

MAGGIE H & ALEX GEORGE
TMS 184-00-00-029
PB 20 PAGE 57

GENERAL NOTES,
PAVING, GRADING & DRAINAGE NOTES:

CAROLINA ENGINEERING CONSULTANTS, INC.'S WRITTEN CONSTRUCTION SPECIFICATIONS WILL BE FOLLOWED ON THIS JOB. IF CONTRACTOR NEEDS COPY OF THESE SPECIFICATIONS, PLEASE CONTACT CAROLINA ENGINEERING.

BENCHMARKS ARE TO BE VERIFIED BY CONTRACTOR.

CONTRACTOR SHALL VERIFY ALL MANHOLE AND INVERT ELEVATIONS BEFORE STARTING WORK.

CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES.

SILT FENCE AND TREE FENCES TO BE IN PLACE PRIOR TO COMMENCING WORK.

WHERE NEW CONSTRUCTION IS NEAR THE EDGE OF AN EXISTING PAVED ROADWAY, A TRAFFIC LANE WILL BE TEMPORARILY CLOSED TO PROVIDE SAFETY TO THE PUBLIC AND TO THE WORKMEN. NO LANE CLOSURES DURING 7:00 AM TO 9:00 AM OR FROM 3:30 PM TO 6:00 PM ARE ALLOWED.

APPLICANT WILL REPAIR ALL DAMAGE DONE TO ROADSIDE AND RESEED WITH PERMANENT GRASS.

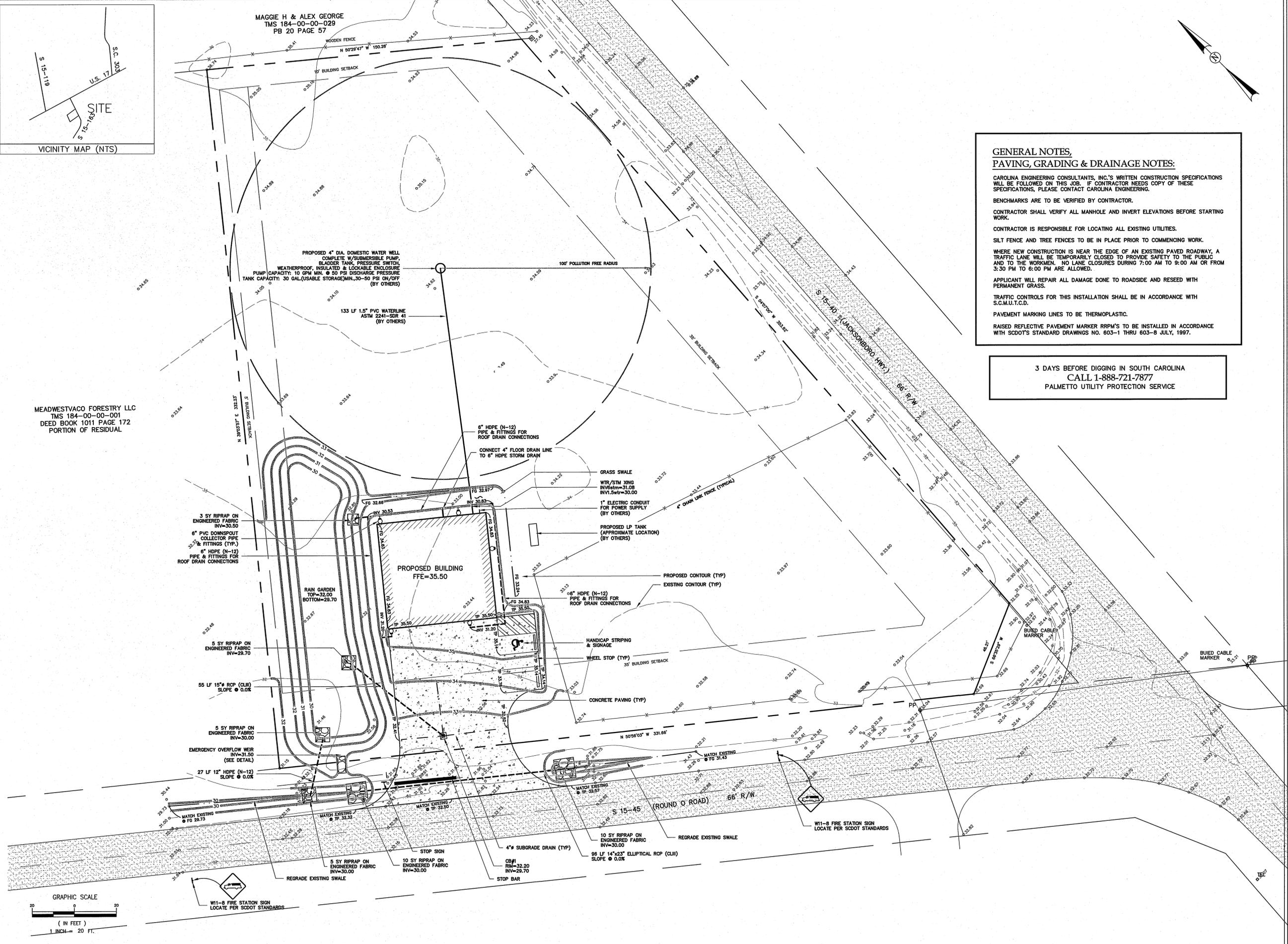
TRAFFIC CONTROLS FOR THIS INSTALLATION SHALL BE IN ACCORDANCE WITH S.C.M.U.T.C.D.

