



# Intracoastal Engineering PLLC

March 21<sup>st</sup>, 2017

**Development Services  
305 Chestnut Street  
Wilmington NC, 28401**

**Attn: Jeff Walton**

Re: Land Rover-Jaguar  
PN 2015-016

Dear Mr. Walton,

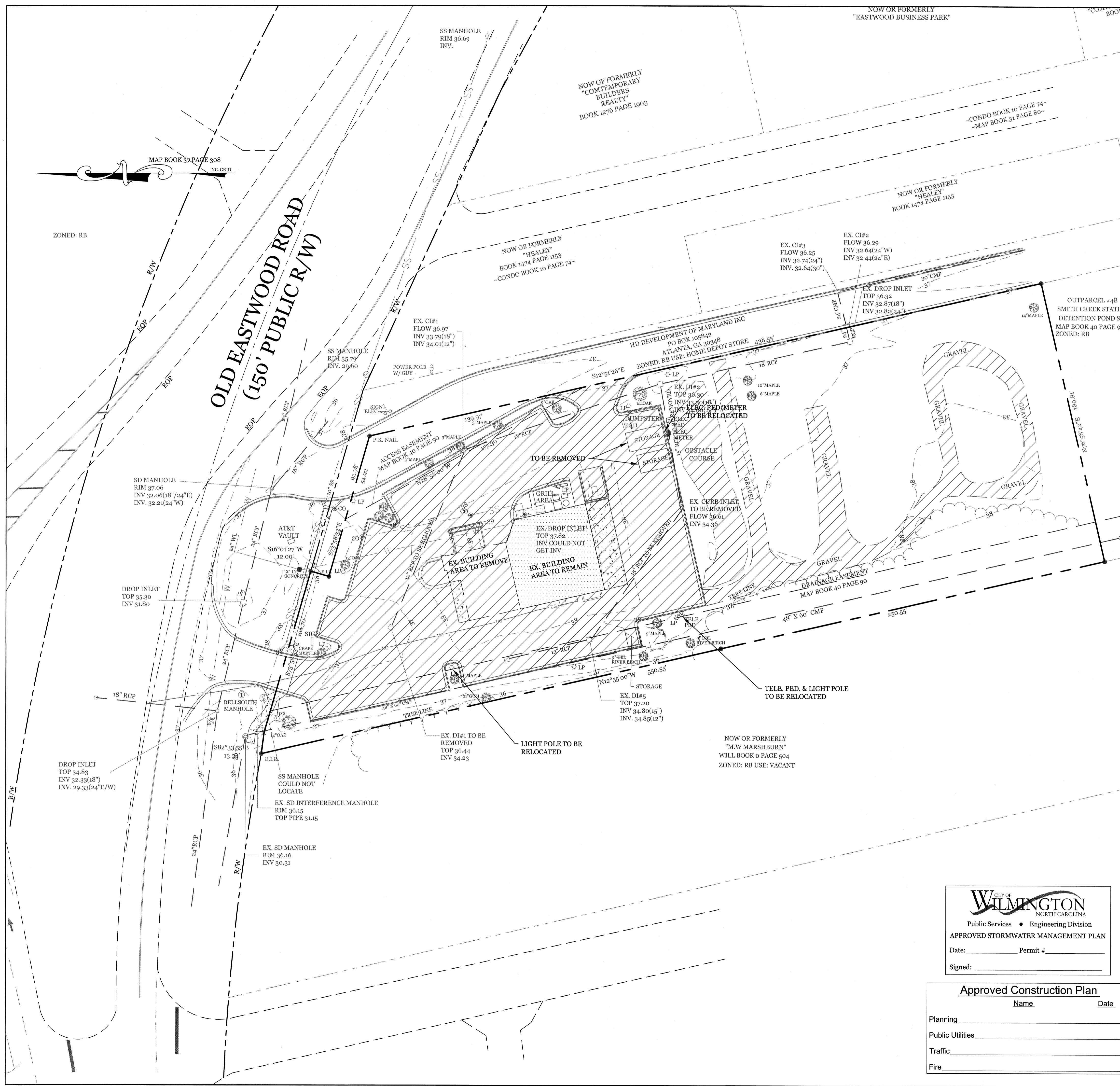
Please find enclosed (3) sets of plans revised per TRC comments. We feel we have addressed all TRC comments.

Please review for approval and contact us with any questions, comments or additional information needed.

Sincerely,  
**Intracoastal Engineering PLLC**

A handwritten signature in blue ink, appearing to read "Charles D. Cazier".

**Charles D. Cazier, P.E.**



**SITE DATA**  
 PARCEL ID: R05009-006-006-000  
 ZONING: R-B-REGIONAL BUSINESS  
 CAMA LAND USE CLASSIFICATION: URBAN  
 PROJECT ADDRESS: 20 OLD EASTWOOD RD. WILMINGTON, NC 28403  
 CURRENT OWNERS: CLOS PROPERTIES LLC  
 1 CHESTERFIELD COURT GREENSBORO, NC 27410

TOTAL ACREAGE IN PROJECT BOUNDARY: 89,908 S.F. (2.06 AC.)

**TOTAL ONSITE IMPERVIOUS BEFORE DEVELOPMENT**

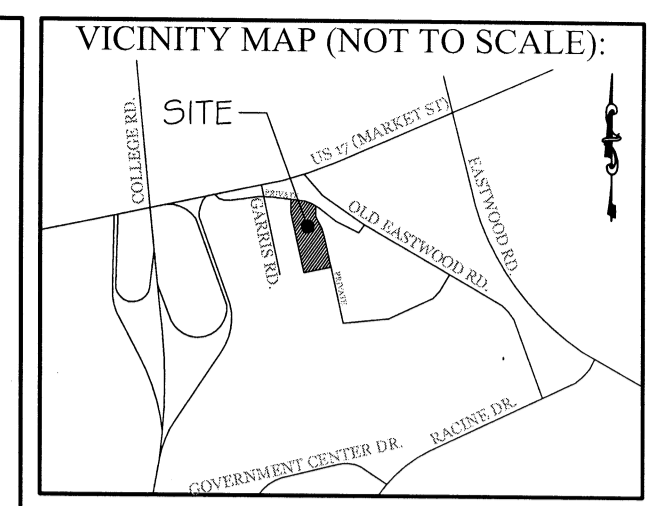
BUILDING	4,606 S.F.
GRAVEL	7,765 S.F.
OBSTACLE COURSE	2,885 S.F.
DRIVES/PARKING	28,338 S.F.
SIDEWALK/GRILL AREA	770 S.F.
TOTAL	44,384 S.F. ÷ 89,908 S.F. = 49.4%

**EXISTING ONSITE IMPERVIOUS TO BE REMOVED:**

BUILDING	1,581 S.F.
GRAVEL	7,765 S.F.
OBSTACLE COURSE	2,885 S.F.
DRIVES/PARKING	28,173 S.F.
TOTAL	40,404 S.F.

**TOTAL EXISTING ONSITE IMPERVIOUS TO BE REMAIN:**  
 SIDEWALK: 3,980 S.F.

**TOTAL OFFSITE IMPERVIOUS BEFORE DEVELOPMENT:**  
 SIDEWALK: 410 S.F.  
 TOTAL: 410 S.F.



**REVISIONS**


**INTRACOASTAL ENGINEERING, PLLC**  
 5725 Oleander Dr. Unit E-7  
 Wilmington, North Carolina, 28403  
 Phone: 910.859.8983  
 Email: charlie@intracoastalengineering.com  
 License Number P-0662

EXISTING CONDITIONS /  
 DEMOLITION PLAN  
 FOR  
**LAND ROVER  
 -JAGUAR**  
 20 OLD EASTWOOD RD.  
 WILMINGTON, NORTH CAROLINA

NORTH CAROLINA  
 PROFESSIONAL  
 SEAL  
 032555  
 ENGINEER  
 CHARLES D. CZAJAR

*Charles D. Czajar*  
 3-21-17

**CLIENT INFORMATION:**  
 CLOS PROPERTIES, LLC  
 A.J. ALIAH  
 20 EASTWOOD ROAD  
 WILMINGTON, NC 28403  
 (910) 332-3500

