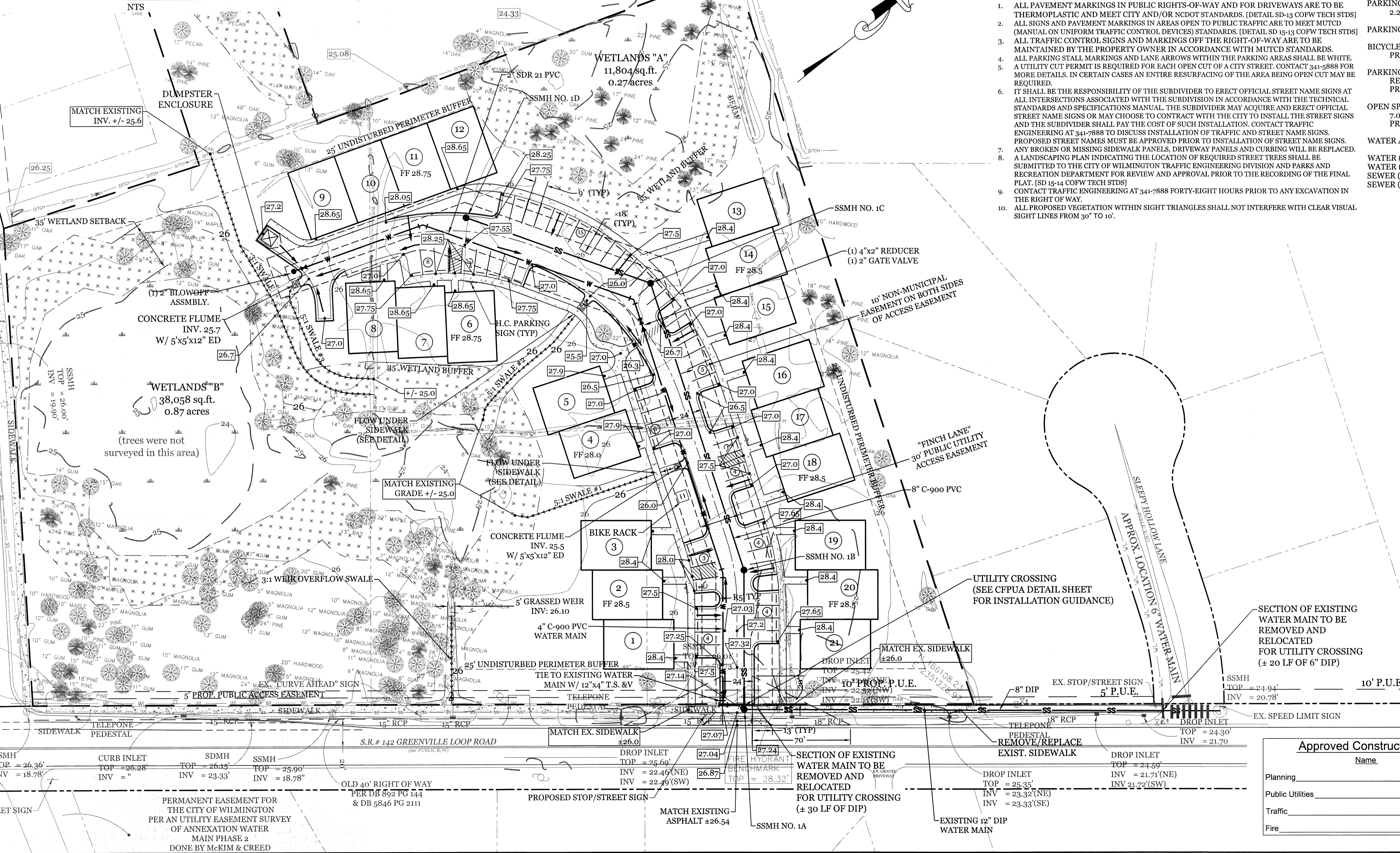


PROPOSED OPEN SPACE MAP



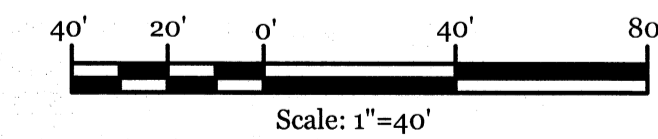
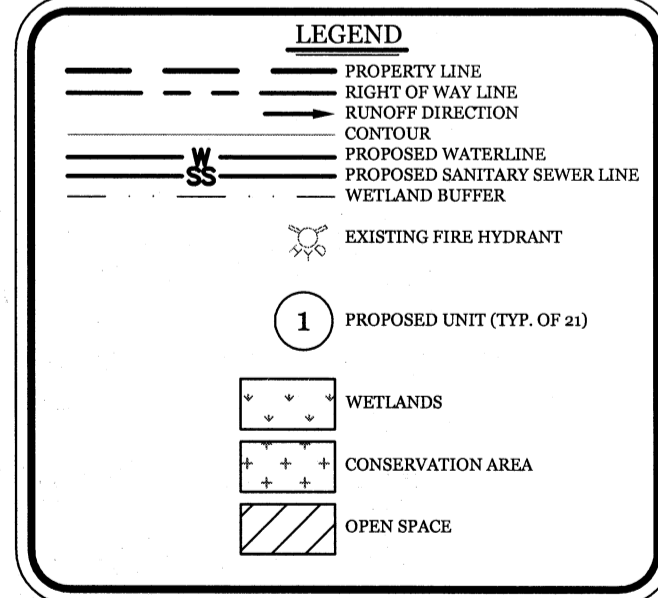
- DEVELOPMENT NOTES:**
- ALL DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE CITY OF WILMINGTON LAND DEVELOPMENT CODE.
 - PROJECT SHALL COMPLY WITH ALL FEDERAL, STATE & NEW HANOVER COUNTY REGULATIONS.
 - PROPOSED USE AT THIS TIME IS RESIDENTIAL.
 - CONSTRUCTION AND GRADING IS NOT TO DISTURB THE WETLAND RESOURCE.
 - CONTRACTOR TO PROVIDE A 5' PUBLIC ACCESS EASEMENT ALONG SITE FRONTAGE, AND BOND FOR FUTURE MULTI-USE PATH.
- SITE NOTES:**
- SURVEY DATA FROM BATEMAN CIVIL SURVEY COMPANY DATED 9/9/15.
 - SITE LOCATED IN FLOOD ZONE "X" PER FEMA FLOOD MAP# 3720315600J PANEL# 3156 DATED 4/3/2006.
 - IMPERVIOUS AREA FOR UNITS 9-21 TO BE ROUTED TO PARKING AREA.
- UTILITY NOTES:**
- EXISTING WATER AND SANITARY SEWER SERVICES ARE CURRENTLY AVAILABLE TO THE SITE FROM CAPE FEAR PUBLIC UTILITY AUTHORITY PUBLIC MAINS.
 - ALL PROPOSED UTILITY SERVICES, SUCH AS ELECTRIC POWER, CATV, GAS & TELEPHONE SHALL BE INSTALLED UNDERGROUND.
 - ALL WATER & SEWER UTILITIES TO BE INSTALLED PER CFPWA TECHNICAL SPECIFICATIONS & STANDARDS.
 - PROJECT SHALL COMPLY WITH CFPWA 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 CFPWA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USCFCOCHR 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 NC DENR, AND "FINAL ENGINEERING CERTIFICATION" ISSUED BY DIVISION OF WATER QUALITY SECTION OF NC DENR.
 - IF CONTRACTOR DESIRES CFPWA 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 PROJECT - 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 IS COW CURBSIDE PICKUP.
 - EXISTING WATER AND SEWER SERVICES TO BE ABANDONED PER CFPWA SPECIFICATIONS.
 - UNITS 9 AND 10 TO BE PROVIDED MAN HOLE TAPS WITH MIN. 5" BETWEEN EACH TAP.
- 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 COWF TECH STD)
 - 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 COWF TECH STD)
 - ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
 - ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE. A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. CONTACT 341-3888 FOR MORE DETAILS. IN CERTAIN CASES AN ENTIRE RESURFACING OF THE AREA BEING OPEN CUT MAY BE REQUIRED.
 - IT SHALL BE THE RESPONSIBILITY OF THE SUBDIVIDER TO ERECT OFFICIAL STREET NAME SIGNS AT ALL INTERSECTIONS ASSOCIATED WITH THE SUBDIVISION IN ACCORDANCE WITH THE TECHNICAL STANDARDS AND SPECIFICATIONS MANUAL. THE SUBDIVIDER MAY ACQUIRE AND ERECT OFFICIAL STREET NAME SIGNS OR MAY CHOOSE TO CONTRACT WITH THE CITY TO INSTALL THE STREET SIGNS AND THE SUBDIVIDER SHALL PAY THE COST OF SUCH INSTALLATION. CONTACT TRAFFIC ENGINEERING AT 341-7888 TO DISCUSS INSTALLATION OF TRAFFIC AND STREET NAME SIGNS.
 - PROPOSED STREET NAMES MUST BE PROVED PRIOR TO INSTALLATION OF STREET NAME SIGNS. 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 PLAN. (SD 15-14 COWF TECH STD)
 - 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'.

