

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

Approved Construction Plan		
Name	Date	
Planning		
Public Utilities		
Traffic		
Fire		

SITE DATA
 PARCEL ID: R07200-003-001-000
 CURRENT ZONING: R-15
 CAMA LAND USE CLASSIFICATION: WATERSHED RESOURCE PROTECTION
 PROJECT ADDRESS: 7326 MASONBORO SOUND RD. WILMINGTON, NC 28409
 CURRENT OWNER: HANOVER PARTNERS, LLC PO BOX 1377 WRIGHTSVILLE BEACH, NC 28480

TOTAL ACREAGE IN PROJECT BOUNDARY: 208,233.47 S.F. (4.78 AC.)
 TOTAL DISTURBED AREA: 2.9 AC.
 BUILDING HEIGHT: 35' MAX

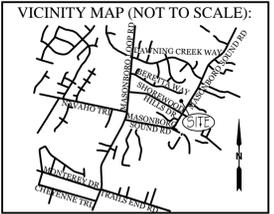
BUILDING SETBACKS:
 FRONT: REQUIRED= 30'
 SIDE: REQUIRED= 10' (15' CORNER LOT)
 REAR: REQUIRED= 25'

ON-SITE IMPERVIOUS AREAS:
 CONCRETE SIDEWALKS & CURBING: 7,605 S.F.
 ASPHALT ROAD: 19,662 S.F.
 LOTS: 32,000 S.F. (4,000 S.F./LOT)
 FUTURE OPEN SPACE IMPROVEMENTS: 2,000 S.F.
 TOTAL: 61,267 S.F. ± 208,233 S.F. = 29.4%

OFFSITE IMPERVIOUS AREAS:
 ASPHALT ROAD: 851 S.F.
 CONCRETE SIDEWALK: 979 S.F.
 TOTAL: 1,830 S.F.

OPEN SPACE REQUIREMENT: (0.03 AC. per dwelling unit)
 0.24 AC (Min 50% active open space)
 PROVIDED: 0.35 AC (0.12 AC ACTIVE OPEN SPACE)

NOTE:
 ALL IMPERVIOUS AREA TO BE ROUTED TO STORMWATER POND. LOTS TO BE GRADED FROM BACK TO FRONT TOWARDS CORDGRASS LN. MINIMUM FINISHED FLOOR GRADE FOR ANY LOT 26.7.



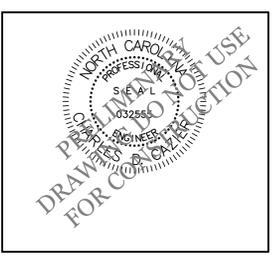
REVISIONS

REV.	DATE	DESCRIPTION
REV. 8-5-16:		ADDED STORMWATER INFORMATION
REV. 8-22-16:		REVISED OPEN SPACE AREAS

INTRACOASTAL ENGINEERING, PLLC

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

SITE, GRADING, DRAINAGE, UTILITY, AND STORMWATER PLAN
 FOR
MASONBORO TRACE
 WILMINGTON, NC



CLIENT INFORMATION:
 HANOVER PARTNERS, LLC
 PO BOX 1377
 WRIGHTSVILLE BEACH, NC 28480
 PH. 910-332-8528

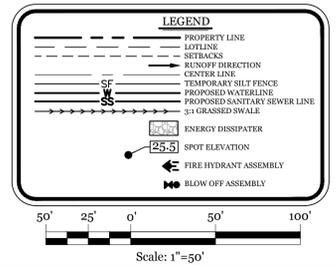
DRAWN:	JAE	SHEET SIZE:	24x36
CHECKED:	CDC	DATE:	7/6/2016
APPROVED:	CDC	SCALE:	1" = 50'
PROJECT NUMBER:	2015-052		