PAVEMENT MARKING LINES TO BE THERMOPLASTIC.

RAISED REFLECTIVE PAVEMENT MARKER RRPMS TO BE INSTALLED IN ACCORDANCE WITH SCDOT'S STANDARD DRAWINGS NO. 603-1 THRU 603-8 JULY, 1997.

3 DAYS BEFORE DIGGING IN SOUTH CAROLINA
CALL 1-888-721-7877
PALMETTO UTILITY PROTECTION SERVICE

MEADWESTVACO FORESTRY LLC
TMS 184-00-00-001
DEED BOOK 1011 PAGE 172
PORTION OF RESIDUAL



**IONS CROSS ROADS
FIRE & RESCUE
SUBSTATION**

ROUND O ROAD
COLLETON COUNTY
SOUTH CAROLINA

COLLETON COUNTY

CAROLINA ENGINEERING
P.O. BOX 294
BEAUFORT, S.C. 29901
(843) 322-0553



CONSULTANTS

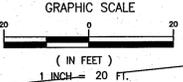
MARK	DATE	DESCRIPTION
	6-7-12	PERMIT

PROJECT NO: 2012.019.00
MODEL FILE:
DRAWN BY: TAB
CHK'D BY: JPA
DATE: 06-14-2013

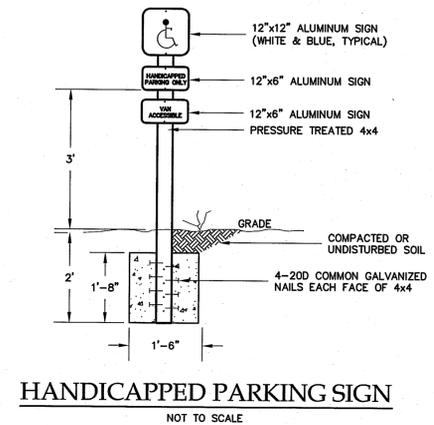
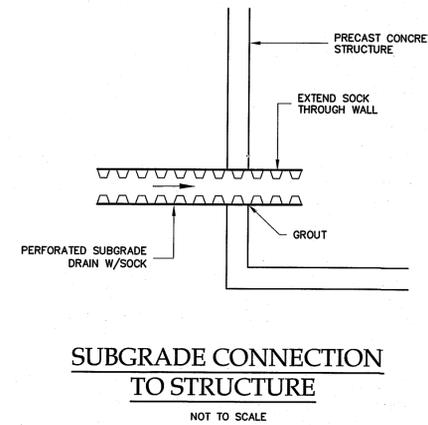
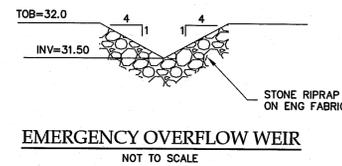
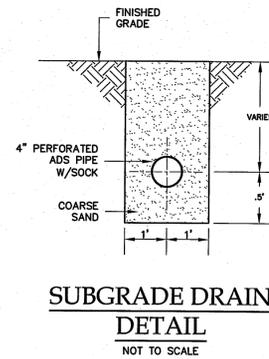
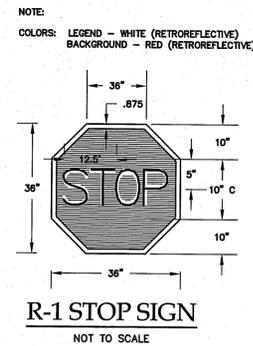
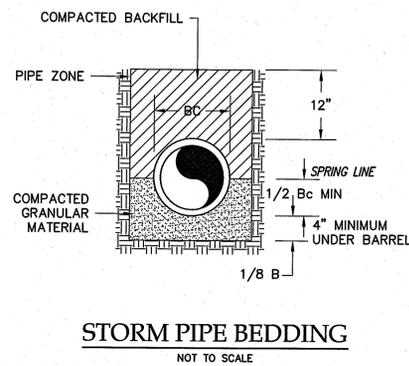
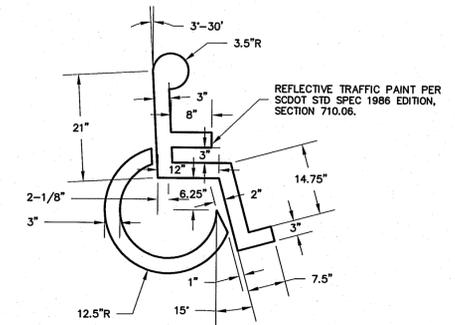
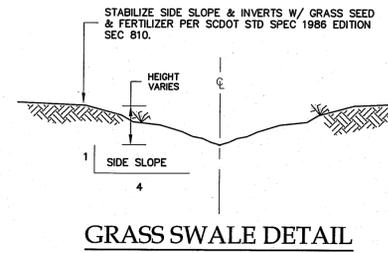
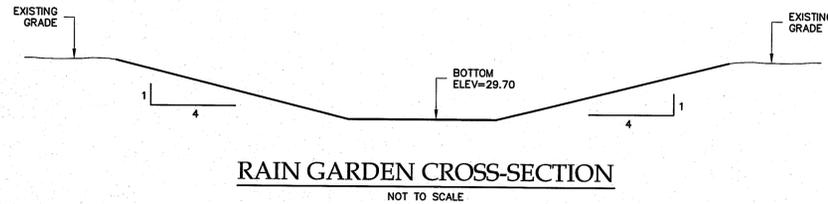
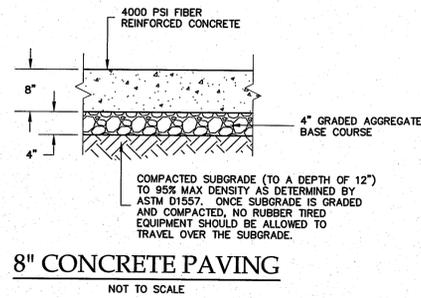
SHEET TITLE
PAVING & GRADING
PLAN