SITE DATA:

TOTAL SITE AREA:	± 7.06 AC	
PARCEL ID:	R06200-003-031-000 R06200-003-035-000 R06200-003-038-000 R06200-003-039-000 R06200-003-042-000	
CURRENT ZONING:	R-15 (CLUSTER SUBDIVISION)	
PROJECT ADDRESS:	6415 GREENVILLE LOOP RD. WILMINGTON, NC 28409	
CURRENT OWNER:	SKF ILM, LLC 5929 MARKET ST. WILMINGTON, NC 28405	
CAMA LAND USE CLASSIFICATION:	WATERSHED RESOURCE PROTECTION AREA	
NUMBER OF UNITS:	21 (3BR) UNITS	
BUILDING SIZE:	1,750 S.F.	
BUILDING HEIGHT:	35' MAX.	
BUILDING SETBACKS:	REQUIRED: 25' PERIMETER REQUIRED: 10' BETWEEN STRUCTURES	PROPOSED: 25' PROPOSED: 13.5' MIN.
BUILDING COVERAGE:	PROPOSED COVERAGE	36,750 S.F. ÷ 307,334 S.F. = 12.0%
TOTAL IMPERVIOUS BEFORE & AFTER DEVELOPMENT:	BEFORE DEVELOPMENT:	0 S.F.
AFTER DEVELOPMENT:	BUILDINGS CONCRETE ASPHALT FUTURE TOTAL	36,750 S.F. 7,033 S.F. 23,586 S.F. 6,391 S.F. 73,760 S.F. (24.0%)
OFFSITE IMPERVIOUS AREAS:	CONCRETE DRIVEWAY APRON	251 S.F.
PARKING REQUIRED:	2.25 SPACES / 3BR UNIT @ 21 UNITS =	48 SPACES (2 H.C.)
PARKING PROVIDED:		52 SPACES (3 H.C.)
BICYCLE PARKING REQUIRED:	(MIN. 5 PER 25-125 VEHICLE SPACES)	5 BICYCLE RACK SPACES
PARKING LOT INTERIOR LANDSCAPING:	REQUIRED PROVIDED	12,865 S.F. * 8% = 1,029 S.F. 1,082 S.F.
OPEN SPACE REQUIREMENT:	(40% of site area) 7.06 AC X 0.40 =	2.82 AC 3.10 AC
WATER AND SEWER CAPACITY NEEDS:		
WATER (CURRENT USE):		0 GPD
WATER (PROPOSED USE):		21 UNITS @ 400 GPD = 8,400 GPD
SEWER (CURRENT USE):		0 GPD
SEWER (PROPOSED USE):		21 UNITS @ 360 GPD = 7,560 GPD

CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD SEWER NOTES:

- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
- SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR OR MUST ORIGINATE IN MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
- ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50 D.I.P. WITH PROTECTIVE 401 CERAMIC EPOXY LINING.
- MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
- NO FLEXIBLE COUPLINGS SHALL BE USED.
- ALL STAINLESS STEEL FASTENERS SHALL BE 316.



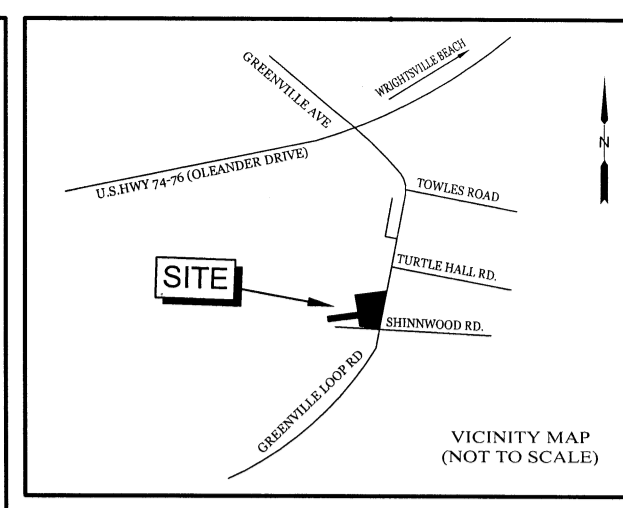
Approved Construction Plan

Name	Date
Planning	
Public Utilities	
Traffic	
Fire	

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

DRAWN:	BPD	SHEET SIZE:	24x36
CHECKED:	CDC	DATE:	8/4/2017
APPROVED:	CDC	SCALE:	1" = 40'
PROJECT NUMBER:	2016-039		

DRAWING NUMBER: **C-2**
2 OF 10



REVISIONS

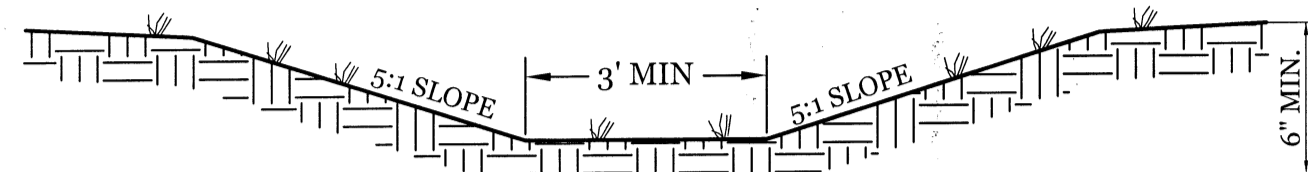
NO.	DATE	DESCRIPTION

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, UTILITIES AND STORMWATER MANAGEMENT PLAN FOR SHINWOOD COTTAGES WILMINGTON, NC

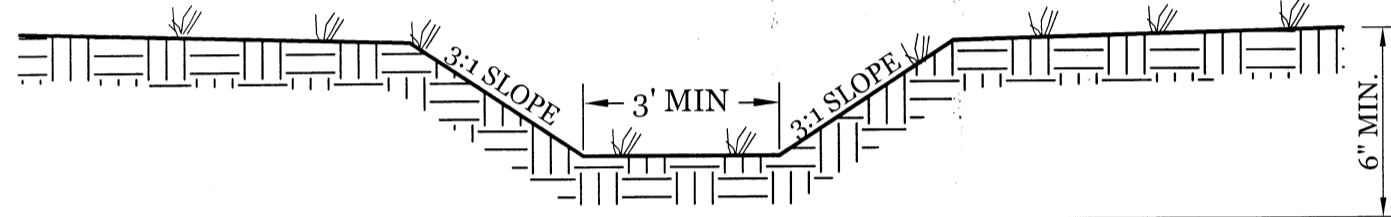
PROFESSIONAL SEAL
NORTH CAROLINA
SEAL
032555
ENGINEER
CHARLES D. CAZIER
8.4.17

CLIENT INFORMATION:
SKF ILM, LLC
5929 MARKET STREET
WILMINGTON, NC 28405
(910) 619-6858



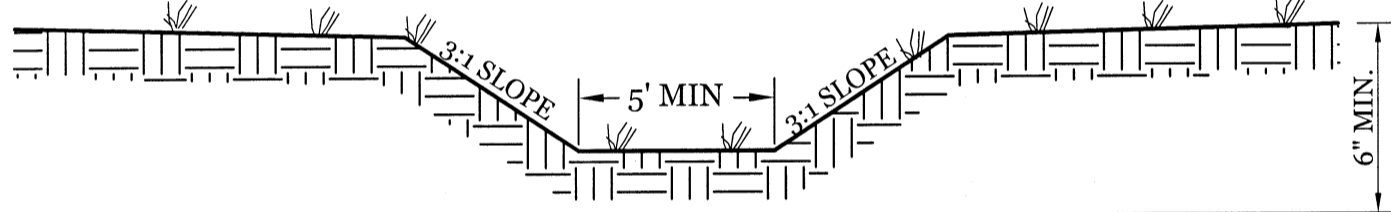
- NOTES:
- SWALES TO BE LINED WITH EXCELSIOR MAT & SEEDED IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO ANY RAIN EVENT.
 - 5:1 SWALES REQUIRED TO BE 100 L.F. MINIMUM.

TYPICAL 5:1 GRASSED SWALE
NTS



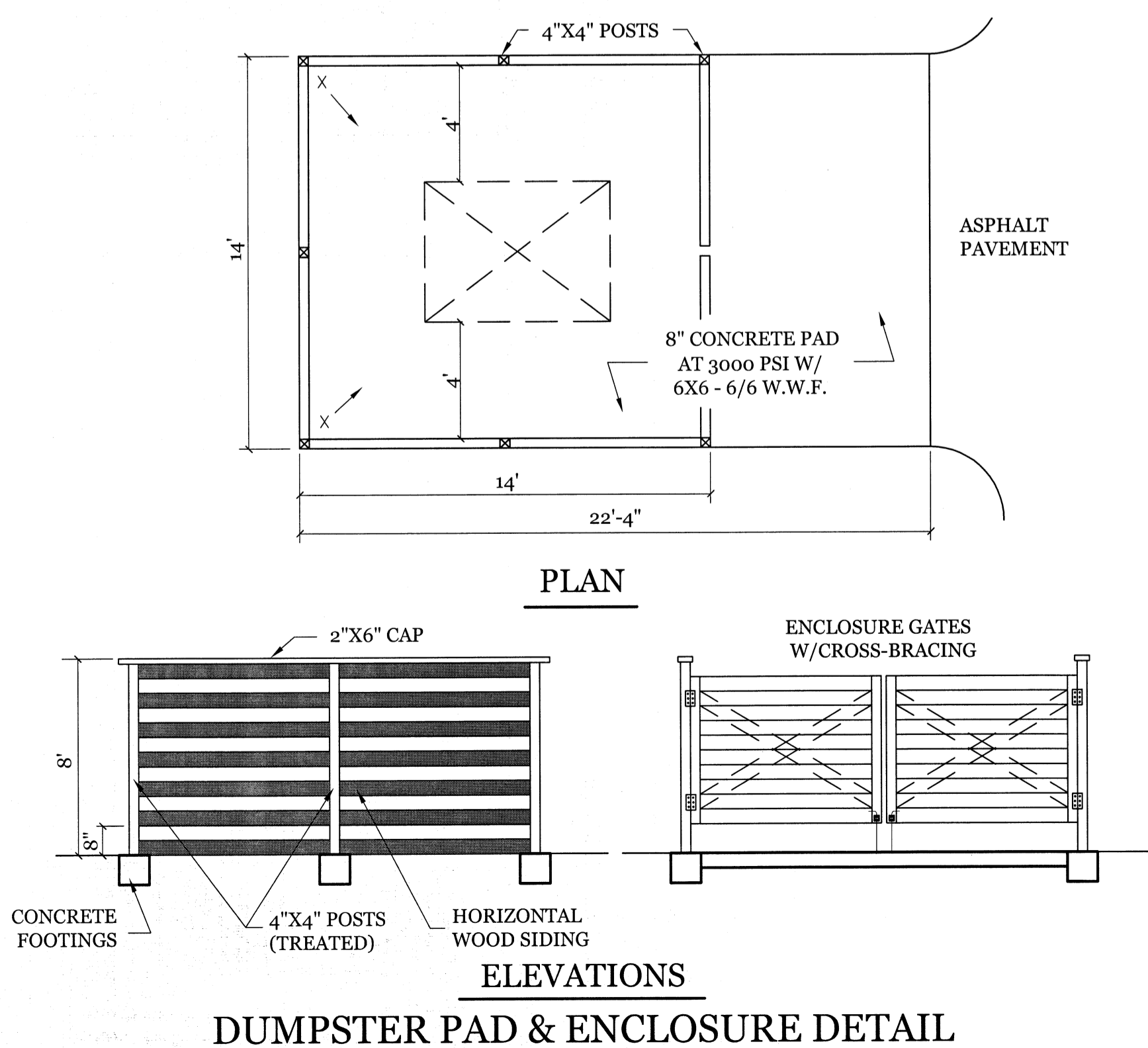
NOTE: SWALES TO BE LINED WITH EXCELSIOR MAT & SEEDED IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO ANY RAIN EVENT.

