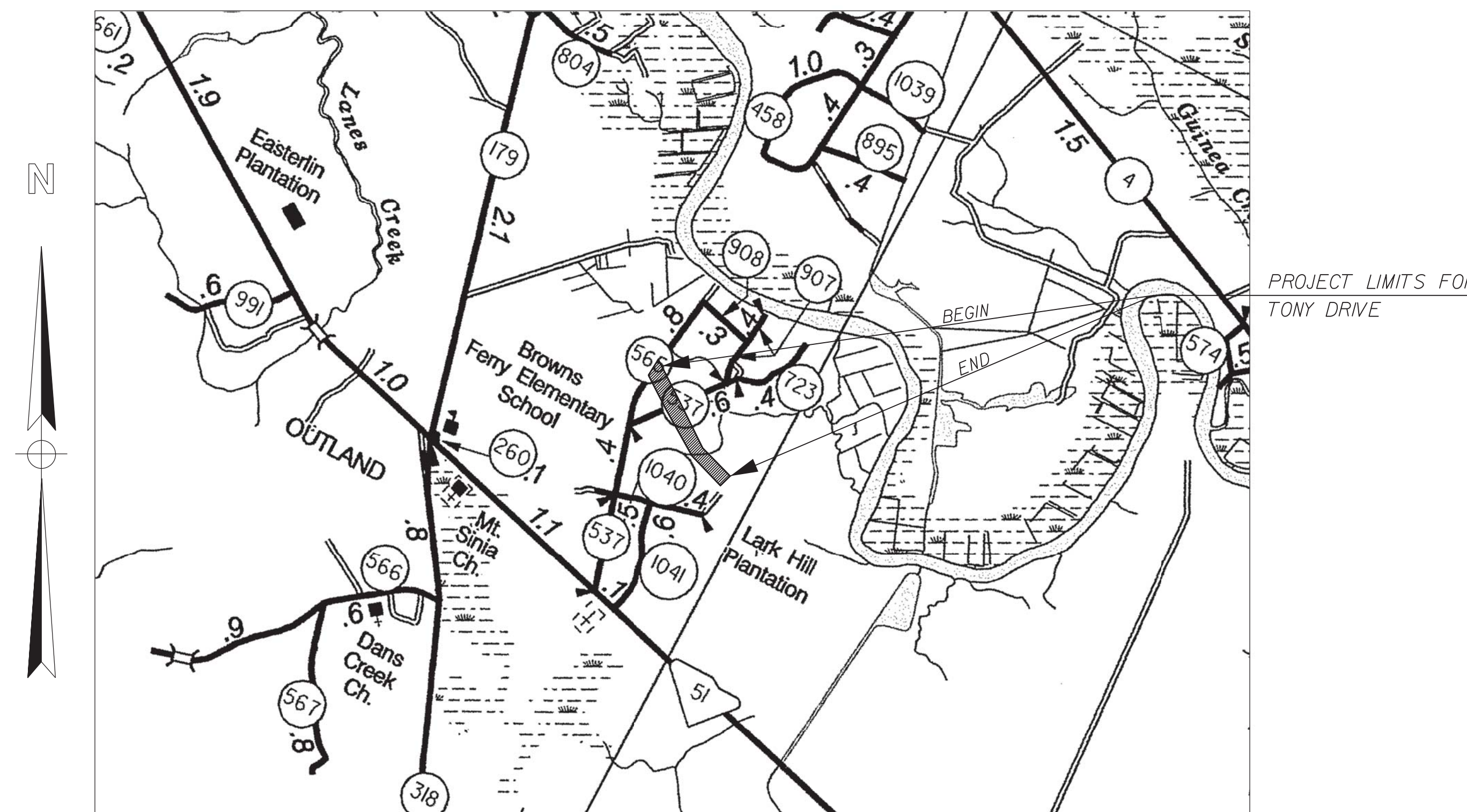


STATE	COUNTY	ROUTE NAME	D&F PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	TONY DRIVE	31810.08		1	30

GEORGETOWN COUNTY DEPARTMENT OF PUBLIC SERVICES DIVISION OF PUBLIC WORKS

PLAN OF PROPOSED IMPROVEMENTS FOR TONY DRIVE



LAYOUT **GEORGETOWN COUNTY**
1" = 2640'

NET LENGTH OF ROADWAY	0.36 MILES
NET LENGTH OF BRIDGES	0.00 MILES
NET LENGTH OF PROJECT	0.36 MILES
LENGTH OF EXCEPTIONS	0.00 MILES
GROSS LENGTH OF PROJECT	0.36 MILES

INDEX OF SHEETS

SHEET #	DESCRIPTION	SHEET TOTALS
1	TITLE SHEET	1
3	TYPICAL SECTIONS	1
5	GENERAL CONSTRUCTION NOTES SHEET	1
5A-5C	REFERENCE DATA SHEETS	3
6-9	PLAN AND PROFILE SHEETS	4
EC1	EROSION CONTROL DATA SHEET	1
EC2-EC3	DITCH ELEVATION SHEETS	2
U1	UTILITY SHEET	1
X1-X7	CROSS SECTION SHEETS	7
D1-D9	STANDARD DRAWINGS SHEETS	9
	TOTAL SHEETS	30

NPDES PERMIT INFORMATION

NPDES Disturbed
Area = 1.42 Acres

Approximate Location of Roadway is:

Longitude 79° 20' 41" W
Latitude 33° 30' 10" N

Hydrology and NPDES Design
provided by:

Davis & Floyd

NOTE: ALL WORKMANSHIP AND MATERIAL ON THIS PROJECT TO CONFORM WITH SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2007 EDITION), AND BOOK OF STANDARD DRAWINGS FOR ROAD CONSTRUCTION.

RAILROAD INVOLVEMENT?
YES / NO

SCR10Z91C
09/29/2021

MAJORITY C. WARE

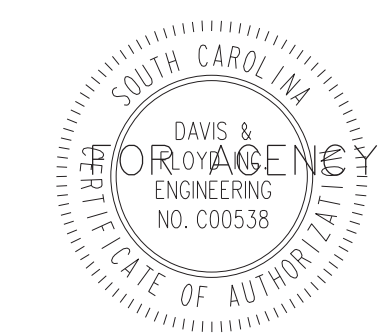
By Default Without Review

3 DAYS BEFORE DIGGING IN
SOUTH CAROLINA

CALL 811

PALMETTO UTILITY PROTECTION SERVICES, INC. (PUPS)
ALL UTILITIES MAY NOT BE A MEMBER OF PUPS.

CONSULTING ENGINEERING FIRM CONSULTANT - PROJECT ENGINEER



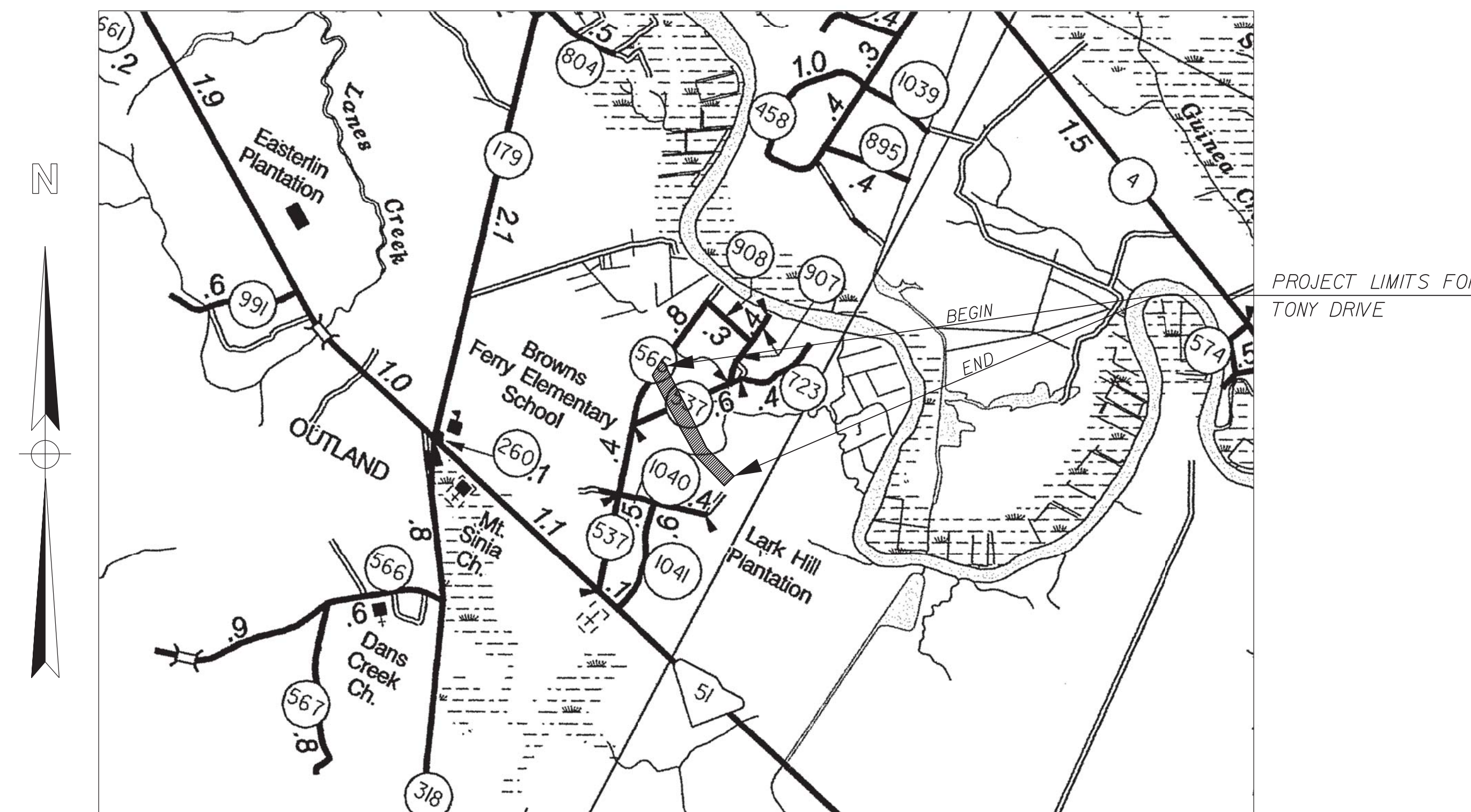
FOR AGENCY REVIEW

FOR CONSTRUCTION : _____ DATE _____

STATE	COUNTY	ROUTE NAME	D&F PROJECT NO.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	TONY DRIVE	31810.08		1	30

GEORGETOWN COUNTY DEPARTMENT OF PUBLIC SERVICES DIVISION OF PUBLIC WORKS

PLAN OF PROPOSED IMPROVEMENTS FOR TONY DRIVE



LAYOUT
1" = 2640'

NET LENGTH OF ROADWAY	0.36 MILES
NET LENGTH OF BRIDGES	0.00 MILES
NET LENGTH OF PROJECT	0.36 MILES
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	TOTAL SHEETS	30

NPDES PERMIT INFORMATION

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Area = 1.42 Acres

Approximate Location of Roadway is:

Longitude 79° 20' 41" W
Latitude 33° 30' 10" N

Hydrology and NPDES Design
provided by:

Davis & Floyd

NOTE: ALL WORKMANSHIP AND MATERIAL ON THIS PROJECT TO CONFORM WITH SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2007 EDITION), AND BOOK OF STANDARD DRAWINGS FOR ROAD CONSTRUCTION.

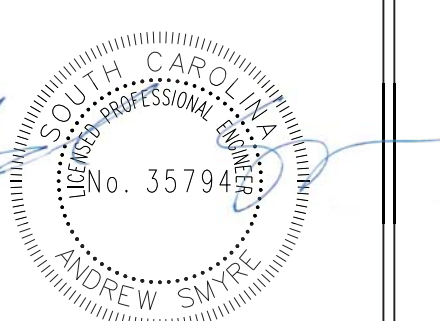
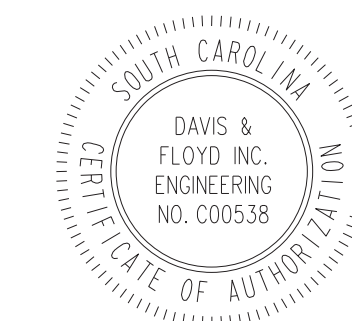
RAILROAD INVOLVEMENT?
YES / NO

3 DAYS BEFORE DIGGING IN
SOUTH CAROLINA

CALL 811

PALMETTO UTILITY PROTECTION SERVICES, INC. (PUPS)
ALL UTILITIES MAY NOT BE A MEMBER OF PUPS.

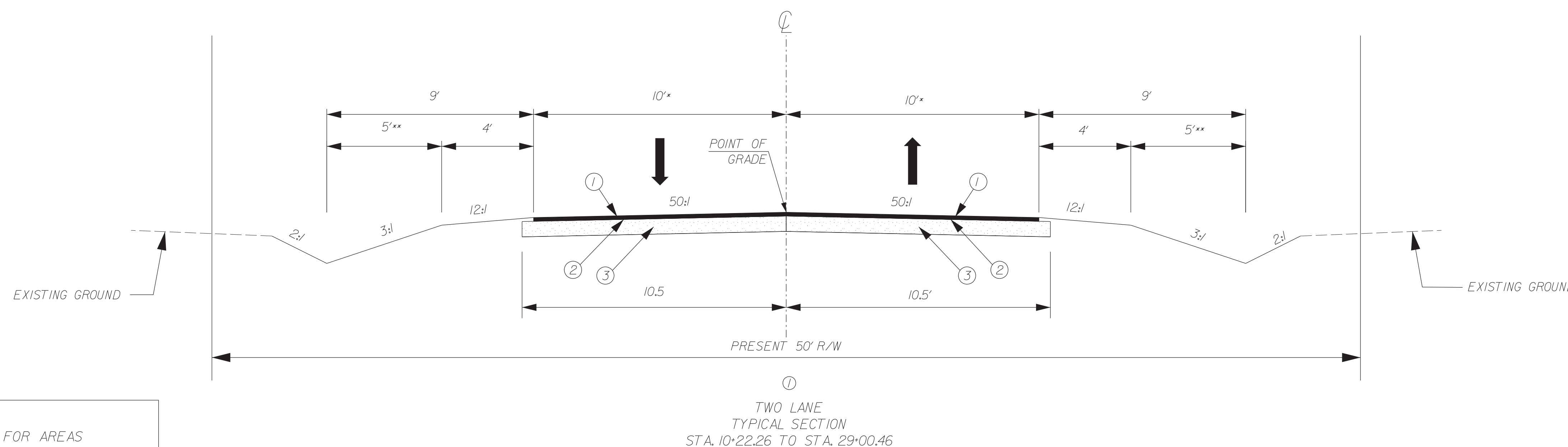
CONSULTING ENGINEERING FIRM CONSULTANT - PROJECT ENGINEER



FOR CONSTRUCTION : 10/21/2021
DATE

FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	S.C.	GEORGETOWN	TONY DRIVE	3	

TYPICAL SECTION
TONY DRIVE
GEORGETOWN COUNTY



*NOTE: SEE PLAN SHEETS FOR AREAS WHERE TRAVEL WAY WIDTH VARIES.

**NOTE: DITCH FORESLOPE AND BOTTOM WIDTH VARIES DUE TO SPECIAL DITCHES IN THE AREAS BELOW:
TONY DRIVE:
SPECIAL DITCH LEFT
STA. 10+58.00 TO STA. 12+26.32
STA. 16+50.00 TO STA. 18+02.27
SPECIAL DITCH RIGHT
STA. 10+58.00 TO STA. 12+26.32
STA. 16+50.00 TO STA. 18+02.27
STA. 19+50.00 TO STA. 23+50.00

SEE CROSS SECTIONS FOR MORE INFORMATION.

***CONTRACTOR SHALL FOLLOW GEOTECHNICAL REPORT

WITHIN THE SCDOT R/W USE THE FOLLOWING PAVEMENT DESIGN
H/M ASPHALT CONCRETE SURFACE COURSE TYPE B (200*/SY)
H/M ASPHALT CONCRETE INTERMEDIATE COURSE TYPE B (250*/SY)
H/M ASPHALT CONCRETE BASE COURSE TYPE B (600*/SY)

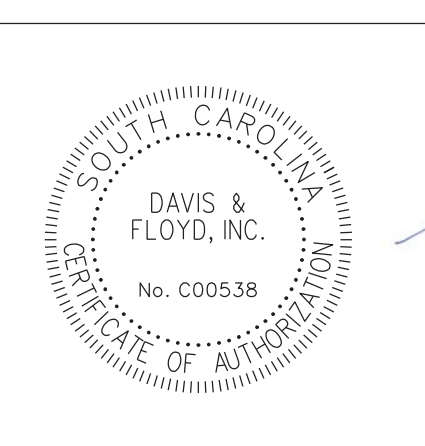
PAVEMENT LEGEND

①	2.5" H/M ASPHALT CONCRETE SURFACE COURSE TYPE C
②	PRIME COAT
③	8" GRADED AGGREGATE BASE COURSE

SCALE: 3,000 ft / in.
 PEN TABLE: Tony Drive.tbl
 PLOT DRIVER: PDF-plcfrg
 FILE: G:\Jobseven\31810-08\Production\Transportation\F.dgn\Const\p1pr\31810-08 Sheet 3 Typical.dgn
 10/21/2021

DESIGN SPEED		
MPH	FROM STA.	TO STA.
25	10+22.26	29+00.46

DESIGN SPEED		
MPH	FROM STA.	TO STA.



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SINCE 1954
WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
GEORGETOWN, SC 29416
(843) 554-9802

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
5			
4			
3			
2			
1			

DESIGNED BY AMS DRAWN BY AMS CHECKED BY JJG

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

TONY DRIVE
TYPICAL SECTIONS

SCALE 1"=3' PLOT SIZE = 22" x 34"

FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	S.C.	GEORGETOWN	TONY DRIVE	5	

GENERAL CONSTRUCTION NOTES:

THE CONTRACTOR MUST PERFORM ALL WORK IN ACCORDANCE WITH THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS FOR ROAD CONSTRUCTION (LATEST EDITION), SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION), SCDOT TRAFFIC SIGNAL SPECIFICATIONS, AND THE MUTCD, 2009 EDITION.

THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES TO PREVENT THE TRANSFER OF SUSPENDED SOLIDS AND/OR CHEMICAL SOLUTIONS OFF-SITE, AND TO PREVENT EXCESSIVE SILTATION OF EXISTING DRAINAGE PIPES, CULVERTS, AND DITCHES. THE CONTRACTOR SHALL ROUTINELY INSPECT AND MAINTAIN THESE DEVICES. ALL CHECK DAMS AND RIPRAP SHOWN ARE CLASS B UNLESS OTHERWISE STATED.

THE LOCATIONS OF EXISTING UTILITIES AND STORM DRAINAGE FACILITIES SHOWN ON THE PLANS ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE UTILITIES INFORMATION SHOWN ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION OF ALL UTILITIES BEFORE CONSTRUCTION. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THAT THE PROPER COORDINATION WITH THE VARIOUS UTILITY OWNERS HAS BEEN PERFORMED. THE CONTRACTOR SHALL COOPERATE WITH THE UTILITY DURING RELOCATION OPERATIONS.

THE LOCATION OF UTILITIES SHOWN IN THE PLANS SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS DESIGNATED BY A TEST HOLE. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.

THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, STORM DRAINS, UTILITIES AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR OR COORDINATE WITH UTILITY OWNERS TO REPAIR ANY DAMAGES DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.

THE CONTRACTOR SHALL NOT STORE ANY MATERIALS OR EQUIPMENT WITHIN 15 FT OF THE EDGE OF TRAVEL WAY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PERMISSION TO STORE EQUIPMENT ON ADJACENT PROPERTIES.

PIPE LENGTHS THAT ARE SHOWN ON THE PLANS ARE ROUNDED TO THE NEAREST 4' INCREMENT AND CALCULATED ALONG THE PIPE SLOPE FROM CENTER OF BOX TO CENTER OF BOX. FIELD ADJUSTMENTS OF THE ACTUAL PIPE LENGTHS MAY BE NECESSARY. ANY COSTS ASSOCIATED WITH REMOVING EXISTING PIPE SHALL BE INCLUDED IN THE COST OF PLACING NEW PIPE OR STRUCTURES ACCORDINGLY.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN PROPER DEWATERING PROCEDURES TO PREVENT THE FLOW AND ACCUMULATION OF SURFACE AND GROUND WATER IN EXCAVATED AREAS. ALL OF THE WATER PUMPED OR DRAINED SHALL BE DISPOSED OF WITHOUT UNDUE INTERFERENCE WITH OTHER WORK OR DAMAGE TO PAVEMENTS AND OTHER SURFACES OR PROPERTY. DISCHARGED WATER FROM ALL DEWATERING OPERATIONS SHALL BE FILTERED IN ACCORDANCE WITH SCDHEC OR OCRM REGULATIONS OR AS APPROVED BY THE ENGINEER. A PLAN FOR DEWATERING SHALL BE SUBMITTED TO THE RESIDENT CONSTRUCTION ENGINEER AND OCRM FOR APPROVAL PRIOR TO ANY WORK BEING PERFORMED WHERE DEWATERING IS REQUIRED. ONCE APPROVED AN ADDITIONAL COPY OF THE PLAN SHOULD BE PROVIDED TO CHARLESTON COUNTY

THE CONTRACTOR SHALL PROVIDE A DETAILED CONTRACTOR'S EROSION CONTROL PLAN TO THE RESIDENT CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO COMMENCING ANY WORK ON THE PROJECT.

THE CONTRACTOR SHALL PROVIDE A DETAILED TRAFFIC CONTROL PLAN TO THE RESIDENT CONSTRUCTION MANAGER FOR APPROVAL BEFORE STARTING ANY WORK ON THE PROJECT. THIS PLAN SHALL INCLUDE DETAILS CONCERNING PLACEMENT OF REFLECTORIZED BARRELS, CONES, AND/OR TYPE 2 BARRICADES IN ACCORDANCE WITH THE 2009 MUTCD.

THE CONTRACTOR SHALL PROVIDE ALL SHEETING, SHORING, AND BRACING REQUIRED TO PROTECT ADJACENT STRUCTURES AND UTILITIES OR TO MINIMIZE TRENCH WIDTH AS REQUIRED. PAYMENT FOR SUCH MEASURES IS INCLUDED IN THE BID PRICE FOR THE ITEM BEING CONSTRUCTED.

WHERE STORM PIPES AND STRUCTURES ARE IDENTIFIED TO BE ABANDONED IN PLACE, THE FOLLOWING PROCEDURES SHALL BE UTILIZED:

- PIPES: PLUG END(S) WITH BRICK AND GROUT.
- STRUCTURES: REMOVE RIM/COVER AND CONE OR TOP SLAB.
- PLUG PIPE OPENINGS WITH BRICK AND GROUT.
- FILL STRUCTURE WITH FLOWABLE FILL TO BOTTOM OF PAVEMENT SECTION.
- TEMPORARY ASPHALT IF NEEDED.

THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS SHOWN ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEER'S CLARIFICATION BEFORE COMMENCING CONSTRUCTION.

THE ENGINEER RESERVES THE RIGHT TO ADJUST THE LOCATION OF ALL PROPOSED IMPROVEMENTS TO MEET FIELD CONDITIONS IF NECESSARY.

STABILIZATION MEASURES MUST 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.

IF, DURING CONSTRUCTION, AN EXISTING MANHOLE OR VALVE IS FOUND TO BE PARTIALLY WITHIN SIDEWALK LIMITS, SIDEWALK WIDTH SHALL BE ADJUSTED TO COMPLETELY PLACE OR REMOVE MANHOLE OR VALVE WITHIN SIDEWALK LIMITS. MAXIMUM SLOPES SHOWN WITHIN PLANS AND MINIMUM 36" WIDTH MUST BE MAINTAINED.

CONTRACTOR TO SAWCUT EXISTING ASPHALT FOR SMOOTH JOINT NOT ALIGNED WITH WHEEL PATH.

ALL DISTURBED AREAS SHALL BE SEEDED AFTER GRADING IS COMPLETE OR WITHIN 7 DAYS AFTER WORK STOPS IN AN AREA UNLESS WORK IS TO RESUME IN THAT AREA IN LESS THAN 21 DAYS.

NOTE:

- IF A SIGN MARKED TO BE RELOCATED IS DAMAGED BY THE CONTRACTOR, THE CONTRACTOR IS RESPONSIBLE FOR REPLACING THE SIGN.
- CONTRACTOR IS TO SAW-CUT CONNECTIONS TO EXISTING ROADWAYS AND/OR DRIVEWAYS WHERE APPLICABLE.

STANDARD SYMBOLS

CONCRETE MARKER	STATE LINE	NORTH CAROLINA SOUTH CAROLINA	MARSH/SWAMP	BUILDING	FRAME DWLG.
R/W MONUMENT	COUNTY LINE	RICHLAND COUNTY LEXINGTON COUNTY	PAMPAS GRASS	RIVERS, CREEKS, STREAMS	
PROPERTY CORNER	CITY LIMITS	COLUMBIA CITY LIMITS	BENCHMARK	EXISTING BOX CULVERT	
PROPERTY PIN	PRESENT RIGHT-OF-WAY /PROPERTY LINE	PRESENT 50' R/W	SPOT ELEVATION	NEW BOX CULVERT	
SIGN	PRESENT RIGHT-OF-WAY /EXISTING CONTROL OF ACCESS	PRESENT 33' R/W	FILL CAP FOR UNDERGROUND TANK	BRIDGE	
NEW SIGN	NEW RIGHT-OF-WAY	NEW 50' R/W	WITNESS POST	NPDES	
ELECTRIC PEDESTAL	NEW RIGHT-OF-WAY /NEW CONTROL OF ACCESS	NEW 45' R/W	PARKING METER	DRAINAGE DITCHES	
UNDERGROUND TANK	CONSTRUCTION LIMITS	NEW 36' R/W	ELECTRIC OUTLET/RESIDENTIAL	NEW DRAINAGE STRUCTURES	
WELL	EXISTING FENCE	22' C 24' F 21' C	VACUUM/COMMERCIAL	EXISTING DRAINAGE STRUCTURES/PIPE	
AIR CONDITIONER	NEW FENCE	X X X X X	SEDIMENT DAM	NEW PIPE	
COLUMN	EXISTING PAVED ROAD		SEDIMENT FILTER	EXISTING PIPE	
RADIO/TV/CELLULAR TOWER	EXISTING DIRT ROAD		TREE/SHRUB (NOT SURVEYED)	NORTH ARROW	
SATELLITE DISH	EXISTING PAVED ROAD WITH CURB & GUTTER		TREE/SHRUB (SURVEYED)	FACE OF CURB	
GRAVE	NEW PAINTED MEDIAN		WOODED AREA OUTLINE	RAILROAD TRACK	
SPRING	NEW CONCRETE SIDEWALK/MEDIAN/DITCH GUTTER		TREE LINE	EXISTING GUARDRAIL W/ TYPE B END TREATMENT	
GEODETIC MARKER			R/R CROSSING ARM	NEW GUARDRAIL	
FLOOD/GROUND LIGHT			R/R MILE POST	TYPE T END TREATMENT	
TELEPHONE BOX			R/R SIGNAL		
WATER SPIGOT			R/R SIGNAL BOX		
SPRINKLER					
FLAG POLE					

NOTE:

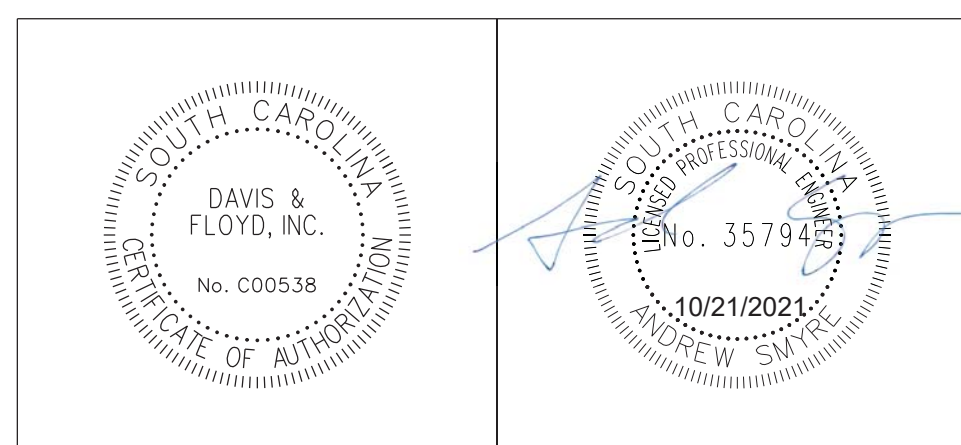
- SEE SCDOT STANDARD DRAWING NO. 625-305-00 AND 625-410-00 FOR PAVEMENT MARKING DETAILS
- SEE SCDOT STANDARD DRAWING NO. 610-205-00 FOR SHOULDER CLOSURE DETAILS
- SEE SCDOT STANDARD DRAWING NO. 651-110-00 FOR SIGN INSTALLATION DETAILS
- SEE SCDOT STANDARD DRAWING NO. 719-610-00 FOR BEVELED PIPE END DETAIL

INCLUSION ITEMS

THE FOLLOWING QUANTITIES ARE NOT SHOWN IN DETAIL ON THE PLANS BUT ARE INCLUDED IN THE SUMMARY OF ESTIMATED QUANTITIES AND MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.

