

**CITY OF WILMINGTON NOTES:**

1. Prior to any clearing, grading or construction activity, tree protection fencing shall be installed around protected trees or groves of trees. No construction workers, tools, materials, or vehicles are permitted within the tree protection fencing.
2. Any trees and/or areas designated to be protected must be properly barricaded with fencing and protected throughout construction to insure that no clearing, grading or staging of materials will occur in these areas.
3. No equipment is allowed on site until all tree protection fencing and silt fencing is installed and approved. Protective fencing is to be maintained throughout the duration of the project, and contractors shall receive adequate instruction on tree protection methods.
4. All pavement markings in public rights-of-way and for driveways are to be thermoplastic and meet City and/or WCDOT standards.
5. Once streets are open to traffic, contact Traffic Engineering regarding the installation of traffic and street name signs. Proposed street names must be approved prior to installation of street name signs.
6. 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.
7. Contact Traffic Engineering at 910-341-7888 to ensure that all traffic signal facilities and equipment are shown on the plan.
8. Call Traffic Engineering at 910-341-7888 forty-eight (48) hours prior to any excavation in the right-of-way.
9. Traffic Engineering must approve of pavement marking prior to actual striping.
10. All parking stall markings and lane arrows within the parking areas shall be white.
11. All traffic control signs and markings off the right-of-way are to be maintained by the property owner in accordance with MUTCD standards.
12. Stop signs and street signs to remain in place during construction.
13. Tactile warning mats will be installed on all wheelchair ramps.
14. A utility cut permit is required for each open cut of a city street. Note this on the plan and contact (910) 341-5888 for more details. In certain cases an entire resurfacing of the area being open cut may be required.
15. Any broken or missing sidewalk panels, driveway panels and curbing will be replaced.
16. Contact Traffic Engineering at (910) 341-7888 to discuss street lighting options.
17. Water and sewer service shall meet Cape Fear Public Utility Authority (CFPUA) details and specifications.
18. Project shall comply with CFPUA Cross Connection Control requirements. Water meter(s) cannot be installed until all requirements are met and the State has given their final approval. Call 910-332-6558 for information.
19. 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.
20. Any irrigation system supplied by CFPUA water shall comply with the CFPUA Cross Connection Control regulations. Call 919-332-6558 for information.
21. Any irrigation system shall be equipped with a rain and freeze sensor.
22. Any backflow prevention devices required by the CFPUA will need to be on the list of approved devices by USGFCOCHR or ASSE.
23. Contractor to field verify existing water and sewer service locations, sizes and materials prior to construction. Engineer to be notified of any conflicts.
24. Contractor shall maintain all-weather access for emergency vehicles at all times during construction.
25. Underground fire line(s) 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 910-341-0696.
26. No obstructions are permitted in the space between thirty (30) inches and ten (10) feet above the ground within the triangular sight distance.
27. Contact the North Carolina One Call Center at 1-800-632-4949 prior to doing any digging, clearing, or grading.

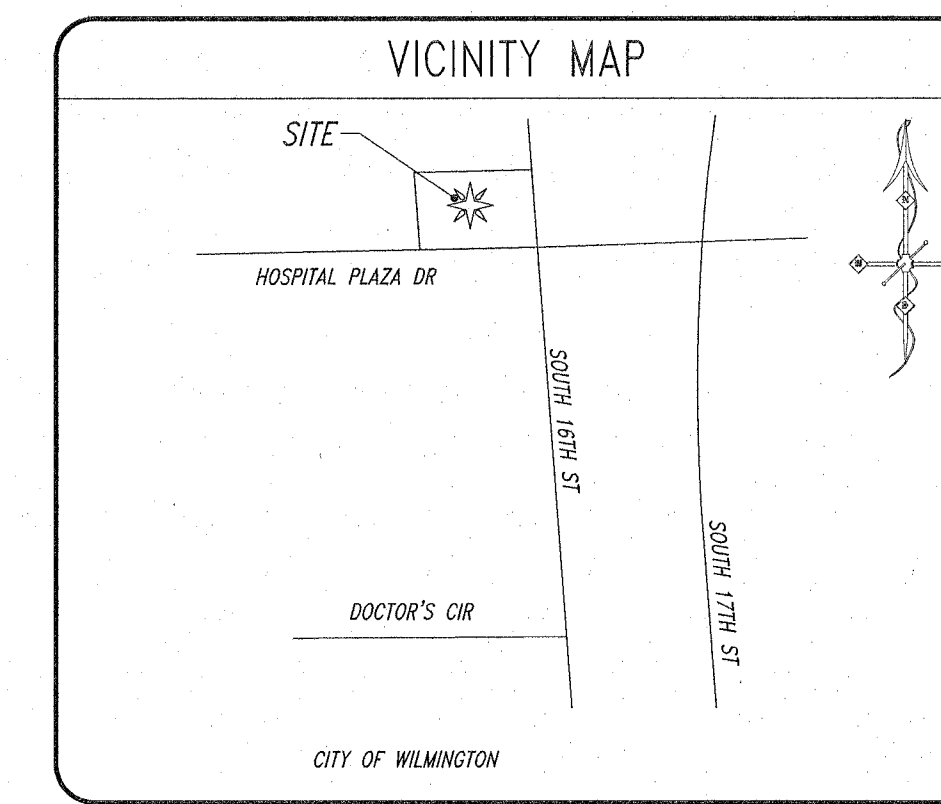
# CONSTRUCTION DOCUMENTS

## Proposed

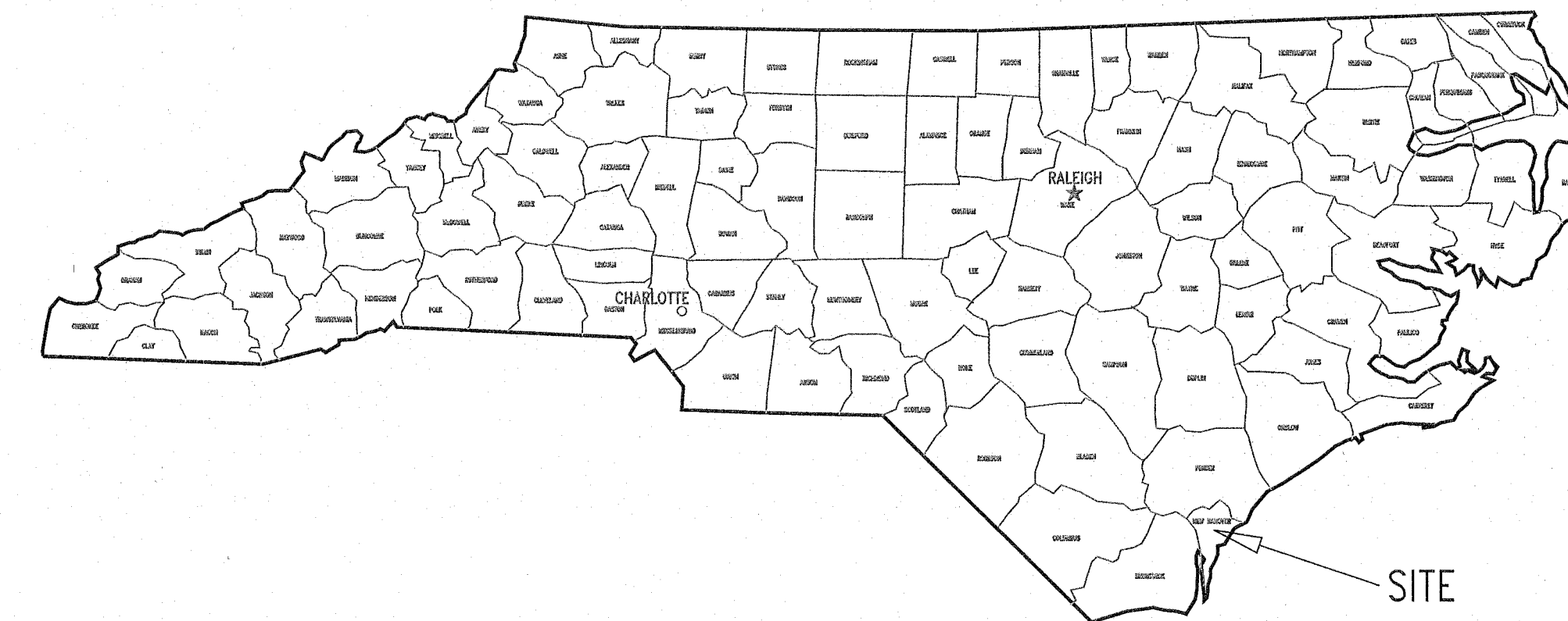


# Starbucks-Hospital Plaza

2018 South 16th Street  
Wilmington, North Carolina  
New Hanover County



Know what's below  
Call before you dig.

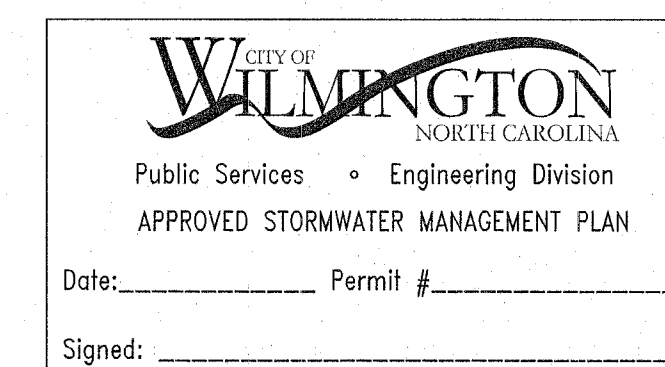


### DEVELOPMENT DATA

DEVELOPMENT NAME:	STARBUCKS
STREET ADDRESS:	2018 SOUTH 16TH STREET WILMINGTON, NORTH CAROLINA NEW HANOVER COUNTY
PROPERTY IDENTIFICATION # (PIN):	R06007-002-010-003
ZONING DISTRICT(S):	O-1-1 (OFFICE AND INSTITUTIONAL DISTRICT 1)
OVERLAY DISTRICT:	NONE
CAMA LAND USE CLASSIFICATION:	DEVELOPED
TOTAL SITE AREA:	0.769 AC (33,498 SF)
INSIDE TOWN LIMITS:	YES
EXISTING USE:	BANK/LAW FIRM
PROPOSED BUILDING USE:	RESTAURANT WITH DRIVE-THRU
BUILDING CONSTRUCTION TYPE:	VB
PROPOSED TOTAL BUILDING AREA:	2,510 SF
MAX. BUILDING HEIGHT:	45 FT (PROPOSED BUILDING HEIGHT = 21.5 FT)
MAXIMUM LOT COVERAGE (BUILDING):	40%
MIN LOT AREA:	15,000 SF
MIN LOT WIDTH:	80 FT
FRONT SETBACK:	20 FT (FRONT SETBACK PROVIDED = 52 FT)
REAR SETBACK:	20 FT (REAR SETBACK PROVIDED = 110 FT)
SIDE SETBACK:	20 FT (HOSPITAL PLAZA BOULEVARD) (SIDE SETBACK PROVIDE = 28 FT)
SIDE SETBACK:	10 FT (INTERIOR) (SIDE SETBACK PROVIDED = 70 FT)
STREET YARD BUFFER:	18 FT AVERAGE (9 FT MIN, 27 FT MAX) (SOUTH 16TH STREET)
PERIMETER PARKING BUFFER:	10 FT
FOUNDATION PLANTINGS:	12% OF BUILDING FACE AREA
OFF-STREET PARKING:	
PROPOSED BUILDING AREA:	2,510 SF (75 SEATS)
TOTAL REQUIRED:	
MAXIMUM:	1 PER 2.5 SEATS OR 1 PER 65 SF GFA EXCLUSIVE OF KITCHEN AND RESTROOM 75 SEATS/2.5 = 30 SPACES
MINIMUM:	1 PER 4 SEATS OR 1 PER 80 SF GFA EXCLUSIVE OF KITCHEN AND RESTROOM 75 SEATS/4 = 19 SPACES
TOTAL PROVIDED:	24
ACCESSIBLE SPACES PROVIDED:	2
PARKING SPACE DIMENSIONS:	9'x18'
BICYCLE PARKING:	5 SPACES REQUIRED
LOADING AREA:	N/A

DEVELOPER/PROPERTY OWNER  
Wilmington NC 2018, LLC  
Hartzog Holdings, LLC  
Attn. Collins Hartzog  
109 Still Wild Lane  
Elgin, SC 29045  
803-361-6718  
collins@hartzogholdings.com

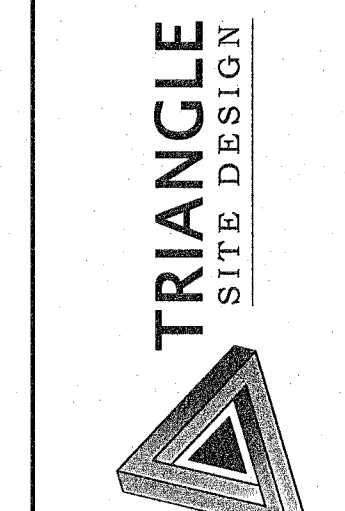
CIVIL ENGINEER  
Triangle Site Design, PLLC  
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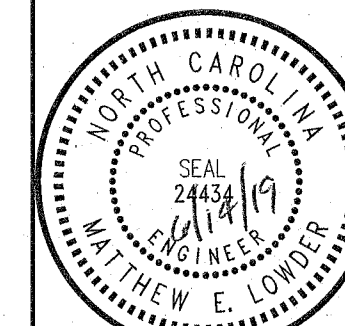
APPROVED CONSTRUCTION PLAN		
PLANNING	NAME	DATE
TRAFFIC		
FIRE		

IMPERVIOUS AREA SUMMARY				
SITE AREA = 33,498 SF (0.769 AC)				
BUILDINGS	2,510 SF	0.06 ACRE(S)	7.49 %	
PAVEMENT	14,515 SF	0.33 ACRE(S)	43.33 %	
SIDEWALK	1,675 SF	0.04 ACRE(S)	5.00 %	
TOTAL IMPERVIOUS AREA	18,700 SF	0.43 ACRE(S)	55.82 %	
POROUS CONCRETE	2,080 SF	0.05 ACRE(S)	6.21 % (TYPE A SOILS, 100% PERVIOUS)	
GREEN/OPEN SPACE	12,718 SF	0.29 ACRE(S)	37.97 %	
EXISTING IMPERVIOUS AREA TO BE DEMOLISHED:	19,135 SF (ON-SITE)			
DECREASE IN IMPERVIOUS AREA:	435 SF			
EXEMPT FROM 25-YEAR PRE/POST ATTENUATION REQUIREMENT				

INDEX OF DRAWINGS	
C0.0	COVER SHEET
D1.0	EXISTING CONDITIONS PLAN
C1.0	SITE PLAN
C1.1	GRADING & DRAINAGE PLAN
C1.2	UTILITY PLAN
C1.3	UTILITY DETAILS
C1.4A	CONSTRUCTION DETAILS
C1.4B	CONSTRUCTION DETAILS
C1.5	STORMWATER MANAGEMENT DETAILS
C1.6	EROSION CONTROL PLAN
C1.7	EROSION CONTROL DETAILS
C1.8	LANDSCAPE PLAN
C1.9	SITE INVENTORY MAP

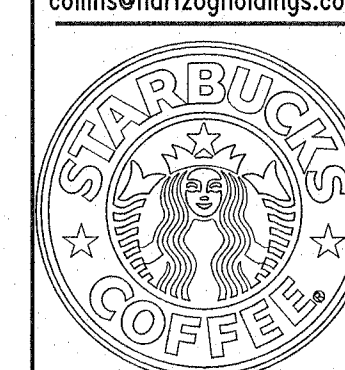


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*Matthew E. Lowder*

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Hartzog Holdings, LLC  
Attn. Collins Hartzog  
109 Still Wild Lane  
Elgin, SC 29045  
803-361-6718  
collins@hartzogholdings.com



Starbucks-Hospital Plaza  
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This document, together with the concepts and designs presented herein, as an instrument of services, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Triangle Site Design, PLLC shall be without liability to Triangle Site Design, PLLC.

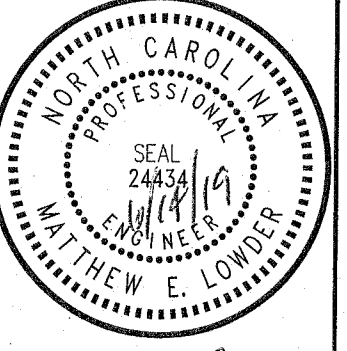
REV	DATE	DESCRIPTION
1	4/20/19	REVISED PER CITY REVIEW
2	5/27/19	ADJUSTED DRIVEWAY & HOSPITAL PLAZA DR. PER WCDOT
3	6/14/19	REVISED PER CITY OF WILMINGTON REVIEW

Project No. 009014  
Date: June 14, 2019

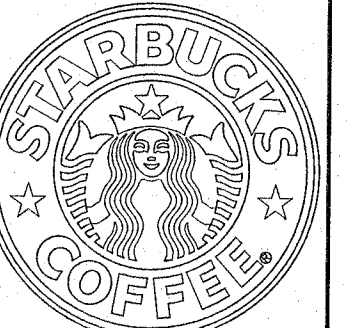
COVER SHEET  
Sheet No. C0.0



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REVISIONS	DATE	DESCRIPTION
1	4/20/19	REVISED PER CITY REVIEW
2	5/21/19	ADJUSTED DRIVEWAY & HOSPITAL PLAZA DR PER MODOT
3	6/11/19	REVISED PER CITY OF WILMINGTON REVIEW

Drawn: [ ]  
Checked: [ ]  
Approved: [ ]  
Project No: 009914  
Date: June 14, 2019  
Title: **EXISTING CONDITIONS PLAN**  
Sheet No: **D1.0**

**EROSION CONTROL NOTES:**  
AN EROSION AND SEDIMENTATION CONTROL PERMIT SHALL BE REQUIRED BY NEW HANOVER COUNTY PRIOR TO START OF CONSTRUCTION.

**SURVEY NOTE:**  
ALL EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A LAND SURVEY PREPARED BY: ROBERT H. GOSLEE & ASSOCIATES, PA.

**STREAM/WETLAND NOTE:**  
THERE ARE NO JURISDICTIONAL STREAM AND/OR WETLAND FEATURES ON THE PROPOSED DEVELOPMENT PARCEL.

**FLOOD ZONE NOTE:**  
SUBJECT PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE (ZONE X) PER FEMA FLOOD INSURANCE RATE MAP (FIRM) #372031200K, EFFECTIVE DATE AUGUST 28, 2018. FEMA FIRM MAPS SUBJECT TO CHANGE.

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

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

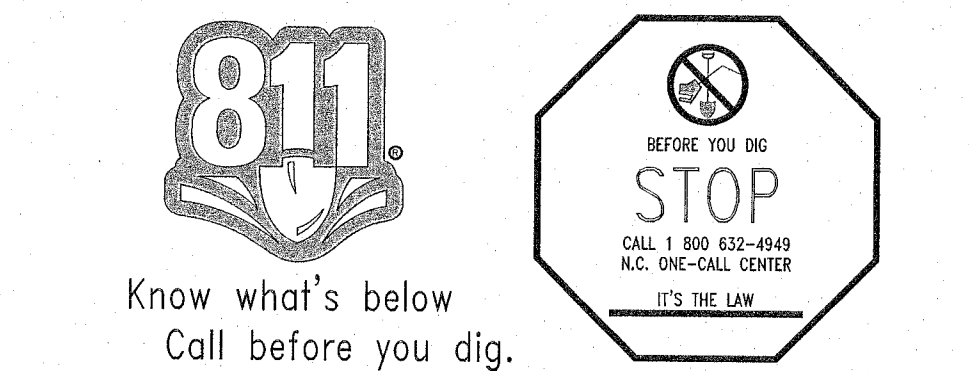
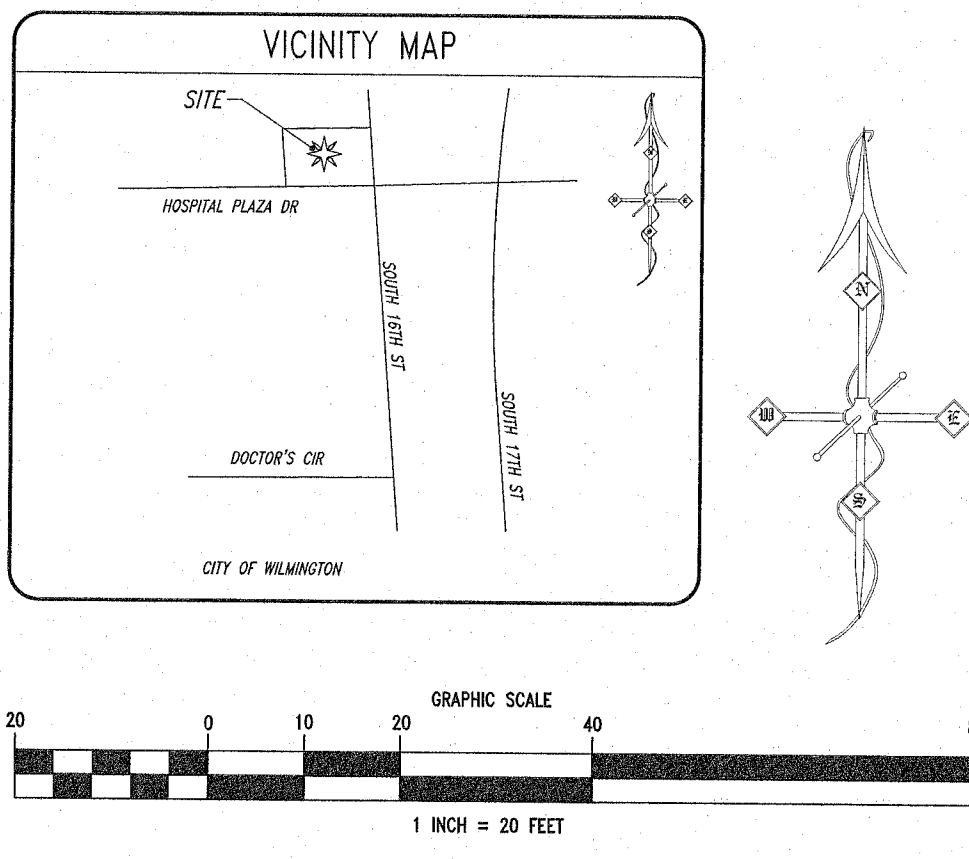
**APPROVED CONSTRUCTION PLAN**

PLANNING	NAME	DATE
TRAFFIC	_____	_____
FIRE	_____	_____

**NOTE TO CONTRACTOR:**  
PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE REQUIRED TO BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AS SHOWN. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING AREA.

**UTILITY STATEMENT**  
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES 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 THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

**CAUTIONARY NOTE**  
THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE BASED ON ABOVE GROUND EVIDENCE OR INFORMATION GATHERED DURING THE FIELD SURVEY PORTION OF THIS PROJECT. AS SUCH, THIS INFORMATION IS SPECULATIVE IN NATURE ONLY AND SHOULD NOT BE CONSTRUED AS FACT. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF THE UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY AND ALL CONSTRUCTION.



- DEMOLITION KEYNOTES**
- 1 Remove trees and root system
  - 2 Remove existing building and foundation
  - 3 Remove fence, post, and foundation
  - 4 Remove all existing shrubs, and debris
  - 5 Remove existing sidewalks
  - 6 Remove existing concrete curb
  - 7 Remove existing driveway approaches
  - 8 Remove existing pavement
  - 9 Remove existing utilities - coordinate with appropriate service provider to remove existing service lines

- DEMOLITION NOTES**
1. ALL WORK TO BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL LOCAL ORDINANCES, CITY OR STATE.
  2. WITHIN THE SUBJECT PROPERTY, THE INTENT IS TO HAVE A CLEAN, CLEAR SITE, FREE OF ALL EXISTING ITEMS NOTED TO BE REMOVED IN ORDER TO PERMIT THE CONSTRUCTION OF THE NEW PROJECT.
  3. ALL ITEMS NOTED TO BE REMOVED BY THE SELLER SHALL BE ACCOMPLISHED PRIOR TO THE CLOSING OF THE REAL ESTATE TRANSACTION. ALL OTHER ITEMS NOTED TO BE REMOVED SHALL BE DONE SO AS PART OF THE CONTRACT FOR GENERAL CONSTRUCTION.
  4. REMOVE AND DISPOSE OF ANY SIDEWALKS, FENCES, STAIRS, WALLS, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED OFF SITE LANDFILL.
  5. THE CONTRACTOR SHALL SECURE ALL PERMITS FOR HIS DEMOLITION AND DISPOSAL OF HIS DEMOLITION MATERIAL TO BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL POST BONDS AND PAY PERMIT FEES AS REQUIRED. BUILDING DEMOLITION CONTRACTOR SHALL BE RESPONSIBLE FOR PERMITS AND DISPOSAL OF BUILDING DEMOLITION DEBRIS.
  6. THE DETAILED PLANS MAY NOT REFLECT ALL UTILITIES ON THE SITE OR SURROUNDING STREETS AND PROPERTIES. THE CONTRACTOR SHALL VERIFY LOCATIONS AND EXISTENCE OF UTILITY SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CALL UTILITY LOCATE, 72 HOURS PRIOR TO CONSTRUCTION.
  7. THE CONTRACTOR TO REMOVE ALL UTILITIES TO EXISTING STRUCTURES WHETHER SHOWN OR NOT OR ARRANGE FOR THE APPROPRIATE UTILITY COMPANY TO CUT AND CAP SERVICE PIPING AT THE PROPERTY LINE OR MAIN (AS REQUIRED). ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN.
  8. FOR ALL ITEMS NOTED TO BE REMOVED - REMOVE NOT ONLY THE ABOVE GROUND ELEMENTS, BUT ALL UNDERGROUND ELEMENTS AS WELL INCLUDING BUT NOT NECESSARILY LIMITED TO: FOUNDATIONS, GRAVEL FILLS, TREE ROOTS, OLD PIPES, ETC.
  9. BACK FILL ALL EXCAVATIONS RESULTING FROM THE DEMOLITION WORK TO MEET THE REQUIREMENTS FOR FILL OUTLINED IN THE GEOTECHNICAL REPORT.
  10. THE CONTRACTOR SHALL PROTECT ALL IRON PINS, MONUMENTS AND PROPERTY CORNERS DURING CONSTRUCTION. ANY CONTRACTOR DISTURBED PINS, MONUMENTS, ETC. SHALL BE RESET BY A LICENSED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.
  11. THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPES, PAVEMENT, CURBS, SIDEWALKS OR LANDSCAPED AREAS DISTURBED DURING DEMOLITION TO THEIR ORIGINAL CONDITION TO THE SATISFACTION.
  12. ALL BUILDINGS, FOUNDATION WALLS AND FOOTINGS INDICATED ON THIS PLAN TO BE REMOVED FROM SITE. CONTRACTOR SHALL SECURE ANY PERMITS AND PAY ALL FEES AND PERFORM CLEARING AND GRUBBING AND DEBRIS REMOVAL PRIOR TO COMMENCEMENT OF GRADING OPERATIONS.
  13. ASBESTOS AND ANY OTHER HAZARDOUS MATERIAL SHALL BE REMOVED BY THE GENERAL CONTRACTOR USING A LICENSED HAZARDOUS MATERIAL CONTRACTOR.

**DEMOLITION LEGEND**

	BUILDINGS TO BE REMOVED
	PAVEMENT TO BE REMOVED
	UTILITIES TO BE REMOVED
	TREES TO BE REMOVED

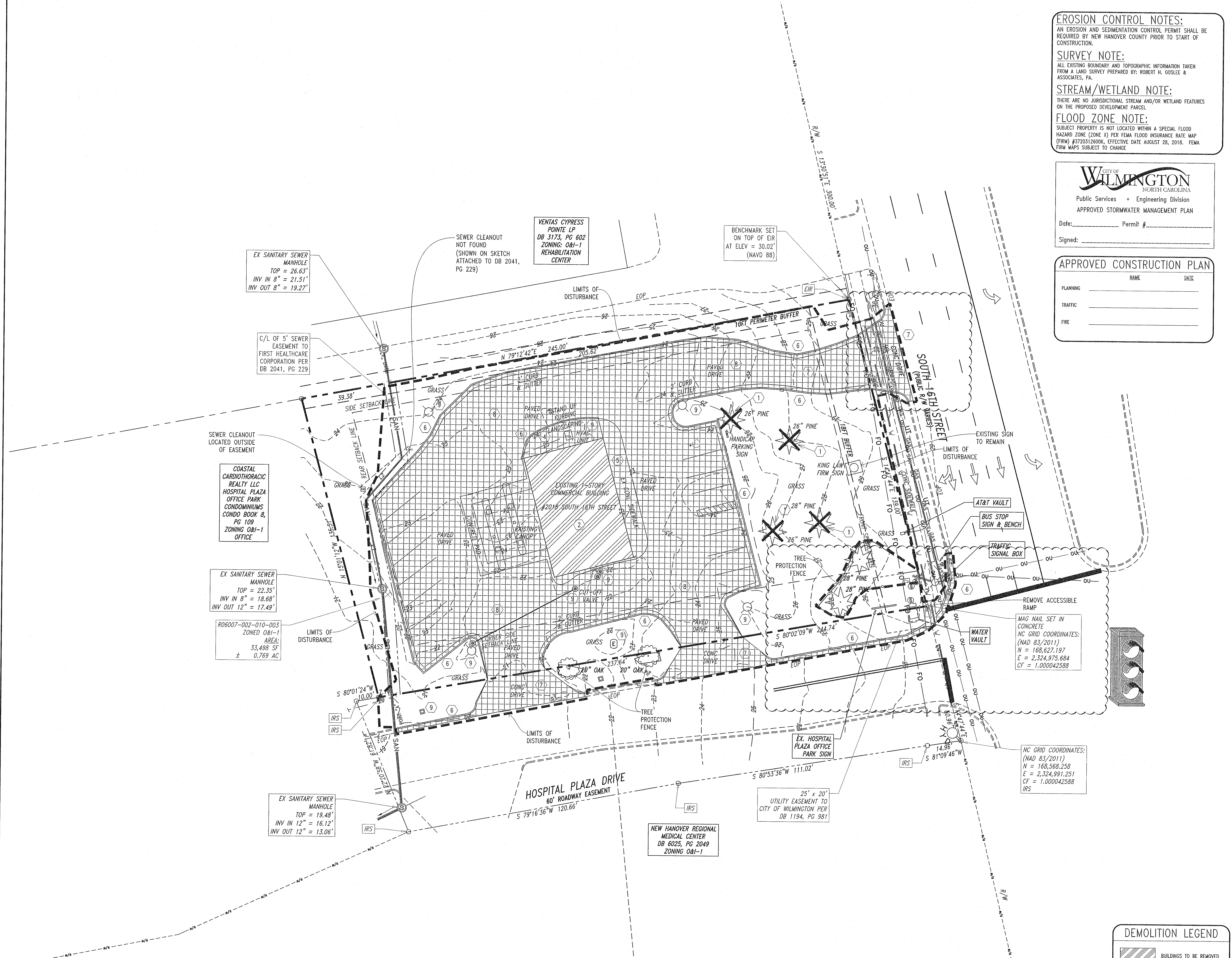
**TREE REPLACEMENT CALCULATION**

REGULATED TREES REMOVED = 4  
(3-26" PINE TREES & 1-28" PINE TREE)

The total number of replacement trees shall be determined for regulated trees removed by multiplying the total DBH of the removed regulated tree(s) by the percentage for the type of tree in Table IV (Loblolly pine = 50%) and dividing by three (3).

Plugs may be mitigated on site with long-leaf pine plugs spaced ten (10) feet apart at a rate of one (1) plug per inch DBH of the removed tree multiplied by the percentage in Table IV (Loblolly pine = 50%) divided by three (3).

100 DBH x 0.5/3 = 18 long-leaf pine plugs

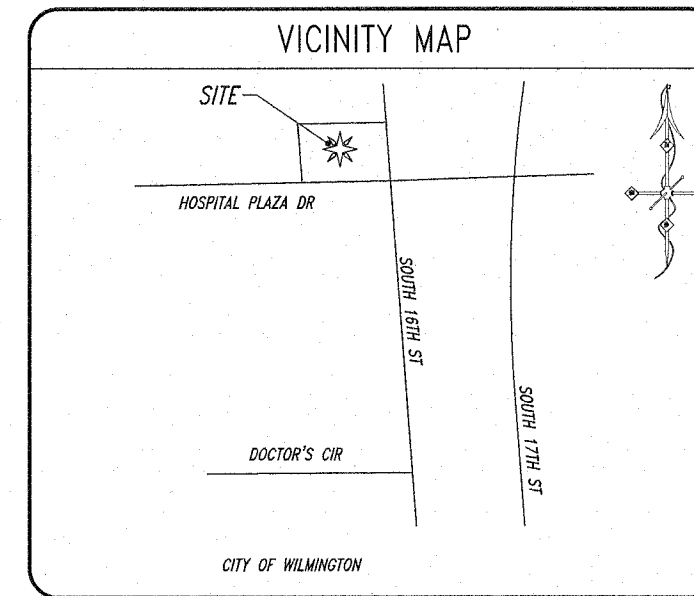




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**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN

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



**APPROVED CONSTRUCTION PLAN**

PLANNING	NAME	DATE
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FIRE		

**GENERAL NOTES**

1. THE INFORMATION SHOWN HEREIN WAS TAKEN FROM A FIELD RUN TOPOGRAPHIC SURVEY OF THE PROPERTY.
2. THE LOCATION OF ALL UTILITIES SHOWN ON THESE PLANS ARE BASED ON THE AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS OF UTILITIES WITH THE UTILITY OWNERS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. ALL HANDICAP SITE FEATURES SHALL BE CONSTRUCTED TO MEET ALL FEDERAL, STATE AND LOCAL CODES.
4. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER PRIOR TO START OF CONSTRUCTION. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS, AND DIMENSIONS SHOWN HEREON BEFORE BEGINNING CONSTRUCTION.
5. PRIOR TO STARTING CONSTRUCTION, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PLAN AND OTHER DOCUMENTATION FROM ALL OF THE PERMITTING AND ANY OTHER REGULATORY AUTHORITIES. FAILURE OF THE CONTRACTOR TO FOLLOW THIS PROCEDURE SHALL CAUSE THE CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ANY SUBSEQUENT MODIFICATION OF THE WORK MANDATED BY ANY REGULATORY AUTHORITY. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND APPLICABLE STATE, COUNTY, AND LOCAL CODES.
6. THE GENERAL CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHT-OF-WAYS, PUBLIC OR PRIVATE, PRIOR TO WORKING IN THESE AREAS.
7. CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
8. ACCESS TO UTILITIES, FIRE HYDRANTS, STREET LIGHTING, ETC SHALL REMAIN UNDISTURBED, UNLESS COORDINATED WITH RESPECTIVE UTILITY.
9. CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO ANY EXISTING ITEM AND/OR MATERIAL INSIDE OR OUTSIDE CONTRACT LIMITS DUE TO CONSTRUCTION OPERATIONS.
10. ALL DIMENSIONS ARE TO THE BACK OF CURB, UNLESS OTHERWISE NOTED.
11. DO NOT SCALE THIS DRAWING AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
12. THE GENERAL CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT AND AT LEAST ONCE A WEEK DURING CONSTRUCTION.
13. THE GENERAL CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
14. GENERAL CONTRACTOR WILL ERECT AND ILLUMINATE A SITE IDENTIFICATION SIGN, PER OWNER'S SPECIFICATIONS. COORDINATE THE LOCATION WITH OWNER'S REPRESENTATIVE.
15. FINISH CURB AND WALK ELEVATIONS SHALL BE 6" ABOVE FINISH PAVEMENT GRADE UNLESS NOTED DIFFERENT ON PLAN.
16. CONTRACTOR SHALL ENSURE THAT ADEQUATE SITE LIGHTING IS PROVIDED PER OWNER'S SPECIFICATIONS.
17. ALL RADIUS DIMENSIONS ARE TO THE BACK OF CURB.
18. ALL UTILITIES TO SERVICE BUILDING SHALL BE UNDERGROUND ON SITE, UNLESS OTHERWISE INDICATED.
19. ALL STREET SURFACES, DRIVEWAYS, CULVERTS, CURB AND GUTTERS, ROADSIDE DRAINAGE DITCHES AND OTHER STRUCTURES THAT ARE DISTURBED OR DAMAGED IN ANY MANNER AS A RESULT OF CONSTRUCTION SHALL BE REPLACED OR REPAIRED IN ACCORDANCE WITH SPECIFICATIONS.
20. ALL DISTURBED AREAS SHALL HAVE TEMPORARY SEEDING AND MULCHING. ALL AREAS THAT ARE PLANNED TO BE BARE FOR MORE THAN 45 DAYS SHALL BE SEEDING AND MULCHED WITHIN SEVEN (7) DAYS.
21. THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES. THE LOCATION OF ALL EXISTING UTILITIES ARE NOT NECESSARILY SHOWN ON THE PLANS AND WHERE SHOWN ARE ONLY APPROXIMATE. THE CONTRACTOR SHALL ON HIS INITIATIVE AND AT NO EXTRA COSTS HAVE LOCATED ALL UNDERGROUND LINES AND STRUCTURES AS NECESSARY. NO CLAIMS FOR DAMAGES OR EXTRA COMPENSATION SHALL ACCRUE TO THE CONTRACTOR FROM THE PRESENCE OF SUCH PIPE, OTHER OBSTRUCTIONS OR FROM ANY DELAY DUE TO REMOVAL OR REARRANGEMENT OF THE SAME. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING NORTH CAROLINA "811" FOR ASSISTANCE IN LOCATING EXISTING UTILITIES. CALL AT LEAST 48 HOURS PRIOR TO DIGGING.
22. ALL LOT STRIPING AND DIRECTIONAL ARROWS TO BE WHITE REFLECTIVE MARKINGS AND SHALL CONFORM TO LOCAL REGULATIONS.
23. COMPACTION AND MAINTENANCE OF PROPER MOISTURE CONTENT OF THE SOIL UNDER BUILDINGS AND PAVED AREAS SHALL BE ACCOMPLISHED TO ACHIEVE 95 STANDARD PROCTOR MAXIMUM DRY DENSITY OR AS RECOMMENDED IN SOIL REPORT.
24. THE CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE OWNER UPON COMPLETION OF THE PROJECT WITH A COPY OF THE TRANSMITTAL LETTER TO THE ENGINEER.
25. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL REVIEW ALL PLANS AND SPECIFICATIONS AND THE JOB SITE. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER WHO PREPARED THE PLANS OF ANY DISCREPANCIES THAT MAY REQUIRE MODIFICATIONS TO THESE PLANS OR OF ANY FIELD CONFLICTS.
26. ALL PERMITS RELATIVE TO THE PROJECT MUST BE OBTAINED, PRIOR TO CONSTRUCTION. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH PERMITS ISSUED AND APPLICABLE STATE, COUNTY, AND LOCAL CODES.
27. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL BUILDING DIMENSIONS.
28. ALL PARKING LOT DIMENSIONS ARE TO THE BACK OF CURB UNLESS OTHERWISE NOTED.
29. CONTRACTOR SHALL COORDINATE EXACT SIZE OF HVAC CONCRETE PADS WITH MECHANICAL CONTRACTOR. REFER TO MECHANICAL PLANS FOR DETAILS.
30. ALL SEEDING, TEMPORARY OR PERMANENT, TO BE INSTALLED TO LOCAL REGULATIONS AND STANDARD PRACTICES.
31. ALL ROAD WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITION OF THE STATE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS.
32. ANY AND ALL QUANTITIES SHOWN OR IMPLIED ON THESE PLANS ARE FOR ESTIMATION PURPOSES ONLY.
33. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE IRRIGATION CONTRACTOR, FOR IRRIGATION SLEEVE SIZE FOR IRRIGATION SYSTEM.
34. CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERAL ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD THE OWNER AND DESIGN PROFESSIONAL HARMLESS OF ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR DESIGN PROFESSIONAL.