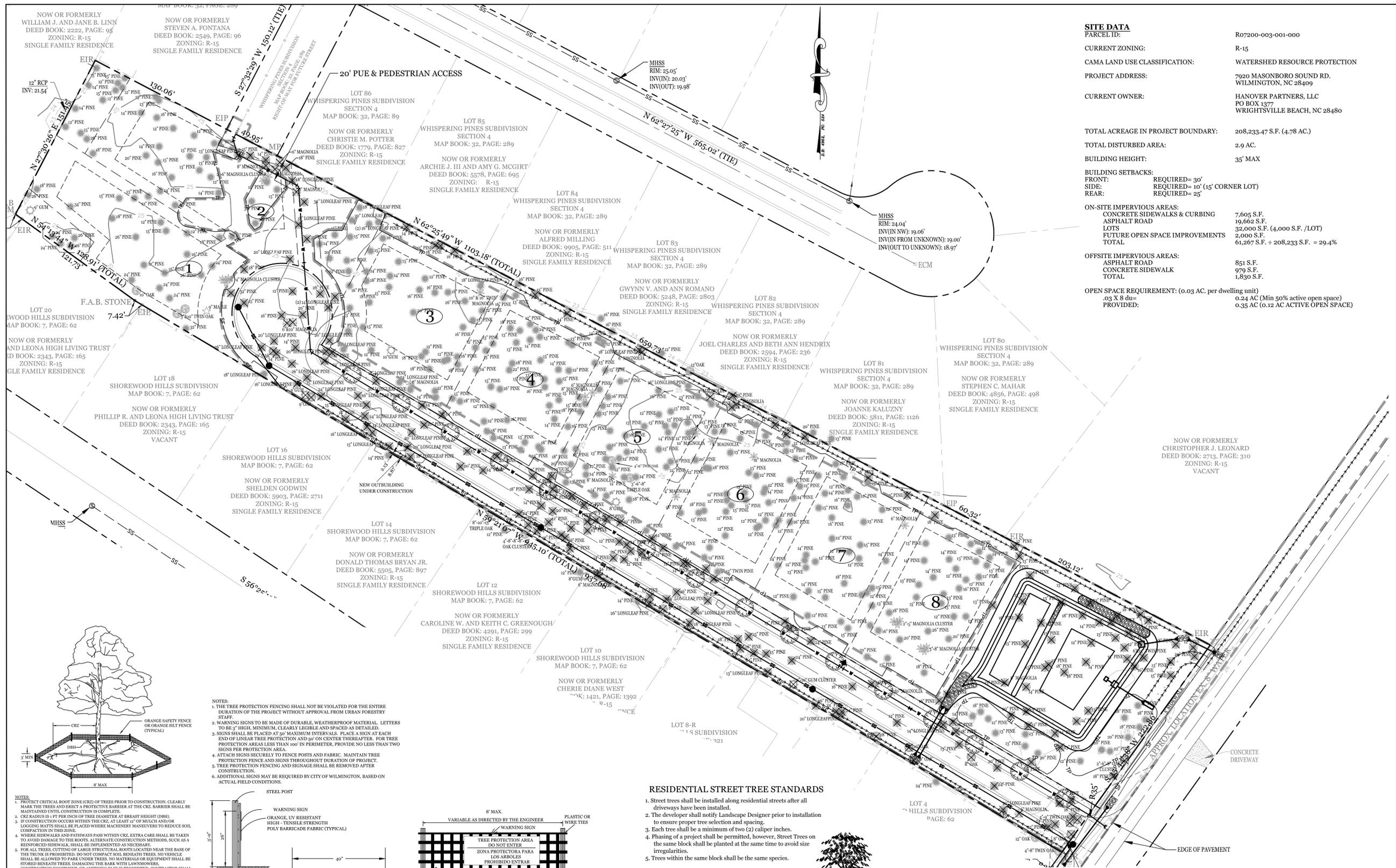
DRAWING NUMBER: **C-1**
 1 OF 11

- 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 METERS(S) CANNOT BE RELEASED UNTIL ALL REQUIREMENTS ARE MET AND N.C.D.E.R. HAS ISSUED THEIR "FINAL APPROVAL". CALL 332-6558 FOR INFORMATION.
 - ANY BACKFLOW PREVENTION DEVICES REQUIRED BY THE CFPWA WILL NEED TO BE ON THE LIST OF APPROVED DEVICES BY USPCCHOR 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 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.
 - SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT ALL 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 PROTECTO 401 CERAMIC EPXY LINING.
 - MINIMUM 6" 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.
 - THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF 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 IS COW CURBSIDE PICKUP.
 - ALL IMPERVIOUS AREAS TO BE ROUTED TO STORMWATER WET DETENTION FACILITY.

- 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 COFV 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 COFV TECH STDS]
 - A UTILITY CUT PERMIT IS REQUIRED FOR EACH OPEN CUT OF A CITY STREET. NOTE THIS ON THE PLAN AND CONTACT 341-2888 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 APPROVED 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 PLAT. [SD 15-14 COFV 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'.
- 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.
- FIRE & SAFETY NOTES:**
- PARKING AND LANDSCAPING CANNOT BLOCK FIRE HYDRANTS.
 - ALL WEATHER ACCESS ROAD MUST BE MAINTAINED AROUND CONSTRUCTION SITE AT ALL TIMES.
 - HYDRANTS SHALL BE OF SUFFICIENT NUMBERS TO ACCOMMODATE BASE FIRE FLOW REQUIREMENTS OF STRUCTURE.
 - IN ADDITION TO THE STANDARD COMMENTS, ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.