INCLUSION ITEMS				
DESCRIPTION	UNIT	QUANTITY	DESCRIPTION	
1031000	MOBILIZATION	LS	NEC	PER CONTRACT DOCUMENTS
1032010	BONDS AND INSURANCE	LS	1	PER CONTRACT DOCUMENTS
1050800	CONSTRUCTION STAKES, LINES & GRADES	EA	1	PER CONTRACT DOCUMENTS
1071000	TRAFFIC CONTROL	LS	NEC	PER CONTRACT DOCUMENTS
1092000	AS-BUILT CONSTRUCTION PLANS	LS	1	PER CONTRACT DOCUMENTS
2012000	CLEARING & GRUBBING WITHIN ROADWAY	LS	NEC	FOR ALL AREAS WITHIN ROADWAY
2031000	UNCLASSIFIED EXCAVATION	CY	700	FOR STRIPPING
2033000	BORROW EXCAVATION	CY	980	FILL FOR STRIPPING AND MUCK
2034000	MUCK EXCAVATION	CY	0	WHERE DIRECTED BY THE ENGINEER
2081001	FINE GRADING	SY	5900	WHERE DIRECTED BY THE ENGINEER
3069900	MAINTENANCE STONE	TON	100	WHERE DIRECTED BY THE ENGINEER
6021120	PERMANENT CONSTRUCTION SIGNS (GROUND MOUNTED)	SF	416	WHERE DIRECTED BY THE ENGINEER
8100100	PERMANENT COVER	ACRE	1.100	FOR ALL DISTURBED AREAS
8100200	TEMPORARY COVER	ACRE	0.600	FOR ALL DISTURBED AREAS
8105005	AGRICULTURAL GRANULAR LIME	LB	2048.000	FOR ALL DISTURBED AREAS
8104005	FERTILIZER (NITROGEN)	LB	103.000	FOR ALL DISTURBED AREAS
8104010	FERTILIZER (PHOSPHORIC ACID)	LB	103.000	FOR ALL DISTURBED AREAS
8104015	FERTILIZER (POTASH)	LB	103.000	FOR ALL DISTURBED AREAS
8109050	SELECTIVE WATERING	GAL	27791.000	FOR ALL DISTURBED AREAS
8109901	MOWING	ACRE	4.000	FOR ALL DISTURBED AREAS
8151110	TEMPORARY EROSION CONTROL BLANKET (ECB)	MSY	0.900	WHERE DIRECTED BY THE ENGINEER
8152007	SEDIMENT TUBES FOR DITCH CHECKS	LF	44	WHERE DIRECTED BY THE ENGINEER
8153000	SILT FENCE	LF	80	WHERE DIRECTED BY THE ENGINEER
8153090	REPLACE/REPAIR SILT FENCE	LF	8	FOR MAINTENANCE OF SILT FENCE
8154050	REMOVAL OF SILT FENCE	LF	20	FOR MAINTENANCE OF SILT FENCE
8156490	STABILIZED CONSTRUCTION ENTRANCE	SY	550	WHERE DIRECTED BY THE ENGINEER

SCALE: 50.000 ft / in.
 PEN TABLE: Tony Drive.tbl
 PLOT DRIVER: PDF-plcfcg
 FILE: G:\Jobs\seven\31810-08\Production\Transportation\F.dgn\Const\p1pr\31810-08 Sheet 5 GCN.dgn
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1			
REV. NO.	BY	DATE	DESCRIPTION OF REVISION
DESIGNED BY	AMS	DRAWN BY	CHECKED BY JJC

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

TONY DRIVE
GENERAL CONSTRUCTION NOTES SHEET

NOT TO SCALE

PLOT SIZE = 22" x 34"

FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	S.C.	GEORGETOWN	TONY DRIVE	5A	

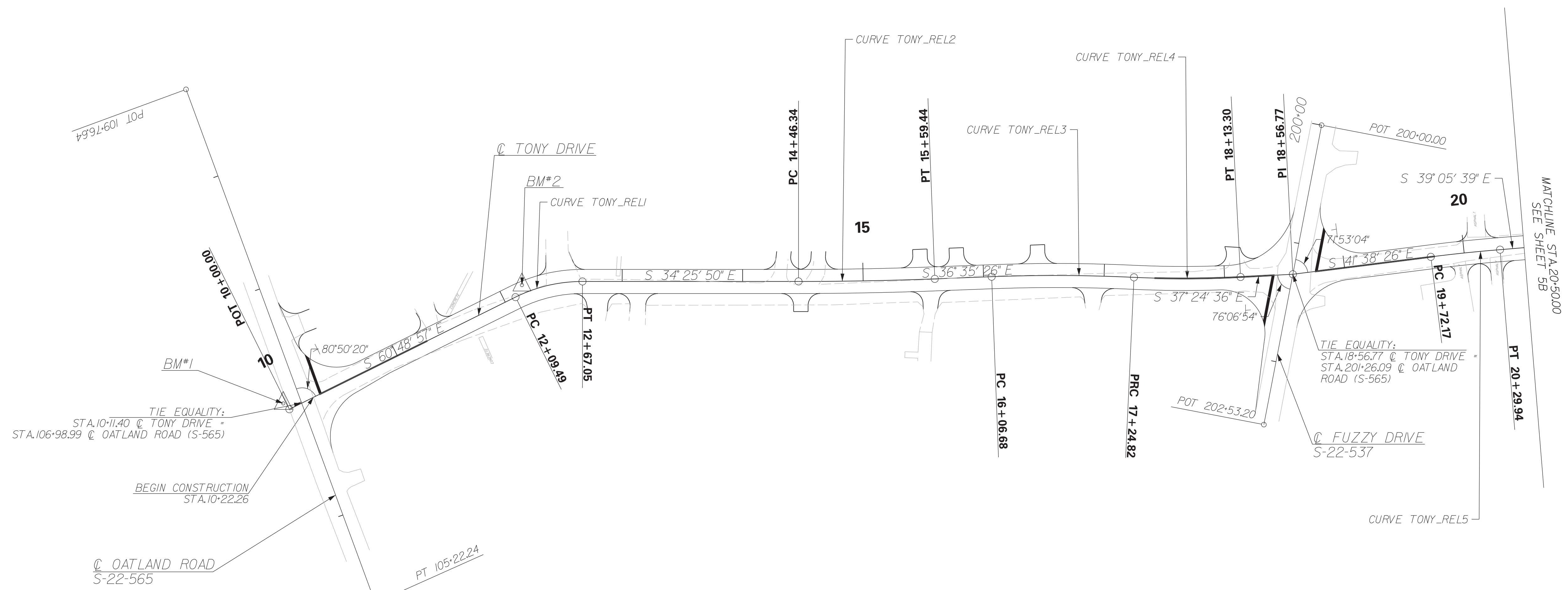
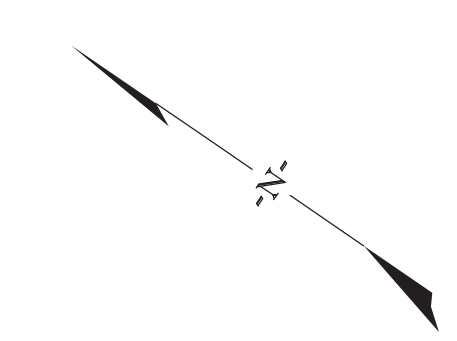
@ TONY_REL1
 PI Sta 12+38.79
 Δ = 26° 23' 07" (RT)
 Dc = 45' 50' 12"
 T = 29.30'
 L = 57.56'
 R = 125.00'
 E = 3.39"
 Ds = 25 MPH
 e(max) = N/A
 e = N/A

@ TONY_REL2
 PI Sta 15+02.90
 Δ = 2° 09' 36" (LT)
 Dc = 1' 54' 35"
 T = 56.56'
 L = 113.10'
 R = 3,000.00'
 E = 0.53"
 Ds = 25 MPH
 e(max) = N/A
 e = N/A

@ TONY_REL3
 PI Sta 16+65.79
 Δ = 4° 48' 03" (RT)
 Dc = 4' 03' 49"
 T = 59.11'
 L = 118.15'
 R = 1,410.00'
 E = 1.24"
 Ds = 25 MPH
 e(max) = N/A
 e = N/A

@ TONY_REL4
 PI Sta 17+69.10
 Δ = 5° 37' 13" (LT)
 Dc = 6' 21' 07"
 T = 44.28'
 L = 88.48'
 R = 902.00'
 E = 1.09"
 Ds = 25 MPH
 e(max) = N/A
 e = N/A

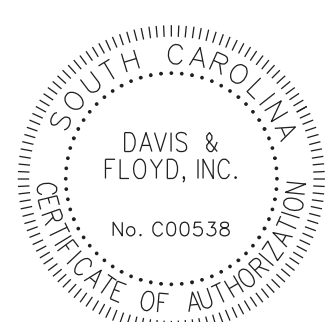
@ TONY_REL5
 PI Sta 20+01.06
 Δ = 2° 32' 46" (RT)
 Dc = 4' 24' 27"
 T = 28.89'
 L = 57.77'
 R = 1,300.00'
 E = 0.32"
 Ds = 25 MPH
 e(max) = N/A
 e = N/A



ID	DESCRIPTION	BENCHMARKS	NORTHING	EASTING	STATION	OFFSET	ELEVATION
BM#1	REBAR/CAP	611427.90	2504521.42	107+04.06 (OATLAND)	14.45' LT	17.71	
BM#2	REBAR/CAP	611320.12	2504714.51	12+18.24 (TONY)	6.97' LT	18.80	



SCALE: 50.000 ft / in.
 PEN TABLE: Tony Drive.tbl
 PLOT DRIVER: PDF-plcfrg
 FILE: G:\Jobs\seven\31810-08\Production\Transportation\F.dgn\Const\plpr\31810-08 Sheet 5A-5C REF DATA SHEETS.dgn
 10/21/2021



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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
DESIGNED BY	AMS	DRAWN BY	CHECKED BY JJC

GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM

 TONY DRIVE
 REFERENCE DATA SHEET

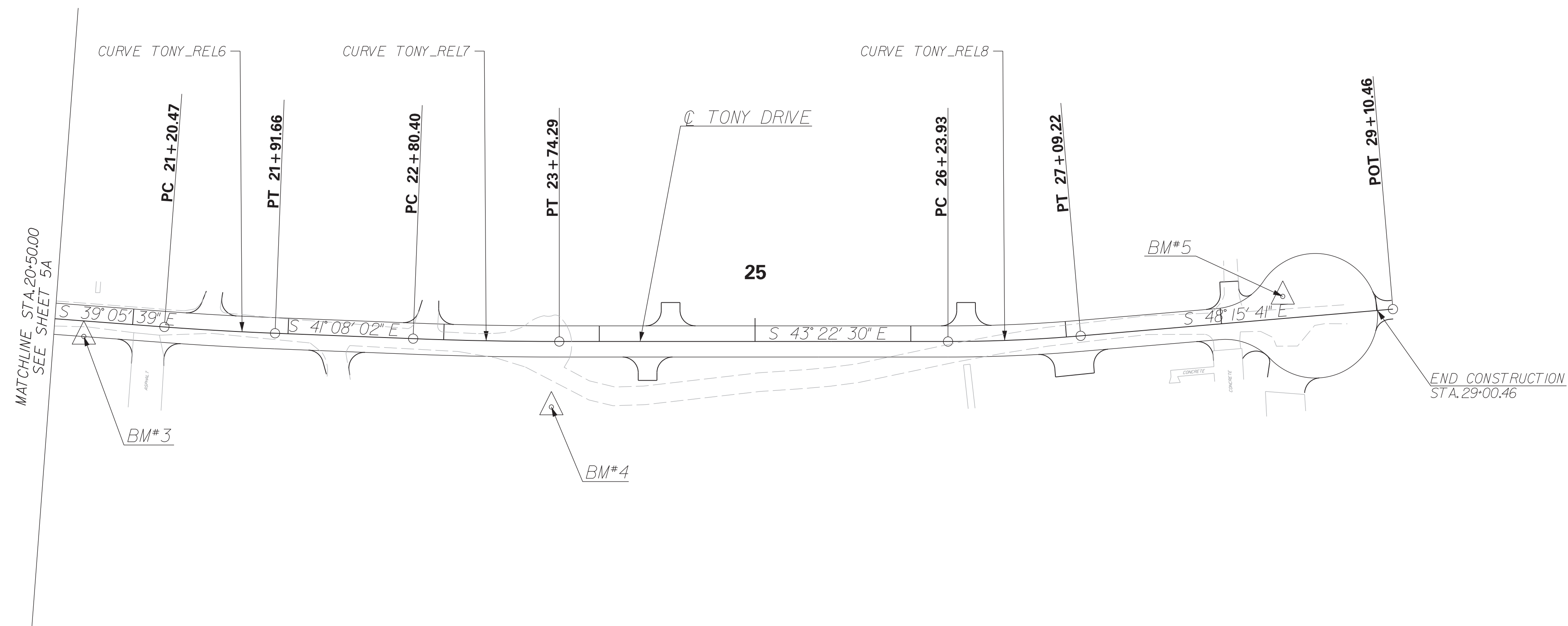
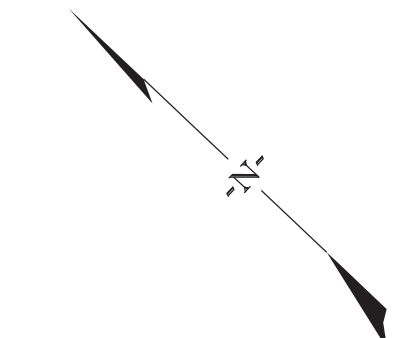
 SCALE 1" = 50' HOR. PLOT SIZE = 22" x 34"

FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	S.C.	GEORGETOWN	TONY DRIVE	5B	

@ TONY_REL6
 PI Sta 21+56.07
 Δ = 2° 02' 22" (LT)
 Dc = 2' 51' 53"
 T = 35.60'
 L = 71.19'
 R = 2,000.00'
 E = 0.32'
 Ds = 25 MPH
 e(max) = N/A
 e = N/A

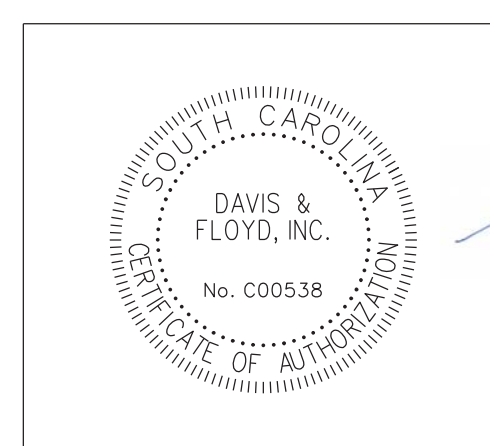
@ TONY_REL7
 PI Sta 23+27.35
 Δ = 2° 14' 29" (LT)
 Dc = 2' 23' 14"
 T = 46.95'
 L = 93.89'
 R = 2,400.00'
 E = 0.46'
 Ds = 25 MPH
 e(max) = N/A
 e = N/A

@ TONY_REL8
 PI Sta 26+66.60
 Δ = 4° 53' 11" (LT)
 Dc = 5' 43' 46"
 T = 42.67'
 L = 85.28'
 R = 1,000.00'
 E = 0.91'
 Ds = 25 MPH
 e(max) = N/A
 e = N/A



ID	DESCRIPTION	BENCHMARKS NORTHING	EASTING	STATION	OFFSET	ELEVATION
BM*3	REBAR/CAP	610630.38	2505214.80	20+69.33	9.93' RT	17.49
BM*4	REBAR/CAP	610380.99	2505388.11	23+69.32	42.04' RT	16.73
BM*5	REBAR/CAP	610088.39	2505762.22	28+40.64	14.17' LT	11.61

SCALE: 50.000 ft / in.
 PEN TABLE: Tony Drive.tbl
 PLOT DRIVER: PDF-plcfrg
 FILE: G:\Jobseven\31810-08\Production\Transportation\F.dgn\Const.plpr\31810-08 Sheet 5A-5C REF DATA SHEETS.dgn
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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
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DESIGNED BY AMS DRAWN BY _____ CHECKED BY JJG

GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM

TONY DRIVE
 REFERENCE DATA SHEET

SCALE 1" = 50' HOR. PLOT SIZE = 22" x 34"

FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	S.C.	GEORGETOWN	TONY DRIVE	5C	

Beginning chain TONY_REL description

Point TONY001 N 611,420.9637 E 2,504,520.3155 Sta 10+00.00

Course from TONY001 to PC TONY_REL1 S 60° 48' 57.27" E Dist 209.4851

Curve Data

Curve TONY_REL1

P.I. Station 12+38.79 N 611,304.5272 E 2,504,728.7899
 Delta = 26° 23' 06.85" (RT)
 Degree = 45° 50' 11.84"
 Tangent = 29.3015
 Length = 57.5637
 Radius = 125.0000
 External = 3.3884
 Long Chord = 57.0564
 Mid. Ord. = 3.2990
 P.C. Station 12+09.49 N 611,318.8151 E 2,504,703.2080
 P.T. Station 12+67.05 N 611,280.3590 E 2,504,745.3572
 C.C. N 611,209.6830 E 2,504,642.2559
 Back = S 60° 48' 57.27" E
 Ahead = S 34° 25' 50.42" E
 Chord Bear = S 47° 37' 23.85" E

Course from PT TONY_REL1 to PC TONY_REL2 S 34° 25' 50.42" E Dist 179.2943

Curve Data

Curve TONY_REL2

P.I. Station 15+02.90 N 611,085.8279 E 2,504,878.7085
 Delta = 2° 09' 35.96" (LT)
 Degree = 1° 54' 35.49"
 Tangent = 56.5551
 Length = 113.0968
 Radius = 3,000.0000
 External = 0.5330
 Long Chord = 113.0901
 Mid. Ord. = 0.5329
 P.C. Station 14+46.34 N 611,132.4751 E 2,504,846.7318
 P.T. Station 15+59.44 N 611,040.4189 E 2,504,912.4207
 C.C. N 612,828.7010 E 2,507,321.1646
 Back = S 34° 25' 50.42" E
 Ahead = S 36° 35' 26.39" E
 Chord Bear = S 35° 30' 38.40" E

Course from PT TONY_REL2 to PC TONY_REL3 S 36° 35' 26.39" E Dist 47.2386

Curve Data

Curve TONY_REL3

P.I. Station 16+65.79 N 610,955.0320 E 2,504,975.8130
 Delta = 4° 48' 03.25" (RT)
 Degree = 4° 03' 48.71"
 Tangent = 59.1076
 Length = 118.1461
 Radius = 1,410.0000
 External = 1.2384
 Long Chord = 118.1115
 Mid. Ord. = 1.2373
 P.C. Station 16+06.68 N 611,002.4904 E 2,504,940.5793
 P.T. Station 17+24.82 N 610,904.7913 E 2,505,006.9511
 C.C. N 610,161.9978 E 2,503,808.4697
 Back = S 36° 35' 26.39" E
 Ahead = S 31° 47' 23.14" E
 Chord Bear = S 34° 11' 24.76" E

Curve Data

Curve TONY_REL4

P.I. Station 17+69.10 N 610,867.1577 E 2,505,030.2757
 Delta = 5° 37' 13.18" (LT)
 Degree = 6° 21' 07.50"
 Tangent = 44.2755
 Length = 88.4801
 Radius = 902.0000
 External = 1.0860
 Long Chord = 88.4446
 Mid. Ord. = 1.0847
 P.C. Station 17+24.82 N 610,904.7913 E 2,505,006.9511
 P.T. Station 18+13.30 N 610,831.9893 E 2,505,057.1738
 C.C. N 611,379.9684 E 2,505,773.6393
 Back = S 31° 47' 23.14" E
 Ahead = S 37° 24' 36.32" E
 Chord Bear = S 34° 35' 59.73" E

Course from PT TONY_REL4 to TONY002 S 37° 24' 36.32" E Dist 43.4620

Point TONY002 N 610,797.4670 E 2,505,083.5776 Sta 18+56.77

Course from TONY002 to PC TONY_REL5 S 41° 38' 25.66" E Dist 115.3986

Curve Data

Curve TONY_REL5

P.I. Station 20+01.06 N 610,689.6356 E 2,505,179.4512
 Delta = 2° 32' 46.35" (RT)
 Degree = 4° 24' 26.52"
 Tangent = 28.8906
 Length = 57.7716
 Radius = 1,300.0000
 External = 0.3210
 Long Chord = 57.7669
 Mid. Ord. = 0.3209
 P.C. Station 19+72.17 N 610,711.2263 E 2,505,160.2547
 P.T. Station 20+29.94 N 610,667.2133 E 2,505,197.6695
 C.C. N 609,847.4360 E 2,504,188.7269
 Back = S 41° 38' 25.66" E
 Ahead = S 39° 05' 39.31" E
 Chord Bear = S 40° 22' 02.49" E

Course from PT TONY_REL5 to PC TONY_REL6 S 39° 05' 39.31" E Dist 90.5318

Curve Data

Curve TONY_REL6

P.I. Station 21+56.07 N 610,569.3214 E 2,505,277.2078
 Delta = 2° 02' 22.21" (LT)
 Degree = 2° 51' 53.24"
 Tangent = 35.5998
 Length = 71.1920
 Radius = 2,000.0000
 External = 0.3168
 Long Chord = 71.1883
 Mid. Ord. = 0.3168
 P.C. Station 21+20.47 N 610,596.9507 E 2,505,254.7587
 P.T. Station 21+91.66 N 610,542.5085 E 2,505,300.6260
 C.C. N 611,858.1467 E 2,506,806.9780
 Back = S 39° 05' 39.31" E
 Ahead = S 41° 08' 01.52" E
 Chord Bear = S 40° 06' 50.42" E

Course from PT TONY_REL6 to PC TONY_REL7 S 41° 08' 01.52" E Dist 88.7409

Curve Data

Curve TONY_REL7

P.I. Station 23+27.35 N 610,440.3101 E 2,505,389.8855
 Delta = 2° 14' 28.92" (LT)
 Degree = 2° 23' 14.37"
 Tangent = 46.9491
 Length = 93.8861
 Radius = 2,400.0000
 External = 0.4592
 Long Chord = 93.8802
 Mid. Ord. = 0.4591
 P.C. Station 22+80.40 N 610,475.6710 E 2,505,359.0015
 P.T. Station 23+74.29 N 610,406.1841 E 2,505,422.1288
 C.C. N 612,054.4368 E 2,507,166.6238
 Back = S 41° 08' 01.52" E
 Ahead = S 43° 22' 30.44" E
 Chord Bear = S 42° 15' 15.98" E

Course from PT TONY_REL7 to PC TONY_REL8 S 43° 22' 30.44" E Dist 249.6445

Curve Data

Curve TONY_REL8

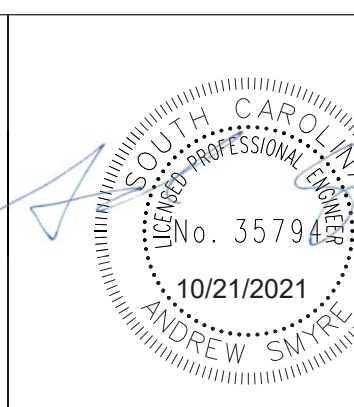
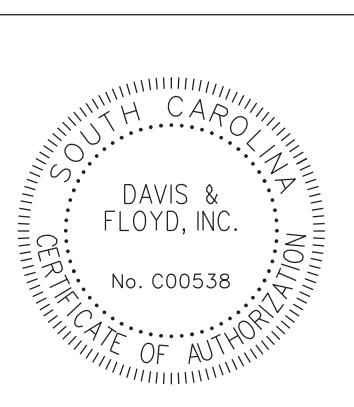
P.I. Station 26+66.60 N 610,193.7102 E 2,505,622.8806
 Delta = 4° 53' 11.01" (LT)
 Degree = 5° 43' 46.48"
 Tangent = 42.6677
 Length = 85.2836
 Radius = 1,000.0000
 External = 0.9099
 Long Chord = 85.2578
 Mid. Ord. = 0.9090
 P.C. Station 26+23.93 N 610,224.7242 E 2,505,593.5776
 P.T. Station 27+09.22 N 610,165.3050 E 2,505,654.7188
 C.C. N 610,911.4962 E 2,506,320.4505
 Back = S 43° 22' 30.44" E
 Ahead = S 48° 15' 41.45" E
 Chord Bear = S 45° 49' 05.95" E

Course from PT TONY_REL8 to TONY003 S 48° 15' 41.45" E Dist 201.2401

Point TONY003 N 610,031.3331 E 2,505,804.8824 Sta 29+10.46

 Ending chain TONY_REL description

SCALE: 50.000 ft / in.
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 PLOT DRIVER: PDF-plotter
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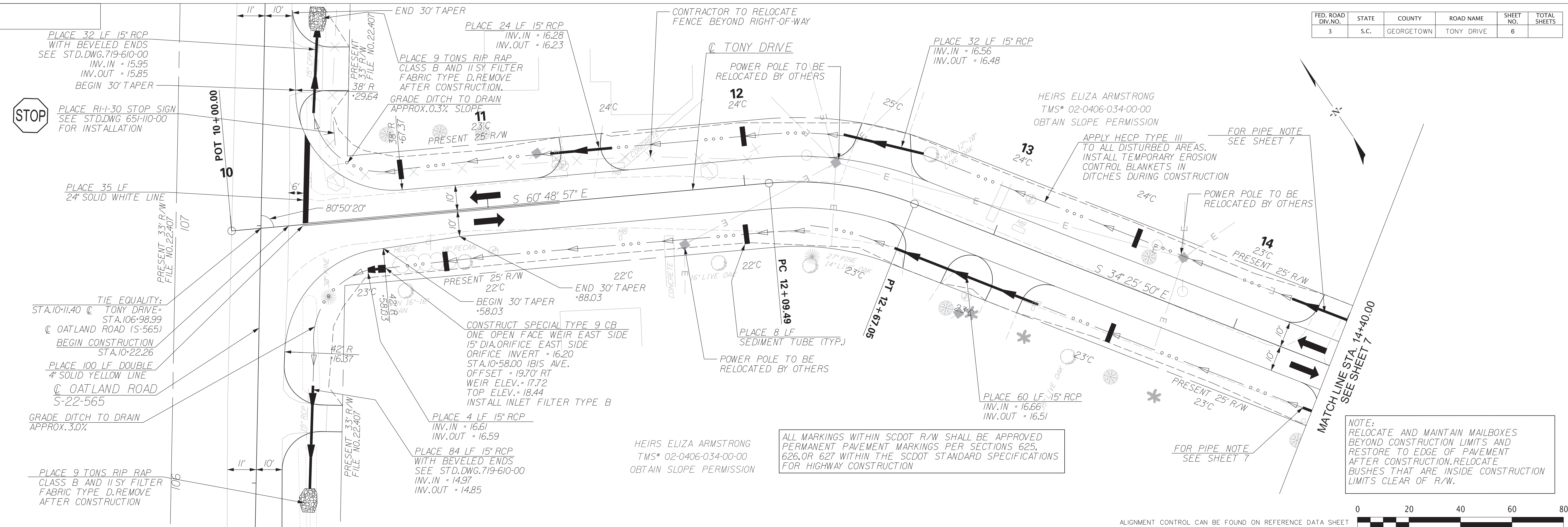
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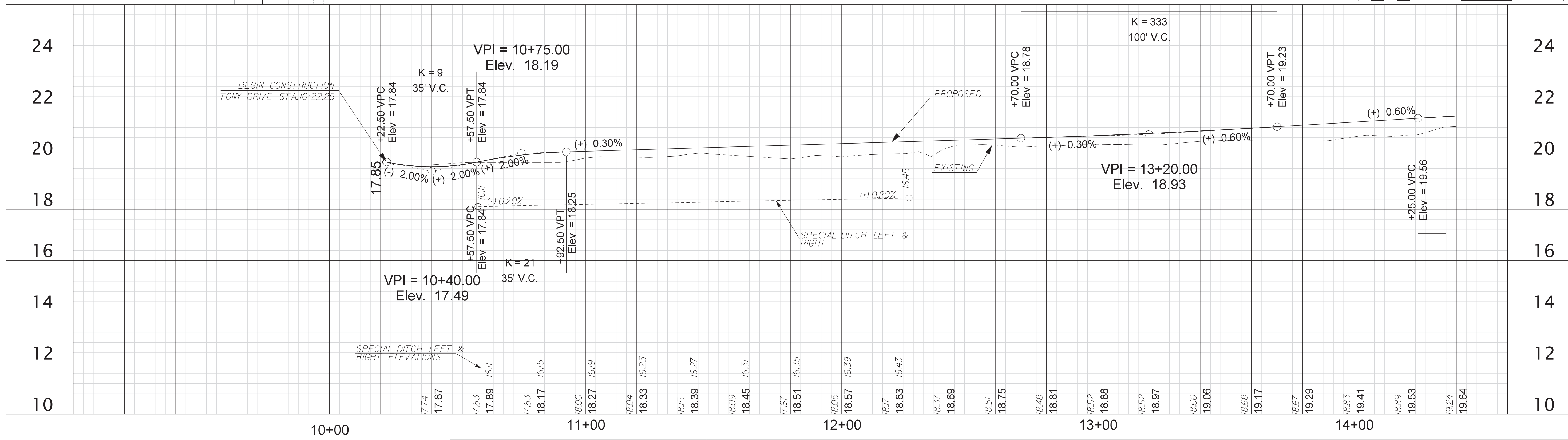
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REV. NO.	BY	DATE	DESCRIPTION OF REVISION	
DESIGNED BY	AMS	DRAWN BY	CHECKED BY	JJC

GEORGETOWN COUNTY ENGINEERED ROADS PROGRAM	
TONY DRIVE REFERENCE DATA SHEET	
NOT TO SCALE	PLOT SIZE = 22" x 34"

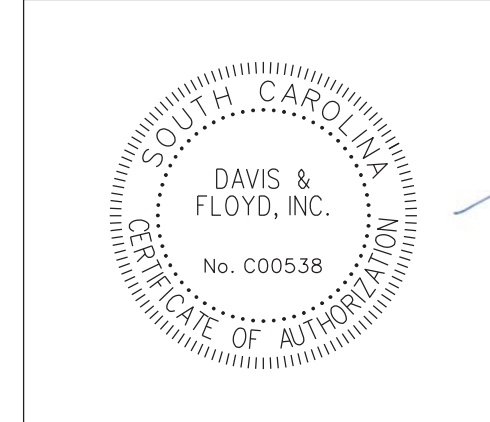
FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	S.C.	GEORGETOWN	TONY DRIVE	6	



NOTE:
RELOCATE AND MAINTAIN MAILBOXES BEYOND CONSTRUCTION LIMITS AND RESTORE TO EDGE OF PAVEMENT AFTER CONSTRUCTION. RELOCATE BUSHES THAT ARE INSIDE CONSTRUCTION LIMITS CLEAR OF R/W.