DRAWN:	JAE	SHEET SIZE:	24 X 36
CHECKED:	CDC	DATE:	3/21/2017
APPROVED:	CDC	SCALE:	1" = 30'
PROJECT NUMBER:	2015-016		

DRAWING NUMBER: **C-0**

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

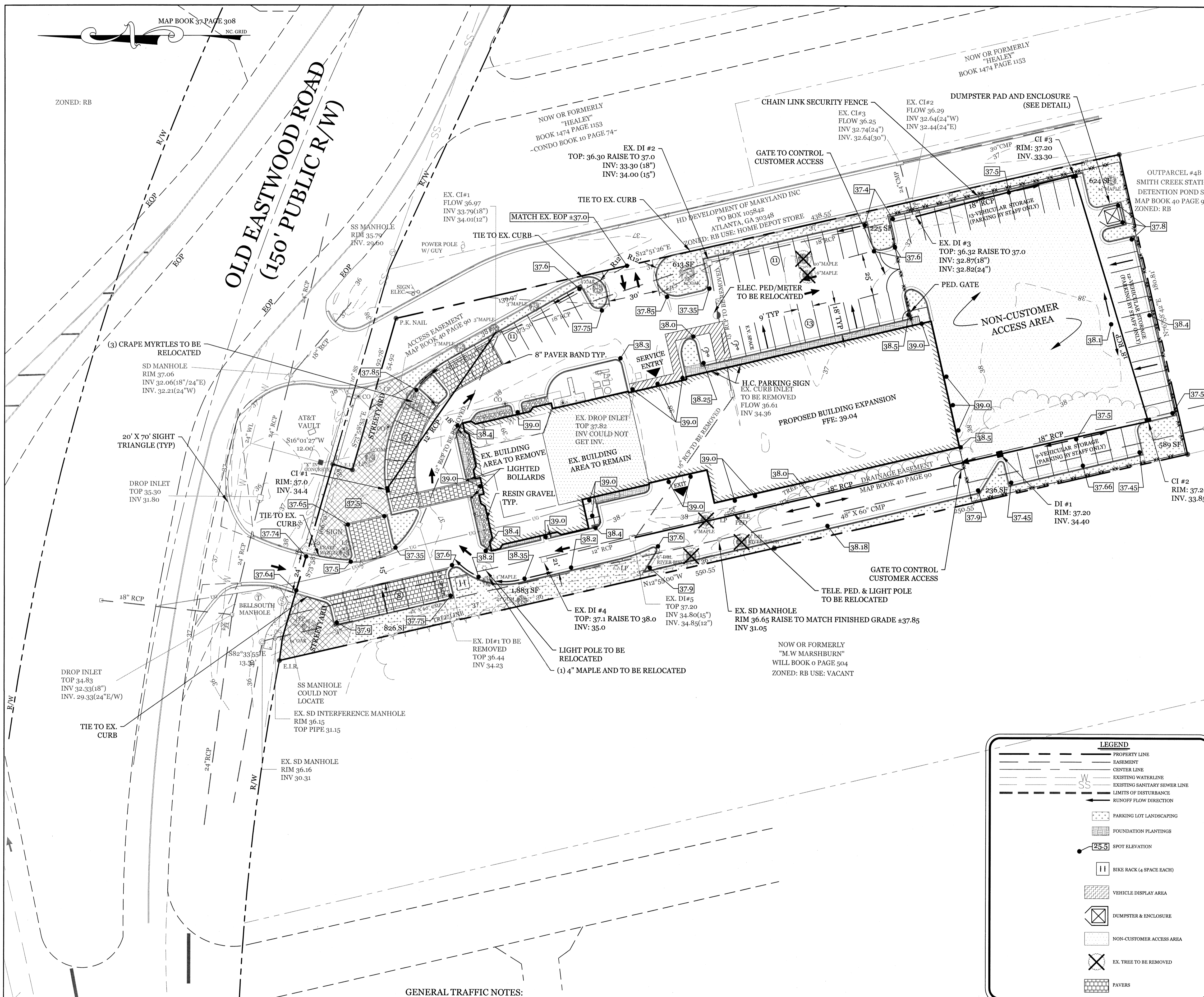
**Approved Construction Plan**

Name	Date
Planning	_____
Public Utilities	_____
Traffic	_____
Fire	_____

**LEGEND**

- PROPERTY LINE
- EASEMENT
- CENTER LINE
- EXISTING WATERLINE
- EXISTING SANITARY SEWER LINE
- AREA TO BE REMOVED AND/OR REPLACED

Scale: 1"=30'



**SITE DATA**  
 PARCEL ID: R05009-006-006-000  
 ZONING: R-B-REGIONAL BUSINESS  
 CAMA LAND USE CLASSIFICATION: URBAN  
 PROJECT ADDRESS: 20 OLD EASTWOOD RD. WILMINGTON, NC 28403  
 CURRENT OWNERS: CLOS PROPERTIES LLC 1 CHESTERFIELD COURT GREENSBORO, NC 27410

TOTAL ACREAGE IN PROJECT BOUNDARY: 89,908 S.F. (2.06 AC.)  
 TOTAL BUILDING SIZE IN SQUARE FEET: 19,734 S.F. TOTAL  
 BUILDING HEIGHT: 22'  
 BUILDING SETBACKS:  
 FRONT: REQUIRED= 25' PROPOSED= 55'  
 SIDE: REQUIRED= 0' PROPOSED= 34'  
 REAR: REQUIRED= 15' PROPOSED= 130'

CALCULATION FOR BUILDING COVERAGE: 19,734 S.F. ÷ 89,908 S.F. = 21.9 %  
 TOTAL ONSITE IMPERVIOUS BEFORE DEVELOPMENT  
 BUILDING 4,606 S.F.  
 GRAVEL 7,765 S.F.  
 OBSTACLE COURSE 2,885 S.F.  
 DRIVES/PARKING 28,358 S.F.  
 SIDEWALK/GRILL AREA 770 S.F.  
 TOTAL 44,384 S.F. ÷ 89,908 S.F. = 49.4 %  
 \* ALL EXISTING IMPERVIOUS AREA TO BE REMOVED EXCEPT WHAT IS LISTED BELOW

AFTER DEVELOPMENT  
 BUILDINGS 19,734 S.F. (\*3,025 S.F. EXISTING)  
 DRIVES/PARKING 52,926 S.F. (\*185 S.F. EXISTING)  
 SIDEWALK/GRILL AREA 972 S.F. (\*770 S.F. EXISTING)  
 FUTURE 7,128 S.F.  
 TOTAL 80,760 S.F. ÷ 89,908 S.F. = 89.8 %

TOTAL OFFSITE IMPERVIOUS BEFORE AND AFTER DEVELOPMENT:  
 SIDEWALK 410 S.F.  
 TOTAL 410 S.F.

PARKING REQUIRED: (AUTOMOBILE DEALER 1 PER 500 S.F. G.F.A.) 19,734 S.F./500 S.F. = 39.47 SPACES MIN )  
 PARKING PROVIDED= 50 SPACES (2 H.C.)  
 BICYCLE PARKING REQUIRED (5 per 100 CAR SPACES) 50 / 100 \* 5 = 2.5 BIKE SPACES  
 BICYCLE PARKING PROVIDED: 4 SPACES  
 PARKING LOT INTERIOR LANDSCAPING REQUIRED 52,926 S.F. \* 8% = 4,234 S.F.  
 PROVIDED 4,996 S.F.  
 \*PARKING LOT INTERIOR SHADING TO BE SHOWN ON LANDSCAPE PLAN\*

STREETYARD: (MULTIPLIER: 25' MAX: 37.5' MIN: 12.5')  
 REQUIRED: 3,000 S.F. (120' X 25')  
 PROVIDED: 3,315 S.F.

FOUNDATION PLANTINGS:  
 NORTH FACE REQUIRED: 203 SF (1,694 SF X 12%)  
 PROVIDED: 395 SF  
 EAST FACE REQUIRED: 747 SF (6,226 SF X 12%)  
 PROVIDED: 757 SF  
 WEST FACE REQUIRED: 177 SF (1,474 SF X 12%)  
 PROVIDED: 187 SF

**DEVELOPMENT NOTES:**

- ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH CITY OF WILMINGTON ZONING ORDINANCE.
- PROJECT SHALL COMPLY WITH ALL FEDERAL, STATE & CITY OF WILMINGTON REGULATIONS.
- NO WETLANDS EXIST ON SITE.
- PROPERTY IS LOCATED IN ZONE "X" ACCORDING TO THE FEMA FLOOD INSURANCE RATE MAP, 3729314800J COMMUNITY-PANEL NUMBER 3148, DATED 04/03/06
- PAVER MATERIAL TO BE REVIEWED AND APPROVED BY JAGUAR LAND ROVER PRIOR TO PURCHASE.
- SITE LIGHTING TO BE DESIGNED BY OTHERS AND APPROVED BY JAGUAR LAND ROVER AS WELL AS THE CITY OF WILMINGTON.

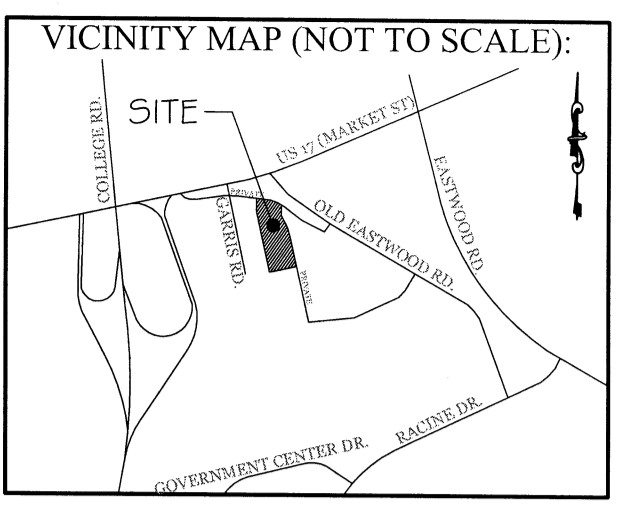
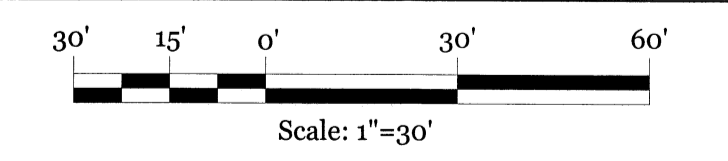
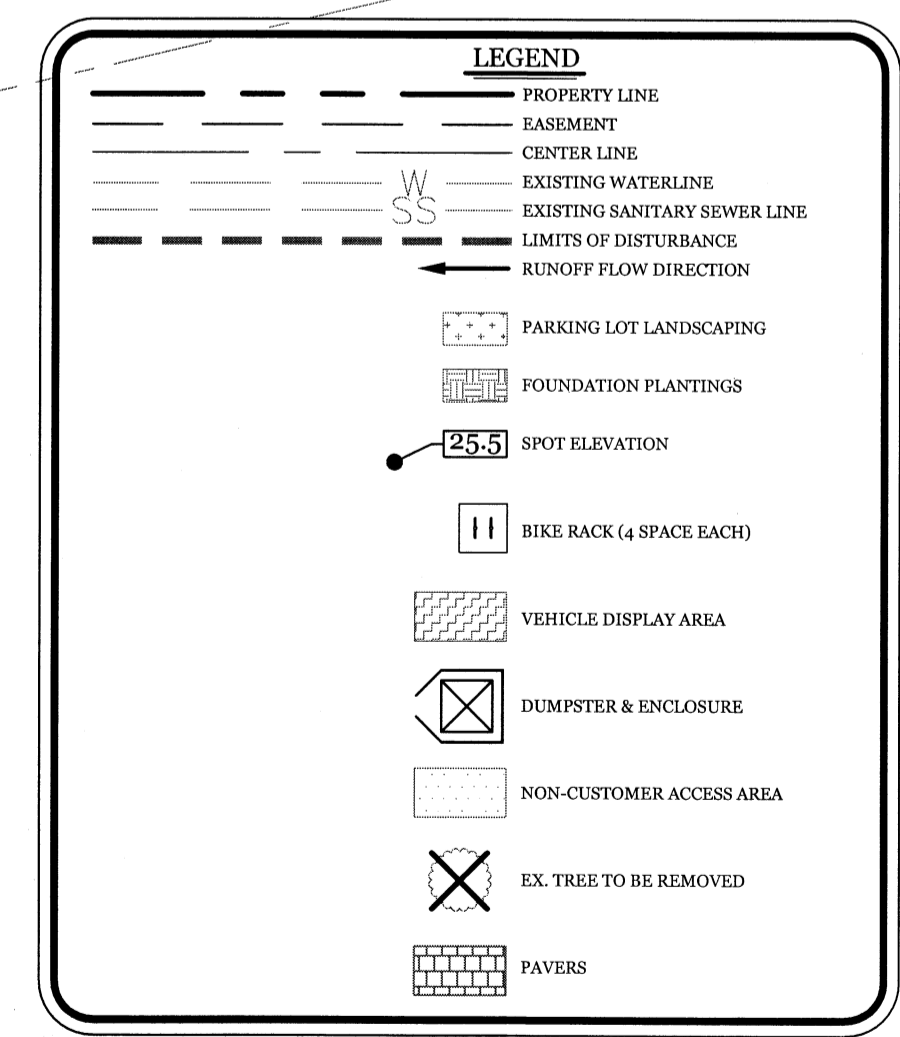
**UTILITY NOTES:**

