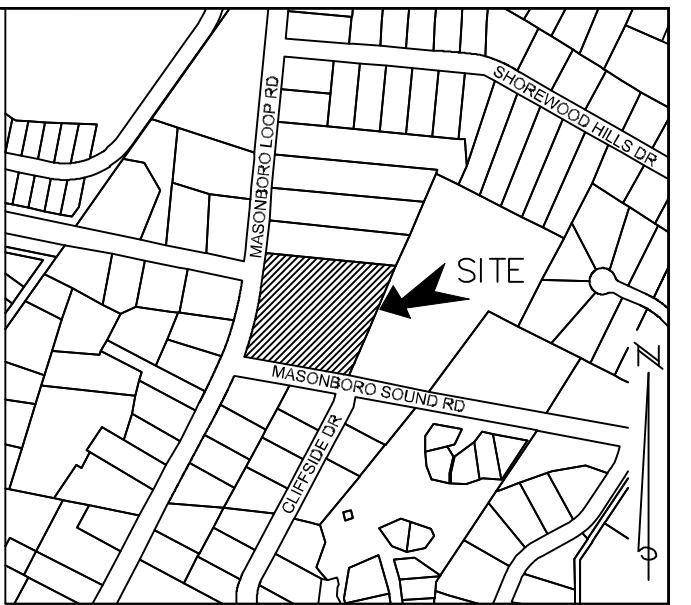


# Masonboro Station Expansion

4039 MASONBORO LOOP RD.  
 LOCATED IN THE CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA  
 DESCRIPTION OF WORK: GRADING, PAVING, DRAINAGE, AND UTILITIES  
 OWNER: ACADIA SERVICES, LLC  
 222 BEECH STREET  
 WILMINGTON, N.C. 28405



LOCATION MAP  
NOT TO SCALE

## LEGEND

- WV = WATER VALVE
- WM = WATER METER
- CIO = SANITARY SEWER CLEAN OUT
- INV. = INVERT
- B/O = BLOW OFF ASSEMBLY
- BFP = BACK FLOW PREVENTOR
- GIW = GUY WIRE
- SWMH = STORM MANHOLE
- GT. = GREASE TRAP
- FH = FIRE HYDRANT ASSEMBLY
- I.S. = IRON SET
- ⊙ = SANITARY SEWER MH
- = CURB INLET
- ⊗ = TREE
- ⊕ = CURB RAMP
- ⊞ = WATER SERVICE
- ⊚ = SEWER CLEANOUT
- ⊞ = WATER VALVE
- ⊞ = SIGN LOCATION
- ☆ LP = LIGHT POLE

- PROPERTY LINE
- BUILDING SETBACK
- CENTERLINE
- EASEMENT
- COMPUTED PROPERTY LINE
- LIMITS OF DISTURBANCE/PROJECT LIMITS
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER

- WETLAND
- PROPOSED SIDEWALK

## STABILIZATION TIME FRAMES:

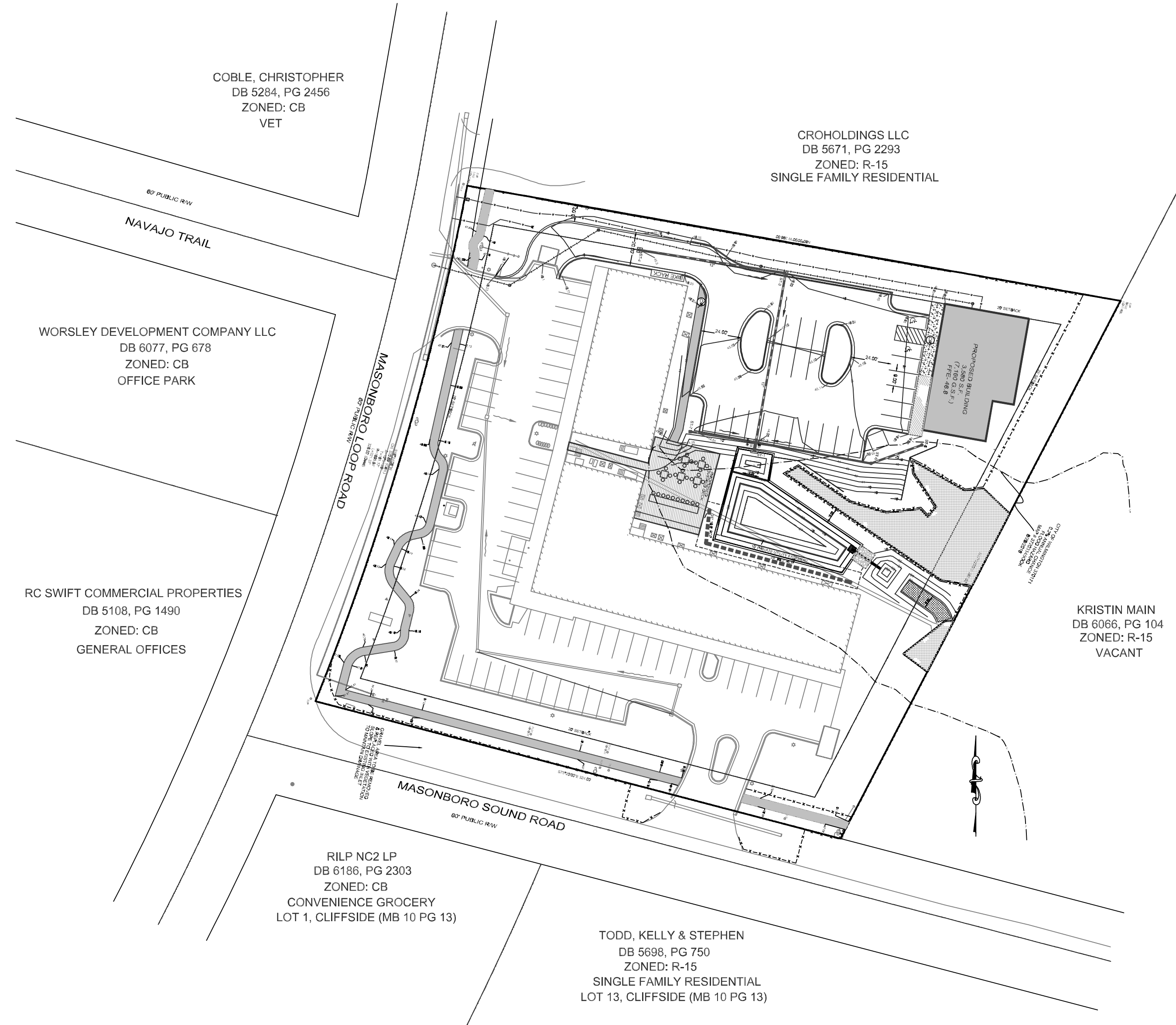
SITE AREA DESCRIPTION	STABILIZATION
Perimeter dikes, swales, ditches and slopes	7 DAYS
High Quality Water (HQW) Zones	7 DAYS
Slopes steeper than 3:1	7 DAYS
Slopes 3:1 or flatter	14 DAYS
All other areas with slopes flatter than 4:1	14 DAYS

## NOTE WELL:

ANY AREAS ON-SITE WITHOUT ACTIVITY SHALL BE STABILIZED WITHIN 15 WORKING DAYS OR 21 CALENDAR DAYS AND AS ABOVE, ALL SLOPES MUST BE STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY ACTIVITY.

DETAILS SHOWN ARE TYPICAL OF INSTALLATIONS REQUIRED BY THE TOWN AND COUNTY. THIS SHEET DOES NOT PURPORT TO SHOW ALL REQUIRED CONSTRUCTION DETAILS, BUT RATHER SERVES AS A GUIDE. THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL CITY, COUNTY AND STATE CODES AND CONSTRUCTION STANDARDS.

No geotechnical testing has been performed on site. No warranty is made for suitability of subgrade, and undercut and any required replacement with suitable material shall be the responsibility of the contractor.



## GENERAL NOTES:

1. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT ELEVATIONS AND LOCATIONS OF ALL EXISTING UTILITIES AT ALL CROSSINGS PRIOR TO COMMENCING TRENCH EXCAVATION. IF ACTUAL CLEARANCES ARE LESS THAN INDICATED ON PLAN, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. ANY CONDITION DISCOVERED OR EXISTING THAT WOULD NECESSITATE A MODIFICATION OF THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
2. NO CONSTRUCTION IS TO BEGIN BEFORE LOCATION OF EXISTING UTILITIES HAS BEEN DETERMINED. CALL "NO ONE-CALL" AT LEAST 48 HOURS BEFORE COMMENCING CONSTRUCTION.
3. ALL TREES WHICH ARE NOT REQUIRED TO BE CLEARED FOR CONSTRUCTION SHALL BE PRESERVED WHEREVER POSSIBLE UNLESS OTHERWISE DIRECTED.
4. CONTRACTOR SHALL ADJUST ALL MANHOLES, VALVE AND CURB BOXES TO THE FINAL GRADE UPON COMPLETION OF ALL CONSTRUCTION. ANY BOXES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
5. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST AND EROSION DURING CONSTRUCTION AT HIS EXPENSE. PARKING AREAS SHALL BE WATERED TO CONTROL DUST WHEN ORDERED BY THE ENGINEER.
6. NO GEOTECHNICAL TESTING HAS BEEN PERFORMED ON SITE. NO WARRANTY IS MADE FOR SUITABILITY OF SUBGRADE, AND UNDERCUT AND ANY REQUIRED REPLACEMENT WITH SUITABLE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. EXTREME CARE SHALL BE TAKEN TO ENSURE MINIMUM SEPARATIONS AT ALL UTILITY CROSSINGS.
8. CONTRACTOR TO ENSURE THAT STREET PAVEMENT IS PLACED SO AS TO DRAIN POSITIVELY TO THE ROADWAY INLETS AND CATCH BASINS.
9. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS.
10. THIS PLAN IS FOR SITE UTILITIES, GRADING, ROADWORK, AND DRAINAGE ONLY.
11. AFFECTED NON-MUNICIPAL UTILITIES SHALL BE CONTACTED AND PROVIDED WITH PLANS AND OTHER PERTINENT INFORMATION, WHEN FEASIBLE, TO COORDINATE APPROPRIATE SCHEDULING AND PLACEMENT. AT THE MINIMUM THIS SHOULD INCLUDE AT&T AND DUKE (PROGRESS) ENERGY.
12. ALL CONSTRUCTION TO CONFORM TO CITY STANDARDS AND ALL APPLICABLE STATE & LOCAL CODES.
13. CONTRACTOR TO COORDINATE ANY REQUIRED TRAFFIC CONTROL WITH THE STATE AND CITY. CONTRACTOR RESPONSIBLE FOR ANY ADDITIONAL REQUIRED PERMITS.
14. CARE SHALL BE TAKEN DURING FINAL GRADING TO ENSURE POSITIVE DRAINAGE TO RECEIVING STRUCTURES. ALL STORM WATER RUNOFF FROM BUILT UPON AREAS (i.e. IMPERVIOUS SURFACES AND ROOF DRAINAGE) TO BE DIRECTED TO STORM SEWER COLLECTION SYSTEM (i.e. STORM INLETS OR PONDS) BY SWALES, OVERLAND FLOW, ADDITIONAL GRADING, OR LANDSCAPING INLETS.
16. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ANY REALIGNMENTS, DISCONNECTIONS OR CONNECTIONS OF EXISTING UTILITIES WITH APPLICABLE AUTHORITIES.
17. CLEARING AND GRUBBING OF SITE TO INCLUDE REMOVAL OF EXISTING CURBS, ASPHALT, INLETS, AND ANY OTHER STRUCTURES INCLUDING TREES, STUMPS AND DEBRIS EXISTING ON SITE. TREES NOT REQUIRED TO BE CLEARED FOR CONSTRUCTION SHALL REMAIN UNLESS OTHERWISE DIRECTED.
18. ALL SIGNS AND PAVEMENT MARKINGS SHALL MEET NCDOT AND MUTCD STANDARDS.
19. SANITARY SERVICES SMALLER THAN 8" SHALL HAVE CLEANOUTS AT INTERVALS OF NOT MORE THAN 100'. CLEANOUTS SHALL BE PROVIDED FOR SERVICE LINES AND BUILDING DRAINS THAT HAVE HORIZONTAL DIRECTION CHANGES GREATER THAN 45 DEGREES.
20. SEE 2018 IPC FOR FURTHER GUIDANCE ON UTILITY SERVICE REQUIREMENTS.

1. This map is not for conveyance, recordation, or sales.
2. A portion of this property is located within the 0.2% SFHA according to Flood Insurance Rate Map Community ID# 3720314500 suffix K effective date 8/28/2018
3. This property is zoned CB-COMMUNITY BUSINESS, City of Wilmington.
4. Water service to be CFFUA (public).
5. Sewer service to be CFFUA (public).
6. Topographic data furnished by Bateman Civil Survey Company.

INDEX TO DRAWINGS	
SHEET No.	DESCRIPTION
1 OF 7	COVER SHEET
2 OF 7	GENERAL NOTES & DETAILS
3 OF 7	GENERAL NOTES & DETAILS
3 OF 7	GENERAL NOTES & DETAILS
4 OF 7	EXISTING CONDITIONS
5 OF 7	SITE PLAN
7 OF 7	TREE SURVEY
P1-P1	POND PLAN
EC-1	EROSION AND DRAINAGE
EC-2	EROSION CONTROL AND DRAINAGE
EC-3	EROSION CONTROL AND DRAINAGE
EC-4	EROSION CONTROL AND DRAINAGE
LP	LANDSCAPE SUPPLEMENT

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

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

**Approved Construction Plan**

Name	Date
Planning _____	_____
Traffic _____	_____
Fire _____	_____

0 50 100 150  
1" = 50'

REV. NO.	REVISIONS	DATE

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**SITE PLAN**  
**Masonboro Station**  
**Parking and Building Expansion**  
 City of Wilmington  
 NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: ACADIA SERVICES, LLC  
 222 BEECH STREET  
 WILMINGTON, N.C. 28405

**HANOVER DESIGN SERVICES, P.A.**  
 LAND SURVEYORS, ENGINEERS & LAND PLANNERS  
 1123 FLORENCE PARKWAY  
 WILMINGTON, N.C. 28403  
 PHONE: (910) 253-8032  
 LICENSE # 12092

PRELIMINARY PLAN

Date: MARCH-2020  
 Scale: HORZ.: 1" = 50'  
 Drawn: MJL  
 Checked: AHG  
 Project No: 15040  
 Sheet No: C-1  
 C-7

**CITY STANDARD NOTES:**

- PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.
- ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BRACED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
- 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.
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY, MUTCO, AND/OR NCDOT STANDARDS.
- ONCE STREETS ARE OPEN TO TRAFFIC, CONTACT TRAFFIC ENGINEERING TO REQUEST INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
- TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCO (MANUAL OR UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
- CONTACT TRAFFIC ENGINEERING AT 341-7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
- CALL TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
- TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING PRIOR TO ACTUAL STRIPING.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE OWNER IN ACCORDANCE WITH MUTCO STANDARDS.
- STOP SIGNS AND STREET SIGNS TO REMAIN IN PLACE DURING CONSTRUCTION.
- TACTILE WARNING MATS WILL BE INSTALLED ON ALL WHEELCHAIR RAMPS.
- A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. IN CERTAIN CASES ENTIRE RESURFACING OF THE OPEN CUT AREA MAY BE REQUIRED.
- ANY BROKEN OR MISSING SIDEWALK, DRIVEWAY PANELS OR CURBING SHALL BE REPLACED WHETHER DAMAGED DURING CONSTRUCTION OR DAMAGE WAS EXISTING.
- PRIOR TO ENTERING ANY AGREEMENT REGARDING THE SALE OF A HOUSE OR LOT IN A SUBDIVISION, THE BUYER MUST RECEIVE A STREET DISCLOSURE STATEMENT.
- ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SITE LINES FROM 30' TO 10'.
- CONTACT THE CITY AT 341-7888 TO DISCUSS STREET LIGHTING OPTIONS. PROPOSED APPROXIMATE LOCATIONS SHOWN ON PLANS.
- STREET LIGHTS SHALL BE DEP ENCLOSED CUTOFF (COBRA TYPE), HIGH PRESSURE SODIUM VAPOR (HPSV) OR DESIGNATED LED FIXTURE INSTALLED WITHIN THE RECOMMENDED HANGAR OF MOUNTING HEIGHT FOR THE SPECIFIC FIXTURE. THE STANDARD STREET LIGHT SHALL BE INSTALLED ON A FIBERGLASS POLE. SEE CITY TECHNICAL STANDARDS FOR FURTHER DETAIL.

**GENERAL UTILITY NOTES**

- WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) DETAILS AND SPECIFICATIONS.
- PROJECT SHALL COMPLY WITH CAPE FEAR PUBLIC UTILITY AUTHORITY CROSS CONNECTION CONTROL REQUIREMENTS. WATER METERS CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 343-3910 FOR INFORMATION.
- IF THE CONTRACTOR DESIRES CPFLA WATER FOR CONSTRUCTION HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A RESUBMITTAL TO THE CITY OF WILMINGTON BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
- ANY IRRIGATION SYSTEM SUPPLIED BY CPFLA WATER SHALL COMPLY WITH CPFLA CROSS CONNECTION CONTROL REGULATIONS. CALL 343-3910 FOR INFORMATION.
- ANY IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN AND FREEZER SENSOR.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CPFLA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFCO/CORR OR ASSE.
- CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.
- CONTRACTOR SHALL MAINTAIN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- UNDERGROUND FIRE LINES 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 910-341-0866.
- CONTACT THE NORTH CAROLINA ONE CALL CENTER AT 1-800-632-4349 PRIOR TO ANY DIGGING, CLEARING OR GRADING.
- ANY PVC MAINS ARE TO BE MARKED WITH NO.10 INSULATED COPPER WIRE INSTALLED THE ENTIRE LENGTH AND ATTACHED TO THE PIPE AND STRIPPED TO BARE WIRE AND SECURED TO ALL VALVES AND FITTINGS, ACCESSIBLE IN ALL VALVE AND METER BOXES. ALL WATER MAINS SHALL MAINTAIN A MINIMUM OF 3" OF COVER.

**ADDITIONAL NOTES:**

- THIS MAP IS PRELIMINARY, NOT INTENDED FOR RECORDATION, SALES, OR CONVEYANCE.
- ALL DISTANCES AS SHOWN ARE HORIZONTAL.
- SEWER PROVIDED BY CPFLA
- WATER PROVIDED BY CPFLA
- SITE WILL MEET ALL ZONING REQUIREMENTS.
- REGULATED TREES ON SITE TO BE PRESERVED AS SHOWN.
- STRIPING AND LANES TO CITY STANDARDS (THERMOPLASTIC).
- NO VEHICULAR ACCESS TO SITE EXCEPT AS SHOWN.
- ALL UTILITIES UNDERGROUND.
- LANDSCAPING AND LIGHTING PLAN BY OTHERS.
- CONTRACTOR TO COORDINATE STAGING OF CONSTRUCTION ACTIVITIES WITH THE OWNER AND ARCHITECT TO FACILITATE ONGOING ADJOINING BUSINESS ACTIVITIES.
- CONTRACTOR TO COORDINATE REMOVAL AND RELOCATION OF LIGHTING AND OTHER NON-MUNICIPAL UTILITIES SUCH AS ELECTRICAL AND TELEPHONE CONNECTIONS WITH THE AFFECTED AGENCIES AND THE OWNER AND ARCHITECT.
- ALL SERVICES TO BE INSTALLED IN ACCORDANCE WITH CITY AND CPFLA TECHNICAL STANDARDS.

**ADDITIONAL NOTES CONT.:**

- This property is not located within a special flood hazard area according to Flood Insurance Rate Map Community Panel 437203126L, effective date April 3, 2006.
- Handicap Ramps shall be provided at all intersections.
- To suitable trees per acre are to be preserved or planted in accordance with City of Wilmington standards.
- Refuse collection by dumpster and private hauler.
- Reflectors shall be installed As Per City And NCDOT Standards.
- Per the requirements of the stormwater permit, the following shall occur prior to issuance of a certificate of occupancy or operation of the permitted facility.
  - As-built drawings for all stormwater management facilities shall be submitted to the city of Wilmington engineering division.
  - An engineer's certification shall also be submitted, along with all supporting documentation that specifies, under seal that the as-built stormwater measures, controls and devices are in compliance with the approved stormwater management plans.
  - A final inspection by city of Wilmington engineering personnel.
- All required easement maps shall be reviewed by city staff and recorded prior to issuance of a certificate of occupancy.

**UTILITY NOTES**

SEWER AND WATER TO BE PUBLIC AND PROVIDED BY CPFLA. SPECIFIC LOCATION, SIZING, AND DETAILS WILL BE PROVIDED ON THE CONSTRUCTION PLANS AND ARE TO BE APPROVED BY CPFLA AND CITY ENGINEERS.

- CPFLA STANDARD DETAIL SHEETS FOR SEWER AND WATER TAPS TO BE INCLUDED AS A PART OF THIS PLAN, ATTACHED.
- 48-HOUR NOTICE AND 3 COMPLETE SETS OF PLANS REQUIRED FOR PRE-CONSTRUCTION MEETING BY CONTRACTOR.
- NCDOT ENCROACHMENT REQUIRED FOR ANY WORK IN PUBLIC RW.
- ALL FEES TO BE PAID PRIOR TO PRE-CONSTRUCTION MEETING.

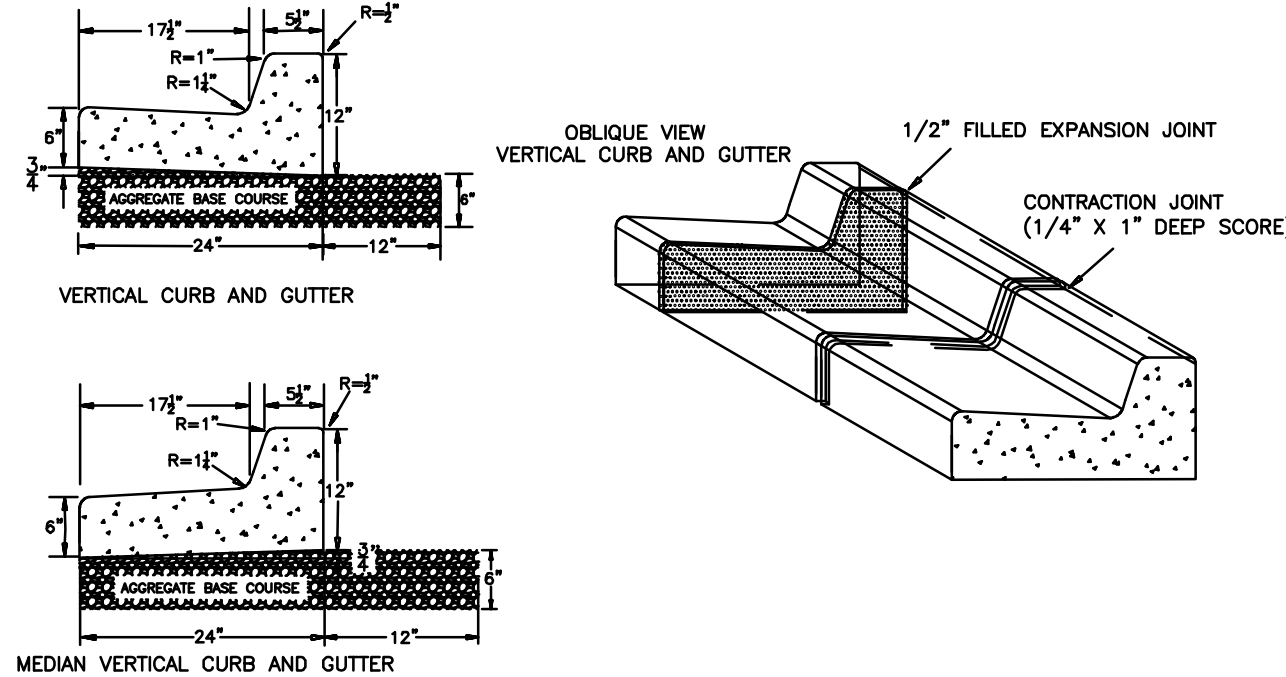
**CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:**

- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN THE END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
- ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED WITHIN 150' OF THE FDC. THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT. LANDSCAPING MAY NOT BLOCK ANY FDC OR HYDRANT WITH A 3' CLEAR SPACE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
- CONTRACTOR TO MAINTAIN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES DURING CONSTRUCTION.
- HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
- NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO BUILDING CONSTRUCTION.
- ADDITIONAL FIRE PROTECTION AND/OR ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
- CONTRACTOR SHALL SUBMIT A RADIO SIGNAL STRENGTH STUDY FOR ALL COMMERCIAL BUILDINGS THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET THE REQUIREMENTS OF SECTION 510 OF THE 2018 NC FIRE CODE.
- ALL ISOLATION VALVES WITHIN THE "HOT BOX" AND BETWEEN THE "HOT BOX" AND THE RISER ROOM, MUST BE ELECTRICALLY SUPERVISED, (IF SPRINKLER SYSTEM PRESENT).

**ADDITIONAL NOTES:**

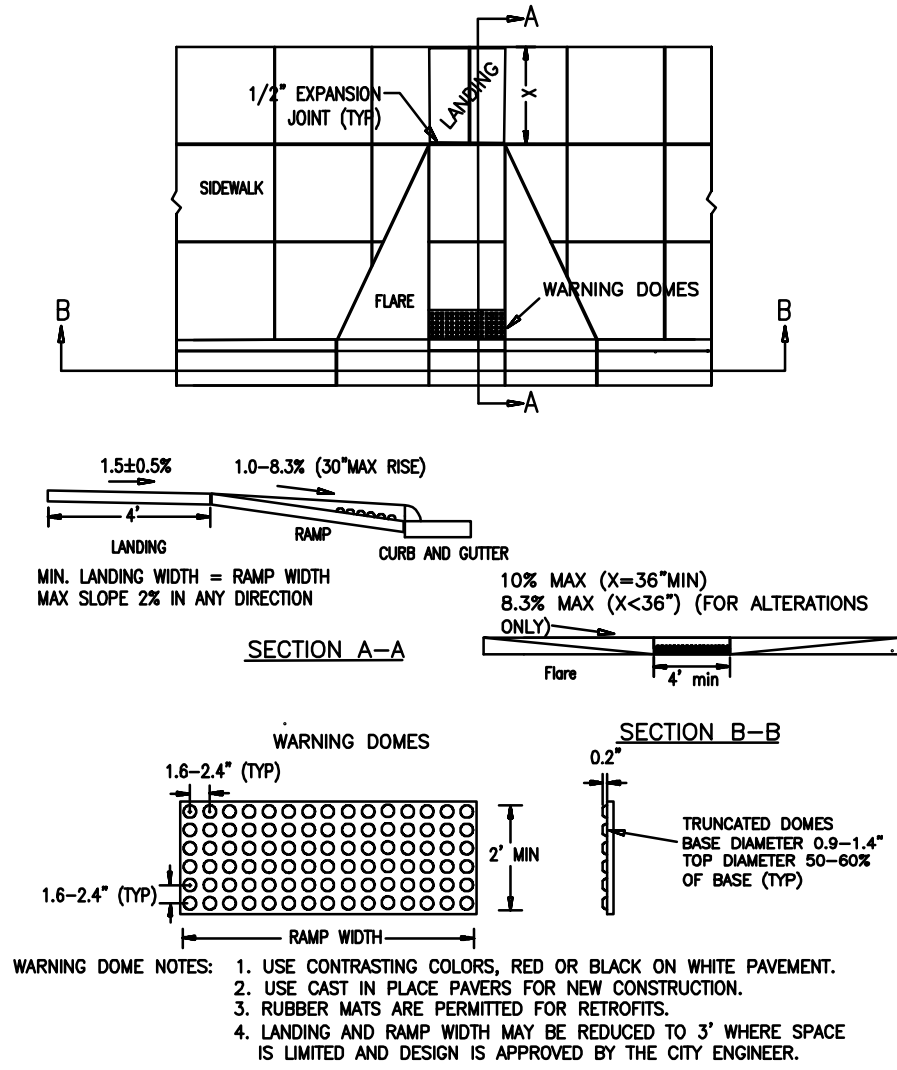
CPFLA PERMIT REQUIRED FOR ANY UTILITY SERVICES WORK. CONTRACTOR RESPONSIBLE FOR PERMIT AND COORDINATION WITH CPFLA. ALL SERVICES TO BE INSTALLED IN ACCORDANCE WITH CITY and CPFLA TECHNICAL STANDARDS.

**CITY OF WILMINGTON CURB DETAIL: SD 3-11**



- NOTES:
- EXPANSION JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS
  - 5/8\"/>
  - MINIMUM INSTALLATION LENGTH IS 5 FT.
  - CONCRETE TO BE 3000 PSI MIN.
  - VERTICAL CURB AND GUTTER BASE CAN BE SLOPED 3/4\"/>

**CITY OF WILMINGTON TYPICAL CURB RAMP: SD 3-07**



- WARNING DOME NOTES:
- USE CONTRACTING COLORS, RED OR BLACK ON WHITE PAVEMENT.
  - USE CAST IN PLACE PAVERS FOR NEW CONSTRUCTION.
  - RUBBER MATS ARE PERMITTED FOR RETROFITS.
  - LANDING AND RAMP WIDTH MAY BE REDUCED TO 3' WHERE SPACE IS LIMITED AND DESIGN IS APPROVED BY THE CITY ENGINEER.