**KEYNOTES**

1. CONSTRUCT 1'-6" CONCRETE CURB AND GUTTER PER DETAIL SHEET
2. BIKE RACK
3. CONSTRUCT CONCRETE SIDEWALK PER DETAIL SHEET
4. CONSTRUCT CONCRETE SIDEWALK FLUSH WITH ASPHALT PAVEMENT
5. CONSTRUCT CONCRETE HANDICAP RAMP PER DETAIL SHEET
6. HANDICAP PARKING STALL
7. INSTALL HANDICAP PARKING SIGN PER DETAIL SHEET
8. CONCRETE PAVEMENT PER DETAIL SHEET, DRIVE THRU LANE SHALL BE 6" STAINED BLACK CONCRETE
9. ASPHALT PAVEMENT PER DETAIL SHEET  
 POROUS CONCRETE PAVEMENT  
 CONCRETE PAVEMENT  
 STANDARD DUTY PAVEMENT  
 HEAVY DUTY PAVEMENT
10. TRANSFORMER PAD BY GENERAL CONTRACTOR, PER ELECTRIC COMPANY SPECS. (COORDINATE SIZE & LOCATION WITH UTILITY COMPANY)
11. CONSTRUCT DUMPSTER PAD, MINIMUM 6" CONCRETE WITH 4" ABC BASE, AND TRASH ENCLOSURE WITH GATES, SEE ARCHITECTURAL SHEETS FOR DETAIL, MATERIALS TO MATCH BUILDING
12. CONCRETE WHEEL STOP PER DETAIL SHEET
13. POLE MOUNTED AREA LIGHT, SEE LIGHTING PLAN
14. PAINT 4" WIDE STRIPE, WHITE
15. PAINT 4" WIDE STRIPE @ 45°, 2 FEET APART
16. PAINT TRAFFIC ARROWS PER DETAIL SHEET
17. SITE IDENTIFICATION SIGN, INSTALL AND PERMIT PER CITY STANDARDS, COORDINATE WITH OWNER.
18. PERVIOUS CONCRETE PER DETAIL SHEET
19. CONCRETE FLUME PER DETAIL SHEET
20. ASPHALT/CONCRETE TRANSITION PER DETAIL
21. INSTALL PIPE BOLLARD PER DETAIL SHEET
22. INSTALL ILLUMINATED BOLLARD
23. MATCH EXISTING ASPHALT PAVEMENT
24. MATCH EXISTING CURB & GUTTER
25. PREVIEW BOARD, SEE ARCHITECTURAL PLANS FOR DETAILS
26. MENU BOARD AND SPEAKER POST, SEE ARCHITECTURAL PLANS FOR DETAILS
27. CLEARANCE BAR, SEE ARCHITECTURAL PLANS FOR DETAILS
28. PAINT 24" STOP BAR PER DOT AND MUTCD STANDARDS
29. PAINT "DO NOT ENTER" PER DOT MUTCD STANDARDS
30. INSTALL TRUNCATED DOMES PER HANDICAP RAMP DETAILS
31. INSTALL "STOP" SIGN PER DOT AND MUTCD STANDARDS
32. INSTALL "MEDIUM" SIGN (R4-7-24) PER DOT AND MUTCD STANDARDS
33. INSTALL "NO LEFT TURN" (R3-2-24) SIGN PER DOT AND MUTCD STANDARDS
34. STAMPED CONCRETE - COLOR & PATTERN TO BE DETERMINED BY TENANT
35. NOSE DOWN CURB
36. RELOCATE EXISTING UTILITY POLE, CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY.
37. DO NOT ENTER SIGN
38. NON-ILLUMINATED BOLLARD

**IMPERVIOUS AREA SUMMARY**  
 SITE AREA = 33,498 SF (0.769 AC)

BUILDINGS	PAVEMENT	SIDEWALK	POROUS CONCRETE	GREEN/OPEN SPACE
2,510 SF	14,515 SF	1,675 SF	2,080 SF	12,718 SF
0.06 ACRES(S)	0.33 ACRES(S)	0.04 ACRES(S)	0.05 ACRES(S)	0.29 ACRES(S)
7.49 %	43.33 %	5.00 %	6.21 % (TYPE A SOILS, 100% PERVIOUS)	37.97 %

EXISTING IMPERVIOUS AREA TO BE DEMOLISHED: 19,135 SF (ON-SITE)  
 DECREASE IN IMPERVIOUS AREA: 455 SF  
 EXEMPT FROM 25-YEAR PRE/POST ATTENUATION REQUIREMENT

**TRAFFIC CONTROL NOTES**

THE DISTRICT OFFICE OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO CONSTRUCTION.

TRAFFIC MUST BE MAINTAINED AT ALL TIMES AND TRAFFIC CONTROL MUST COMPLY WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND WITH THE CURRENT EDITION OF THE NCDOT STANDARDS AND SPECIFICATIONS.

ALL LANES OF TRAFFIC ARE TO BE OPEN DURING THE HOURS OF 6:00 AM TO 9:00 AM AND FROM 4:00 PM TO 6:00 PM. A MINIMUM OF ONE 12-FOOT LANE SHALL BE MAINTAINED AT ALL TIMES.

ALL ROADWAY SIGNS WHICH ARE TO BE REMOVED DURING CONSTRUCTION ARE TO BE REINSTALLED AS SOON AS POSSIBLE.

DURING NON-WORKING HOURS, EQUIPMENT IS TO BE PARKED AS CLOSE TO THE RIGHT OF WAY LINE AS POSSIBLE AND BE PROPERLY BARRICADED IN ORDER TO PREVENT ANY EQUIPMENT OBSTRUCTION WITHIN THE TRAVEL LANE.

ALL CONTRACTORS DOING WORK WITHIN STATE RIGHT OF WAY ARE TO HAVE A COPY OF THESE PLANS ON THE JOB SITE.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WITHIN 5' OF AN OPEN TRAVEL LANE, THE CONTRACTOR SHALL CLOSE THE OPEN TRAVEL LANE ADJACENT TO THE WORK AREA USING APPROPRIATE TRAFFIC CONTROL MEANS AND METHODS UNLESS WORK IN THAT AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

THE CONTRACTOR SHALL NOT WORK SIMULTANEOUSLY ON BOTH SIDES OF AN OPEN TRAVEL WAY WITHIN THE SAME LOCATION ON A TWO-LANE, TWO-WAY ROAD.

THE MAXIMUM LENGTH OF A LANE CLOSURE ON THE PROJECT SHALL BE ONE MILE, MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

THE CONTRACTOR SHALL BACKFILL AT 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS A DROP-OFF OF MORE THAN 3".

WHEN BACKFILL IS REQUIRED, IT SHALL BE AT NO EXPENSE TO THE OWNER.

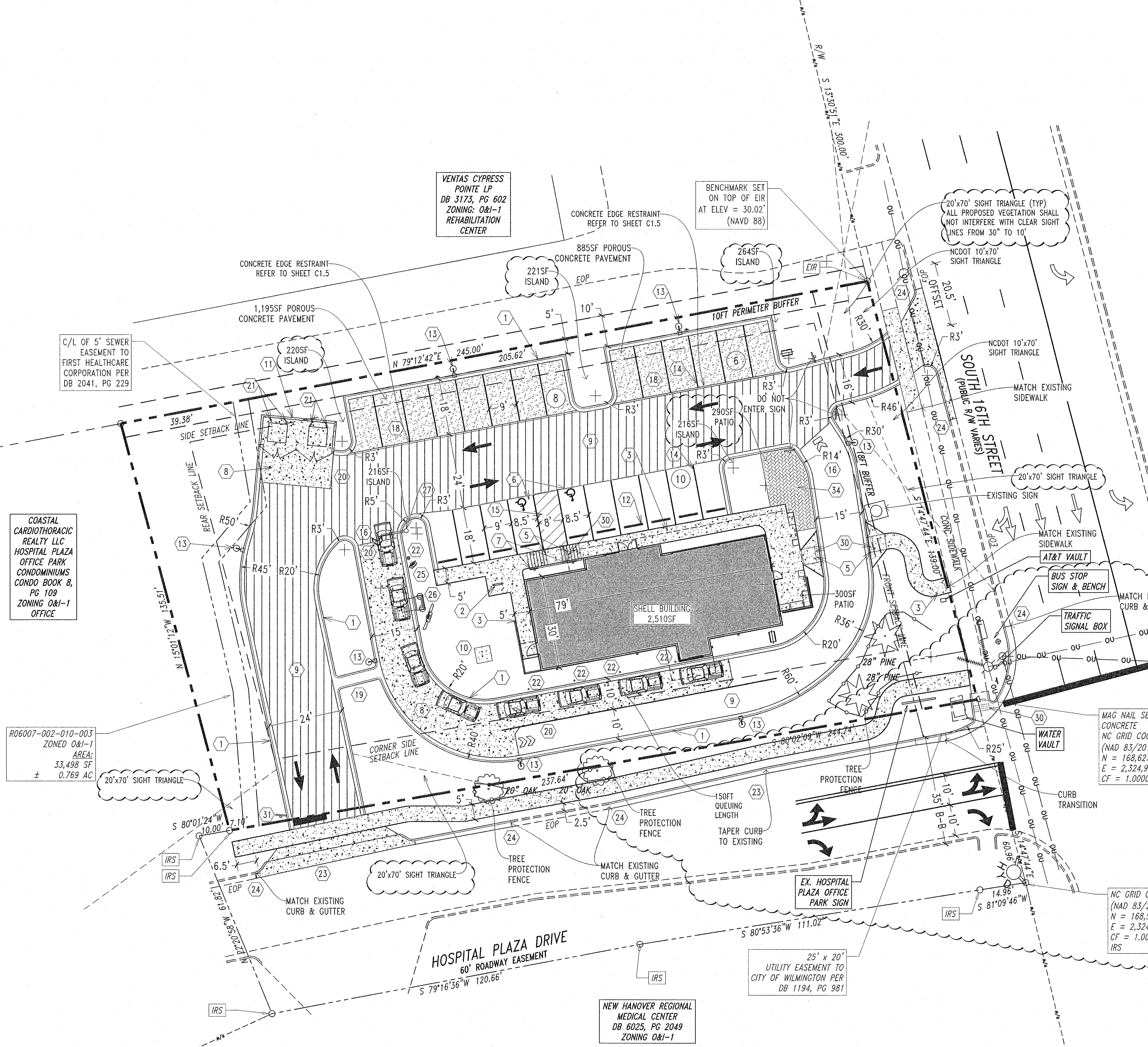
THE MAXIMUM DIFFERENCE IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC SHALL BE 2".

WHEN LANE CLOSURES ARE NOT IN EFFECT, CHANNELIZING DEVICES IN WORK AREAS SHALL BE SPACED NO GREATER THAN TWICE THE POSTED SPEED LIMIT, EXCEPT 10' ON-CENTER IN RADIUS, AND SHALL BE SET 3' OFF THE EDGE OF AN OPEN TRAVELWAY.

DURING INSTALLATION, PROPER TRAFFIC CONTROL DEVICES, SIGNS, ETC. BE INSTALLED TO ENSURE PUBLIC SAFETY IN ACCORDANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S STANDARDS AND SPECIFICATIONS.

ALL DISTURBED AREAS ARE TO BE FULLY RESTORED TO NCDOT MINIMUM ROADWAY STANDARDS.

MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE NCDOT ROADWAY STANDARDS AND SPECIFICATIONS (LATEST EDITION).



COASTAL CARDIOTHORACIC REALTY LLC  
 HOSPITAL PLAZA OFFICE PARK CONDOMINIUMS CONDO BOOK B, PG 109 ZONING O&I-1 OFFICE

RO6007-002-010-003  
 ZONED O&I-1  
 AREA:  
 33,498 SF  
 ± 0.769 AC

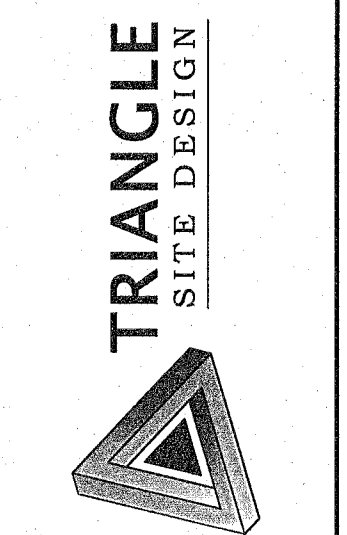
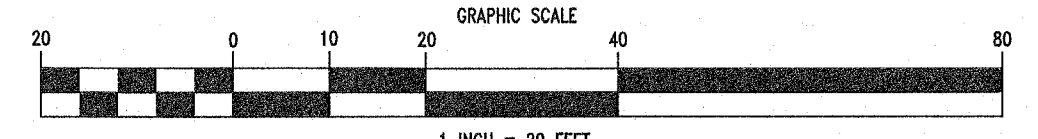
HOSPITAL PLAZA DRIVE  
 60' ROADWAY EASEMENT  
 S 79°16'36"W 120.66'

NEW HANOVER REGIONAL MEDICAL CENTER  
 DB 6025, PG 2049  
 ZONING O&I-1

25' x 20' UTILITY EASEMENT TO CITY OF WILMINGTON PER DB 1194, PG 981

MAG NAIL SET IN CONCRETE  
 NC GRID COORDINATES:  
 (NAD 83/2011)  
 N = 168,627.197  
 E = 2,324,975.684  
 CF = 1.000042588

NC GRID COORDINATES:  
 (NAD 83/2011)  
 N = 165,568.258  
 E = 2,324,991.251  
 CF = 1.000042588  
 IRS



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 mlowder@trianglesitedesign.com  
 NC License #P-0619



Owner/Developer  
 Wilmington NC 2018, LLC  
 Hartzog Holdings, LLC  
 Attn: Collins Hartzog  
 109 Still Wild Lane  
 Elgin, SC 29045  
 803-361-6718  
 collins@hartzogholdings.com



Starbucks-Hospital Plaza  
 2018 South 16th Street  
 Wilmington, North Carolina  
 New Hanover County

This document, together with the concepts and designs presented herein, as an instrument of services, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Triangle Site Design, PLLC shall be without liability to Triangle Site Design, PLLC.

REV	DATE	DESCRIPTION
1	4/20/19	REVISED PER CITY REVIEW
2	5/17/19	ADJUSTED DRIVEWAY & HOSPITAL PLAZA DR PER NCDOT
3	6/14/19	REVISED PER CITY OF WILMINGTON REVIEW

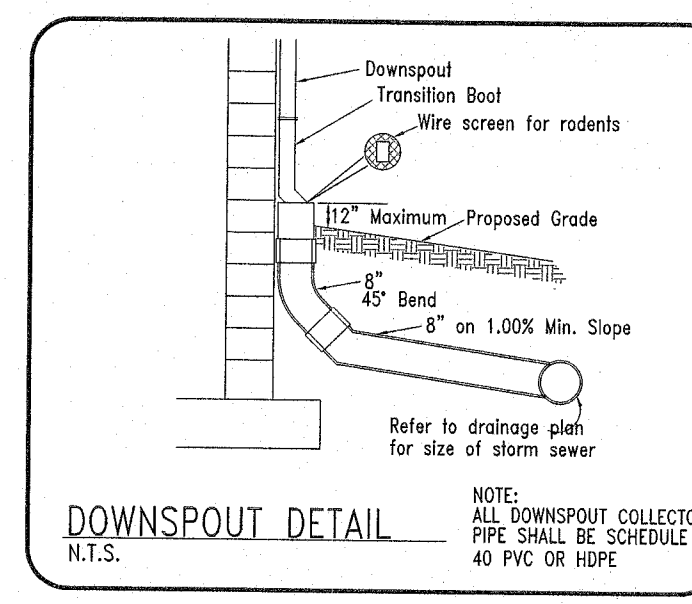
Drawn  
 Checked  
 Approved

Project No. 009014  
 Date: June 14, 2019

**SITE PLAN**

Sheet No. C1.0





- ### DRAINAGE NOTES
- A MINIMUM GRADE OF 0.5% SHALL BE MAINTAINED ON ALL PIPES, UNLESS OTHERWISE NOTED.
  - PIPE LENGTHS AND SLOPES INDICATED ON THE PLANS ARE APPROXIMATE ONLY.
  - UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
    - NO MORE THAN 500 LF OF TRENCH MAY BE OPENED AT ONE TIME.
    - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
    - EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
    - MATERIAL USED FOR BACK-FILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
    - RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL REGULATIONS.
    - APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
  - CATCH BASINS, MANHOLES, FRAMES, GRATES, ETC. SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS. REFERENCE THE FOLLOWING STANDARD DETAILS:
 

840.02 - CONCRETE CATCH BASIN	840.03 - FRAME, GRATES, AND HOOD FOR CATCH BASINS
840.14 - CONCRETE DROP INLET	840.04 - CONCRETE OPEN THROAT CATCH BASIN
840.14 - CONCRETE DROP INLET	840.16 - DROP INLET FRAME AND GRATES
840.31 - CONCRETE JUNCTION BOX	840.36 - TRAFFIC BEARING GRATED DROP INLET
840.52 - PRECAST MANHOLE	840.45 - PRECAST DRAINAGE STRUCTURE
838.80 - PRECAST CONCRETE ENDWALL	
  - ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENTS AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
  - STORM PIPE SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
 

TYPE 1: RCP, CLASS III PER ASTM C-76, WITH FLEXIBLE PLASTIC BITUMEN GASKETS AT JOINTS.

TYPE 2: HIGH DENSITY POLYETHYLENE PIPE (HDPE) - AASHTO DESIGNATION M252 TYPE S, M294 TYPE S AND M71-97 TYPE S, SMOOTH INTERIOR/ANNULAR EXTERIOR. ONLY PERMITTED WHEN SPECIFICALLY INDICATED ON THE CONSTRUCTION DRAWINGS. PIPE SHALL BE INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER'S INSTALLATION GUIDELINES. PIPE JOINTS AND FITTINGS SHALL BE WATER-TIGHT.
  - ALL STORM DRAINAGE WITHIN THE PUBLIC ROADS SHALL BE CLASS III REINFORCED CONCRETE PIPE UNLESS OTHERWISE NOTED.
  - EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE SILT AND DEBRIS.
  - IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
  - ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATER-TIGHT.
  - PRECAST STRUCTURES MAYBE USED AT CONTRACTOR'S OPTION.
  - ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING RIMS & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".
  - STRUCTURE TOP ELEVATIONS SHOWN HERE ARE APPROXIMATE. CONTRACTOR SHALL ADJUST AS NECESSARY.
  - RIM ELEVATIONS AS NOTED ARE TO THE OUTER FLOW LINE.

- ### GRADING NOTES
- REFER TO THE 'SITE' PLAN FOR RELATED NOTES.
  - ALL CONTOURS AND SPOT ELEVATIONS REFLECT FINISHED GRADES.
  - ALL ELEVATIONS ARE IN REFERENCE TO THE BENCHMARK, AND THIS MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
  - THE CONTRACTOR SHALL IMMEDIATELY REPORT TO OWNER ANY DISCREPANCIES FOUND BETWEEN ACTUAL FIELD CONDITIONS AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION PRIOR TO PROCEEDING.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES, AND SHALL REPAIR ALL DAMAGE TO EXISTING UTILITIES THAT OCCUR DURING CONSTRUCTION.
  - THE CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
  - LIMITS OF CLEARING SHOWN ON GRADING PLAN ARE BASED UPON THE APPROXIMATE CUT AND FILL SLOPE LIMITS, OR OTHER GRADING REQUIREMENTS.
  - THE PROPOSED CONTOURS SHOWN IN DRIVES AND PARKING LOTS AND SIDEWALKS ARE FINISHED ELEVATIONS INCLUDING ASPHALT. REFER TO PAVEMENT CROSS SECTION DATA TO ESTABLISH CORRECT SUBBASE OR AGGREGATE BASE COURSE ELEVATIONS TO BE COMPLETED UNDER THIS CONTRACT.
  - THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE SO THAT RUNOFF WILL DRAIN BY GRAVITY FLOW ACROSS NEW PAVEMENT AREAS TO NEW OR EXISTING DRAINAGE INLETS OR SHEET OVERLAND.
  - ANY GRADING, BEYOND THE LIMITS OF CONSTRUCTION AS SHOWN ON THE GRADING PLAN, IS SUBJECT TO A FINE.
  - GRADING WITHOUT AN APPROVED EROSION CONTROL PLAN IS SUBJECT TO A FINE.
  - STABILIZATION IS THE BEST FORM OF EROSION CONTROL. TEMPORARY SEEDING IS NECESSARY TO ACHIEVE EROSION CONTROL ON DENuded AREAS AND ESPECIALLY WHEN THE CONSTRUCTION SEQUENCE REQUIRES IT.
  - ALL GRADED SLOPES ARE TO BE SEEDDED OR LANDSCAPED WITHIN 15 DAYS OF COMPLETION OF GRADING. ALL REMAINING AREAS ARE TO BE SEEDDED WITHIN 30 DAYS.
  - EXISTING GRADES, CONTOURS, UTILITIES AND OTHER EXISTING FEATURES FROM FIELD RUN SURVEY.
  - THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT PRICE ANY DEWATERING NECESSARY TO CONSTRUCT THE PROJECT AS SHOWN ON THE PLANS.
  - THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SHEETING, SHORING, BRACING AND SPECIAL EXCAVATION MEASURES REQUIRED TO MEET OSHA, FEDERAL, STATE, AND LOCAL REGULATIONS PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THESE DRAWINGS. THE DESIGN ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE DESIGN(S) TO INSTALL SAID ITEMS.
  - THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATION, ELEVATION, AND DIMENSIONS OF EXIT DOORS, RAMPS, BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
  - ALL FILL MATERIALS, EXISTING BUILDING FOUNDATIONS, PAVEMENT AND UTILITY STRUCTURES, TOPSOIL, AND ANY OTHER DELETERIOUS MATERIALS SHALL BE COMPLETELY REMOVED FROM WITHIN THE BEARING ZONE BELOW THE STRUCTURE.
  - ALL FOUNDATION EXCAVATION SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL REPRESENTATIVE TO DETERMINE WHETHER UNSUITABLE MATERIAL MUST BE REMOVED. ALL UNSUITABLE MATERIAL SHALL BE REMOVED, BACKFILLED AND COMPACTED AS REQUIRED BY THE GEOTECHNICAL REPRESENTATIVE.
  - ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED OR DEPICTED.
  - THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
  - CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
  - CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
  - ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3:1:Y OR STEEPER.
  - CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.

- ### EROSION CONTROL NOTES:
- AN EROSION AND SEDIMENTATION CONTROL PERMIT SHALL BE REQUIRED BY NEW HANOVER COUNTY PRIOR TO START OF CONSTRUCTION.
- ### SURVEY NOTE:
- ALL EXISTING BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A LAND SURVEY PREPARED BY ROBERT H. OSBEE & ASSOCIATES, P.A.
- ### STREAM/WETLAND NOTE:
- THERE ARE NO JURISDICTIONAL STREAM AND/OR WETLAND FEATURES ON THE PROPOSED DEVELOPMENT PARCEL.
- ### FLOOD ZONE NOTE:
- SUBJECT PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE (ZONE X) PER FEMA FLOOD INSURANCE RATE MAP (FIRM) #270012000K, EFFECTIVE DATE AUGUST 26, 2016. FEMA FIRM MAPS SUBJECT TO CHANGE.

### LEGEND

TS.....	TOP OF SIDEWALK
TC.....	TOP OF CURB
GT.....	GUTTER FLOW LINE
TP.....	TOP OF PAVEMENT
TW.....	TOP OF WALL
BW.....	BOTTOM OF WALL
CB.....	CATCH BASIN
GI.....	GRATE INLET
FES.....	FLARED END SECTION
YL.....	YARD INLET
GR.....	GROUND
→.....	FLOW DIRECTION ARROW

### NOTE TO CONTRACTOR:

PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE REQUIRED TO BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AS SHOWN. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING AREA.

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

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

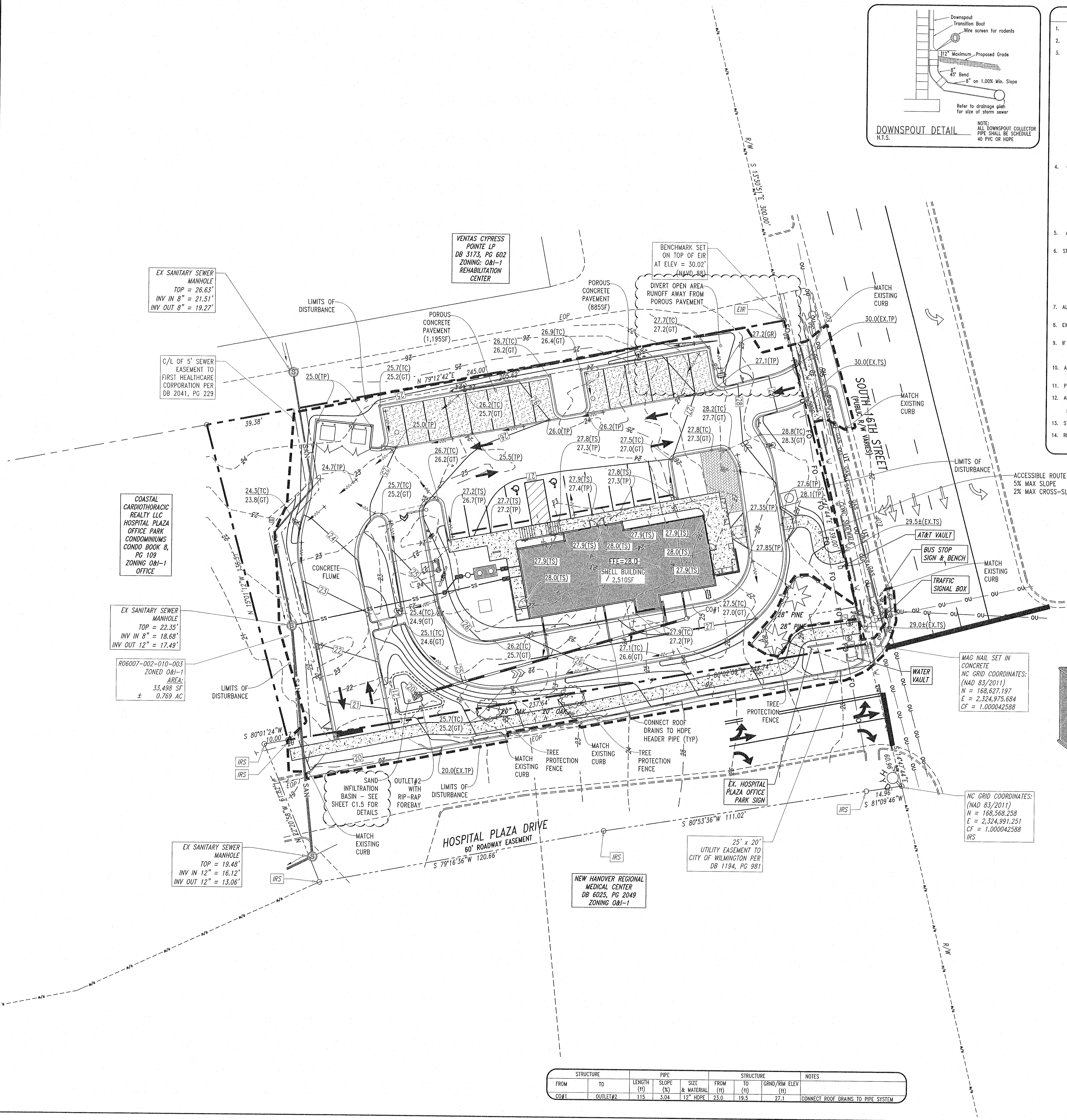
### APPROVED CONSTRUCTION PLAN

PLANNING	NAME	DATE
TRAFFIC	_____	_____
FIRE	_____	_____

811 Know what's below Call before you dig.

BEFORE YOU DIG STOP IT'S THE LAW

GRAPHIC SCALE: 1 INCH = 20 FEET



STRUCTURE	TO	PIPE LENGTH (ft)	PIPE SIZE (in)	PIPE MATERIAL	SLOPE (%)	FROM	TO	STRUCTURE	TO	GROUND/RIM ELEV (ft)	NOTES
CO#1	OUTLET#2	115	3.04	12" HDPE	23.0	19.5	27.1	CONNECT ROOF DRAINS TO PIPE SYSTEM			

**TRIANGLE SITE DESIGN**

Consultant  
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Raleigh, NC 27609  
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msnyder@trianglesitedesign.com  
NC License #P-0619

Owner/Developer  
Wilmington NC 2018, LLC  
Hartzog Holdings, LLC  
Attn: Collins Hartzog  
109 Still Wild Lane  
Elgin, SC 29045  
803-361-6718  
collins@hartzogholdings.com

Starbucks - Hospital Plaza  
2018 South 16th Street  
Wilmington, North Carolina  
New Hanover County

This document, together with the concepts and designs presented herein, as an instrument of services, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Triangle Site Design, PLLC shall be without liability to Triangle Site Design, PLLC.

REVISED PER CITY REVIEW	DATE	BY
1	4/20/19	
2	5/21/19	
3	6/14/19	

Drawn Checked Approved

Project No. 009014  
Date: June 14, 2019  
Title: GRADING & DRAINAGE PLAN  
Sheet No. C1.1



**NOTE TO CONTRACTOR:**

PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE REQUIRED TO BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AS SHOWN. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING AREA.

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

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

**APPROVED CONSTRUCTION PLAN**

NAME	DATE
PLANNING	_____
TRAFFIC	_____
FIRE	_____

- CAPE FEAR PUBLIC UTILITY AUTHORITY NOTES:**
1. CPFA CUSTOMER SERVICE IS CURRENTLY BILLING A 2" DOMESTIC METER AND SEWER SERVICE.
  2. 48-HOUR NOTICE TO CPFA UTILITY INSPECTOR PRIOR TO ANY WORK ON CPFA OWNED INFRASTRUCTURE.
  3. DAVID SELKE-CPFA UTILITY CONSTRUCTION INSPECTOR:  
OFFICE 910-332-6033  
MOBILE 910-367-8163
  4. ANY CHANGES TO EXISTING SERVICE MUST BE ARRANGED THROUGH CPFA CUSTOMER SERVICE DEPARTMENT.

**FIRE PROTECTION NOTE:**  
THE PROPOSED BUILDING WILL NOT HAVE A FIRE SPRINKLER SYSTEM

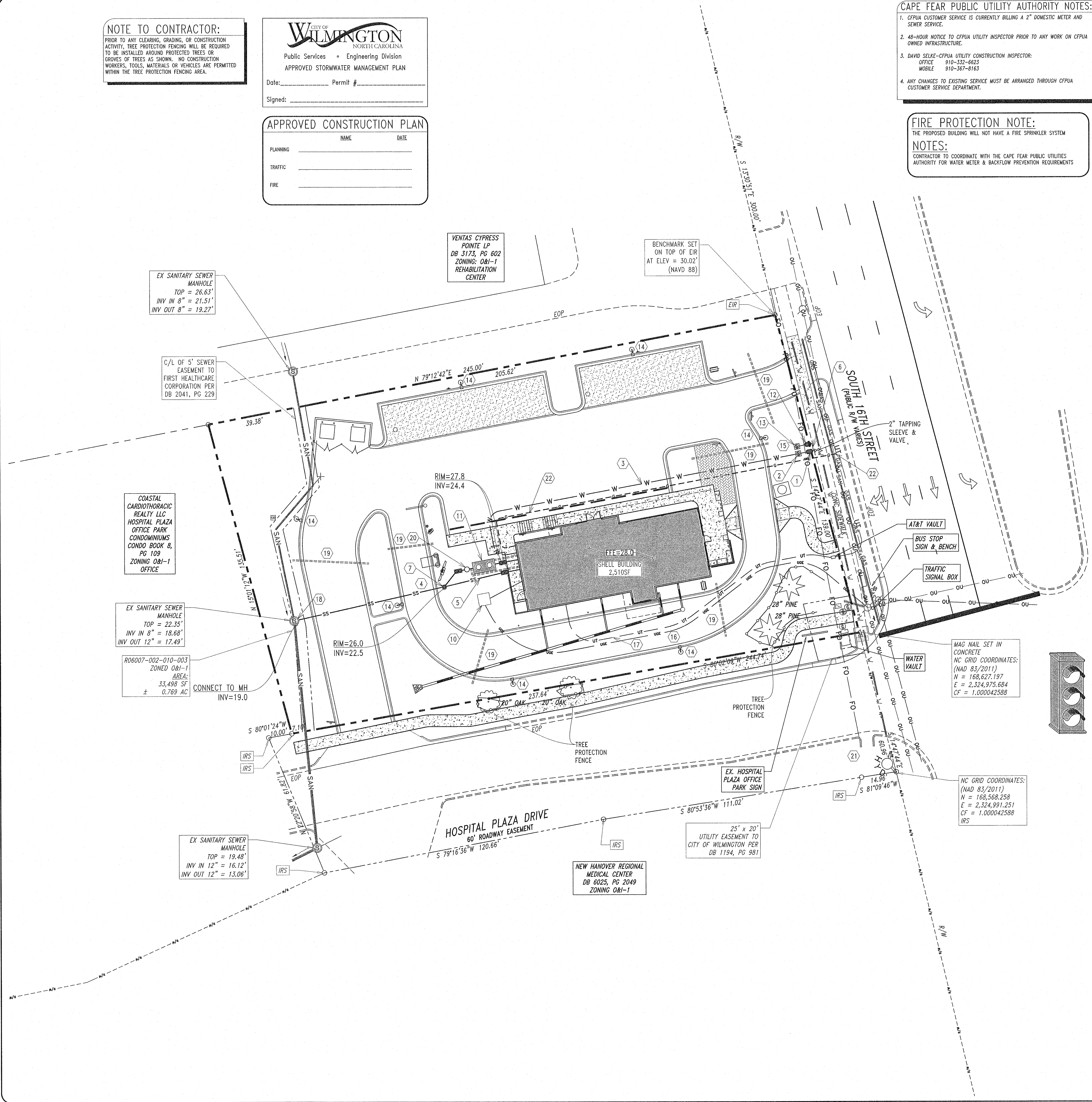
**NOTES:**  
CONTRACTOR TO COORDINATE WITH THE CAPE FEAR PUBLIC UTILITIES AUTHORITY FOR WATER METER & BACKFLOW PREVENTION REQUIREMENTS

