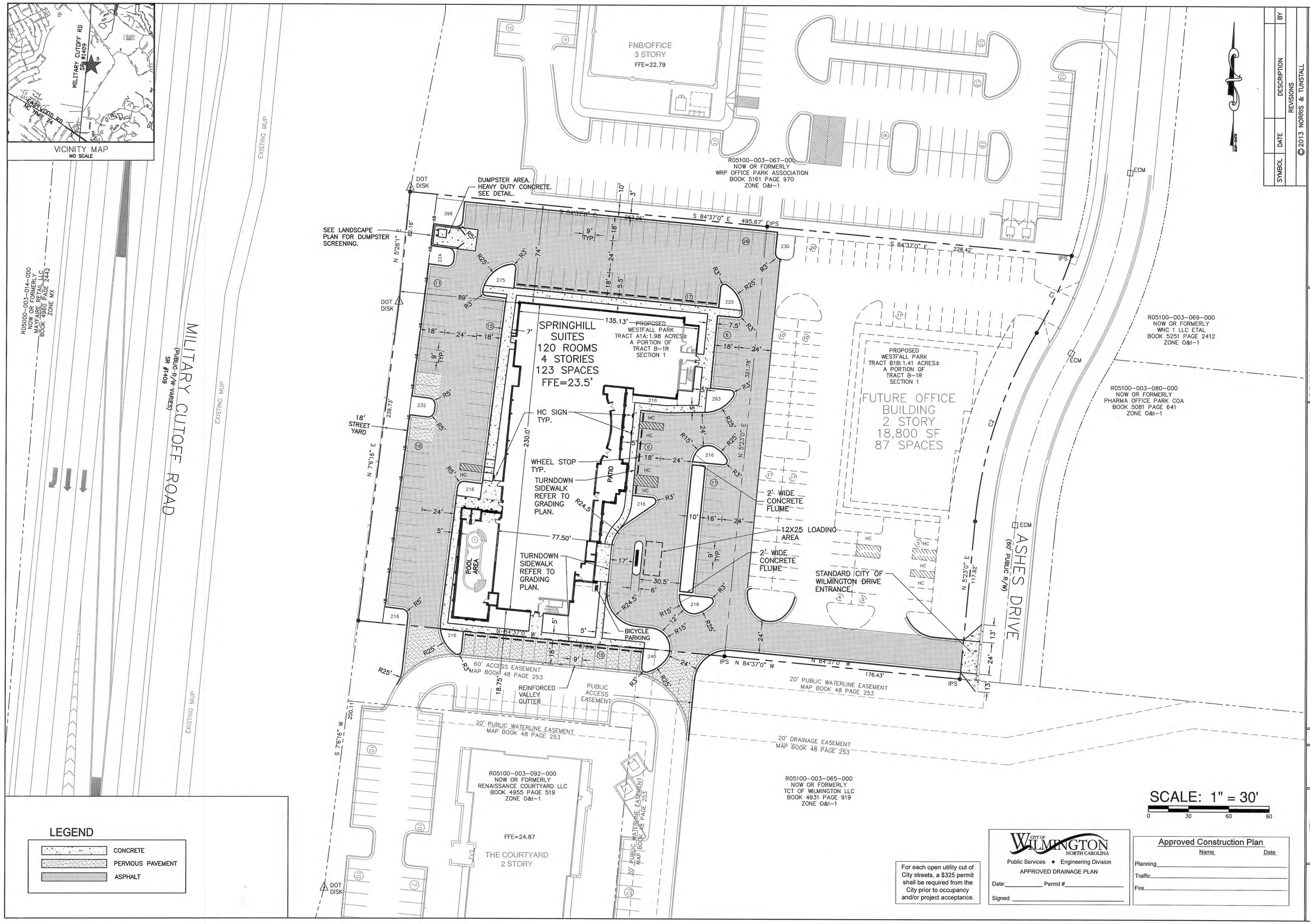

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SYMBOL	DATE	DESCRIPTION	BY
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LAYOUT PLAN
SPRINGHILL SUITES
1014 ASHES DRIVE
WESTFALL PARK
WILMINGTON, N. C. 28405