**ADDITIONAL UTILITY/GRADING NOTES**

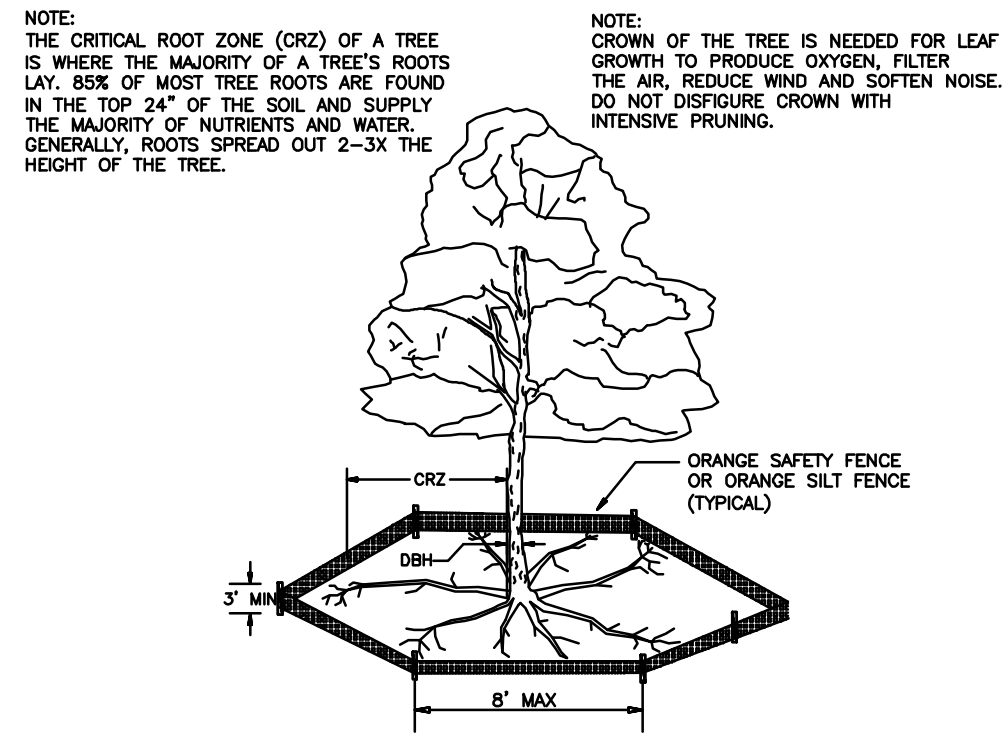
- CARE SHALL BE TAKEN DURING FINAL GRADING TO ENSURE POSITIVE DRAINAGE TO RECEIVING STRUCTURES. ALL STORM WATER RUNOFF FROM BUILT UPON AREAS (I.E. IMPERVIOUS SURFACES AND ROOF DRAINAGE) TO BE DIRECTED TO STORM SEWER COLLECTION SYSTEM (I.E. STORM INLETS OR PONDS) BY SWALES, OVERLAND FLOW, ADDITIONAL GRADING, OR LANDSCAPING INLETS.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ANY RELOCATIONS, REALIGNMENTS, DISCONNECTIONS OR CONNECTIONS OF EXISTING UTILITIES WITH APPLICABLE AUTHORITIES.
- CLEARING AND GRUBBING OF SITE TO INCLUDE REMOVAL OF EXISTING CURB, ASPHALT, INLETS, AND ANY OTHER STRUCTURES INCLUDING TREES, STUMPS AND DEBRIS EXISTING ON SITE. TREES NOT REQUIRED TO BE CLEARED FOR CONSTRUCTION SHALL REMAIN UNLESS OTHERWISE DIRECTED.
- MINIMUM SEPARATION SHALL BE MAINTAINED AS FOLLOWS:
  - HORIZONTAL CLEARANCE OF 10 FEET BETWEEN SANITARY SEWER AND WATER MAINS.
  - HORIZONTAL CLEARANCE OF 10 FEET BETWEEN STORM SEWER AND WATER MAINS.
  - WHERE VERTICAL CLEARANCE IS LESS THAN 18\"/>
  - WHERE VERTICAL CLEARANCE IS LESS THAN 24\"/>
  - WHERE VERTICAL CLEARANCE IS LESS THAN 18\"/>
- SEE DETAIL SHEETS FOR TYPICAL UTILITIES HOOKUPS.
- ALL STREETS ARE PROPOSED TO BE PUBLIC (BUILT TO CITY OF WILMINGTON STANDARDS N.C.D.O.T. PAVEMENT AND SUBGRADE STANDARDS).
- ALL WATER MAINS TO BE 8\"/>
- TWO VALVES ARE REQUIRED AT "T" INTERSECTIONS AND ONE VALVE ON THE WATER LINE TO FIRE HYDRANTS.
- A BLOW-OFF VALVE IS REQUIRED AT THE TERMINUS OF ALL "DEAD END" WATER LINES.
- SANITARY SEWER, STORM, WATER, AND OTHER PERTINENT DETAILS/SPECIFICATIONS TO BE PROVIDED WITH CONSTRUCTION PLANS AND SHALL MEET OR EXCEED CITY AND CPFLA DESIGN STANDARDS.

**ADDITIONAL FIRE DEPARTMENT NOTES:**

- HYDRANTS MUST BE WITHIN 150' OF THE FDC.
- THE FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT.
- LANDSCAPING MAY NOT BLOCK ANY FDC OR HYDRANT WITH A 3' CLEAR SPACE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
- CONTRACTOR TO MAINTAIN ALL WEATHER ACCESS FOR EMERGENCY VEHICLES DURING CONSTRUCTION.
- HYDRANTS MUST BE LOCATED WITHIN 8' OF THE CURB.
- NEW HYDRANTS MUST BE AVAILABLE FOR USE PRIOR TO BUILDING CONSTRUCTION.
- ADDITIONAL FIRE PROTECTION AND/OR ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
- CONTRACTOR SHALL SUBMIT A RADIO SIGNAL STRENGTH STUDY FOR ALL COMMERCIAL BUILDINGS THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET THE REQUIREMENTS OF SECTION 510 OF THE 2018 NC FIRE CODE.
- ALL ISOLATION VALVES WITHIN THE "HOT BOX" AND BETWEEN THE "HOT BOX" AND THE RISER ROOM, MUST BE ELECTRICALLY SUPERVISED, (IF SPRINKLER SYSTEM PRESENT).

**ADA NOTES**

- LOCATION OF WHEELCHAIR RAMPS:
  - IN ACCORDANCE WITH THE RATIFIED HOUSE BILL 1296, ALL STREET CURBS IN NORTH CAROLINA BEING CONSTRUCTED OR RECONSTRUCTED FOR MAINTENANCE PROCEDURES, TRAFFIC OPERATIONS, REPAIRS, CORRECTION OF UTILITIES OR ALTERED FOR ANY REASON AFTER SEPTEMBER 1973 SHALL PROVIDE WHEELCHAIR RAMPS FOR THE PHYSICALLY HANDICAPPED AT ALL INTERSECTIONS WHERE BOTH CURB AND GUTTER AND SIDEWALKS ARE PROVIDED AND AT OTHER MAJOR POINTS OF PEDESTRIAN FLOW.
  - WHEELCHAIR RAMPS SHOULD BE LOCATED AS INDICATED IN DETAIL DRAWINGS, HOWEVER EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. MAY AFFECT PLACEMENT.
- CONSTRUCTION NOTES:
  - NO SLOPE SHALL EXCEED 1:12 (12:1) ON THE RAMP OR SIDEWALK.
  - IN NO CASE SHALL THE WIDTH OF WHEELCHAIR RAMPS BE LESS THAN 40\"/>
  - USE CLASS "A" CONCRETE WITH THE SURFACE HAVING A ROUGH, NON-SKID TYPE FINISH.
  - 12\"/>
  - CONSTRUCTION METHODS SHALL CONFORM WITH THOSE OF THE GOVERNING BODY WHICH HAS JURISDICTION OF THE PARTICULAR STREET.
  - THE INSIDE PEDESTRIAN CROSSWALK LINES SHALL BE ESTABLISHED BY BISECTING THE INTERSECTION RADI WHERE MARKED (SEE NOTE 6).
  - THE WHEELCHAIR RAMP SHALL BE LOCATED SO THAT THE BEGINNING OF THE WHEEL CHAIR RAMP WILL BE TWO FEET FROM THE INSIDE PEDESTRIAN CROSSWALK LINE.
  - THE WIDTH OF THE PEDESTRIAN CROSSWALK SHALL BE 10 FEET UNLESS A GREATER WIDTH IS REQUIRED TO ACCOMMODATE THE PEDESTRIAN.
  - STOP BARS SHALL BE USED WHERE IT IS IMPORTANT TO INDICATE THE POINT BEHIND WHICH VEHICLES ARE REQUIRED TO STOP IN COMPLIANCE WITH A TRAFFIC SIGNAL, STOP SIGN, OR OTHER LEGAL REQUIREMENTS.
  - PARKING SHALL BE ELIMINATED A MINIMUM OF 20 FEET BACK OF PEDESTRIAN CROSSWALK.
  - ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION. THIS IS AVAILABLE FROM THE SUPERINTENDENT OF DOCUMENTS, U.S GOVERNMENT

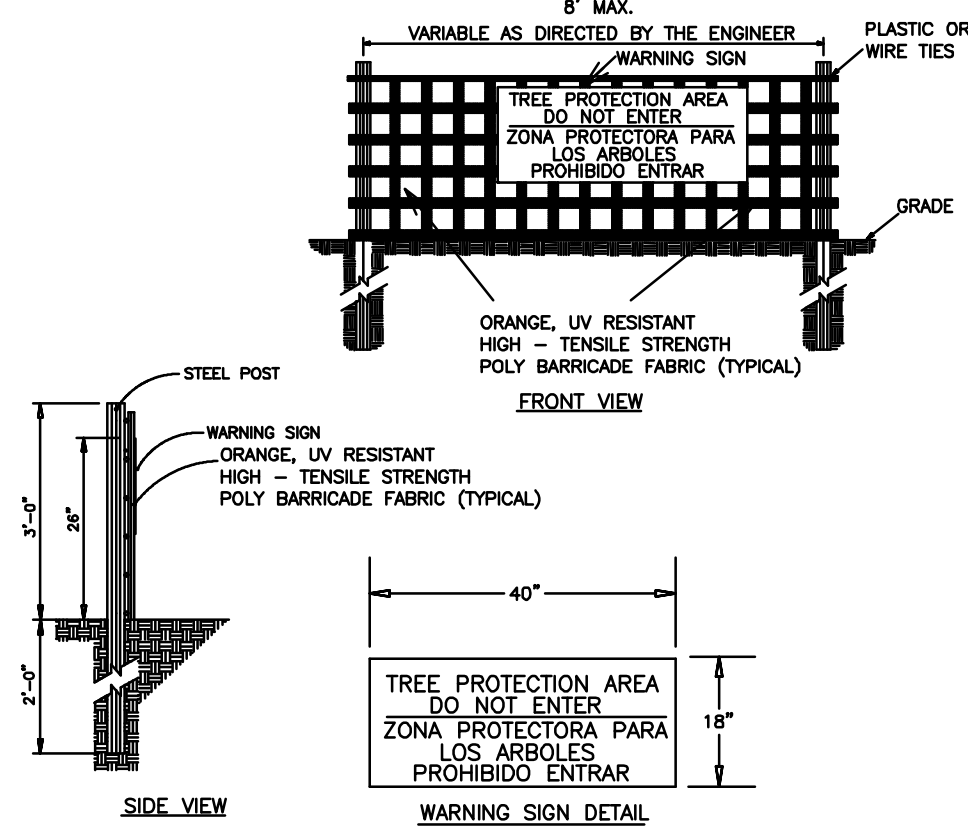


- NOTES:
- PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
  - CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
  - IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12\"/>
  - WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
  - FOR ALL TREES, OUTGROWING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. DO NOT COMPACT SOIL BENEATH TREES. NO VEHICLE SHALL BE ALLOWED TO PARK UNDER TREES. NO MATERIALS OR EQUIPMENT SHALL BE STORED SOLELY DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED.
  - CONTRACTOR SHALL REPAIR DAMAGE TO TREES DAMAGED THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED.
  - FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF \$500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

**ADDITIONAL STORM WATER NOTES:**

- ALL STORM WATER RUNOFF FROM BUILT UPON AREAS (I.E. IMPERVIOUS SURFACES AND ROOF DRAINAGE) TO BE DIRECTED TO THE STORM SEWER COLLECTION SYSTEM (I.E. STORM INLETS OR PONDS) BY SWALES, OVERLAND FLOW, ADDITIONAL GRADING OR LANDSCAPE INLETS.
- CONTRACTOR TO ENSURE THAT STREET PAVEMENT AND CURBING IS PLACED TO DRAIN POSITIVELY TO CURB INLETS AND DRAINAGE STRUCTURES.
- FOR STORM PIPE MATERIAL AND INSTALLATION SEE DETAILS AND NCDOT STANDARD DRAWINGS 300.1 SHEETS 1-3
- ROOF DRAINS SHALL BE SIZED ACCORDING TO THE 2018 INTERNATIONAL PLUMBING CODE AND ALL SHALL CONFORM TO ANY LOCAL REQUIREMENTS
- ANY ROOF DRAIN LOCATIONS SHOWN HERE ARE APPROXIMATE AND MAY BE FIELD ADJUSTED AS LONG AS THE MINIMUM REQUIRED SLOPE IS MAINTAINED.

**CITY OF WILMINGTON TREE PROTECTION STD DETAIL: SD 15-09**



- NOTES:
- THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
  - WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3\"/>
  - SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
  - ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
  - TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
  - ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

REV. NO.	REVISIONS	DATE

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**NOTES AND DETAILS**

## Masonboro Station Parking and Building Expansion

City of Wilmington

OWNER: ACADIA SERVICES, LLC  
222 BEECH STREET  
WILMINGTON, N.C. 28405

DATE: MARCH-2020  
SCALE: HORZ.: 1"=20'  
DRAWN: MUL  
CHECKED: AHG  
PROJECT NO: 15040

PRELIMINARY PLAN

HANOVER DESIGN SERVICES, P.A.  
LAND SURVEYORS, ENGINEERS & LAND PLANNERS  
1123 FLORAL PARKWAY  
WILMINGTON, N.C. 28403  
PHONE: (910) 354-0202  
LICENSE # C-0587

Date: MARCH-2020

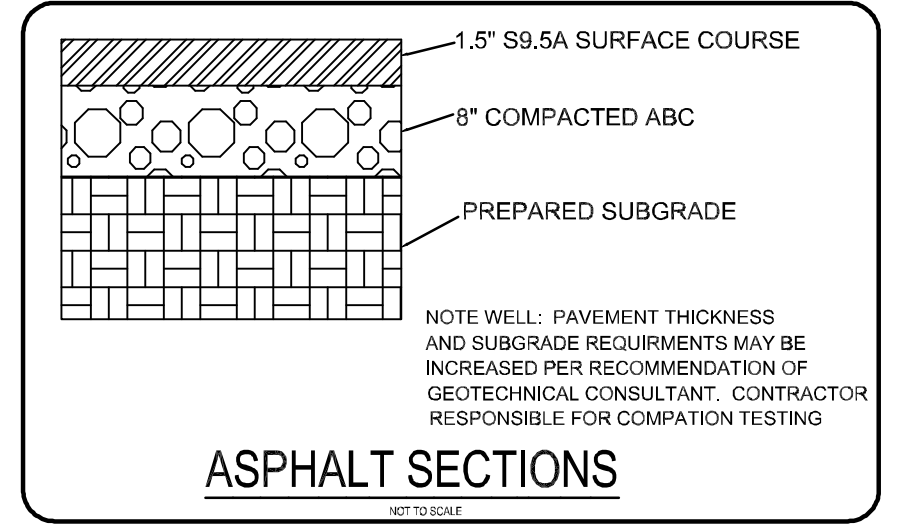
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Checked: AHG

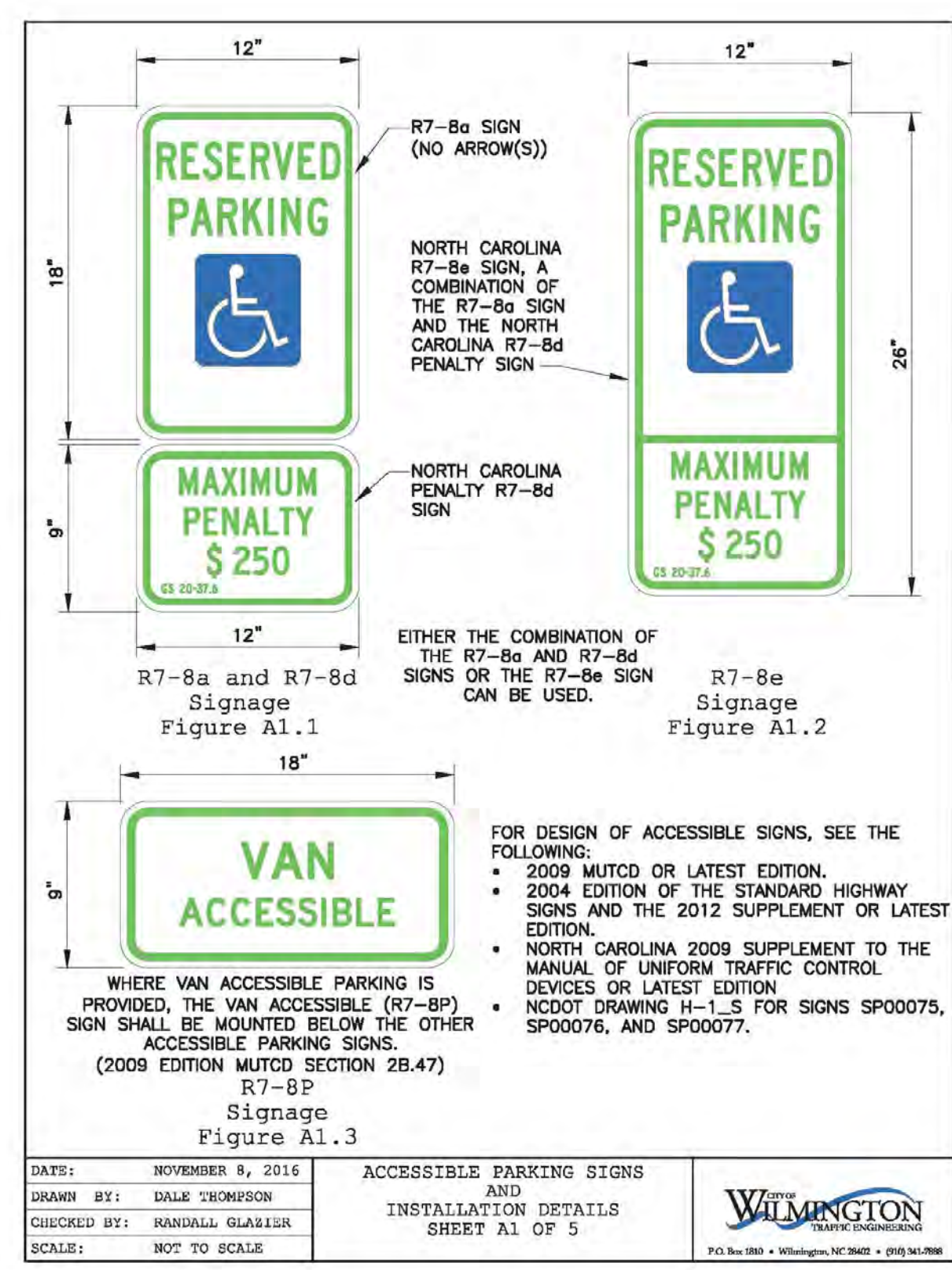
Project No: 15040

Sheet No: C-2  
C-7

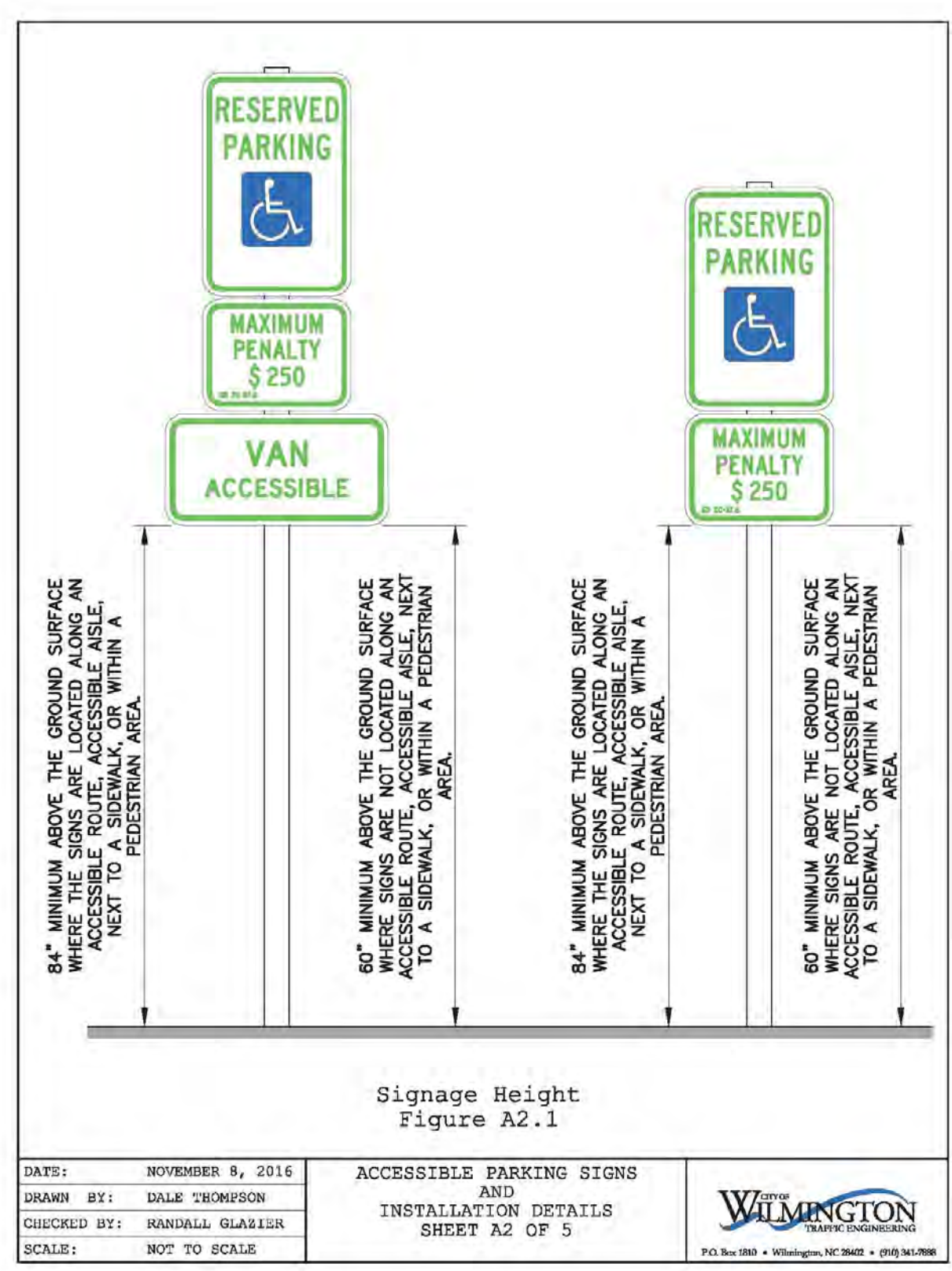


- NOTES:
- JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
  - SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
  - MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
  - CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAINING A DRIVEWAY APPROX) SHALL BE CLASS "A" - 3000 PSI.
  - MINIMUM REPLACEMENT FOR REPAIRS IS 5' X 5' PANEL.
  - 4\"/>
  - MINIMUM DEPTH FOR TUNNELING BELOW SIDEWALK IS 12\"/>
  - MAX ADJACENT GROUND SLOPE WITHOUT RAILING IS 2:1
  - MIN GRADE FOR PROPER DRAINAGE IS 1/8\"/>

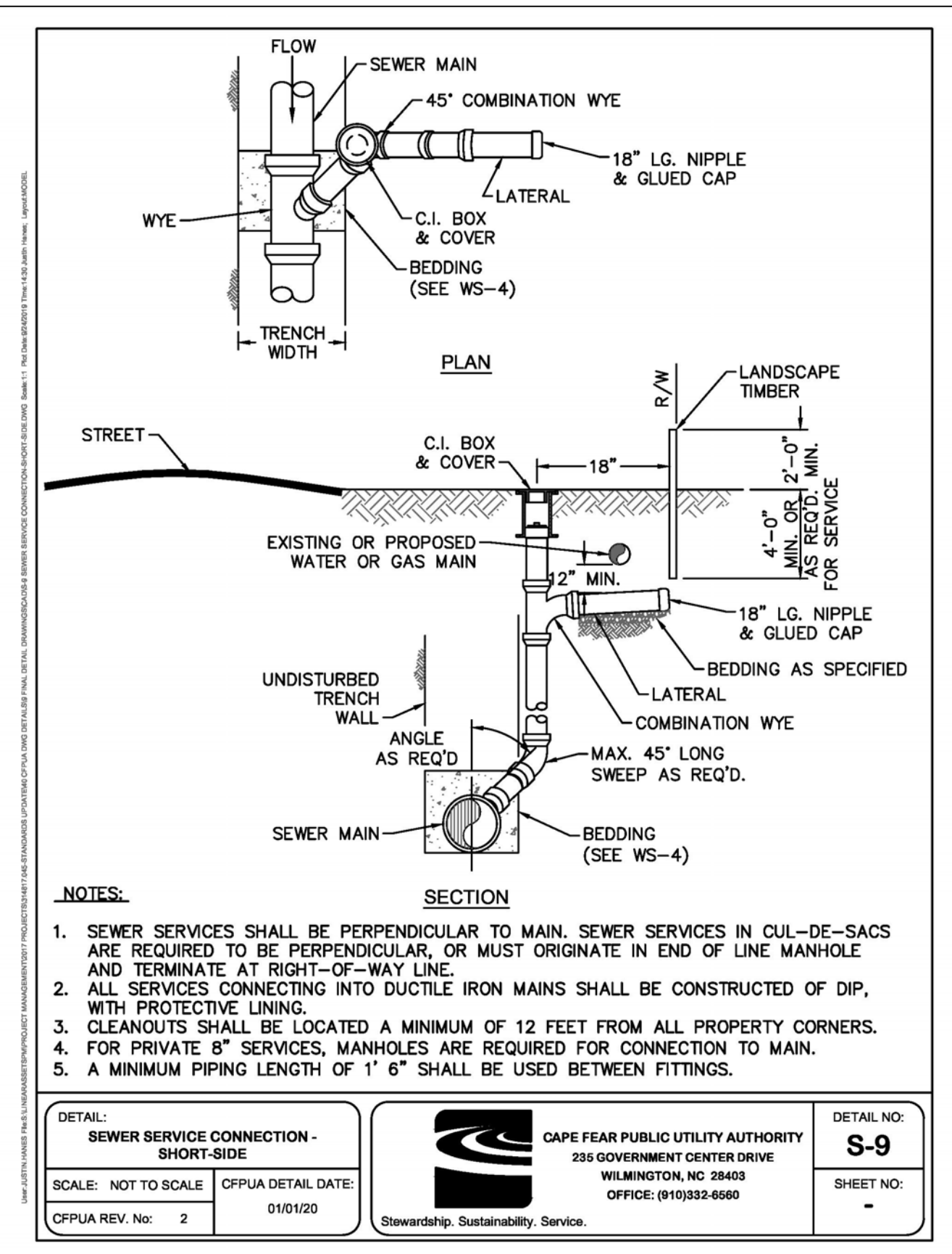
**ASPHALT SECTIONS**



DATE: NOVEMBER 9, 2016	ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS	<p>CITY OF WILMINGTON WILMINGTON, N.C. 28402 (910) 341-7807</p>
DRAWN BY: DALE THOMPSON	SHEET A1 OF 5	
CHECKED BY: RANDALL GLAZIER		
SCALE: NOT TO SCALE		