- UTILITY NOTES**
1. UTILITY INFORMATION SHOWN HEREON WAS OBTAINED FROM THE BEST AVAILABLE SOURCE AND MAY OR MAY NOT BE EITHER ACCURATE OR COMPLETE. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXACT LOCATIONS OF EXISTING UTILITIES AND IS RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITIES, EITHER PUBLIC OR PRIVATE, SHOWN HEREON OR NOT SHOWN HEREON. ANY REPAIRS SHALL BE DONE TO THE SATISFACTION OF THE APPROPRIATE UTILITY COMPANY.
  2. THE GENERAL CONTRACTOR SHALL CONFIRM ALL NEW UTILITY TAP LOCATIONS WITH THE UTILITY OWNERS. ALL FEES SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.
  3. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO VERIFY THE ACTUAL LOCATION AND AVAILABILITY OF ALL EXISTING AND PROPOSED UTILITIES.
  4. NEW LOT LIGHT FOUNDATION BASES, CONDUIT AND WIRING ARE BY THE GENERAL CONTRACTOR. POLES, FIXTURES, ANCHOR BOLTS & HARDWARE SHALL BE COORDINATED WITH THE OWNER AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
  5. ALL NEW LOT LIGHTS AND THE MAIN IDENTIFICATION SIGN SHALL HAVE A MINIMUM 10 FEET CLEARANCE FROM ALL OVERHEAD UTILITIES.
  6. GENERAL CONTRACTOR IS RESPONSIBLE FOR PERMITS AND/OR APPROVALS NECESSARY FOR ANY WORK IN ROADWAY OR RIGHT-OF-WAY.
  7. ALL TRENCH EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH TRENCH BACKFILL DETAIL SHOWN ON THESE PLANS.
  8. MINIMUM COVER FOR CONDUITS SHALL BE 36" UNLESS OTHERWISE SHOWN OR NOTED ON THESE PLANS.
  9. ALL MANHOLES, VALVES, AND MONUMENT FRAMES SHALL BE SET TO FINISH GRADE AFTER PAVING.
  10. THE CONTRACTOR SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE STATE CONSTRUCTION SAFETY ORDERS. TRENCHES SHALL BE SHORED IN ACCORDANCE WITH OSHA.
  11. THE MINIMUM SLOPE FOR SANITARY SEWER LINES SHALL BE AS FOLLOWS: 1) 1/4" PER 1' FOR 4" LINES AND 2) 1/8" PER 1' FOR 6" LINES. CLEANOUTS SHALL BE PLACED AT 75' INTERVALS.
  12. ALL WATER LINES SHALL HAVE A FINAL COVER DEPTH 3'-0" IN NON-TRAFFIC AREAS AND 4'-0" MINIMUM IN TRAFFIC AREAS UNLESS SPECIFICALLY NOTED OTHERWISE.
  13. ALL SEWER LINES SHALL HAVE A FINAL COVER DEPTH 4'-0" IN NON-TRAFFIC AREAS AND 5'-0" MINIMUM IN TRAFFIC AREAS UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS.
  14. SANITARY SEWER SERVICES SHALL BE PVC SDR 35 TO R/W, THEN PVC SCH. 40 TO BUILDING. WATER SERVICE SHALL BE TYPE "C" CONDUIT UNLESS OTHERWISE SPECIFIED.
  15. CABLE TV SERVICE ROUTING IS NOT PART OF THIS PLAN, CONTRACTOR TO COORDINATE WITH CABLE COMPANY.
  16. EXISTING MANHOLES SHOULD BE VERIFIED FOR RIMS AND INVERTS.
  17. ALL WORK SHALL BE COVERED BY THE LATEST EDITIONS OF THE STATE MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION, BUILDING CODE, ENERGY CONSERVATION, HANDICAP ACCESSIBILITY, NATIONAL ELECTRICAL CODES AND NATIONAL FIRE PROTECTION ASSOCIATION CODES AND AS ADOPTED BY THE AUTHORITIES HAVING JURISDICTION.
  18. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC. THAT MAY BE REQUIRED.
  19. CONTRACTOR SHALL GUARANTEE, FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF SYSTEMS BY OWNER, EACH AND EVERY PIECE OF APPARATUS WHICH HAS BEEN INSTALLED UNDER THIS CONTRACT.
  20. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS/METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
  21. OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA) STANDARDS FOR EXCAVATIONS: FINAL RULE 29CFR PART 1926, SUBPART "P" APPLIES TO ALL EXCAVATIONS EXCEEDING 5 FEET IN DEPTH.
  22. EXCAVATION EXCEEDING TWENTY (20) FEET IN DEPTH REQUIRES THE DESIGN OF A TRENCH SAFETY SYSTEM BY A REGISTERED PROFESSIONAL ENGINEER.
  23. EQUIPMENT AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY BE USED PROVIDED PRIOR APPROVAL HAS BEEN OBTAINED FROM THE OWNER IN WRITING PRIOR TO ORDERING OR INSTALLATION. THE CONTRACTOR SHALL WAIVE ANY CLAIM FOR ADDITIONAL COST RELATED TO THE SUBSTITUTION OF ALTERNATE EQUIPMENT.
  24. CONTRACTOR SHALL MAINTAIN AN "AS-BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPING PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE OWNER UPON COMPLETION OF THE PROJECT WITH A COPY OF THE TRANSMITTAL LETTER TO THE ENGINEER.
  25. ONLY SEWAGE NOT CONTAINING GREASE IS ALLOWED TO BYPASS THE GREASE TRAP.
  26. ALL SANITARY SEWER SERVICES AND STORM DRAIN PIPING 8" IN DIAMETER OR SMALLER SHALL BE SCH. 40 PVC WITH ADHESIVE "WELDED JOINTS" UNLESS SPECIFIED OTHERWISE OR REQUIRED BY LOCAL GOVERNING MUNICIPALITY. MINIMUM SLOPES ON SANITARY SEWER SERVICES: 4"-1/4" FT., 6"-1/8" FT.
  27. BELOW GRADE WATER SERVICE PIPING SHALL BE TYPE "C" HARD DRAWN COPPER TUBING WITH SILVER SOLDER JOINTS, SOLDERS CONTAINING LEAD SHALL NOT BE USED FOR ANY PURPOSE ON THIS PROJECT, WHERE PIPING IS REQUIRED TO RUN BELOW THE BUILDING SLAB, IT SHALL BE INSTALLED WITHOUT JOINTS BELOW SLAB.
  28. WATER PIPING SHALL BE CONNECTED TO BUILDING STUDS, VERIFY LOCATIONS PRIOR TO BEGINNING WATER PIPE INSTALLATION.
  29. WASTE PIPING BE CONNECTED TO BUILDING STUDS, VERIFY LOCATIONS AND INVERTS PRIOR TO BEGINNING ANY WASTE PIPE INSTALLATION.
  30. CONTRACTOR SHALL NOTIFY NORTH CAROLINA "ONE CALL" AT 800-632-4949 AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES IMMEDIATELY.
  31. ALL UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CAPE FEAR PUBLIC UTILITIES AUTHORITY CROSS CONNECTION CONTROL REGULATIONS AND STANDARDS.
  32. SITE UTILITY CONTRACTOR TO PROVIDE WATER, SANITARY SEWER, AND ROOF DRAIN LEADERS TO WITHIN 5 FEET OF THE BUILDING. CONTRACTOR SHALL COORDINATE SITE PLAN CONNECTIONS WITH THE ARCHITECTURAL BUILDING PLANS.
  33. SANITARY CLEANOUTS SHALL BE IN ACCORDANCE WITH CAPE FEAR PUBLIC UTILITIES AUTHORITY CROSS CONNECTION CONTROL REGULATIONS AND STANDARDS. CLEAN OUTS LOCATED IN PAVEMENT SHALL HAVE HEAVY DUTY TRAFFIC RATED CONSTRUCTION.
  34. CONNECTION OF SANITARY SEWER SERVICE TO AN EXISTING MANHOLE SHALL COMPLY WITH CAPE FEAR PUBLIC UTILITIES AUTHORITY, INCLUDING: CORE DRILL FOR OPENING INTO MANHOLE AND INSTALL WITH FLEXIBLE BOOT. IF PAVEMENT CUT IS REQUIRED, CONTRACTOR SHALL PATCH PAVEMENT WITH A SECTION TO MATCH EXISTING PAVEMENT: 3", 8" ABC OR BETTER.
  35. RELATION OF WATER MAINS TO SEWERS:
    - A. LATERAL SEPARATION OF SEWER AND WATER MAINS: WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWERS UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10 FOOT LATERAL SEPARATION, IN WHICH CASE: THE WATER MAIN IS LAID IN A SEPARATE TRENCH WITH THE ELEVATION OF THE TOP OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE ELEVATION OF THE TOP OF THE SEWER, OR
    - B. CROSSING A WATER MAIN OVER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER MAIN BOTH SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER MAIN, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPARATION- IN WHICH CASE BOTH THE WATER MAIN AND SEWER MAIN SHALL BE CONSTRUCTED OF FERRUCIOUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
    - C. CROSSING A WATER UNDER A SEWER MAIN: WHENEVER IT IS NECESSARY FOR THE WATER MAIN TO CROSS UNDER A SEWER MAIN BOTH THE WATER MAIN AND SEWER MAIN SHALL BE CONSTRUCTED OF FERRUCIOUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
    - D. CROSSING A SEWER LINE OVER OR UNDER A STORM DRAIN: WHENEVER IT IS NECESSARY FOR A SEWER LINE TO CROSS A STORM DRAIN PIPE, THE SEWER LINES SHALL BE LAID AT SUCH AN ELEVATION THAT THE OUTSIDE OF THE SEWER LINE, NEAREST TO THE OUTSIDE OF THE STORM DRAIN PIPE SHALL MAINTAIN A 12 INCH CLEAR SEPARATION DISTANCES, OR ENCASED IN EITHER CONCRETE OR DUCTILE IRON PIPE FOR AT LEAST 5 FEET ON EITHER SIDE OF THE CROSSING.
  36. UNDERGROUND CONDUITS TO SIGNS, LOT LIGHTS, ETC. SHALL BE PLACED IN GRASS OR LANDSCAPE AREAS WHENEVER POSSIBLE. THE LOCATION OF THE CONDUIT AS SHOWN ON THESE PLANS SHALL BE CONSIDERED TO BE SCHEMATIC WITH ACTUAL LOCATION TO BE VERIFIED BY THE GENERAL CONTRACTOR. PVC SCH. 40 SLEEVES SHALL BE INSTALLED FOR ALL CONDUIT CROSSING UNDER PAVED AREAS.
  37. SEE ELECTRICAL SHEETS FOR SIZE OF CONDUIT AND WIRE ON ALL ELECTRICAL SERVICE.
  38. TRANSFORMER BY ELECTRICAL COMPANY, GENERAL CONTRACTOR TO PROVIDE PAD. REFER TO ELECTRICAL COMPANY SPECIFICATIONS FOR PAD CONSTRUCTION.

- UTILITY SERVICE NOTES**
- WATER SERVICE:**  
GENERAL CONTRACTOR TO PROVIDE AND INSTALL A WATER SERVICE LINE FROM EXISTING WATER MAIN TO BUILDING PER MUNICIPAL REQUIREMENTS.  
CONTACT: CAPE FEAR PUBLIC UTILITIES AUTHORITY  
TELEPHONE: 910-332-6550
- ELECTRIC SERVICE:**  
"POWER CO." TO PROVIDE UNDERGROUND 120/208/3 PHASE SERVICE. GENERAL CONTRACTOR TO PROVIDE AND INSTALL TWO 4" DIA. CONDUIT W/ PULL WIRE TO UTILITY COMPANY POINT OF CONNECTION.  
CONTACT: PROGRESS ENERGY  
TELEPHONE: 866-592-6345
- TELEPHONE SERVICE:**  
"TELEPHONE CO." TO PROVIDE NEW UNDERGROUND SERVICE. GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 4" DIA. PVC CONDUIT W/ PULL WIRE FROM PHONE PANEL BOARD TO UTILITY COMPANY POINT OF CONNECTION.  
CONTACT: TELEPHONE:  
TELEPHONE:
- SANITARY SEWER:**  
GENERAL CONTRACTOR TO PROVIDE AND INSTALL A 4" PVC FROM EXISTING SEWER TO LAST CLEAN OUT OUTSIDE OF BUILDING. (MIN. 1" SLOPE). PROVIDE CLEAN OUTS EVERY 75' (TYPICAL).  
CONTACT: CAPE FEAR PUBLIC UTILITIES AUTHORITY  
TELEPHONE: 910-332-6550
- NATURAL GAS:**  
GENERAL CONTRACTOR TO COORDINATE WITH NATURAL GAS UTILITY FOR SERVICE LINE TO PROPOSED BUILDING.  
CONTACT: FIDEMONT NATURAL GAS  
TELEPHONE: 800-752-7504

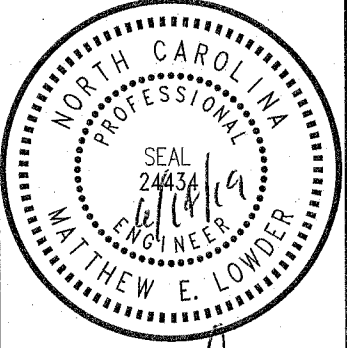
- UTILITY LEGEND**
- PP NEW POWER POLE
  - WM NEW WATER METER
  - GM NEW GAS METER
  - EM NEW ELECTRIC METER
  - W-W NEW WATER SERVICE (REFER TO CIVIL DRAWINGS)
  - G-G NEW GAS SERVICE
  - S-S NEW SANITARY SEWER (REFER TO CIVIL DRAWINGS)
  - SC NEW SANITARY SEWER CLEANOUT (AT EVERY 60 FEET)
  - UP NEW UNDERGROUND POWER (120/208/3-) SERVICE.
  - UT NEW UNDERGROUND TELEPHONE SERVICE.
- NOTE:**
1. CONTRACTOR TO BE RESPONSIBLE FOR VERIFYING & APPLYING FOR UTILITY SERVICE WITH EACH UTILITY COMPANY PRIOR TO STARTING CONSTRUCTION.
  2. CONTRACTOR TO BE RESPONSIBLE FOR STREET BORE, IF REQUIRED BY CAPE FEAR PUBLIC UTILITIES AUTHORITY

- KEYNOTES**
- 1 2" DOMESTIC WATER METER PER UTILITY DEPARTMENT REQUIREMENTS
  - 2 1.5" DOMESTIC REDUCED PRESSURE BACKFLOW PREVENTER. CONTRACTOR SHALL COORDINATE WITH UTILITY DEPARTMENT
  - 3 1.5" DOMESTIC WATER SERVICE. CONTRACTOR SHALL COORDINATE WITH UTILITY DEPARTMENT
  - 4 6" PVC SANITARY SEWER LINE AT 1" PER LF SLOPE (MINIMUM). CONTRACTOR SHALL COORDINATE WITH UTILITY DEPARTMENT
  - 5 4" PVC SANITARY SEWER LINE AT 1" PER LF SLOPE (MINIMUM). CONTRACTOR SHALL COORDINATE WITH UTILITY DEPARTMENT
  - 6 8" IRRIGATION TAP - CONTRACTOR SHALL COORDINATE WITH UTILITY DEPARTMENT
  - 7 SANITARY SEWER CLEANOUT, SEE DETAIL SHEET.
  - 8 TRAFFIC RATED SANITARY SEWER CLEANOUT, SEE DETAIL SHEET.
  - 9 RELOCATE EXISTING UTILITY POLE, CONTRACTOR SHALL COORDINATE WITH OWNER AND UTILITY COMPANY
  - 10 TRANSFORMER PAD, CONTRACTOR SHALL COORDINATE LOCATION AND SIZE WITH ELECTRICAL UTILITY.
  - 11 1,500 GALLON GREASE TRAP, COORDINATE WITH OWNER AND MANUFACTURER.
  - 12 8" IRRIGATION WATER METER. CONTRACTOR SHALL COORDINATE WITH IRRIGATION CONTRACTOR AND UTILITY DEPARTMENT
  - 13 8" IRRIGATION BACKFLOW PREVENTER (WATTS 990M/QT OR APPROVED EQUIVALENT) IN ABOVE-GROUND HEATED ENCLOSURE, CONTRACTOR SHALL COORDINATE WITH UTILITY DEPARTMENT
  - 14 POLE MOUNTED AREA LIGHT, SEE LIGHTING PLAN.
  - 15 COORDINATE IRRIGATION CONNECTION WITH IRRIGATION CONTRACTOR.
  - 16 UNDERGROUND ELECTRIC SERVICE, CONTRACTOR SHALL COORDINATE WITH ELECTRICAL UTILITY.
  - 17 UNDERGROUND TELEPHONE SERVICE, CONTRACTOR SHALL COORDINATE WITH TELEPHONE COMPANY.
  - 18 PROFESSIONALLY CORE DRILL AND RUBBER BOOT EXISTING SANITARY SEWER MANHOLE TO MAKE 6" SANITARY SEWER SERVICE CONNECTION. CONTRACTOR SHALL VERIFY SIZE, LOCATION AND ELEVATION OF EXISTING SANITARY SEWER PRIOR TO ANY CONSTRUCTION TO ENSURE REQUIRED PIPE SLOPE, COVER AND CLEARANCES CAN BE ACHIEVED AND COORDINATE ALL WORK WITH COUNTY.
  - 19 4" PVC IRRIGATION CONDUIT
  - 20 15" SAMPLING PORT
  - 21 EXISTING FIRE HYDRANT
  - 22 NATURAL GAS SERVICE



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Starbucks - Hospital Plaza  
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New Hanover County

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REVISIONS	NO.	DATE	DESC.
	1	4/20/19	REVISED PER CITY REVIEW
	2	5/17/19	ADJUSTED DRIVEWAY & HOSPITAL PLAZA DR. PER MOOT
	3	6/14/19	REVISED PER CITY OF WILMINGTON REVIEW

Drawn  
Checked  
Approved

Project No. 020914  
Date: June 14, 2019

Title  
**UTILITY PLAN**

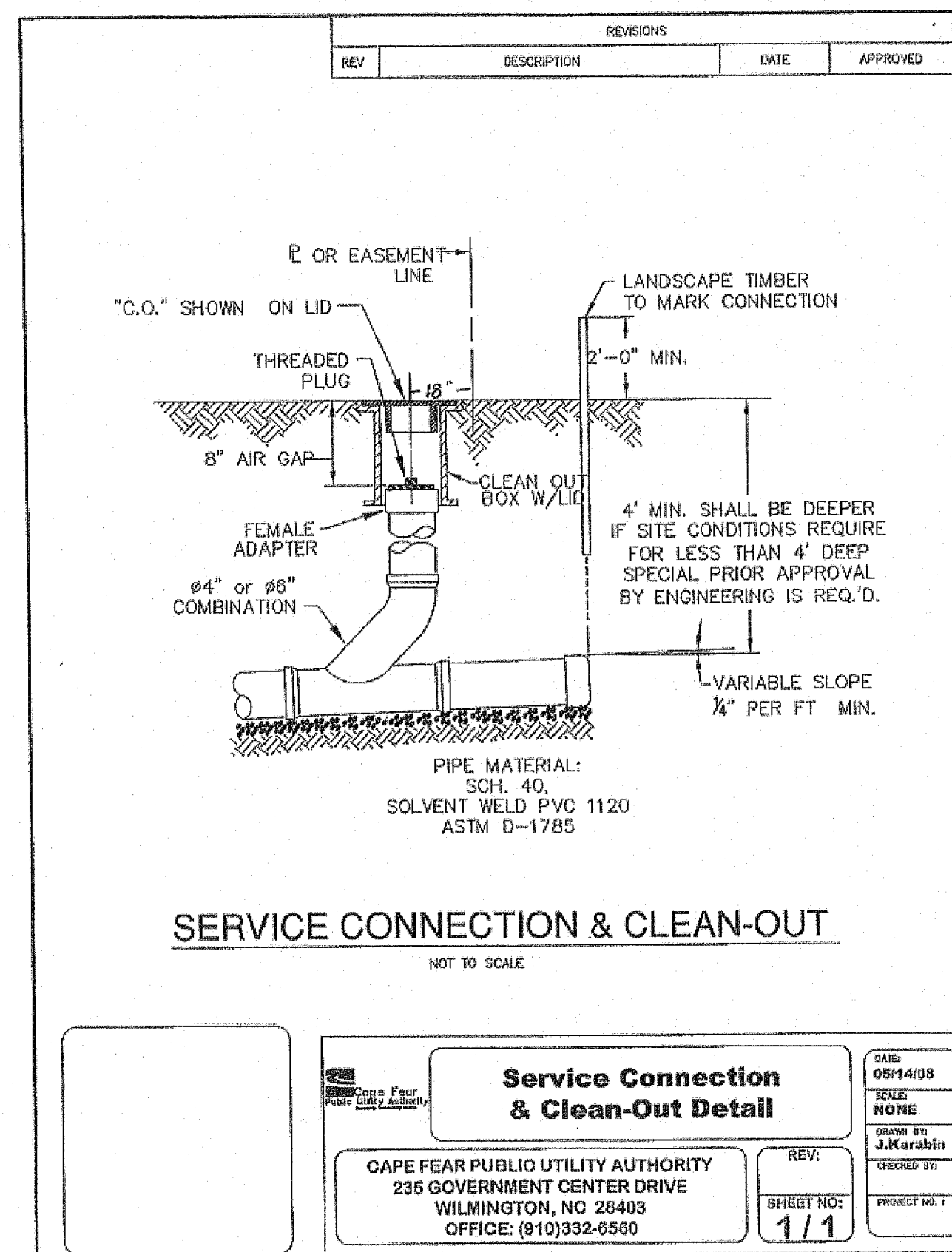
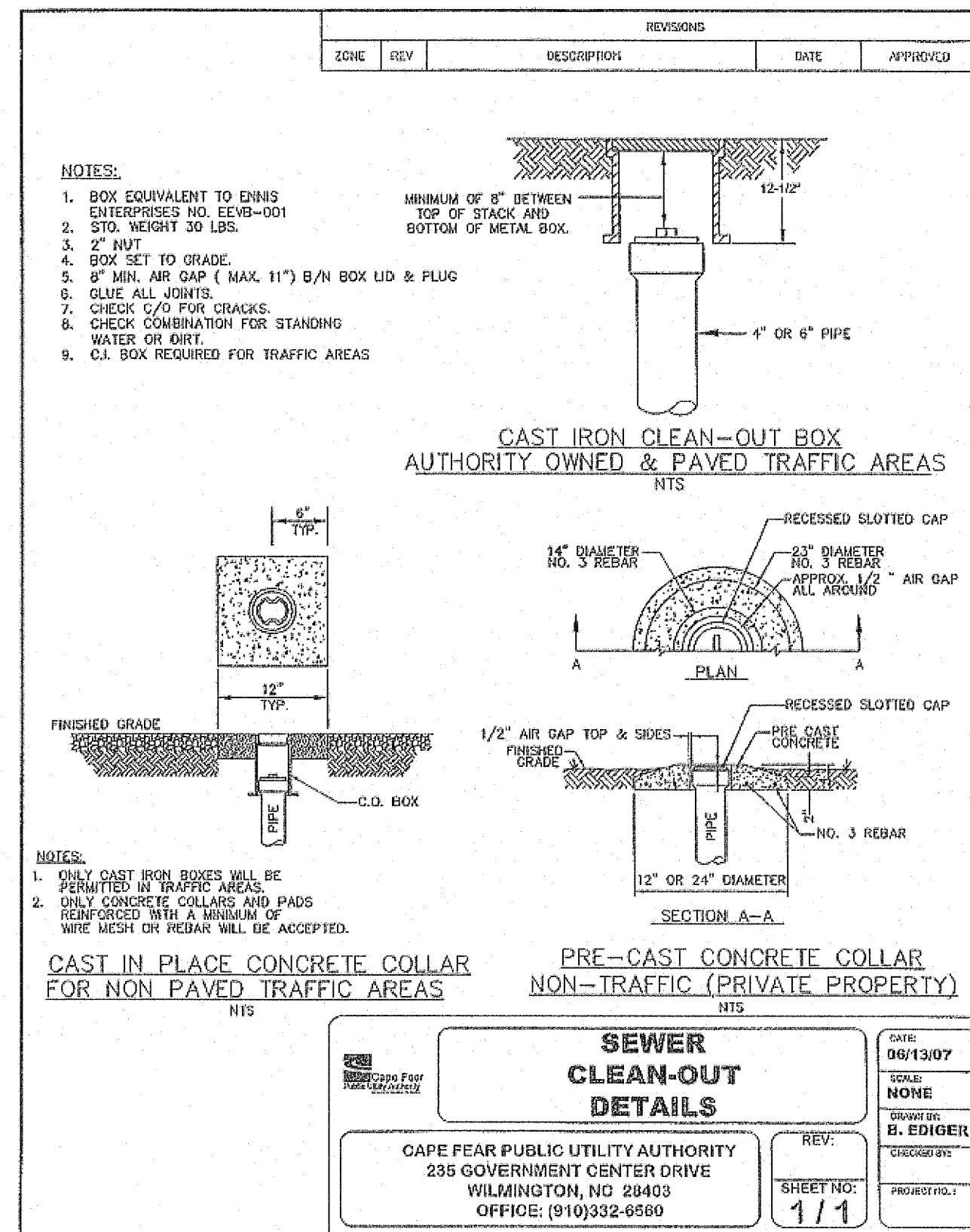
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**C1.2**

**811**  
Know what's below  
Call before you dig.

BEFORE YOU DIG  
**STOP**  
CALL 1 800 632-4949  
N.C. ONE-CALL CENTER  
IT'S THE LAW

GRAPHIC SCALE  
1" = 20 FEET





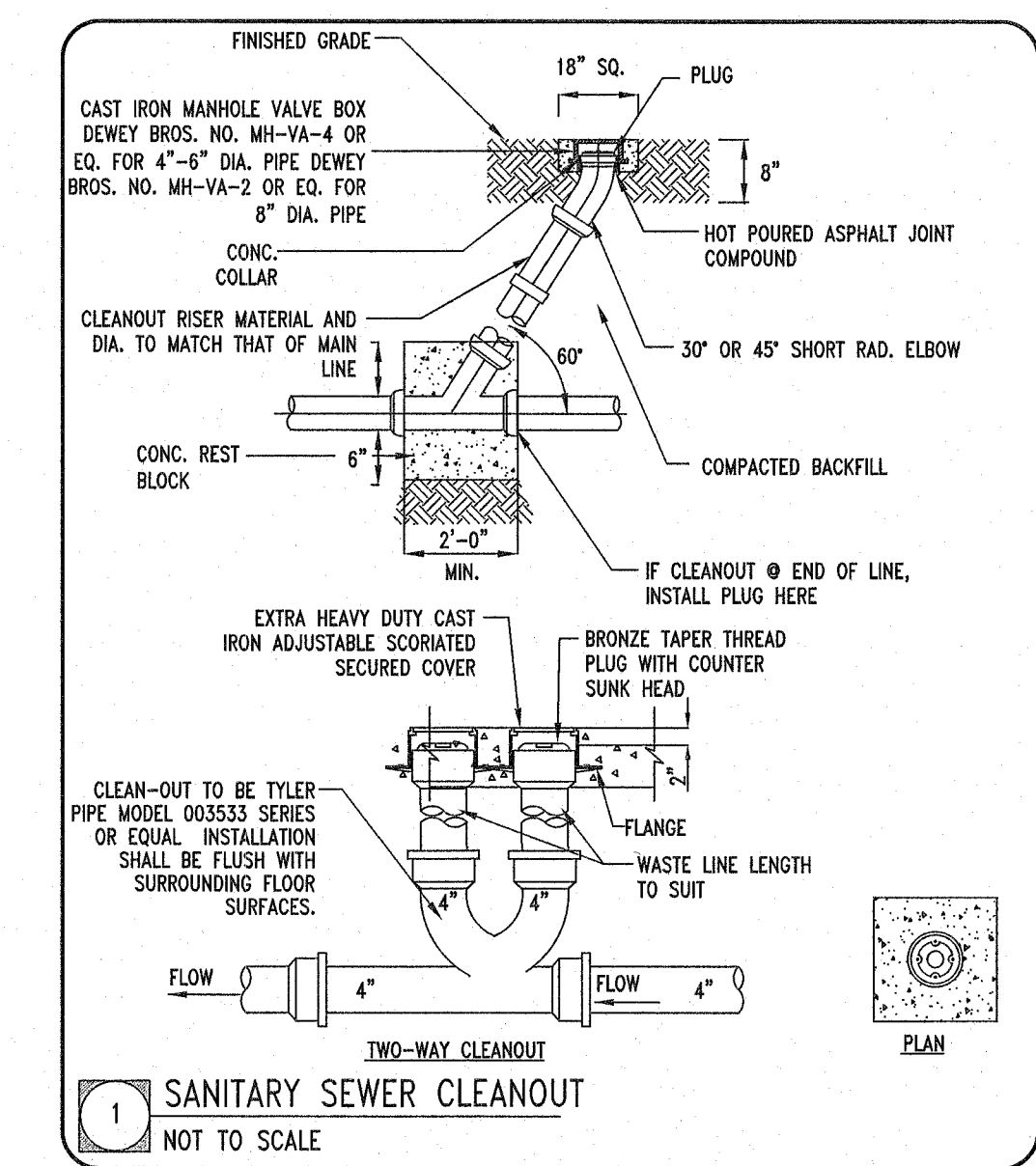
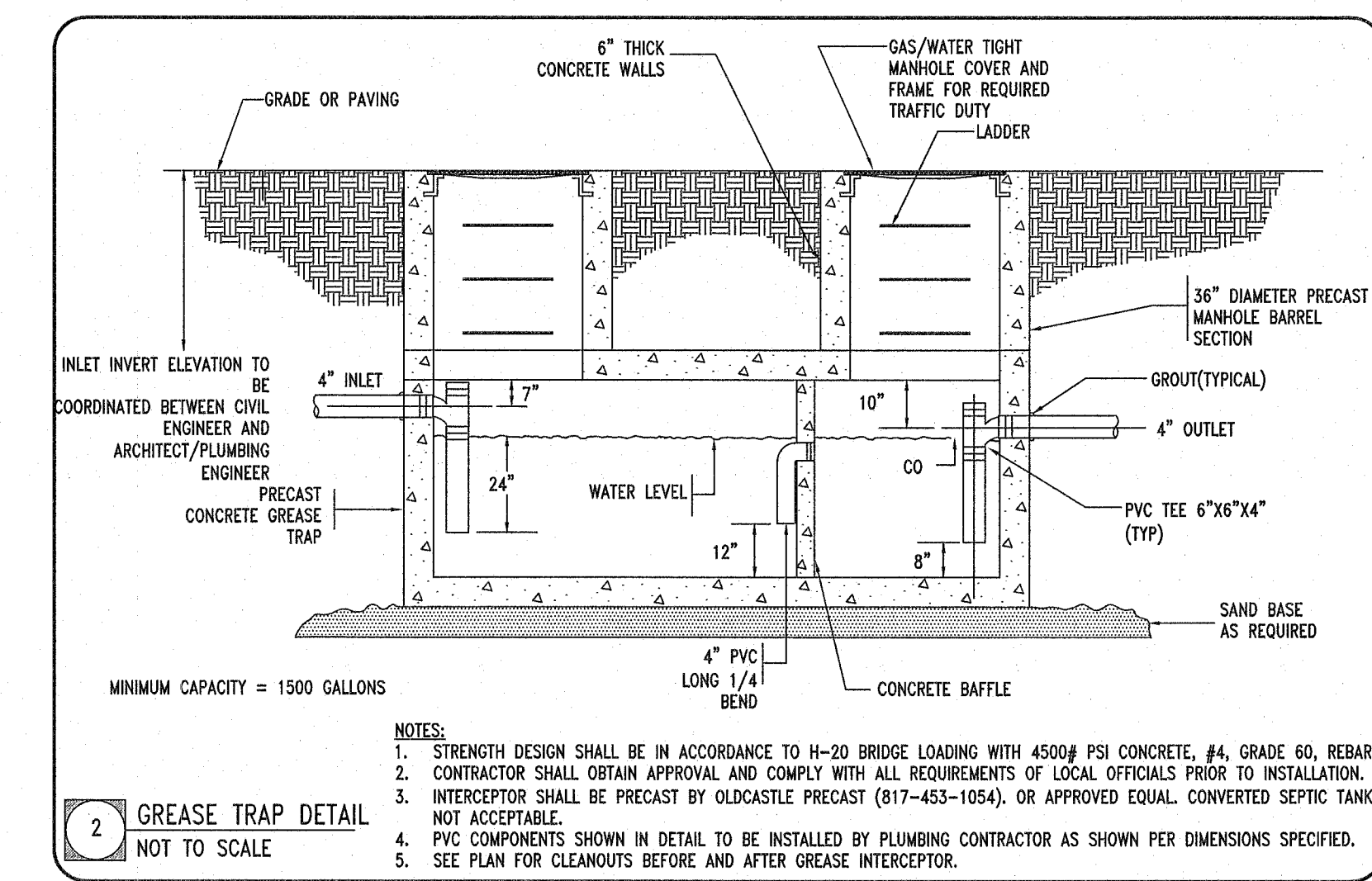
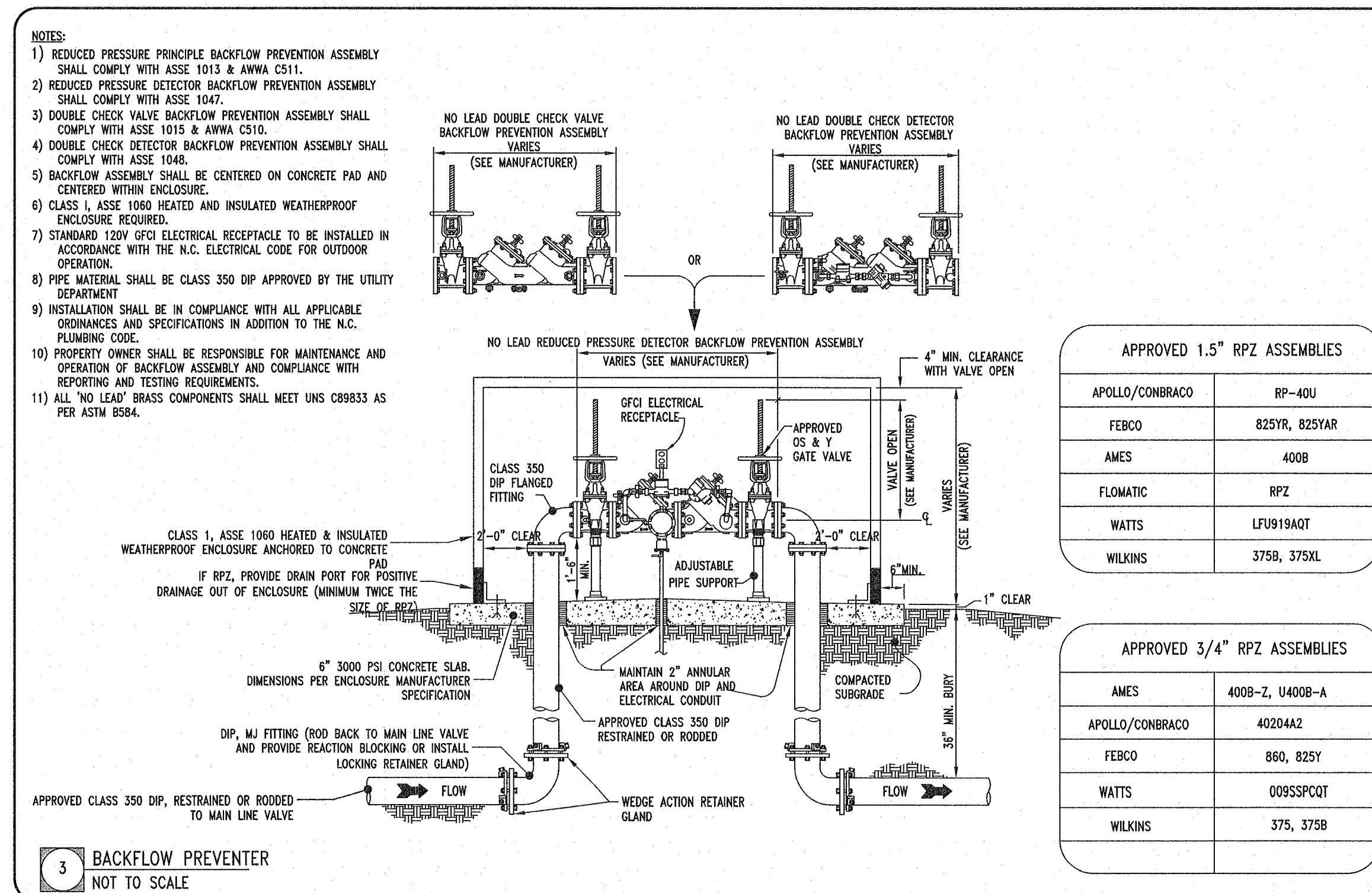
**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN

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

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

**APPROVED CONSTRUCTION PLAN**

PLANNING	NAME	DATE
TRAFFIC		
FIRE		



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**PROFESSIONAL SEAL**  
SEAL 24434  
11/19/19  
MICHELE E. LOWMEYER

**Starbucks Coffee**

Starbucks-Hospital Plaza  
2018 South 16th Street  
Wilmington, North Carolina  
New Hanover County