PROPOSED OWNER/DEVELOPER
PHG MAYFAIRE, LLC
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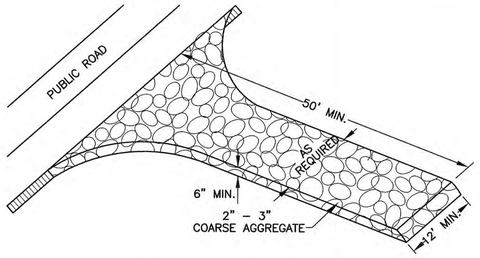
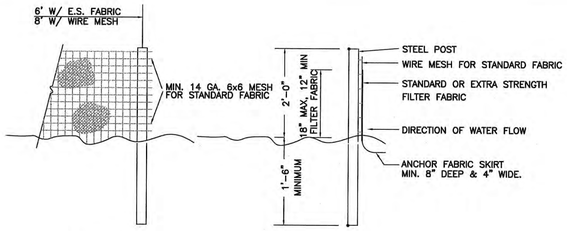


TEMPORARY GRAVELLED CONSTRUCTION ENTRANCE

NTS

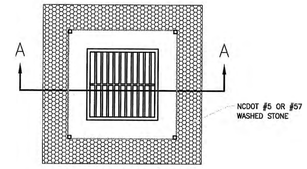


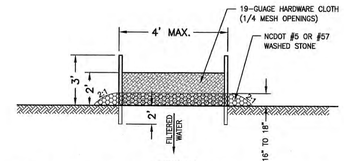
NOTES:

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.

TEMPORARY SILT FENCE

NTS





SECTION A-A

HARDWARE CLOTH & GRAVEL INLET PROTECTION

NTS

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 18" 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. REPLACE STONE AS NEEDED.

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 BEAVER DAMS, DANDY SACKS AND SOCKS ONCE A WEEK AND AFTER EVERY RAIN EVENT.

4. DIVERSION DITCHES WILL BE CLEANED OUT IMMEDIATELY TO REMOVE SEDIMENT OR OBSTRUCTIONS FROM THE FLOW AREA. THE DIVERSION RIDGES WILL ALSO BE REPAIRED. SWALES MUST BE TEMPORARILY STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY PHASE OF ACTIVITY ASSOCIATED WITH A SWALE.

5. 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.

6. 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.

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 MICHAEL UNDERWOOD AND ASSOCIATES PA 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.

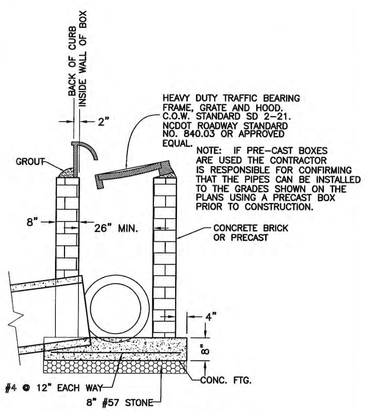
17. SEE SOILS REPORT FOR ADDITIONAL REQUIREMENTS.

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.

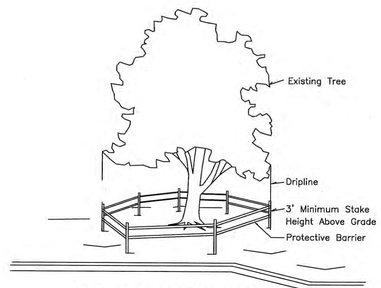
21. REFER TO THE PLUMBING DRAWINGS FOR LOCATION AND INVERTS OF NEW WASTE AND WATER LINES.



MUST COMPLY WITH CITY OF WILMINGTON STANDARDS
USE WITH 18" CURB AND GUTTER

TYPICAL CATCH BASIN

NTS



METHOD OF TREE PROTECTION

NTS

CLEARLY mark the trees to be saved prior to construction and erect a protective barrier at the dripline.

Dripline–The area of soil directly beneath the tree extending out to the tips of the outermost branches.

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:

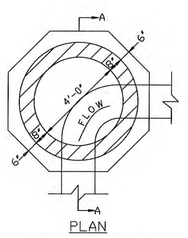
20%	CARPET GRASS
28%	BERMUDA GRASS
20%	TURF FESCUE
10%	CREEPING RED FESCUE
20%	ANNUAL RYE GRAIN

*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%.