SCALE: 20.000 ft / in.
 PEN TABLE: Tony Drive.tbl
 PLOT DRIVER: PDF-plcfrg
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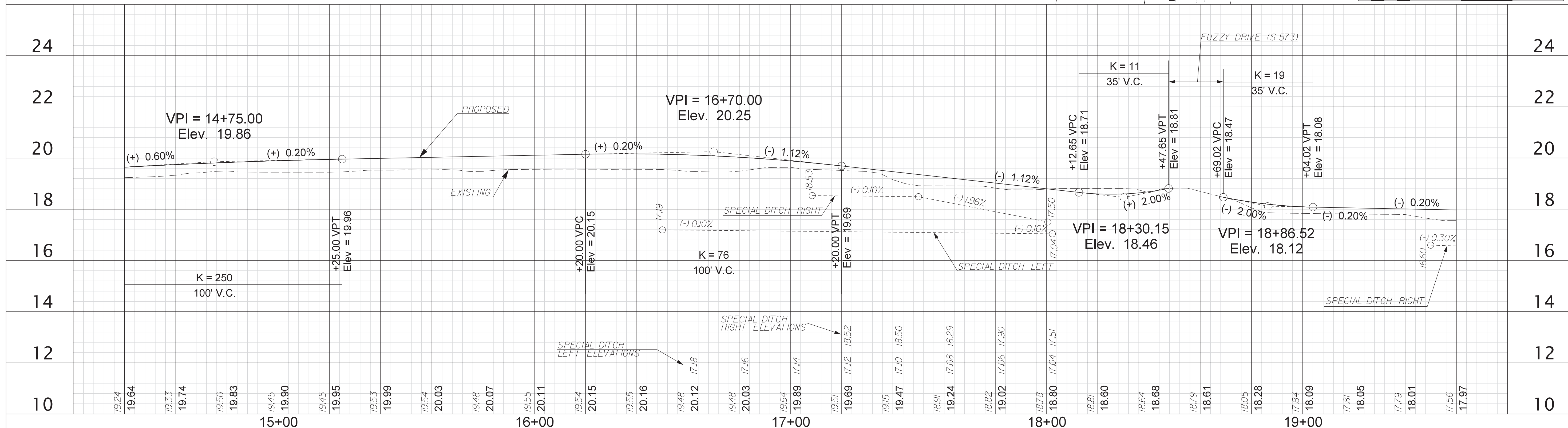
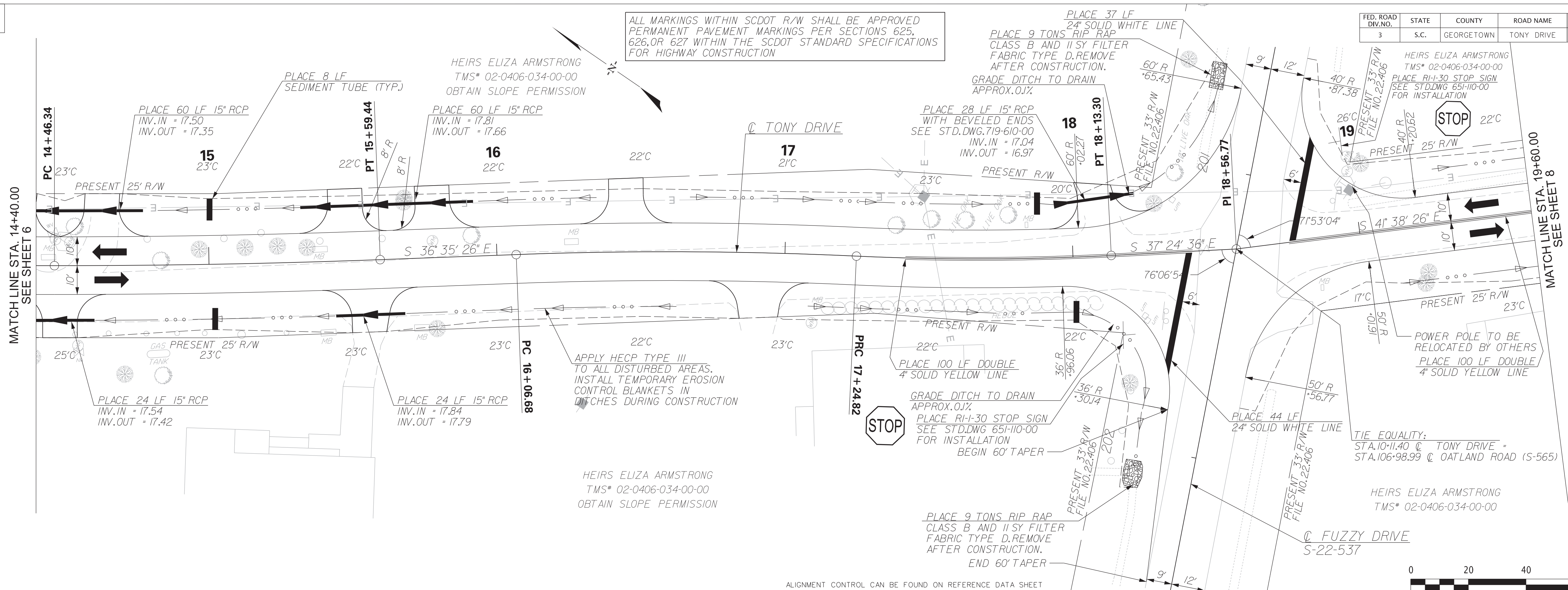
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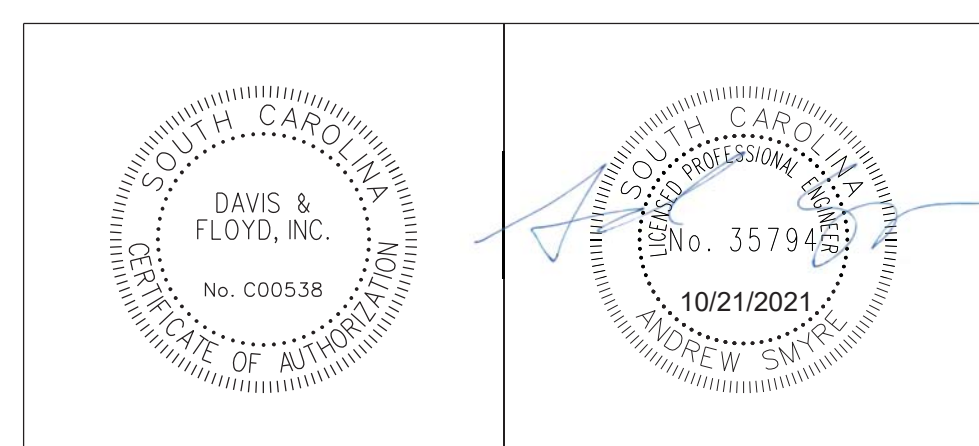
GEORGETOWN COUNTY ENGINEERED ROADS PROGRAM			
TONY DRIVE STA. 10+00.00 TO 14+40.00			
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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
DESIGNED BY	AMS	DRAWN BY	CHECKED BY JJG

SCALE 1" = 20' HOR. 1" = 2' VER. PLOT SIZE = 22" x 34"

FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	SC.	GEORGETOWN	TONY DRIVE	7	



SCALE: 20.000 ft / in.
 PEN TABLE: Tony Drive.tbl
 PLOT DRIVER: PDF-plcfrg
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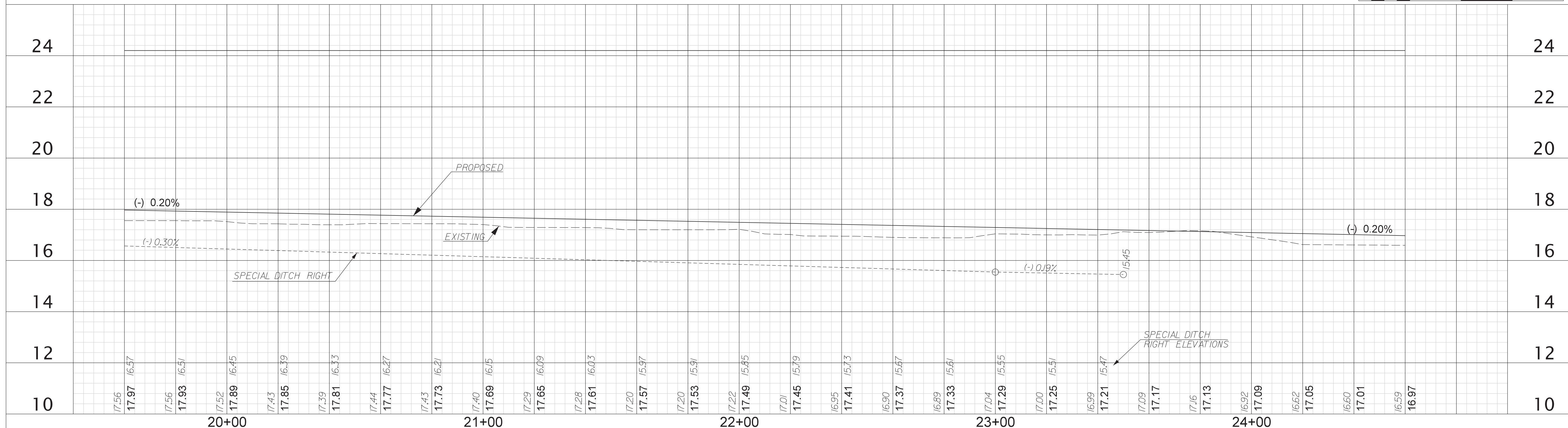
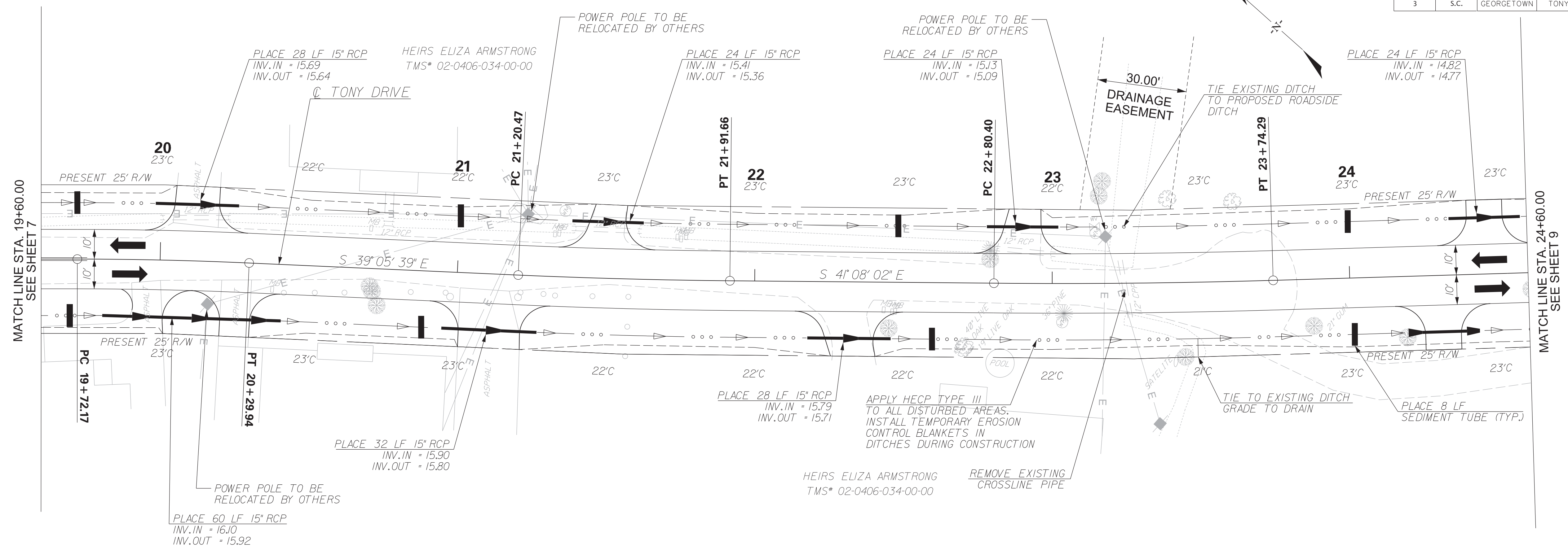
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	AMS		DESIGNED BY	CHECKED BY

GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM

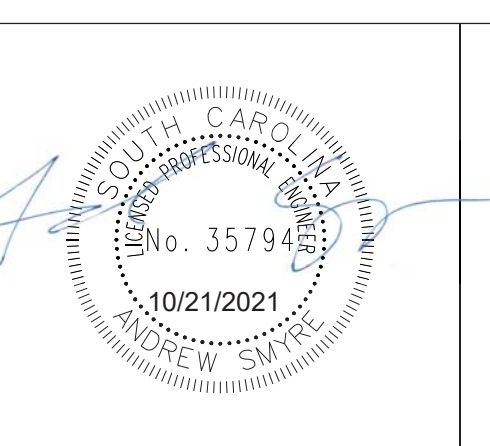
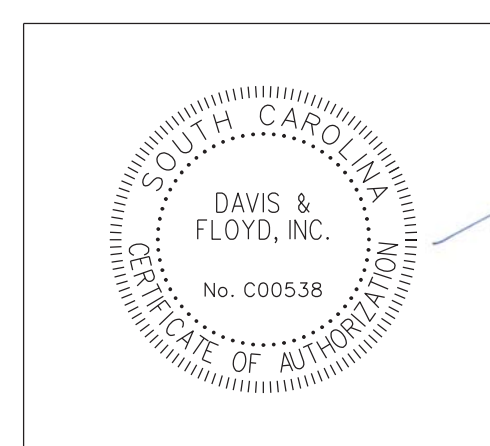
TONY DRIVE
 STA. 14+40.00 TO 19+60.00

SCALE 1" = 20' HOR. 1" = 2' VER. PLOT SIZE = 22" x 34"

FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	S.C.	GEORGETOWN	TONY DRIVE	8	



SCALE: 20.000 ft / in.
 PEN TABLE: Tony Drive.tbl
 PLOT DRIVER: PDF-plcfrg
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DESIGNED BY AMS DRAWN BY _____ CHECKED BY JJC

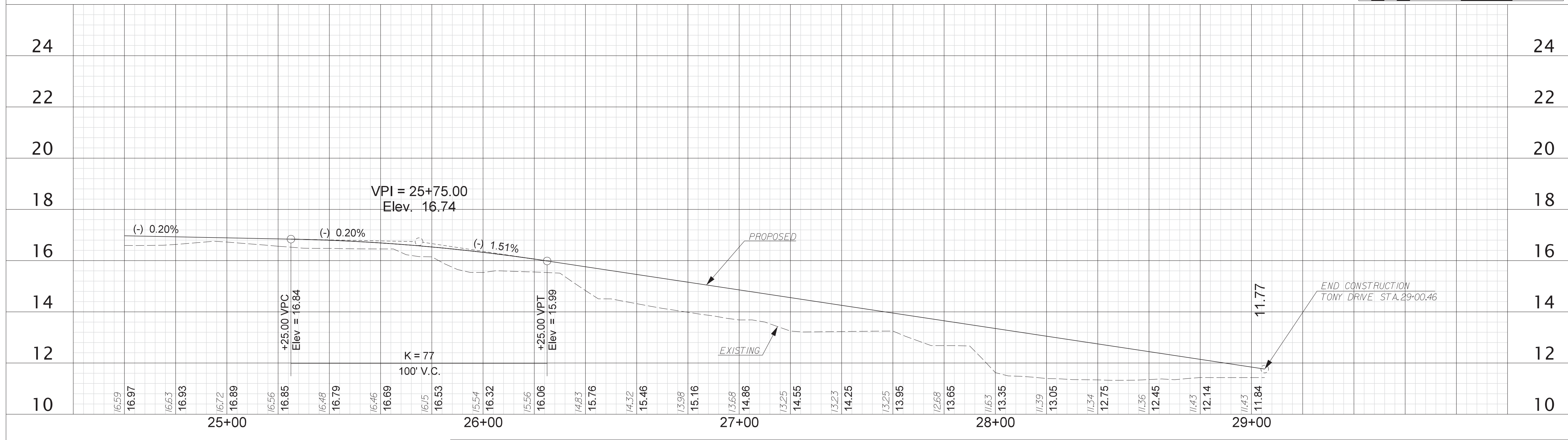
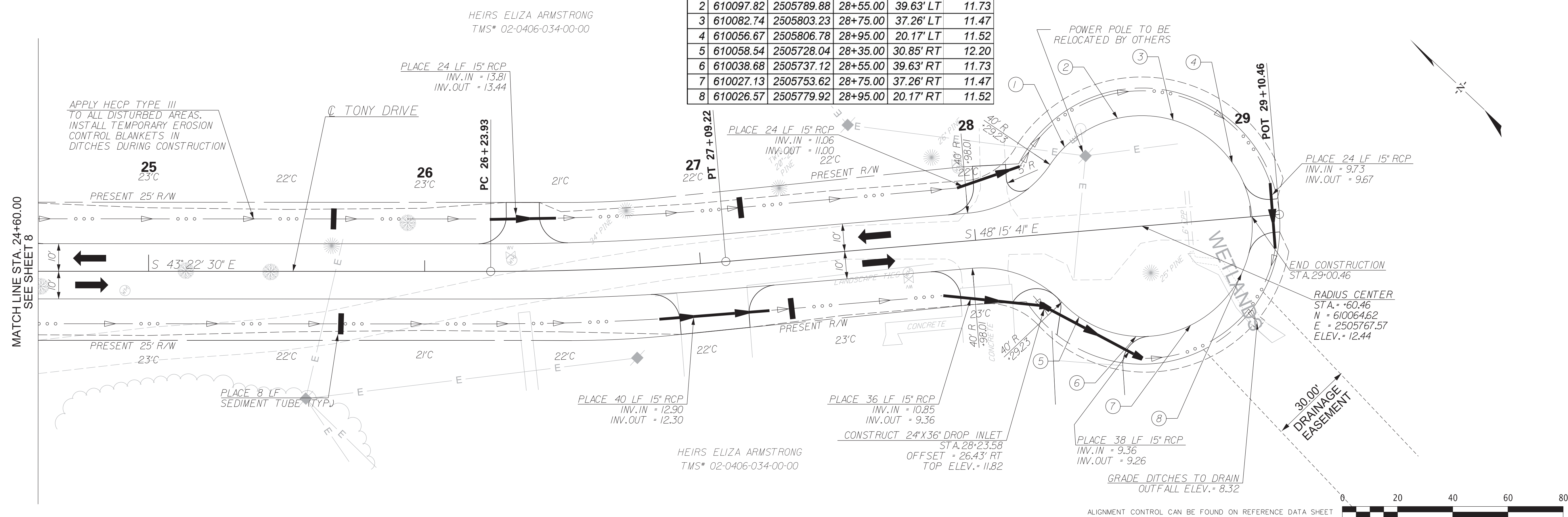
GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

TONY DRIVE
STA. 19+60.00 TO 24+60.00

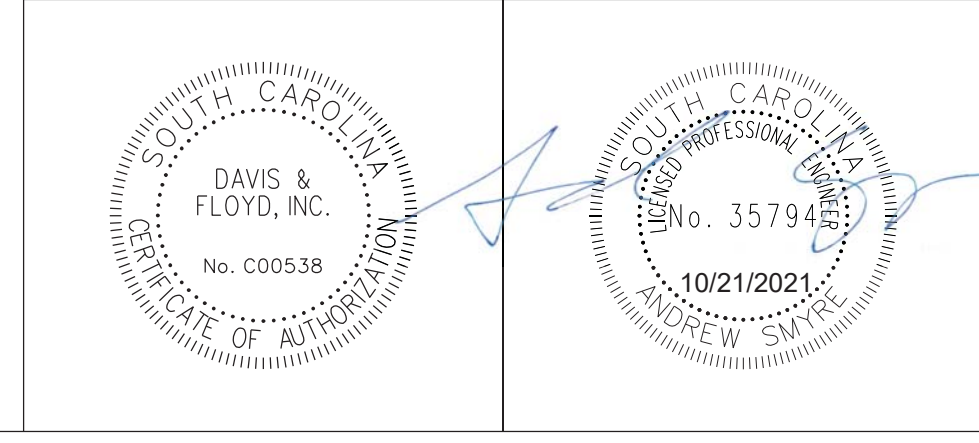
SCALE 1" = 20' HOR. 1" = 2' VER. PLOT SIZE = 22" x 34"

FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	S.C.	GEORGETOWN	TONY DRIVE	9	

	Northing	Easting	Station	Offset	Elevation
1	610104.59	2505769.12	28+35.00	30.85' LT	12.20
2	610097.82	2505789.88	28+55.00	39.63' LT	11.73
3	610082.74	2505803.23	28+75.00	37.26' LT	11.47
4	610056.67	2505806.78	28+95.00	20.17' LT	11.52
5	610058.54	2505728.04	28+35.00	30.85' RT	12.20
6	610038.68	2505737.12	28+55.00	39.63' RT	11.73
7	610027.13	2505753.62	28+75.00	37.26' RT	11.47
8	610026.57	2505779.92	28+95.00	20.17' RT	11.52



SCALE: 20.000 ft / in.
 PEN TABLE: Tony Drive.tbl
 PLOT DRIVER: PDF-plcfrg
 FILE: G:\Jobseven\31810-08\Production\Transportation\1.f.dgn\Const.plpr\31810-08 Sheet 9.dgn
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5			
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DESIGNED BY AMS DRAWN BY _____ CHECKED BY JJC

GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM

TONY DRIVE
 STA. 24+60.00 TO 29+00.46

SCALE 1" = 20' HOR. 1" = 2' VER. PLOT SIZE = 22" x 34"

FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	S.C.	GEORGETOWN	TONY DRIVE	EC1	

OCRM STANDARD NOTES

- If necessary, slopes which exceed eight (8) feet should be stabilized with synthetic or vegetative mats, in addition to hydroseeding. It may be necessary to install temporary slope drains during construction. Temporary berms may be needed until the slope is brought to grade.
- 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 below:
 - Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions stabilization measures must be initiated as soon as practicable.
 - 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.
- All sediment and erosion control devices shall be inspected once every calendar week. If periodic inspection or other information indicates that a BMP has been inappropriately or incorrectly installed, the Permittee must address the necessary replacement or modification required to correct the BMP within 48 hours of identification.
- 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 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 back into any waters of the state.
- 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 the site is stabilized.
- The contractor must take necessary action to minimize the tracking of mud onto paved roadway(s) from the construction area and the generation of dust. The contractor shall daily remove mud/soil from pavement, as may be required.
- 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 ET SEQ. and SCR100000.
- 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.
- 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't be maintained between the disturbed area and all WOS. A 10-foot buffer should be maintained between the last row of silt fence and all WOS.
- 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 being a pollutant source in storm water discharges.
- A copy of the SWPPP, inspections records, and rainfall data must be retained at the construction site or a nearby location easily accessible during normal business hours, from the date of commencement of construction activities to the date that final stabilization is reached.
- 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.
- Minimize soil compaction and, unless infeasible, preserve topsoil.
- 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 equivalent or better treatment prior to discharge.
- 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.).
- The following discharges from sites are prohibited:
 - Wastewater from washout of concrete, unless managed by an appropriate control;
 - Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
 - Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
 - Soaps or solvents used in vehicle and equipment washing.
- 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.

- If existing BMPs need to be modified or if additional BMPs are necessary to comply with the requirements of this permit 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 as soon as reasonably possible.
- 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.

SEEDING INSTALLATION

- Seed all disturbed areas of construction (excluding riprap lined ditches).
- No seeding should be undertaken in windy or unfavorable weather, when the ground is too wet to rake easily, when it is in a frozen condition, or too dry.
- The subgrade of all areas to be seeded shall be raked and all rubbish, sticks, roots, and stones larger than 2 IN shall be removed.
- Fertilizer shall be uniformly spread and disked or roto-tilled to a depth of at least 4 IN.
- Immediately following this preparation the seed shall be uniformly applied and lightly raked into the surface. Lightly roll the surface and water with fine spray. Seed shall be applied, depending on the period of year, at the rates indicated in Section 810 of the SCDOT Standard Specifications for Highway Construction (Edition 2007).

All seeded areas shall be mulched with clean small-grain straw at a rate of 1/2 to 2 tons per acre. Asphalt emulsion shall be applied uniformly at a rate of 300 GAL per acre to tack the mulch, unless otherwise shown on the plans. Mechanical tacking will be considered on a case-by-case basis as approved by the Engineer.
- All seeded areas shall be watered and maintained in good condition. Reseeding shall be done if and when necessary until a good, healthy, uniform growth is established over the entire area seeded.
- Slopes shall be protected against washouts by an approved method. Any washout which occurs shall be regraded and reseeded until good sod is established.

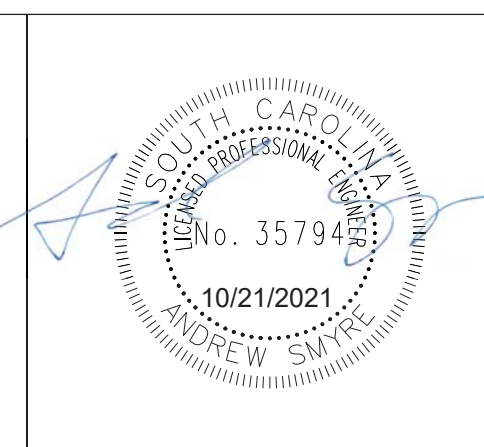
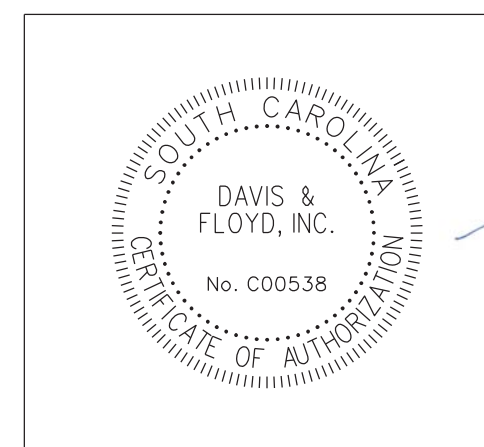
SEQUENCE OF CONSTRUCTION

- Obtain all permits.
- Contact the office of Ocean and Coastal Resource Management (OCRM) at (843)238-4528 prior to commencing construction activities.
- Install sediment erosion controls as follows:
 - Silt Fences shall be used to prevent silt from leaving the limits of construction.
 - Stabilized Graveled Construction Entrances shall be used at locations where construction vehicles access public non-construction areas. Vehicles shall be washed down as necessary to prevent tracking of silt offsite.
 - A temporary rock filter dam or sediment tube shall be used as ditch checks as directed by the Engineer.
 - Adhere by all of the OCRM Standard Notes listed on the right of this sheet and install BMP's per the SCDOT Standard Drawings for Erosion Control.
- A recommended sequence of construction follows:
 - Clear and grub only areas necessary for perimeter erosion and sediment control silt fence, hay bales, and temporary sediment traps.
 - Construct perimeter controls.
 - Construct new drainage appurtenances within the areas protected by perimeter controls.
 - Install protection around inlets and stabilize disturbed areas as soon as possible (within 7 calendar days).
 - Proceed with construction. Limit disturbed areas to areas with work in progress to limit disruption to traffic. Schedule work to maintain access to all driveways as long as possible.
 - Erosion controls may be removed after the area contributing flow to that particular erosion control device has been stabilized.
 - Stabilize all remaining areas.
 - Clean out temporary sediment control as needed; check controls every seven (7) days.
 - Remove sediment controls 30 days after all disturbed areas have stabilized.

SEE DETAIL SHEETS AND SCDOT STANDARD DRAWINGS FOR EROSION CONTROL DETAILS

	DRAWING NO.
TYPE F INLET FILTER	815-006-00
TYPE B INLET FILTER	815-002-00
SEDIMENT TUBES	815-205-00
SILT FENCE	815-605-00

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 10/21/2021



DAVIS & FLOYD

SINCE 1954

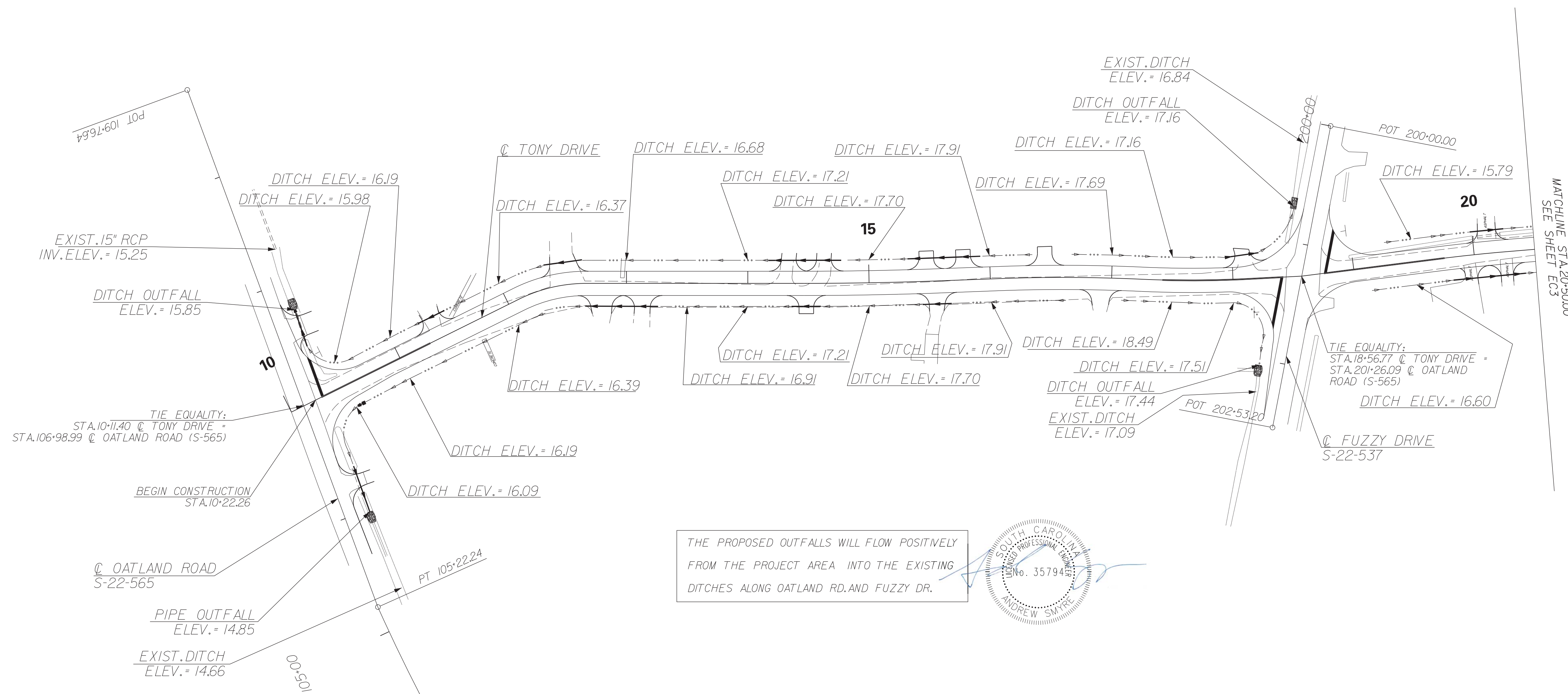
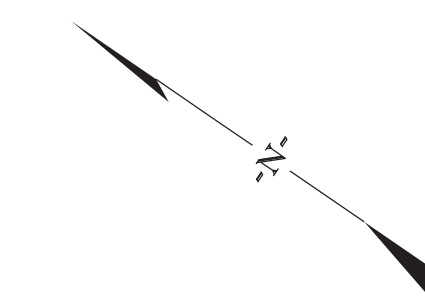
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 CHARLESTON, SC 29418
 (843) 554-8602

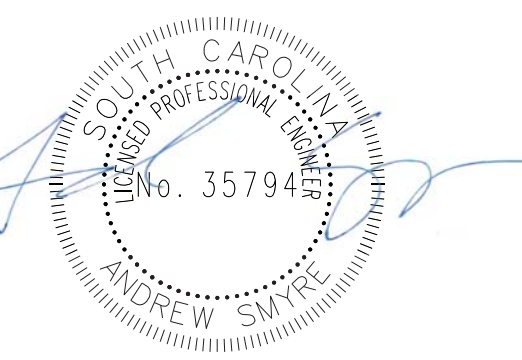
REV. NO.	BY	DATE	DESCRIPTION OF REVISION
5			
4			
3			
2			
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DESIGNED BY	AMS	DRAWN BY	CHECKED BY JJG

GEORGETOWN COUNTY ENGINEERED ROADS PROGRAM	
TONY DRIVE EROSION CONTROL NOTES	
N.T.S.	PLOT SIZE = 22" x 34"

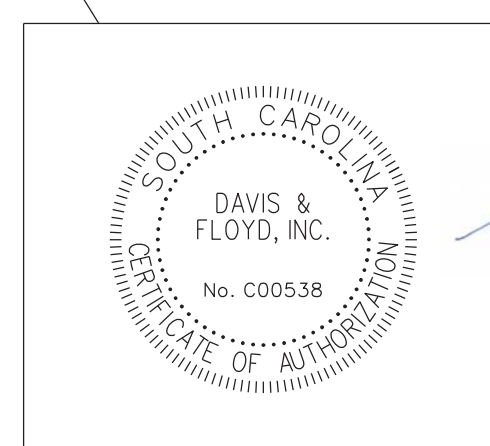
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3	S.C.	GEORGETOWN	TONY DRIVE	EC2	



THE PROPOSED OUTFALLS WILL FLOW POSITIVELY FROM THE PROJECT AREA INTO THE EXISTING DITCHES ALONG OATLAND RD. AND FUZZY DR.