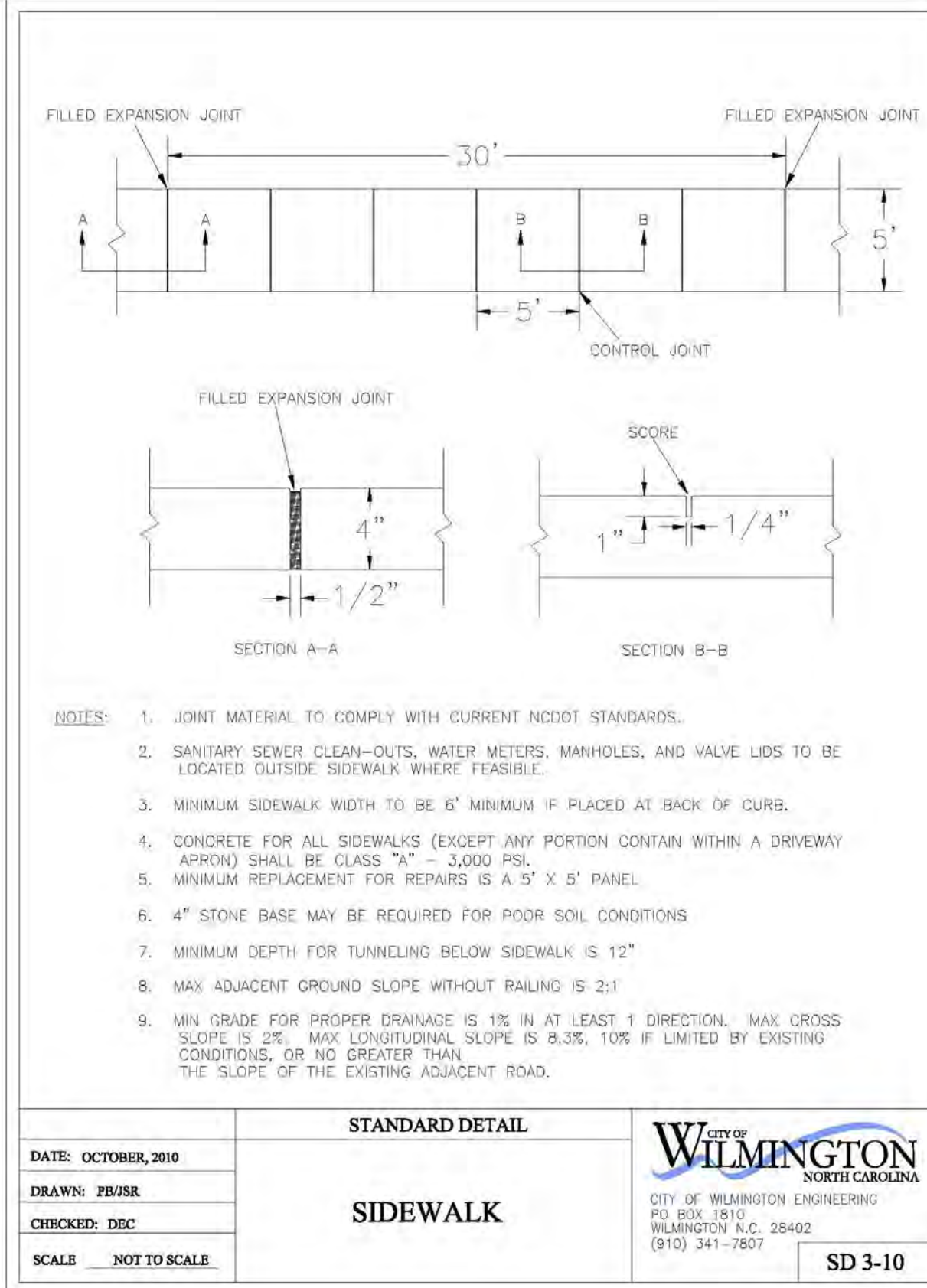
DATE: NOVEMBER 9, 2016	ACCESSIBLE PARKING SIGNS AND INSTALLATION DETAILS	<p>CITY OF WILMINGTON WILMINGTON, N.C. 28402 (910) 341-7807</p>
DRAWN BY: DALE THOMPSON	SHEET A2 OF 5	
CHECKED BY: RANDALL GLAZIER		
SCALE: NOT TO SCALE		



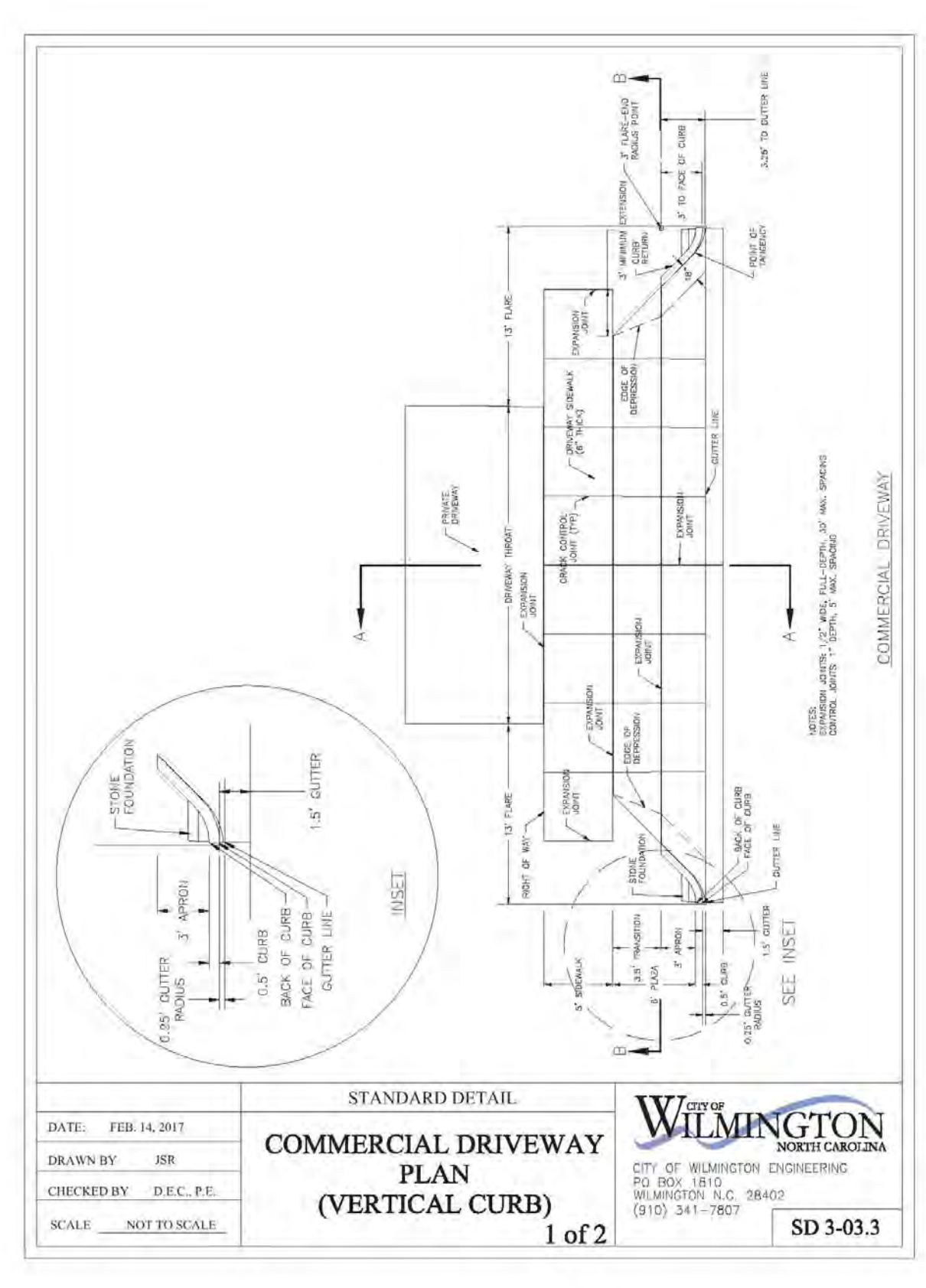
**NOTES:**

- SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
- ALL SERVICES CONNECTING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF DIP, WITH PROTECTIVE LINING.
- CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS.
- FOR PRIVATE 8" SERVICES, MANHOLES ARE REQUIRED FOR CONNECTION TO MAIN.
- A MINIMUM PIPING LENGTH OF 1' 6" SHALL BE USED BETWEEN FITTINGS.

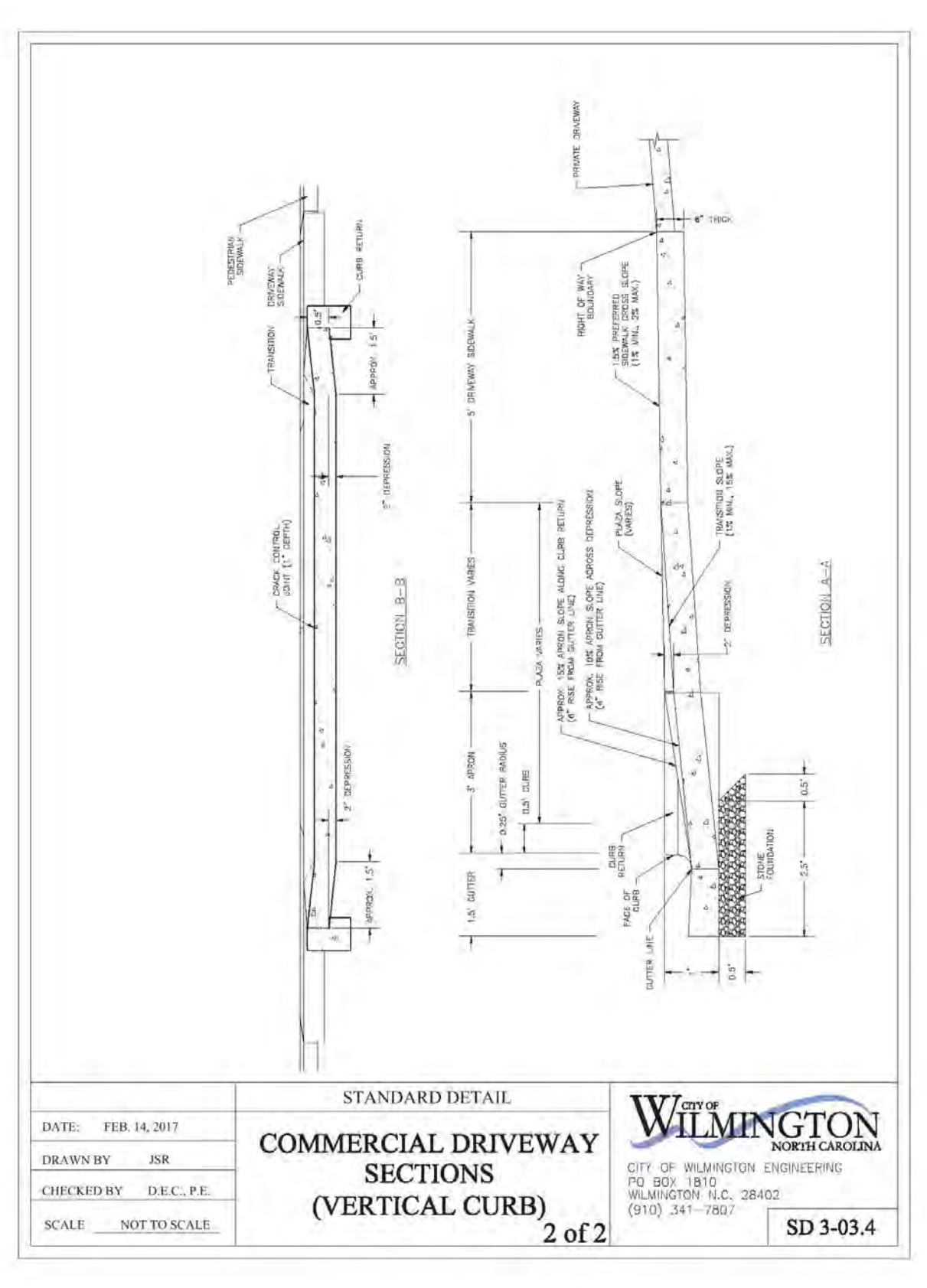
DETAIL: SEWER SERVICE CONNECTION - SHORT-SIDE	CAPE FEAR PUBLIC UTILITY AUTHORITY 235 GOVERNMENT CENTER DRIVE WILMINGTON, NC 28403 OFFICE: (910)332-6660	DETAIL NO: S-9 SHEET NO: -
SCALE: NOT TO SCALE	CFPUA DETAIL DATE: 01/01/20	
CFPUA REV. No: 2		



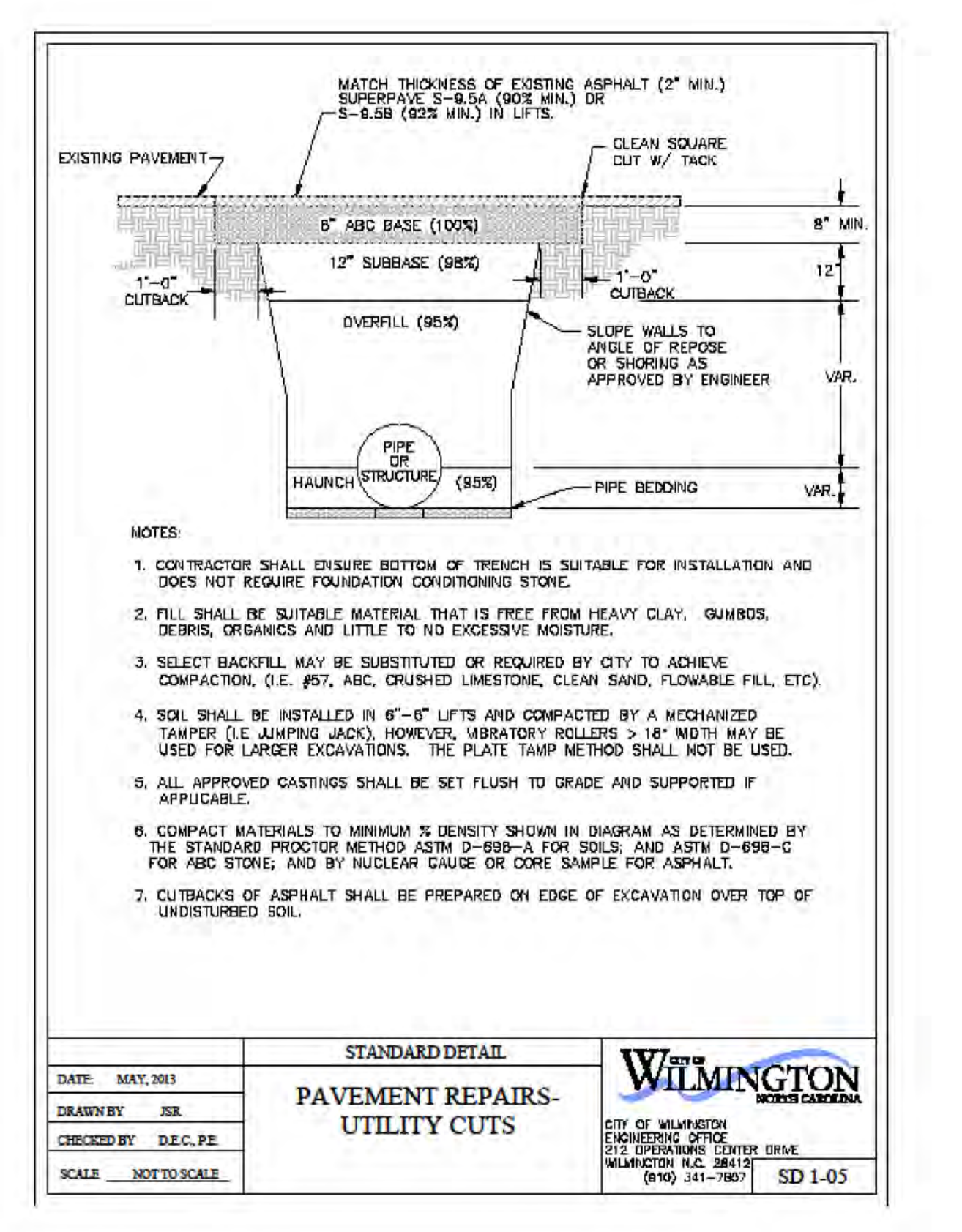
DATE: OCTOBER 2010	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING P.O. BOX 1810 WILMINGTON, N.C. 28402 (910) 341-7807</p>
DRAWN BY: JBR	SIDEWALK	
CHECKED BY: DEC		
SCALE: NOT TO SCALE		



DATE: FEB 14, 2017	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING P.O. BOX 1810 WILMINGTON, N.C. 28402 (910) 341-7807</p>
DRAWN BY: JBR	COMMERCIAL DRIVEWAY PLAN (VERTICAL CURB)	
CHECKED BY: DEC, P.E.	1 of 2	
SCALE: NOT TO SCALE		



DATE: FEB 14, 2017	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING P.O. BOX 1810 WILMINGTON, N.C. 28402 (910) 341-7807</p>
DRAWN BY: JBR	COMMERCIAL DRIVEWAY SECTIONS (VERTICAL CURB)	
CHECKED BY: DEC, P.E.	2 of 2	
SCALE: NOT TO SCALE		



DATE: MAY 2013	STANDARD DETAIL	<p>CITY OF WILMINGTON ENGINEERING P.O. BOX 1810 WILMINGTON, N.C. 28402 (910) 341-7807</p>
DRAWN BY: JBR	PAVEMENT REPAIRS - UTILITY CUTS	
CHECKED BY: DEC, P.E.		
SCALE: NOT TO SCALE		

REV. NO.	REVISIONS	DATE

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

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

Approved Construction Plan

Name	Date
Planning	_____
Traffic	_____
Fire	_____

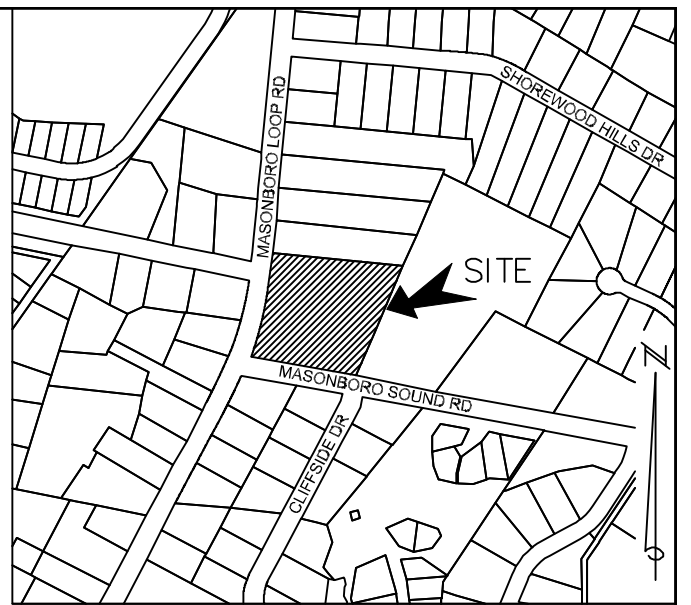
**NOTES AND DETAILS**  
Masonboro Station  
Parking and Building Expansion  
City of Wilmington  
NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: ACADIA SERVICES, LLC  
222 BEECH STREET  
WILMINGTON, N.C. 28405

HANOVER DESIGN SERVICES, P.A.  
LAND SURVEYORS, ENGINEERS & LAND PLANNERS  
1123 FLORAL PARKWAY  
WILMINGTON, N.C. 28403  
PHONE: (910) 334-6002  
LICENSE # C-0587

Date: MARCH-2020  
Scale: HORZ.: 1"=50'  
Drawn: MJL  
Checked: AHG  
Project No: 15040  
Sheet No: C-3  
C-7





**LOCATION MAP**  
NOT TO SCALE



COBLE, CHRISTOPHER  
DB 5284, PG 2456  
ZONED: CB  
VET

CROHOLDINGS LLC  
DB 5671, PG 2293  
ZONED: R-15  
SINGLE FAMILY RESIDENTIAL

WORSLEY DEVELOPMENT COMPANY LLC  
DB 6077, PG 678  
ZONED: CB  
OFFICE PARK

RC SWIFT COMMERCIAL PROPERTIES  
DB 5108, PG 1490  
ZONED: CB  
GENERAL OFFICES

KRISTIN MAIN  
DB 6066, PG 104  
ZONED: R-15  
VACANT

RILP NC2 LP  
DB 6186, PG 2303  
ZONED: CB  
CONVENIENCE GROCERY  
LOT 1, CLIFFSIDE (MB 10 PG 13)

TODD, KELLY & STEPHEN  
DB 5698, PG 750  
ZONED: R-15  
SINGLE FAMILY RESIDENTIAL  
LOT 13, CLIFFSIDE (MB 10 PG 13)

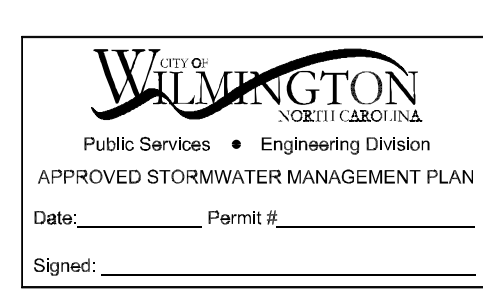
**Preliminary Plan**

REV. NO.	REVISIONS	DATE

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NOTE: SURVEY OF EXISTING CONDITIONS PERFORMED BY BATEMAN CIVIL SURVEY COMPANY AND PROVIDED BY ACADIA SERVICES, LLC.

Approved Construction Plan	
Name	Date
Planning _____	_____
Traffic _____	_____
Fire _____	_____



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

**EXISTING CONDITIONS**  
**Masonboro Station**  
**Parking and Building Expansion**  
City of Wilmington NEW HANOVER COUNTY, NORTH CAROLINA

Date: MARCH-2020  
Scale: HORZ: 1"= 30'  
Drawn: MJL  
Checked: AHG  
Project No: 15040

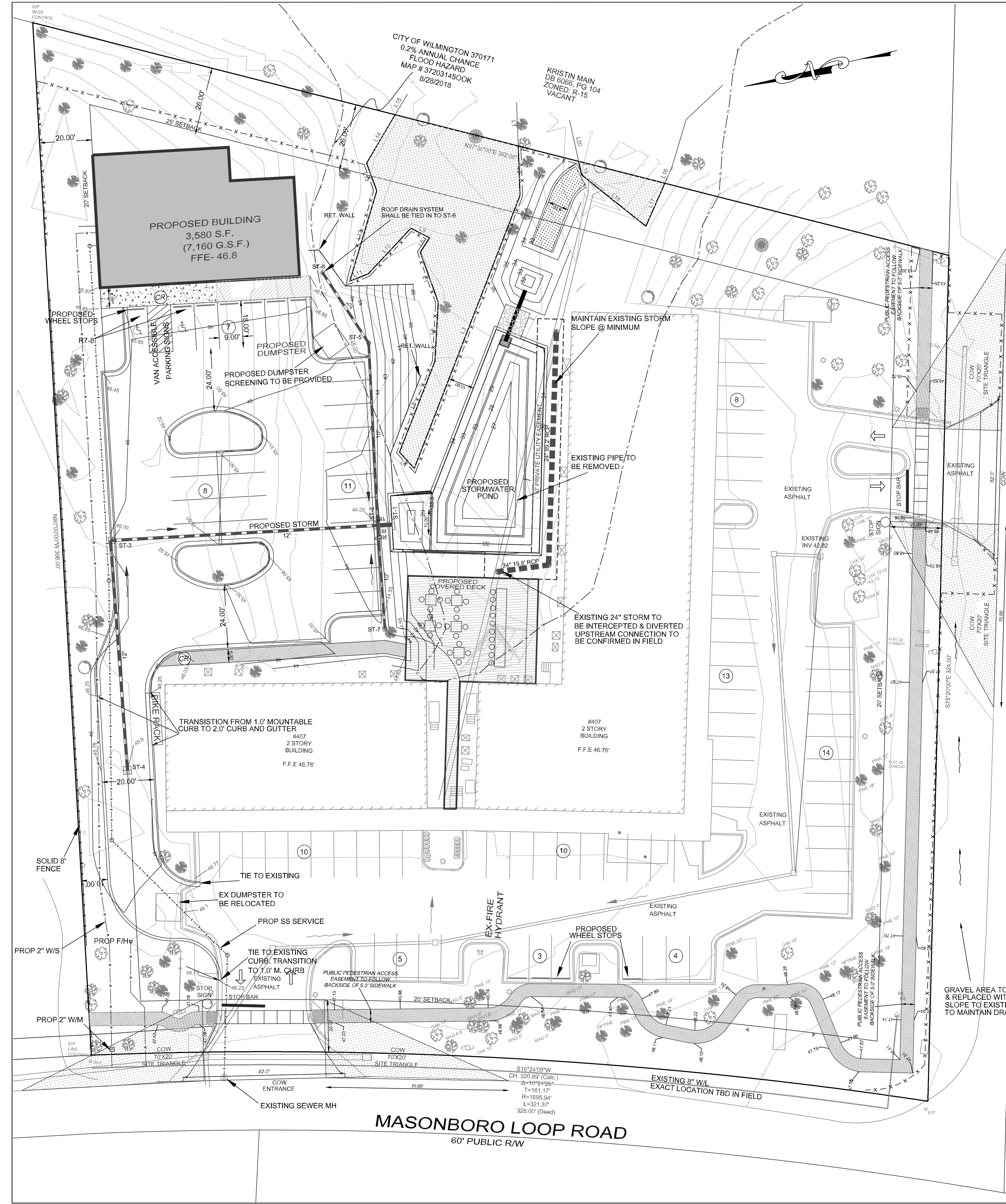
OWNER: ACADIA SERVICES, LLC  
222 BEECH STREET  
WILMINGTON, N.C. 28405

**HANOVER DESIGN SERVICES, P.A.**  
LAND SURVEYORS, ENGINEERS & LAND PLANNERS  
1123 FLORAL PARKWAY  
WILMINGTON, N.C. 28403  
PHONE: (910) 343-8002  
LICENSE # C-0587

PRELIMINARY PLAN

Sheet No: C-5  
C-7





LOCATION MAP  
NOT TO SCALE

**SITE INVENTORY TABLE:**

PROJECT NAME: MASONBORO STATION EXPANSION  
 STREET ADDRESS: 4039 MASONBORO LOOP RD. WILMINGTON, NC 28405  
 TAX PARCEL IDENTIFICATION NUMBERS: R07200-002-002-000 DB 6084 PG 2184 ADDRESS: 4039 MASONBORO LOOP RD.  
 ZONING: CB-COMMUNITY BUSINESS  
 CAMA LAND CLASSIFICATION: URBAN  
 HISTORICAL AND ARCHAEOLOGICAL SITES: NONE EXIST  
 WETLANDS: AS SHOWN  
 LAND COVER: PARTIALLY DEVELOPED.

**DIMENSIONAL STANDARDS**

- MINIMUM LOT AREA: 0.5 ACRE
- MAXIMUM LOT COVERAGE: 30%
- MINIMUM LOT WIDTH: 50'
- MINIMUM FRONT SETBACK: 20'
- MINIMUM REAR SETBACK: 25'
- MINIMUM INTERIOR SIDE SETBACK: 20'
- MINIMUM CORNER LOT SETBACK: 20'
- HEIGHT: 45'

PROPOSED USE: OFFICE, RETAIL, PERSONAL SERVICE

TOTAL ACREAGE = 2.72 ACRES

EXISTING BUILDINGS: BUILDING 1 (4 UNITS): 4,841 GFA BUILDING 2 (5 UNITS): 11,609 GFA  
 # OF FLOORS: 2 @ 3,580 GFA

PROPOSED BUILDINGS: BUILDING 3: 7,160 GFA  
 # OF FLOORS: 2 @ 3,580 GFA

PROPOSED BUILDING HEIGHT < 20'

PROPOSED STRUCTURAL LOT COVERAGE: 18.7 %

**PARKING REQUIREMENTS:** 1 SPACE/400 SF=18 SPACES  
 30 SEAT FOR RESTAURANT: 1 SPACE PER 4 SEATS=3 SPACES  
 28 SPACES REQUIRED 26 SPACES PROVIDED  
 1 HANDICAPPED PER 25 SPACES 2 SPACES PROVIDED  
 5 BICYCLE PARKING REQUIRED 5 SPOTS PROPOSED

**SOILS DATA:**

- USCS: SM
- SHWT IS BETWEEN 4" AND 16"

DISTURBED AREA: 1.4 ACRES

**SEWER DEMAND**

- AVERAGE DAILY DEMAND 1050 GPD

**STORM NETWORK SUMMARY**

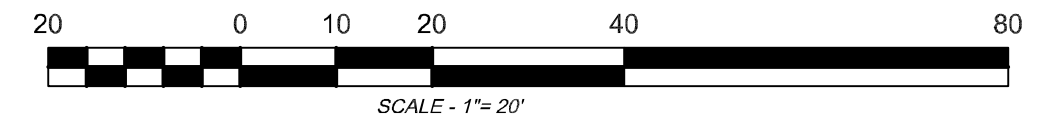
Upstream Node	Downstream Node	Diameter (in)	Pipe Length (ft)	Pipe Material	Slope (%)	Upstream Pipe Invert (ft)	Downstream Pipe Invert (ft)	Upstream Rim Elev (ft)	Downstream Rim Elev (ft)
ST-2	ST-1	18.00	5.49	RCP III	1.63	33.10	33.00	44.00	37.00
ST-7	ST-2	10.00	39.62	PVC	2.00	40.29	39.50	44.30	44.00
ST-5	ST-2	10.00	69.89	PVC	2.00	41.40	40.00	44.60	44.00
ST-6	ST-5	10.00	32.22	PVC	3.00	42.37	41.40	46.00	44.60
ST-3	ST-2	12.00	102.50	RCP III	2.00	38.95	36.50	46.00	44.00
ST-4	ST-3	12.00	88.24	PVC	1.98	40.70	38.95	46.00	46.00

**STORM NETWORK SUMMARY**

Structure Name	Inlet ID
ST-2	COMBO (CURB INLET)
ST-7	YARD INLET
ST-5	ROOF DRAIN C/O
ST-6	ROOF DRAIN C/O
ST-3	COMBO (CURB INLET)
ST-4	Grate-Sag

**IMPERVIOUS SURFACE AREAS**

EXISTING	AREA (SF)
TOTAL LOT AREA	118690
BUILDING 1	4841
BUILDING 2	10769
PARKING AND DRIVES	24139
SIDEWALK	3481
DUMPSTER PADS	275
<b>TOTAL EXISTING</b>	<b>43505</b>
<b>EXISTING % IMPERVIOUS</b>	<b>37%</b>
PROPOSED	
BUILDING	3580
PARKING AND DRIVES	14686
SIDEWALKS	1218
COVERED DECK	2230
FUTURE	3050
<b>TOTAL PROPOSED</b>	<b>24764</b>
<b>EXISTING &amp; PROPOSED TOTAL</b>	<b>68269</b>



**ADDITIONAL ADA NOTES:**

- REFER TO 2018 NCDOT ROADWAY STANDARD DRAWINGS NUMBER 848.05 - 848.06 FOR RAMP DESIGN AND DETAILS.
- ALL RAMPS, RAMP, HANDICAP PARKING, AND ACCESSIBLE ROUTES SHALL COMPLY WITH THE LATEST ADA GUIDELINES.
- RUNNING SLOPES ALONG AN ACCESSIBLE ROUTE EXCEEDING 3/8" SHALL BE CONSIDERED A RAMP.
- 8.33% (12:1) MAX RAMP SLOPE
- MAXIMUM CROSS SLOPE ALLOWED ALONG ACCESSIBLE ROUTES: 2.00%
- ALL CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.
- CONTRACTOR TO ENSURE SLOPES IN HANDICAP PARKING STALLS AND ACCESS ISLES DO NOT TO EXCEED 2% IN ANY DIRECTION.