- SITE/SURVEY NOTES**
- THIS IS A BOUNDARY SURVEY.
 - BASIS OF BEARINGS FOR THIS MAP IS BASED ON DEED BOOK: 4962, PAGES: 524-527.
 - ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES UNLESS OTHERWISE NOTED.
 - UNITS ARE U.S. SURVEY FEET UNLESS OTHERWISE NOTED.
 - AREA BY COORDINATE GEOMETRY.
 - NO GRID MONUMENTS FOUND WITHIN 2000' OF SITE.
 - THIS SURVEY PERFORMED AND MAP PREPARED WITHOUT BENEFIT OF A TITLE REPORT. THIS SURVEY SUBJECT TO ANY FACTS AND EASEMENTS WHICH MAY BE DISCLOSED BY A FULL AND ACCURATE TITLE SEARCH.
 - FLOOD NOTE: AS DETERMINED BY GRAPHIC PLOTTING, THIS PROPERTY DOES NOT APPEAR TO BE LOCATED IN A SPECIAL FLOOD HAZARD ZONE PER FEMA FLOOD INSURANCE RATE MAP #3720145001, EFFECTIVE DATE: APRIL 3, 2006.
 - MAP & DEED REFERENCES (PER NEW HANOVER COUNTY REGISTRY): DEED BOOK: 4992, PAGE: 267; DEED BOOK: 4962, PAGE: 524; MAP BOOK: 7, PAGE: 62; MAP BOOK: 32, PAGE: 89; MAP BOOK: 48, PAGE: 321, AND MAP BOOK: 33, PAGE: 148. (AND OTHERS THAT MAY BE SHOWN ON THIS MAP)
 - SITE DRAINS TO WHISKEY CREEK, INDEX # 18-87-28, CLASSIFICATION: SA;HOW





SITE DATA

PARCEL ID: R07200-003-001-000

CURRENT ZONING: R-15

CAMA LAND USE CLASSIFICATION: WATERSHED RESOURCE PROTECTION

PROJECT ADDRESS: 7920 MASONBORO SOUND RD. WILMINGTON, NC 28409

CURRENT OWNER: HANOVER PARTNERS, LLC
PO BOX 1377
WRIGHTSVILLE BEACH, NC 28480

TOTAL ACREAGE IN PROJECT BOUNDARY: 208,233.47 S.F. (4.78 AC.)

TOTAL DISTURBED AREA: 2.9 AC.

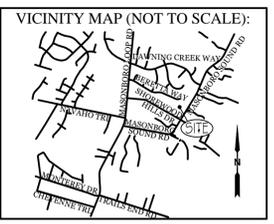
BUILDING HEIGHT: 35' MAX

BUILDING SETBACKS:
FRONT: REQUIRED = 30'
SIDE: REQUIRED = 10' (15' CORNER LOT)
REAR: REQUIRED = 25'

ON-SITE IMPERVIOUS AREAS:
CONCRETE SIDEWALKS & CURBING: 7,605 S.F.
ASPHALT ROAD: 19,662 S.F.
LOTS: 32,000 S.F. (4,000 S.F. / LOT)
FUTURE OPEN SPACE IMPROVEMENTS: 2,000 S.F.
TOTAL: 61,267 S.F. ÷ 208,233 S.F. = 29.4%

OFFSITE IMPERVIOUS AREAS:
ASPHALT ROAD: 851 S.F.
CONCRETE SIDEWALK: 979 S.F.
TOTAL: 1,830 S.F.

OPEN SPACE REQUIREMENT: (0.03 AC. per dwelling unit)
0.24 AC (Min 50% active open space)
0.35 AC (0.12 AC ACTIVE OPEN SPACE)



REVISIONS

NO.	DATE	DESCRIPTION

INTRACOASTAL ENGINEERING, PLLC

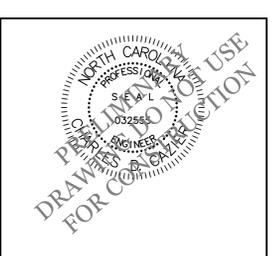
5725 Oleander Dr. Unit E-7
Wilmington, North Carolina 28403
Phone: 910.859.8983
Email: charlie@intracoastalengineering.com
License Number: P-0662

TREE REMOVAL, TREE PROTECTION, AND STREET TREES PLAN

FOR

MASONBORO TRACE

WILMINGTON, NC



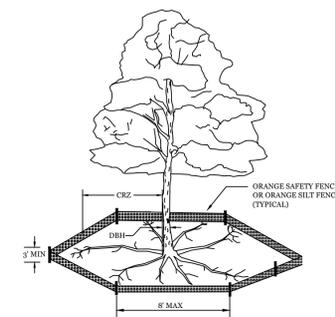
CLIENT INFORMATION:

HANOVER PARTNERS, LLC
PO BOX 1377
WRIGHTSVILLE BEACH, NC 28480
PH. 910-332-8528

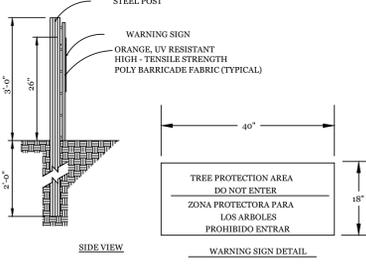
DRAWN: JAE SHEET SIZE: 24x36
CHECKED: CDC DATE: 7/6/2016
APPROVED: CDC SCALE: 1" = 40'
PROJECT NUMBER: 2015-052

DRAWING NUMBER: **C-3**

3 OF 11

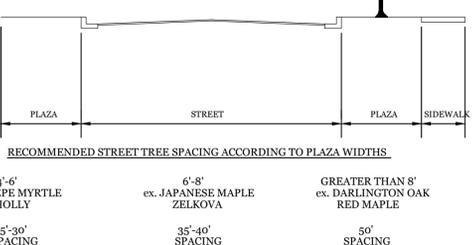


- NOTES:**
1. THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
 2. WARNING SIGNS TO BE MADE OF DURABLE WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
 3. SIGNS SHALL BE PLACED 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.



