

WETLAND TYPE: SWAMP FOREST. PORTION OF HATCHED AREA NOT WITHIN BUFFER IS MAN-MADE DITCH AND DOES NOT CONTAIN ANY CONSERVATION RESOURCE SETBACKS PER USACE NOTIFICATION OF JURISDICTIONAL DETERMINATION DATED 11-17-15.



SITE DATA

PROJECT: HOGGARD HIGH SCHOOL
OWNER: NEW HANOVER COUNTY SCHOOLS
OWNER CONTACT: NEW HANOVER COUNTY BOARD OF EDUCATION
 EDDIE ANDERSON
 6410 CAROLINA BEACH ROAD
 WILMINGTON, NC 28412
 910-254-4325
DESIGNER: CLH DESIGN, PA
DESIGNER CONTACT: GLENN MEDLIN
 REGENCY PARK
 400 REGENCY FOREST DR., STE. 120
 CARY, NC 27518
 PHONE: 919-319-5716
 FAX: 919-319-7516
PROJECT ADDRESS: 4305 SHIPYARD BOULEVARD
 WILMINGTON, NC 28403
PIN: R06114-001-001-000
ZONING: O&I
EXISTING USE: INSTITUTIONAL/EDUCATIONAL
PROPOSED USE: INSTITUTIONAL/EDUCATIONAL
TRACT AREA: 62.74 ACRES
FLOODPLAIN: SITE IS NOT WITHIN A FLOODPLAIN
 (REF: FIRM 37203136000, APRIL 3, 2006)
 A PORTION OF THE PROPERTY IS ENCUMBERED BY WETLANDS/CONSERVATION RESOURCE. REFER TO USACE JURISDICTIONAL DETERMINATION DATED 11-17-15 FOR ADDITIONAL INFORMATION.
 THERE ARE NO ENDANGERED SPECIES OR HABITATS ON THIS SITE.
BUILDING SETBACK: 20'
TYPE OF CONSTRUCTION: 1-B
PARKING REQUIREMENTS:
PARKING CODE: 1 SPACE PER 5 STUDENTS
 (OR 1 SPACE PER 3 STADIUM SEATS)

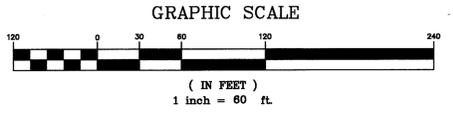
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|------------------------------|-------------------------|
| NO. OF STUDENTS: | 1900 |
| TOTAL SPACES REQ'D: | 380 (500) |
| EXISTING SPACES: | 787 |
| EXISTING SPACES REMOVED: | 177 |
| NEW SPACES ADDED: | 81 |
| TOTAL SPACES PROVIDED: | 691 |
| TOTAL H/C SPACES REQ'D: | 14 |
| EXISTING H/C SPACES: | 22 |
| EXISTING H/C SPACES REMOVED: | 6 |
| NEW H/C SPACES ADDED: | 4 (W/ 1 VAN ACCESSIBLE) |
| TOTAL H/C SPACES PROVIDED: | 20 |
| NO. BIKE SPACES REQ'D: | 20 |
| NO. BIKE SPACES PROVIDED: | 20 |

GROSS FLOOR AREA: EXISTING: 115,165 SQ. FT.
 PROPOSED: 34,484 SQ. FT.
 MOBILE UNITS: 2,200 SQ. FT.
 TOTAL: 151,849 SQ. FT.
 22.71%
PERCENT INCREASE:
 PROPOSED GYM ADD'N FOOTPRINT: 30,598 SQ. FT.
 PROPOSED CAFETERIA ADD'N FOOTPRINT: 3,888 SQ. FT.
BUILDING LOT COVERAGE-EXISTING: 4.3%
BUILDING LOT COVERAGE-PROPOSED: 5.6%
MAX. BUILDING HEIGHT PROPOSED: 45'
EXISTING IMPERVIOUS (WITHIN PROJECT LIMITS): 8.92-AC (388,550-SF)
PROPOSED IMPERVIOUS (WITHIN PROJECT LIMITS): 8.71-AC (379,350-SF)
CAMA LAND USE CLASSIFICATION:
 URBAN
CAMA AREAS OF CONCERN:
 C; SW (SWAMP WATERS); PERENNIAL
 A PORTION OF THE PROPERTY IS LOCATED IN THE CAMA LAND CLASSIFICATION WATERSHED RESOURCE PROTECTION (WRP) AREA AND IMPERVIOUS AREAS WITHIN THE WRP SHALL BE LIMITED TO 25% UNLESS THE PROJECT MEETS ARTICLE 10-EXCEPTIONALLY DESIGNED PROJECTS OF THE LDC.
HEWLETT'S CREEK CLASSIFICATION:
 SA; HOW
 INDEX # 18-87-26
 THE SITE HAS NO LOCAL, STATE OR FEDERALLY RECOGNIZED HISTORIC STRUCTURES OR ARCHAEOLOGICAL RESOURCES.
 THE SITE HAS NO CEMETARIES, BURIAL SITES OR BURIAL GROUNDS.

REFER TO PLAN SHEET C12 FOR CITY OF WILMINGTON STANDARD NOTES

A TREE REMOVAL/PRESERVATION PERMIT IS REQUIRED PRIOR TO REMOVING ANY TREES. CONTRACTOR SHALL OBTAIN & COMPLETE PERMIT. CONTACT CITY OF WILMINGTON ZONING DEPARTMENT TO OBTAIN COPY OF PERMIT.

EXTERIOR BUILDING MATERIALS WILL BE ALUMINUM CURTAIN WALL, BRICK AND METAL PANEL SOFFIT & FASCIA AT THE ROOF. ROOFS THAT ARE NOT FLAT WILL BE STANDING SEAM METAL 'ALUMINUM CURTAIN WALL' IS GENERIC DESC. FOR A LARGE SPAN CLASS & CLASS FRAMING SYSTEM, WHICH ARE APPROVED MAT'L IN O&I DISTRICT.



| | |
|----------------------------|--------|
| APPROVED CONSTRUCTION PLAN | |
| NAME | DATE |
| PLANNING | 6/9/16 |
| TRAFFIC | 6/9/16 |
| FIRE | 6/9/16 |

| | |
|--|--------------------------|
| CITY OF WILMINGTON NORTH CAROLINA | |
| Public Services • Engineering Division | |
| APPROVED STORMWATER MANAGEMENT PLAN | |
| Date: | 6/9/16 Permit # 2050282A |
| Signed: | [Signature] |



514 Market Street
 Wilmington, NC 28401
 Tel - (910) 762-2621
 Fax - (910) 762-8506

Project ID # 900-9005



Phase One: Renovations and Additions to:
John T. Hoggard High School
 4305 Shipyard Blvd.
 Wilmington, North Carolina 28403

JOB NUMBER
 15-120
 DRAWN BY
 JGM
 CHECKED BY
 JGM
 DATE
 MAY 27, 2016
 REVISIONS
 5-19-16 NCDOT DRIVEWAY SUB

RECEIVED
 JUN 02 2016
 PLANNING DIVISION

OVERALL SITE PLAN

SHEET NUMBER
C-0.1

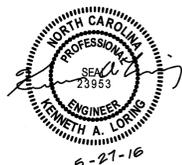
PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



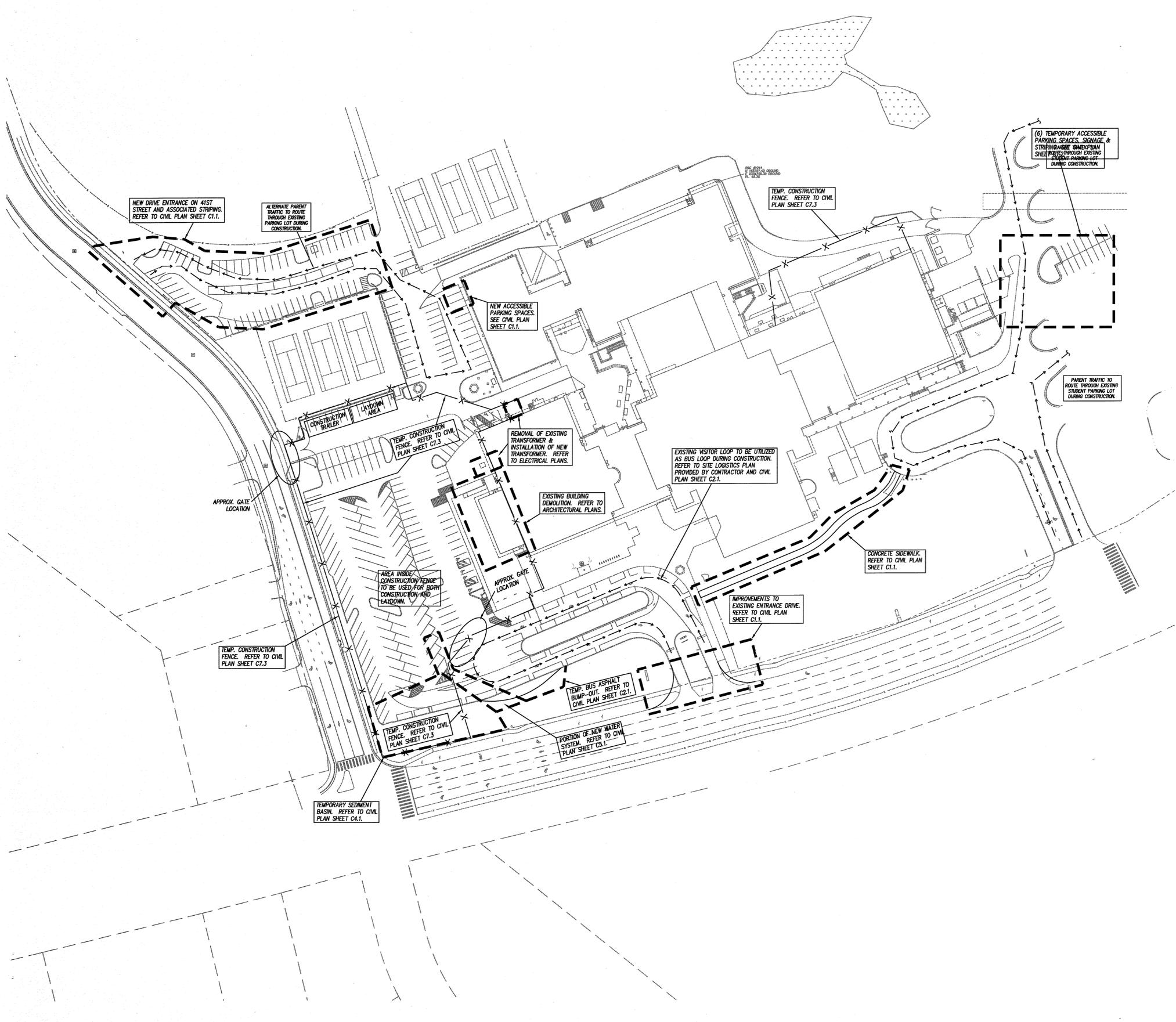
**BOWMAN
MURRAY
HEMINGWAY**

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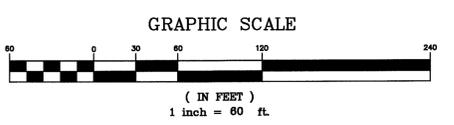


MAGNETIC



PHASE ONE SCOPE OF WORK

- CONSTRUCTION TRAILER.
- EX. BUILDING DEMOLITION.
- REMOVAL OF EXISTING TRANSFORMER & INSTALLATION OF NEW TRANSFORMER.
- TEMPORARY CONSTRUCTION FENCE.
- NEW 41ST STREET ENTRANCE.
- MODIFICATIONS TO EXISTING ENTRANCE DRIVE ON SHIPYARD BLVD.
- TEMPORARY ACCESSIBLE PARKING.
- TEMPORARY SKIMMER BASIN.
- INSTALLATION OF A PORTION OF NEW WATER SYSTEM.
- TEMPORARY BUS ASPHALT BUMP-OUT
- CONCRETE SIDEWALK FROM VISITOR LOOP TO BUS LOOP.



| APPROVED CONSTRUCTION PLAN | | CITY OF WILMINGTON NORTH CAROLINA | |
|----------------------------|--------------|-------------------------------------|---------------------------------|
| PLANNING | DATE | Public Services | Engineering Division |
| NAME: [Signature] | DATE: 6/3/16 | APPROVED STORMWATER MANAGEMENT PLAN | Date: 6/8/16 Permit # 201502121 |
| TRAFFIC: [Signature] | DATE: 6-9-16 | Signed: [Signature] | |
| FIRE: [Signature] | DATE: 6-9-16 | | |

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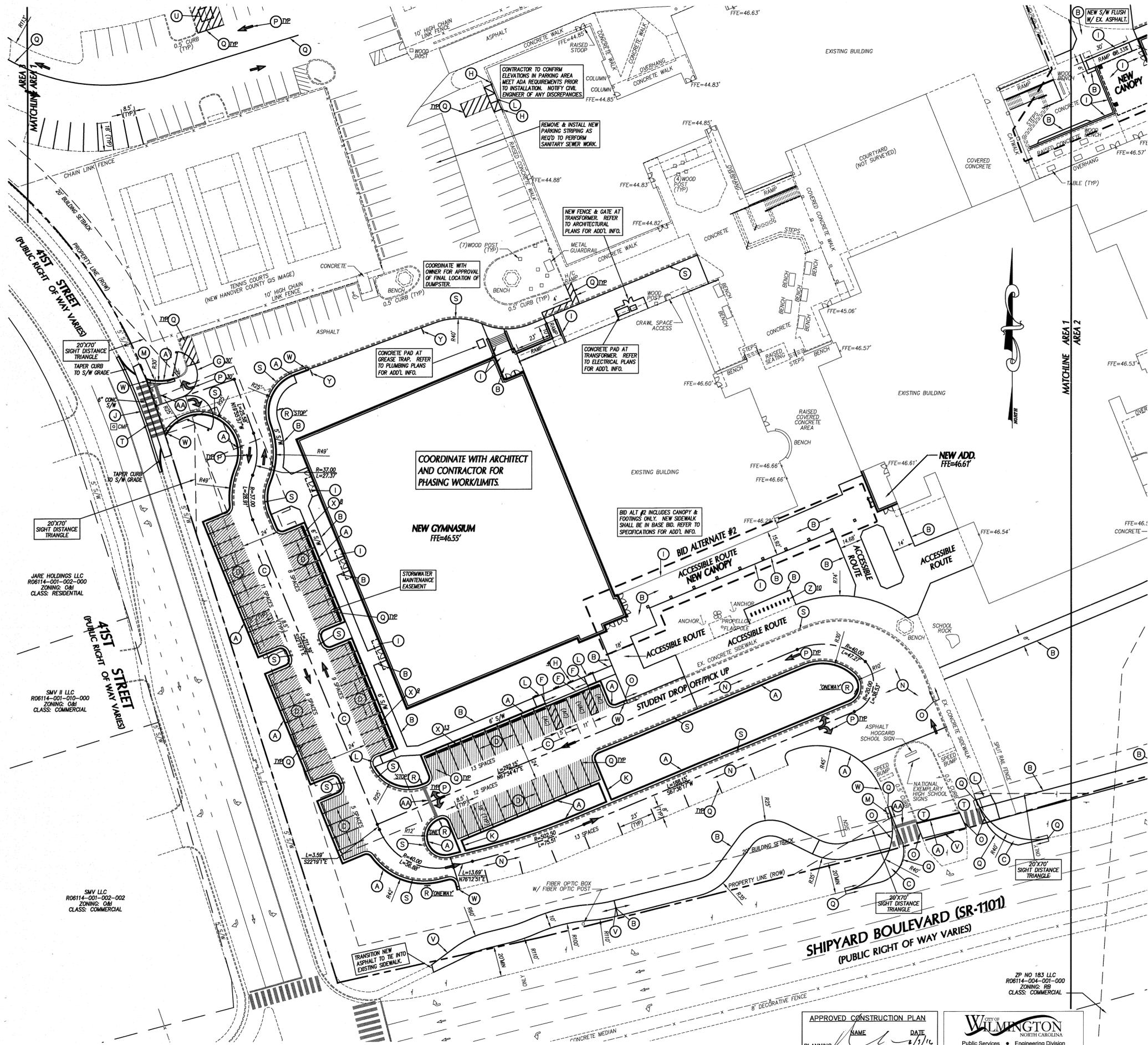
PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016

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| JOB NUMBER | 15-120 |
| DRAWN BY | JGM |
| CHECKED BY | JGM |
| DATE | MAY 27, 2016 |
| REVISIONS | |

**PHASE ONE
PLAN**

SHEET NUMBER

C-1.0



- ### KEY NOTES
- A 24" CONCRETE CURB & GUTTER, SEE DETAIL SHEET C7.2.
 - B CONCRETE SIDEWALK, SEE DETAIL SHEET C7.2.
 - C HEAVY DUTY ASPHALT PAVEMENT, SEE DETAIL SHEET C7.2.
 - D LIGHT DUTY ASPHALT PAVEMENT, SEE DETAIL SHEET C7.2.
 - E CONCRETE PAVEMENT, SEE DETAIL SHEET C7.2.
 - F SIDEWALK FLUSH W/ PAVEMENT, SEE ACCESS. PARKING CURB RAMP DETAIL SHT C7.2.
 - G PIPE GATE, SEE DETAIL SHEET C7.9.
 - H ACCESSIBLE PARKING SIGNAGE, SEE DETAIL SHEET C7.3.
 - I SEE ARCHITECTURAL PLANS FOR SCREEN WALLS, RAMP, CANOPY, STEPS, ETC.
 - J CONCRETE DRIVEWAY APRON, SEE DETAIL SHEET C7.2.
 - K CONCRETE CURB FLUME, SEE DETAIL SHEET C7.3.
 - L ACCESSIBLE CURB RAMP, SEE DETAIL SHEET C7.3.
 - M RELOCATE EXISTING STOP SIGN PER CITY OF WILMINGTON AND MUTCD STANDARDS.
 - N ASPHALT OVERLAY, SEE DETAIL SHEET C7.2.
 - O ASPHALT PAVEMENT FLUSH WITH SIDEWALK.
 - P DIRECTIONAL ARROW, SEE TRAFFIC CONTROL NOTES THIS SHEET.
 - Q SOLID WHITE MARKING, SEE TRAFFIC CONTROL NOTES THIS SHEET.
 - R TRAFFIC CONTROL SIGNAGE, SEE TRAFFIC CONTROL NOTES THIS SHEET.
 - S FIRE LANE STRIPING, SEE TRAFFIC CONTROL NOTES THIS SHEET.
 - T HI-VIS CROSSWALK, SEE TRAFFIC CONTROL NOTES THIS SHEET.
 - U DUMPSTERS: PROVIDED BY OWNER, RELOCATED BY CONTRACTOR. COORDINATE WITH OWNER FOR TEMPORARY LOCATION DURING CONSTRUCTION. REFER TO STAKING PLANS FOR FINAL LOCATION AFTER CONSTRUCTION.
 - V 10' WIDE MULTI-USE PATH PER CITY OF WILMINGTON STANDARDS, SEE DETAIL SHEET C7.3.
 - W STANDARD METHOD OF ENDING CURB, SEE DETAIL SHEET C7.2.
 - X PRE-CAST CONCRETE WHEEL STOP, SEE DETAIL SHEET C7.2.
 - Y NO PARKING - FIRE LANE SIGNAGE, SEE DETAIL SHEET C7.2.
 - Z BIKE RACKS, SEE DETAIL SHEET C7.2.
 - AA STOP BAR, SEE TRAFFIC CONTROL NOTES THIS SHEET.

- ### GENERAL NOTES
1. ALL DIMENSIONS SHOWN ARE FACE OF CURB AND FACE OF BUILDING WALL, UNLESS OTHERWISE SHOWN.
 2. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS SHOWN AND CONTACT THE ARCHITECT IF ANY DISCREPANCIES OCCUR.
 3. CONSTRUCTION STAKE OUT IS THE RESPONSIBILITY OF THE CONTRACTOR.
 4. ALL SIGNS AND PAVEMENT MARKINGS ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
 5. PAVEMENT MARKINGS IN PUBLIC RIGHT-OF-WAYS AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY OF WILMINGTON AND/OR NCDOT STANDARDS.
 6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.
 7. REPLACEMENT OF ANY BROKEN OR DAMAGED CONCRETE SIDEWALK PANELS OR CURBING THAT OCCURS DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR.
 8. ALL PARKING STALL RADII SHALL BE 4' UNLESS OTHERWISE NOTED.
 9. PIPE GATE AT THE BUS DROP-OFF/FIRE LANE SHALL MEET THE CITY OF WILMINGTON FIRE SERVICES GATE REQUIREMENTS FOR LOCKING ARRANGEMENTS.
 10. A PORTION OF THIS PROPERTY IS LOCATED IN THE 100 YEAR FLOOD ZONE AS SHOWN IN THE COMMUNITY PANEL 3701710005 C DATED NOV. 4, 1997.

TRAFFIC CONTROL NOTES

1. ALL SITE SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND NCDOT STANDARDS.

| SIGN | MUTCD STD. | SIZE |
|--------------------|------------|---------|
| STOP | R1-1 | 30"x30" |
| ONE WAY | R6-1 | 36"x12" |
| DO NOT ENTER (DNE) | R5-1 | 30"x30" |
2. ALL SIGNS SHALL BE MOUNTED WITH 7'-FT MIN. VERTICAL CLEARANCE TO THE BOTTOM OF THE SIGN ON 2-LB. GALV. STEEL U-CHANNEL POST SET IN 3'-FT DEEP x 12-IN DIA. CONCRETE FOOTING.
3. ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MUTCD AND NCDOT STANDARDS AND THE PROJECT SPECIFICATIONS.

| MARKING | NCDOT STD. | SIZE | COLOR |
|--------------------------|-----------------|-------|-------|
| PARKING SPACE | - | 4-IN | WHT. |
| DIRECTIONAL ARROWS | 1205.08 | STD. | WHT. |
| NO PARKING - FIRE LANE * | - | 4-IN | WHT. |
| SOLID | - | 4-IN | WHT. |
| CROSSWALK | 1205.07(HI-VIS) | 24-IN | WHT. |
| STOP BAR | - | 24-IN | WHT. |

* NO PARKING - FIRE LANE MARKING SHALL CONSIST OF A 4" SOLID WHITE STRIPE AND 8" HIGH WHITE TEXT "NO PARKING - FIRE LANE" AT 50' INTERVALS. PROVIDE IN ALL PAVED AREAS AS DESIGNATED BY FIRE MARSHALL.
4. ALL PAVEMENT MARKINGS ON SITE MAY BE EITHER THERMOPLASTIC OR ALKYD-RESIN TYPE PAINT.
5. ALL SIGNAGE SHALL BE FIELD STAKED AND THE LOCATIONS APPROVED BY CLH DESIGN PRIOR TO SIGN INSTALLATION.
6. CENTER ALL DIRECTIONAL ARROWS WITHIN TRAVEL LANE.

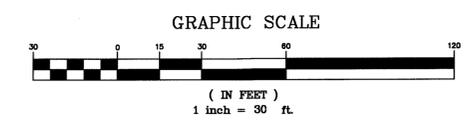
CONTRACTOR SHALL INCLUDE PRICE FOR 1,500-LF OF TEMPORARY CONSTRUCTION FENCE & GATES IN BASE BID (SEE DETAIL SHEET C7.3). LOCATIONS TO BE DETERMINED IN FIELD WITH OWNER AND ENGINEER PRIOR TO INSTALLATION. REFER TO SITE LOGISTICS PLAN BY CONTRACTOR FOR ADDITIONAL INFORMATION.

COORDINATE PROPOSED OFFSITE DEMOLITION & CONSTRUCTION ACTIVITIES FOR NEW DRIVEWAY OFF 41ST STREET WITH ENGINEERING DEPT (CONSTRUCTION MANAGEMENT, SKIPPER FUNDERBURG) PRIOR TO PERFORMING WORK.

APPROVED CONSTRUCTION PLAN

| NAME | DATE |
|------------------------------|--------|
| PLANNING: <i>[Signature]</i> | 6/9/16 |
| TRAFFIC: <i>[Signature]</i> | 6/9/16 |
| FIRE: <i>[Signature]</i> | 6/9/16 |

City of Wilmington
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/8/16 Permit # 2015028 PA
Signed: *[Signature]*



BOWMAN MURRAY HEMINGWAY
ARCHITECTS
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Project ID # 900-9005



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PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016

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| JOB NUMBER | 15-120 |
| DRAWN BY | JGM |
| CHECKED BY | JGM |
| DATE | MAY 27, 2016 |
| REVISIONS | 5-19-16 NCDOT DRIVEWAY SUB |

SITE STAKING PLAN
SHEET NUMBER

C-1.1



**BOWMAN
MURRAY
HEMINGWAY**

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Project ID # 900-9005



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JOB NUMBER
15-120
DRAWN BY
JGM
CHECKED BY
JGM
DATE
MAY 27, 2016
REVISIONS

SITE STAKING
PLAN

SHEET NUMBER

C-1.2

KEY NOTES

- (A) 24" CONCRETE CURB & GUTTER, SEE DETAIL SHEET C7.2.
- (B) CONCRETE SIDEWALK, SEE DETAIL SHEET C7.2.
- (C) HEAVY DUTY ASPHALT PAVEMENT, SEE DETAIL SHEET C7.2.
- (D) LIGHT DUTY ASPHALT PAVEMENT, SEE DETAIL SHEET C7.2.
- (E) CONCRETE PAVEMENT, SEE DETAIL SHEET C7.2.
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- (U) DUMPSTERS, PROVIDED BY OWNER, RELOCATED BY CONTRACTOR. COORDINATE WITH OWNER FOR TEMPORARY LOCATION DURING CONSTRUCTION. REFER TO STAKING PLANS FOR FINAL LOCATION AFTER CONSTRUCTION.
- (V) 10' WIDE MULTI-USE PATH PER CITY OF WILMINGTON STANDARDS, SEE DETAIL SHEET C7.3.
- (W) STANDARD METHOD OF ENDING CURB, SEE DETAIL SHEET C7.2.
- (X) PRE-CAST CONCRETE WHEEL STOP, SEE DETAIL SHEET C7.2.
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- (AA) STOP BAR, SEE TRAFFIC CONTROL NOTES THIS SHEET.

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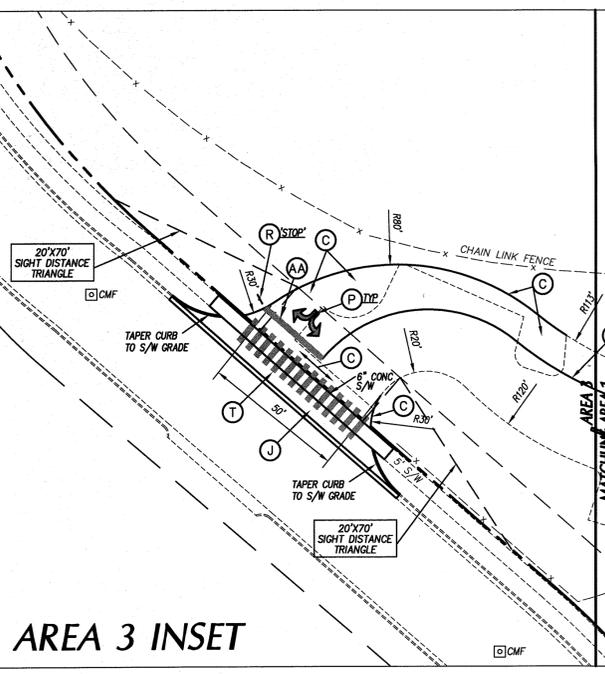
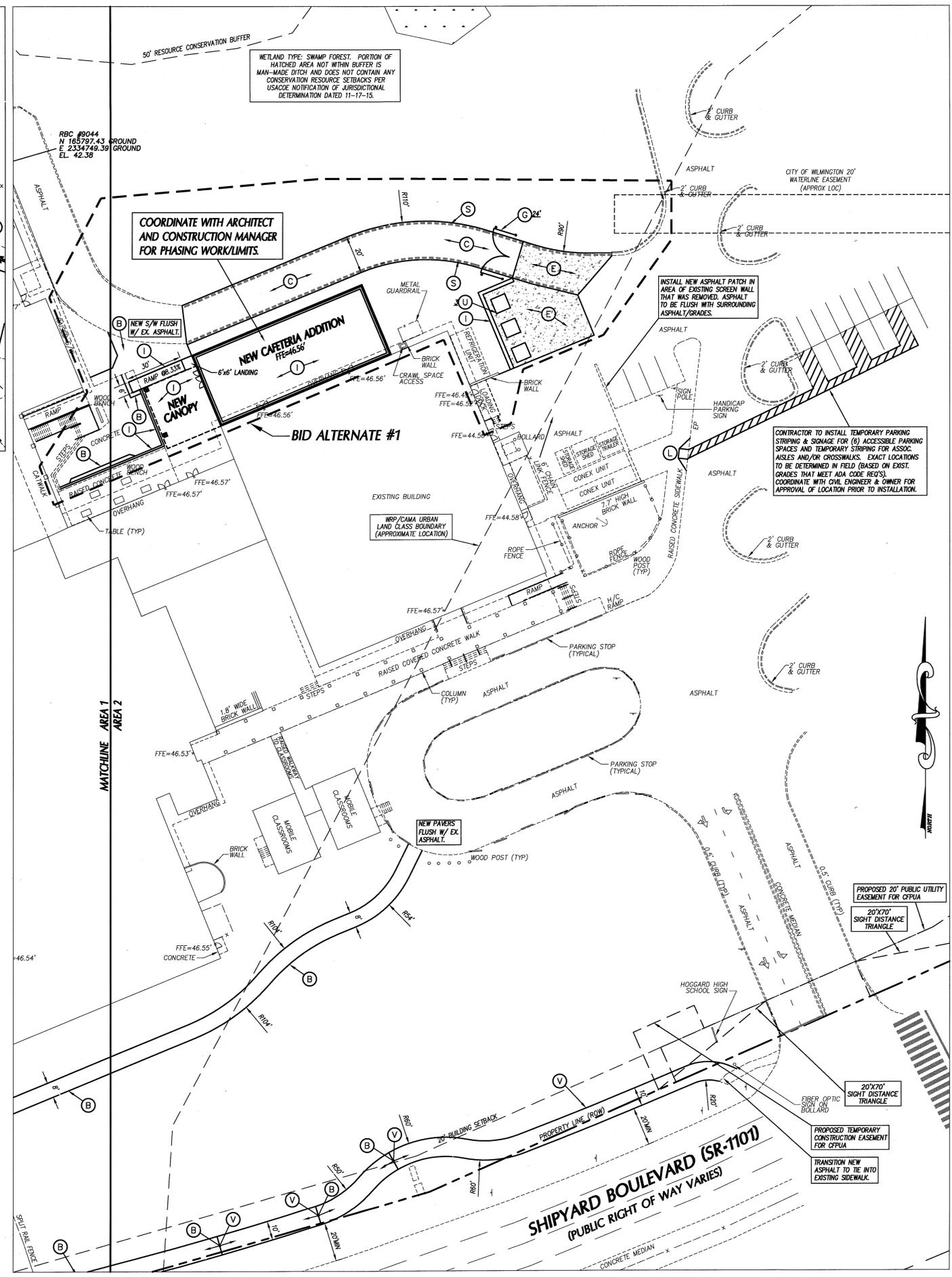
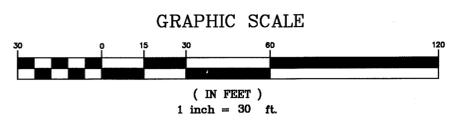
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CONTRACTOR SHALL INCLUDE PRICE FOR 1,500-LF OF TEMPORARY CONSTRUCTION FENCE & GATES IN BASE BID (SEE DETAIL SHEET C7.3). LOCATIONS TO BE DETERMINED IN FIELD WITH OWNER AND ENGINEER PRIOR TO INSTALLATION. REFER TO SITE LOGISTICS PLAN BY CONTRACTOR FOR ADDITIONAL INFORMATION.

COORDINATE PROPOSED OFFSITE DEMOLITION & CONSTRUCTION ACTIVITIES FOR NEW DRIVEWAY OFF 41ST STREET WITH ENGINEERING DEPT (CONSTRUCTION MANAGEMENT, SKIPPER FUNDERBURG) PRIOR TO PERFORMING WORK.



AREA 3 INSET

CITY OF WILMINGTON NOTES

1. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING SHALL BE INSTALLED AROUND PROTECTED TREES OR GROUNDS OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN TREE PROTECTION FENCING.
2. ANY TREES AND/OR AREAS DESIGNATED TO BE PROTECTED MUST BE PROPERLY BARRICADED WITH FENCING AND PROTECTED THROUGHOUT CONSTRUCTION TO INSURE THAT NO CLEARING, GRADING OR STAGING OF MATERIALS WILL OCCUR IN THOSE AREAS.
3. NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND SFT FENCING IS INSTALLED AND APPROVED. PROTECTIVE FENCING IS TO BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT, AND CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION METHODS.
4. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS.
5. ONCE STREETS ARE OPEN TO TRAFFIC, CONTACT TRAFFIC ENGINEERING REGARDING THE INSTALLATION OF TRAFFIC AND STREET NAME SIGNS. PROPOSED STREET NAMES MUST BE APPROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS.
6. TRAFFIC CONTROL DEVICES (INCLUDING SIGNS AND PAVEMENT MARKINGS) IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS.
7. CONTACT TRAFFIC ENGINEERING AT 910.341.7888 TO ENSURE THAT ALL TRAFFIC SIGNAL FACILITIES AND EQUIPMENT ARE SHOWN ON THE PLAN.
8. CALL TRAFFIC ENGINEERING AT 910.341.7888 FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT-OF-WAY.
9. TRAFFIC ENGINEERING MUST APPROVE OF PAVEMENT MARKING PRIOR TO ACTUAL STRIPING.
10. ALL PARKING STALL MARKINGS AND LANE ARROWS WITH THE PARKING AREAS SHALL BE WHITE.
11. ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER.
12. STOP SIGNS AND STREET SIGNS TO REMAIN IN PLACE DURING CONSTRUCTION.
13. TACTILE WARNING MATS WILL BE INSTALLED ON ALL WHEELCHAIR RAMPS.
14. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET.
15. ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS & CURBING WILL BE REPLACED.
16. CONTACT TRAFFIC ENGINEERING AT 910.341.7888 TO DISCUSS STREET LIGHT OPTIONS.
17. WATER AND SEWER SERVICE SHALL MEET CAPE FEAR PUBLIC UTILITY AUTHORITY (CFPUA) DETAILS AND SPECIFICATIONS.
18. PROJECT SHALL COMPLY WITH CFPUA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 910.343.3910 FOR INFORMATION.
19. IF THE CONTRACTOR DESIRES CFPUA WATER FOR CONSTRUCTION, HE SHALL APPLY IN ADVANCE FOR THIS SERVICE AND MUST PROVIDE A REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTION DEVICE ON THE DEVELOPER'S SIDE OF THE WATER METER BOX.
20. ANY IRRIGATION SYSTEM SUPPLIED BY CFPUA WATER SHALL COMPLY WITH THE CFPUA CROSS CONNECTION CONTROL REGULATIONS. CALL 910.343.3910 FOR INFORMATION.
21. ANY IRRIGATION SYSTEM SHALL BE EQUIPPED WITH A RAIN AND FREEZER SENSOR.
22. ANY BACKFLOW PREVENTION DEVICES REQUIRED BY CFPUA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFOCOCHR OR ASSE.
23. CONTRACTOR TO FIELD VERIFY EXISTING WATER AND SEWER SERVICE LOCATIONS, SIZES AND MATERIALS PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED OF ANY CONFLICTS.
24. CONTRACTOR SHALL MAINTAIN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
25. UNDERGROUND FIRE LINE(S) MUST BE PERMITTED AND INSPECTED BY THE WILMINGTON FIRE DEPARTMENT FROM THE PUBLIC RIGHT-OF-WAY TO THE BUILDING. CONTACT WILMINGTON FIRE DEPARTMENT DIVISION OF FIRE AND LIFE SAFETY AT 910.341.0696.
26. NO OBSTRUCTIONS ARE PERMITTED IN THE SPACE BETWEEN THIRTY (30) INCHES AND TEN (10) FEET ABOVE THE GROUND WITHIN THE TRIANGULAR SIGHT DISTANCE.
27. CONTACT THE NORTH CAROLINA ONE CALL CENTER AT 1.800.632.4949 PRIOR TO DOING ANY DIGGING, CLEARING OR GRADING.