C2

SHEET 4 OF 24

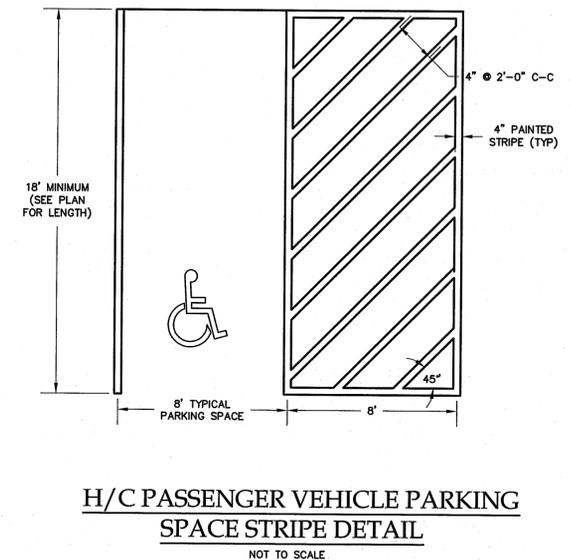
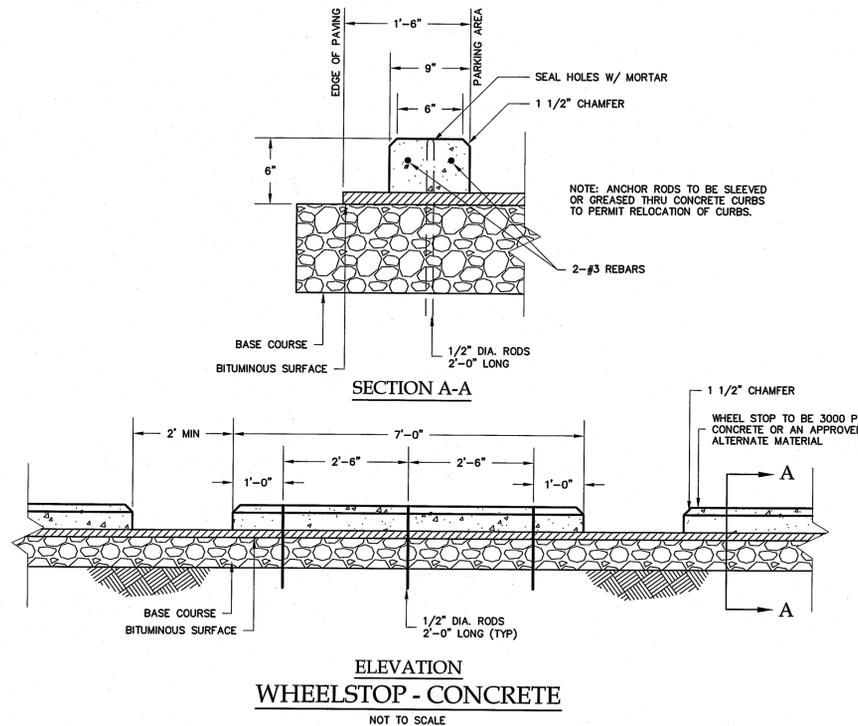
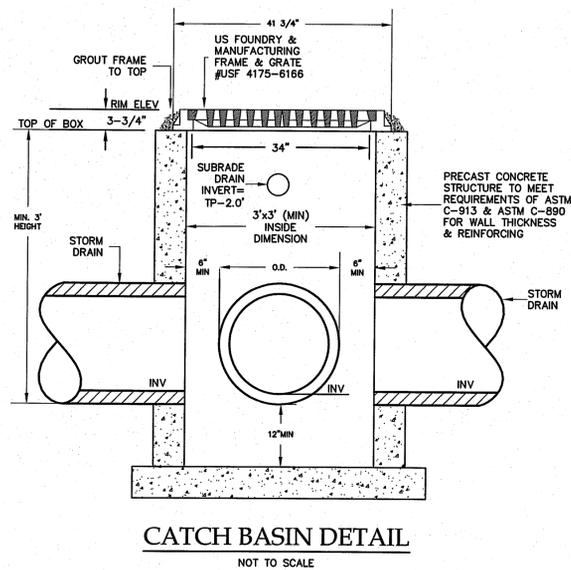