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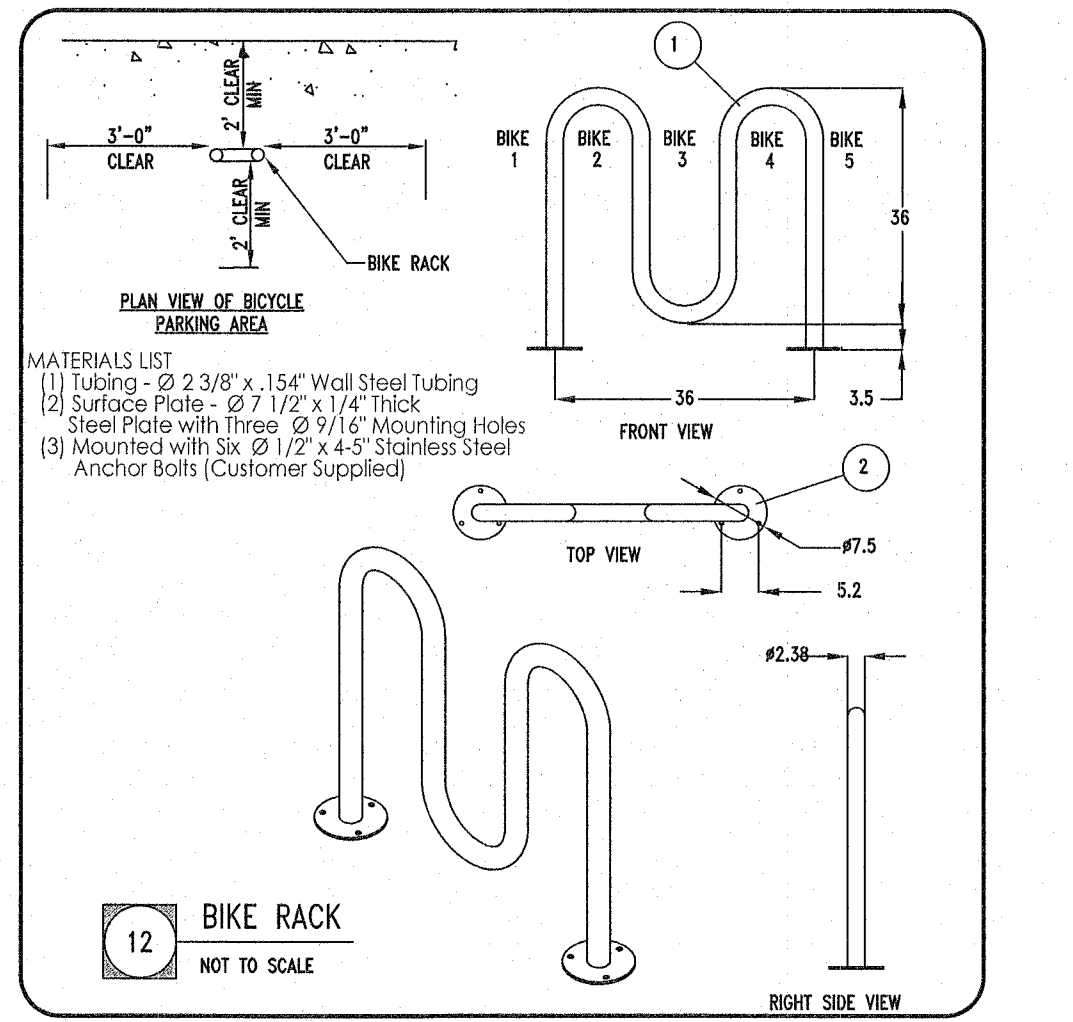
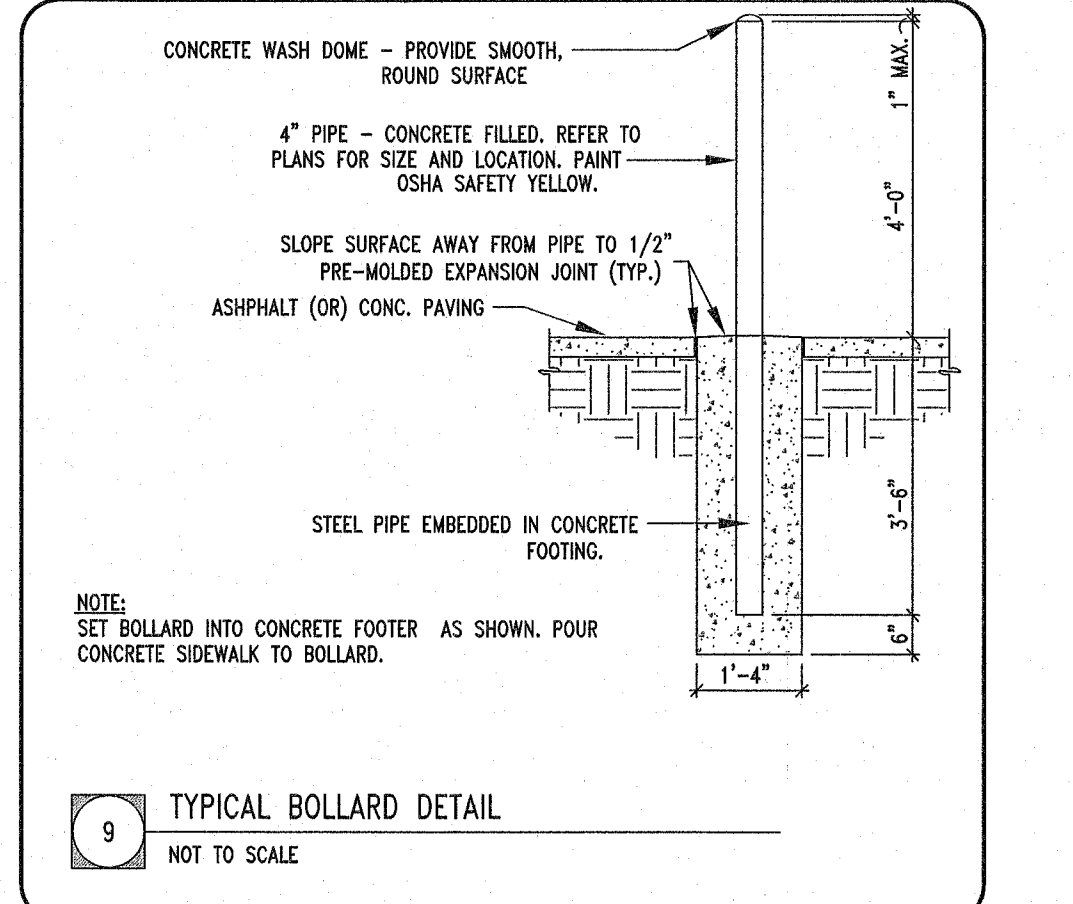
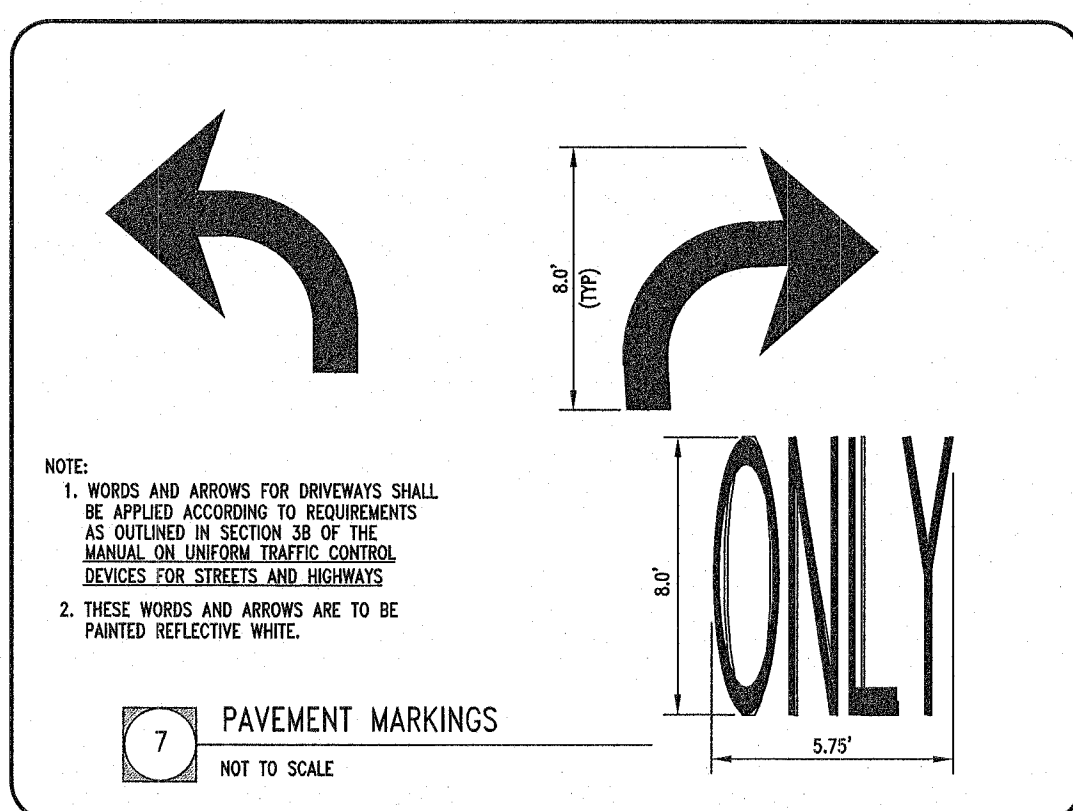
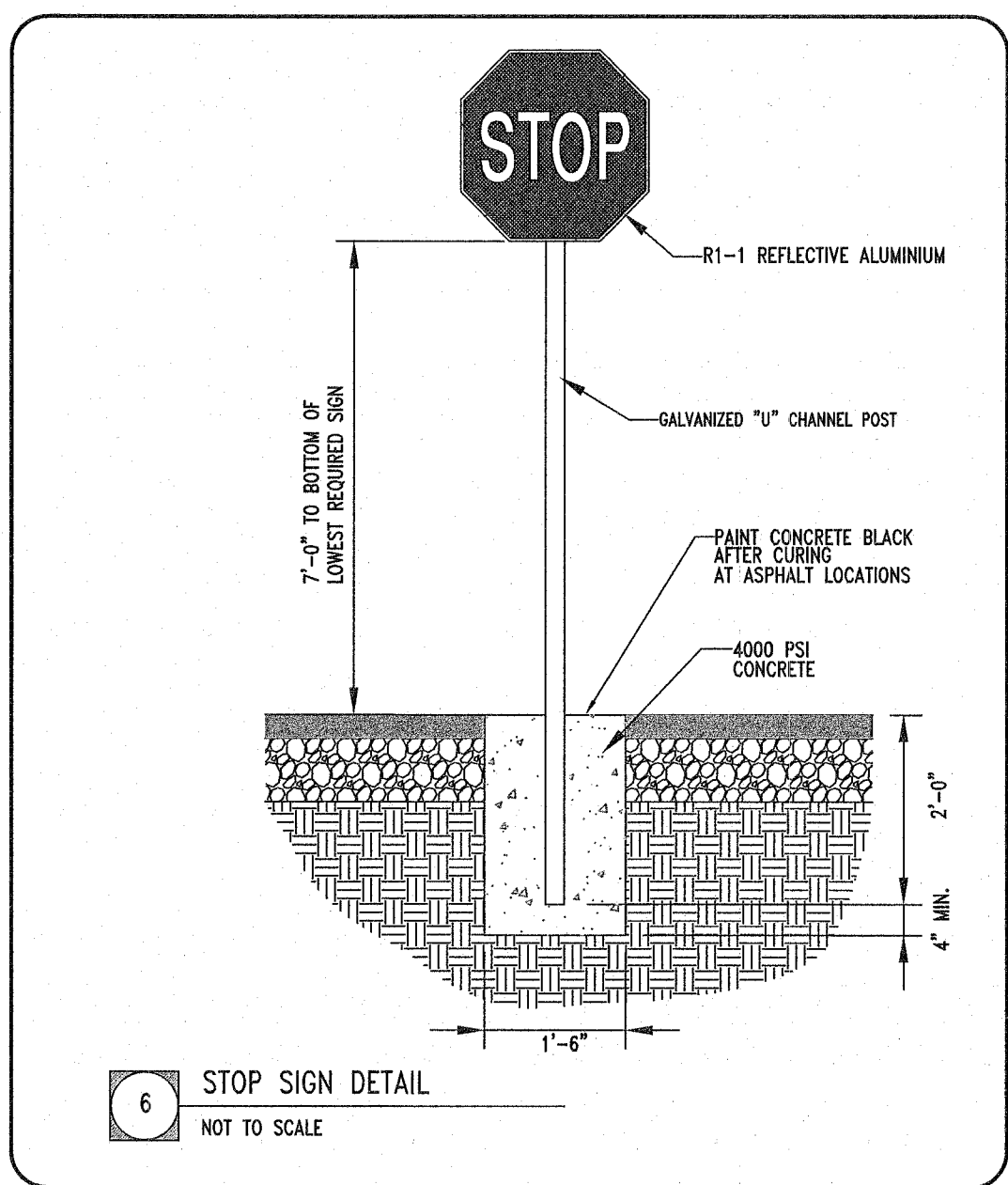
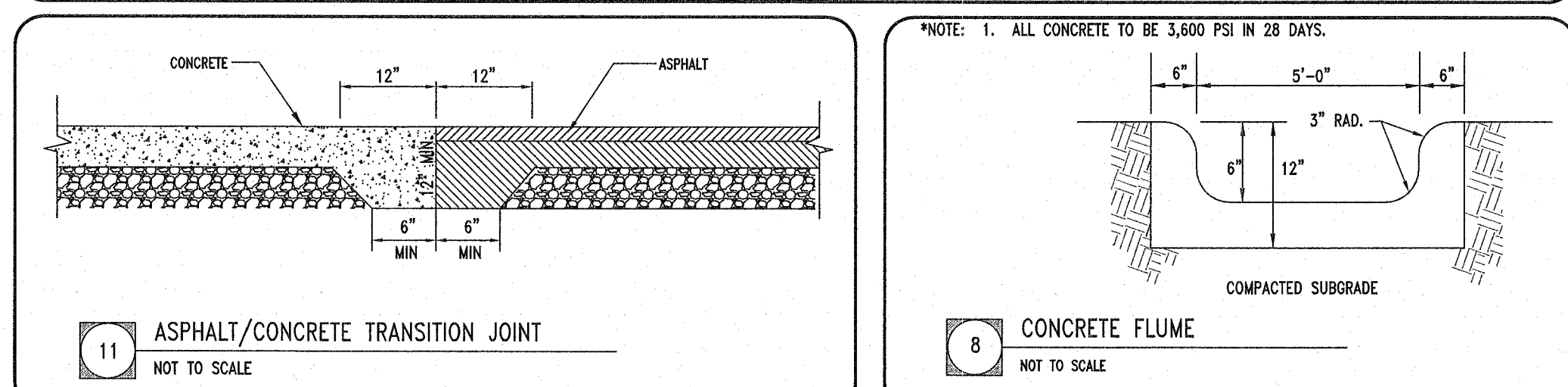
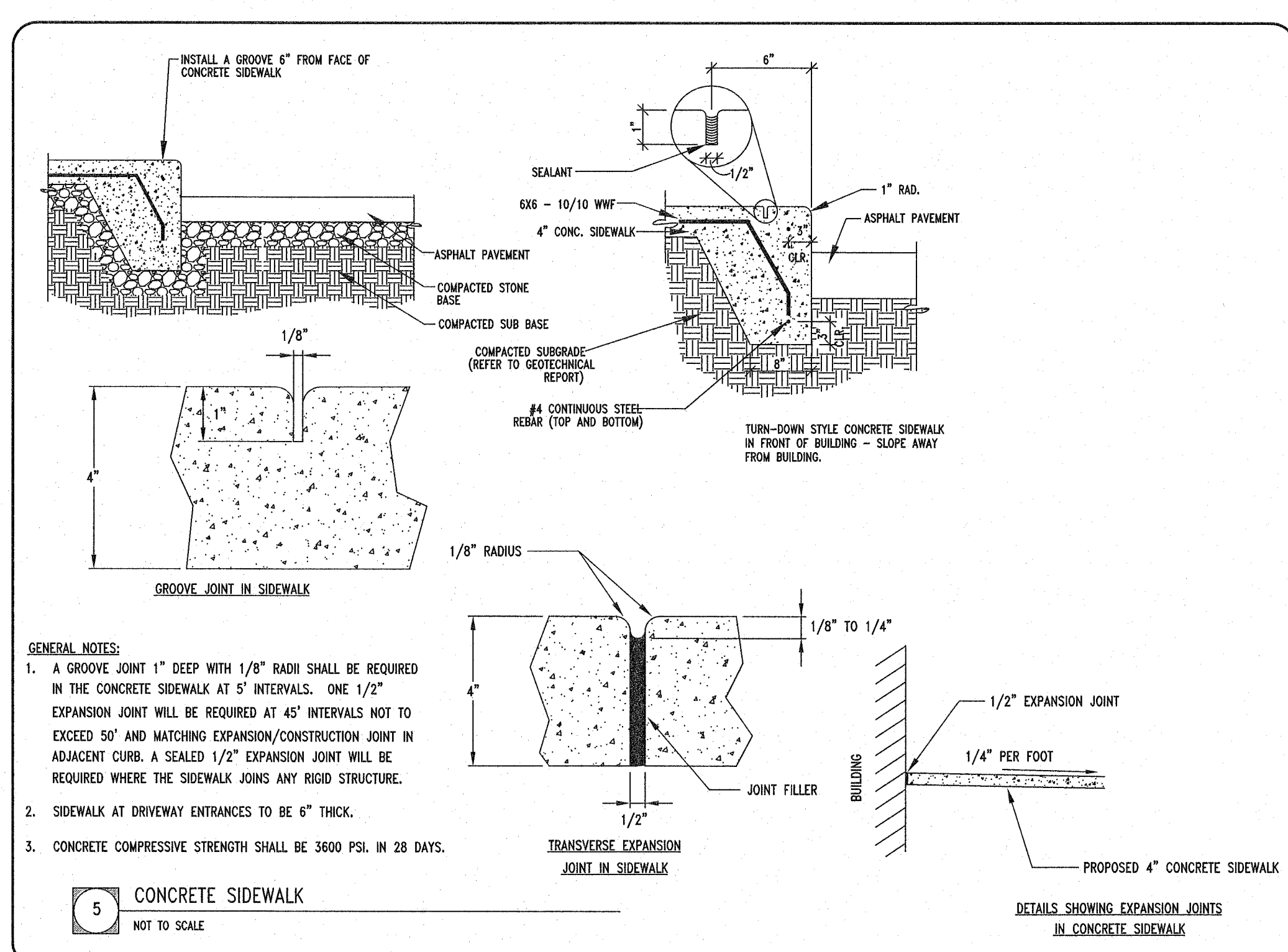
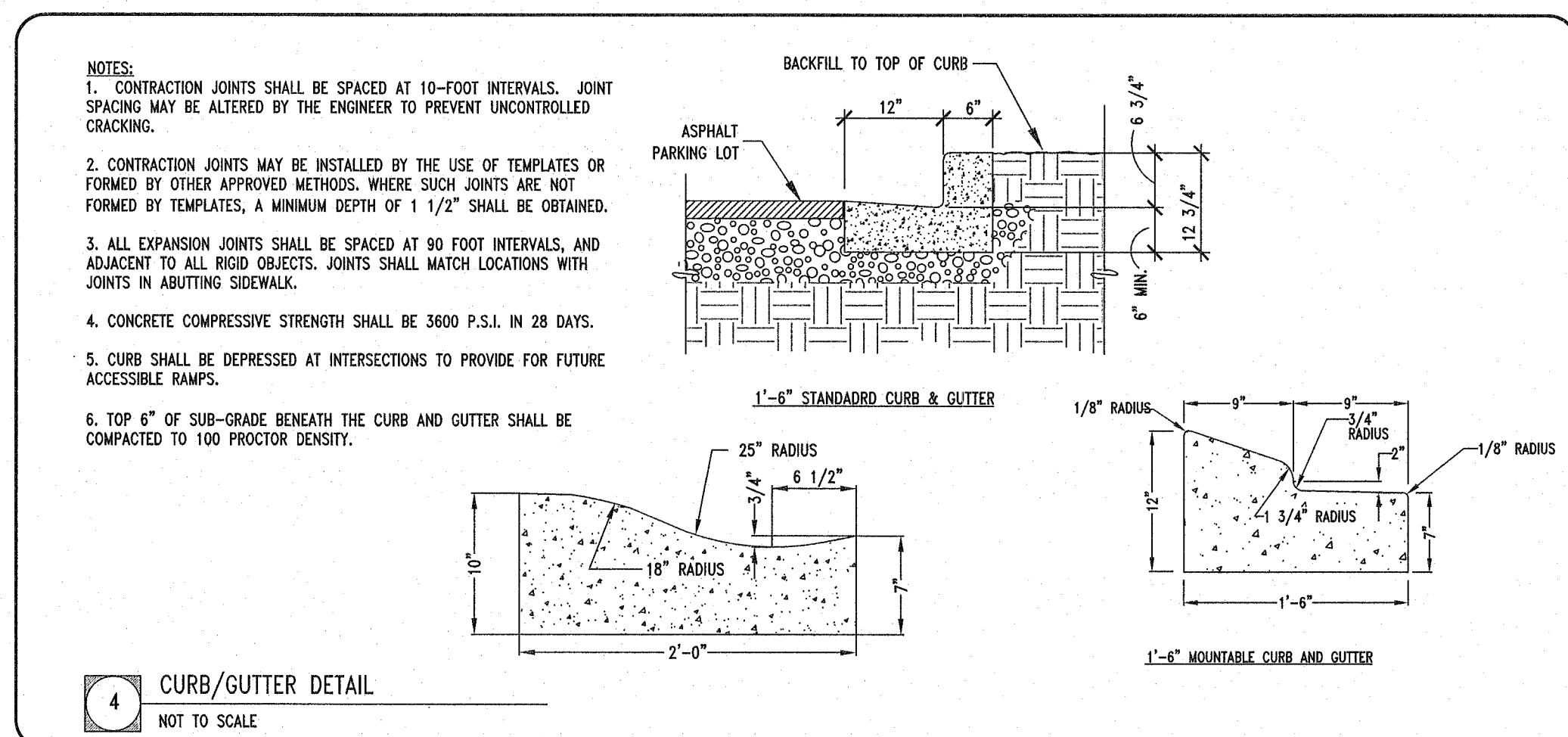
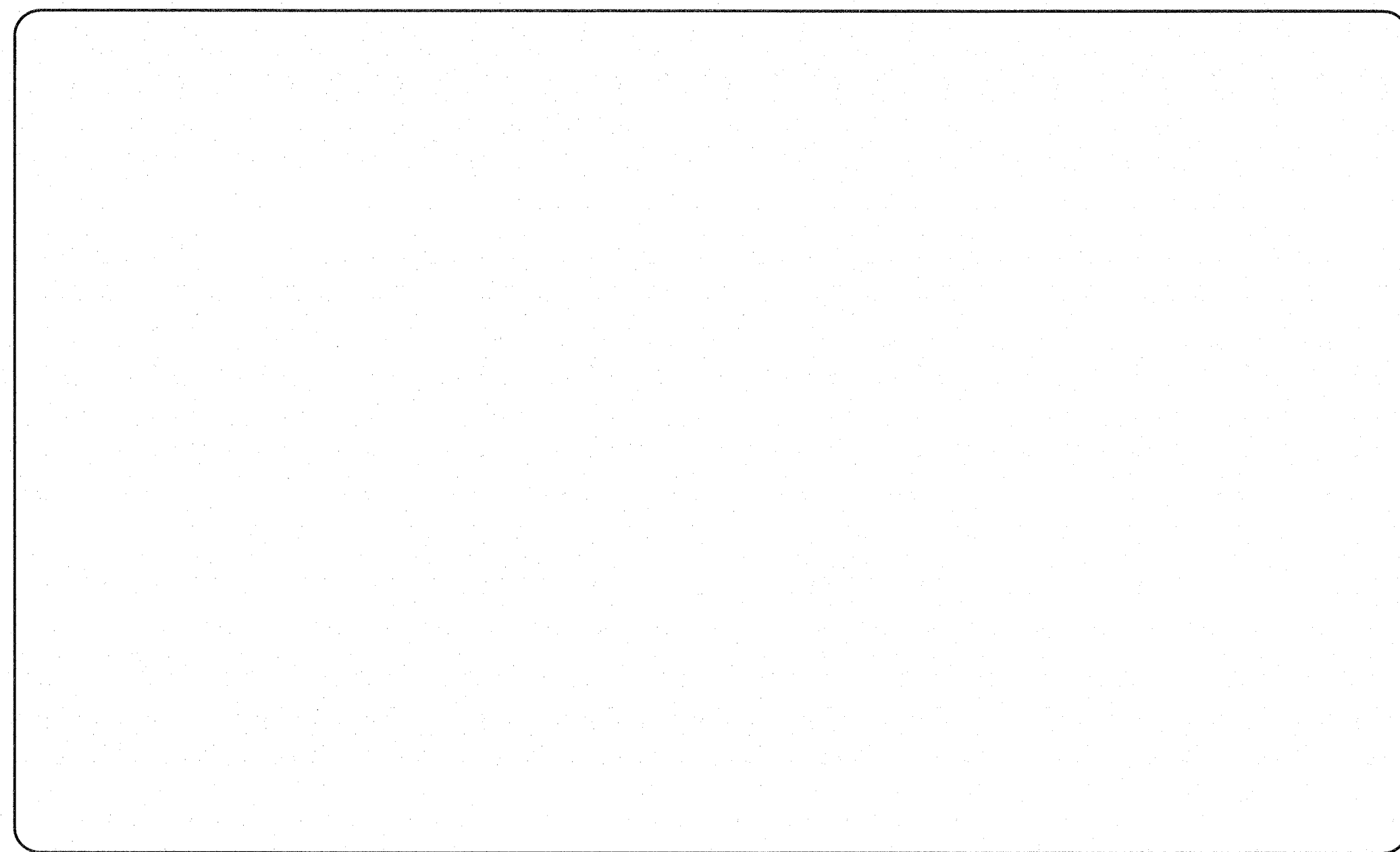
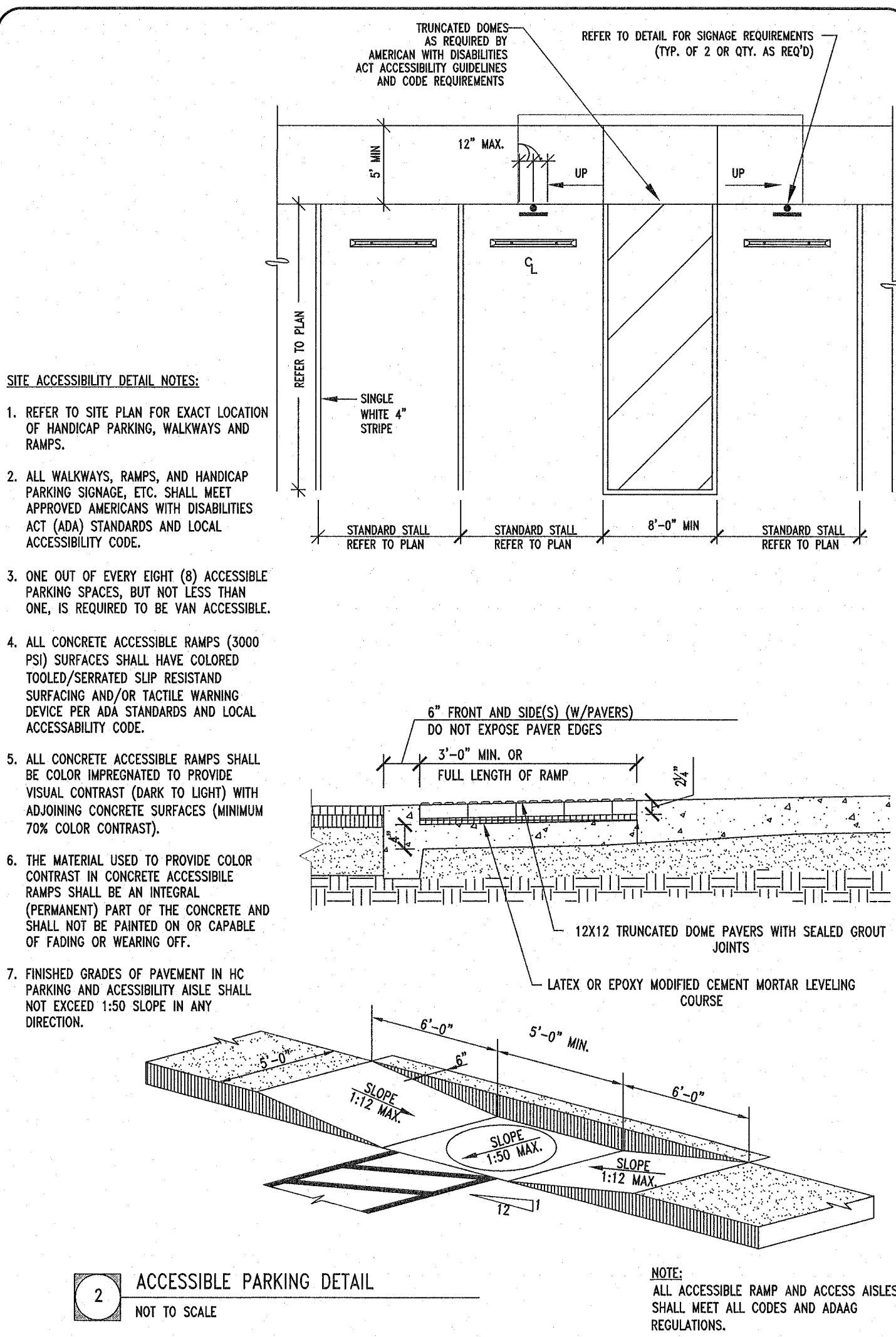
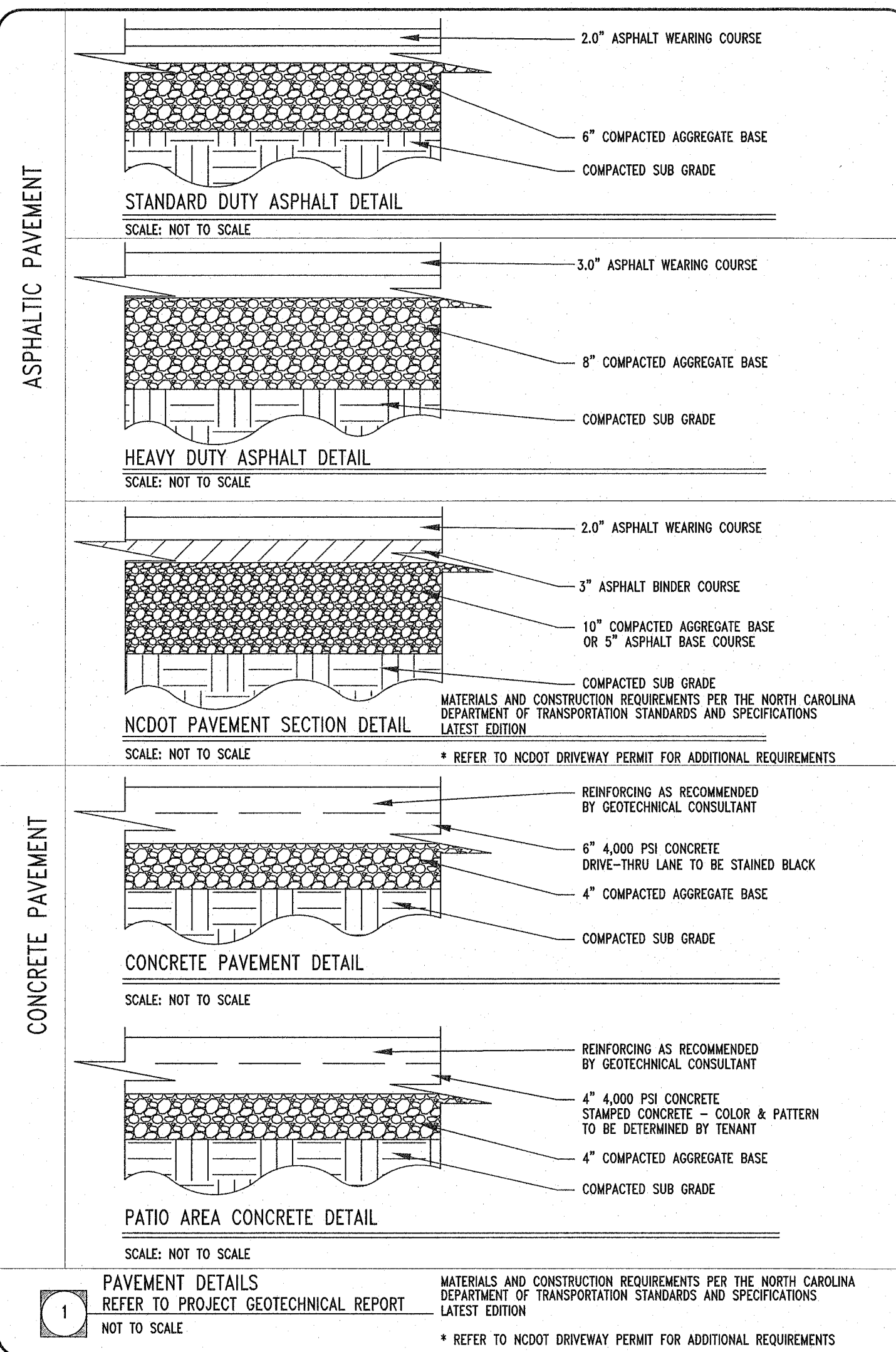
REV	DATE	DESCRIPTION
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2	5/21/19	AUGUSTED DRIVEWAY & HOSPITAL PLAZA DR. PER MCDOT
3	6/14/19	REVISED PER CITY OF WILMINGTON REVIEW

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Checked: [Blank]  
Approved: [Blank]

Project No. 009014  
Date: June 14, 2019  
Title: **UTILITY DETAILS**

Sheet No. **C1.3**





APPROVED CONSTRUCTION PLAN

PLANNING \_\_\_\_\_ DATE \_\_\_\_\_

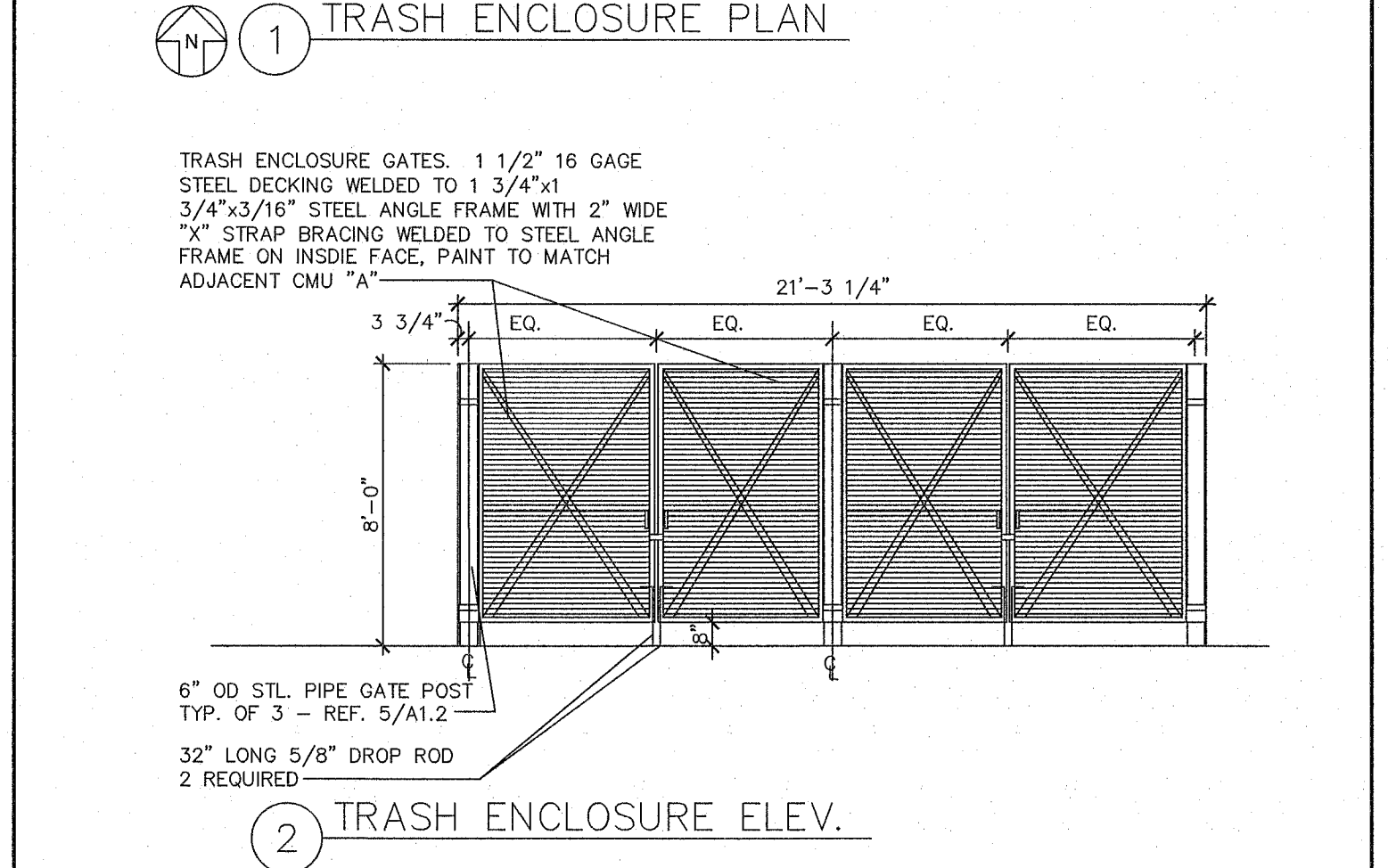
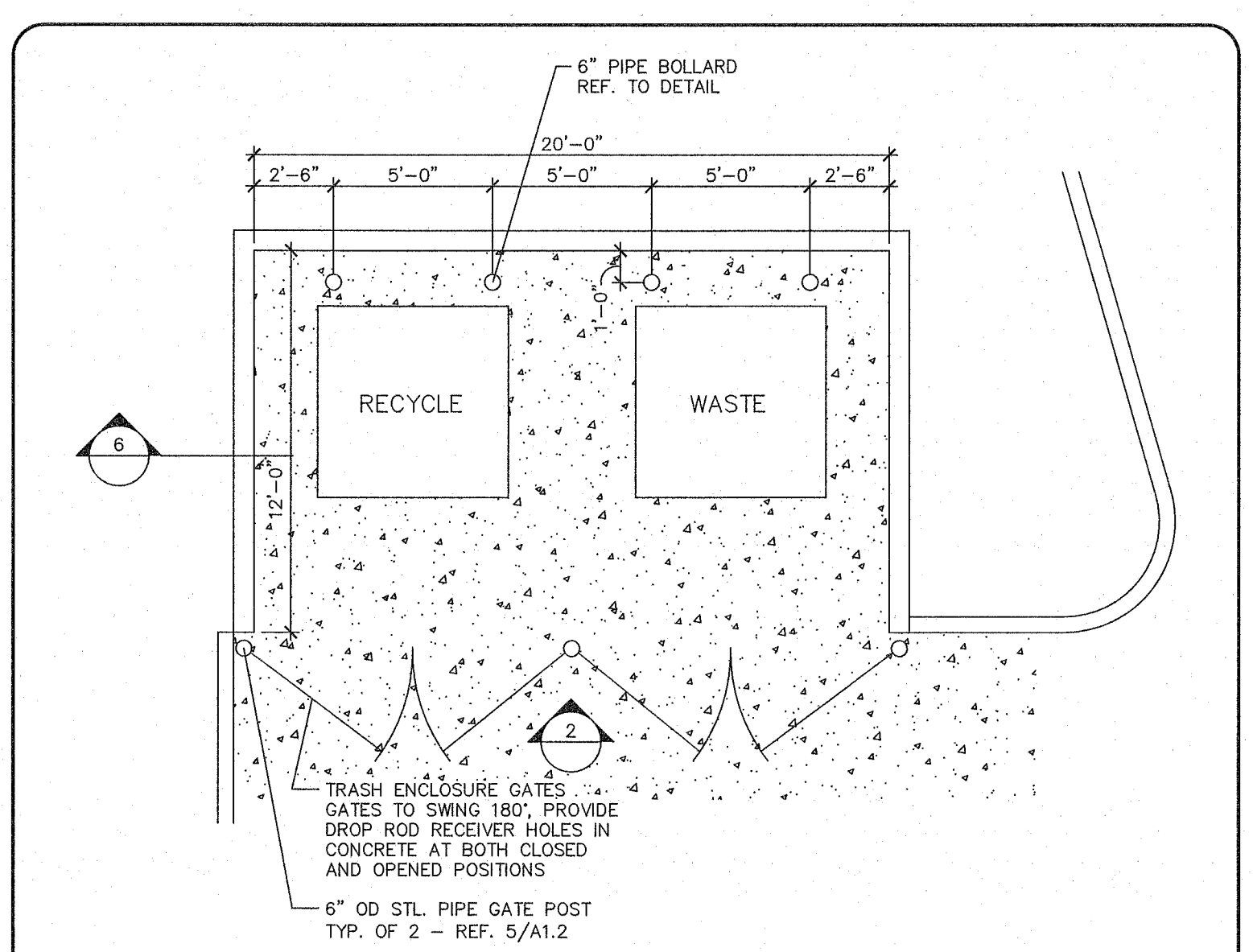
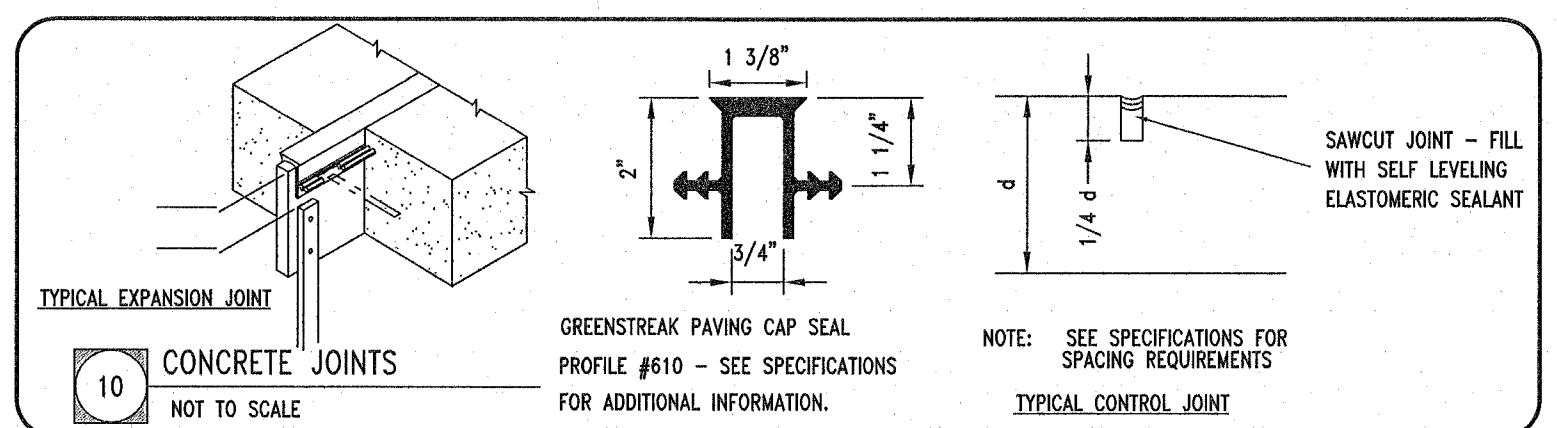
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City of WILMINGTON, NORTH CAROLINA  
Public Services + Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN

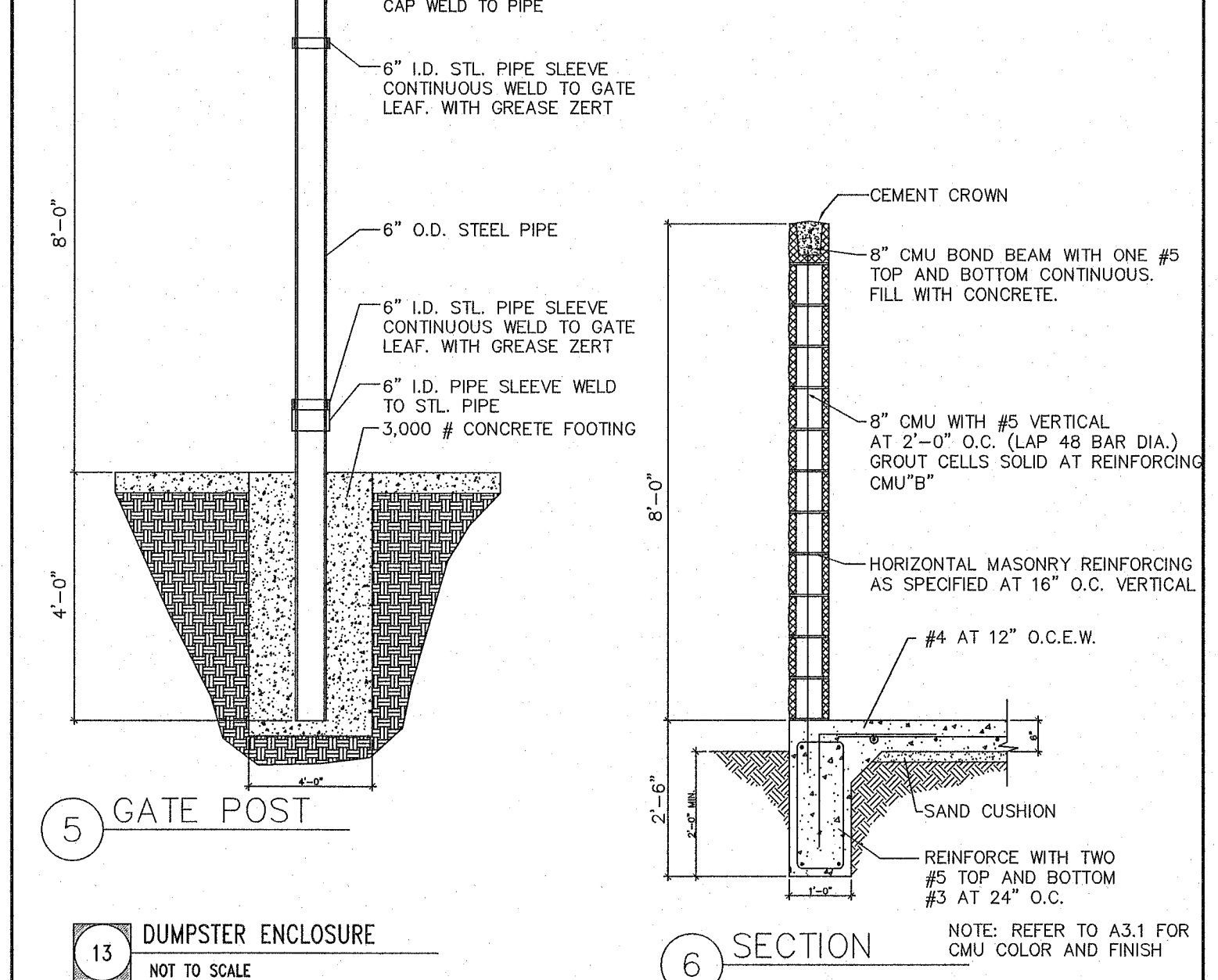
Date: \_\_\_\_\_ Permit # \_\_\_\_\_

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



### TRASH ENCLOSURE DOOR

QTY.	DESCRIPTION	NUMBER - FINISH
4	RICHARD WILCOX: HINGE	1035.00271 24" - BLK
2	RICHARD WILCOX: CANE BOLT	0524.00021 - BLK
2	LAWRENCE BROS PULL	CD1210S - BLK
1	LAWRENCE BROS HASP	CD1915S-6"
1	PADLOCK	Q355-2 FIC - 608
1	CYLINDER CORE	(hardware number to be determined)



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Hartzog Holdings, LLC  
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collins@hartzogholdings.com

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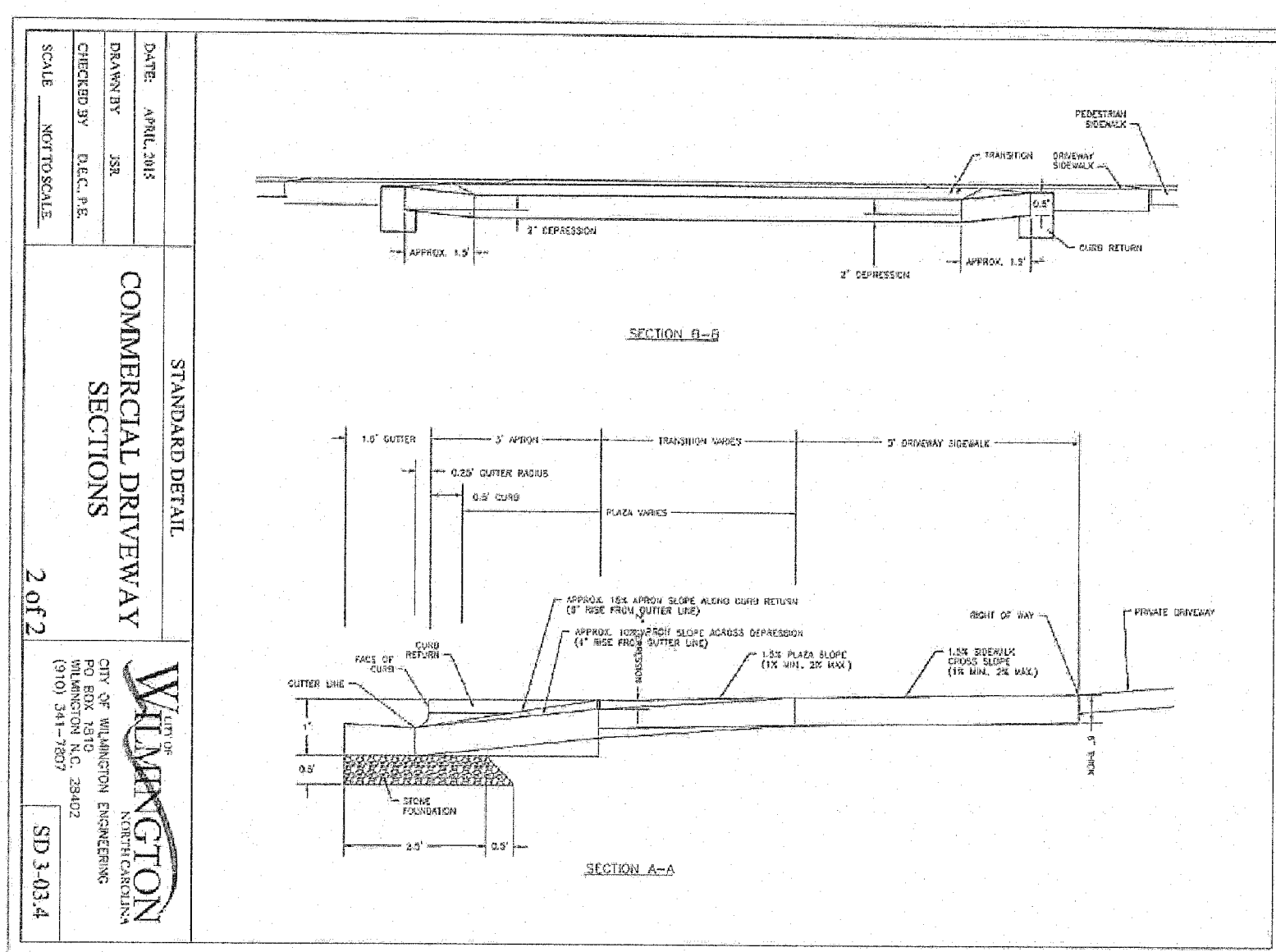
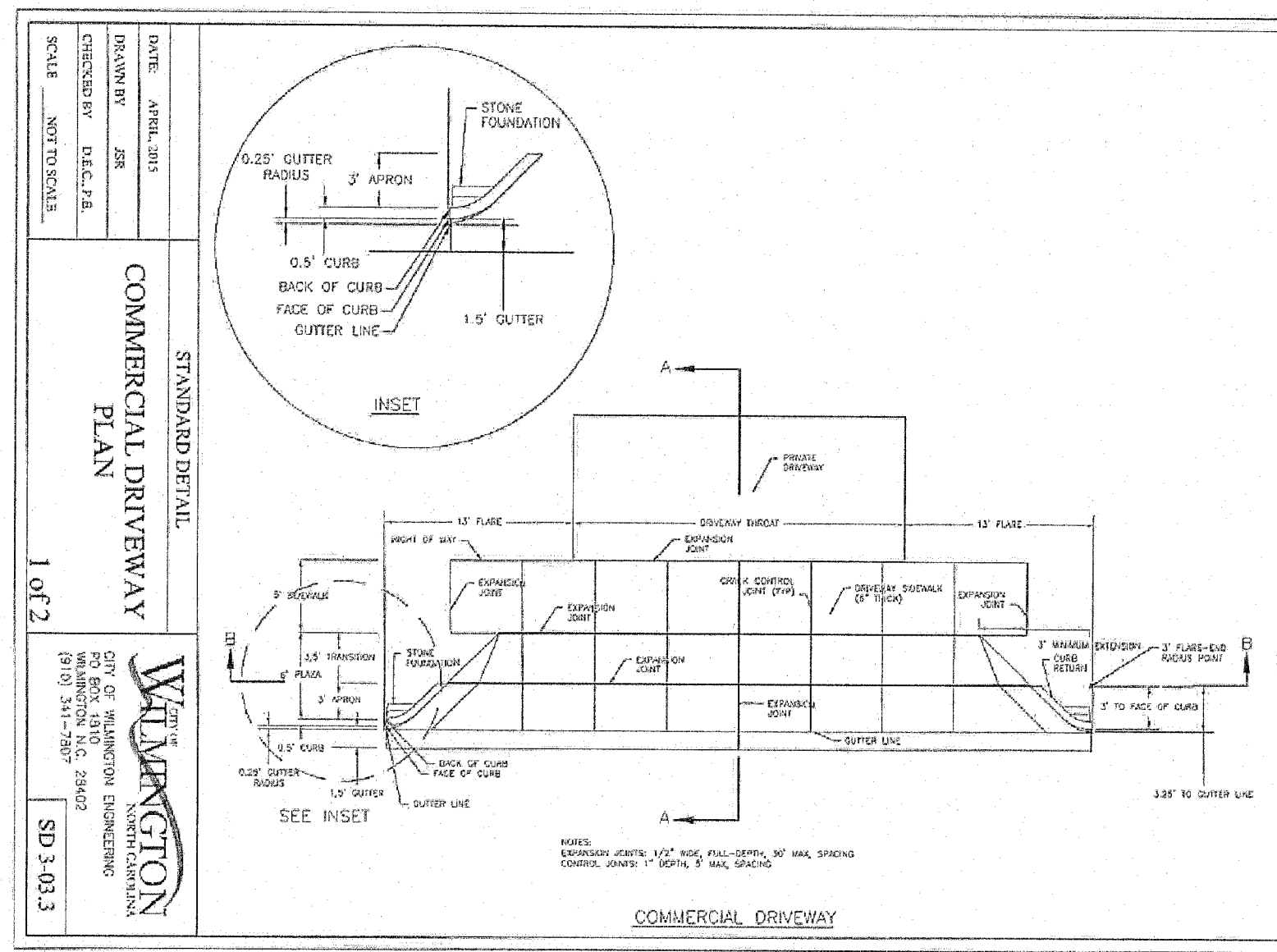
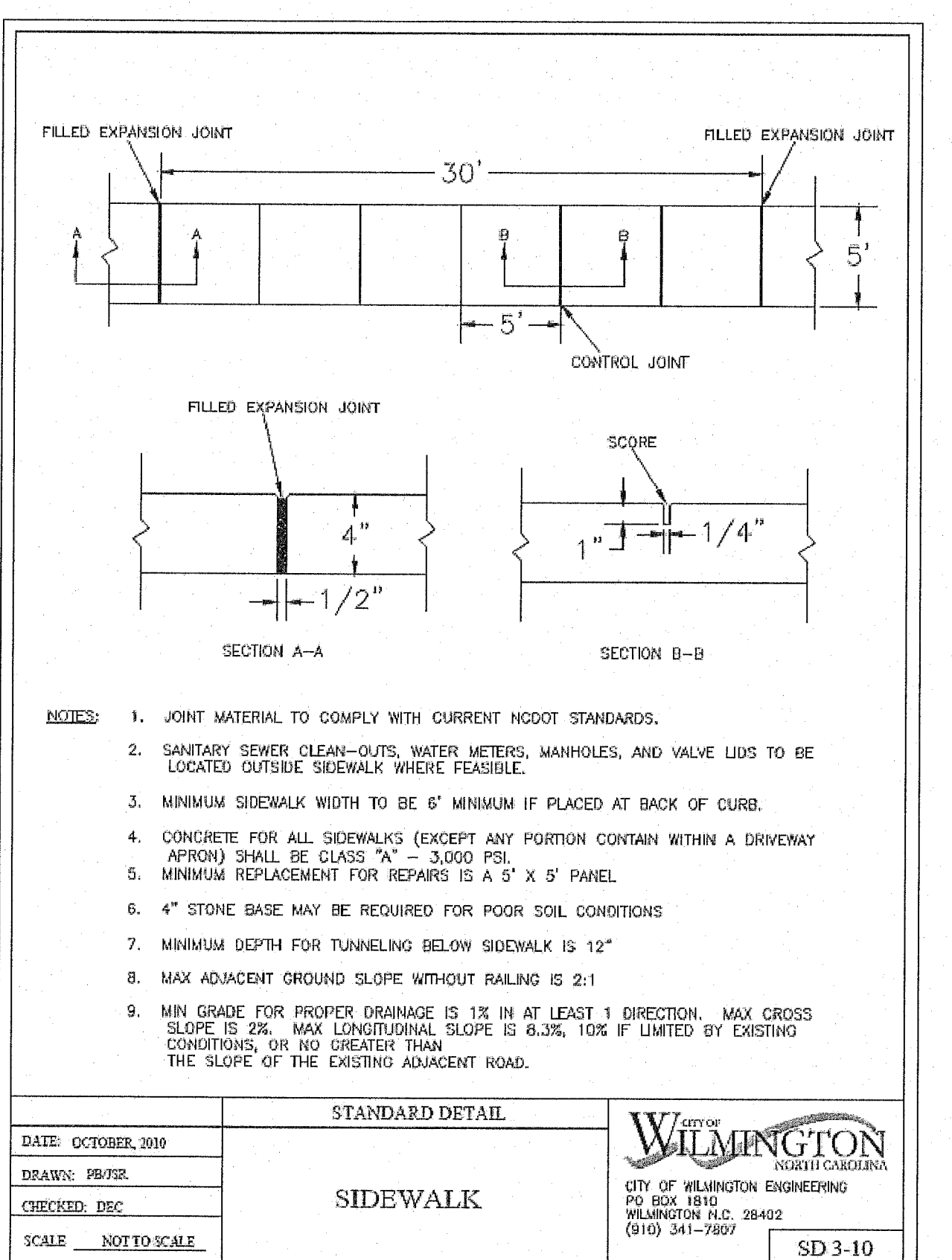
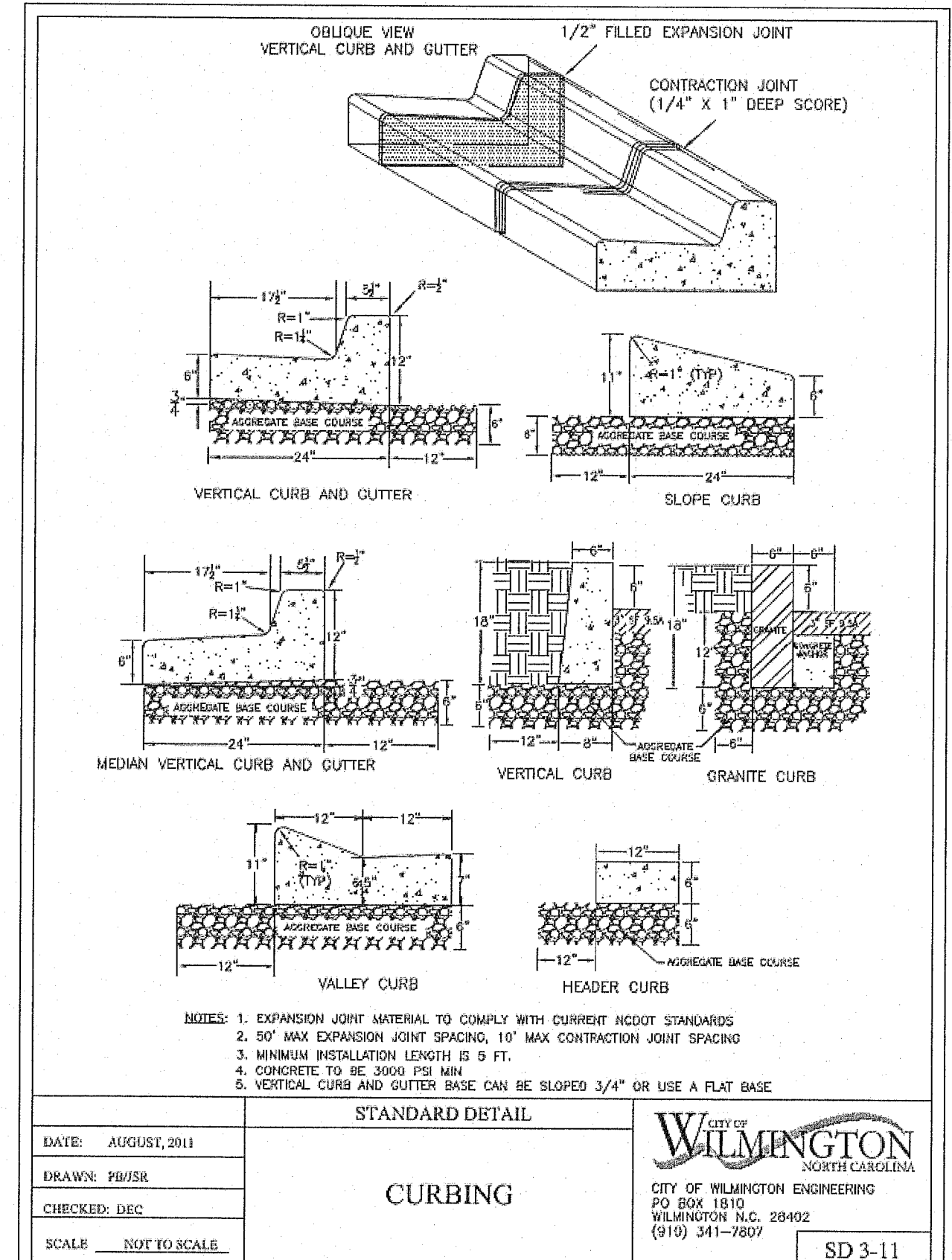
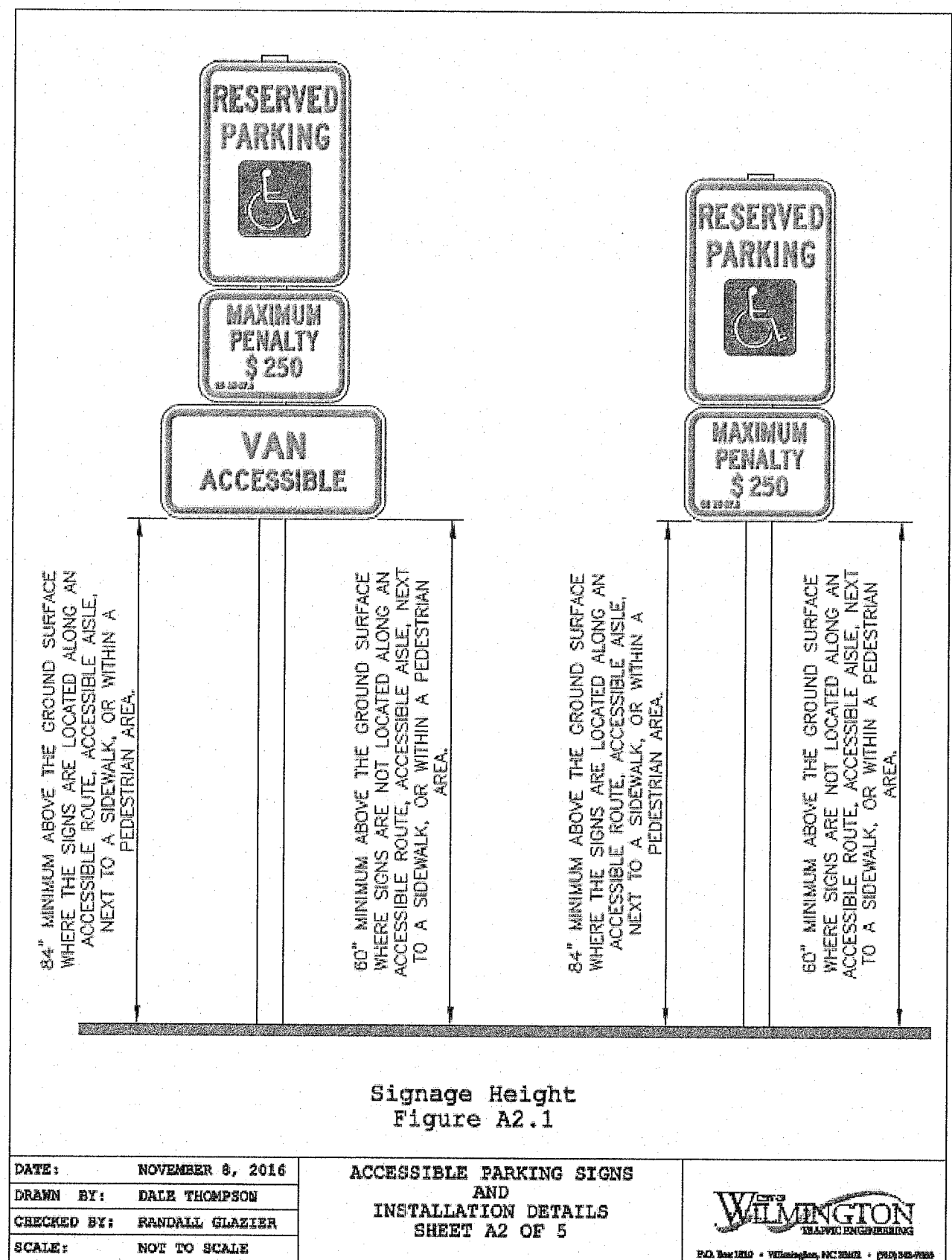
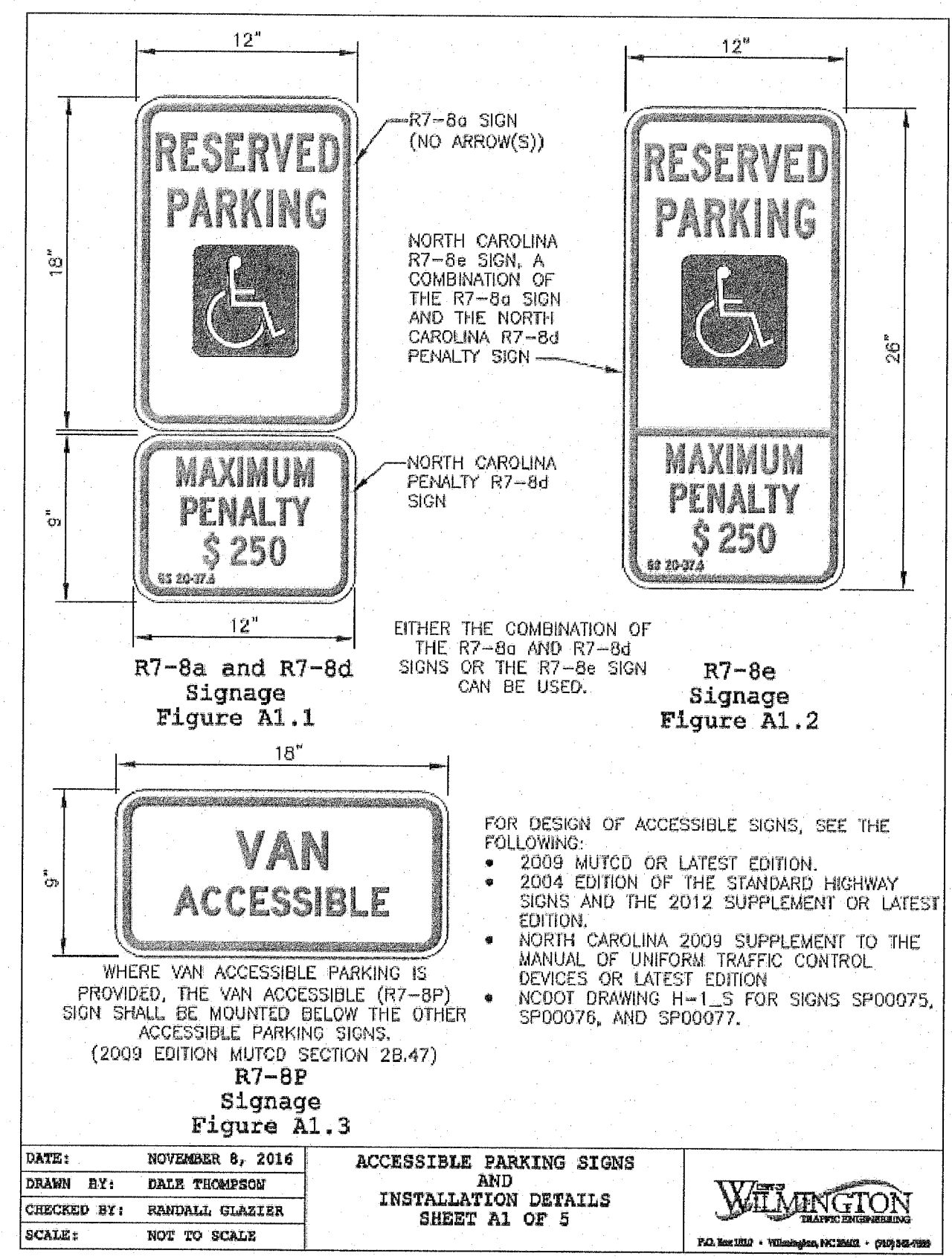
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Approved: \_\_\_\_\_

Project No. 009014  
Date: June 14, 2019  
Title: \_\_\_\_\_

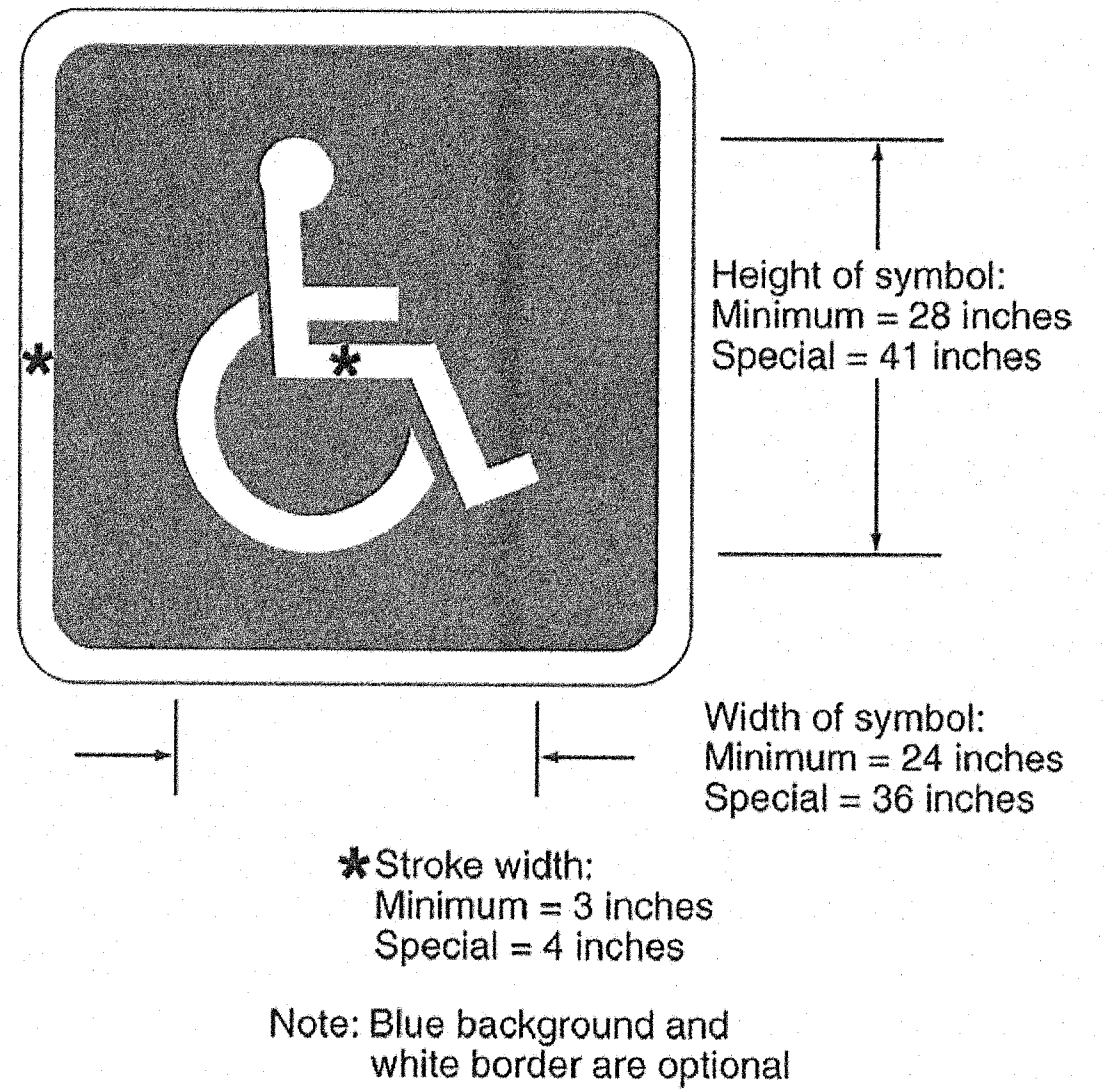
**CONSTRUCTION DETAILS**

Sheet No. C1.4A





**Figure 3B-22. International Symbol of Accessibility Parking Space Marking**



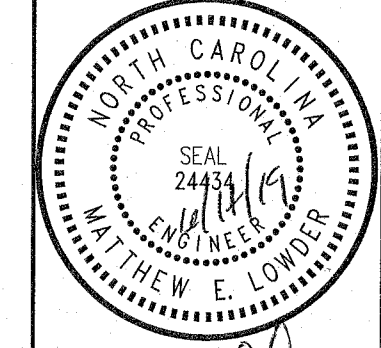
**APPROVED CONSTRUCTION PLAN**

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TRAFFIC \_\_\_\_\_  
FILE \_\_\_\_\_

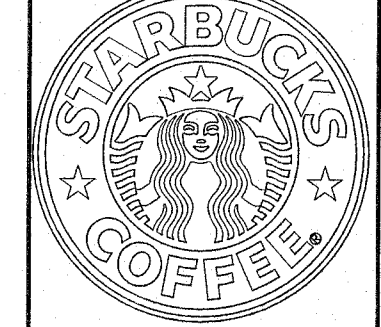
City of Wilmington  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN

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

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	2	5/21/16	ADJUSTED DRIVEWAY & HOSPITAL PLAZA DR. PER ACCOIT
	3	6/14/16	REVISED PER CITY OF WILMINGTON REVIEW

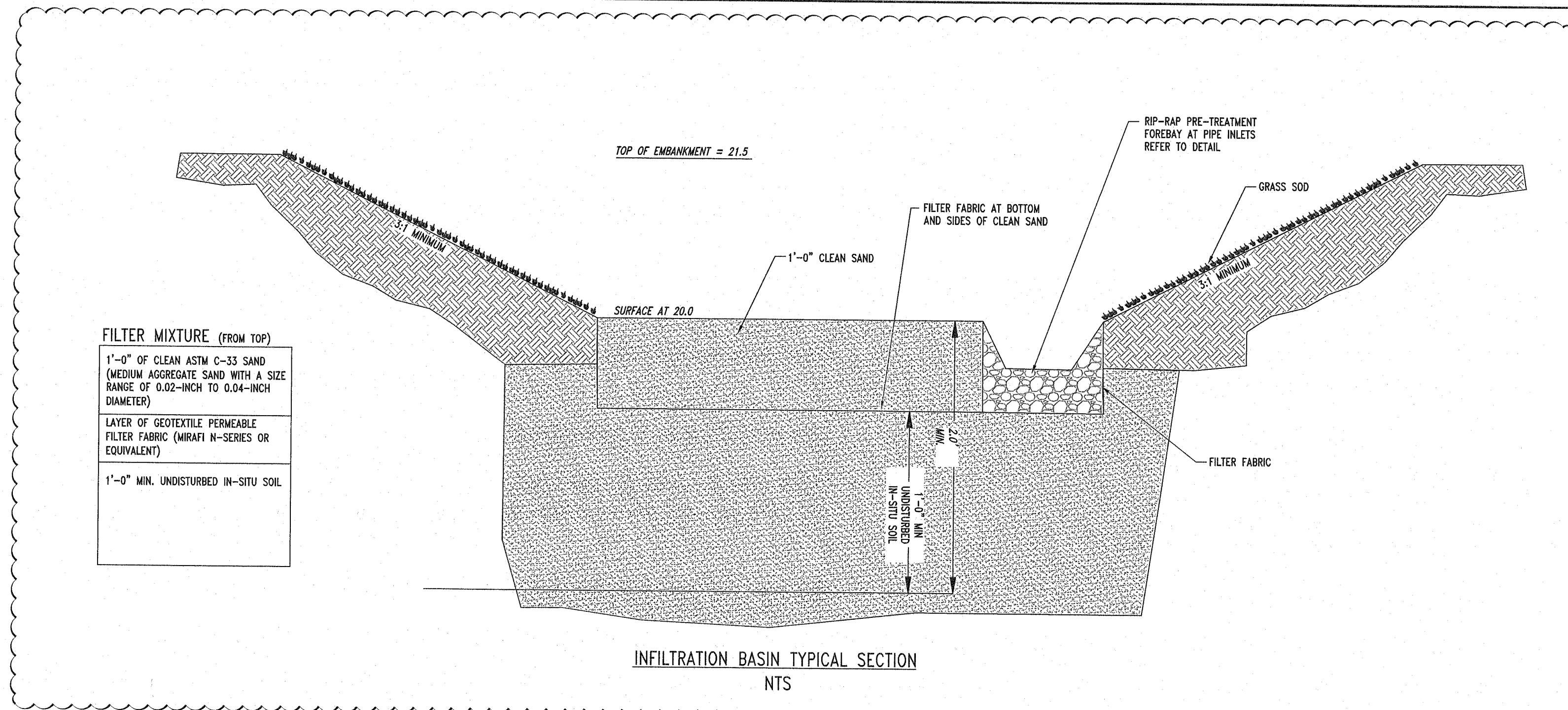
Drawn \_\_\_\_\_  
Checked \_\_\_\_\_  
Approved \_\_\_\_\_