- EXISTING WATER AND SANITARY SEWER SERVICES ARE CURRENTLY AVAILABLE TO THE SITE FROM CAPE FEAR PUBLIC UTILITY AUTHORITY PUBLIC MAINS.
- ALL UTILITY SERVICES, SUCH AS ELECTRIC POWER, CATV, GAS & TELEPHONE SHALL BE INSTALLED UNDERGROUND.
- ALL WATER & SEWER UTILITIES TO BE INSTALLED PER CPFA TECHNICAL SPECIFICATIONS & STANDARDS.
- PROJECT SHALL COMPLY WITH CPFA CROSS CONNECTION CONTROL REQUIREMENTS. WATER METER(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND N.C.D.E.N.R. HAS ISSUED THEIR "FINAL APPROVAL." CALL 343-3910 FOR INFORMATION.
- ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CPFA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USFCCCCHR OR ASSE.
- WATER & SEWER SERVICES CAN NOT BE ACTIVATED ON NEW MAINS UNTIL THE ENGINEER'S CERTIFICATION AND AS-BUILTS ARE RECEIVED AND "FINAL APPROVAL" ISSUED BY THE PUBLIC WATER SUPPLY SECTION OF NCDENR, AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY SECTION OF NCDENR.
- IF CONTRACTOR DESIRES CPFA 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.
- WHEN PVC WATER MAINS AND SERVICES ARE PROPOSED, THE PIPES ARE TO BE MARKED WITH NO. 10 INSULATED, SINGLE-STRAND COPPER WIRE INSTALLED & STRAPPED TO THE PIPES WITH DUCT TAPE. THIS IS TO BE ACCESSIBLE IN ALL VALVES AND METER BOXES TO AID IN FUTURE LOCATION OF FACILITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OR EXISTING UTILITIES DURING CONSTRUCTION. CALL U-LOCO AT 1-800-632-4949. CONTRACTOR IS RESPONSIBLE FOR THE REPAIR AND REPLACEMENT OF ANY UTILITIES, CURB & GUTTER, PAVEMENT, ETC. THAT MAY BE DAMAGED DURING CONSTRUCTION. DAMAGED ITEMS SHALL BE REPAIRED TO AT LEAST THE QUALITY OR WORKMANSHIP FOUND IN THE ORIGINAL ITEM.
- THE BELLSOUTH CONTACT IS STEVE DAYVAULT, BUILDING INDUSTRY CONSULTANT, AT 910-392-8712. CONTACT HIM PRIOR TO STARTING THE PROJECT IN ORDER TO FACILITATE GOOD COMMUNICATION AND MAXIMUM FLEXIBILITY.
- THE PROCESS FOR TELEPHONE CABLE PLACEMENT: \* FINAL GRADE WILL NEED TO BE ESTABLISHED. \* POWER WILL PLACE THEIR CABLE FIRST - APPROXIMATELY 3' DEEP. \* BELLSOUTH & CABLE TV WILL THEN PLACE THEIR CABLE AT APPROXIMATELY 2' DEEP.
- SOLID WASTE DISPOSAL BY PRIVATE DUMPSTER SERVICE.

**GENERAL TRAFFIC NOTES:**

- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS. [DETAIL SD-13 COFW TECH STDS]
- ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS. [DETAIL SD 15-13 COFW TECH STDS]
- A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. NOTE THIS ON THE PLAN AND CONTACT 341-5888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
- ANY BROKEN OR MISSING SIDEWALK PANELS, DRIVEWAY PANELS AND CURBING WILL BE REPLACED.
- A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT. [SD 15-14 COFW TECH STDS]
- CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
- ALL PROPOSED VEGETATION WITHIN SIGHT TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30" TO 10'.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- CONTACT TRAFFIC ENGINEERING AT 341-7888 FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION IN THE RIGHT OF WAY.
- A LANDSCAPING PLAN INDICATING THE LOCATION OF REQUIRED STREET TREES SHALL BE SUBMITTED TO THE CITY OF WILMINGTON TRAFFIC ENGINEERING DIVISION AND PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE RECORDING OF THE FINAL PLAT. [SD 15-14 COFW TECH STDS]

STORM DRAIN PIPE LENGTH/SLOPE		
PIPE	LENGTH	SLOPE
CI#1 TO EX. CI#1	113 FT	0.35%
EX. DI#5 TO DI#1	220 FT	0.20%
DI#1 TO CI#2	89 FT	0.62%
CI#2 TO CI#3	150 FT	0.37%
CI#3 TO EX. DI#3	95 FT	0.45%



**REVISIONS**

NO.	DATE	DESCRIPTION

**INTRACOASTAL ENGINEERING, PLLC**  
 5725 Oleander Dr. Unit E-7  
 Wilmington, North Carolina 28403  
 Phone: 910.859.8983  
 Email: charlie@intracoastalengineering.com  
 License Number P-0662

**SITE, GRADING, & DRAINAGE PLAN FOR LAND ROVER -JAGUAR**  
 20 OLD EASTWOOD RD.  
 WILMINGTON, NORTH CAROLINA

Charles D. Cizler  
 3-21-17

**CLIENT INFORMATION:**  
 CLOS PROPERTIES, LLC  
 A.J. ALIAH  
 20 EASTWOOD ROAD  
 WILMINGTON, NC 28403  
 (910) 332-3500

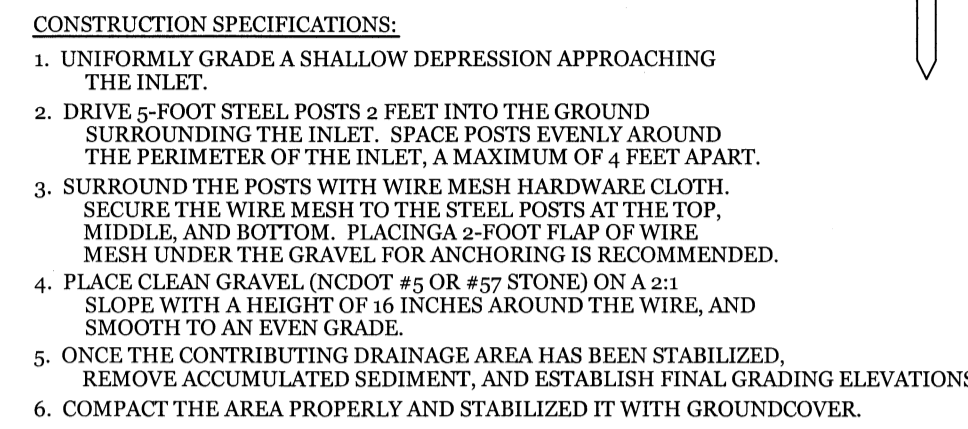
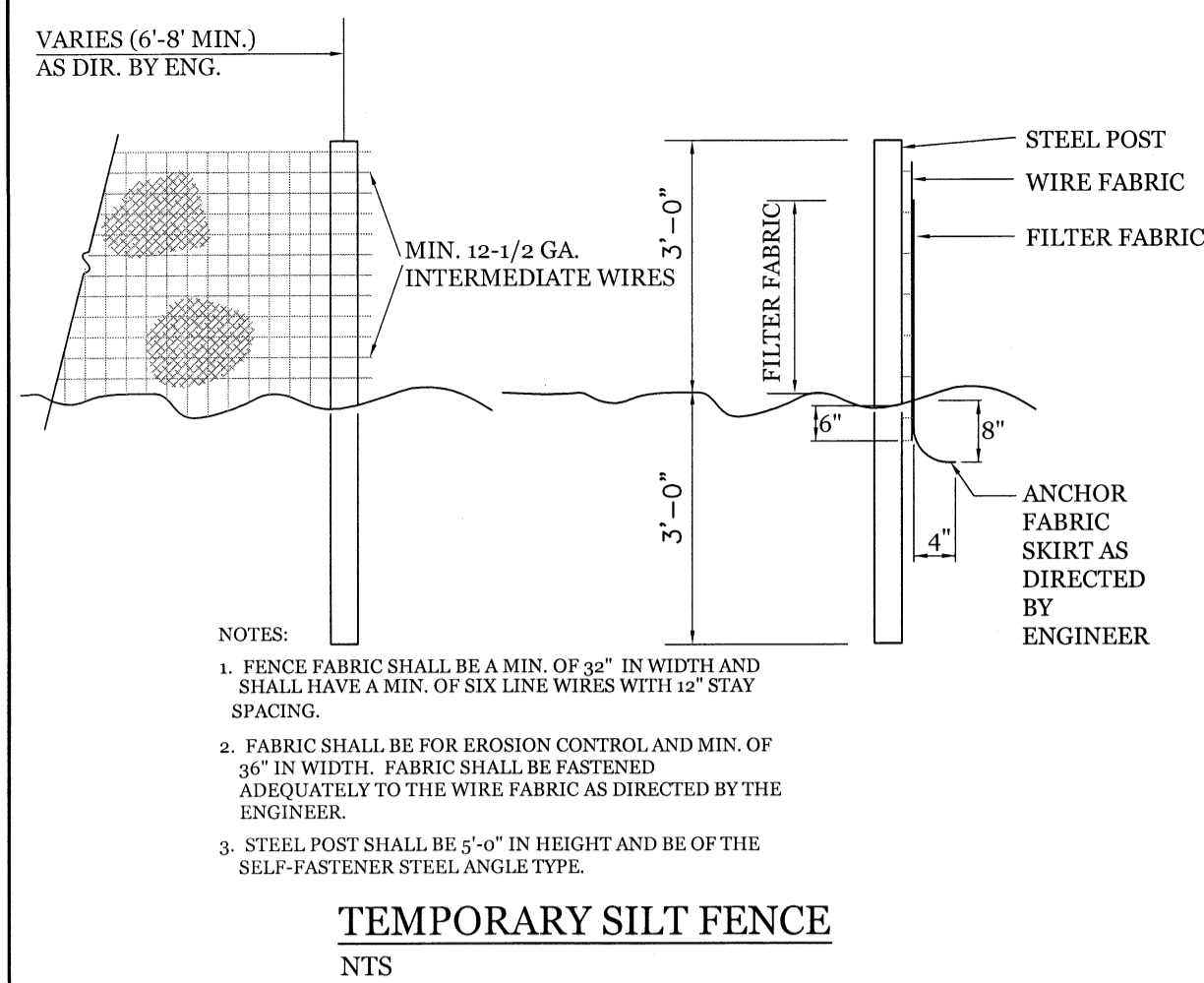
DRAWN: JAE	SHEET SIZE: 24 X 36
CHECKED: CDC	DATE: 3/21/2017
APPROVED: CDC	SCALE: 1" = 30'
PROJECT NUMBER: 2015-016	

