

# SENECA RAIL SITE - ROADWAY IMPROVEMENTS

SHILOH ROAD, SENECA, SC 29678

PREPARED FOR:

OCONEE COUNTY

415 PINE STREET

WALHALLA, SC 29691

TM# 520-36-10-016 / 520-36-10-017

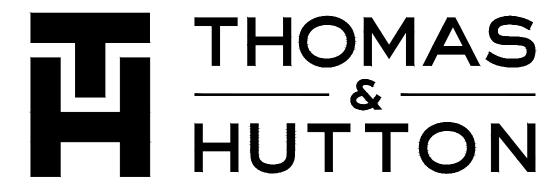
	REVISION HISTORY		
С	REBID REVISIONS	RWP	1-21-19
В	NORFOLK SOUTHERN REVIEW COMMENTS	RWP	5-31-18
А	SCDOT & SCDHEC REVIEW COMMENTS	RWP	2-5-18
REV. NO.	REVISION	BY	DATE

SUBMITTAL HISTORY	
NORFOLK SOUTHERN SUBMITTAL	1-31-18
SCDOT	1-5-18
SCDHEC LAND DISTURBANCE SUBMITTAL	12-18-17
SUBMITTED TO	DATE

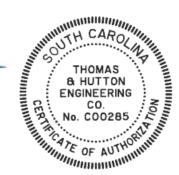


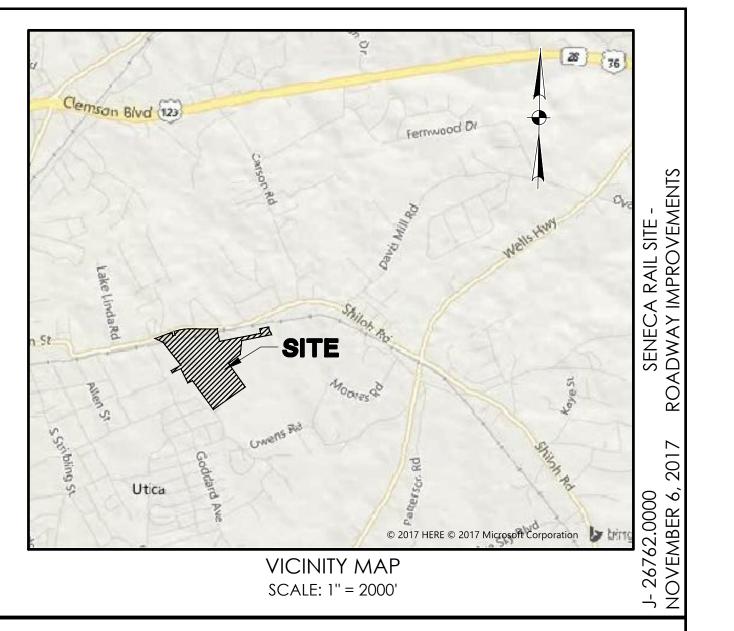
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PREPARED BY:









Sheet Number	Sheet Title
00	Cover Sheet
G1.1	General Notes and Legend
G1.2	Index Sheet
EX1.1	Existing Conditions Plan
EX1.2	Existing Conditions Plan
DM1.1	Demolition Plan
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C1.2	Site Plan
EC0.1	Erosion Control - Notes
EC0.2	Erosion Control - Charts
EC1.1	Erosion Control Plan - Initial Land Disturbance
EC2.1	Erosion Control Plan - Construction
EC3.1	Erosion Control - Details
EC3.2	Erosion Control - Details
EC3.3	Erosion Control - Details
EC3.4	Erosion Control - Details
C2.1	Grading & Drainage Plan
C2.2	Grading & Drainage Plan
C2.3	Drainage Profiles
C3.1	Road Profiles
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C4.3	Paving, Grading & Drainage - Details
C4.4	Paving, Grading & Drainage - Details
C4.5	Paving Grading & Drainage - Details





304 North Church Street Greenville, SC 29601 p.864.412.2222

ROL LEGEND
PLAN SYMBOL
— cl — cl —
———— LOD ————
( <u>-</u> ssp( <u>-</u>
TS
PS
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OR SE
E

WATER LEGEND							
DESCRIPTION	<u>EXISTING</u>	PROPOSED					
WATER MAIN	IO"W	IO"W					
SINGLE SERVICE LATERAL							
DOUBLE SERVICE LATERAL	<u></u>	>					
VALVE AND BOX	$\otimes$	€					
FIRE HYDRANT W/VALVE & BOX	$\otimes$ - $\Diamond$ -	ۥ					
POST HYDRANT	<u>)</u>	<b>)</b>					
REDUCER		•					
BACKFLOW PREVENTOR							
CROSS	_	I <u></u> I					
TEE	<u> </u>	1-1					
90° BEND - HORIZONTAL	_	_					
45° BEND - HORIZONTAL	/	/					
22-½° BEND - HORIZONTAL	/	/					
II-¼° BEND - HORIZONTAL	1	1					
BEND - VERTICAL	11						
CAP							

	<u> </u>	ABBI	REVIATIONS	) <del>-</del>	
HDPE	HIGH DENSITY POLYETHYLENE	JB	JUNCTION BOX	SDMH	STORM DRAINAGE MANHOLE
вот	воттом	LF	LINEAR FEET	SF	SQUARE FEET
СІ	CURB INLET	MAX	MAXIMUM	ss	SANITARY SEWER
СРР	CORRUGATED PLASTIC PIPE	MIN	MINIMUM	тс	TOP OF CURB
DIP	DUCTILE IRON PIPE	МН	MANHOLE	TG	TOP OF GUTTER
EL	ELEVATION	ос	ON CENTER	ТР	TOP OF PAVEMENT
FG	FINISH GRADE	PC	POINT OF CURVE	TW	TOP OF WALK
FH	FIRE HYDRANT	PH	POST HYDRANT	TYP	TYPICAL
FM	FORCE MAIN (SANITARY SEWER)	PT	POINT OF TANGENT	w	WATER
FP	FINISH PAD	PVC	POLYVINYL CHLORIDE	W/	WITH
FR	FRAME	RCP	REINFORCED CONCRETE PIPE	wv	WATER VALVE
GI	GRATE INLET	RJP	RESTRAINED JOINT PIPE	YI	YARD INLET
GV	GATE VALVE	R/W	RIGHT-OF-WAY		
INV	INVERT ELEVATION	SD	STORM DRAINAGE		

i		DRA	INAGE LE	GEND
	/	DESCRIPTION	EXISTING	PROPOSED
	/	PIPE -	– . – . – . – . –	
	1	DITCH		
	11	CURB INLET	0	•
		GRATE INLET		
		JUNCTION BOX	0	•
		OUTLET STRUCTURE		

<u>SEWER LEGEND</u>								
DESCRIPTION	EXISTING	PROPOSED						
GRAVITY PIPE	ss	_						
SINGLE SERVICE LATERAL								
DOUBLE SERVICE LATERAL		<u> </u>						
MANHOLE	$\bigcirc$	•						
CLEANOUT	Он	●4						
FORCEMAIN — —	10"FM 10"FM -							
VALVE AND BOX	$\otimes$	•						
FLUSH HYDRANT	)	<b>—</b>						
REDUCER		•						
BACKFLOW PREVENTOR								
CROSS	_	1_1						
TEE	-	1-1						
90° BEND - HORIZONTAL		_						
45° BEND - HORIZONTAL	/	/1						
22-½° BEND - HORIZONTAL	/	/						
II-¼° BEND - HORIZONTAL	1	1 1						
BEND - VERTICAL		11						
PLUG \ CAP								

OTHER UTILITIES LEGEND						
DESCRIPTION	EXISTING					
NATURAL GAS	——————————————————————————————————————					
TELEPHONE	——————————————————————————————————————					
UNDERGROUND TELEPHONE	UTL UTL					
ELECTRICITY	——————————————————————————————————————					
UNDERGROUND ELECTRICITY	——————————————————————————————————————					

# NORFOLK SOUTHERN RAILWAY NOTES

ALL WORK TO BE PERFORMED ON, OVER, UNDER, OR ADJACENT TO THE RAILROAD RIGHT-OF-WAY SHALL COMPLY WITH THE NORFOLK SOUTHERN RAILWAY COMPANY ("RAILROAD", "NSR" OR "NS") PUBLIC PROJECTS MANUAL (APPENDIX E, SPECIAL PROVISIONS FOR THE PROTECTION OF RAILWAY INTERESTS, AND APPENDIX HI, OVERHEAD GRADE SEPARATION DESIGN CRITERIA). WHEN IN CONFLICT WITH OTHER PROJECT SPECIFICATIONS, THE MOST STRINGENT ONE SHALL APPLY.SURVEYING AND BOUNDARY INFORMATION BY DAVIS & FLOYD

"ONE CALL" SERVICES DO NOT LOCATE BURIED RAILROAD SIGNAL AND COMMUNICATIONS LINES. THE CONTRACTOR SHALL CONTACT THE RAILROAD'S REPRESENTATIVE 2 DAYS IN ADVANCE OF WORK AT THOSE PLACES WHERE EXCAVATION, PILE DRIVING, OR HEAVY LOADS MAY DAMAGE THE RAILROAD'S UNDERGROUND FACILITIES. UPON REQUEST FROM THE CONTRACTOR OR SPONSOR, RAILROAD FORCES WILL LOCATE AND PAINT MARK OR FLAG THE RAILROAD'S UNDERGROUND FACILITIES. THE CONTRACTOR SHALL AVOID EXCAVATION OR OTHER DISTURBANCE OF THESE FACILITIES. IF DISTURBANCE OR EXCAVATION IS REQUIRED NEAR A BURIED RAILROAD FACILITY, THE CONTRACTOR SHALL COORDINATE WITH THE RAILROAD TO HAVE THE FACILITY POTHOLED MANUALLY WITH CAREFUL HAND EXCAVATION. THE FACILITY SHALL BE PROTECTED BY THE CONTRACTOR DURING THE COURSE OF THE DISTURBANCE UNDER THE SUPERVISION AND DIRECTION OF THE RAILROAD'S REPRESENTATIVE. (SEE NS PUBLIC PROJECTS MANUAL, APPENDIX E, SECTION 3.D).

ALL UTILITY INSTALLATIONS OR RELOCATIONS THAT ARE REQUIRED IN CONJUNCTION WITH THIS PROJECT CAN BE INSTALLED OR RELOCATED AS PART OF THE PROJECT PROVIDED THE CONSTRUCTION IS PERFORMED BY THE PROJECT CONTRACTOR OR PROJECT CONTRACTOR'S SUB-CONTRACTOR. HOWEVER, THE UTILITY MUST SUBMIT AN APPLICATION FOR THE INSTALLATION OR RELOCATION TO AECOM FOR APPROPRIATE HANDLING FOR LICENSE AGREEMENT AND APPLICABLE FEES. FOR UTILITY APPLICATIONS GO TO: WWW.NSCORP.COM > REAL ESTATE > NS SERVICES > WIRE, PIPELINE, & FIBER OPTIC PROJECTS > AECOM. NOTE: LICENSE AGREEMENT MUST BE EXECUTED PRIOR TO UTILITY BEING INSTALLED OR RELOCATED..

CONTRACTOR IS TO VERIFY ACCURACY OF ANY TEMPORARY BENCHMARKS SHOWN PRIOR TO UTILIZING THEM FOR CONSTRUCTION.

. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES OTHER THAN THOSE SHOWN ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND TAKE STEPS TO PROTECT THE LINE(S) AND ENSURE CONTINUED SERVICE. DAMAGE CAUSED TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR SHALL CONFIRM THE CONNECTION POINTS OF NEW UTILITIES TO EXISTING UTILITIES PRIOR TO BEGINNING NEW CONSTRUCTION.

6. THE CONTRACTOR SHALL NOT COMMENCE ANY WORK ON RAILROAD RIGHTS-OF-WAY UNTIL HE HAS COMPLIED WITH THE CONDITIONS PRESENTED ON NS PUBLIC PROJECTS MANUAL (SEE APPENDIX E, NORFOLK SOUTHERN - SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTERESTS).

THE CONTRACTOR SHALL SO ARRANGE AND CONDUCT HIS WORK THAT THERE WILL BE NO INTERFERENCE WITH RAILROAD'S OPERATIONS. WHENEVER WORK IS LIABLE TO AFFECT OPERATIONS OR SAFETY OF TRAINS, THE METHODS OF DOING SUCH WORK SHALL FIRST BE SUBMITTED TO THE RAILROAD ENGINEER FOR APPROVAL, BUT SUCH APPROVAL SHALL NOT RELIEVE

FOR PROJECTS REQUIRING MORE THAN 30 CONSECUTIVE DAYS OF FLAGGING, CONTRACTOR SHALL PROVIDE THE FLAGMAN A SMALL WORK AREA WITH A DESK/COUNTER AND CHAIR WITHIN THE FIELD/SITE TRAILER, INCLUDING THE USE OF BATHROOM FACILITIES, WHERE THE FLAGMAN CAN CHECK IN/OUT WITH THE PROJECT, AS WELL AS TO THE FLAGMAN'S HOME TERMINAL. THE WORK AREA SHOULD PROVIDE ACCESS TO TWO (2) ELECTRICAL OUTLETS FOR RECHARGING RADIO(S), AND A LAPTOP COMPUTER; AND HAVE THE ABILITY TO PRINT OFF NEEDED DOCUMENTATION AND ORDERS AS NEEDED AT THE FIELD/SITE TRAILER. THIS SHOULD AID IN MAXIMIZING THE FLAGMAN'S TIME AND EFFICIENCY ON THE PROJECT.

# GENERAL INFORMATION

OCONEE COUNTY 415 PINE STREET WALHALLA, SC 29691 (864) 638-4150

<u>ENGINEER:</u>

SURVEYOR: DAVIS & FLOYD 1319 HIGHWAY 72/221 EAST GREENWOOD, SC 29649 (864) 229-5211

THOMAS & HUTTON 304 NORTH CHURCH STREET GREENVILLE,SC 29601 (864) 412-2222

SENECA LIGHT & WATER 250 EAST NORTH SECOND STREET SENECA, SOUTH CAROLINA 29679 (864) 885-2716

NORFOLK SOUTHERN CORPORATION ATTENTION: MR. JACOB WATSON ENGINEER PUBLIC IMPROVEMENTS BRIDGES & STRUCTURES 1200 PEACHTREE STREET NE ATLANTA, GA 30309

SENECA LIGHT & WATER 250 EAST NORTH SECOND STREET SENECA, SOUTH CAROLINA 29679 (864) 885-2716

FORT HILL NATURAL GAS AUTHORITY 311 SOUTH PENDLETON STREET EASLEY, SOUTH CAROLINA 29640 (864) 859-6375

PREPARED FOR:

TELEPHONE: (404) 529-1225

EMAIL: JACOB.WATSON@NSCORP.COM

OCONEE COUNTY 415 PINE STREET, WALHALLA, SC 29691 (864) 638-4150

- I. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER 48 HOURS IN ADVANCE OF ALL REQUIRED TESTS AND INSPECTIONS.
- 2. THE CONTRACTOR WILL NOTIFY THE ENGINEER IF UNSUITABLE MATERIAL IS DISCOVERED PRIOR TO
- BEGINNING ANY REMOVAL OPERATION.
- 3. SURVEYING AND BOUNDARY INFORMATION BY DAVIS & FLOYD
- 4. ALL ELEVATIONS SHOWN ARE BASED ON NAVD88.
- 5. TOPOGRAPHIC SURVEY BY DAVIS & FLOYD.
- 6. CONTRACTOR IS TO VERIFY ACCURACY OF ANY TEMPORARY BENCHMARKS SHOWN PRIOR TO UTILIZING THEM FOR CONSTRUCTION.
- 7. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES OTHER THAN THOSE SHOWN ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND TAKE STEPS TO PROTECT THE LINE(S) AND ENSURE CONTINUED SERVICE. DAMAGE CAUSED TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR SHALL CONFIRM THE CONNECTION POINTS OF NEW UTILITIES TO EXISTING UTILITIES PRIOR TO BEGINNING NEW CONSTRUCTION.
- 8. IF WORK IS SUSPENDED OR DELAYED FOR 14 DAYS, THE CONTRACTOR SHALL TEMPORARILY STABILIZE THE DISTURBED AREA AT NO ADDITIONAL COST TO THE OWNER.
- 9. THE CONTRACTOR SHALL INSTALL ANY BARRICADES PRIOR TO BEGINNING CONSTRUCTION IO. THE FOLLOWING NOTES ARE SPECIFIED BY THE COUNTY ENGINEER AND ARE TO BE EXECUTED BY THE
- CONTRACTOR FOR STREETS IN THE PROJECT WHICH ARE TO BE DEEDED TO THE COUNTY: ANY DAMAGE TO EXISTING PAVEMENT MUST BE REPAIRED AT CONTRACTORS EXPENSE AND TO THE
- SATISFACTION OF THE COUNTY ENGINEER AND THE PROJECT ENGINEER. ALL RIGHT-OF-WAY AND DRAINAGE EASEMENT CONSTRUCTION SHALL MEET SCDOT STANDARD SPECIFICATIONS UNLESS SPECIFIED ELSEWHERE AND APPROVED IN WRITING BY THE COUNTY ENGINEER.
- ALL LOTS WITHIN THE DEVELOPMENT SHALL BE FILLED AND HAVE POSITIVE DRAINAGE TO THE APPROPRIATE EASEMENT OR RIGHT-OF-WAY AS APPROVED ON THE PLANS PRIOR TO THE ISSUANCE OF ANY BUILDING PERMITS OR FINAL ACCEPTANCE OF THE RIGHT-OF-WAYS BY THE COUNTY WHERE FIELD INSPECTIONS ARE REQUIRED BY THE COUNTY, THE CONTRACTOR SHALL NOTIFY THE
- ENGINEERING DIVISION A MINIMUM OF 48 HOURS IN ADVANCE TO SCHEDULE SUCH INSPECTIONS. A COMPLETE SET OF APPROVED DRAWINGS AND SPECIFICATIONS MUST BE MAINTAINED ON SITE AT ALL TIMES THAT THE CONTRACTOR IS PERFORMING WORK. THESE DRAWINGS SHALL BE MADE AVAILABLE

# GENERAL NOTES

- ANY REVISIONS DURING CONSTRUCTION WHICH ALTER THE ROAD LAYOUT, CONSTRUCTION METHODS, RIGHT-OF-WAY LOCATION OR DRAINAGE MUST BE SUBMITTED AND APPROVED IN WRITING BY THE COUNTY ENGINEER
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL CONSTRUCTION PERMITS NECESSARY FROM OTHER RESPONSIBLE AGENCIES.
- ALL TREES SHOWING DISTURBANCE WITHIN THE PROTECTED ROOT ZONE SHALL BE PRUNED AND
- FERTILIZED BY A CERTIFIED ARBORIST PRIOR TO RECEIVING FINAL PLAT APPROVAL (THIS WORK WILL BE DONE BY THE OWNER OUTSIDE OF THE CONTRACT.) LAKE CONTOURS SHOWN HEREIN WILL PROVIDE A DEPTH ONE FOOT GREATER THAN NECESSARY FOR STORM WATER MANAGEMENT. THIS IS TO PROVIDE FOR ONE FOOT OF SILT BUILDUP DURING CONSTRUCTION OF ANY AREA OF ANY POND WHICH SILTS MORE THAN ONE FOOT ABOVE DESIGNED
- THAN ORIGINAL CONSTRUCTED DEPTH. ALL ABOVE GROUND UTILITIES ARE TO BE OUTSIDE OF THE R/W AND ALL AT GRADE UTILITIES ARE TO BE OUT OF THE CURB LINE.

BOTTOM ELEVATION SHALL BE RESTORED TO THE MINIMUM ACCEPTABLE DEPTH OF ONE FOOT LESS

- II. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL AND PREVENTION STRUCTURES SHOWN ON THE PLANS. BOTH MUST BE APPROVED BY SCDHEC PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES.
- 12. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF UNSUITABLE MATERIAL IS DISCOVERED PRIOR TO BEGINNING ANY REMOVAL OPERATION.
- 13. CONTRACTOR WILL BE REQUIRED TO ADJUST MANHOLE FRAMES TO MATCH FINAL GRADE AT NO ADDITIONAL
- 14. THE FOLLOWING NOTES ARE SPECIFIED BY THE SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL AND ARE TO BE EXECUTED BY THE CONTRACTOR:
- a. ALL SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER ANY STORM EVENT OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED.
- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED, UNLESS ACTIVITY IN THAT PORTION OF THE SITE WILL RESUME WITHIN 14 DAYS.
- RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING LOT CONSTRUCTION OR PROVIDE AN INDIVIDUAL PLAN MEETING SECTION R.72-307 OF THE STORM WATER MANAGEMENT AND SEDIMENT REDUCTION ACT REQUIREMENTS.
- 15. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CONSTRUCTED SIMULTANEOUSLY WITH THE

- DISTURBANCE OF THE LAND AND SHALL REMAIN FUNCTIONAL UNTIL THE CONTRIBUTING DISTURBED AREAS ARE STABILIZED. SILT BARRIERS WILL BE INSTALLED AS NECESSARY TO PREVENT EXCESSIVE SEDIMENTATION OF DOWNSTREAM AREAS. DEVICES SHALL BE IN ACCORDANCE WITH THE MANUAL OF "EROSION AND SEDIMENT CONTROL PRACTICES FOR DEVELOPING AREAS" BY THE S.C. LAND RESOURCES
- CONSERVATION COMMISSION. I6. CONTRACTOR SHALL GRADE AREAS TO DRAIN FOR POSITIVE FLOW PRIOR TO FINAL APPROVAL.
- 17. ALL TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON "UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND "SOUTH CAROLINA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BOTH CURRENT EDITIONS.
- 18. ALL AREAS DISTURBED WILL BE GRASSED IMMEDIATELY AFTER THE INSTALLATION. GRASSING SHALL BE IN ACCORDANCE WITH SECTION 810 OF THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION CURRENT EDITION. PAYMENT SHALL BE AS SHOWN IN THE BID FORM AND SHALL BE COMPENSATION FOR LL NECESSARY WORK AND MATERIALS TO COMPLETE THE SEEDING IN ACCORDANCE WITH THESE SPECIFICATIONS. (SEE SPECIFICATIONS BELOW)
- 19. ALL DRAINAGE WILL BE MADE FUNCTIONAL DAILY AS WORK PROGRESSES.
- 20. EACH EXISTING ROAD WILL BE CLEANED UP AND RESTORED DAILY.
- 21. NEW PAVEMENT TO BE FLUSH WITH EDGE OF EXISTING PAVEMENT.
- 22. ALL STORM DRAIN PIPE INVERTS IN AND OUT ARE THE SAME AS THE BOX INVERT UNLESS OTHERWISE NOTED ON THE PLAN SHEETS AND/OR PROFILES.
- 23. ONLY TYPE S AND M MORTAR IS TO BE USED IN STORMWATER SYSTEM CONSTRUCTION AND ALL BRICKWORK AND BRICK MUST MEET SCDOT SPECIFICATIONS.
- 24. THE DESIGN OF THE PAVEMENT AND EARTHWORK MATERIALS, PROCEDURES AND METHODS SPECIFIED ARE BASED ON THE CRITERIA AND RECOMMENDATIONS ESTABLISHED IN THE GEOTECHNICAL INVESTIGATION
- REPORT PREPARED BY TERRACON CONSULTANTS INC., DATED JULY 20, 2017 AND SUBSEQUENT ADDENDUMS. 25. ALL WORK WITHIN DUKE ENERGY RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH DUKE ENERGY STANDARDS FOR CONSTRUCTION. CONTRACTOR IS TO FOLLOW THE REQUIREMENTS OF THE ENCROACHMENT PERMIT WHILE WORKING WITHIN THE RIGHT-OF-WAY.
- 26. ALL WORK WITHIN NORFOLK SOUTHERN RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH NORFOLK SOUTHERN STANDARDS AND SPECIFICATIONS. CONTRACTOR IS TO FOLLOW THE REQUIREMENTS OF THE NORFOLK SOUTHERN PERMIT WHILE WORKING WITHIN THE RIGHT-OF-WAY.
- 27. CONTRACTOR IS TO FOLLOW REQUIREMENTS OF SCDOT ENECROACHMENT PERMIT FOR WORK WITHIN THE SCDOT RIGHT-OF-WAY.







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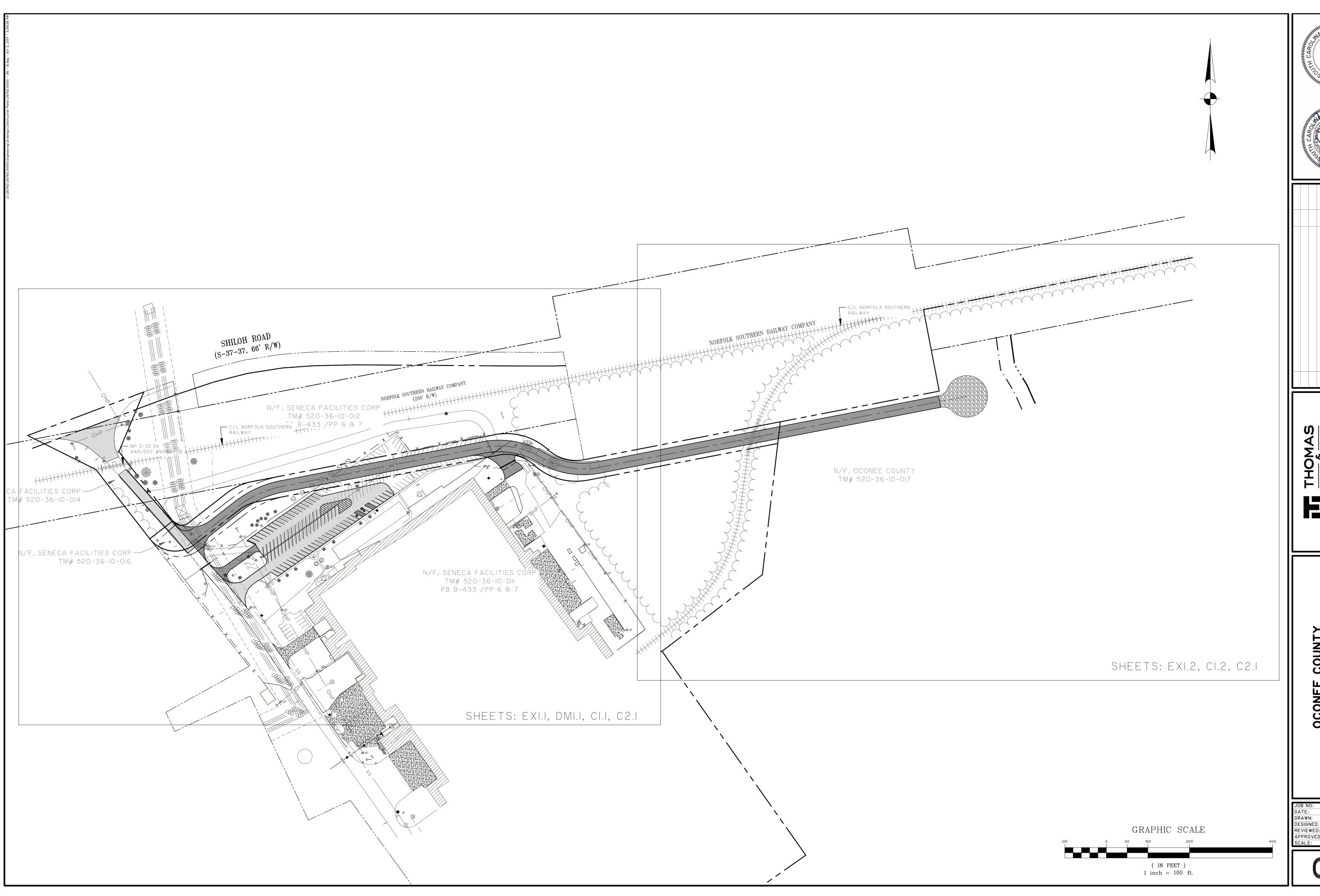
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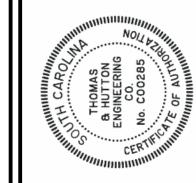
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NOVEMBER 6, 201 DRAWN:

DESIGNED: RWP REVIEWED: APPROVED: RWP CALE: N/A

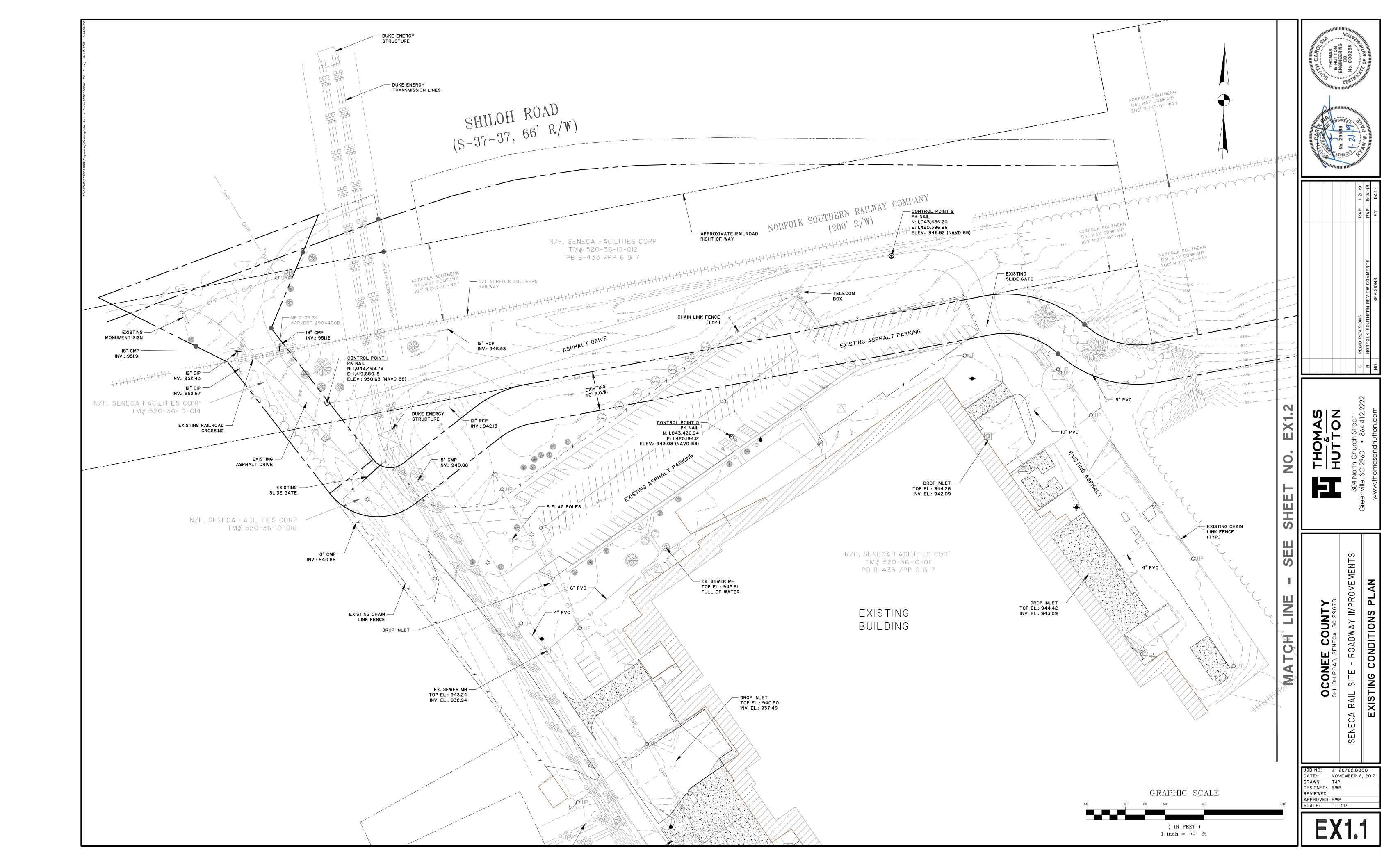


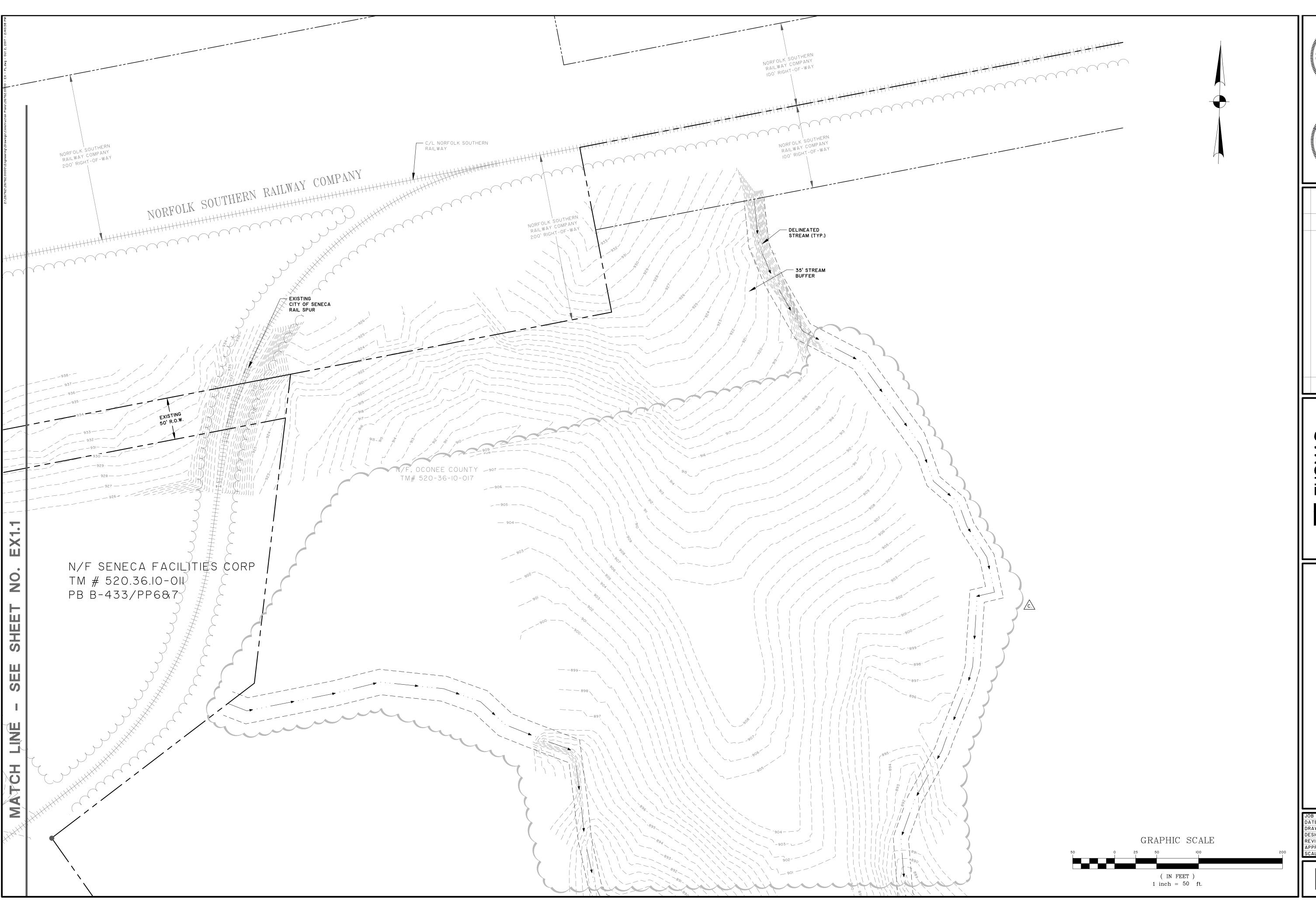




SENECA RAIL

JOB NO: J- 26762.0000
DATE: NOVEMBER 6, 2017
DRAWN: TJP
DESIGNED: RWP
REVIEWED:
APPROVED: RWP
SCALE: I" = 100'





THOMAS ANTHONIAN SHIPMAN ANTHONIAN SHIPMAN ANTHONIAN SHIPMAN S



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		RWP	RWP	ВҮ	
		REBID REVISIONS	NORFOLK SOUTHERN REVIEW COMMENTS	REVISIONS	
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**HUTTON**104 North Church Street

11e, SC 29601 • 864.412.2222

Y IMPROVEMENTS

SHILOH ROAD, SENECA, SC 29678

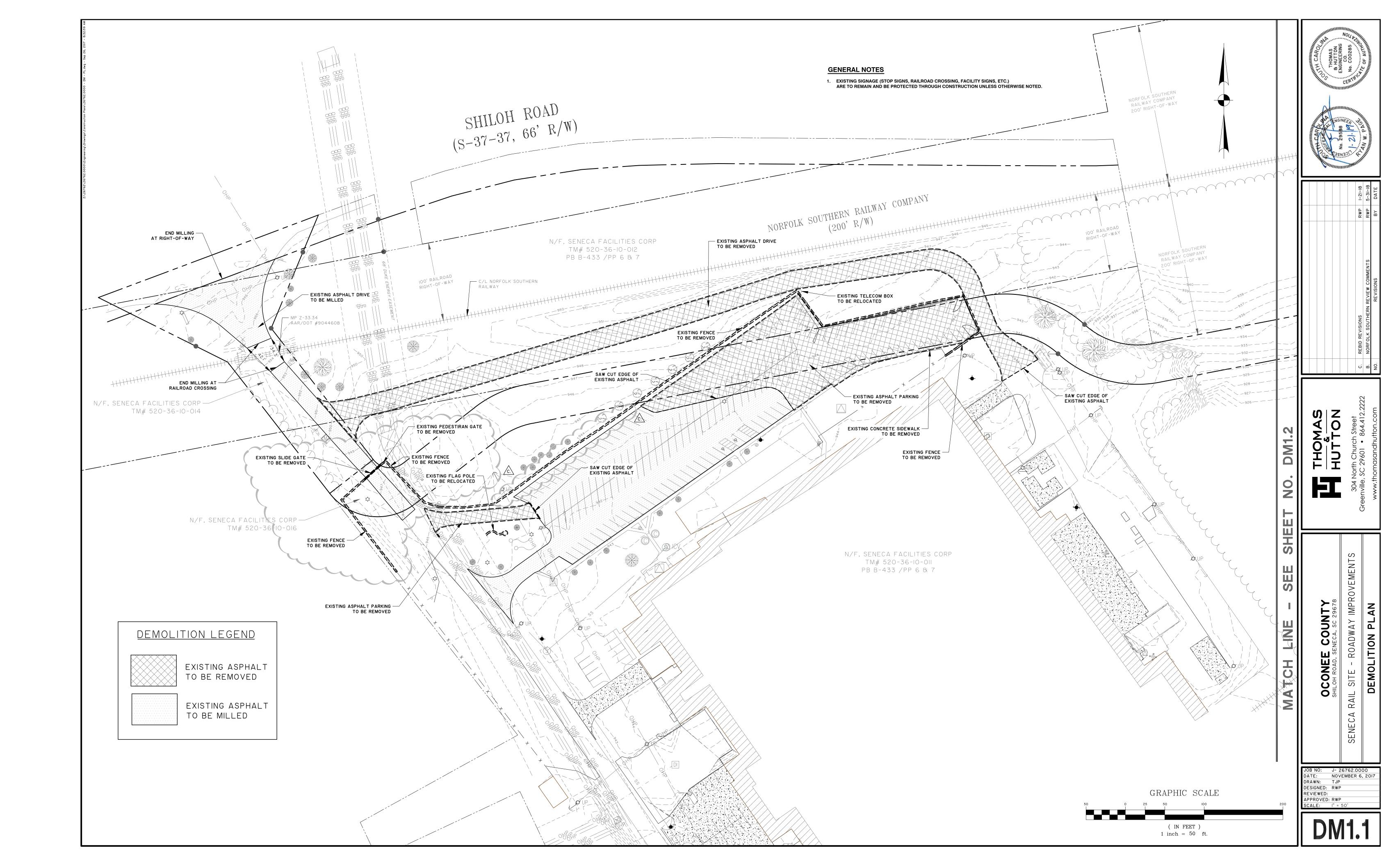
IL SITE - ROADWAY IMPRO

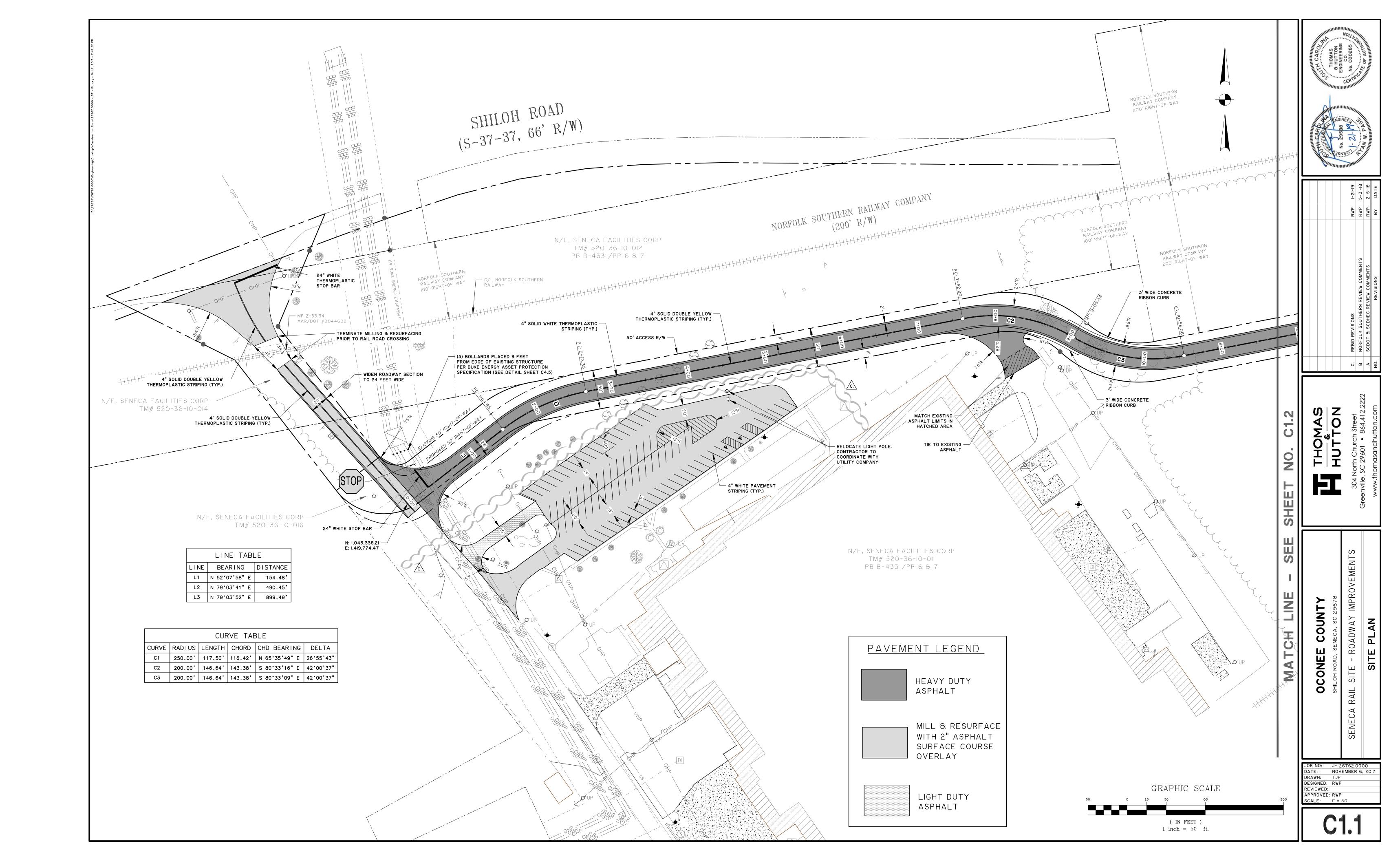
SENECA RAIL SITE

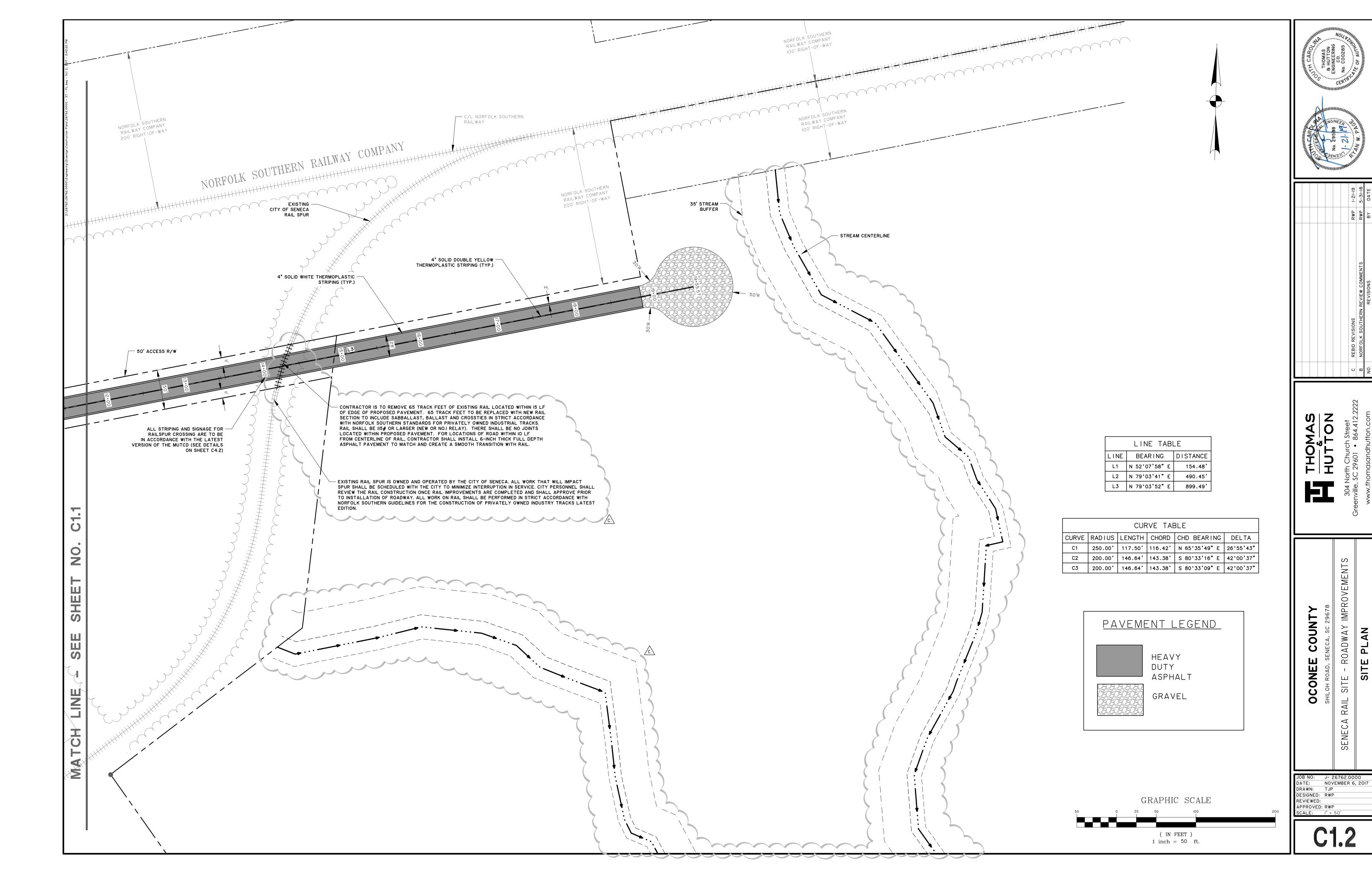
EXISTING

JOB NO: J- 26762.0000
DATE: NOVEMBER 6, 2017
DRAWN: TJP
DESIGNED: RWP
REVIEWED:
APPROVED: RWP
SCALE: I" = 50'

EX1.2







A.1. PROJECT AREA

A.2. AREA DISTURBED A.3. PERCENT IMPERVIOUS AREA BEFORE CONSTRUCTION A.4. RUNOFF COEFFICIENT BEFORE CONSTRUCTION

A.5. PERCENT IMPERVIOUS AREA AFTER CONSTRUCTION A.6. RUNOFF COEFFICIENT AFTER CONSTRUCTION

B. DESCRIPTION OF CONSTRUCTION ACTIVITY

WORK CONSISTS OF ROADWAY IMPROVEMENTS TO SERVE SENECA RAIL SITE.

C. RUNOFF DATA C.1. SOIL CLASSIFICATIONS:

C.2. LAND USE(S): D. RECEIVING WATERS

D.1. CLOSEST RECEIVING WATERS: Unnamed Tributary to Martin Creek D.2. ULTIMATE RECEIVING WATERS: Martin Creek

E.1. FEMA FLOOD ZONE(S): Zone X E.2. FEMA FLOOD INSURANCE MAP(S): 45073C0345C

# II. CONTROL MEASURES

## 1. EROSION AND SEDIMENT CONTROLS

PRIOR TO START OF CONSTRUCTION, ALL EXTERIOR SILT FENCE WILL BE INSTALLED AS SHOWN ON THE PLANS.

(HSG) B

**INDUSTRIAL** 

1.1. CLEARING

1.1.1. AS CLEARING IS COMPLETED, ADDITIONAL SILT FENCE WILL BE INSTALLED WHERE NECESSARY, SUCH AS POINTS WHERE FLOWS BECOME CHANNELIZED, AND OTHER POINTS WHERE EXCESSIVE RUNOFF VELOCITIES MAY OCCUR. 1.1.2. INSTALL CONSTRUCTION ENTRANCES / EXITS BEFORE BEGINNING CLEARING

1.1.3. CONSTRUCTION DELAYS IN ANY ONE AREA GREATER THAN 14 DAYS PRIOR TO START OF ROUGH GRADING WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING 1.1.4 MAINTAIN EXISTING VEGETATION WHENEVER POSSIBLE AND MINIMIZE THE AREA OF

DISTURBANCE. RETAIN AND PROTECT TREES TO ENHANCE FUTURE LANDSCAPING EFFORTS AND REDUCE RAINDROP IMPACT.

1.1.5. INSTALL ALL SEDIMENT CONTROL PRACTICES PRIOR TO ANY UP-SLOPE SOIL DISTURBING ACTIVITIES.

1.1.6. PHASE CONSTRUCTION ACTIVITIES TO MINIMIZE THE AREAS DISTURBED AT ONE TIME. THIS WILL ALSO ALLOW COMPLETED AREAS TO BE STABILIZED AND RE-VEGETATED BEFORE DISTURBING ADJACENT SITES. THE NEED FOR TEMPORARY EROSION CONTROL MEASURES MAY BE AVOIDED BY COMPLETING A PHASE AND INSTALLING PERMANENT EROSION CONTROL MEASURES WHEN THE FINAL GRADE IS ATTAINED

1.1.7. MAINTAIN AND PROTECT ALL NATURAL WATERWAYS. RETAIN AT LEAST A 35-FOOT UNDISTURBED BUFFER OF NATURAL VEGETATION ALONG ALL WATERWAYS TO FILTER OUT SEDIMENT AND OTHER POLLUTANTS. MAINTAIN A 45-FOOT UNDISTURBED BUFFER AROUND SENSITIVE WATERS.

1.1.8. INSTALL SILT FENCE (OR BIO ROLLS/ROCK SOCK PRODUCTS) ON THE DOWN-SLOPE PERIMETER OF ALL DISTURBED AREAS PRIOR TO ANY SOIL DISTURBING ACTIVITIES (INCLUDING CLEARING AND GRUBBING). SILT FENCE CAN TREAT A MAXIMUM OF 100 SQUARE FEET PER LINEAL FOOT OF FENCE. INSTALL SILT FENCE IN SHORTER REACHES ON THE CONTOUR WITH EACH END TURNED UP-SLOPE. SWALES AND SHORELAND AREAS SHOULD ALSO BE PROTECTED WITH SILT FENCE, BIO ROLLS, OR ROCK SOCKS.

1.1.9. IN AREAS OF CONCENTRATED FLOW INSTALL STRAW BALE CHECKS, ROCK CHECK DAMS, TRIANGULAR DIKES, BIO ROLL BLANKETS, OR ROCK SOCKS TO SLOW RUNOFF AND TRAP

1.1.10. USE TEMPORARY SLOPE DRAINS OR ROCK CHUTES TO MOVE WATER DOWN STEEP SLOPES.

1.1.11. CONSTRUCT SEDIMENT BASINS FOR DRAINAGE AREAS GREATER THAN 10 ACRES

# 1.2. ROUGH GRADING

1.2.1. ALL EXISTING CONTROLS WILL BE MAINTAINED DURING ROUGH GRADING, DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING

1.2.2. ALL AREAS NOT SUBJECT TO FURTHER CONSTRUCTION (DRAINAGE, SANITARY SEWER, ROADS, WATER DISTRIBUTION SYSTEMS, OR STORM WATER FACILITIES) SHALL BE GRASSED WITH A PERMANENT COVER.

1.2.3. COVER ANY STOCK PILED TOPSOIL WITH PLASTIC (OR OTHER IMPERVIOUS COVERING) OR USE A TEMPORARY SEED MIX. USE STOCKPILED TOPSOIL AS EARTHEN BERMS TO SERVE AS TEMPORARY SEDIMENT BASINS

# 1.3. DRAINAGE

1.3.1. ALL EXISTING CONTROLS WILL BE MAINTAINED DURING DRAINAGE INSTALLATION.

1.3.2. CONSTRUCTION DRAINAGE WILL BE ROUTED THROUGH LAKES, WHICH WILL ACT AS SEDIMENT BASINS OR OTHER ACCEPTABLE SEDIMENT BASINS/TRAPS.

1.3.3. STORM DRAIN INLET PROTECTION AS SHOWN ON DETAIL SHEET SHALL BE INSTALLED ON ALL CURB INLETS. STORM DRAIN MANHOLES, JUNCTION BOXES, AND GRATE INLETS.

1.3.4. DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF THE NEXT CONSTRUCTION SEQUENCE WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.

1.3.5. ALL STORM LINES NOT IN STREETS OR OTHER PAVED AREAS ARE TO BE MULCHED AND SEEDED WITHIN 5 DAYS AFTER BACKFILL.

# 1.4. WASTE DISTRIBUTION SYSTEM INSTALLATION

1.4.1. ALL EXISTING CONTROLS WILL BE MAINTAINED DURING INSTALLATION OF THE WATER DISTRIBUTION SYSTEM

1.4.2. DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.

# 1.5. WASTEWATER COLLECTION SYSTEM INSTALLATION

1.5.2. DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.

# 1.6. CONSTRUCTION OF ROADS

1.6.1. ALL EXISTING CONTROLS WILL BE MAINTAINED DURING ROAD CONSTRUCTION. 1.6.2. DELAYS OF GREATER THAN 14 DAYS PRIOR TO START OF NEXT ACTIVITY WILL MANDATE STABILIZATION PROCEDURES. ACCEPTABLE METHODS OF STABILIZATION INCLUDE MULCHING AND TEMPORARY SEEDING.

# 1.7. GRASSING

1.7.1. ALL EXISTING CONTROLS WILL BE MAINTAINED UNTIL GRASSING IS ESTABLISHED 1.7.2. ANY AREAS THAT ERODE OR WHERE GRASS DOES NOT ESTABLISH ITSELF SHALL BE RE-GRADED AND RE-GRASSED.

# 2. STORM WATER MANAGEMENT

3. OTHER CONTROLS

RUNOFF FROM THIS PROJECT WILL DISCHARGE INTO A STORM WATER MANAGEMENT SYSTEM. TREATMENT WILL OCCUR IN STORM WATER DETENTION PONDS.

3.1. WASTE DISPOSAL

7.5 ACRES

7.5 ACRES

32.7 %

73 CN

34.4 %

74 CN

3.1.1. NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED TO ANY RECEIVING WATERS

3.1.2. OFFSITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED.

3.1.3. THIS PLAN SHALL COMPLY WITH STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER OR SEPTIC SYSTEM REGULATIONS.

3.1.4. DUST CONTROL ON DISTURBED AREAS - CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITE AND HAUL ROUTES. THE PURPOSE OF THE MEASURE IS TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES, WHICH MAY BE HARMFUL OR INJURIOUS TO HUMAN HEALTH, WELFARE OR SAFETY, OR TO ANIMALS OR PLANT LIFE.

## III. MAINTENANCE

 MAINTENANCE PROGRAM 1.1. THE SITE SUPERINTENDENT, OR HIS/HER REPRESENTATIVE, SHALL MAKE VISUAL INSPECTIONS OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREAS (I.E. SEEDED AND MULCHED AND/OR SODDED AREAS) ON A DAILY BASIS; ESPECIALLY AFTER HEAVY RAINFALL EVENT TO INSURE THAT ALL CONTROLS ARE MAINTAINED AND PROPERLY FUNCTIONING. ANY DAMAGED CONTROLS SHALL BE REPAIRED PRIOR TO THE END OF THE WORK DAY INCLUDING RE-SEEDING

AND MULCHING OR RE-SODDING IF NECESSARY.

1.2. EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE. ALL DRAINAGE SWALES, POCKETS, DEPRESSION, LOW LINES, AND OUTLET DITCHES SHALL DRAIN EFFECTIVELY AT ALL TIMES. SETTLEMENT OR WASHING THAT MAY OCCUR SHALL BE REPAIRED BY THE CONTRACTOR. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN AN EFFECTIVE BARRIER MAINTAIN THE CONSTRUCTION EXIT IN A CONDITION TO PREVENT MUD OR SEDIMENT FROM LEAVING THE SITE. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE. IMMEDIATELY REMOVE ALL OBJECTIONABLE MATERIALS SPILLED, WASHED, OR TACKED ONTO PUBLIC ROADWAYS. RESEED AND MULCH AREA WHERE SEEDING EMERGENCE IS POOR, OR WHERE EROSION OCCURS, PROTECT FROM TRAFFIC AS MUCH AS POSSIBLE, INSPECT ALL MULCHES PERIODICALLY, AND AFTER RAINSTORMS TO CHECK FOR EROSION, DISLOCATION OR FAILURE. IF WASHOUT OCCURS, REPAIR THE SLOPE GRADE, RESEED AND REINSTALL MULCH. FOLLOW THE CONSTRUCTION SEQUENCE THROUGHOUT THE PROJECT DEVELOPMENT. WHEN CHANGES IN CONSTRUCTION ACTIVITIES ARE NEEDED. AMEND THE SEQUENCE SCHEDULE IN ADVANCE TO MAINTAIN MANAGEMENT CONTROL. IF MAJOR CHANGES ARE NECESSARY, SEND A COPY OF THE MODIFIED SCHEDULE TO THE ENGINEER, SEDIMENT AND EROSION CONTROL MEASURES WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE DISTURBED AREAS ARE STABILIZED

## SILT FENCE

SILT FENCES WILL BE MONITORED DURING CONSTRUCTION. ANY SILT FENCE WHICH IS NOT FUNCTIONING PROPERLY WILL BE PROMPTLY REPAIRED. CLEAN OUT THE SILT FENCE WHEN IT REACHES 1/3 THE HEIGHT OF THE FENCE OR REPLACE WITH FUNCTIONAL SILT FENCE WITHIN 24 HOURS. USE OF HOSES AND WATER TO FLUSH THE SEDIMENT INTO THE STORM INLETS IS UNACCEPTABLE

SEDIMENTATION BASINS

SEDIMENTATION BASINS WHICH ARE AT 50% USED CAPACITY OR APPROACHING SUCH CAPACITY SHALL BE RE-EXCAVATED TO ORIGINAL DIMENSIONS AND THE SILT PROPERLY DISPOSED OF. 4. SEDIMENT LOGS/ROLLS

SEDIMENT LOGS/ROLLS OR OTHER CONTROL MEASURES WHICH BEGIN TO DISINTEGRATE OR FUNCTION INEFFECTIVELY SHALL BE PROMPTLY REPLACED.

VEGETATION COVER ANY VEGETATION COVER SERVING TO STABILIZE DISTURBED SOILS WHICH IS ITSELF DISTURBED

6. CONSTRUCTION ENTRANCE

SHALL IMMEDIATELY BE REPLACED.

MAINTAIN ROCK CONSTRUCTION ENTRANCE AND CLEAN ADJACENT ROADS OF ANY MUD TRACKED ONTO THEM.

QUALIFIED PERSONNEL WILL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE EVERY SEVEN CALENDAR DAYS. WHERE SITES HAVE BEEN FINALLY STABILIZED SUCH INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH DURING THE WARRANTY PERIOD.

DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE. THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFFSITE SEDIMENT TRACKING.

3. A WRITTEN REPORT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION. THE DATE(S) OF THE INSPECTION. WEATHER INFORMATION FOR THE PERIOD SINCE THE LAST INSPECTION (OR SINCE COMMENCEMENT OF CONSTRUCTION ACTIVITY) INCLUDING A BEST ESTIMATE OF THE BEGINNING OF EACH STORM EVENT DURATION OF EACH STORM EVENT APPROXIMATE AMOUNT OF RAINFALL FOR EACH STORM EVENT (IN INCHES) AND WHETHER ANY DISCHARGES OCCURRED. LOCATION(S) OF DISCHARGES OF SEDIMENT OR OTHER POLLUTANTS FROM THE SITE, LOCATION(S) OF BMP'S THAT NEED MAINTENANCE, LOCATION(S) OF BMP'S THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION. LOCATION(S) WHERE ADDITIONAL BMP'S ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION AND ANY CORRECTIVE ACTION REQUIRED INCLUDING ANY CHANGES TO SWPPP NECESSARY AND IMPLEMENTATION DATES.

4. THE REPORT SHALL BE MAINTAINED AT LEAST THREE YEARS FROM THE DATE THE SITE IS FINALLY STABILIZED. THE REPORT MUST BE SIGNED AND SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN AND THE NPDES PERMIT REFERENCED ABOVE. THE CONTRACTOR SHALL MAINTAIN THIS REPORT. THE REPORT SHALL BE SUBMITTED TO THE ENGINEER AND OWNER.

# 1.5.1. ALL EXISTING CONTROLS WILL BE MAINTAINED DURING INSTALLATION OF THE WASTEWATER V. LONG TERM MAINTENANCE OF DRAINAGE AND STORM WATER MANAGEMENT SYSTEM

THE ROADS AND DRAINAGE SYSTEM WILL BE OWNED AND MAINTAINED BY OCONEE COUNTY AFTER

# VI. SC DHEC STANDARD NOTES

1. IF NECESSARY, SLOPES WHICH EXCEED EIGHT (8) VERTICAL FEET SHOULD BE STABILIZED WITH SYNTHETIC OR VEGETATIVE MATS, IN ADDITION TO GRASSING / HYDROSEEDING. IT MAY BE NECESSARY TO INSTALL TEMPORARY SLOPE DRAINS DURING CONSTRUCTION. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.

2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED

2.1. WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.

2.2. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED, AND EARTH-DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.

3. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY CALENDAR

WEEK. IF SITE INSPECTIONS IDENTIFY BMP'S THAT ARE DAMAGED OR ARE NOT OPERATING

POSSIBLE BEFORE THE NEXT STORM EVENT WHENEVER PRACTICAL. 4. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION. FILL, COVER, AND TEMPORARY SEEDING AT THE END OF EACH DAY ARE RECOMMENDED. IF WATER IS ENCOUNTERED WHILE TRENCHING. THE WATER SHOULD BE FILTERED TO REMOVE ANY SEDIMENTS BEFORE BEING PUMPED INTO ANY WATERS OF THE STATE.

EFFECTIVELY, MAINTENANCE MUST BE PERFORMED AS SOON AS PRACTICAL OR AS REASONABLY

# STORMWATER POLLUTION PREVENTION PLAN

5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND

6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ONTO THE PAVED ROADWAY FROM CONSTRUCTION AREAS AND THE GENERATION OF DUST. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.

7. RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR OBTAIN APPROVAL OF AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C. REG. 72-300 AND SCR100000.

8. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.

9. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. A DOUBLE ROW OF SILT FENCE IS TO BE INSTALLED IN ALL AREAS WHERE A 50-FOOT BUFFER CAN NOT BE MAINTAINED BETWEEN THE DISTURBED AREA AND ALL WOS. A 10-FOOT BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND

10. LITTER. CONSTRUCTION DEBRIS. OILS. FUELS. AND BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER) AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORM WATER DISCHARGES.

11. A COPY OF THE SWPPP, INSPECTION RECORDS AND RAINFALL DATA MUST BE RETAINED AT THE CONSTRUCTION SITE OR A NEARBY LOCATION FASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED.

12. INITIATE STABILIZATION MEASURES ON ANY EXPOSED STEEP SLOPE (3H:1V OR GREATER) WHERE LAND DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED, AND WILL NOT RESUME FOR A PERIOD OF 7 CALENDAR DAYS.

13. MINIMIZE SOIL COMPACTION IN AREAS NOT UNDER PAVEMENTS AND /OR STRUCTURES AND, UNLESS INFEASIBLE, PRESERVE TOPSOIL

14. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUAL OR BETTER TREATMENT PRIOR TO DISCHARGE.

15. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC.).

# 16. THE FOLLOWING DISCHARGES ARE PROHIBITED:

16.1. WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL:

16.2. WASTEWATER FROM WASHOUT AND CLEANOUT OF OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS;

16.3. FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE: AND 16.4. SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.

17. AFTER CONSTRUCTION ACTIVITIES BEGIN, INSPECTIONS MUST BE CONDUCTED AT A MINIMUM OF AT LEAST ONCE EVERY CALENDAR WEEK AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE.

18. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF PERMIT SCR100000 AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE. THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED THESE PERFORMANCE STANDARDS APPLY TO ALL SITES. AS SOON AS REASONABLY POSSIBLE

19. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES. FOR NON-LINEAR PROJECTS THAT DISTURB 10 ACRES OR MORE, THIS CONFERENCE MUST BE HELD ON-SITE UNLESS THE DEPARTMENT HAS APPROVED OTHERWISE.

# VII. EROSION, SEDIMENTATION & POLLUTION CONTROL NOTES

I. THE IMPLEMENTATION OF THESE EROSION SEDIMENT CONTROL (ESC) PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.

THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS. 3. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED

SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.

4. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING

5. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 24 HOURS FOLLOWING A MAJOR STORM EVENT.

6. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING AND PRIOR TO FINAL INSPECTION. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.

7. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF

8. BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY, THE EXISTING STORM WATER INLET(S) THAT RECEIVING RUNOFF FROM THE PROPOSED WORK AREA SHALL BE PROTECTED. THE TEMPORARY INLET PROTECTION MUST REMAIN IN PLACE UNTIL THE CONSTRUCTION ACTIVITY IS COMPLETED, THE STREET HAS BEEN SWEPT AND ANY EXPOSED SOILS ARE STABILIZED. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REMOVING ANY TEMPORARY INLET PROTECTION INSTALLED: AFTER ALL DISTURBED AREAS ARE STABILIZED. TEMPORARY PROTECTION OF THE INLETS MAY BE ACCOMPLISHED BY ONE OR MORE OF THE FOLLOWING:

8.1. USE OF GRAVEL BAGS TO FILTER THE SEDIMENT FROM ANY RUNOFF. TO MAKE A GRAVEL BAG, USE A BAG MADE OF GEOTEXTILE FABRIC (NOT BURLAP) AND FILL WITH EITHER 3/4 INCH ROCK OR 1/4 INCH PEA GRAVEL.

8.2. USE OF SEDIMENT LOGS TO FILTER THE SEDIMENT FROM ANY RUNOFF (AVAILABLE THROUGH LOCAL EROSION CONTROL SUPPLIERS).

8.3. USE OF ABOVE OR UNDER-GRATE FILTER BAGS OR DEVICES TO FILTER THE SEDIMENT FROM ANY RUNOFF (AVAILABLE THROUGH EROSION CONTROL SUPPLIERS).

9. WATER MAY NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION, SEDIMENTATION, OR FLOODING ON THE SITE, ON DOWNSTREAM PROPERTIES, IN THE RECEIVING CHANNELS, OR IN ANY STORM WATER INLET. WHEN SITE DEWATERING, WATER PUMPED FROM THE SITE, INCLUDING TRENCHES, SHALL BE TREATED BY ONE OF THE FOLLOWING:

# 9.1. TEMPORARY SEDIMENTATION BASINS

9.2. SEDIMENT FILTERING BAGS

10. THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL EXISTING UTILITIES. EXISTING UTILITIES ARE ALL UTILITIES THAT EXIST ON THE PROJECT IN AN ORIGINAL. RELOCATED OR NEWLY INSTALLED POSITION. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE COST OF REPAIRS TO DAMAGED UNDERGROUND OR OVERHEAD FACILITIES, EVEN IF THE UTILITY IS NOT SHOWN ON THE SITE DEVELOPMENT PLANS. THE CONTRACTOR SHALL CONTACT THE LOCAL UTILITIES PROTECTION CENTER TO COORDINATE THE MARKING OF EXISTING UTILITY LINES A MINIMUM OF 96 HOURS PRIOR TO COMMENCEMENT OF ANY WORK.

11. THE CONTRACTOR SHALL FLUSH ALL INLETS AND PIPE AT THE COMPLETION OF CONSTRUCTION TO REMOVE SILT AND DEBRIS. THE CLEANING AND FLUSHING OF INLETS AND PIPE (EXISTING AND PROPOSED) SHALL BE CONSIDERED PART OF THE COST FOR THE PROJECT. 12. EGRESS FROM THE SITE SHALL BE CONTROLLED SUCH THAT VEHICLES LEAVING THE SITE MUST

TRAVERSE CONSTRUCTION EXITS TO REMOVE MUD FROM TIRES.

13. SCHEDULE CONSTRUCTION ACTIVITIES TO MINIMIZE THE EXPOSED AREA AND DURATION OF EXPOSURE. IN SCHEDULING, TAKE INTO ACCOUNT THE SEASON AND THE WEATHER FORECAST.

14. EROSION CONTROL MEASURES ARE THE MINIMUM REQUIRED. THE CONTRACTOR SHALL PROVIDE ADDITIONAL CONTROL MEASURES AS DICTATED BY ACTUAL FIELD CONDITIONS AT THE TIME OF CONSTRUCTION IN ORDER TO PREVENT EROSION AND CONTROL SEDIMENT. EROSION AND SEDIMENT CONTROL MEASURES WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE ENTIRE PROJECT IS TERMINATED OR SUSPENDED FOR AND INDEFINITE LENGTH OF TIME, ALL DISTURBED AREAS SHALL BE PLANTED WITH PERMANENT VEGETATION.

15. THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS, OR IN ANY WAY INDICATED THEREBY WHETHER BY DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, IS BASED UPON FIELD INVESTIGATIONS AND IS BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME IS SHOWN AS INFORMATION ONLY, IS NOT GUARANTEED AND DOES NOT BIND THOMAS & HUTTON, OR THE OWNER IN ANY WAY.

16. CONTRACTOR SHALL MAINTAIN SITE ON A DAILY BASIS TO PROVIDE FOR POSITIVE DRAINAGE. CONTRACTOR, AT HIS COST, SHALL GRADE SITE AND PROVIDE NECESSARY TEMPORARY DRAINAGE SWALES TO INSURE STORM WATER DOES NOT POND ON SITE.

17. SITE DRAINAGE SHALL BE ESTABLISHED TO PREVENT ANY PONDED WATER CONDITIONS WITHIN THE CONSTRUCTION AREA AND TO FACILITATE STORM WATER DISCHARGE.

18. THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.

19. LIME RATES AND ANALYSIS:

19.1. AGRICULTURAL LIME SHALL BE APPLIED AT THE RATE SHOWN IN THE SEEDING SECTION UNLESS SOIL TESTS INDICATE OTHERWISE. GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION. ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME APPLICATION SHALL BE WITHIN THE SPECIFICATIONS OF THE SOUTH CAROLINA DEPARTMENT OF AGRICULTURE.

## 20. MULCHING:

MULCHING IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED:

20.1. DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF TWO TONS PER ACRE. DRY HAY SHALL BE APPLIED AT THE RATE OF 2 1/2 TONS PER ACRE.

20.2. WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT A RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE X. PERMANENT STABILIZATION APPLIED (AT THE RATE INDICATED ABOVE) AFTER HYDRAULIC SEEDING. 20.3. ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER. WHICH INCLUDES A

TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 3/4:1 OR STEEPER. 20.4. SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF 3 TONS 20.5. PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING

SEEDED AREAS. 20.6. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLACK SOD, MULCH IS NOT REQUIRED

20.7. ON SLOPES GREATER THAN 10 FEET IN LENGTH AND 4:1 OR STEEPER, USE THE FOLLOWING EROSION CONTROL BLANKETS THAT HAVE BEEN PROPERLY ANCHORED TO THE SLOPE ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS:

PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE

ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR

• 2:1 SLOPES OR STEEPER: - STRAW/COCONUT BLANKET OR HIGH VELOCITY WOOD BLANKET • 3:1 SLOPES OR STEEPER: - WOOD OR STRAW BLANKET WITH NET ON BOTH SIDES • 4:1 SLOPES OR FLATTER: - WOOD OR STRAW MULCH BLANKET WITH NET ON ONE SIDE

## VIII. HOUSEKEEPING

1. PETROLEUM PRODUCTS: INCLUDING OIL, GASOLINE, LUBRICANTS AND ASPHALTIC SUBSTANCES

1.1. HAVE EQUIPMENT TO CONTAIN AND CLEAN UP PETROLEUM SPILLS IN FUEL STORAGE AREAS

OR ON MAINTENANCE AND FUELING VEHICLES 1.2. STORE IN COVERED AREAS PROTECTED WITH DIKES

2.1. STORE AND HANDLE MATERIALS TO PREVENT SPILLS 2.2. TIGHTLY SEALED CONTAINERS, NEAT AND SECURE STACKING, ETC. 2.3. REDUCE STORM WATER CONTACT IF SPILL OCCURS

2.3.1. CLEANUP PROCEDURES SHOULD BE CLEARLY POSTED 2.3.2. CLEANUP MATERIALS SHOULD BE READILY AVAILABLE

2. SPILLS: PREVENTION AND RESPONSE.

2.3.4. CONTAIN THE SPILL

2.3.3. STOP THE SOURCE

3. NON-STORM WATER DISCHARGES THE FOLLOWING NON-STORMWATER DISCHARGES MUST BE PROTECTED FROM CAUSING

DETERGENTS ARE NOT USED

3.1. DISCHARGES FROM FIRE-FIGHTING ACTIVITIES 3.2. FIRE HYDRANT FLUSHINGS

3.3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED 3.4. WATER USED TO CONTROL DUST

3.5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHINGS 3.6. ROUTINE EXTERNAL BUILDING WASH DOWN THAT DOES NOT USE DETERGENTS 3.7. PAVEMENT WASH WATERS WHERE SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED (UNLESS ALL SPILLED MATERIAL HAS BEEN REMOVED) AND WHERE

3.8. UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE 3.9. UNCONTAMINATED GROUND WATER OR SPRING WATER

3.10. FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS SUCH AS SOLVENTS

3.11. UNCONTAMINATED EXCAVATION DEWATERING 3.12. LANDSCAPE IRRIGATION

3.13. DECHLORINATED SWIMMING POOL DISCHARGES.

4.1. SELECT A DESIGNATED WASTE COLLECTION AREA

4.4. MAINTAIN CONSISTENT REMOVAL SCHEDULE FOR WASTE

4. CONSTRUCTION WASTES: DEMOLITION RUBBLE, PACKAGING MATERIALS, SCRAP BUILDING

4.2. PROVIDE LIDS FOR WASTE CONTAINERS 4.3. WHEN POSSIBLE LOCATE CONTAINERS IN COVERED AREA

5. PESTICIDES: REDUCE THE AMOUNT OF PESTICIDES AVAILABLE FOR CONTACT WITH STORM WATER.

6.3. LIMIT USE OF DETERGENTS ON-SITE

5.1. STORE IN A DRY COVERED AREA 5.2. INSTALL CURBS OR DIKES AROUND STORAGE AREA TO PROTECT AGAINST SPILLS

5.3. STRICTLY FOLLOW RECOMMENDED APPLICATION RATES 6. FERTILIZERS AND DETERGENTS: REDUCE THE AMOUNT OF FERTILIZERS AND DETERGENTS

AVAILABLE FOR CONTACT WITH STORM WATER. 6.1. LIMIT APPLICATION OF FERTILIZERS TO THE MINIMUM NEEDED 6.2. APPLY MORE FREQUENTLY BUT AT LOWER APPLICATION RATES

6.4. DO NOT DISCHARGE WASH WATER INTO STORM WATER SYSTEM 6.5. MAINTAIN STRUCTURAL AND VEGETATIVE BMP'S 6.6. APPLY ACCORDING TO SOIL TEST RECOMMENDATIONS PRIOR TO SEEDING. IX. GRASSING NOTES

ALL SOD SHALL BE NURSERY GROWN AS CLASSIFIED IN THE ASPS GSS. MACHINE CUT SOD AT A UNIFORM THICKENS OF 3/4" WITHIN A TOLERANCE OF 1/4", EXCLUDING TOP GROWTH AND THATCH. EACH INDIVIDUAL SOD PIECE SHALL BE STRONG ENOUGH TO SUPPORT ITS OWN WEIGHT WHEN LIFTED BY THE ENDS. BROKEN PODS. IRREGULARLY SHAPED PIECES, AND TORN OR UNEVEN ENDS WILL BE REJECTED. WOOD PEGS AND / OR WIRE STAPLES SHALL REPLACE SOD WITH AN EQUAL SOD COMPOSITION AS THAT WHICH IS EXISTING. IF NO SOD TYPE EXIST. THEN THE FOLLOWING SOL COMPOSITION SHALL BE USED.

SODDING SCHEDULE:

LAY SOD FROM MAY 1 TO SEPTEMBER 15 FOR SPRING PLANTING AND FROM SEPTEMBER 15 TO NOVEMBER 1 FOR FALL PLANTING.

ALL SEED SHALL CONFORM TO ALL STATE LAWS AND TO ALL REQUIREMENTS AND REGULATIONS OF THE SOUTH CAROLINA DEPARTMENT OF AGRICULTURE. THE SEVERAL VARIETIES OF SEED SHALL BE INDIVIDUALLY PACKAGED OR BAGGED, AND TAGGED TO SHOW NAME OF SEED, NET WEIGHT, ORIGIN, GERMINATION, LOT NUMBER, AND OTHER INFORMATION REQUIRED BY THE DEPARTMENT OF AGRICULTURE.

PENNISETUM GLAUCIUM (BROWNTOP MILLET): TESTING 98 PERCENT PURITY AND 85 PERCENT

BERMUDA COMMON: TESTING 98 PERCENT PURITY AND 85 PERCENT GERMINATION. DOMESTIC ITALIAN RYE: TESTING 98 PERCENT PURITY AND 90 PERCENT GERMINATION.

MISCELLANEOUS:

PERMANENT SEEDING SHALL COVER ALL DISTURBED AREA NOT TO BE COVERED BY LANDSCAPE PLANTING BEDS, STRUCTURE, OR PAVEMENT.

SEED ALL DISTURBED AREAS WITHIN SEVEN DAYS OF FINAL GRADING AND TEMPORARY SEED/MULCH ALL AREAS THAT WILL BE LEFT INACTIVE FOR MORE THAN FOURTEEN (14) DAYS 4.3. ALL PERMANENT GRASS PLANTINGS SHALL BE MULCHED

4.4. CENTIPEDE SOD CAN BE USED AS PERMANENT COVER ANYTIME EXCEPT JUNE THRU OCTOBER 4.5. IF GRASSING OCCURS DURING A MONTH REQUIRING TEMPORARY COVER, THE CONTRACTOR SHALL APPLY PERMANENT COVER (IN ADDITION TO THE TEMPORARY COVER) AT THE APPROPRIATE TIME AT NO NO ADDITIONAL COST. THE CONTRACTOR MUST ACHIEVE A STRAND OF PERMANENT GRASS WITH AT LEAST 95% COVER. BARE SPOTS CAN NOT BE MORE THAN 1 INCH SQUARE IN ANY

NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC.EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. II NECESSARY. AREAS MUST BE RE-WORKED AND RE-STABILIZED IF GERMINATION IS SPARSE. PLANT COVERAGE IS SPOTTY OR TOPSOIL EROSION IS EVIDENT. ONE OR MORE OF THE FOLLOWING MAY APPLY TO THE SITE.

AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE

4.2. SODDED AREAS FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD

FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF THE DISTURBED

4.3. PERMANENT MULCH

FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL.

FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF AN APPROVED GEOTEXTILE T

ROOTS INTO THE APPROVED MULCH MATERIAL

PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP.

4.5. DITCHES, CHANNELS, AND SWALES FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIPRAP LINING OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE LINING, UNDERCUTTING OF THE BANKS, OR

# DOWN CUTTING OF THE CHANNEL. XI. FERTILIZER REQUIREMENTS

 TEMPORARY SEEDING FERTILIZER APPLY A MINIMUM OF 500 LBS PER ACRE OF A COMPLETE 10-10-10 FERTILIZER (11.5 POUNDS PER 1000 SQUARE FEET) OR EQUIVALENT DURING TEMPORARY SEEDING OF GRASSES UNLESS A SOIL TEST INDICATES A DIFFERENT REQUIREMENT. INCORPORATE FERTILIZER AND LIME (IF USED) INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR OTHER MEANS WHERE CONDITIONS ALLOW. LIME IS NOT REQUIRED FOR TEMPORARY SEEDING UNLESS A SOIL TEST SHOWS THAT THE SOIL PH IS BELOW 5.0. IT IS DESIRABLE TO APPLY LIME DURING THE TEMPORARY SEEDING OPERATION TO BENEFIT THE LONG-TERM PERMANENT SEEDING. APPLY A MINIMUM OF 1.5 TONS OF LIME / ACRE

PERMANENT SEEDING FERTILIZER

(70LBS. / 1000 SQ. FT.).

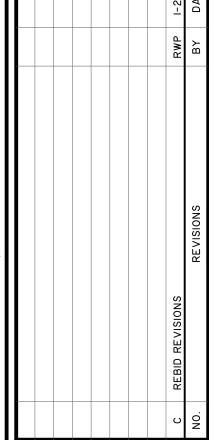
APPLY A MINIMUM OF 1000 LBS PER ACRE OF A COMPLETE 10-10-10 FERTILIZER (23 POUNDS PER 1000 SQUARE FEET) OR EQUIVALENT DURING PERMANENT SEEDING OF GRADES UNLESS A SOIL TEST INDICATES A DIFFERENT REQUIREMENT. INCORPORATE FERTILIZER AND LIME (IF USED) INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR OTHER MEANS WHERE CONDITIONS ALLOW. DO NOT MIX THE LIME AND THE FERTILIZER PRIOR TO THE FIELD APPLICATION. UNLESS A SPECIFIC SOIL TEST INDICATES OTHERWISE, APPLY 1 & 1/2 TONS OF GROUND COARSE TEXTURED

# XII. SWPP PREPARER CERTIFICATION

AGRICULTURAL LIMESTONE PER ACRE (70 LBS. / 1000 SQ.FT.).

I HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENTS SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN OF THE SYSTEM. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAWS OF SC, 1976 AS AMENDED, PURSUANT TO REGULATION 72-300 ET SEQ. (IF APPLICABLE), AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SCR100000.





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NOVEMBER 6, 20

REVIEWED: APPROVED: RWP CALE: N/A

DRAWN:

DESIGNED: RWP

# TABLE 1: PERRENIALS \* Months shaded in gray represent applicable planting dates.

	DOTALISA	15550455	PLANTING	D					Pla	ntin	g Da	tes*	ii.							
COMMON NAME <sup>5</sup>	BOTANICAL NAME	APPROVED SITE(S)	RATE (lbs/acre)	PLANTING LOCATION	JAN	FEB	MAR	APR	MAY	NOC	JUL	AUG	NOV SEP							
TURF-TYPE GRASSES (SEI	LECT ONE)																			
Bahiagrass <sup>1</sup>	Paspalumnotatum	Slopes	30	UpperState												Г				
A 272-120	- And mentioned	Nanthana	128	LowerState	┡	_			_							Ļ				
Common Bermudagrass <sup>2</sup> (hulled = hull absent)	Cynodondactylon	Shoulders, Slopes, or Medians	25	UpperState LowerState	$\vdash$		-	-								H				
Common Bermudagrass <sup>2</sup>	Cynodondactylon	Shoulders, Slopes,	30	UpperState										7 - 2						
(unhulled = hull present)		or Medians	18.4	LowerState												Г				
Carpet Grass	Axonopusaffinis	Shoulders, Slopes	15	UpperState												L				
571 <b>-</b> 171 - 171		or Medians	10.25	LowerState		-				7	5 7					L				
Tall Fescue	Festucaaruninacea	Shoulders, Slopes,	50	UpperState																
Tun i escue	or Medians	or Medians	50	LowerState							5-5				3	L				
Centipedegrass	Eremochloaophiuro	Shoulders,	10	UpperState												Γ				
centipedegrass ides		Medians	10	LowerState																
GRASSES																				
Weeping Lovegrass	Erograetiecungula	grastiscurvula Slopes	5	UpperState							ĺ				ĺ					
weeping Lovegrass	Erograstiscurvula			LowerState																
Indiangrass	Sorghastrumnutans	Clanas	10	UpperState																
Mulangrass	Sorghasti uminutaris	ns Slopes	slopes	LowerState							j j									
Little Bluestem	Andropogonscopari	Clanca	Slopes	10	UpperState		2 8													
Little bluestern	us	Slopes	nopes	LowerState																
Coastal Panicgrass	Panicumamarum	Slopes	20	UpperState												Γ				
Coastai Failicgrass	Fancumamarum	Slopes		LowerState		3 9								8 6						
Switchgrass	Panicumvirgatum	Slopes	10	UpperState												Π				
Switchgrass	Panicumvirgatum	Siopes	10	LowerState		1														
Perennial Rye Grass <sup>3</sup>	Loliumperrene	Shoulders, Slopes,	15	UpperState																
Pereniliai Rye Grass	Lollumperrene	or Medians		LowerState																
Virginia Wild Buo	Chanus desinious	Shoulders, Slopes,	6	UpperState												Γ				
Virginia vviiu Kye	Virginia Wild Rye Elymusvirginicus		0	LowerState												L				
LEGUMES*																				
White Clover	Trifoliumrepens	Shoulders, Slopes	5	UpperState							Į Į			2 3						
TITLE GIOTOI	, monum epena	Thioliumrepens Shoulders, Slopes	:#b	LowerState												L				
Sericea Lespedeza (Scarified seed)	Lespedeza cuneta	Slopes	50	UpperState LowerState												F				
1 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 -		activities (1995an)				0 5	7				5 6			0 3	rich and	H				
Sericea Lespedeza (Unscarified seed)	Lespedeza cuneta	Slopes	80	UpperState		-				_						Ł				
(Unscarmed seed)			5.55	LowerState		e 4				2	W 2		5	2 /	V	L				

<sup>1</sup>Bahiagrass:Bahiagrass may be used as an optional turf-type permanent cover at the discretion of the RCE.\* Months shaded in gray represent applicable planting dates.

<sup>2</sup>Common Bermudagrass: Do not use Giant Bermudagrass(NK-37).

<sup>3</sup>Perennial Rye Grass: Do not use Annual Italian Rye grass (Loliummultiforum).

<sup>4</sup>Only use pre-inoculated legumes or use an appropriate inoculant with the seed at planting.

<sup>5</sup>If the Common Name of the seed listed in Table 1 is not available, use seed with the listed Botanical Name.

TABLE 2: ANNUALS	* Months shaded in gray represent applicable planting dates.

\* Months shaded in gray represent applicable planting dates.

	d			E 2: ANNU	JALO "	Months shaded in gray represent applicable planting dates.  Planting Dates*											
COMMON NAME <sup>3</sup>	BOTANICAL NAME	APPROVED SITE(S)	NURSE CROP RATE	TEMP COVER RATE	PLANTING LOCATION	JAN	FEB	MAR	APR	MAY	ntin Jun	g Da	AUG	SEP	ост	NON	DEC
			(lbs/acre)	(lbs/acre)	750 100 LOX 500	**	w		~		•		w	9	-	-	136
Crimson Clover <sup>1</sup>	Trifoliumincarnat um	Shoulders, Slopes, or Medians	20	20	UpperState LowerState												
Korean Lespedeza <sup>1</sup>	Lespedeza stipulacea	Shoulders, Slopes	30	NA	UpperState LowerState			-									
Korean Lespedeza <sup>1</sup> (unhulled = hull present)	Lespedeza stipulacea	Shoulders, Slopes	30	60	UpperState LowerState								E				
Kobe Lespedeza <sup>1</sup>	Lespedeza striata	Shoulders, Slopes	30	NA	UpperState LowerState												
Kobe Lespedeza <sup>1</sup> (unhulled =	Lespedeza striata	Shoulders, Slopes	30	60	UpperState LowerState												
hull present)  Browntop Millet	Panicumramosu m	Shoulders, Slopes, or Medians	10	50	UpperState LowerState											_	
German Millet (Foxtail Millet)	Setariaitalica	Shoulders, Slopes, or Medians	25	40	UpperState LowerState												
Japanese Millet	Echinochloacrus galli	Slopes	10	50	UpperState LowerState						. 7						
Oats	Avena sativa	Slopes	65	110	UpperState LowerState												
Hairy Vetch <sup>1</sup>	Viciavillosa	Shoulders, Slopes, or Medians	15	50	UpperState LowerState												
Pearl Millet	Pennisetumglauc um	Slopes	15	50	UpperState LowerState												
Sudangrass	Sorghum bicolor	Shoulders, Slopes, or Medians	30	60	UpperState LowerState		2: 19										
Barley	Hordeumvulgare	Shoulders, Slopes	55	110	UpperState LowerState												
Wheat	Triticum spp.	Shoulders, Slopes	75	110	UpperState LowerState												
Rye Grain <sup>2</sup>	Secalecereale	Shoulders, Slopes	75	110	UpperState LowerState												

<sup>1</sup>Only use pre-inoculated legumes or an appropriate inoculant with the seed at planting.

<sup>2</sup>Rye Grain: <u>Do not use Annual Italian Rve Grass (Loliummultiforum).</u>

<sup>3</sup>If the Common Name of the seed listed in Table 2 is not available, use seed with the listed Botanical Name.

SEE FIGURE 1 OF SUPPLEMENTAL TECHNICAL SPECIFICATION FOR SEEDING, SCDOT DESIGNATION: SC - M - 810 - 2.