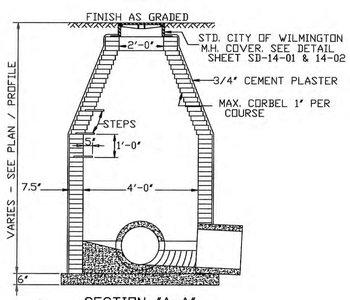
ALL DISTURBED AREA SHALL BE SEEDED WITHIN 7–14 DAYS OF THE COMPLETION OF GRADING. SEE EROSION CONTROL AND MAINTENANCE NOTES. CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES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

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 FOURTY-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.

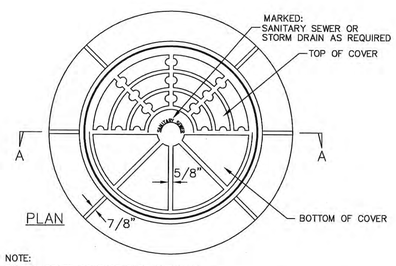


PLAN



SECTION "A-A"

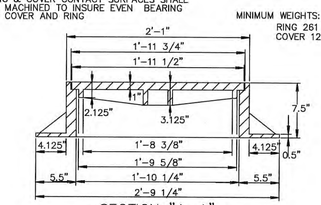
GUIDELINES FOR STORM DRAIN MANHOLE
SD 2 -03



PLAN

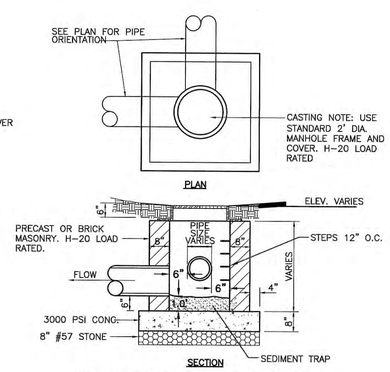
NOTE:
RING & COVER CONTACT SURFACES SHALL BE MACHINED TO INSURE EVEN BEARING OF COVER AND RING

MINIMUM WEIGHTS:
RING 261 LBS.
COVER 120 LBS.



SECTION "A-A"

STANDARD MANHOLE RING & COVER
SD 14-02

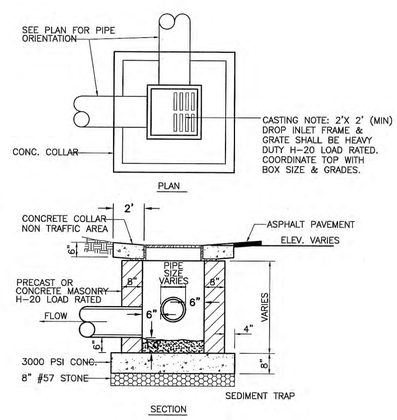


SECTION

MUST COMPLY WITH CITY OF WILMINGTON STANDARDS

JUNCTION BOX DETAIL

NTS



SECTION

MUST COMPLY WITH CITY OF WILMINGTON STANDARDS

DROP INLET 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
APPROVED DRAINAGE PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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NOTES AND DETAILS
SPRINGHILL SUITES
1014 ASHES DRIVE
WESTFALL PARK
WILMINGTON, N. C. 28405

OWNER/DEVELOPER
PHG MAYFAIRE, LLC
SHAUNAK PATEL, MANAGER
1255 CRESCENT GREEN, SUITE 110
CARY, NC 27518
(919) 834-2797 - EXT. 103

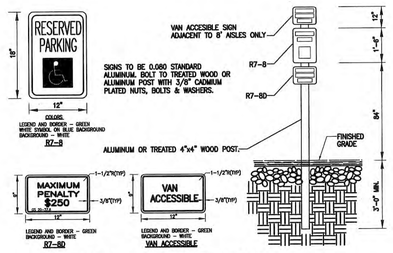
NORRIS & TUNSTALL
CONSULTING ENGINEERS, INC.
1127 FLORAL PARKWAY
SUITES 300 & 400
WILMINGTON, NC 28403
PHONE (910) 343-9653
FAX (910) 343-9604
office@nteng.com
licence #C-3641