APPROVED CONSTRUCTION PLAN

NAME: [Signature] DATE: 6/27/16

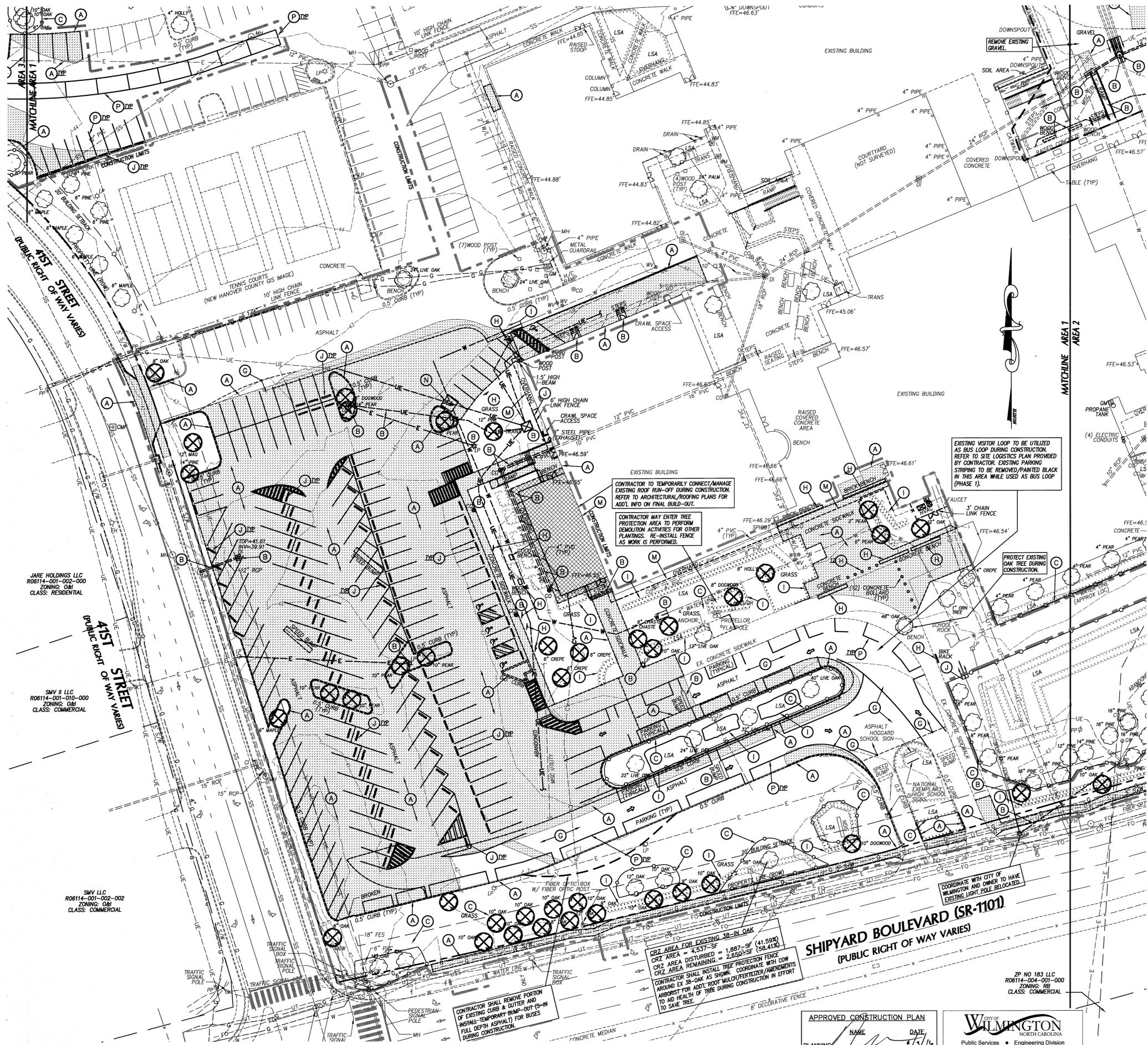
PLANNING: [Signature] DATE: 6/27/16

TRAFFIC: [Signature] DATE: 6/27/16

FIRE: [Signature] DATE: 6/27/16

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/11/16 Permit #: 2015025 (S)
Signed: [Signature]

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



LEGEND-STRUCTURES/UTILITIES TO REMAIN

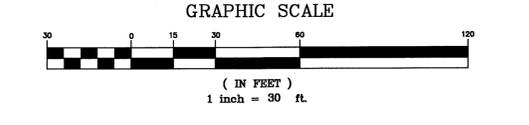
| | | | | |
|---------------------------|-----|----|------------------------|----------|
| OVERHEAD ELECTRICAL | --- | E | LIGHT POLE | ☆ LP |
| UNDERGROUND ELECTRICAL | --- | UE | UTILITY POLE | PP |
| FIRE PROTECTION | --- | FP | MANHOLE | ○ MH |
| GAS | --- | G | CLEAN OUT | ○ CO |
| SANITARY SEWER | --- | SS | DROP INLET,CATCH BASIN | □ DI, CB |
| TELEPHONE | --- | T | FIRE HYDRANT | ○ FH |
| UNDERGROUND TELEPHONE | --- | UT | WATER VALVE | ○ WV |
| FIBER OPTIC | --- | FO | | |
| WATER | --- | W | | |
| FORCE MAIN | --- | FM | | |
| STORM DRAIN | --- | SD | | |
| INDIVIDUAL TREE TO REMAIN | ○ | | | |

LEGEND-STRUCTURES/UTILITIES TO BE REMOVED

| | | | | |
|-------------------------------|-----|----|--|----------|
| OVERHEAD ELECTRICAL | --- | E | LIGHT POLE | ☆ LP |
| UNDERGROUND ELECTRICAL | --- | UE | UTILITY POLE | PP |
| FIRE PROTECTION | --- | FP | MANHOLE | ○ MH |
| GAS | --- | G | CLEAN OUT | ○ CO |
| SANITARY SEWER | --- | SS | DROP INLET,CATCH BASIN | □ DI, CB |
| TELEPHONE | --- | T | FIRE HYDRANT | ○ FH |
| UNDERGROUND TELEPHONE | --- | UT | WATER VALVE | ○ WV |
| FIBER OPTIC | --- | FO | CONSTR./CLEARING LIMITS | --- |
| WATER | --- | W | PAVEMENT, S/W, CONCRETE TO BE DEMOLISHED | --- |
| FORCE MAIN | --- | FM | BUILDINGS TO BE DEMOLISHED | --- |
| STORM DRAIN | --- | SD | REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. | --- |
| INDIVIDUAL TREE TO BE REMOVED | ⊗ | | | |

- KEY NOTES**
- (A) SAW CUT AND REMOVE PAVEMENT, CURB & GUTTER, AND SIDEWALK.
 - (B) STRUCTURES/UTILITIES TO BE REMOVED. COORDINATE W/ LOCAL UTILITY PROVIDERS, AS REQUIRED, PRIOR TO REMOVING LIGHT/ELECTRICAL POLES.
 - (C) TREE PROTECTION FENCING, SEE DETAIL SHEET C7.1.
 - (D) CLEAR & GRUB WITHIN CONSTRUCTION LIMITS, SEE SPECIFICATIONS.
 - (E) EXISTING UTILITY TO BE RELOCATED/REMOVED/ADJUSTED BY UTILITY COMPANY. COORDINATE/SCHEDULE WORK WITH UTILITY COMPANY. SEE UTILITY PLAN FOR APPROXIMATE NEW LOCATIONS.
 - (F) EXISTING CONNEX UNIT/STORAGE SHED TO BE RELOCATED BY OWNER.
 - (G) MILL AREA AS REQUIRED TO RECEIVE ASPHALT OVERLAY. REFER TO STAKING PLANS FOR ADDITIONAL INFORMATION.
 - (H) SITE ELEMENTS (TRASH CANS, BOLLARDS, BENCHES, SIGNS, ETC.) TO BE REMOVED.
 - (I) SHRUBS/LANDSCAPING TO BE REMOVED.
 - (J) CHAIN LINK FENCE TO BE REMOVED.
 - (K) CONCRETE WHEEL STOP TO BE REMOVED.
 - (L) PIPE GATE TO BE REMOVED.
 - (M) REFER TO ARCHITECTURAL PLANS FOR REMOVAL/DEMOLITION OF ITEMS.
 - (N) DUMPSTERS TO BE RELOCATED BY CONTRACTOR. COORDINATE W/ OWNER FOR TEMPORARY LOCATION DURING CONSTRUCTION. REFER TO STAKING PLAN FOR FINAL LOCATION.
 - (O) SCREEN WALL TO BE REMOVED.
 - (P) PARKING STRIPING TO BE REMOVED.

- GENERAL NOTES**
1. ALL UTILITIES OR STRUCTURES NOT INDICATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE.
 2. ALL WASTE MATERIAL GENERATED FROM CLEARING AND DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
 3. INSTALL TREE PROTECTION FENCING PRIOR TO BEGINNING CLEARING OPERATIONS. CLEAR AND GRUB AS NEEDED WITHIN CONSTRUCTION LIMITS PER SPECIFICATIONS AND DRAWINGS. EXISTING TREES, SHRUBS OR OTHER LANDSCAPE MATERIAL WHICH WILL CONFLICT WITH NEW CONSTRUCTION SHALL BE REMOVED (WHETHER OR NOT SHOWN ON THE DRAWINGS) FOLLOWING APPROVAL OF ARCHITECT. BY SUBMITTING A BID, CONTRACTOR ACKNOWLEDGES THAT THE SITE HAS BEEN INVESTIGATED TO DETERMINE TYPE, SIZE AND QUANTITY OF CLEARING REQUIRED FOR CONSTRUCTION.
 4. LAND CLEARING AND CONSTRUCTION CONTRACTORS SHALL RECEIVE ADEQUATE INSTRUCTION ON TREE PROTECTION REQUIREMENTS AND METHODS (PER CODE SECT. 18-457(D)).
 5. NO EQUIPMENT IS ALLOWED ON SITE UNTIL ALL TREE PROTECTION FENCING AND S/LT FENCING HAS BEEN INSTALLED AND APPROVED (PER CODE SECT. 18-458).
 6. NO LAND DISTURBANCE, INCLUDING TREE REMOVAL, IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN (PER CODE SECT. 18-457 (B)).
 7. ALL PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAW CUT TO PROVIDE A STRAIGHT AND UNIFORM JOINT WITH NEW CONSTRUCTION. ANY EXISTING PAVEMENT, SIDEWALK, CURB & GUTTER, ETC. THAT MUST BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED AND PREPARED PER THE SPECIFICATIONS AND DETAILS OR TO MATCH EXISTING CONDITIONS (WHETHER OR NOT SHOWN ON THE DRAWINGS TO BE REMOVED). UTILITY INSTALLATIONS MAY UTILIZE OPEN CUT OF PAVEMENTS UNLESS OTHERWISE INDICATED. TRENCH IN EXISTING ASPHALT SHALL BE PATCHED PER PAVEMENT REPAIR ON DETAIL SHEET.
 8. PROTECT ALL ADJACENT PROPERTIES, THE GENERAL PUBLIC AND ALL OF THE OWNER'S FACILITIES. SHOULD DAMAGES OCCUR, NOTIFY ARCHITECT IMMEDIATELY.
 9. THE CONTRACTOR SHALL EMPLOY A QUALIFIED UTILITY LOCATOR SERVICE TO LOCATE ALL UNDERGROUND UTILITIES (INCLUDING BUT NOT LIMITED TO ELECTRICAL, TELEPHONE, GAS, CABLE, FIBER OPTIC) WITHIN THE LIMITS OF CONSTRUCTION.
 10. VERIFY ALL ILLUSTRATED KNOWN UNDERGROUND ELEMENTS. EXERCISE REASONABLE EFFORTS TO PROTECT ANY UNKNOWN UNDERGROUND ELEMENTS. NOTIFY THE ARCHITECT IMMEDIATELY IF UNKNOWN ELEMENTS ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE PROPOSED DESIGN.
 11. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND OSHA REGULATION.
 12. EXISTING MANHOLES, VALVE BOXES, VAULTS, CLEANOUTS, UTILITY POLES ETC. TO REMAIN WITHIN THE CRANE LIMITS SHALL BE PROTECTED AS NEEDED TO FUNCTION PROPERLY WITH THE PROPOSED FINISHED GRADES (WHETHER OR NOT INDICATED TO BE MODIFIED).
 13. GENERAL CONTRACTOR TO COORDINATE ALL PEDESTRIAN ACCESS PATHS, LOCATIONS, LIGHTING, HANDICAP PARKING, ETC. DURING CONSTRUCTION WITH OWNER.
 14. EXISTING SURVEY INFORMATION WAS TAKEN FROM A BOUNDARY AND TOPOGRAPHIC SURVEY BY MCM & CREED DATED 10-30-15. SURVEY PROVIDED BY OWNER.
 15. ANY AND ALL LANDSCAPING AND EXISTING TREES & SHRUBS TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR UTILIZING A LICENSED LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
 16. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE WITHIN THE CONSTRUCTION AREA AFTER DEMOLITION IS COMPLETE. EXCAVATIONS FROM FOOTING AND UTILITY REMOVAL SHALL BE FILLED WITH STRUCTURAL MATERIAL AS DIRECTED BY THE OWNER'S TESTING AGENCY AND COMPACTED PER SPECIFICATIONS.
 17. ALL WEATHER ACCESS ROAD MUST BE MAINTAINED AROUND CONSTRUCTION AT ALL TIMES.

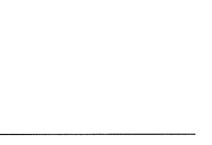


BOWMAN MURRAY HEMINGWAY
ARCHITECTS
514 Market Street
Wilmington, NC 28401
Tel - (910) 762-2621
Fax - (910) 762-8506

Project ID # 900-9005



CLH DESIGN, PA
500 Regency Forest Dr.
Suite 100
Cary, NC 27518
Phone: 919-239-6716
Fax: 919-239-7516
E-MAIL: CLH@CLHDESIGN.COM
5-21-16



Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016

| | |
|------------|----------------------------|
| JOB NUMBER | 15-120 |
| DRAWN BY | JGM |
| CHECKED BY | JGM |
| DATE | MAY 27, 2016 |
| REVISIONS | 5-19-16 NCDOT DRIVEWAY SUB |

SITE EXISTING CONDITIONS & DEMO PLAN

SHEET NUMBER
C-2.1

APPROVED CONSTRUCTION PLAN

| | |
|----------|--------|
| NAME | DATE |
| PLANNING | 6/9/16 |
| TRAFFIC | 6/9/16 |
| FIRE | 6/9/16 |

City of WILMINGTON, NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/8/16 Permit # 201502381
Signed: RPL

JARE HOLDINGS LLC
R06114-001-002-000
ZONING: O&I
CLASS: RESIDENTIAL

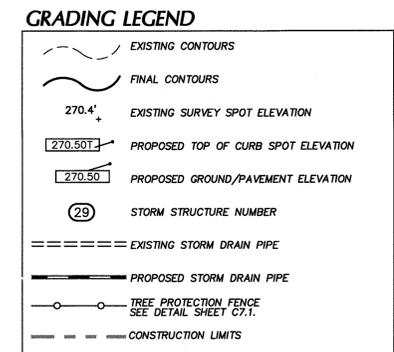
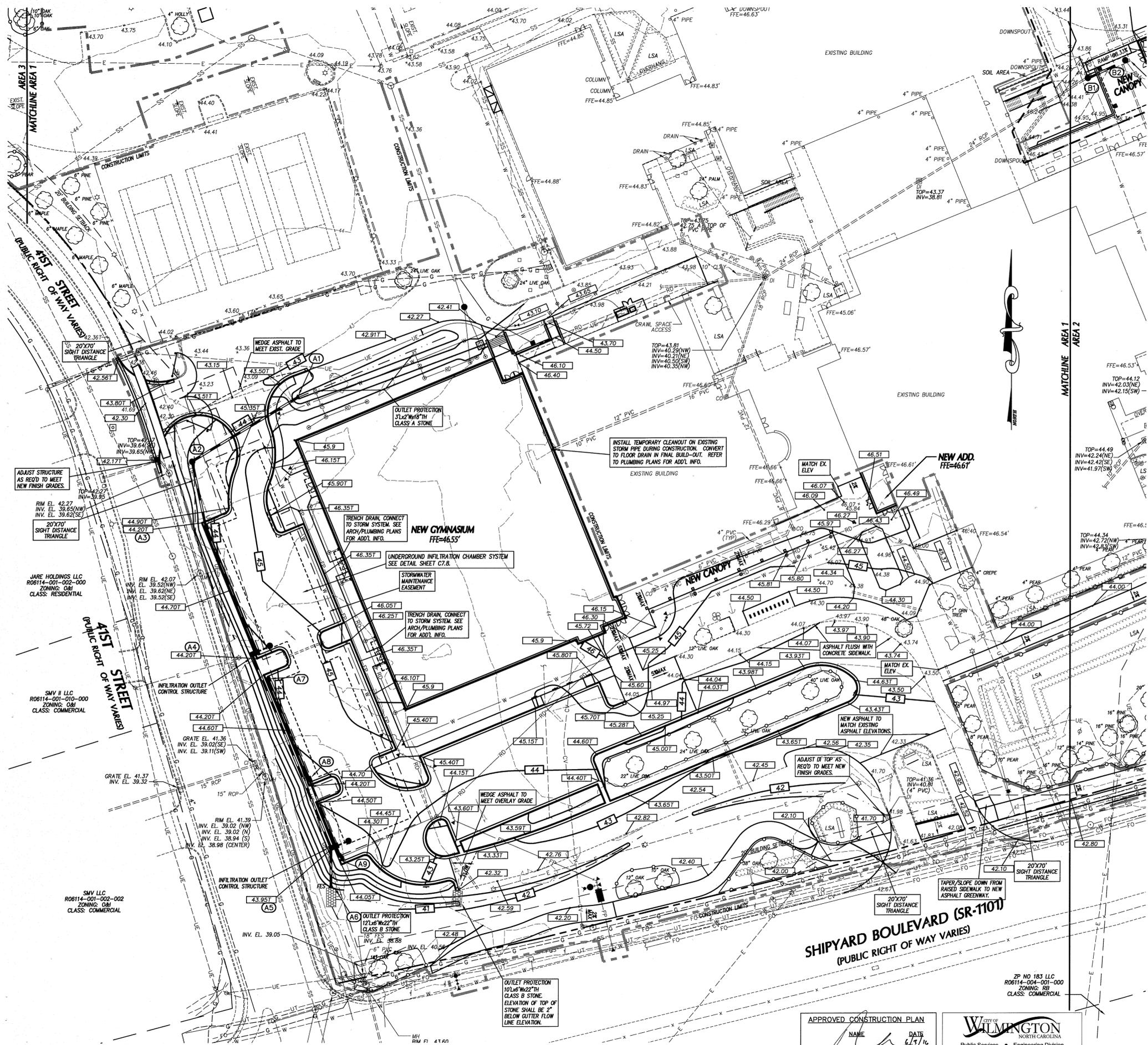
SMV II LLC
R06114-001-010-000
ZONING: O&I
CLASS: COMMERCIAL

SMV LLC
R06114-001-002-002
ZONING: O&I
CLASS: COMMERCIAL

CRZ AREA FOR EXISTING 38-IN OAK
CRZ AREA = 4,537-SF
CRZ AREA DISTURBED = 1,887-SF (41.59%)
CRZ AREA REMAINING = 2,650-SF (58.41%)
CONTRACTOR SHALL INSTALL TREE PROTECTION FENCE
AROUND EX 38-IN OAK AS SHOWN. COORDINATE WITH COW
ARBOREST FOR ADULT ROOT MULCH/FERTILIZER/AMENDMENTS
TO AID HEALTH OF TREE DURING CONSTRUCTION IN EFFORT
TO SAVE TREE.

SHIPYARD BOULEVARD (SR-1101)
(PUBLIC RIGHT OF WAY VARIES)

2P NO 183 LLC
R06114-004-001-000
ZONING: RB
CLASS: COMMERCIAL



- ### GRADING NOTES
1. ALL SPOT ELEVATIONS INDICATED AT CURB AND GUTTER ARE TO TOP OF CURB, UNLESS OTHERWISE SHOWN.
 2. TOTAL DENUDED AREA = 5 AC.
 3. CONTRACTOR SHALL ADJUST ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, CLEANOUTS, ETC. AS NEEDED TO MATCH FINISH GRADE.
 4. ALL BACKFILL, COMPACTION, SOILS TESTING, ETC. SHALL BE PERFORMED BY THE OWNERS INDEPENDENT TESTING LABORATORY. (SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION)
 5. ALL STORM DRAIN PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER STOPPAGE OF WORK EACH DAY.
 6. EXISTING VEGETATION WITHIN TREE PROTECTION AREAS SHALL REMAIN UNDISTURBED, UNLESS NOTED OTHERWISE.
 7. THE GRADING CONTRACTOR SHALL COMPLY WITH ALL STATE CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF-SITE.
 8. THE GRADING CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY STATE AUTHORITIES OR THE ARCHITECT.
 9. THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-SITE DISPOSAL OF ALL CLEARING AND GRADING WASTE MATERIALS GENERATED DURING CONSTRUCTION AND FOR OBTAINING ALL APPLICABLE PERMITS FOR OFF-SITE STOCKPILES AND/OR WASTE AREAS.
 10. ALL ROOF DRAINS SHALL BE 6" PVC (SCH 40) @ 1.04% MIN. SLOPE UNLESS NOTED OTHERWISE. ROOF DRAINS SHALL BE DIP WHEN COVER IS LESS THAN 12 INCHES. PROVIDE ALL NECESSARY FITTINGS REQUIRED FOR INSTALLATION.

DRAINAGE STRUCTURE SCHEDULE

| STRUCTURE NO. | PIPE DIA. (IN) | PIPE SLOPE | PIPE LENGTH (LF) | PIPE MATL. | UPPER INV. (FT) | LOWER INV. (FT) | UPSTREAM STRUCTURE DATA | | NOTES |
|---------------|----------------|------------|------------------|------------|-----------------|-----------------|-------------------------|------------|-------|
| | | | | | | | TOP ELEV. (FT) | DEPTH (FT) | |
| A1 | A2 | 0.75% | 18 | RCP | 41.00 | 40.40 | 44.00 | 3.00 | FES |
| A2 | A3 | 0.80% | 24 | RCP | 40.30 | 40.05 | 44.50 | 4.20 | MH |
| A3 | A4 | 0.41% | 24 | RCP | 39.05 | 39.00 | 44.20 | 4.25 | CB |
| A4 | A5 | 0.44% | 24 | RCP | 39.80 | 39.25 | 44.20 | 4.40 | CB |
| A5 | A6 | 0.42% | 24 | RCP | 39.11 | 39.00 | 43.95 | 4.84 | CB |
| A7 | A8 | 0.59% | 12 | RCP | 40.50 | 40.10 | 44.20 | 3.70 | CB |
| A8 | A5 | 0.65% | 12 | RCP | 40.00 | 39.70 | 44.20 | 4.20 | CB |
| A9 | A5 | 1.25% | 12 | RCP | 39.80 | 39.70 | 44.05 | 4.25 | CB |
| B1 | B2 | 1.14% | 24 | RCP | 37.35 | 37.10 | 44.06 | 6.71 | MH |

LEGEND
 CB CATCH BASIN (NCOOT), SEE DETAIL SHEET C7.4.
 DI DROP INLET (NCOOT), SEE DETAIL SHEET C7.4.
 MH MANHOLE (NCOOT), SEE DETAIL SHEET C7.4.
 FES FLARED END SECTION.
 STRUCTURE I.D. NUMBER

NOTES:
 1. TOP ELEVATION IS TOP OF CURB FOR CATCH BASINS, TOP OF RIM FOR MANHOLES, TOP OF GRADE FOR DROP INLETS, AND FINISH GRADE FOR CLEANOUTS.
 2. ALL FES INLETS & OUTLETS SHALL BE RCP.

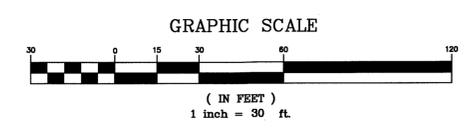
SHIPYARD BOULEVARD (SR-110)
(PUBLIC RIGHT OF WAY VARIES)

APPROVED CONSTRUCTION PLAN

NAME: *[Signature]* DATE: 6/9/16

PLANNING: *[Signature]* TRAFFIC: *[Signature]* FIRE: *[Signature]*

City of WILMINGTON, NORTH CAROLINA
 Public Services • Engineering Division
 APPROVED STORMWATER MANAGEMENT PLAN
 Date: 6/9/16 Permit #: 20150282K1
 Signed: *[Signature]*



bmh
BOWMAN MURRAY HEMINGWAY
 ARCHITECTS
 514 Market Street
 Wilmington, NC 28401
 Tel - (910) 762-2621
 Fax - (910) 762-8506

Project ID # 900-9005

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 400 Regency Forest Dr.
 Suite 120
 Cary, NC 27518
 Phone: 919.318.9116
 Fax: 919.318.7516
 E.A. C-106 P.E. C-1999



Phase One: Renovations and Additions to:
John T. Hoggard High School
 4305 Shipyard Blvd.
 Wilmington, North Carolina 28403

JOB NUMBER: 15-120
 DRAWN BY: JGM
 CHECKED BY: JGM
 DATE: MAY 27, 2016
 REVISIONS: 5-19-16 NCOOT DRIVEWAY SUB

SITE GRADING PLAN
 SHEET NUMBER
C-3.1

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



**BOWMAN
MURRAY
HEMINGWAY**

ARCHITECTS
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Wilmington, NC 28401
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Fax - (910) 762-8506

Project ID # 900-9005



Phase One: Renovations and Additions to: John T. Hoggard High School

4305 Shipyard Blvd.
Wilmington, North Carolina 28403

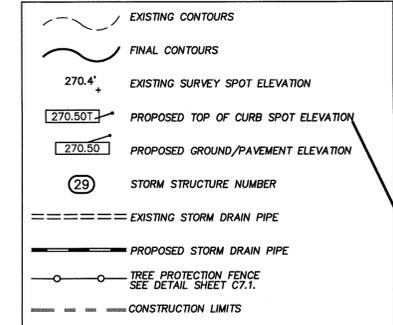
JOB NUMBER
15-120
DRAWN BY
JGM
CHECKED BY
JGM
DATE
MAY 27, 2016
REVISIONS
5-19-16 NCDOT DRIVEWAY SUB

SITE GRADING PLAN

SHEET NUMBER

C-3.2

GRADING LEGEND



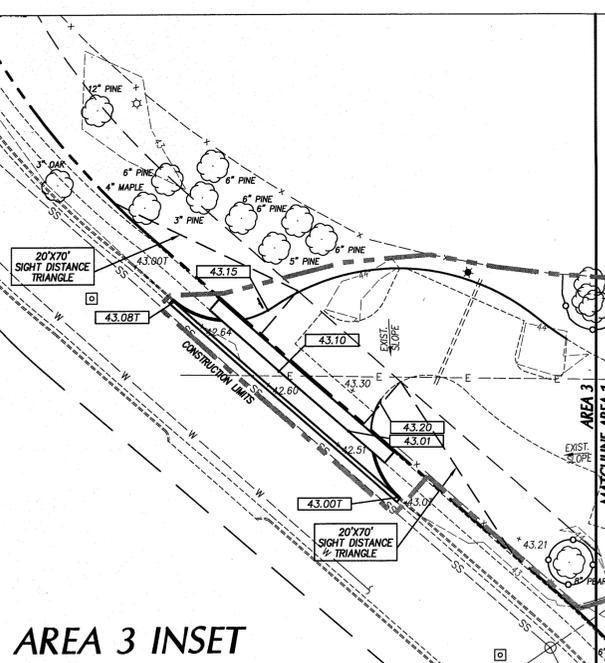
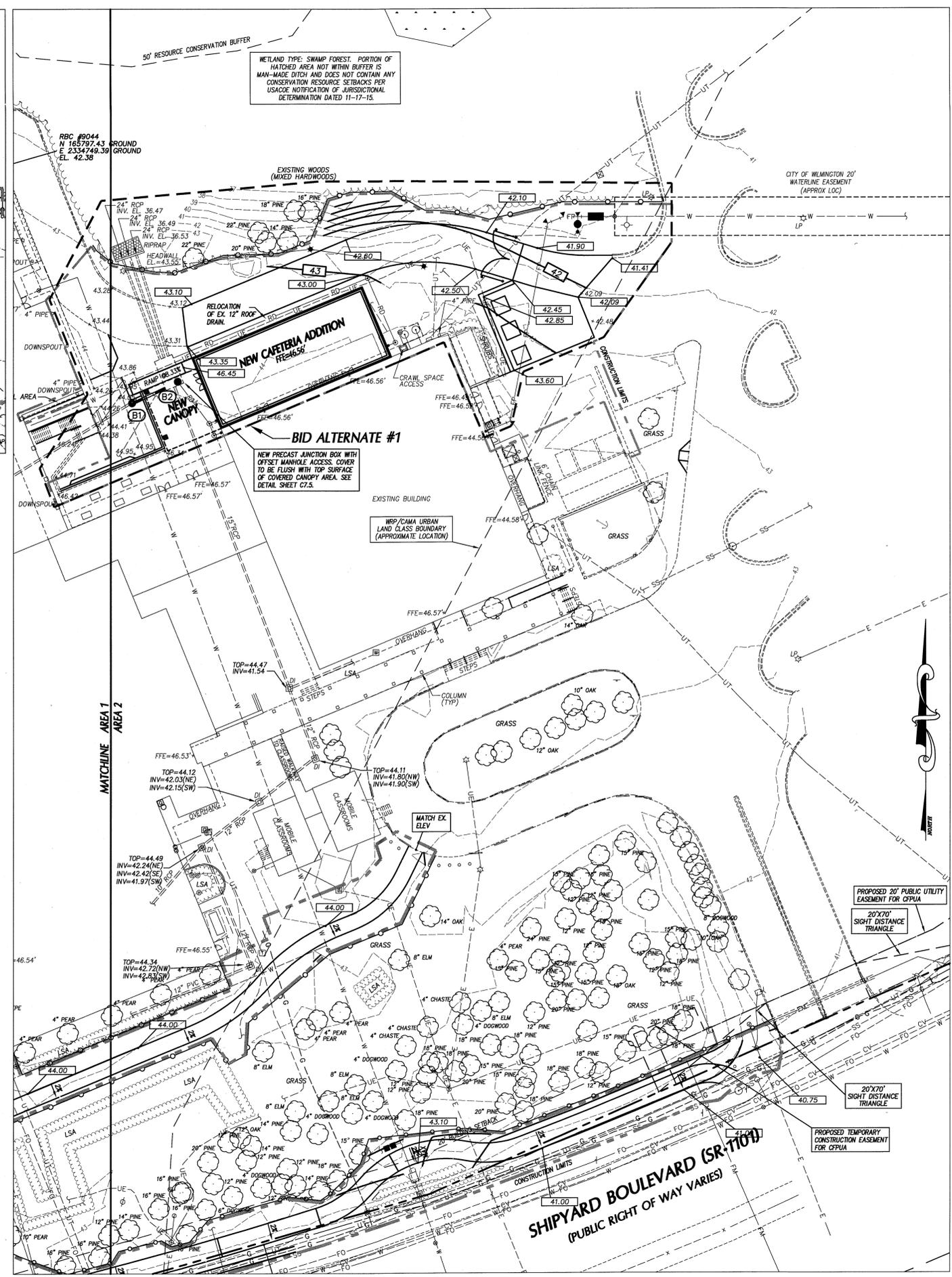
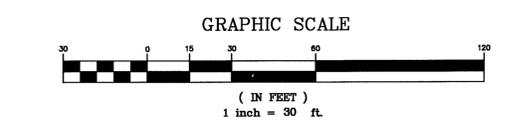
GRADING NOTES

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- TOTAL DENUDEO AREA = 5 AC.
- CONTRACTOR SHALL ADJUST ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, CLEANOUTS, ETC. AS NEEDED TO MATCH FINISH GRADE.
- ALL BACKFILL, COMPACTION, SOILS TESTING, ETC. SHALL BE PERFORMED BY THE OWNERS INDEPENDENT TESTING LABORATORY. (SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION)
- ALL STORM DRAIN PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER STOPPAGE OF WORK EACH DAY.
- EXISTING VEGETATION WITHIN TREE PROTECTION AREAS SHALL REMAIN UNDISTURBED, UNLESS NOTED OTHERWISE.
- THE GRADING CONTRACTOR SHALL COMPLY WITH ALL STATE CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF-SITE.
- THE GRADING CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY STATE AUTHORITIES OR THE ARCHITECT.
- THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-SITE DISPOSAL OF ALL CLEARING AND GRADING WASTE MATERIALS GENERATED DURING CONSTRUCTION AND FOR OBTAINING ALL APPLICABLE PERMITS FOR OFF-SITE STOCKPILES AND/OR WASTE AREAS.
- ALL ROOF DRAINS SHALL BE 6" PVC (SCH 40) @ 1.04% MIN. SLOPE UNLESS NOTED OTHERWISE. ROOF DRAINS SHALL BE DIP WHEN COVER IS LESS THAN 12 INCHES. PROVIDE ALL NECESSARY FITTINGS REQUIRED FOR INSTALLATION.

| DRAINAGE STRUCTURE SCHEDULE | | | | | | | | | | | |
|-----------------------------|----------------|------------|------------------|------------|-----------------|-----------------|-------------------------|------------|------|-------|------------|
| STRUCTURE NO. | PIPE DIA. (IN) | PIPE SLOPE | PIPE LENGTH (LF) | PIPE MATL. | UPPER INV. (FT) | LOWER INV. (FT) | UPSTREAM STRUCTURE DATA | | | | |
| | | | | | | | TOP ELEV. (FT) | DEPTH (FT) | TYPE | NOTES | |
| A1 | A2 | 0.75% | 18 | 80 | RCP | 41.00 | 40.40 | 44.00 | 3.00 | FES | |
| A2 | A3 | 0.60% | 24 | 42 | RCP | 40.30 | 40.05 | 44.50 | 4.20 | MH | |
| A3 | A4 | 0.41% | 24 | 86 | RCP | 39.90 | 39.60 | 44.20 | 4.25 | CB | |
| A4 | A5 | 0.44% | 24 | 154 | RCP | 39.80 | 39.21 | 44.20 | 4.40 | CB | EMP OUTLET |
| A5 | A6 | 0.42% | 24 | 26 | RCP | 39.11 | 39.00 | 43.95 | 4.84 | CB | EMP OUTLET |
| A7 | A8 | 0.59% | 12 | 68 | RCP | 40.50 | 40.10 | 44.20 | 3.70 | CB | |
| A8 | A5 | 0.65% | 12 | 46 | RCP | 40.00 | 39.70 | 44.20 | 4.20 | CB | |
| A9 | A5 | 1.25% | 12 | 8 | RCP | 39.80 | 39.70 | 44.05 | 4.25 | CB | |
| B1 | B2 | 1.14% | 24 | 22 | RCP | 37.35 | 37.10 | 44.00 | 6.71 | MH | |

LEGEND
 CB CATCH BASIN (NCDOT), SEE DETAIL SHEET C7.4
 DI DROP INLET (NCDOT), SEE DETAIL SHEET C7.4
 MH MANHOLE (NCDOT), SEE DETAIL SHEET C7.4
 FES FLARED END SECTION
 (A2) STRUCTURE I.D. NUMBER

NOTES
 1. TOP ELEVATION IS TOP OF CURB FOR CATCH BASINS, TOP OF RM FOR MANHOLES, TOP OF GRATE FOR DROP INLETS, AND FINISH GRADE FOR CLEANOUTS.
 2. ALL FES INLETS & OUTLETS SHALL BE RCP.