# STORMWATER POLLUTION PREVENTION PLAN

# EROSION CONTROL LEGEND

DESCRIPTION	PLAN SYMBOL
SILT FENCE	
CLEARING LIMITS	—— cL ——— cL ——
DIVERSION DIKE	<b>→</b> DD <b>→</b>
DIVERSION BERM	→ DB →
TEMPORARY DIVERSION	⇒TD⇒
PERMANENT DIVERSION	→ PD →
SUBSURFACE DRAIN	( <u>-</u> _ssp( <u>-</u> _
VEGETATED CHANNEL	الديم الله عالم الله
RIP RAP LINED CHANNEL	
ECB OR TRM LINED CHANNEL	
PAVED CHANNEL	PC 🛋
TREE PROTECTION	
SURFACE ROUGHENING	or (LG)
TOP SOILING	
TEMPORARY SEEDING	TS
PERMANENT SEEDING	PS
MULCHING	M

# EDOCIONI CONTDOL I ECEND

DESCRIPTION	ROL LEGENI PLAN SYMBOL
EROSION CONTROL BLANKET OR TURF REINFORCEMENT MAT	
FLEXIBLE GROWTH MATRIX	FGM
BONDED FIBER MATRIX	BFM
SODDING	so
SLOPED SODDING	
STAKED SOD	
STAKED SOD AROUND INLET	OR OR
RIPRAP	
OUTLET PROTECTION - RIP RAP	
OUTLET PROTECTION - ECB OR TRM	
DUST CONTROL	DC
POLYACRYLAMIDE (PAM)	PAM
SEDIMENT BASIN	
SEDIMENT BASIN WITH SKIMMER	
SEDIMENT TRAP	
ROCK SEDIMENT DIKE	
SEDIMENT TUBE	

LIST OF ACRONYMS FOR SEDIMENT AND EROSION CONTROL

DEPARTMENT OF HEATH AND ENVIRONMENTAL CONTROL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

STORMWATER POLLUTION PREVENTION PROGRAM

EROSION PREVENTION AND SEDIMENTATION CONTROL

UNITED STATES FOOD AND DRUG ADMINISTRATION

MUNICIPAL SEPARATE STORM SEWER SYSTEM

ACRYLAMIDE POLYMER

BONDED FIBER MATRIX

CUBIC FEET PER SECOND

CORRUGATED METAL PIPE

EROSION CONTROL BLANKET

FLEXIBLE GROWTH MATRIX HIGH DENSITY POLYETHYLENE

MATERIAL SAFETY DATA SHEETS

POLYACRYLAMIDE OR POLYMER

REINFORCED CONCRETE PIPE SOIL CONSERVATION SERVICE

TURF REINFORCEMENT MAT

VEGETATED FILTER STRIP

BEST MANAGEMENT PRACTICE(S)

BFM

CMP

ECB

FDA

MS4

VFS

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

DESCRIPTION	PLAN SYMBOL
ROCK CHECK DAM	OR
POROUS BAFFLES	
STABILIZED CONSTRUCTION ENTRANCE	
CONCRETE WASHOUT	
STORM DRAIN INLET PROTECTION - TYPE A FILTER FABRIC	A
STORM DRAIN INLET PROTECTION - TYPE A SEDIMENT TUBE	(A)
STORM DRAIN INLET PROTECTION - TYPE B HARDWARE FABRIC AND STONE	B
STORM DRAIN INLET PROTECTION - TYPE C BLOCK AND GRAVEL	: C:
STORM DRAIN INLET PROTECTION - TYPE D RIGID INLET FILTER	
STORM DRAIN INLET PROTECTION - TYPE E SURFACE COURSE CURB INLET FILTER	E
STORM DRAIN INLET PROTECTION - TYPE FINLET TUBE	F
STORM DRAIN INLET PROTECTION - TYPE G IMPERVIOUS AREA	G
STORM DRAIN INLET PROTECTION - CATCH BASIN INSERT	
PIPE SLOPE DRAINS	
TEMPORARY STREAM CROSSING	T
LEVEL SPREADER	

# CONSTRUCTION SEQUENCE

	CONSTRUCTION ACTIVITY	SCHEDULE CONSIDERATION	
1	OBTAIN COPIES OF ALL PLAN APPROVALS AND OTHER APPLICABLE PERMITS.	CONTRACTOR TO HAVE ONSITE AT ALL TIMES DURING CONSTRUCTION.	<b>—</b>
2	FLAG THE WORK LIMITS AND BARRICADE TREES AND MARK BUFFER AREAS FOR PROTECTION.	HAVE LOCAL REGULATORY AGENCY INSPECT TREE BARRICADES.	OUNT
3	HOLD PRE CONSTRUCTION CONFERENCE AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION.	REVIEW TREE PROTECTION (BARRICADE) WITH OWNER AND LOCAL REGULATORY AGENCY. TAKE PICTURES OF ALL PROTECTED TREES AND LOCATIONS WHERE SITE WORK TIES INTO EXISTING TO DOCUMENT PREDEVELOPMENT PROCEDURES.	<b>H</b> SENE
4	INSTALL CONSTRUCTION ACCESS AND LAY DOWN AREAS	STABILIZE BARE AREAS IMMEDIATELY AND INSTALL CONSTRUCTION EXITS / ENTRANCES.	ONE ROAD,
5	CONSTRUCT SEDIMENT TRAPS AND BARRIERS - BASIN TRAPS, SEDIMENT FENCES, AND OUTLET PROTECTION.	INSTALL PRINCIPAL BASINS AFTER CONSTRUCTION SITE IS ACCESSED. INSTALL ADDITIONAL TRAPS AND BARRIERS AS NEEDED DURING GRADING.	l O¦∥
6	ESTABLISH RUNOFF CONTROL - DIVERSIONS, PERIMETER DIKES, WATER BARS, AND OUTLET PROTECTION.	INSTALL KEY PRACTICES AFTER PRINCIPAL SEDIMENT TRAPS AND BEFORE LAND GRADING. INSTALL ADDITIONAL RUNOFF-CONTROL MEASURES DURING GRADING.	
7	LAND CLEARING AND GRADING-SITE PREPARATION CUTTING, FILLING AND GRADING, SEDIMENTATION TRAPS, BARRIERS, DIVERSIONS, DRAINS, SURFACE ROUGHENING.	BEGIN MAJOR CLEARING AND GRADING AFTER PRINCIPAL SEDIMENT AND KEY RUNOFF-CONTROL MEASURES ARE INSTALLED. CLEAR BORROW AND DISPOSAL AREAS ONLY AS NEEDED. INSTALL ADDITIONAL CONTROL MEASURES AS GRADING PROGRESSES. MARK TREES AND BUFFER AREAS FOR PRESERVATION.	
8	RUNOFF CONVEYANCE SYSTEM- INSTALL STORM DRAINS, STABILIZE BANKS, CHANNELS, INSTALL INLET AND OUTLET PROTECTION, SLOPE DRAINS.	WHERE NECESSARY, STABILIZE BANKS AS EARLY AS POSSIBLE. INSTALL PRINCIPAL RUNOFF CONVEYANCE SYSTEM WITH RUNOFF- CONTROL MEASURES. INSTALL REMAINDER OF SYSTEM AFTER GRADING.	
9	INSTALL WASTEWATER COLLECTION, WATER DISTRIBUTION, AND STORM DRAINAGE SYSTEMS	APPLY TEMPORARY OR PERMANENT STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS WHERE WORK IS DELAYED OR COMPLETE.	JOB NO: J- 267 DATE: NOVEM DRAWN: TJP DESIGNED: RWP
10	SURFACE STABILIZATION-TEMPORARY AND PERMANENT SEEDING, MULCHING, SODDING, RIP RAP.	APPLY TEMPORARY OR PERMANENT STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS WHERE WORK IS DELAYED OR COMPLETE.	REVIEWED: APPROVED: RWP SCALE: N/A
11	BUILDING CONSTRUCTION- BUILDINGS UTILITIES,	INSTALL NECESSARY EROSION AND SEDIMENTATION CONTROL	

PRACTICES AS WORK TAKES PLACE.

LAST CONSTRUCTION PHASE--STABILIZE ALL OPEN AREAS, INCLUDING BORROW AND SPOIL AREAS. REMOVE AND

STABILIZE ALL TEMPORARY CONTROL MEASURES.

ROADS, ETC.

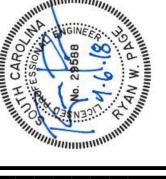
12 LANDSCAPING AND FINAL STABILIZATION -

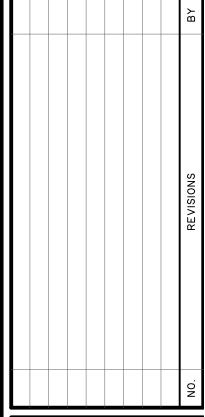
SEEDING, MULCHING, SODDING, RIP RAP.

TOPSOILING, TREES AND SHRUBS, PERMANENT





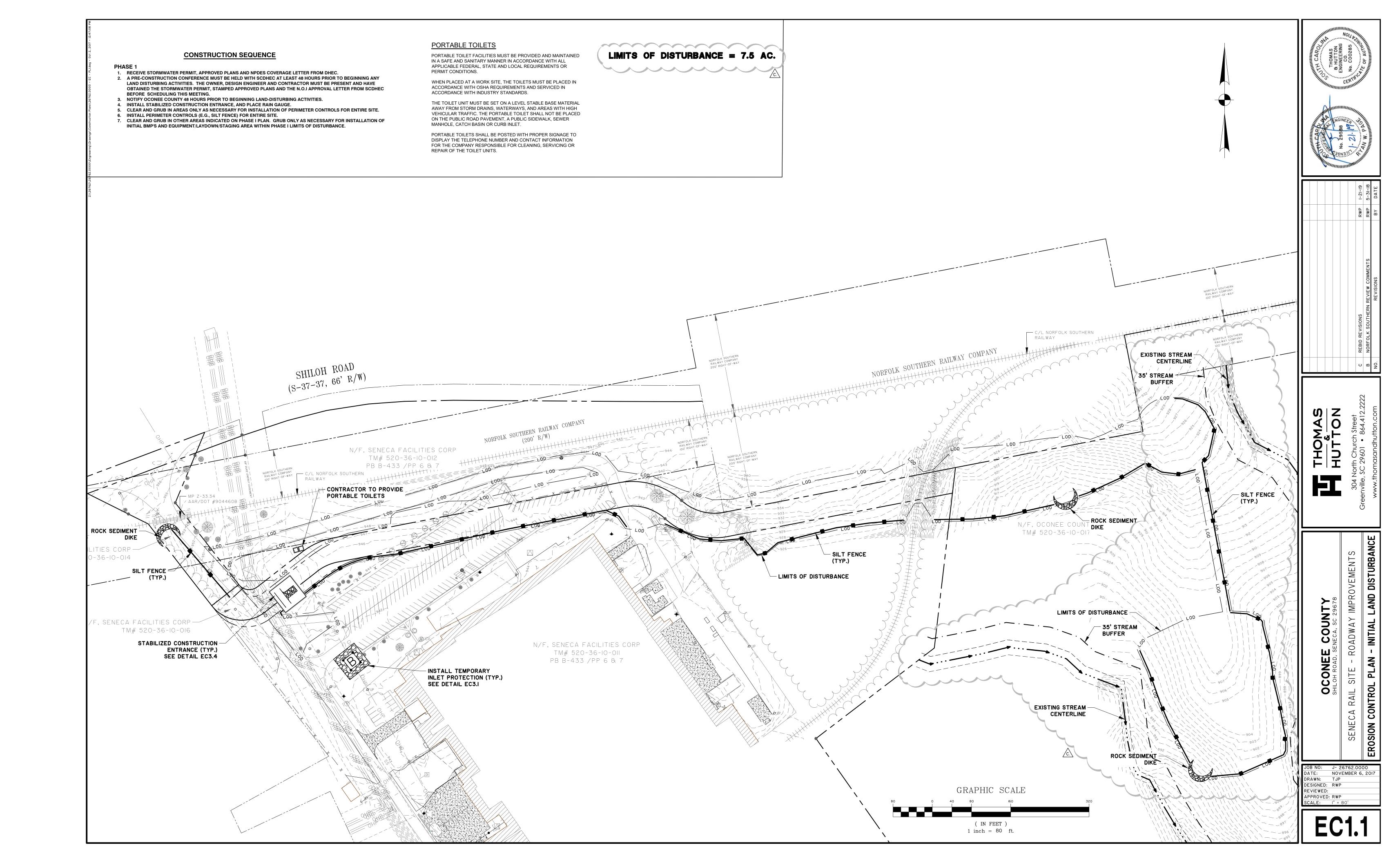


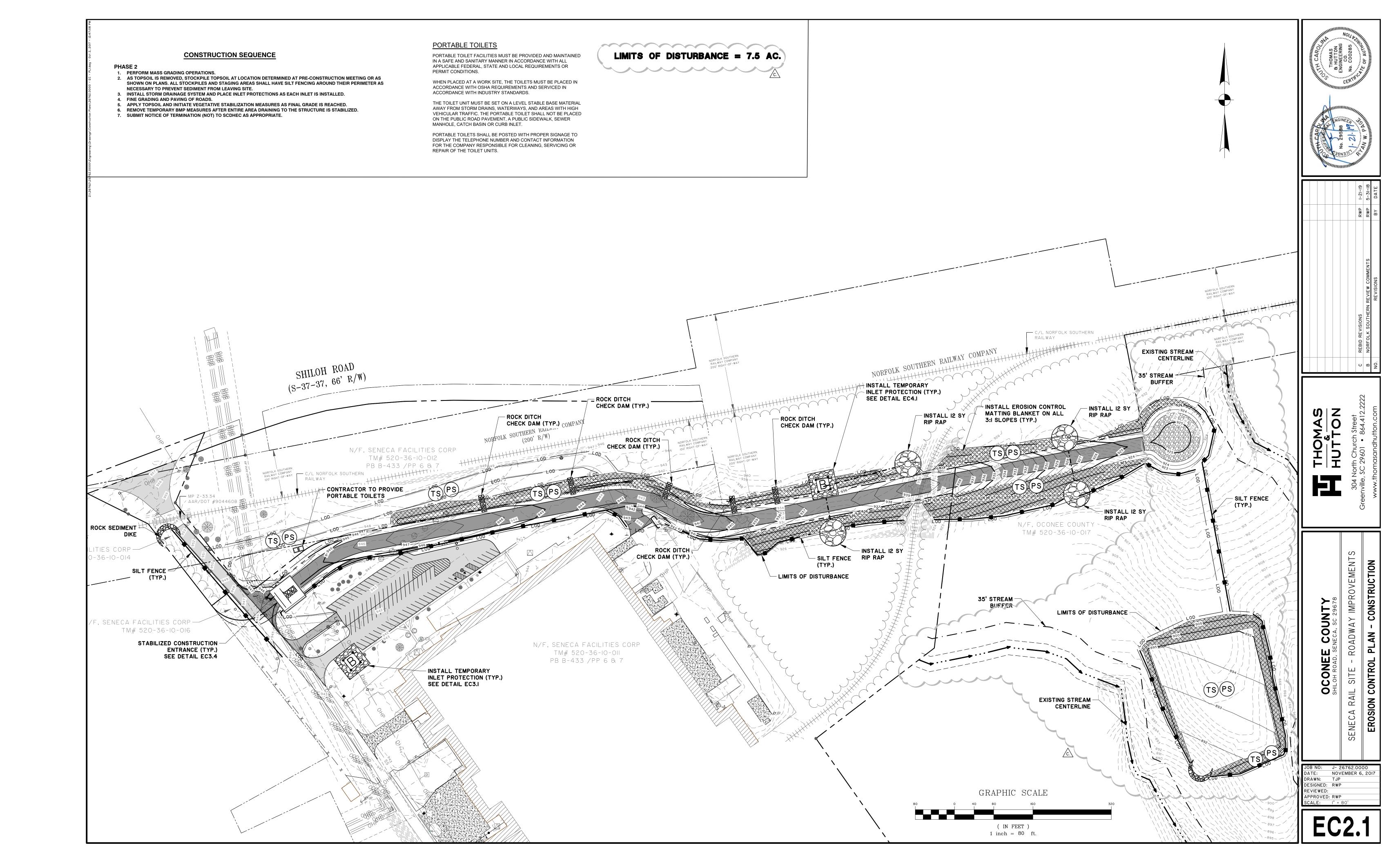


S IMPROVEMENTS

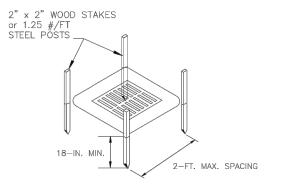
RO RAIL SITE

NOVEMBER 6, 2017 DRAWN: TJP DESIGNED: RWP

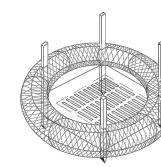




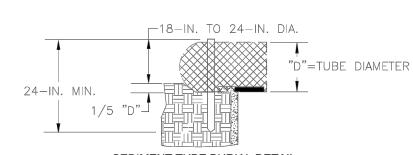
# STORMWATER POLLUTION PREVENTION PLAN



POST INSTALLATION DETAIL



SEDIMENT TUBE INSTALLATION DETAIL



# SEDIMENT TUBE BURIAL DETAIL

# TYPE A - SEDIMENT TUBE INLET PROTECTION GENERAL NOTES

- 1. Sediment tubes are elongated tubes of compacted curled excelsior wood, natural coconut fiber, or hardwood mulch. Straw, pine needle, and leaf mulch—filled sediment tubes are not permitted.
- 2. The outer netting of the sediment tube should consist of seamless, high—density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-degradable material.
- 3. Sediment tube diameters shall range from 18—inches to 24-inches. Sediment tunes with smaller diameters are prohibited when used as inlet protection.
- 4. Curled excelsior wood, or natural coconut products that are rolled up to create a sediment tube are not allowed.
- 5. Sediment tubes should be staked using wooden oak stakes (2-inch X 2-inch) or steel posts (standard "U" or sections with a minimum weight of 1.25 pounds per foot) at a minimum of 48—inches in length placed on 2—foot centers.
- Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufactuer's recommendations should always be consulted before
- 7. The ends of adjacent sediment tubes should be overlapped 6—inches to prevent flow and sediment from passing through
- 8. Sediment tubes should not be stacked on top of one another 9. Each sediment tube should be installed in a trench with a
- depth equal to 1/5 the diameter of the sediment tube. 10. Install stakes at a diagonal facing incoming runoff.

WIRE MESH -

GENERAL NOTES

# INSPECTION & MAINTENANCE

SEDIMENT TUBE INLET PROTECTION (TYPE A)

NOT TO SCALE

**CROSS SECTION A-A** 

BLOCK AND GRAVEL DROP INLET PROTECTION

1. Block and gravel filters can be used where heavy flows and

2. Gravel shall consist of 1-inch D50 Washed Stone and should

extend to height equal to the elevation of the top of the

3. Place the bottom row of the concrete blocks lengthwise on

4. The height of the barrier can be varied, depending upon

through the holes in the blocks. Hardware cloth or

their side so that the open end faces outward, not upward.

design needs by stacking a combination of blocks that are

5. Wire mesh should be placed over the outside vertical face of the concrete blocks to prevent stones from being washed

comparable wire mesh with  $\frac{1}{2}$ -inch x  $\frac{1}{2}$ -inch openings should

higher velocities are expected and where an overflow capacity

is necessary to prevent excessive ponding around the structure.

1/2-INCH x 1/2-INCH WIRE MESH -

- 1. The key to functional inlet protection is weekly inspections, routine maintenance, and regular sediment removal.
- 2. Regular inspections of sediment tube inlet protection shall be conducted once every calendar week and, as recommended. within 24—hours after each rainfall even that produces 1/2-inch or more of precipitation.
- 3. Attention to sediment accumulations in front of the sediment tube is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
- 4. Remove accumulated sediment when it reaches 1/3 the of the sediment tube. When a sump is installed in front of inlet protection, sediment shall be removed when if fills approximately 1/3 the depth of the sump.
- 5. Removed sediment shall be placed in stockpile storage areas
- or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.

properly. Grade the disturbed area to the elevation of the

nlet structure crest. Stabilize all bare areas immediately.

INSPECTION AND MAINTENACNE

sediment after it is relocated.

1. The key to functional inlet protection is weekly inspections,

once every calendar week and, as recommended, within

Attention to sediment accumulations in front of the inlet protection is extremely important. Accumulated sediment

4. Remove accumulated sediment when it reaches 1/3 the

2. Regular inspections of all inlet protection shall be conducted

24—hours after each rainfall event that produces 1/2—inch or

should be continually monitored and removed when necessary.

height of the blocks. If a sump is used, sediment should be removed when it fills approximately 1/3 the depth of the hole.

5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed

6. Large debris, trash, and leaves should be removed from in

7. If the stone filter becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced

8. Inlet protection structures should be removed after the

disturbed areas are permanently stabilized. Remove all

construction material and sediment, and dispose of them

properly. Grade the disturbed area to the elevation of the drop inlet structure crest. Stabilize all bare areas immediately

routine maintenance, and regular sediment removal.

- 6. Large debris, trash, and leaves should be removed from in
- front of tubes when found. 7. Inlet protection structures should be removed after the

OPENINGS FACING OUTWARD

- disturbed areas are permanently stabilized. Remove all construction material and sediment, and dispose of them

  - 2. Posts shall be equipped with projections to aid in fastening of filter
  - 3. Install posts to a minimum of 24—inches. A minimum height of 1— 2- inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground. 4. Post spacing shall be at a maximum of 3-feet on center.

# TYPE A - INSPECTION & MAINTENANCE

- 1. The key to functional inlet protection is weekly inspections, routine maintenance, and regular sediment removal.
  - 2. Regular inspections of inlet protection shall be conducted once every calendar week and, as recommended, within 24—hours after each rainfall even that produces 1/2—inch or more of precipitation. 3. Attention to sediment accumulations along the filter fabric is
  - important. Accumulated sediment should be continually monitored and removed when necessary. 4. Remove accumulated sediment when it reaches 1/3 the height of

filter fabric. When a sump is installed in front of the fabric,

5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment

should be removed when it fills approximately 1/3 the depth of the

- 6. Check for areas where stormwater runoff has eroded a channel beneath the filter fabric, or where the fabric has sagged or
- 7. Check for tears within the filter fabric, areas where fabric has begun to decompose, and for any other circumstance that may render the inlet protection ineffective. Removed damaged fabric and reinstall new filter fabric immediately.
- Inlet protection structures should be removed after all the disturbed areas are permanently stabilized. Remove all construction material ediment, and dispose of them properly. Grade the disturbed area to the elevation of the drop inlet structure crest. Stabilize all bare

due to runoff overtopping the inlet protection.

# STONE AND WIRE MESH INSTALLATION DETAIL

6-IN. MIN.

## WIRE MESH & STONE INLET PROTECTION GENERAL NOTES

1.25 LB./LINEAR FT.

18-IN. MIN

1-INCH D50 WASHED STONE-

12- TO 24-IN. MIN

BURY WIRE MESH 6-IN. MIN.-

POST INSTALLATION DETAIL

STEEL POSTS \_\_

- 1. Use hardware fabric or comparable wire mesh with maximum openings of 0.5—inches x 0.5—inches as the supporting
- 2. Use steel posts that meet the following physical requirements: — Be composed of high strength steel with a minimum yield of 50,000 psi.

  - Have a standard "T" section with a nominal face width of 1.38 inches and a nominal "T" width of 1.48—inches.

  - Weigh 1.25 pounds per foot (±8%)
- 3. Use heavy—duty wire ties to attach the wire mesh material
- 4. Space the steel posts a maximum of 3-feet apart around the perimeter of the inlet and drive them into the ground a minimum of 18-inches.

24-inches against the wire mesh on all sides.

5. Excavate a trench 6—inches deep around the outside perimeter of the inlet to install wire mesh. Backfill the trench with soil or crushed stone and compact over the wire

to a minimum height of 12-inches, and a maximum of

- INSPECTION & MAINTENANCE
- 1. The key to functional inlet protection is weekly inspections, routine maintenance, and regular sediment removal.

48-IN. MIN.

2. Regular inspections of wire mesh and stone inlet protection shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2—inch or more of precipitation.

- BURY WIRE MESH

(SEE DETAIL)

WIRE MESH INSTALLATION DETAIL

- 3. Attention to sediment accumulations in front of the inlet protection is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
- 4. Remove accumulated sediment when the sediment reaches 1/3 height of the stone fill or when stone becomes clogged. When a sump is installed in front of inlet protection, sediment should be removed when it fills approximately 1/3the depth of the sump.
- 5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
- 6. Large debris, trash, and leaves should be removed from in front of the inlet protection when found.
- . After accumulated sediment is removed, pull stones from 6. Place Aggregate No. 5 washed stone (or 1-inch D50 stone) around wire mesh to wash or to replace with fresh stones as necessary.
  - 8. Inlet protection structures should be removed after the disturbed areas are permanently stabilized. Remove all construction material and sediment, and dispose of them properly. Grade the disturbed area to the elevation of the drop inlet crest. Stabilize all bare areas immediately.

# HARDWARE FABRIC AND STONE INLET PROTECTION (TYPE B)

ATTACH  $1/2 \times 1/2$  IN. MAX. OPENING WIRE MESH TO POSTS WITH WIRE TIES SPACED A MAX. OF 6-IN. APART -

FOLD WIRE MESH TO OVERLAP ENDS AND SECURE TO

# NOT TO SCALE

# DIKE MATERIAL COMPACTED 90% STANDARD PROCTOR 2-FT: MIN: FLATTER 1.5-FOOT MIN. DIKE SPACING = 100-FT.. 200-FT.. OR 300-FT. DEPENDING ON GRADE-

# DIVERSION DIKES AND BERMS

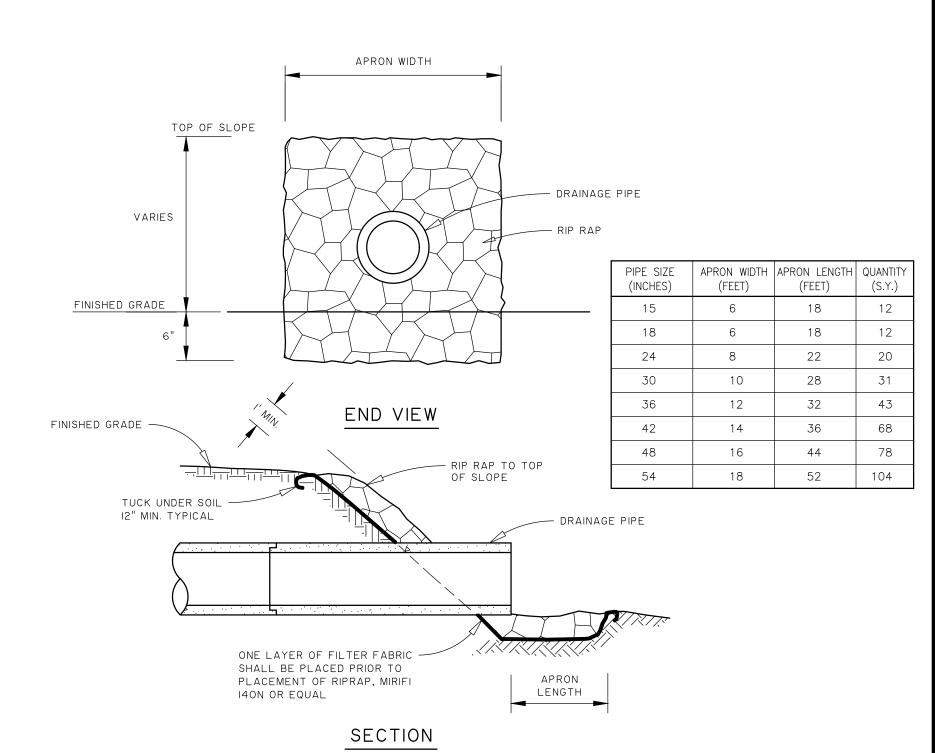
The upslope side of the dike should provide positive drainage so no erosion occurs at the outlet. Provide energy dissipation measures as necessary. Sediment—laden runoff must be released through a sediment trapping facility.

Inspection and Maintenance:

Dikes and Berms should be inspected, every seven (7) calendar days and within 24-hours after each rainfall event that produces ½-inches or more of precipitation and repairs made as necessary.

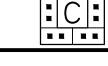
Slopes shall be stabilized immediately using vegetation, sod, and erosion control blankets or turf reinforcement mats to prevent erosion.

Damage caused by construction traffic or other activity must be repaired before the end of each working day.



NOT TO SCALE

DIVERSION DIKE OR BERM NOT TO SCALE



# BLOCK AND GRAVEL DROP INLET PROTECTION (TYPE C)

NOT TO SCALE

# 48-IN. MIN. BURY & TRENCH MINIMUM OF 12-INCHES OF FILTER FABRIC FILTER FABRIC BURIAL DETAIL

⊢18-IN. TO 24-IN. 8-IN. MIN.

POST INSTALLATION DETAIL

FILTER FABRIC INSTALLATION DETAIL

# TYPE A - FILTER FABRIC REQUIREMENTS 1. Silt fence must be composed of woven geotextile filter fabric that

- consists of the following requirements:

  Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each - Free of any treatment or coating which might adversely alter its physical properties after installation
- Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,

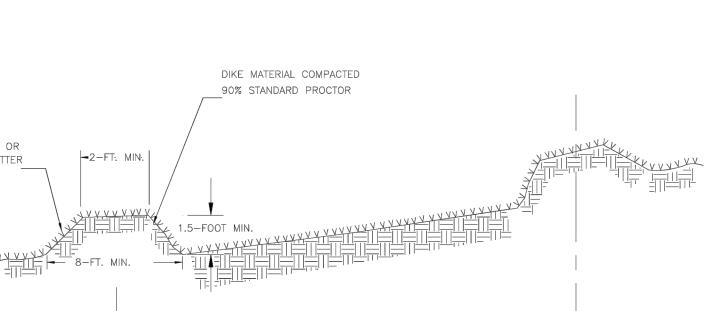
  Have a minimum width of 36—inches.
- Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway
- 3. 12—inches of the fabric should be placed within excavated trench toed in when the trench is backfilled.
- Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints. 5. Filter Fabric shall be installed at a minimum of 24-inches above the
- TYPE A POST REQUIREMENTS 1. Silt Fence posts must be 48—inch long steel posts that meet, at a minimum, the following physical characteristics.

  Composed of a high strength steel with a minimum yield
- strength of 50,000 psi.

  Include a standard "T" section with a nominal face width of 1.38—inches and a nominal "T" length of 1.48—inches.