W1-8 FIRE STATION SIGN
LOCATE PER SCDOT STANDARDS



NOTE: MARKINGS TO BE THERMOPLASTIC. ALL ARROWS, LINES & WORD MESSAGES SHALL BE AS REQUIRED BY SCDOT IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE SCDOT STANDARD DRAWINGS FOR ROAD CONSTRUCTION

STOP BAR
NOT TO SCALE



IONS CROSS ROADS FIRE & RESCUE SUBSTATION
ROUND O ROAD
COLLETON COUNTY
SOUTH CAROLINA
COLLETON COUNTY

CAROLINA ENGINEERING
P.O. BOX 294
BEAUFORT, S.C. 29901
(843) 322-0553



CONSULTANTS

MARK	DATE	PERMIT DESCRIPTION
	6-7-12	PERMIT

PROJECT NO: 2012.019.00
MODEL FILE:
DRAWN BY: TAB
CHK'D BY: JPA
DATE: 06-14-2013

SHEET TITLE

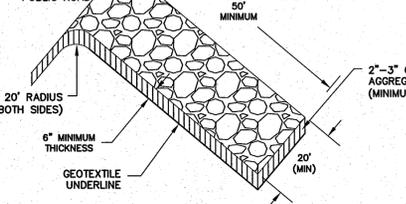
SITE DETAILS

C3

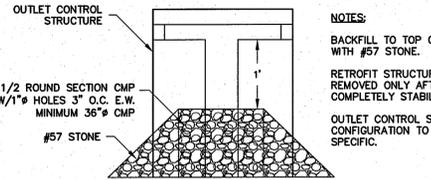
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.

WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

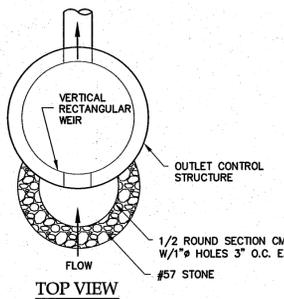


Co STONE PAD CONSTRUCTION EXIT
NOT TO SCALE

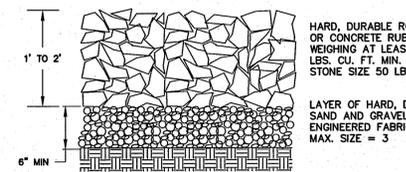


NOTES:
BACKFILL TO TOP OF CMP SECTION WITH #57 STONE.
RETROFIT STRUCTURE MAY BE REMOVED ONLY AFTER SITE IS COMPLETELY STABILIZED.
OUTLET CONTROL STRUCTURE CONFIGURATION TO BE SITE SPECIFIC.