AREA 3 INSET

APPROVED CONSTRUCTION PLAN

NAME: [Signature] DATE: 6/7/16

PLANNING: [Signature] 6/9/16

TRAFFIC: [Signature] 6/9/16

FIRE: [Signature] 6/9/16

City of WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/8/16 Permit # 201502921
Signed: [Signature]

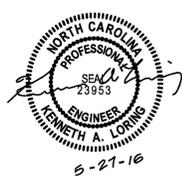
PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



**BOWMAN
MURRAY
HEMINGWAY**

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Tel - (910) 762-2621
Fax - (910) 762-8506

Project ID # 900-9005

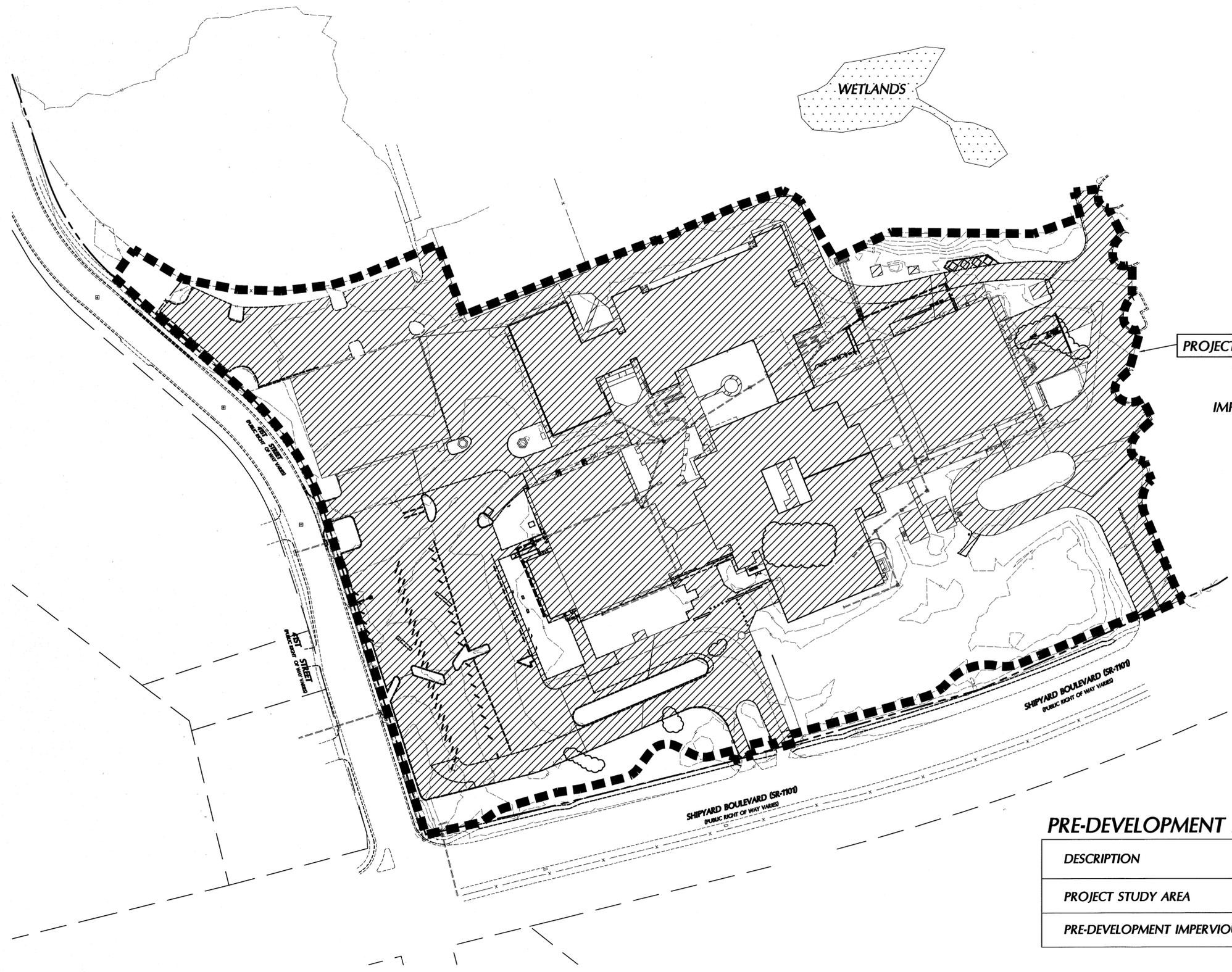


Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

| | |
|------------|--------------|
| JOB NUMBER | 15-120 |
| DRAWN BY | JGM |
| CHECKED BY | JGM |
| DATE | MAY 27, 2016 |
| REVISIONS | |

**PRE-DEV
IMPERVIOUS
AREAS PLAN**

SHEET NUMBER
C-3.3

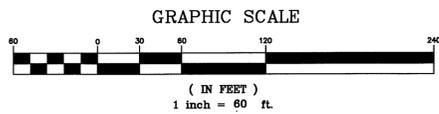


PROJECT STUDY AREA

LEGEND
IMPERVIOUS AREAS

PRE-DEVELOPMENT AREAS

| DESCRIPTION | AREA (SF) | AREA (AC) |
|---------------------------------|-----------|-----------|
| PROJECT STUDY AREA | 545,770 | 12.53 |
| PRE-DEVELOPMENT IMPERVIOUS AREA | 388,550 | 8.92 |



| | |
|-----------------------------|--------|
| APPROVED CONSTRUCTION PLAN | |
| NAME | DATE |
| PLANNING <i>[Signature]</i> | 6/3/16 |
| TRAFFIC <i>[Signature]</i> | 6/7/16 |
| FIRE <i>[Signature]</i> | 6-9-16 |

| | |
|--|-------------------|
| CITY OF WILMINGTON NORTH CAROLINA | |
| Public Services • Engineering Division | |
| APPROVED STORMWATER MANAGEMENT PLAN | |
| Date: 6/18/16 | Permit # 20150232 |
| Signed: <i>[Signature]</i> | |

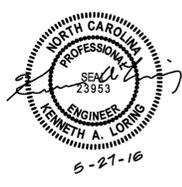
PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



**BOWMAN
MURRAY
HEMINGWAY**

ARCHITECTS
514 Market Street
Wilmington, NC 28401
Tel - (910) 762-2621
Fax - (910) 762-8506

Project ID # 900-9005

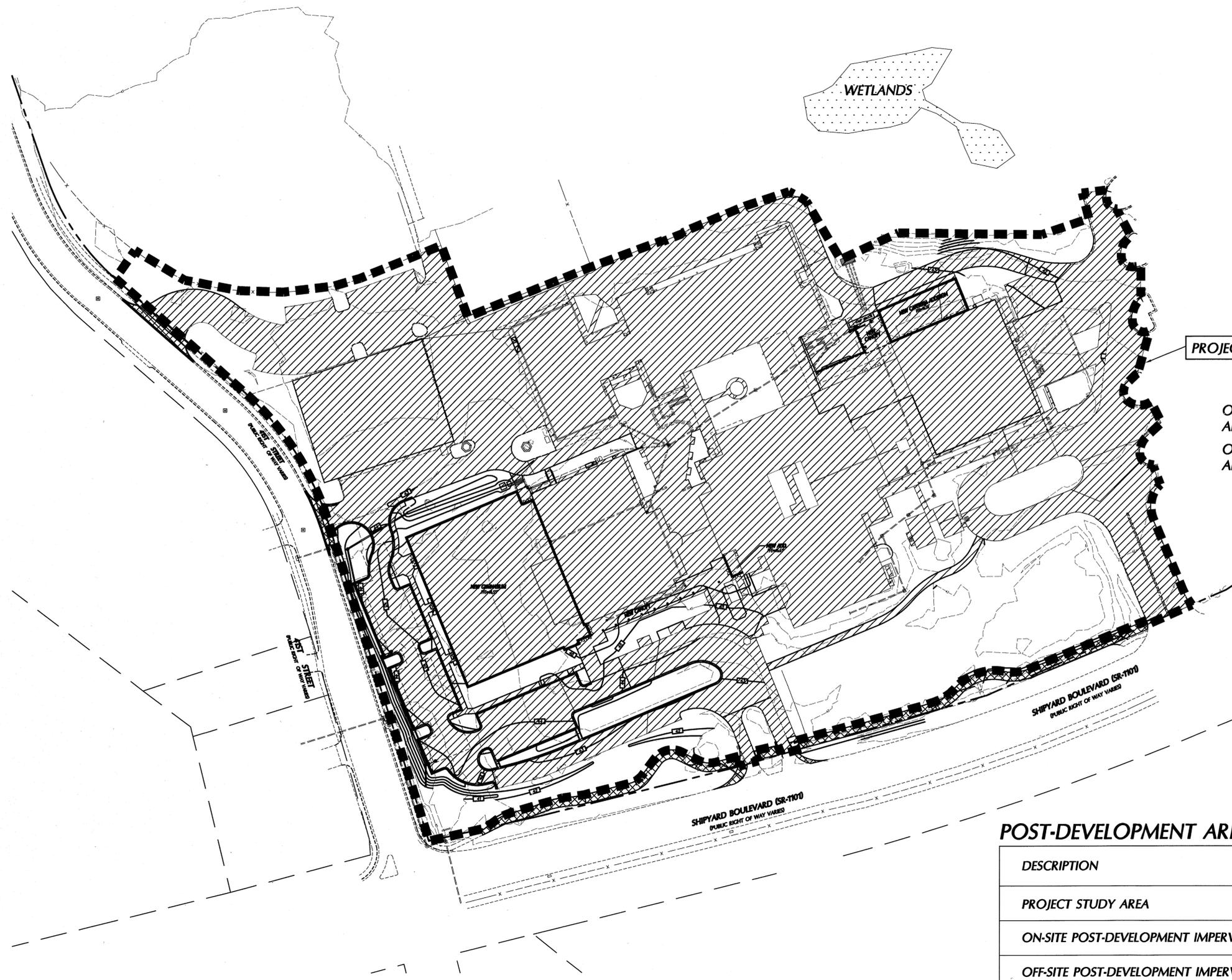


Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

JOB NUMBER
15-120
DRAWN BY
JGM
CHECKED BY
JGM
DATE
MAY 27, 2016
REVISIONS

POST-DEV
IMPERVIOUS
AREAS PLAN
SHEET NUMBER

C-3.4

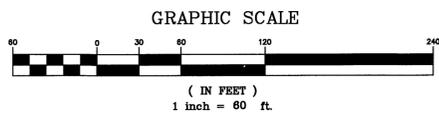


PROJECT STUDY AREA

LEGEND
ON-SITE IMPERVIOUS AREAS [diagonal hatching]
OFF-SITE IMPERVIOUS AREAS [cross-hatching]

POST-DEVELOPMENT AREAS

| DESCRIPTION | AREA (SF) | AREA (AC) |
|---|-----------|-----------|
| PROJECT STUDY AREA | 545,770 | 12.53 |
| ON-SITE POST-DEVELOPMENT IMPERVIOUS AREA | 379,350 | 8.71 |
| OFF-SITE POST-DEVELOPMENT IMPERVIOUS AREA | 9,890 | 0.23 |



APPROVED CONSTRUCTION PLAN
NAME: [Signature] DATE: 6/7/16
PLANNING: [Signature] DATE: 6/9/16
TRAFFIC: [Signature] DATE: 6/9/16
FIRE: [Signature] DATE: 6/9/16

WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/8/16 Permit # 201502821
Signed: [Signature]

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



**BOWMAN
MURRAY
HEMINGWAY**

ARCHITECTS
514 Market Street
Wilmington, NC 28401
Tel - (910) 762-2621
Fax - (910) 762-8506

Project ID # 900-9005



Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

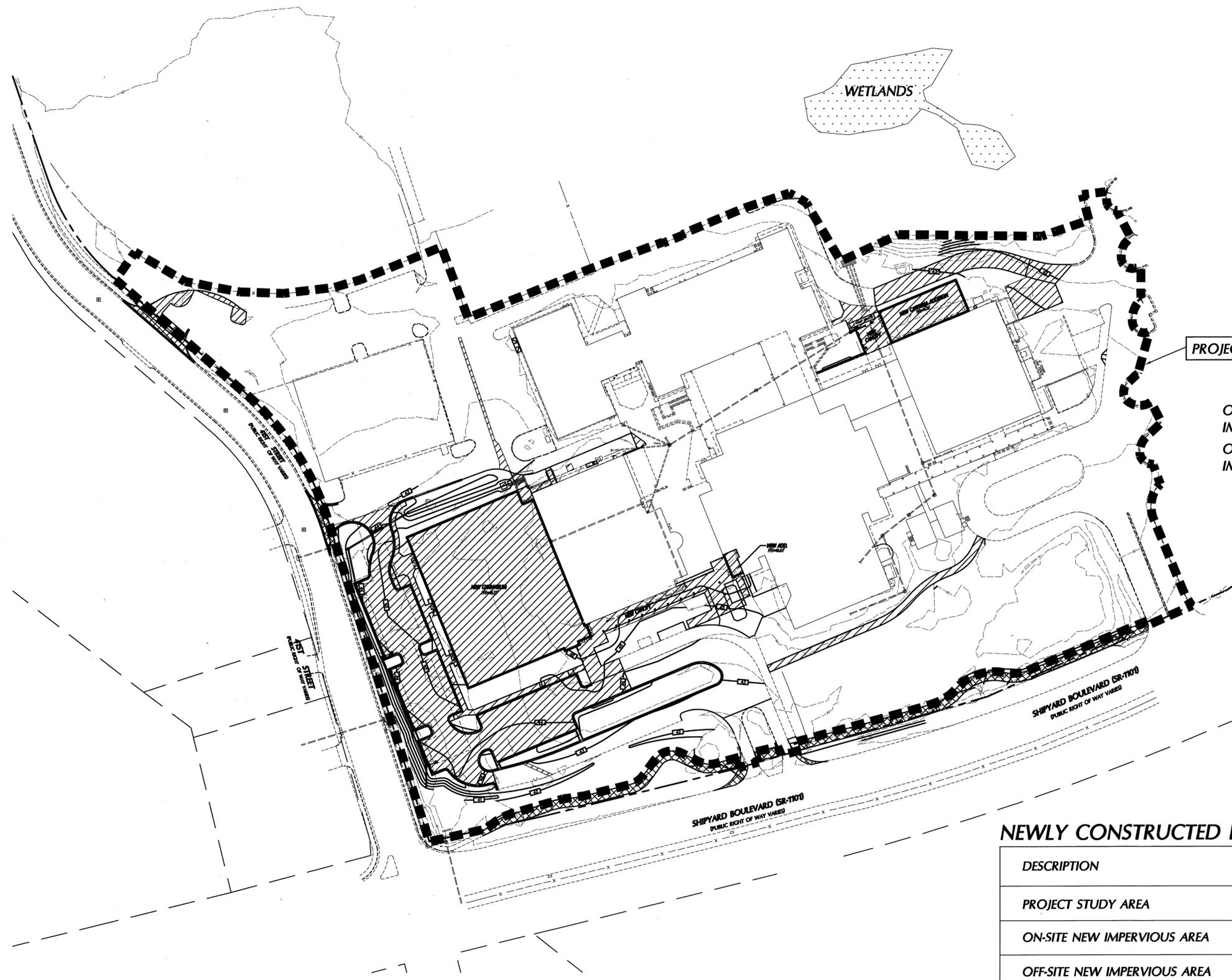
| | |
|------------|--------------|
| JOB NUMBER | 15-120 |
| DRAWN BY | JGM |
| CHECKED BY | JGM |
| DATE | MAY 27, 2016 |
| REVISIONS | |

POST-DEV
NEW
IMPERVIOUS
AREAS PLAN

SHEET NUMBER

C-3.5

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



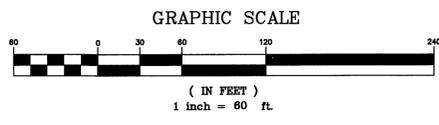
PROJECT STUDY AREA

LEGEND

| | |
|-------------------------------|--|
| ON-SITE NEW IMPERVIOUS AREAS | |
| OFF-SITE NEW IMPERVIOUS AREAS | |

NEWLY CONSTRUCTED IMPERVIOUS AREAS

| DESCRIPTION | AREA (SF) | AREA (AC) |
|------------------------------|-----------|-----------|
| PROJECT STUDY AREA | 545,770 | 12.53 |
| ON-SITE NEW IMPERVIOUS AREA | 83,002 | 1.91 |
| OFF-SITE NEW IMPERVIOUS AREA | 9,890 | 0.23 |



APPROVED CONSTRUCTION PLAN

| NAME | DATE |
|-----------------------------|--------|
| PLANNING <i>[Signature]</i> | 6/2/16 |
| TRAFFIC <i>[Signature]</i> | 6-9-16 |
| FIRE <i>[Signature]</i> | 6-9-16 |

WILMINGTON NORTH CAROLINA
Public Services • Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: *[Signature]* Permit # 201502824
Signed: *[Signature]*



**BOWMAN
MURRAY
HEMINGWAY**

ARCHITECTS

514 Market Street
Wilmington, NC 28401
Tel - (910) 762-2621
Fax - (910) 762-8506

Project ID # 900-9005



Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

| | |
|------------|--------------|
| JOB NUMBER | 15-120 |
| DRAWN BY | JGM |
| CHECKED BY | JGM |
| DATE | MAY 27, 2016 |
| REVISIONS | |

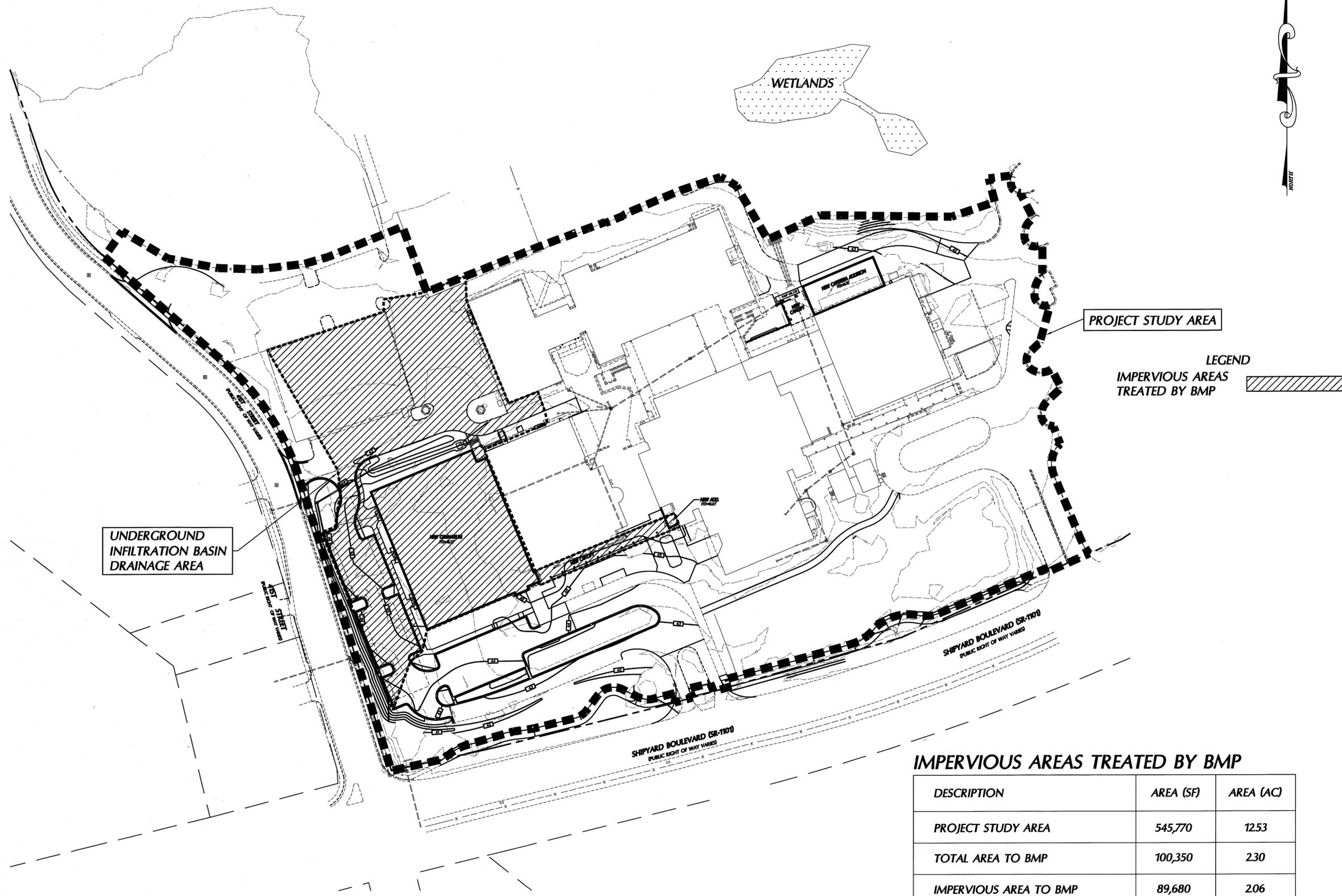
**BMP
DRAINAGE
AREAS PLAN**

SHEET NUMBER

C-3.6

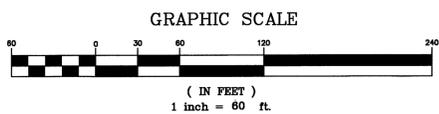
PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016

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IMPERVIOUS AREAS TREATED BY BMP

| DESCRIPTION | AREA (SF) | AREA (AC) |
|------------------------|-----------|-----------|
| PROJECT STUDY AREA | 545,770 | 12.53 |
| TOTAL AREA TO BMP | 100,350 | 2.30 |
| IMPERVIOUS AREA TO BMP | 89,680 | 2.06 |



| | |
|----------------------------|--------------------------------|
| APPROVED CONSTRUCTION PLAN | |
| PLANNING | NAME: [Signature] DATE: 6/3/16 |
| TRAFFIC | NAME: [Signature] DATE: 6/9/16 |
| FIRE | NAME: [Signature] DATE: 6-9-16 |

| | |
|--|-------------------|
| CITY OF WILMINGTON NORTH CAROLINA | |
| Public Services • Engineering Division | |
| APPROVED STORMWATER MANAGEMENT PLAN | |
| Date: 6/8/16 | Permit # 20152421 |
| Signed: [Signature] | |



**BOWMAN
MURRAY
HEMINGWAY**

ARCHITECTS
514 Market Street
Wilmington, NC 28401
Tel - (910) 762-2621
Fax - (910) 762-8506

Project ID # 900-9005

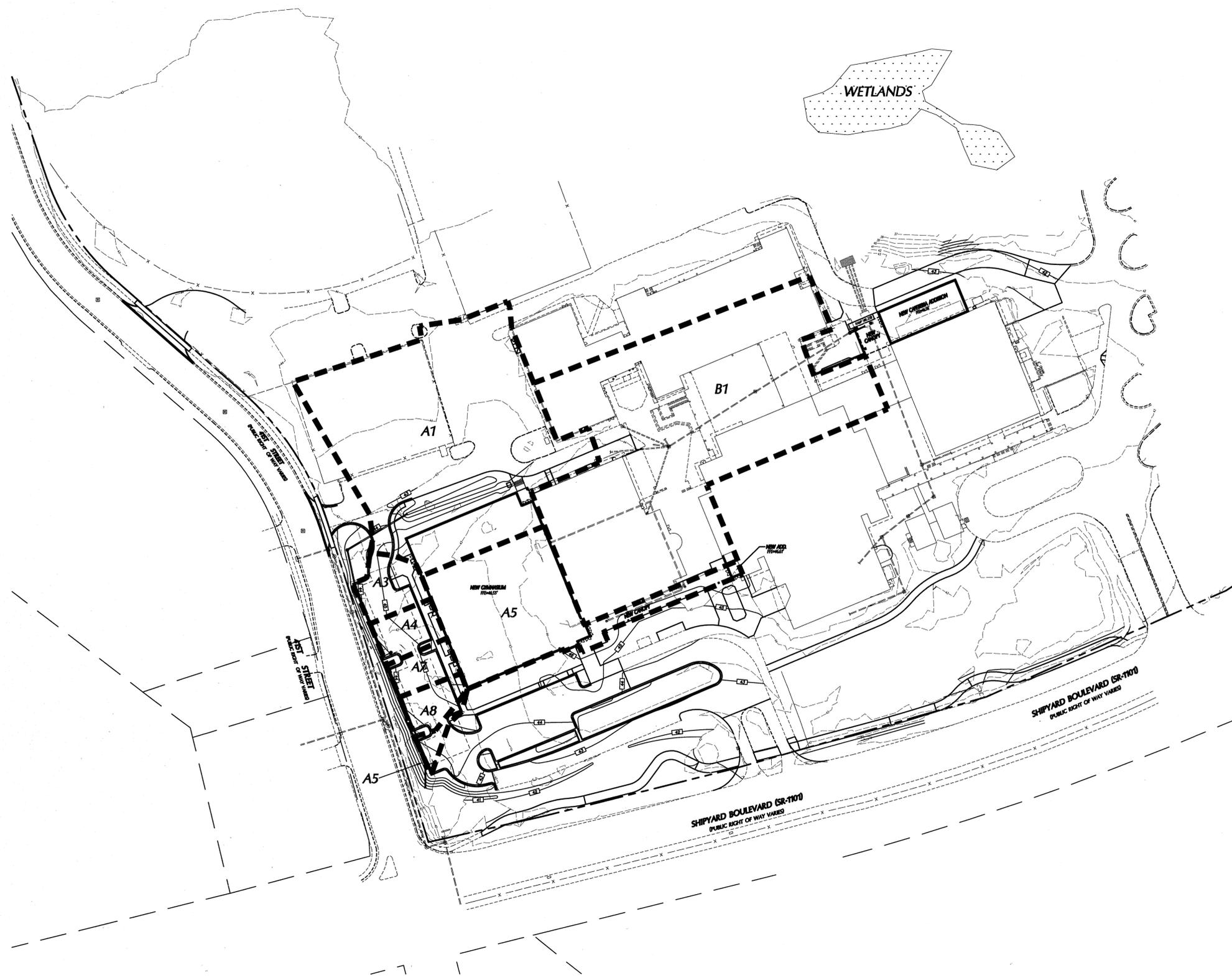


Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

JOB NUMBER
15-120
DRAWN BY
JGM
CHECKED BY
JGM
DATE
MAY 27, 2016
REVISIONS

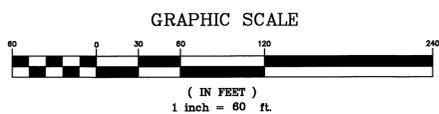
STORM
DRAINAGE
AREAS PLAN
SHEET NUMBER

C-3.7



DRAINAGE AREAS TO INLETS

| INLET NO. | AREA (SF) | AREA (AC) |
|-----------|-----------|-----------|
| A1 | 59,930 | 1.38 |
| A3 | 4,480 | 0.10 |
| A4 | 3,790 | 0.09 |
| A7 | 3,100 | 0.07 |
| A8 | 3,030 | 0.07 |
| A5 | 25,960 | 0.60 |
| B1 | 80,050 | 1.84 |

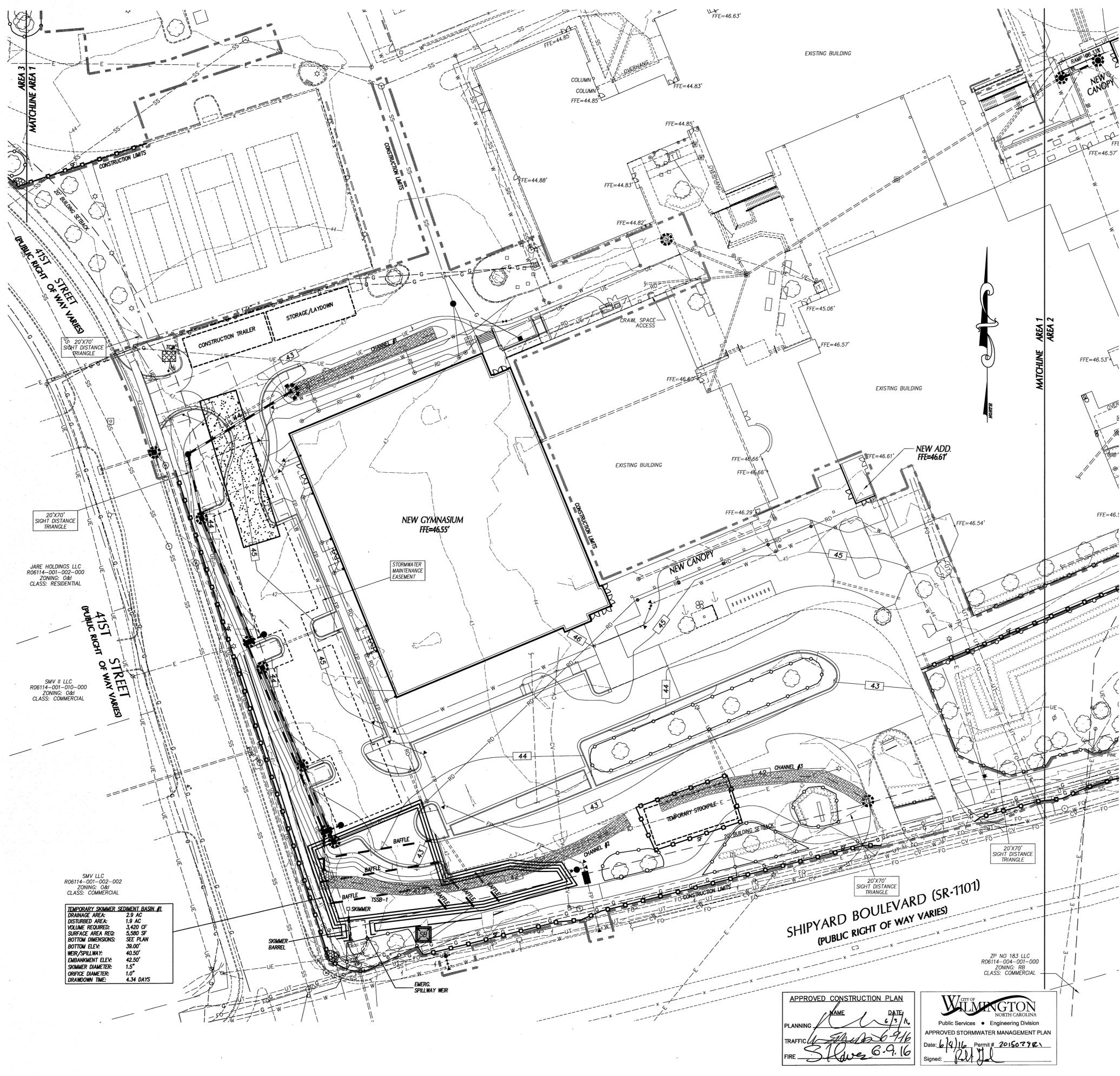


APPROVED CONSTRUCTION PLAN

| | |
|--------------------|---------------------------|
| NAME | DATE |
| <i>[Signature]</i> | 4/7/16 |
| PLANNING | |
| TRAFFIC | <i>[Signature]</i> 6/9/16 |
| FIRE | <i>[Signature]</i> 9-9-16 |

City of WILMINGTON
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/8/16 Permit # 201502921
Signed: *[Signature]*

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



LEGEND

| | | | |
|--|--|--|--|
| | GRAVEL CONSTR. ENTRANCE SEE DETAIL SHEET C7.1. | | CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED. |
| | TEMP. INLET PROTECTION DEVICE SEE DETAIL SHEET C7.1. | | PROPOSED STORM SEWER PIPES |
| | TEMPORARY SILT FENCE SEE DETAIL SHEET C7.1. | | EXISTING STORM SEWER PIPES |
| | REINFORCED SILT FENCE OUTLET SEE DETAIL SHEET C7.1. | | EXISTING CONTOUR |
| | PERMANENT OUTLET PROTECTION SEE DETAIL SHEET C7.1. | | FINISHED CONTOUR |
| | TEMPORARY CONCRETE WASHOUT AREA SEE DETAIL SHEET C7.1. | | TEMPORARY CONTOUR (TEMP. GRADES DURING CONSTR.) |
| | TEMPORARY SEDIMENT SUMMER BASIN SEE DETAIL SHEET C7.9 | | TEMPORARY DEWATERING SILT BAG. SEE DETAIL SHEET C7.2. |
| | TEMPORARY ROCK PIPE INLET PROTECTION. SEE DETAIL SHEET C7.10. | | |
| | CHANNEL LINING, SEE DETAIL SHEET C7.10. | | |

- ### GENERAL NOTES
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON AND NCDOT STANDARDS, SPECIFICATIONS AND DETAILS.
 - THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF SITE. ALL OFF-SITE SOIL BORROW AND WASTE SITES SHALL BE PROPERLY PERMITTED FOR SUCH ACTIVITIES. CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION OF SEDIMENT & EROSION CONTROL PERMIT FOR ANY OFF-SITE SITES TO OWNER.
 - THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY LOCAL AUTHORITIES OR ARCHITECT.
 - TOTAL DISTURBED AREA: 5 AC.
 - ALL OPEN STORM PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER WORK STOPPAGE EACH DAY. SEE DETAIL SHEET.
 - ALL STORM DRAINAGE PIPES SHALL BE THOROUGHLY FLUSHED OF ALL SEDIMENT FOLLOWING SITE STABILIZATION. INTERIOR FLUSHING OF SYSTEM SHALL BE PERFORMED AS NEEDED TO MAINTAIN PROPER FUNCTIONING OF THE DRAINAGE SYSTEM.
 - THE INDICATED STAGING AREA IS INTENDED FOR VEHICLES AND NON-ERODIBLE MATERIALS ONLY. NO SOIL, SAND OR OTHER ERODIBLE, FINELY GRAINED MATERIAL SHALL BE STORED OUTSIDE OF THE LIMITS OF THE SITE PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES. STOCKPILES SHALL BE STABILIZED AS REQUIRED AS INDICATED IN THE SLOPE & SURFACE STABILIZATION NOTES ON THIS PLAN.
 - SOIL AND OTHER MATERIALS SHALL ONLY BE TEMPORARILY STOCKPILED WITHIN THE CONSTRUCTION LIMITS PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES. STOCKPILES SHALL BE STABILIZED AS REQUIRED AS INDICATED IN THE SLOPE & SURFACE STABILIZATION NOTES ON THIS PLAN.
 - TREE PROTECTION CERTIFICATION MUST BE SUBMITTED TO THE CITY OF WILMINGTON PLANNING DEPARTMENT AND TREE PROTECTION INSPECTION COMPLETED PRIOR TO EROSION CONTROL PERMIT ISSUANCE.
 - ROADSIDE DITCHES AND CHANNELS SHALL BE STABILIZED DAILY UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

SLOPE & SURFACE STABILIZATION

GROUND STABILIZATION SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO FOLLOWING SCHEDULE:

| SITE AREA DESCRIPTION | STABILIZATION TIME FRAME | STABILIZATION TIME FRAME EXCEPTIONS |
|--|--------------------------|--|
| PERIMETER DIKES, SWALES, DITCHES AND SLOPES | 7 DAYS | NONE |
| HIGH QUALITY WATER (H2O) ZONES | 7 DAYS | NONE |
| SLOPES STEEPER THAN 3:1 | 7 DAYS | IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED. |
| SLOPES 3:1 OR FLATTER | 14 DAYS | 7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH. |
| ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 | 14 DAYS | NONE (EXCEPT FOR PERIMETERS AND H2O ZONES). |

EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE (SECTION II(2) (b)).

THE ABOVE REQUIREMENTS ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED THOSE ABOVE.

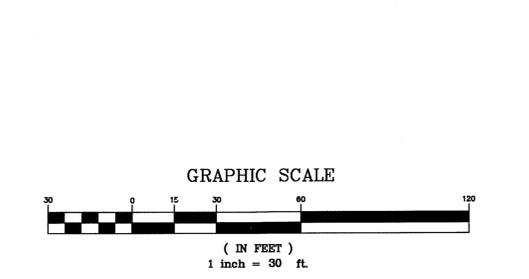
INSTALL TEMPORARY SLOPE EROSION CONTROL EXPOSURE MATTING FOR STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER). UTILIZE TEMPORARY COCKMAT MAT IN AREAS IDENTIFIED ON PLAN. REFER TO SPECIFICATION SECTION 312500 FOR MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.

- ### MAINTENANCE PLAN
- DURING ALL PHASES OF CONSTRUCTION, GROUND COVER ON EXPOSED SLOPES SHALL BE PROVIDED ACCORDING TO GROUND STABILIZATION TABLE (BELOW) FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
 - FINAL PERMANENT GROUND COVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO GROUND STABILIZATION TABLE (BELOW) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
 - THE ABOVE REQUIREMENTS ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED THOSE ABOVE.
 - SLOPE EROSION CONTROL MATTING SHALL BE INSTALLED FOR TEMPORARY STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER). REFER TO MATERIAL SPECIFICATIONS. INSTALL MATTING PER MANUFACTURER'S INSTRUCTIONS.
 - ALL OTHER SEEDING AREAS SHALL BE MULCHED WITH STRAW AND TACKED WITH ASPHALT.

- ### SELF-INSPECTION RULES
- SELF-INSPECTION SHALL BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
 - THE FINANCIALLY RESPONSIBLE PERSON AND/OR HIS AGENT WILL PERFORM SELF-INSPECTIONS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES USING NCDENR'S SELF-INSPECTION REPORT (NCDENR/SE) AND THIS WILL BE KEPT ON-SITE.
 - NOTIFICATION OF LAND RESOURCES' SEDIMENT AND EROSION CONTROL SELF-INSPECTION PROGRAM: THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2008 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES REGARDING THE IMPLEMENTATION OF THESE INSPECTIONS FOR EFFECT OCTOBER 1, 2010. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE REGULAR SELF-MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS MUST BE CONDUCTED AFTER EACH PHASE OF THE PROJECT AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ACCORDANCE WITH NCDENR 15A-041 AND 15A NCDENR REGS. THE SELF-INSPECTION REPORT FORM IS AVAILABLE AS AN EXCEL SPREADSHEET FROM: <http://portal.ncdenr.org/web/0/Version>. IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CONTACT NCDENR OFFICE AT 919-791-4200.

NOTE EROSION CONTROL PLANS WILL BE REVIEWED, PERMITTED & INSPECTED BY NCDENR, NOT CITY OF WILMINGTON

REFER TO PLAN SHEET C-42 FOR CONSTRUCTION SEQUENCE.