**ADDITIONAL STORM WATER NOTES:**

- ALL STORM WATER RUNOFF FROM BUILT UPON AREAS (I.E. IMPERVIOUS SURFACES AND ROOF DRAINAGE) TO BE DIRECTED TO THE STORM SEWER COLLECTION SYSTEM (I.E. STORM INLETS OR PONDS) BY SWALES, OVERLAND FLOW, ADDITIONAL GRADING OR LANDSCAPE INLETS.
- CONTRACTOR TO ENSURE THAT STREET PAVEMENT AND CURBING IS PLACED TO DRAIN POSITIVELY TO CURB INLETS AND DRAINAGE STRUCTURES.
- FOR STORM PIPE MATERIAL AND INSTALLATION SEE DETAILS AND NCDOT STANDARD DRAWINGS 300.1 SHEETS 1-3
- ROOF DRAINS SHALL BE SIZED ACCORDING TO THE 2018 INTERNATIONAL PLUMBING CODE AND ALL SHALL CONFORM TO ANY LOCAL REQUIREMENTS
- ANY ROOF DRAIN LOCATIONS SHOWN HERE ARE APPROXIMATE AND MAY BE FIELD ADJUSTED AS LONG AS THE MINIMUM REQUIRED SLOPE IS MAINTAINED.

Preliminary Plan

REV. NO.	REVISIONS	DATE

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

**Approved Construction Plan**

Name	Date
Planning _____	_____
Traffic _____	_____
Fire _____	_____

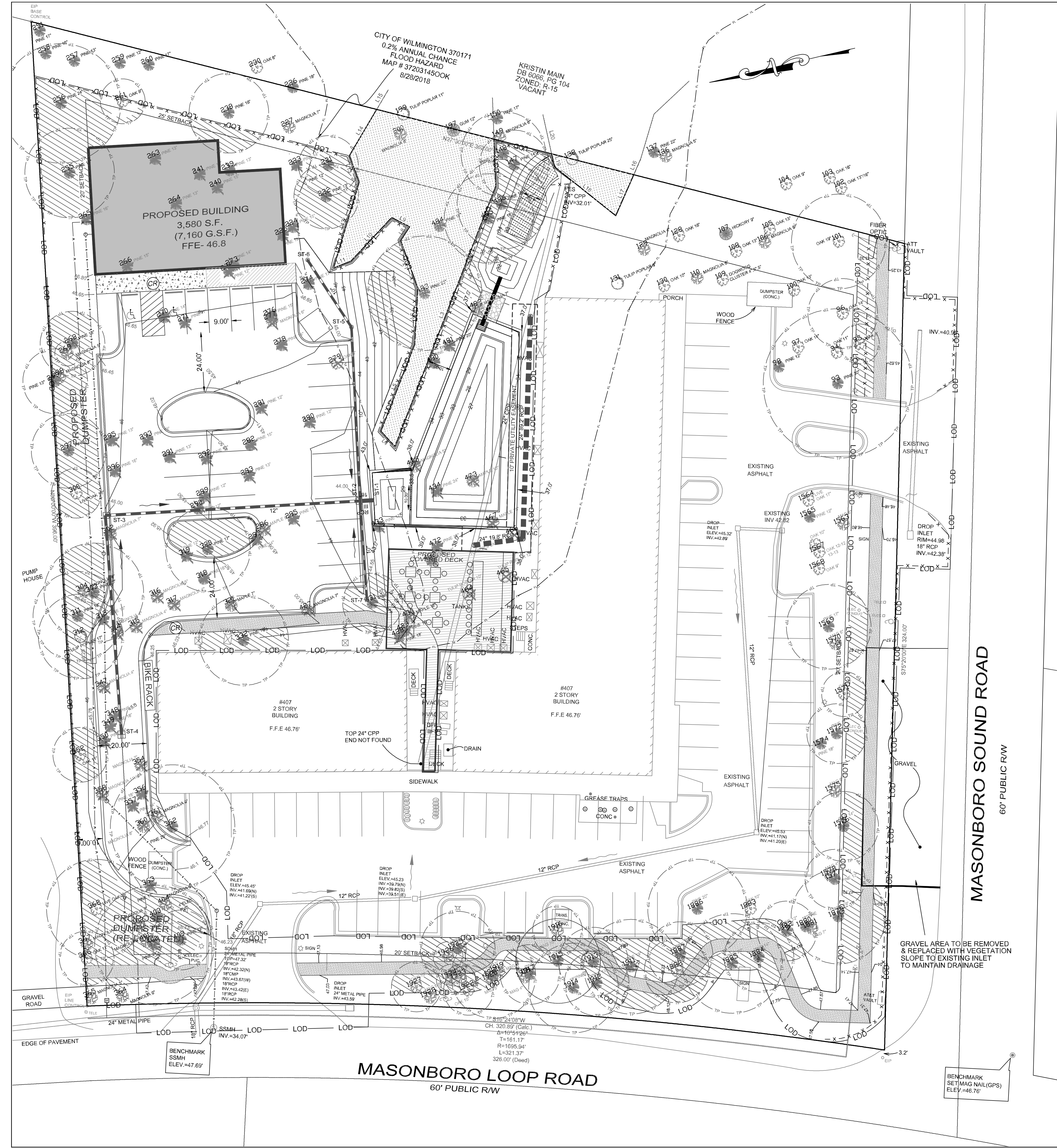
**CITY OF WILMINGTON**  
 NORTH CAROLINA  
 Public Services • Engineering Division  
 APPROVED STORMWATER MANAGEMENT PLAN  
 Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
 Signed: \_\_\_\_\_

**SITE PLAN**  
**Masonboro Station**  
**Parking and Building Expansion**  
 City of Wilmington NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: ACADIA SERVICES, LLC  
 222 BEECH STREET  
 WILMINGTON, N.C. 28405

DATE: MARCH-2020  
 SCALE: HORZ.: 1" = 20'  
 DRAWN: MJL  
 CHECKED: AHG  
 PROJECT NO: 15040  
 SHEET NO: C-6  
 C-7

**HANOVER DESIGN SERVICES, P.A.**  
 LAND SURVEYORS, ENGINEERS & LAND PLANNERS  
 1123 FLORENCE PARKWAY  
 WILMINGTON, N.C. 28403  
 PHONE: (910) 343-8002  
 LICENSE # C-0097



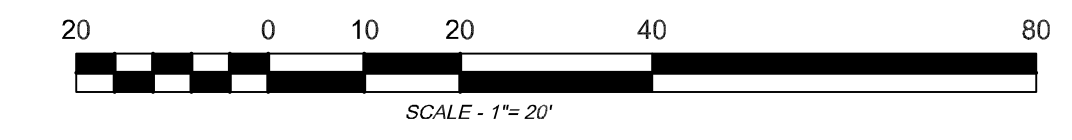
TREE INVENTORY							
POINT NO.	DESCRIPTION	POINT NO.	DESCRIPTION	POINT NO.	DESCRIPTION	POINT NO.	DESCRIPTION
93	30PINE	223	14PINE	296	16PINE	432	14PINE
94	11OAK	224	15PINE	297	15PINE	433	17PINE
95	8OAK	225	13PINE	298	8MAG	434	24PINE
96	14OAK	227	7MAG	299	13PINE	435	5MAG
97	14OAK	228	15PINE	300	10LIVE OAK	464	10TULIP POPLAR
98	12PINE	229	10OAK	302	7MAG	465	12TULIP POPLAR
100	13OAK	235	14MAPLE	303	20PINE	466	10TULIP POPLAR
101	19OAK	238	16PINE	304	8MAG	467	15MAPLE
239	13PINE	311	18PINE	472	16PINE	481	20PINE
240	15PINE	312	17TULIP POPLAR	473	10MAPLE	482	7MAG
241	13PINE	313	15PINE	480	18PINE	483	23PINE
105	13OAK	251	17PINE W/CHOPS	314	4MAG	484	17PINE
106	5MAG	255	18PINE	315	4MAG	485	18PINE
107	9HICKORY	256	24PINE	316	5MAG	486	18PINE
108	13OAK	257	13PINE	317	7MAG	1563	6MAG
109	4VSDOG	258	16PINE	318	16PINE	1564	17LIVE OAK
110	6MAG	259	12PINE	319	12PINE	1565	12PINE
128	16OAK	260	17PINE	320	17PINE	1566	10OAK
129	4MAG	261	9OAK	321	7MAPLE	1567	9OAK
130	10OAK	263	13PINE	332	18PINE	1568	12L12L13OAK
131	9TULIP POPLAR	264	13PINE	347	4MAG	1569	17PINE
132	10OAK	265	16PINE	348	17PINE	1570	6MAG
133	11OAK	266	15PINE	349	18PINE	1571	9OAK
134	11OAK	268	13PINE	350	16PINE	1572	12PINE
135	5MAG	269	5MAG	352	11OAK	1573	LP
138	25TULIP POPLAR	270	14PINE	354	7MAG	1574	18PINE
147	14PINE	271	17PINE	356	18PINE	1575	6MAG
148	17PINE	272	12PINE	357	14PINE	1576	14PINE
151	19PINE	273	14PINE	358	11L12MAG	1577	12PINE
167	28TULIP POPLAR	274	17PINE	360	8MAG	1578	4MAG
168	7MAG	276	15PINE	361	9MAG	1879	19PINE
169	10MAG	277	6MAG	362	25PINE	1880	18PINE
170	12OAK	278	14PINE	363	17PINE	1881	7MAG
172	10MAPLE	279	9OAK	364	6MAG	1882	12PINE
173	11GUM	280	12PINE	365	5MAG	1883	10OAK
174	13MAPLE	281	12PINE	366	11OAK	1884	14PINE
187	8TULIP POPLAR	282	15PINE	367	5MAG	1885	20PINE
190	18TULIP POPLAR	283	13PINE	368	20LIVE OAK	1886	20PINE
191	5MAG	285	15PINE	400	24PINE	1887	13PINE
192	26TULIP POPLAR	286	9MAPLE	401	9MAG	1888	13OAK
197	12GUM	287	14PINE	402	7MAG	1911	19PINE
200	6MAG	289	12PINE	403	17PINE	1912	13PINE
221	12PINE	290	12PINE	404	9MAG	1913	14PINE
222	13PINE	291	13PINE	409	12PINE	1914	18PINE
		292	12PINE	427	7MAG	1915	17PINE
		293	13PINE	428	18PINE	1916	10MAG
		295	13PINE	429	16PINE		
				430	13MAPLE		
				431	12PINE		

TOTAL REGULATED TREES: 186  
 TOTAL SIGNIFICANT TREES: 1  
 TREES TO BE REMOVED: 71  
 SIGNIFICANT TREES TO BE REMOVED: 1  
 TREES TO BE RETAINED: 115



LOCATION MAP  
NOT TO SCALE

NOTES:  
 1. THIS TRACT IS LOCATED IN ZONE 'X1' ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP, COMMUNITY-PANEL NUMBER 3720314500, DATED 4/30/06.  
 2. TOTAL SITE AREA = 2.72 AC ±



Preliminary Plan

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

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

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

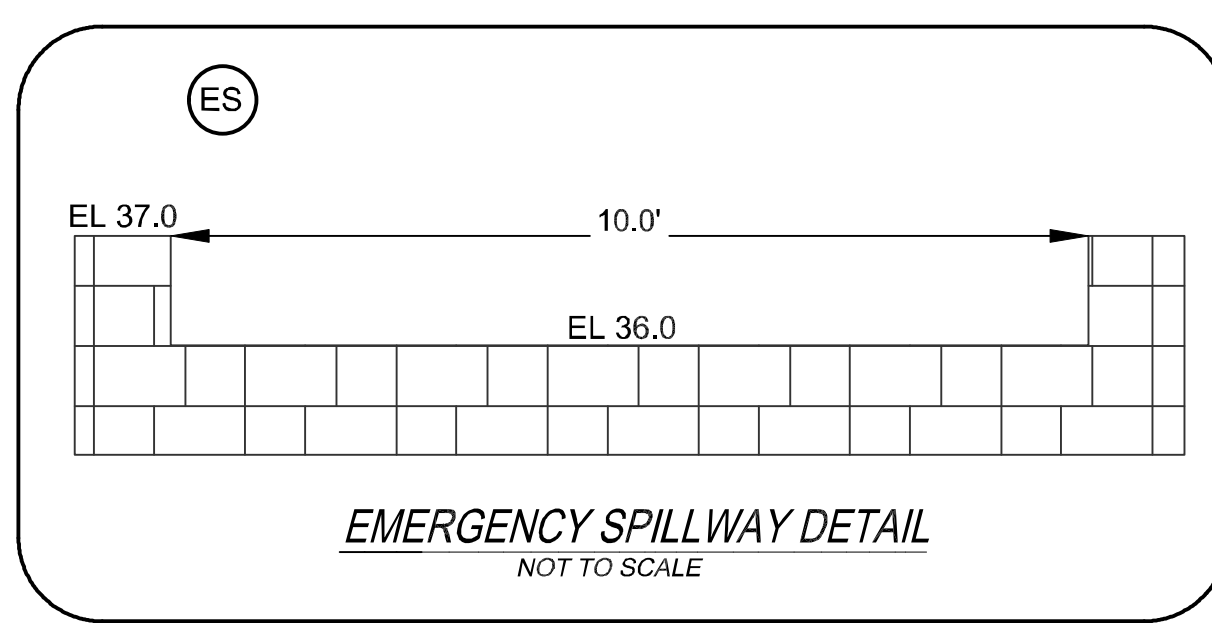
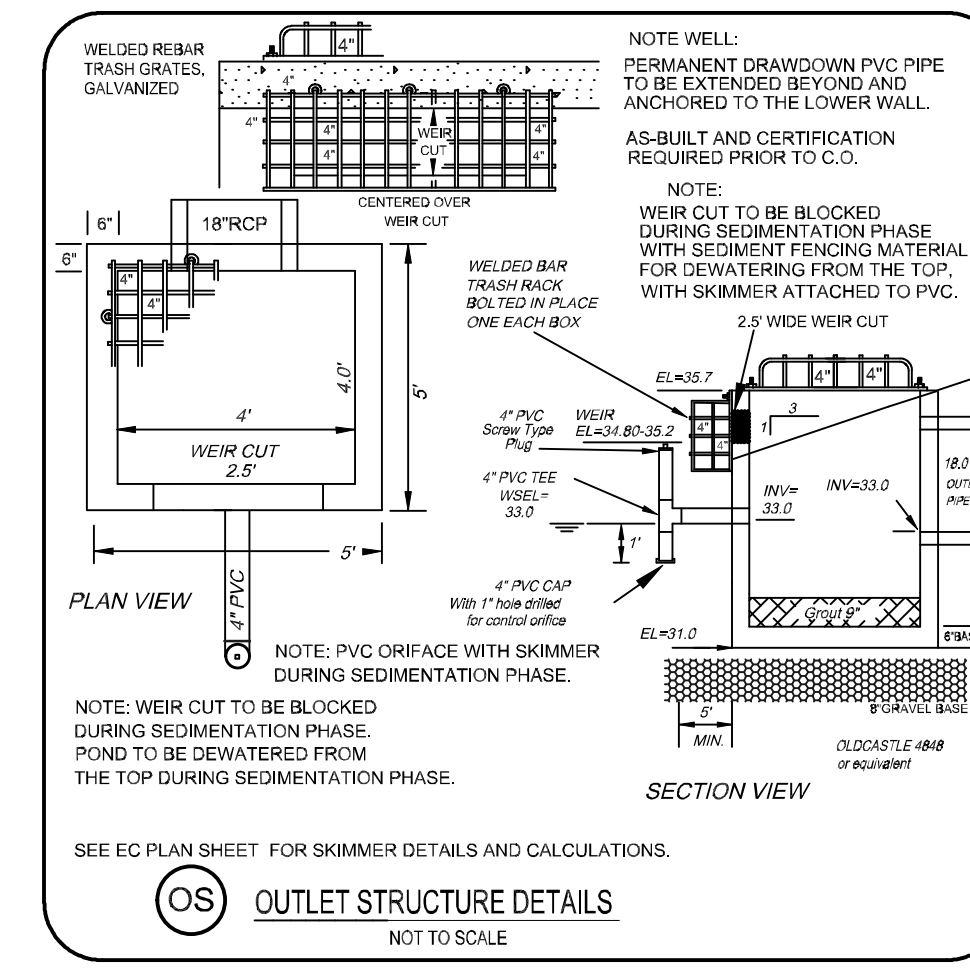
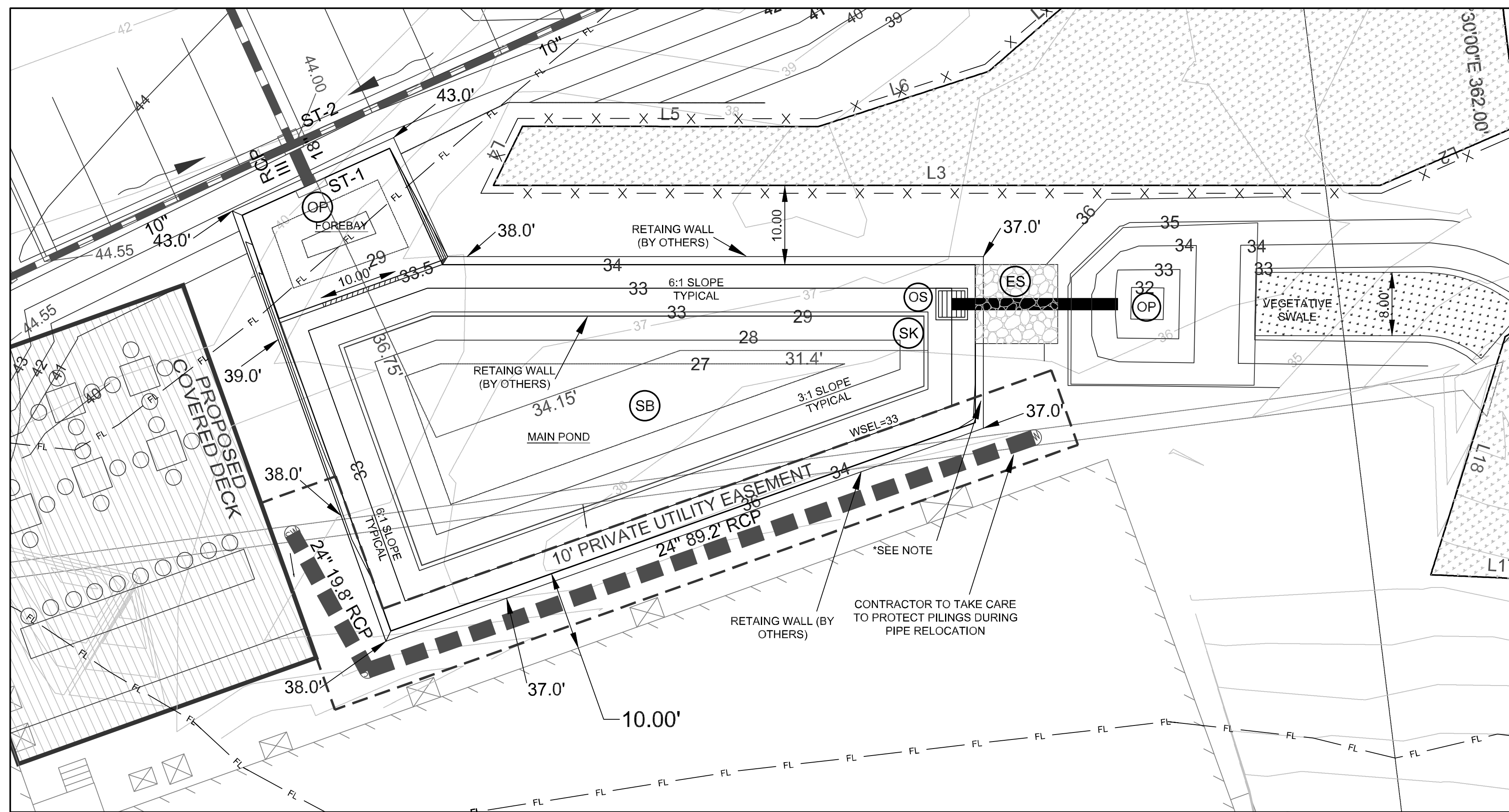
REV. NO.	REVISIONS	DATE

**TREE REMOVAL PLAN**  
**Masonboro Station**  
**Parking and Building Expansion**  
 City of Wilmington NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: ACADIA SERVICES, LLC  
 222 BEECH STREET  
 WILMINGTON, N.C. 28405

HANOVER DESIGN SERVICES, P.A.  
 LAND SURVEYORS, ENGINEERS & LAND PLANNERS  
 1123 FLORAL PARKWAY  
 WILMINGTON, N.C. 28403  
 PHONE: (910) 343-8002  
 LICENSE # C-597

Date: MARCH-2020  
 Scale: HORZ: 1"= 20'  
 Project No: 15040  
 Checked: AHG  
 Drawn: MJL  
 Sheet No: C-7  
 C-7



AREA REQUIREMENTS		
TYPE	AREA (SF)	AREA (AC)
PARKING/ROADS	14,686	0.337
BUILDINGS	3,580	0.082
SIDEWALK	1,218	0.028
OTHER	2,230	0.051
FUTURE	3,050	0.070
<b>TOTAL IMPERVIOUS (NOW AND FUTURE):</b>	<b>24,764</b>	<b>0.569</b>
DRAINAGE AREA	37,435	0.859
GREEN AREA	12,671	
PERCENT BUA	66.2%	
SA/DA FROM TABLE @ 3.0'	5.22%	
SA REQUIRED FOR TSS REMOVAL	1,954	0.045
MAIN POOL SURFACE AREA PROVIDED	2,113	0.049

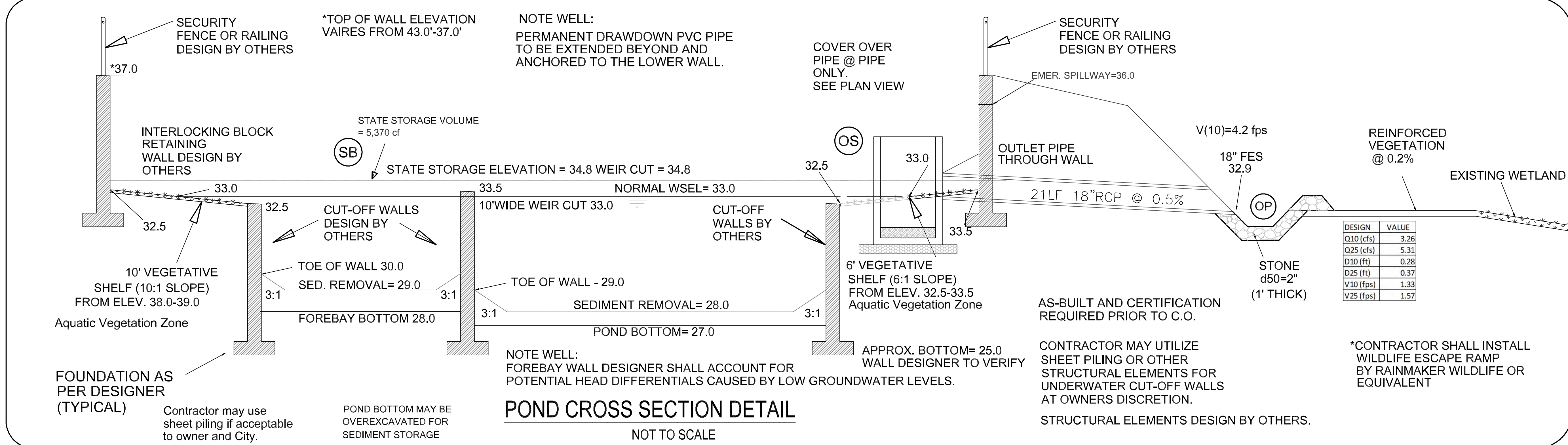
VOLUME REQUIRED:		
TYPE	VOLUME (CF)	TIME (DAYS)
VOLUME REQUIRED SIMPLE METHOD:	3,020	
RUNOFF 1 YEAR 24HR STORM PRE-DEVELOPED	4,487	
RUNOFF 1 YEAR 24HR STORM POST DEVELOPED	9,016	
1-YEAR DIFFERENCE	4,529	
VOLUME PROVIDED AT EL 34.8:	5,370	

WSEL SUMMARY			
	FOREBAY	MAIN	TOTAL
VOLUME	1,143	7068	8211
AREA	310	2,113	2423
AVERAGE DEPTH OF MAIN POND V/A (FT): 3.35			
FOREBAY PERCENT VOLUME: 16.2%			

DRAWDOWN	
TEMPORARY POOL ELEVATION (FT)	34.8 PERMANENT POOL EL. 33
ORIFICE DIAMETER (IN)	0.8 IN
COEFFICIENT	0.6
AREA OF ORIFICE	0.003490659 SQ. FT
GRAVITY	32.2 FT/SEC2
HEAD	0.6 FT
DISCHARGE	0.013018986 CFS
TIME	4.77 DAYS



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

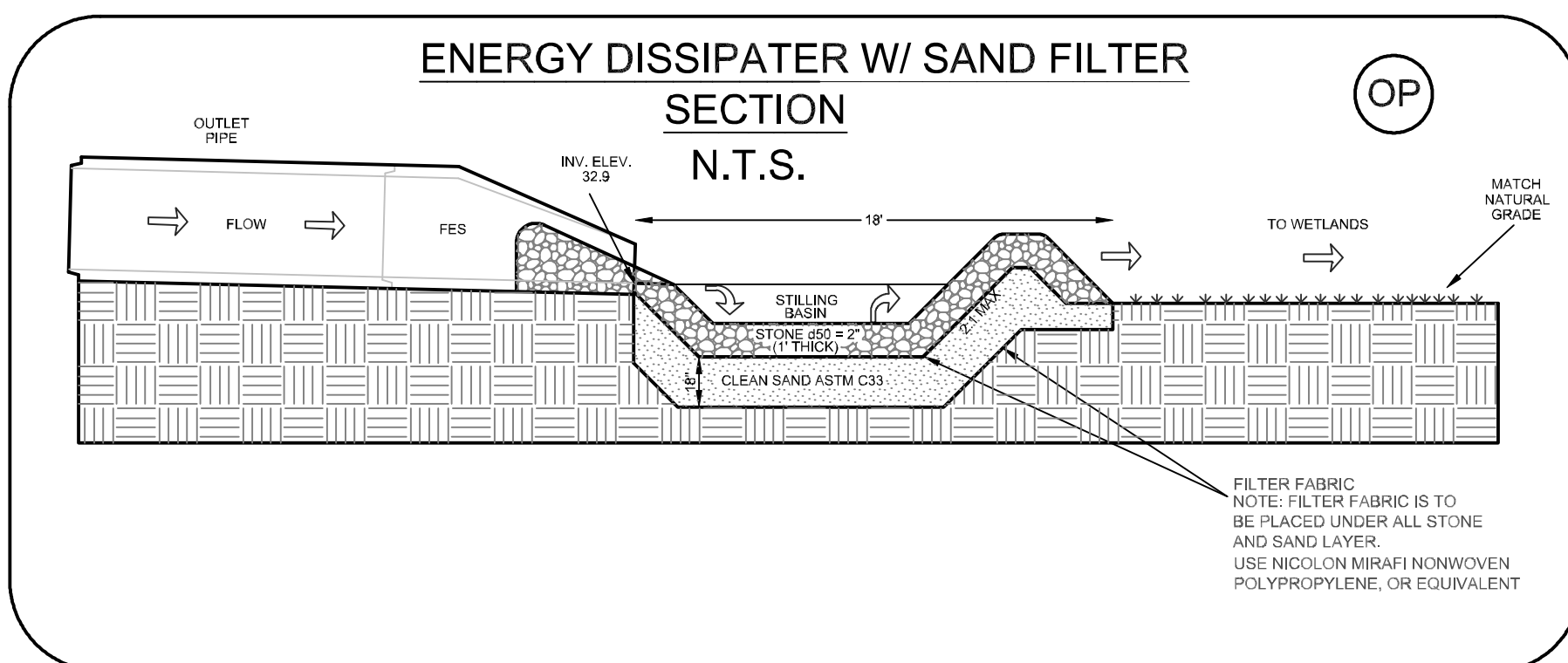
Approved Construction Plan  
Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

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

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

**AQUATIC VEGETATION**  
NOTE: REFERENCE IS MADE TO ADDITIONAL RECOMMENDATIONS FOR PLANTINGS IN THE NCCENR BMP MANUAL, SECTIONS 9.4.1 AND 6.4.2 ESPECIALLY. SUITABLE SPECIES FOR PLANTING IN THIS ZONE ARE AS FOLLOWS:  
- SAGITTARIA LATIFOLIA (COMMON ARROWHEAD)  
- SAGITTARIA LANGIFOLIA (DUCK POTATO)  
- SAURURUS CERNUUS (LIZARDTAIL)  
- PELTANDRA VIRGINICA (ARROW ARUM)  
IF ONE OR MORE OF THE SUGGESTED SPECIES IS UNAVAILABLE, APPROPRIATE WETLANDS VEGETATION COMMON TO THE COASTAL CAROLINA REGION MAY BE SUBSTITUTED.  
PLANT 50 PLANTS PER 200 SF OF SHELF APPROXIMATELY 315 PLANTS FOR POND.