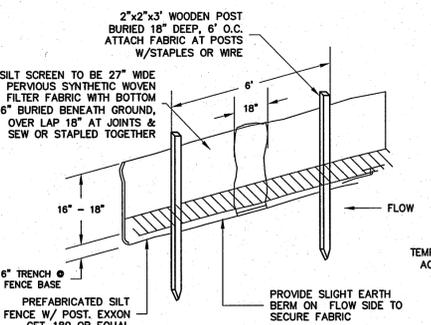
PLAN VIEW



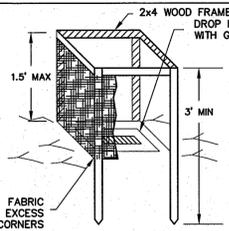
Rt RETROFITTING
NOT TO SCALE



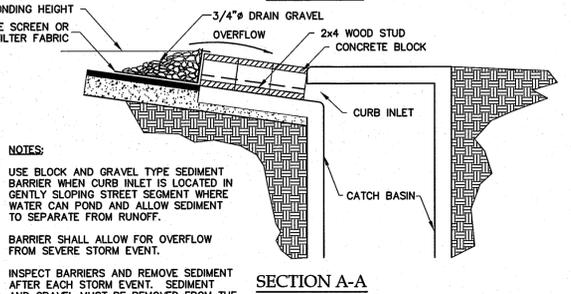
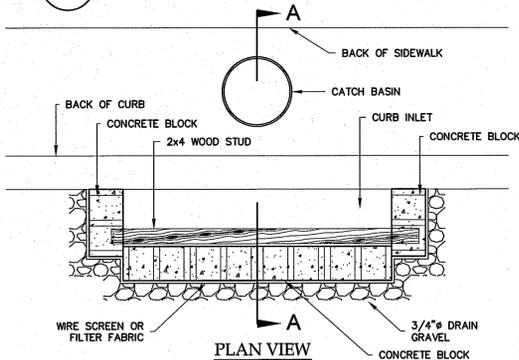
Rp DUMPED RIP-RAP
NOT TO SCALE



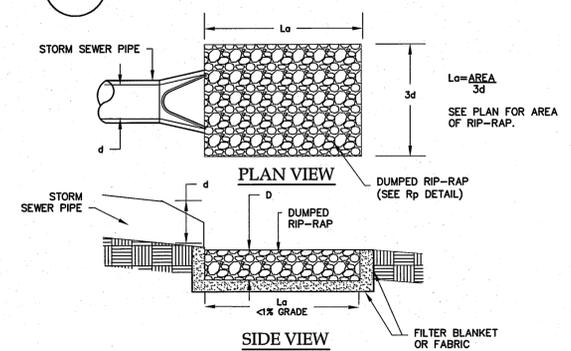
Sd1 SEDIMENT BARRIERS
NOT TO SCALE



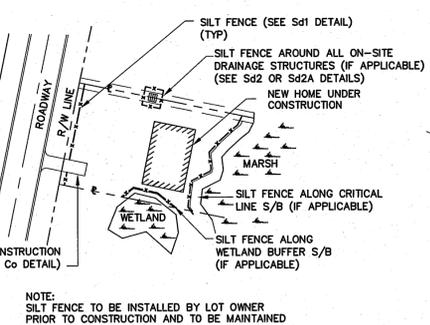
Sd2 INLET SEDIMENT TRAP
NOT TO SCALE



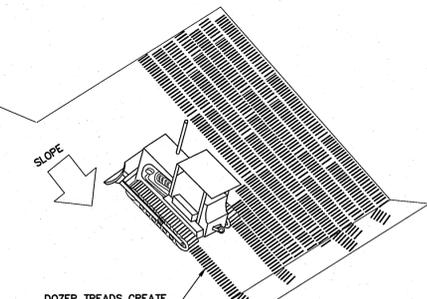
Sd2a CURB INLET SEDIMENT BARRIER
NOT TO SCALE



St RIP-RAP OUTLET PROTECTION
NOT TO SCALE



LOT SILT FENCE PLAN
NOT TO SCALE



Su SURFACE ROUGHENING
NOT TO SCALE

NOTES:
FOR STAKES, USE 2x4 INCH WOOD WITH MIN. LENGTH OF 3 FEET.
SPACE STAKES EVENLY AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3 FEET APART, AND DRIVE SECURELY INTO THE GROUND, APPROXIMATELY 18 INCHES DEEP.
TO PROVIDE LATERAL STABILITY, FRAME 2x4 INCH WOOD STRIPS AROUND THE CREST OF THE OVERFLOW AREA AT A MAXIMUM OF 1.5 FEET ABOVE DROP INLET CREST.
PLACE THE BOTTOM 12 INCHES OF THE FABRIC IN A TRENCH AND BACKFILL WITH AT LEAST 4 INCHES OF CRUSHED STONE OR 12 INCHES COMPACTED SOIL.
FASTEN FABRIC SECURELY TO THE STAKES AND FRAME. JOINTS MUST BE OVERLAPPED TO THE NEXT STAKE.
THE TOP OF THE FRAME AND FABRIC MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE FROM THE DROP INLET TO KEEP RUNOFF FROM BYPASSING THE INLET. IT MAY BE NECESSARY TO BUILD A TEMPORARY DIKE ON THE DOWNSLOPE SIDE OF THE STRUCTURE TO PREVENT BYPASS FLOW.