13081

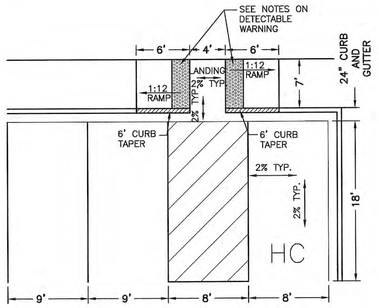
DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	12/3/13

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

C4



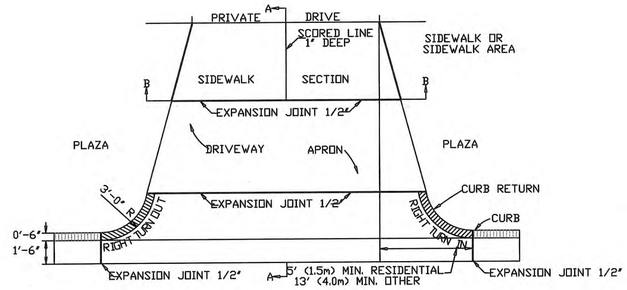
TYPICAL HANDICAPPED SIGN DETAIL
NTS



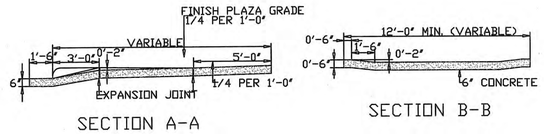
HANDICAPPED RAMP DETAIL
NTS

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 EXTEN 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.



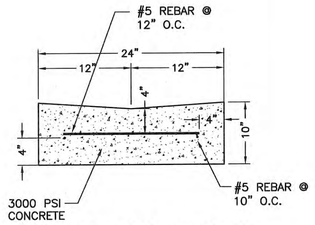
PAVEMENT PLAN



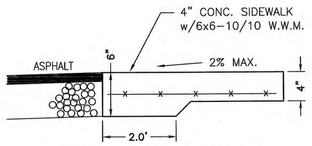
SECTION A-A

SECTION B-B

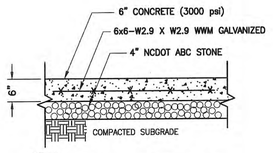
STANDARD DRIVEWAY DETAIL
SD 8-02
NOT TO SCALE



REINFORCED VALLEY GUTTER DETAIL
NTS

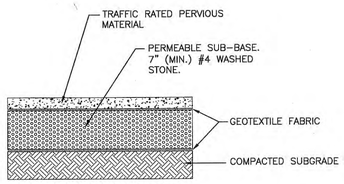


TURN DOWN WALK SECTION
NTS



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.

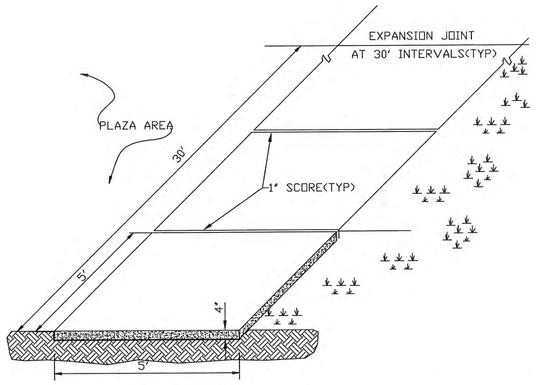
HEAVY DUTY CONCRETE PAVEMENT SECTION
NTS



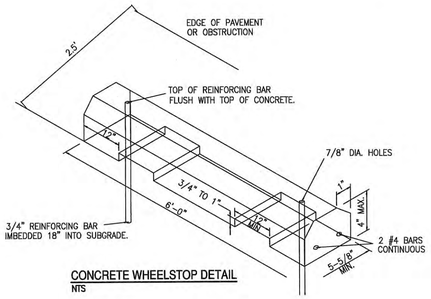
NOTES:

1. TRAFFIC RATED PERVIOUS MATERIALS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
2. PERVIOUS MATERIALS SECTION MAY VARY DEPENDING UPON FIELD CONDITIONS. THE CONTRACTOR SHALL COORDINATE WITH HOME OWNERS ASSOCIATION ARCHITECTURAL REVIEW BOARD TO DETERMINE ACTUAL PAVEMENT SECTION.