TYPICAL 3:1 GRASSED SWALE
NTS



NOTE: SWALES TO BE LINED WITH EXCELSIOR MAT & SEEDED IN ACCORDANCE WITH SPECIFICATIONS PRIOR TO ANY RAIN EVENT.

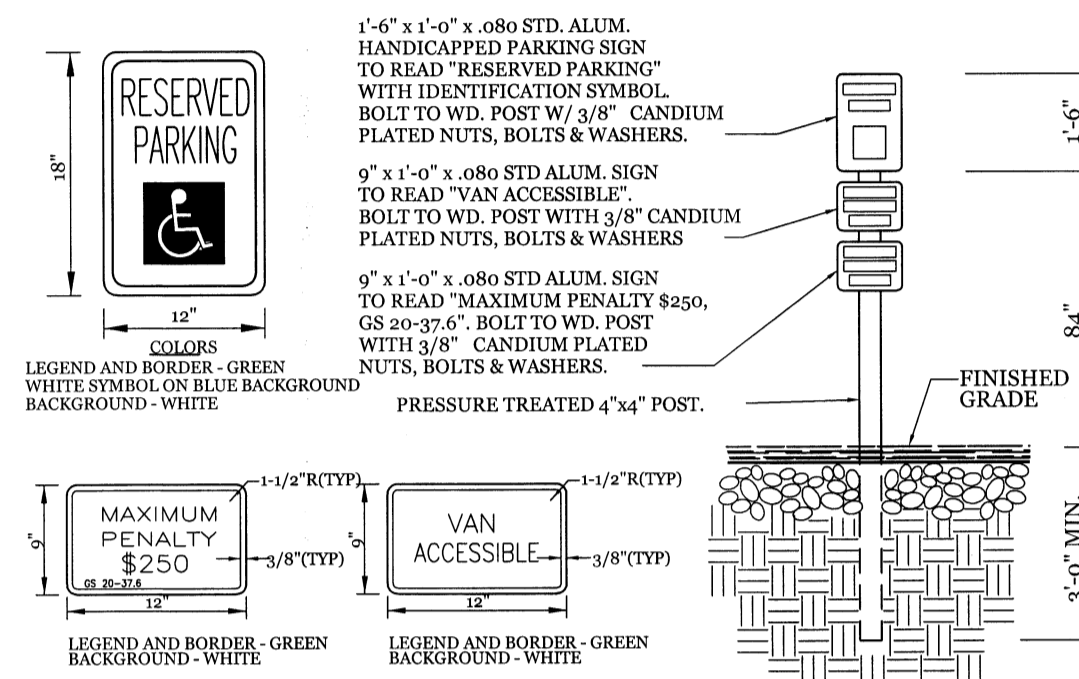
3:1 GRASSED WEIR OVERFLOW SWALE
NTS



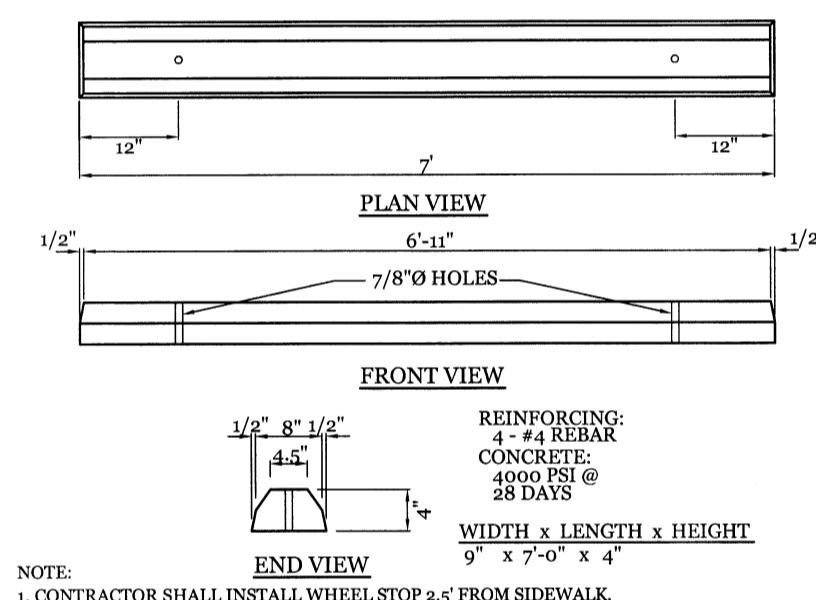
DUMPSTER PAD & ENCLOSURE DETAIL

SITE WORK NOTES:

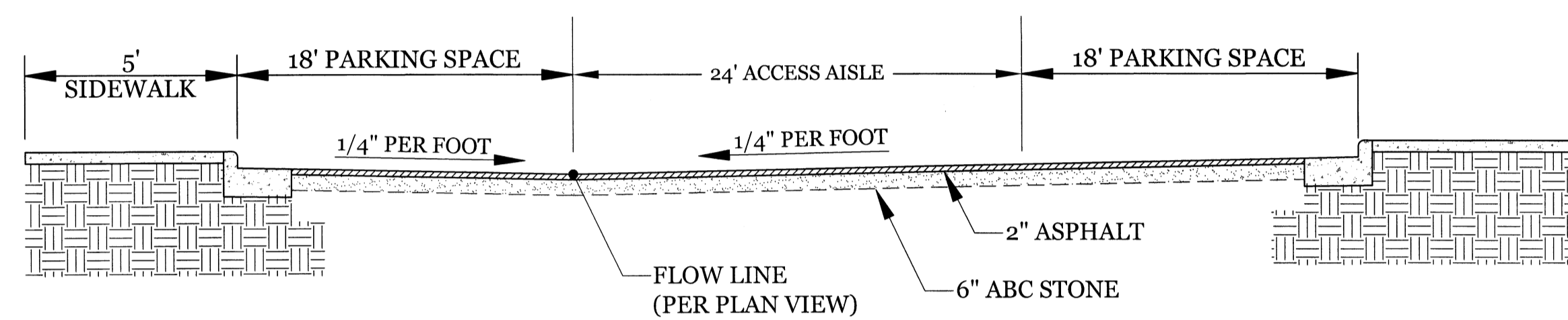
- THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS BOTH ON AND ADJACENT TO THE SITE.
- CLEARING: CONTRACTOR SHALL REMOVE ALL TREES AND VEGETATION WITHIN LIMITS OF CONSTRUCTION UNLESS OTHERWISE DESIGNATED TO REMAIN.
- GRUBBING AND STRIPPING: CONTRACTOR SHALL RAKE AND REMOVE 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 ARNOLD W. CARSON, PLS L-3267
- 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 CPFA 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.