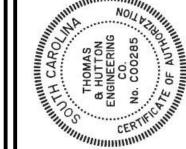
  Weigh 1.25 pounds per foot (± 8%)

# FILTER FABRIC INLET PROTECTION (TYPE A)

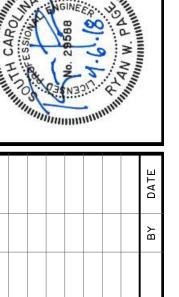


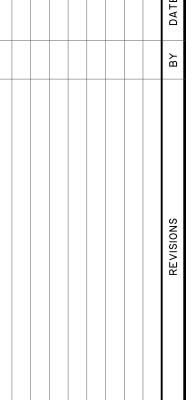
NOT TO SCALE

Sediment—laden runoff shall be directed to a sediment trapping facility. Minimize construction traffic over diversion dikes and berms.









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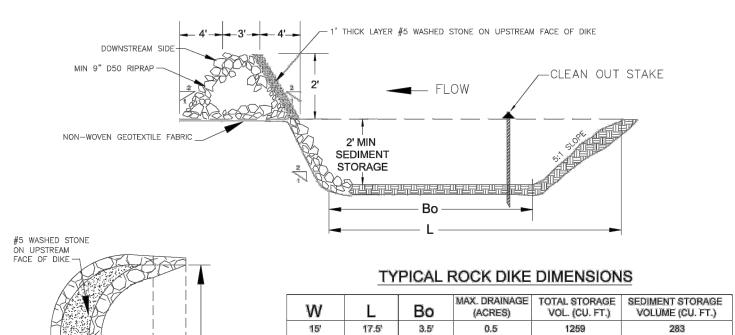
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NOVEMBER 6, 20 DRAWN: DESIGNED: RWP

REVIEWED:

APPROVED: RWP



22.5'

30' 25.0' 11.0'

6.0'

8.5'

1.5

2.0

MAXIMUM 2-ACRE DRAINAGE AREA TO DIKE

ROCK SEDIMENT DIKE — GENERAL NOTES

1. Rock sediment dikes should not be placed in Waters of the State or USGS blue—line streams (unless approved by

- A non-woven geotextile fabric shall be installed over the soil surface where the rock sediment dike is to be placed.

  The bady of a rock codiment dike shall be composed of
- The body of a rock sediment dike shall be composed of 9-inch D50 riprap at a minimum.
- The upstream face of the rock sediment dike shall be composed of a 1-foot thick layer of 3/4-inch to 1-inch D50 washed stone placed at a slope of 2H:1V.
- Rock sediment dikes shall have a minimum top flow length of 3-feet (2-foot flow length through the riprap and 1-foot flow length through the washed stone).
- The rock must be placed by hand or mechanical placement (no dumping of rock to form the sediment dike) to achieve proper dimensions.
- 7. A sediment sump shall be located on the upstream side of the structure to provide sediment storage. The upstream side of the sump shall have a slope of 5H:1V to inhibit erosion of the sediment storage area. The minimum depth of the sump shall be 2—feet.
- Mark the sediment clean—out level of the sediment dike with a stake in the field.
- 9. Seed and mulch all disturbed areas.

ROCK SEDIMENT DIKE — INSPECTION AND MAINTENANCE

1. The key to a functional rock sediment dike is weekly inspection, routine maintenance and regular sediment removal.

2790

3790

855

1257

- Attention to sediment accumulations within the rock sediment dike is extremely important. Accumulated sediment deposition should be continually monitored in the trap and removed when necessary.
- Remove accumulated sediment when it reaches 50% of the designed sediment storage volume as marked by the class of the sediment storage.
- Removed sediment from the rock sediment dike shall be placed in stockpile storage areas or spread thinly across the disturbed area. Stabilize the removed sediment after it is relocated.
- 5. Regular inspections of rock sediment dikes should be conducted once every calendar week and, as recommended, within 24-hours after each rainfall event that produces ½-inch or more of precipitation.
- 6. All rock sediment dikes should be removed within 30 days after final stabilization is achieved. Dispose of all construction materials appropriately. Disturbed area resulting from removal shall be permanently stabilized.

# \_\_\_

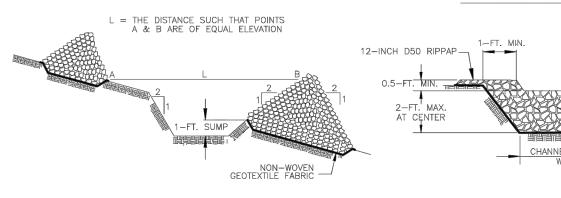
Federal Authorities).

ROCK SEDIMENT DIKES

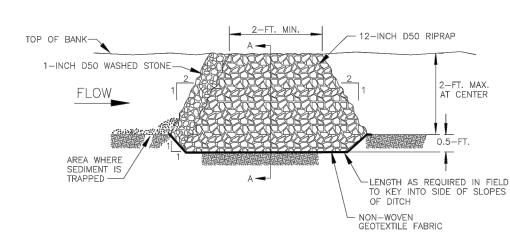
NOT TO SCAL

# SPACING BETWEEN DITCH CHECK

## CROSS SECTION A-A THRU STONE DITCH CHECK



# TYPICAL DITCH CHECK SECTION



# ROCK DITCH CHECK - GENERAL NOTES

- Rock Ditch Checks should not be placed in Waters of the State or USGS blue—line streams (unless approved by Federal Authorities)
- Rock Ditch Checks should be installed in steeply sloped channels where adequate vegetation cannot be established. This BMP measure should only be used in small open channels.
- A non-woven geotextile fabric shall be installed over the soil surface where the rock ditch check is to be placed.
- 4. The body of the rock ditch check shall be composed of 12—inch D50 Riprap. The upstream face may be composed of 1—inch D50 washed stone.
- Rock Ditch Checks should not exceed a height of 2—feet at the centerline of the channel.
- 6. Rock Ditch Checks should have a minimum top flow length of
- Riprap should be placed over channel banks to prevent water from cutting around the ditch check.
- 8. The riprap should be placed by hand or mechanical placement (no dumping of rock to form dam) to achieve complete coverage of the channel. Doing so will also ensure that the center of the check is lower than the edges.
- 9. The maximum spacing between the dams should be such that the toe of the upstream check is at the same elevation as the top of the downstream check.

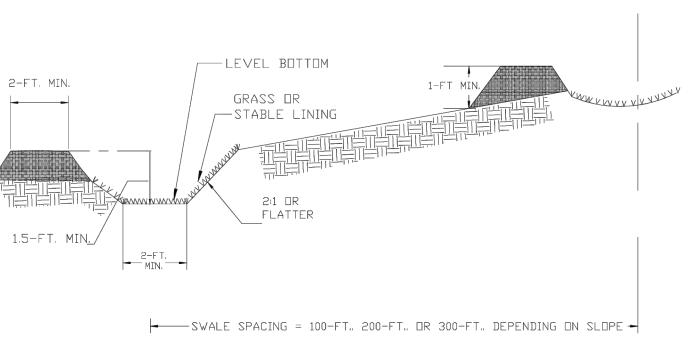
- ROCK DITCH CHECK INSPECTION & MAINTENANCE

  1. The key to functional rock ditch check is weekly inspections, routine maintenance, and regular sediment removal.
- Regular inspections of rock ditch checks shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation.
- Attention to sediment accumulations in front of the rock ditch check is extremely important. Accumulated sediment should be continually monitored and removed when necessary.
- Remove accumulated sediment when it reaches 1/3 the height of the rock ditch check.
- Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
- Inspect Rock Ditch Checks' edges for erosion and evidence of runoff bypassing the installed check. If evident repair promptly as necessary to prevent erosion and bypassing.
- 7. In the case of grass—lined ditches, channels, and swales, rock ditch checks should be removed when the grass has matured sufficiently to protect the ditch or swale unless the slope of the swale is greater than 4%.
- 8. After construction is completed and final stabilization is reached, the entirety of the rock ditch check should be removed if vegetation will be used for permanent erosion control measures. The area beneath the removed rock ditch check must be addressed with permanent stabilization



# ROCK DITCH CHECK

T TO SCALE



DIVERSION SWALE

# <u>Installation</u>

The bottom width should be a minimum of 2—feet, and the bottom should be level.

The depth should be a minimum of 1.5—feet and the side slopes should be 2H:1V or flatter.

The maximum grade shall be 5%, with positive drainage to a suitable outlet.

Slopes shall be stabilized immediately using vegetation, sod, and erosion control blankets or turf reinforcement mats to prevent erosion.

The upslope side of the swale should provide positive drainage so no erosion occurs at the outlet. Provide energy dissipation measures as necessary. Sediment—laden runoff shall be directed to a sediment trapping facility.

# Inspection and Maintenance:

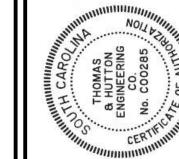
Swales should be inspected, every seven (7) calendar days and within 24—hours after each rainfall event that produces ½—inches or more of precipitation and repairs made as necessary.

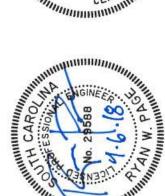
Damage caused by construction traffic or other activity must be repaired before the end of each working day.

⇒TD⇒

TEMPORARY DIVERSION DITCH OR SWALE

NOT TO SCALE





NO. REVISIONS BY DATE

> MPROVEMENTS DETAILS

SITE - ROADWAY IMPRO

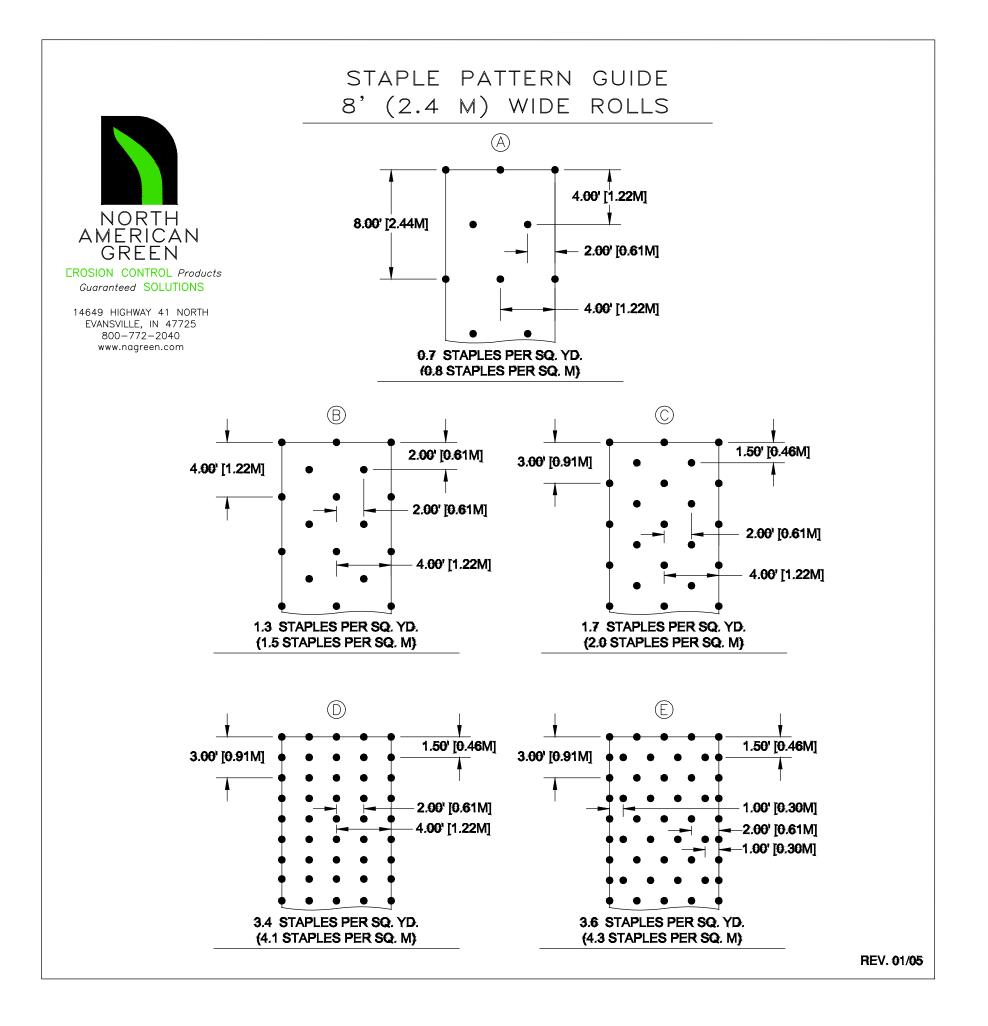
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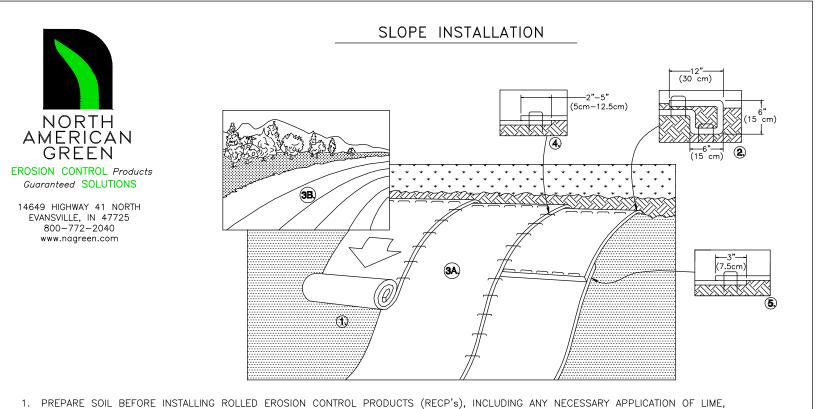
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DATE: NOVEMBER 6, 2
DRAWN: TJP
DESIGNED: RWP
REVIEWED:
APPROVED: RWP

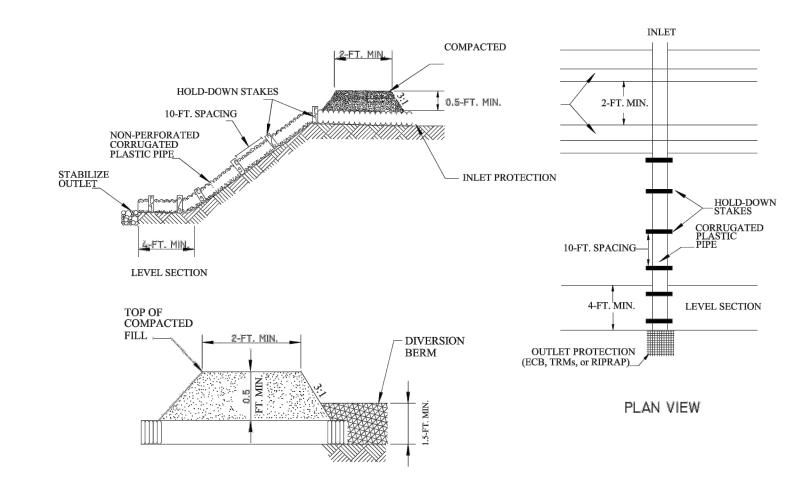
**EC3.2** 

# STORMWATER POLLUTION PREVENTION PLAN





- 1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN. 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE THE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES'/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's. 3. ROLL THE REDP'S (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. RÉCP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL
- SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED
- DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN. 4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE. 5. CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY



PIPE SLOPE DRAIN

When and Where to Use It

Pipe slope drains are used when it is necessary for water to flow down a slope without causing erosion, especially before a slope has been stabilized or before permanent drainage structures are installed.

Typical pipe slope drains are made of non-perforated corrugated plastic pipe.

Slope drain sections should be securely fastened together, have gasket watertight fittings, and be securely anchored into the soil.

Diversion berms or dikes should direct runoff to slope drains. The minimum depth of these dikes or berms should be 1.5-feet. The height of the berm around the pipe inlet should be a minimum of 1.5—feet high and at least 0.5—feet higher than the top of the pipe. The berm at the pipe inlet shall be compacted around the pipe. The area around the inlet shall be properly stabilized with ECBs, TRMs, riprap or other applicable

The area below the outlet must be properly stabilized with ECBs, TRMs, riprap or other applicable stabilization technique.

If the pipe slope drain is conveying sediment-laden water, direct all flows into the sediment trapping facility. Permanent slope drains should be buried beneath the soil surface a minimum 1.5-feet.

Inspection and Maintenance:

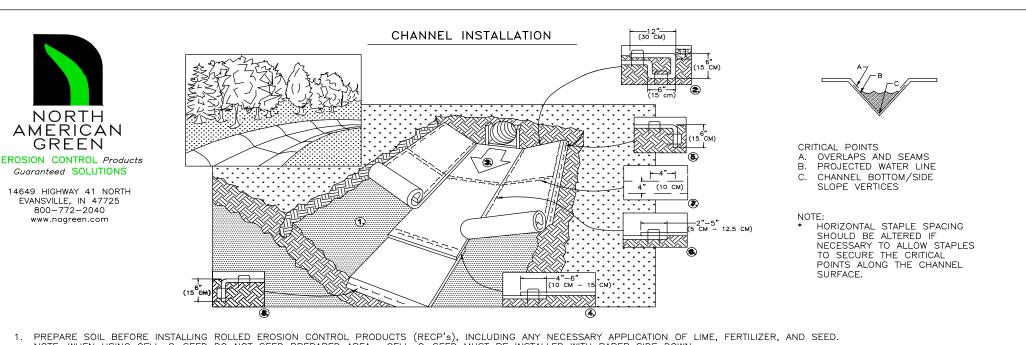
Inspect pipe slope drain inlet and outlet points every seven (7) calendar days and within 24-hours after each rainfall event that produces

The inlet should be free from undercutting, and no water should be going around the point of entry. If there are problems, the headwall should be reinforced with compacted earth or sandbags. The outlet point should be free of erosion and installed with appropriate outlet protection.

All temporary pipe slope drains should be removed within 30 days after final site stabilization is achieved or after the temporary BMP is no longer needed. Disturbed soil areas resulting from removal should be permanently stabilized.

# PIPE SLOPE DRAIN

NOT TO SCALE



- 1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.

  NOTE: WHEN USING CELL—O—SEED DO NOT SEED PREPARED AREA. CELL—O—SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.

  2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE THE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES'/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
- 3. ROLL CENTER REDP'S IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP'S WILL UNROLL WITH APPROPRÍATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN. 4. PLACE CONSECUTIVE RECP'S END OVER EN (SHINGLE STYLE) WITH A 4" - 6" (10 CM - 15 CM) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10 CM) APART AND 4"
- (10 CM) ON CENTER TO SECURE RECP"S. 5. FULL LÉNGTH EDGE OF RECP'S AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. 6. ADJACENT RECP'S MUST BE OVERLAPPED APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) (DEPENDING ON RECP'S TYPE) AND STAPLED.
  7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9 M - 12 M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10
- CM) APART AND 4" (10 CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL. 8. THE TERMINAL END OF THE RECP'S MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

SILT FENCE INSTALLATION FLAT-BOTTOM TRENCH DETAIL 1.25 LB./LINEAR FT. STEEL POSTS PLAN SYMBOL 

SILT FENCE - GENERAL NOTES Do not place silt fence across channels or in other areas subject to concentrated flows. Silt fence should not be used as a velocity control BMP. Concentrated flows are any flows greater than 0.5 cfs.

2. Maximum sheet or overland flow path length to the silt fence shall be 100—feet.

3. Maximum slope steepness (normal [perpendicular] to the fence line) shall be 2:1.

 Silt fence joints, when necessary, shall be completed by one of the following options:

 Wrap each fabric together at a support post with both ends fastened to the post, with a 1-foot

 - Wide each lating together at a support post to which the new silt fence roll is attached. Attach old roll to new roll with heavy—duty plastic ties; or,

- Overlap entire width of each silt fence roll from one support post to the next support post.

5. Attach filter fabric to the steel posts using heavy—duty plastic ties that are evenly spaced within the top 8—inches of the fabric.

Install the silt fence perpendicular to the direction of the stormwater flow and place the silt fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.

Install Silt Fence Checks (Tie-Backs) every 50-100 feet, dependent on slope, along silt fence that is installed with slope and where concentrated flows are expected or are documented along the proposed/installed silt fence.

SILT FENCE - POST REQUIREMENTS Silt Fence posts must be 48—inch long steel posts that meet, at a minimum, Composed of a high strength steel with a minimum yield strength of 50,000 psi. 50,000 psi.

Include a standard "T" section with a nominal face width of 1.38—inches and a nominal "T" length of 1.48—inches.

- Weigh 1.25 pounds per foot ( $\pm$  8%) 2. Posts shall be equipped with projections to aid in fastening of filter fabric. 3. Steel posts may need to have a metal soil stabilization plate welded near the

bottom when installed along steep slopes or installed in loose soils. The plate should have a minimum cross section of 17—square inches and be composed of 15 gauge steel, at a minimum. The metal soil stabilization plate should be completely buried.

Install posts to a minimum of 24-inches. A minimum height of 1- to 2inches above the fabric shall be maintained, and a maximum height of 3
feet shall be maintained above the ground.

Post spacing shall be at a maximum of 6-feet on center.

SILT FENCE - FABRIC REQUIREMENTS - Free of any treatment or coating which might adversely alter its physical properties after installation; - Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,
- Have a minimum width of 36-inches.

Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.

12—inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.

5. Filter Fabric shall be installed at a minimum of 24—inches above the ground.

V-SHAPED TRENCH DETAIL FILTER FABRIC,

SILT FENCE - INSPECTION & MAINTENANCE 1. The key to functional silt fence is weekly inspections, routine maintenance,

 Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of precipitation. 3. Attention to sediment accumulations along the silt fence is extremely Accumulated sediment should be continually monitored and removed when

4. Remove accumulated sediment when it reaches 1/3 the height of the silt 5. Removed sediment shall be placed in stockpile storage areas or spread

across disturbed area. Stabilize the removed sediment after it is relocated. Check for areas where stormwater runoff has eroded a channel beneath the silt fence, or where the fence has sagged or collapsed due to runoff overtopping the silt fence. Install checks/tie—backs and/or reinstall silt fence, as necessary.

Check for tears within the silt fence, areas where silt fence has begun to decompose, and for any other circumstance that may render the silt fence ineffective. Removed damaged silt fence and reinstall new silt fence

8. Silt fence should be removed within 30 days after final stabilization is and once it is removed, the resulting disturbed area shall be permanently

SILT FENCE NOT TO SCALE



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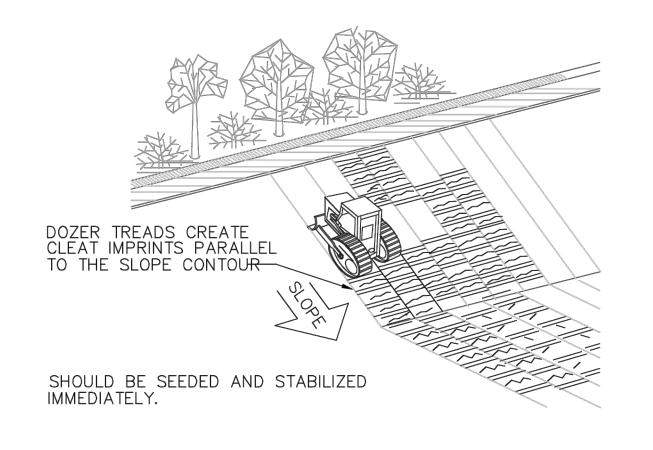
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NOVEMBER 6, 201 DRAWN: DESIGNED: RWP

REVIEWED:

APPROVED: RWP

# STORMWATER POLLUTION PREVENTION PLAN



**TRACKING** 

DEBRIS FROM SLOPE ABOVE IS CAUGHT BY STEPS— WATER, SOIL, AND FERTILIZER ARE HELD BY STEPS — VEGETATION ESTABLISHES MORE EASILY ON SHOULD BE SEEDED AND STABILIZED IMMEDIATELY.

STAIR STEP GRADING

LAND GRADING TECHNIQUES

NOT TO SCALE

GROOVING IS CUTTING FURROWS ALONG THE CONTOUR OF A SLOPE. IRREGULARITIES IN THE SOIL
SURFACE CATCH RAINWATER AND
PROVIDE SOME COVERAGE OF LIME,
FERTILIZER AND SEED.

SHOULD BE SEEDED AND STABILIZED IMMEDIATELY.

**SLOPE GROOVING** 

# STAPLES 1/8" DIA. 4" STAPLE -(2 PER BALE) SECTION B-B

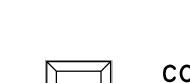
1. ACTUAL LAYOUT DETERMINED IN FIELD.

2. INSTALL CONCRETE WASHOUT SIGN (24"X24", MINIMUM) WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY. 3. TEMPORARY WASHOUT AREA MUST BE AT LEAST 50' FROM A STORM DRAIN, CREEK BANK OR PERIMETER CONTROL. CLEAN OUT CONCRETE WASHOUT AREA WHEN

6. SILT FENCE SHALL BE INSTALLED AROUND PERIMETER OF CONCRETE WASHOUT AREA EXCEPT FOR THE SIDE UTILIZED FOR ACCESSING THE WASHOUT.

7. A ROCK CONSTRUCTION ENTRANCE MAY BE NECESSARY ALONG ONE SIDE OF THE WASHOUT TO PROVIDE VEHICLE ACCESS.

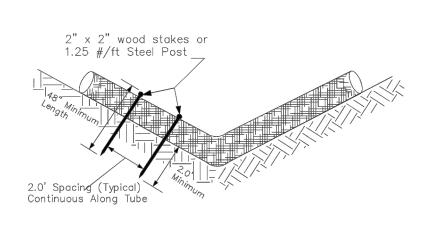
LETTERS A MINIMUM -OF 5" IN HEIGHT CONCRETÉ WASHOUT 5. THE KEY TO FUNCTIONAL CONCRETE WASHOUTS IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR CLEAN OUT. CONCRETE WASHOUT SIGN DETAIL

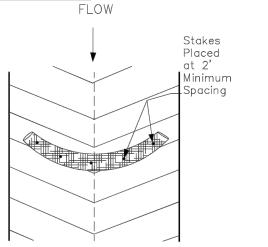


# CONCRETE WASHOUT DETAIL

NOT TO SCALE

# SEDIMENT TUBE INSTALLATION





# SEDIMENT TUBE SPACING

<u> </u>	······································
SLOPE	MAX. SEDIMENT TUBE SPACING
LESS THAN 2%	150-FEET
2%	100-FEET
3%	75-FEET
4%	50-FEET
5%	40-FEET
6%	30-FEET
GREATER THAN 6%	25-FEET

PLAN SYMBOL

	3%	
	4%	
	5%	
	6%	
	GREATER THAN 6%	
SEDIN	MENT TUBES — GENE	eral note

- Sediment tubes may be installed along contours, in drainage conveyance channels, and around inlets to help prevent off-site discharge of sediment-laden stormwater runoff.
- 2. Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber, or hardwood mulch. Straw, pine needle, and leaf mulch-filled sediment tubes are not permitted.

3. The outer netting of the sediment tube should consist of

- seamless, high—density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-degradable material. 4. Sediment tubes, when used as checks within channels, should range between 18—inches and 24—inches depending on
- channel dimensions. Diameters outside this range may be allowed where necessary when approved. 5. Curled excelsior wood, or natural coconut products that are
- rolled up to create a sediment tube are not allowed. 6. Sediment tubes should be staked using wooden stakes (2—inch X 2—inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) at
- a minimum of 48—inches in length placed on 2—foot centers. 7. Install all sediment tubes to ensure that no gaps exist between the soil and the bottom of the tube. Manufacturer's recommendations should always be consulted before
- 8. The ends of adjacent sediment tubes should be overlapped 6—inches to prevent flow and sediment from passing through
- 9. Sediment tubes should not be stacked on top of one another, unless recommended by manufacturer.
- 10. Each sediment tube should be installed in a trench with a depth equal to 1/5 the diameter of the sediment tube.

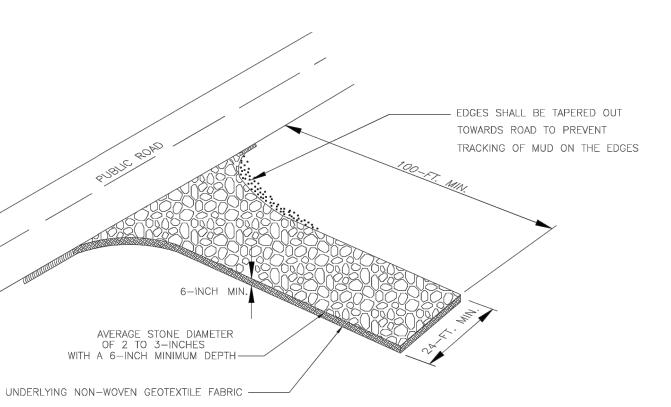
12. Install stakes at a diagonal facing incoming runoff.

11. Sediment tubes should continue up the side slopes a of 1-foot above the design flow depth of the channel.

- SEDIMENT TUBES INSPECTION & MAINTENANCE
- 1. The key to functional sediment tubes is weekly inspections, routine maintenance, and regular sediment removal.
- 2. Regular inspections of sediment tubes shall be conducted every calendar week and, as recommended, within 24-hours after each rainfall even that produces 1/2-inch or more of
- 3. Attention to sediment accumulations in front of the sediment tube is extremely important. Accumulated sediment should be continually monitored and removed when necessary.

4. Remove accumulated sediment when it reaches 1/3 the

- 5. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed
- sediment after it is relocated.
- 6. Large debris, trash, and leaves should be removed from in front of tubes when found.
- 7. If erosion causes the edges to fall to a height equal to or below the height of the sediment tube, repairs should be immediately to prevent runoff from bypassing tube.
- 8. Sediment tubes should be removed after the contributing vegetation should replace areas from which sediment tubes have been removed.



SPECIFICATION	SIZE
ROCK PAD THICKNESS	6 INCHES
ROCK PAD WIDTH	24 FEET
ROCK PAD LENGTH	100 FEET

CONSTRUCTION ENTRANCE — GENERAL NOTES

1. Stabilized construction entrances should be used at all points where traffic will egress/ingress a construction site onto a public road or any impervious surfaces, such as parking lots.