5-21-16

Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016

JOB NUMBER: 15-120
DRAWN BY: JGM
CHECKED BY: JGM
DATE: MAY 27, 2016
REVISIONS:

SITE EROSION CONTROL PLAN
SHEET NUMBER
C-4.1

APPROVED CONSTRUCTION PLAN

PLANNING: *[Signature]* DATE: 6/7/16
TRAFFIC: *[Signature]* DATE: 6/9/16
FIRE: *[Signature]* DATE: 6/9/16

City of WILMINGTON, NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/9/16 Permit #: 20150772
Signed: *[Signature]*

JARE HOLDINGS LLC
R06114-001-002-000
ZONING: O&I
CLASS: RESIDENTIAL

SMV II LLC
R06114-001-010-000
ZONING: O&I
CLASS: COMMERCIAL

SMV LLC
R06114-001-002-002
ZONING: O&I
CLASS: COMMERCIAL

TEMPORARY SKIMMER SEDIMENT BASIN #1
DRAINAGE AREA: 2.9 AC
DISTURBED AREA: 1.9 AC
VOLUME REQUIRED: 3,420 CF
SURFACE AREA REQ: 5,980 SF
BOTTOM DIMENSIONS: SEE PLAN
BOTTOM ELEV: 39.00'
W/S/S/SPILLWAY: 40.50'
EMBANKMENT ELEV: 42.50'
SKIMMER DIAMETER: 1.5"
ORIFICE DIAMETER: 1.0"
DRAWDOWN TIME: 4.34 DAYS



**BOWMAN
MURRAY
HEMINGWAY**

ARCHITECTS
514 Market Street
Wilmington, NC 28401
Tel - (910) 762-2621
Fax - (910) 762-8506

Project ID # 900-9005



5-27-16

Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

| | |
|------------|--------------|
| JOB NUMBER | 15-120 |
| DRAWN BY | JGM |
| CHECKED BY | JGM |
| DATE | MAY 27, 2016 |
| REVISIONS | |

SITE EROSION CONTROL PLAN

SHEET NUMBER

C-4.2

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016

LEGEND

| | |
|--|--|
| GRAVEL CONSTR. ENTRANCE SEE DETAIL SHEET C7.1. | CONSTRUCTION LIMITS UNLESS OTHERWISE NOTED. |
| TEMP. INLET PROTECTION DEVICE SEE DETAIL SHEET C7.1. | PROPOSED STORM SEWER PIPES |
| TEMPORARY SILT FENCE SEE DETAIL SHEET C7.1. | EXISTING STORM SEWER PIPES |
| REINFORCED SILT FENCE OUTLET SEE DETAIL SHEET C7.1. | FINISHED CONTOUR |
| PERMANENT OUTLET PROTECTION SEE DETAIL SHEET C7.1. | TEMPORARY CONTOUR (TEMP. GRADES DURING CONSTR.) |
| TEMPORARY CONCRETE WASHOUT AREA, SEE DETAIL SHEET C7.1. | TEMPORARY DEWATERING SILT BAG. SEE DETAIL SHEET C7.2. |
| TEMPORARY SEDIMENT SUMP BASIN. SEE DETAIL SHEET C7.9. | |
| TEMPORARY ROCK PIPE INLET PROTECTION. SEE DETAIL SHEET C7.10. | |
| CHANNEL LINING. SEE DETAIL SHEET C7.10. | |

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON AND NCDOT STANDARDS, SPECIFICATIONS AND DETAILS.
- THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF SITE. ALL OFF-SITE SOIL BORROW AND WASTE SITES SHALL BE PROPERLY PERMITTED FOR SUCH ACTIVITIES. CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION OF SEGMENT & EROSION CONTROL PERMIT FOR ANY OFF-SITE SITES TO OWNER.
- THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY LOCAL AUTHORITIES OR ARCHITECTS.
- TOTAL DISTURBED AREA: 5 AC.
- ALL OPEN STORM PIPES SHALL BE PROTECTED WITH STONE FILTER PROTECTION AFTER WORK STOPPAGE EACH DAY. SEE DETAIL SHEET.
- ALL STORM DRAINAGE PIPES SHALL BE THOROUGHLY FLUSHED OF ALL SEDIMENT FOLLOWING SITE STABILIZATION. INTERIOR FLUSHING OF SYSTEM SHALL BE PERFORMED AS NEEDED TO MAINTAIN PROPER FUNCTIONING OF THE DRAINAGE SYSTEM.
- THE INDICATED STAGING AREA IS INTENDED FOR VEHICLES AND NON-ERODIBLE MATERIALS ONLY. NO SOIL, SAND OR OTHER ERODIBLE, FINE GRAINED MATERIAL SHALL BE STORED OUTSIDE OF THE LIMITS OF THE SITE PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES. STOCKPILES SHALL BE STABILIZED AS REQUIRED AS INDICATED IN THE SLOPE & SURFACE STABILIZATION NOTES ON THIS PLAN.
- SOIL AND OTHER MATERIALS SHALL ONLY BE TEMPORARILY STOCKPILED WITHIN THE CONSTRUCTION LIMITS PROTECTED BY SEDIMENT AND EROSION CONTROL DEVICES AND MEASURES. STOCKPILES SHALL BE STABILIZED AS REQUIRED AS INDICATED IN THE SLOPE & SURFACE STABILIZATION NOTES ON THIS PLAN.
- TREE PROTECTION CERTIFICATION MUST BE SUBMITTED TO THE CITY OF WILMINGTON PLANNING DEPARTMENT AND TREE PROTECTION INSPECTION COMPLETED PRIOR TO EROSION CONTROL PERMIT ISSUANCE.
- ROADSIDE DITCHES AND CHANNELS SHALL BE STABILIZED DAILY UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

SLOPE & SURFACE STABILIZATION

GROUND STABILIZATION SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO FOLLOWING SCHEDULE:

| SITE AREA DESCRIPTION | STABILIZATION TIME FRAME | STABILIZATION TIME FRAME EXCEPTIONS |
|--|--------------------------|--|
| PERIMETER DIKES, SWALES, DITCHES AND SLOPES | 7 DAYS | NONE |
| HIGH QUALITY WATER (HOW) ZONES | 7 DAYS | NONE |
| SLOPES STEEPER THAN 3:1 | 7 DAYS | IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED. |
| SLOPES 3:1 OR FLATTER | 14 DAYS | 7-DAYS FOR SLOPES GREATER THAN 50 FEET IN LENGTH. |
| ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1 | 14 DAYS | NONE (EXCEPT FOR PERIMETERS AND HOW ZONES). |

EXTENSIONS OF TIME MAY BE APPROVED BY THE PERMITTING AUTHORITY BASED ON WEATHER OR OTHER SITE-SPECIFIC CONDITIONS THAT MAKE COMPLIANCE IMPRACTICABLE (SECTION 16(2) (b)).

THE ABOVE REQUIREMENTS ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED THOSE ABOVE.

INSTALL TEMPORARY SLOPE EROSION CONTROL. EXCESSOR MATING FOR STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER). UTILIZE TEMPORARY COCOMAT MAT IN AREAS IDENTIFIED ON PLAN. REFER TO SPECIFICATION SECTION 312500 FOR MATERIAL SPECIFICATIONS. INSTALL MATING PER MANUFACTURER'S INSTRUCTIONS.

MAINTENANCE PLAN

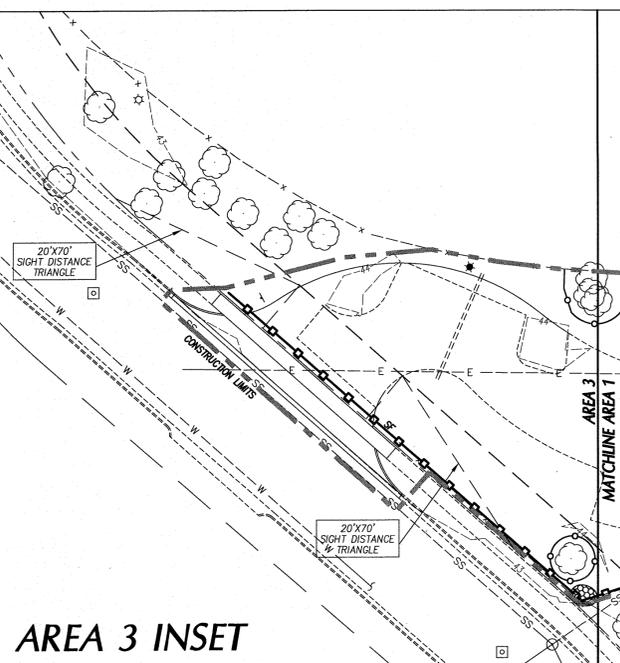
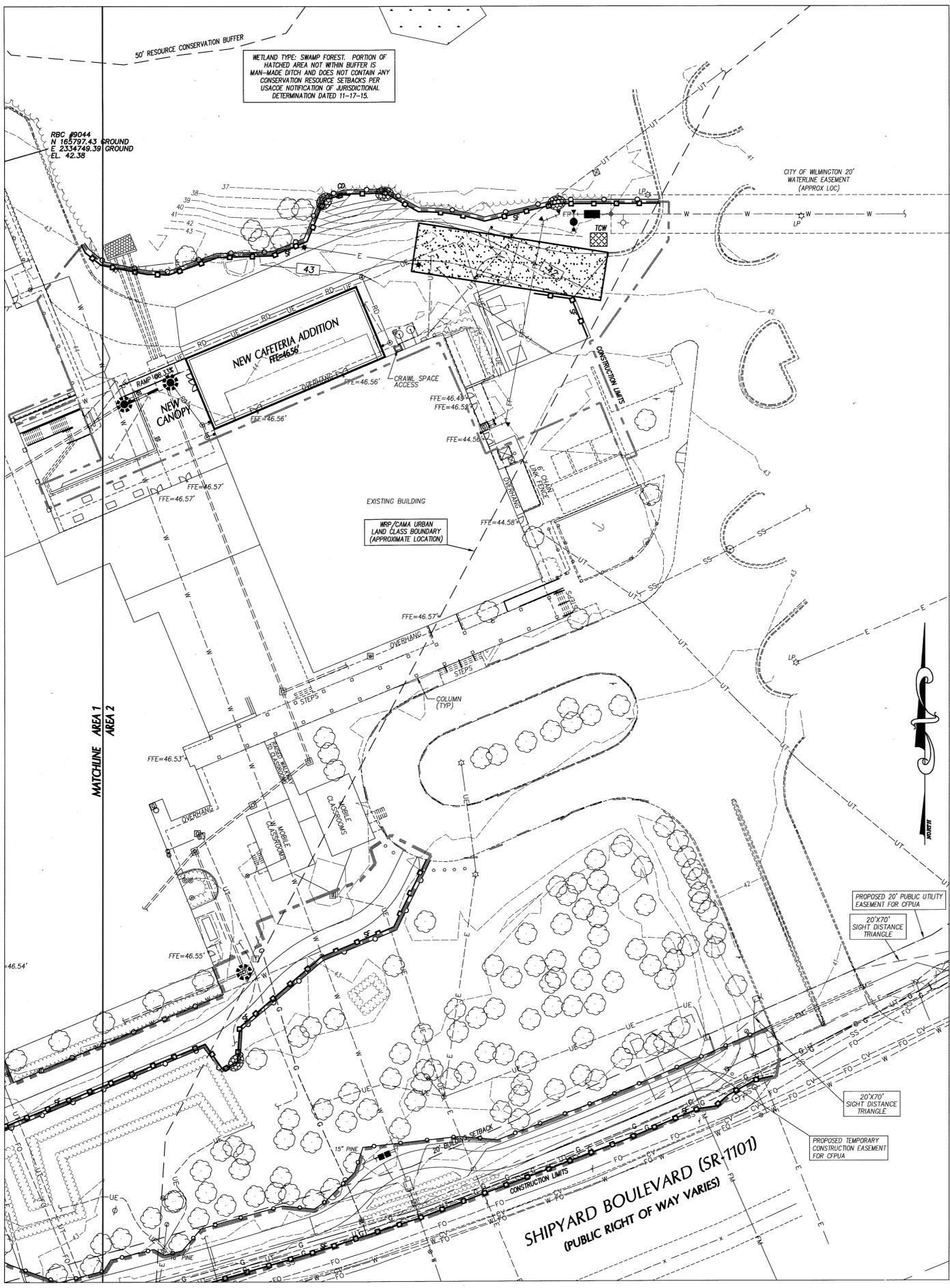
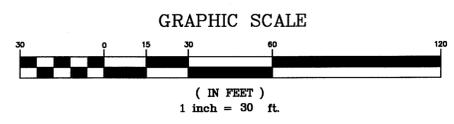
- DURING ALL PHASES OF CONSTRUCTION, GROUND COVER ON EXPOSED SLOPES SHALL BE PROVIDED ACCORDING TO GROUND STABILIZATION TABLE (BELOW) FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
- FINAL PERMANENT GROUND COVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED ON ALL DISTURBED AREAS ACCORDING TO GROUND STABILIZATION TABLE (BELOW) FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
- THE ABOVE REQUIREMENTS ARE THE MINIMUM NECESSARY TO MEET EROSION AND SEDIMENT CONTROL REGULATIONS. THE CONTRACT DOCUMENTS INCLUDE ADDITIONAL SEEDING AND STABILIZATION REQUIREMENTS AND SCHEDULES WHICH MAY EXCEED THOSE ABOVE.
- SLOPE EROSION CONTROL MATING SHALL BE INSTALLED FOR TEMPORARY STABILIZATION DURING THE ESTABLISHMENT OF VEGETATIVE COVER ON ALL STEEP SLOPES (6:1 OR STEEPER). REFER TO MATERIAL SPECIFICATIONS. INSTALL MATING PER MANUFACTURER'S INSTRUCTIONS.
- ALL OTHER SEEDED AREAS SHALL BE MULCHED WITH STRAW AND TACKED WITH ASPHALT.

SELF-INSPECTION RULES

- SELF-INSPECTION SHALL BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
- THE FINANCIALLY RESPONSIBLE PERSON AND/OR HIS AGENT WILL PERFORM SELF-INSPECTIONS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES USING NCDENR'S SELF-INSPECTION REPORT (WORKSHEET) AND THIS WILL BE KEPT ON-SITE.
- NOTIFICATION OF LAND RESOURCES SEDIMENT AND EROSION CONTROL SELF-INSPECTION PROGRAM: THE SEDIMENTATION POLLUTION CONTROL ACT HAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND DISTURBING ACTIVITIES REPORT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE REGULAR SELF-MONITORING PROGRAM OF THE NCDENR PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS MUST BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ACCORDANCE WITH NCGS 113A-541 AND 15A NCAAC 40.03. THE SELF-INSPECTION REPORT FORM IS AVAILABLE AS AN EXCEL SPREADSHEET FROM <http://portal.ncdenr.org/web/0/vernon/>. IF YOU HAVE QUESTIONS OR CANNOT ACCESS THE FORM, PLEASE CONTACT NCDENR OFFICE AT 919-799-4200.

NOTE: EROSION CONTROL PLANS WILL BE REVIEWED, PERMITTED & INSPECTED BY NCDENR, NOT CITY OF WILMINGTON

REFER TO PLAN SHEET C-42 FOR CONSTRUCTION SEQUENCE



AREA 3 INSET

CONSTRUCTION SEQUENCE

- INSTALL TREE PROTECTION FENCING. CONTACT CITY OF WILMINGTON/NC-DEO FOR INSPECTION PRIOR TO STARTING ANY OTHER WORK.
 - OBTAIN APPROVED PLAN AND APPROVAL PLACARD. A COPY OF THE APPROVED PLAN MUST BE ON FILE AT THE JOB SITE. NOTIFY EROSION CONTROL AUTHORITIES OF PROPOSED STARTING DATE OF LAND DISTURBING ACTIVITIES.
 - CONDUCT PRE-CONSTRUCTION CONFERENCE.
 - INSTALL PERIMETER SILT FENCES, TEMPORARY SKIMMER SEDIMENT BASIN, CONSTRUCTION ENTRANCES AND INLET PROTECTION DEVICES ON EXISTING INLETS.
 - INSTALL STORM JUNCTION MANHOLE AT NEW CAFETERIA ADDITION, SEE GRADING PLAN. INSTALL ASSOCIATED INLET PROTECTION AND RIP-RAP OUTLET PROTECTION.
 - CALL FOR INSPECTION OF INSTALLED MEASURES.
 - PERFORM CLEARING OPERATIONS.
 - STRIP TOPSOIL, STOCKPILE TOPSOIL WITHIN CONSTRUCTION LIMITS.
 - MAINTAIN ALL INSTALLED MEASURES.
 - BEGIN ROUGH GRADING OPERATIONS.
 - INSTALL STORM DRAINAGE SYSTEM AS GRADING OPERATIONS PROGRESS. INSTALL INLET AND OUTLET PROTECTION DEVICES AT NEW STRUCTURES AS THEY ARE CONSTRUCTED.
 - PROTECT ALL OPEN STORM DRAIN LINES UNDER CONSTRUCTION WITH STONE FILTER AFTER STOPPAGE OF WORK EACH DAY. AT THE END OF EACH DAY, INSTALL AND ADJUST SILT FENCE AND INLET AND OUTLET PROTECTION DEVICES.
 - RESPREAD TOPSOIL, INSTALL SLOPE PROTECTION BLANKETS AND VEGETATE STEEP SLOPES AS THEY ARE ESTABLISHED.
 - GRADE, VEGETATE AND INSTALL TEMPORARY LININGS OF CHANNELS AFTER STABILIZING UPSTREAM SLOPES. VEGETATE (OR OTHERWISE STABILIZE WITH PAVEMENT, BUILDING PAD, ETC.) IMMEDIATELY ALL DISTURBED AREAS WHERE GRADING ACTIVITIES HAVE STOPPED AND WILL NOT CONTINUE FOR MORE THAN 14-DAYS.
 - MAINTAIN ALL EROSION & SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION.
 - INSTALL UNDERGROUND INFILTRATION BASIN. TEMPORARY BLOCK/PLUG PIPES THAT ENTER UNDERGROUND INFILTRATION BASIN UNTIL SITE IS STABILIZED.
 - PUMP WATER FROM TEMPORARY SKIMMER SEDIMENT BASIN THROUGH SILT BAG. REMOVE SKIMMER, BARREL AND OTHER BASIN APPURTENANCES AND GRADE TO FINISH CONTOURS.
 - COMPLETE REMAINING CURB & GUTTER AND PAVEMENT INSTALLATION.
 - RESPREAD TOPSOIL, INSTALL SLOPE PROTECTION BLANKETS AND VEGETATE REMAINING DISTURBED AREAS.
 - REMOVE TEMPORARY BLOCK/PLUG FROM UNDERGROUND INFILTRATION BASIN.
 - REMOVE ROCK INLET PROTECTION AND REMAINING TEMPORARY EROSION CONTROL MEASURES.
- ** ENSURE PERMEABLE PAVERS ARE INSTALLED DURING FINAL STAGES OF CONSTRUCTION AND THAT ALL AREAS UPSTREAM ARE STABILIZED PRIOR TO INSTALLATION OF PERMEABLE PAVERS. INSTALL ADDITIONAL SILT FENCE AROUND PERMEABLE PAVERS AS REQUIRED TO PREVENT SEDIMENT-RUN-OFF.

APPROVED CONSTRUCTION PLAN

| | | |
|----------|--------------------------|--------------|
| PLANNING | NAME: <i>[Signature]</i> | DATE: 6/5/16 |
| TRAFFIC | NAME: <i>[Signature]</i> | DATE: 6/8/16 |
| FIRE | NAME: <i>[Signature]</i> | DATE: 6/9/16 |

City of Wilmington, North Carolina
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/8/16 Permit # 2015028 PA
Signed: *[Signature]*



**BOWMAN
MURRAY
HEMINGWAY**

ARCHITECTS
514 Market Street
Wilmington, NC 28401
Tel - (910) 762-2621
Fax - (910) 762-8506

Project ID # 900-9005



5-21-16

**Phase One: Renovations and Additions to:
John T. Hoggard High School**
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

| | |
|------------|----------------------------|
| JOB NUMBER | 15-120 |
| DRAWN BY | JGM |
| CHECKED BY | JGM |
| DATE | MAY 27, 2016 |
| REVISIONS | 5-19-16 NCDOT DRIVEWAY SUB |

**SITE UTILITY
PLAN**

SHEET NUMBER

C-5.2

UTILITY LEGEND

| | EXISTING | PROPOSED |
|-------------------------------|----------|----------|
| OVERHEAD ELECTRICAL | ---E--- | --- |
| UNDERGROUND ELECTRICAL | ---UE--- | --- |
| GAS | ---G--- | --- |
| SANITARY SEWER | ---SS--- | --- |
| TELEPHONE | ---T--- | --- |
| UNDERGROUND TELEPHONE | ---UT--- | --- |
| WATER | ---W--- | --- |
| FIRE PROTECTION | ---FP--- | --- |
| FORCE MAIN | ---FM--- | ---FM--- |
| CHILLED WATER | ---CW--- | ---CW--- |
| FOUNDATION DRAIN | ---FD--- | --- |
| FIBER OPTIC | ---FO--- | --- |
| ROOF DRAIN | ---RD--- | --- |
| STORM DRAIN | --- | --- |
| LIGHT POLE | LP | LP |
| UTILITY POLE | UP | UP |
| MANHOLE | MH | MH |
| CLEAN OUT | CO | CO |
| DROP INLET/CATCH BASIN | DI, CB | DI, CB |
| FIRE HYDRANT | FH | FH |
| WATER VALVE | WV | WV |
| TELEPHONE PEDESTAL | TP | TP |
| SANITARY SEWER STRUCTURE I.D. | --- | --- |
| STORM SEWER STRUCTURE I.D. | --- | --- |

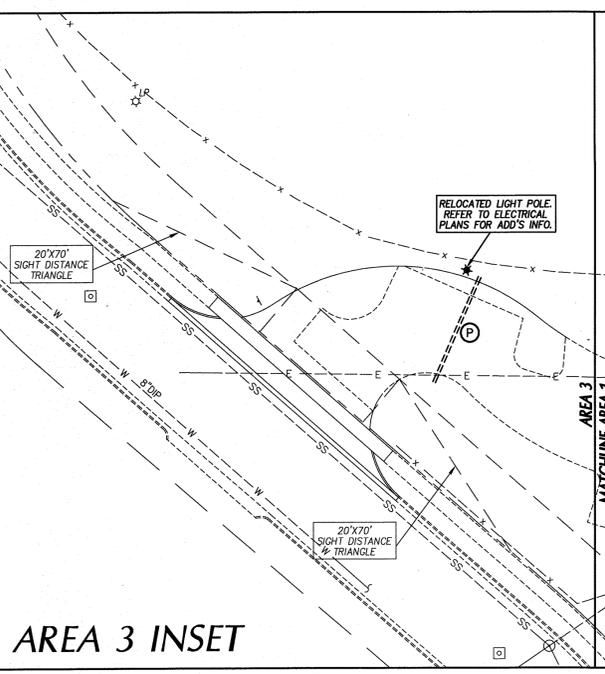
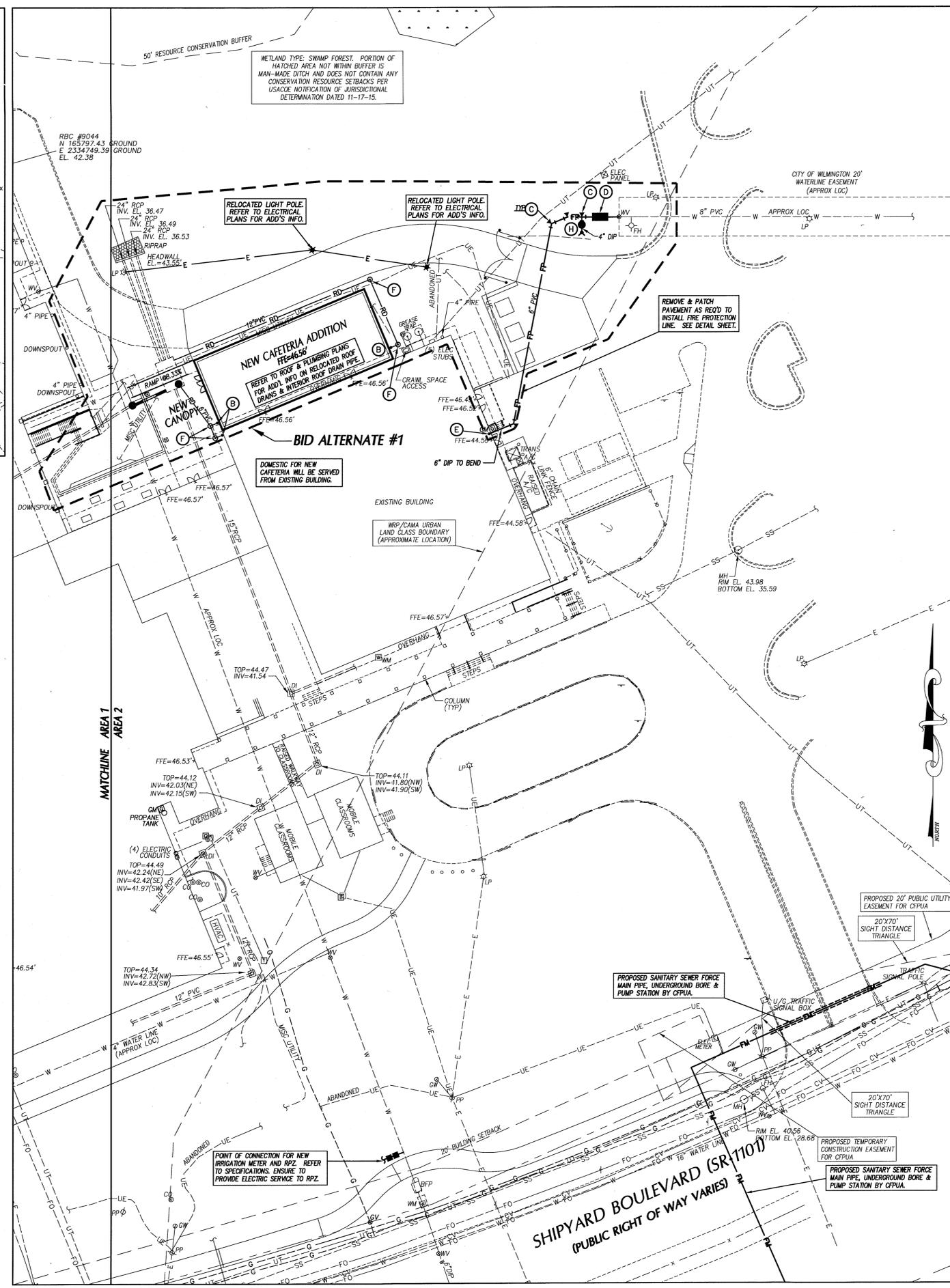
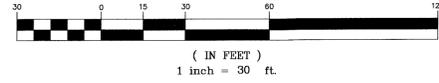
UTILITY NOTES

- INSTALL WATERMANS WITH A COVER OF NO LESS THAN 4'-FT. INSTALL WATER SERVICES WITH NO LESS THAN 18-IN OF COVER TO SUBGRADE.
- INSTALL SEWER MAINS WITH A COVER OF NO LESS THAN 3'-FT TO FINISHED GRADE UNLESS DUCTILE IRON PIPE IS USED. INSTALL SEWER SERVICES WITH NO LESS THAN 18-IN OF COVER TO SUBGRADE.
- INSTALL ALL UTILITIES TO PROVIDE REQUIRED CLEARANCES AS INDICATED IN THE SPECIFICATIONS.
- WATERLINES AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM HORIZONTAL CLEARANCE OF 10'-FT.
- WATER AND SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM VERTICAL CLEARANCE OF 12-IN TO STORM DRAINAGE PIPES.
- COORDINATE AND SCHEDULE INSTALLATION OF ALL UTILITIES WITH OTHER PRIME CONTRACTORS, UTILITY COMPANIES AND OTHER TRADES INCLUDING BUT NOT LIMITED TO: NATURAL GAS, ELECTRICITY, TELEPHONE AND CATV.
- VERIFY EXISTING CONDITIONS AND CONNECTIONS TO EXISTING UTILITIES PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT IF ANY DISCREPANCIES ARE DISCOVERED.
- CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGES DURING CONSTRUCTION AND SHALL MAKE REPAIRS AT NO EXPENSE TO THE OWNER.
- ALL CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE NCSBC AND OSHA REQUIREMENTS.
- THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY OF ALL UTILITY AND STORM DRAINAGE IMPROVEMENTS FOLLOWING CONSTRUCTION.
- CONTRACTOR SHALL PHASE DEMOLITION AND NEW CONSTRUCTION TO ENSURE UNINTERRUPTED ACCESS AND UTILITY SERVICE TO ADJACENT FACILITIES. COORDINATE SHORT-TERM, OFF-HOUR, TEMPORARY SHUT-DOWNS WITH THE OWNER.
- SEE GENERAL NOTES ON EXISTING CONDITIONS AND DEMOLITION PLAN FOR REQUIREMENTS FOR REMOVAL AND PATCHING OF PAVEMENT FOR UTILITY INSTALLATION.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF WILMINGTON STANDARDS AND SPECIFICATIONS.
- ALL ROOF DRAINS SHALL BE 6" PVC @ 1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON WHEN COVER IS LESS THAN 24-IN.
- ALL SANITARY SEWER SERVICES SHALL BE 4" PVC (SCH 40) @ 1.04% MIN. SLOPE UNLESS INDICATED OTHERWISE. USE DUCTILE IRON WHEN COVER IS LESS THAN 24-IN.
- THE FOLLOWING "PERMITS" ARE REQUIRED TO BE OBTAINED FROM THE CITY OF WILMINGTON FIRE SERVICES ADMINISTRATION BY EACH RESPONSIBLE CONTRACTOR PRIOR TO THE START OF WORK. THE "GENERAL CONTRACTOR" SHALL BE RESPONSIBLE TO MAKE SURE ALL OF HIS/SHEER SUBS FOLLOW THIS PROCEDURE. THE PERMITS REQUIRED ARE AS FOLLOWS:
A. UNDERGROUND PIPING PERMIT (FIRE LINE (5)).
B. SPRINKLER PERMIT
C. FIRE ALARM PERMIT
D. KITCHEN HOOD FIRE PROTECTION PERMIT
THE "GENERAL CONTRACTOR" SHALL ALSO MAKE SURE THAT ALL HIS SUBS PROPERLY COORDINATE THE INSPECTION PROCESS WITH THE WILMINGTON FIRE DEPARTMENT ADMINISTRATION OFFICE.
- CONTACT THE NC ONE CALL CENTER PRIOR TO ANY DIGGING. 1-800-632-4949
- PROJECT SHALL COMPLY WITH CITY OF WILMINGTON CROSS CONNECTION CONTROL REQUIREMENTS. WATER METERS CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND THE STATE HAS GIVEN THEIR FINAL APPROVAL. CALL 910-343-3910 FOR INFORMATION.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CITY WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USDFCOCHR OR ASSE.

KEY NOTES

- (A) FIRE HYDRANT ASSEMBLY, SEE DETAIL SHEET C7.7.
- (B) DOWNSPOUT CONNECTION, SEE DETAIL SHEET C7.3.
- (C) THRUST BLOCKING, TYP, SEE DETAIL SHEET C7.5.
- (D) 6" DOUBLE CHECK VALVE ASSEMBLY (DCCA) IN ABOVE GROUND HEATED ENCLOSURE, SEE DETAIL SHEET C7.8. SEE ELEC. PLANS FOR ADD'L INFO.
- (E) EXTEND WATER MAIN TO 12-IN ABOVE FINISH FLOOR FOR FIRE PROTECTION CONNECTION, SEE DETAIL SHEET.
- (F) ROOF DRAIN CLEANOUT, SEE DETAIL SHEET C7.3.
- (G) TAPPING SLEEVE AND VALVE ASSEMBLY AND BLOCKING, SEE DETAIL SHEET C7.5.
- (H) FIRE DEPARTMENT CONNECTION, SEE DETAIL SHEET C7.5.
- (I) GATE VALVE AND VALVE BOX, SEE DETAIL SHEET C7.5.
- (J) GAS METER & GAS SERVICE LINES, SEE PLUMBING PLANS FOR ADDITIONAL INFORMATION.
- (K) EXTEND UTILITY TO WITHIN 5'-0" OF BUILDING WALL OR AS INDICATED ON PLUMBING PLANS. REFER TO PLUMBING PLANS FOR LOCATION & INVERT.
- (L) NEW GREASE TRAP, REFER TO PLUMBING PLANS FOR LOCATION & INVERT.
- (M) CONNECT TO ROOF DRAIN, SEE PLUMBING PLANS.
- (N) MANHOLE, SEE DETAIL SHEET C7.4.
- (O) SANITARY SEWER CLEAN OUT, SEE DETAIL SHEET C7.8.
- (P) PVC CONDUIT, SHOWN IN APPROXIMATE LOCATIONS ONLY. COORDINATE SIZE, MAT'L & LOCATION WITH SITE ELEC. PLANS & LOCAL UTILITY PROVIDER.

GRAPHIC SCALE



NEW FIRE HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS BEING DELIVERED TO THE JOB SITE. COORDINATE WITH COW FIRE DEPARTMENT.

CONTRACTOR SHALL OBTAIN PRIVATE UNDERGROUND FIRE LINE PERMIT PRIOR TO INSTALLING THE FIRE PROTECTION LINE. COORDINATE WITH COW FIRE & LIFE SAFETY DIVISION.

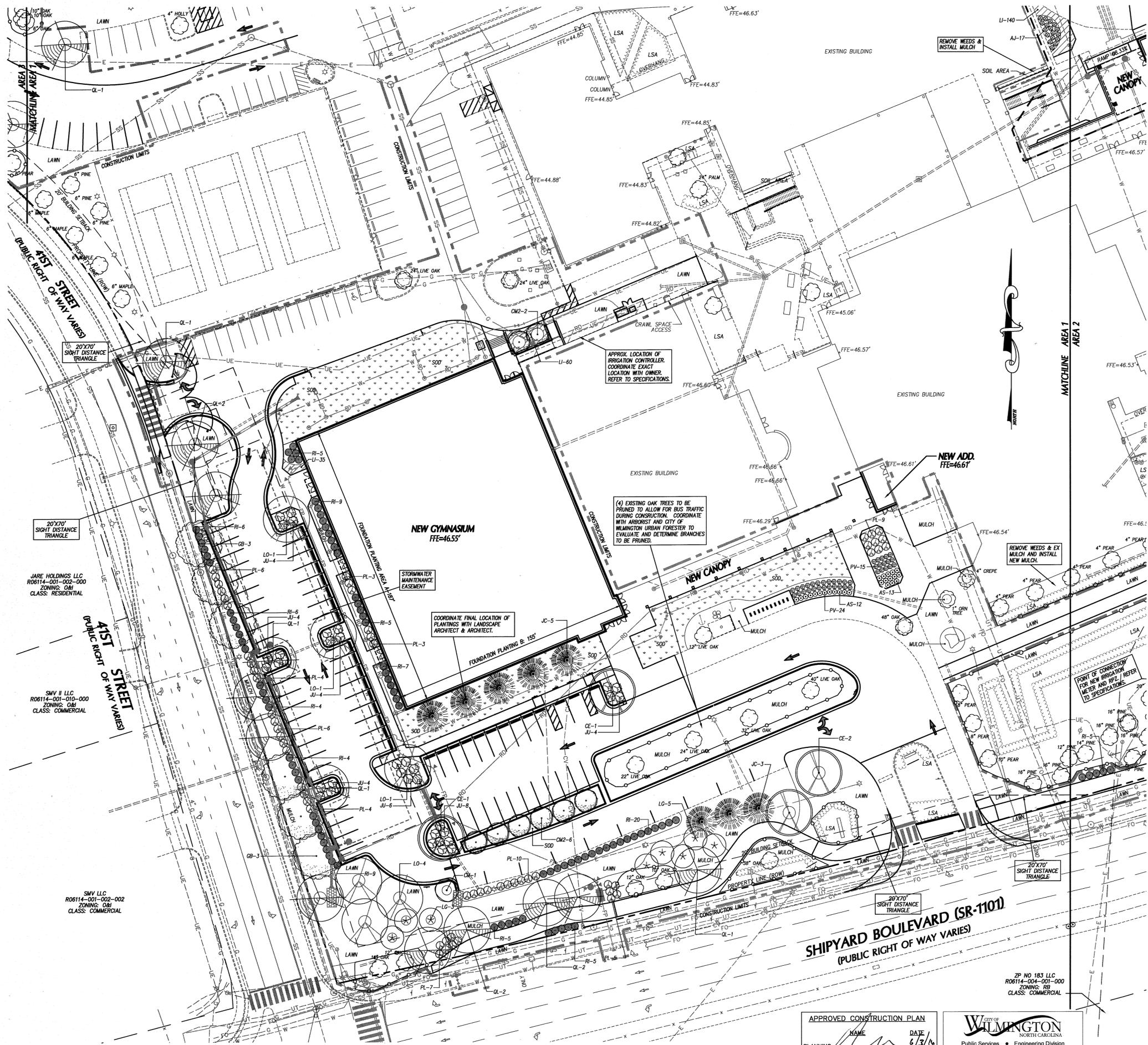
APPROVED CONSTRUCTION PLAN

NAME: [Signature] DATE: 6/3/16

PLANNING: [Signature] TRAFFIC: [Signature] FIRE: [Signature]

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/16/16 Permit # 201502521
Signed: [Signature]

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



- ### LANDSCAPE NOTES
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON AND/OR NCDOT STANDARDS AND SPECIFICATIONS.
 2. LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PLANT MATERIAL. NOTIFY OWNER OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THOSE SHOWN ON THE PLAN.
 3. VERIFICATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR AND THE TOTAL QUANTITIES SHALL BE AS SHOWN ON THE PLAN.
 4. LAWN AREAS SHALL BE SEEDDED WITH SUNSTAR/RIEMER BERBERIA GRASS SOG COVERAGE (BASED ON A PER SQUARE YARD SAMPLE) SHALL BE OBTAINED PRIOR TO FINAL INSPECTION.
 5. ALL PLANT MATERIAL SHALL CONFORM WITH THE STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSEMEN AND THE WRITTEN SPECIFICATIONS.
 6. PLANTING BEDS TO BE MULCHED WITH A MINIMUM OF 3" OF TRIPLE SHREDDED HARDWOOD MULCH. ALL PLANT GROUPINGS SHALL BE MULCHED AS ONE BED.
 7. ESTABLISH POSITIVE DRAINAGE IN ALL PLANTING BEDS AND AWAY FROM BUILDINGS.
 8. APPLY PRE-EMERGENT HERBICIDE TO ALL NEW PLANTING BEDS AT MANUFACTURER'S RECOMMENDED RATE PRIOR TO INSTALLATION OF MULCH.
 9. DO NOT INSTALL PLANT MATERIAL IN IMPERVIOUS SOILS, (i.e. HOLES WHICH, WHEN FILLED WITH WATER, DO NOT COMPLETELY DRAIN WITHIN TWO HOURS).
 10. ALL SOODED AREAS SHALL BE TIFWAY-419 BERBERIA.
 11. ANY TREE WRAP SHALL BE REMOVED IMMEDIATELY AFTER INSTALLATION.
 12. SEE SPECIFICATIONS REGARDING WARRANTY/MAINTENANCE REQUIREMENTS FOR ALL PLANTS, SOG, AND LAWN SEEDING.
 13. DEAD OR DETERIORATING SCREENING SHALL BE REPLACED WITHIN SIX MONTHS OR DURING NEXT PLANTING SEASON.
 14. ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30' - 10'.