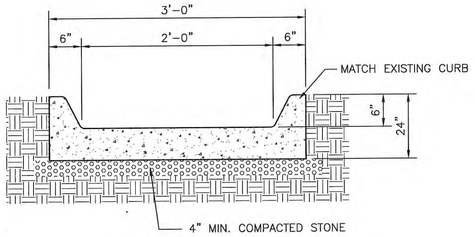
PERVIOUS PAVEMENT SECTION
N.T.S.



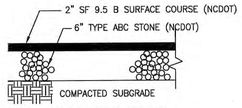
STANDARD SIDEWALK DETAIL
SD 8-15
NOT TO SCALE



CONCRETE WHEELSTOP DETAIL
NTS

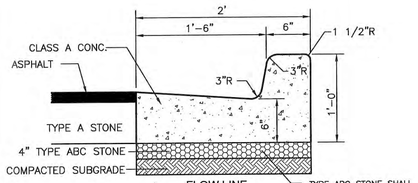


CONCRETE FLUME
NTS



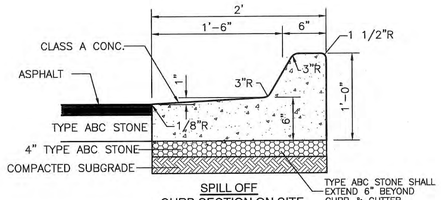
NOTE: PAVEMENT SECTION MAY VARY DEPENDING UPON FIELD CONDITIONS. CONTRACTOR SHALL COORDINATE w/OWNER & GEOTECHNICAL ENGINEER TO DETERMINE ACTUAL PAVEMENT SECTION.

ASPHALT PAVEMENT SECTION
N.T.S.



FLOW LINE
CURB SECTION ON SITE
NTS

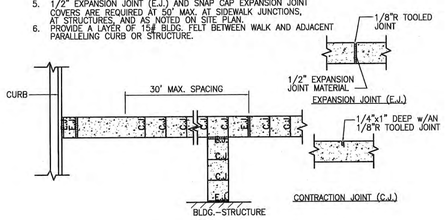
NOTE: CURB TYPE DEPENDS ON GRADES SHOWN ON GRADING PLAN. GRADES INDICATING FALL AWAY FROM CURB SHALL BE SPILL OFF TYPE CURB. GRADES INDICATING CURB ACCEPTING FLOW SHALL BE FLOW LINE TYPE.



SPILL OFF
CURB SECTION ON SITE
NTS

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.

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.) AND SNAP CAP EXPANSION JOINT COVERS ARE REQUIRED AT 50' 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.



PLAN

SIDEWALK JOINT DETAILS
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
APPROVED DRAINAGE PLAN
Date:_____ Permit #_____
Signed: _____

Approved Construction Plan

	Name	Date
Planning		
Traffic		
Fire		

SYMBOL	DATE	DESCRIPTION	BY
		REVISIONS	

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NOTES AND DETAILS
SPRINGHILL SUITES
1014 ASHES DRIVE
WESTFALL PARK
WILMINGTON, N. C. 28405

OWNER/DEVELOPER
PHG MAYFAIRE, LLC
SHAUNAK PATEL, MANAGER
1255 CRESCENT GREEN, SUITE 110
CARY, NC 27518
(919) 854-2797 - EXT. 103