ROCK PAD STONE SIZE D = 2-3 INCHES

- 2. Install a non-woven geotextile fabric prior to placing any
- 3. Install a culvert pipe across the entrance when needed to provide positive drainage.
- 4. The entrance shall consist of 2-inch to 3-inch D50 stone placed at a minimum depth of 6—inches.
- 5. Minimum dimensions of the entrance shall be 24-feet wide 100—feet long, and may be modified as necessary to accommodate site constraints.
- 6. The edges of the entrance shall be tapered out towards the road to prevent tracking at the edge of the entrance.
- Divert all surface runoff and drainage from the stone pad to a sediment trap or basin or other sediment trapping
- 8. Limestone may not be used for the stone pad.

- CONSTR. ENTRANCE INSPECTION & MAINTENANCE
- 1. The key to functional construction entrances is weekly inspections, routine maintenance, and regular sediment removal. 2. Regular inspections of construction entrances shall be

conducted once every calendar week and, as recommended,

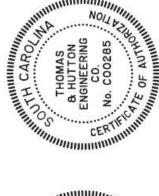
within 24—hours after each rainfall even that produces

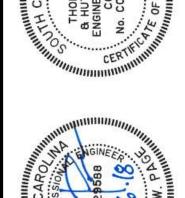
- 1/2—inch or more of precipitation. 3. During regular inspections, check for mud and sediment buildup and pad integrity. Inspection frequencies may need to be more frequent during long periods of wet weather.
- 4. Reshape the stone pad as necessary for drainage and runoff
- 5. Wash or replace stones as needed and as directed by site inspector. The stone in the entrance should be washed or eplaced whenever the entrance fails to reduce the amount of mud being carried off—site by vehicles. Frequent washing will extend the useful life of stone pad.
- 6. Immediately remove mud and sediment tracked or washed onto adjacent impervious surfaces by brushing or sweeping. Flushing should only be used when the water can be discharged to a sediment trap or basin.
- 7. During maintenance activities, any broken pavement should be repaired immediately.
- 8. Construction entrances should be removed after the site has reached final stabilization. Permanent vegetation should replace areas from which construction entrances have been removed, unless area will be converted to an impervious surface to serve post-construction.

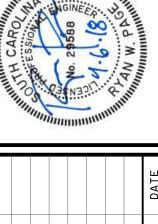


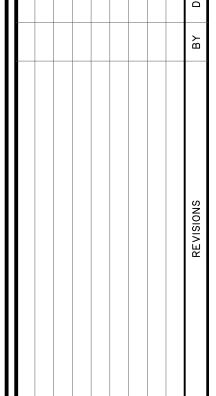
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NOT TO SCALE









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NOVEMBER 6, 201 DRAWN: TJP DESIGNED: RWP

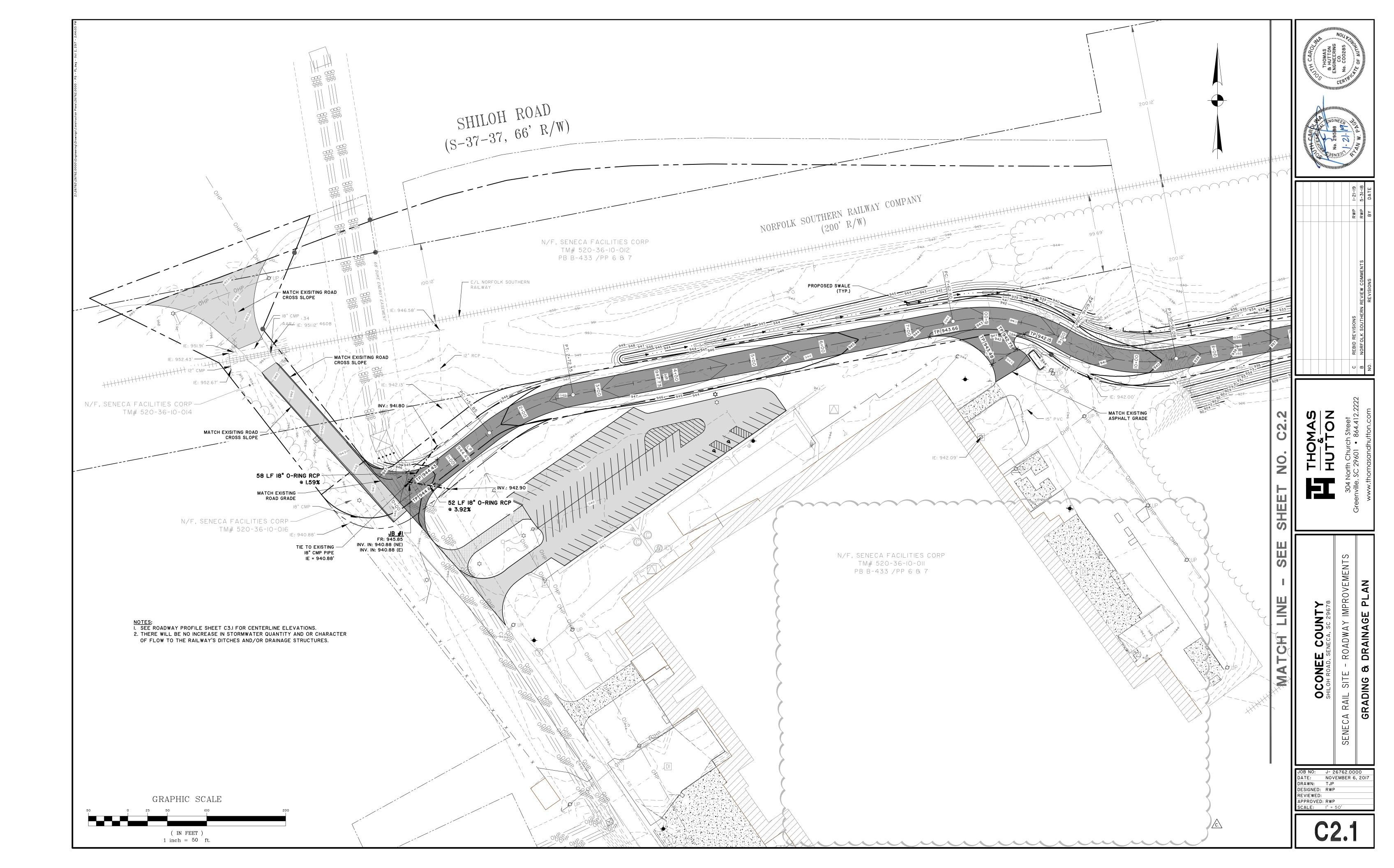
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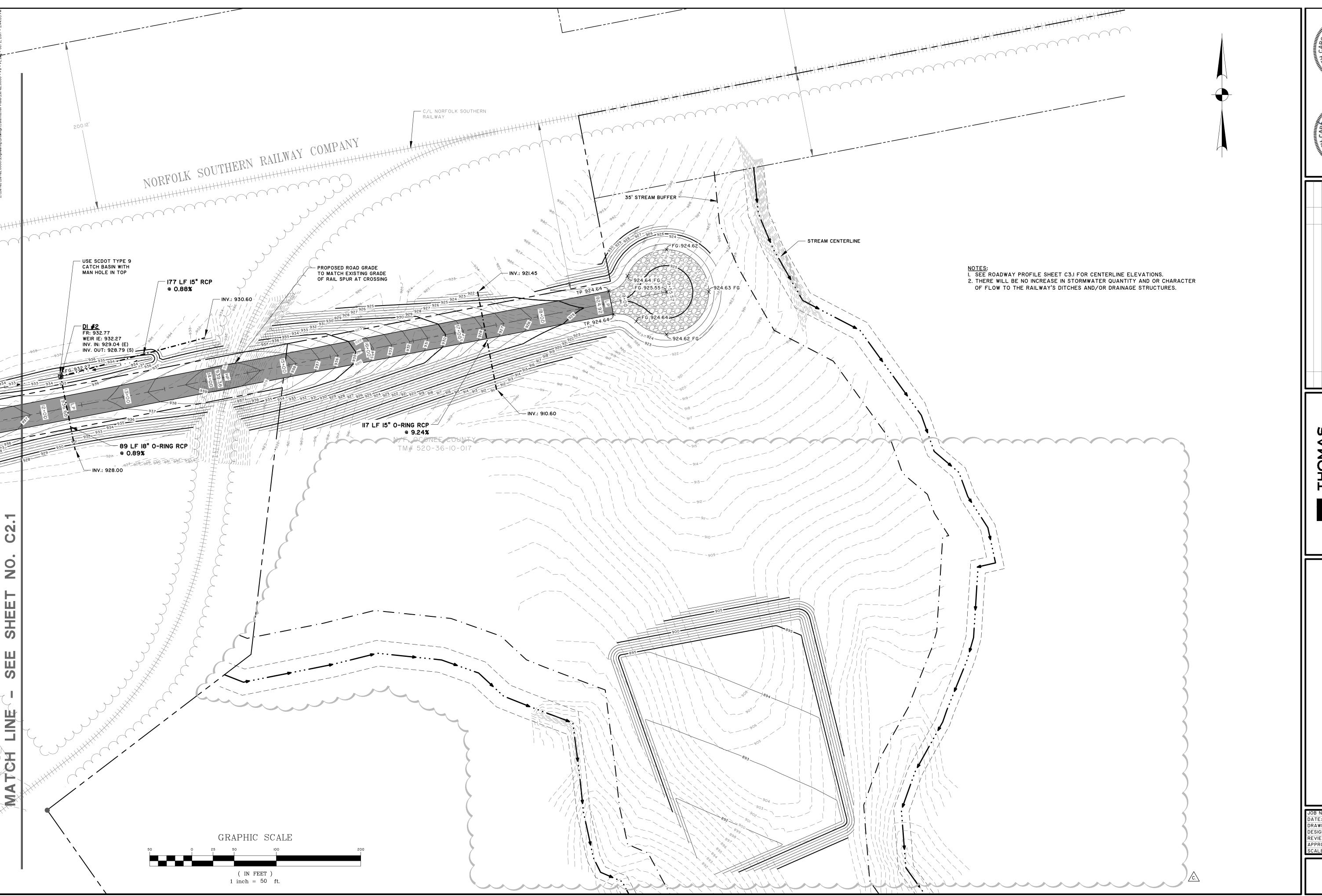
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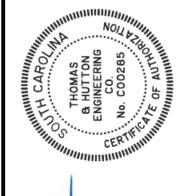


STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE









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		RWP	RWP	ВҮ	
		REBID REVISIONS	NORFOLK SOUTHERN REVIEW COMMENTS	REVISIONS	
		၁	В	NO.	

304 North Church Street iville, SC 29601 • 864.412.2222

VAY IMPROVEMENTS

SHILOH ROAD, SENECA, SC 296

SENECA RAIL
GRADII

JOB NO: J- 26762.0000

DATE: NOVEMBER 6, 2017

DRAWN: TJP

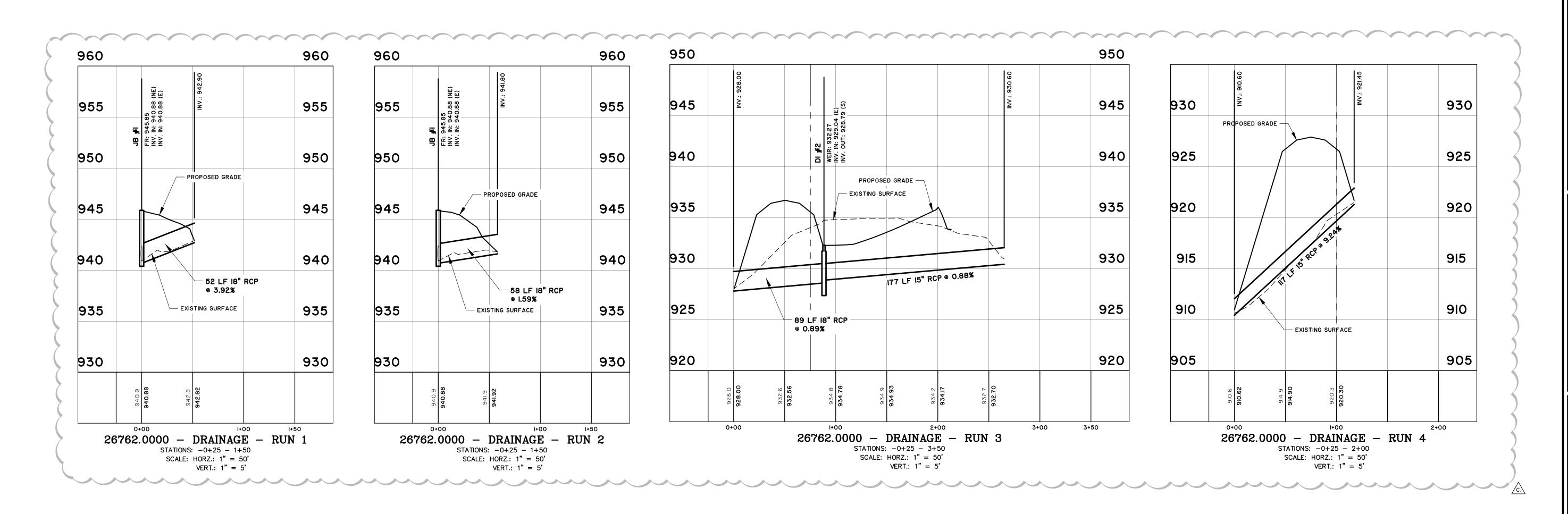
DESIGNED: RWP

REVIEWED:

APPROVED: RWP

SCALE: I" = 50'

C2.2







THOMAS HUTTON

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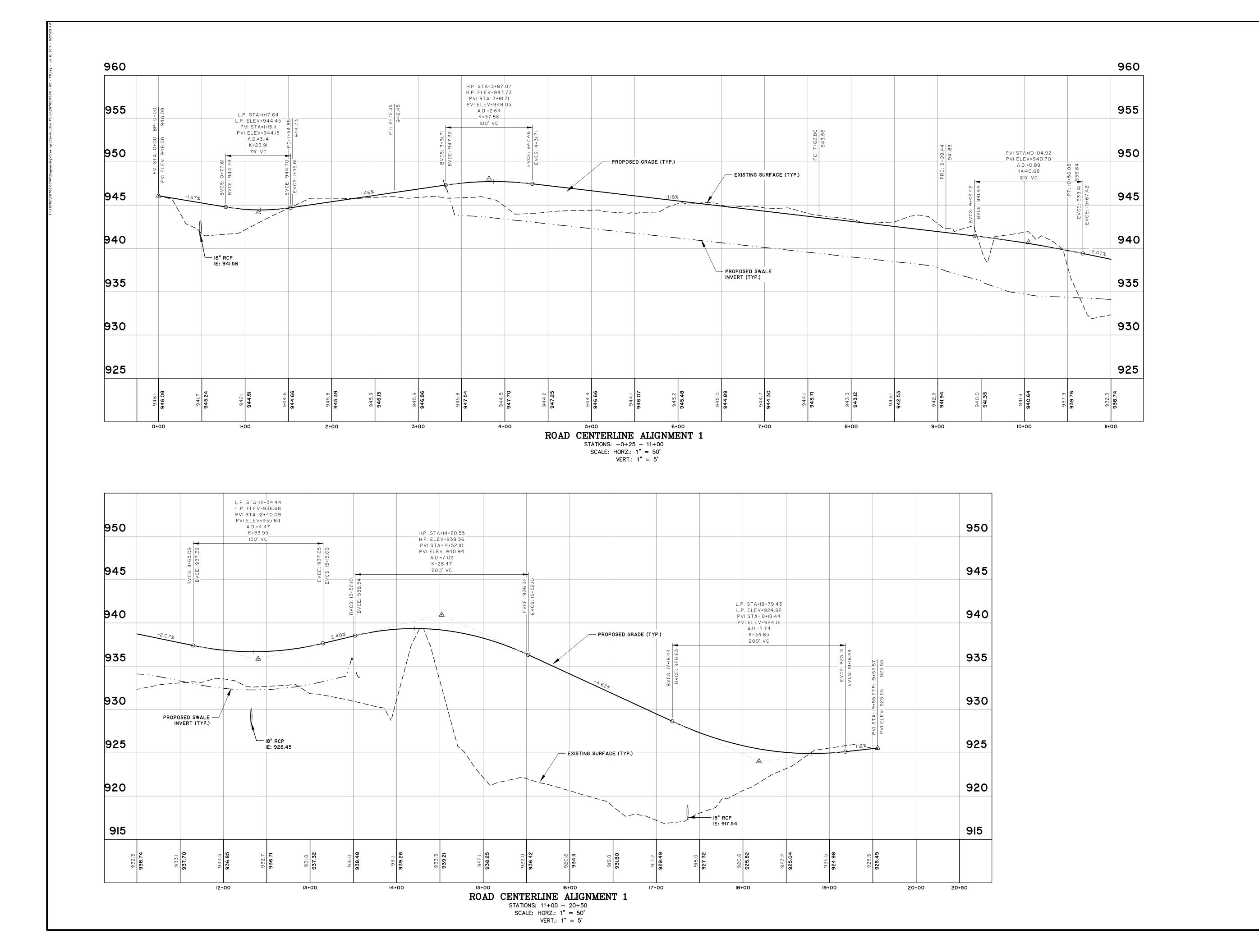
SHILOH ROAD, SENECA, SC 29678

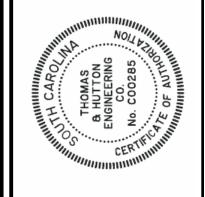
RAIL SITE - ROADWAY IMPROVEMENT

DRAINAGE PROFILES COUNTY OCONEE SHILLOH BOAD SE

SENECA

JOB NO: J- 26762.0000
DATE: NOVEMBER 6, 2017 DRAWN: TJP
DESIGNED: RWP REVIEWED: RWP APPROVED: RWP SCALE: |" = 50'



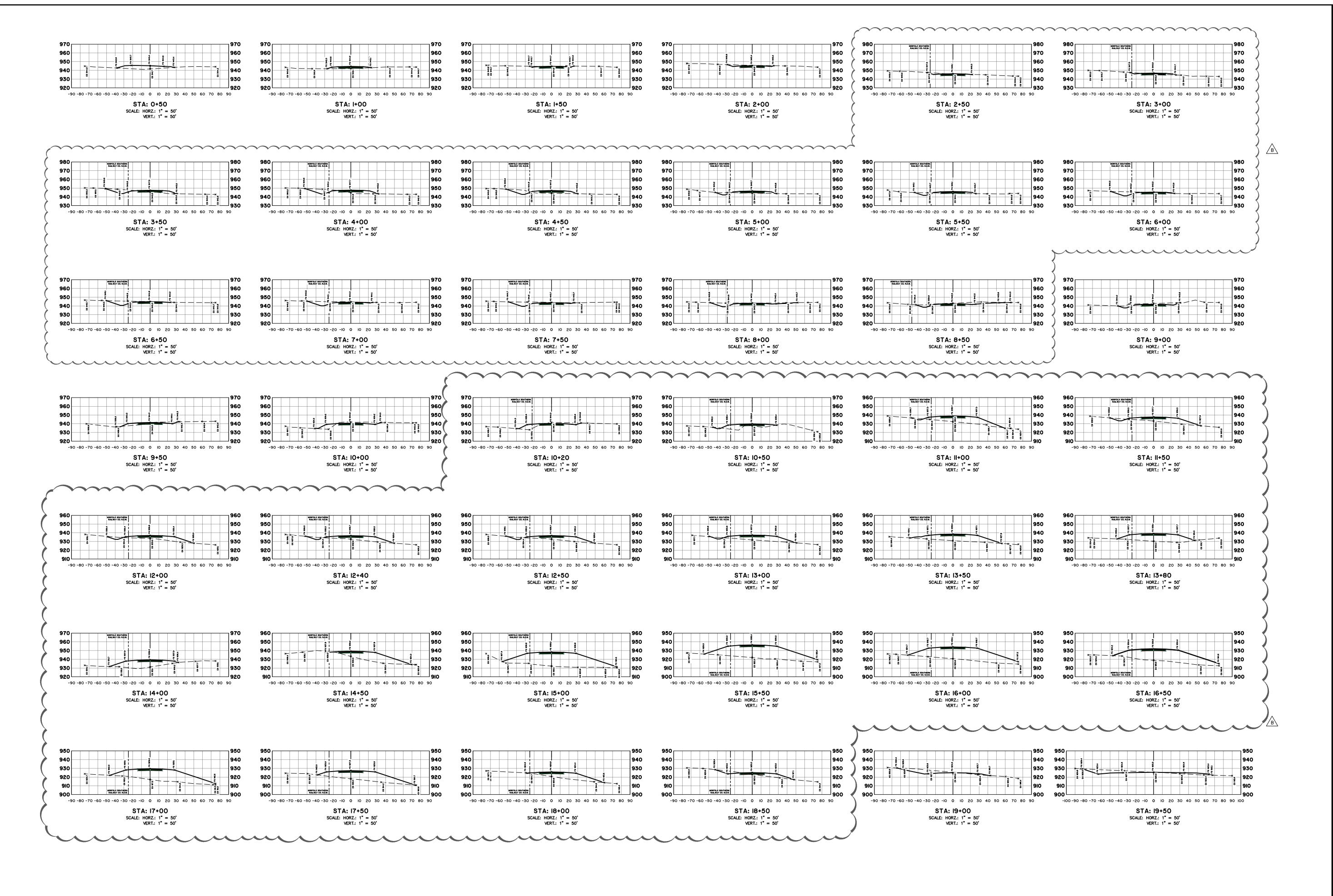




- ROADWAY IMPROVEMENTS D PROFILES

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J- 26762.0000 NOVEMBER 6, 2017 DRAWN: TJP
DESIGNED: RWP
REVIEWED: APPROVED: RWP







REVIEW COMMENTS RWP 5-31-18
REVISIONS BY DATE

THOMAS FUTTON

WAY IMPROVEMENTS

SITE - ROADWAY IMP

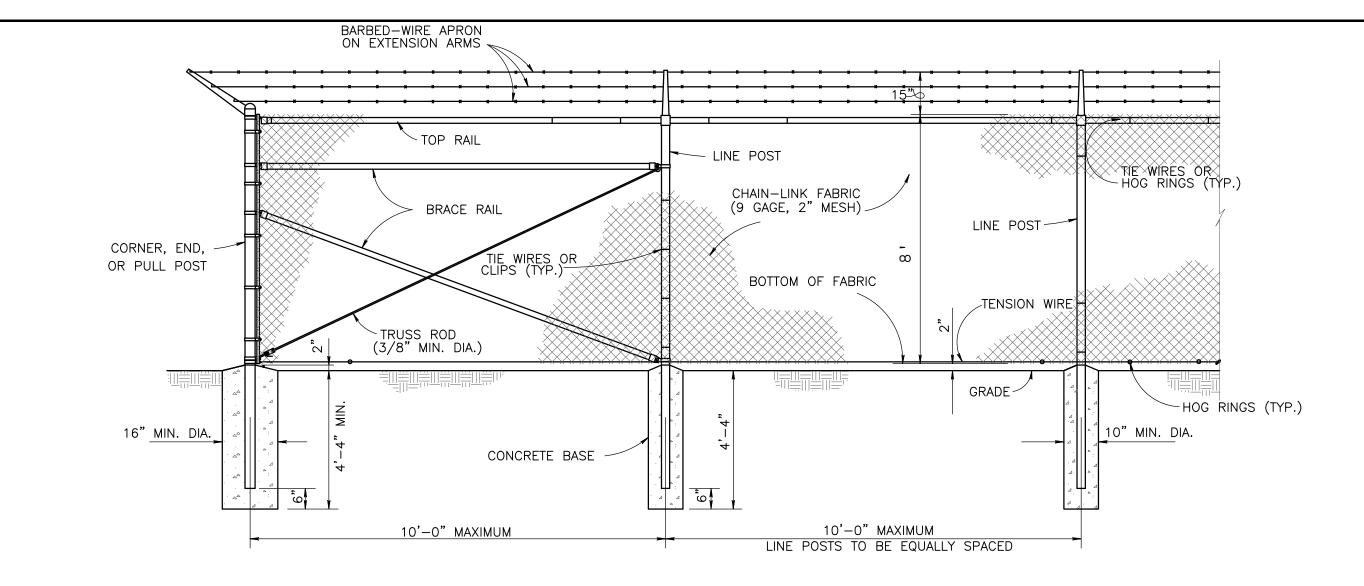
COUNTY
NECA. SC 29678

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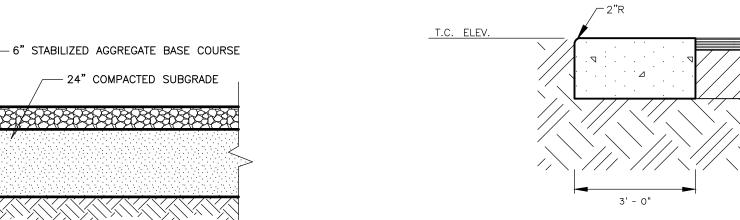
SENECA RAIL SITE -ROAD CRO

JOB NO: J- 26762.0000
DATE: NOVEMBER 6, 2017
DRAWN: TJP
DESIGNED: RWP
REVIEWED:
APPROVED: RWP
SCALE: I" = 50'

C3.2



CHAIN-LINK SECURITY FENCE DETAIL



# TEMPORARY TURNAROUND SECTION

- 24" COMPACTED SUBGRADE

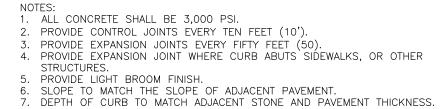
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NOT TO SCALE

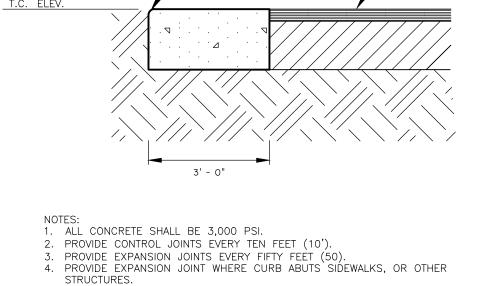
STEEL FRONT BAR

FRONT

DO NOT CUT CONCRETE PIPE. USE FULL LENGT-END SECTIONS ONLY. WARP SLOPE TO CONFORM



NOT TO SCALE



BOTTOM OF

PRIMARY SIGN

MOUNTING HEIGHT

1. USE 5/16" GALVANIZED MOUNTING HARDWARE. 2. INSTALLATION SHALL CONFORM WITH SCDOT AND MUTCD STANDARDS AND SPECIFICATIONS.

TRAFFIC SIGN DETAILS

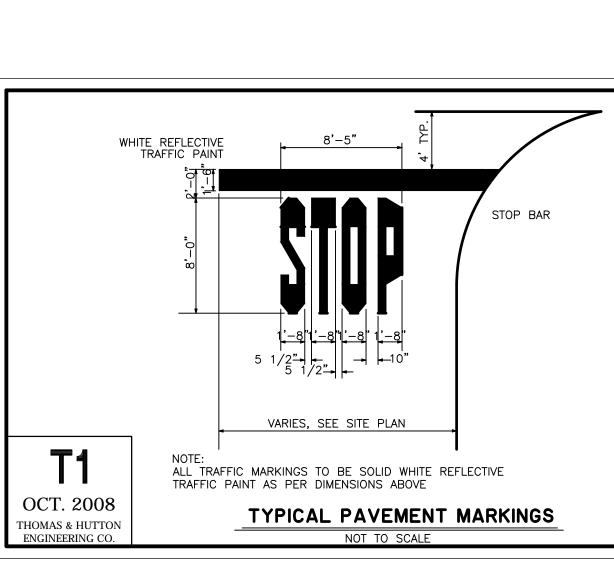
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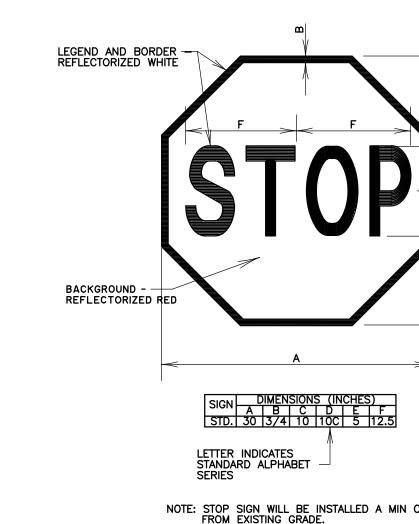
STOPLINES

3' MIN

\_ ASPHALT PAVEMENT

**FLUSH RIBBON CURB** 

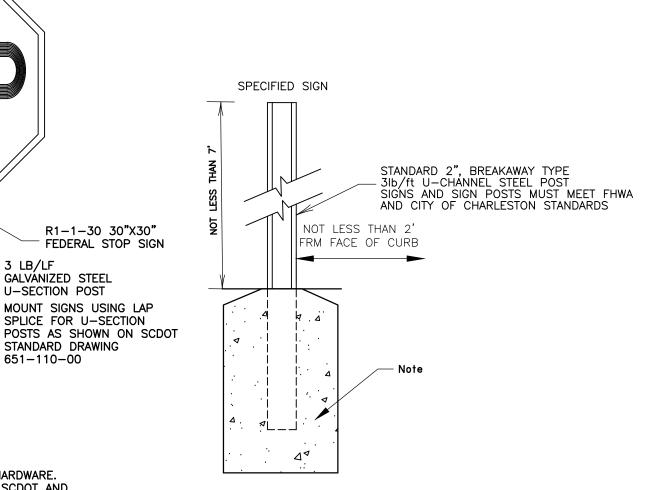




NOTE: STOP SIGN WILL BE INSTALLED A MIN OF 7' FROM EXISTING GRADE.

RI-I-30 STOP SIGN DETAIL

NOT TO SCALE



TYPICAL SIGN POST

 2" ASPHALTIC CONCRETE SCDOT TYPE C SURFACE COURSE NOT TO SCALE - PRIME COAT

> 6" MACADAM BASE COURSE - 12" COMPACTED SUB-BASE AT 98%

> > SPECIFICATIONS)

MAXIMUM DRY DENSITY (AS PER

2" ASPHALTIC CONCRETE SCDOT TYPE C SURFACE COURSE

- PRIME COAT

3" ASPHALTIC CONCRETE SCDOT

TYPE B INTERMEDIATE COURSE

— TACK COAT (IF REQUIRED)

— TACK COAT (IF REQUIRED)

8" MACADAM BASE COURSE

- 12" COMPACTED SUB-BASE AT 98%

MAXIMUM DRY DENSITY (AS PER

SPECIFICATIONS)

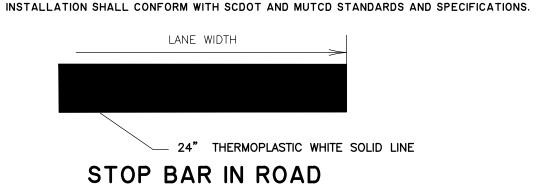
ASPHALT PAVEMENT SECTION

(HEAVY DUTY)

NOT TO SCALE

# **ASPHALT PAVEMENT SECTION** (LIGHT DUTY)

NOT TO SCALE



NOT TO SCALE

WHERE CROSSWALK MARKINGS EXIST, STOPLINES SHOULD BE PLACED IN ADVANCE OF, AND PARALLEL TO, THE NEAREST CROSSWALK LINE. A MINIMUM DISTANCE OF 4'

IN THE ABSENCE OF A MARKED CROSSWALK, THE STOPLINE SHOULD BE PLACED AT A DISTANCE OF NO LESS THAN 4 FEET AND NO MORE THAN 30 FEET FROM THE PAVEMENT EDGE OF THE INTERSECTING ROUTE.