RESIDENTIAL STREET TREE STANDARDS

1. Street trees shall be installed along residential streets after all driveways have been installed.
2. The developer shall notify Landscape Designer prior to installation to ensure proper tree selection and spacing.
3. Each tree shall be a minimum of two (2) caliper inches.
4. Phasing of a project shall be permitted, however, Street Trees on the same block shall be planted at the same time to avoid size irregularities.
5. Trees within the same block shall be the same species.



RESIDENTIAL STREET TREE STANDARDS

- 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 4" OF MUDCH 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 FINES 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.
 7. THE CRITICAL ROOT ZONE (CRZ) OF A TREE IS WHERE THE MAJORITY OF A TREE'S ROOTS LAY. 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 1-3X THE HEIGHT OF THE TREE.
 8. CROWN OF THE TREE IS HELD FOR LEAF GROWTH TO PRODUCE OXYGEN, FILTER THE AIR, REDUCE WIND AND SOFTEN NOISE. DO NOT DISFIGURE CROWN WITH INTENSIVE PRUNING.

TREE PROTECTION DETAIL (SD 15-09)

NOT TO SCALE

STREET TREE LIST

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	TYPE	SIZE
	16	LIQUIDAMBAR STYRACIFLUA	SWEET GUM	LARGE SHADE TREE	2.5" CAL.

STORMWATER MANAGEMENT PLAN

APPROVED

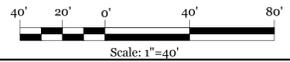
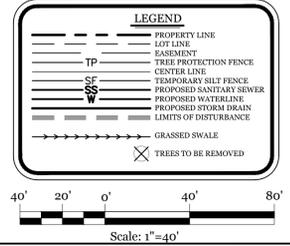
CITY OF WILMINGTON
ENGINEERING DEPARTMENT

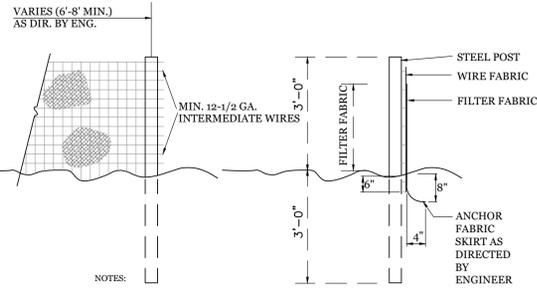
DATE _____ PERMIT # _____
SIGNED _____

Approved Construction Plan

Name _____ Date _____

Planning _____
Public Utilities _____
Traffic _____
Fire _____





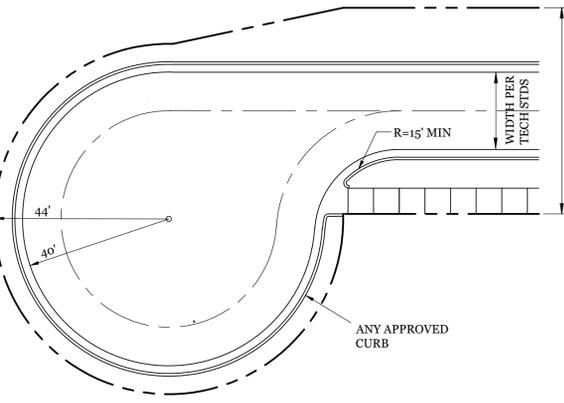
- NOTES:**
- FENCE FABRIC SHALL BE A MIN. OF 32" IN WIDTH AND SHALL HAVE A MIN. OF SIX LINE WIRES WITH 12" STAY SPACING.
 - FABRIC SHALL BE FOR EROSION CONTROL AND MIN. OF 36" IN WIDTH. FABRIC SHALL BE FASTENED ADEQUATELY TO THE WIRE FABRIC AS DIRECTED BY THE ENGINEER.
 - STEEL POST SHALL BE 5'-0" IN HEIGHT AND BE OF THE SELF-FASTENER STEEL ANGLE TYPE.

TEMPORARY SILT FENCE
NTS

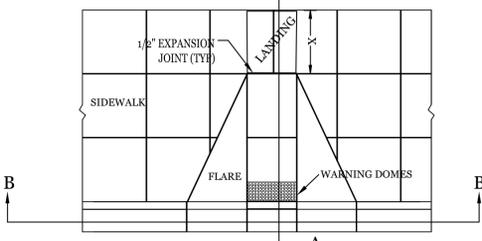


- NOTES:**
- SWALES TO BE LINED WITH EXCELSIOR MAT & SEEDED IN ACCORDANCE WITH SPECIFICATIONS IMMEDIATELY.