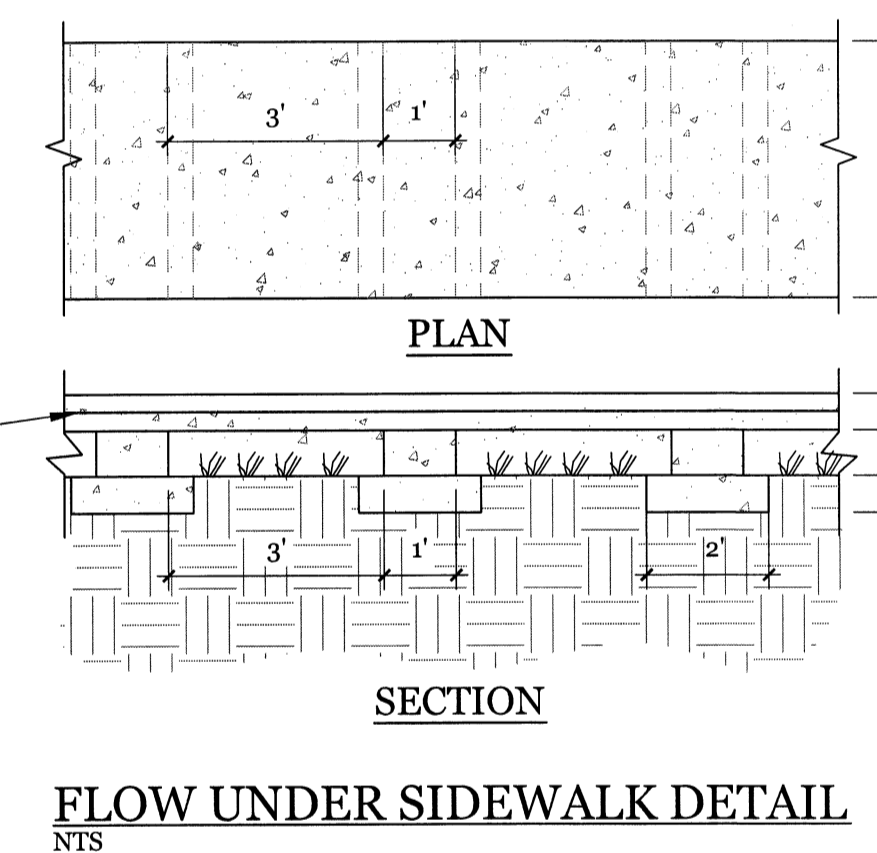
TYPICAL HANDICAPPED SIGN DETAIL
NTS



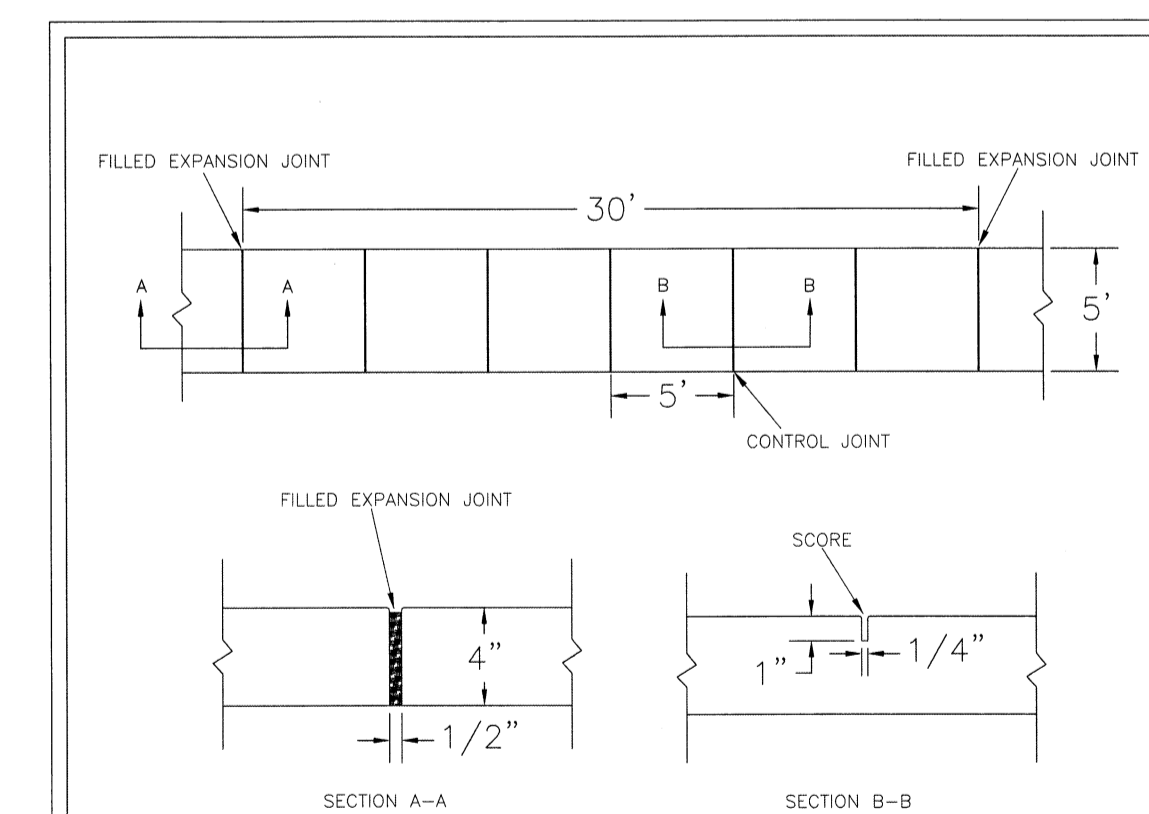
WHEEL STOP DETAIL
NTS



ACCESS DRIVE CROSS SECTION (SUPERELEVATED)
NTS

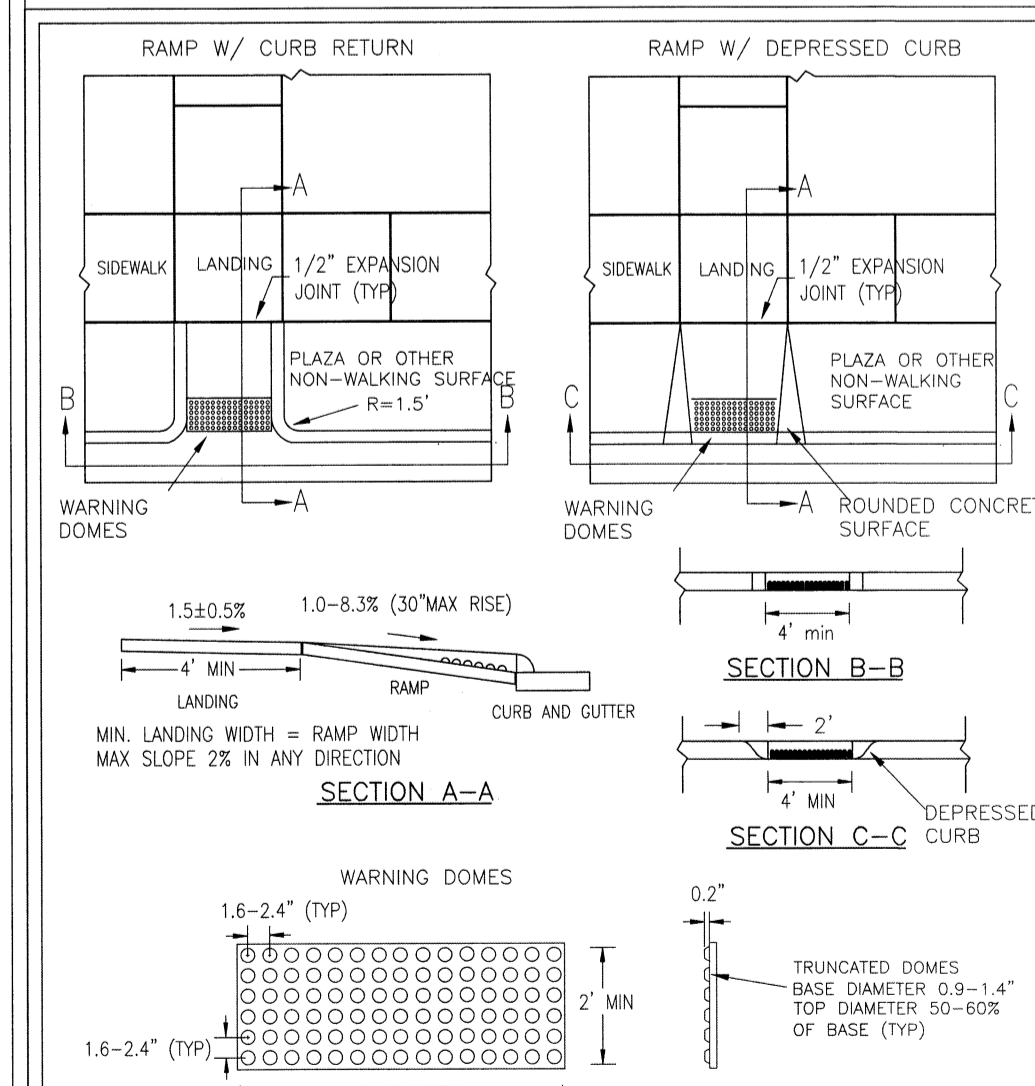


FLOW UNDER SIDEWALK DETAIL
NTS

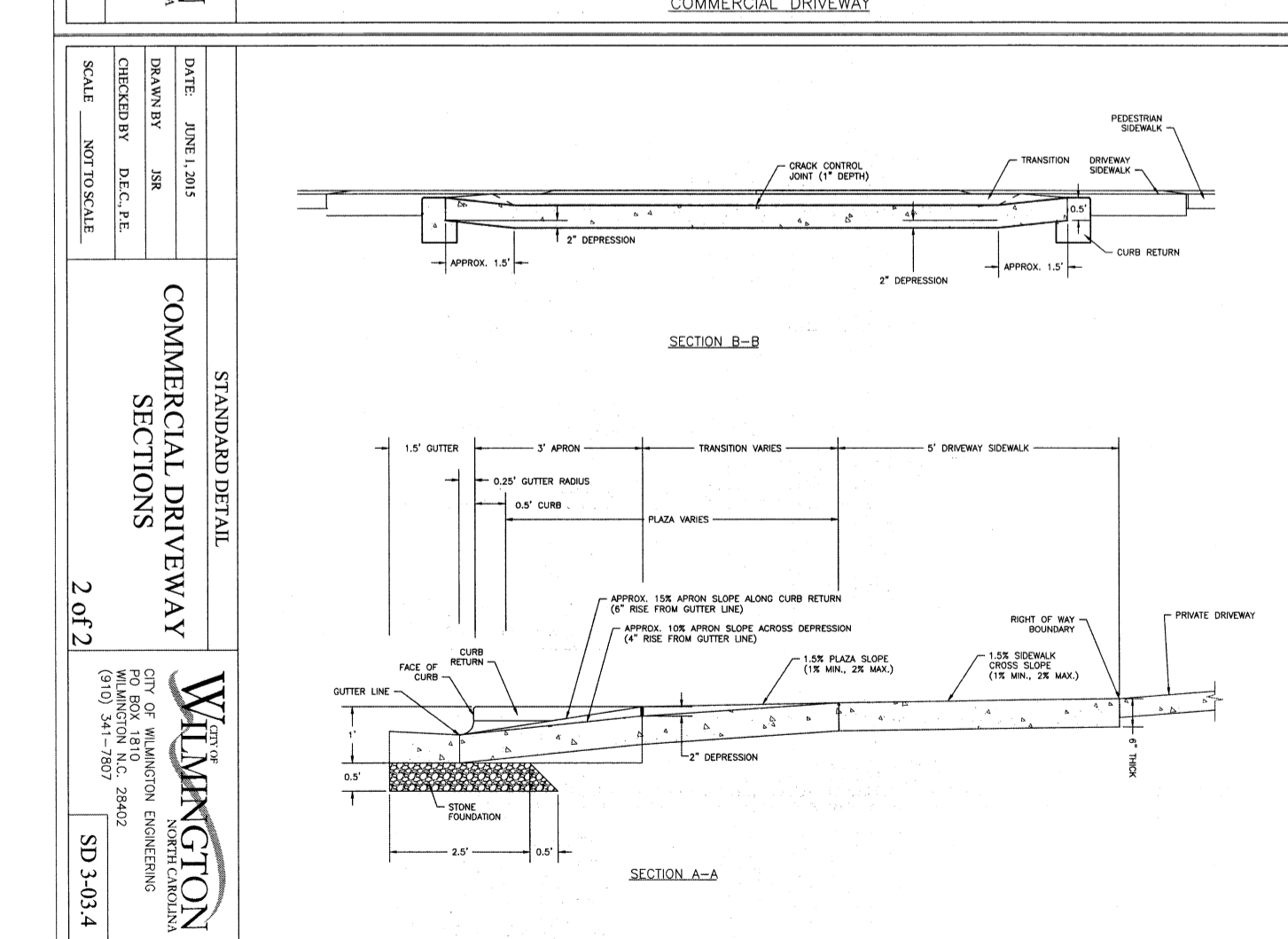
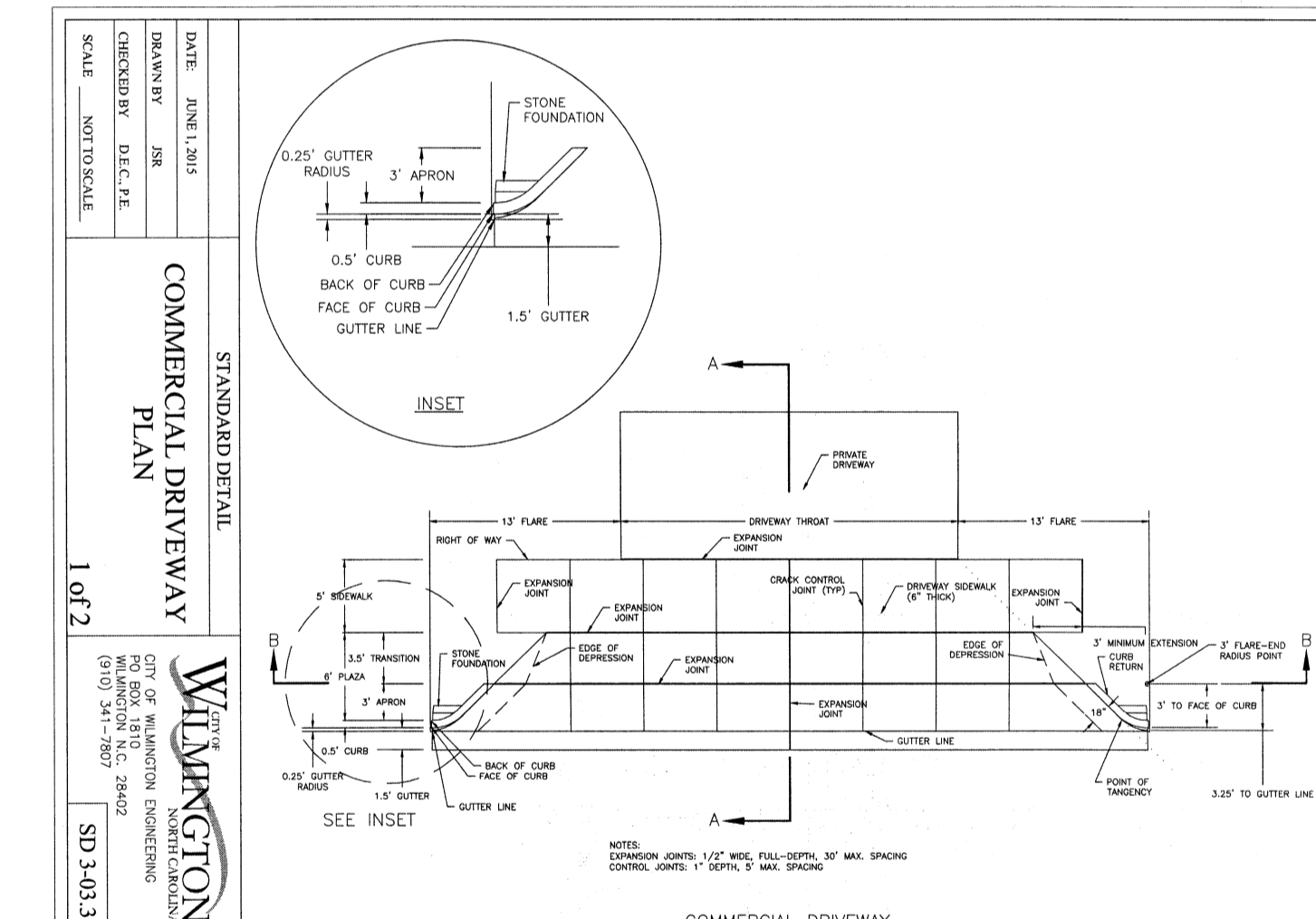


- NOTES:
- JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
 - SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
 - MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
 - CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" - 3,000 PSI.
 - MINIMUM REPLACEMENT FOR REPAIRS IS 4' X 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.

DATE: OCTOBER, 2010	CITY OF WILMINGTON
DRAWN: PBR	CITY OF WILMINGTON ENGINEERING
CHECKED: DEC	170 BOX 1810