SCALE: 50.000 ft / in.
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 10/21/2021



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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
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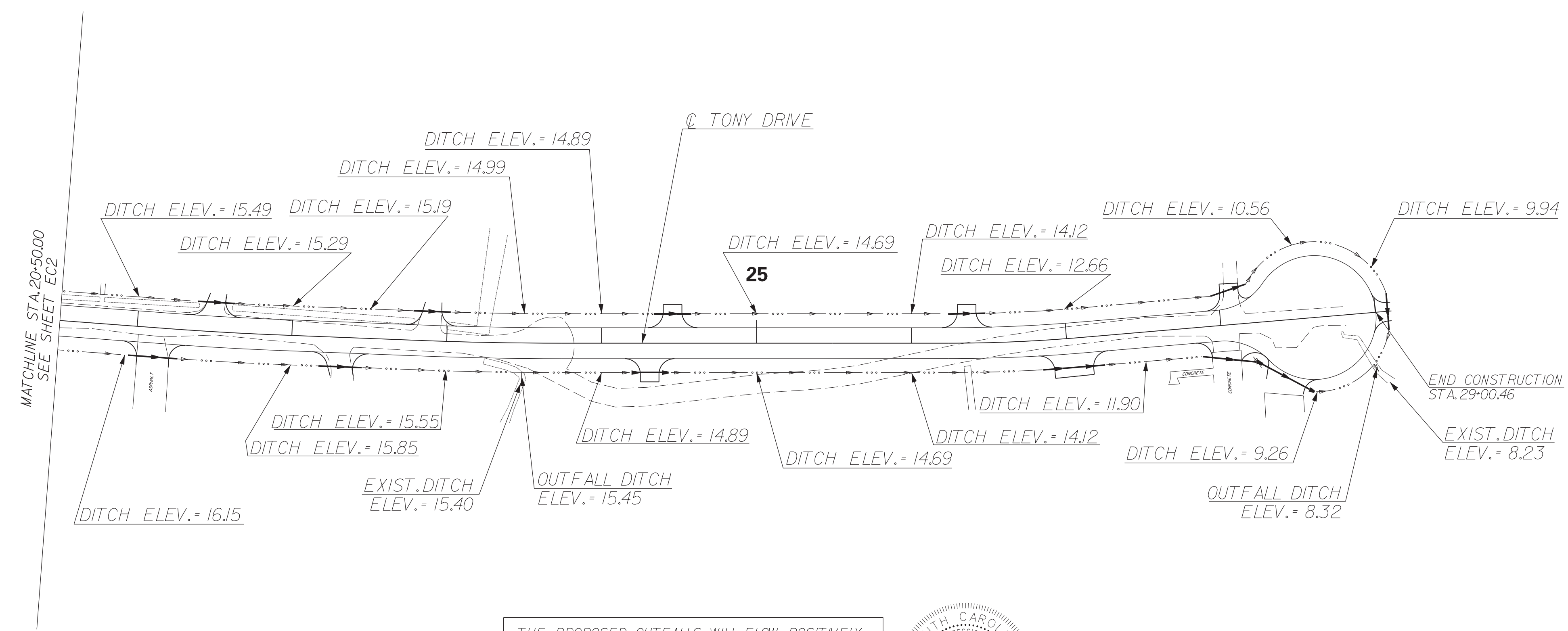
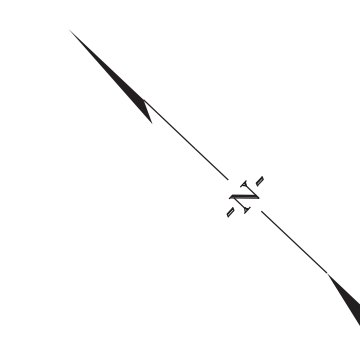
DESIGNED BY AMS DRAWN BY _____ CHECKED BY JJG

GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM

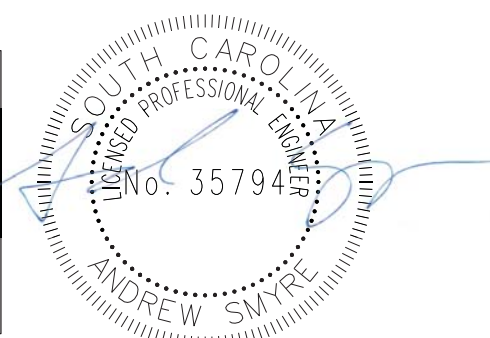
TONY DRIVE
 DITCH ELEVATIONS SHEET

SCALE 1" = 50' HOR. PLOT SIZE = 22" x 34"

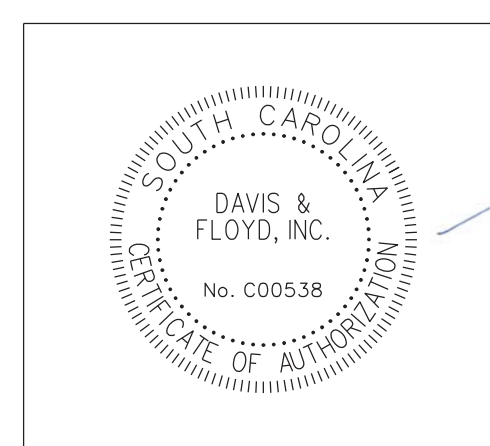
FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	S.C.	GEORGETOWN	TONY DRIVE	EC3	



THE PROPOSED OUTFALLS WILL FLOW POSITIVELY FROM THE PROJECT AREA INTO THE EXISTING OUTFALL DITCHES AT STA. 23+48.60 AND STA. 28+96.50



SCALE: 50,000 ft / in.
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 10/21/2021



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 GEORGETOWN, SC 29416
 (843) 554-5802

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
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DESIGNED BY AMS DRAWN BY _____ CHECKED BY JJG

GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM

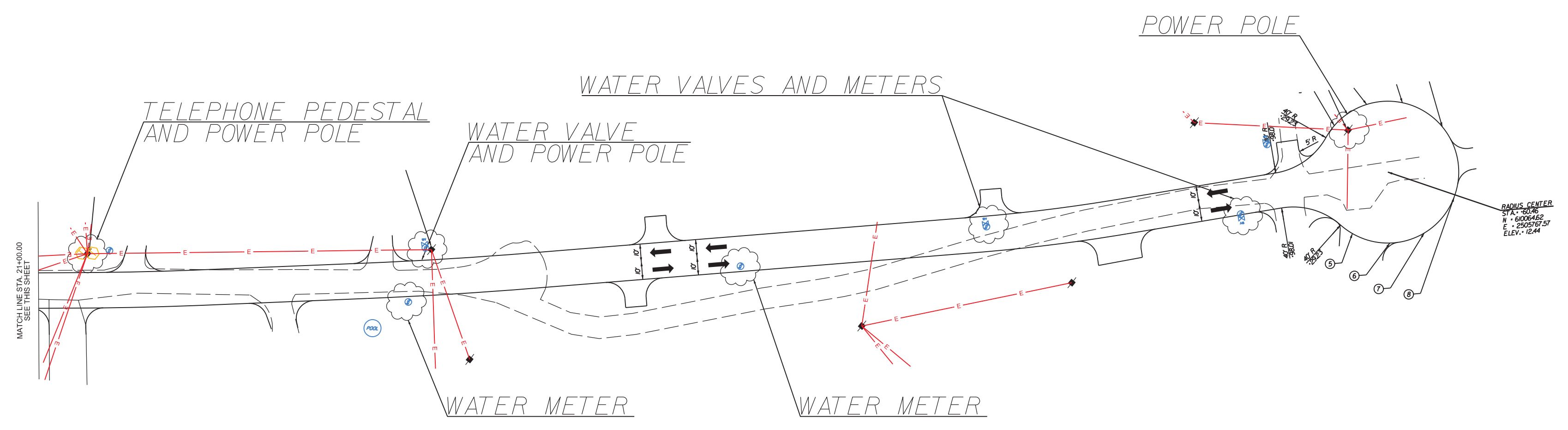
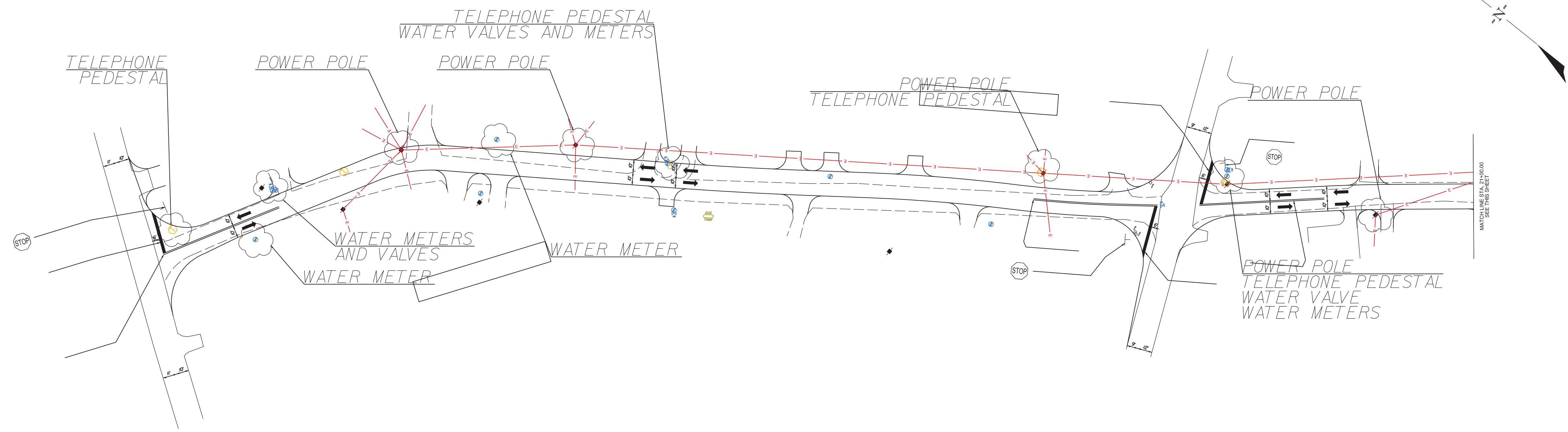
TONY DRIVE
 DITCH ELEVATIONS SHEET

SCALE 1" = 50' HOR. PLOT SIZE = 22" x 34"

FED. ROAD DIV. NO.	STATE	COUNTY	ROAD NAME	SHEET NO.	TOTAL SHEETS
3	S.C.	GEORGETOWN	TONY DRIVE	U1	

FOR INFORMATION ONLY.
CONTRACTOR SHALL CALL
PUPS (811) BEFORE DIGGING

	TELEPHONE POLE
	WATER METER
	WATER VALVE
	SEWER MANHOLE
	POWER POLE
	LIGHT POLE
	GUY WIRE
	SEWER CLEANOUT
	SEWER VALVE
	POTENTIAL CONFLICT



SCALE: 50,000 ft / 1 in.
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10/21/2021



FOR UTILITY
COORDINATION ONLY

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ORLANDO, FL 32835
(407) 554-5802

REV. NO.	BY	DATE	DESCRIPTION OF REVISION
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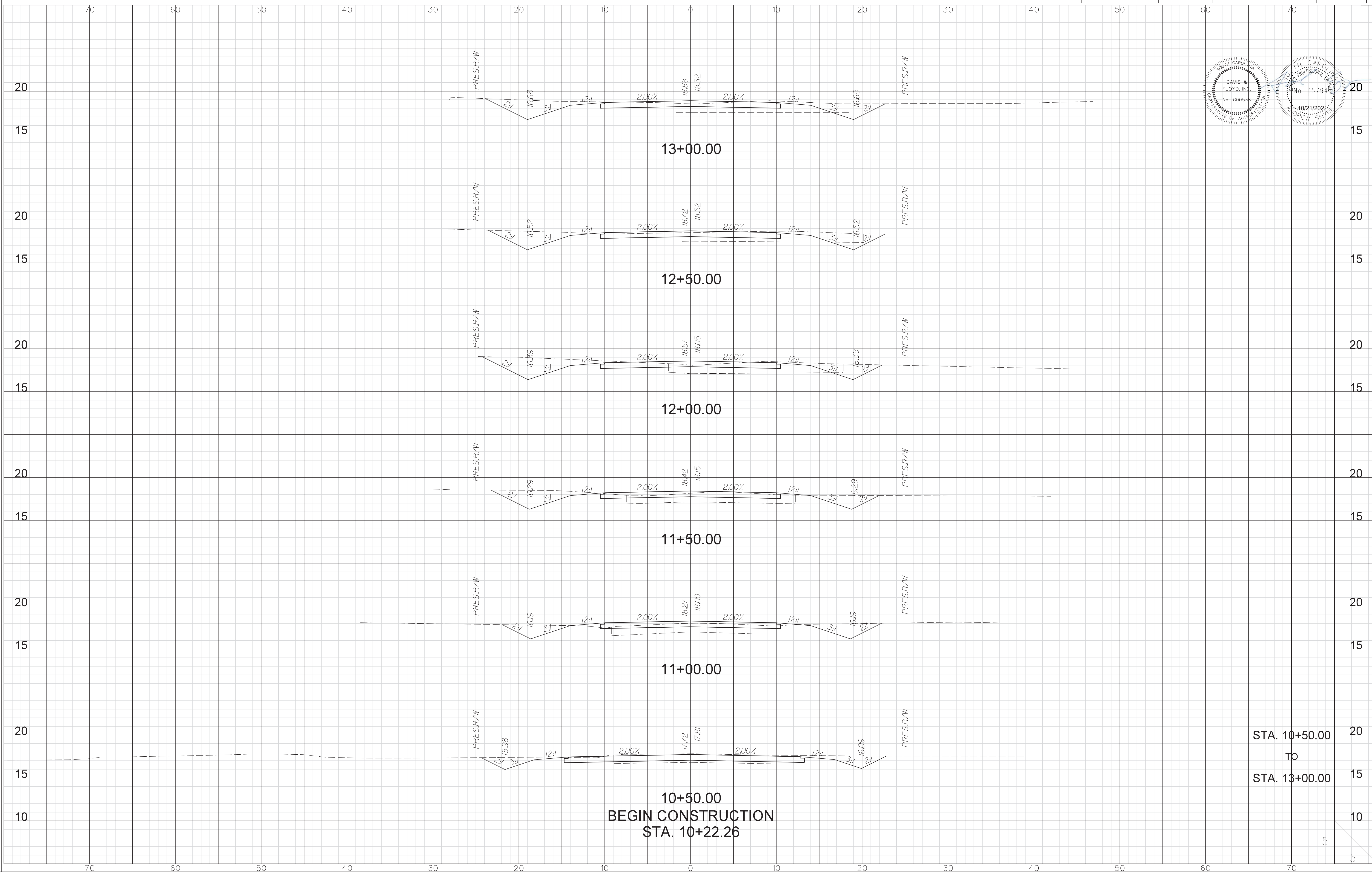
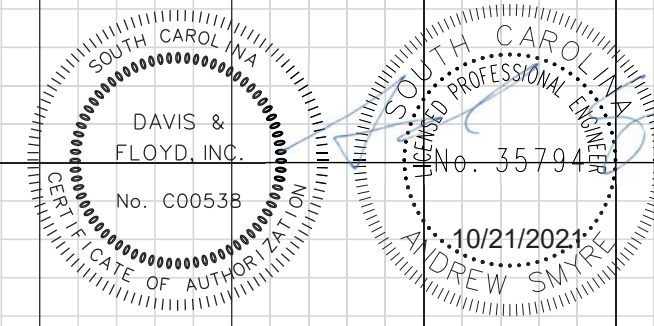
DESIGNED BY AMS DRAWN BY _____ CHECKED BY JJG

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

TONY DRIVE
UTILITY SHEET

SCALE 1" = 50' HOR. 1" = 2' VER. PLOT SIZE = 22" x 34"

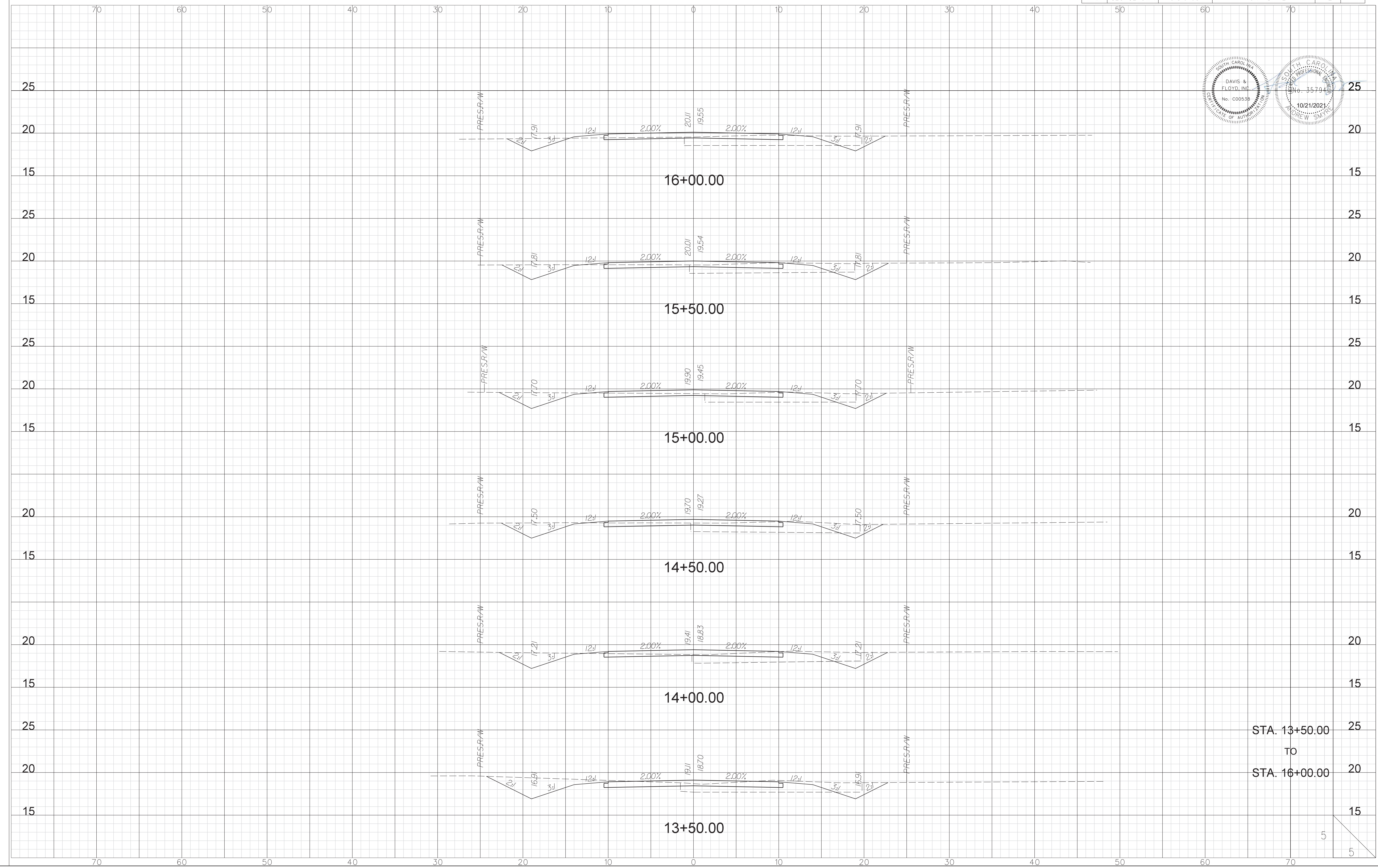
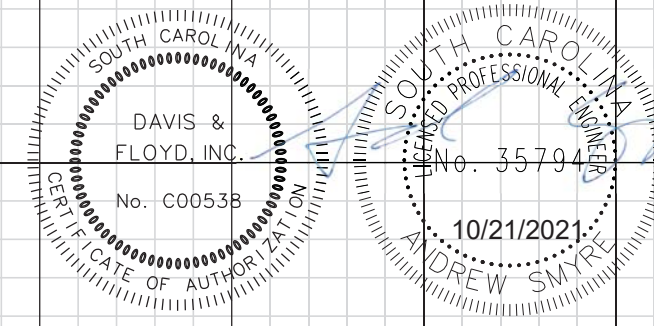
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S.C.	GEORGETOWN	31810-08	TONY DRIVE	X1	



10+50.00
 BEGIN CONSTRUCTION
 STA. 10+22.26

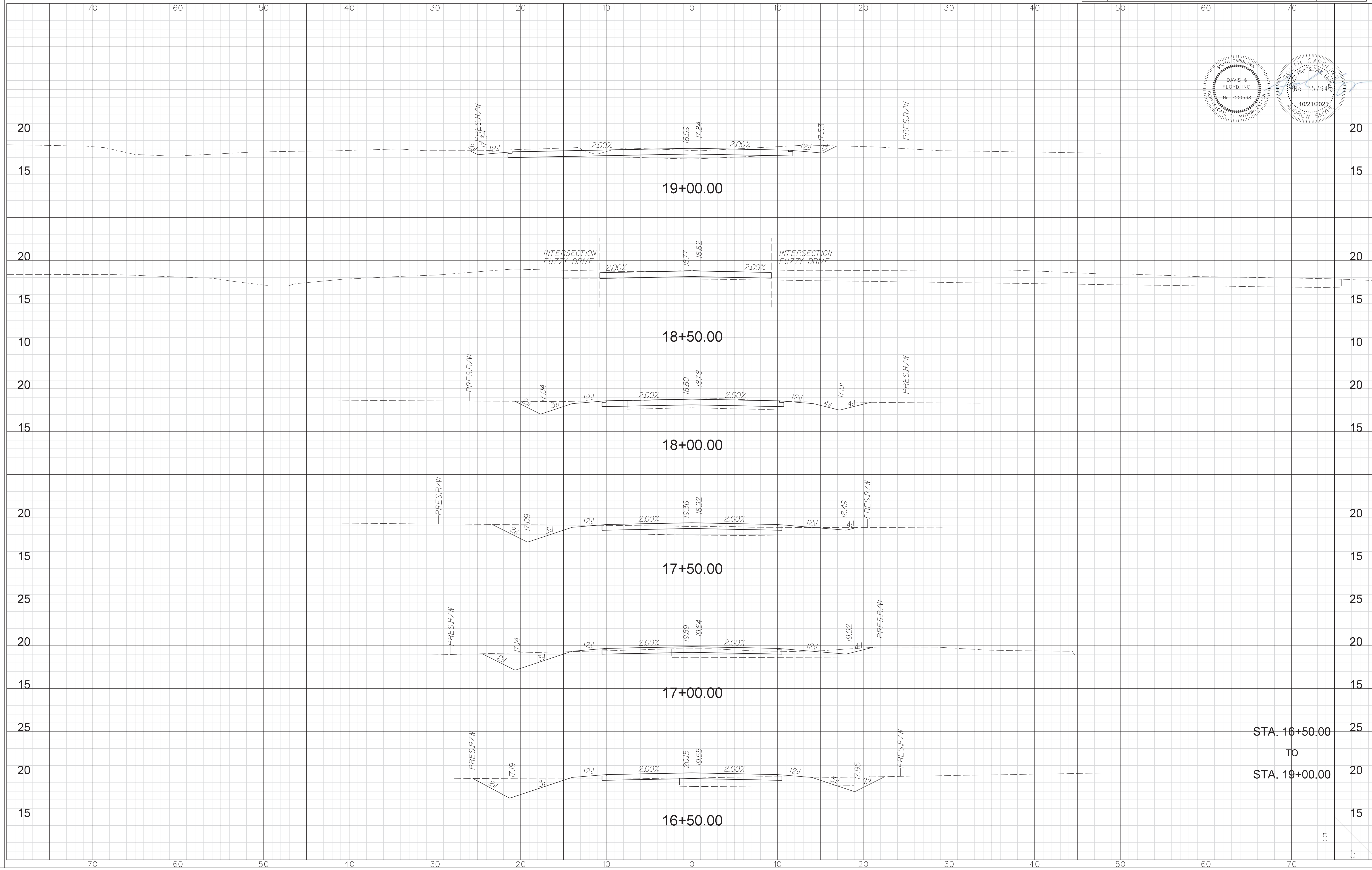
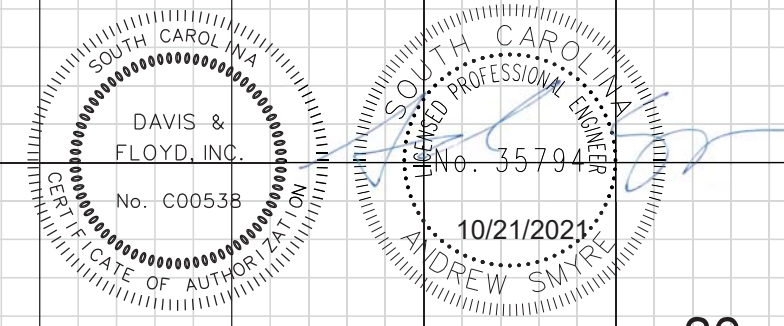
STA. 10+50.00
 TO
 STA. 13+00.00

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-08	TONY DRIVE	X2	

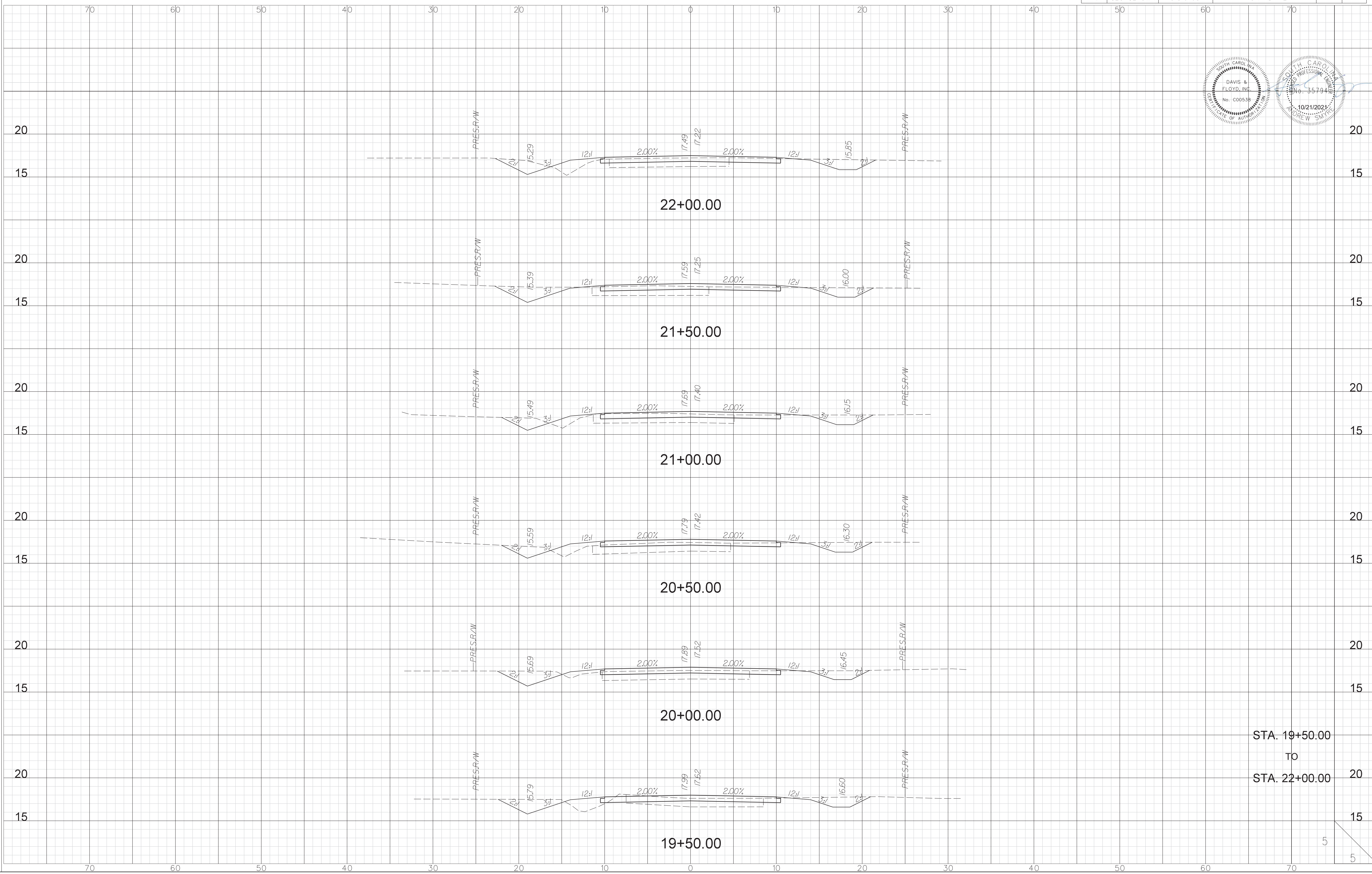
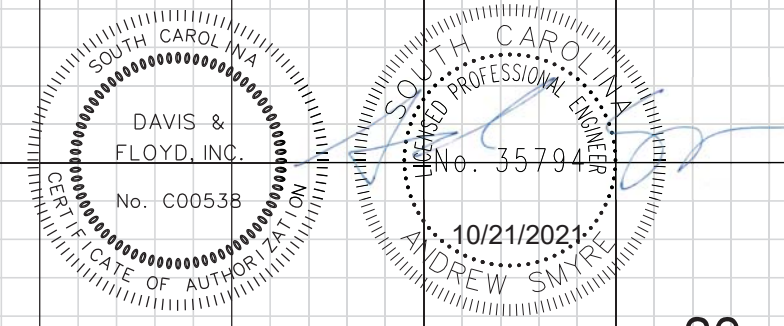


STA. 13+50.00
TO
STA. 16+00.00

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-08	TONY DRIVE	X3	

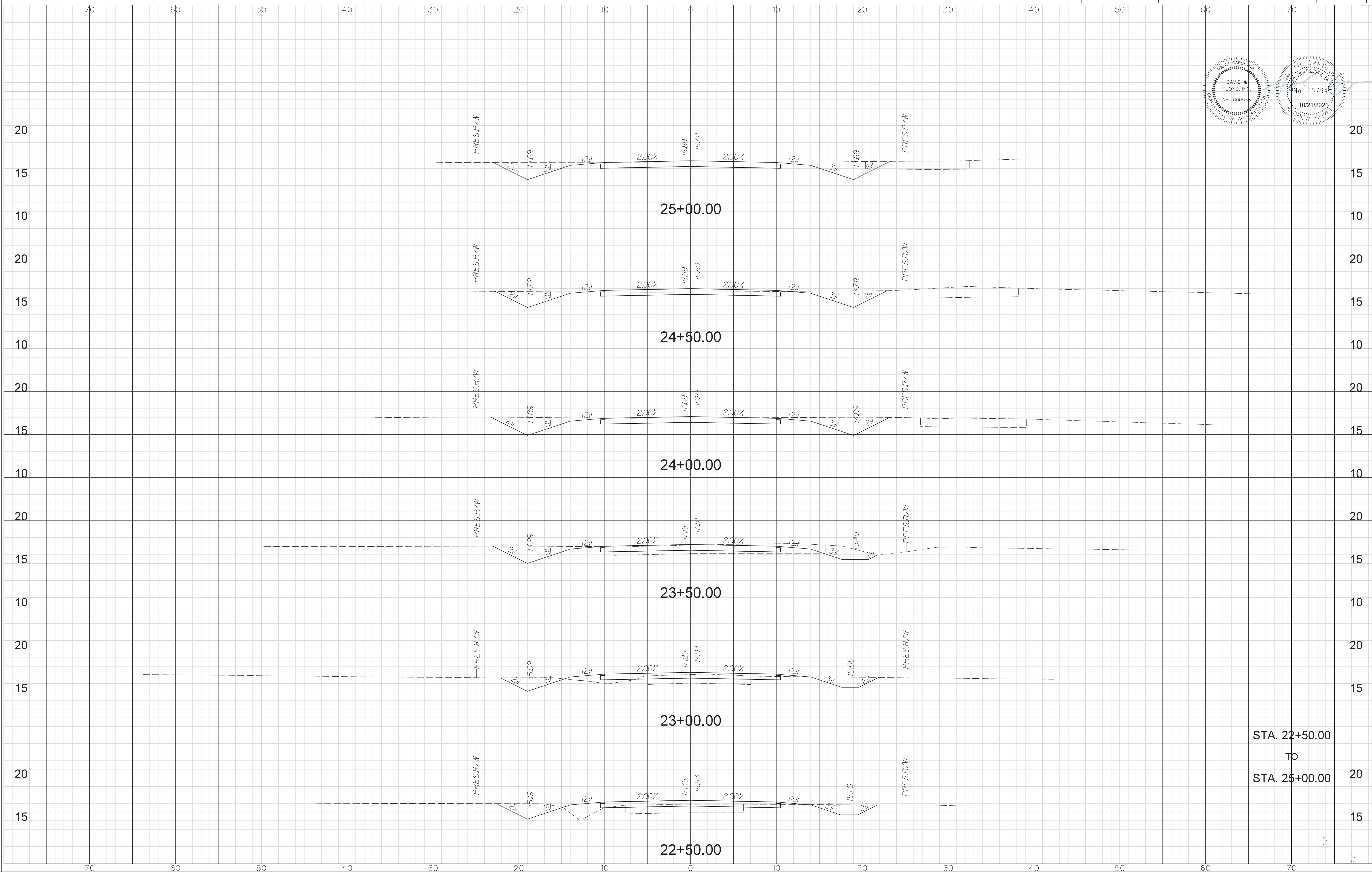
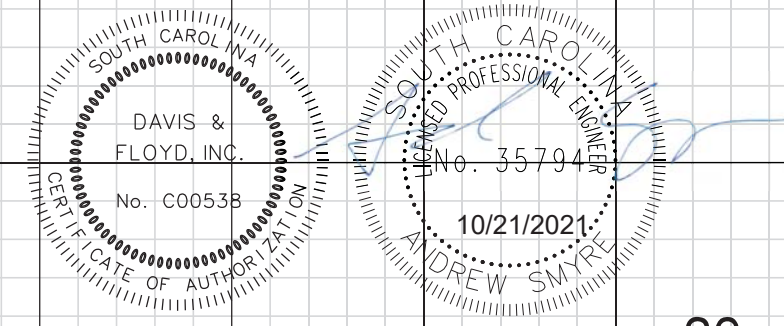