TYPICAL 3:1 GRASS SWALE
NTS

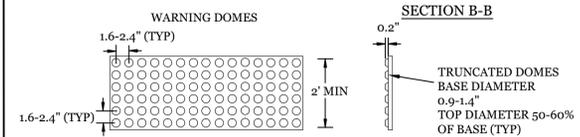
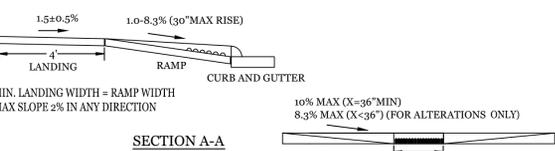


CIRCULAR OFFSET CUL-DE-SAC DETAIL
NTS



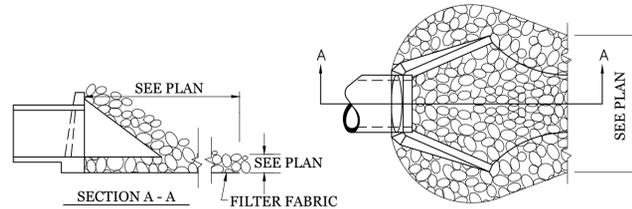
- NOTES:**
- SKIMMER TO BE USED IN WET PONDS AND REMOVED AFTER SITE IS PERMANENTLY STABLE.

FAIRCLOTH SKIMMER DETAIL
NTS



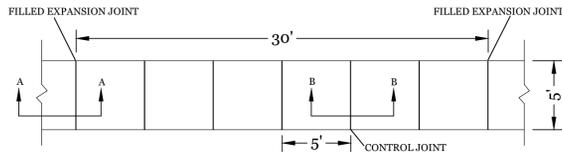
- WARNING DOME NOTES:**
- USE CONTRASTING COLORS, RED OR BLACK ON WHITE PAVEMENT.
 - USE CAST IN PLACE PAVERS FOR NEW CONSTRUCTION.
 - RUBBER MATS ARE PERMITTED FOR RETROFITS.
 - LANDING AND RAMP WIDTH MAY BE REDUCED TO 3' WHERE SPACE IS LIMITED AND DESIGN IS APPROVED BY THE CITY ENGINEER.

WHEEL CHAIR RAMP DETAIL
NTS

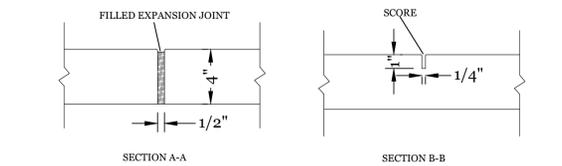


- NOTES:**
- CLASS "B" RIP RAP TO BE USED FOR ALL ENERGY DISSIPATOR AREAS.

ENERGY DISSIPATOR
NTS

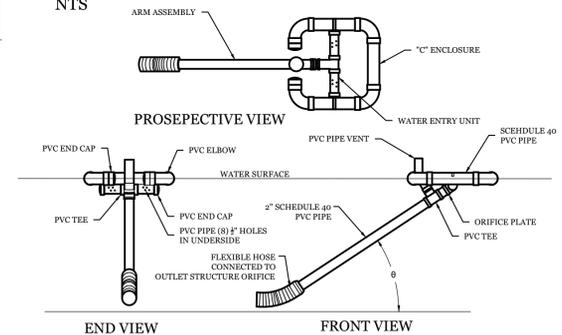


TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
NTS



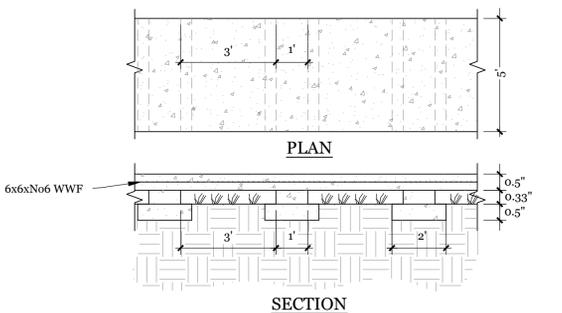
- NOTES:**
- JOINT MATERIAL TO COMPLY WITH CURRENT NCDOT STANDARDS.
 - SANITARY SEWER CLEAN-OUTS, WATER METERS, MANHOLES, AND VALVE LIDS TO BE LOCATED OUTSIDE SIDEWALK WHERE FEASIBLE.
 - MINIMUM SIDEWALK WIDTH TO BE 6' MINIMUM IF PLACED AT BACK OF CURB.
 - CONCRETE FOR ALL SIDEWALKS (EXCEPT ANY PORTION CONTAIN WITHIN A DRIVEWAY APRON) SHALL BE CLASS "A" - 3,000 PSI.
 - MINIMUM REPLACEMENT FOR REPAIRS IS 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 SIDEWALK DETAIL (SD 3-10)
NTS