SCALE: NOT TO SCALE	WILMINGTON, NC 28402
	(910) 341-7807
	SD 3-10



DATE: DECEMBER, 2010	CITY OF WILMINGTON
DRAWN: PBR	CITY OF WILMINGTON ENGINEERING
CHECKED: DEC	170 BOX 1810
SCALE: NOT TO SCALE	WILMINGTON, NC 28402
	(910) 341-7807
	SD3-08



DATE: DECEMBER, 2010	CITY OF WILMINGTON
DRAWN: PBR	CITY OF WILMINGTON ENGINEERING
CHECKED: DEC	170 BOX 1810
SCALE: NOT TO SCALE	WILMINGTON, NC 28402
	(910) 341-7807
	SD 3-03.3

Approved Construction Plan

Name: _____ Date: _____

Planning: _____

Public Utilities: _____

Traffic: _____

Fire: _____

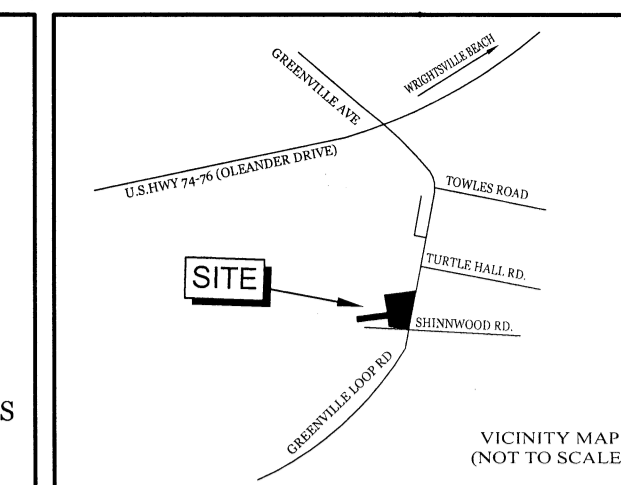
STORMWATER MANAGEMENT PLAN APPROVED

CITY OF WILMINGTON ENGINEERING DEPARTMENT

DATE: _____ PERMIT # _____

SIGNED: _____

DRAWN: BPD	SHEET SIZE: 24x36
CHECKED: CDC	DATE: 8/4/2017
APPROVED: CDC	SCALE: NTS
PROJECT NUMBER: 2016-039	
DRAWING NUMBER: C-5	