STA. 16+50.00
TO
STA. 19+00.00



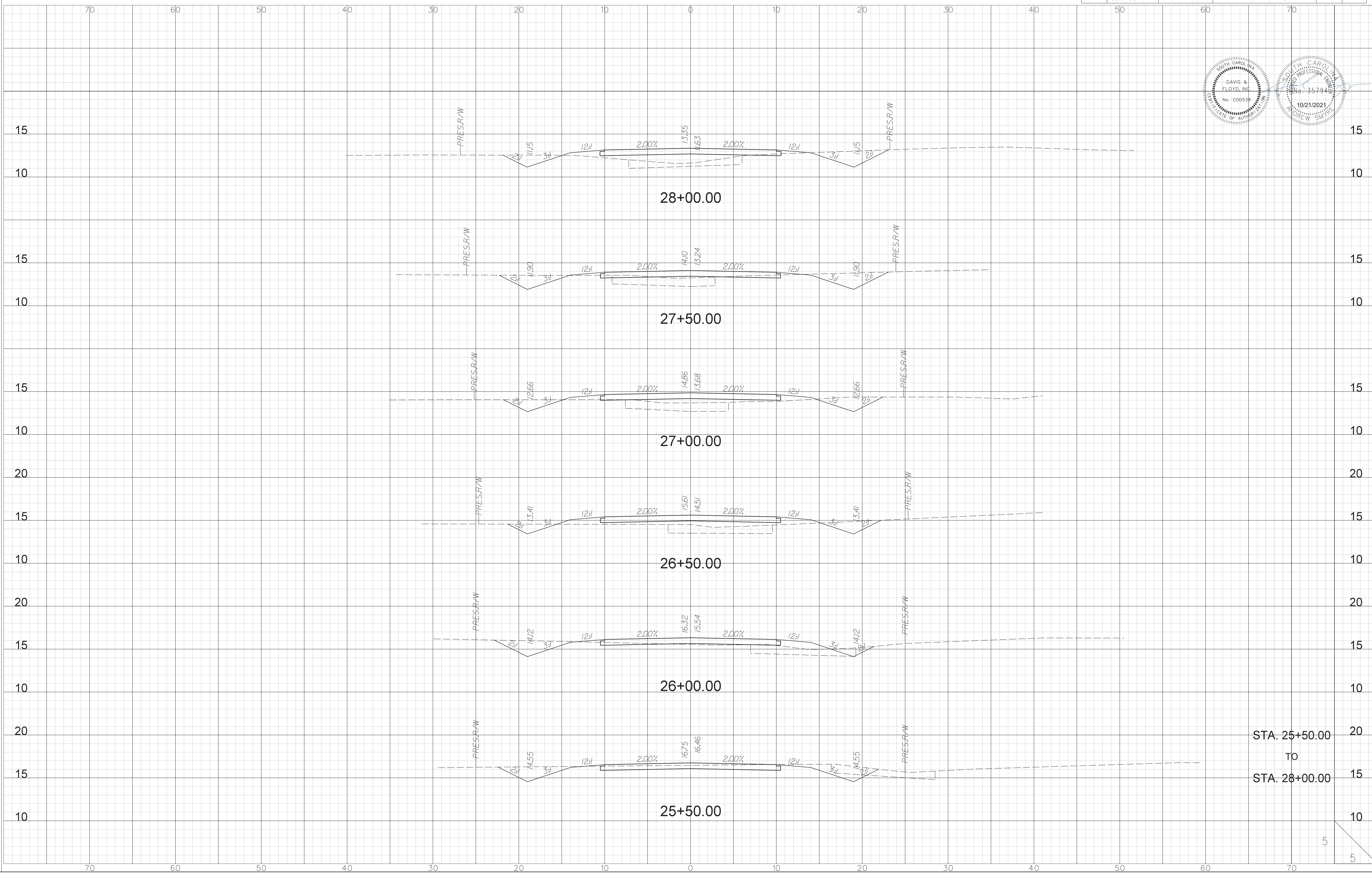
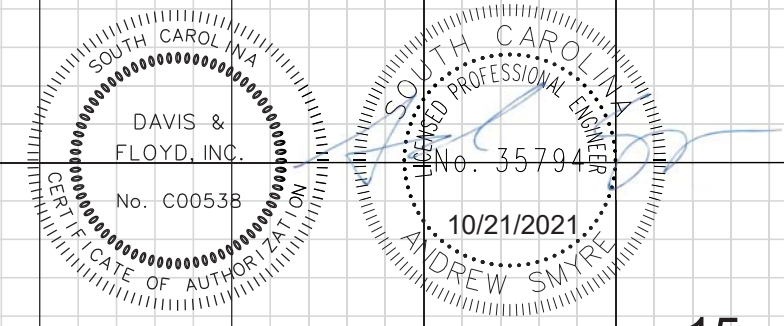
STA. 19+50.00
TO
STA. 22+00.00

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-08	TONY DRIVE	X5	



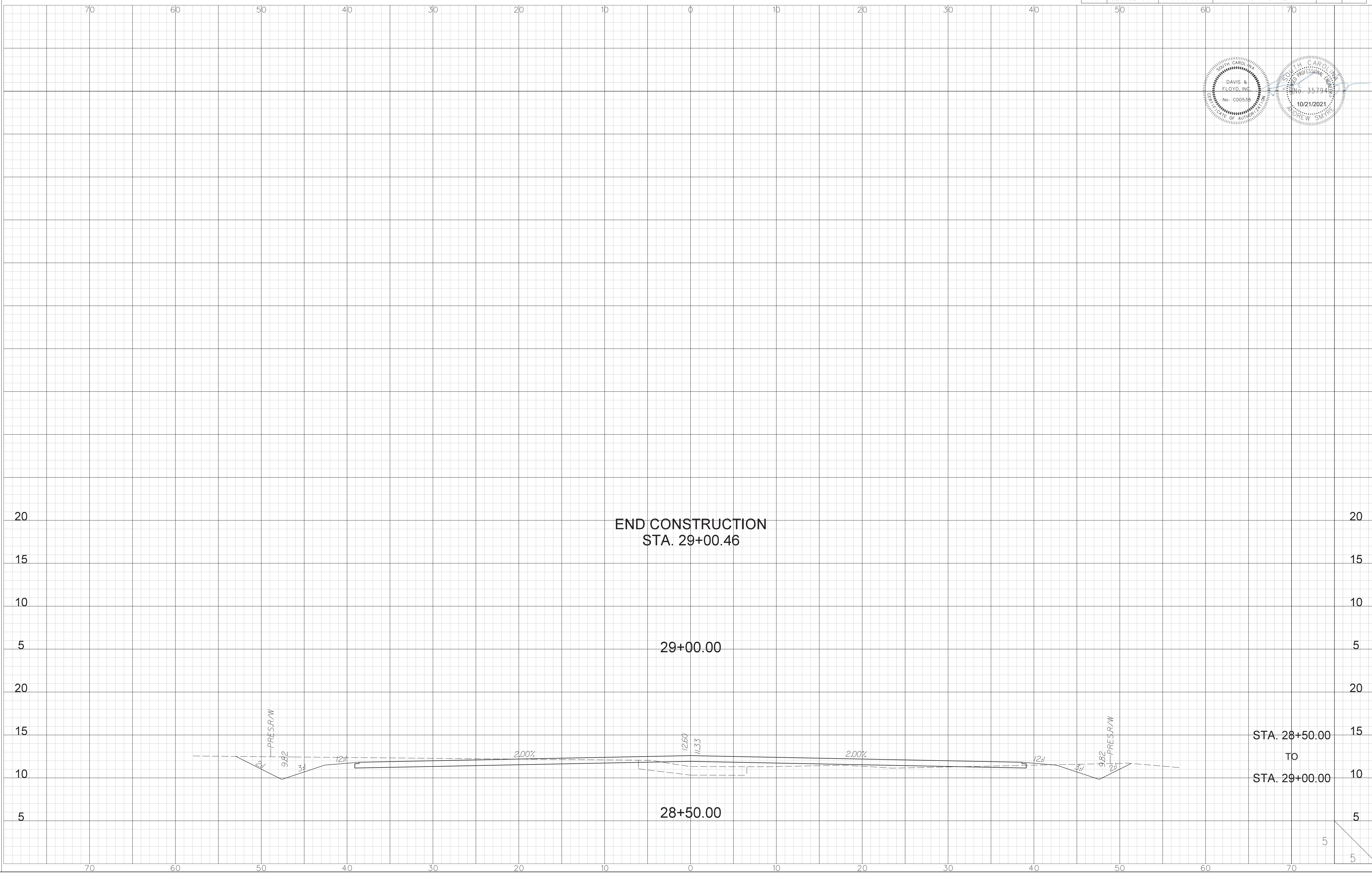
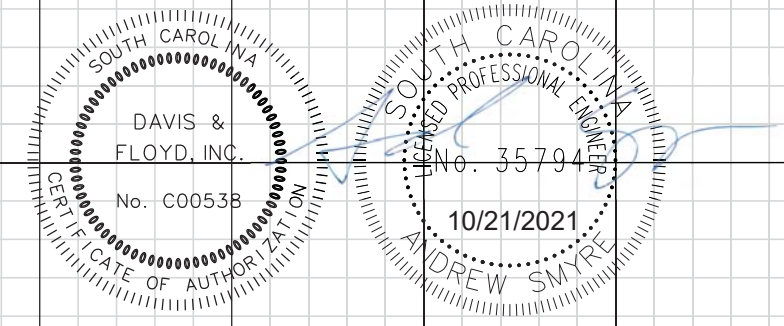
STA. 22+50.00
TO
STA. 25+00.00

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-08	TONY DRIVE	X6	



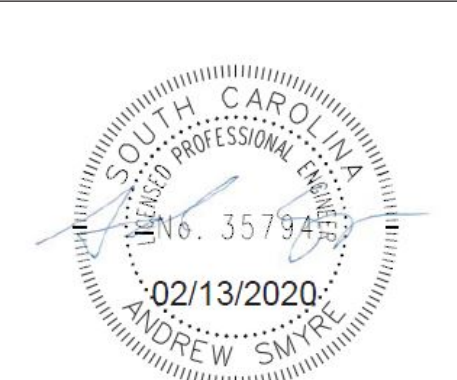
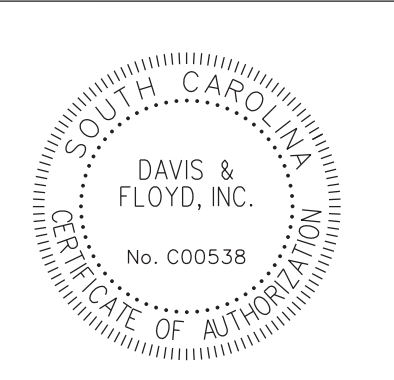
STA. 25+50.00
TO
STA. 28+00.00

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-08	TONY DRIVE	X7	



PERMANENT SEEDING - COASTAL													
SPECIES	LBS/Ac	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SANDY, DROUGHTY SITES													
BROWNTOP MILLET	10 LBS/Ac												
BAHIAGRASS	40 LBS/Ac												
BROWNTOP MILLET	10 LBS/Ac												
BAHIAGRASS	30 LBS/Ac												
SERICEA LESPEDEZA	40 LBS/Ac												
BROWNTOP MILLET	10 LBS/Ac												
ATLANTIC COASTAL PANICGRASS	15 LBS/Ac PLS												
BROWNTOP MILLET	10 LBS/Ac												
SWITCHGRASS (ALAMO)	8 LBS/Ac PLS												
LITTLE BLUESTEM	4 LBS/Ac												
SERICEA LESPEDEZA	20 LBS/Ac												
BROWTOP MILLET	10 LBS/Ac												
WEEPING LOVEGRASS	8 LBS/Ac												
WELL DRAINED, CLAYEY/LOAMEY SITES													
BROWNTOP MILLET	10 LBS/Ac												
BAHIAGRASS	40 LBS/Ac												
RYE, GRAIN	10 LBS/Ac												
BAHIAGRASS	40 LBS/Ac												
CLOVER, CRIMSON (ANNUAL)	5 LBS/Ac												
BROWTOP MILLET	10 LBS/Ac												
BAHIAGRASS	30 LBS/Ac												
SERICEA LESPEDEZA	40 LBS/Ac												
BROWTOP MILLET	10 LBS/Ac												
BERMUDA, COMMON	10 LBS/Ac												
SERICEA LESPEDEZA	40 LBS/Ac												
BROWNTOP MILLET	10 LBS/Ac												
BERMUDA, COMMON	12 LBS/Ac												
KOBE LESPEDEZA (ANNUAL)	10 LBS/Ac												
BROWNTOP MILLET	10 LBS/Ac												
BAHIAGRASS	20 LBS/Ac												
BERMUDA, COMMON	6 LBS/Ac												
SERICEA LESPEDEZA	40 LBS/Ac												
BROWNTOP MILLET	10 LBS/Ac												
SWITCHGRASS	8 LBS/Ac												
LITTLE BLUESTEM	PLS												
INDIANGRASS	3 LBS/Ac PLS 3 LBS/Ac PLS												
TEMPORARY SEEDING - COASTAL													
SPECIES	LBS/Ac	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SANDY, DROUGHTY SITES													
BROWNTOP MILLET	40 LBS/Ac												
RYE, GRAIN	56 LBS/Ac												
RYEGRASS	50 LBS/Ac												
WELL DRAINED, CLAYEY/LOAMEY SITES													
BROWNTOP MILLET OR JAPANESE MILLET	40 LBS/Ac												
RYE, GRAIN OR	56 LBS/Ac												
OATS	75												
RYEGRASS	50 LBS/Ac												

NOTES:
 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.



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SEEDING SCHEDULE

N.T.S.

- NOTES:
1. GEOTEXTILE FABRIC TO BE USED UNDER RIPRAP WHEN INCLUDED IN THE PLANS
 2. ALTERNATE PIPE END TREATMENTS ARE ALSO AVAILABLE. SEE STANDARD DRAWING SECTION 719-600-00.
 3. PAY ITEMS:
8041xxx RIP-RAP (CLASS -) - TON
8048xxx GEOTEXTILE FOR EROSION CONTROL UNDER RIPRAP (CLASS 2) TYPE - SY

- NOTES:
- 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 - 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

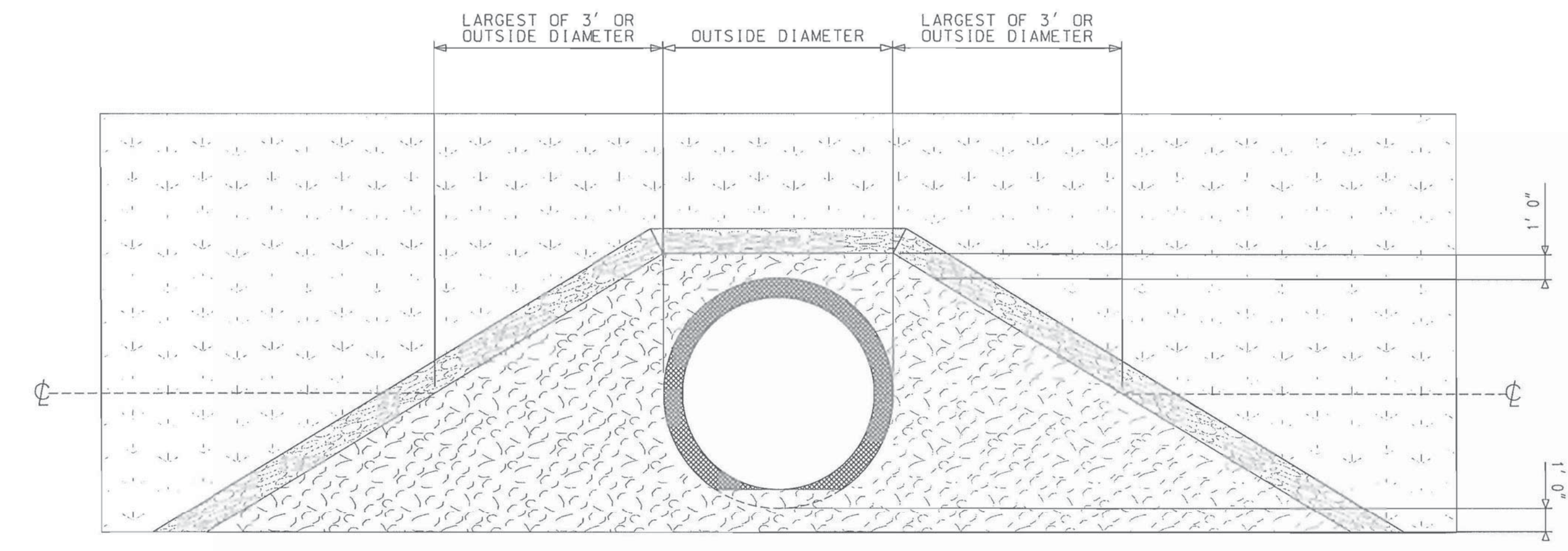
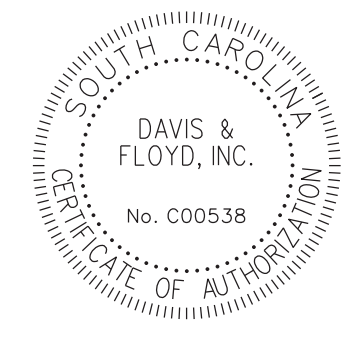
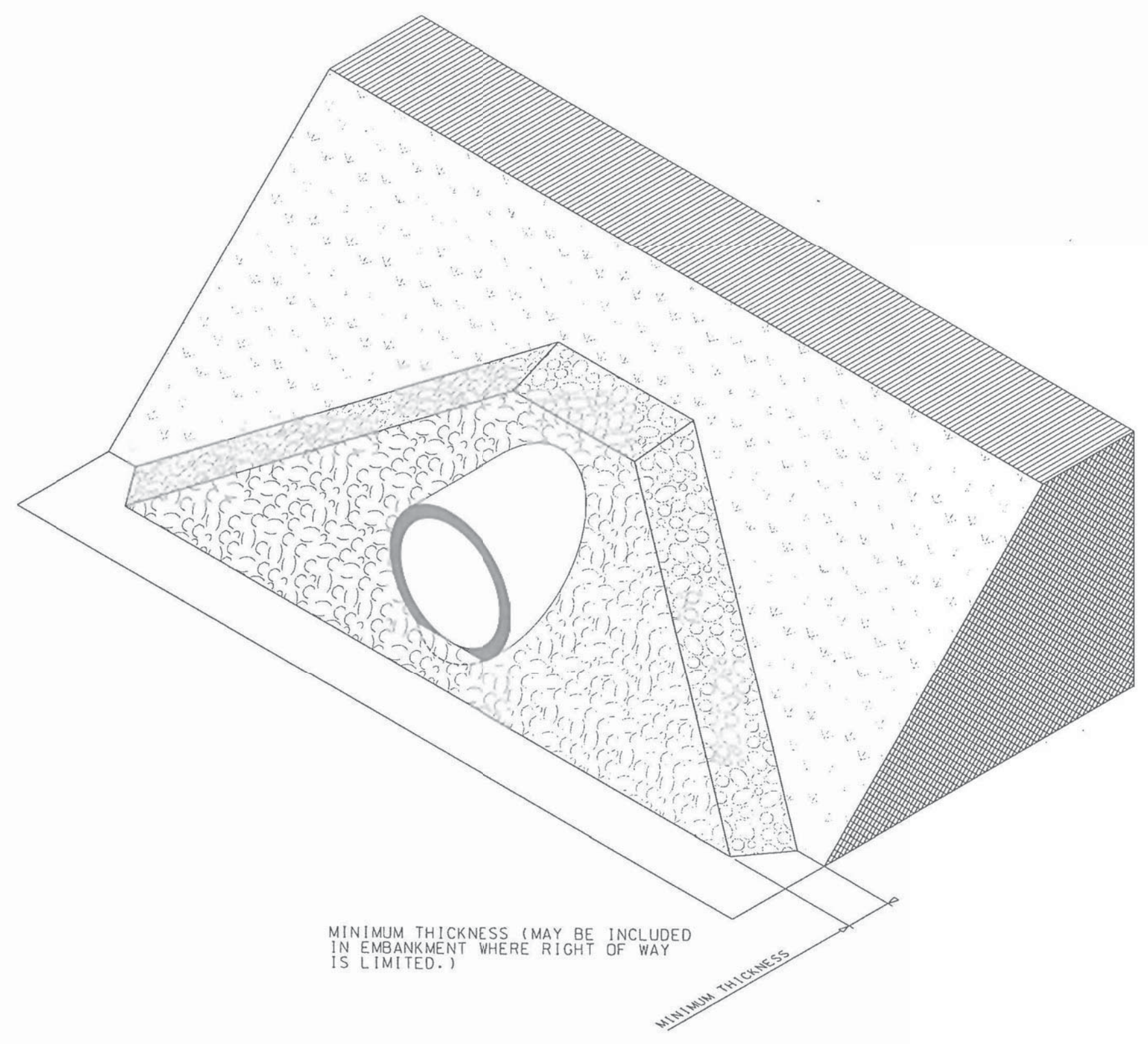
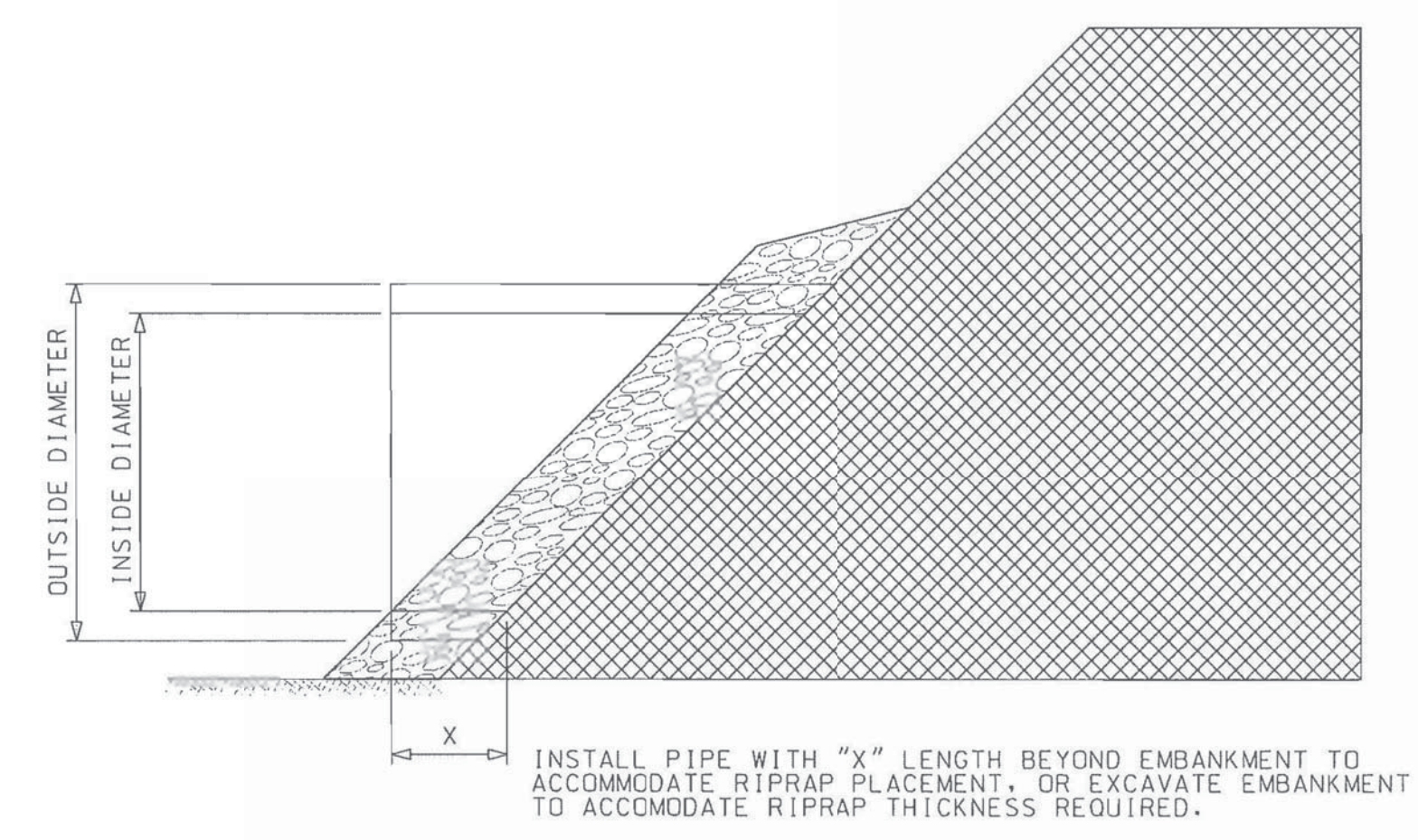


CHART 804-305A
RIPRAP PLACEMENT

MINIMUM CLASS	D ₅₀ (FT)	MINIMUM THICKNESS (FT)	PIPE DIAMETER
B	0.75	1.50	UP TO 84"
C	1.30	2.60	LARGER THAN 84"



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RIPRAP PIPE DETAIL

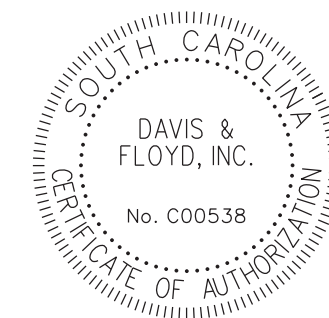
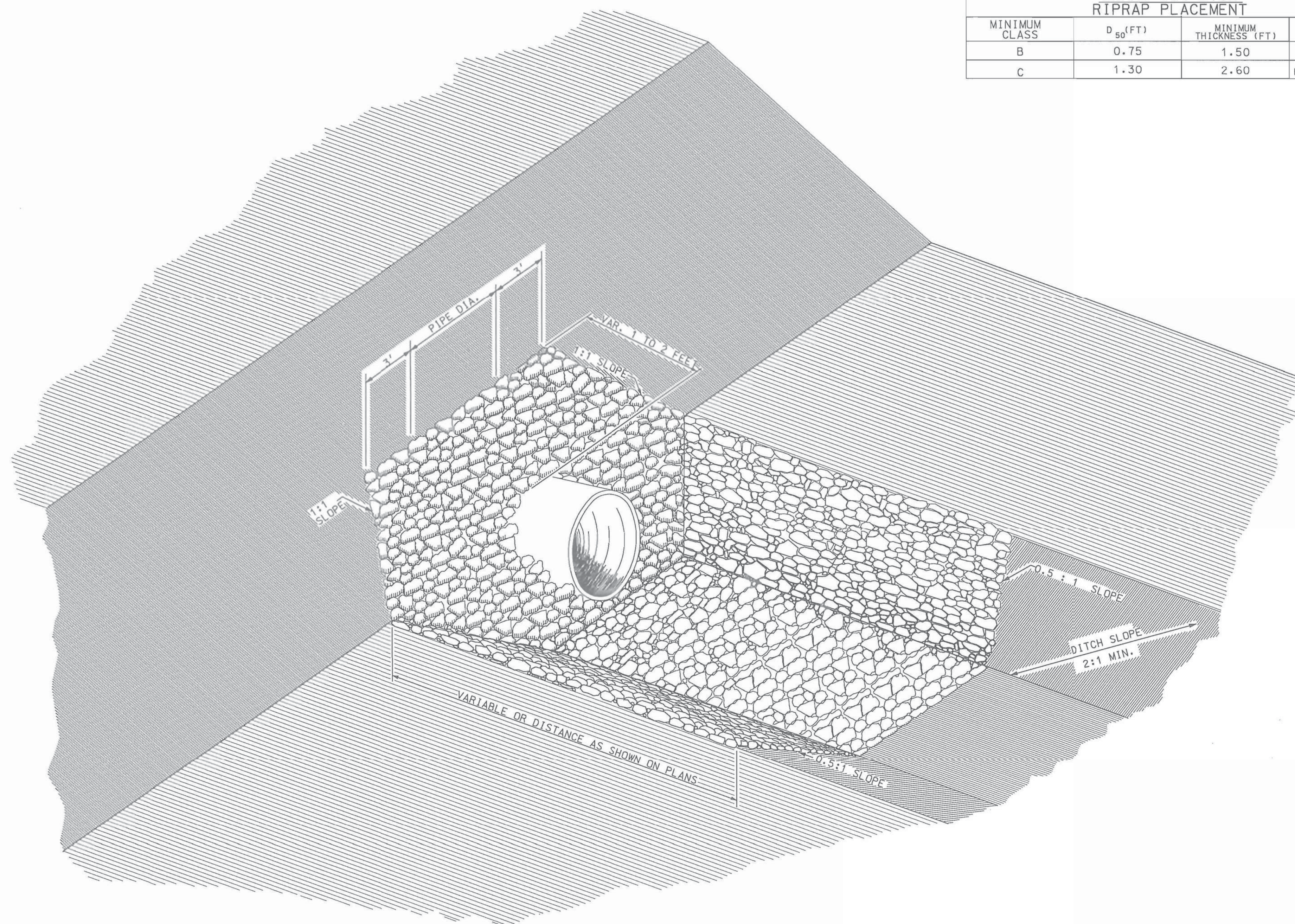
N.T.S.

- NOTES:
1. GEOTEXTILE FABRIC TO BE USED UNDER RIPRAP WHEN INCLUDED IN THE PLANS.
 2. SEE STANDARD DRAWINGS SECTION 719-600-00 FOR ADDITIONAL PIPE END TREATMENT OPTIONS.
 3. THE PAY ITEMS SHALL BE:
 RIPRAP CLASS _____ TON
 GEOTEXTILE FOR EROSION CONTROL UNDER RIPRAP (CLASS "I") TYPE _____ S.Y.