PLANT SCHEDULE

| KEY | QTY | PLANT NAME | SIZE | REMARKS |
|------------------------------------|-----|---|-------------------------------|---------------------------------------|
| CANOPY AND UNDERSTORY TREES | | | | |
| BC | - | BALD CYPRESS Taxodium distichum | 2"-2 1/2" CAL. 10'-12' HT | B&B, STRAIGHT TRUNK FULL CROWN |
| CE | 5 | BOSQUE CHINESE ELM Ulmus Parvifolia 'Bosque' | 2"-2 1/2" CAL. 10'-12' HT | B&B, STRAIGHT TRUNK FULL CROWN |
| CM2 | 8 | CHEROKEE GRAPE MYRTLE Lagerstroemia indica 'Cherokee' | 3-5 TRUNKS 7"-8" HT | B&B, FULL CROWN |
| CM | 4 | NATCHEZ GRAPE MYRTLE Lagerstroemia l. x f. 'Natchez' | 3-5 TRUNKS 7"-8" HT | B&B, FULL CROWN |
| GB | 6 | AUTUMN GOLD GINKGO (MALE ONLY) Ginkgo biloba 'Autumn Gold' | 2"-2 1/2" CAL. 10'-12' HT | B&B, STRAIGHT TRUNK FULL CROWN |
| JC | 8 | JAPANESE CRYPTOMERIA Cryptomeria japonica | 8"-10" HT. MIN. B&B | B&B, STRAIGHT TRUNK FULL TO GROUND |
| LG | 12 | LITTLE GEM MAGNOLIA Magnolia grandiflora 'Little Gem' | 1"-1 1/2" CAL. 8"-10" HT | B&B, STRAIGHT TRUNK FULL TO GROUND |
| LO | 7 | LIVE OAK Quercus virginiana | 2"-2 1/2" CAL. 10'-12' HT | B&B, STRAIGHT TRUNK FULL CROWN |
| QL | 18 | LAUREL OAK Quercus laurifolia 'Darlington' | 2"-2 1/2" CAL. 10'-12' HT | B&B, STRAIGHT TRUNK FULL CROWN |
| SHRUBS AND GROUNDCOVERS | | | | |
| AJ | 17 | ROZANNE JAPANESE AUCUBA Aucuba japonica 'Rozanne' | 18"-24" HT./SPR. 4.0' O.C. | CONT., FULL 4.0' O.C. |
| AS | 32 | LITTLE BLUESTEM Andropogon scoparium 'The Blues' | 18"-24" HT./SPR. 4.0' O.C. | CONT., FULL 4.0' O.C. |
| JU | 43 | BLUE PACIFIC JUNIPER Juniperus conferta 'Blue Pacific' | 15"-18" SPR. CONT. | CONT., FULL 6' O.C. |
| LI | 275 | BIG BLUE LIRIOPE Liriope muscari 'Big Blue' | 3-5 BIBS | SPACED 18" O.C. |
| PL | 68 | DWARF CHERRY LAUREL Prunus laurocerasus 'Otto Luyken' | 18" HT./SPR. CONT. | CONT., FULL 4' O.C. |
| PV | 39 | SWITCHGRASS Panicum virgatum 'Shenandoah' | 18"-24" HT./SPR. CONT. | CONT., FULL 4.0' O.C. |
| RI | 111 | REDBIRD INDIAN HAWTHORN Rhamphalepis indica 'Redbird' | 18" HT./SPR. CONT. | CONT., FULL 4' O.C. |

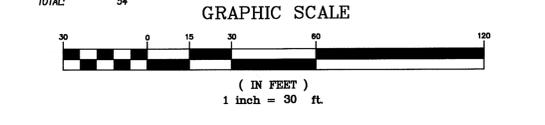
GRAPHIC SYMBOLS SUPERCEDE WRITTEN QUANTITIES WHERE DISCREPANCIES OCCUR. SEE SHEET C7.6 FOR MORE INFORMATION.

TIFWAY 419 SOG, SEE DETAIL SHEET C7.6.

A TREE REMOVAL/PRESERVATION PERMIT IS REQUIRED PRIOR TO REMOVING ANY TREES. CONTRACTOR SHALL OBTAIN & COMPLETE PERMIT. CONTACT CITY OF WILMINGTON ZONING DEPARTMENT TO OBTAIN COPY OF PERMIT. ENSURE TO PROVIDE COPY OF TREE REMOVAL CHART WITH PERMIT.

REFER TO PLAN SHEET C-62 FOR LANDSCAPE CALCULATIONS.

| SIZE/TYPER | QTY. | SIZE/TYPER | ADD. ALT. #1 |
|-------------|------|------------|--------------|
| 6" BIRCH | 1 | 18" PINE | 3 |
| 3" MAPLE | 1 | 12" PINE | 1 |
| 6" MAPLE | 1 | 16" PINE | 2 |
| 3" DOGWOOD | 1 | 20" PINE | 1 |
| 6" DOGWOOD | 1 | 22" PINE | 1 |
| 10" DOGWOOD | 1 | 12" MAG | 1 |
| 3" OAK | 1 | TOTAL: | 9 |
| 5" OAK | 1 | | |
| 6" OAK | 1 | | |
| 8" OAK | 7 | | |
| 9" OAK | 1 | | |
| 10" OAK | 9 | | |
| 12" OAK | 3 | | |
| 2" PEAR | 1 | | |
| 6" PEAR | 1 | | |
| 14" PEAR | 1 | | |
| 10" PEAR | 5 | | |
| 8" MAG | 1 | | |
| 12" MAG | 1 | | |
| 6" CREPE | 3 | | |
| 2" CHASTE | 1 | | |
| 6" CHASTE | 1 | | |
| 4" HOLLY | 1 | | |
| 8" HOLLY | 1 | | |
| 4" PINE | 1 | | |
| 12" PINE | 2 | | |
| 14" PINE | 3 | | |
| 16" PINE | 1 | | |
| 24" PINE | 1 | | |
| TOTAL: | 54 | | |



BOWMAN MURRAY HEMINGWAY
ARCHITECTS
514 Market Street
Wilmington, NC 28401
Tel - (910) 762-2621
Fax - (910) 762-8506

Project ID # 900-905

CLH DESIGN, PA
300 Regency Forest Dr.
Suite 120
Wilmington, NC 28411
Phone: 910.762.6716
Fax: 910.762.8506
E-MAIL: CLH@CLH.PA



6-27-16

Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

JOB NUMBER
15-120
DRAWN BY
JGM
CHECKED BY
JGM
DATE
MAY 27, 2016
REVISIONS

SITE PLANTING PLAN
SHEET NUMBER

C-6.1

APPROVED CONSTRUCTION PLAN

NAME: [Signature] DATE: 6/3/16
PLANNING: [Signature] DATE: 6/3/16
TRAFFIC: [Signature] DATE: 6/3/16
FIRE: [Signature] DATE: 6/3/16

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/28/16 Permit #: 201502382
Signed: [Signature]

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



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MURRAY
HEMINGWAY**

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Phase One: Renovations and Additions to:
John T. Hoggard High School
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15-120
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MAY 27, 2016
REVISIONS

**SITE PLANTING
PLAN**

SHEET NUMBER

C-6.2

LANDSCAPE NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CITY OF WILMINGTON AND/OR NC DOT STANDARDS AND SPECIFICATIONS.
2. LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PLANT MATERIAL. NOTIFY OWNER OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THOSE SHOWN ON THE PLAN.
3. VERIFICATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR AND THE TOTAL QUANTITIES SHALL BE AS SHOWN ON THE PLAN.
4. LAWN AREAS SHALL BE SEED WITH SUNSTAR/PRINERA BERMUDA GRASS 85% COVERAGE (BASED ON A PER SQUARE YARD SAMPLE) SHALL BE ATTAINED PRIOR TO FINAL INSPECTION.
5. ALL PLANT MATERIAL SHALL CONFORM WITH THE STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND THE WRITTEN SPECIFICATIONS.
6. PLANTING BEDS TO BE MULCHED WITH A MINIMUM OF 3" OF TRIPLE SHREDDED HARDWOOD MULCH. ALL PLANT GROUPINGS SHALL BE MULCHED AS ONE BED.
7. ESTABLISH POSITIVE DRAINAGE IN ALL PLANTING BEDS AND AWAY FROM BUILDINGS.
8. APPLY PRE-EMERGENT HERBICIDE TO ALL NEW PLANTING BEDS AT AT MANUFACTURER'S RECOMMENDED RATE PRIOR TO INSTALLATION OF MULCH.
9. DO NOT INSTALL PLANT MATERIAL IN IMPERVIOUS SOILS, (i.e. HOLES WHICH, WHEN FILLED WITH WATER, DO NOT COMPLETELY DRAIN WITHIN TWO HOURS.)
10. ALL SODDED AREAS SHALL BE TIFWAY-419 BERMUUDA.
11. ANY TREE WRAP SHALL BE REMOVED IMMEDIATELY AFTER INSTALLATION.
12. SEE SPECIFICATIONS REGARDING WARRANTY/MAINTENANCE REQUIREMENTS FOR ALL PLANTS, SOIL, AND LAWN SEEDING.
13. DEAD OR DETERIORATING SCREENING SHALL BE REPLACED WITHIN SIX MONTHS OR DURING NEXT PLANTING SEASON.
14. ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30' - 10'.

PLANT SCHEDULE

| KEY | QTY | PLANT NAME | SIZE | REMARKS |
|------------------------------------|-----|--|------------------------------|---------------------------------------|
| CANOPY AND UNDERSTORY TREES | | | | |
| BC | - | BALD CYPRESS <i>Taxodium distichum</i> | 2"-2 1/2" CAL. 10'-12" HT | B&B, STRAIGHT TRUNK FULL CROWN |
| CE | 5 | BOSQUE CHINESE ELM <i>Ulmus Parvifolia 'Boeque'</i> | 2"-2 1/2" CAL. 10'-12" HT | B&B, STRAIGHT TRUNK FULL CROWN |
| CM2 | 8 | CHEROKEE CRAPE MYRTLE <i>Lagerstroemia indica 'Cherokee'</i> | 3-5 TRUNKS 7'-8" HT | B&B, FULL CROWN |
| CM | 4 | NATCHEZ CRAPE MYRTLE <i>Lagerstroemia l. x f. 'Natchez'</i> | 3-5 TRUNKS 7'-8" HT | B&B, FULL CROWN |
| GB | 6 | AUTUMN GOLD GINKGO (MALE ONLY) <i>Ginkgo biloba 'Autumn Gold'</i> | 2"-2 1/2" CAL. 10'-12" HT | B&B, STRAIGHT TRUNK FULL CROWN |
| JC | 8 | JAPANESE CRYPTOMERIA <i>Cryptomeria japonica</i> | 8'-10" HT. MIN. B&B | B&B, STRAIGHT TRUNK FULL TO GROUND |
| LG | 12 | LITTLE GEM MAGNOLIA <i>Magnolia grandiflora 'Little Gem'</i> | 1"-1 1/2" CAL. 8'-10" HT | B&B, STRAIGHT TRUNK FULL TO GROUND |
| LO | 7 | LIVE OAK <i>Quercus virginiana</i> | 2"-2 1/2" CAL. 10'-12" HT | B&B, STRAIGHT TRUNK FULL CROWN |
| QL | 18 | LAUREL OAK <i>Quercus laurifolia 'Darlington'</i> | 2"-2 1/2" CAL. 10'-12" HT | B&B, STRAIGHT TRUNK FULL CROWN |
| SHRUBS AND GROUNDCOVERS | | | | |
| AJ | 17 | ROZANNE JAPANESE AUCUBA <i>Aucuba japonica 'Rozanne'</i> | 18"-24" HT/SPR. CONT. | CONT., FULL 4.0' O.C. |
| AS | 32 | LITTLE BLUESTEM <i>Andropogon scoparium 'The Blues'</i> | 18"-24" HT/SPR. CONT. | CONT., FULL 4.0' O.C. |
| JU | 43 | BLUE PACIFIC JUNIPER <i>Juniperus conferta 'Blue Pacific'</i> | 15"-18" SPR. CONT. | CONT., FULL 8' O.C. |
| LI | 275 | BIG BLUE LIRIOPE <i>Liriope muscari 'Big Blue'</i> | 3-5 BIBS | SPACED 18" O.C. |
| PL | 68 | DWARF CHERRY LAUREL <i>Prunus laurocerasus 'Otto Luyken'</i> | 18" HT/SPR. CONT. | CONT., FULL 4.0' O.C. |
| PV | 39 | SWITCHGRASS <i>Panicum virgatum 'Shenandoah'</i> | 18"-24" HT/SPR. CONT. | CONT., FULL 4.0' O.C. |
| RI | 111 | REDBIRD INDIAN HAWTHORN <i>Rhapidoisalis indica 'Redbird'</i> | 18" HT/SPR. CONT. | CONT., FULL 4' O.C. |

GRAPHIC SYMBOLS SUPERCEDE WRITTEN QUANTITIES WHERE DISCREPANCIES OCCUR. SEE SHEET C7.6 FOR MORE INFORMATION.

TIFWAY 419 SOG, SEE DETAIL SHEET C7.6.

A TREE REMOVAL/PRESERVATION PERMIT IS REQUIRED PRIOR TO REMOVING ANY TREES. CONTRACTOR SHALL OBTAIN & COMPLETE PERMIT. CONTACT CITY OF WILMINGTON ZONING DEPARTMENT TO OBTAIN COPY OF PERMIT. ENSURE TO PROVIDE COPY OF TREE REMOVAL CHART WITH PERMIT.

REFER TO PLAN SHEET C-6.2 FOR LANDSCAPE CALCULATIONS.

| SIZE/TYPE | QTY. | SIZE/TYPE | QTY. |
|-------------|------|-----------|------|
| 6" BIRCH | 1 | 18" PINE | 3 |
| 3" MAPLE | 1 | 12" PINE | 1 |
| 6" MAPLE | 1 | 16" PINE | 2 |
| 3" DOGWOOD | 1 | 20" PINE | 1 |
| 8" DOGWOOD | 1 | 22" PINE | 1 |
| 10" DOGWOOD | 1 | 12" MAG | 1 |
| 3" OAK | 1 | TOTAL: | 9 |
| 5" OAK | 1 | | |
| 6" OAK | 1 | | |
| 8" OAK | 7 | | |
| 9" OAK | 1 | | |
| 10" OAK | 9 | | |
| 12" OAK | 3 | | |
| 2" PEAR | 1 | | |
| 6" PEAR | 1 | | |
| 14" PEAR | 1 | | |
| 10" PEAR | 5 | | |
| 8" MAG | 1 | | |
| 12" MAG | 1 | | |
| 6" CREPE | 3 | | |
| 2" CHASTE | 1 | | |
| 6" CHASTE | 1 | | |
| 4" HOLLY | 1 | | |
| 8" HOLLY | 1 | | |
| 4" PINE | 1 | | |
| 12" PINE | 2 | | |
| 14" PINE | 3 | | |
| 16" PINE | 1 | | |
| 24" PINE | 1 | | |
| TOTAL: | 54 | | |

TREES THAT REQUIRE MITIGATION:

8" DOGWOOD (75%)
10" DOGWOOD (75%)
18 X 150K / 3 = 9 TREES

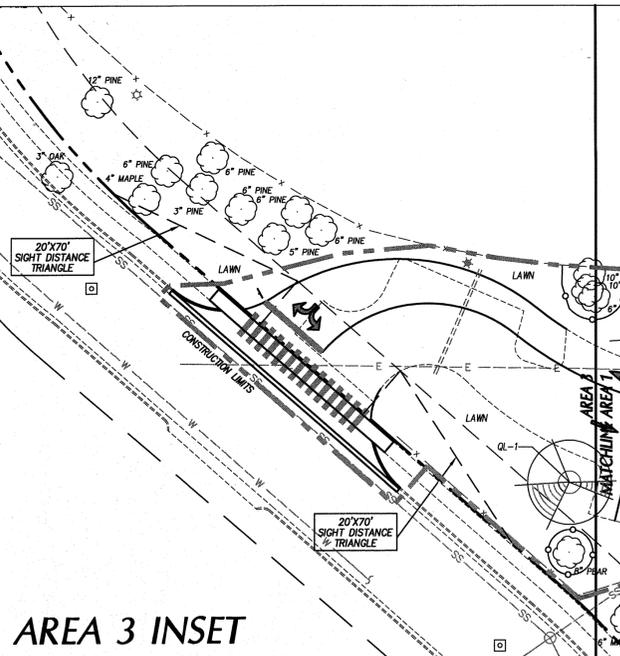
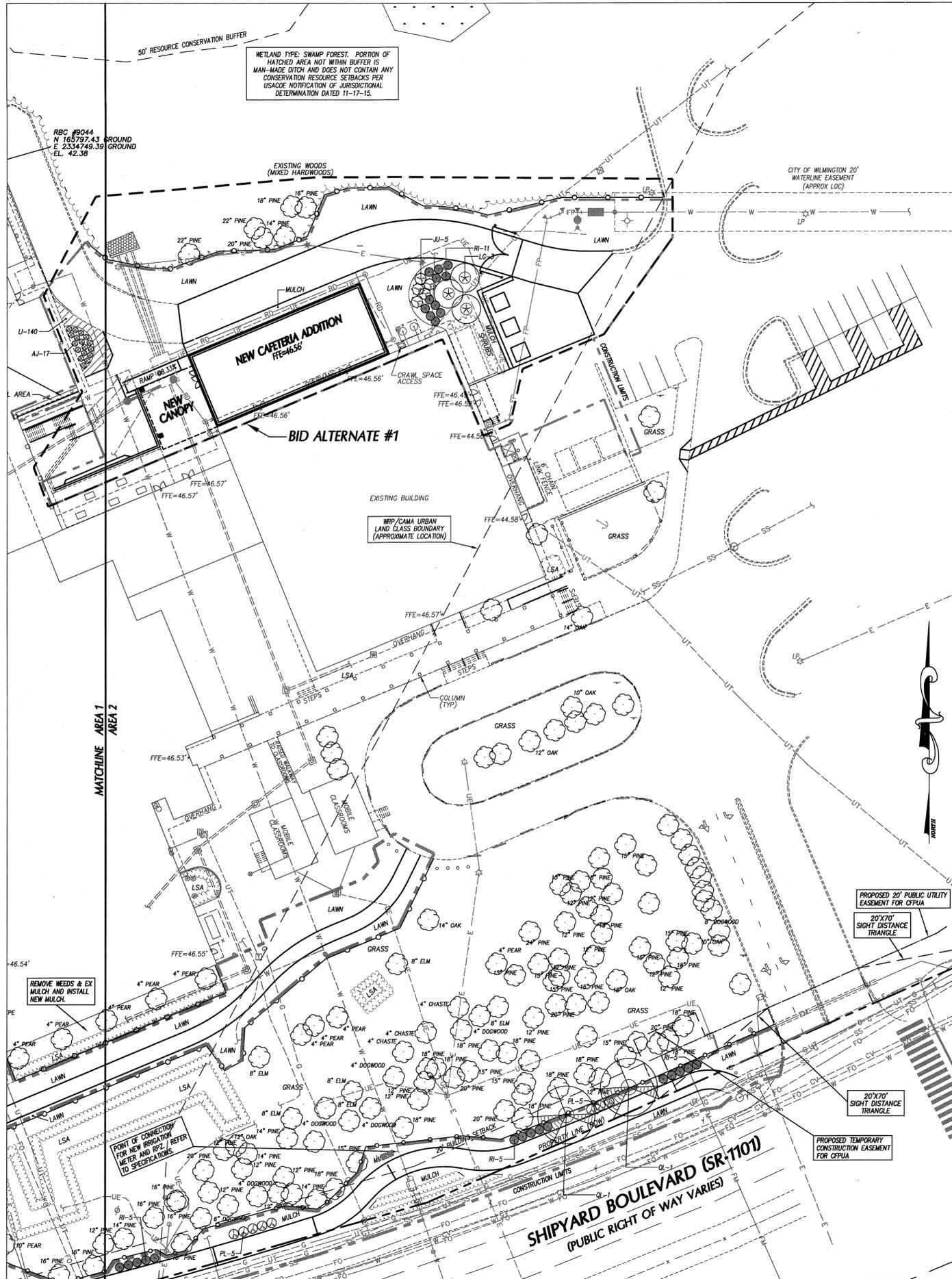
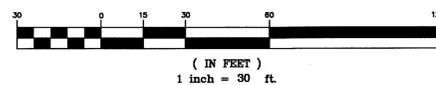
8" MAGNOLIA (100%)
12" MAGNOLIA (100%) X 2
5" HOLLY (100%)
40 X 200K / 3 = 27 TREES

8" MAG 1
TOTAL REQUIRED: 36 TREES

TOTAL PROVIDED: 39 TREES (2.5" CAL OR 8'-10" HT.)

CITY OF WILMINGTON NOTE: Any mitigation trees required as a result of the removal of protected tree(s) shall not be counted to meet the requirements of the street yard, buffers or interior parking requirements.

GRAPHIC SCALE



LANDSCAPE CALCULATIONS

STREET YARD REQUIREMENTS

STREET YARD FACTOR = 12
MINIMUM STANDARD: 1 CANOPY TREE (3" CAL. MIN.) - 3 UNDERST. IF PWR. LINE
6 SHRUBS (12" HT. MIN.) OR
6 SHRUBS (36" HT. MIN. IF ADJ. TO A PARKING AREA)
PER 600 SQ. FT. OF STREETYARD

PRIMARY STREET YARD: SHIPYARD BOULEVARD - 8'-18" WIDTH (TO LIMITS OF WORK)
SQUARE FEET REQUIRED = $12(862.5 \text{ LF} - 35 \text{ LF}) = 9,930 \text{ SF}$
MINIMUM STANDARD REQUIRED: 17 CANOPY TREES, 100 SHRUBS

PROVIDED: 7 NEW CANOPY TREES 55 NEW SHRUBS
7 EXISTING CANOPY TREES
7 EXISTING PINES, EXIST. HEDGE

SECONDARY STREET YARD: 41ST STREET - 8'-18" WIDTH (TO LIMITS OF WORK)
SQUARE FEET REQUIRED = $12(378.75 \text{ LF})/2 = 2,299 \text{ SF}$
MINIMUM STANDARD REQUIRED: 4 CANOPY TREES
23 SHRUBS

PROVIDED: 17 EXISTING CANOPY TREES
23 SHRUBS
EXISTING HEDGE

FOUNDATION PLANTING REQUIREMENTS (adjacent to parking or internal drive aisle)

REQUIREMENT= AREA OF BUILDING FACE X 12X

FOUNDATION PLANTING: AREA A
BUILDING FACE = 187 FT.
BUILDING HEIGHT = 42 FT.
PLANTING AREA REQUIRED = 943 SQ. FT.
PLANTING AREA PROVIDED = 1,113 SQ. FT.

FOUNDATION PLANTING: AREA B
BUILDING FACE = 154 FT.
BUILDING HEIGHT = 42 FT.
PLANTING AREA REQUIRED = 776 SQ. FT.
PLANTING AREA PROVIDED = 3,309 SQ. FT.

PARKING AREA PLANTING REQUIREMENTS

PARKING AREA PERIMETER PLANTINGS: N/A

PARKING AREA INTERIOR PLANTINGS:
REQUIREMENT: INTERIOR LANDSCAPING MUST EQUAL 8X OF TOTAL PARKING, LOADING, AND DRIVE AISLE, AND PEDESTRIAN USE AREA
MIN. CAL. 2" TREE PER 144 SQ. FT. OF PARKING ISLAND, NO LESS THAN 12" WIDE ISLAND MUST HAVE GROUNDCOVER
NO PARKING SPACE MORE THAN 120 FEET AWAY FROM AN ISLAND, 75% SHADE TREES 10,400 SF X 8X = 833 SF.

15 TREES 2" CALIPER OR GREATER PER ACRE OF DISTURBED LAND
ACRES DISTURBED: 5.0 CREDITS REQUIRED: 75 CREDITS

TREES PROVIDED: 22 TREES/22 CREDITS

CREDITS FOR EXISTING TREES:

| SIZE | QTY. | CREDIT VALUE | TOTAL |
|--------------|------|--------------|-------|
| 2-5" CALIPER | 1 | - | - |
| 6-11" | 15 | 2 | 30 |
| 12-17" | 2 | 3 | 6 |
| 18-23" | 4 | 4 | 16 |
| >24" | 4 | DBH/8 (178') | 29 |
| TOTAL: | | | 65 |

TOTAL CREDITS PROVIDED: 87

PARKING AREA SHADE CALCULATION:

REQUIREMENT: TOTAL PARKING AREA X 20% = SHADING AREA
TREES IN LANDSCAPE ISLANDS CLAIM 707-SF
TREES ON PERIMETER OF PARKING AREA CLAIM 353.5-SF

PROVIDED: 18,900-SF X 20% = 3,780-SF
(7) LANDSCAPE ISLAND TREES = 4,948-SF
(10) PERIMETER TREES = 3,536-SF
TOTAL = 8,494-SF

APPROVED CONSTRUCTION PLAN

PLANNING NAME DATE
TRAFFIC DATE
FIRE DATE

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/18/16 Permit # 20150231K1
Signed: [Signature]

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016

NOTES:
THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS GROW. 85% OF MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 2-3X THE HEIGHT OF THE TREE.

NOTE:
CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE IN THE TOP 24" OF THE SOIL AND SUPPLY THE MAJORITY OF NUTRIENTS AND WATER. DO NOT DISRUPT CROWN WITH INTENSIVE PRUNING.

CRZ
DBH
8' MAX
ORANGE SAFETY FENCE OR ORANGE SILT FENCE (TYPICAL)

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

STANDARD DETAIL
TREE PROTECTION DURING CONSTRUCTION
SHEET 1 of 2

DATE: JAN 2015
DRAWN BY: SR
CHECKED BY: RDG/PE
SCALE: NOT TO SCALE

CITY OF WILMINGTON
NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1816
WILMINGTON, NC 28402
(910) 341-7807
SD 15-09

8' MAX
VARIABLE AS DIRECTED BY THE ENGINEER
WARNING SIGN
TREE PROTECTION AREA DO NOT ENTER
ZONA PROTECTORA PARA LOS ARBOLES PROHIBIDO ENTRAR
ORANGE, UV RESISTANT HIGH TENSILE STRENGTH POLY BARRICADE FABRIC (TYPICAL)
STEEL POST
WARNING SIGN
ORANGE, UV RESISTANT HIGH TENSILE STRENGTH POLY BARRICADE FABRIC (TYPICAL)
FRONT VIEW
GRADE
24" MIN
6" MIN
10' MIN
18" MIN
SIDE VIEW
WARNING SIGN DETAIL
TREE PROTECTION AREA DO NOT ENTER
ZONA PROTECTORA PARA LOS ARBOLES PROHIBIDO ENTRAR
10' MIN
6" MIN
18" MIN
WARNING SIGN DETAIL

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

STANDARD DETAIL
TREE PROTECTION DURING CONSTRUCTION
SHEET 2 of 2

DATE: JAN 2015
DRAWN BY: SR
CHECKED BY: RDG/PE
SCALE: NOT TO SCALE

CITY OF WILMINGTON
NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1816
WILMINGTON, NC 28402
(910) 341-7807
SD 15-09

1" REBAR FOR BAG REMOVAL FROM INLET
CURB OPENING
LOW CURB DEFLECTOR
OVERFLOW OPENING
SILT BAG
DUMP LOOPS

NOTES:
1. CONTRACTOR TO INSPECT SILT BAG EVERY TWO WEEKS OR AFTER EVERY SUBSTANTIAL RAIN EVENT.
2. CONTRACTOR TO REMOVE AND DISPOSE OF COLLECTED SILT AT AN ACCEPTABLE OFF SITE LOCATION.
3. COLLECTED SEDIMENT TO BE REMOVED ROUTINELY TO ENSURE FUNCTIONALITY OF SILT BAG.
4. DEVICE SHALL BE MANUFACTURED FROM WOVEN POLYPROPYLENE GEOTEXTILE TO FIT THE OPENING OF A CATCH BASIN OR DROP INLET TO FILTER SEDIMENT FROM RUNOFF ENTERING THE INLET. DEVICE SHALL BE PROVIDED WITH AN INTEGRAL CURB DEFLECTOR IF INSTALLED AT A CATCH BASIN WITH A VERTICAL OPENING ADJACENT TO A HORIZONTAL GRATE.
5. THE DEVICE SHALL BE A HIGH FLOW "SILTSACK" AS MANUFACTURED BY ACE ENVIRONMENTAL, INC. OR APPROVED EQUAL.
6. INSTALL DEVICE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND INSTALL A CURB DEFLECTOR IF APPROPRIATE.
7. INSPECT DEVICE AFTER EACH RAIN EVENT AND AT INTERVALS NOT EXCEEDING TWO WEEKS DURING CONSTRUCTION. REMOVE, EMPTY, CLEAN, AND REPLACE THE DEVICE AS NEEDED DURING CONSTRUCTION. EMPTY COLLECTED SEDIMENT IN APPROVED, PROTECTED LOCATION. REMOVE AND DISPOSE OF DEVICE FOLLOWING FULL AND PERMANENT STABILIZATION OF THE CONTRIBUTING DRAINAGE AREA.

SILT BAG INLET PROTECTION N.T.S.

STEEL FENCE POST (TYP.)
UPSTREAM END OF STORM DRAIN
GALVANIZED HARD WIRE FABRIC
#57 WASHED STONE FILTER ACROSS PIPE INLET
OVERFLOW
1/3 OF PIPE DIAMETER
FILTER FABRIC (SEE SPECIFICATIONS FOR REQUIREMENTS)

NOTES:
1. ALL OPEN STORM DRAIN PIPES SHALL BE PROTECTED AFTER STOPPAGE OF WORK EACH DAY AS ILLUSTRATED.
2. ACCUMULATED SEDIMENT SHALL BE REMOVED AND PROPERLY DISPOSED OF AND THE TRENCH BOTTOM REGRADED AND COMPACTED IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO CONTINUANCE OF LAYING PIPE.

STONE FILTER INLET PROTECTION FOR STORM DRAIN UNDER CONSTRUCTION N.T.S.

NOTES:
1. ENTRANCE(S) SHALL BE LOCATED TO PROVIDE MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES.
2. TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS IS TO BE PROVIDED.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY. CONTRACTOR SHALL MAINTAIN AS NECESSARY.
4. ANY MATERIAL WHICH STILL MAKES IT ONTO THE ROAD MUST BE CLEANED UP IMMEDIATELY.
5. FREQUENT CHECKS OF THE ENTRANCE(S) AND TIMELY MAINTENANCE SHALL BE PROVIDED.
6. NOTES ARE APPLICABLE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED.

50' MIN. RESIDENTIAL
100' MIN.
2"-3" MIN. COARSE AGGREGATE (CLASS 'A' RIP RAP)
25' OR WIDTH OF PROPOSED STREET OR DRIVEWAY, WHICHEVER IS GREATER.
EXISTING ROADWAY
PLAN
35' MIN. RESIDENTIAL
85' MIN.
15' MIN.
NEW CONSTRUCTION
6" MIN.
6" MIN.
CROSS SECTION
LINE BOTTOM WITH WOVEN GEOTEXTILE FABRIC

MAINTENANCE NOTES:
1. MAINTAIN THE GRAVEL PAD IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE.
2. MAY REQUIRE PERIODIC TOP DRESSING WITH 2-INCH STONE.
3. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED OR TRACKED ONTO PUBLIC ROADWAYS.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE N.T.S.

NOTCH AND FOLD FABRIC OVER HORIZONTAL POST
STEEL POST
WOVEN WIRE FABRIC
HORIZONTAL POST
12" #57 WASHED STONE
SILT FENCE FABRIC
CLASS 'B' RIP RAP (TYP)

NOTES:
1. INSTALL SILT FENCE PER STD. SILT FENCE DETAIL.
2. LOCATE REINFORCED OUTLET AT LOW POINTS OF SILT FENCE BARRIER.

SECTION
POST (TYP)
10'
ELEVATION
POST
STD SILT FENCE

MAINTENANCE NOTES:
1. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE/OUTLET. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE & REPLACE STONE AS NECESSARY AS IT BECOMES CLOGGED WITH SEDIMENT.
2. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

TEMPORARY REINFORCED SILT FENCE OUTLET N.T.S.

MAINTENANCE NOTES:
1. INSPECT THE BARRIER AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL AND MAKE REPAIRS AS NEEDED.
2. REMOVE SEDIMENT AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR SUBSEQUENT RAINS.
3. APPROPRIATELY STABILIZE ALL BARE AREAS AROUND THE INLET.

METAL POSTS
GALVANIZED HARDWARE WIRE EXTENDS TO TOP
#57 WASHED STONE
16" MINIMUM

NOTES:
1. PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET WITH THE ENDS OF ADJACENT BLOCKS ABUTTING. THE HEIGHT OF THE BLOCKS SHALL BE 12".
2. WIRE MESH OR HARDWARE CLOTH SHALL BE PLACED OVER THE OUTSIDE VERTICAL FACE (NEBBING) OF THE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS.
3. #57 WASHED STONE SHALL BE PAILED AGAINST THE WIRE TO THE TOP OF THE BLOCK.
4. MAINTAIN DEVICE AFTER EACH RAIN. REPLACE #57 WASHED STONE IF IT CLOGS W/ SEDIMENT.
5. PLACE 1"x4" BOARDS THROUGH THE HOLES OF CORNER BLOCKS.

DEWATERING
CONCRETE BLOCK
OVERFLOW
SEDIMENT LADEN RUNOFF
WIRE SCREEN
16"
1"x4" BRACE
DROP INLET WITH GRATE
FILTERED WATER

2:1 SLOPE, GRAVEL FILTER

TEMPORARY CATCH BASIN AND YARD INLET PROTECTION N.T.S.

VARIABLE AS DIRECTED BY THE ENGINEER
8' MAX.
MIN. 10 GA. LINE WIRES
MIN. 12-1/2 GA. INTERMEDIATE WIRES
GRADE
FRONT VIEW
STEEL POST
WOVEN WIRE FABRIC
SILT FENCE FABRIC
FILL SLOPE
GRADE
6" MIN. COVER OVER SKIRT *
ANCHOR SKIRT AS DIRECTED BY ENGINEER *
3'-0"
2'-0"
NOTE: USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.
FOR REPAIR OF SILT FENCE FAILURES, USE NO. 57 WASHED STONE. FOR ANCHOR WHEN SILT FENCE IS PROTECTING CATCH BASIN.

STANDARD TEMPORARY SILT FENCE N.T.S.