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

DETAILS FOR SHINWOOD COTTAGES WILMINGTON, NC

SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER

CHARLES D. SKYLER

032555

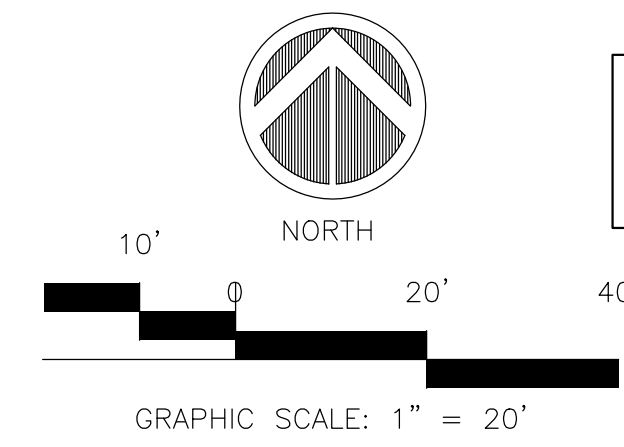
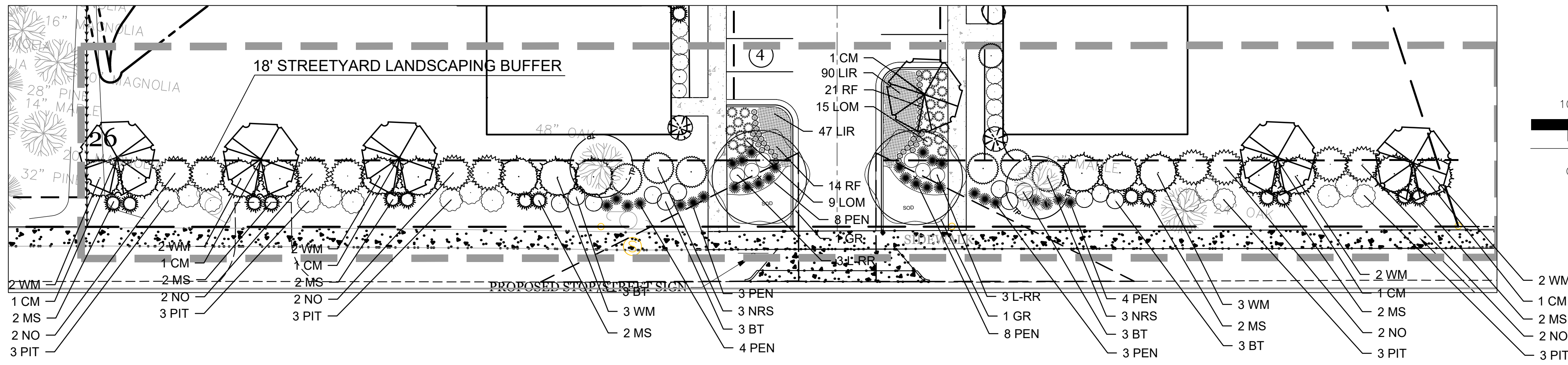
8-4-17

CLIENT INFORMATION:

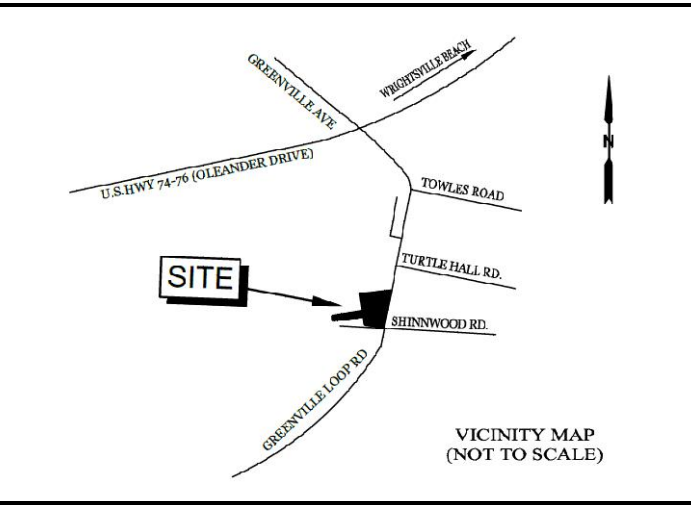
SKF ILM, LLC
5929 MARKET STREET
WILMINGTON, NC 28405
(910) 619-6858

DRAWING NUMBER: C-5

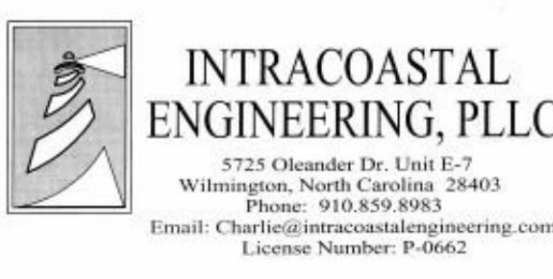
5 OF 10



NOT FOR CONSTRUCTION



LEGEND:
ENGINEER:



LANDSCAPE NOTES

- ALL LANDSCAPE MATERIAL MUST BE INSTALLED PRIOR TO FINAL BUILDING INSPECTION
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND/OR RELOCATION OF EXISTING UTILITIES IN COORDINATION WITH THE APPROPRIATE UTILITY AGENCY OR COMPANY.
- CONTRACTOR SHALL NOT SUBSTITUTE FOR ANY OF THE PLANT MATERIAL THAT IS SPECIFIED WITHOUT PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT.
- VERIFICATION OF TOTAL QUANTITIES AS SHOWN IN THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- MULCH UNDER ALL PROPOSED TREES AND SHRUBS WITH PINE NEEDLES AT A 3"-4" DEPTH OR APPROVED EQUAL.
- PLANT SIZES INDICATED SPECIFY MINIMUM ALLOWABLE SIZES AT PLANTING. WHERE CONTAINER AND HT. SIZES ARE INDICATED FOR A SINGLE SPECIES, BOTH SIZE REQUIREMENTS MUST BE MET.
- THERE SHALL BE AT LEAST A 3 FT. SEPARATION BETWEEN LANDSCAPED AREAS AND PARKING AREAS TO ALLOW VEHICLE OVERHANG WHEN PARKING STOPS ARE NOT REQUIRED.
- ALL PLANTINGS USED TO SCREEN THE DRIVES AND PARKING AREAS FROM ADJOINING ROADWAYS WILL NEED TO BE A MINIMUM OF 24" HIGH AT TIME OF PLANTING.
- ALL OTHER AREAS NOT BEING MULCHED TO BE SEEDED PER SEEDING SCHEDULE INCLUDED AS PART OF THE S&E PLANS.
- THE OWNERS OF THE PROPERTY AND THEIR AGENTS, HEIRS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE INSTALLATION, PRESERVATION AND MAINTENANCE OF ALL PLANTING AND PHYSICAL FEATURES SHOWN ON THIS PLAN. THE OWNERS SHALL BE RESPONSIBLE FOR ANNUAL MAINTENANCE OF THE VEGETATION TO INCLUDE BUT NOT BE LIMITED TO:
 - FERTILIZATION: TREES, SHRUBS AND GRASSED AREAS BROADCAST A SLOW RELEASE FERTILIZER OVER THE MULCHED BEDS AT THE RECOMMENDED RATES AS SHOWN ON THE BAGS, ONCE MID-FEBRUARY AND ONCE MID-SEPTEMBER. THOROUGH WATERING IS REQUIRED UPON COMPLETION.
 - PRUNING WITHIN LIMITS: PRUNING WHEN NECESSARY, WILL BE DONE TO MAINTAIN THEIR NORMAL GROWTH PATTERN AND TO REMOVE DEAD OR DISEASED PLANT MATERIAL. THERE SHALL BE NO TOPPING OF TREES.
 - PEST CONTROL (OPTIONAL): WEED CONTROL TO BE PROVIDED EARLY FEBRUARY, APRIL, JUNE, AUGUST AND OCTOBER IN THE SHRUB/TREE BEDS AND IN THE LAWN AREAS. INSECT DAMAGE SHALL BE TREATED WHEN NECESSARY TO PREVENT DAMAGE TO VEGETATION.
 - MULCHING: ALL AREAS AROUND THE BUILDING FOUNDATION AND SHRUB/TREE BEDS SHALL BE RE-MULCHED SO THAT THEY CONTAIN A MIN. DEPTH OF TWO INCHES AND A MAXIMUM DEPTH OF THREE INCHES. MULCH USED SHALL EQUAL WHICH WAS SUPPLIED DURING THE INSTALLATION OF THE PLANTS.
 - MOWING: MOWING SHALL BE DONE AS NECESSARY TO KEEP GRASS AT THE APPROPRIATE HEIGHT TO INSURE A HEALTHY GROWTH PATTERN.
 - PROTECTION OF ROOT ZONES: TREE/SHRUB ROOT ZONES SHOULD BE PROTECTED FROM FUTURE CONSTRUCTION AND EQUIPMENT AS MUCH AS POSSIBLE TO AVOID DAMAGE OR COMPACTION TO THE ROOT AREAS.
 - WATERING SCHEDULE FOR IRRIGATION SYSTEM: MAINTENANCE SHALL INCLUDE A THOROUGH INITIAL WATERING WITH WEEKLY WATERINGS THEREAFTER FOR THE FIRST 30 DAYS. WATERINGS THEREAFTER BE ON AN AS NEEDED SCHEDULE PER LOCAL CONDITIONS.
 - STAKE AT WIRE REMOVAL: AT THE END OF THE FIRST YEAR ALL PLANT STAKING AND GUYING SYSTEMS SHALL BE REMOVED.
 - PROTECTED TREE REGULATION: PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES AND NO CONSTRUCTION WORKERS, TOOLS, MATERIALS OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.