ALL STOPLINES ARE TO BE MARKED WITH 24" SOLID WHITE LINES.

SHOULD EXIST BETWEEN THE CROSSWALK AND STOPBAR.

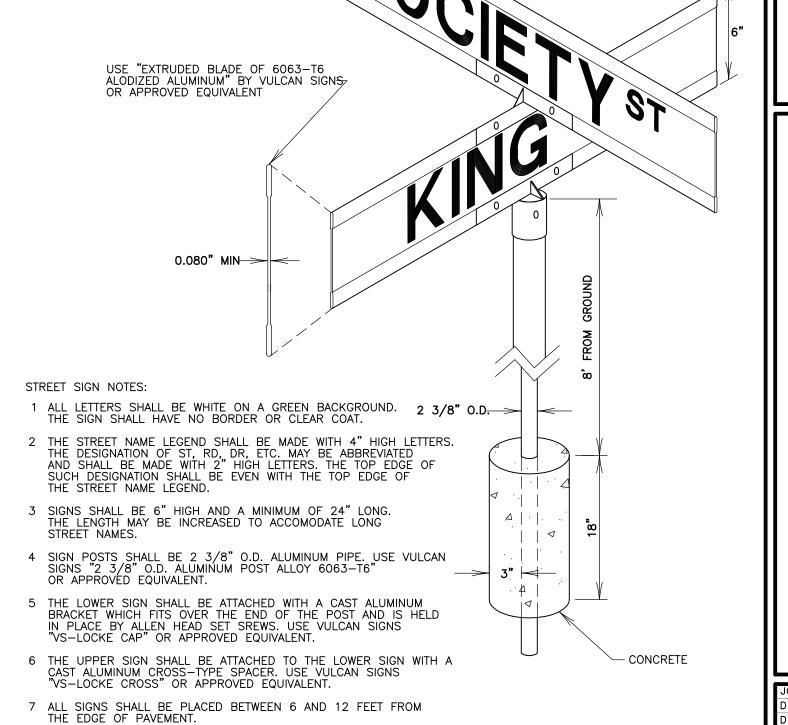
STOPLINES ARE TO HAVE A THICKNESS OF 125 MILS.

- galvánized steel

U-SECTION POST

STANDARD DRAWING

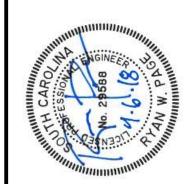
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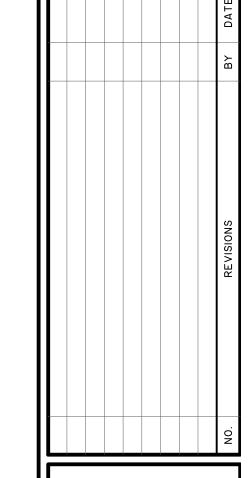


STREET SIGN DETAIL

NOT TO SCALE

8 INSTALLATION SHALL CONFORM WITH SCDOT AND MUTCD STANDARDS AND SPECIFICATIONS.





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> IMPROVEMENT

ADWAY RO 0 RAIL SENECA

NOVEMBER 6, 2017 DRAWN: DESIGNED: RWP REVIEWED: APPROVED: RWP

CALE: N/A

WITH PIPE LENGTH AND END SECTION. SINGLE CAGE -REINFORCING (IN APPROX. SOCKET -CENTER OF END (INLET) REINFORCING CAGE LIN. FT. FLARED END SECTION PER EACH PIPE SECTION X-X SECTION Y-Y DIMENSIONS AND REINFORCING FOR CONCRETE FLARED END SECTIONS (± 1" TOLERANCE) PIPE RANCE BACK RODS SLOPE A B C L E P R R

12" 1-#3x5'-4" NOT REQ'D. 2.2:1 4" 2'-0" 4'-1" 6'-1" 2'-0" 1'-8" 10" 9"

15" 1-#3x6'-0" NOT REQ'D. 2.2:1 6" 2'-3" 3'-10"6'-1" 2'-6" 2'-0"1'-0" 11"

18" 1-#3x7'-2" NOT REQ'D. 2.2:1 9" 2'-3" 3'-10"6'-1" 3'-0" 2'-6"1'-4" 1'-0"

24" 1-#3x9'-10" NOT REQ'D. 2.4:1 10" 3'-8" 2'-6" 6'-2" 4'-0" 2'-9"1'-5" 1'-2"

30" 1-#4x11'-8" NOT REQ'D. 2.4:1 12" 4'-6" 1'-8" 6'-2" 5'-0" 3'-1"1'-6" 1'-3"

36" 1-#4x13'-10" 2'#4x6'-3" 2.4:1 15" 5'-3" 2'-11"8'-2" 6'-0" 4'-0"2'-0" 1'-8"

42" 1-#4x13'-10" 2-#4x7'-4" 2.4:1 21" 5'-3" 2'-11"8'-2" 6'-6" 4'-6" 2'-4"1'-10" SPECIFIED REINFORCING IS MINIMAL AND MAY BE INCREASED AT PRODUCERS OPTION TO AID CASTING & HANDLING. ALTERNATE REINFORCEMENT PERMITTED REINFORCING CAGE:

1. WIRE FABRIC HAVING SAME STEEL AREA AS INNER CAGE FOR CL. III PIPE, AASHTO M-170, BUT ALTERNATE: #3 BARS SPACED 12"± LONGITUDINALLY WITH #2 BARS TRANSVERSELY AT 6" O.C. MAY SPACING, SPOT WELDED OR TIED TO FORM CAGE. NOTE:
CONTRACTOR WILL INFORM PRODUCER IF CONCRETE FLARED END SECTION IS FOR INLET OR FOR OUTLET END. SOCKET (TONGUE OR SPIGOT) END IS REQUIRED FOR INLETS. HUB (GROOVE OR BELL) END IS REQUIRED FOR OUTLETS. SOCKET TO SOCKET OR HUB TO HUB JOINT WILL NOT BE ACCEPTED UNLESS A REINFORCED CONCRETE COLLAR IS BUILT AROUND THE JOINT WITH NO PAYMENT BEING MADE FOR THE COLLAR. FLARED END SECTIONS SHALL BE JOINTED TO PIPE WITH ALL SPACE IN THE JOINT FILLED WITH PREFORMED PLASTIC GASKET (SEC.848). WALL THICKNESS (T) IS SHOWN AS NOMINAL AND MAY BE INCREASED AT PRODUCERS OPTION FOR DESIRED JOINT DESIGN OR TO ALLOW A FLAT OUTSIDE BOTTOM ON THE FLARE, WITH INSIDE DIMENSIONS OF FLARE RETAINED AS SHOWN.

CONCRETE FLARED END SECTION

STEEL FRONT BAR

(OPTIONAL FOR SIZES

SMALLER THAN 36")

END SECTION TO PIPE JOINT -SHOWN AS TYPICAL: HUB END ON OUTLET END SECTIONS;

SOCKET END ON INLET END SECTIONS

**D110** 

OCT. 2008

THOMAS & HUTTON ENGINEERING CO.

# Figure 8B-8. Example of Dynamic Envelope Pavement Markings at Grade Crossings envelope → Direction of travel Note: In an effort to simplify the figure to show the dynamic envelope markings, not white pavement all pavement markings or other required traffic control devices are shown. \* The distance between the rail and the dynamic envelope pavement marking should be equal to 6 feet unless otherwise advised by the operating railroad or light rail transit agency.

## Section 8B.29 Dynamic Envelope Markings

A - Grade crossing pavement

--- 8 ft\* ---

Center of lane

Note: Refer to Figure 8B-6

All grade crossing pavement markings shall be retroreflectorized white. All other markings shall be in

On paved roadways, pavement markings in advance of a grade crossing shall consist of an X, the letters RR, a no-passing zone marking (on two-lane, two-way highways with center line markings in compliance

103 Identical markings shall be placed in each approach lane on all paved approaches to grade crossings where signals or automatic gates are located, and at all other grade crossings where the posted or statutory

When pavement markings are used, a portion of the X symbol should be directly opposite the Grade Crossing Advance Warning sign. The X symbol and letters should be elongated to allow for the low angle at which they

When justified by engineering judgment, supplemental pavement marking symbol(s) may be placed between the Grade Crossing Advance Warning sign and the grade crossing.

Pavement markings shall not be required at grade crossings where the posted or statutory highway speed is less than 40 mph if an engineering study indicates that other installed devices provide suitable

warning and control. Pavement markings shall not be required at grade crossings in urban areas

if an engineering study indicates that other installed devices provide suitable warning and control.

for placement

with Section 3B.01), and certain transverse lines as shown in Figures 8B-6 and 8B-7.

4 inches

Section 8B.27 Pavement Markings

highway speed is 40 mph or greater.

accordance with Part 3.

will be viewed.

marking symbol

- 101 The dynamic envelope (see Figures 8B-8 and 8B-9) markings indicate the clearance required for the train or LRT equipment overhang resulting from any combination of loading, lateral motion, or suspension failure.
- Dynamic envelope markings may be installed at all grade crossings, unless a Four-Quadrant Gate system
- os If used, pavement markings for indicating the dynamic envelope shall comply with the provisions of Part 3 and shall be a 4-inch normal solid white line or contrasting pavement color and/or contrasting
- 164 If pavement markings are used to convey the dynamic envelope, they should be placed completely outside of the dynamic envelope. If used, dynamic envelope pavement markings should be placed on the highway 6 feet from and parallel to the nearest rail unless the operating railroad company or LRT agency advises otherwise. The pavement markings should extend across the roadway as shown in Figure 8B-8. The dynamic envelope pavement markings should not be placed perpendicular to the roadway at skewed grade crossings.
- In semi-exclusive LRT alignments, the dynamic envelope markings may be along the LRT trackway between intersections where the trackway is immediately adjacent to travel lanes and no physical barrier is present. 06 In mixed-use LRT alignments, the dynamic envelope markings may be continuous between intersections

Figure 8B-7. Grade Crossing Pavement Markings

B - Grade crossing alternative (narrow)

--6.6 ft →

inches

pavement marking symbol

or In mixed-use LRT alignments, pavement markings for adjacent travel or parking lanes may be used instead of dynamic envelope markings if the lines are outside the dynamic envelope.

# Optional 2-inch-red retroreflective on front and back Edge of traveled strip on front **RURAL AREA** on front and back AREA WITH PEDESTRIAN MOVEMENTS OR PARKING

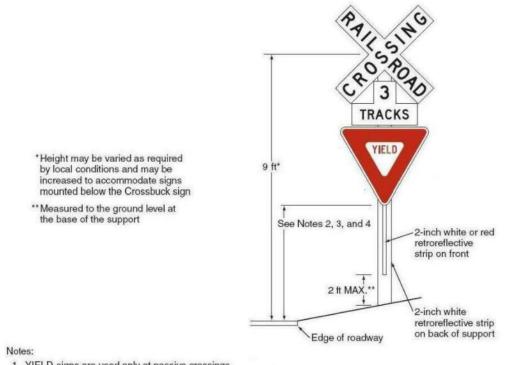
Figure 8B-3. Crossbuck Assembly with a YIELD or STOP Sign

on a Separate Sign Support (Sheet 1 of 2)

YIELD signs are used only at passive crossings.

2. Place the face of the signs in the same plane and place the YIELD sign closest to the traveled way. Provide a 2-inch minimum separation between the edge of the Crossbuck sign and the edge of the YIELD sign.

## Figure 8B-2. Crossbuck Assembly with a YIELD Sign on the Crossbuck Sign Support



1. YIELD signs are used only at passive crossings. 2. Mounting height shall be at least 4 feet for installations of YIELD signs on existing Crossbuck sign supports.

3. Mounting height shall be at least 7 feet for new installations in areas with pedestrian movements or parking.

Figure 8B-5. Example of an

Emergency Notification Sign

REPORT EMERGENCY

OR PROBLEM

TO 1-800-555-5555

CROSSING 836 597 I

I-13

# Emergency Notification (I-13) signs (see Figure 8B-5) should be installed at all highway-rail grade crossings, and at all highway-LRT grade crossings on semi-exclusive alignments, to provide information to road users so that they can notify the railroad company or LRT agency about emergencies or malfunctioning traffic control \*Width may vary according to lane width

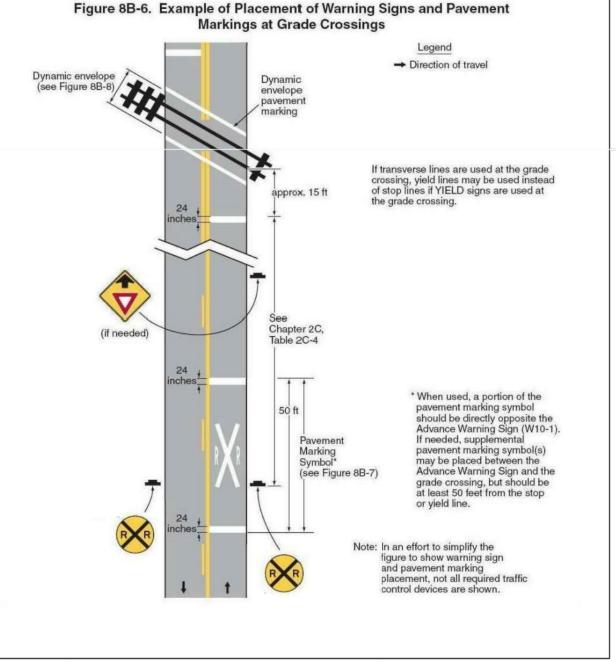
When Emergency Notification signs are used at a highway-rail grade crossing, they shall, at a minimum, include the USDOT grade

Section 8B.18 Emergency Notification Sign (I-13)

- crossing inventory number and the emergency contact telephone 03 When Emergency Notification signs are used at a highway-LRT grade crossing, they shall, at a minimum, include a unique crossing
- identifier and the emergency contact telephone number. 04 Emergency Notification Signs shall have a white legend and border on a blue background.
- The Emergency Notification signs shall be positioned so as to not obstruct any traffic control devices or limit the view of rail traffic approaching the grade crossing.

# 06 Emergency Notification signs should be retroreflective.

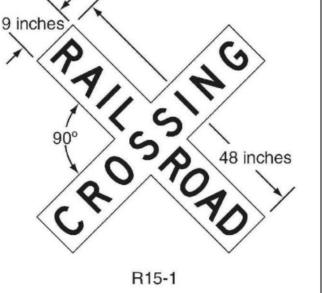
- or Emergency Notification signs should be oriented so as to face highway vehicles stopped on or at the grade crossing or on the traveled way near the grade crossing.
- At station crossings, Emergency Notification signs or information should be posted in a conspicuous location. 69 Emergency Notification signs mounted on Crossbuck Assemblies or signal masts should only be large enough to provide the necessary contact information. Use of larger signs that might obstruct the view of rail traffic or
- other highway vehicles should be avoided. \* COORDINATE EMERGENCY CONTACT INFORMATION WITH THE CITY OF SENECA,SC





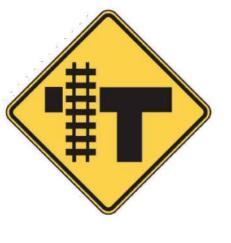
**TRACKS** 

R8-8





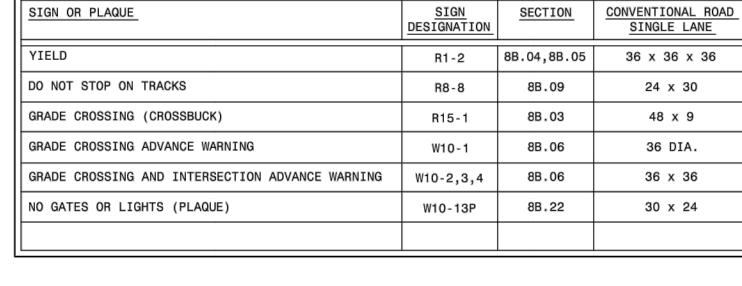
W10-1

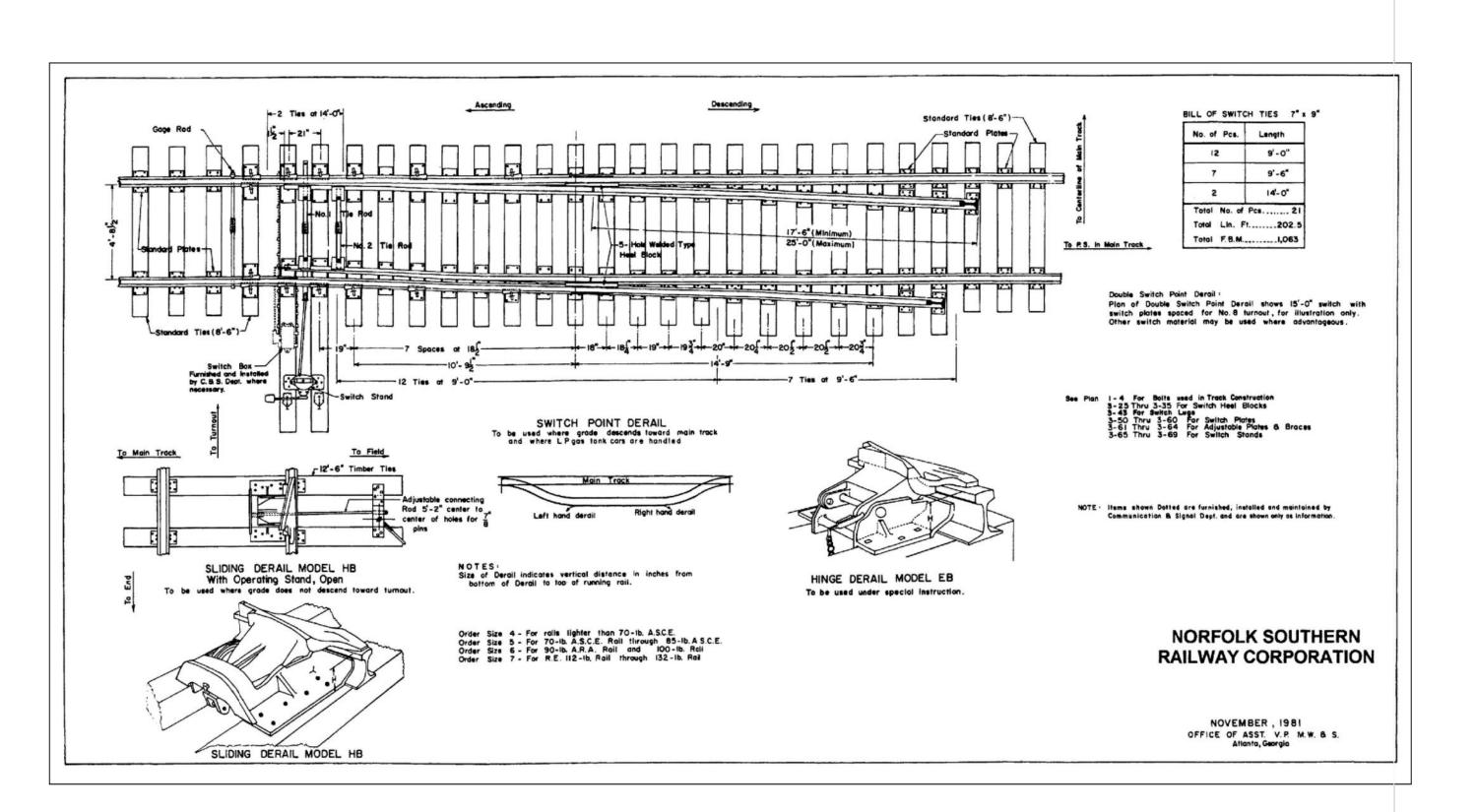


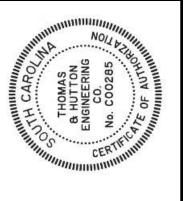
W10-4

W10-13P

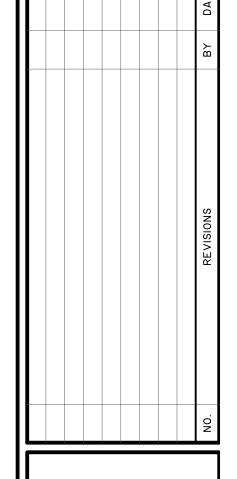
SIGN OR PLAQUE	SIGN DESIGNATION	SECTION	CONVENTIONAL RO SINGLE LANE
YIELD	R1-2	8B.04,8B.05	36 x 36 x 36
DO NOT STOP ON TRACKS	R8-8	8B.09	24 x 30
GRADE CROSSING (CROSSBUCK)	R15-1	8B.03	48 x 9
GRADE CROSSING ADVANCE WARNING	W10-1	8B.06	36 DIA.
GRADE CROSSING AND INTERSECTION ADVANCE WARNING	W10-2,3,4	8B.06	36 x 36
NO GATES OR LIGHTS (PLAQUE)	W10-13P	8B.22	30 x 24











Z 3

> S | <u>−</u> IMPROVEMENTS AGE - DETAIL

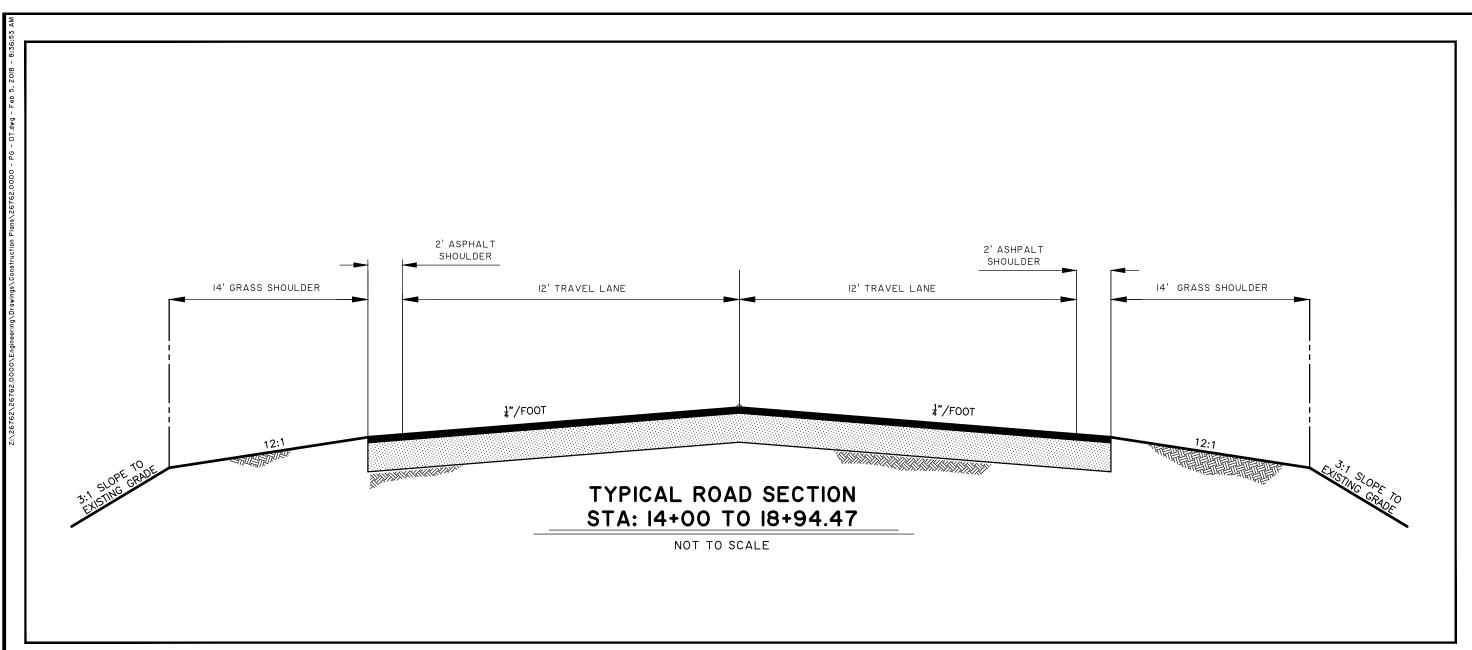
DRAINAGE RO

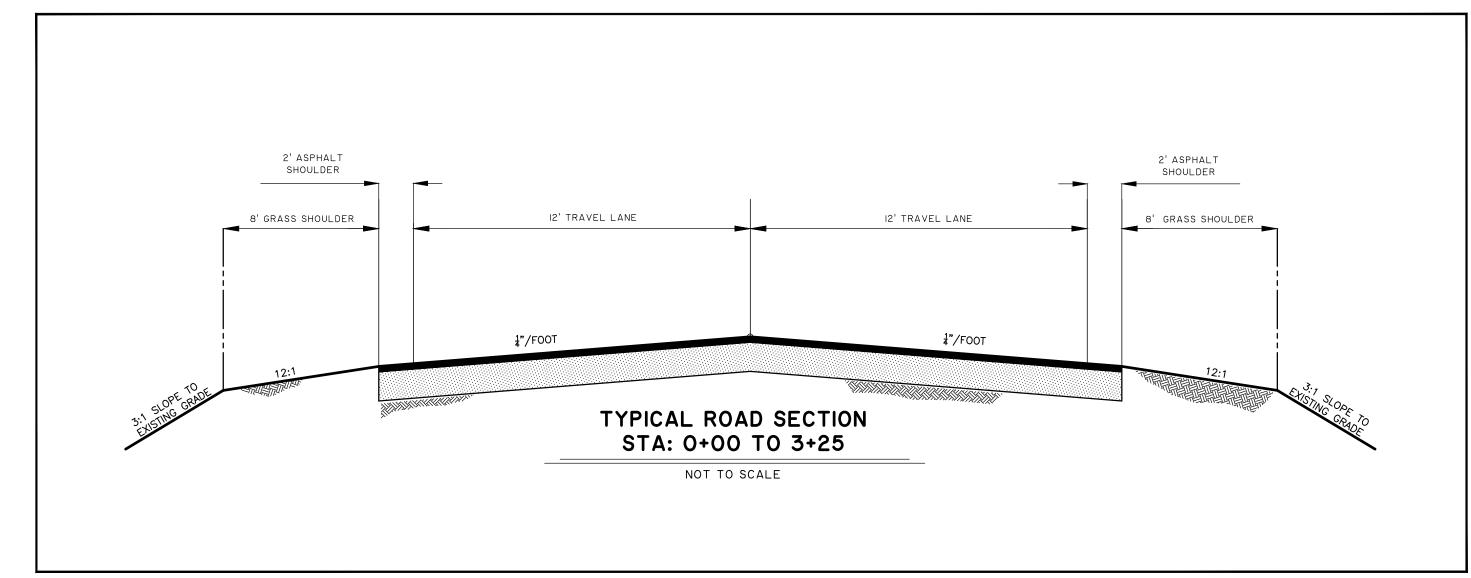
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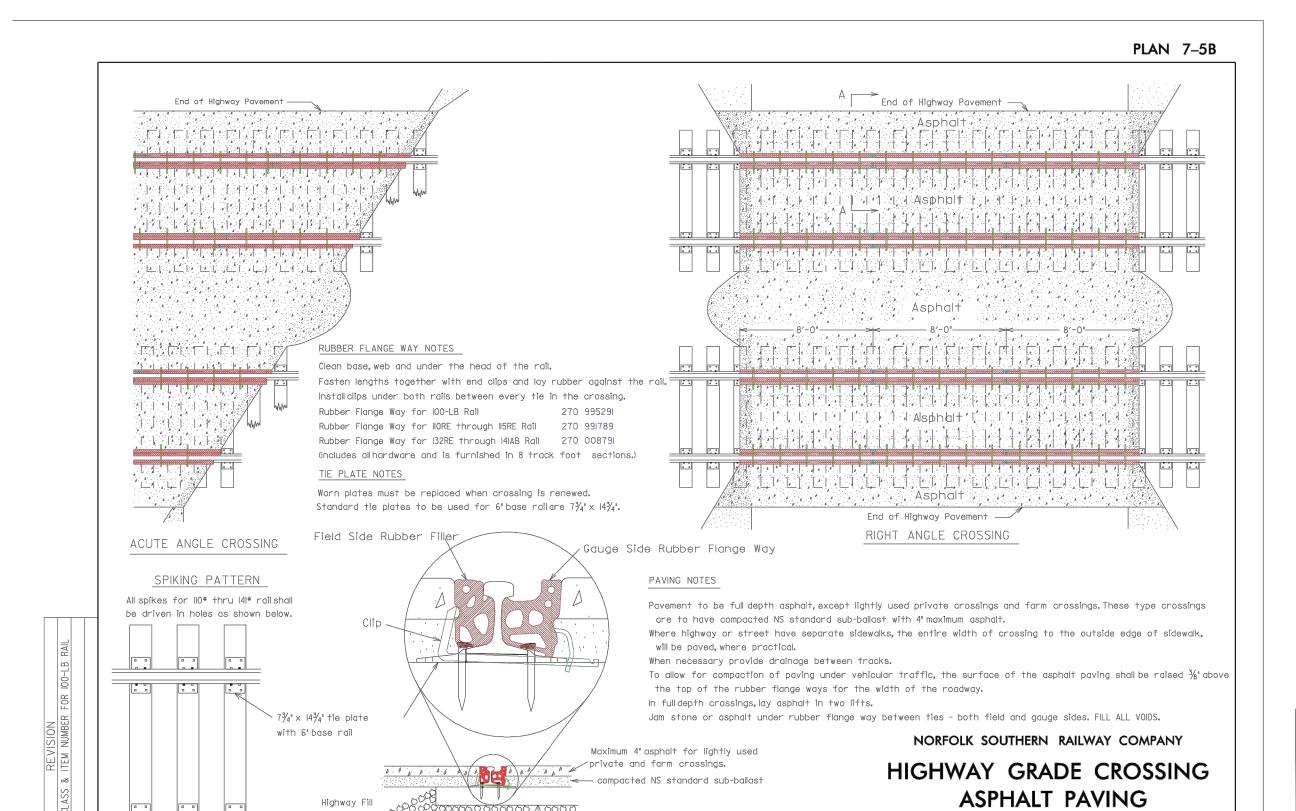
RAIL SENECA

NOVEMBER 6, 2017 DRAWN: DESIGNED: RWP REVIEWED: APPROVED: RWP

SCALE: N/A







sub-ballast 6' thick, under full width and

length of crossing.