- NOTES:
- 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 - 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

**CHART 804-310A
RIPRAP PLACEMENT**

MINIMUM CLASS	D ₅₀ (FT)	MINIMUM THICKNESS (FT)	PIPE DIAMETER
B	0.75	1.50	UP TO 84"
C	1.30	2.60	LARGER THAN 84"



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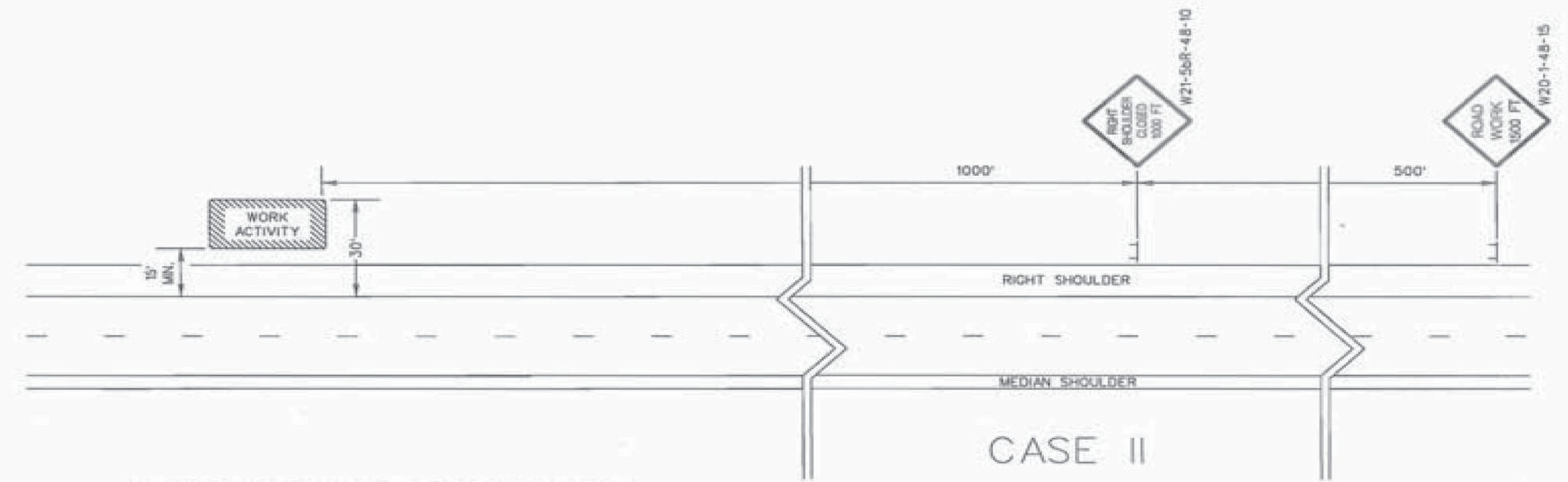
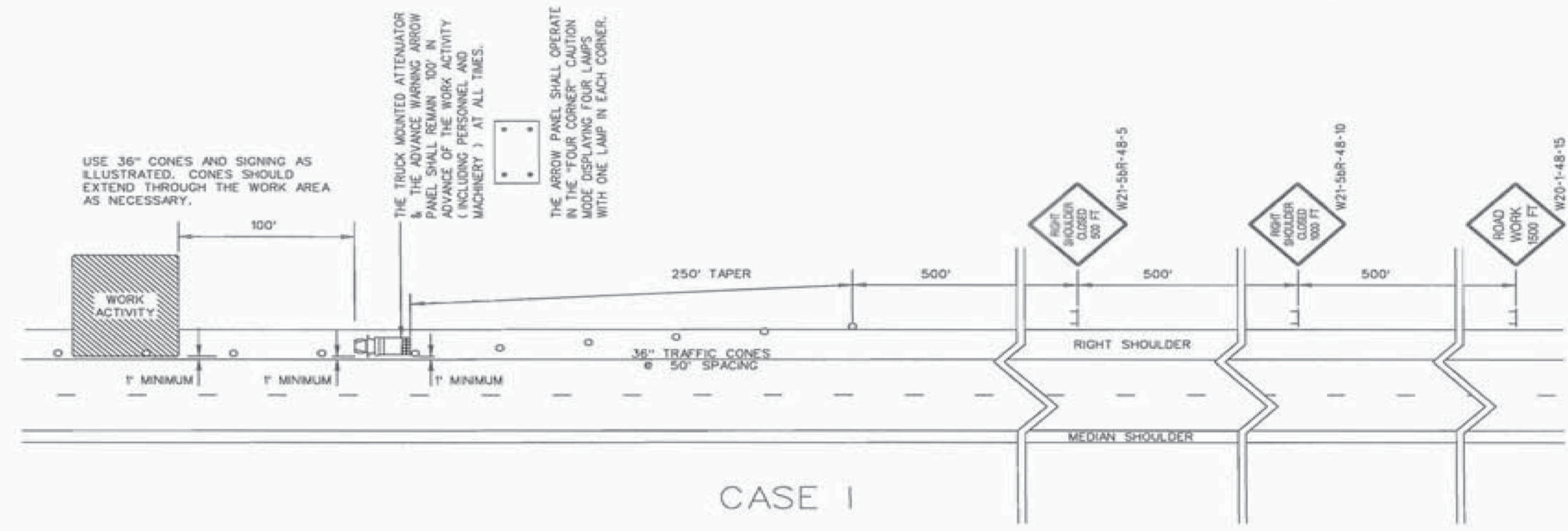
RIPRAP DITCH DETAIL

N.T.S.

NOTES:
 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

GENERAL NOTES

- ALL SIGN LOCATIONS ARE TO BE MEASURED FROM THE WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.
- INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
- SPACINGS INDICATED ARE FOR NORMAL CONDITIONS; ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS.
- ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL POSTS OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
- REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
- ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALL MCHRP REPORT 350 REQUIREMENTS AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org.
- THE CONTRACTOR SHALL PROVIDE AND UTILIZE ANY SPECIAL SIGN MOUNTING ASSEMBLIES AND HARDWARE THAT MAY BE NECESSARY FOR INSTALLING AND MOUNTING SIGNS IN AREAS OF CONCRETE MEDIAN BARRIER, BRIDGE PARAPET WALLS OR DOUBLED FACED GUARDRAIL.
- THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR DAYTIME SHOULDER CLOSURES ARE 36" CONES. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR NIGHTTIME SHOULDER CLOSURES ARE PORTABLE PLASTIC DRUMS. DURING DAYTIME SHOULDER CLOSURES, 42" OVERSIZED CONES MAY BE SUBSTITUTED FOR 36" CONES. DURING NIGHTTIME SHOULDER CLOSURES, 42" OVERSIZED CONES ARE PROHIBITED FOR USE. IF THIS TRAFFIC CONTROL SETUP EXTENDS INTO THE HOURS OF DARKNESS, REPLACE ALL CONES, 36" OR 42" OVERSIZED, WITH PORTABLE PLASTIC DRUMS.
- THE 36" CONES UTILIZED DURING DAYLIGHT HOURS ARE NOT REQUIRED TO BE REFLECTORIZED. REFLECTORIZE ALL 42" OVERSIZED CONES UTILIZED DURING DAYTIME SHOULDER CLOSURES WITH TYPE II FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
- THE DEPARTMENT PROHIBITS CONDUCTING WORK ON PRIMARY AND SECONDARY ROUTES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE UNDER A SHOULDER CLOSURE. ALL WORK THAT MAY REQUIRE THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE SHALL BE CONDUCTED UNDER A LANE CLOSURE.
 CASE 1: WHENEVER ANY PORTION OF THE SHOULDER AREA WITHIN 15' BUT NOT CLOSER THAN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE MUST BE OCCUPIED BY EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES TO CONDUCT THE WORK, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL DEVICES AS ILLUSTRATED.
 CASE 2: WHENEVER THE WORK IS CONDUCTED BEYOND 15' BUT WITHIN 30' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE, INCLUDING THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL AS ILLUSTRATED.
- CONDUCT THE WORK IN SUCH A MANNER THAT WILL NOT REQUIRE ENCROACHMENT OF TRAFFIC CONTROL DEVICES, EQUIPMENT, PERSONNEL, MATERIALS OR ANY WORK RELATED VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
- PLACE THE TRUCK MOUNTED ATTENUATOR AT A LOCATION 100' IN ADVANCE OF THE WORK ACTIVITY AND NO CLOSER THAN 1' FROM THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
- FOR A CASE 1 SCENARIO IN THE RIGHT SHOULDER AREA, ADJUST THE TAPER AS NECESSARY TO FIT THE WIDTH OF THE SHOULDER WHILE MAINTAINING THE REQUIRED 250' TAPER LENGTH.
- IF WORK IS BEING CONDUCTED SIMULTANEOUSLY AT TWO DIFFERENT LOCATIONS AT THE SAME TIME UNDER CASE 1 SHOULDER CLOSURES, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 1 MILE FROM THE END OF THE FIRST CASE 1 CLOSURE THAT A MOTORIST WILL ENCOUNTER TO THE BEGINNING OF THE TAPER OF THE SECOND CASE 1 CLOSURE. A MINIMUM SEPARATION DISTANCE OF ONE-HALF MILE IS RECOMMENDED BETWEEN SHOULDER CLOSURES WHEN ONE OR BOTH SHOULDER CLOSURES IS A CASE 1 CLOSURE.
- THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.
- THIS TYPICAL TRAFFIC CONTROL SETUP APPLIES TO THE INSTALLATION OF SHOULDER CLOSURES IN THE RIGHT SHOULDER AREAS OF PRIMARY AND SECONDARY ROADWAYS.



PORTABLE TRUCK MOUNTED ATTENUATOR

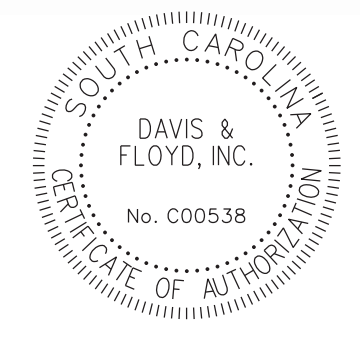
- UTILIZE A TRUCK MOUNTED ATTENUATOR ATTACHED TO THE REAR OF A TRUCK WITH A MINIMUM GROSS VEHICULAR WEIGHT (GVW) OF 15,000 POUNDS (ACTUAL WEIGHT). IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE ATTACHED TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
- LOCATE THE TRUCK MOUNTED ATTENUATOR 100 FEET IN ADVANCE OF THE WORK AREA UNLESS OTHERWISE SPECIFIED.
- PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

ADVANCE WARNING ARROW PANEL

ALL ADVANCE WARNING ARROW PANELS SHALL BE 48" x 96" WITH A MINIMUM LEGIBILITY DISTANCE OF 1 MILE. PLACEMENT OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS. THE PANEL FACE SHALL BE NONREFLECTIVE BLACK. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.
 WHEN AN ADVANCE WARNING ARROW PANEL IS REQUIRED TO OPERATE IN THE CAUTION MODE, THE ADVANCE WARNING ARROW PANEL SHALL DISPLAY THE "FOUR CORNERS" CAUTION MODE, WITH ONE LAMP IN EACH CORNER. DISPLAY OF ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE SUCH AS THE "FLASHING BAR" OR THE "ALTERNATING DIAMOND" CAUTION MODES ARE UNACCEPTABLE AND PROHIBITED.

LEGEND

○ 36" TRAFFIC CONES



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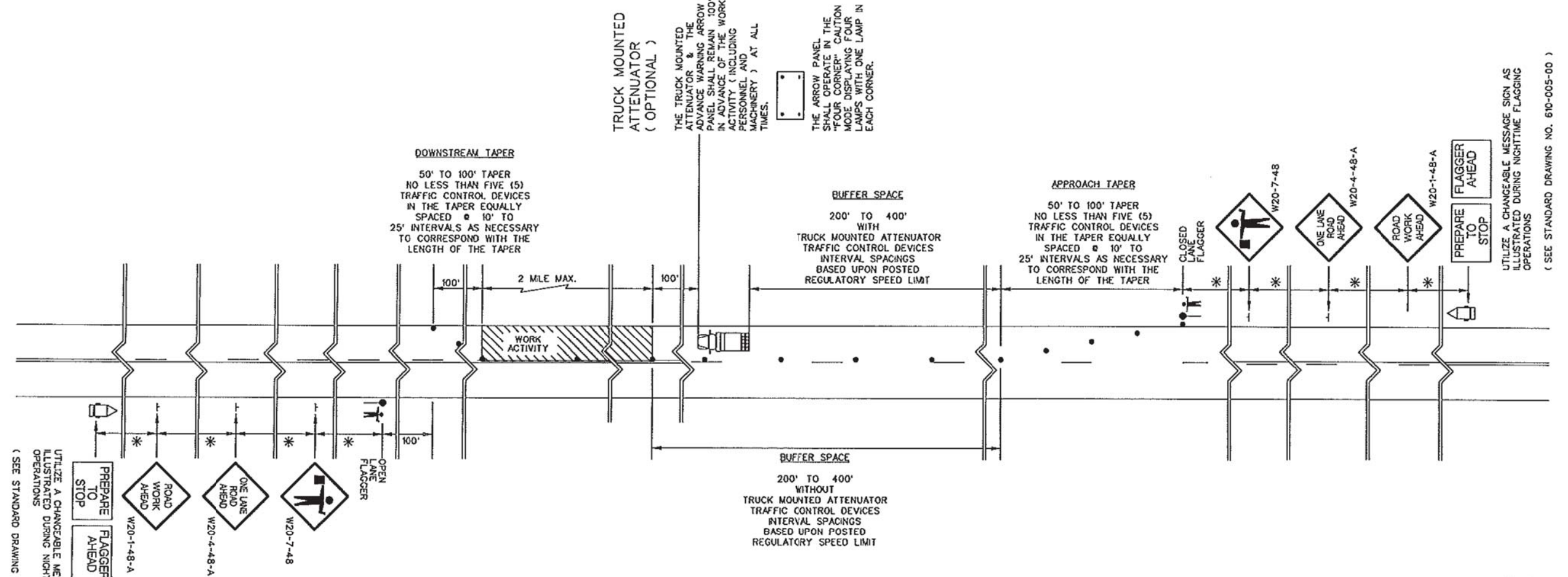
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 CHARLESTON, SC 29418
 (843) 554-8602

SHOULDER CLOSURE

N.T.S.

NOTES:
 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.



UTILIZE A CHANGEABLE MESSAGE SIGN AS ILLUSTRATED DURING NIGHTTIME FLAGGING (SEE STANDARD DRAWING NO. 80-035-00)

TABLE A
SIGN PLACEMENT INTERVALS

SPEED LIMIT	INTERVALS
≤ 35 MPH LOW SPEED	200
40 - 50 MPH INTERMEDIATE SPEED	350
55 MPH HIGH SPEED	500

REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B
TRAFFIC CONTROL DEVICE SPACING INTERVALS
WORK ACTIVITY / BUFFER SPACE AREAS

SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

FLAGGING OPERATIONS -

1. KEY FEATURES RELEVANT TO FLAGGING OPERATIONS:

- APPROACH TAPER** - THIS IS A ONE-LANE TWO-WAY TAPER PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE. THIS TAPER PRECEDES THE BUFFER SPACE AND THE WORK ACTIVITY AREA. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES EQUALLY SPACED AT 10' TO 25' INTERVALS AS NECESSARY TO CORRESPOND WITH THE LENGTH OF THE TAPER.
- DOWNSTEAM TAPER** - THIS TAPER, PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE, FOLLOWS THE WORK ACTIVITY AREA AND SERVES AS THE TERMINATION AREA FOR THE CLOSURE OF THE TRAVEL LANE. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES IN THIS TAPER.
- FLAGGER STATION** - THIS IS THE SPECIFIC LOCATION OF THE FLAGGER.
- CLOSED LANE FLAGGER** - THIS FLAGGER IS STATIONED ADJACENT TO THE FIRST TRAFFIC CONTROL DEVICE IN THE APPROACH TAPER WHO CONTROLS THE TRAFFIC THAT REQUIRES RELOCATION FROM THE TRAVEL LANE BEING CLOSED TO TRAFFIC.
- OPEN LANE FLAGGER** - THIS FLAGGER IS STATIONED 100 FEET BEYOND THE LAST TRAFFIC CONTROL DEVICE IN THE DOWNSTEAM TAPER WHO CONTROLS THE TRAFFIC OPERATING IN THE TRAVEL LANE REMAINING OPEN TO TRAFFIC.
- BUFFER SPACE** - THIS AREA IS LOCATED BETWEEN THE DOWNSTEAM END OF THE APPROACH TAPER AND THE NEAREST LIMITS OF THE WORK ACTIVITY AREA AND MAY PROVIDE SOME RECOVERY SPACE FOR AN ERRANT VEHICLE. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE BUFFER SPACE IS PROHIBITED. HOWEVER, WHEN THE MAXIMUM DISTANCE REQUIREMENTS FOR THE BUFFER SPACE ARE UNAVAILABLE, A TRUCK MOUNTED ATTENUATOR MAY TEMPORARILY ENDOACH UPON THE BUFFER SPACE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE SECTION BELOW ENTITLED, "BUFFER SPACE", WHEN APPROVED BY THE ENGINEER.
- WORK ACTIVITY AREA** - PERSONNEL, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. ARE PRESENT WITHIN THIS AREA TO CONDUCT THE WORK.
- LIMITS OF THE WORK ACTIVITY AREA** - THIS IS THE BOUNDARY OF THE WORK ACTIVITY AREA FIRST ENCOUNTERED, FROM EITHER DIRECTION, BY MOTORISTS PASSING BY THE WORK ACTIVITY AREA IN THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC AND CONTROLLED BY THE FLAGGERS.
- APPROACH LANE** - TRAFFIC APPROACHES AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.
- DEPARTURE LANE** - TRAFFIC DEPARTS FROM AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.
- MAINLINE APPROACH** - THIS IS AN APPROACH TO THE WORK ACTIVITY AREA ON THE ROADWAY WHERE THE WORK ACTIVITY AREA IS LOCATED.
- SIDE ROADS** - THESE ROADS INTERSECT THE ROADWAY ON WHICH THE WORK ACTIVITY AREA IS LOCATED.
- LIMITS OF THE INTERSECTION** - THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION OF STOP BARS WHEN PRESENT. WHEN STOP BARS ARE ABSENT, THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION POINTS WHERE THE CORNER RADI BETWEEN ADJACENT ROADWAY APPROACHES TO THE TO THE EDGE OF PAVEMENT OR THE EDGE OF TRAVEL LANE ADJACENT TO THE EDGE OF PAVEMENT OF EACH ROADWAY.

- INSTALL, CONDUCT AND MAINTAIN FLAGGING OPERATIONS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, THE STANDARD DRAWINGS, THE MUTCD AND THE "SOUTH CAROLINA FLAGGER'S HANDBOOK" UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. INSTALL ALL SIGNS RELATIVE TO THE FLAGGING OPERATION PRIOR TO INITIATION OF THE OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION. EQUIP EACH FLAGGER WITH A 24" x 24" STOP/SLOW PADDLE MOUNTED ON A RIGID HANDLE WITH A MAXIMUM LENGTH OF 7 FEET. THE DEPARTMENT PROHIBITS THE USE OF FLAGS EXCEPT DURING EMERGENCY SITUATIONS.
- LANE CLOSURES FOR FLAGGING OPERATIONS ARE RESTRICTED TO A MAXIMUM DISTANCE OF 2 MILES UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE WORK LIMITS WILL COMPLY WITH THE CONTRACT AND SHALL REQUIRE THE ENGINEER'S APPROVAL PRIOR TO BEGINNING THE WORK.
- INSTALL AND MAINTAIN THE PROPER ARRAY OF ADVANCE WARNING SIGNS FOR EACH "MAINLINE APPROACH" WHEN A FLAGGING OPERATION IS IN PLACE AND ACTIVE. WHEN NECESSARY TO RELOCATE THE FLAGGER STATION WHILE ACTIVELY MAINTAINING THE FLAGGING OPERATION, INSTALL AN ADDITIONAL ARRAY OF ADVANCE WARNING SIGNS AT THE LOCATION RELATIVE TO THE NEW "FLAGGER STATION" AND REMOVE THE ORIGINAL ARRAY OF ADVANCE WARNING SIGNS IMMEDIATELY UPON COMPLETION OF THE RELOCATION OF THE FLAGGER TO THE NEW "FLAGGER STATION".
- INSTALL ALL ADVANCE WARNING SIGNS IMMEDIATELY PRIOR TO INITIATING A FLAGGING OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION.
- MAINTAIN TWO-WAY RADIO COMMUNICATIONS BETWEEN ALL FLAGGERS.

NIGHTTIME FLAGGING OPERATIONS -

- EACH FLAGGER SHALL WEAR SAFETY APPAREL IN COMPLIANCE WITH THE REQUIREMENTS OF ANSI / ISEA 107 STANDARD PERFORMANCE FOR CLASS 3 RISK EXPOSURE, LATEST REVISION, WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
- ILLUMINATE EACH "FLAGGER STATION" WITH ANY COMBINATION OF PORTABLE LIGHTS, STANDARD ELECTRIC LIGHTS, EXISTING STREET LIGHTS, ETC. THAT WILL PROVIDE A MINIMUM ILLUMINATION LEVEL OF 108 Lx OR 10 fc WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
- SUPPLEMENT EACH ARRAY OF ADVANCE WARNING SIGNS ON EACH "MAINLINE APPROACH" WITH A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN. THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED ON THE "SIDE ROADS" INTERSECTING THE ROADWAY WHERE THE "WORK ACTIVITY AREA" IS LOCATED. ALSO, THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED DURING DAYTIME FLAGGING OPERATIONS UNLESS OTHERWISE DIRECTED BY THE STANDARD DRAWINGS. INSTALL THE CHANGEABLE MESSAGE SIGNS IN ADVANCE OF THE ADVANCE WARNING SIGN ARRAYS. THE MESSAGES SHOULD BE "PREPARE TO STOP", "FLAGGER AHEAD". A TRUCK MOUNTED CHANGEABLE MESSAGE SIGN IS NOT AN ACCEPTABLE ALTERNATIVE TO A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN DURING NIGHTTIME FLAGGING OPERATIONS.
- UTILIZE PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES IN PLACE OF 36" STANDARD TRAFFIC CONES DURING NIGHTTIME FLAGGING OPERATIONS.

BUFFER SPACE -

- THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE BASED UPON THE LEGAL POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING THE WORK.

SPEED LIMIT	DISTANCES
LOW SPEED ≤ 35 MPH	200 FEET
INTERMEDIATE SPEED 40 - 50 MPH	300 FEET
HIGH SPEED 55 MPH	400 FEET
- THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE "BUFFER SPACE" IS PROHIBITED. A TRUCK MOUNTED ATTENUATOR IS THE ONLY WORK VEHICLE THAT MAY TEMPORARILY ENDOACH UPON THE "BUFFER SPACE" IN ACCORDANCE WITH THE CONDITIONS SPECIFIED IN THE FOLLOWING NOTE WHEN APPROVED BY THE ENGINEER. SEE NOTE NO. 3.
- WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS, IT MAY BE NECESSARY FOR A TRUCK MOUNTED ATTENUATOR TO TEMPORARILY ENDOACH UPON THE "BUFFER SPACE" WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED ATTENUATOR IS THE ONLY VEHICLE PERMITTED TO TEMPORARILY ENDOACH UPON THE "BUFFER SPACE" AND THIS ENDOACHMENT IS ONLY PERMITTED WHEN ALL REASONABLE OPTIONS TO AVOID DOING SO HAVE BEEN EXHAUSTED. WHEN ENDOACHMENT UPON THE "BUFFER SPACE" IS APPROVED BY THE ENGINEER, MINIMIZE THE TIME DURATION OF THE ENDOACHMENT BY THE REMOVAL OF THE TRUCK MOUNTED ATTENUATOR FROM THE "BUFFER SPACE" AT THE FIRST OPPORTUNITY THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" BECOME AVAILABLE.

FLAGGING OPERATIONS
GENERAL NOTES

(ALL NOTES, SPECIFICATIONS AND REQUIREMENTS ON THIS STANDARD DRAWING APPLY TO ALL SUBSEQUENT STANDARD DRAWINGS REGARDING FLAGGING OPERATIONS UNLESS OTHERWISE NOTED)

SIGNS AND TRAFFIC CONTROL DEVICES -

- MEASURE THE ADVANCE WARNING SIGN LOCATIONS FOR EACH APPROACH FROM THE "FLAGGER STATION" LOCATED ON THAT APPROACH.
- INSTALL THE ADVANCE WARNING SIGNS AS SPACING INTERVALS BASED UPON THE POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING ANY WORK. THE ADVANCE WARNING SIGN SPACING INTERVALS INDICATED ARE FOR NORMAL CONDITIONS. ADJUSTMENTS TO THESE DISTANCES MAY BE NECESSARY DUE TO EXISTING SIGNS, INTERSECTING ROADWAYS, HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS. SEE TABLE A.
- INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
- ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
- REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
- ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE REQUIREMENTS OF NCHRP REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org
- REFLECTORIZATION OF 36" TRAFFIC CONES USED DURING DAYLIGHT HOURS IS NOT REQUIRED IN THE EVENT A DAYTIME FLAGGING OPERATION EXTENDS INTO THE NIGHTTIME HOURS. REPLACE ALL 36" TRAFFIC CONES WITH EITHER PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS AND 42" OVERSIZED TRAFFIC CONES WITH TYPE II OR GREATER FLEXIBLE MICROPRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
- DELINATE THE TANGENT AREA OF THE LANE CLOSURE WITH THE NECESSARY TRAFFIC CONTROL DEVICES TO MINIMIZE ENDOACHMENT BY MOTORISTS INTO THE CLOSED TRAVEL LANE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 35 MPH OR LESS, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 25 FEET. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 40 MPH OR GREATER, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 50 FEET. SEE TABLE B.

ADVANCE WARNING ARROW PANEL -

- DURING FLAGGING OPERATIONS, AN ADVANCE WARNING ARROW PANEL SHALL OPERATE IN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS SPECIFIC TO A FLAGGING OPERATION. OPERATION OF AN ADVANCE WARNING ARROW PANEL IN AN ARROW, CHEVRON OR ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS AS SPECIFIED HEREBEFORE IS PROHIBITED.
- ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION. THE SPECIFIC LOCATION OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS.

TRUCK MOUNTED ATTENUATOR -

- A TRUCK MOUNTED ATTENUATOR IS OPTIONAL. UTILIZATION OF A TRUCK MOUNTED ATTENUATOR SHOULD BE CONSIDERED WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS. HOWEVER, A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL MAY BE UTILIZED IN PLACE OF A TRUCK MOUNTED ATTENUATOR DURING TRAFFIC CONTROL SETUPS FOR WORK ACTIVITIES SUCH AS ASPHALT CONCRETE PLACEMENT OPERATIONS WHEN APPROVED BY THE ENGINEER.
- WHEN UTILIZING A TRUCK MOUNTED ATTENUATOR, ENSURE THE TRUCK HAS THE CORRECT GROSS VEHICULAR WEIGHT (GVW) REQUIRED FOR THE TYPE OF TRUCK MOUNTED ATTENUATOR BEING UTILIZED. A DIRECT TRUCK MOUNTED TRUCK MOUNTED ATTENUATOR, A UNIT MOUNTED AND ATTACHED TO BRACKETS OR SIMILAR DEVICES CONNECTED TO THE FRAME OF THE TRUCK, REQUIRES A TRUCK WITH A MINIMUM GVW OF 15,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. A TRAILER TOWED TRUCK MOUNTED ATTENUATOR, A TRAILER TYPE UNIT TOWED FROM BEHIND AND ATTACHED TO THE FRAME OF THE TRUCK VIA A PINTLE HOOK / HITCH, REQUIRES A TRUCK WITH A MINIMUM GVW OF 10,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MAXIMUM OF FOUR (4) SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE IN ITS ENTIRETY AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
- LOCATE THE TRUCK MOUNTED ATTENUATOR APPROXIMATELY 100 FEET IN ADVANCE OF THE "WORK ACTIVITY AREA" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

GENERAL -

- CONDUCT THE WORK IN SUCH A MANNER SO AS NOT TO ENDOACH ONTO THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC. INSTALL, MAINTAIN AND ADJUST THE TRAFFIC CONTROL DEVICES AS NECESSARY TO ENSURE PROPER DELINEATION OF THE WORK AREA.
- IF WORK IS BEING CONDUCTED AT TWO DIFFERENT LOCATIONS AT THE SAME TIME, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 2 MILES FROM THE LAST TRAFFIC CONTROL DEVICE IN THE "DOWNSTEAM TAPER" OF THE FIRST LANE CLOSURE TO THE FIRST TRAFFIC CONTROL DEVICE IN THE "APPROACH TAPER" OF THE SECOND LANE CLOSURE ENCOUNTERED BY A MOTORIST UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.