POND STORAGE ABOVE WSEL				
Elev(Ft)	Storage(CF)	Storage(Acre-Ft)	Area(SF)	Area(Acre)
33.000	0.0	0.000	2422.000	0.056
33.500	1374.0	0.032	3074.000	0.071
34.800	5370.2	0.123	3074.000	0.071
37.000	12133.0	0.279	3074.000	0.071

POND STORAGE BELOW WSEL				
Elev(Ft)	Storage(CF)	Storage(Acre-Ft)	Area(SF)	Area(Acre)
28.000	0.0	0.000	925.226	0.021
29.000	1170.8	0.027	1428.076	0.033
32.500	6184.8	0.142	1437.048	0.033
33.000	7068.4	0.162	2113.282	0.049

NOTE WELL:  
1) CONTRACTOR TO ENSURE THAT STREET PAVEMENT & CURBING IS PLACED SO AS TO DRAIN POSITIVELY TO CURB INLETS AND DRAINAGE STRUCTURES.

A PORTABLE PUMP TO BE USED TO DRAIN POND IN AN EMERGENCY.

Preliminary-Not For Construction

10 0 5 10 20 40

REVISED PER CITY OF WILMINGTON 10-8-20

Water Quality Pond Plans  
**Masonboro Station**  
Parking and Building Expansion  
CITY OF WILMINGTON  
NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: ACADIA SERVICES, LLC  
222 BEECH STREET  
WILMINGTON, N.C. 28405

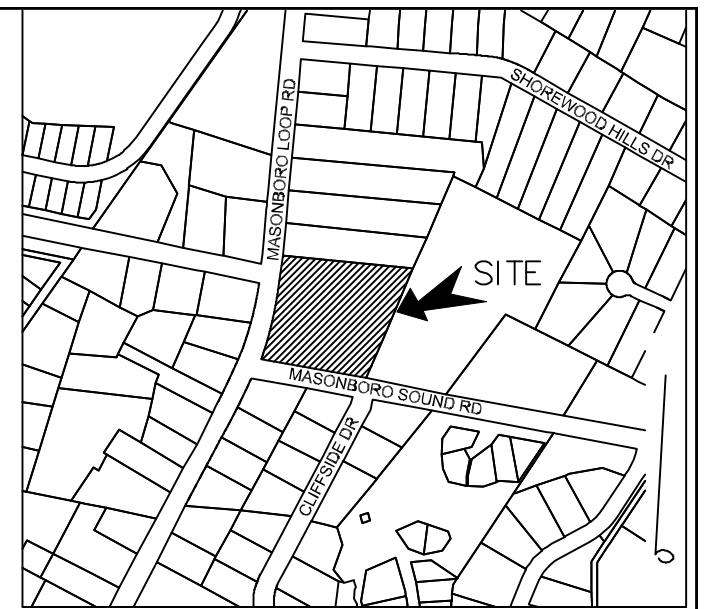
HANOVER DESIGN SERVICES, P.A.  
LAND SURVEYORS, ENGINEERS & LAND PLANNERS  
1123 FLORAL PARKWAY  
WILMINGTON, N.C. 28403  
PHONE: (910) 343-9522  
LICENSE # C-5957

Date: 8-25-17  
Scale: 1"=10'  
Drawn: AHG  
Checked: AHG  
Project No: 14520  
Sheet No: P1  
P1



# MASONBORO STATION EXPANSION EROSION AND SEDIMENT CONTROL

OWNER: ACADIA SERVICES, LLC  
222 BEECH STREET  
WILMINGTON, N.C. 28405  
DISTURBED AREA = 1.4 ACRE



LOCATION MAP  
NOT TO SCALE

## LEGEND

- WV = WATER VALVE
- WM = WATER METER
- CIO = SANITARY SEWER CLEAN OUT
- INV. = INVERT
- B/O = BLOW OFF ASSEMBLY
- BFP = BACK FLOW PREVENTOR
- GW = GUY WIRE
- SWMH = STORM MANHOLE
- GT. = GREASE TRAP
- FH = FIRE HYDRANT ASSEMBLY
- I.S. = IRON SET

- ⊙ = SANITARY SEWER MH
- = CURB INLET
- ⊙ = TREE
- ⊙ = CURB RAMP
- ⊙ = WATER SERVICE
- ⊙ = SEWER CLEANOUT
- ▶ = WATER VALVE
- ⊥ = SIGN LOCATION

- PROPERTY LINE
- BUILDING SETBACK
- CENTERLINE
- EASEMENT
- COMPUTED PROPERTY LINE
- EXISTING CONTOUR
- STORM DRAIN
- PROPOSED SANITARY SEWER

- ### TREE PROTECTION FENCING
- IP INLET PROTECTION
  - CE CONSTRUCTION ENTRANCE (TYPICAL)
  - LIMITS OF DISTURBANCE
  - SF SILT FENCE (TYPICAL)
  - OP OUTLET PROTECTION (TYPICAL)
  - GC GRASS LINED CHANNEL
  - CW CONCRETE WASHOUT
  - CD CHECK DAM
  - SK TEMPORARY SEDIMENT/SKIMMER BASIN
  - B TEMPORARY BAFFLES

NOTE WELL:  
1) CLASS IV RCP SHALL BE USED WHEN COVER IS LESS THAN 2.0' FOR STORM SEWER

NOTE WELL:  
1) CONTRACTOR TO ENSURE THAT STREET PAVEMENT & CURBING IS PLACED SO AS TO DRAIN POSITIVELY TO CURB INLETS AND DRAINAGE STRUCTURES.

NOTE WELL:  
MULTIPLE UTILITIES SHOWN GRAPHICALLY IN PROFILE. DEVIATIONS NOTED AS SHOWN. MAINTAIN 36" COVER AND USE DIP AT CROSSINGS WHEN REQUIRED. SEE COVER SHEET NOTES.

NOTE WELL:  
1. All storm water runoff from built-up areas (i.e. impervious surfaces & roof drainage) to be directed to the storm sewer collection system (i.e. storm inlets or ponds) by swales, overland flow, additional grading, or landscaping inlets.

**GENERAL NOTES:**  
1. This map is not for conveyance, recordation, or sales.  
\*\*\*NOTE WELL\*\*\*  
1. EQUIPMENT CLEARANCE MINIMUM 16' FROM TRANSMISSION LINES TO BE MAINTAINED AT ALL TIMES. (REFERENCE: OSHA 1910.269)  
2. ANY TREE, OR SHRUB CAN BE PLANTED WITHIN THE RIGHT-OF-WAY AS LONG AS THE MATURE HEIGHT IS 12 FEET OR LESS. WHEN PLANTING TREES AND SHRUBS, PLEASE REMEMBER TO LEAVE SUFFICIENT SPACING TO ALLOW UTILITY MAINTENANCE VEHICLES ACCESS WITHIN THE RIGHT-OF-WAY.

INDEX TO DRAWINGS	
SHEET No.	DESCRIPTION
EC-1 OF EC-4	EROSION CONTROL PLANS
EC-2 OF EC-4	EROSION CONTROL DETAILS
EC-3 OF EC-4	EROSION CONTROL DETAILS
EC-4 OF EC-4	EROSION CONTROL DETAILS
B-1 OF B-1	BASIN DETAILS

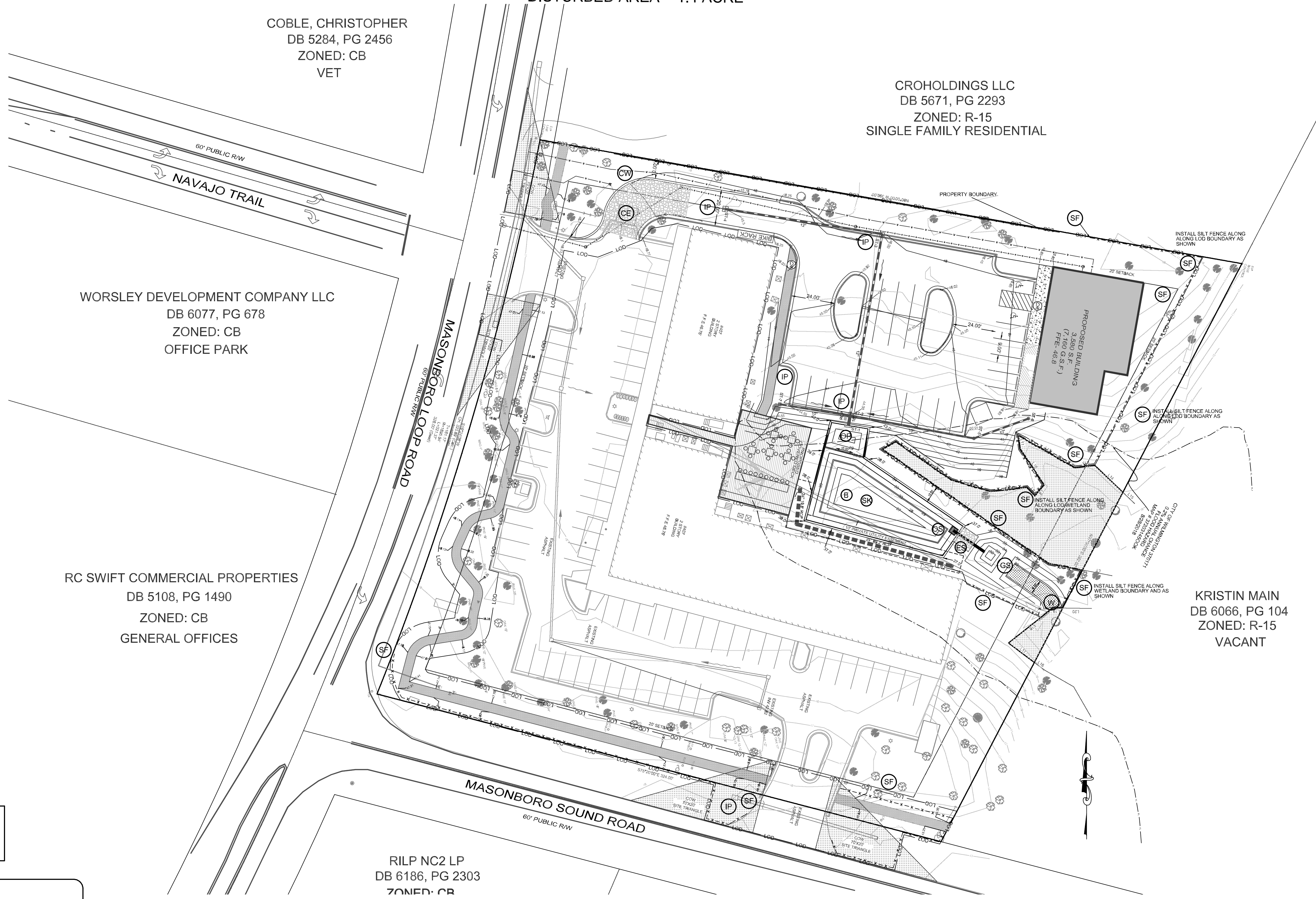
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ZONED: CB  
VET

WORSLEY DEVELOPMENT COMPANY LLC  
DB 6077, PG 678  
ZONED: CB  
OFFICE PARK

RC SWIFT COMMERCIAL PROPERTIES  
DB 5108, PG 1490  
ZONED: CB  
GENERAL OFFICES

RILP NC2 LP  
DB 6186, PG 2303  
ZONED: CB

CROHOLDINGS LLC  
DB 5671, PG 2293  
ZONED: R-15  
SINGLE FAMILY RESIDENTIAL



### MAINTENANCE PLAN -

1. All measures to be inspected weekly and after any rainfall event and needed repairs made immediately.
2. Sediment to be removed from behind the Silt Fence and wattle when it becomes 0.5' deep. Fencing to be repaired as needed to maintain a barrier.
3. Inspect Sediment Basin after each period of significant rainfall. Remove sediment and restore the Basin to its original dimensions when the sediment has accumulated to 2/3 the design depth. Check the embankment, spillways, and outlet for erosion damage, and inspect the embankment for piping and settlement. Make all necessary repairs immediately. Remove all trash and other debris from the riser and pool area.
4. During the establishment period, check grass-lined channels after every rainfall. After grass is established, periodically check the channel; check it after every heavy rainfall event, immediately make repairs. It is particularly important to check the channel outlet and all road crossings for bank stability and evidence of piping or scour holes. Remove all significant sediment accumulations to maintain the designed carrying capacity. Keep the grass in a healthy, vigorous condition at all times, since it is the primary erosion protection for the channel.
5. All seeded areas shall be fertilized, mulched, and re-seeded as necessary, according to specifications provided, to maintain a suitable vegetative cover.
6. Construction entrances are to be maintained in a condition to prevent mud or sediment from leaving the construction site. Periodic topdressing with 2" stone may be required. Remove all objectionable material spilled, washed, or tracked onto public roadways immediately.

### CONSTRUCTION SCHEDULE -

1. Obtain approval of Plan and any necessary permits, and hold a pre-construction conference prior to commencing any work.
2. Flag work limits and stake-out measures for preliminary grading. Install silt fencing along wetland boundary and as shown, prior to clearing and grubbing site.
3. Install Gravel Construction Entrance.
4. Install Sediment Basin and outlet swale. Attach skimmer to outlet structure.
5. Install wattle at the downstream side of the swale at the silt fence opening. Wattle shall remain in place until swale is stabilized with vegetation.
6. The storm drain system shall be extended early in the process as possible so runoff can be directed to the inlets then to the sediment basin.
7. Maintain Sediment fence and Inlet protection as this will be the main source of sediment control.
8. Immediately stabilize all non-construction areas.
9. Construct any other sediment control Practices shown, prior to rough grading site, stockpiling topsoil as necessary.
10. Establish final grades.
11. All erosion and sediment control Practices are to be inspected weekly and after any rainfall, and repaired as necessary.
12. Upon completion of grading, all areas are to be permanently vegetated. After site stabilization, temporary measures are to be removed. The temporary sediment basin shall be cleaned out to these design elevations.
13. Additional specific erosion control measures updates will be required as the site-specific plans are available for each lot.

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

Approved Construction Plan

Name	Date
Planning	
Traffic	
Fire	

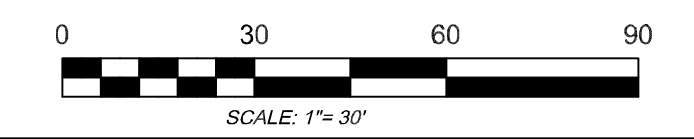
**CITY OF WILMINGTON**  
NORTH CAROLINA  
Public Services • Engineering Division  
APPROVED STORMWATER MANAGEMENT PLAN  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

NOTE:  
THIS PLAN TO BE UTILIZED AND REVIEWED ONLY IN CONJUNCTION WITH THE WRITTEN NARRATIVE, WHICH IS AN INTEGRAL PART OF THIS EROSION AND SEDIMENT CONTROL PLAN.

**STABILIZATION TIME FRAMES:**  
ANY AREAS ON-SITE WITHOUT ACTIVITY SHALL BE STABILIZED WITHIN 15 WORKING DAYS OR 21 CALENDAR DAYS AND AS ABOVE. ALL SLOPES MUST BE STABILIZED WITHIN 21 CALENDAR DAYS OF CEASE OF ANY ACTIVITY.  
DETAILS SHOWN ARE TYPICAL OF INSTALLATIONS REQUIRED BY THE TOWN AND COUNTY. THIS SHEET DOES NOT PURPORT TO SHOW ALL REQUIRED CONSTRUCTION DETAILS, BUT RATHER SERVES AS A GUIDE. THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL CITY, COUNTY AND STATE CODES AND CONSTRUCTION STANDARDS.  
No geotechnical testing has been performed on site. No warranty is made for suitability of subgrade, and undercut and any required replacement with suitable material shall be the responsibility of the contractor.  
NOTE WELL:

SITE AREA DESCRIPTION	STABILIZATION
Perimeter dikes, swales, ditches and slopes	7 DAYS
High Quality Water (HQW) Zones	7 DAYS
Slopes steeper than 3:1	7 DAYS
Slopes 3:1 or flatter	14 DAYS
All other areas with slopes flatter than 4:1	14 DAYS

## PRELIMINARY PLAN



REV. NO.	REVISIONS	DATE
1	UPDATED PER NHC	10/8/20

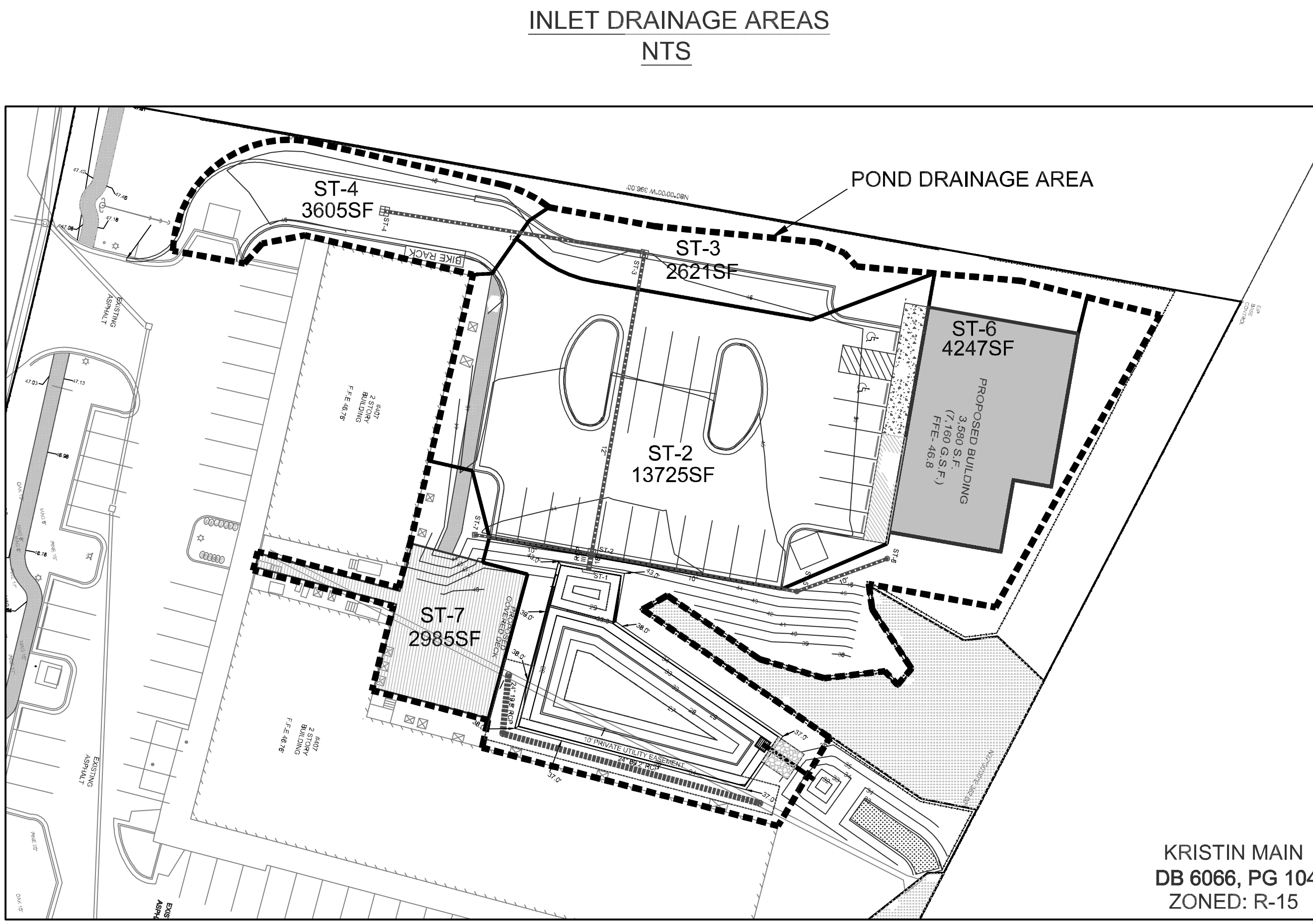
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## EROSION CONTROL PLAN Masonboro Station Parking and Building Expansion

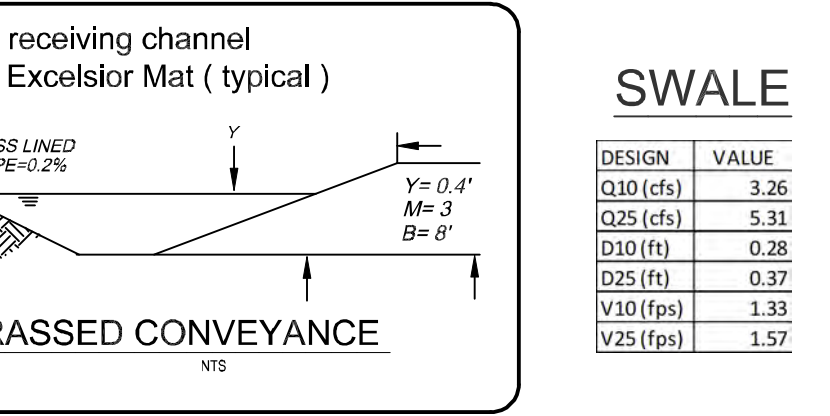
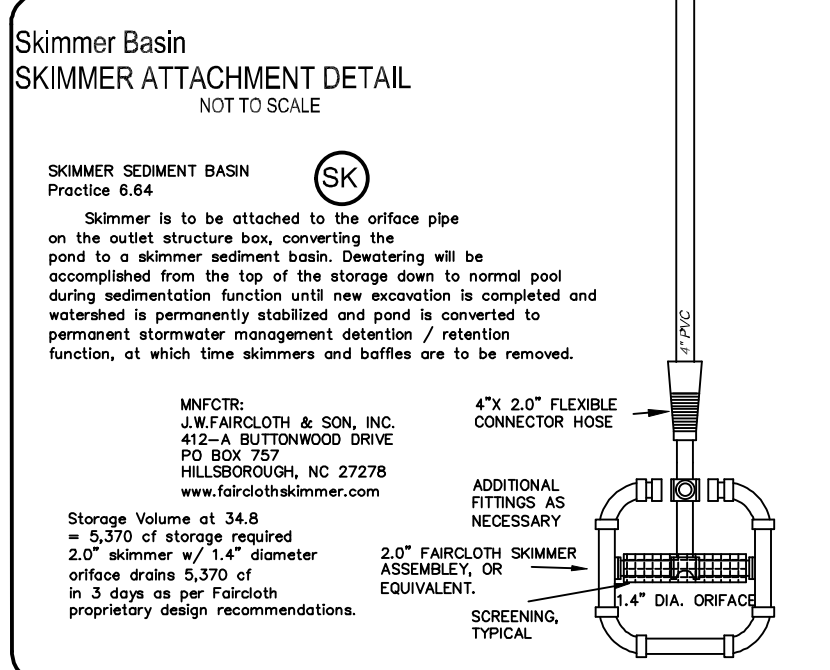
OWNER: ACADIA SERVICES, LLC  
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1122 FLORAL PARKWAY  
WILMINGTON, N.C. 28403  
PHONE: (910) 345-8002  
LICENSE # 14-0297

Date: 1-13-20  
Scale: HORZ: 1" = 30'  
Drawn: GW  
Checked: AHG  
Project No: 11499  
Sheet No: EC-1  
EC-4