Project No. 009014  
Date: June 14, 2019

**CONSTRUCTION DETAILS**

Sheet No. **C1.4B**





**FILTER MIXTURE (FROM TOP)**

- 1'-0" OF CLEAN ASTM C-33 SAND (MEDIUM AGGREGATE SAND WITH A SIZE RANGE OF 0.02-INCH TO 0.04-INCH DIAMETER)
- LAYER OF GEOTEXTILE PERMEABLE FILTER FABRIC (MIRAFI N-SERIES OR EQUIVALENT)
- 1'-0" MIN. UNDISTURBED IN-SITU SOIL

IMPERVIOUS AREA SUMMARY			
SITE AREA = 33,498 SF (0.769 AC)			
BUILDINGS	2,510 SF	0.06 ACRE(S)	7.49 %
PAVEMENT	14,515 SF	0.33 ACRE(S)	43.33 %
SIDEWALK	1,675 SF	0.04 ACRE(S)	5.00 %
TOTAL IMPERVIOUS AREA	18,700 SF	0.43 ACRE(S)	55.82 %
POROUS CONCRETE	2,080 SF	0.05 ACRE(S)	6.21 % (TYPE A SOILS, 100% PERVIOUS)
GREEN/OPEN SPACE	12,718 SF	0.29 ACRE(S)	37.97 %
EXISTING IMPERVIOUS AREA TO BE DEMOLISHED:	19,135 SF	(ON-SITE)	
DECREASE IN IMPERVIOUS AREA:	435 SF		
EXEMPT FROM 25-YEAR PRE/POST ATTENUATION REQUIREMENT			

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

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

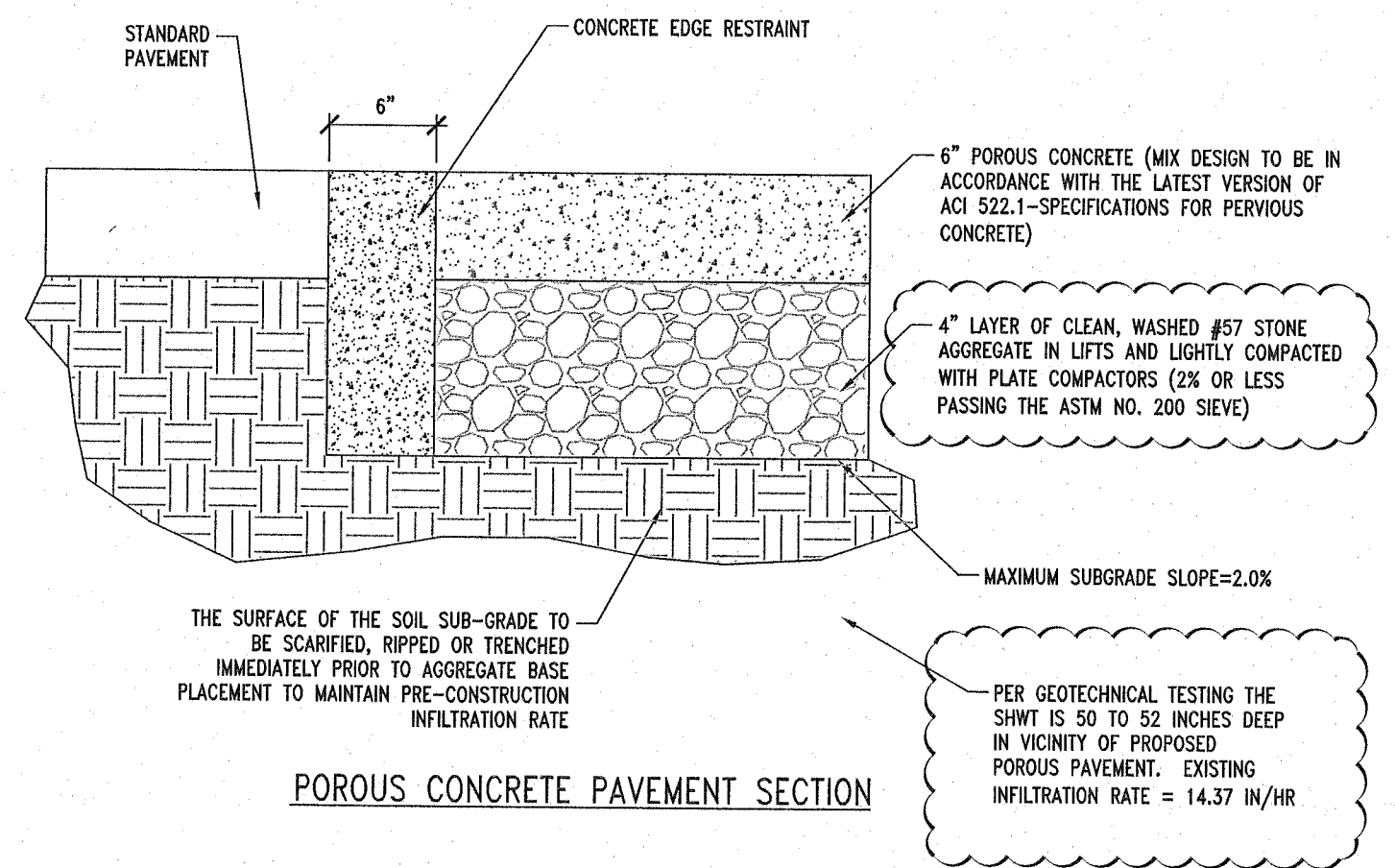
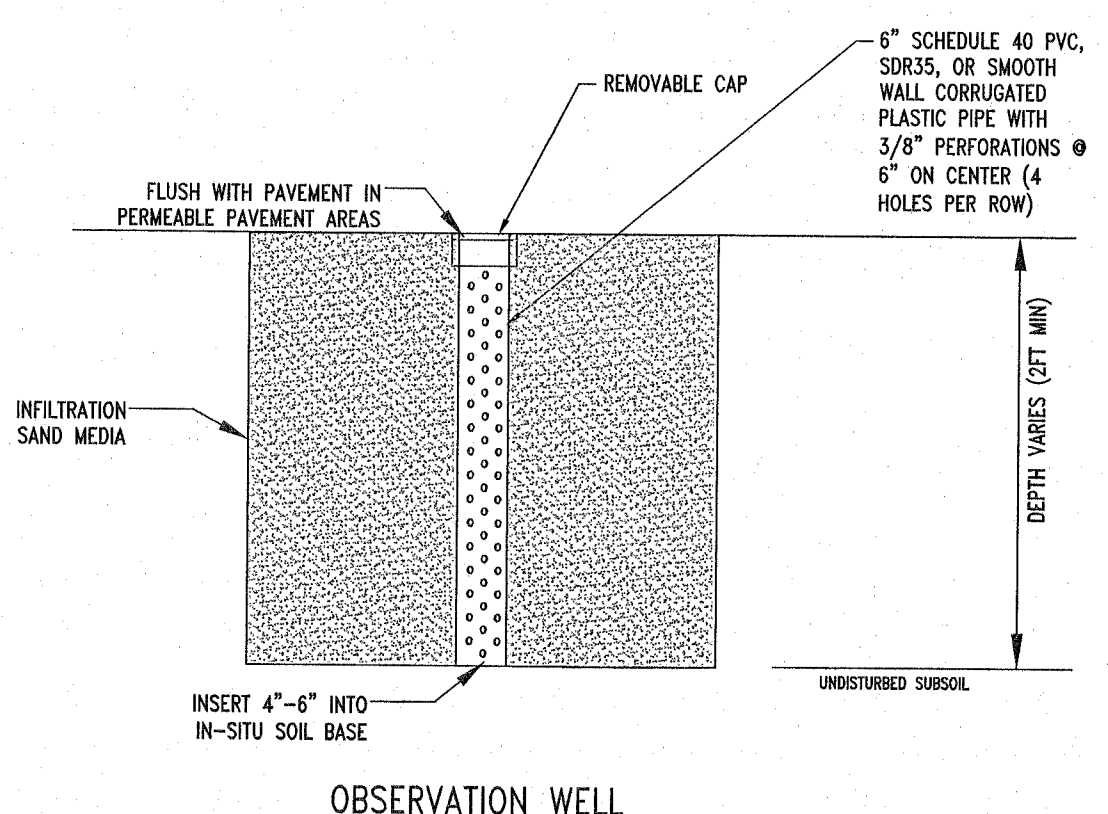
**APPROVED CONSTRUCTION PLAN**

NAME \_\_\_\_\_ DATE \_\_\_\_\_

PLANNING \_\_\_\_\_

TRAFFIC \_\_\_\_\_

FIRE \_\_\_\_\_



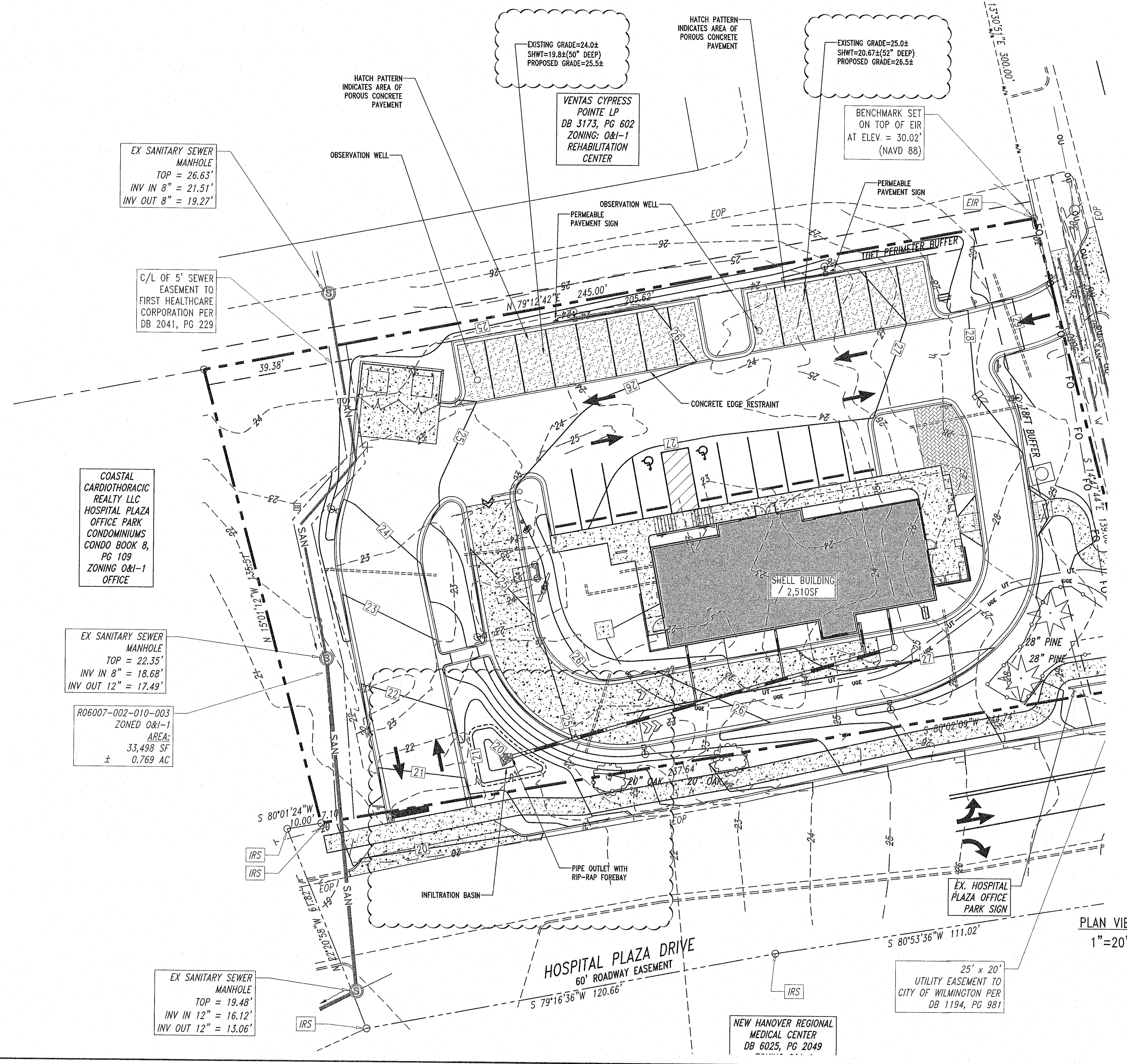
**PERMEABLE PAVEMENT**

ACTIVITIES PROHIBITED:

- SANDING
- RE-SEALING
- RE-SURFACING
- POWER WASHING
- STORAGE OF MULCH OR SOIL
- STORAGE OF SNOW PILES
- STORAGE OF HEAVY LOADS
- APPLICATION OF SALT OR DE-ICERS

EXAMPLE PERMEABLE PAVEMENT SIGN

OPERATION & MAINTENANCE PROVISIONS (PERMEABLE PAVEMENT)		
BMP element:	Potential problem:	How to remediate the problem:
The perimeter of the permeable pavement	Areas of bare soil and/or erosive gullies	Regrade the soil if necessary to remove the gully, then plant ground cover and water until established.
	A vegetated area drains toward the pavement	Regrade the area so that it drains away from the pavement, then plant ground cover and water until established.
The surface of the permeable pavement	Trash/debris present	Remove the trash/debris.
	Weeds	Do not pull the weeds (may pull out media as well). Spray them with a systemic herbicide such as glyphosate and then return within the week to remove them by hand. (Another option is to pour boiling water on them or steam them)
	Sediment	Vacuum sweep the pavement.
	Rutting, cracking, or damaged structure	Consult and appropriate professional.
Observation well	Water present more than five days after a storm event	Clean out clogged underdrain pipes. Consult an appropriate professional for clogged soil subgrade.
Educational sign	Missing or is damaged	Replace the sign.



**TRIANGLE SITE DESIGN**

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NC License #1-6818

**PROFESSIONAL SEAL**  
Matthew E. Owens  
Owner/Developer  
Wilmington NC 2018, LLC  
Hartzog Holdings, LLC  
Attn. Collins Hartzog  
109 Still Wild Lane  
Elgin, SC 29045  
803-361-6718  
collins@hartzogholdings.com



Starbucks - Hospital Plaza  
2018 South 16th Street  
Wilmington, North Carolina  
New Hanover County

This document, together with the concepts and designs presented herein, as an instrument of services, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Triangle Site Design, PLLC shall be without liability to Triangle Site Design, PLLC.

REV.	DATE	DESCRIPTION
1	4/20/19	REVISED PER CITY REVIEW
2	5/21/19	ADJUSTED DRIVEWAY & HOSPITAL PLAZA DR. PER MDOT
3	6/14/19	REVISED PER CITY OF WILMINGTON REVIEW

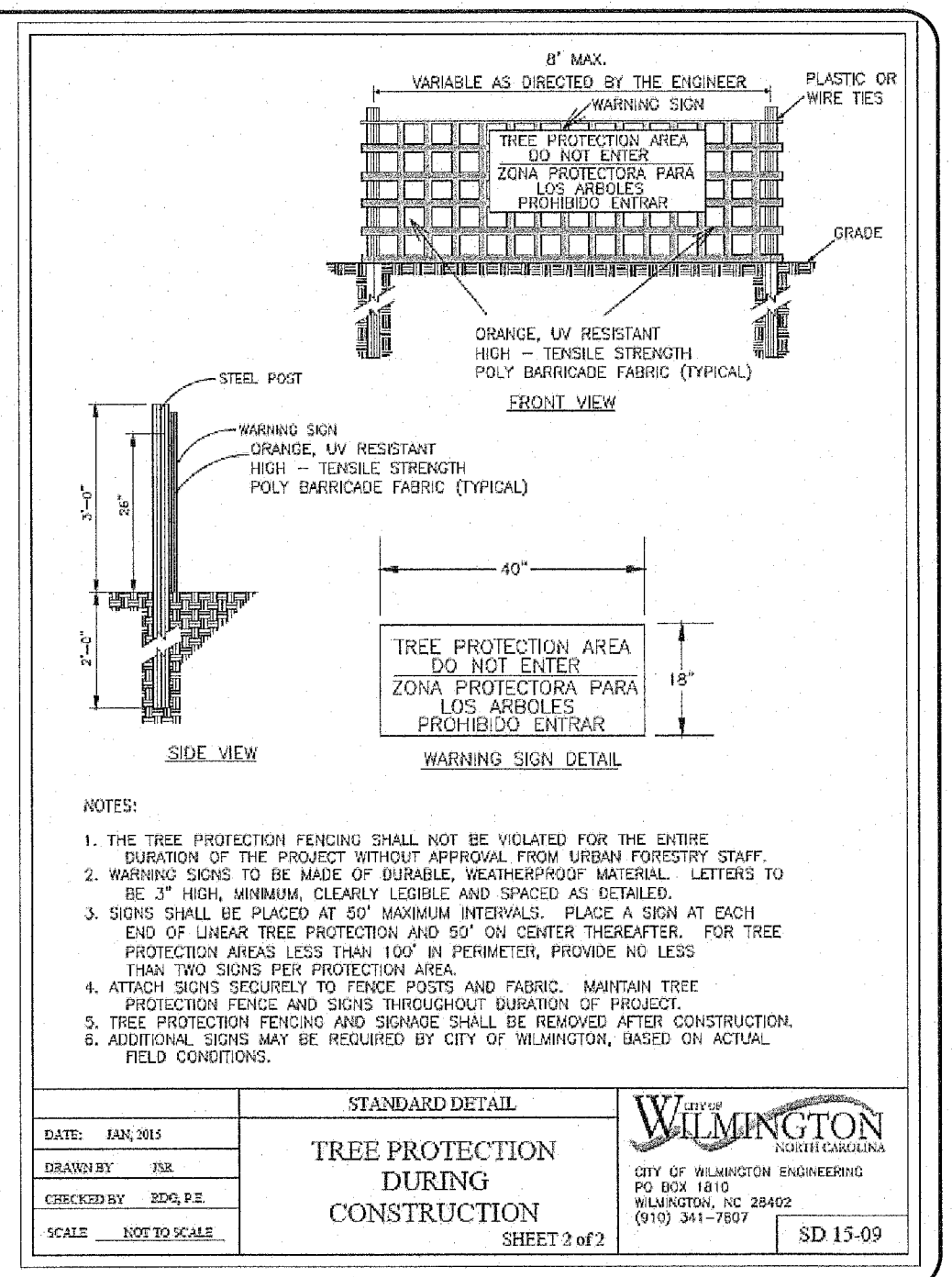
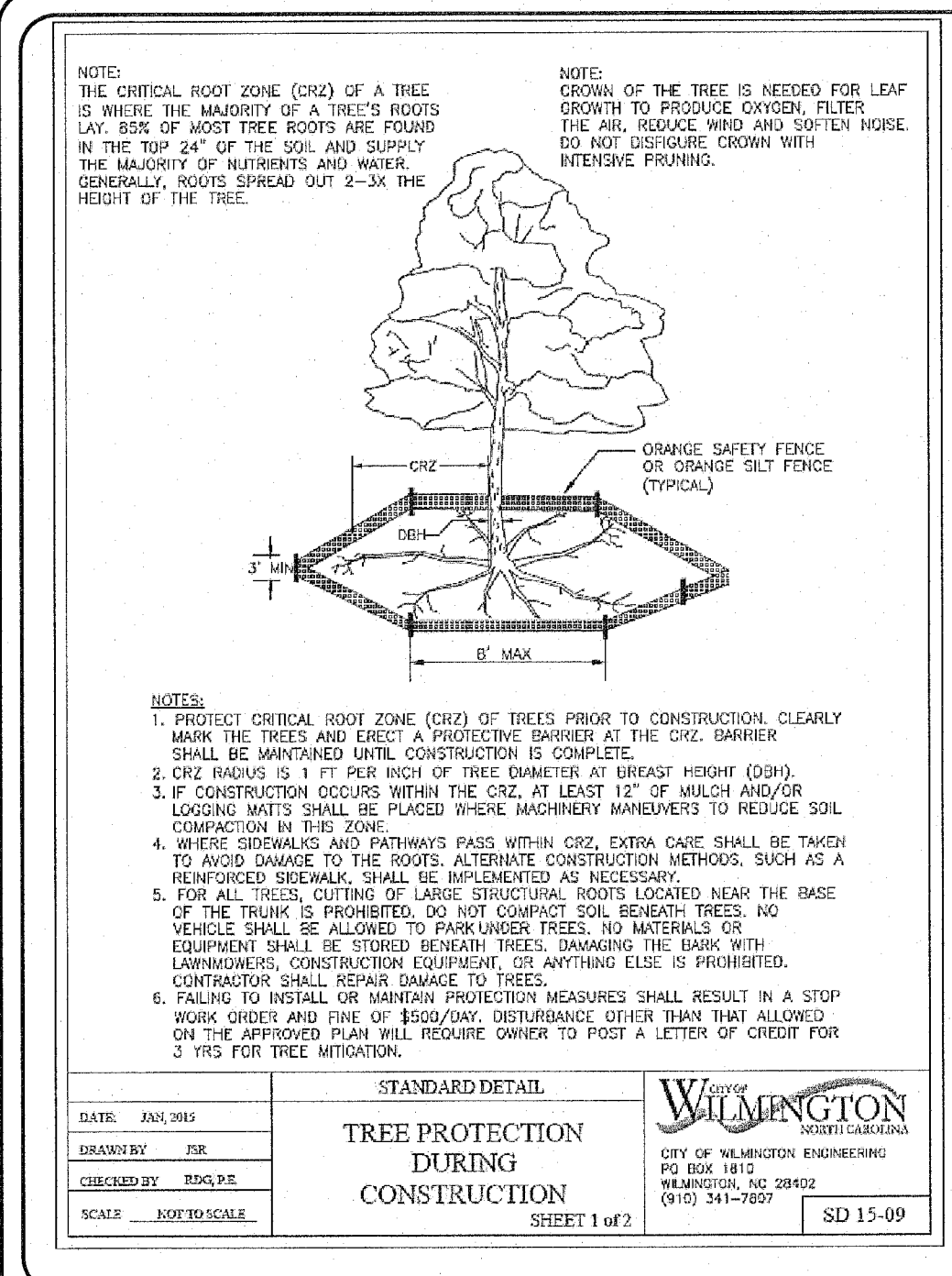
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Checked \_\_\_\_\_  
Approved \_\_\_\_\_

Project No. 009014  
Date: June 14, 2019  
Title

**STORMWATER MANAGEMENT DETAILS**

Sheet No. **C1.5**





**EROSION CONTROL NARRATIVE**

STARBUCKS, NEW HANOVER COUNTY, NC

CONTRACTOR SHALL FIRST INSTALL THE CONSTRUCTION ENTRANCE, THE CONTRACTOR SHALL THEN MOBILIZE ON SITE AND INSTALL THE TEMPORARY EROSION CONTROL DEVICES INCLUDING SILT FENCE, INLET PROTECTION, AND OTHER DEVICES IN ACCORDANCE WITH THE PLANS (CLEARING ONLY AS NECESSARY TO INSTALL THESE ITEMS). BEING DEMOLITION, CLEARING AND SITE GRADING OPERATIONS. STABILIZATION OF EXISTING STRUCTURES IS REQUIRED IMMEDIATELY AFTER INSTALLATION. THE ON-SITE STORM SEWER SYSTEM CAN NOW BE INSTALLED. IMMEDIATELY AFTER AN INLET IS INSTALLED, INLET PROTECTION SHALL BE PROPERLY INSTALLED ON THE STRUCTURE. THE ON-SITE SANITARY SEWER AND WATER SYSTEMS MAY ALSO BE INSTALLED ONCE THE SITE IS BROUGHT UP TO GRADE. THE SITE PAD WILL BE PREPARED FOR THE PROPOSED BUILDING. THE REFINED GRADE WILL THEN BE ESTABLISHED FOR THE SITE. INSTALLATION OF CURB AND GUTTER WILL THEN BE PERFORMED. BASE STONE WILL THEN BE PLACED AND FINISHED. ALL DISTURBED AREAS WILL BE DRESSED AND SEEDED. REMOVE ALL INLET PROTECTION FROM STORM STRUCTURES WHEN PAVING IS TO BEGIN. PAVING AND STRENGTH WILL THEN BE COMPLETED. FINALIZE STORMWATER POND STRUCTURE ONCE UPLAND AREAS HAVE BEEN STABILIZED (REMOVE ACCUMULATED SEDIMENT). ALL LANDSCAPING WILL BE COMPLETED. THE ON-SITE STORM SEWER SYSTEM SHALL BE CLEANED OF ANY ACCUMULATED SEDIMENT WHICH SHALL BE DISPOSED OF IN A LAWFUL MANNER. ALL ACCUMULATED SEDIMENT BEHIND SILT FENCE AND OTHER SEDIMENT DEVICES SHALL BE REMOVED AND DISPOSED OF IN A LAWFUL MANNER. ACCORDING TO THE GROUND STABILIZATION REQUIREMENTS ON THIS SHEET, REMOVE ALL REMAINING SEDIMENT CONTROL MEASURES FROM THE SITE. CONTRACTOR SHALL MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL LAND DISTURBANCE AND FINAL VEGETATION STABILIZATION OF THE SITE.

THE PROPOSED EROSION AND SEDIMENT CONTROL MEASURES ARE INTENDED TO TRAP ANY STORMWATER RUNOFF FROM THE CONSTRUCTION SITE AND DETAIN IT LONG ENOUGH FOR SEDIMENT AND POLLUTANTS TO SETTLE OUT OF THE STORMWATER BEFORE DISCHARGE. VARIOUS EROSION CONTROL MEASURES ARE USED TO PREVENT POLLUTANT-LADEN STORMWATER RUNOFF FROM FLOWING ONTO ADJACENT PROPERTIES.

**TREE PROTECTION NOTES**

1. THE CONTRACTOR SHALL PROTECT ALL TREES AND SHRUBS OUTSIDE OF CUT/FILL LINES, IN ADDITION TO THOSE THAT RECEIVE TREE/SHRUB PROTECTION BARRIERS. THE CONTRACTOR IS ALSO REQUESTED TO SAVE ALL OTHER EXISTING TREES AND SHRUBS WHERE POSSIBLE.
2. WHEN ROOT PRUNING IS NECESSARY, CUT ROOTS CLEANLY USING A DISC TRIMMER AND IMMEDIATELY COVER ALL ROOT CUT SURFACES LARGER THAN TWO INCHES IN DIAMETER WITH TREE MOUND DRESSING. USE PLWOOD TRUNK WHEN TREE ROOTS ARE ADJACENT TO PROPOSED CURB & GUTTER OR SIDEWALK.
3. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENDING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE. TREE BARRIERS MUST BE INSTALLED BEFORE ANY DEMOLITION, CLEARING, GRADING OR CONSTRUCTION BEGINS AND NOT REMOVED UNTIL FINAL INSPECTION.
4. NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SOIL AND LEAF LITTER UNDISTURBED. SUPPLEMENT WITH 1-2 INCHES OF MICHIGAN, RE-SEED WITH GRASS ONLY IN DISTURBED/GRADING AREAS.
5. TREE BARRIERS MUST BE INSTALLED BEFORE ANY DEMOLITION, CLEARING, GRADING OR CONSTRUCTION BEGINS AND IS NOT TO BE REMOVED UNTIL AFTER CONSTRUCTION.
6. TREE PROTECTION FENCE IS TO BE LOCATED 1 FOOT PER TREE DIAMETER INCH AWAY FROM THE TREE.

**EROSION CONTROL NOTES:**

1. TOTAL AREA DISTURBED = 0.78 ACRES
2. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NCEM EROSION AND SEDIMENT CONTROL HANDBOOK
3. THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT THE PROJECT CONSTRUCTION ALL EROSION CONTROL MEASURES SHOWN WITHIN THESE PLANS IN ACCORDANCE WITH APPLICABLE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS.
4. CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
5. EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
6. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
7. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE NCEM EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
8. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS. A REVISED PLAN SHOWING OFF-SITE GRADING CONTROL PLAN TO THE OWNER FOR REVIEW AND TO PROVIDE FOR APPROVAL. CONTRACTOR SHALL PAY ALL FEES REQUIRED AND SHALL INSTALL NECESSARY MEASURES AT NO SEPARATE CHARGE. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER A COPY OF THE AMENDED PERMIT.
9. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN THOSE INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO OFF-SITE BODILY OR WASTE AREAS, STAGING OR STORAGE AREAS), THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO PROVIDE FOR APPROVAL. CONTRACTOR SHALL PAY ALL FEES REQUIRED AND SHALL INSTALL NECESSARY MEASURES AT NO SEPARATE CHARGE. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER A COPY OF THE AMENDED PERMIT.
10. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED CONTINUOUSLY, RELOCATED WHEN AND AS NECESSARY, AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDING AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RE-SEED AND MULCHED AS NECESSARY TO OBTAIN A DESIRE STAND OF GRASS.
11. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND RESEED, TEMPORARILY PERMANENTLY IN ACCORDANCE WITH THE NCEM SEDIMENT CONTROL REGULATIONS. PERMANENT SEEDING AND GRASS ESTABLISHMENT TO BE PROJECT COMPLETION AND ACCEPTANCE.
12. WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.
13. TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREAS. SIX INCHES OF STONE SHALL BE USED FOR THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE.
14. ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.
15. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UP-SLOPE LAND DISTURBANCE TAKES PLACE.
16. ALL DISTURBED AREAS ARE TO BE DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS COMPLETED.
17. DURING DE-ICE/WATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
18. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RAINFALL-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

**SEDIMENT & EROSION CONTROL NOTES:**

1. THE EROSION AND SEDIMENTATION CONTROL MEASURES (S&EM) WERE DESIGNED USING THE NEW HANOVER COUNTY REQUIREMENTS AND SHALL BE INSTALLED ACCORDINGLY. CONTRACTOR SHALL PERFORM ALL ACTIVITIES IN STRICT COMPLIANCE WITH THE NORTH CAROLINA NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (GENERAL PERMIT).
2. REFER TO THE EROSION AND SEDIMENT CONTROL DETAIL SHEETS FOR EROSION CONTROL DETAILS AND DESIGN TABLES FOR SEDIMENT BASINS, DIVERSION DITCHES, AND CURVED SLOPE DRAINS, RIP-RAP APRONS AND OTHER EROSION CONTROL MEASURES.
3. EXISTING BOUNDARIES, TOPOGRAPHY, 100-YR FLOODPLAIN, UTILITY AND ROAD INFORMATION TAKEN FROM AN EXISTING CONDITIONS SURVEY. ALL EXISTING INFORMATION IS TO BE FIELD VERIFIED BY THE CONTRACTOR.
4. SEE THE LANDSCAPE PLAN FOR LOCATIONS OF PROPOSED PLANTINGS AND FINAL STABILIZATION.
5. TEMPORARY DIVERSION DITCHES AND BEAMS SHALL BE MAINTAINED AS THE SITE IS BROUGHT TO GRADE.
6. DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
7. SEE THE GENERAL NOTES SHEET AND THE GRADING AND DRAINAGE PLAN FOR OTHER NOTES REGARDING GRADING ACTIVITIES.
8. SEE SITE PLAN, GRADING AND DRAINAGE PLAN, UTILITY PLAN, PLANTING PLAN AND OTHER PLAN SHEETS FOR DETAILED DESIGN INFORMATION OF PERMANENT SITE APPURTENANCES SHOWN ON THIS SHEET.
9. WHERE THE LIMITS OF DISTURBANCE AND TEMPORARY FENCE (SF, SP, PF, OR PF) LIMITS ARE ADJACENT, THE TEMPORARY FENCE LINE IS THE LIMITS OF DISTURBANCE. THE LIMIT TYPES ARE SHOWN SEPARATED FOR ILLUSTRATIVE PURPOSES ONLY.
10. CONTRACTOR SHALL NOT DISTURB ANY EXISTING VEGETATIVE GROUND COVER OR TREES OUTSIDE OF THE LIMITS OF DISTURBANCE OR WITHIN ANY REQUIRED BUFFER LIMITS UNLESS OTHERWISE NOTED OR ILLUSTRATED.
11. PROVIDE CONTROLS OF POLLUTANTS, INCLUDING, BUT NOT LIMITED TO DUST CONTROL, DE-WATERING, SOLID WASTE DISPOSAL, AND HAZARDOUS MATERIALS.
12. CLEAR ONLY AS REQUIRED TO INSTALL EROSION AND SEDIMENTATION CONTROL MEASURES. MASS CLEARING AND GRUBBING CAN BE ONLY AFTER ALL DOWNSTREAM MEASURES HAVE BEEN INSTALLED.
13. USE ROCK OR WASHED STONE TO BRACE CONSTRUCTION EIT. BRACE. IMPLEMENT WHEEL WASHES AS NECESSARY THROUGHOUT ALL PHASES OF CONSTRUCTION.
14. DIVERT STORM WATER RUNOFF OFF THE FACE OF THE SEDIMENT BASIN SLOPES USING DIVERSION DITCHES AND SLOPE DRAINS. CONTRACTOR SHALL MAINTAIN AND RELOCATE DIVERSION DITCHES AND SLOPE DRAINS TO ENSURE STORM WATER RUNOFF DOES NOT EXCEED THE FACE OF FINAL SLOPES.
15. MAINTAIN POSITIVE FLOW TO THE SEDIMENT BASIN THROUGHOUT ALL PHASES OF CONSTRUCTION. PLACE EXCAVATED SOILS ALONG DOWNSTREAM EDGE OF THE DIVERSION DITCHES TO PROVIDE ADDITIONAL CAPACITY.
16. REFER TO THE GRADING AND DRAINAGE PLAN FOR FINAL SITE AND PAVEMENT GRADES AND ELEVATIONS OF THE PROPOSED STORM SEWER SYSTEMS.
17. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE APPROVED EROSION AND SEDIMENT CONTROL DRAWINGS DURING CONSTRUCTION OPERATIONS.
18. GENERAL CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
19. ALL WORK SHALL BE CONFINED TO PERMIT LIMITS SHOWN ON PLANS, UNLESS OTHERWISE NOTED. THE SITE PLAN PROPERTY LIMITS SHALL BE CONSIDERED THE PERMIT LIMITS.
20. SUFFICIENT EROSION CONTROL PRACTICES MUST BE INSTALLED AND MAINTAINED TO RETAIN SEDIMENT WITHIN THE BOUNDARIES OF THE SITE.
21. ADDITIONAL EROSION CONTROL MEASURES OR SILT BARRIERS TO BE PLACED AS SHOWN AND/OR DIRECTED BY THE PROJECT ENGINEER AND/OR LOCAL JURISDICTIONAL INSPECTOR AT CONSTRUCTION ACCESS POINTS PRIOR TO LAND DISTURBANCE.
22. FOR ALL CONSTRUCTION ALONG AND/OR ACROSS WATERWAYS, BANK PROTECTION AND STABILIZATION SHALL BE REQUIRED AS PER LOCAL JURISDICTIONAL EROSION CONTROL LAWS.
23. ALL TREE PROTECTION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION AND SHALL BE MAINTAINED IN PROPER WORKING ORDER UNTIL ALL DISTURBED AREAS ARE STABILIZED AND GROUND COVER IS ESTABLISHED. CONSTRUCTION ENTRANCE PADS SHALL BE INSTALLED BY THE CONTRACTOR AT CONSTRUCTION ACCESS POINTS PRIOR TO LAND DISTURBANCE.
24. ALL EASEMENTS DISTURBED MUST BE DRESSED AND GRASSED TO CONTROL EROSION IN ACCORDANCE WITH EASEMENT PLATS PRIOR TO ACCEPTANCE.
25. CONSTRUCTION LIMITS SHALL NOT BE EXCEEDED WITHOUT THE APPROVAL OF NEW HANOVER COUNTY AND NCEM.