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cd	CHECKDAM			A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION			Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Di	DIVERSION			An earth channel or dike located above, below or across a slope to divert runoff. This may be a temporary or permanent structure.
Dn1	TEMPORARY DOWN DRAIN STRUCTURE			A flexible conduit of heavy-duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporary and inexpensive.
Dn2	PERMANENT DOWN DRAIN STRUCTURE			A paved chute, pipe, sectional conduit or similar material designed to safely conduct surface runoff down a slope.
Ga	GABION			Rock filled baskets which are hand-placed into position forming soil stabilizing structures.
Gr	GRADE STABILIZATION STRUCTURE			Permanent structures installed to protect natural or artificial channels or waterways where otherwise the slope would be sufficient for the running water to form gullies.
Lv	LEVEL SPREADER			A structure to convert concentrated flow of water into less erosive sheet flow. This should be constructed only on undisturbed soils.
Rd	ROCK FILTER DAM			A permanent or temporary stone filter dam installed across small streams or drainageways.
Re	RETAINING WALL			A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
Rt	RETROFITTING			A device or structure placed in front of a permanent storm water detention pond outlet structure to serve as a temporary sediment filter.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales or straw or hay, brush, logs and poles, gravel, or a sediment fence. The barriers are usually temporary and inexpensive.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain inlet. The excavated area will be filled and stabilized on completion of construction activities.
Sd2a	CURB INLET SEDIMENT TRAP			An impounding area created by excavating around a curb inlet. The excavated area will be filled and stabilized on completion of construction activities.
Sd3	TEMPORARY SEDIMENT BASIN			A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out. The basin is usually temporary but may be designed as a permanent pond or storm water retention device.
Sr	TEMPORARY STREAM CROSSING			A temporary bridge or culvert-type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORM DRAIN OUTLET PROTECTION			A paved or short section of rip-rap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Su	SURFACE ROUGHENING			A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tp	TOP SOILING			The practice of stripping off the more fertile top soil, storing it, then spreading it over the disturbed area after the completion of construction activities.
Wt	VEGETATED WATERWAY OR STORM WATER CONVEYANCE CHANNEL			Paved or vegetative water outlets for diversions, terraces, berms, dikes or similar structures.

VEGETATIVE MEASURES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE			An undisturbed natural "green belt" separating the land-disturbed site from surrounding property and bordering streams. It serves to reduce water velocity and remove some sediment. It is also at times a noise or vision pollution barrier.
Cs	COASTAL DUNE STABILIZATION W/VEGETATION			Planting vegetation on dunes that are denuded, artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION W/MULCHING ONLY			Establishing temporary protection for disturbed areas where seeding may not have a suitable growing season to produce an erosion retarding cover. See Carolina Engineering Consultants, Inc. Written Technical Specifications Section 02485 for further details.
Ds2	DISTURBED AREA STABILIZATION W/TEMPORARY SEEDING			Establishing temporary vegetative cover with fast growing seedlings on disturbed areas. See Carolina Engineering Consultants, Inc. Written Technical Specifications Section 02485 for further details.
Ds3	DISTURBED AREA STABILIZATION W/PERMANENT VEGETATION			Establishing permanent vegetative cover such as trees, shrubs, vines, grasses, sod, or legumes on disturbed areas. See Carolina Engineering Consultants, Inc. Written Technical Specifications Section 02485 for further details.
Du	DUST CONTROL ON DISTURBED AREAS			Controlling surface and air movement of dust on construction sites, roadways and similar sites.

DIS1 MULCHING NOTES

MULCHING:
USE MULCH ON ALL SLOPES STEEPER THAN 3%. WHEN SEEDINGS ARE MADE SO LATE IN THE FALL AND WINTER THAT GERMINATION CANNOT BE EXPECTED UNTIL SPRING; IN THE BOTTOM OF SPILLWAYS; AND ON ROADBANKS. TEMPORARY VEGETATION SEEDING ALONE MAY BE ESTABLISHED ON GOOD SITES WITHOUT THE USE OF MULCH. MULCHING MATERIAL WILL CONSIST OF:

- USE DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS. DRY STRAW WILL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY WILL BE USED AT A RATE OF 2.5 TONS PER ACRE; OR,
- FOR HYDRAULIC SEEDING, USE WOOD CELLULOSE MULCH OR WOOD PULP FIBER AT THE RATE OF 500 POUNDS PER ACRE AND DRY STRAW OR DRY HAY AT THE RATE LISTED IN "A" ABOVE; OR,
- FOR HYDRAULIC SEEDING ON SLOPES 3/4:1 OR STEEPER, 1,000 POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER WHICH INCLUDES A TACKIFIER MAY BE SUBSTITUTED FOR THE TREATMENT IN "B" ABOVE; OR,
- USE THREE TONS PER ACRE OF SERICEA LESPEDEZA HAY CONTAINING MATURE SEED; OR,
- APPLY PINE STRAW OR PINE BARK AT A THICKNESS OF 3 INCHES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED; OR,
- SOIL RETENTION BLANKETS, EROSION CONTROL NETTING, OTHER MANUFACTURED MATERIALS, OR BLOCK SOD MAY BE REQUIRED IN ADDITION TO MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS. WOOD CELLULOSE AND WOOD PULP FIBERS SHALL NOT CONTAIN GERMINATION OR GROWTH INHIBITING FACTORS. THEY WILL HAVE THE PROPERTY TO BE EVENLY DISPERSED WHEN AGITATED IN WATER. THE FIBERS SHALL HAVE A CONTRASTING COLOR TO THE SOIL TO ALLOW VISUAL METERING AND AID IN UNIFORM APPLICATION DURING SEEDING.