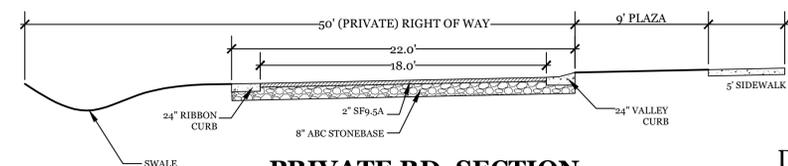


- NOTES:**
- SKIMMER TO BE USED IN WET PONDS AND REMOVED AFTER SITE IS PERMANENTLY STABLE.

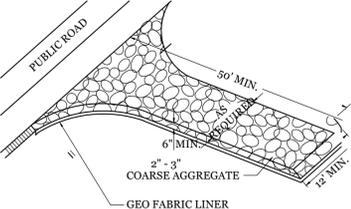
FAIRCLOTH SKIMMER DETAIL
NTS



FLOW UNDER SIDEWALK DETAIL
NTS

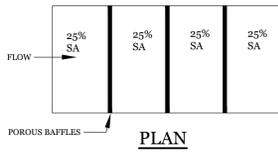


PRIVATE RD. SECTION
NTS

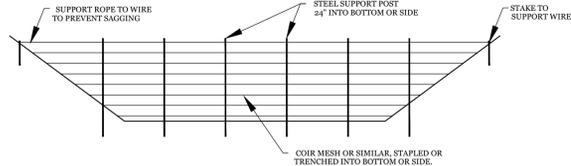


- NOTE:**
- CONSTRUCTION ENTRANCE TO BE 12' OR ENTIRE WIDTH OF ENTRANCE, WHICHEVER IS GREATER.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
NTS

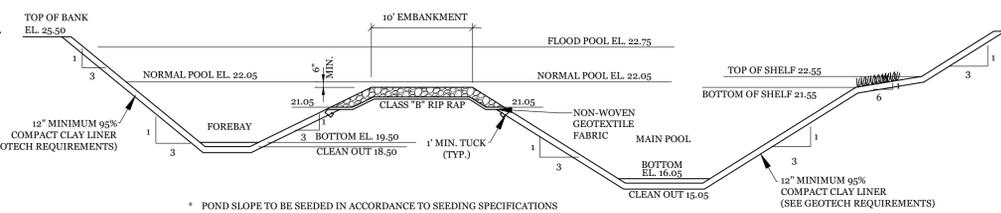


PLAN



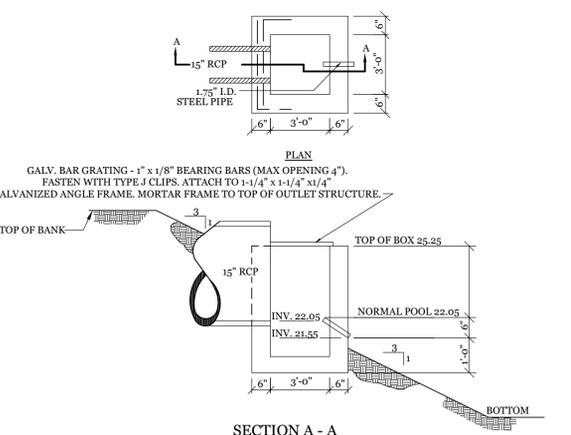
CROSS SECTION

POROUS BAFFLE DETAIL
NTS

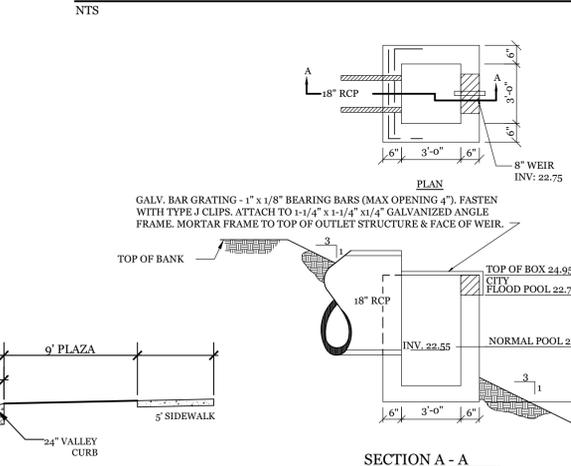


- * POND SLOPE TO BE SEEDED IN ACCORDANCE TO SEEDING SPECIFICATIONS**
- 6:1 VEGETATED SHELVE TO BE PLANTED WITH WETLAND SPECIES I.E. PICKEREL WEED, DUCK POTATO, SWAMP ROSE, BLUE FLAG, & CARDINAL FLOWER. (OR ENGINEER APPROVED ALTERNATIVE).
 - VEGETATED SHELVE SHALL BE PLANTED WITH PLUGS OR POTS AT 24" O.C. IN A CHECKERBOARD PATTERN.
 - A PUMP WILL BE PROVIDED TO DRAIN THE BASIN FOR MAINTENANCE AND EMERGENCIES