**STANDARD DETAIL**

**TREE PROTECTION DURING CONSTRUCTION**

DATE: JAN 1985  
DRAWN BY: RSE  
CHECKED BY: RSE/LE  
SCALE: NOT TO SCALE

CITY OF WILMINGTON  
CONSULTING ENGINEERS  
PO BOX 1810  
WILMINGTON, NC 28402  
(910) 341-7897

SD 15-09

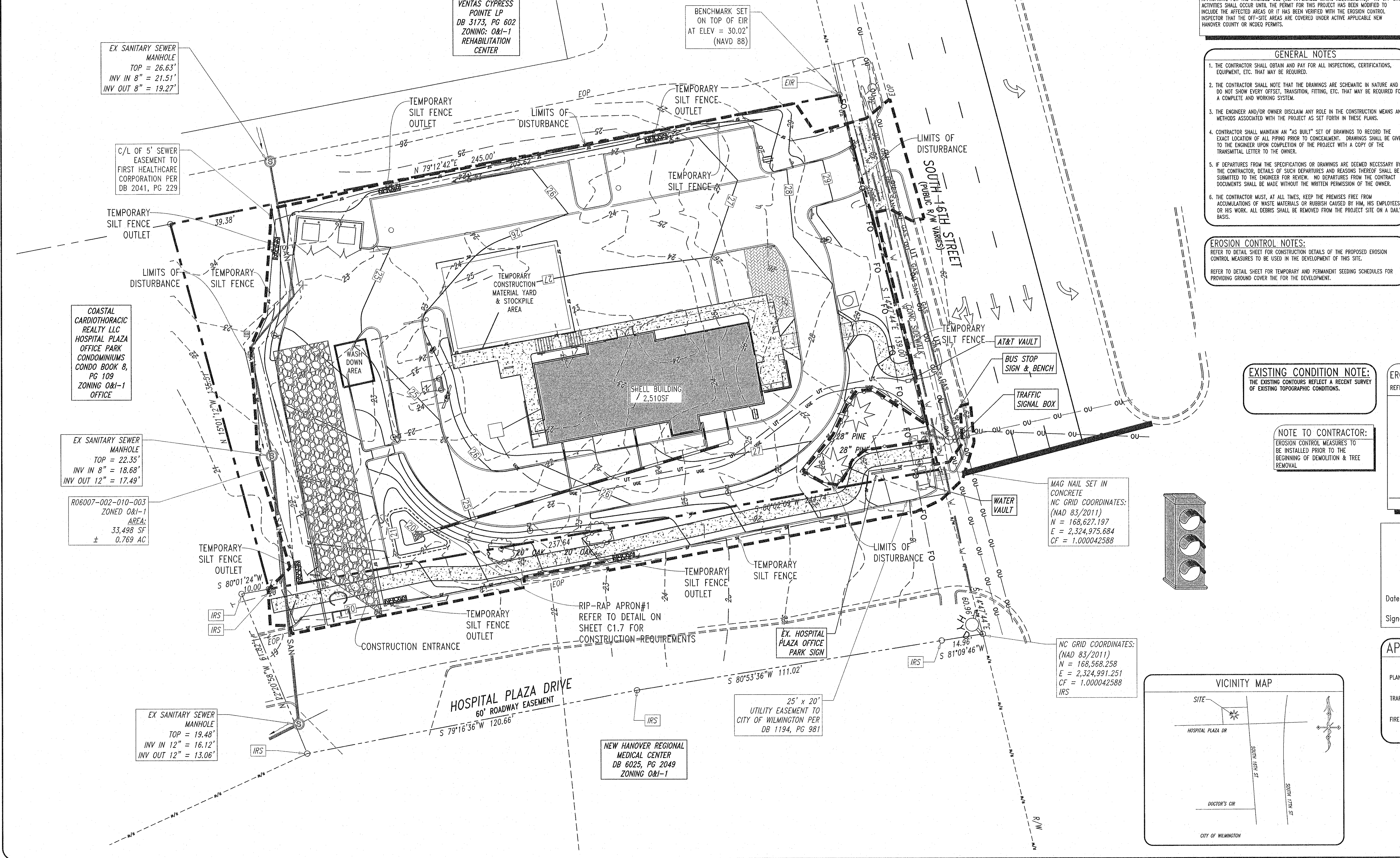
**STANDARD DETAIL**

**TREE PROTECTION DURING CONSTRUCTION**

DATE: JAN 2011  
DRAWN BY: RSE  
CHECKED BY: RSE/LE  
SCALE: NOT TO SCALE

CITY OF WILMINGTON CONSULTING ENGINEERS  
PO BOX 1810  
WILMINGTON, NC 28402  
(910) 341-7897

SD 15-09



**CONSTRUCTION SEQUENCE:**

1. CONTACT NEW HANOVER COUNTY & NCEM BEFORE ANY LAND DISTURBANCE OCCURS.
2. CONTRACTOR SHALL ENSURE THAT ALL NECESSARY PERMITS HAVE BEEN RECEIVED AND THAT THOSE REQUIRED TO BE DISPLAYED ON-SITE ARE AVAILABLE.
3. CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION MEETING AT LEAST 48 HOURS BEFORE THE ACTUAL START OF CONSTRUCTION. CONTACT THE NEW HANOVER INSPECTOR.
4. CONTRACTOR SHALL CONTACT CAROLINA ONE CALL AND ALL UTILITIES HAVING BURIED UTILITIES AT LEAST 72 HOURS PRIOR TO DIGGING OR AS DIRECTED AT THE PRE-CONSTRUCTION MEETING.
5. CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION ENTRANCES AT EACH POINT OF ACCESS TO STORAGE AND CONSTRUCTION AREAS. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO DEMOLITION AND TREE REMOVAL OPERATIONS.
6. INITIAL PHASE SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH PLANS BEFORE STARTING WORK INCLUDING SILT FENCE, INLET PROTECTION, TREE PROTECTION, ETC., CLEARING ONLY AS NECESSARY FOR THE INSTALLATION OF THESE MEASURES. CONTRACTOR SHALL INCLUDE A RAIN GAUGE AND LOG BOOK CONTAINING THE INSPECTION RECORDS FOR THE SITE. ONCE THE BASIN/DIVERSION ARE INSTALLED SEED/MULCH IMMEDIATELY. ALL DEMOLITION DEBRIS IS TO GO TO AN APPROVED LANDFILL OR RELATED FACILITY. NOTE: CONTRACTOR TO LIMIT GRADING OPERATIONS IN THE VICINITY OF THE PROPOSED POROUS PAVEMENT TO PROTECT THE INTEGRITY OF THE EXISTING SOILS FOR INFILTRATION. INITIALLY CONSTRUCT THE GRADE FOR THE BUILDING PAD AND THE PARKING AREAS. ONCE THESE AREAS ARE UP TO GRADE, STABILIZE WITH CONCRETE, PAVEMENT, OR VEGETATION. CONTRACTOR TO USE PARKING AREAS ADJACENT TO THE PROPOSED BUILDING FOR LAY-DOWN/STAGING AREAS - MAINTAIN THESE AREAS SO THAT SEDIMENT LADEN RUNOFF WILL BE DIVERTED TO EROSION CONTROL MEASURES. INSTALL SILT FENCE AROUND LAY-DOWN/STAGING AREA AS SHOWN.
7. CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES. ALL APPLICABLE E&S CONTROL MEASURES MUST BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED.
8. STOCKPILE RIP-RAP ON SITE AND INSTALL ALL EROSION CONTROL MEASURES WHERE THE WORK IS OCCURRING. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY THE ENGINEER OR UPON RECOMMENDATION OF COUNTY INSPECTION PERSONNEL AS CONDITIONS WARRANT.
9. ALL DISTURBED AREAS SHALL HAVE GROUND STABILIZATION BY THE CONTRACTOR ACCORDING TO THE CHART ON THIS SHEET.
10. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISHED GRADE.
11. UPON COMPLETION OF THE INSTALLATION AND WITH APPROVAL OF COUNTY, ALL EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED OF IN AN ACCEPTABLE MANNER. EACH SECTION SHALL BE SEEDED/MULCHED IMMEDIATELY AFTER INSTALLATION OF PIPE, STRUCTURE, OR ACCESS. COORDINATE WITH THE EROSION CONTROL INSPECTOR PRIOR TO REMOVAL OF EROSION CONTROL MEASURES.
12. ONCE GROUND COVER IS FIRMLY ESTABLISHED, ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITH THE APPROVAL OF THE NCEM INSPECTOR.
13. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N.C. EROSION & SEDIMENT CONTROL PLAN AND DESIGN MANUAL, NCDOT, U.S. DEPT. OF AGRICULTURE, AND NEW HANOVER COUNTY AND NCEM STANDARDS.

**GENERAL NOTES**

1. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC. THAT MAY BE REQUIRED.
2. THE CONTRACTOR SHALL NOTE THAT THE DRAWINGS ARE SCHEMATIC IN NATURE AND DO NOT SHOW EVERY DETAIL. TRANSACTION, FITTING, ETC. THAT MAY BE REQUIRED FOR A COMPLETE AND WORKING SYSTEM.
3. THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
4. CONTRACTOR SHALL MAINTAIN AN "AS BUILT" SET OF DRAWINGS TO RECORD THE EXACT LOCATION OF ALL PIPES PRIOR TO CONCEALMENT. DRAWINGS SHALL BE GIVEN TO THE ENGINEER UPON COMPLETION OF THE PROJECT WITH A COPY OF THE TRANSMITTAL LETTER TO THE OWNER.
5. IF DEPARTURES FROM THE SPECIFICATIONS OR DRAWINGS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE WRITTEN PERMISSION OF THE OWNER.
6. THE CONTRACTOR MUST, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY HIM, HIS EMPLOYEES OR HIS WORK. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS.

**EXISTING CONDITION NOTE:**

THE EXISTING CONTOURS REFLECT A RECENT SURVEY OF EXISTING TOPOGRAPHIC CONDITIONS.

**NOTE TO CONTRACTOR:**

EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO THE BEGINNING OF DEMOLITION & TREE REMOVAL.

**EROSION CONTROL LEGEND**

REFER TO DETAIL SHEET FOR CONSTRUCTION REQUIREMENTS

CE CONSTRUCTION ENTRANCE

RIP RIP APRON

TEMPORARY SILT FENCE OUTLET

SF TEMPORARY SILT FENCE

**STABILIZATION TIMEFRAME**

SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
BASELINE & TEMPORARY DIVERSION DITCHES	IMMEDIATELY	NONE
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1 - 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 2:1 IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES

**GROUND COVER REQUIREMENTS:**

THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION-CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, SLOPES LEFT EXPOSED WILL, ACCORDING TO THE FOLLOWING CHART, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION. PROVISIONS FOR PERMANENT GROUND COVER SUFFICIENT TO RETAIN EROSION MUST BE ACCOMPLISHED FOR ALL DISTURBED AREAS ACCORDING TO THE FOLLOWING CHART FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

**GROUND COVER REQUIREMENTS:**

IN ACCORDANCE WITH NPDES CONSTRUCTION STORMWATER GENERAL PERMIT NCG010000, PERMANENT GROUND COVER SUFFICIENT TO RETAIN EROSION MUST BE ACCOMPLISHED FOR ALL DISTURBED AREAS ACCORDING TO THE FOLLOWING CHART FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

**APPROVED CONSTRUCTION PLAN**

PLANNING \_\_\_\_\_ NAME \_\_\_\_\_ DATE \_\_\_\_\_

TRAFFIC \_\_\_\_\_

FIRE \_\_\_\_\_

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

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

**VICINITY MAP**

SHOWS LOCATION OF SITE (HOSPITAL PLAZA DR) IN RELATION TO SURROUNDING AREAS (DOCTOR'S DR, SOUTH 16TH STREET, 811, CITY OF WILMINGTON).

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**GRAPHIC SCALE**

1 INCH = 20 FEET

**TRIANGLE SITE DESIGN**

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SEAL  
2434  
J. L. WILSON  
REGISTERED PROFESSIONAL ENGINEER  
NO. 2434  
THE STATE OF NORTH CAROLINA

**Starbucks-Hospital Plaza**  
2018 South 16th Street  
Wilmington, North Carolina  
New Hanover County

Owner/Developer  
Wilmington NC 2018, LLC  
Hartzog Holdings, LLC  
Attn: Collins Hartzog  
109 Still Wild Lane  
Elgin, SC 29045  
803-361-6718  
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**Starbucks Coffee**

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**REVISIONS**

No.	Date	Description
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3	6/14/19	REVISED PER CITY OF WILMINGTON REVIEW

Drawn \_\_\_\_\_  
Checked \_\_\_\_\_  
Approved \_\_\_\_\_

Project No. 009014  
Date: June 14, 2019  
Title

**EROSION CONTROL PLAN**

Sheet No. C1.6



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

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

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

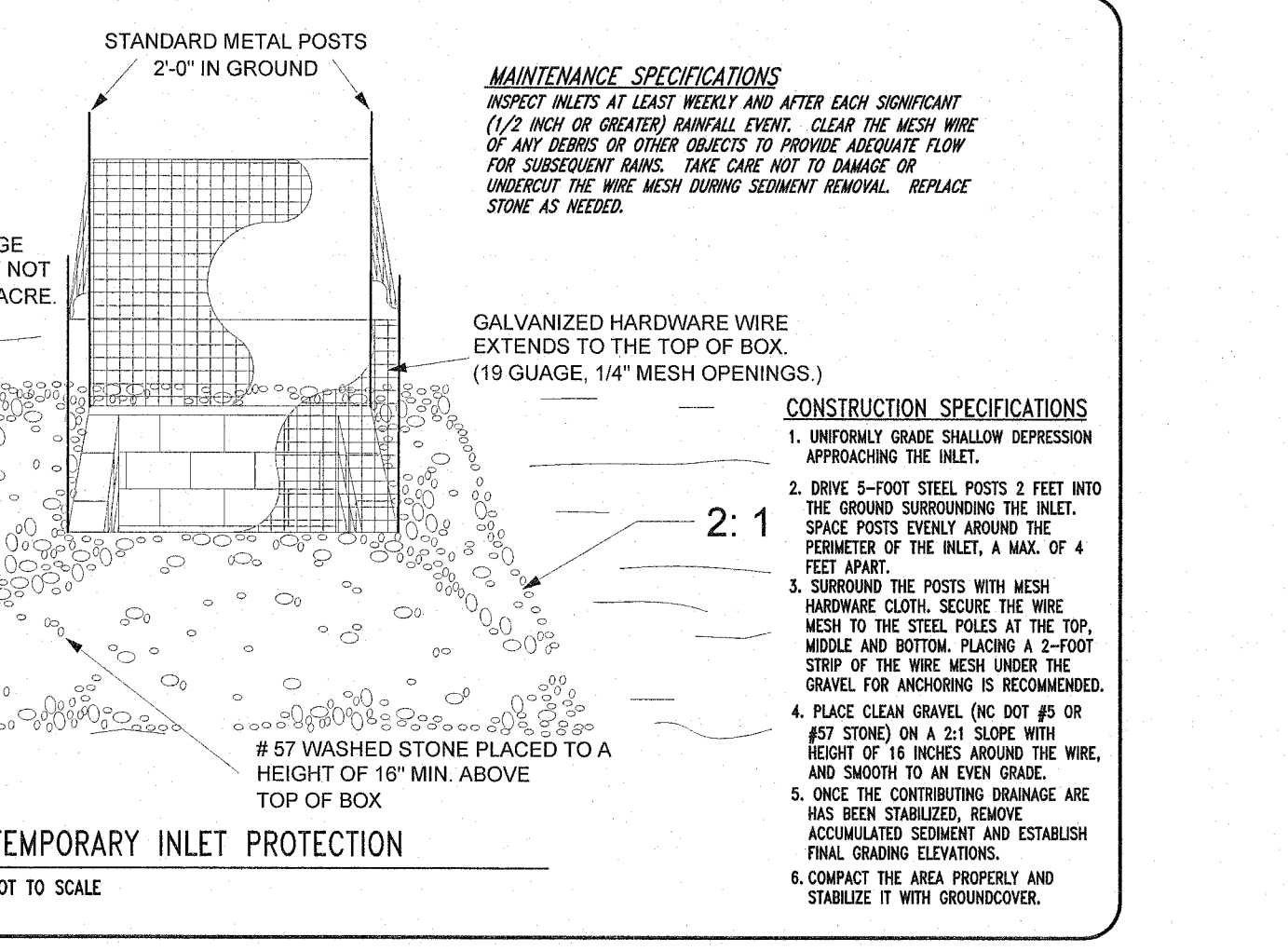
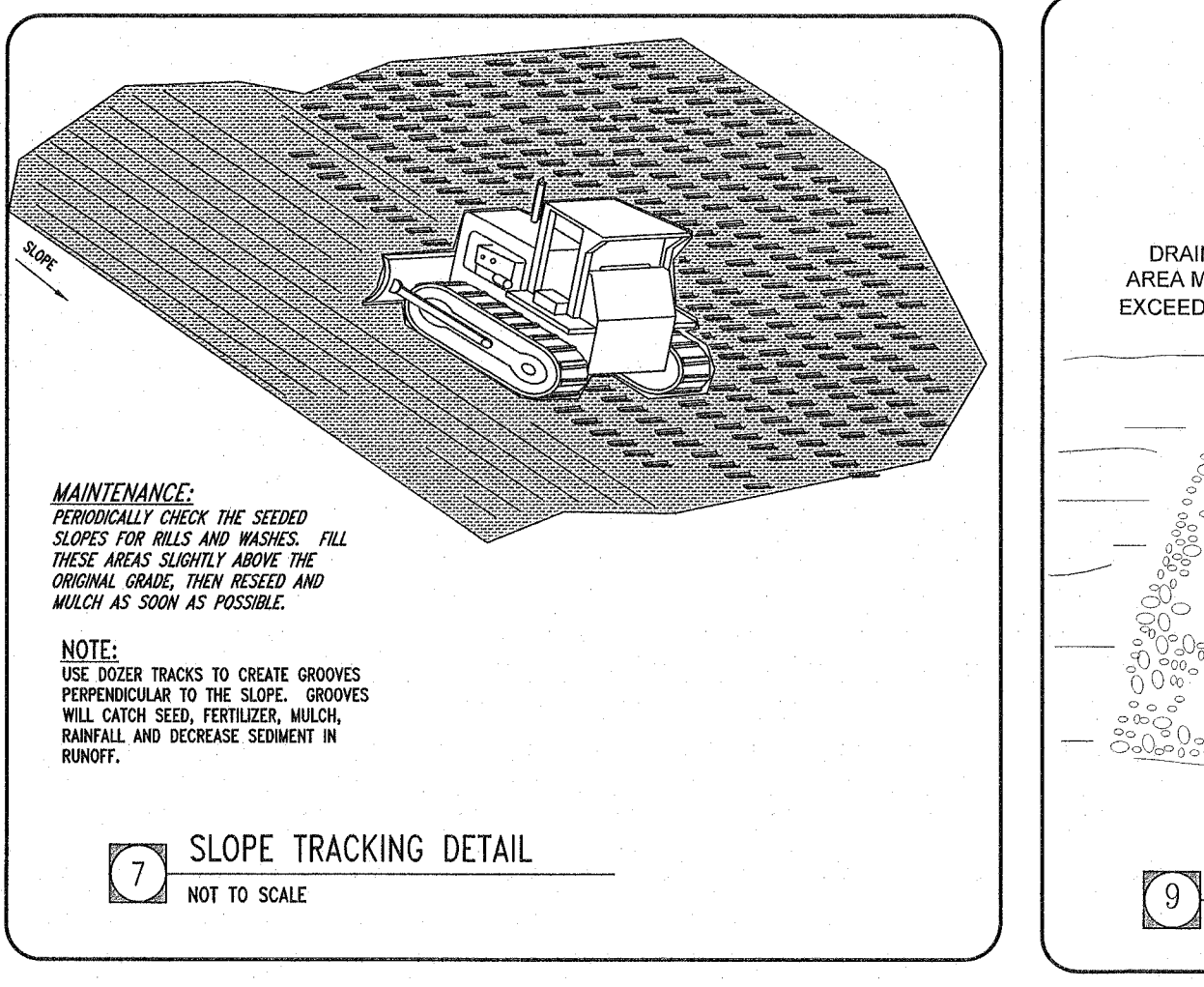
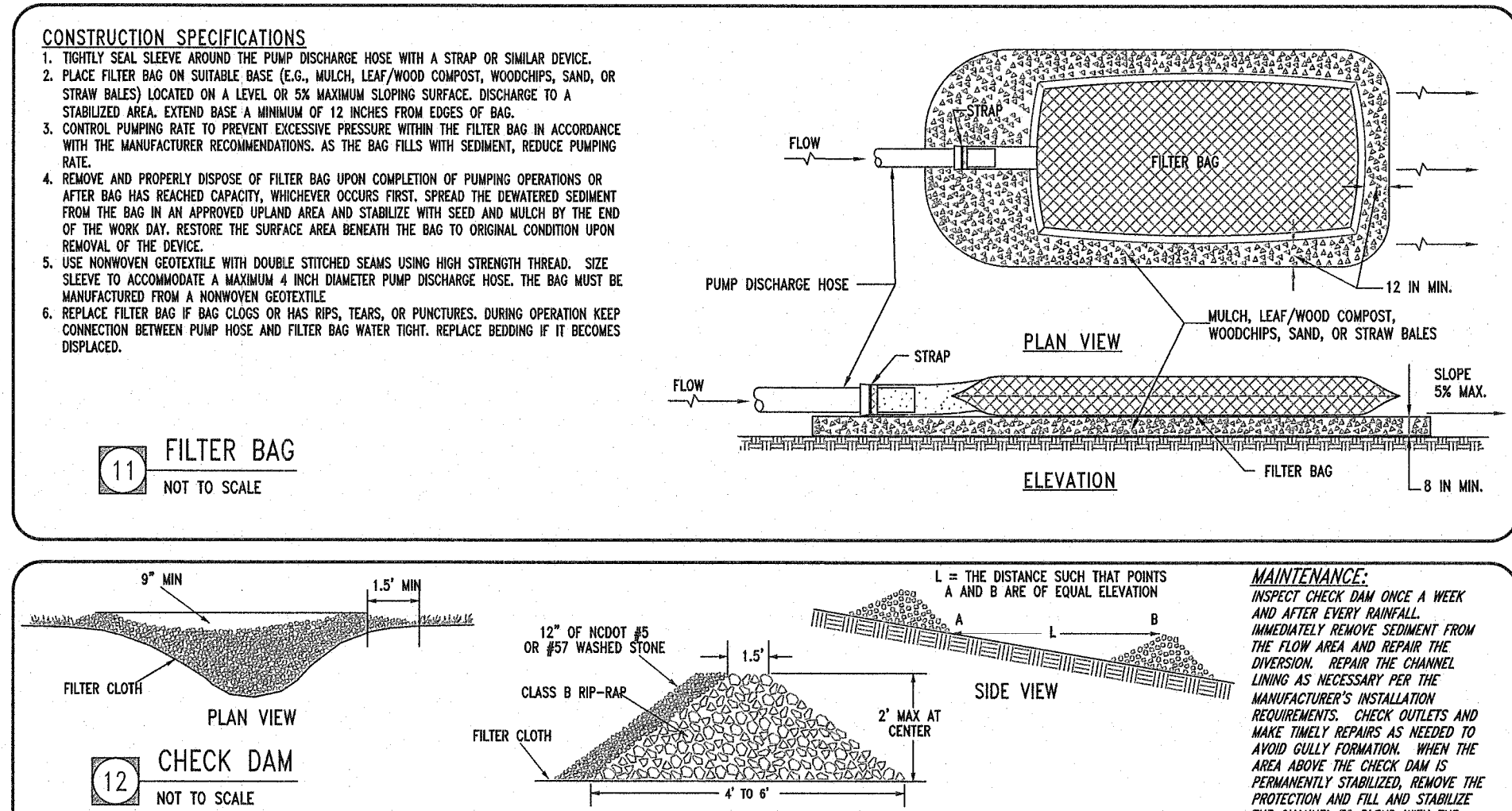
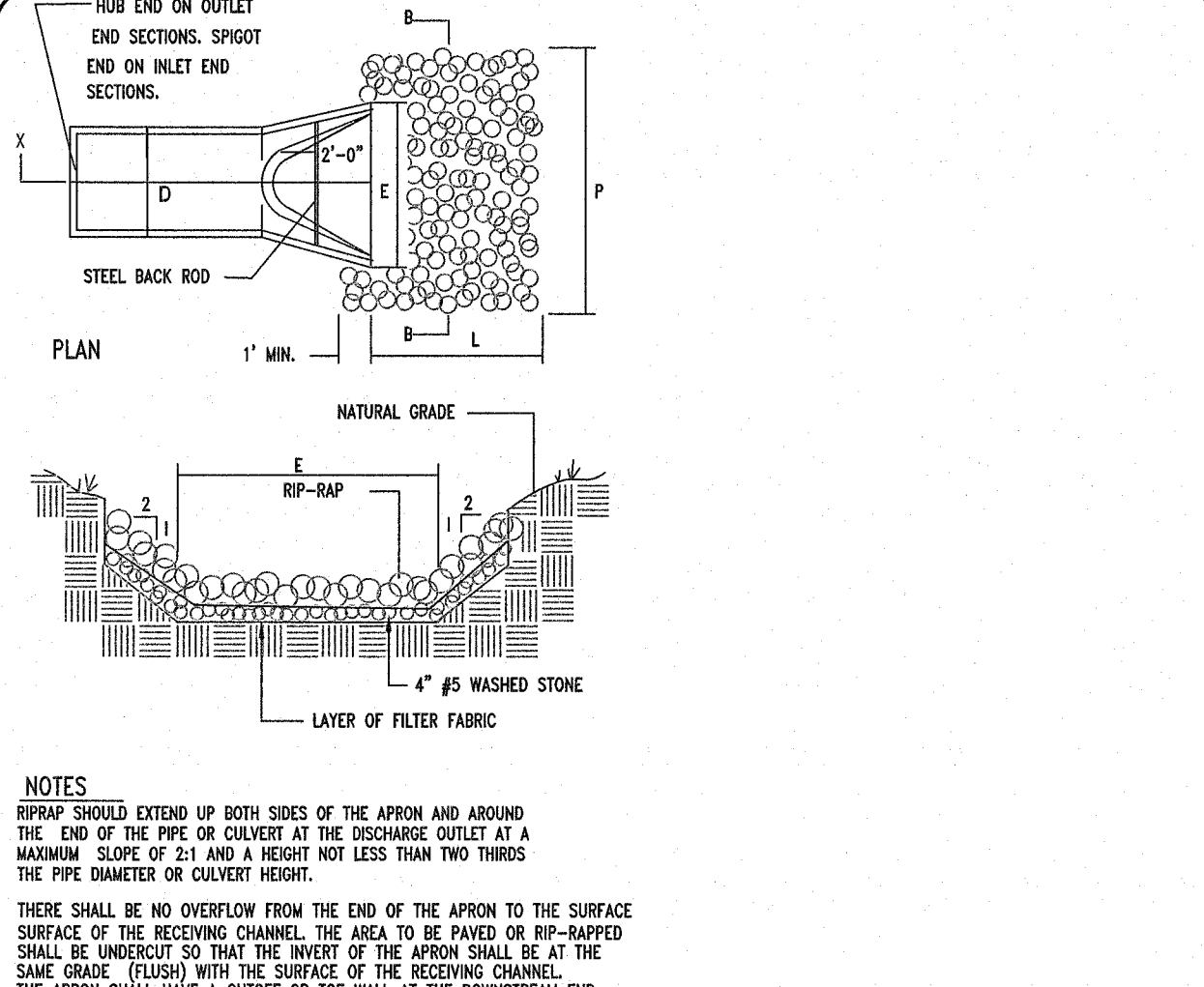
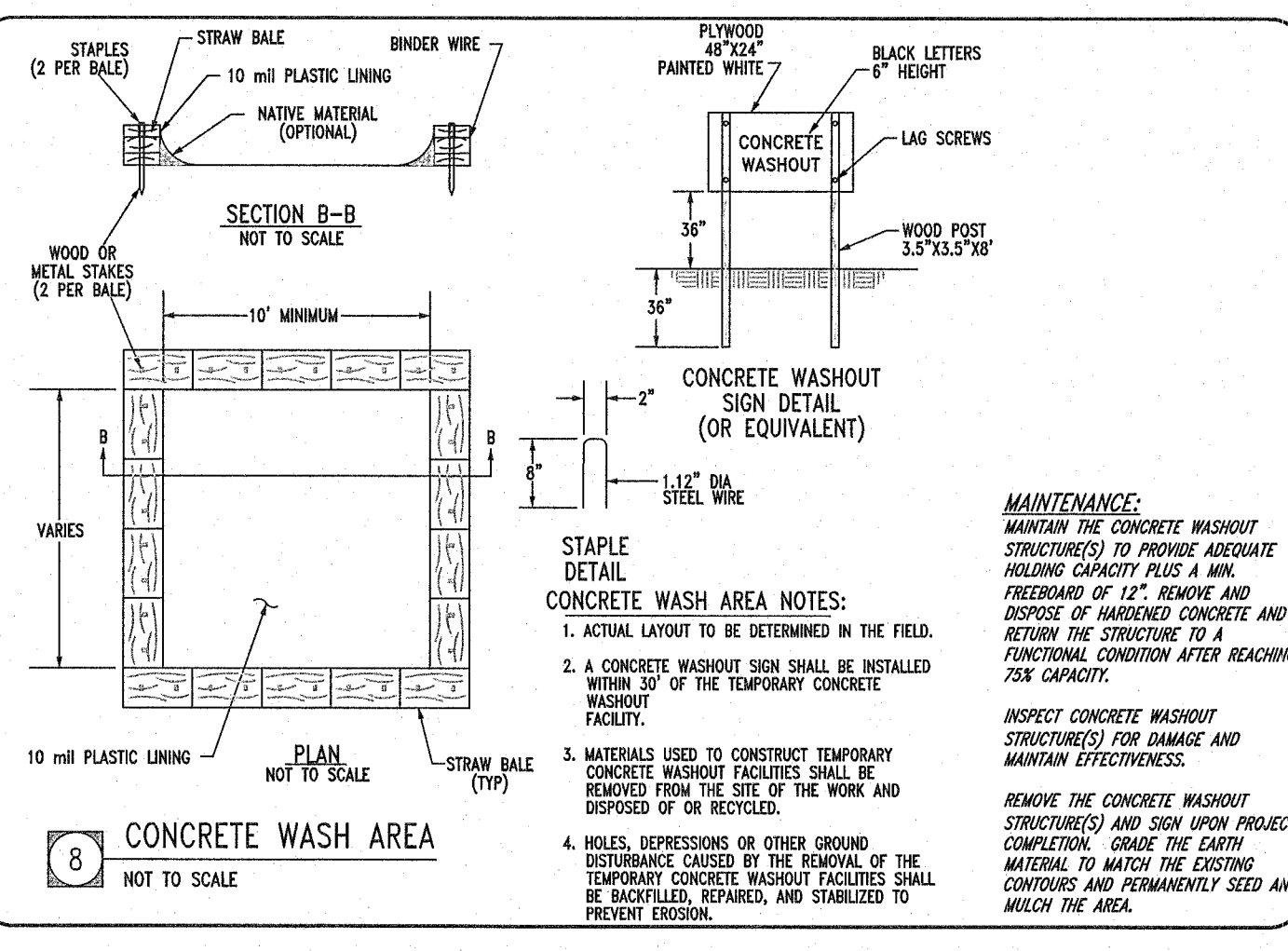
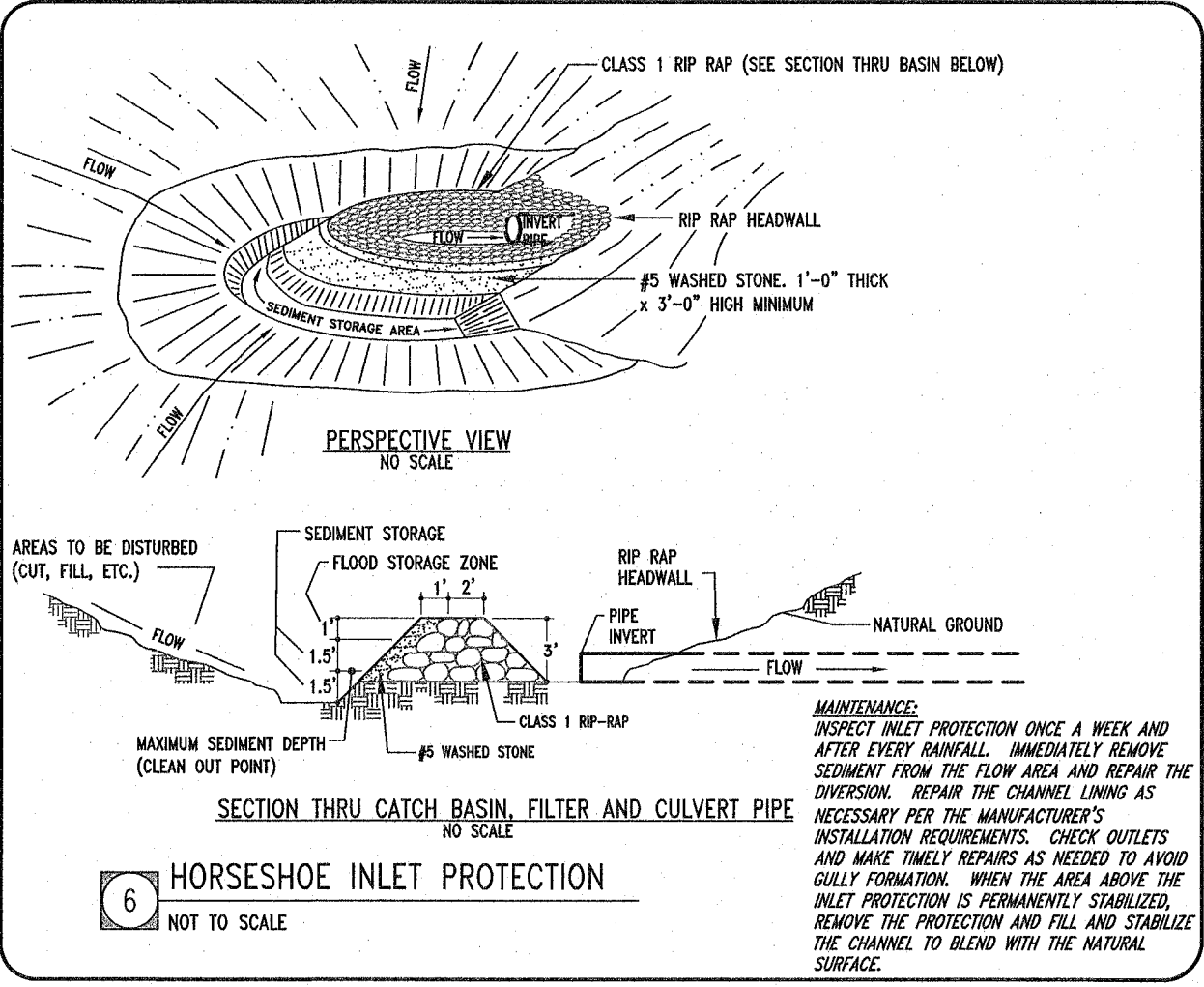
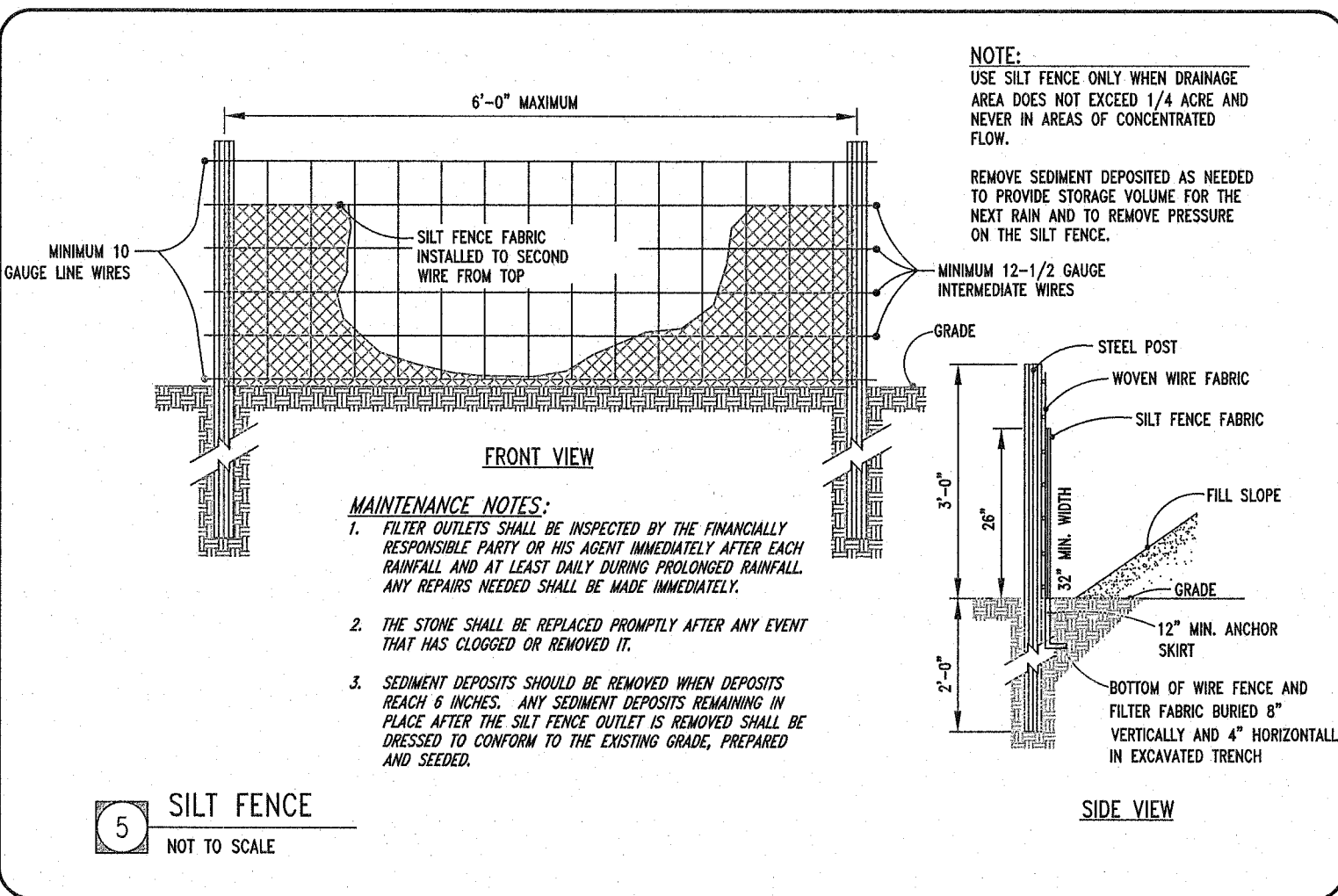
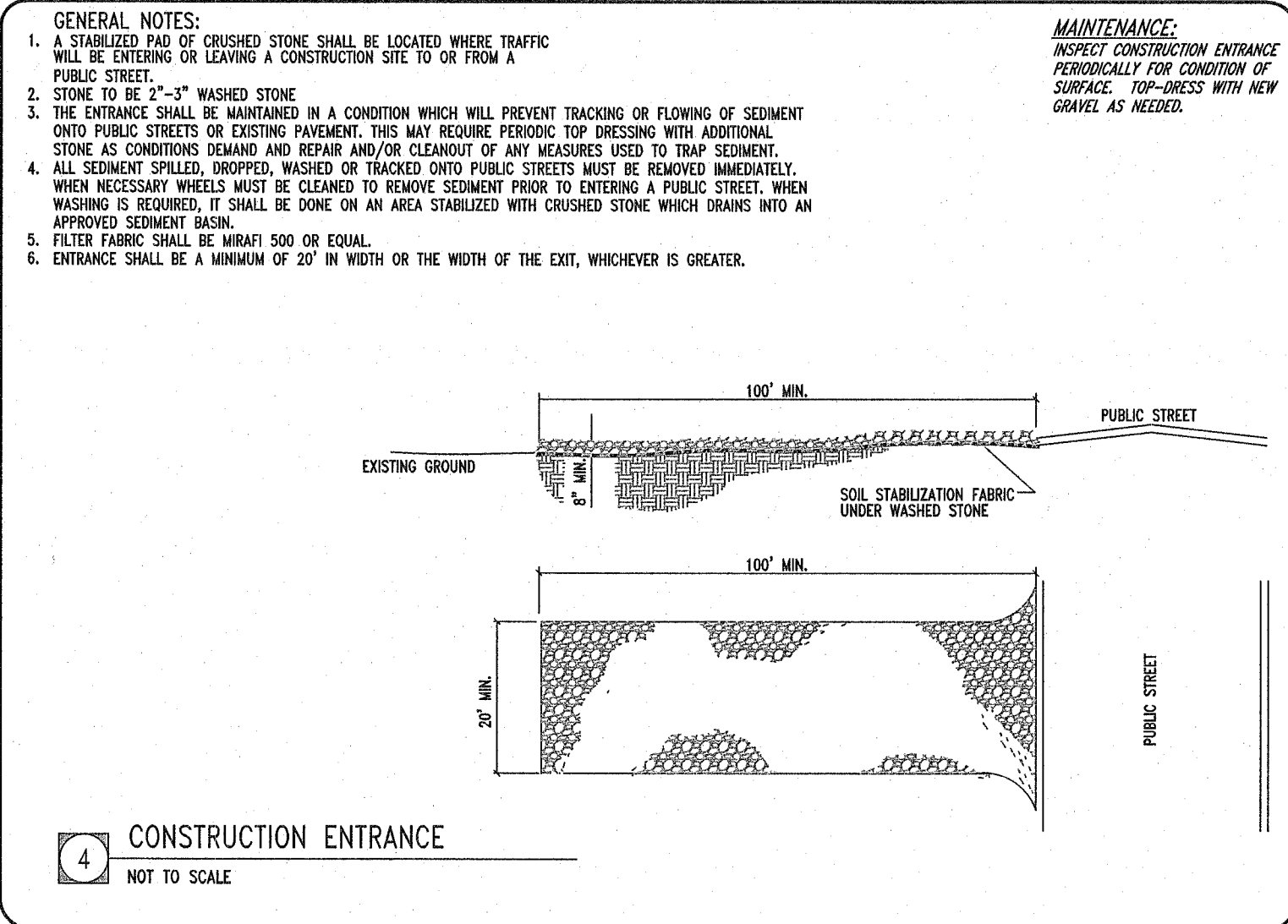
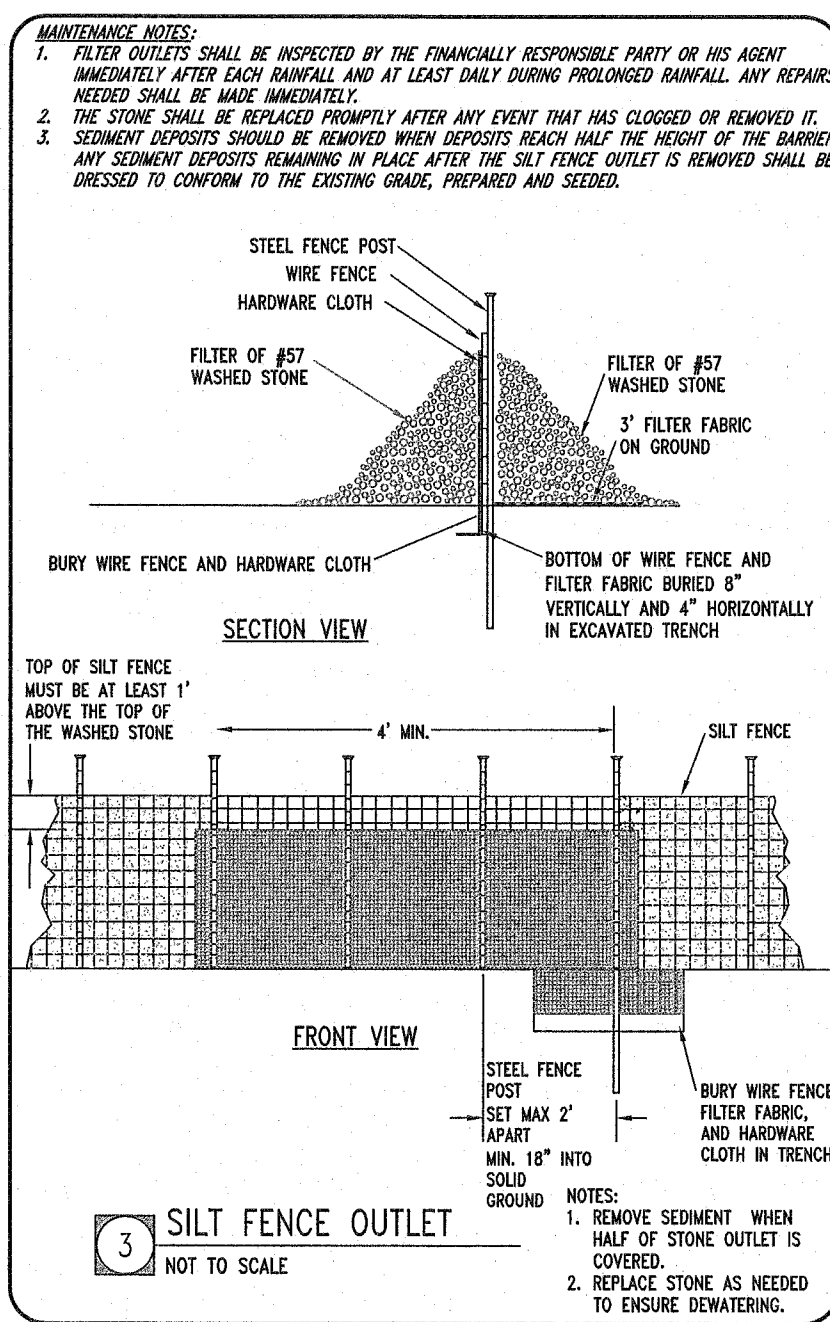
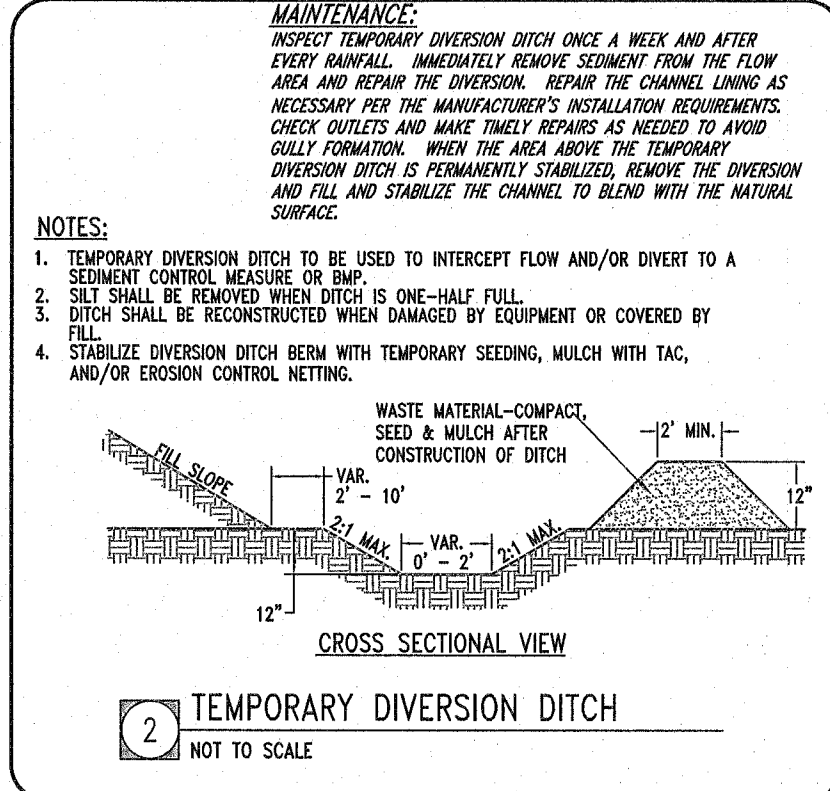
**APPROVED CONSTRUCTION PLAN**