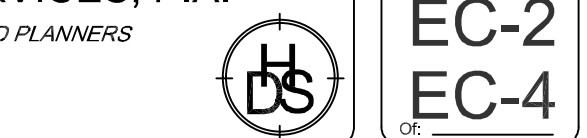
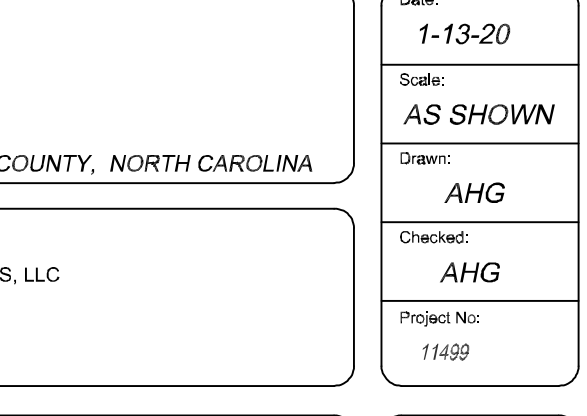
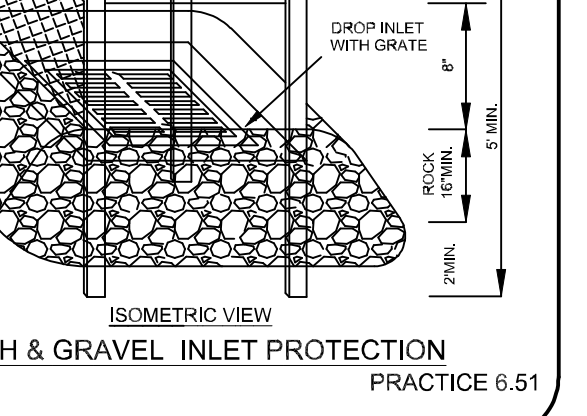
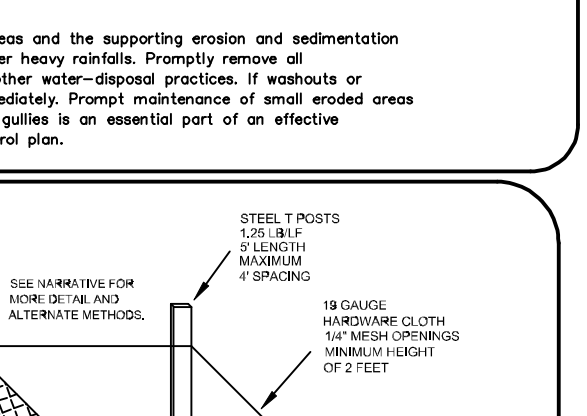
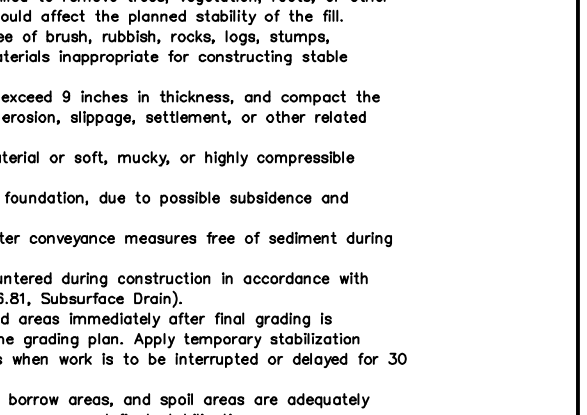
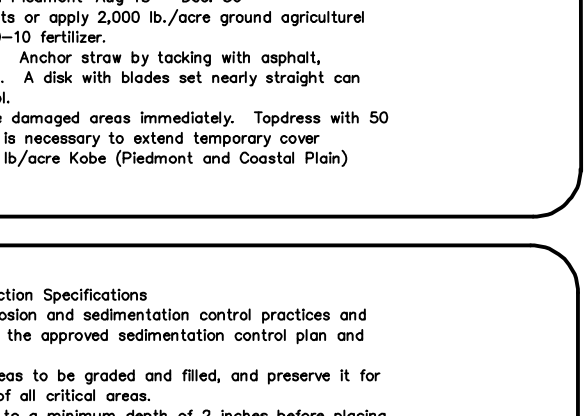
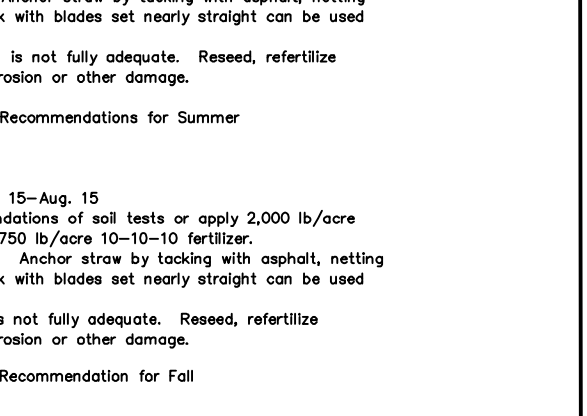
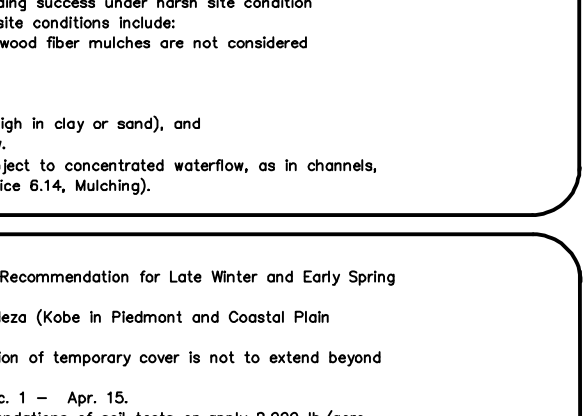
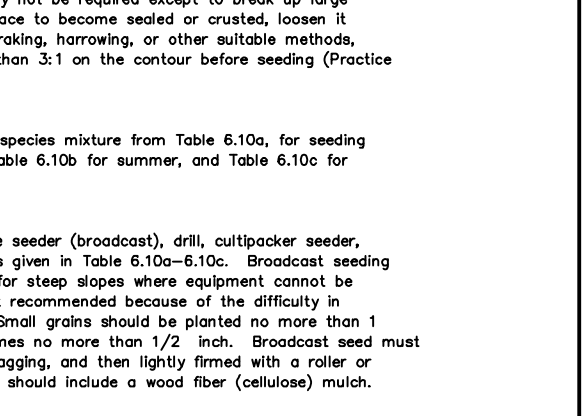
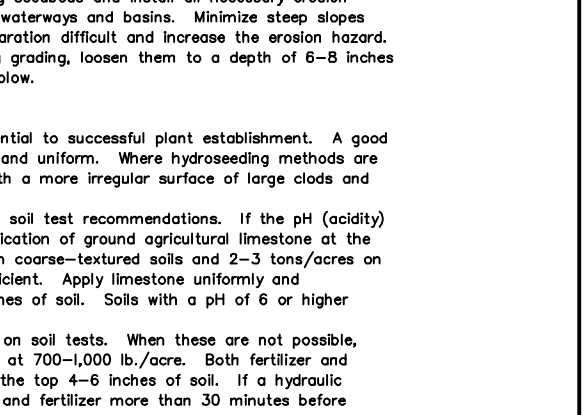
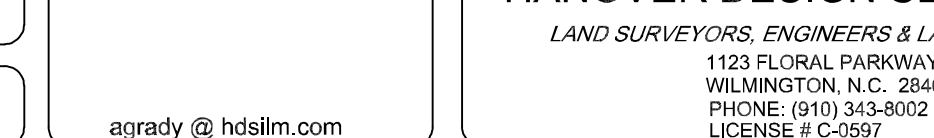
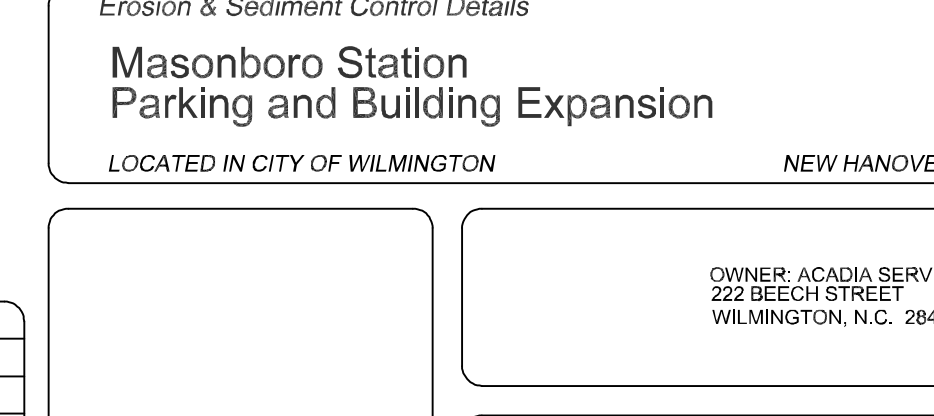
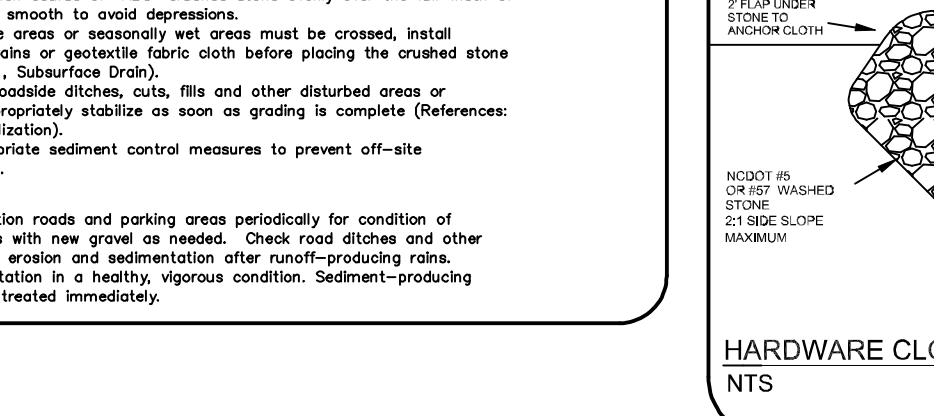
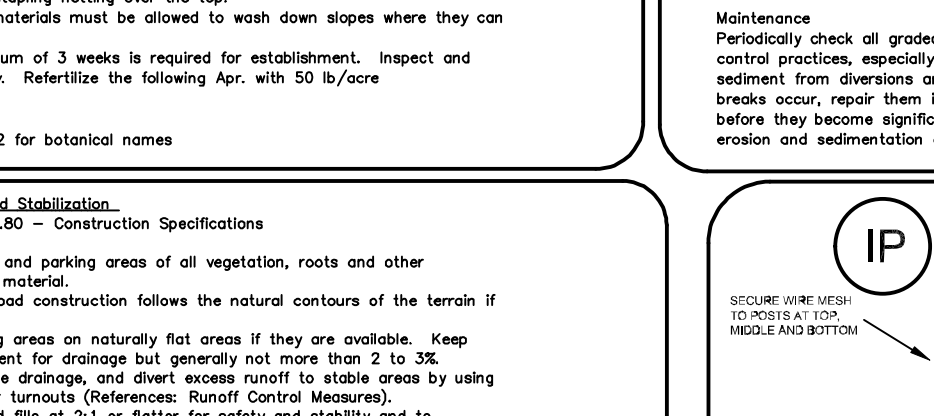
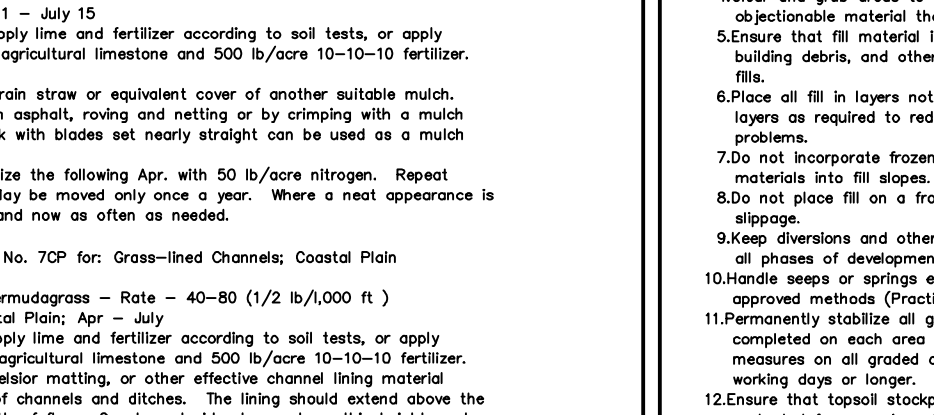
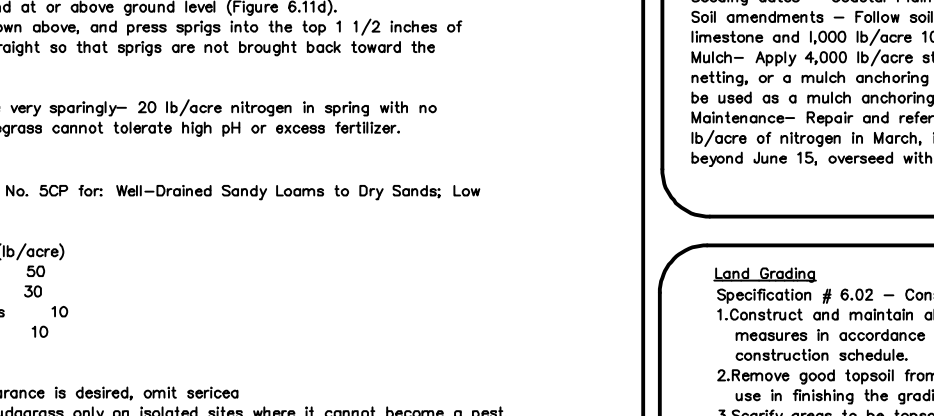
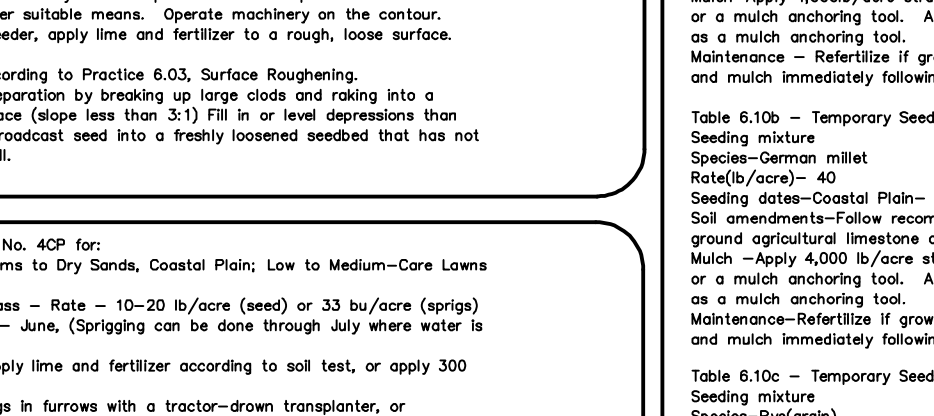
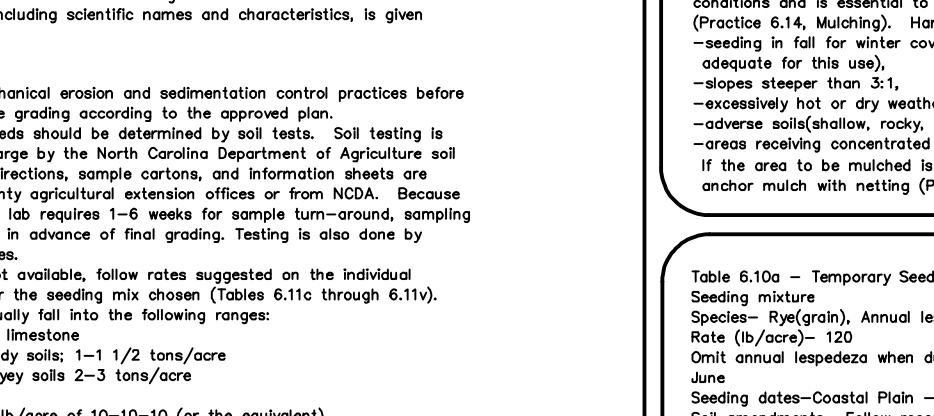
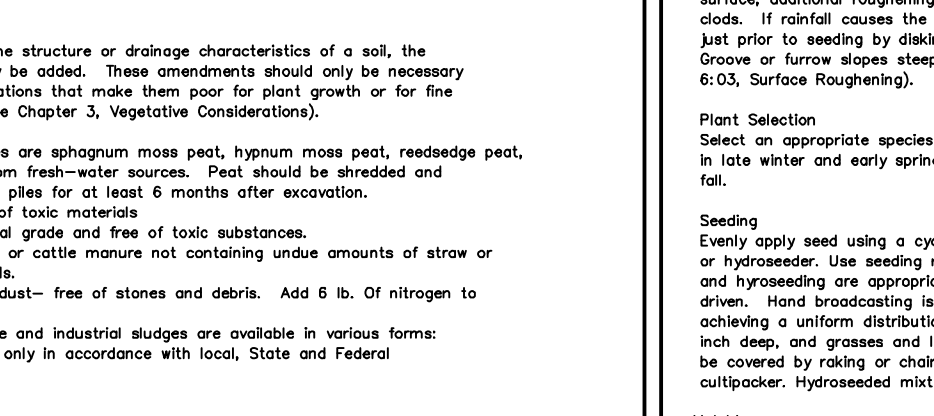
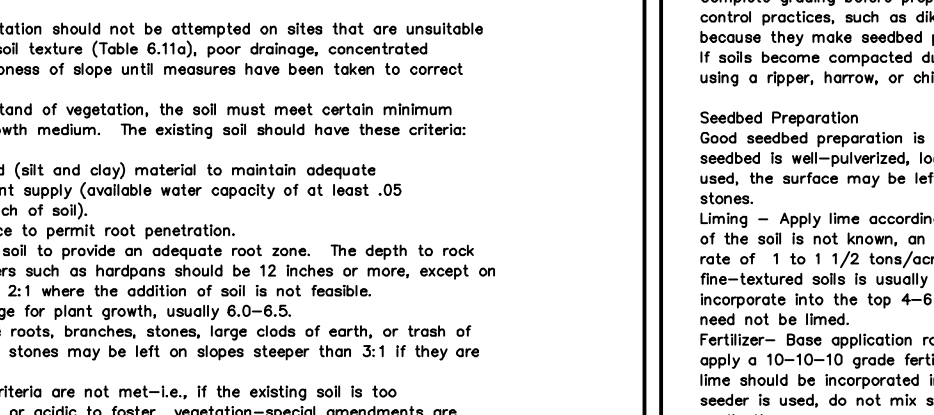
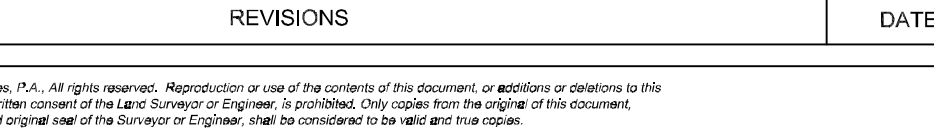
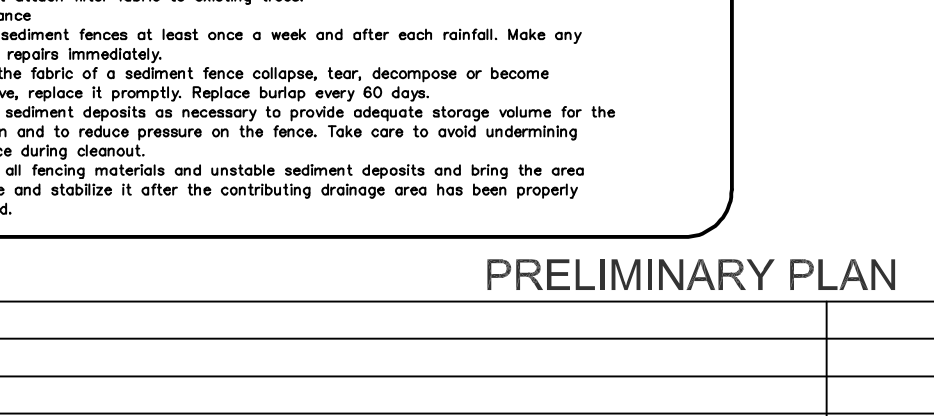
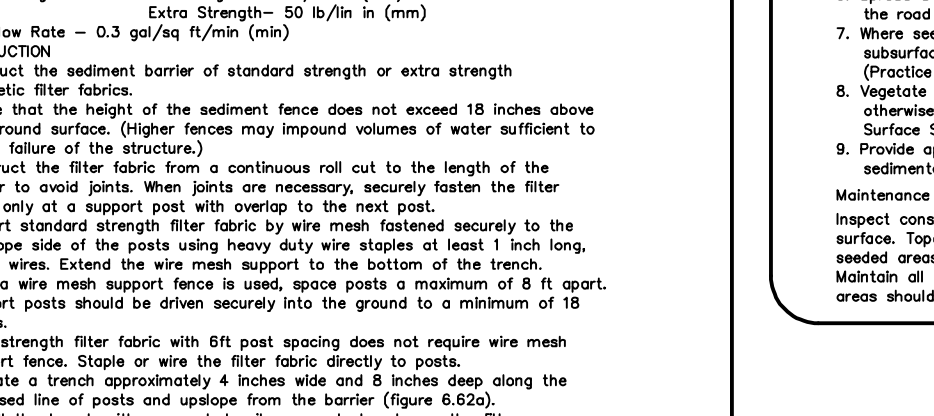
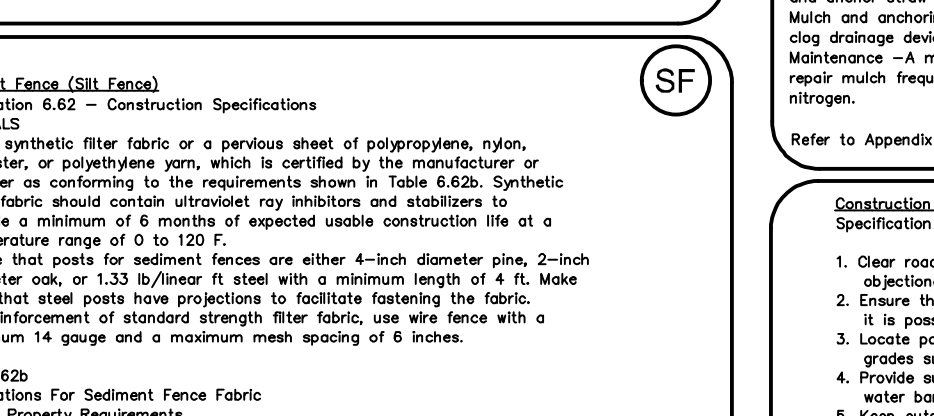
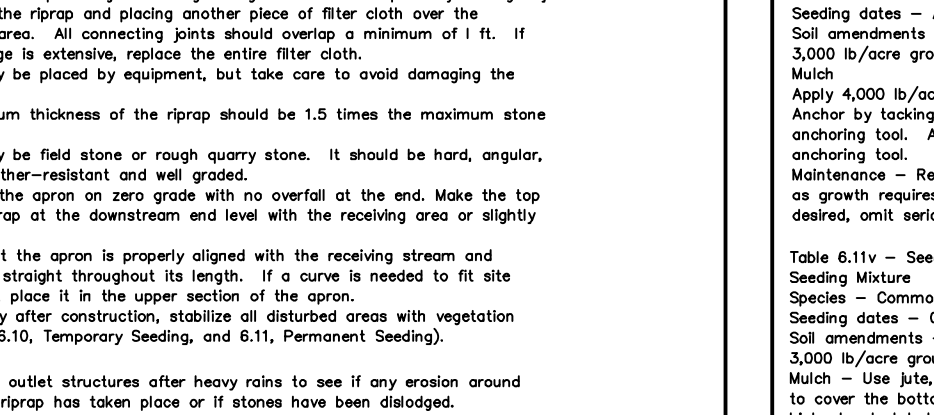
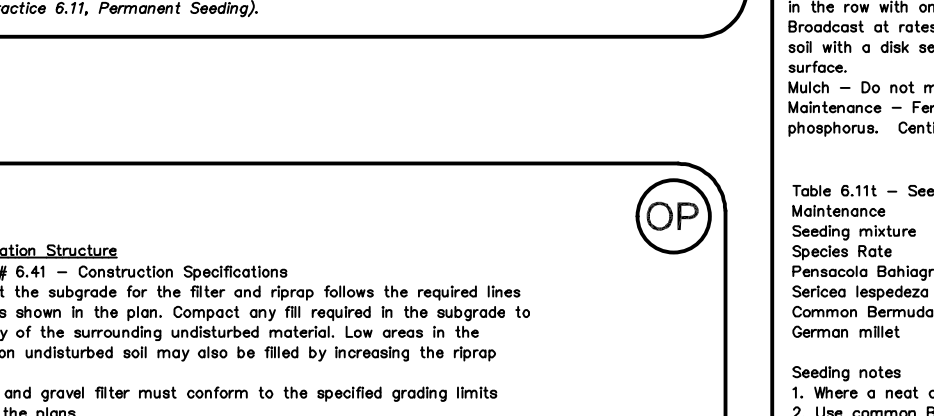
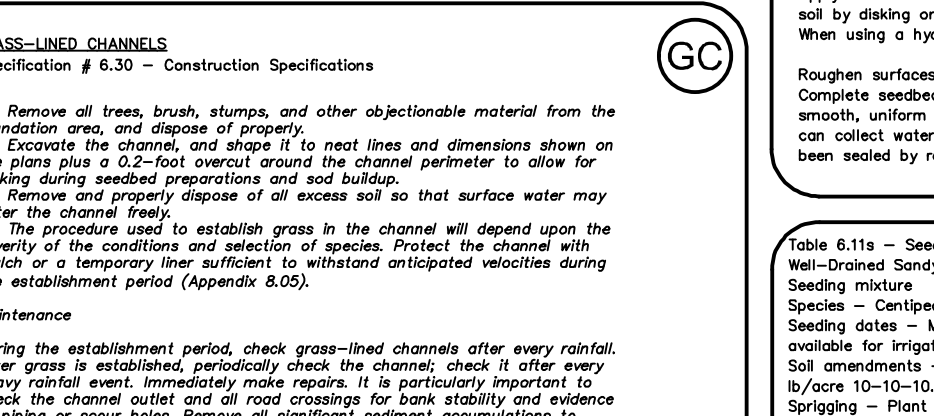
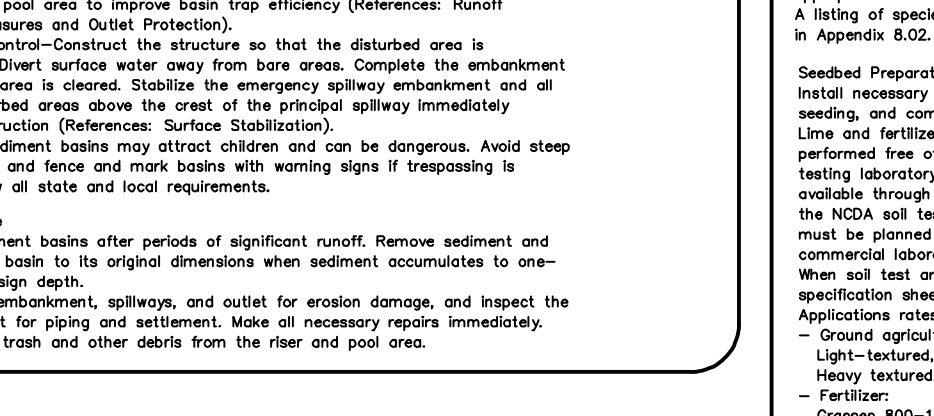
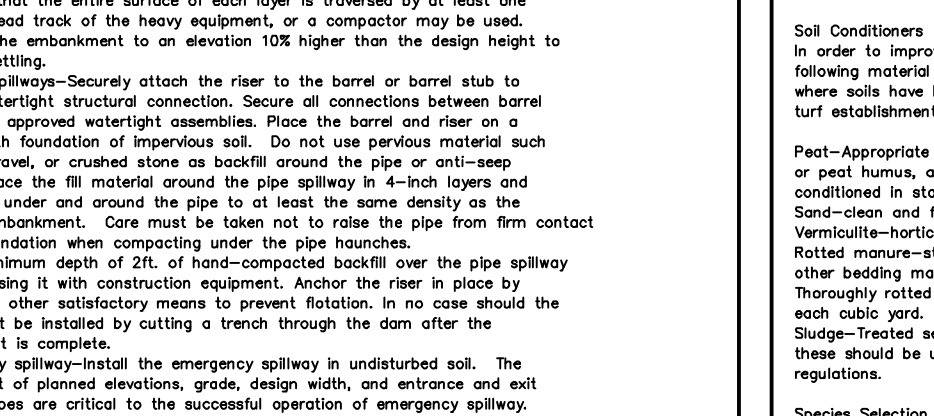
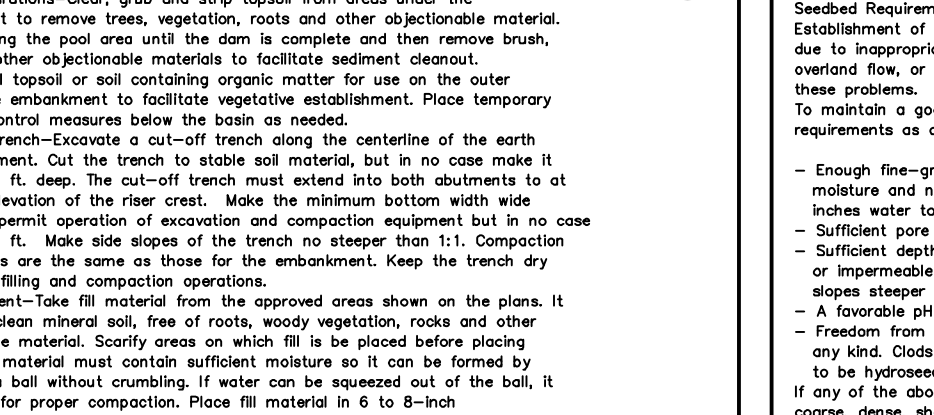
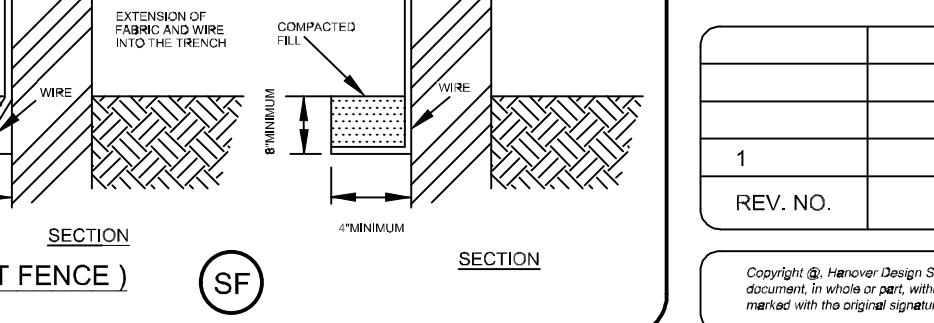
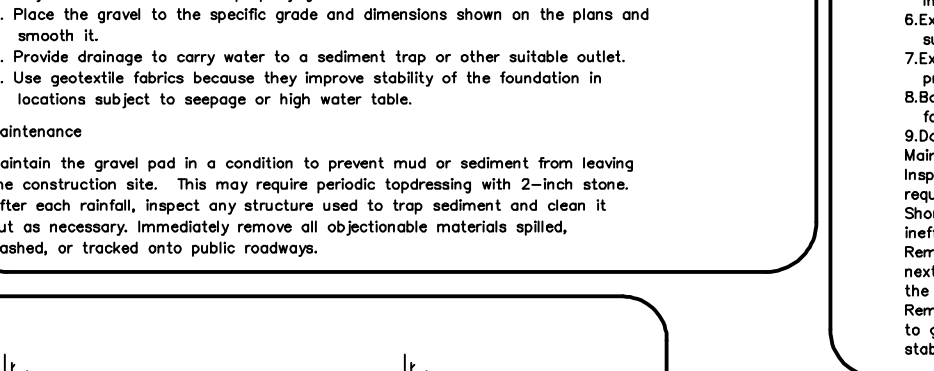
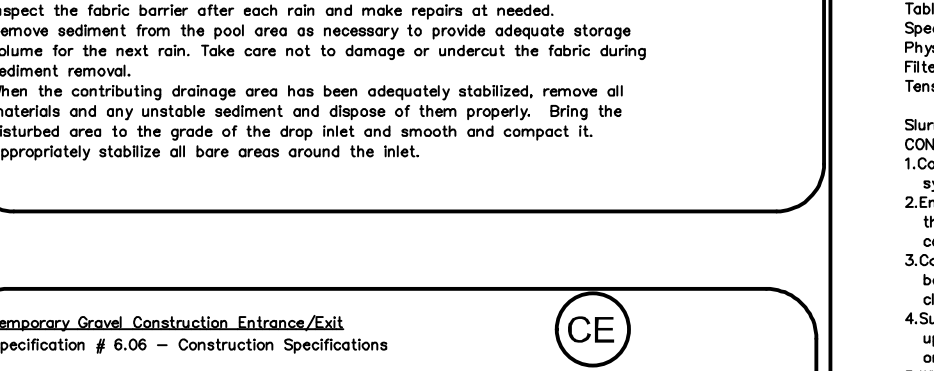
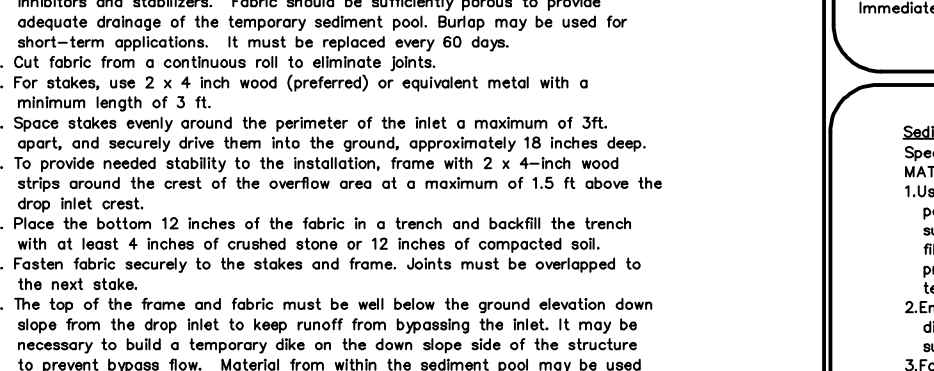
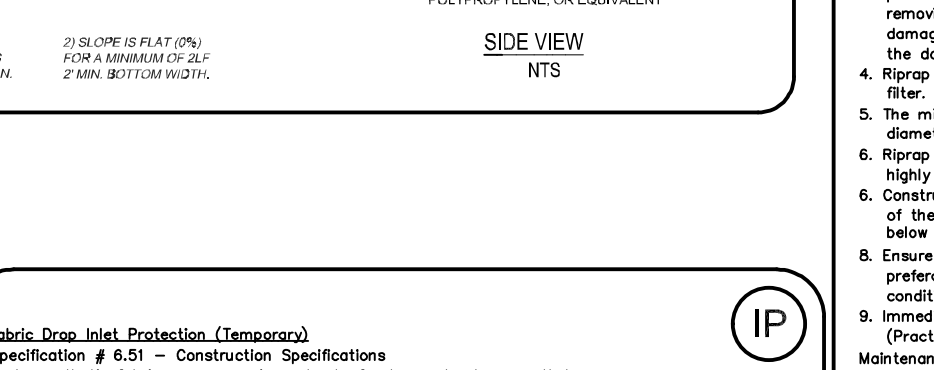
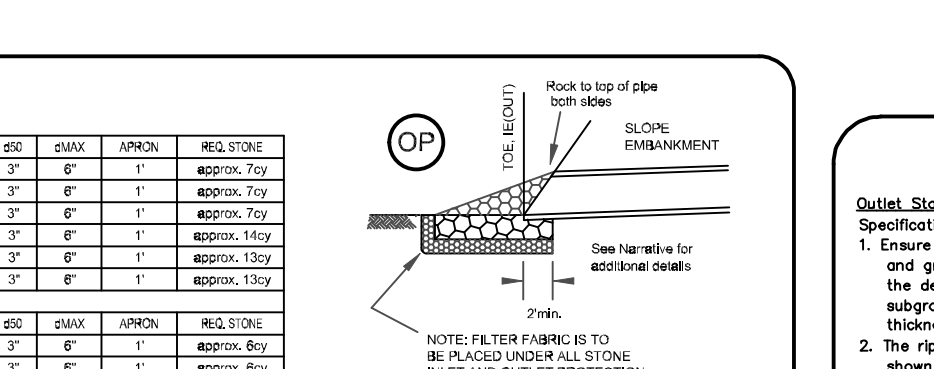
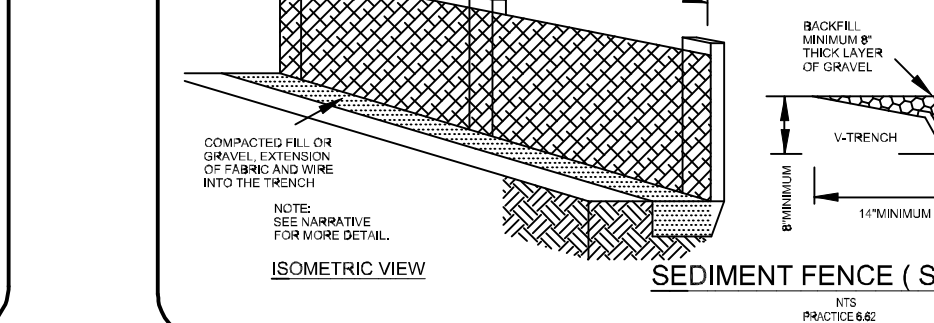
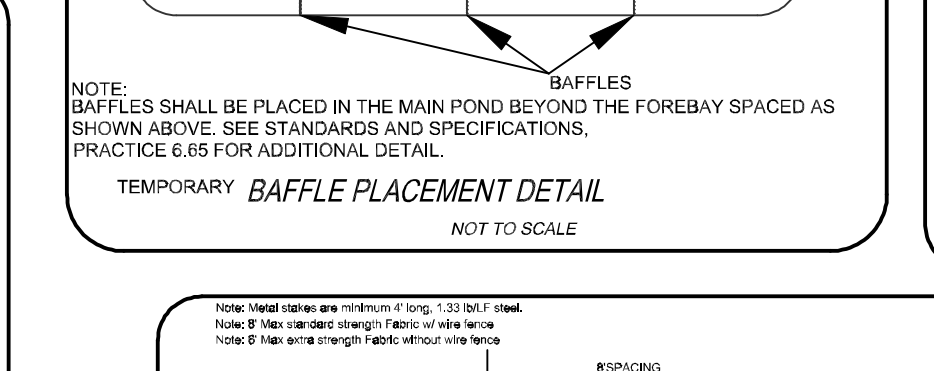
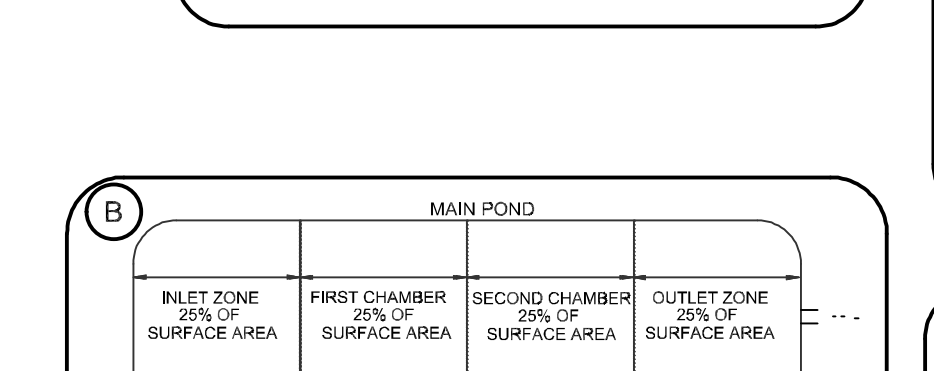
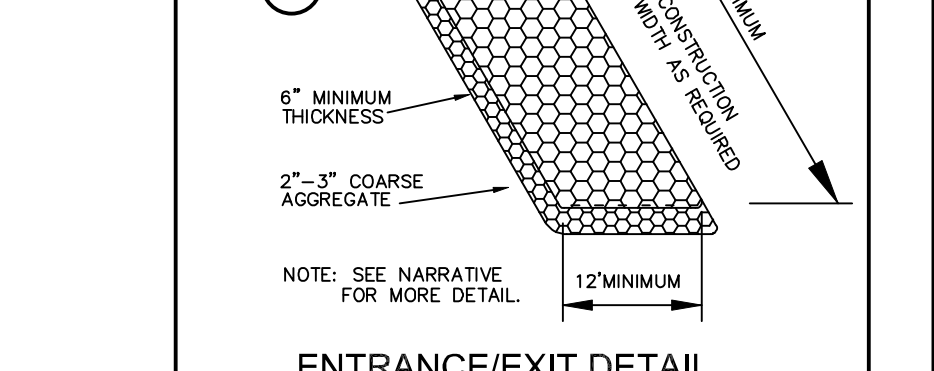
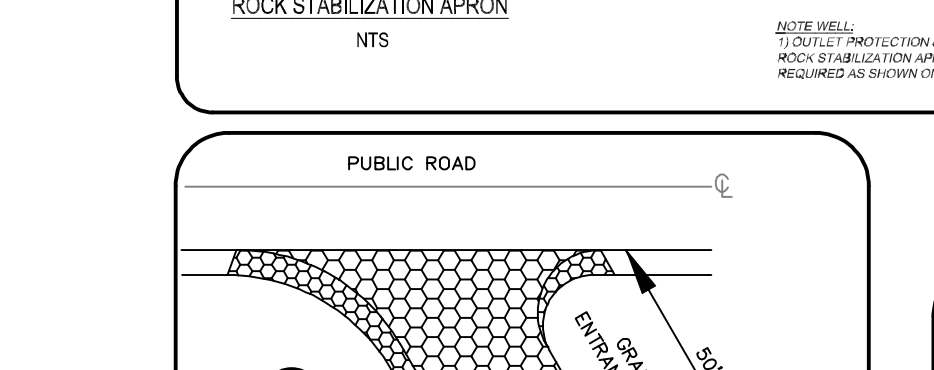
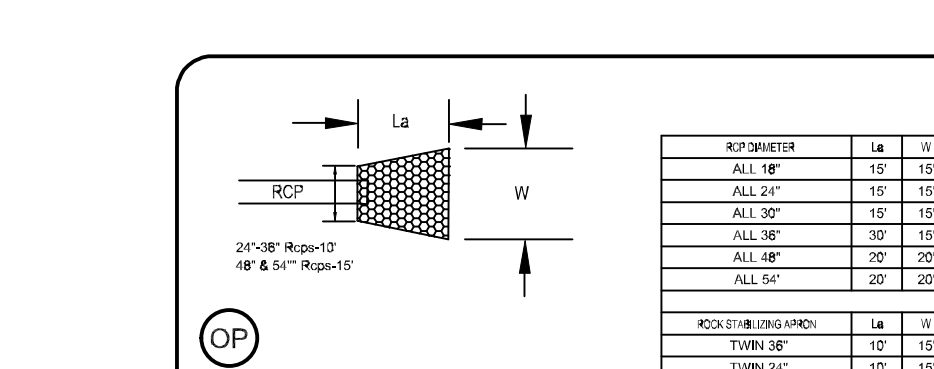
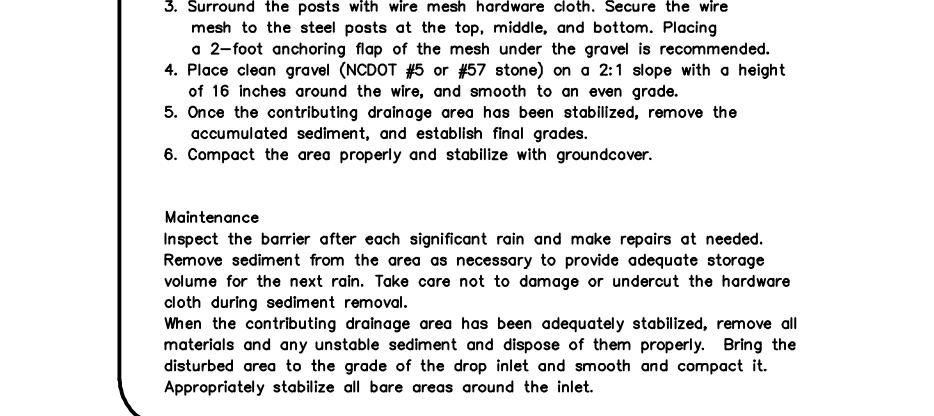
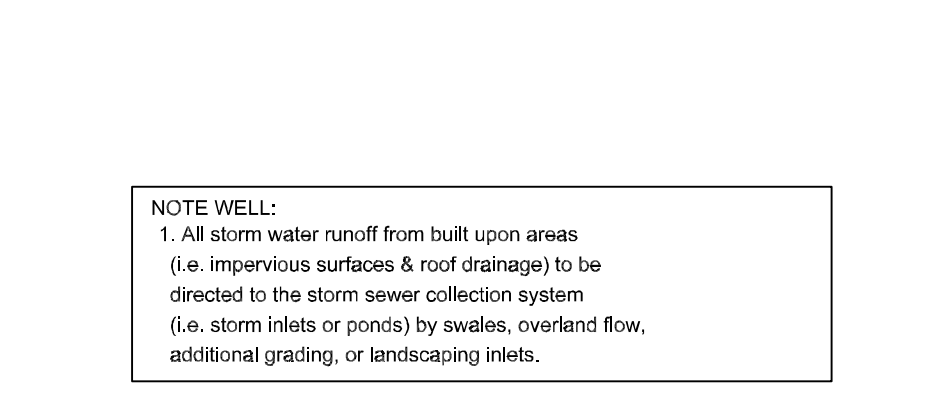
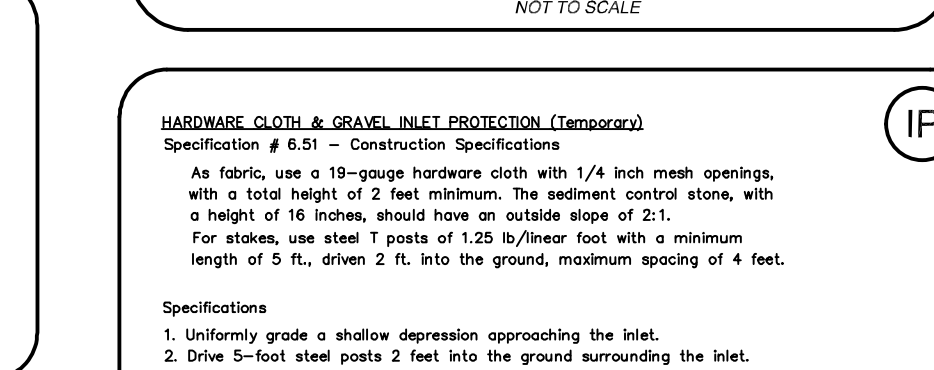
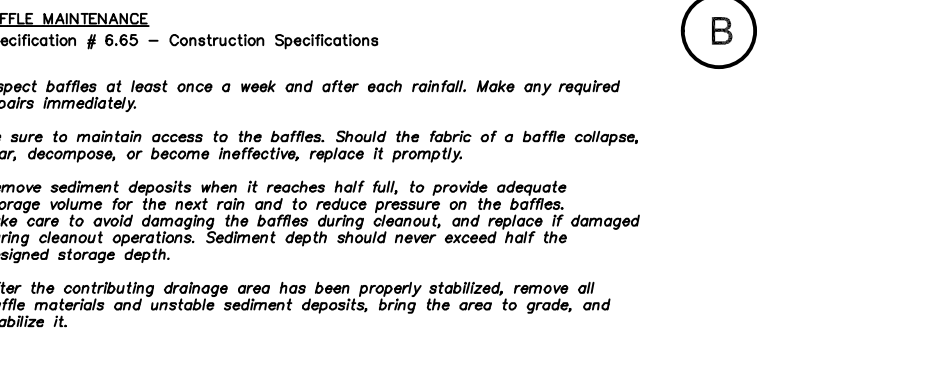
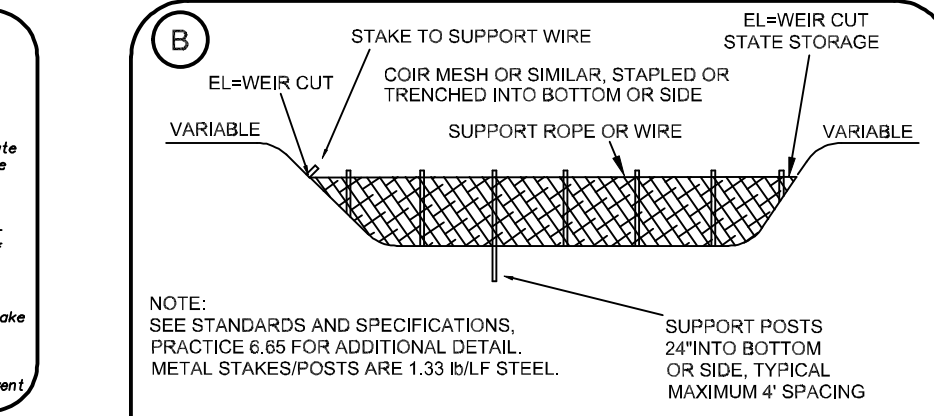
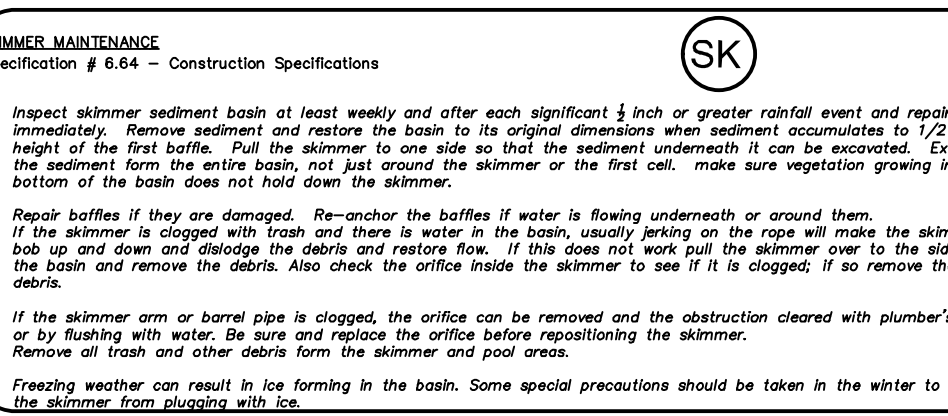
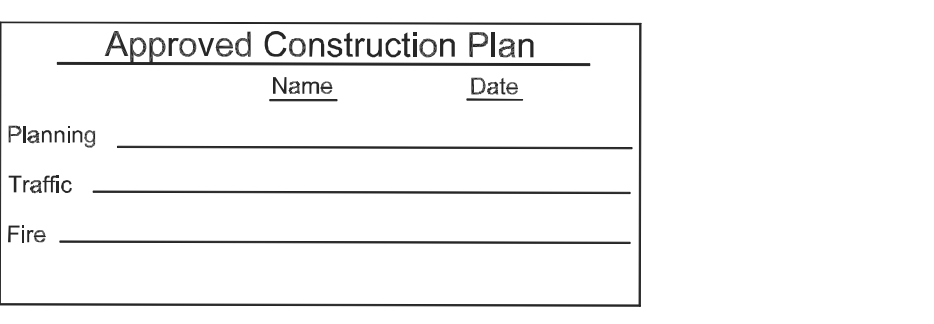
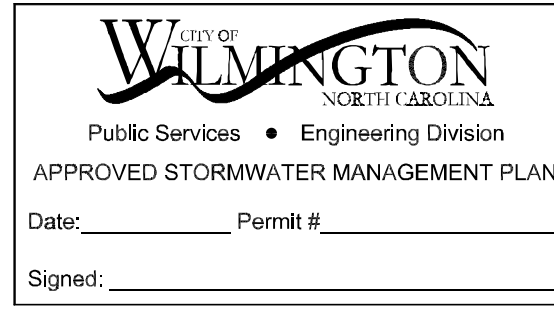
SKIMMER BASIN	
TOTAL DRAINAGE AREA (AC)	0.87
DISTURBED AREA INSIDE DA (AC)	0.87
10-YEAR CFS	5.46
25-YEAR CFS	6.97
VOLUME (MGAL)	1.566
SA/MINI SF	1.775
SPILLWAY ELEVATION	36.0
SPILLWAY WIDTH (FT)	10.0
AREA PROVIDED AT 34.8 (SF)	3,074
VOLUME AT 34.8 (CF)	5,370