APPLYING MULCH:
A. STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS AFTER SEEDING AND OR PLANTING. THE MULCH MAY BE SPREAD BY BLOWER TYPE SPREADING EQUIPMENT, OTHER SPREADING EQUIPMENT, OR BY HAND. ABOUT 75% OF THE SOIL SURFACE WILL BE COVERED.
B. WOOD CELLULOSE OR WOOD FIBER MULCH WILL BE APPLIED WITH HYDRAULIC SEEDING EQUIPMENT.

ANCHORING MULCH:
A. ANCHOR STRAW OR HAY MULCH IMMEDIATELY AFTER APPLICATION BY ONE OF THE FOLLOWING METHODS:
1. BY EMULSIFIED ASPHALT, (A) SPRAYED UNIFORMLY ONTO THE MULCH AS IT IS EJECTED FROM THE BLOWER MACHINE, OR (B) SPRAYED ON THE MULCH IMMEDIATELY FOLLOWING MULCH APPLICATION WHEN STRAW OR HAY IS SPREAD BY METHODS OTHER THAN SPECIAL BLOWER EQUIPMENT. THE COMBINATION OF ASPHALT EMULSION AND WATER SHALL CONSIST OF A HOMOGENEOUS MIXTURE SATISFACTORY FOR SPRAYING. THE MIXTURE SHALL CONSIST OF 100 GALLONS OF GRADE SS-1H OR CSS-1H EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH. CARE SHALL BE TAKEN AT ALL TIMES TO PROTECT THE PUBLIC, ADJACENT PROPERTY, PAVEMENTS, CURBS, SIDEWALKS, AND ALL OTHER STRUCTURES FROM ASPHALT DISCOLORATION.
2. PRESS THE MULCH INTO THE SOIL IMMEDIATELY AFTER THE MULCH IS SPREAD. A SPECIAL "PACKER DISK" OR DISK HARROW WITH THE DISKS SET STRAIGHT MAY BE USED. THE DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISKS SHALL BE DULL ENOUGH TO PRESS THE MULCH INTO THE GROUND WITHOUT CUTTING IT, LEAVING MUCH OF IT IN AN UPRIGHT POSITION.

3. APPLY SYNTHETIC TACKIFIERS OR BINDERS APPLIED IMMEDIATELY AFTER THE MULCH IS SPREAD. SYNTHETIC TACKIFIERS WILL BE MIXED AND APPLIED TO MANUFACTURER'S SPECIFICATIONS.
4. FALL AND WINTER PLANTINGS MAY INCLUDE 1/2 BUSHEL OF RYE OR WHEAT TO STABILIZE THE MULCH.
5. PLASTIC MESH OR NETTING WITH NO LARGER THAN ONE INCH BY ONE INCH MESH MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS.
B. WHERE WOOD CELLULOSE OR WOOD PULP FIBER MULCH IS APPLIED ALONE, A TACKIFIER WILL BE USED.
LIME AND MAINTENANCE APPLICATION:
APPLY ONE TON OF AGRICULTURAL LIME EVERY 4 TO 6 YEARS.

ACTIVITY SCHEDULE

ACTIVITY	SCHEDULE
EROSION CONTROL IMPLEMENTATION	1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12
MINIMAL CLEARING AND GRUBBING	1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12
POND INSTALLATION	1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12
CLEARING AND GRUBBING	1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12
CUT AND FILL GRASSING (LIMIT EXPOSURE TO 2 DAYS)	1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12
UTILITY INSTALLATION	1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12
BUILDING-CONSTRUCTION	1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12
FINISH GRADING	1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12
FINAL STABILIZATION	1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12
MAINT. EROSION CONTROL MEASURES	THROUGHOUT LIFE OF PROJECT

**IONS CROSS ROADS
FIRE & RESCUE
SUBSTATION**
ROUND O ROAD
COLLETON COUNTY
SOUTH CAROLINA

COLLETON COUNTY

CAROLINA ENGINEERING
P.O. BOX 294
BEAUFORT, S.C. 29901
(843) 322-0553



CONSULTANTS

MARK	DATE	PERMIT DESCRIPTION
	6-7-12	PERMIT

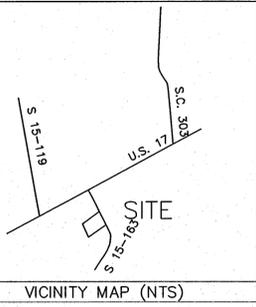
PROJECT NO: 2012.019.00
MODEL FILE:
DRAWN BY: TAB
CHK'D BY: JPA
DATE: 06-14-2013