DRAWING NUMBER: **C-1**  
 2 OF 5

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

**Approved Construction Plan**

Name	Date
Planning	
Public Utilities	
Traffic	
Fire	

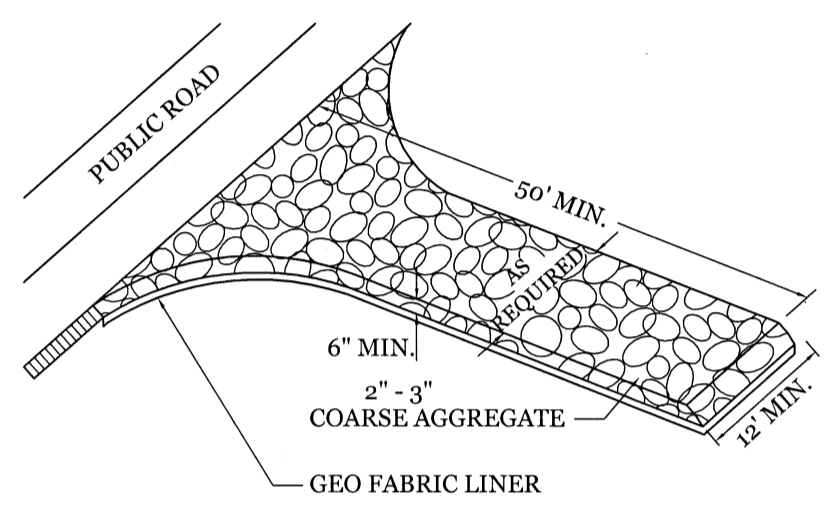


**CONSTRUCTION SPECIFICATIONS:**

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

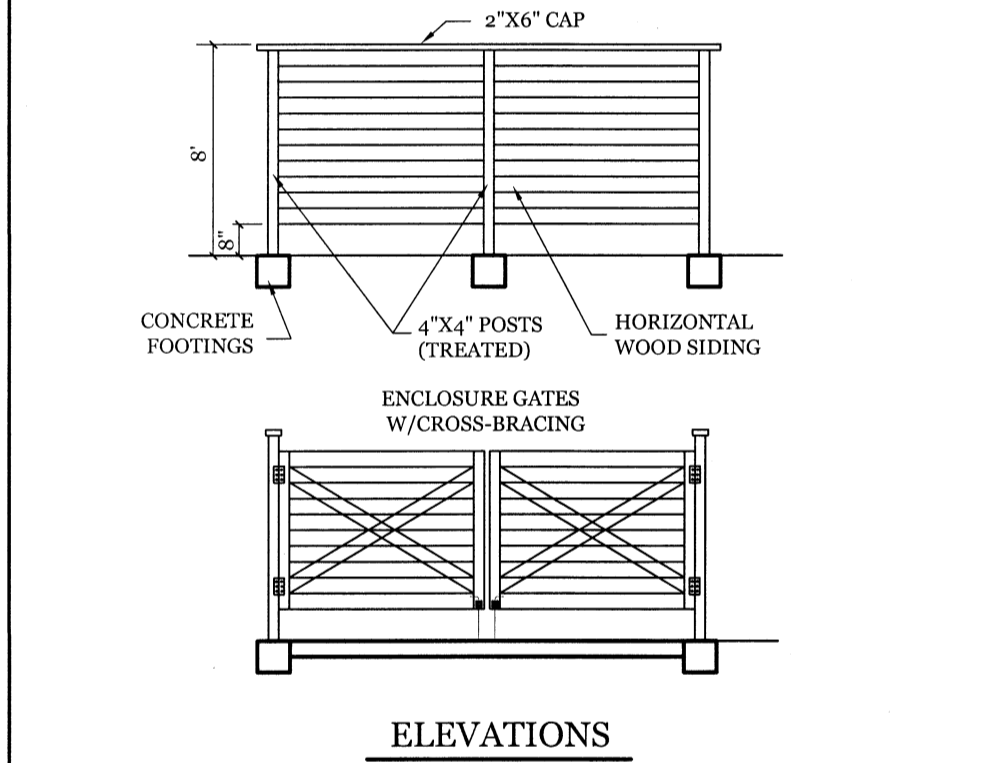
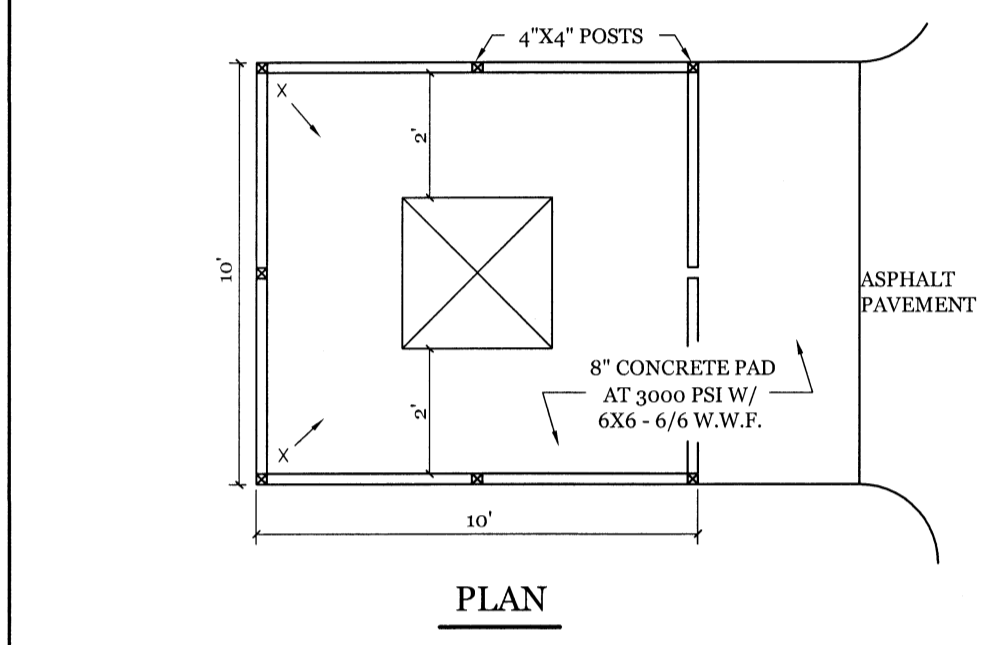
**MAINTENANCE:**  
INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (4 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.

**HARDWARE CLOTH AND GRAVEL INLET PROTECTION**  
NTS

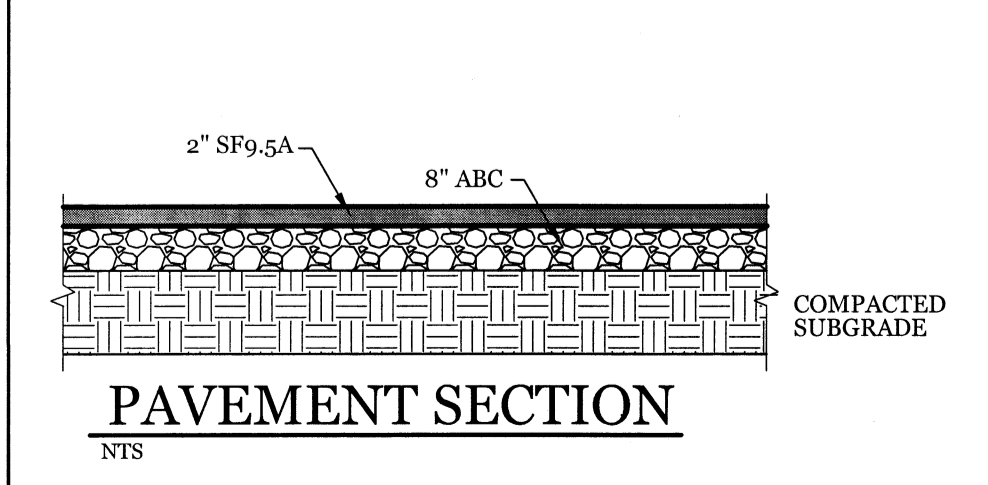
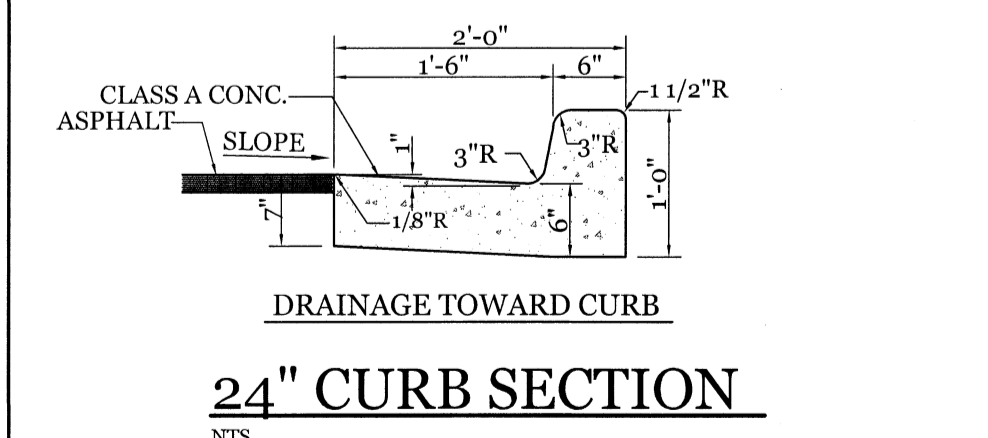
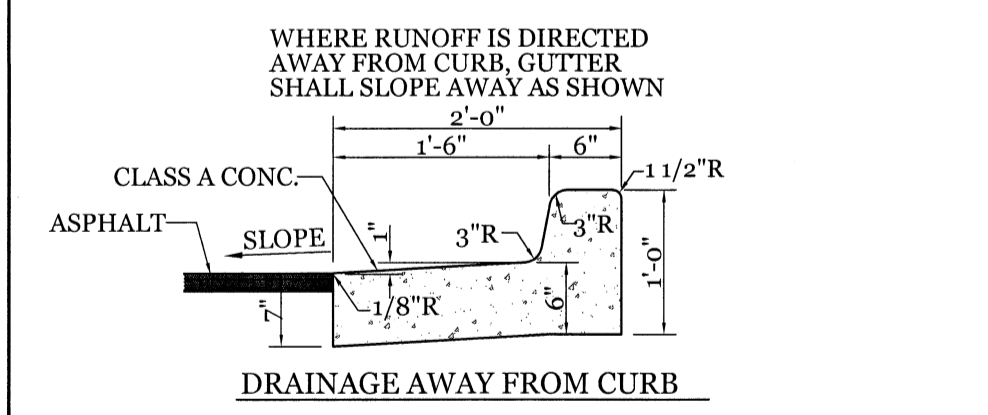