DETENTION POND & FOREBAY SECTION
NTS



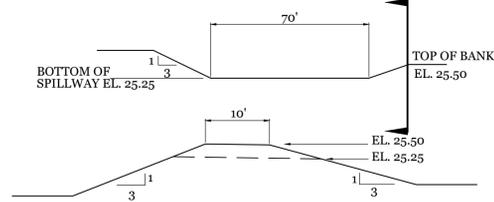
DETENTION POND OUTLET STRUCTURE #1
NTS



DETENTION POND OUTLET STRUCTURE #2
NTS



VALLEY CURB DETAIL
NTS



VEGETATED FILTER/LEVEL SPREADER DETAIL
NTS

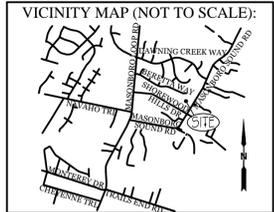


SEDIMENT BASIN EMERGENCY SPILLWAY DETAIL
NTS

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

Approved Construction Plan

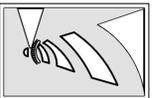
Name _____ Date _____
Planning _____
Public Utilities _____
Traffic _____
Fire _____



REVISIONS

REV.	DATE	DESCRIPTION
REV. 8-5-16:		ADDED STORMWATER INFORMATION

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



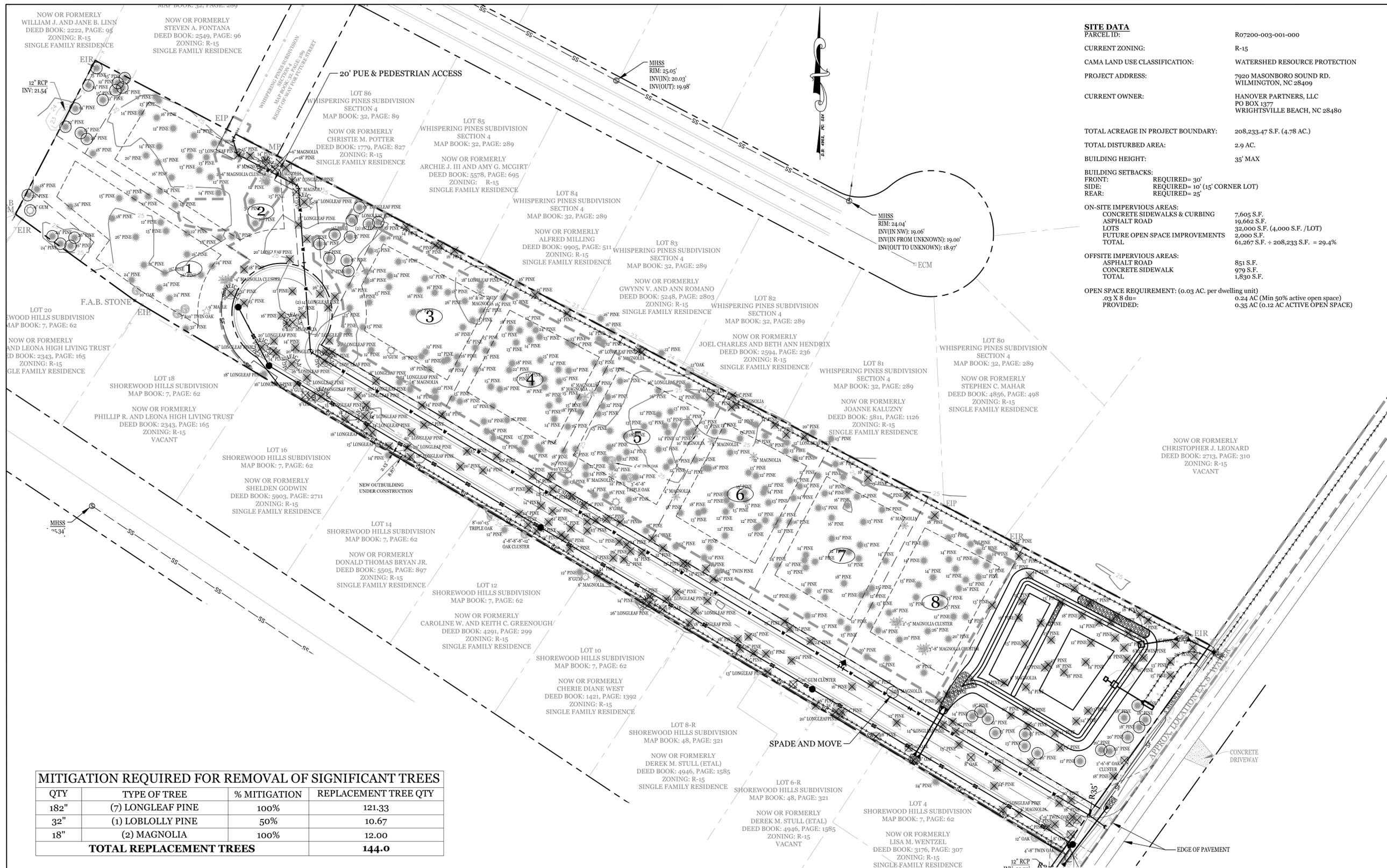
DETAILS FOR MASONBORO TRACE WILMINGTON, NC