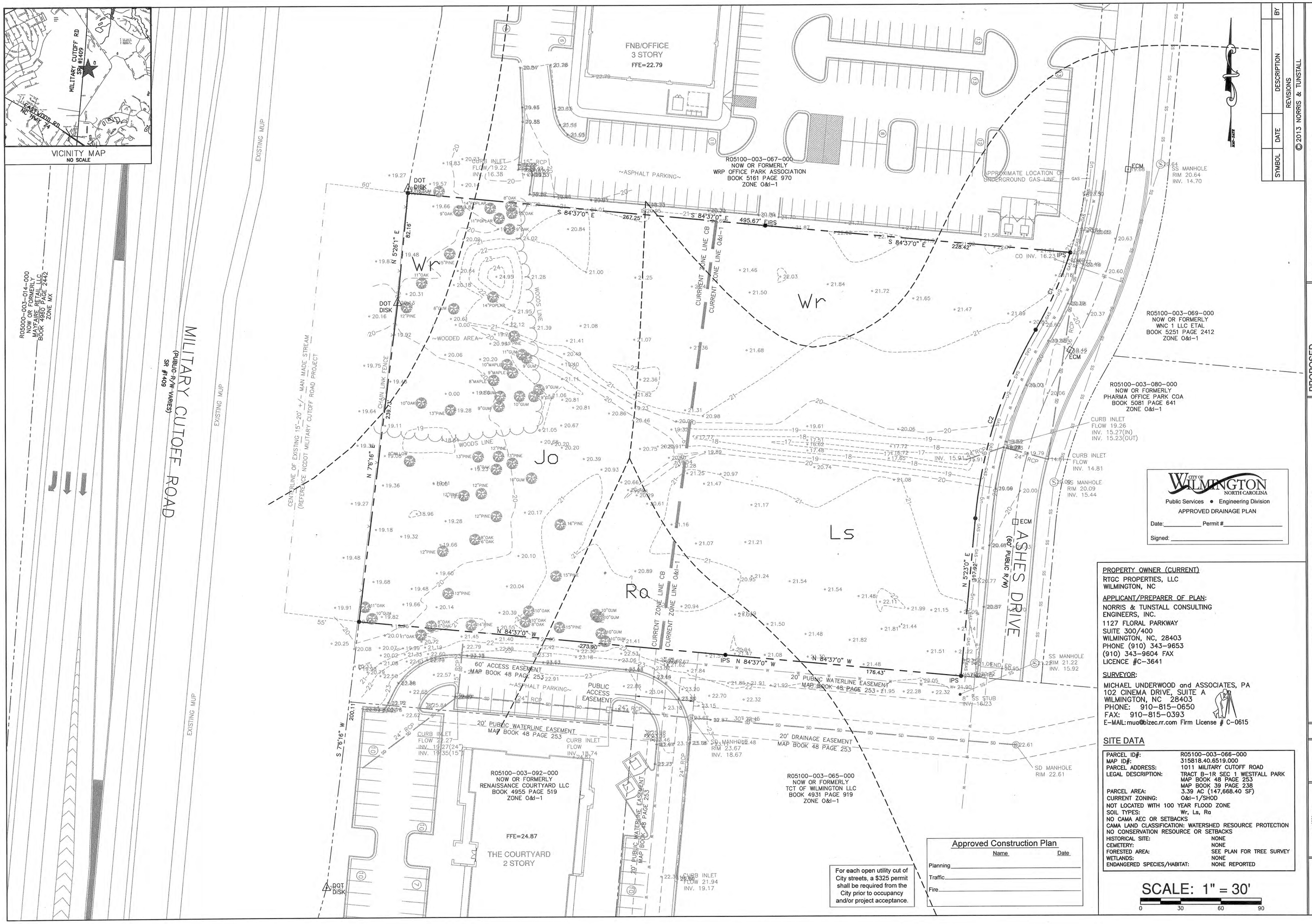
NORRIS & TUNSTALL
CONSULTING ENGINEERS, INC.
1127 FLORAL PARKWAY
SUITES 300 & 400
WILMINGTON, NC 28403
PHONE (910) 343-9653
FAX (910) 343-9604
office@nteng.com
licence #C-3641

13081

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	12/3/13

NORTH CAROLINA PROFESSIONAL SEAL 19851 ENGINEER JOHN S. TUNSTALL

C5



SYMBOL	DATE	DESCRIPTION	BY

REVISIONS

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INVENTORY SITE PLAN
SPRINGHILL SUITES
1014 ASHES DRIVE
WESTFALL PARK
WILMINGTON, N. C. 28405

PROPOSED OWNER/DEVELOPER
PHG MAYFAIRE, LLC
SHAUNAK PATEL, MANAGER
1255 CRESCENT GREEN, SUITE 110
CARY, NC 27518
(919) 854-2797 - EXT. 103