**NOTE:**  
CONSTRUCTION ENTRANCE TO BE 12\"/>

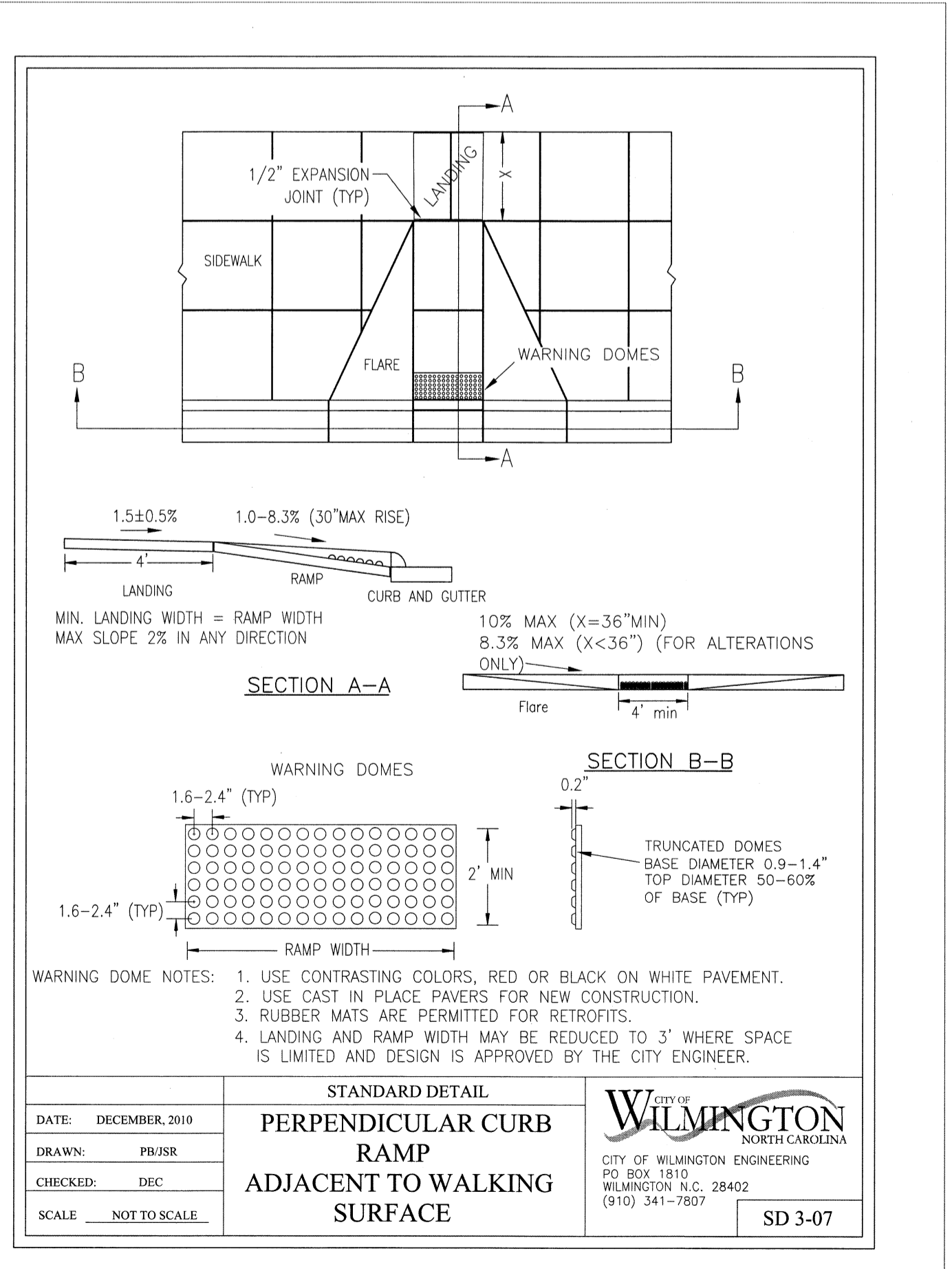
**TEMPORARY GRAVEL CONSTRUCTION ENTRANCE**  
NTS



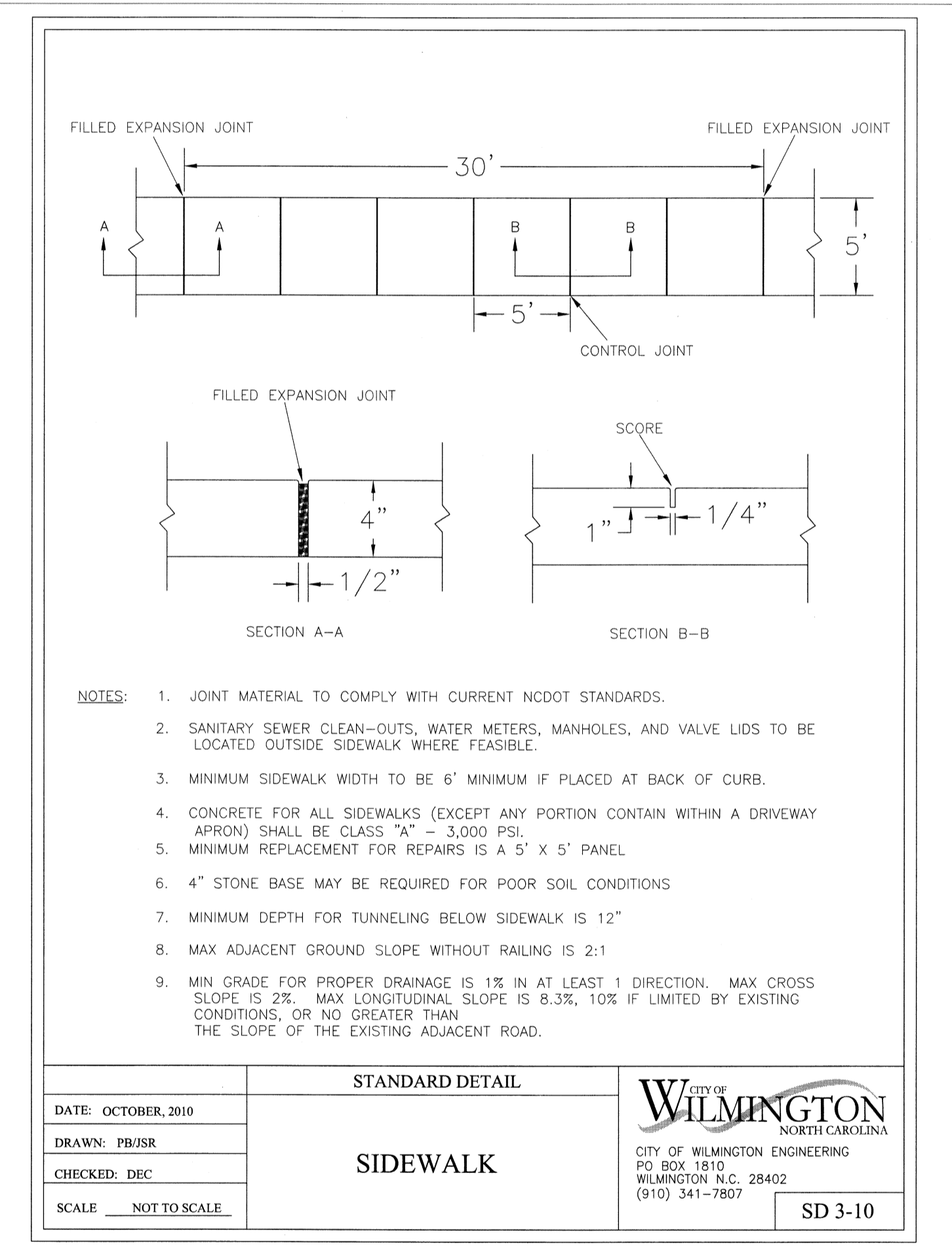
**DUMPSTER PAD & ENCLOSURE DETAIL**  
NTS



**PAVEMENT SECTION**  
NTS



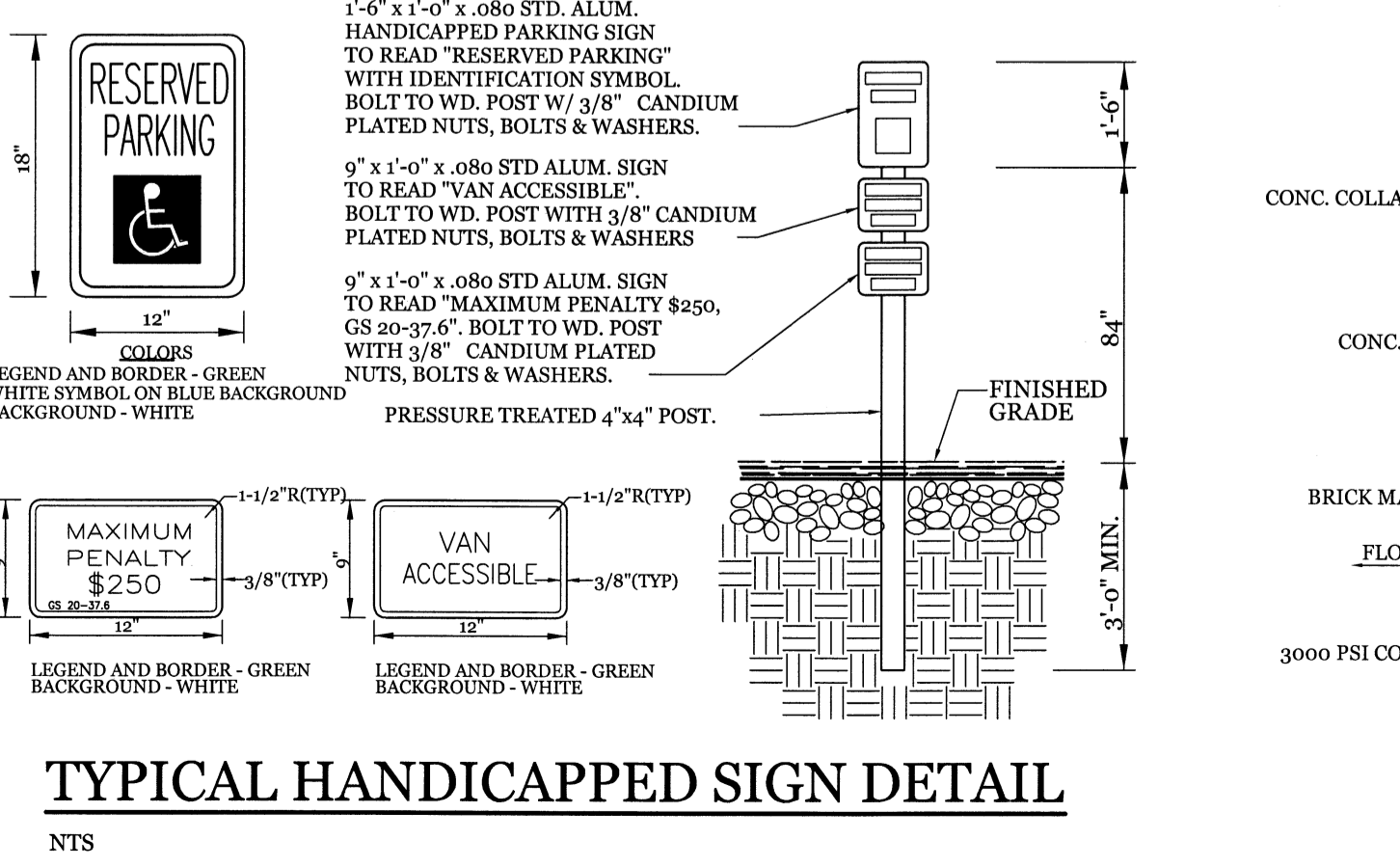
**STANDARD DETAIL**  
**PERPENDICULAR CURB RAMP ADJACENT TO WALKING SURFACE**  
DATE: DECEMBER, 2010  
DRAWN: PB/JSR  
CHECKED: DEC  
SCALE: NOT TO SCALE  
CITY OF WILMINGTON ENGINEERING  
PO BOX 1810  
WILMINGTON, N.C. 28402  
(910) 341-7807  
SD 3-07