SHEET TITLE

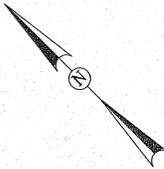
EROSION & SEDIMENT CONTROL DETAILS

C4

SHEET 6 OF 24

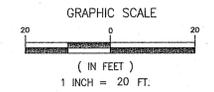
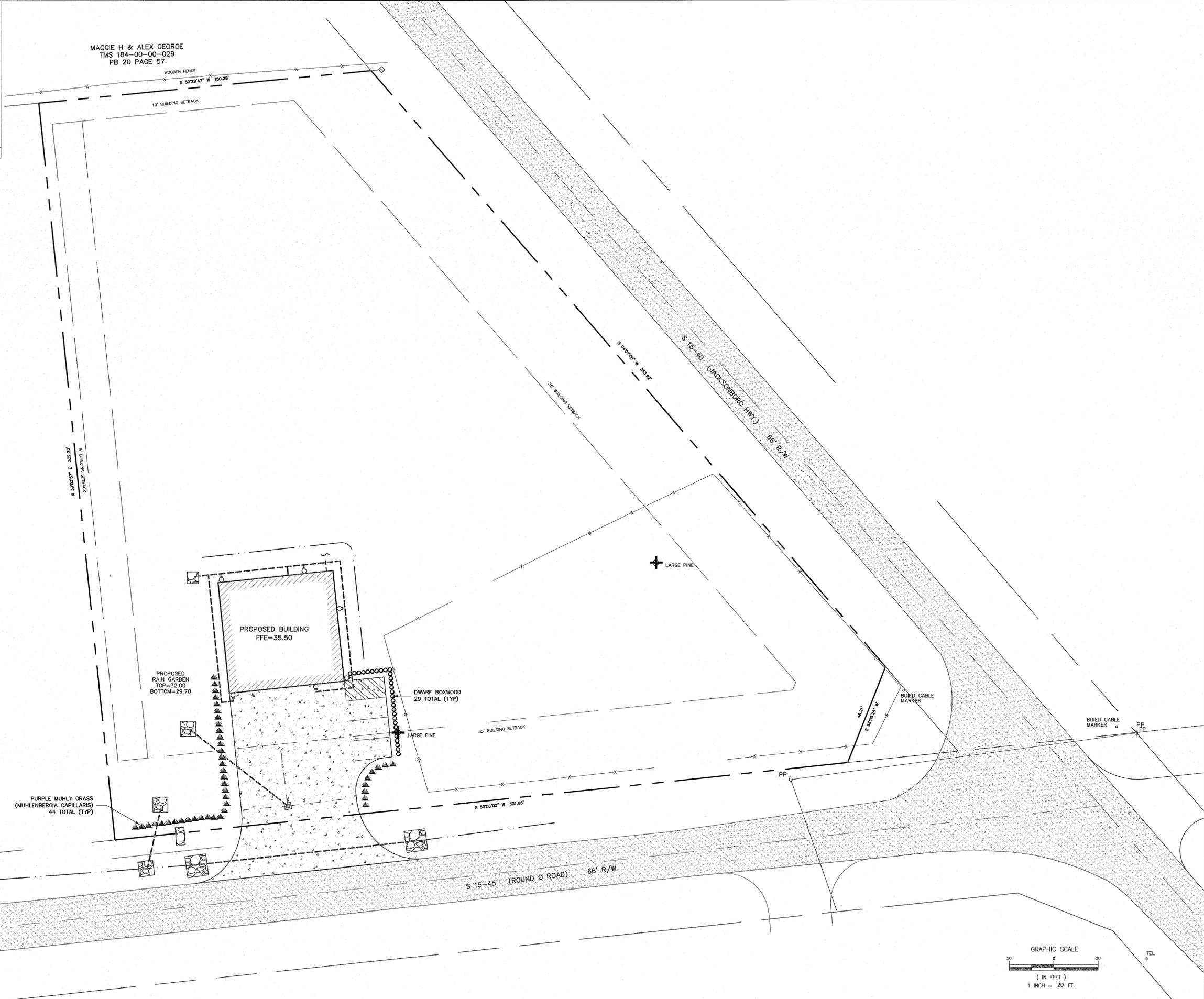


VICINITY MAP (NTS)



MAGGIE H & ALEX GEORGE
TMS 184-00-00-029
PB 20 PAGE 57

MEADWESTVACO FORESTRY LLC
TMS 184-00-00-001
DEED BOOK 1011 PAGE 172
PORTION OF RESIDUAL



**IONS CROSS ROADS
FIRE & RESCUE
SUBSTATION**
ROUND O ROAD
COLLETON COUNTY
SOUTH CAROLINA

COLLETON COUNTY

CAROLINA ENGINEERING
P.O. BOX 294
BEAUFORT, S.C. 29901
(843) 322-0553



CONSULTANTS

SHEET

MARK	DATE	DESCRIPTION
	6-7-12	PERMIT

PROJECT NO: 2012.019.00
MODEL FILE:
DRAWN BY: TAB
CHK'D BY: JPA
DATE: 12-19-2012

SHEET TITLE

LANDSCAPE
PLAN