10' MIN.
6" MIN.
12"
24"
OUT SLOPE
FILL SLOPE
SECTION A-A
CONCRETE WASHOUT
4" x 4" TREATED WOOD POSTS
10' MIN.
6" MIN.
PLAN VIEW
ANCHOR PLASTIC LINING WITH #57 STONE
PLASTIC LINING
12"
24"
OUT SLOPE
FILL SLOPE
SECTION A-A
CONCRETE WASHOUT
4" x 4" TREATED WOOD POSTS
10' MIN.
6" MIN.
PLAN VIEW
ANCHOR PLASTIC LINING WITH #57 STONE
PLASTIC LINING
12"
24"
OUT SLOPE
FILL SLOPE
SECTION A-A
CONCRETE WASHOUT
4" x 4" TREATED WOOD POSTS

NOTES:
1. LOCATE WASH-OUT AREA IN LOCATIONS SHOWN ON EROSION CONTROL PLAN SHEETS AND AT LEAST 50' FROM OPEN WATERS AND DRAINAGE INLETS.
2. LINE WASH OUT PIT WITH LINER OF 8-MIL LAMINATED PLASTIC GEOTEXTILE FABRIC (DURA-SHIM BSW OR APPROVED EQUAL).
3. PROPERLY DISPOSE OF DRED CONCRETE AND RESTORE AREA TO FINAL GRADES AND SURFACES AT COMPLETION OF CONSTRUCTION.

MAINTENANCE NOTES:
1. INSPECT AREA REGULARLY AND MAKE REPAIRS PROMPTLY.
2. ENSURE CONCRETE IS BEING CAPTURED AND LINER REMAINS ANCHORED.
3. REMOVE DRED CONCRETE AND RESTORE PIT BEFORE CAPACITY IS EXCEEDED.
4. REPLACE OR PATCH IMPERVIOUS LINER THAT BECOMES DAMAGED. RE-ANCHOR LINER AS NEEDED.

CONCRETE WASHOUT AREA N.T.S.

CONCRETE WASHOUT
4" x 4" TREATED WOOD POSTS
10' MIN.
6" MIN.
PLAN VIEW
ANCHOR PLASTIC LINING WITH #57 STONE
PLASTIC LINING
12"
24"
OUT SLOPE
FILL SLOPE
SECTION A-A
CONCRETE WASHOUT
4" x 4" TREATED WOOD POSTS

NOTES:
1. Lx IS THE LENGTH OF THE RIPRAP APRON.
2. d IS 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL-DEFINED CHANNEL, EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 8" ABOVE THE MAXIMUM TALLWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND SOIL FOUNDATION.

CITY OF WILMINGTON OUTLET PROTECTION N.T.S.

WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/16/16 Permit # 201502921
Signed: [Signature]

APPROVED CONSTRUCTION PLAN
NAME: [Signature] DATE: 6/13/16
PLANNING: [Signature] DATE: 6/9/16
TRAFFIC: [Signature] DATE: 6/9/16
FIRE: [Signature] DATE: 6/9/16

WILMINGTON
NORTH CAROLINA
CITY OF WILMINGTON ENGINEERING
PO BOX 1816
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mm
BOWMAN MURRAY HEMINGWAY
ARCHITECTS
514 Market Street
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Tel - (910) 762-2621
Fax - (910) 762-8506
Project ID # 900-9005

CLH DESIGN, P.A.
400 Higgins Ferry Rd.
Suite 120
Cary, NC 27513
Phone: 919.339.6716
Fax: 919.339.7314
LA: C-005 PE C-1595

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
KATHA A. LORING
23953
5-27-16

Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016

JOB NUMBER: 15-120
DRAWN BY: JGM
CHECKED BY: JGM
DATE: MAY 27, 2016
REVISIONS:

SITE/CIVIL DETAILS

SHEET NUMBER: **C7.1**



**BOWMAN
MURRAY
HEMINGWAY**

ARCHITECTS
514 Market Street
Wilmington, NC 28401
Tel - (910) 762-2621
Fax - (910) 762-8506

Project ID # 900-9005



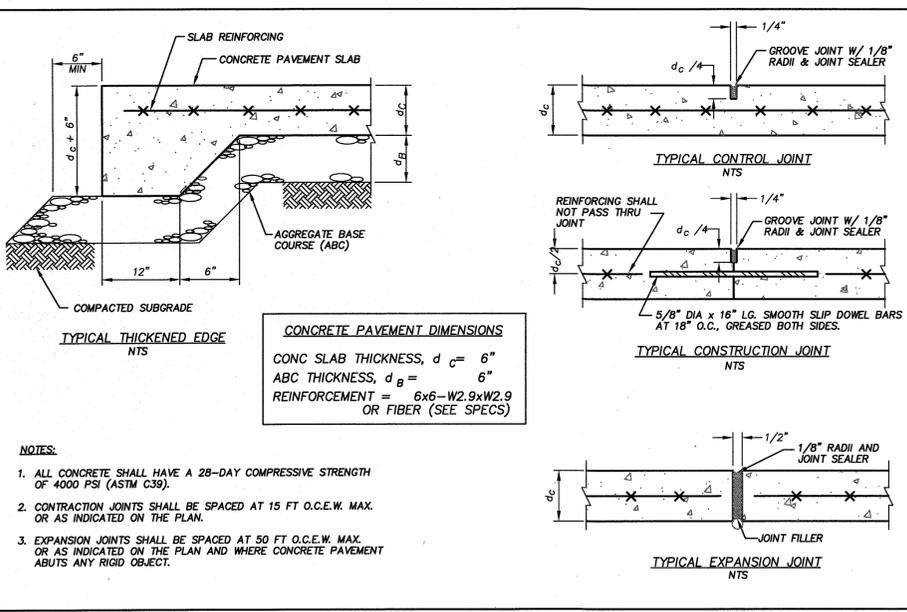
Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

| | |
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| JOB NUMBER | 15-120 |
| DRAWN BY | JGM |
| CHECKED BY | JGM |
| DATE | MAY 27, 2016 |
| REVISIONS | |

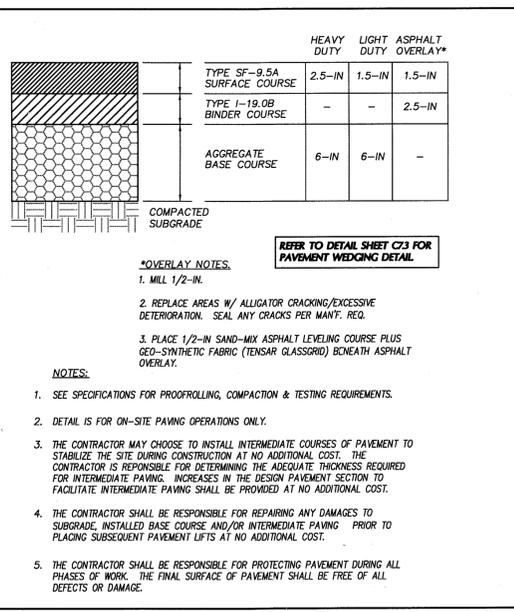
**SITE/CIVIL
DETAILS**

C7.2

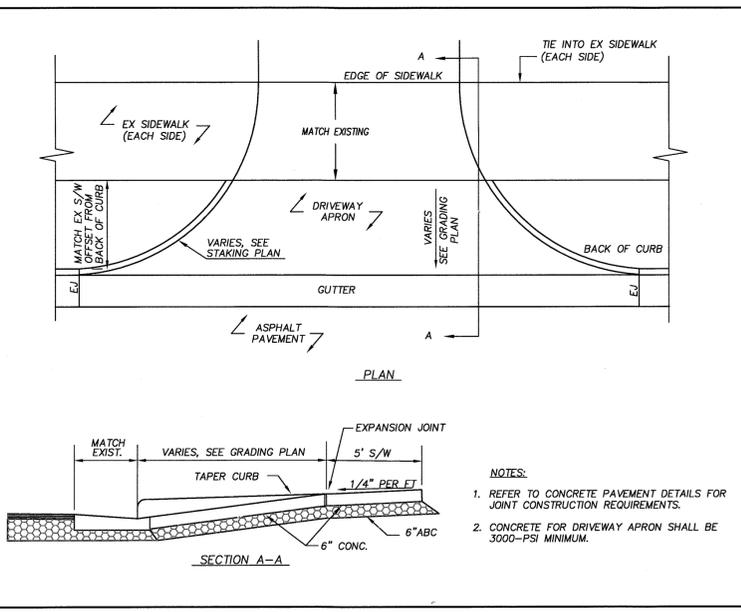
PHASE ONE CONSTRUCTION DOCUMENTS - 4-12-2016



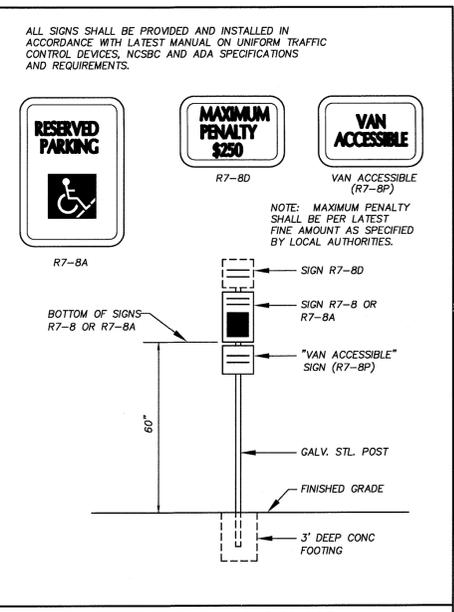
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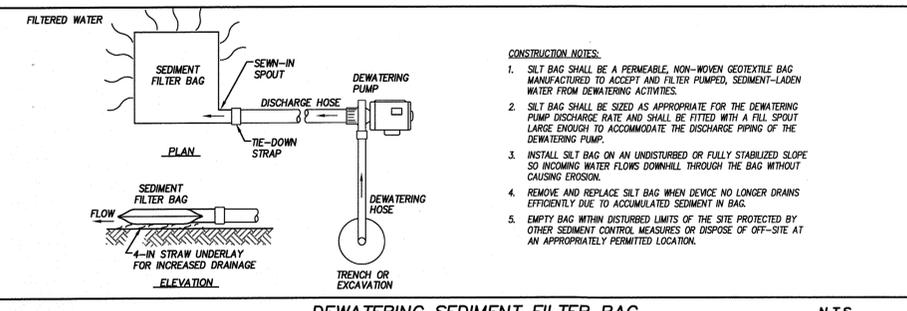
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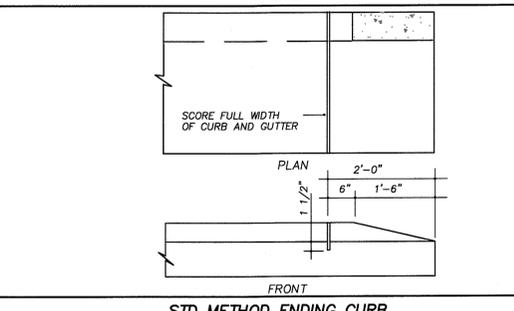
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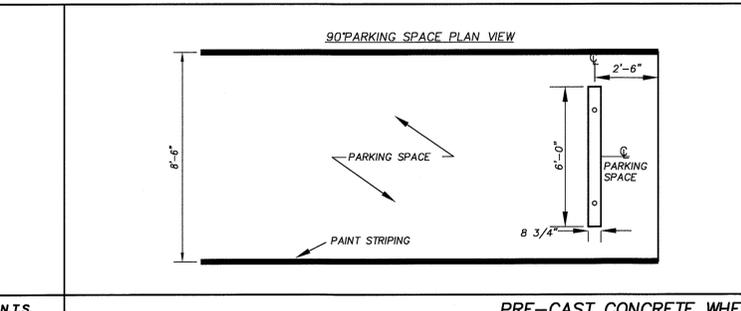
ACCESSIBLE PARKING SIGNAGE N.T.S.



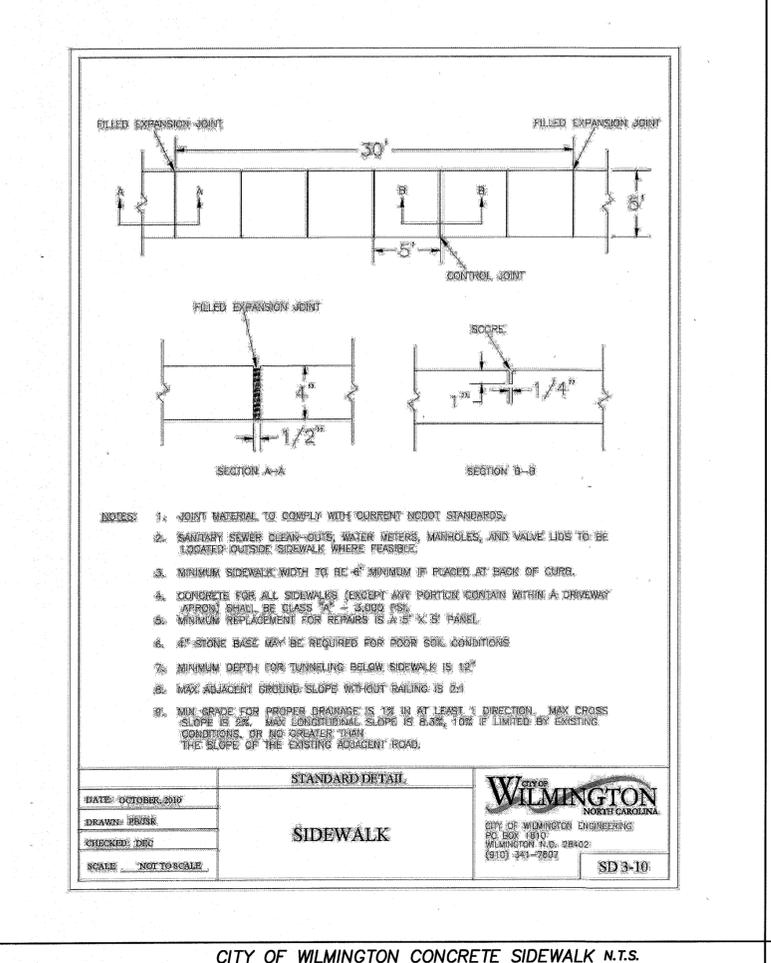
DEWATERING SEDIMENT FILTER BAG N.T.S.



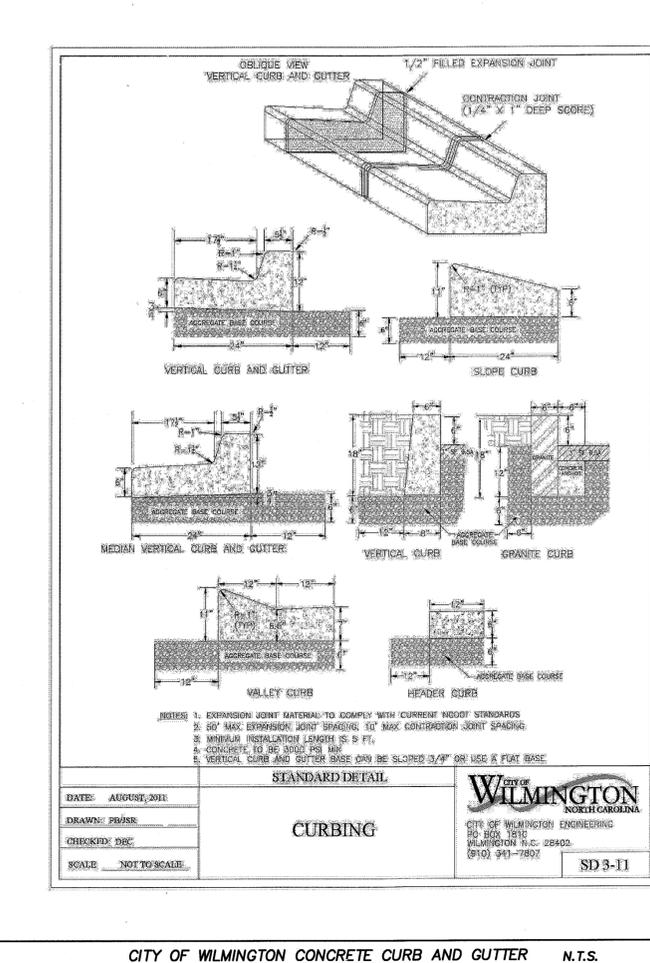
STD METHOD ENDING CURB N.T.S.



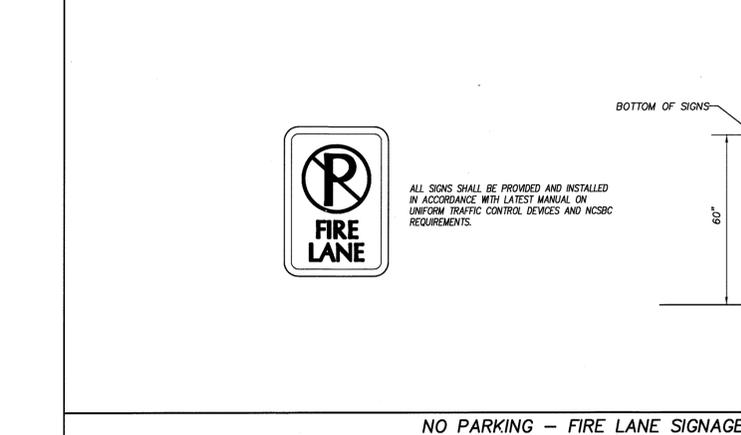
PRE-CAST CONCRETE WHEELSTOP N.T.S.



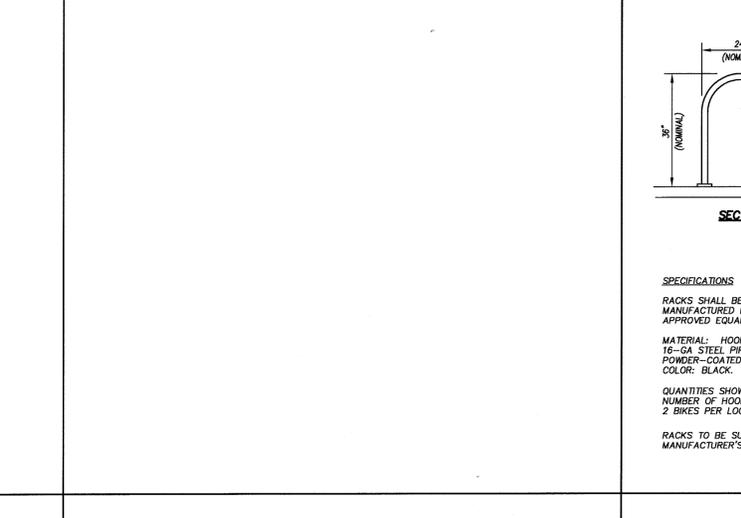
CITY OF WILMINGTON CONCRETE SIDEWALK N.T.S.



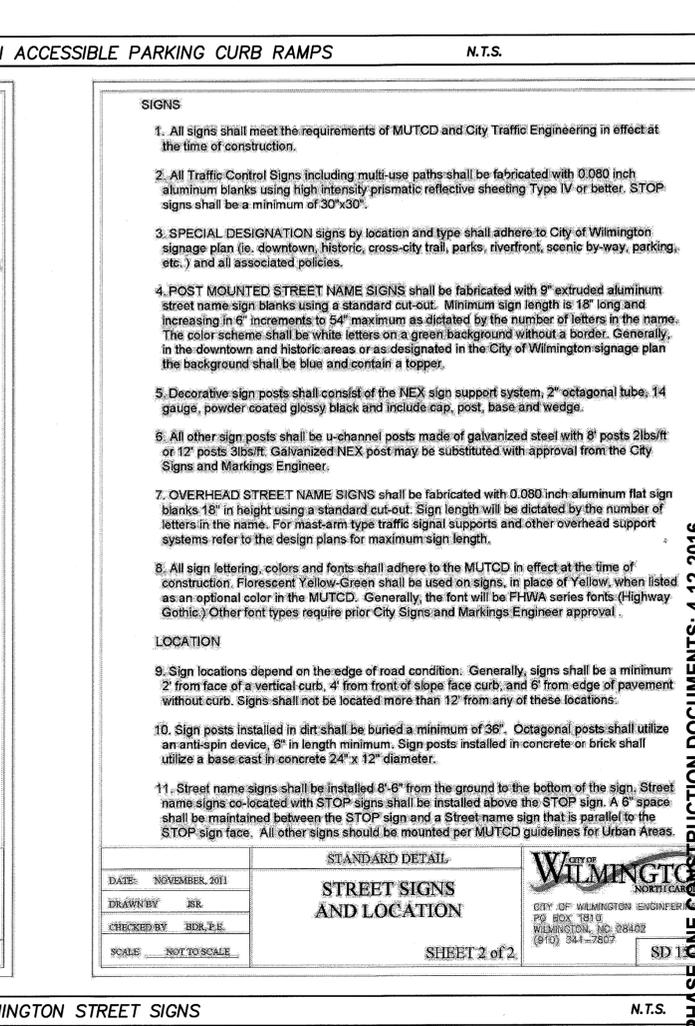
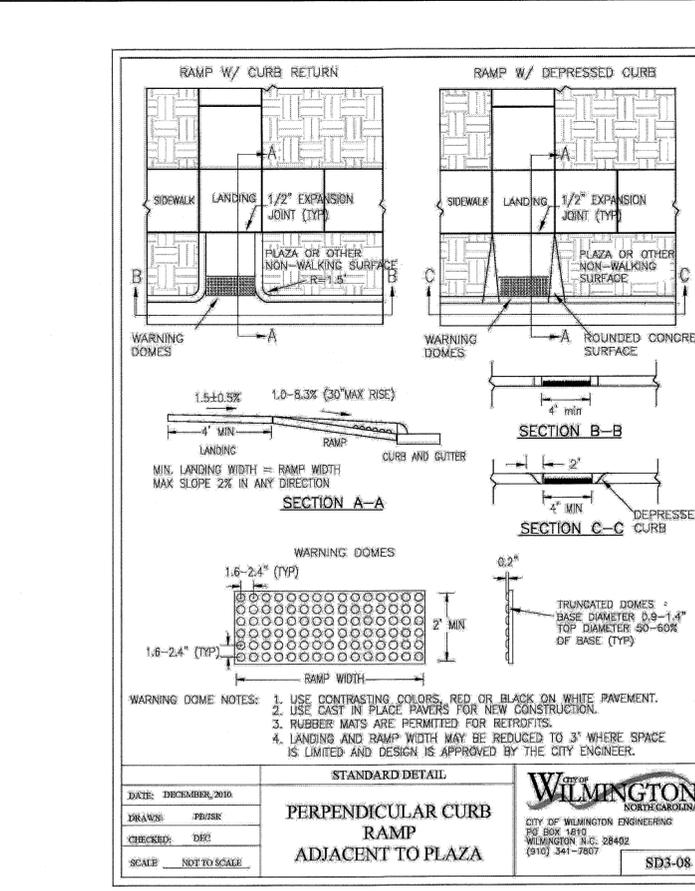
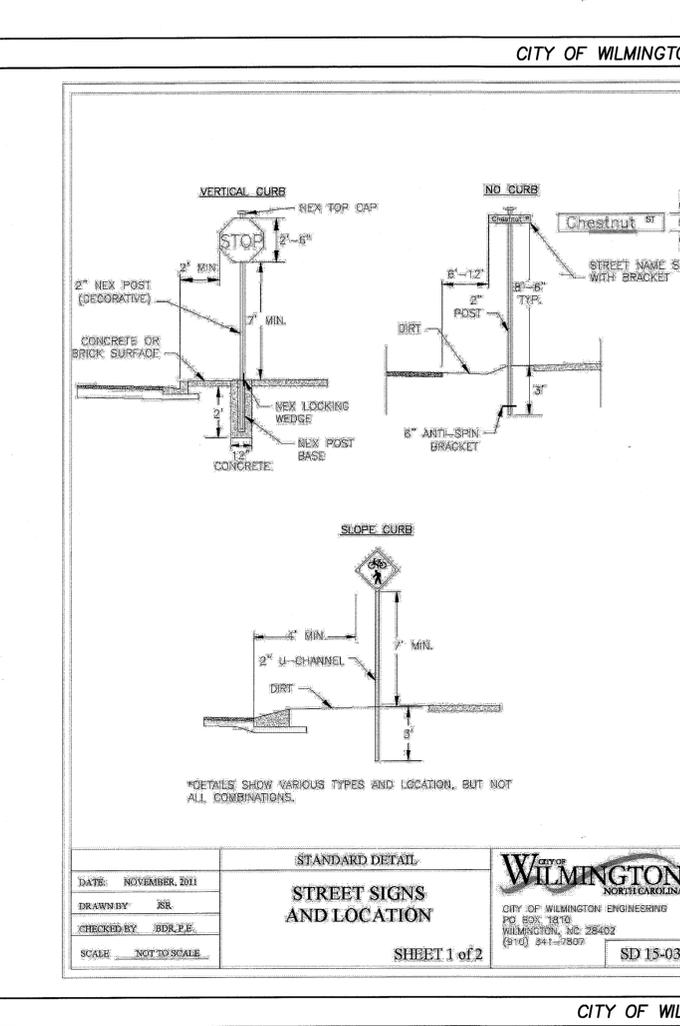
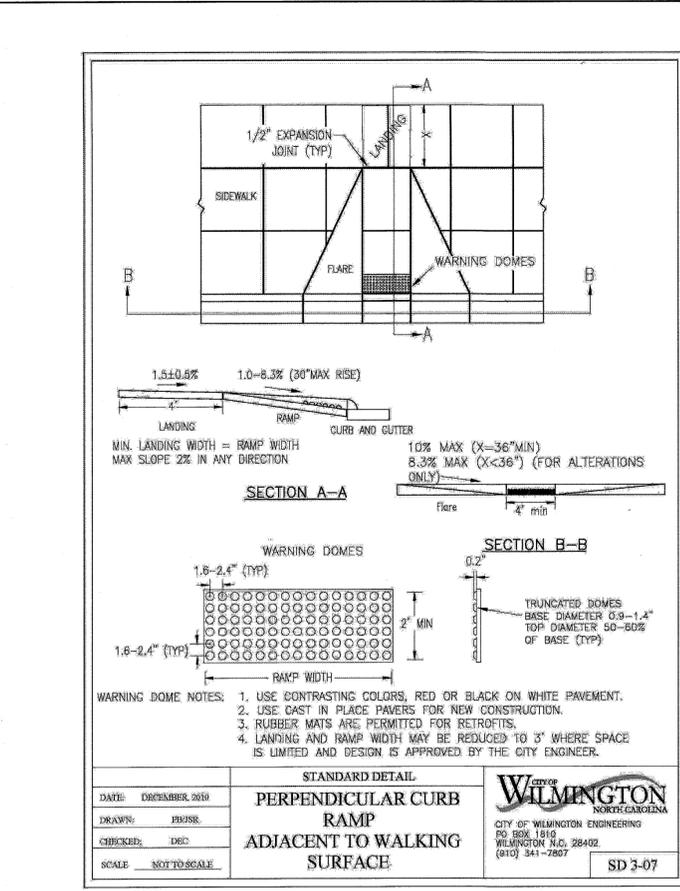
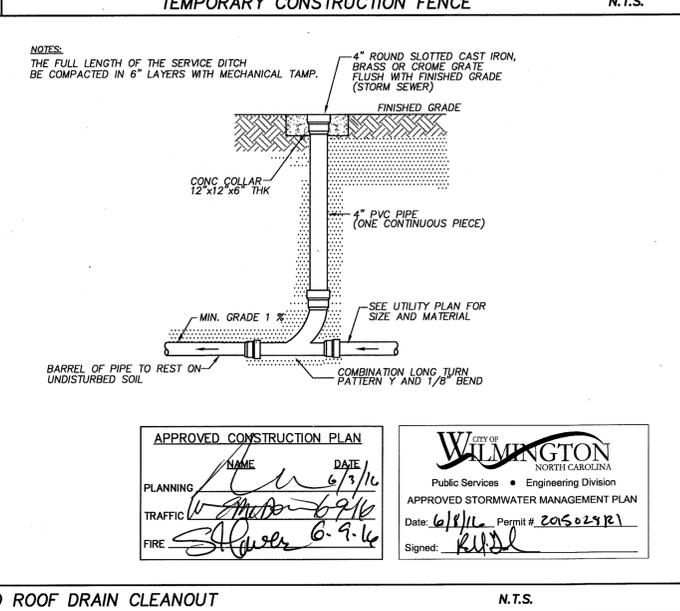
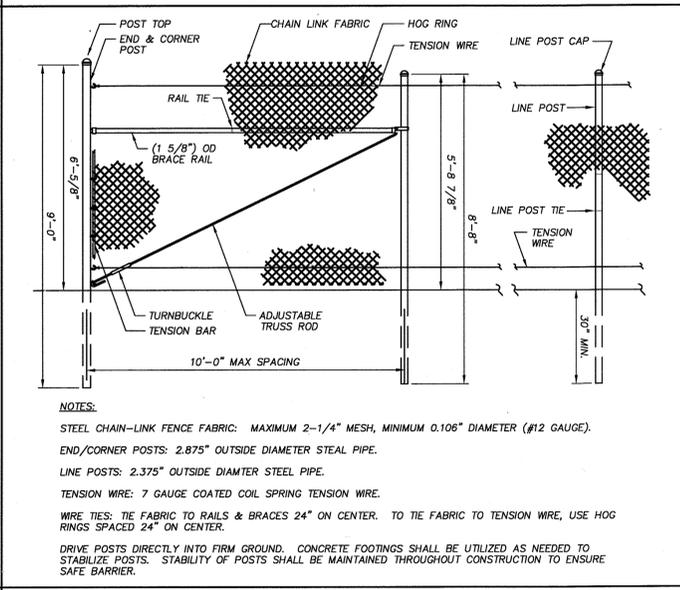
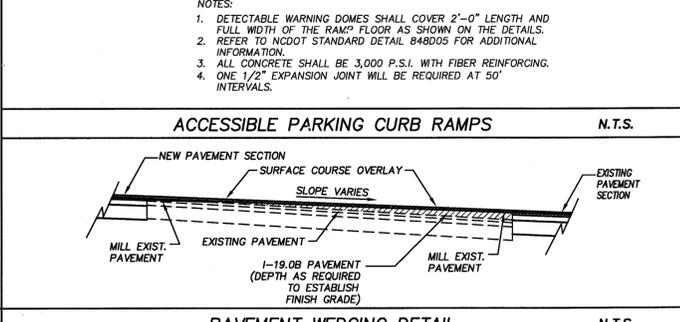
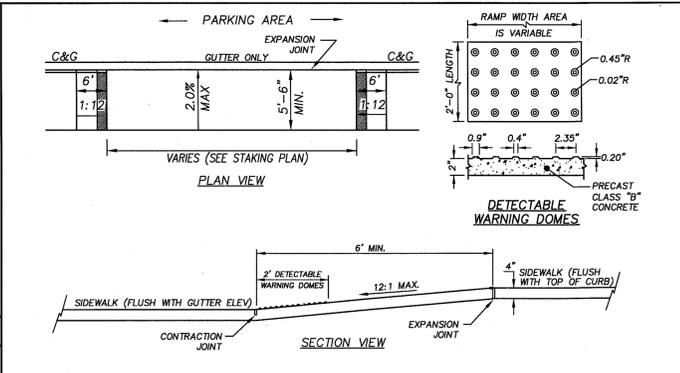
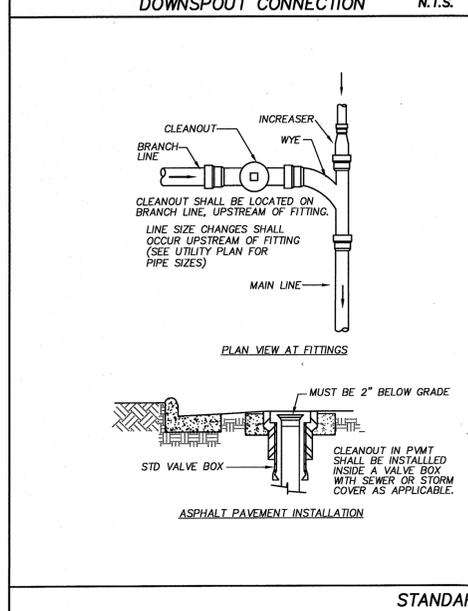
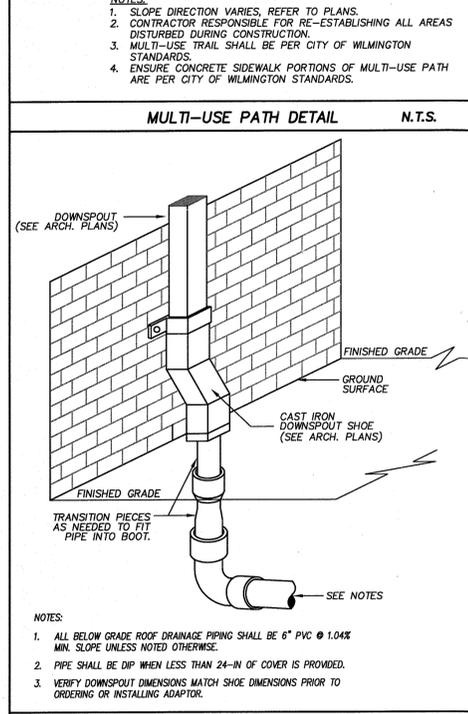
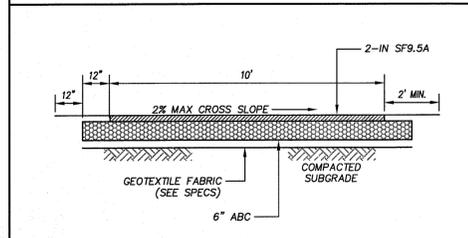
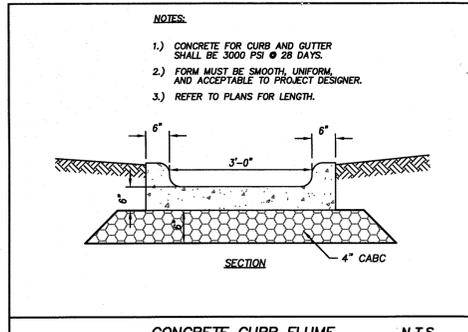
CITY OF WILMINGTON CONCRETE CURB AND GUTTER N.T.S.



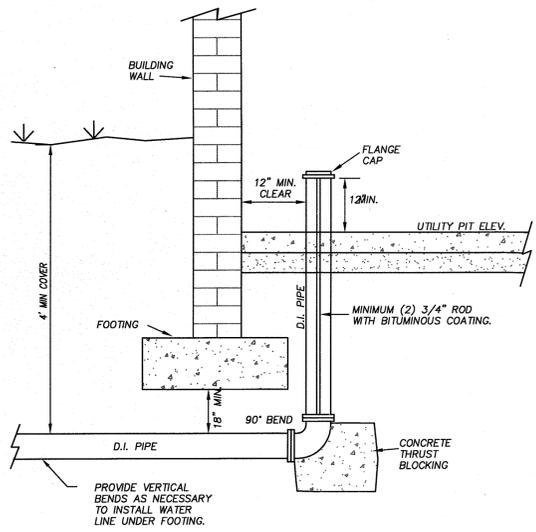
NO PARKING - FIRE LANE SIGNAGE N.T.S.



BIKE RACK N.T.S.

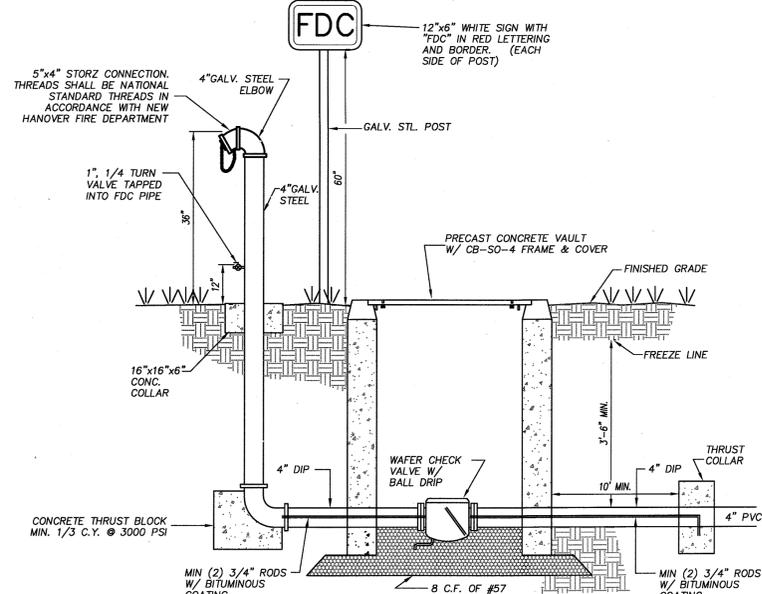


PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



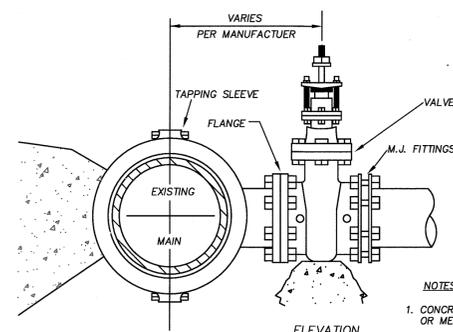
STANDARD FIRE SERVICE INSTALLATION AT BUILDING

N.T.S.