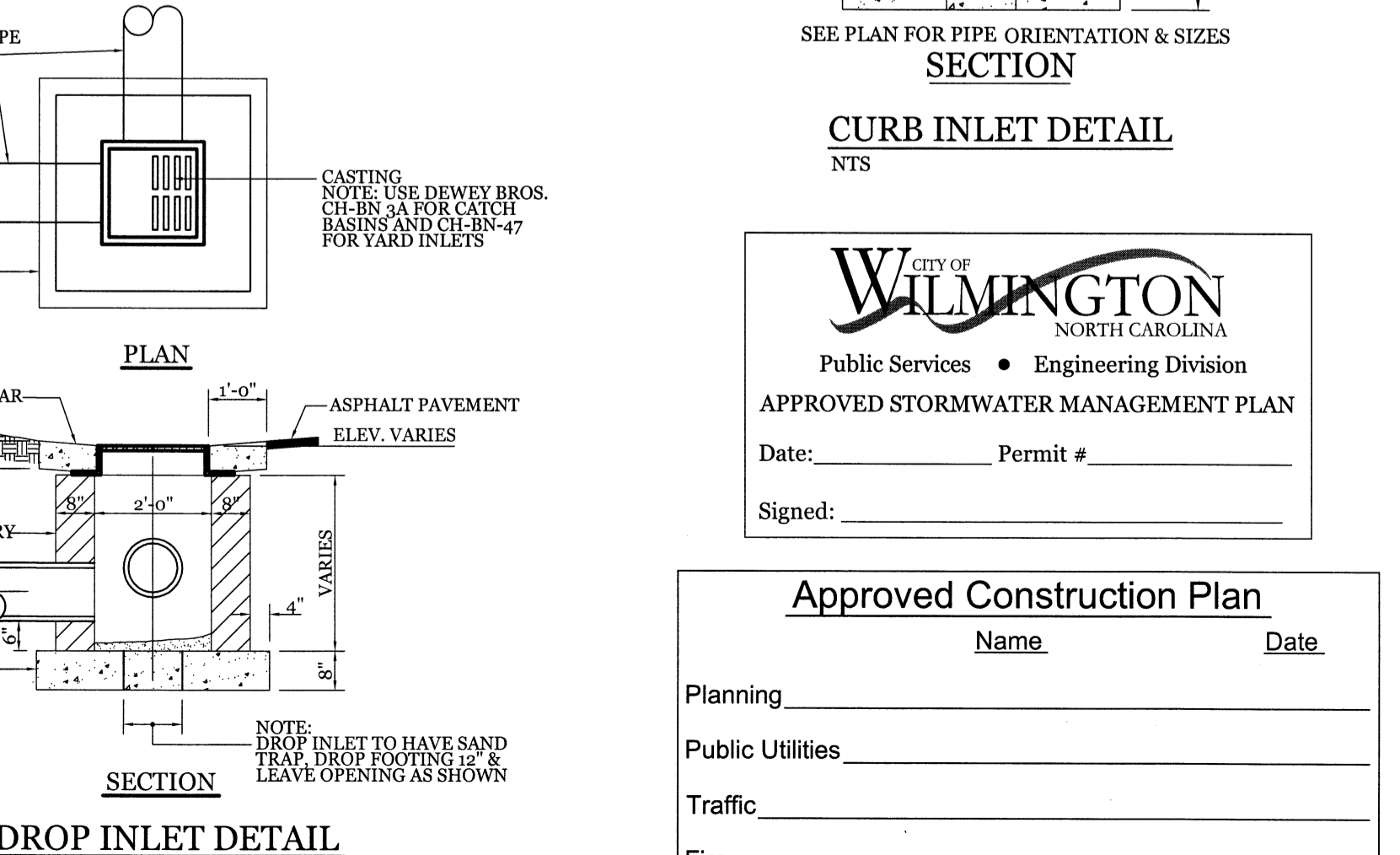
**NOTES:**

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

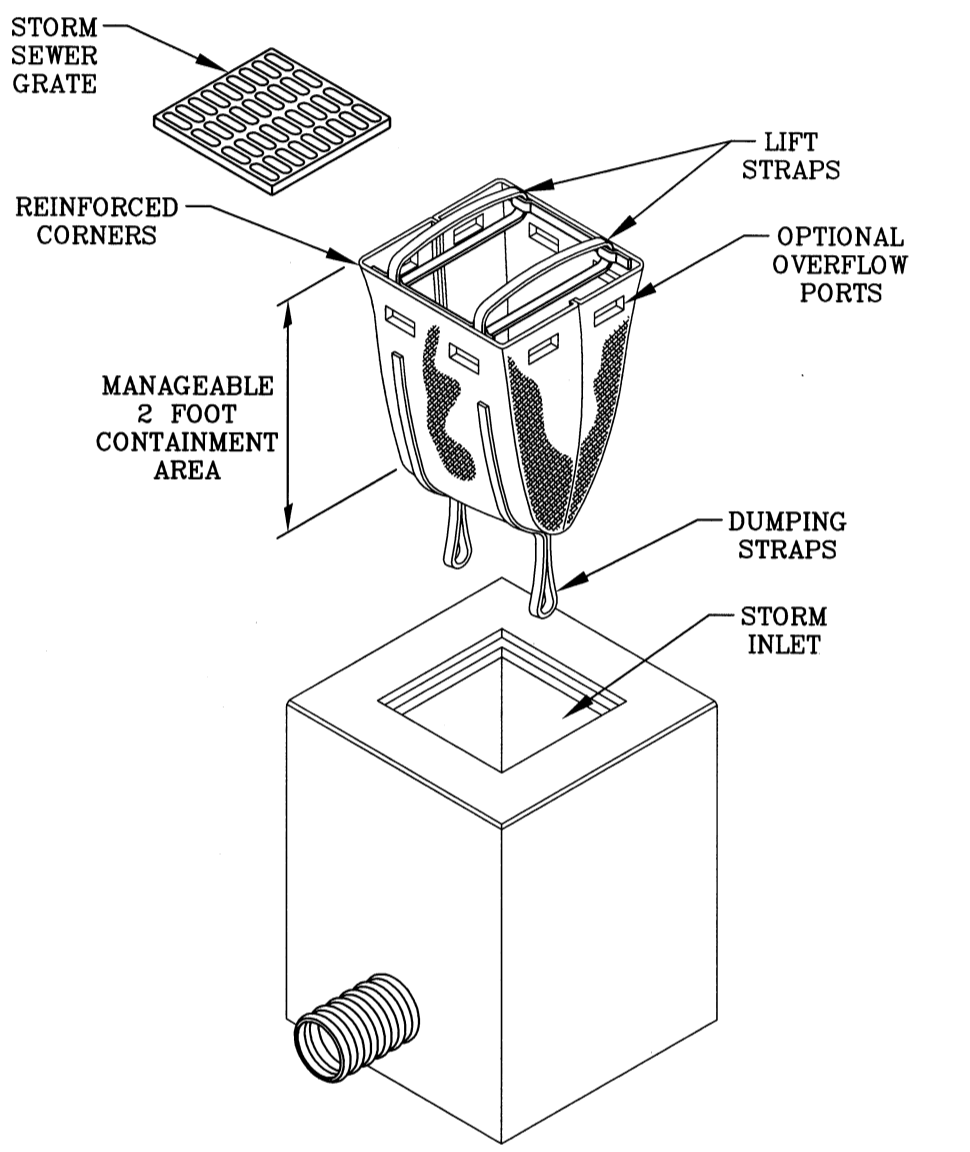
**STANDARD DETAIL**  
**SIDEWALK**  
DATE: OCTOBER, 2010  
DRAWN: PB/JSR  
CHECKED: DEC  
SCALE: NOT TO SCALE  
CITY OF WILMINGTON ENGINEERING  
PO BOX 1810  
WILMINGTON, N.C. 28402  
(910) 341-7807  
SD 3-10



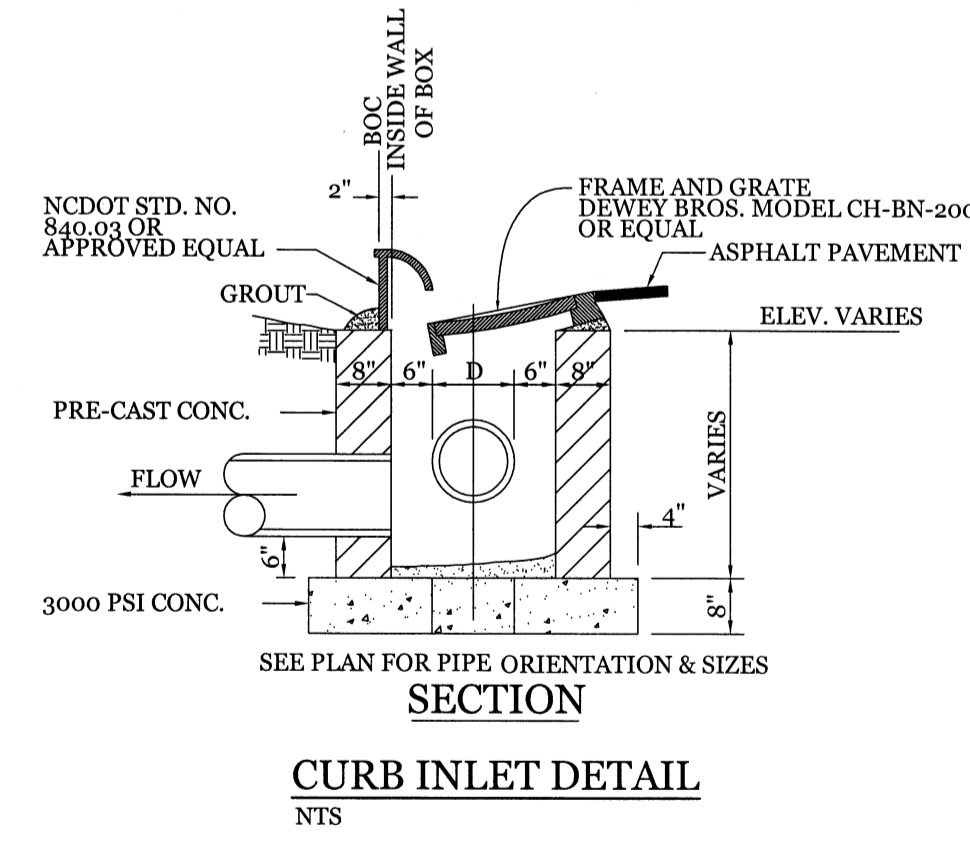
**TYPICAL HANDICAPPED SIGN DETAIL**  
NTS