PROPERTY OWNER (CURRENT)
RTGC PROPERTIES, LLC
WILMINGTON, NC

APPLICANT/PREPARER OF PLAN:
NORRIS & TUNSTALL CONSULTING ENGINEERS, INC.
1127 FLORAL PARKWAY
SUITE 300/400
WILMINGTON, NC, 28403
PHONE (910) 343-9653
(910) 343-9604 FAX
LICENCE #C-3641

SURVEYOR:
MICHAEL UNDERWOOD and ASSOCIATES, PA
102 CINEMA DRIVE, SUITE A
WILMINGTON, NC 28403
PHONE: 910-815-0650
FAX: 910-815-0393
E-MAIL: muo@bizec.rr.com Firm License # C-0615

SITE DATA

PARCEL ID#:	R05100-003-066-000
MAP ID#:	315818.40.6519.000
PARCEL ADDRESS:	1011 MILITARY CUTOFF ROAD
LEGAL DESCRIPTION:	TRACT B-1R SEC 1 WESTFALL PARK MAP BOOK 48 PAGE 253 MAP BOOK 39 PAGE 238
PARCEL AREA:	3.39 AC (147,668.40 SF)
CURRENT ZONING:	O&I-1/SHOD
NOT LOCATED WITH 100 YEAR FLOOD ZONE	
SOIL TYPES:	Wr, Ls, Ra
NO CAMA AEC OR SETBACKS	
CAMA LAND CLASSIFICATION: WATERSHED RESOURCE PROTECTION	
NO CONSERVATION RESOURCE OR SETBACKS	
HISTORICAL SITE:	NONE
CEMETERY:	NONE
FORESTED AREA:	SEE PLAN FOR TREE SURVEY
WETLANDS:	NONE
ENDANGERED SPECIES/HABITAT:	NONE REPORTED

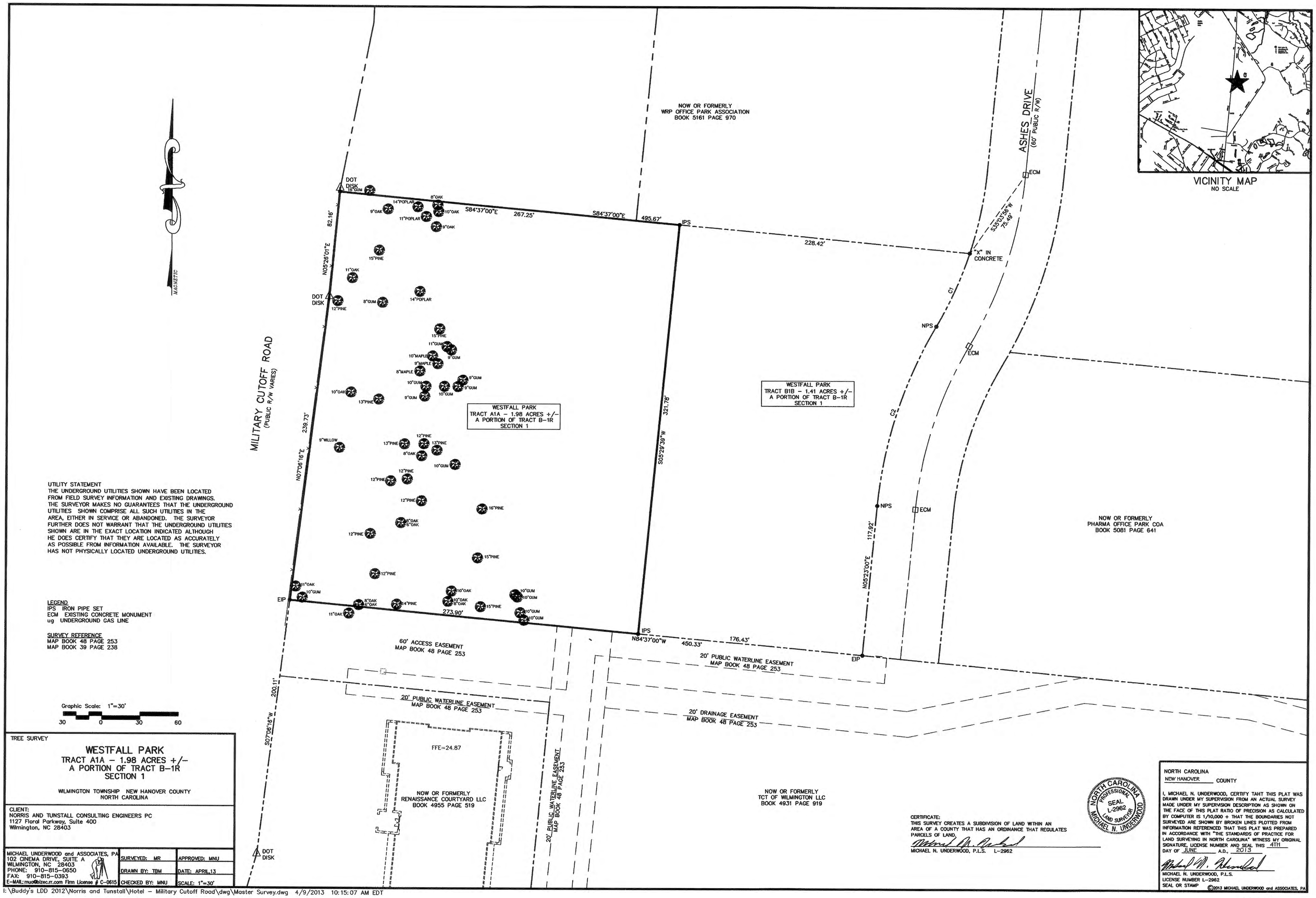
NORRIS & TUNSTALL CONSULTING ENGINEERS, INC.
1127 FLORAL PARKWAY
SUITES 300 & 400
WILMINGTON, NC 28403
PHONE (910) 343-9653
FAX (910) 343-9604
office@nkteng.com
licence #C-3641