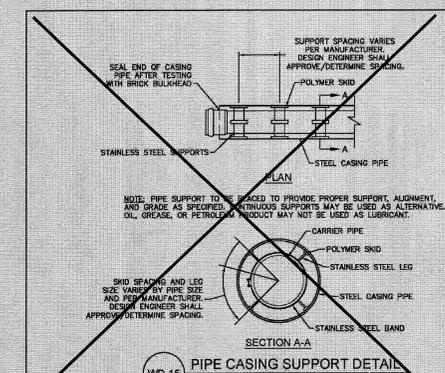
FIRE DEPARTMENT CONNECTION

N.T.S.

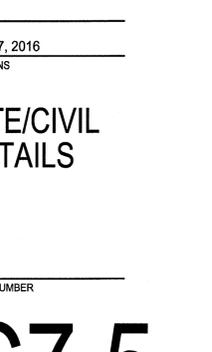
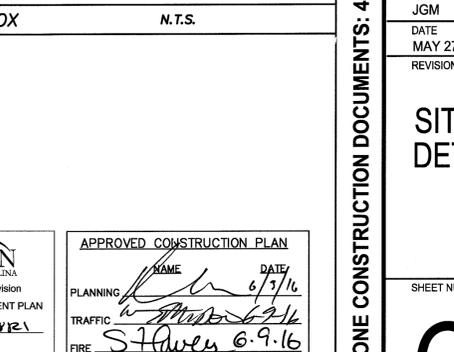
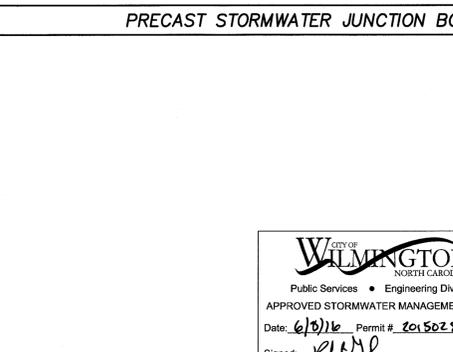
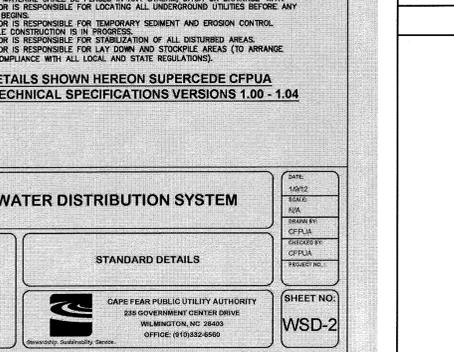
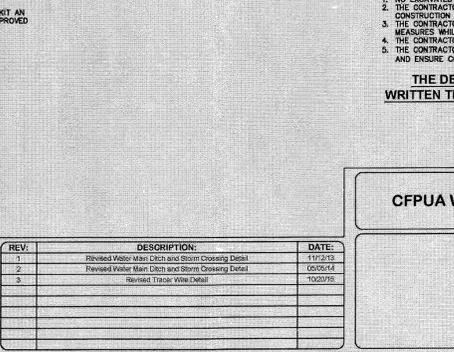
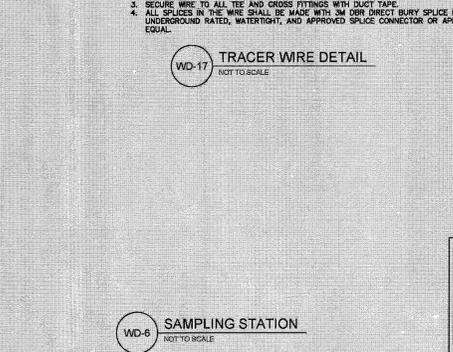
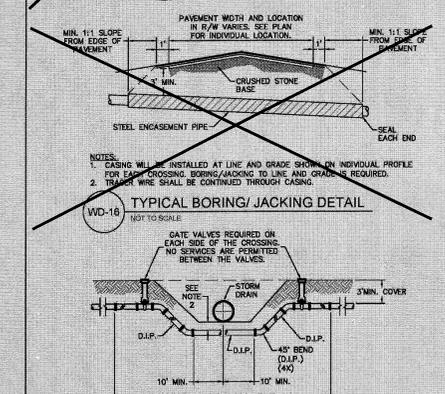
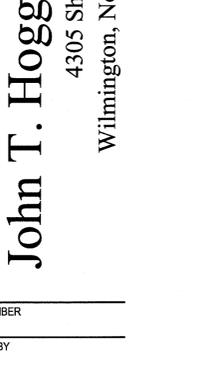
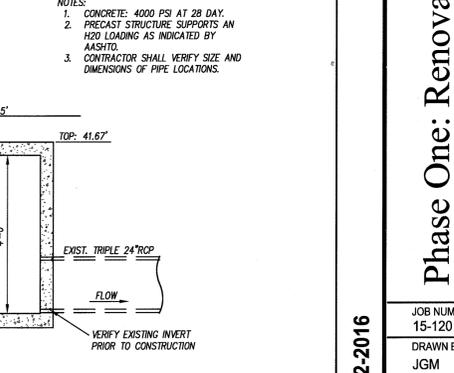
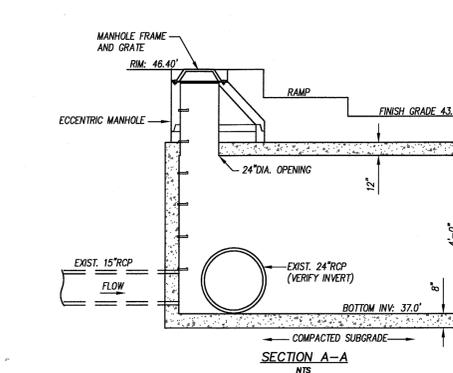
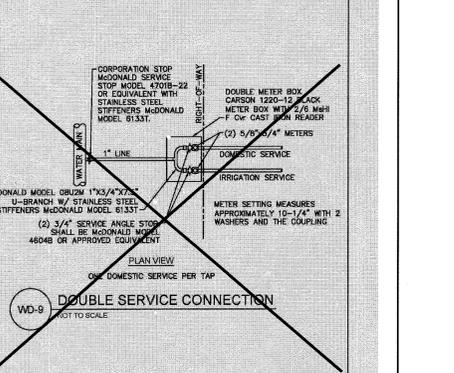
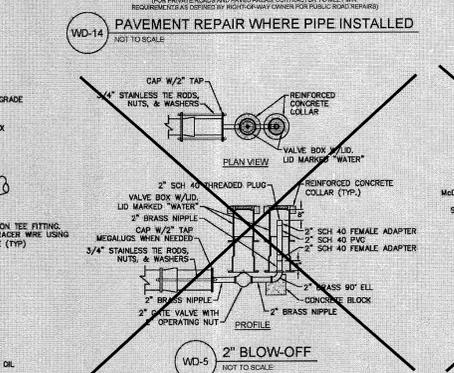
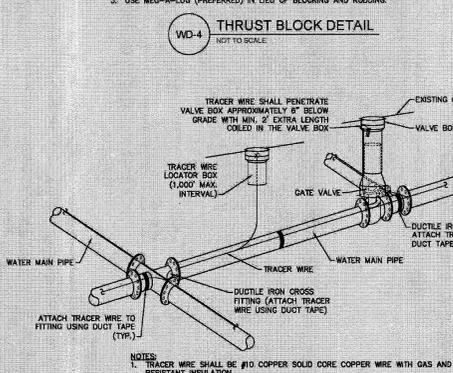
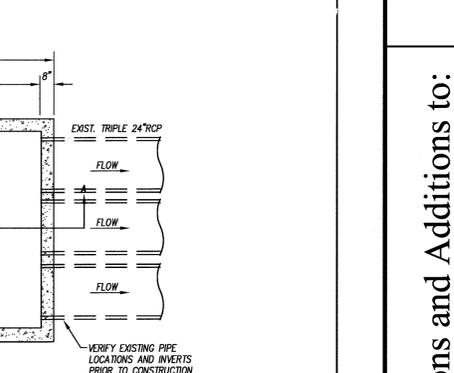
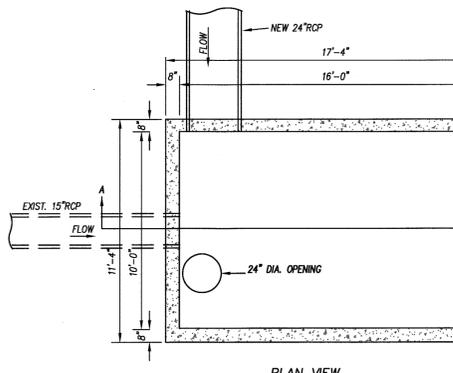
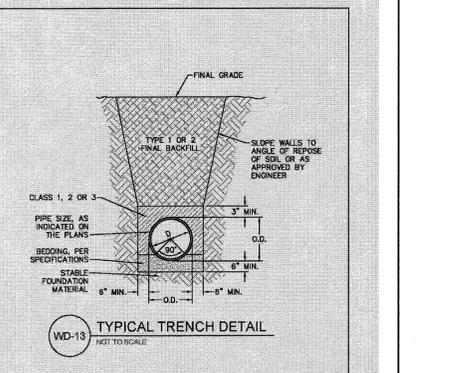
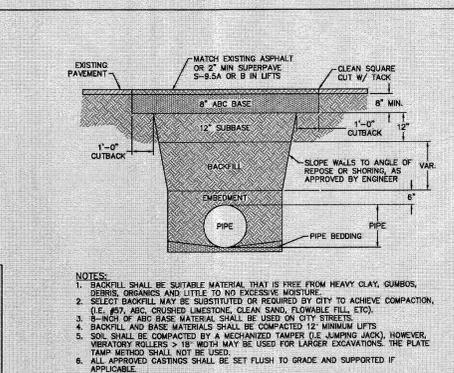


4" - 24" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY

N.T.S.



| SIZE | 90° BENDS | | 45° BENDS | | 22-1/2° BENDS | | TEES/PLUGS | | AS VERT. BENDS | |
|------|-----------|-----|-----------|-----|---------------|-----|------------|-----|----------------|-----|
| | A | B | A | B | A | B | A | B | A | B |
| 3" | 8" | 6" | 6" | 5" | 3" | 7" | 6" | 5" | 27" | 27" |
| 4" | 8" | 6" | 6" | 5" | 3" | 7" | 6" | 5" | 26" | 26" |
| 6" | 14" | 11" | 10" | 8" | 5" | 11" | 10" | 8" | 30" | 30" |
| 8" | 16" | 12" | 12" | 10" | 10" | 13" | 14" | 13" | 42" | 42" |
| 10" | 20" | 15" | 15" | 12" | 12" | 15" | 18" | 15" | 50" | 50" |
| 12" | 20" | 15" | 15" | 12" | 12" | 15" | 18" | 15" | 62" | 62" |
| 14" | 26" | 20" | 21" | 16" | 16" | 18" | 26" | 20" | 72" | 72" |
| 16" | 32" | 26" | 27" | 21" | 20" | 23" | 32" | 27" | 82" | 82" |
| 18" | 40" | 30" | 28" | 24" | 22" | 23" | 36" | 24" | 88" | 88" |



CFPUA WATER DISTRIBUTION SYSTEM

| REV. | DESCRIPTION | DATE |
|------|--|----------|
| 1 | Revised Water Main Ditch and Storm Crossing Detail | 01/21/15 |
| 2 | Revised Water Main Ditch and Storm Crossing Detail | 03/05/14 |
| 3 | Revised Tracer Wire Detail | 10/23/15 |

STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910) 342-6500

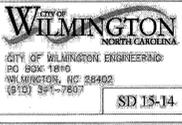
SHEET NO.
WSD-2

CITY OF WILMINGTON NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/3/16 Permit #: 201502121
Signed: *[Signature]*

APPROVED CONSTRUCTION PLAN

PLANNING: *[Signature]* DATE: 6/3/16
TRAFFIC: *[Signature]* DATE: 6/9/16
FIRE: *[Signature]* DATE: 6/9/16

- No plantings over thirty (30) inches in height allowed in vision clearance.
- Protection from vehicular traffic provided around all landscaping with a minimum height of six (6) inches.
- Owner is responsible for maintenance to ensure plant material lives and prospers.
- Planting plans shall be approved by Landscape Designer prior to installation.
- Landscaping shall be required at the ends of all parking foresh.
- A low buffer shall be required where parking is within fifty (50) feet of the Right-of-Way.
- Landscaped islands shall be a minimum width of twelve (12) feet (back of curbs to back of curbs) and a minimum of two hundred and sixteen (216) square feet.
- A minimum of fifteen (15) trees 2 inches or greater in diameter as measured 6 inches above ground per disturbed acre.
- For recommended Plant List see "Landscape" T-10.4.

| | | |
|---------------------|-----------------|--|
| DATE: APRIL 2008 | STANDARD DETAIL |  <p>CITY OF WILMINGTON ENGINEERING 100 BOX 1810 WILMINGTON, NC 28402 (910) 341-7897</p> |
| DRAWN BY: JJK | LANDSCAPE NOTES | |
| CHECKED BY: B.R.P. | | |
| SCALE: NOT TO SCALE | | |
| | | |

CITY OF WILMINGTON LANDSCAPE NOTES N.T.S.

| DATE | TYPE | PLANTING RATE |
|---------------------|------------------------------------|--------------------|
| APR 15 - JULY 15 ** | HULLED SUNSTAR OR RIVIERA BEREMUDA | 85 LBS/ACRE * |
| JULY 15 - AUG 15 | SUNSTAR OR RIVIERA BEREMUDA SPRIGS | 5 BUSHELS/1,000 SF |
| AUG 15 - APR 15 | TEMPORARY SEEDING APPLIES** | |

* OR AS REQUIRED TO ACHIEVE 95% COVERAGE AS DETERMINED ON A PER SQUARE YARD BASIS PRIOR TO SUBSTANTIAL COMPLETION.

** WHEN SEEDING MUST TAKE PLACE OUT-OF-SEASON FOR PERMANENT GRASS, APPROPRIATE TEMPORARY SEEDING SHALL BE DONE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERMANENT SEEDING AS SPECIFIED IN SEASON AT NO ADDITIONAL COST TO OWNER.

LAWN MAINTENANCE NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR LAWN MAINTENANCE UNTIL FINAL COMPLETION.
- LAWN MUST BE AT 95% COVERAGE AT SUBSTANTIAL COMPLETION REVIEW TO BE ACCEPTED.
- IF NOT AT 95% SUBSTANTIAL COMPLETION WILL BE DELAYED UNTIL THE FOLLOWING GROWING SEASON.

SUBSTANTIAL COMPLETION (GRASS):
CONTRACTOR SHALL BE RESPONSIBLE FOR LAWN MAINTENANCE AND WATERING UNTIL SUBSTANTIAL COMPLETION. LAWN/TURF SHALL BE CONSIDERED SUBSTANTIALLY COMPLETE WHEN GRASS ESTABLISHMENT IS AT A MIN. 95% COVERAGE AND THE SURFACE COMPLIES WITH THE SLOPE, SMOOTHNESS AND OTHER SPECIFIED TOLERANCES. IF THE MINIMUM REQUIREMENTS ARE NOT MET, SUBSTANTIAL COMPLETION WILL BE DELAYED UNTIL THE MINIMUM REQUIREMENTS ARE MET (POSSIBLY INTO THE FOLLOWING GROWING SEASON). THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR WATERING AND MAINTENANCE OF THE GRASS UNTIL SUBSTANTIAL COMPLETION IS REACHED. SEE SPECIFICATIONS FOR FURTHER INFORMATION.

PERMANENT SEEDING SCHEDULE-- BEREMUDA SEED

PERMANENT OR TEMPORARY GROUND COVER SHALL BE PROVIDED OVER ALL DISTURBED AREAS OF THE SITE AS SOON AS POSSIBLE, HOWEVER, NO LATER 30 DAYS AFTER CONSTRUCTION ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED DURING ANY PHASE OF WORK.

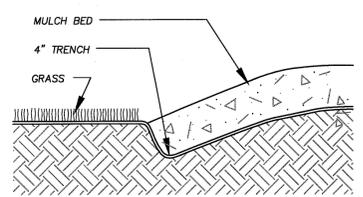
TEMPORARY OR PERMANENT GROUND COVER SHALL BE PROVIDED ON ALL SLOPES WITHIN 15 WORKING DAYS OR 30 CALENDAR DAYS AFTER CONSTRUCTION ACTIVITIES PERMANENTLY OR TEMPORARILY CEASED.

| DATE | TYPE | PLANTING RATE |
|----------------|--|--|
| AUG 15 - FEB 1 | TALL FESCUE AND WINTER RYE (GRAIN) | 70 LBS/ACRE 25 LBS/ACRE |
| APR 1 - AUG 15 | TALL FESCUE AND GERMAN MILLET *** OR SUDANGRASS (SMALL-STEMMED VAR.) *** | 120 LBS/ACRE 25 LBS/ACRE 30 LBS/ACRE |

CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENUDED AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

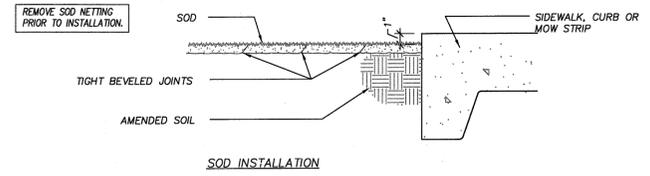
***TEMPORARY - RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING.

TEMPORARY SEEDING SCHEDULE



TO BE APPLIED TO ALL PLANTING BEDS

GROUND COVER PLANTING DETAIL



SOD INSTALLATION DETAIL

- LOCATE ALL EXISTING UTILITIES PRIOR TO INSTALLATION OF PLANT MATERIAL. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THOSE SHOWN ON THE PLAN.
- VERIFICATION OF TOTAL QUANTITIES AS SHOWN ON THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND THE TOTAL QUANTITIES SHALL BE AS SHOWN ON THE PLAN.
- CONTACT THE LANDSCAPE ARCHITECT FOR INSPECTION 48 HOURS IN ADVANCE OF THE SCHEDULED SITE VISIT AND AT THE FOLLOWING INTERVALS:
 - REVIEW OF GRADING PRIOR TO PLANT AND LAWN INSTALLATION
 - REVIEW OF PLANT MATERIAL PRIOR TO INSTALLATION.
 - ONE SUBSTANTIAL COMPLETION MEETING FOR PLANT INSTALLATION.
 - ONE FINAL INSPECTION FOR ALL SEEDING/PLANTING OPERATIONS.
- ALL PLANT MATERIAL SHALL CONFORM WITH THE STANDARDS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND THE WRITTEN SPECIFICATIONS.
- ESTABLISH POSITIVE DRAINAGE IN ALL PLANTING BEDS AND AWAY FROM BUILDING.
- APPLY PRE-EMERGENT HERBICIDE TO ALL NEW PLANTING BEDS AT MANUFACTURER'S RECOMMENDED RATE PRIOR TO INSTALLATION OF PLANT MATERIAL.
- DO NOT INSTALL PLANT MATERIAL IN IMPERVIOUS SOILS (I.E. HOLES WHICH WHEN FILLED WITH WATER, DO NOT COMPLETELY DRAIN WITHIN TWO HOURS).
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING ALL PLANTS AND LAWN AREAS AT HIS COST FROM HIS OWN WATER SOURCE INCLUDING DURING PERIODS OF DROUGHT UNTIL FINAL COMPLETION. ANY WATERING OR MAINTENANCE REQUIRED AFTER FINAL COMPLETION SHALL BE AT OWNER'S COST.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ALL EQUIPMENT & SUBCONTRACTORS AWAY FROM SEEDED AREAS. IF DAMAGE OCCURS, THROUGH NO FAULT OF THE OWNER, AREAS SHALL BE REGRADED AND RESEEDED IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL WATER AND MAINTAIN THOSE AREAS UNTIL THEY ARE AT 95% COVERAGE AT SUBSTANTIAL COMPLETION.
- SUBSTITUTIONS OF PLANT MATERIAL SHALL ONLY BE ACCEPTED 60 DAYS PRIOR TO COMMENCEMENT OF PLANTING OPERATIONS. SUBSTITUTION REQUESTS MUST BE IN WRITING AND WILL ONLY BE ACCEPTED FOR LACK OF AVAILABILITY REASONS WHICH CAN BE SUBSTANTIATED OR FOR SUPERIOR STOCK SUBSTITUTIONS.
- SEEDING
 - GENERAL LAWN AREAS SHALL BE SEEDDED WITH SUNSTAR/RIVIERA BEREMUDAGRASS OR APPROVED EQUAL.
- LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT TO REVIEW GRADING ONE WEEK PRIOR TO SEEDING, IF THE LANDSCAPE CONTRACTOR AND LANDSCAPE ARCHITECT FIND GRADING UNACCEPTABLE FOR FINAL SEEDING, LANDSCAPE CONTRACTOR SHALL BRING IT TO THE ATTENTION OF THE GENERAL CONTRACTOR. LANDSCAPE CONTRACTOR SHALL NOT PROCEED WITHOUT APPROVAL BY LANDSCAPE ARCHITECT.

LANDSCAPE NOTES

- CHISEL ALL CUT GRADED OR COMPACTED AREAS TO A MINIMUM DEPTH OF 8".
- DISC ALL AREAS TO RECEIVE GRASS TO A MINIMUM OF 8 INCHES, MIX AND AMEND WITH 3 INCHES OF WELL SCREENED TOPSOIL ON-SITE TOPSOIL MAY BE USED IN PLACE OF IMPORTED TOPSOIL, IF WELL-SCREENED AND DRY PRIOR TO APPLICATION IN ACCORDANCE WITH SPECIFICATION SECTION 329000.
- REMOVE ALL LOOSE ROCK, ROOTS, AND OTHER OBSTRUCTIONS LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIME, FERTILIZER, AND PHOSPHATE UNIFORMLY AS PER SPECIFICATIONS AND MIX WELL WITH SOIL.
- CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED TO A 6 INCHES DEPTH.
- SEED AT RATE SPECIFIED OR AS NEEDED TO ACHIEVE AND MAINTAIN A THICK HEALTHY GROUND COVERAGE.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH. BEGIN THOROUGH WATERING OF GRASSED AREAS IMMEDIATELY UPON INSTALLATION. DO NOT ALLOW GRASSED AREAS TO BECOME EXCESSIVELY DRY.
- INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS AS NEEDED.
- IF CONFLICTS OCCUR BETWEEN WRITTEN SPECIFICATIONS AND THE DRAWINGS, THE WRITTEN SPECIFICATIONS SHALL PREVAIL.

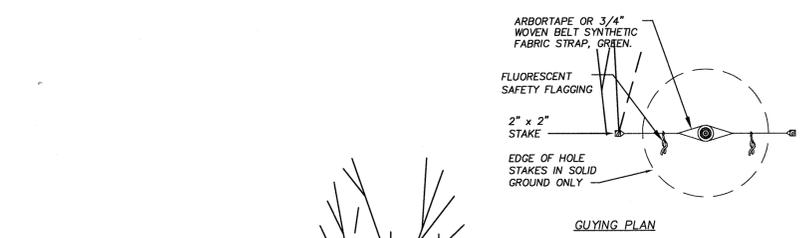
SEEDBED PREPARATION

APPLY LIME AND FERTILIZER ACCORDING TO SOIL TESTS, OR APPLY A MINIMUM 3,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND A MINIMUM 500 LB/ACRE 10-10-10 FERTILIZER, AS NEEDED TO ESTABLISH 95% COVERAGE (AS DETERMINED ON A PER SQUARE YARD BASIS) PRIOR TO SUBSTANTIAL COMPLETION. CONTRACTOR TO SUBMIT A COPY OF ALL SOIL REPORTS TO OWNER UPON RECEIPT.

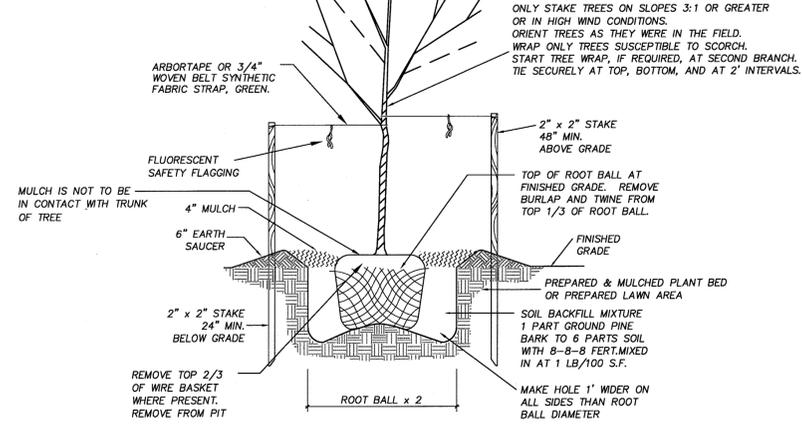
LIME & FERTILIZATION SCHEDULE

- DURING ALL PHASES OF CONSTRUCTION, GROUND COVER ON EXPOSED SLOPES SHALL BE PROVIDED WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING.
- FINAL PERMANENT GROUND COVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED ON ALL DISTURBED AREAS WITHIN 14 CALENDAR DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.
- USE EXCELISOR MATTING OR OTHER APPROVED CHANNEL LINING MATERIAL TO COVER THE BOTTOM OF CHANNELS.
- APPLY 4000 LB/ACRE (2 TONS LB/AC) GRAIN STRAW OVER SEEDDED AREAS AND ANCHOR STRAW CRIMPING WITH HAND OR MECHANICAL CRIMPER 8" MAX. SPACING, ASPHALT TACKING OR OTHER APPROVED METHOD. ASPHALT TACKING SHALL BE 400 GAL/ACRE (9 GAL/1000 SF).
- MULCH AND ANCHORING MATERIALS MUST NOT BE ALLOWED TO WASH DOWN SLOPES AND CLOG DRAINAGE DEVICES.

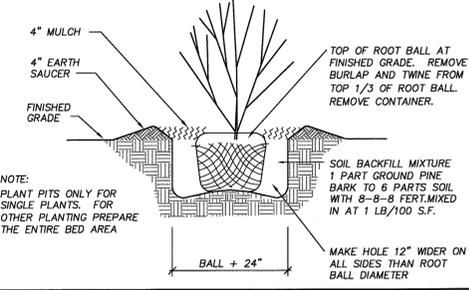
SURFACE STABILIZATION REQUIREMENTS



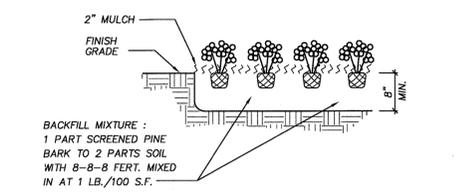
DO NOT PRUNE OR CUT LEADER OR IN HIGH WIND CONDITIONS. SEE SPECIFICATIONS SECTION 2900 FOR DETAILS.



TREE PLANTING DETAIL



TYPICAL SHRUB PLANTING DETAIL



GROUND COVER PLANTING DETAIL

| | |
|--|---|
|  <p>Public Services • Engineering Division APPROVED STORMWATER MANAGEMENT PLAN Date: 6/18/16 Permit # 6A02861 Signed: [Signature]</p> | <p>APPROVED CONSTRUCTION PLAN</p> <p>NAME: [Signature] DATE: 6/18/16 PLANNING: [Signature] DATE: 6-9-16 TRAFFIC: [Signature] DATE: 6-9-16 FIRE: [Signature] DATE: 6-9-16</p> |
|--|---|

bmh
BOWMAN MURRAY HEMINGWAY
ARCHITECTS
514 Market Street
Wilmington, NC 28401
Tel - (910) 762-2621
Fax - (910) 762-8506

Project ID # 900-9005

CLH DESIGN, PA
400 Kingsley Forest Dr.
Suite 120
Wilmington, NC 28403
Phone: 910.339.4716
Fax: 910.339.7114
LA-C-085 PE-C-1592

STATE OF NORTH CAROLINA
1861
JAMES GLENN MEDLIN
5-27-16

Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

| | |
|------------|--------------|
| JOB NUMBER | 15-120 |
| DRAWN BY | JGM |
| CHECKED BY | JGM |
| DATE | MAY 27, 2016 |
| REVISIONS | |

SITE/CIVIL DETAILS

SHEET NUMBER

C7.6

PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016



**BOWMAN
MURRAY
HEMINGWAY**

ARCHITECTS
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Wilmington, NC 28401
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Phase One: Renovations and Additions to:
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PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016

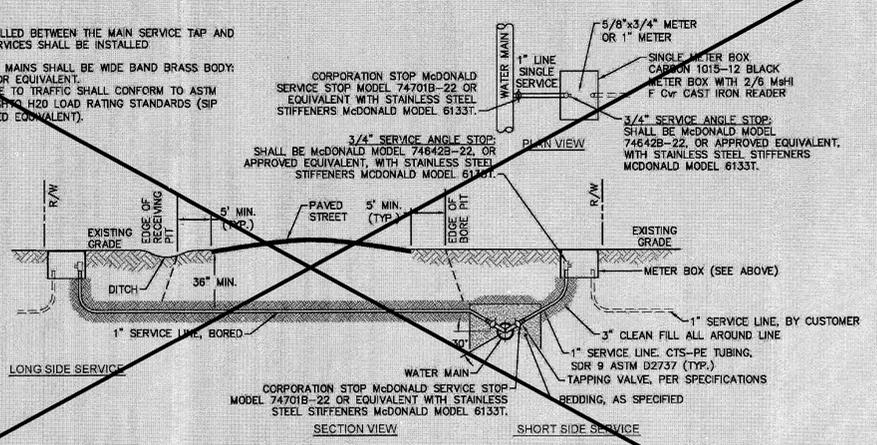
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|------------|--------------|
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**SITE/CIVIL
DETAILS**

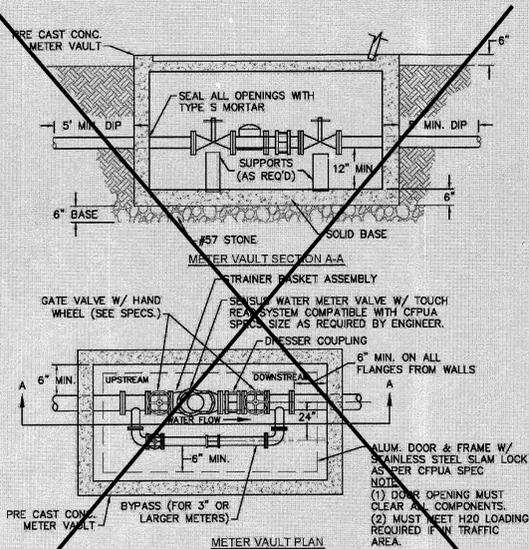
SHEET NUMBER

C7.7

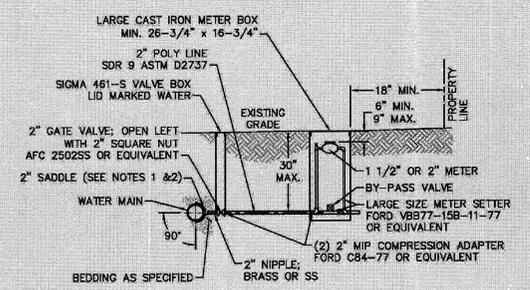
- NOTES:**
- NO METER SHALL BE INSTALLED BETWEEN THE MAIN SERVICE TAP AND THE METER STOP. ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
 - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY SADDLE McDONALD MODEL 74701B-22 OR EQUIVALENT.
 - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (SIP MODEL 4242, OR APPROVED EQUIVALENT).



WD-18 SINGLE SERVICE CONNECTION
NOT TO SCALE

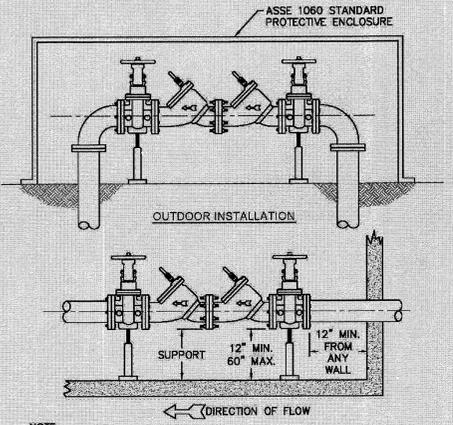


WD-1 WATER METER VAULT
NOT TO SCALE



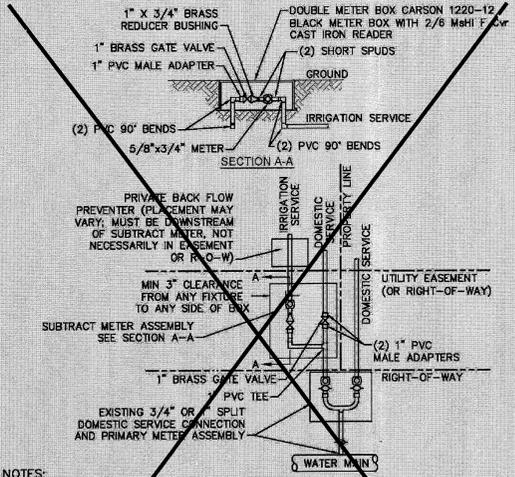
- NOTES:**
- ALL SERVICES SHALL BE INSTALLED PERPENDICULAR TO MAIN.
 - SERVICE SADDLES ON PVC MAINS SHALL BE WIDE BAND BRASS BODY: McDONALD 3800, FORD S90 (DOUBLE STRAP) OR EQUIVALENT.
 - METER BOXES SUSCEPTIBLE TO TRAFFIC SHALL CONFORM TO ASTM A48, CLASS 30B AND AASHTO H20 LOAD RATING STANDARDS (OLDCASTLE PRECAST MODEL B1730 OR APPROVED EQUIVALENT).
 - METER BOXES SUSCEPTIBLE TO INCIDENTAL NON-DELIBERATE TRAFFIC SHALL CONFORM TO ANSI/SC17 TIER 15 LOAD RATING STANDARDS (SYNERTECH MODEL DUO 17x30 OR APPROVED EQUIVALENT).
 - NON-TRAFFIC METER BOXES SHALL BE SIGMA MB2203 OR APPROVED EQUIVALENT.
 - 3" CLEAN FILL REQUIRED ALL AROUND 2" POLY SERVICE LINE.

WD-11 LARGE METER
NOT TO SCALE

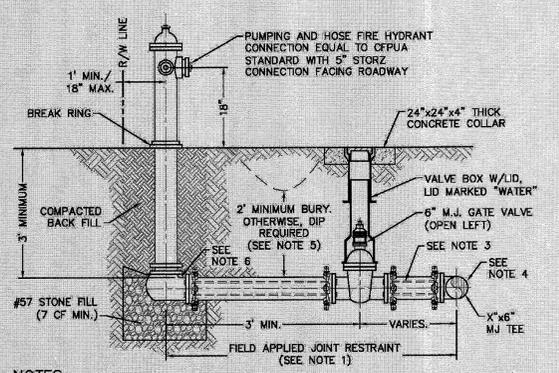


WD-7 DOUBLE CHECK VALVE ASSEMBLY
NOT TO SCALE

- GENERAL NOTES:**
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
 - THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
 - THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
 - THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
 - THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).
- THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04**

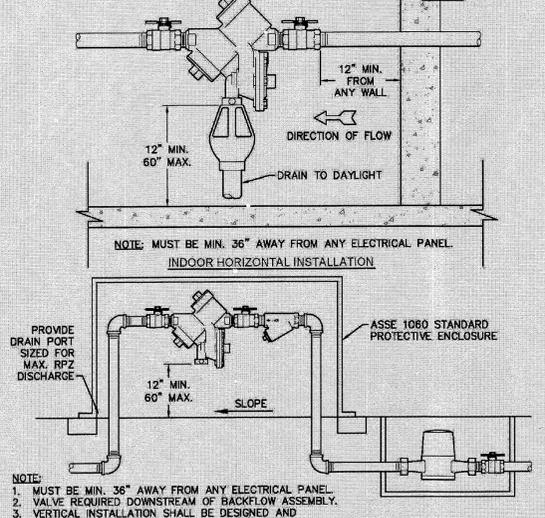


WD-8 DOUBLE SERVICE CONNECTION USING SUBTRACT METER
NOT TO SCALE

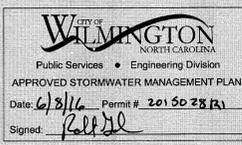


- NOTES:**
- JOINT RESTRAINT SYSTEMS SHALL BE WEDGE ACTION STYLE FOR DI OR C-900 PVC PIPE AS MANUFACTURED BY EBAA IRON, SIGMA, STAR PIPE PRODUCTS OR APPROVED EQUAL.
 - WHEN HYDRANT LESS REQUIRE FULL LENGTH PIPE SECTIONS, OVER BELL RESTRAINT SYSTEM SHALL HAVE 3/16 STAINLESS STEEL HARNESS AND FASTENERS.
 - CONTINUOUS 3/16 STAINLESS STEEL RODS (TEE TO VALVE AND VALVE TO HYDRANT) MAY BE USED WITH COR-BLUE M.U.T.-BOLT AND GASKET KITS, AS AN ALTERNATIVE.
 - HYDRANT TEE SHALL BE RESTRAINED ON EACH SIDE OF MAIN PLUS ANY VALVE, FITTING, OR JOINT IN MAIN WITHIN 10-FEET OF HYDRANT TEE.
 - HYDRANT AND VALVE SHALL BE PLACED OUTSIDE DITCH LIMITS.
 - WEEP HOLES OPEN AND UNBLOCKED TO DRAIN.