**DROP INLET DETAIL**  
NTS



**DANDY SACK™ DETAIL**

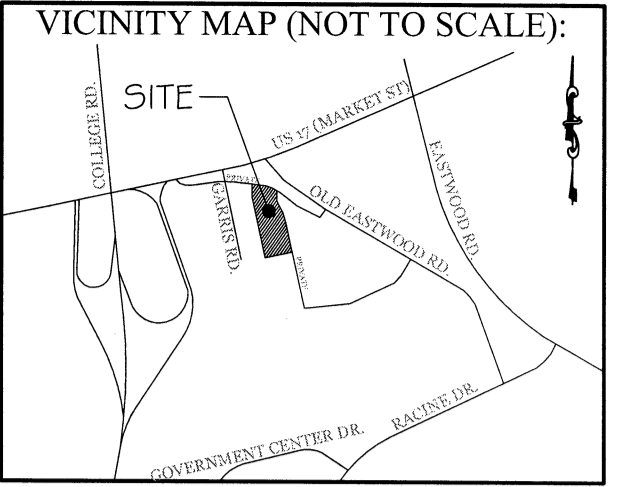


**APPROVED STORMWATER MANAGEMENT PLAN**  
Public Services • Engineering Division  
Date: \_\_\_\_\_ Permit # \_\_\_\_\_  
Signed: \_\_\_\_\_

**Approved Construction Plan**  
Name \_\_\_\_\_ Date \_\_\_\_\_  
Planning \_\_\_\_\_  
Public Utilities \_\_\_\_\_  
Traffic \_\_\_\_\_  
Fire \_\_\_\_\_

**SITE WORK NOTES:**

- THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS BOTH ON AND ADJACENT TO THE SITE.
- CLEARING: CONTRACTOR SHALL REMOVE ALL TREES AND VEGETATION WITHIN LIMITS OF CONSTRUCTION UNLESS OTHERWISE DESIGNATED TO REMAIN.
- GRUBBING AND STRIPPING: CONTRACTOR SHALL RAKE AND REMOVE ROOTS, STUMPS, VEGETATION, DEBRIS, EXISTING STRUCTURES ABOVE AND BELOW GRADE, ORGANIC MATERIAL OR ANY OTHER UNSUITABLE MATERIAL WITHIN LIMITS OF CONSTRUCTION.
- MUCKING: CONTRACTOR SHALL COORDINATE WITH OWNER AND THEIR GEOTECHNICAL REPRESENTATIVE TO COORDINATE REMOVAL OF ANY SOFT AREAS.
- DISPOSAL: CLEARED, GRUBBED, STRIPPED OR OTHER WASTE MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A PROPERLY PERMITTED FACILITY.
- FILL AND COMPACTION SHOULD COMPLY WITH GEOTECHNICAL RECOMMENDATIONS.
- THE CONTRACTOR SHALL NOTE THAT THE GRADING PLAN MAY NOT REPRESENT A BALANCED EARTHWORK CONDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CUT AND FILL QUANTITIES AND COMPLETE INSTALLATION TO SPECIFIED GRADES.
- THE CONTRACTOR SHALL FURNISH SUITABLE BORROW MATERIAL FROM AN OFF-SITE PROPERLY PERMITTED FACILITY AS REQUIRED.
- INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT ELEVATIONS AND LOCATIONS OF ALL EXISTING UTILITIES AT ALL CROSSINGS PRIOR TO COMMENCING TRENCH EXCAVATION. IF ACTUAL CLEARANCES ARE LESS THAN INDICATED ON PLAN, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION. ANY CONDITION DISCOVERED OR EXISTING THAT WOULD NECESSITATE A MODIFICATION OF THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
- NO CONSTRUCTION IS TO BEGIN BEFORE LOCATION OF EXISTING UTILITIES HAS BEEN DETERMINED. CALL "NO ONE-CALL" AT LEAST 48 HOURS BEFORE COMMENCING CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. BEFORE COMMENCING ANY EXCAVATIONS IN OR ALONG ROADWAYS OR RIGHT-OF-WAYS, PUBLIC AREAS OR IN PRIVATE EASEMENTS, THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE PERSONNEL OF THEIR INTENT TO EXCAVATE, IN WRITING, NOT LESS THAN 10 DAYS PRIOR TO EXCAVATING.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE DISCONNECTION/ RECONNECTION AND/OR THE RELOCATION OF ALL EXISTING UTILITIES WITH APPROPRIATE PERSONNEL.
- CONTRACTOR SHALL ADJUST ALL MANHOLES, VALVE & CURB BOXES TO FINAL GRADE UPON COMPLETION OF ALL CONSTRUCTION. ANY BOXES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.
- EXISTING SURVEYING PERFORMED BY MICHAEL UNDERWOOD and ASSOCIATES, PA
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AT THE SITE. FURTHERMORE THE CONTRACTOR SHALL REPORT ALL DISCREPANCIES OR QUESTIONS TO THE ENGINEER PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL PROVIDE ANY AND ALL LAYOUT REQUIRED TO CONSTRUCT HIS WORK UNLESS OTHERWISE DIRECTED BY OWNER.
- ALL SERVICE CONNECTIONS SHALL BE INSTALLED TO MEET ALL LOCAL, STATE, AND CPWA CODES. METERS, TAPS, MATERIALS, WORKMANSHIP AND ALL FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL COMPLY WITH ALL REQUIREMENTS.
- ALL BACKFILL FROM UTILITY INSTALLATION MUST BE COMPACTED OR AMENDED TO PROVIDE TRAFFIC BEARING CAPACITY. GEOTECHNICAL ENGINEER TO BE CONSULTED AT CONTRACTORS COST AS NECESSARY.
- ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO INSTALLATION. ALL AREAS SHALL BE SLOPED TO DRAIN AWAY FROM BUILDINGS AT ALL TIMES.
- CONCRETE FOR WALKS, CURBS AND DRIVES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS - AIR ENTRAINED.
- FIELD TESTING SHALL BE DONE BY AN INDEPENDENT TESTING LABORATORY PAID FOR BY THE OWNER. FURTHER TESTING REQUIRED DUE TO A FAILED TEST WILL BE PAID FOR BY THE CONTRACTOR.
- ALL SIDEWALKS SHALL BE FREE OF CRACKS, BREAKS, OR ANY OTHER DEFECT PRIOR TO RECEIVING A CERTIFICATE OF OCCUPANCY.



**REVISIONS**

NO.	DESCRIPTION

**INTRACOASTAL ENGINEERING, PLLC**  
5725 Oleander Dr. Unit E-7  
Wilmington, North Carolina 28403  
Phone: 910.859.8983  
Email: Charlie@intracoastalengineering.com  
License Number P-0662

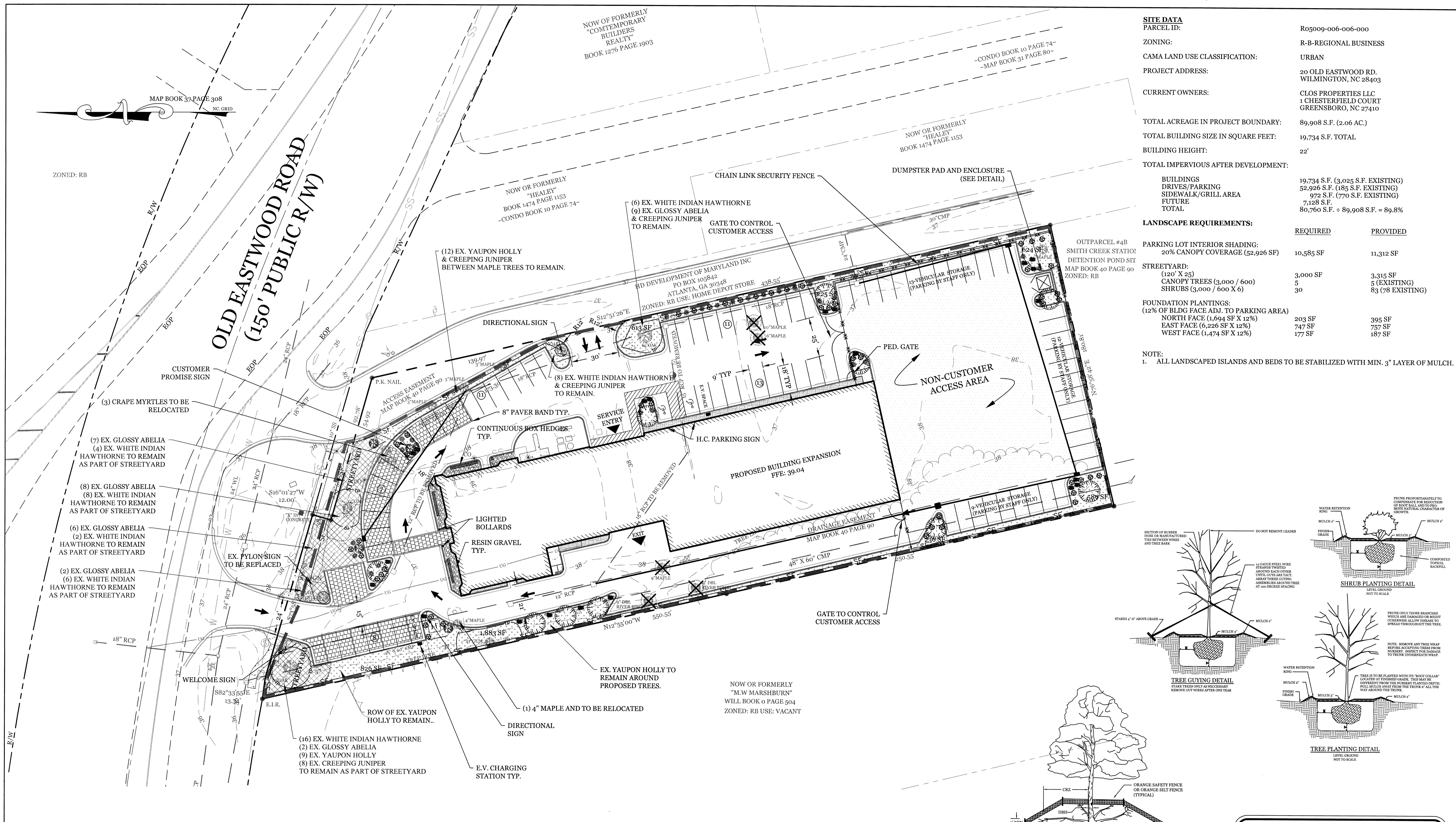
**SEDIMENTATION & EROSION CONTROL PLAN**  
FOR  
**LAND ROVER -JAGUAR**  
20 OLD EASTWOOD RD.  
WILMINGTON, NORTH CAROLINA