LANDSCAPE SCHEDULE

BOTANICAL NAME	COMMON NAME	CAL.	HT.	REMARKS	QUAN.	SYMBOL
LARGE SHADE TREES						
QUERCUS VIRGINIANA	LIVE OAK	25'		B&B	5	LO
PISTACIA CHINENSIS	CHINESE PISTACHE	25'		B&B	4	CP
KOELREUTERIA PANICULATA	GOLDEN RAIN TREE	25'		B&B	2	GR
QUERCUS PHELLOS	WILLOW OAK	25'		B&B	2	WO
SMALL SHADE TREES						
LAGERSTROEMIA INDICA X FAURIEI 'NATCHEZ'	'NATCHEZ' CRAPE MYRTLE	8-10'		B&B	8	CM
CORNUS KOUSA	KOUSA DOGWOOD	5-7'		B&B	4	DW
SHRUBS						
OSMANTHUS FRAGRANS	FRAGRANT TEA OLIVE				7 GAL.	15 TO
LOROPETALUM CHINENSE VAR. RUBRUM 'RUBY'	RUBY RED LORAPETALUM				3 GAL.	33 L-RR
LIGUSTRUM JAPONICUM 'RECURVIFOLIUM'	LIGUSTRUM RECURVIFOLIUM				5 GAL.	8 LR
ILEX CORNUTA 'CARISSA'	CARISSA HOLLY				3 GAL.	41 CH
ILEX 'CONAF' OAKLEAF	OAKLEAF HOLLY				25 GAL.	11 OH
PENNISETUM ALOPECUROIDES 'HAMELN'	DWARF FOUNTAIN GRASS				1 GAL.	48 DFG
MISCANTHUS SINENSIS 'ADAGIO'	ADAGIO MAIDEN GRASS				3 GAL.	21 MS
BERBERIS THUNBERGII 'CRIMSON PYGMY' ('ATROPURPUREA NANA')	CRIMSON PYGMY DWARF BARBERRY				3 GAL.	12 BAR
LOMANDRA LONGIFOLIA 'KATRINUS DELUXE' TM	LOMANDRA 'KATRINUS DELUXE' TM				1 GAL.	42 LOM
MYRTICA CERIFERA	WAX MYRTLE				7 GAL.	19 WM
ILEX X 'NELLIE R. STEVENS'	NELLIE R. STEVENS HOLLY				15 GAL.	14 NRS
NERIUM OLEANDER 'PINK'	PINK OLEANDER				7 GAL.	10 NO
PITTIOSPORUM TOBIRA 'COMPACTA'	PITTIOSPORUM COMPACTA				7 GAL.	28 PIT
GROUND COVER						
LIRIOPE MUSCARI 'VARIEGATA'	VARIEGATED LIRIOPE	1 QT.	18" O.C.		138	
RUBBEKIA FULGIDA	ORANGE CONEFLOWER	1 QT.	24" O.C.		37	
SOD						
	EMPIRE ZOYSIA					

LANDSCAPING PARKING ISLANDS

ISLAND	AREA (SF)	REQUIRED TREES	PROVIDED	SHADE PROVIDED
1	427	1 canopy	1 canopy/ 1 small shade	1,021 SF
2	248	1 small shade	1 canopy	707 SF
3	411	1 small shade	1 canopy	707 SF
4	1,273	3 canopy	3 canopy	2,121 SF
5	498	1 canopy	1 canopy	707 SF
6	344	1 small shade	1 canopy	707 SF
7	221	1 small shade	1 canopy	707 SF
8	616	1 canopy	1 canopy, 1 small shade	1,021 SF
9	711	1 canopy, 1 small shade	1 canopy/ 1 small shade	1,021 SF

PARKING LOT LANDSCAPE NOTES:
Section 18-481 (a) All single planting islands measuring twelve (12) feet by eighteen (18) feet or 216 SF shall have at least one (1) tree. All double planting islands measuring twelve (12) feet by thirty-six (36) feet or 432 SF shall have at least two (2) small mature shade trees or one canopy tree.

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

Approved Construction Plan

Name _____ Date _____

Planning _____

Traffic _____

Fire _____

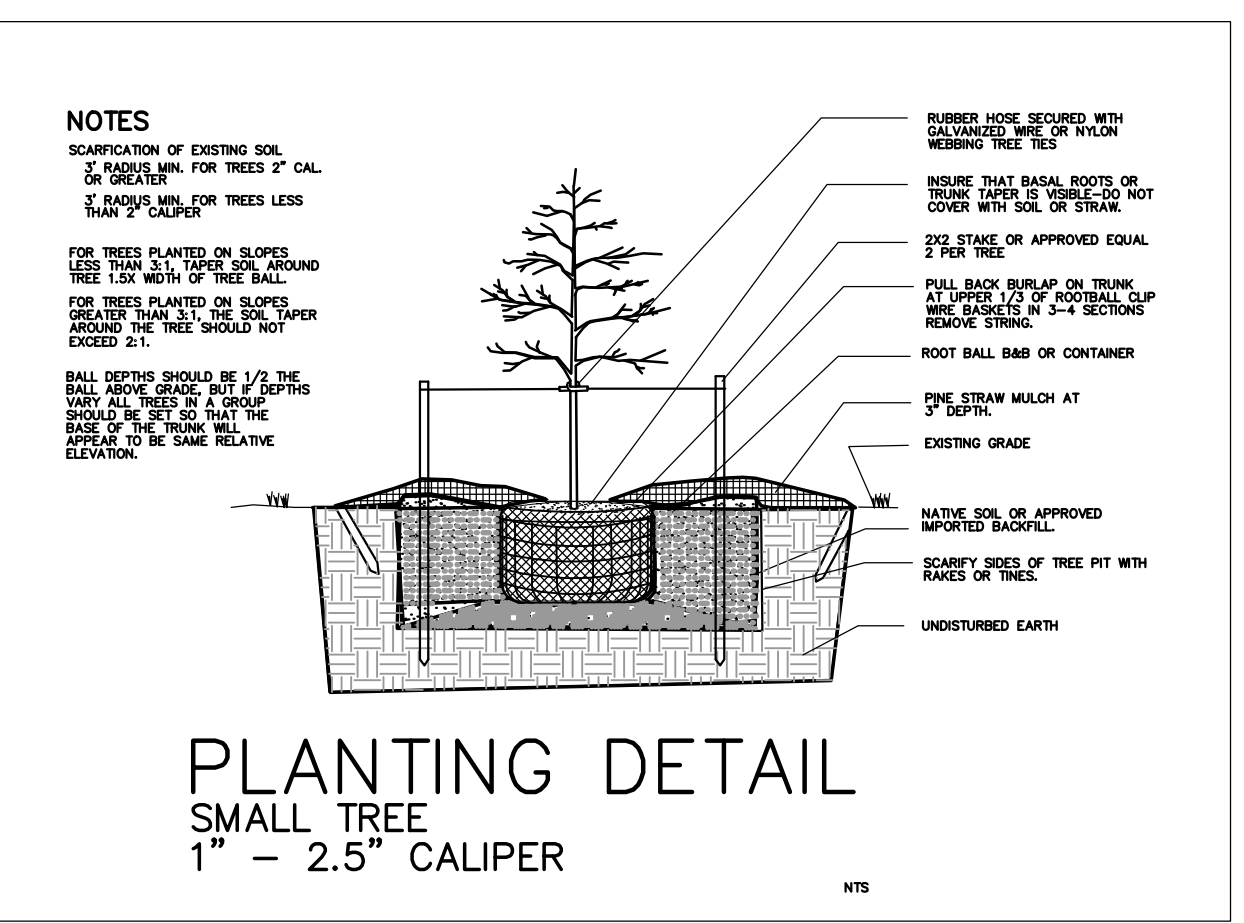
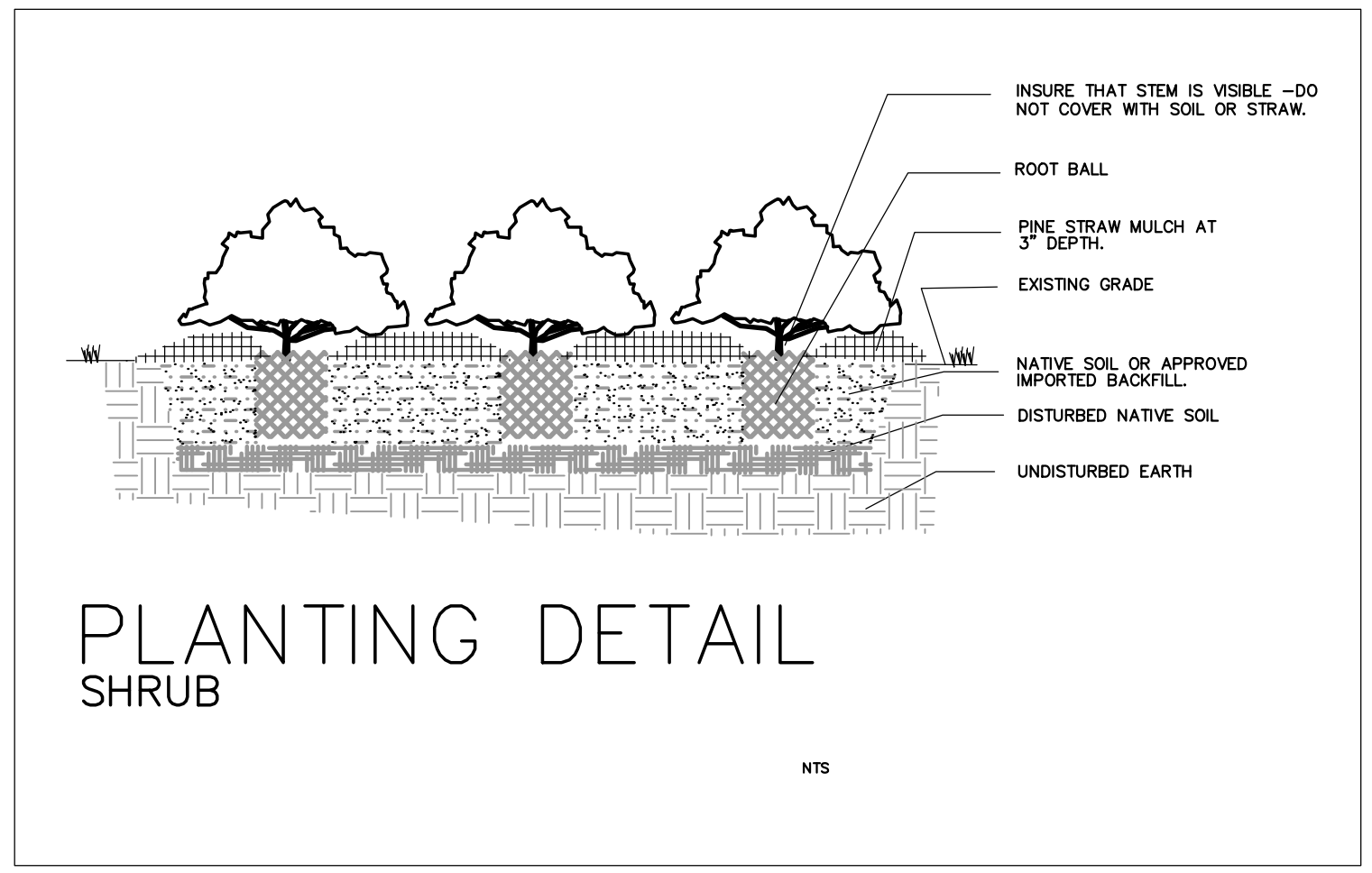
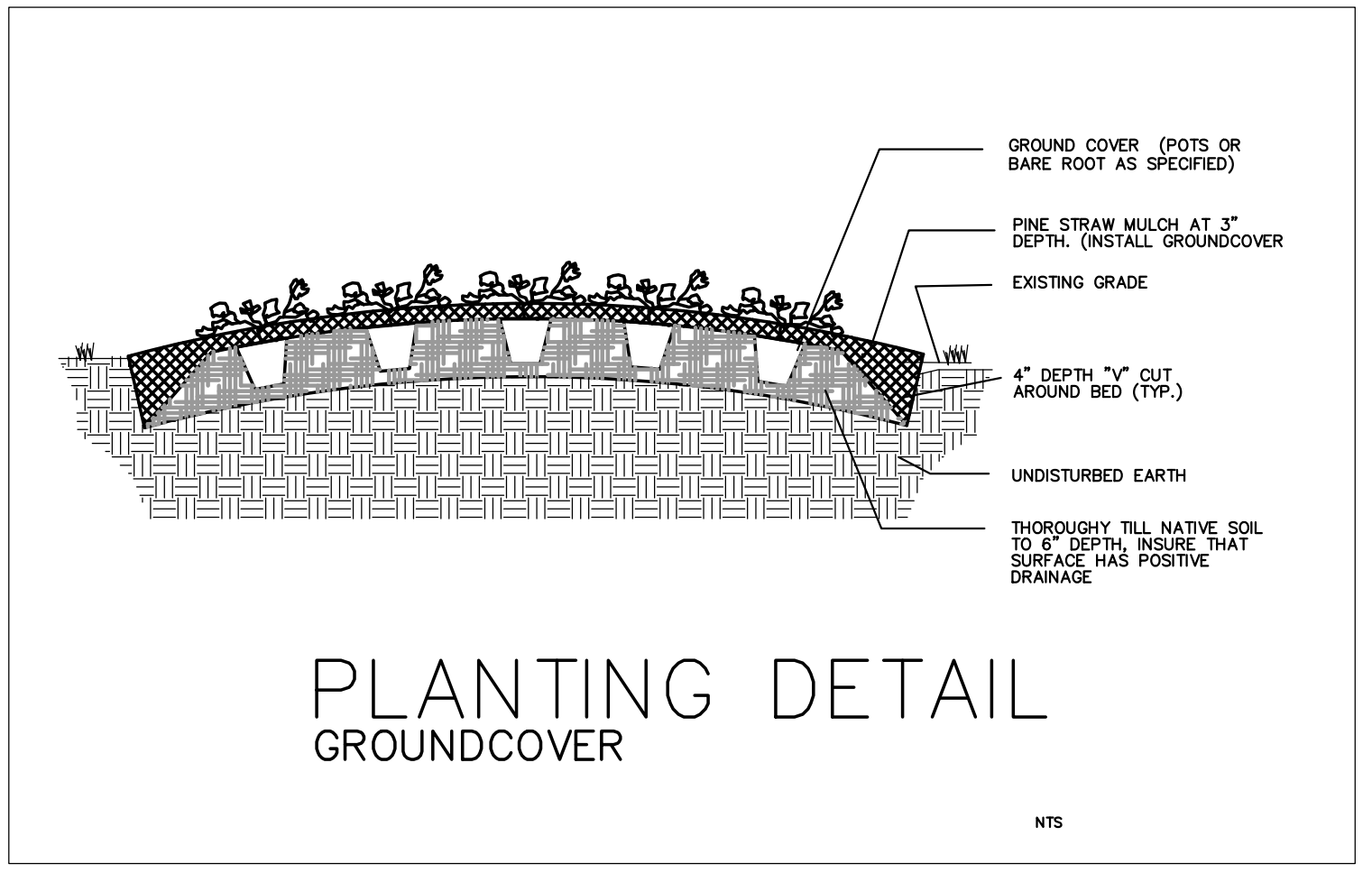
City of WILMINGTON NORTH CAROLINA