STORM NETWORK SUMMARY						
Upstream Node	Downstream Node	Diameter (in)	Pipe Length (ft)	Pipe Material	Slope (%)	Inlet Elevation (ft)
ST-2	ST-1	18.00	5.48	RCP III	1.83	33.10
ST-7	ST-2	10.00	39.92	PVC	2.00	40.29
ST-5	ST-2	10.00	69.89	PVC	2.00	41.40
ST-6	ST-5	10.00	32.22	PVC	3.00	42.37
ST-3	ST-2	12.00	102.50	RCP III	2.00	38.95
ST-4	ST-3	12.00	88.24	PVC	1.98	40.70

STORM NETWORK SUMMARY						
Structure Name	Inlet ID	Upstream Rim Elev (ft)	Downstream Rim Elev (ft)	Upstream Pipe Invert (ft)	Downstream Pipe Invert (ft)	Structure Type
ST-2	COMBO (CURB INLET)	44.00	37.00	44.00	37.00	COMBO
ST-2	YARD INLET	44.00	37.00	44.00	37.00	YARD
ST-5	ROOF DRAIN C/O	44.00	44.00	44.00	44.00	ROOF DRAIN
ST-6	ROOF DRAIN C/O	44.00	44.00	44.00	44.00	ROOF DRAIN
ST-3	COMBO (CURB INLET)	46.00	44.00	46.00	44.00	COMBO
ST-4	Grate-Sag	46.00	46.00	46.00	46.00	Grate

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



**Erosion & Sediment Control Details**  
**Masonboro Station Parking and Building Expansion**  
 LOCATED IN CITY OF WILMINGTON  
 NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: ACADIA SERVICES, LLC  
 222 BEECH STREET  
 WILMINGTON, N.C. 28405

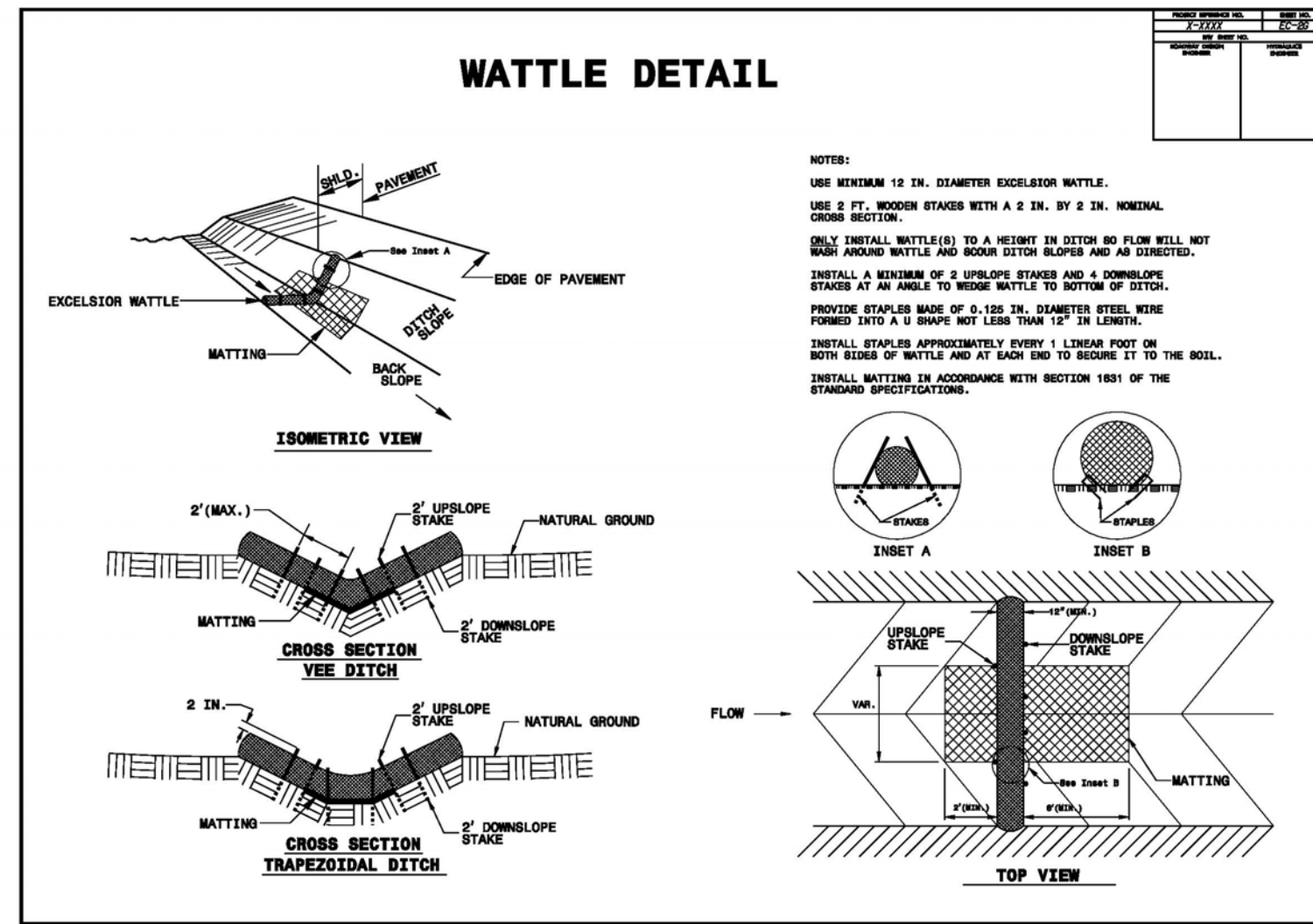
HANOVER DESIGN SERVICES, P.A.  
 LAND SURVEYORS, ENGINEERS & LAND PLANNERS  
 1123 FLORAL PARKWAY  
 WILMINGTON, N.C. 28403  
 PHONE: (910) 343-8002  
 LICENSE # C-0599

DATE: 10-8-20  
 REV. NO.: 1  
 UPDATED PER NHC REVISIONS

Scale: AS SHOWN  
 Drawn: AHG  
 Checked: AHG  
 Project No: 11499

Sheet No: EC-2  
 EC-4

agray@hdsim.com



**WATTLE MAINTENANCE**

Inspect wattle at least once a week and after each rainfall exceeding 1/2 inch. Make any required repairs immediately.

Remove any accumulated sediment or debris.

If ponding becomes excessive replace wattle or consult with the engineer for a different possible measure to be used.

**GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT**

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

**SECTION E: GROUND STABILIZATION**

Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

**Note:** After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

**GROUND STABILIZATION SPECIFICATION**

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> <li>Temporary grass seed covered with straw or other mulches and tackifiers</li> <li>Hydroseeding</li> <li> Rolled erosion control products with or without temporary grass seed</li> <li> Appropriately applied straw or other mulch</li> <li> Plastic sheeting</li> </ul>	<ul style="list-style-type: none"> <li>Permanent grass seed covered with straw or other mulches and tackifiers</li> <li> Geotextile fabrics such as permanent soil reinforcement matting</li> <li> Hydroseeding</li> <li> Shrubs or other permanent plantings covered with mulch</li> <li> Uniform and evenly distributed ground cover sufficient to restrain erosion</li> <li> Structural methods such as concrete, asphalt or retaining walls</li> <li> Rolled erosion control products with grass seed</li> </ul>

- POLYACRYLAMIDES (PAMS) AND FLOCCULANTS**
- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
  - Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
  - Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
  - Provide ponding area for containment of treated Stormwater before discharging offsite.
  - Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

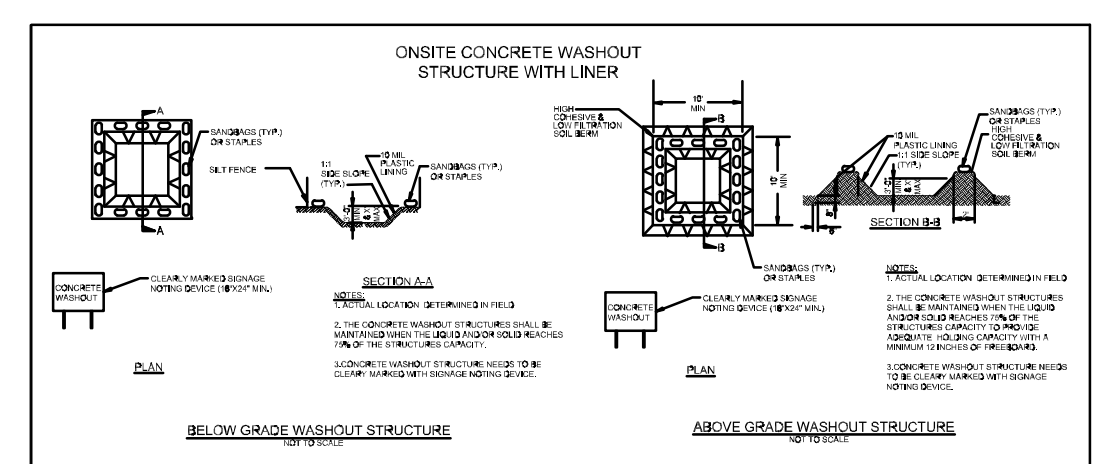
- EQUIPMENT AND VEHICLE MAINTENANCE**
- Maintain vehicles and equipment to prevent discharge of fluids.
  - Provide drip pans under any stored equipment.
  - Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
  - Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
  - Remove leaking vehicles and construction equipment from service until the problem has been corrected.
  - Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

- LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE**
- Never bury or burn waste. Place litter and debris in approved waste containers.
  - Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
  - Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
  - Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
  - Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
  - Anchor all lightweight items in waste containers during times of high winds.
  - Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
  - Dispose waste off-site at an approved disposal facility.
  - On business days, clean up and dispose of waste in designated waste containers.

- PAINT AND OTHER LIQUID WASTE**
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
  - Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
  - Contain liquid wastes in a controlled area.
  - Containment must be labeled, sized and placed appropriately for the needs of site.
  - Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

- PORTABLE TOILETS**
- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
  - Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
  - Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

- EARTHEN STOCKPILE MANAGEMENT**
- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
  - Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
  - Provide stable stone access point when feasible.
  - Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



- CONCRETE WASHOUTS**
- Do not discharge concrete or cement slurry from the site.
  - Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
  - Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
  - Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
  - Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
  - Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
  - Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
  - Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
  - Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
  - At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

- HERBICIDES, PESTICIDES AND RODENTICIDES**
- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
  - Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
  - Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
  - Do not stockpile these materials onsite.

- HAZARDOUS AND TOXIC WASTE**
- Create designated hazardous waste collection areas on-site.
  - Place hazardous waste containers under cover or in secondary containment.
  - Do not store hazardous chemicals, drums or bagged materials directly on the ground.