NAME \_\_\_\_\_ DATE \_\_\_\_\_

PLANNING \_\_\_\_\_

TRAFFIC \_\_\_\_\_

FIRE \_\_\_\_\_



**TEMPORARY SEEDING SPECIFICATIONS/SCHEDULE**

Date	Seed	Planting Rate
March - Oct.	Broomrape Mixture	40 lbs/acre
Nov. - Feb.	Winter Rye	120 lbs/acre

**PERMANENT SEEDING SPECIFICATIONS/SCHEDULE**

FOR SHOULDER, SLOPE DITCHES, SLOPES (MAX 3:1)

Date	Seed	Planting Rate
Aug 15 - Nov 1	Tall Fescue	300 lbs/acre
Nov 1 - Mar 1	Tall Fescue & Annual Ryegrass	300 lbs/acre
Mar 1 - Apr 15	Tall Fescue	300 lbs/acre
Apr 15 - Jun 30	Wetland Common Bermuda Grass	25 lbs/acre
Jul 1 - Aug 15	Tall Fescue & Broomrape Mixture or Sorghum-Sudan Hybrids	30 lbs/acre Broomrape Mixture or 30 lbs/acre Sorghum-Sudan Hybrids

FOR SHOULDER, SLOPE DITCHES, SLOPES (1:1 - 2:1)

Date	Seed	Planting Rate
Mar 1 - Jun 1	Seirolo Leupoldes (Coefficient) & 1/2 lb/acre Annual Ryegrass	50 lbs/acre (Seirolo Leupoldes)
Mar 1 - Apr 15	4-6 Tall Fescue	240 lbs/acre
Apr 15 - Jun 30	4-6 Tall Fescue	240 lbs/acre
Jun 1 - Sep 1	Tall Fescue & Broomrape Mixture or Sorghum-Sudan Hybrids	30 lbs/acre Broomrape Mixture or 30 lbs/acre Sorghum-Sudan Hybrids
Sep 1 - Mar 1	Seirolo Leupoldes (Coefficient) & 1/2 lb/acre Annual Ryegrass	50 lbs/acre (Seirolo Leupoldes)
Mar 1 - Apr 15	4-6 Tall Fescue	240 lbs/acre
Apr 15 - Jun 30	4-6 Tall Fescue	240 lbs/acre

**SEEDING PREPARATION:**

- CHESEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- RIP THE ENTIRE AREA TO SIX INCHES DEEP.
- REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIMB, FERTILIZER, AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE SEEDING MIXTURE).
- CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.
- SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULPACK AFTER SEEDING.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIMB, FERTILIZER AND SEEDING RATES.
- CONSULT SADC ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER TREATMENT COVER IS ESTABLISHED.

**SEEDING MIXTURE:**

AGRICULTURE LIMESTONE:	2 TONS/ACRE (3 TONS/ACRE IN CLAY SOILS)
FERTILIZER:	1,000 LBS/ACRE - 10-10-10
SUPERPHOSPHATE:	500 LBS/ACRE - 20% ANALYSIS
MULCH:	2 TONS/ACRE - SMALL GRASS STRAW
ANCHOR:	ASPHALT EMULSION AT 400 GALS/ACRE

**13 TEMPORARY SEEDING**  
NOT TO SCALE

**TRIANGLE SITE DESIGN**

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SEAL  
24434  
MAY 15 2019  
THOMAS E. LINDSEY  
REGISTERED PROFESSIONAL ENGINEER  
NORTH CAROLINA

Owner/Developer  
Wilmington NC 2018, LLC  
Hartzog Holdings, LLC  
Ahn, Collins Hartzog  
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Elgin, SC 29045  
803-361-6718  
collins@hartzogholdings.com

STARBUCKS COFFEE

Starbucks - Hospital Plaza  
2018 South 16th Street  
Wilmington, North Carolina  
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Drawn: \_\_\_\_\_  
Checked: \_\_\_\_\_  
Approved: \_\_\_\_\_

Project No. 00914  
Date: June 14, 2019  
Title: \_\_\_\_\_

EROSION CONTROL DETAILS

Sheet No. C1.7



**LANDSCAPE CALCULATION**  
 25% SHADING OF PARKING FACILITY AREA REQUIRED (DAY ZONING DISTRICT):

PARKING FACILITY AREA =	18,470 SF (PARKING AREAS & SIDEWALK)
25% MULTIPLIER =	0.25
AREA TO BE SHADED =	4,618 SF
PER TREE SHADED AREA =	707 SF (LARGE INTERIOR SHADE TREE)
	314 SF (SMALL INTERIOR SHADE TREE)
	OVERHANG SF FOR PERIMETER TREE
TREES PROVIDED =	5,535 SF (5 LARGE INTERIOR SHADE @ 707 SF/TREE)
	628 SF (2 SMALL INTERIOR SHADE @ 314 SF/TREE)
	1,802 SF (PERIMETER TREES: AS NOTED ON PLAN)
	5,966 SF TOTAL

**TREE REPLACEMENT CALCULATION**  
 REGULATED TREES REMOVED = 4  
 (3-26" PINE TREES & 1-28" PINE TREE)

The total number of replacement trees shall be determined for regulated trees removed by multiplying the total DBH of the removed regulated tree(s) by the percentage for the type of tree in Table IV (Lobby pine - 50%) and dividing by three (3).

Pines may be mitigated on site with long-leaf pine plugs spaced ten (10) feet apart at a rate of one (1) plug per inch DBH of the removed tree multiplied by the percentage in Table IV (Lobby pine - 50%) divided by three (3).

106 DBH x 0.5/3 = 18 long-leaf pine plugs

**LANDSCAPE LEGEND**

Large Shade Tree	-Type 'A'	Shrub	-Type 'c'
	-Type 'E'		-Type 'd'
	-Type 'f'	Groundcovers	
	-Type 'B'		
Small Shade Tree		Quantity	1
		Type	A

Sod See specifications

**GENERAL IRRIGATION NOTES**

- Contractor to provide design drawings for approval prior to installation.
- Irrigation to extend from property lines to back of city sidewalks and / or curbs.
- Install 1 1/2" dia. PVC pipe sleeves where irrigations lines cross or are under pavement.

**PLANT LIST**

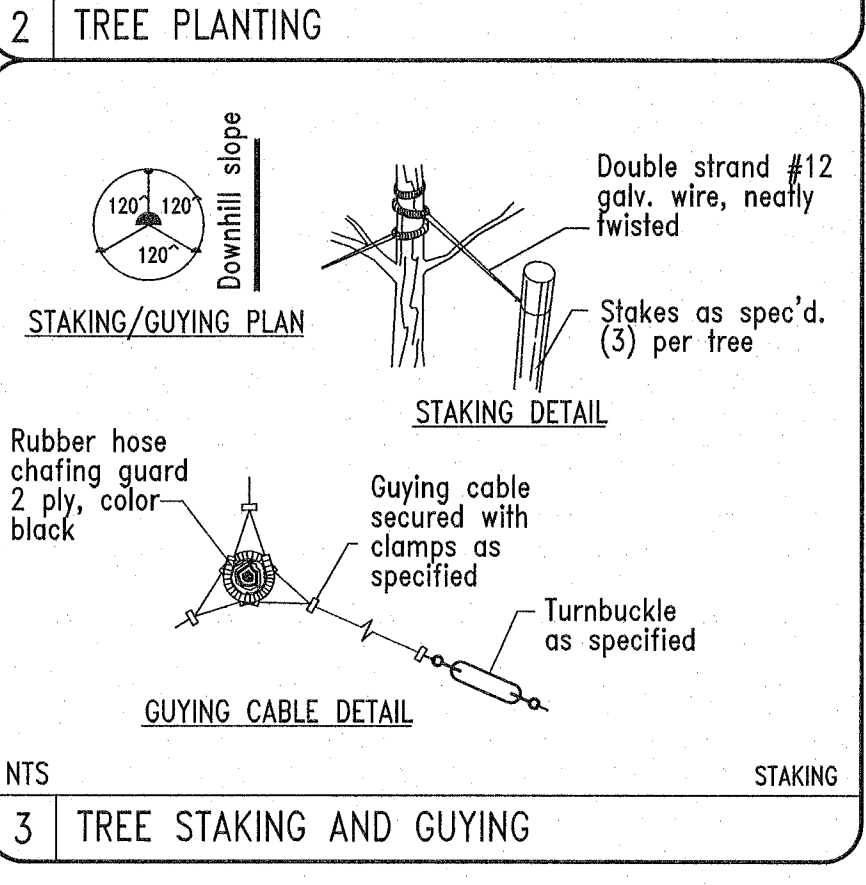
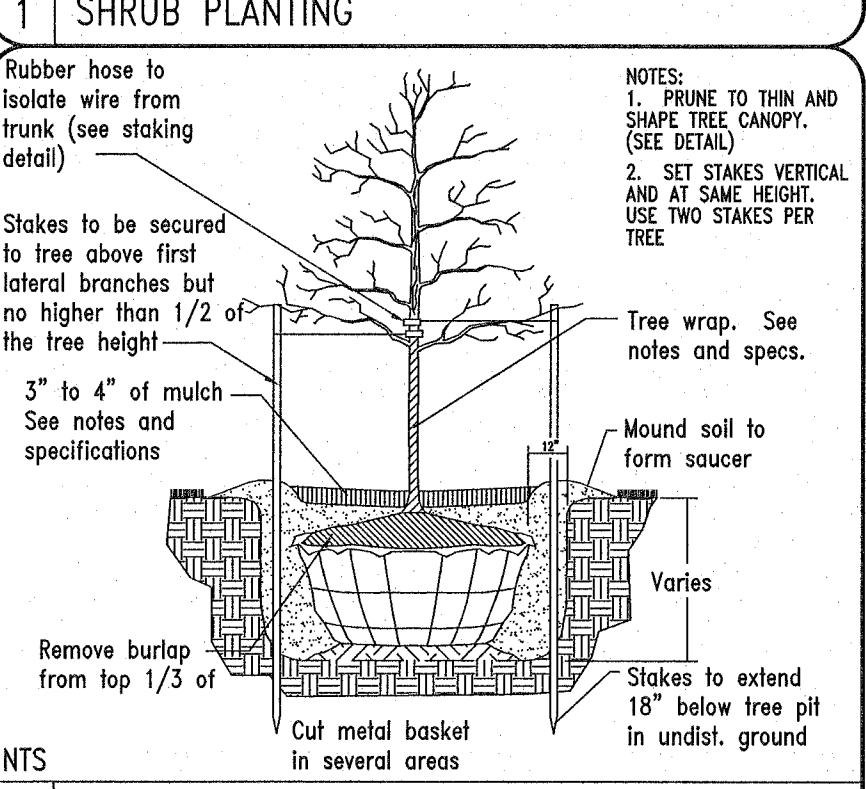
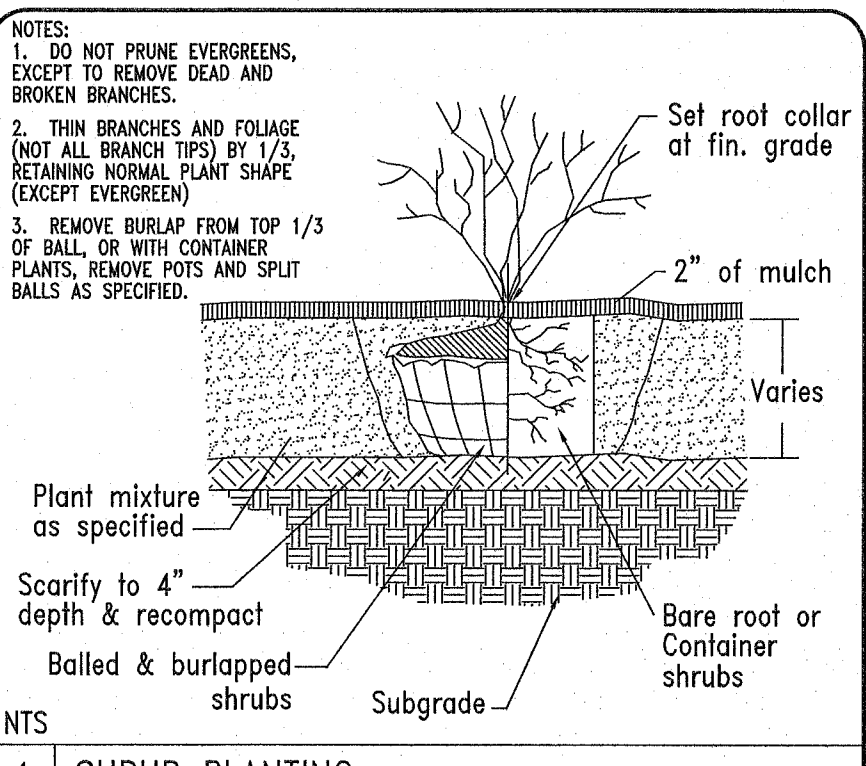
QUANTITY	KEY	BOTANICAL/COMMON NAME	SIZE	ROOT TYPE	REMARKS
11	A	Quercus virginiana 'adin'	2.5" CALIPER	B&B	8' HEIGHT
		Cathedral Oak			
12	E	Magnolia grandiflora 'Little Gem'	2.5" CALIPER	B&B	8' HEIGHT
		Little Gem Magnolia			
2	B	Platanus chinensis		B&B	8'-10' HEIGHT
		Chinese Platanus			
40	C	Ilex cornuta 'Burfordii' nana	12" HEIGHT	1 GAL MIN.	
		Dwarf Burford Holly			
33	D	Abelia grandiflora	12" HEIGHT	1 GAL MIN.	
		'Edward Goucher'			
18	F	Long leaf pine		PLUG	
		'Pinus palustris'			

**GENERAL LANDSCAPE NOTES**

- ANY DISTURBED AREAS NOT SCHEDULED FOR HARDSCAPE, PLANTINGS, OR MULCH SHALL BE SEEDED LAWN.
- NO PLANT SUBSTITUTIONS ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE OWNERS REPRESENTATIVE.
- ALL PLANT AND BED LINE LOCATIONS SHALL BE STAKED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- ALL PLANTINGS SHALL BE INSTALLED WITH THE SPECIFIED LAYER OF MULCH. REFERENCE DETAILS AND SPECIFICATIONS FOR DEPTH AND TYPE OF MULCH. ALL TREES AND SHRUBS SHALL BE PLANTED IN MULCH BEDS AND SHALL BE SEPARATED FROM TURF GRASS AREAS.
- GRASS COVERAGE TO EXTEND FROM PROPERTY LINES TO BACK OF CITY SIDEWALKS AND/OR CURBS.
- MINIMUM TREE SIZE AT PLANTING IS 2" CALIPER (FOR SINGLE STEM TREES). ALL MULTI-STEM PLANTS MUST BE TREE FORM, MAXIMUM 3 TO 5 TRUNKS, AND MINIMUM 8 FEET TALL.
- ALL STRAPPING AND TOP 2/3 OF WIRE BASKET MUST BE CUT AWAY AND REMOVED FROM ROOT BALL PRIOR TO BACKFILLING PLANTING PIT. REMOVE TOP 1/3 OF THE BURLAP FROM ROOT BALL.
- FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL, SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 18" NEW TOPSOIL, OR TILL AND AMEND THE TOP 18" OF EXISTING SOIL TO MEET TOPSOIL/PLANTING MIX STANDARDS FOR TREES.
- LARGE MATURING TREES MAY NOT BE PLANTED WHERE THERE ARE OVERHEAD DISTRIBUTION OR TRANSMISSION LINES. IF TREES CONFLICT WITH POWER LINES OR SIGNS, CALL URBAN FORESTER TO RESOLVE BEFORE PLANTING.
- ADJUST TREE PLANTING LOCATIONS TO AVOID UNDERGROUND UTILITIES. PLANT 15' FROM ALL UNDERGROUND UTILITIES (SEWER AND STORM DRAINAGE, GAS, WATER, PHONE, AND ELECTRICAL LINES).
- ATTENTION LANDSCAPER: NOTIFY OWNER OF ANY SIGN, POWER LINE, OR OTHER CONFLICTS BEFORE PLANTING NEW TREES.

**LANDSCAPING NOTES:**

- CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING ALL REQUIRED LANDSCAPING FOR THE ENTIRE SITE, TO INCLUDE BUT NOT LIMITED TO: SOODED/SEEDED AREAS, SHRUB BEDS, PARKING LOT ISLANDS, ROADSIDE SIGN BASE(S) AND MONUMENT PLANTINGS.
- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES REGARDING LANDSCAPING.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A HEALTHY STAND OF GRASS ON ALL SEEDED AREAS.
- IN THE EVENT THAT PLANTING BEDS AND MULCH ARE REQUIRED, THE CONTRACTOR SHALL INSTALL BLACK FABRIC WEED BLOCK LANDSCAPE MESH UNDER THE MULCH TO PREVENT WEED GROWTH.
- CONTRACTOR SHALL PROVIDE NATURAL TOPSOIL THAT IS FERTILE, FRAGILE, WITHOUT MIXTURE OF SUBSOIL, MATERIALS, AND GRAPES FROM A WELL DRAINED, AVAILABLE SITE. IT SHALL NOT CONTAIN SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE SCREENED AND FREE FROM GRAY LUMPS, STONES, ROOTS, PLANTS, OR SIMILAR SUBSTANCES 1" OR MORE IN DIAMETER, DEBRIS, OR OTHER OBJECTS WHICH MIGHT BE A HINDERANCE TO PLANTING OPERATIONS. TOPSOIL SHALL CONTAIN AT LEAST 4-6% ORGANIC MATTER BY WEIGHT AND HAVE A PH RANGE OF 5.5 TO 7.0.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE WATERING AND THE MAINTENANCE OF ALL LANDSCAPED AREAS UNTIL THE LATER OF: (a) THIRTY (30) DAYS FOLLOWING THE PLANTING OF THE GRASS AND SHRUBS, OR (b) THE DATE THAT STARBUCKS OPENS FOR BUSINESS TO THE PUBLIC.
- GENERAL CONTRACTOR IS TO CLEAN ENTIRE SITE OF ALL CONSTRUCTION DEBRIS AND RAKE ALL GRASS AREAS.
- PROVIDE LANDSCAPE PLANS TO STARBUCKS AND AS REQUIRED BY LOCAL JURISDICTION TO THE BLDG. DEPT. FOR REVIEW AND APPROVAL PRIOR TO START OF WORK.
- ALL LANDSCAPING, TREES, SHRUBS, ETC. SHALL NOT INTERFERE WITH THE VISIBILITY OF SIGNAGE.
- CONTRACTOR TO VERIFY QUANTITIES PRIOR TO COMMENCING WORK.
- OPEN AREAS WITHIN PLANTING BEDS SHALL BE MULCHED.



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

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

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

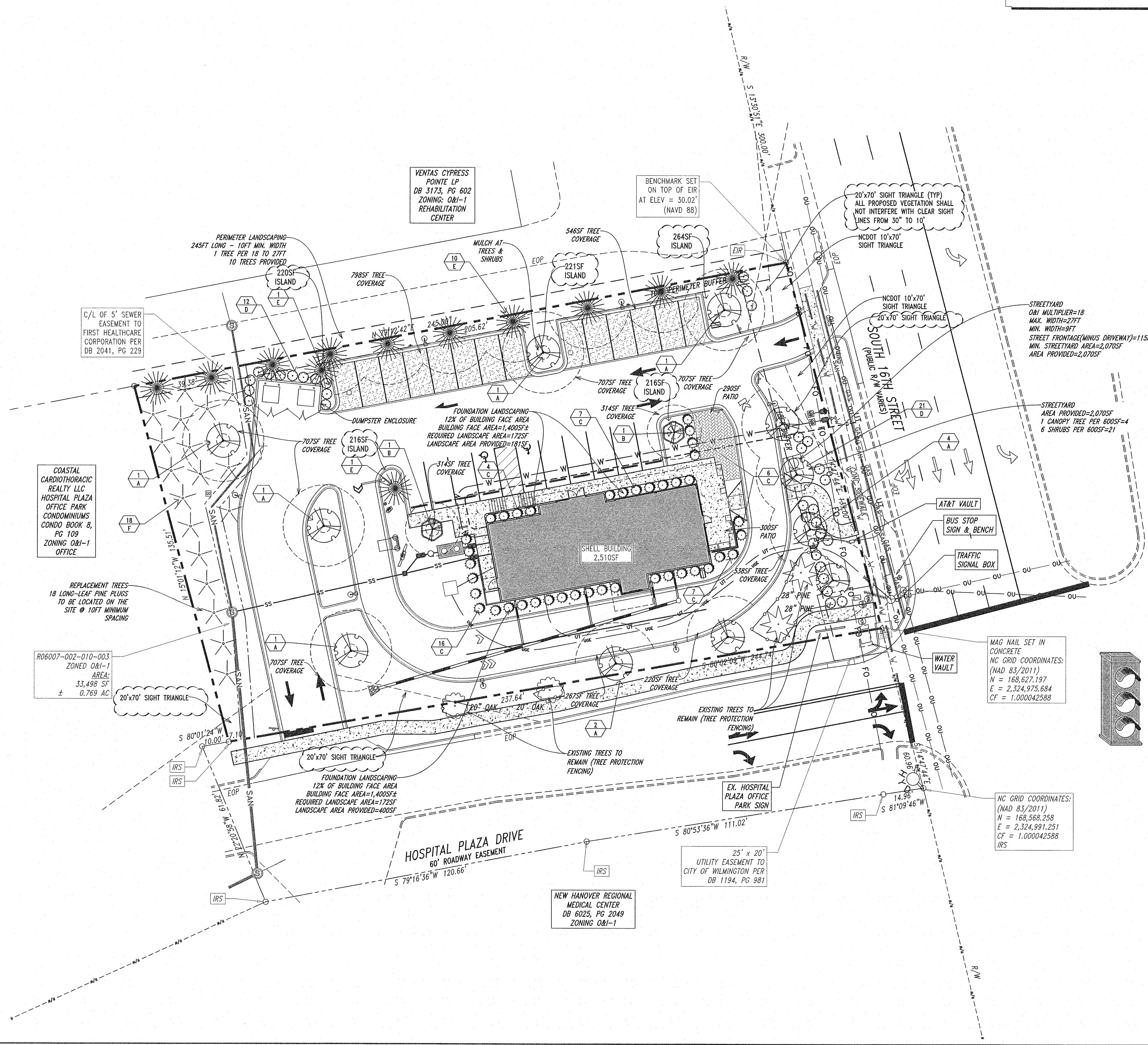
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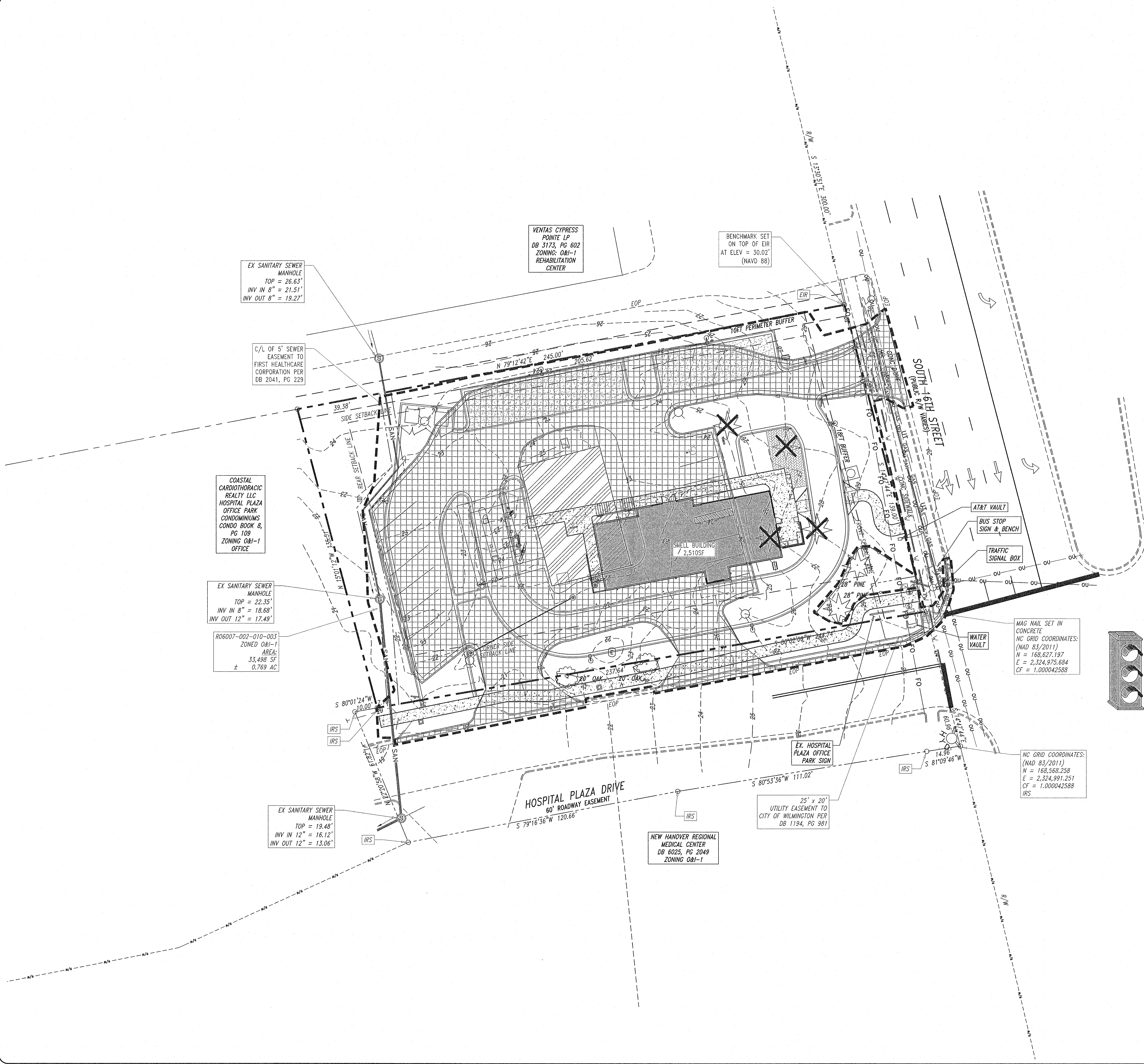
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 1 INCH = 20 FEET



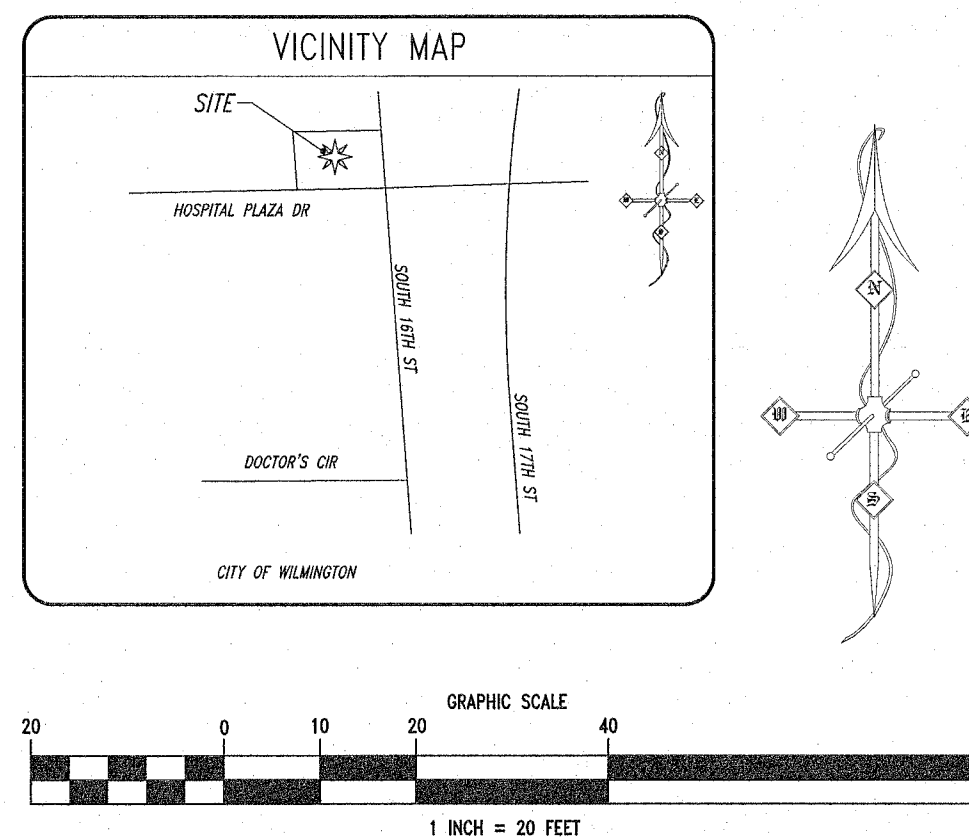




**NOTE TO CONTRACTOR:**  
 PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE REQUIRED TO BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AS SHOWN. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING AREA.

**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 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 THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

**CAUTIONARY NOTE**  
 THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS DRAWING ARE BASED ON ABOVE GROUND EVIDENCE OR INFORMATION GATHERED DURING THE FIELD SURVEY PORTION OF THIS PROJECT. AS SUCH THIS INFORMATION IS SPECULATIVE IN NATURE, ONLY AND SHOULD NOT BE CONSTRUED AS FACT. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF THE UNDERGROUND UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF ANY AND ALL CONSTRUCTION.



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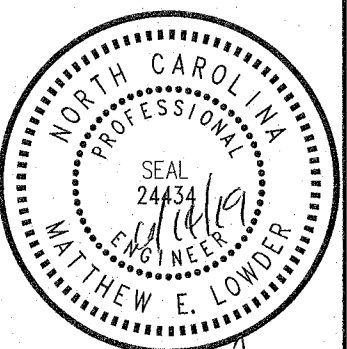
	NAME	DATE
PLANNING	_____	_____
TRAFFIC	_____	_____
FIRE	_____	_____

**DEMOLITION LEGEND**

	BUILDINGS TO BE REMOVED
	PAVEMENT TO BE REMOVED
	UTILITIES TO BE REMOVED
	TREES TO BE REMOVED

**TRIANGLE**  
 SITE DESIGN

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Project No. 009014  
 Date: June 14, 2019  
 Title

**SITE INVENTORY MAP**

Sheet No. **C1.9**