Public Services Engineering Division

APPROVED STORMWATER MANAGEMENT PLAN

Date: _____ Permit # _____

Signed: _____



STREET YARD CALCULATIONS

STREET YARD (S.Y.) = 670 LF - 30 LF (DRIVEWAY) = 640 LF
 REQUIRED S.Y. AREA = 7,680 [640 LF x 12 (MULTIPLIER)]
 PROVIDED S.Y. AREA = 8,548
 REQUIRED TREES @ 1/600 SF = 13 TREES
 PROPOSED TREES = 7 NEW TREES + (CREDIT 6 EX. CANOPY TREES)
 REQUIRED SHRUBS @ 6/600 SF = 77 SHRUBS
 PROPOSED SHRUBS = 91
 ALL PROPOSED VEGETATION WITHIN SITE TRIANGLES SHALL NOT INTERFERE WITH CLEAR VISUAL SIGHT LINES FROM 30' - 10' [SEC.18-566 COW]

PARKING INTERIOR AREA CALCULATIONS

8% OF TOTAL PARKING AREA
 PARKING LOT AREA = 23,586 SF
 REQUIRED VEGETATED AREA = 1,886 SF
 PROPOSED VEGETATED AREA = 5,606 SF

PARKING AREA SCREENING

PARKING WITHIN 50' OF A R.O.W. REQUIRES A LOW SCREEN MIN. 3' HIGH AND 5' WIDE

PARKING AREA SHADING

20% SHADE REQ'D AT MATURITY
 PARKING LOT AREA = 23,586 SF
 SHADING AREA REQ'D = 4,717 SF
 SHADING AREA PROVIDED = 8,719 SF (SEE PARKING ISLAND TABLE)

FOUNDATION PLANTING AREAS

REQUIREMENT: FACADE AREA X 12%
 BUILDING HEIGHT = 25 FT
 BUILDING WIDTH (LF) = 567 LF
 REQ'D FOUNDATION LANDSCAPING = 1,701 SF
 PROVIDED = 2,687 SF

Proposed Significant Trees to be Removed

Tree Name	# of Trees	DBH	% Mitigation	Total DBH
Magnolia	1	8"	100	16
Magnolia	1	12"	100	24
Loblolly Pine	1	33"	50	33
Maple	1	24"	25	12
Total DBH of Removed Significant Trees =				85"
Total Trees Req. for Mitigation =				3
Total DBH X 2X mitigation % =				28

Sec. 18-460 Mitigation: Significant trees. The total number of replacement trees shall be determined by multiplying the total DBH of the removed significant trees by two (2) times the percentage for the type of tree in Table IV and dividing by three

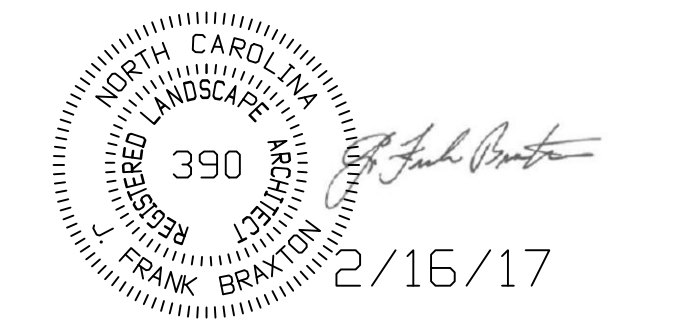
Credit for Preserved Trees (Sec. 18-448 Table 1)

# of Preserved Trees	Size (DBH)	Credit Given	Resulting Credit
5	2-5"	1	5
51	6-11"	2	102
62	12-17"	3	186
14	18-23"	4	56
18	>24"	= (DBH/6)	84
Total resulting Credit for 150 Preserved Trees =			433

Sec. 18-460 Mitigation: Regulated trees. The total number of replacement trees shall be determined for regulated trees removed by multiplying the total DBH of the removed regulated tree(s) by the percentage for the type of tree in Table IV and dividing by three (3).

Sec. 18-461 Exceptions to Mitigation: (b) Regulated trees removed within the area of disturbance necessary for essential site improvements are exempt from mitigation, provided the applicant has designed around trees in order to retain as many trees as practicable.

CLIENT INFO:
 SKF ILM, LLC
 5929 MARKET ST.
 WILMINGTON, NC 28405
 (910)-619-6858



* FOR LANDSCAPE ONLY

LANDSCAPE ARCHITECT:
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 Civil Engineering / Landscape Architecture
 Land Planning / Construction Management
 NCBELS Firm License No: P-0369
 P.O. Box 1172, Wilmington, NC 28402 www.cldsg.com Phone: 910-254-9333 Fax: 910-254-0502

DRAWN : N ALLEN PROJECT
 DESIGN : J CARMINE NUMBER :
 CHECK : F BRAXTON SCALE : 1"=20'
 APPROVED : J PETROFF DATE : 10 AUGUST 2017
 FILE NAME :

SHINWOOD COTTAGES

LANDSCAPE PLAN/ DETAILS

JOB NUMBER SHEET NUMBER
 L-2