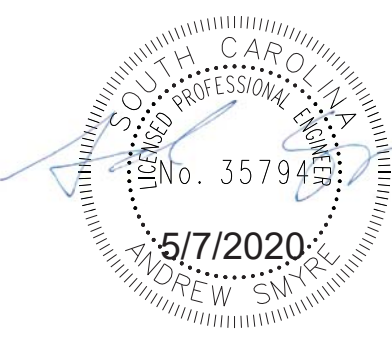
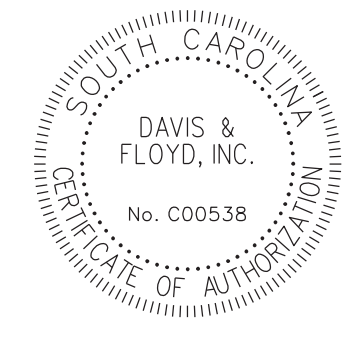
TABLE A
SIGN PLACEMENT INTERVALS

SPEED LIMIT	INTERVALS
≤ 35 MPH LOW SPEED	200
40 - 50 MPH INTERMEDIATE SPEED	350
55 MPH HIGH SPEED	500

REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B
TRAFFIC CONTROL DEVICE SPACING INTERVALS
WORK ACTIVITY / BUFFER SPACE AREAS

SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET



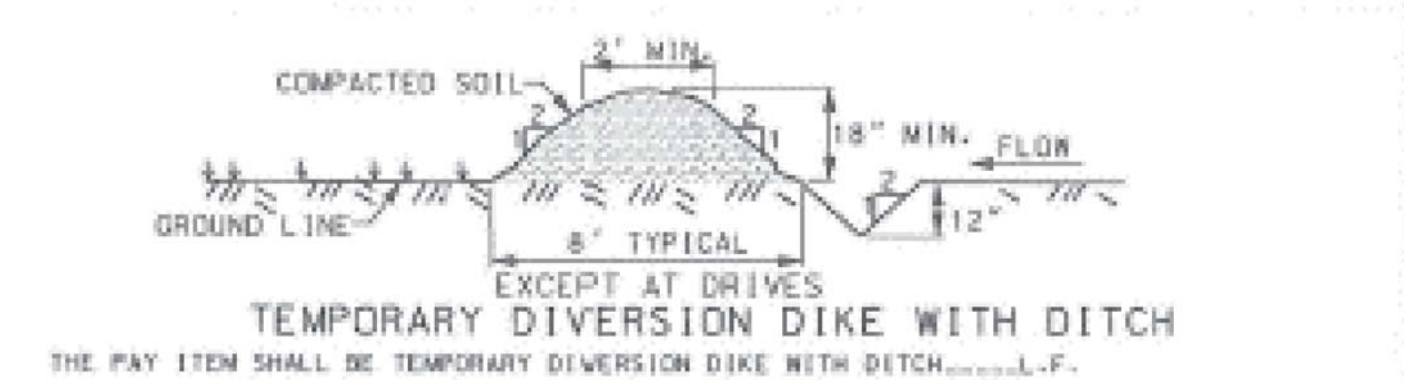
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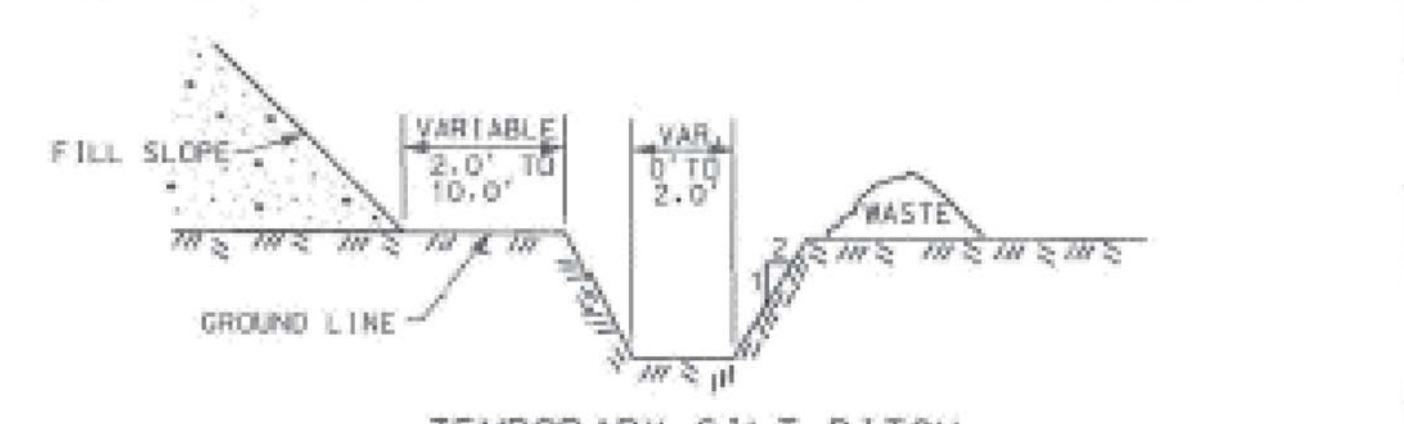
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CHARLESTON, SC 29418
(843) 554-8602

LANE CLOSURE

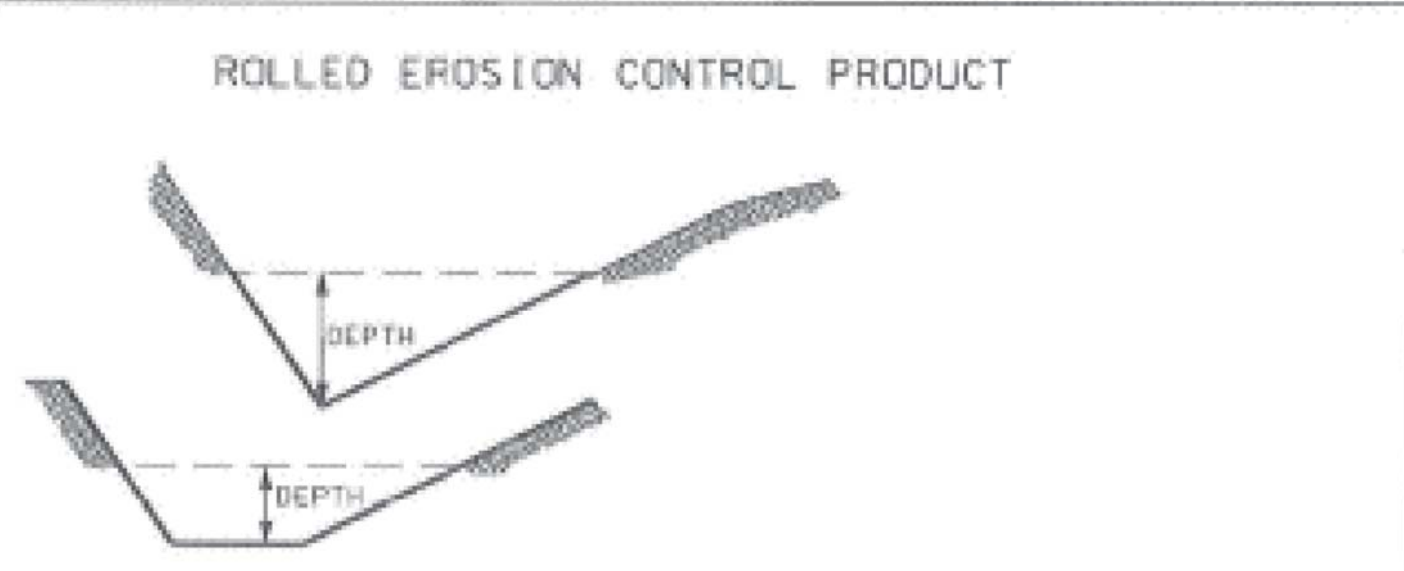
N.T.S.



- NOTES
1. THIS ITEM IS FOR DIVERTING CLEAN WATER AROUND A CONSTRUCTION AREA.
 2. CLEAR AND GRUB ALL TREES, BRUSH, STUMPS AND OTHER OBJECTIONABLE MATERIAL.
 3. ENSURE THAT THE MINIMUM CONSTRUCTED CROSS SECTION MEETS ALL DIMENSIONS SHOWN.
 4. IMMEDIATELY AFTER CONSTRUCTION ESTABLISH VEGETATION, PLACING TEMPORARY EROSION CONTROL BLANKET ON THE DIKE, (AS APPLICABLE).
 5. PAYMENT FOR TEMPORARY DIVERSION DIKE INCLUDES ALL MATERIALS IN PLACE, REMOVAL AND DISPOSAL OF MATERIALS AND RESHAPING DIKE TO DRAIN. SEEDING TO BE PAID FOR SEPARATELY.
 6. THE PAY ITEM SHALL BE: TEMPORARY DIVERSION DIKE.....L.F.



- NOTES
1. THIS ITEM IS TO MOVE SEDIMENT LADEN WATER FROM A CONSTRUCTION SITE TO A SEDIMENT CONTROL STRUCTURE.
 2. SEED DITCH AND WASTE AREA WITH TEMPORARY SEEDING IMMEDIATELY AFTER CONSTRUCTION.
 3. IMMEDIATELY AFTER CONSTRUCTION ESTABLISH VEGETATION, PLACING TEMPORARY EROSION CONTROL BLANKET ON THE DITCH (AS APPLICABLE).
 4. THE PAY ITEM SHALL BE: SILT DITCHES.....C.Y.



- NOTES
1. THE DEPTH OF THE EROSION CONTROL PRODUCTS ARE TO BE DETERMINED BY DESIGN AND PLACED ON PLAN SHEETS.
 2. INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
 3. COST OF INSTALLATION AND MATERIALS SHALL BE INCLUDED IN THE PAY ITEM FOR ROLLED EROSION CONTROL PRODUCT.
 4. PAY ITEMS:
TEMPORARY EROSION CONTROL BLANKET.....SY
PERMANENT TURF REINFORCEMENT MAT.....SY

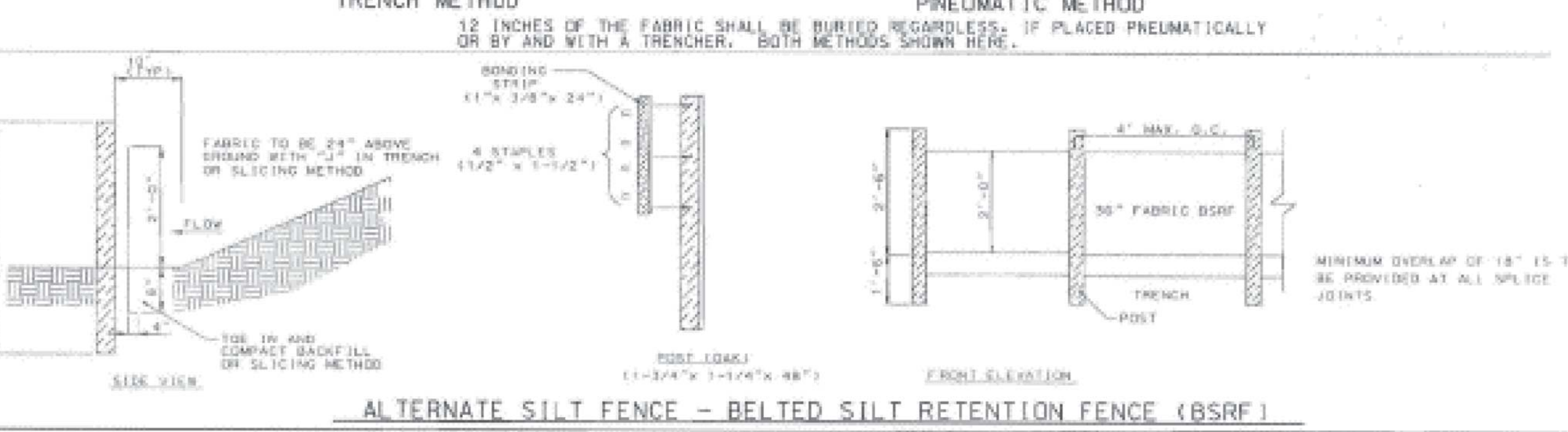
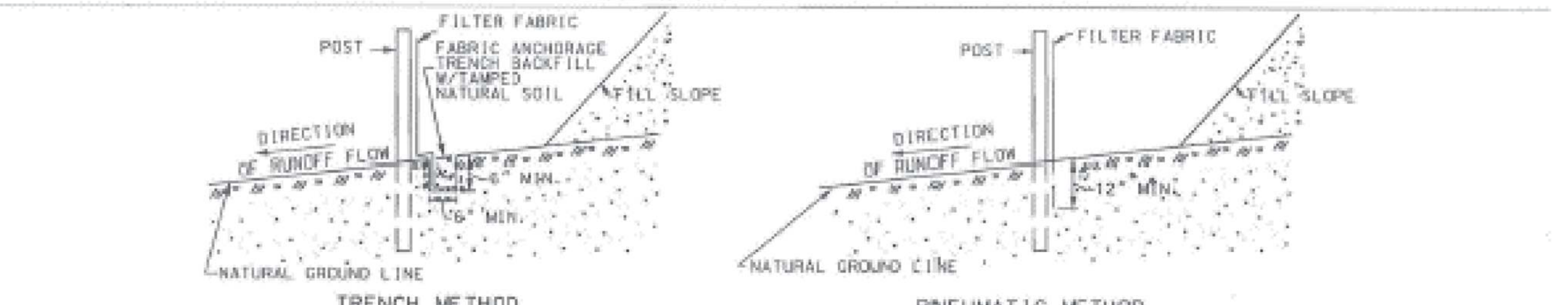
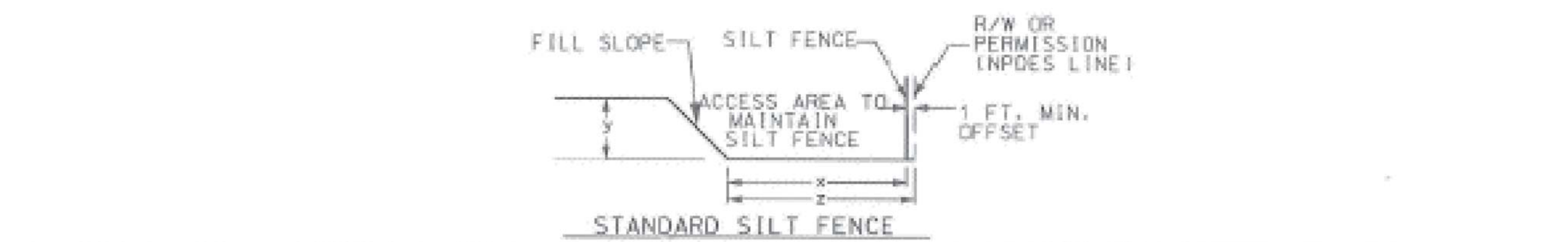
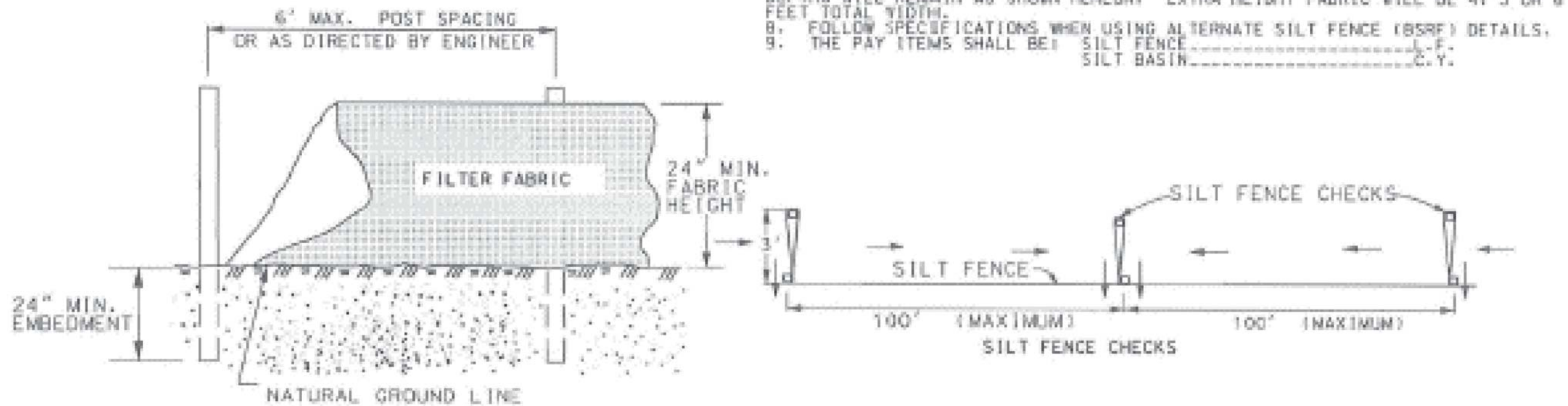
THIS DRAWING IS NOT TO SCALE

SILT FENCE

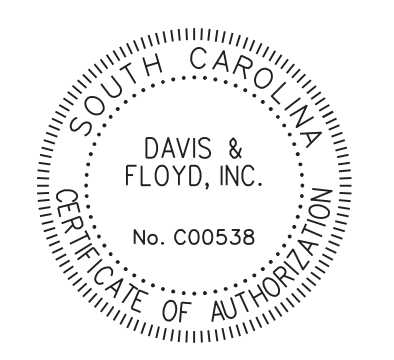
HEIGHT OF FILL (FT) IN FEET	FILL SLOPE	MINIMUM SILT FENCE OFFSET FROM TOE OF SLOPE (X) IN FEET	MINIMUM RIGHT OF WAY OFFSET FROM TOE OF SLOPE (Y) IN FEET	CHECK LENGTH IN FEET
<6	2:1	2	3	2
	4:1	2	3	2
	6:1	2	3	2
6-10	2:1	12*	13*	5
	4:1	3	4	3
	6:1	3	4	3
>10	4:1	12*	13*	5
	6:1	4	5	4

*WHENSE MINIMUM OFFSETS MAY BE REDUCED WHEN CURB AND GUTTER OR SOME OTHER FEATURE REDUCES THE FLOW OF WATER DOWN THE SLOPE. THE SMALL OFFSETS OF EACH GROUP OF HEIGHT OF FILL CANNOT BE REDUCED.
**SILT FENCE CHECKS WILL HAVE A MAXIMUM LENGTH OF FIVE (5) FEET OR UNTIL THEY TIE BACK INTO THE SLOPE.

- NOTES
1. SILT FENCE CHECKS MUST BE LOCATED EVERY 100 FT. MAXIMUM AND AT LOW POINTS. FILTER FABRICS SHALL CONFORM TO SCDDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION).
 2. USE POSTS CONFORMING TO SCDDOT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS. POSTS SHALL BE A MINIMUM OF 5 FEET LONG AND INSTALLED TO A MINIMUM DEPTH OF 24 INCHES WITH NO MORE THAN 3 FEET OF THE POST ABOVE GROUND. AT LEAST 1 TO 2 INCHES OF THE POSTS SHALL EXTEND ABOVE THE TOP OF THE FABRIC. POST SPACING WILL BE A MAXIMUM OF 6 FEET ON CENTER.
 3. POSTS SHALL HAVE PROJECTIONS FOR FASTENING THE FABRIC TO THE POST. POSTS SHALL ALSO HAVE A SOIL PLATE NEAR THE BOTTOM OF THE POST, EXCEPT WHEN HEAVY CLAY SOILS ARE PRESENT ON-SITE.
 4. ATTACH FABRIC TO POSTS USING HEAVY-DUTY PLASTIC TIES THAT ARE EVENLY SPACED AND PLACED IN A MANNER TO PREVENT SAGGING OR TEARING OF THE FABRIC. IN ALL CASES, TIES SHOULD BE AFFIXED IN NO LESS THAN 4 PLACES.
 5. SILT SHALL BE REMOVED AND DISPOSED OF WHEN SILT ACCUMULATES TO 1/3 THE HEIGHT OF THE FENCE. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON-SITE. MAINTENANCE OF SILT FENCE WILL BE MEASURED AND PAID FOR BY THE ITEM OF SILT BASIN.
 6. TYPICAL SILT FENCE APPLICATIONS REQUIRE 24 INCHES OF THE FABRIC TO BE ABOVE GROUND. WHEN NEEDED, THE HEIGHT OF SILT FENCE FABRIC ABOVE THE GROUND MAY BE GREATER THAN 24". SEE PLANS FOR APPLICATION OF HIGHER SILT FENCE. PAY ITEMS AND INSTALLATION METHODS.
 7. IN TIDAL AREAS, EXTRA SILT FENCE HEIGHT MAY BE REQUIRED. THE LENGTH OF POST WILL BE TWICE THE EXPOSED POST HEIGHT. POST SPACING AND BURIED DEPTHS WILL REMAIN AS SHOWN HEREON. EXTRA HEIGHT FABRIC WILL BE 4, 5 OR 6 FEET TOTAL HEIGHT.
 8. FOLLOW SPECIFICATIONS WHEN USING ALTERNATE SILT FENCE (BSRF) DETAILS.
 9. THE PAY ITEMS SHALL BE: SILT FENCE.....L.F.
SILT BASIN.....C.Y.



- NOTES:
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 - 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.



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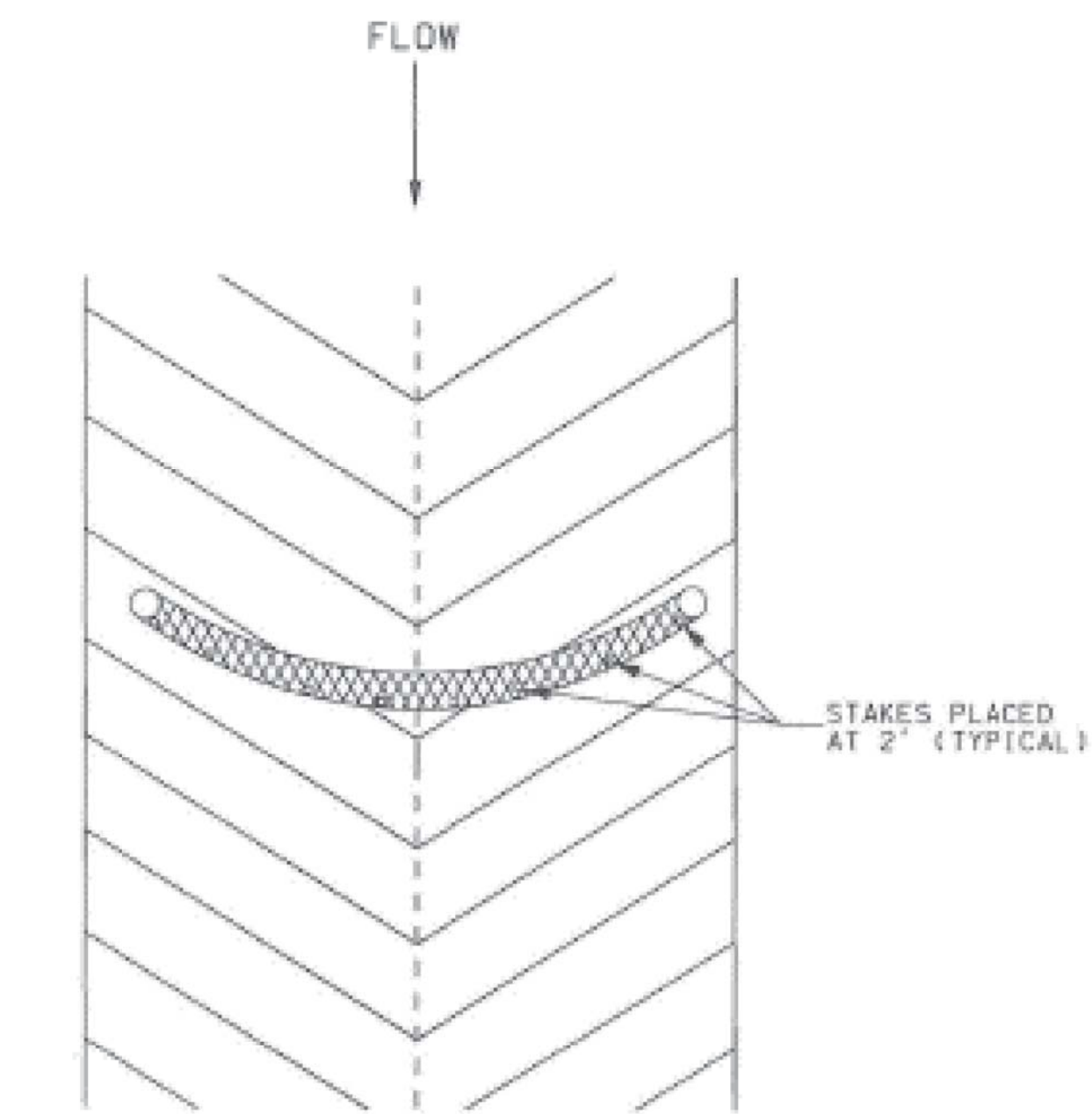
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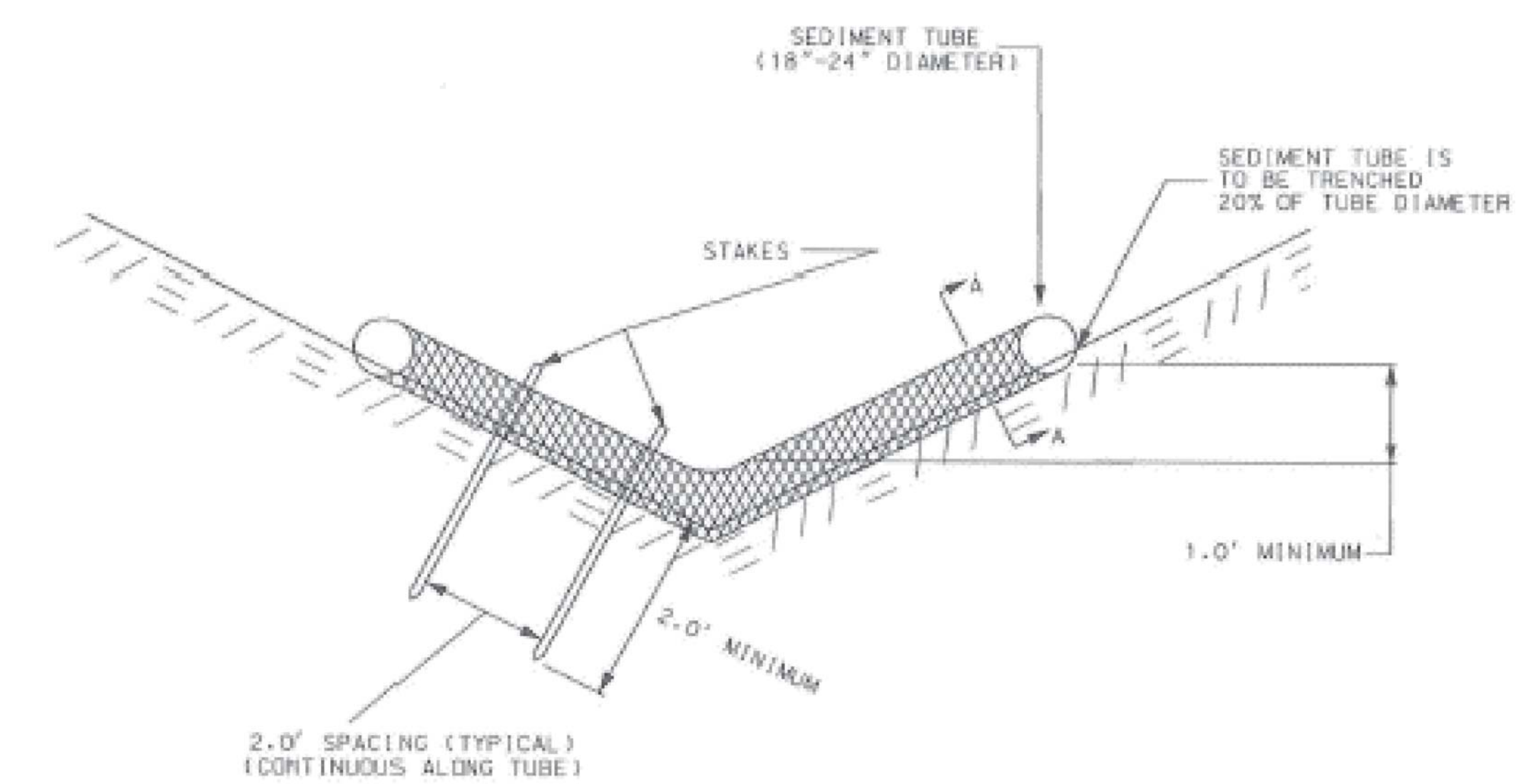
EROSION CONTROL DETAILS

N.T.S.

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TOP VIEW OF DITCH

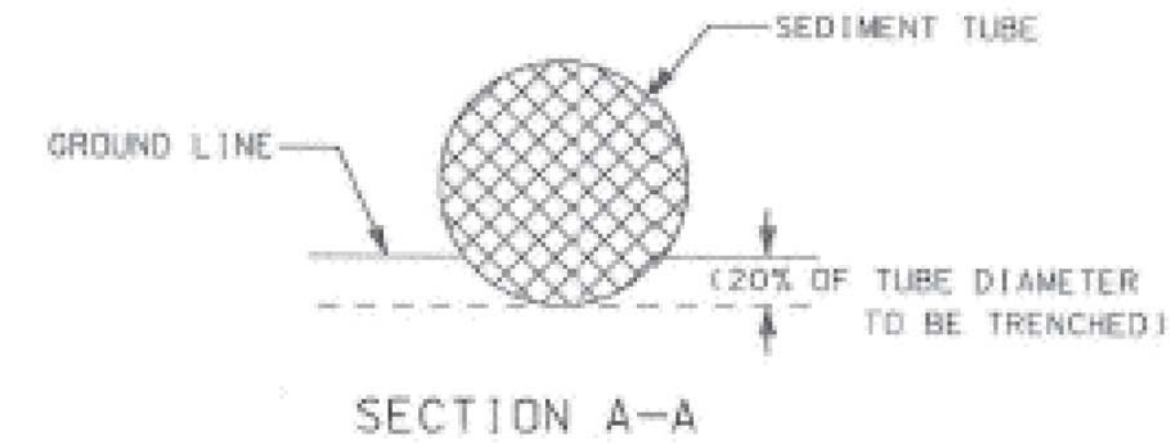


END VIEW OF DITCH

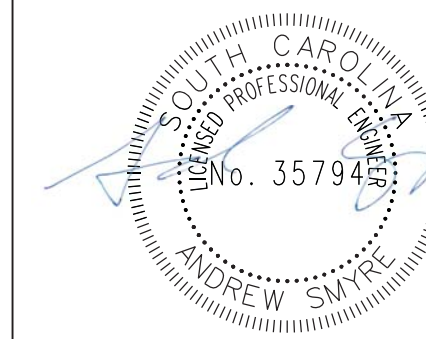
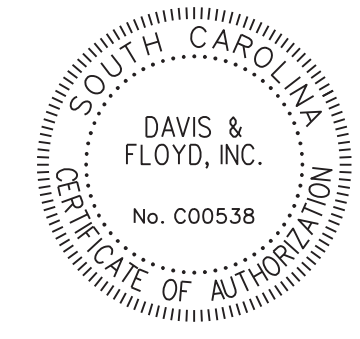
- NOTES:
1. SEDIMENT TUBE SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 815 OF THE SCOD STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION (LATEST EDITION), AND MUST BE LISTED ON SCOD QUALIFIED PRODUCT LIST NUMBER 57. SEDIMENT TUBES MUST MEET THE CRITERIA OUTLINED IN THE SUPPLEMENTAL SPECIFICATIONS BEFORE BEING LISTED ON GPL, AND BE FREE FROM DEFECTS OR TRANSPORTATION DAMAGE.
 2. PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE SEDIMENT TUBES ARE IN COMPLETE CONTACT WITH UNDERLYING SOIL. SEDIMENT TUBES ARE TO BE 18-24 INCHES IN DIAMETER AND ARE TO BE TRENCHED TO A DEPTH OF 20% OF TUBE DIAMETER. LAY THE SEDIMENT TUBE FLAT IN THE U-SHAPED TRENCH AND COMPACT THE UPSTREAM SEDIMENT TUBE SOIL INTERFACE. PLACE AND ANCHOR THE SEDIMENT TUBE ENDS SO THEY ARE POSITIONED UPSTREAM OF THE SEDIMENT TUBE CENTER POINT. SEDIMENT TUBES FOR DITCH CHECKS WEIGHING MORE THAN 18 POUNDS PER FOOT DO NOT REQUIRE TRENCHING.
 3. SEDIMENT TUBE SHALL BE INSTALLED IMMEDIATELY AFTER GRADING AND CONSTRUCTION. SEDIMENT TUBE SHALL BE MAINTAINED DURING SUBGRADE AND BASE PREPARATION UNTIL BASE COURSE IS COMPLETE. SEDIMENT TUBES MAY BE TEMPORARILY MOVED DURING CONSTRUCTION.
 4. SEDIMENT TUBES ARE TO BE INSTALLED PERPENDICULAR TO WATER FLOW AND EXTEND UP SIDE SLOPES A MINIMUM OF 1 FOOT ABOVE DESIGN FLOW DEPTH. SPACE TUBES ACCORDING TO THE FOLLOWING TABLE:

SLOPE	MAXIMUM 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

5. STAKE SEDIMENT TUBES FOR DITCH CHECKS USING STAKES WITH A MINIMUM MEASURED DIMENSION OF 2" X 2" AND A MAXIMUM MEASURED DIMENSION OF 2" X 2", OR USING STEEL POSTS (1/2" DIA) WITH A MINIMUM OF 4" IN LENGTH. USE STEEL POSTS WITHOUT A KICK PLATE AND PAINTING IS NOT REQUIRED. SPACE POSTS OR STAKES ON 2' CENTERS AND DRIVE THEM INTO THE GROUND TO A DEPTH OF 2" OR TO THE MAXIMUM EXTENT PRACTICABLE. INSTALL THE STAKES ON THE DOWNSTREAM THIRD OF THE SEDIMENT TUBE. SEDIMENT TUBES FOR DITCH CHECKS WEIGHING MORE THAN 18 POUNDS PER FOOT DO NOT REQUIRE STAKING.
6. SELECT PROPER LENGTH OF TUBE TO MINIMIZE THE NUMBER NEEDED TO SPAN THE WIDTH OF DRAINAGE AREA. ONE CONTINUOUS LENGTH IS PREFERRED COMPARED TO TWO OVERLAPPING TUBES. IF NECESSARY, SEDIMENT TUBES CAN BE LAPPED A MINIMUM OF 6 INCHES TO PREVENT PASSAGE OF FLOW AND SEDIMENT THROUGH FIELD JOINT.
7. INSTALL SEDIMENT TUBES FOR DITCH CHECKS OVER BARE SOIL, MULCHED AREAS, OR EROSION CONTROL BLANKETS. KEEP SEDIMENT TUBES FOR DITCH CHECKS IN PLACE UNTIL FULLY ESTABLISHED VEGETATION AND ROOT SYSTEMS HAVE COMPLETELY DEVELOPED AND CAN SURVIVE ON THEIR OWN.
8. INSPECT SEDIMENT TUBES AFTER INSTALLATION FOR GAPS UNDER THE SEDIMENT TUBES AND FOR GAPS BETWEEN THE JOINTS OF ADJACENT ENDS OF SEDIMENT TUBES. INSPECT SEDIMENT TUBES EVERY 7 DAYS. REPAIR ALL RILLS, GULLIES, AND UNDERCUTTING NEAR SEDIMENT TUBES. REMOVE ALL SEDIMENT DEPOSITS THAT IMPAIR THE FILTRATION CAPABILITY OF SEDIMENT TUBES WHEN THE SEDIMENT REACHES 1/3 THE HEIGHT OF THE EXPOSED SEDIMENT TUBE.
9. REMOVE AND/OR REPLACE INSTALLED SEDIMENT TUBES AS REQUIRED TO ADAPT TO CHANGING CONSTRUCTION SITE CONDITIONS. REMOVE SEDIMENT TUBES WHEN THE FUNCTIONAL LIFESPAN IS EXCEEDED AS DETERMINED BY THE ENGINEER, INSPECTOR, OR MANUFACTURER'S REPRESENTATIVE. GATHER SEDIMENT TUBES AND DISPOSE OF THEM IN REGULAR MEANS AS NON-HAZARDOUS, INERT MATERIAL.
10. PRIOR TO FINAL STABILIZATION, BACKFILL ALL TRENCHES, DEPRESSIONS, AND OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF SEDIMENT TUBES.
11. CLEAN OUT OF TUBES WILL BE PAID FOR AS SILT BASIN IN C.Y.
12. PAYMENT SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, MAINTENANCE, AND INCIDENTALS NECESSARY TO COMPLETE WORK.
13. PAY ITEM SHALL BE:
 SEDIMENT TUBE LF



SECTION A-A



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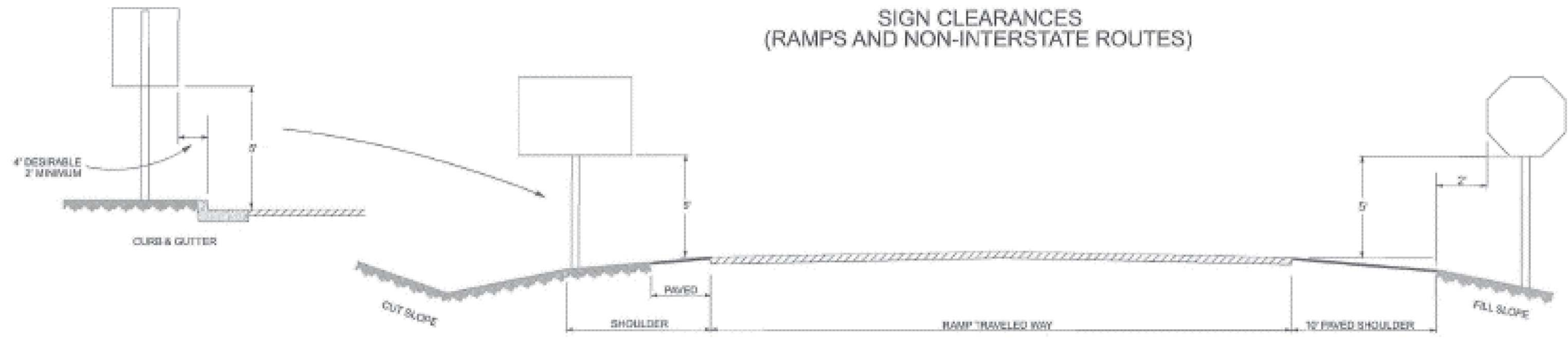
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SEDIMENT TUBE DETAIL

N.T.S.