13081

DES.	JST
CKD.	JPN
DRWN.	NKS
DATE	12/3/13

NORTH CAROLINA PROFESSIONAL SEAL 19651 ENGINEER JOHN S. TUNSTALL

11



UTILITY STATEMENT
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED UNDERGROUND UTILITIES.

LEGEND
IPS IRON PIPE SET
ECM EXISTING CONCRETE MONUMENT
ug UNDERGROUND GAS LINE

SURVEY REFERENCE
MAP BOOK 48 PAGE 253
MAP BOOK 39 PAGE 238

Graphic Scale: 1"=30'
30 0 30 60

TREE SURVEY

WESTFALL PARK
TRACT A1A – 1.98 ACRES +/–
A PORTION OF TRACT B–1R
SECTION 1

WILMINGTON TOWNSHIP NEW HANOVER COUNTY
NORTH CAROLINA

CLIENT:
NORRIS AND TUNSTALL CONSULTING ENGINEERS PC
1127 Floral Parkway, Suite 400
Wilmington, NC 28403

MICHAEL UNDERWOOD and ASSOCIATES, PA
102 CINEMA DRIVE, SUITE A
WILMINGTON, NC 28403
PHONE: 910–815–0650
FAX: 910–815–0393
E-MAIL: muo@bizec.rr.com Firm License # C-0615

SURVEYED: MR	APPROVED: MNU
DRAWN BY: TBM	DATE: APRIL,13
CHECKED BY: MNU	SCALE: 1"=30'

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

NORTH CAROLINA PROFESSIONAL SEAL L-2962 LAND SURVEYOR MICHAEL N. UNDERWOOD

NORTH CAROLINA
NEW HANOVER COUNTY

I, MICHAEL N. UNDERWOOD, CERTIFY TAHT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION DESCRIPTION AS SHOWN ON THE FACE OF THIS PLAT RATIO OF PRECISION AS CALCULATED BY COMPUTER IS 1/10,000 + THAT THE BOUNDARIES NOT SURVEYED ARE SHOWN BY BROKEN LINES PLOTTED FROM INFORMATION REFERENCED THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH "THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA" WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 4TH DAY OF JUNE A.D., 2013

MICHAEL N. UNDERWOOD, P.L.S.
LICENSE NUMBER L–2962
SEAL OR STAMP

©2013 MICHAEL UNDERWOOD and ASSOCIATES, PA

I:\Buddy's LDD 2012\Norris and Tunstall\Hotel – Military Cutoff Road\dwg\Master Survey.dwg 4/9/2013 10:15:07 AM EDT

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