CLIENT INFORMATION:
HANOVER PARTNERS, LLC
PO BOX 1377
WRIGHTSVILLE BEACH, NC 28480
PH. 910-332-8528

DRAWN: JAE SHEET SIZE: 24x36
CHECKED: CDC DATE: 7/6/2016
APPROVED: CDC SCALE: NTS
PROJECT NUMBER: 2015-052

DRAWING NUMBER: **C-5**



SITE DATA
 PARCEL ID: R07200-003-001-000
 CURRENT ZONING: R-15
 CAMA LAND USE CLASSIFICATION: WATERSHED RESOURCE PROTECTION
 PROJECT ADDRESS: 7920 MASONBORO SOUND RD. WILMINGTON, NC 28409
 CURRENT OWNER: HANOVER PARTNERS, LLC
 PO BOX 1377 WRIGHTSVILLE BEACH, NC 28480

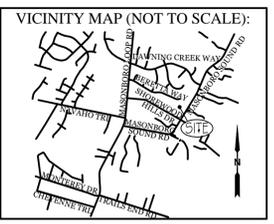
TOTAL ACREAGE IN PROJECT BOUNDARY: 208,233.47 S.F. (4.78 AC.)
 TOTAL DISTURBED AREA: 2.9 AC.
 BUILDING HEIGHT: 35' MAX

BUILDING SETBACKS:
 FRONT: REQUIRED= 30'
 SIDE: REQUIRED= 10' (15' CORNER LOT)
 REAR: REQUIRED= 25'

ON-SITE IMPERVIOUS AREAS:
 CONCRETE SIDEWALKS & CURBING: 7,605 S.F.
 ASPHALT ROAD: 19,662 S.F.
 LOTS: 32,000 S.F. (4,000 S.F. / LOT)
 FUTURE OPEN SPACE IMPROVEMENTS: 2,000 S.F.
 TOTAL: 61,267 S.F. ÷ 208,233 S.F. = 29.4%

OFFSITE IMPERVIOUS AREAS:
 ASPHALT ROAD: 851 S.F.
 CONCRETE SIDEWALK: 979 S.F.
 TOTAL: 1,830 S.F.

OPEN SPACE REQUIREMENT: (0.03 AC. per dwelling unit)
 0.24 AC (Min 50% active open space)
 PROVIDED: 0.35 AC (0.12 AC ACTIVE OPEN SPACE)



REVISIONS

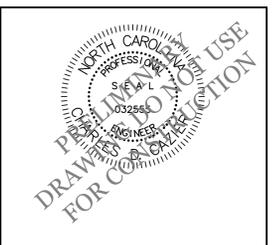
NO.	DATE	DESCRIPTION

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



TREE MITIGATION EXHIBIT MAP

FOR
MASONBORO TRACE
 WILMINGTON, NC



CLIENT INFORMATION:
 HANOVER PARTNERS, LLC
 PO BOX 1377 WRIGHTSVILLE BEACH, NC 28480
 PH. 910-332-8528

DRAWN: JAE SHEET SIZE: 24x36
 CHECKED: CDC DATE: 7/6/2016
 APPROVED: CDC SCALE: 1" = 40'
 PROJECT NUMBER: 2015-052

DRAWING NUMBER: **EX-1**

MITIGATION REQUIRED FOR REMOVAL OF SIGNIFICANT TREES

QTY	TYPE OF TREE	% MITIGATION	REPLACEMENT TREE QTY
182	(7) LONGLEAF PINE	100%	121.33
32	(1) LOBLOLLY PINE	50%	10.67
18	(2) MAGNOLIA	100%	12.00
TOTAL REPLACEMENT TREES			144.0

CREDITS FOR PRESERVED TREES

QTY	SIZE	CREDITS
2	6"-11" (2 CREDITS / TREE)	4
24	12"-17" (3 CREDITS / TREE)	72
13	18"-24" (4 CREDITS / TREE)	52
104 (TOTAL DBH OF 4 TREES)	>24" (DBH / 6)	17.33
TOTAL CREDITS		145.3

NOTE:
 MITIGATION PLANTINGS OR PAYMENT IN LIEU WILL BE SHOWN ON LANDSCAPE PLAN.

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

Approved Construction Plan

Name	Date
Planning _____	_____
Public Utilities _____	_____
Traffic _____	_____
Fire _____	_____