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

Approved Construction Plan

Name	Date
Planning _____	_____
Traffic _____	_____
Fire _____	_____

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

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

**PRELIMINARY PLAN**

REV. NO.	REVISIONS	DATE
1	UPDATED PER NHC	10-8-20

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**EROSION CONTROL-DETAILS**  
**Masonboro Station**  
 Parking and Building Expansion

CITY OF WILMINGTON      NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: ACADIA SERVICES, LLC 222 BEECH STREET WILMINGTON, N.C. 28405	Date: 3-20 Scale: N/A Drawn: AHG Checked: AHG Project No: 15040
HANOVER DESIGN SERVICES, P.A. LAND SURVEYORS, ENGINEERS & LAND PLANNERS 1123 FLORAL PARKWAY WILMINGTON, N.C. 28403 PHONE: (910) 343-8002 LICENSE # LC-5917	Sheet No: EC-3 EC-4

agrady@hdsdm.com

**PART III  
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION A: SELF-INSPECTION**

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event $\geq$ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event $\geq$ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event $\geq$ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event $\geq$ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

**PART III  
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION B: RECORDKEEPING**

**1. E&SC Plan Documentation**

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

**2. Additional Documentation to be Kept on Site**

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This General Permit as well as the Certificate of Coverage, after it is received.
- (b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

**3. Documentation to be Retained for Three Years**

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

**PART III  
SELF-INSPECTION, RECORDKEEPING AND REPORTING**

**SECTION C: REPORTING**

**1. Occurrences that Must be Reported**

Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.
- (b) Oil spills if:
  - They are 25 gallons or more,
  - They are less than 25 gallons but cannot be cleaned up within 24 hours,
  - They cause sheen on surface waters (regardless of volume), or
  - They are within 100 feet of surface waters (regardless of volume).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the environment.

**2. Reporting Timeframes and Other Requirements**

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.</li> <li>• If the stream is named on the <a href="#">NC 303(d) list</a> as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.</li> </ul>
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.</li> </ul>
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>• <b>A report at least ten days before the date of the bypass, if possible.</b> The report shall include an evaluation of the anticipated quality and effect of the bypass.</li> </ul>
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that includes an evaluation of the quality and effect of the bypass.</li> </ul>
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(l)(7)]	<ul style="list-style-type: none"> <li>• <b>Within 24 hours</b>, an oral or electronic notification.</li> <li>• <b>Within 7 calendar days</b>, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6)].</li> <li>• Division staff may waive the requirement for a written report on a case-by-case basis.</li> </ul>

**PART II, SECTION G, ITEM (4)  
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT**

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- (a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- (b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- (c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- (d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- (e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- (f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

**NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING**

EFFECTIVE: 04/01/19

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

Approved Construction Plan

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

Planning \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_

**CITY OF WILMINGTON**  
NORTH CAROLINA

Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

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

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

**PRELIMINARY PLAN**

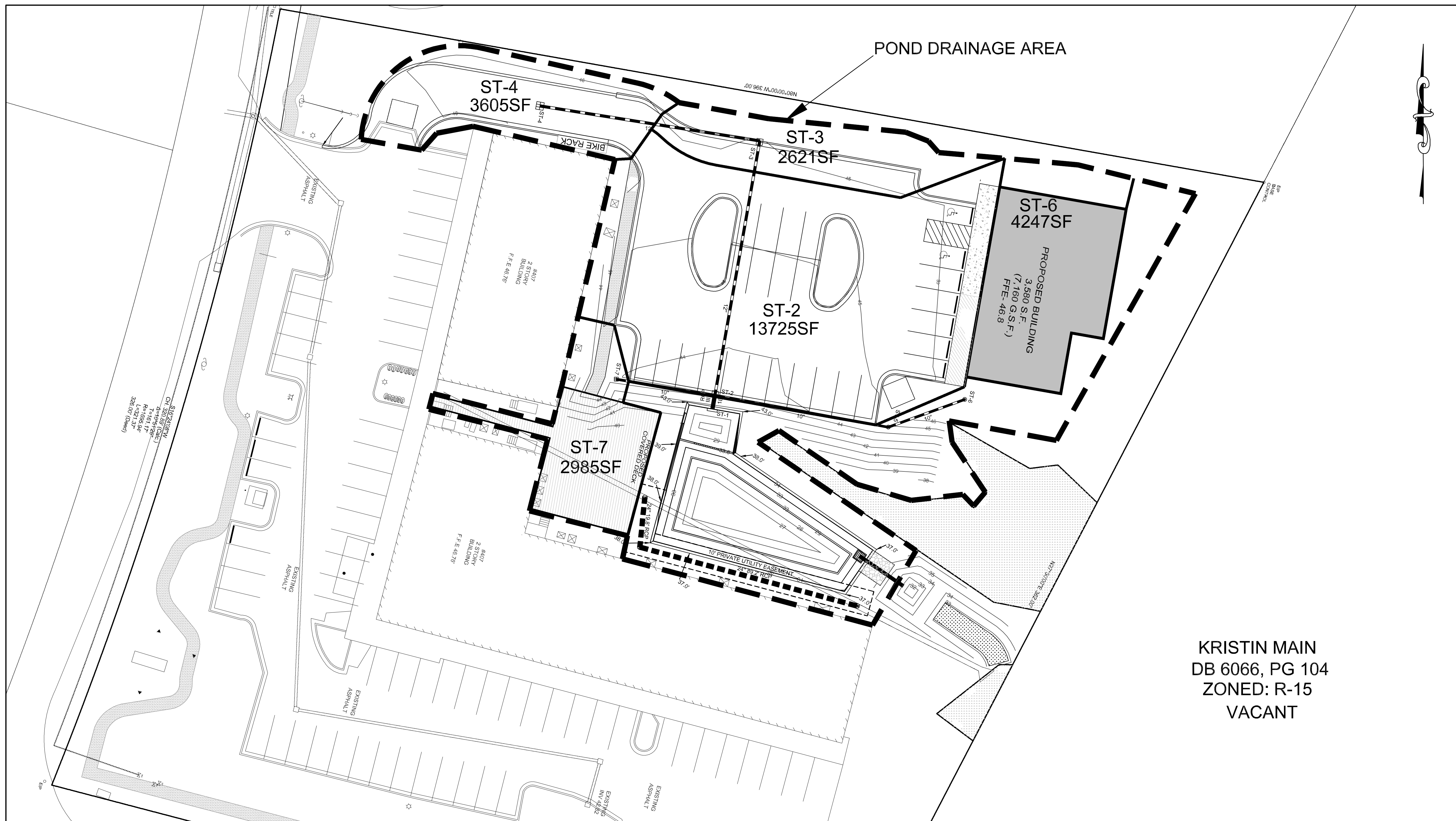
REV. NO.	REVISIONS	DATE

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EROSION CONTROL-DETAILS <b>Masonboro Station</b> Parking and Building Expansion CITY OF WILMINGTON      NEW HANOVER COUNTY, NORTH CAROLINA		Date: 10-8-20 Scale: N/A Drawn: AHG Checked: AHG Project No: 15040 Sheet No: EC-4 EC-4
OWNER: ACADIA SERVICES, LLC 222 BEECH STREET WILMINGTON, N.C. 28405		HANOVER DESIGN SERVICES, P.A. LAND SURVEYORS, ENGINEERS & LAND PLANNERS 1123 FLORAL PARKWAY WILMINGTON, N.C. 28403 PHONE: (910) 343-8002 LICENSE #15-0597

agrady@hdsllm.com

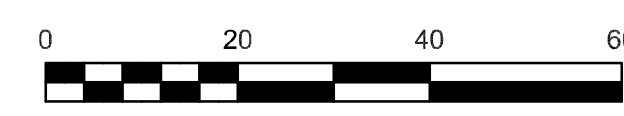
**POND DRAINAGE AREA**



**KRISTIN MAIN  
DB 6066, PG 104  
ZONED: R-15  
VACANT**

**DRAINAGE AREA MAP**  
Masonboro Station  
Parking and Building Expansion  
LOCATED IN CITY OF WILMINGTON NEW HANOVER COUNTY, NORTH CAROLINA

Date: 1-13-20  
Scale: 20  
Drawn: AHG  
Checked: AHG  
Project No: 11499



REV. NO.	REVISIONS	DATE

**PRELIMINARY PLAN**  
agrady@hdsim.com

OWNER: ACADIA SERVICES, LLC  
222 BEECH STREET  
WILMINGTON, N.C. 28405

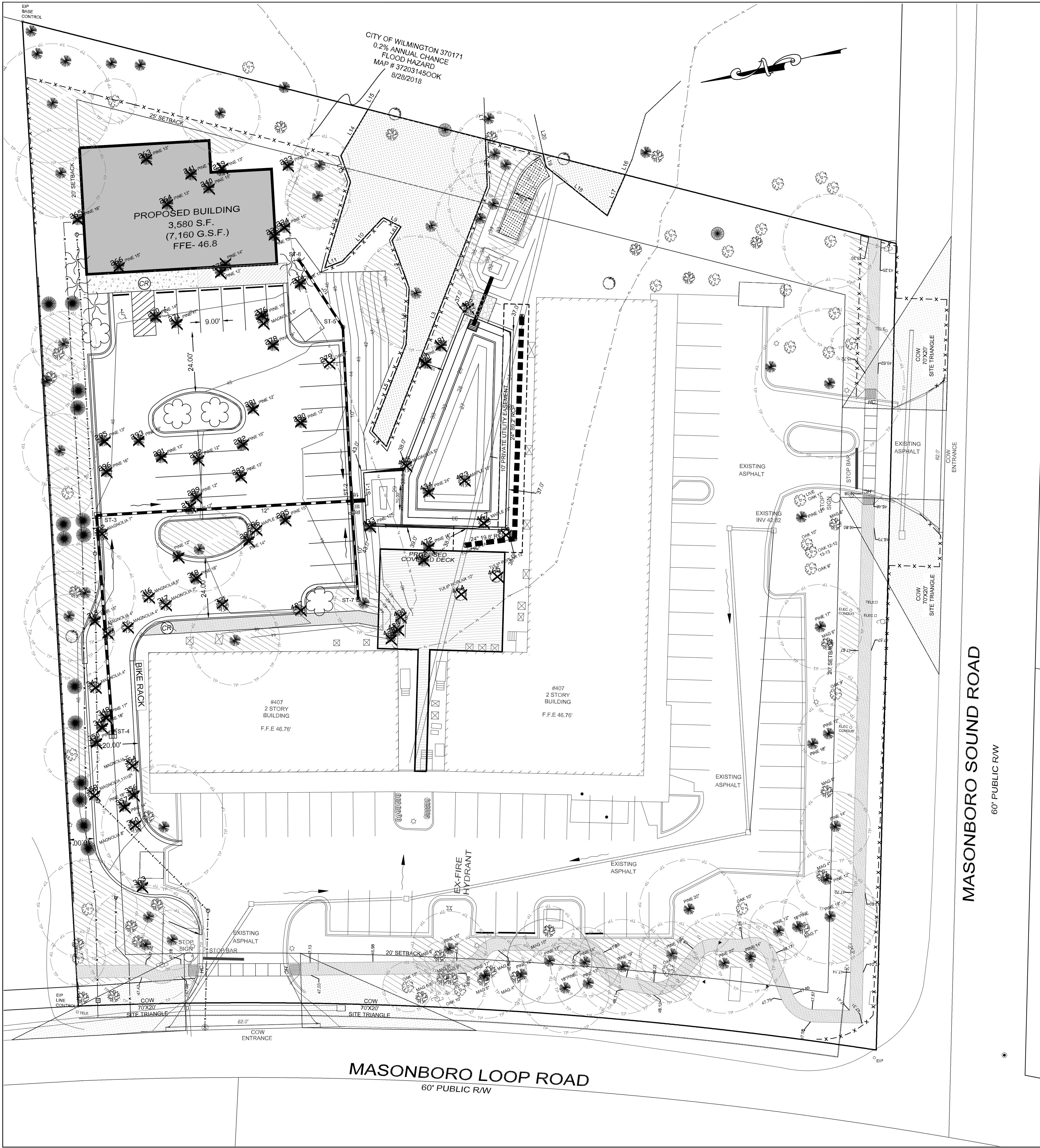
**HANOVER DESIGN SERVICES, P.A.**  
LAND SURVEYORS, ENGINEERS & LAND PLANNERS  
1123 FLORAL PARKWAY  
WILMINGTON, N.C. 28403  
PHONE: (910) 343-8002  
LICENSE # C-5597



Sheet No:  
**1**  
**1**

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CITY OF WILMINGTON 370171  
0.2% ANNUAL CHANCE  
FLOOD HAZARD  
MAP # 3720314500K  
8/28/2018



TREE INVENTORY										
POINT NO.	DESCRIPTION	POINT NO.	DESCRIPTION	POINT NO.	DESCRIPTION	POINT NO.	DESCRIPTION	POINT NO.	DESCRIPTION	
93	30PINE	223	14PINE	296	16PINE	432	14PINE	1917	12PINE	
94	110OAK	224	15PINE	297	15PINE	433	17PINE	1918	5MAG	
95	80AK	225	13PINE	298	8MAG	434	24PINE	1919	6MAG	
96	140AK	227	7MAG	299	13PINE	435	5MAG	1920	5MAG	
97	140AK	228	15PINE	300	10LIVE OAK	464	10TULIP POPLAR	1921	17PINE	
98	12PINE	229	100AK	302	7MAG	465	12TULIP POPLAR	1922	100AK	
100	130AK	235	14MAPLE	303	20PINE	466	10TULIP POPLAR	1923	6MAG	
101	190AK	238	16PINE	304	8MAG	467	15MAPLE	1924	6MAG	
239	13PINE	311	18PINE	472	16PINE	481	20PINE	1925	15PINE	
240	15PINE	312	17TULIP POPLAR	473	10MAPLE	482	7MAG	1926	6MAG	
241	13PINE	313	15PINE	480	18PINE	483	23PINE	1927	100AK	
98	12PINE	229	100AK	302	7MAG	465	12TULIP POPLAR	1922	100AK	
106	5MAG	255	18PINE	315	4MAG	485	18PINE	1928	6MAG	
107	9HICKORY	256	24PINE	316	5MAG	486	18PINE	1928	6MAG	
108	130AK	257	13PINE	317	7MAG	487	18PINE	1928	6MAG	
109	4VSDOOG	258	16PINE	318	16PINE	488	17LIVE OAK	1928	6MAG	
110	6MAG	259	12PINE	319	12PINE	489	1565	12PINE	1928	6MAG
118	160AK	260	17PINE	320	17PINE	490	1566	100AK	1928	6MAG
119	4MAG	261	90AK	321	7MAPLE	491	1567	90AK	1928	6MAG
120	100AK	263	13PINE	332	18PINE	492	1568	12L12L13OAK	1928	6MAG
131	9TULIP POPLAR	264	13PINE	347	4MAG	493	1569	17PINE	1928	6MAG
132	100AK	265	16PINE	348	17PINE	494	1570	6MAG	1928	6MAG
133	110AK	266	15PINE	349	18PINE	495	1571	90AK	1928	6MAG
134	110AK	268	13PINE	350	16PINE	496	1572	12PINE	1928	6MAG
135	5MAG	269	5MAG	352	110AK	497	1573	LP	1928	6MAG
138	25TULIP POPLAR	270	14PINE	354	7MAG	498	1574	18PINE	1928	6MAG
147	14PINE	271	17PINE	356	18PINE	499	1575	6MAG	1928	6MAG
148	17PINE	272	14PINE	357	14PINE	500	1576	14PINE	1928	6MAG
151	19PINE	273	14PINE	358	11L2MAG	501	1577	12PINE	1928	6MAG
157	28TULIP POPLAR	274	17PINE	360	8MAG	502	1578	4MAG	1928	6MAG
168	7MAG	276	15PINE	361	9MAG	503	1879	19PINE	1928	6MAG
169	10MAG	277	6MAG	362	25PINE	504	1880	18PINE	1928	6MAG
170	120AK	278	14PINE	363	17PINE	505	1881	7MAG	1928	6MAG
172	10MAPLE	279	90AK	364	6MAG	506	1882	12PINE	1928	6MAG
173	110AK	280	12PINE	365	5MAG	507	1883	100AK	1928	6MAG
174	13MAPLE	281	12PINE	366	110AK	508	1884	14PINE	1928	6MAG
187	8TULIP POPLAR	282	15PINE	367	5MAG	509	1885	20PINE	1928	6MAG
190	18TULIP POPLAR	283	13PINE	368	20LIVE OAK	510	1886	20PINE	1928	6MAG
191	5MAG	285	15PINE	400	24PINE	511	1887	13PINE	1928	6MAG
192	26TULIP POPLAR	286	9MAPLE	401	9MAG	512	1888	130AK	1928	6MAG
197	120AK	287	14PINE	402	7MAG	513	1911	19PINE	1928	6MAG
200	6MAG	289	12PINE	403	17PINE	514	1912	13PINE	1928	6MAG
221	12PINE	290	12PINE	404	9MAG	515	1913	14PINE	1928	6MAG
222	13PINE	291	13PINE	409	12PINE	516	1914	18PINE	1928	6MAG
		292	12PINE	427	7MAG	517	1915	17PINE	1928	6MAG
		293	13PINE	428	18PINE	518	1916	10MAG	1928	6MAG
		295	13PINE	429	16PINE	519			1928	6MAG
				430	12MAPLE					
				431	12PINE					

TOTAL REGULATED TREES: 186  
TOTAL SIGNIFICANT TREES: 2  
TREES TO BE REMOVED: 71  
SIGNIFICANT TREES TO BE REMOVED: 2

**LANDSCAPE NOTE:**

General standards for landscaping. The following general standards shall be used in the process of designing all landscaping plans:  
(1) Selection of plant materials. All plant materials and their spacing requirements, which are to be planted to meet the opacity and height requirements of this Article, shall be selected from the city's Technical Standards and Specifications Manual. The city manager may approve the use of trees not listed in the Technical Standards and Specifications Manual.  
(2) Unless otherwise noted, all trees planted as a function of fulfilling the requirements of this Article shall be a minimum of two (2) to two and one-half (2 1/2) inch caliper for shade canopy trees, eight (8) to ten (10) feet in height for understory and multi-trunk trees, and shrubs shall be a minimum of twelve (12) inches in height.  
Sec. 18-448 - General Standards for landscaping  
15 TREES PER DISTURBED ACRE, 2 INCH DBH OR GREATER, MUST BE RETAINED OR PLANTED ON THE DISTURBED PORTION OF THE SITE.  
1.4 Acre X 15 Trees = 21 Required Trees 48 Trees Retained (no new plantings required)

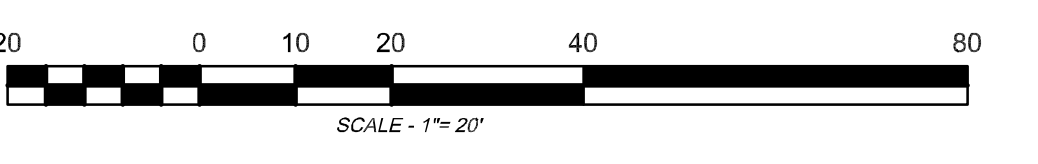
**FOUNDATION PLANTINGS**

PARKING LOT LANDSCAPING PLANTINGS SIZE, TYPE AND NUMBER TO BE DETERMINED WILL MEET OR EXCEED CITY OF WILMINGTON STANDARDS  
REQUIRED INTERIOR SHADING 25% = 3,672  
CANOPY TREE = 707 SQUARE FEET OF SHADE  
SMALLER SHADE TREE = 314 SQUARE FEET OF SHADE  
EXISTING TREE = ACTUAL CANOPY OVERHANGING PARKING FACILITY

NEW PARKING AREA	EXISTING TREE OVERHANGING
14686SF	2114SF
X 25%	PROPOSED CANOPY TREE
3672SF	4 X 707 = 2828SF
	4942SF PARKING LOT COVERAGE

**PERIMETER LANDSCAPING PLANTINGS SIZE, TYPE AND NUMBER TO BE DETERMINED WILL MEET OR EXCEED CITY OF WILMINGTON STANDARDS**

NOTES:  
1. THIS TRACT IS LOCATED IN ZONE "XC" ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP, COMMUNITY-PANEL NUMBER 3720314500 K DATED 8/28/2018.  
2. TOTAL SITE AREA = 2.72 AC.±



**Preliminary Plan**

REV. NO.	REVISIONS	DATE

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

STORMWATER MANAGEMENT PLAN APPROVED  
CITY OF WILMINGTON ENGINEERING DEPARTMENT  
DATE \_\_\_\_\_  
PERMIT # \_\_\_\_\_  
SIGNED \_\_\_\_\_

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

LANDSCAPING PLAN  
**Masonboro Station**  
Parking and Building Expansion  
City of Wilmington NEW HANOVER COUNTY, NORTH CAROLINA

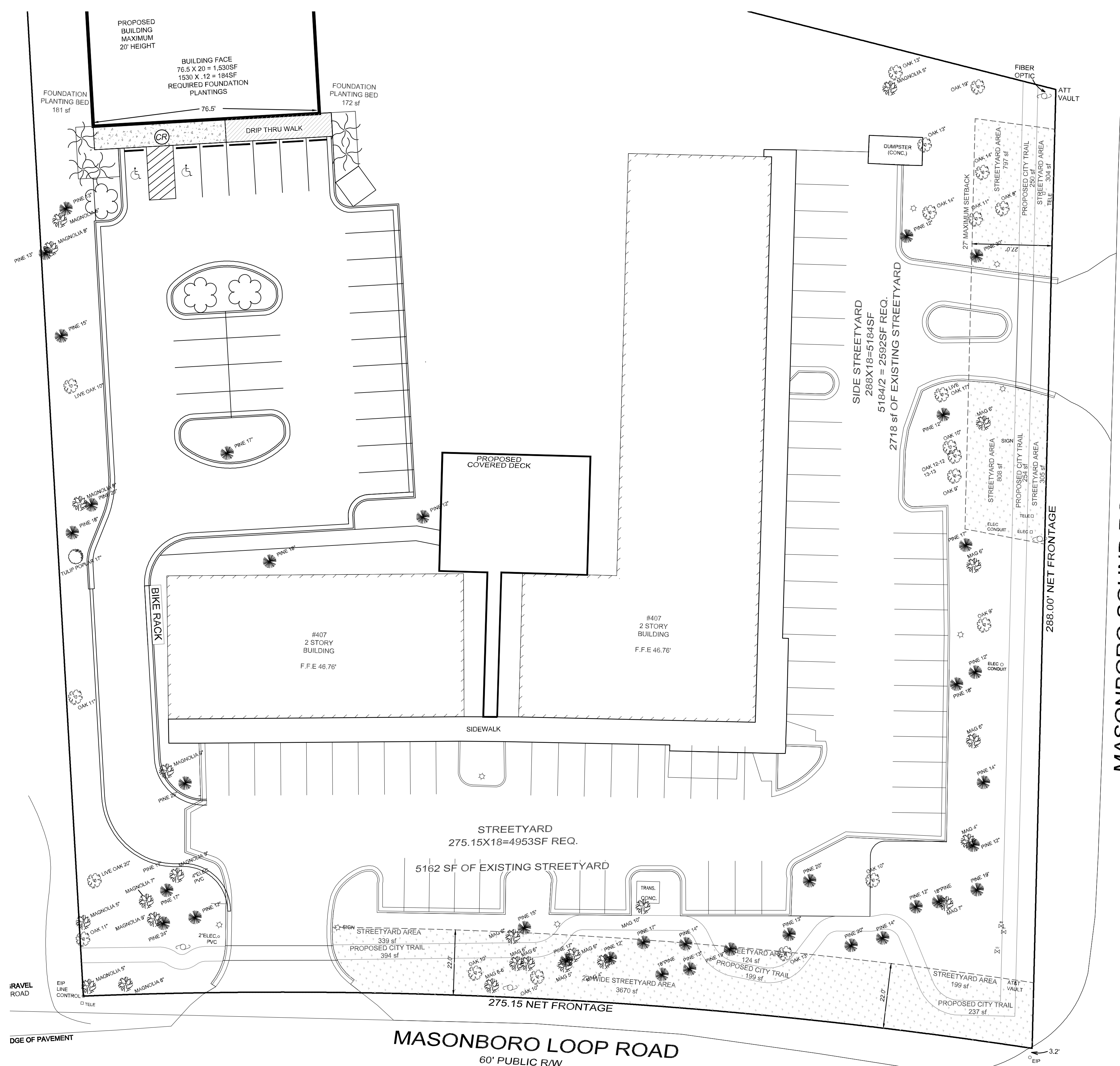
OWNER: ACADIA SERVICES, LLC  
222 BEECH STREET  
WILMINGTON, N.C. 28405

HANOVER DESIGN SERVICES, P.A.  
LAND SURVEYORS, ENGINEERS & LAND PLANNERS  
1123 FLORAL PARKWAY  
WILMINGTON, N.C. 28403  
PHONE: (910) 343-8002  
LICENSE # C-5297

Date: MARCH-2020  
Scale: HORZ.: 1" = 20'  
Drawn: MJL  
Checked: AHG  
Project No: 15040  
Sheet No: 1  
LP-2

MASONBORO LOOP ROAD  
60' PUBLIC R/W

MASONBORO SOUND ROAD  
60' PUBLIC R/W



TREE PRESERVATION				
NO. OF TREES	CALIPER (INCHES)	TYPE	TOTAL (INCHES)	Credit
1	8	OAK	8	2
3	9	OAK	27	6
8	10	OAK	80	16
5	11	OAK	55	10
3	12	OAK	36	9
6	13	OAK	78	18
2	14	OAK	28	6
1	16	OAK	16	3
1	17	OAK	17	3
1	19	OAK	19	4
1	20	OAK	20	4
2	4	MAGNOLIA	8	2
5	5	MAGNOLIA	25	8
12	6	MAGNOLIA	72	24
4	7	MAGNOLIA	28	8
2	8	MAGNOLIA	16	4
3	9	MAGNOLIA	27	6
2	10	MAGNOLIA	20	4
1	8	POPLAR	8	2
9	9	POPLAR	81	27
1	17	POPLAR	17	3
1	18	POPLAR	18	3
25	25	POPLAR	25	4
1	26	POPLAR	26	4
1	28	POPLAR	28	4
1	10	MAPLE	10	2
1	13	MAPLE	13	3
1	14	MAPLE	14	3
1	11	GUM	11	2
1	12	GUM	12	3
1	4	DOGWOOD	4	1
2	5	DOGWOOD	10	2
1	9	HICKORY	9	2
12	12	PINE	108	27
5	13	PINE	65	15
4	14	PINE	56	12
3	15	PINE	45	9
2	16	PINE	32	6
10	17	PINE	170	30
8	18	PINE	144	32
3	19	PINE	57	12
3	20	PINE	60	12
1	23	PINE	23	4
2	24	PINE	48	8
1	25	PINE	25	4
1	30	PINE	30	5
TOTAL RETAINED = 133			1672	353
TOTAL CREDITS				

TREE REMOVAL							
NO. OF TREES	CALIPER (INCHES)	TYPE	CLASSIFICATION	TOTAL (INCHES)	MITIGATION (%)	SIGNIFICANT	MITIGATION NO. REQ.
1	9	OAK	HARDWOOD	9	100	NO	3
3	4	MAGNOLIA	FLOWERING	12	100	NO	4
2	5	MAGNOLIA	FLOWERING	10	100	NO	4
1	6	MAGNOLIA	FLOWERING	6	100	NO	2
5	7	MAGNOLIA	FLOWERING	35	100	NO	12
1	8	MAGNOLIA	FLOWERING	8	100	NO	3
1	11	MAGNOLIA	FLOWERING	11	100	YES	8
1	12	MAGNOLIA	FLOWERING	12	100	YES	8
8	12	PINE	CONIFER	96	100	NO	32
10	13	PINE	CONIFER	130	100	NO	44
7	14	PINE	CONIFER	98	100	NO	33
7	15	PINE	CONIFER	105	100	NO	35
6	16	PINE	CONIFER	96	100	NO	32
4	17	PINE	CONIFER	68	100	NO	23
4	18	PINE	CONIFER	72	100	NO	24
1	20	PINE	CONIFER	20	100	NO	7
1	24	PINE	CONIFER	24	100	NO	8
1	7	MAPLE	HARDWOOD	7	100	NO	3
1	9	MAPLE	HARDWOOD	9	100	NO	3
1	10	MAPLE	HARDWOOD	10	100	NO	4
1	12	MAPLE	HARDWOOD	12	100	NO	4
1	15	MAPLE	HARDWOOD	15	100	NO	5
2	10	POPLAR	HARDWOOD	20	100	NO	7
1	12	POPLAR	HARDWOOD	12	100	NO	4
TOTAL SIGNIFICANT TREE TO BE REMOVED							2
LATED TREES TO BE REMOVED WITH ESSENTIAL SITE IMPROVEMENTS							69
TOTAL NO. OF SIGNIFICANT TREE MITIGATION REQ.							16
TOTAL NO. TREE MITIGATION REQ.							312
TOTAL TREE CREDITS (TREE PRESERVATION)							353
TOTAL NO. OF MITIGATION TREES REQ. ON SITE							0

Preliminary Plan

REV. NO.	REVISIONS	DATE

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

STORMWATER MANAGEMENT PLAN APPROVED  
 CITY OF WILMINGTON  
 ENGINEERING DEPARTMENT  
 DATE \_\_\_\_\_  
 PERMIT # \_\_\_\_\_  
 SIGNED \_\_\_\_\_

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

LANDSCAPING PLAN  
**Masonboro Station**  
 Parking and Building Expansion  
 City of Wilmington, NEW HANOVER COUNTY, NORTH CAROLINA

OWNER: ACADIA SERVICES, LLC  
 222 BEECH STREET  
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HANOVER DESIGN SERVICES, P.A.  
 LAND SURVEYORS, ENGINEERS & LAND PLANNERS  
 1123 FLORAL PARKWAY  
 WILMINGTON, N.C. 28403  
 PHONE: (910) 343-8002  
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DATE: MARCH-2020  
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 SHEET NO: 2  
 LP-2