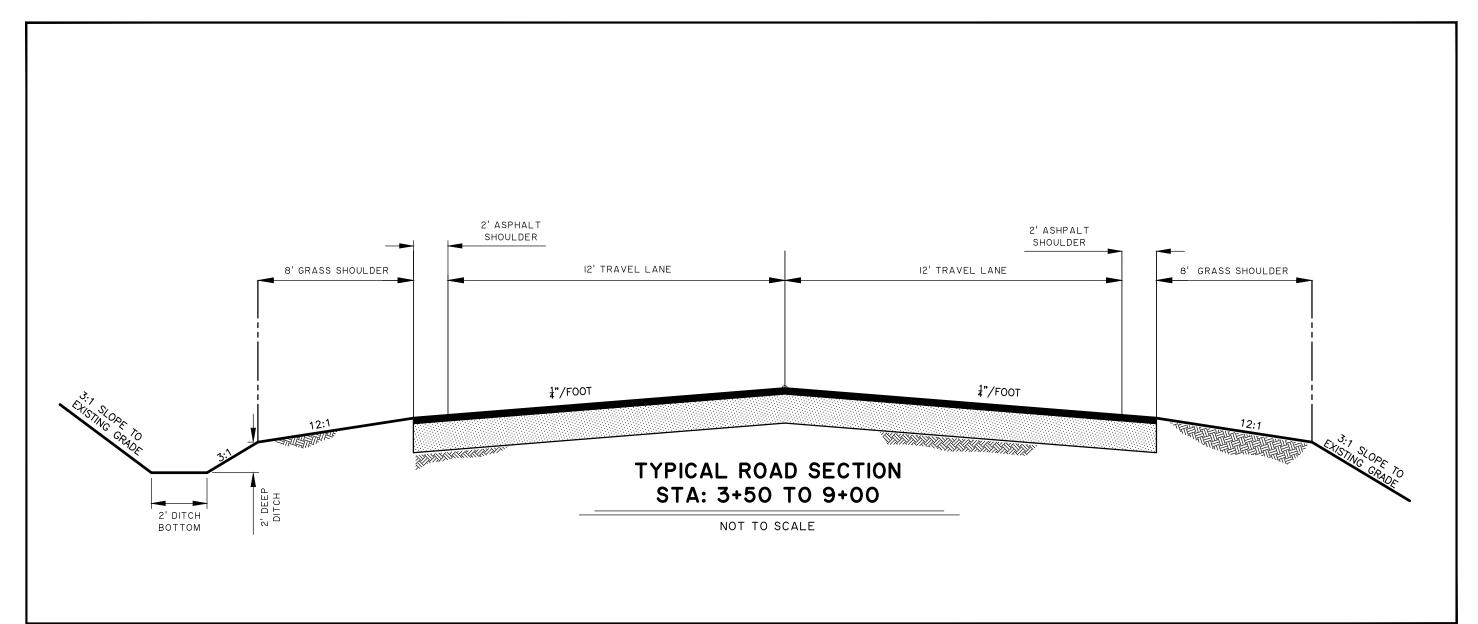
000000 NS standard ballast section 

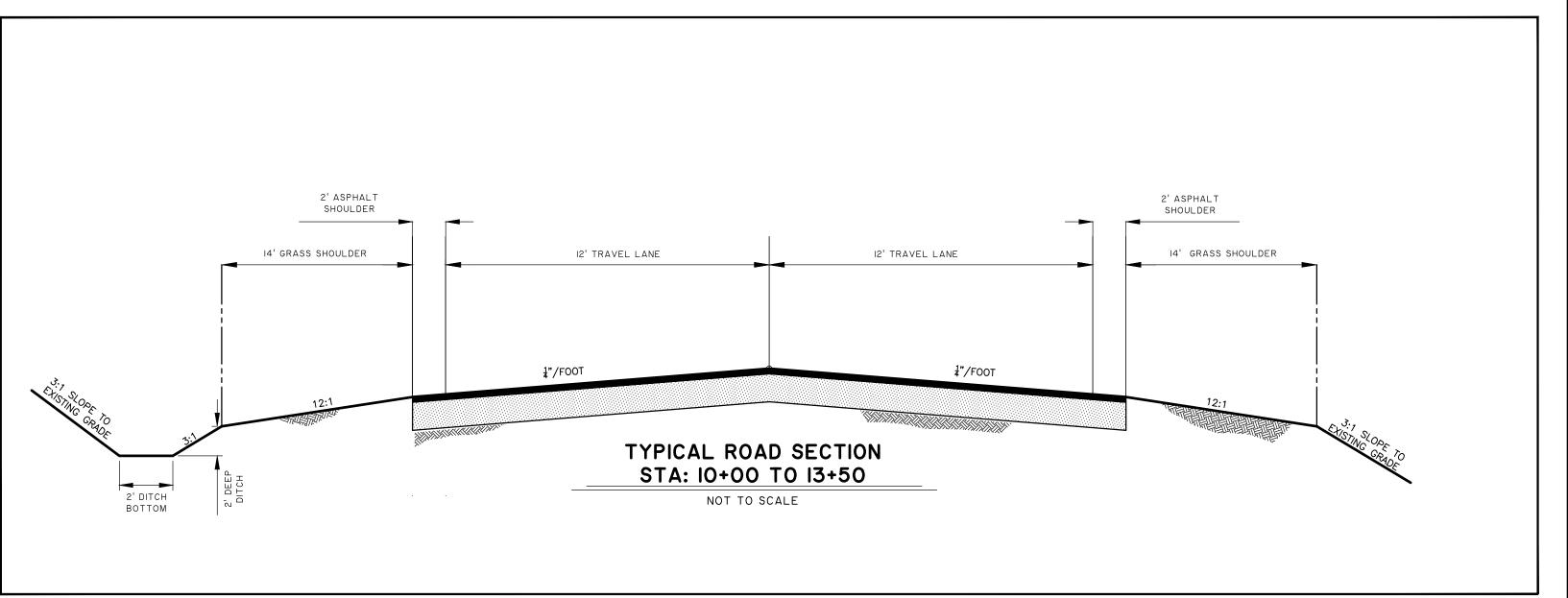
SECTION A-A

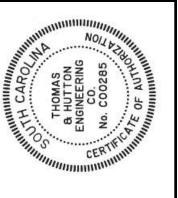
WITH RUBBER FLANGE WAY

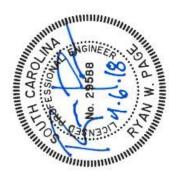
OCTOBER 2003

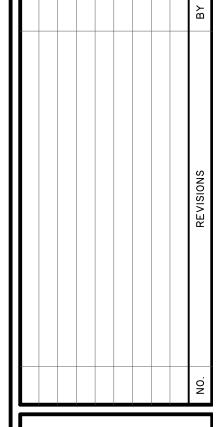
Atlanta, Georgia







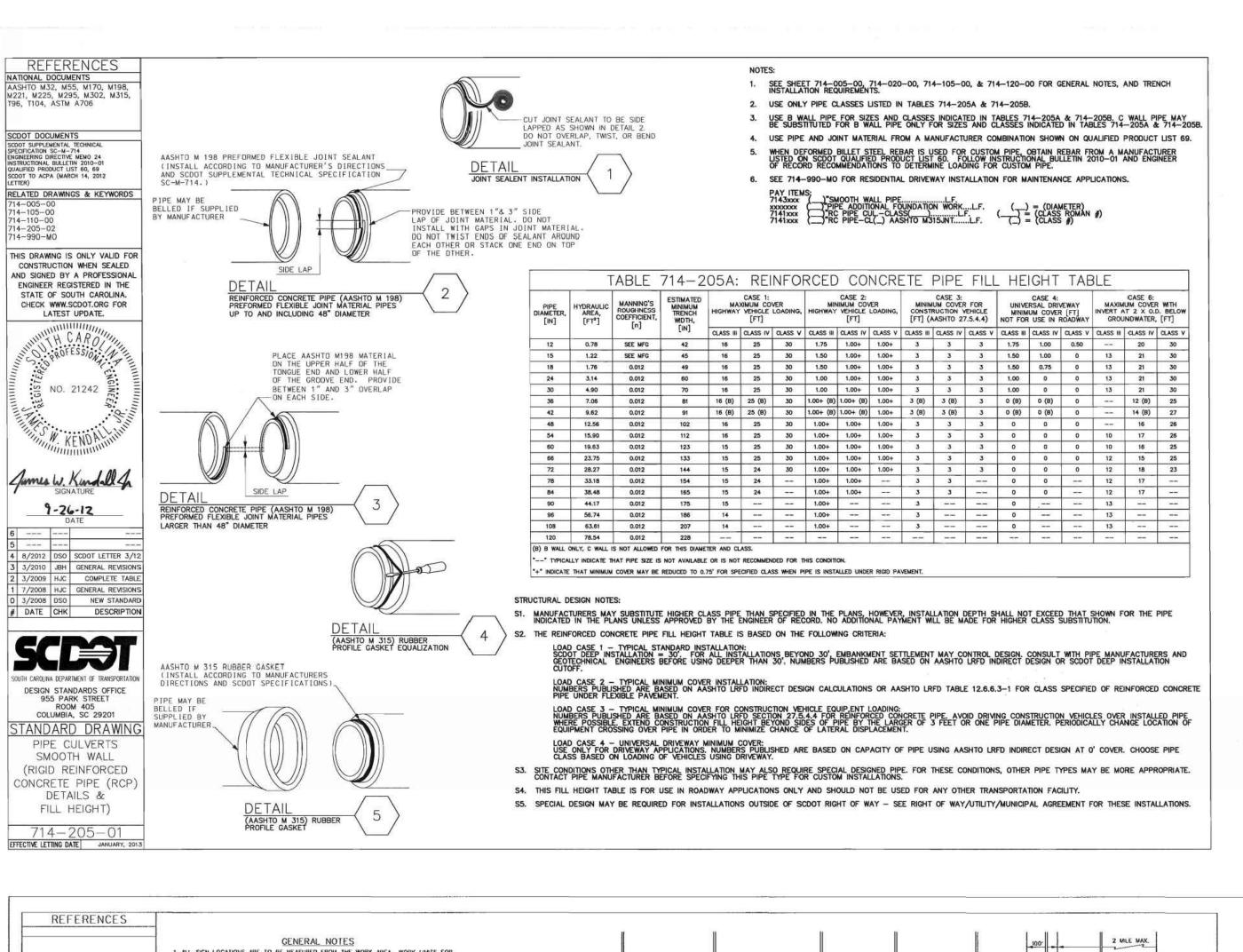


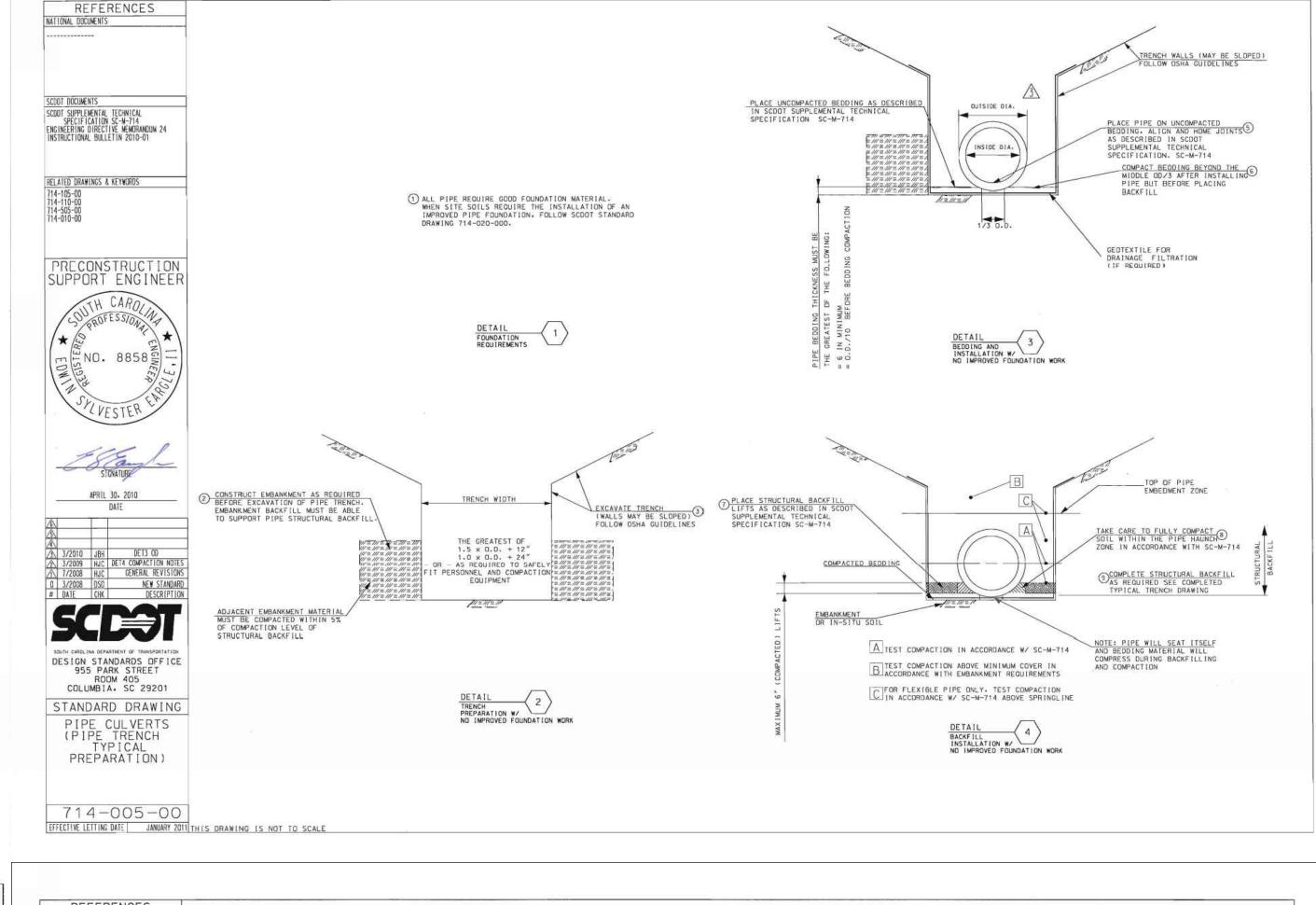


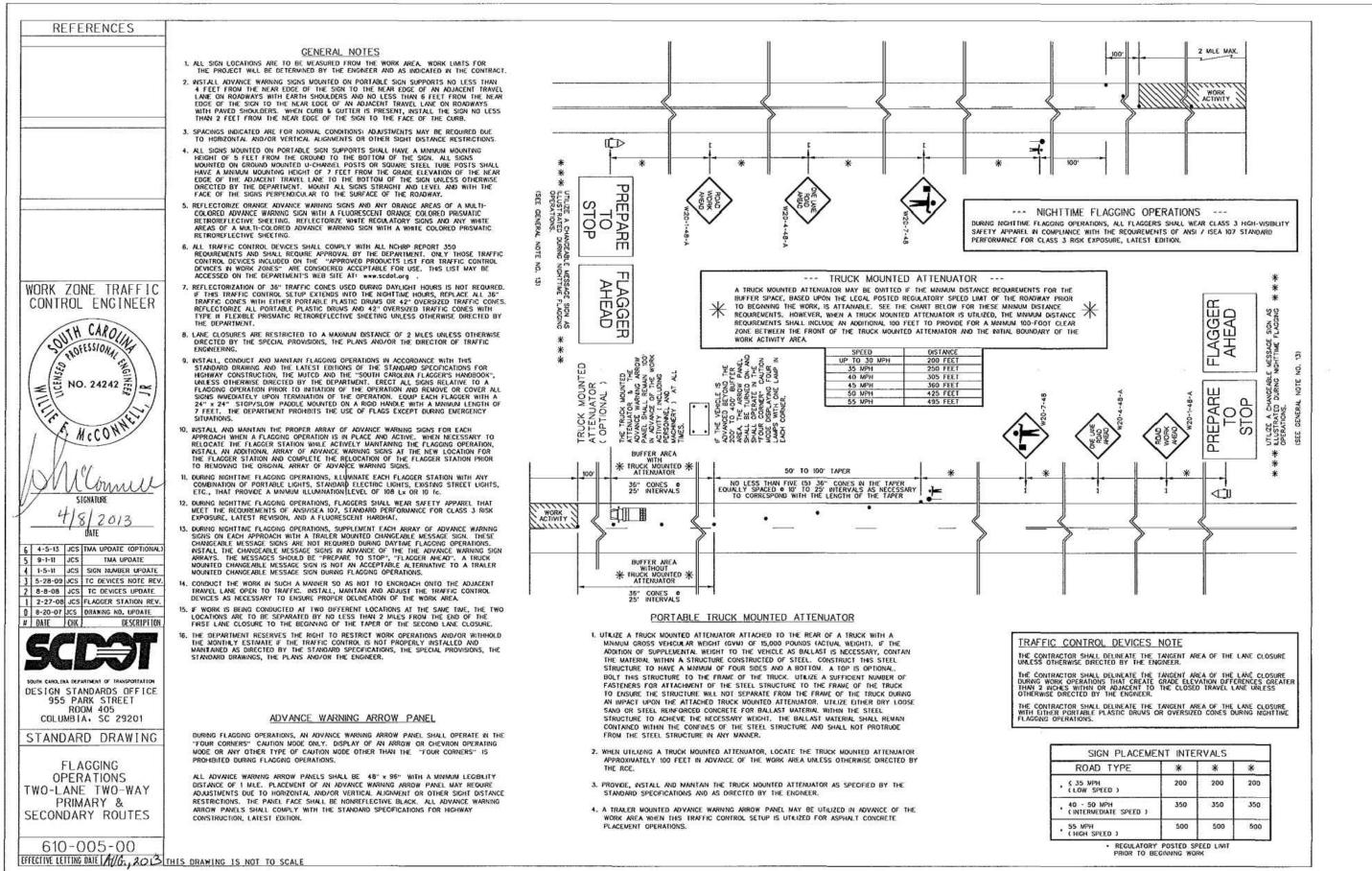
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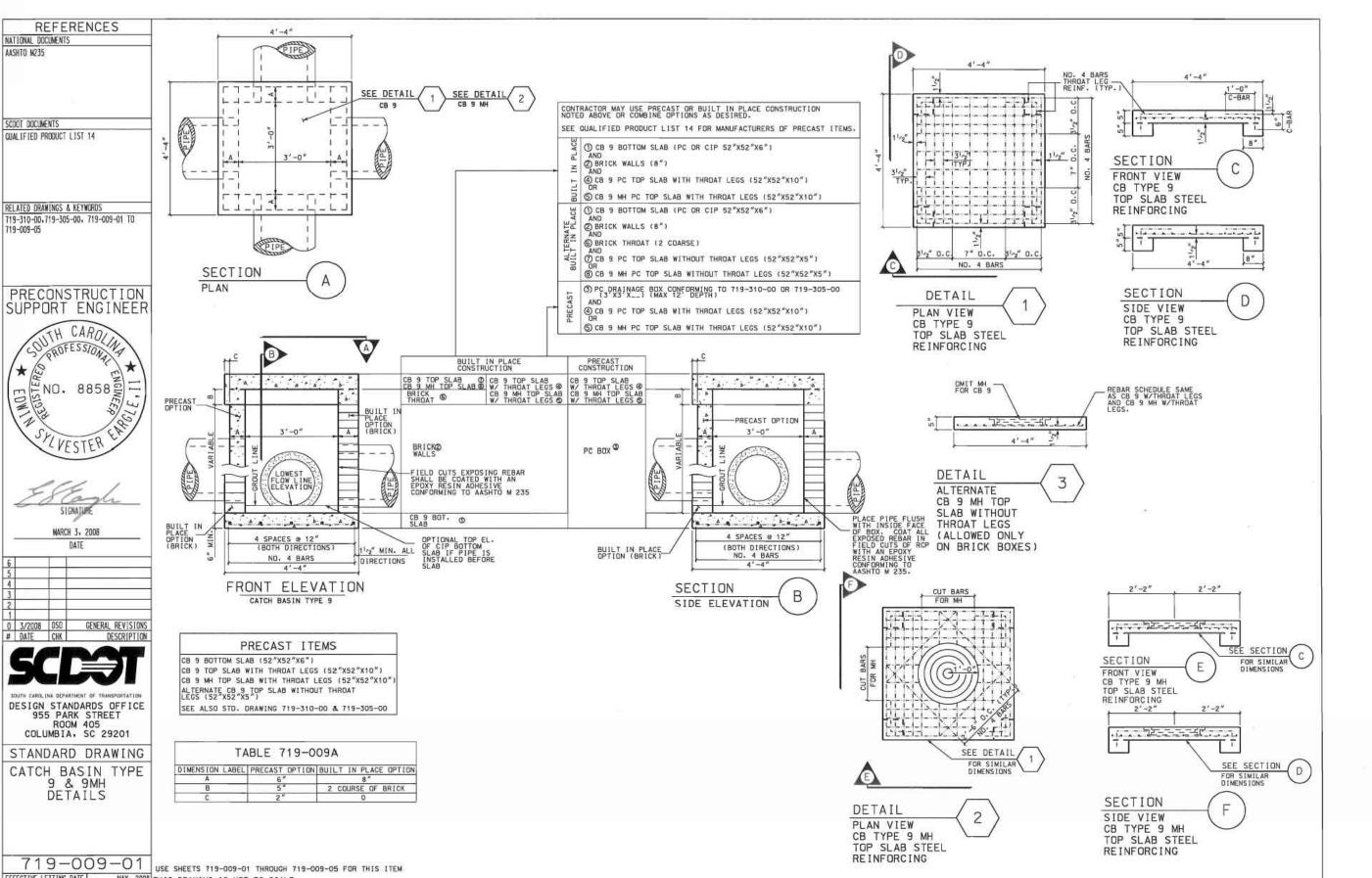
RAIL SITE -GRADING

NOVEMBER 6, 2017 DRAWN: DESIGNED: RWP REVIEWED: APPROVED: RWP





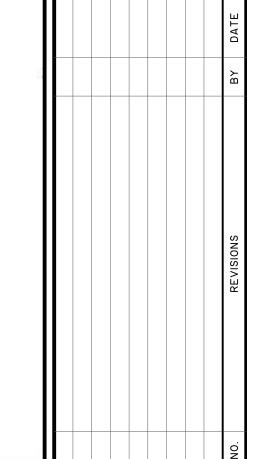




EFFECTIVE LETTING DATE MAY, 2008 THIS DRAWING IS NOT TO SCALE







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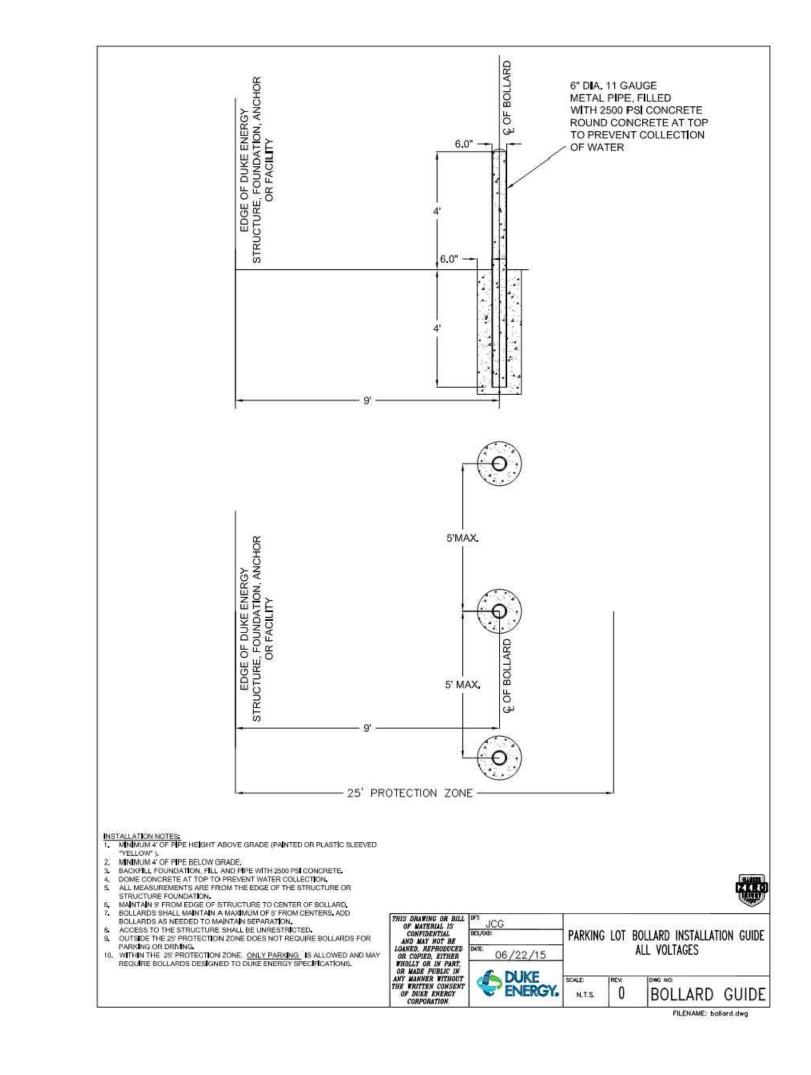
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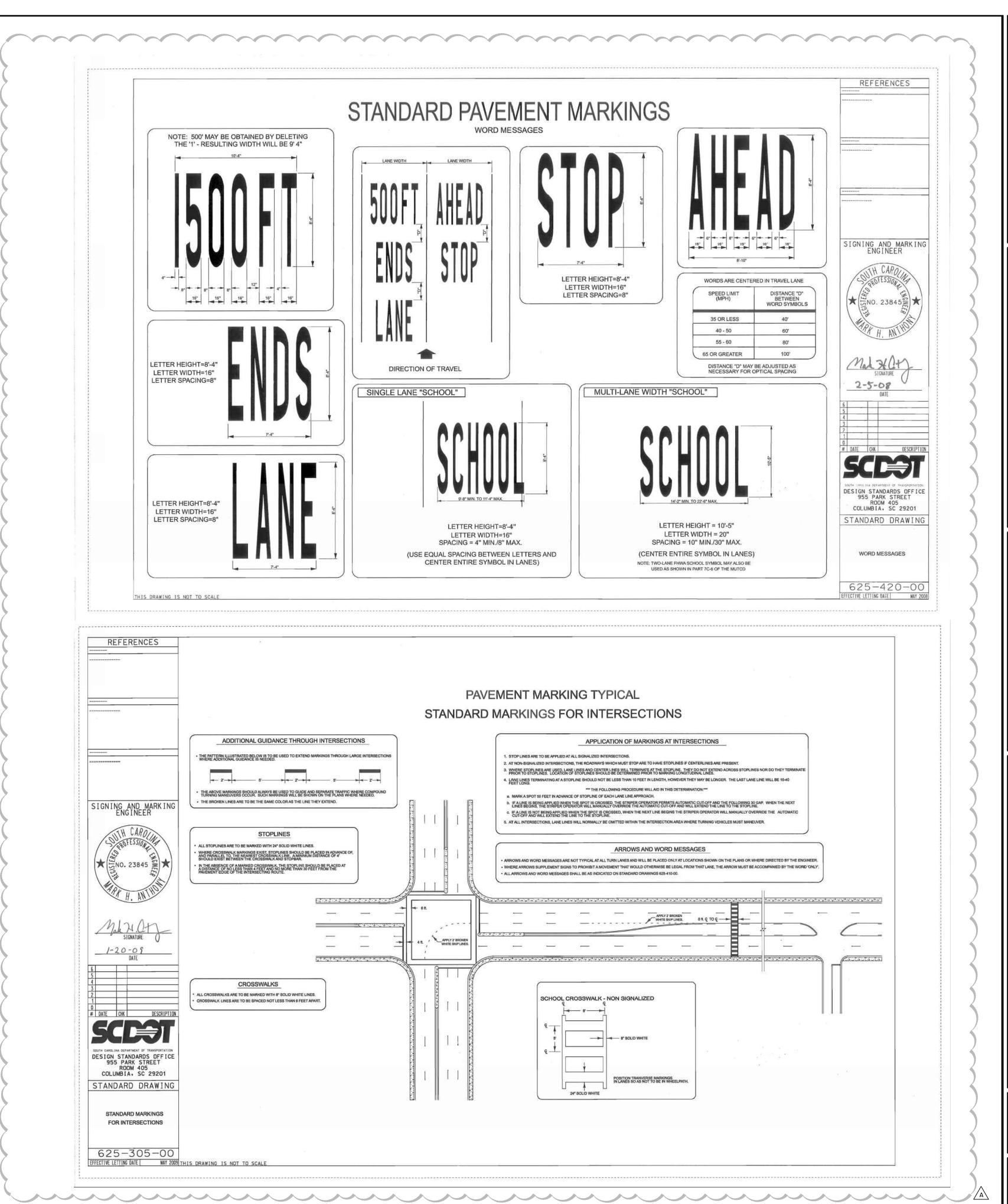
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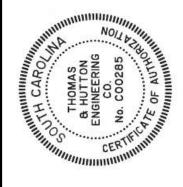
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NOVEMBER 6, 201 DRAWN: DESIGNED: RWP REVIEWED: APPROVED: RWP

SCALE: N/A









				2-5-18	DATE
				RWP	ВҮ
				REVIEW COMMENTS	REVISIONS

THOMAS

THOMAS

HUTTON

North Church Street

IMPROVEMENTS AGE - DETAILS

CONEE COUNTY
ALLOH ROAD, SENECA, SC 29678
SITE - ROADWAY IMPRADING & DRAINAGE

SENECA RAIL SITE

JOB NO: J- 26762.0000
DATE: NOVEMBER 6, 2017
DRAWN: TJP
DESIGNED: RWP
REVIEWED:
APPROVED: RWP
SCALE: N/A

C4.5