**CHARLES D. CAZIER**  
NORTH CAROLINA PROFESSIONAL ENGINEER  
032555  
3-21-17

**CLIENT INFORMATION:**  
CLOS PROPERTIES, LLC  
A.J. ALIAH  
20 EASTWOOD ROAD  
WILMINGTON, NC 28403  
(910) 332-3500

DRAWN: JAE SHEET SIZE: 24 X 36  
CHECKED: CDC DATE: 3/21/2017  
APPROVED: CDC SCALE: NTS  
PROJECT NUMBER: 2015-016

DRAWING NUMBER:  
**C-3**  
4 OF 5

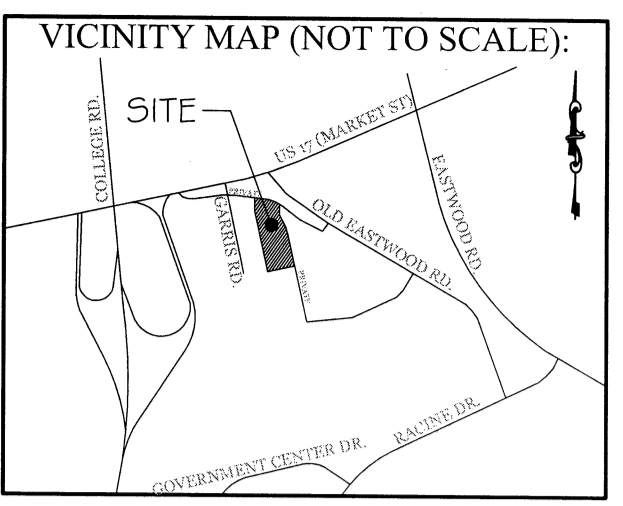


**SITE DATA**  
 PARCEL ID: R05009-006-006-000  
 ZONING: R-B-REGIONAL BUSINESS  
 CAMA LAND USE CLASSIFICATION: URBAN  
 PROJECT ADDRESS: 20 OLD EASTWOOD RD. WILMINGTON, NC 28403  
 CURRENT OWNERS: CLOS PROPERTIES LLC 1 CHESTERFIELD COURT GREENSBORO, NC 27410  
 TOTAL ACREAGE IN PROJECT BOUNDARY: 89,908 S.F. (2.06 AC.)  
 TOTAL BUILDING SIZE IN SQUARE FEET: 19,734 S.F. TOTAL  
 BUILDING HEIGHT: 22'  
 TOTAL IMPERVIOUS AFTER DEVELOPMENT:  
 BUILDINGS: 19,734 S.F. (3,025 S.F. EXISTING)  
 DRIVES/PARKING: 52,926 S.F. (185 S.F. EXISTING)  
 SIDEWALK/GRILL AREA: 972 S.F. (770 S.F. EXISTING)  
 FUTURE TOTAL: 71,288 S.F.  
 80,760 S.F. + 89,908 S.F. = 89,889

**LANDSCAPE REQUIREMENTS:**

	REQUIRED	PROVIDED
PARKING LOT INTERIOR SHADING: 20% CANOPY COVERAGE (52,926 SF)	10,585 SF	11,312 SF
STREETYARD: (120' X 25) CANOPY TREES (3,000 / 600) SHRUBS (3,000 / 600 X 6)	3,000 SF 5 30	3,315 SF 5 (EXISTING) 83 (78 EXISTING)
FOUNDATION PLANTINGS: (12% OF BLDG FACE ADJ. TO PARKING AREA) NORTH FACE (1,694 SF X 12%) EAST FACE (6,246 SF X 12%) WEST FACE (1,474 SF X 12%)	203 SF 747 SF 177 SF	395 SF 757 SF 187 SF

**NOTE:**  
 1. ALL LANDSCAPED ISLANDS AND BEDS TO BE STABILIZED WITH MIN. 3" LAYER OF MULCH.



**REVISIONS**

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**LANDSCAPE PLAN**  
 FOR  
**LAND ROVER -JAGUAR**  
 20 OLD EASTWOOD RD.  
 WILMINGTON, NORTH CAROLINA

**PROFESSIONAL SEAL**  
 NORTH CAROLINA  
 ENGINEER  
 032555  
 CHARLES D. CZAJA

*Charles D. Czaja*  
 3-21-17

**CLIENT INFORMATION:**  
 CLOS PROPERTIES, LLC  
 A.J. ALIAH  
 20 EASTWOOD ROAD  
 WILMINGTON, NC 28403  
 (910) 332-3500

DRAWN: JAE SHEET SIZE: 24 X 36  
 CHECKED: CDC DATE: 3/21/2017  
 APPROVED: CDC SCALE: 1" = 30'  
 PROJECT NUMBER: 2015-016

DRAWING NUMBER: **L-1**  
 5 OF 5

**PROPOSED LANDSCAPE PLANT LIST**

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	TYPE	SIZE
	10	LAGERSTROEMIA	CRAPE MYRTLE	LARGE SHADE TREE	2.5" CAL.
	49	RAPHIOLEPIS INDICA	WHITE INDIAN HAWTHORNE	SMALL SHRUB	1 GAL.
	25	ABELLA X GRANDIFLORA	GLOSSY ABELIA	SMALL SHRUB	1 GAL.
	21	JUNIPERUS HORIZONTALIS	CREeping JUNIPER	GROUND COVER	1 GAL.
	CONTINUOUS	BUXUS SEMPERVIRENS	BOXWOOD	SMALL SHRUB	1 GAL.

**Approved Construction Plan**

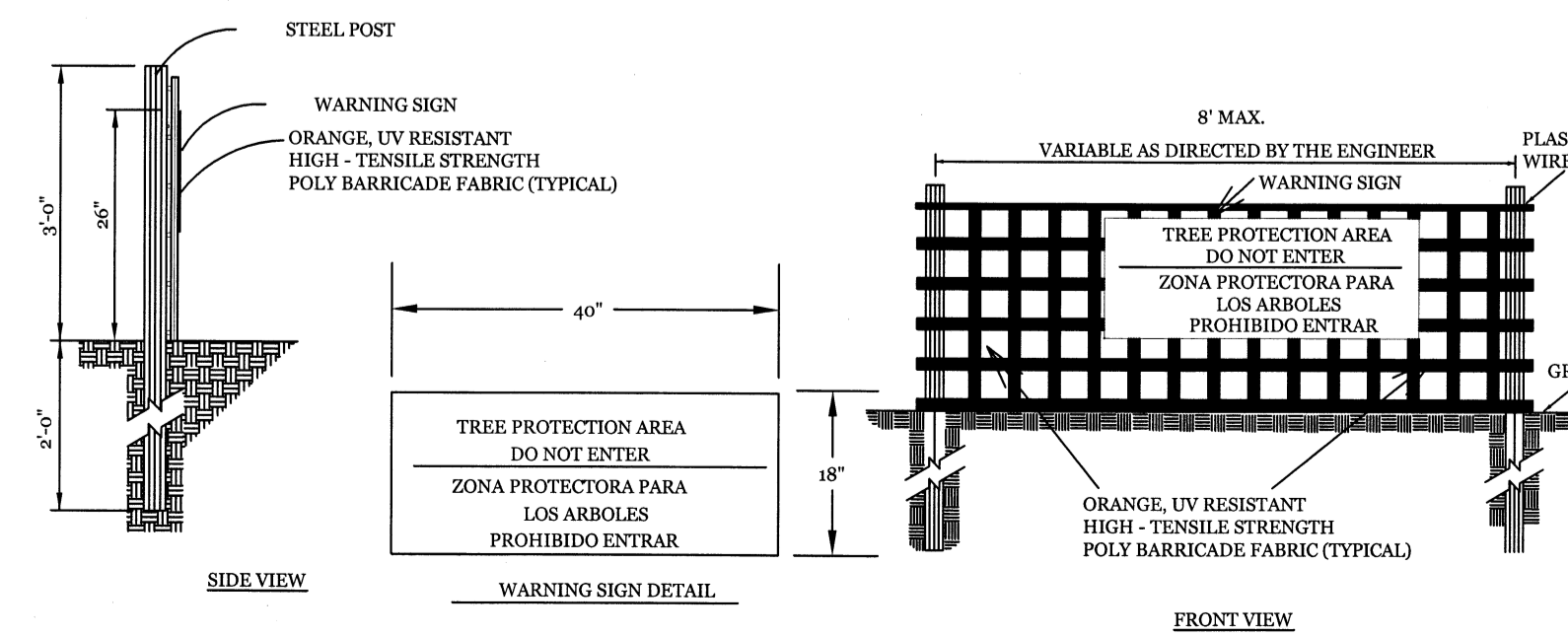
Name \_\_\_\_\_ Date \_\_\_\_\_

Planning \_\_\_\_\_

Public Utilities \_\_\_\_\_

Traffic \_\_\_\_\_

Fire \_\_\_\_\_



- 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 MANEUVER 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 2 YRS FOR TREE MITIGATION.
  7. THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS ARE FOUND. MOST TREE ROOTS ARE FOUND IN THE TOP 24" OF THE SOIL AND EXTEND THE MAJORITY OF NUTRIENTS AND WATER. GENERALLY, ROOTS SPREAD OUT 1/2 X THE HEIGHT OF THE TREE.
  8. CROWN OF THE TREE IS NEEDED FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DESTROY THE CROWN WITH INTENSIVE PRUNING.
- TREE PROTECTION DETAIL (SD 15-09)**  
 NOT TO SCALE
- 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.

**LEGEND**

- PROPERTY LINE
- EASEMENT
- SILT FENCE
- TP SF TP TREE PROTECTION FENCE
- EXISTING WATERLINE
- EXISTING SANITARY SEWER LINE
- LIMITS OF DISTURBANCE
- PARKING LOT LANDSCAPING
- FOUNDATION PLANTINGS
- RIKE RACK (4 SPACE EACH)
- DUMPSTER & ENCLOSURE
- NON-CUSTOMER ACCESS AREA
- EX. TREE TO BE REMOVED
- PAVERS
- EX. TREE RELOCATION

Scale: 1"=30'