WD-10 FIRE HYDRANT ASSEMBLY
NOT TO SCALE



WD-12 REDUCED PRESSURE PRINCIPLE ASSEMBLY
NOT TO SCALE



APPROVED CONSTRUCTION PLAN

PLANNING: [Signature] DATE: 6/3/16

TRAFFIC: [Signature] DATE: 6/9/16

FIRE: [Signature] DATE: 6/9/16

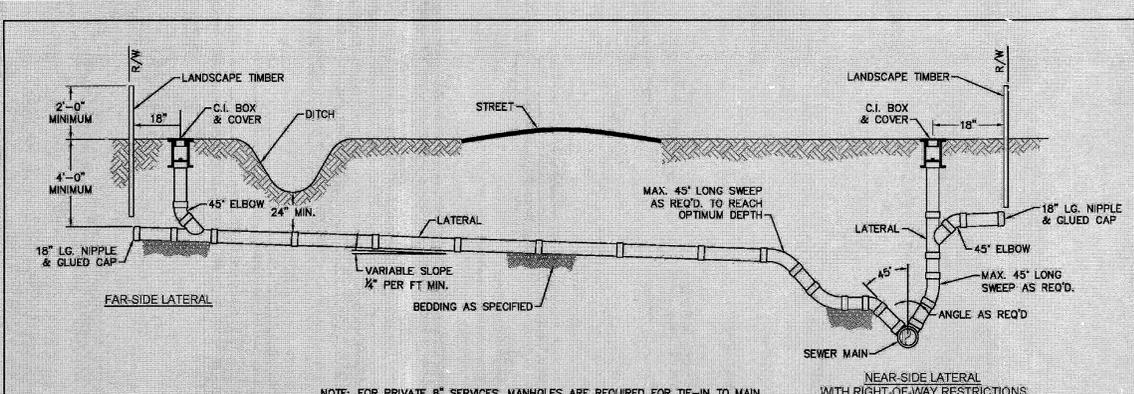
| REV. | DESCRIPTION | DATE |
|------|---|----------|
| 1 | Single Service Connection, Double Service Connection, and Large Meter Revised | 10/26/12 |
| 2 | Single Service Connection and Fire Hydrant Details Revised | 7/23/13 |
| 3 | Fire Hydrant Detail Revised | 01/03/14 |
| 4 | Revised Fire Hydrant Assembly To Show 8" STORZ Connection | 04/10/15 |

CFPUA WATER DISTRIBUTION SYSTEM

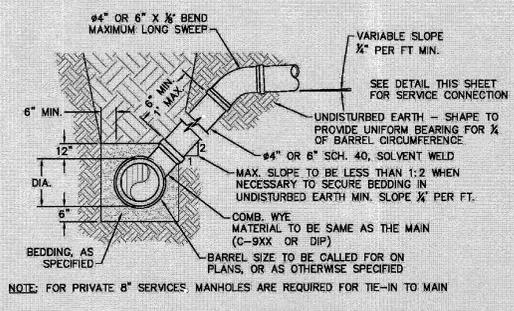
STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910) 332-6550

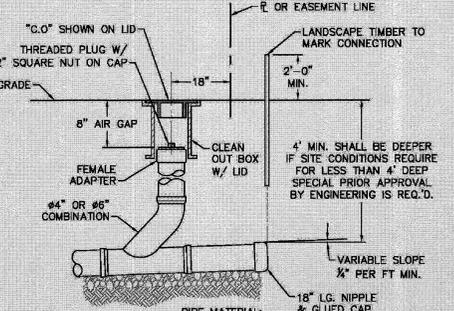
SHEET NO: **WSD-1**



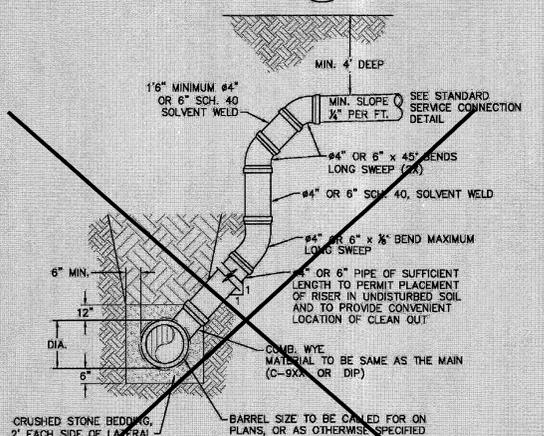
SD-19
STANDARD SERVICE CONNECTION
TO SANITARY SEWER
NOT TO SCALE



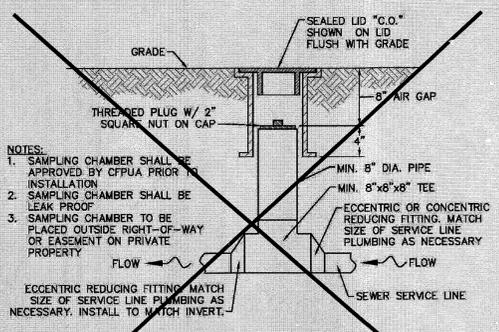
SD-10
STANDARD SERVICE LATERAL
NOT TO SCALE



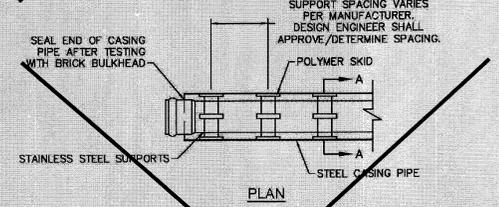
SD-11
SERVICE CONNECTION AND CLEAN-OUT
NOT TO SCALE



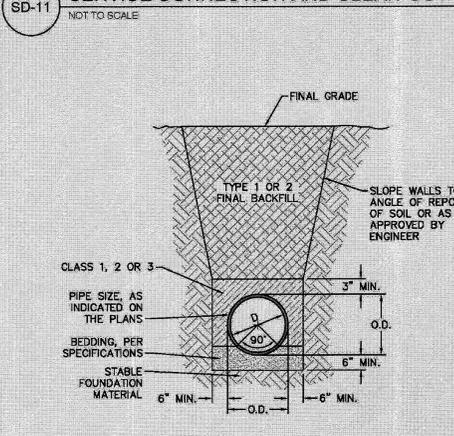
SD-12
DEEP SERVICE LATERAL
NOT TO SCALE



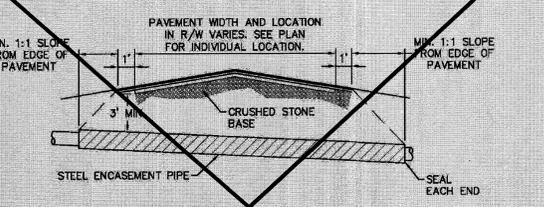
SD-13
SAMPLING CHAMBER
NOT TO SCALE



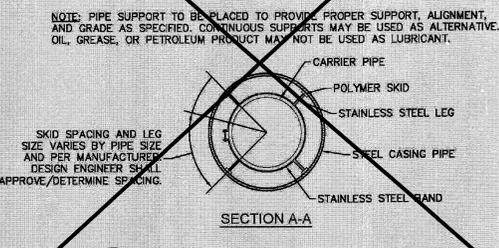
SD-14
PAVEMENT REPAIR WHERE PIPE INSTALLED
NOT TO SCALE



SD-15
TYPICAL TRENCH DETAIL
NOT TO SCALE



SD-16
TYPICAL BORING/JACKING DETAIL
NOT TO SCALE



SD-17
PIPE CASING SUPPORT DETAIL
NOT TO SCALE

CITY OF WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/8/16 Permit # 201607050292
Signed: *[Signature]*

APPROVED CONSTRUCTION PLAN
NAME: *[Signature]* DATE: 6/3/16
PLANNING: *[Signature]*
TRAFFIC: *[Signature]*
FIRE: *[Signature]*

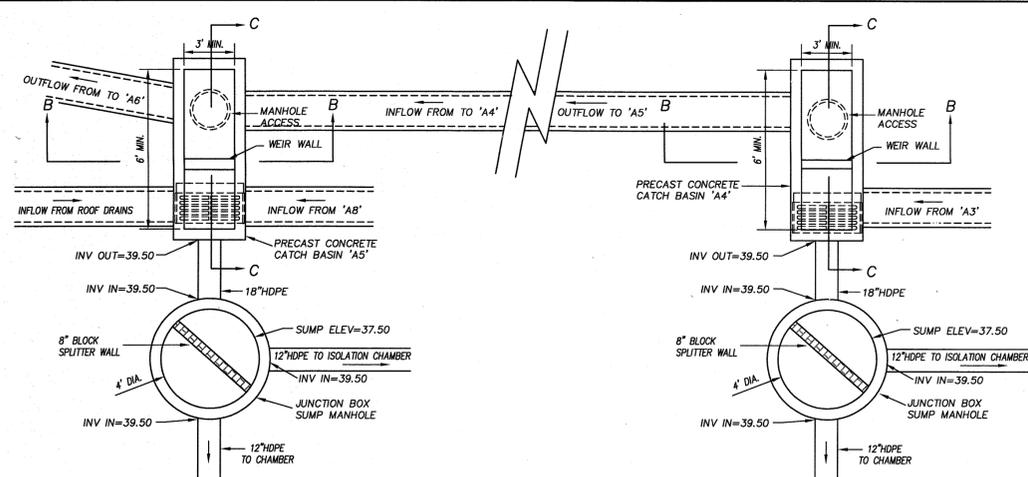
| REV: | DESCRIPTION: | DATE: |
|------|--------------------------|----------|
| 1 | SAMPLING CHAMBER REVISED | 10/26/12 |

CFPUA SANITARY SEWER

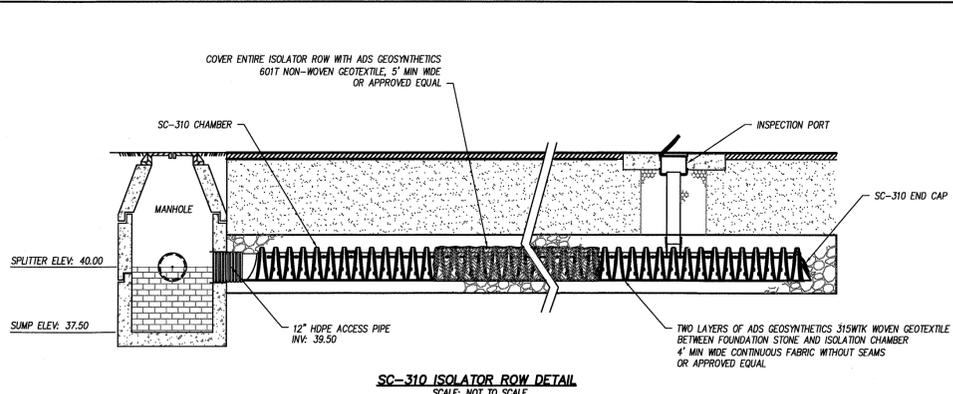
STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
236 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910) 332-6666

DATE: 1/9/12
SCALE: N/A
DRAWN BY: CFPWA
CHECKED BY: CFPWA
DATE: MAY 27, 2016
PROJECT NO.:
SHEET NO.: **SSD-2**



OUTLET STRUCTURE PLAN VIEW
SCALE: NOT TO SCALE



SC-310 ISOLATOR ROW DETAIL
SCALE: NOT TO SCALE

- INSPECTION & MAINTENANCE**
- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
 - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED USING A FLASHLIGHT AND STADIA ROD. MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR ROWS
 - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - 1) USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - 2) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - 3) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

WILMINGTON
NORTH CAROLINA
Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/9/16 Permit # 201502874
Signed: *[Signature]*

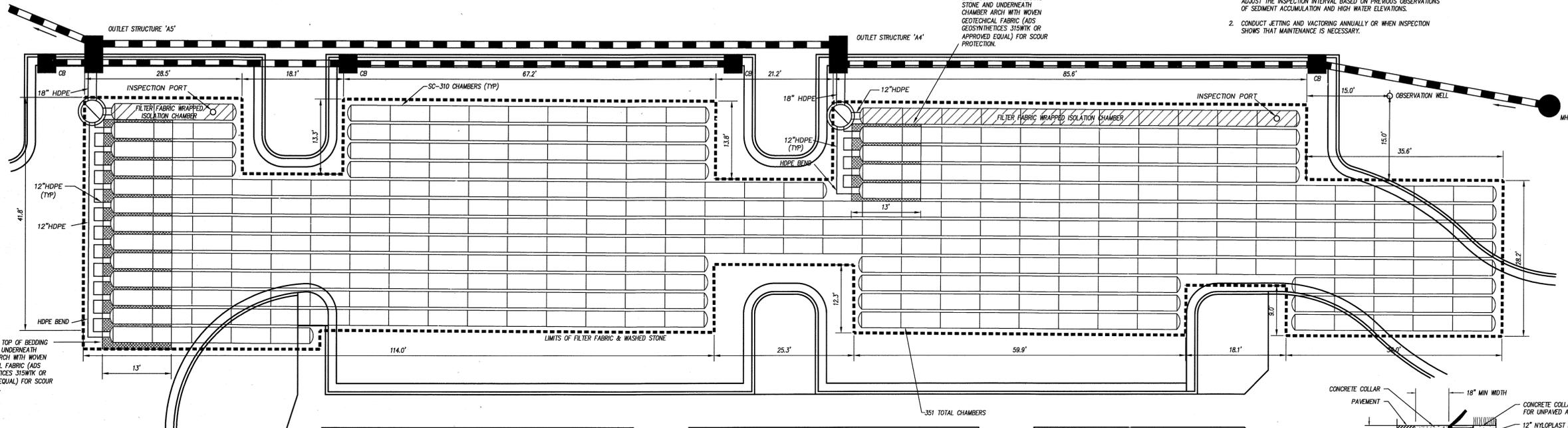
APPROVED CONSTRUCTION PLAN

| PLANNING | NAME | DATE |
|----------|--------------------|--------|
| | <i>[Signature]</i> | 6/5/16 |
| TRAFFIC | <i>[Signature]</i> | 6/9/16 |
| FIRE | <i>[Signature]</i> | 6/9/16 |

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Project ID # 900-9005

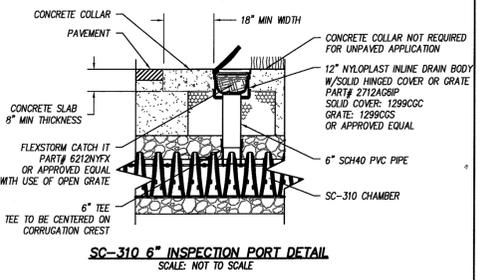
CLH DESIGN, PA
4680 Highway 101, Suite 120
Wilmington, NC 28412
Phone: 910.339.8776
Fax: 910.339.9164
LA-C-106 P.E. C-1395

PROFESSIONAL SEAL
NORTH CAROLINA
ENGINEER
KENNETH A. LORING
6-27-16

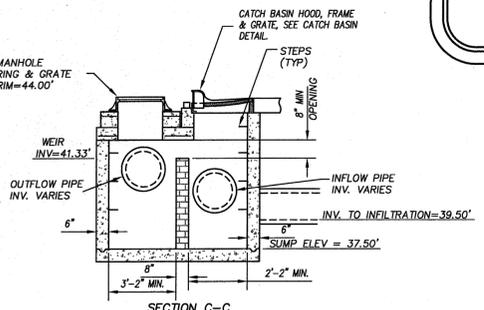


UNDERGROUND INFILTRATION SYSTEM
DESIGN STORAGE VOLUME = 10,879 CF

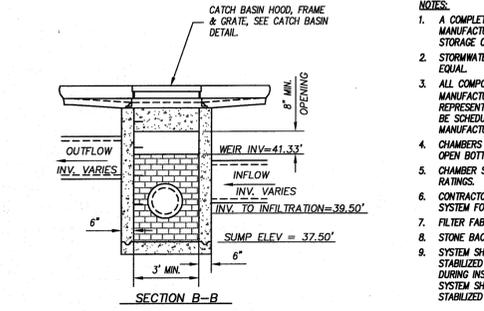
PLAN VIEW
SCALE: 1"=10'



SC-310 6" INSPECTION PORT DETAIL
SCALE: NOT TO SCALE



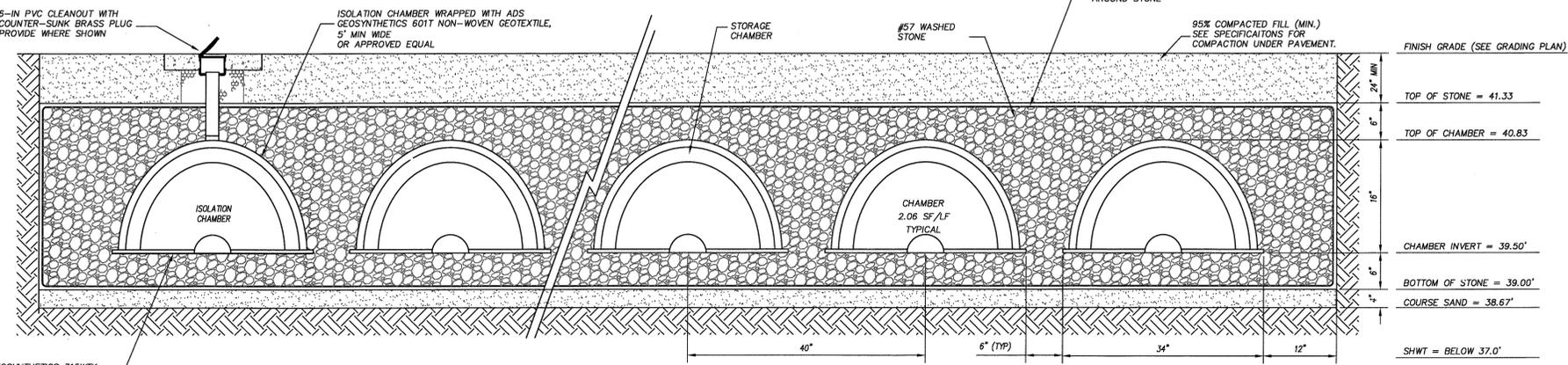
SECTION C-C



SECTION B-B

STRUCTURE 'A4' & 'A5'
SCALE: NOT TO SCALE

- NOTES:**
- A COMPLETE STORMWATER STORAGE SYSTEM SHALL BE PROVIDED FROM A SINGLE MANUFACTURER AND SHALL INCLUDE ALL NECESSARY COMPONENTS INCLUDING STORAGE CHAMBER UNITS, CHAMBER CONNECTORS, FITTINGS AND ACCESSORIES.
 - STORMWATER STORAGE CHAMBERS SHALL BE STORMTECH SC-310 OR APPROVED EQUAL.
 - ALL COMPONENTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND OBSERVED BY MANUFACTURER'S REPRESENTATIVE. AN INSTALLATION PRE-CONSTRUCTION CONFERENCE SHALL BE SCHEDULED WITH REPRESENTATIVES OF THE DESIGN TEAM, CONTRACTOR AND MANUFACTURER. 48 HOUR ADVANCED NOTICE IS REQUIRED.
 - CHAMBERS SHALL BE CONSTRUCTED OF HIGH MOLECULAR WEIGHT HDPE WITH OPEN BOTTOMS, INTEGRALLY FORMED ENDWALLS AND PERFORATED SIDEWALLS. CHAMBER SYSTEMS SHALL BE DESIGNED TO WITHSTAND AASHTO H-20 LOAD RATINGS.
 - CONTRACTOR SHALL SUBMIT DIMENSIONED SHOP DRAWINGS OF THE COMPLETE SYSTEM FOR APPROVAL PRIOR TO CONSTRUCTION.
 - FILTER FABRIC SHALL BE A 4-OZ NON-WOVEN GEOTEXTILE.
 - STONE BACKFILL SHALL BE NO. 57 WASHED STONE.
 - SYSTEM SHALL NOT BE INSTALLED UNTIL THE CONTRIBUTING DRAINAGE AREA IS STABILIZED AND APPROVED BY THE ENGINEER. EXTREME CARE SHALL BE USED DURING INSTALLATION TO AVOID CONTAMINATION OF WASHED-STONE BACKFILL. SYSTEM SHALL BE BACKFILLED AND FINAL GROUND SURFACES SHALL BE STABILIZED IMMEDIATELY.



SECTION VIEW A-A
SCALE: NOT TO SCALE

UNDERGROUND INFILTRATION BASIN
N.T.S.

Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

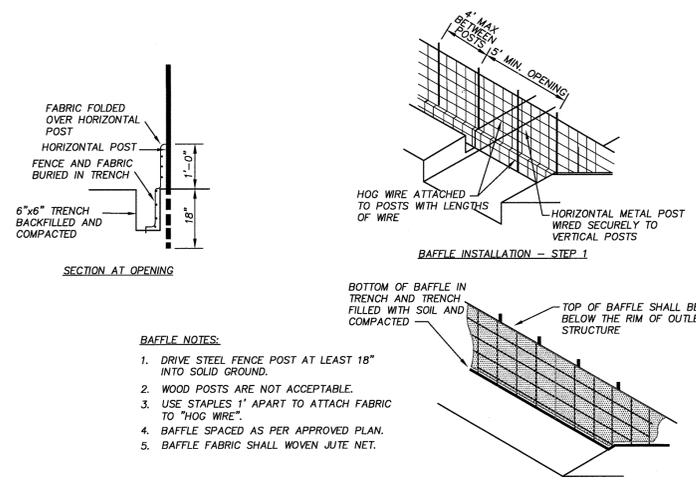
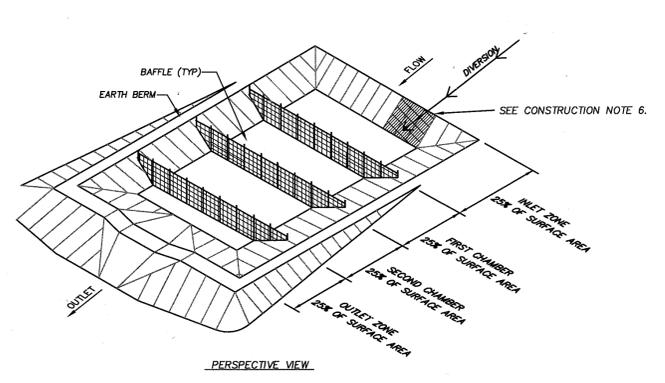
PHASE ONE CONSTRUCTION DOCUMENTS: 4-12-2016

| | |
|------------|--------------|
| JOB NUMBER | 15-120 |
| DRAWN BY | JGM |
| CHECKED BY | JGM |
| DATE | MAY 27, 2016 |
| REVISIONS | |

SITE/CIVIL DETAILS

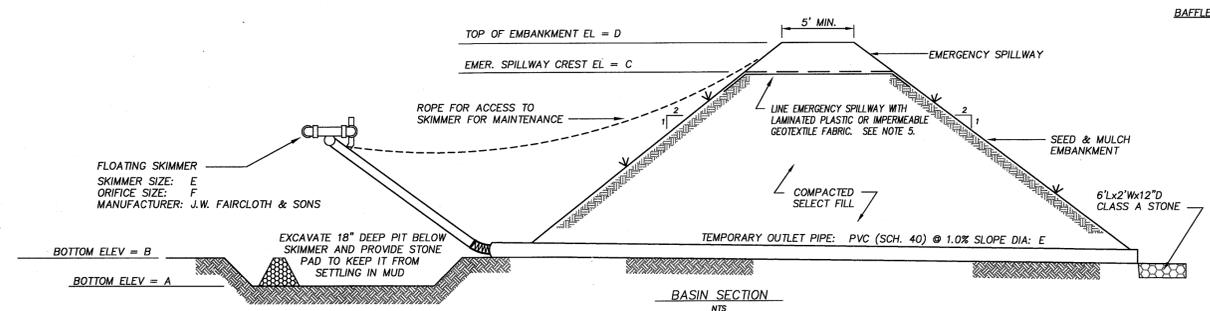
SHEET NUMBER

C7.9

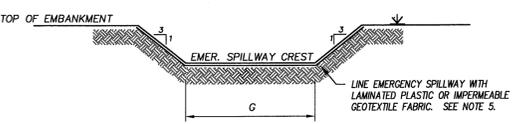


- CONSTRUCTION NOTES:**
- PLACE TEMPORARY SEDIMENT CONTROL MEASURES BELOW BASIN AS INDICATED. CLEAR, GRUB AND STRIP THE AREA UNDER THE EMBANKMENT OF ALL VEGETATION AND ROOT MAT. REMOVE ALL SURFACE SOILS CONTAINING HIGH AMOUNTS OF ORGANIC MATTER.
 - PLACE OUTLET BARREL ON A FIRM, SMOOTH FOUNDATION OF IMPERVIOUS SOIL. DO NOT USE PERVIOUS MATERIAL SUCH AS SAND, GRAVEL OR CRUSHED STONE AS BACKFILL AROUND PIPE. PLACE FILL MATERIAL AROUND PIPE IN 4-IN LAYERS AND COMPACT IT UNDER AND AROUND THE PIPE TO AT LEAST 90% OF THE STANDARD PROCTOR DENSITY. CARE SHALL BE TAKEN TO NOT RAISE THE PIPE FROM FIRM CONTACT WITH ITS FOUNDATION.
 - ASSEMBLE THE SKIMMER IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ATTACH SKIMMER TO BARREL PIPE WITH FLEXIBLE JOINT AND POSITION THE SKIMMER OVER THE EXCAVATED PIT. ATTACH A ROPE TO THE SKIMMER AND ANCHOR IT TO THE SIDE OF THE BASIN.
 - EMBANKMENT SHALL BE CONSTRUCTED OF CLEAN STRUCTURAL SOIL, FREE OF ROOTS, VEGETATION, ROCKS & OTHER OBJECTIONABLE MATERIAL. SCARIFY SURFACES BEFORE PLACING FILL. PLACE FILL IN 6-8 INCH LOOSE LIFTS. COMPACT TO AT LEAST 90% OF THE STANDARD PROCTOR DENSITY.
 - LINE THE ENTIRE EMERGENCY SPILLWAY WITH LAMINATED PLASTIC OR IMPERMEABLE GEOTEXTILE FABRIC. FABRIC SHALL BE WIDE ENOUGH TO COVER THE BOTTOM AND SIDES OF THE SPILLWAY AND EXTEND ONTO THE TOP OF THE DAM FOR ANCHORING IN A TRENCH. THE EDGES SHALL BE SECURED WITH 8-IN STAPLES OR PINS. THE FABRIC SHALL BE LONG ENOUGH TO EXTEND DOWN THE SLOPE AND EXIT ONTO STABLE GROUND. THE WIDTH OF THE FABRIC SHALL BE ONE PCECE, NOT JOINED OR SPLICED. IF THE LENGTH OF THE FABRIC IS INSUFFICIENT FOR THE ENTIRE LENGTH OF THE SPILLWAY, MULTIPLE SECTIONS, SPANNING THE COMPLETE WIDTH, MAY BE USED. THE UPPER SECTIONS SHALL OVERLAP THE LOWER SECTIONS SO WATER CANNOT FLOW UNDER THE FABRIC. SECURE THE UPPER EDGE AND SIDES OF THE FABRIC IN A TRENCH WITH STAPLES OR PINS.
 - LINE SLOPES WHERE DIVERSION DITCH DISCHARGES INTO BASIN WITH LAMINATED PLASTIC OR IMPERMEABLE GEOTEXTILE FABRIC.

| BASIN NUMBER | A (FT) | B (FT) | C (FT) | D (FT) | E (IN) | F (IN) | G (FT) |
|--------------|--------|--------|--------|--------|--------|--------|--------|
| TSSB-1 | 37.5 | 39.0 | 40.5 | 42.5 | 1.5 | 1.0 | 10.0 |



BASIN SECTION N.T.S.

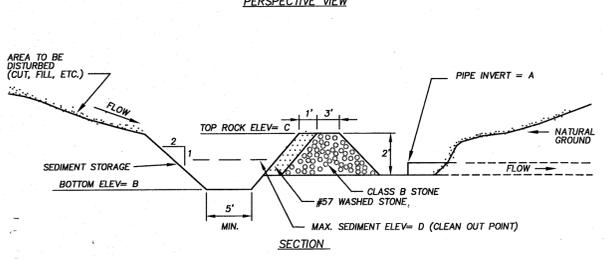
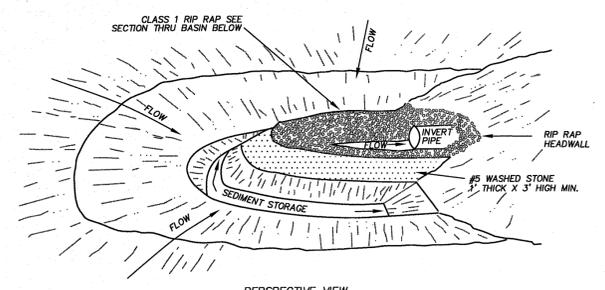


EMERGENCY SPILLWAY SECTION N.T.S.

- MAINTENANCE NOTES:**
- INSPECT DEVICE AFTER EACH RAINFALL. REMOVE SEDIMENT WHEN SEDIMENT REACHES A DEPTH OF NO MORE THAN ONE-HALF THE HEIGHT OF THE RISER. REPAIR BAFFLES IF THEY ARE DAMAGED.
 - PULL SKIMMER TO SIDE OF BASIN WITH ROPE AND INSPECT REGULARLY. KEEP SKIMMER HEAD, ORIFICE AND PIPE FREE OF DEBRIS. REMOVE SEDIMENT FROM BENEATH SKIMMER AND ENSURE VEGETATION DOES NOT INTERFERE WITH SKIMMER OPERATION.
 - CHECK FABRIC LINED SPILLWAY FOR DAMAGE AND MAKE ANY REPAIRS WITH FABRIC THAT SPANS THE FULL WIDTH OF THE SPILLWAY.
 - ALL DEWATERING SHALL BE PUMPED THROUGH SILT FILTER BAG. SILT FILTER BAG SHALL BE PLACED ON FLAT SURFACE WITHIN LIMITS OF DISTURBANCE.

TEMPORARY SKIMMER SEDIMENT BASIN N.T.S.

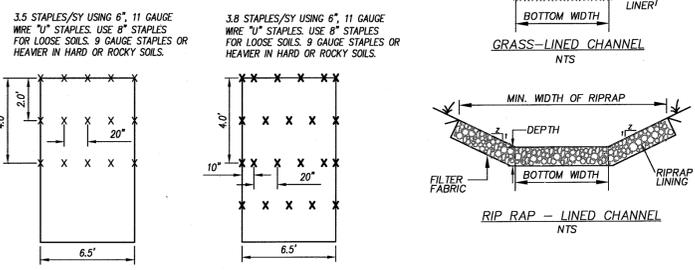
- MAINTENANCE NOTES:**
- INSPECT THE BARRIER AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL AND REPAIR IMMEDIATELY.
 - REMOVE SEDIMENT AND RESTORE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP.
 - CHECK THE STRUCTURE FOR DAMAGE AND REPLACE ANY DISPLACED RIPRAP IMMEDIATELY.
 - APPROPRIATELY STABILIZE ALL BARE AREAS AROUND THE INLET.



TEMPORARY ROCK PIPE INLET PROTECTION N.T.S.

- NOTES:**
- SEE SPECIFICATIONS FOR TEMP. LINING, RIPRAP AND FILTER FABRIC REQUIREMENTS.
 - RIPRAP CHANNELS SHALL BE OVER-EXCAVATED RIPRAP TO BE PLACED FLUSH WITH PROPOSED CHANNEL GRADE.
 - PREPARE SOIL BEFORE INSTALLING MATS OR NETS, INCLUDING APPLICATION OF LIME, FERTILIZER AND SEED.
 - BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE NET OR MAT IN A 6" DEEP TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 - ROLL CENTER MAT OR NET IN DIRECTION OF WATER FLOW ON BOTTOM OF CHANNEL.
 - PLACE MAT OR NET END OVER END (SHINGLE STYLE) WITH A 6" OVERLAP. USE DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE.
 - FULL LENGTH EDGE OF MAT OR NET AT TOP SIDE SLOPES SHALL BE ANCHORED IN 6" DEEP TRENCH AFTER STAPLING.
 - MATS OR NETS SHALL BE OVERLAPPED 4" OVER THE CENTER BLANKET AND STAPLED.
 - THE TERMINAL END OF THE MAT OR NET MUST BE ANCHORED IN A 6" DEEP TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

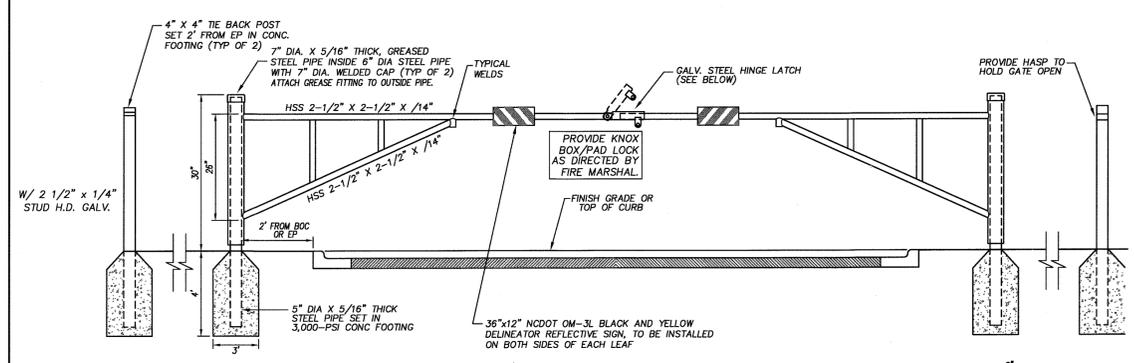
- MAINTENANCE:**
- GRASS-LINED CHANNELS TO BE INSPECTED WEEKLY AND AFTER EVERY RAINFALL EVENT, DURING THE ESTABLISHMENT AND AFTER THE ESTABLISHMENT PERIOD.
 - REPAIRS ARE TO BE MADE IMMEDIATELY.
 - REMOVE SEDIMENT ACCUMULATIONS TO MAINTAIN DESIGNED CARRYING CAPACITY.
 - GRASS TO BE HEALTHY AND IN VIGOROUS CONDITIONS AT ALL TIMES.



STRAW MAT STAPLE PATTERN N.T.S. SYNTHETIC MAT STAPLE PATTERN N.T.S.

| CHANNEL SCHEDULE | | | | | | |
|------------------|-------------------|------------------|---------------|----------------|--------------|--------------|
| CHANNEL | BOTTOM WIDTH (FT) | SIDE SLOPE (H:V) | CHANNEL GRADE | CHANNEL LENGTH | PERM. LINING | TEMP. LINING |
| 1 | 3 | 3:1 | 0.95X | 105 LF | SOD | CURLED WOOD |
| 2 | 3 | 3:1 | 0.90X | 205 LF | SOD | CURLED WOOD |
| 3 | 3 | 3:1 | 0.75X | 140 LF | SOD | CURLED WOOD |

CHANNEL SECTIONS N.T.S.



- NOTES:**
- ALL STEEL SHALL BE HOT-DIPPED GALVANIZED AND EPOXY PAINTED.
 - SUBMIT SHOP DRAWING FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND ASSEMBLY.

- PAINTING SPECIFICATIONS:**
- MANUFACTURER: THIEMEC COMPANY, INC.; CARY, NC (919-859-3737)
 - SYSTEM TYPE: EPOXY-POLYURETHANE
 - SURFACE PREPARATION: SSPV-SPI AND BRUSH OFF BLAST CLEAN
 - PRIMER: SERIES 27 (FIELD-COATED) TPOXY OR 69 HI-BUILD EPOKOLINE
 - FINISH PAINT: SERIES 73 ENDURA-SHIELD, SEMI-GLOSS. SUBMIT COLOR OPTIONS FOR SELECTION BY ARCHITECT.
 - CONTRACTOR SHALL INSTALL KNOX BOX/LOCK AT THE DIRECTION OF FIRE MARSHAL. KNOX BOX/LOCK SHALL BE PER CITY OF WILMINGTON STANDARDS.

PIPE GATE N.T.S.

APPROVED CONSTRUCTION PLAN

PLANNING NAME DATE
TRAFFIC W. Shaw 6/3/16
FIRE J. Shaw 6/9/16



Public Services • Engineering Division
APPROVED STORMWATER MANAGEMENT PLAN
Date: 6/8/16 Permit # 2015078123
Signed: [Signature]

Phase One: Renovations and Additions to:
John T. Hoggard High School
4305 Shipyard Blvd.
Wilmington, North Carolina 28403

JOB NUMBER 15-120
DRAWN BY JGM
CHECKED BY JGM
DATE MAY 27, 2016
REVISIONS

SITE/CIVIL DETAILS

SHEET NUMBER