TYPICAL INSTALLATION GUIDE (2)

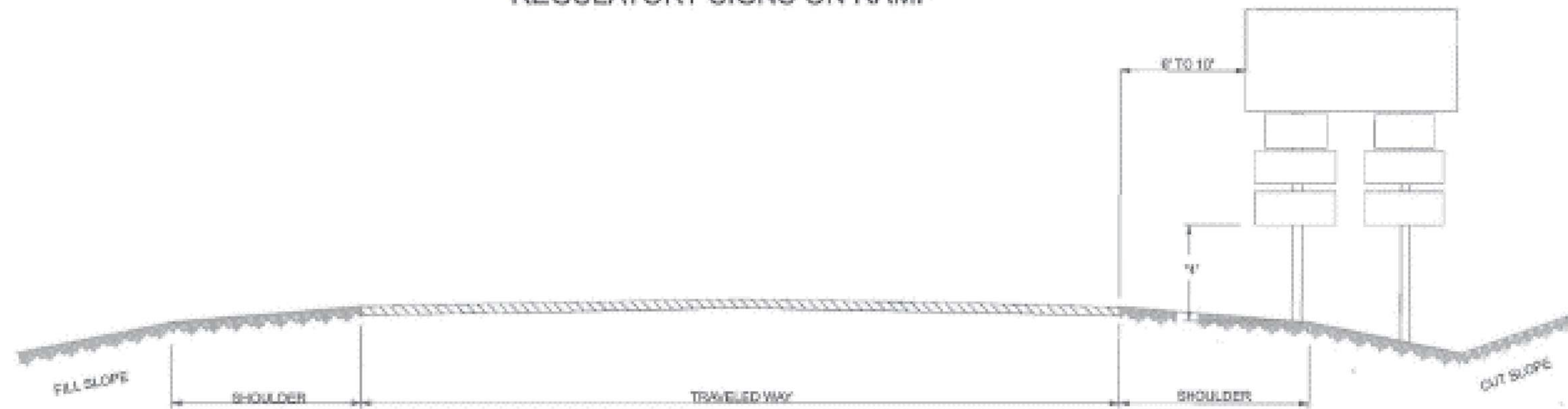
SIGN CLEARANCES (RAMPS AND NON-INTERSTATE ROUTES)



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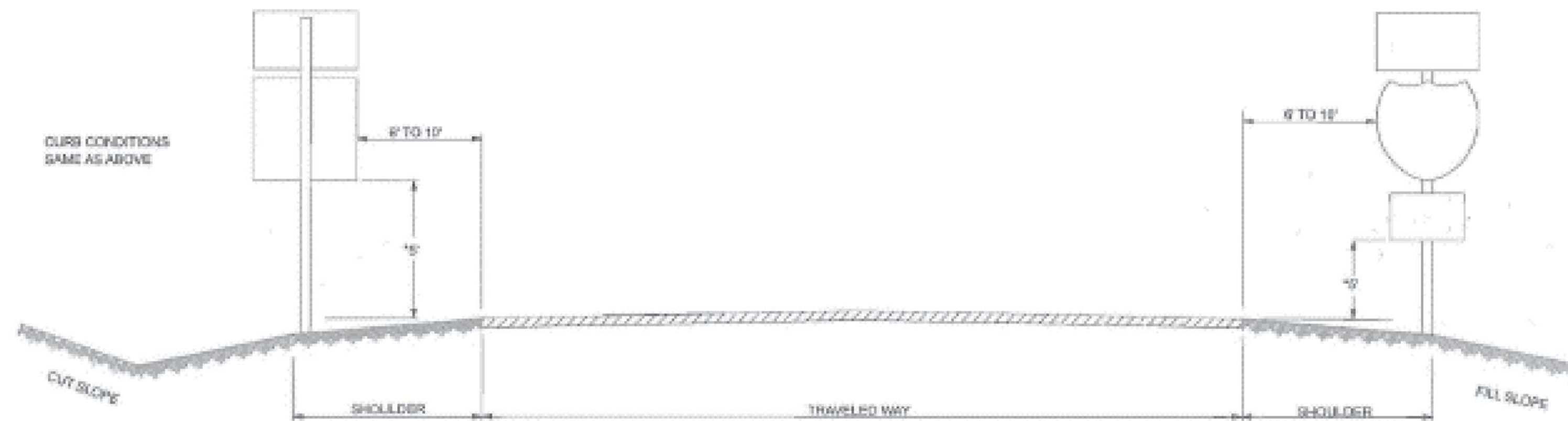
REGULATORY SIGNS ON RAMP

- Ⓜ (1) USE 4' VERTICAL CLEARANCE WHERE A PLATE (EITHER SUPPLEMENTARY, DISTANCE, ADVISORY SPEED, ETC.) IS USED UNDER A SIGN.

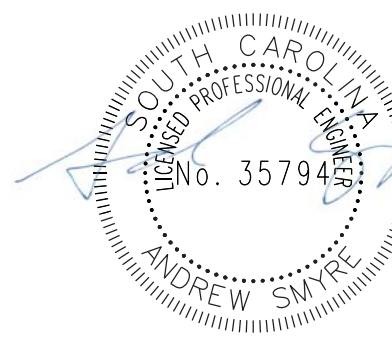
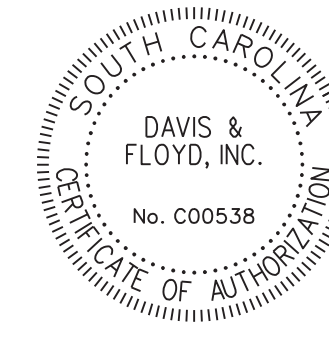


DESTINATION SIGNS ON RAMPS

- Ⓜ (1) USE 7' VERTICAL CLEARANCE WHERE PARKING OR PEDESTRIAN TRAFFIC IS PREVALENT.
(2) USE 4' VERTICAL CLEARANCE WHERE A PLATE (EITHER SUPPLEMENTARY, DISTANCE, ADVISORY SPEED, ETC.) IS USED UNDER A SIGN.



CROSS ROADS AND FRONTAGE ROADS



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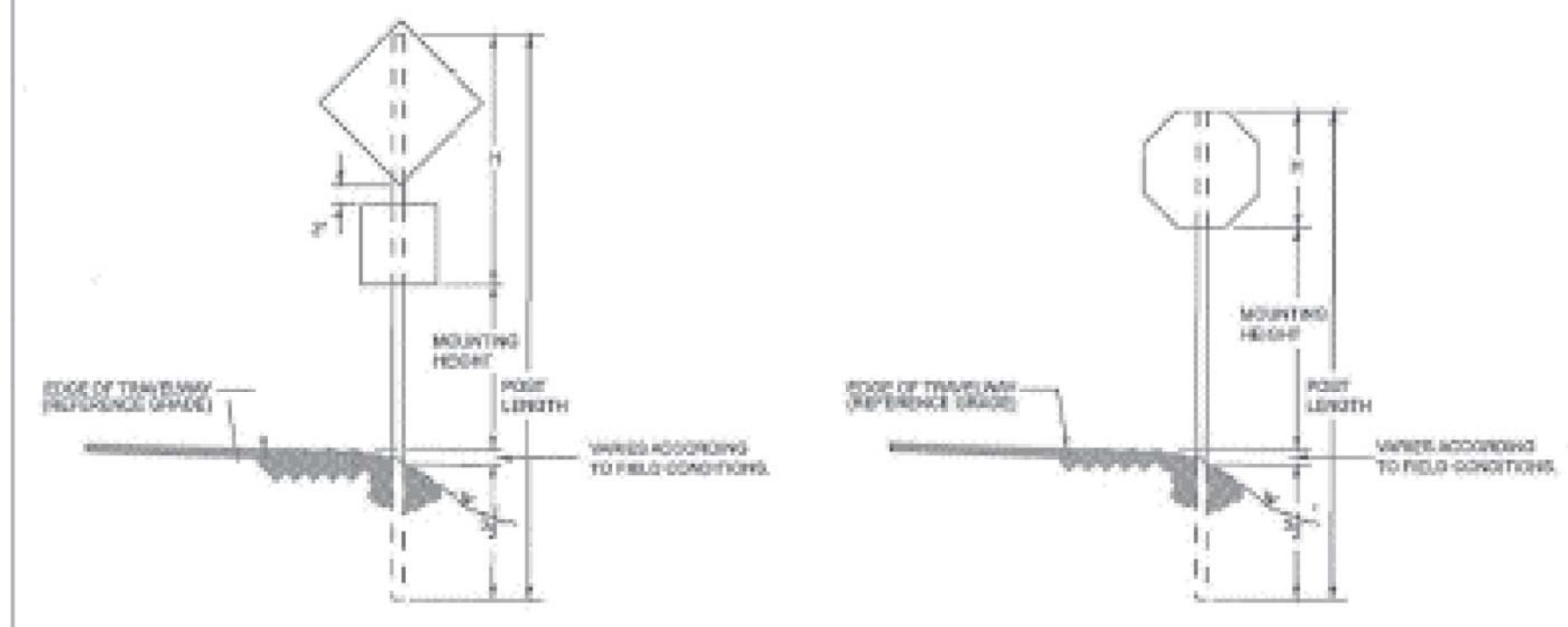
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SIGN INSTALLATION DETAIL

N.T.S.

FLAT SHEET SIGN MOUNTING DETAILS



SIGNS MOUNTED ON FREEWAY RAMPS AND CONVENTIONAL ROADS

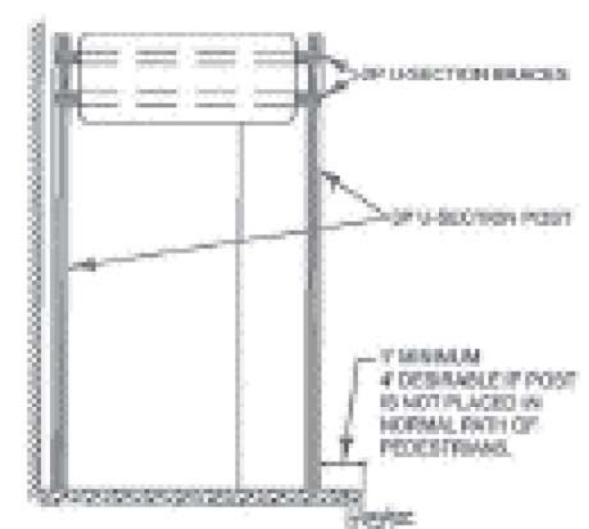
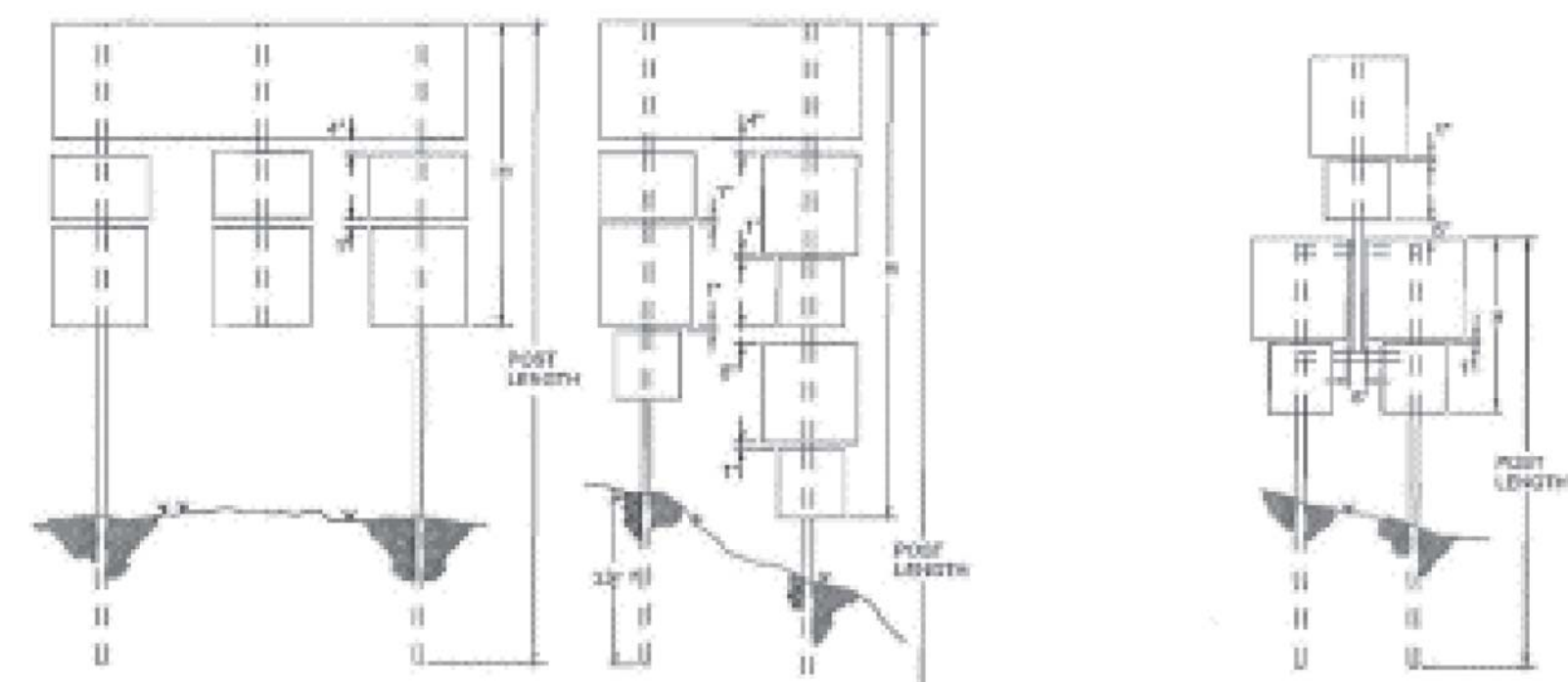


ILLUSTRATION OF SIGN ASSEMBLY SPANNING SIDEWALK

NOTE:
THE PURPOSE OF SPANNING THE SIDEWALK IS TO PROVIDE AN UNOBSTRUCTED WAY FOR PEDESTRIANS AND AT THE SAME TIME LOCATE SIGNS WITHIN ROWS OF TRAFFIC WITH GOOD VISIBILITY FOR TRAFFIC. EACH INSTALLATION MUST BE INDIVIDUALLY PLANNED AND CONSTRUCTED TO ACCOMPLISH THIS PURPOSE. THE PROJECT ENGINEER SHOULD APPROVE THE CONTRACTOR'S PLAN FOR SUPPORTING SIGNS SPANNING SIDEWALKS BEFORE THEY ARE ERECTED.

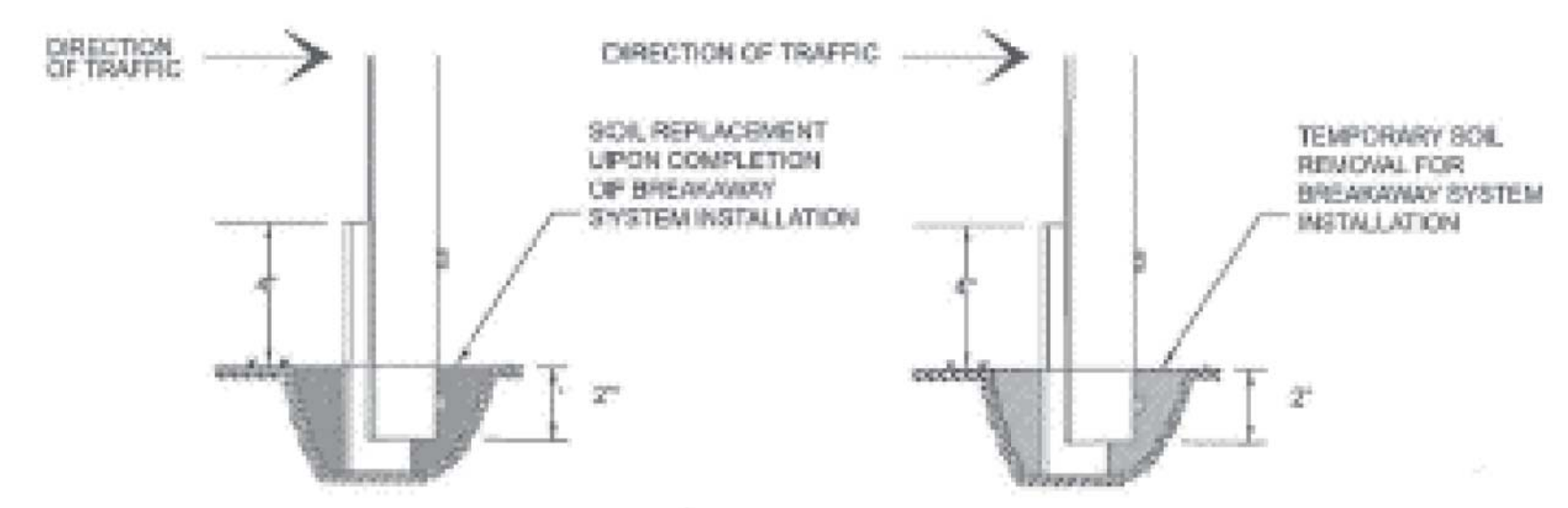


THIS TABLE GIVES APPROXIMATE POST LENGTHS FOR NORMAL CONDITIONS. WHEN CUT OR FULL SECTION ARE SIGNIFICANT, POST LENGTH SHALL BE ADJUSTED ACCORDINGLY.

WHEN H IS LESS THAN	3' TO 3'11"	4' TO 4'11"	5' TO 5'11"	6' AND OVER
POST LENGTH (FT.)	12'	13'	14'	H PLUS 10'

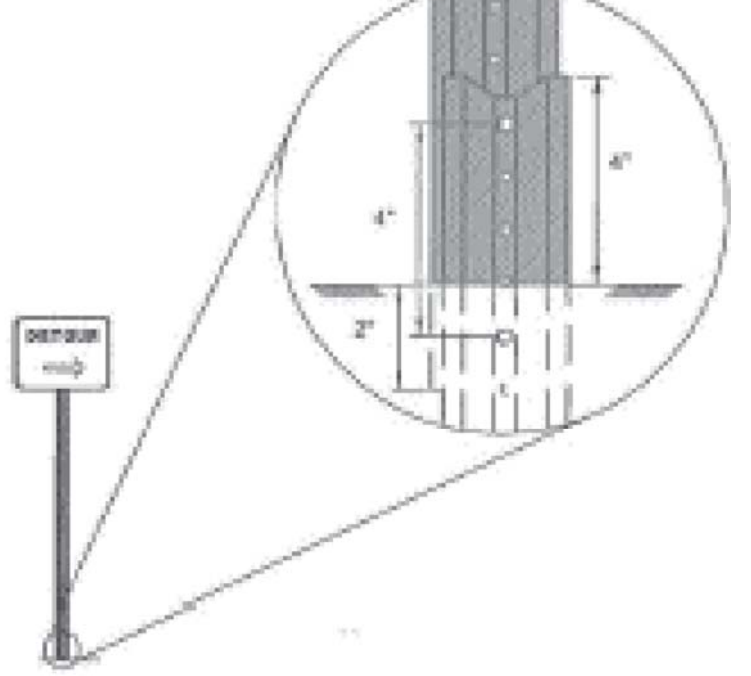
NOTE: ADD 2' TO POST LENGTH FOR 1' MOUNTING HEIGHT.

NOTE: POST LENGTHS NOT SHOWN ON THIS SHEET ARE SHOWN ON THE PLANSHEETS.

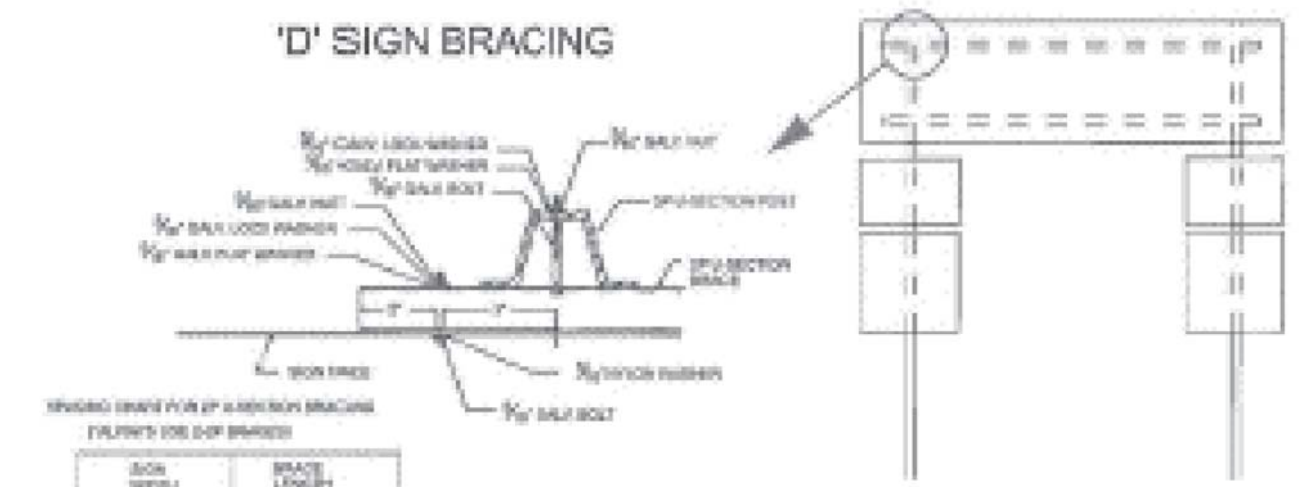


DRIVE THE GROUND SUPPORT (STUB) APPROXIMATELY 30" TO 36" INTO THE GROUND AS SPECIFIED BY THE MANUFACTURER OF THE BREAKAWAY SYSTEM SO THAT NO MORE THAN 4" OF THE GROUND SUPPORT (STUB) EXTENDS ABOVE THE GROUND. REMOVE ENOUGH SOIL FROM AROUND THE GROUND SUPPORT (STUB) TO PERMIT ACCESS TO THE HOLES FOR THE INSERTION AND TIGHTENING OF THE LOWER BOLT OF THE BREAKAWAY SYSTEM. UPON COMPLETING THE INSTALLATION OF THE BREAKAWAY SYSTEM, REPLACE THE SOIL AND TAMPE.

BOLTS MUST BE 4" APART. THE GROUND SUPPORT (STUB) SHALL NOT EXTEND HIGHER THAN 4" ABOVE THE GROUND. ATTACH THE SIGN SUPPORT TO THE BACK OF THE GROUND SUPPORT (STUB) WITH THE APPROPRIATE HARDWARE PROVIDED BY THE MANUFACTURER OF THE BREAKAWAY SYSTEM. OVERALL LENGTH OF THE BREAKAWAY SYSTEM IS 6".



LAP SPLICE FOR U-SECTION POSTS



SIGN WIDTH	POST LENGTH
11"	20'
12"	20'
14"	20'
16"	20'
18"	20'
20"	20'
22"	20'
24"	20'
26"	20'
28"	20'
30"	20'
32"	20'
34"	20'
36"	20'
38"	20'
40"	20'

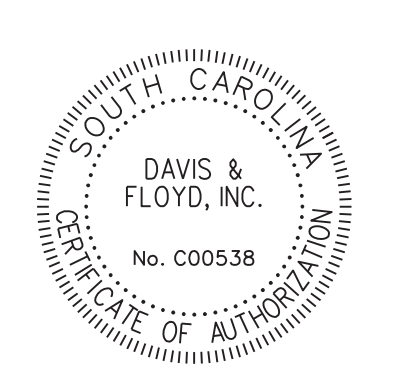
1.) ALL 'D' TYPE SIGNS ARE TO BE SUPPORTED BY 2 VERTICAL U-SECTION POSTS. ALL 'D' TYPE SIGNS WHICH ARE 8' WIDE OR WIDER WILL BE HORIZONTALLY BRACED WITH 2 '2P' U-SECTION POSTS. ADDITIONALLY, ANY ASSEMBLY OF SIGNS ATTACHED BETWEEN VERTICAL SUPPORTS WILL BE ATTACHED WITH A PRESCRIBED LENGTH OF U-SECTION POST.

2.) ALL '2P' POSTS USED AS CENTER VERTICAL MEMBERS IN SIGN ASSEMBLIES SHALL HAVE HOLES ON 1' CENTERS FOR ENTIRE LENGTH.

SIZE & LENGTH OF U-SECTION POSTS FOR SINGLE SIGNS												POST CANNOT BE LESS THAN 10' LONGER THAN THE SIGN											
SIGN NO.	SIGN HEIGHT	POST SIZE				SIGN NO.	SIGN HEIGHT	POST SIZE				SIGN NO.	SIGN HEIGHT	POST SIZE									
		1 1/2"	2"	2 1/2"	3"			1 1/2"	2"	2 1/2"	3"			1 1/2"	2"	2 1/2"	3"						
B1024	1	3"	12	12	14	B1024	1	3"	12	12	14	B1024	1	3"	12	12	14						
B1026	1	3"	12	12	14	B1026	1	3"	12	12	14	B1026	1	3"	12	12	14						
B1028	1	3"	12	12	14	B1028	1	3"	12	12	14	B1028	1	3"	12	12	14						
B1030	1	3"	12	12	14	B1030	1	3"	12	12	14	B1030	1	3"	12	12	14						
B1032	1	3"	12	12	14	B1032	1	3"	12	12	14	B1032	1	3"	12	12	14						
B1034	1	3"	12	12	14	B1034	1	3"	12	12	14	B1034	1	3"	12	12	14						
B1036	1	3"	12	12	14	B1036	1	3"	12	12	14	B1036	1	3"	12	12	14						
B1038	1	3"	12	12	14	B1038	1	3"	12	12	14	B1038	1	3"	12	12	14						
B1040	1	3"	12	12	14	B1040	1	3"	12	12	14	B1040	1	3"	12	12	14						
B1042	1	3"	12	12	14	B1042	1	3"	12	12	14	B1042	1	3"	12	12	14						
B1044	1	3"	12	12	14	B1044	1	3"	12	12	14	B1044	1	3"	12	12	14						
B1046	1	3"	12	12	14	B1046	1	3"	12	12	14	B1046	1	3"	12	12	14						
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B1076	1	3"	12	12	14	B1076	1	3"	12	12	14	B1076	1	3"	12	12	14						
B1078	1	3"	12	12	14	B1078	1	3"	12	12	14	B1078	1	3"	12	12	14						
B1080	1	3"	12	12	14	B1080	1	3"	12	12	14	B1080	1	3"	12	12	14						
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B1088	1	3"	12	12	14	B1088	1	3"	12	12	14	B1088	1	3"	12	12	14						
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B1096	1	3"	12	12	14	B1096	1	3"	12	12	14	B1096	1	3"	12	12	14						
B1098	1	3"	12	12	14	B1098	1	3"	12	12	14	B1098	1	3"	12	12	14						
B1100	1	3"	12	12	14	B1100	1	3"	12	12	14	B1100	1	3"	12	12	14						

NOTE:
POST LENGTHS SHOWN IN THIS CHART ARE GENERAL AND SHOULD BE USED FOR BID PURPOSES ONLY. CONTRACTOR IS REQUIRED TO VERIFY FIELD CONDITIONS TO DETERMINE EXACT LENGTHS OF POSTS NEEDED.

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SIGN MOUNTING DETAIL

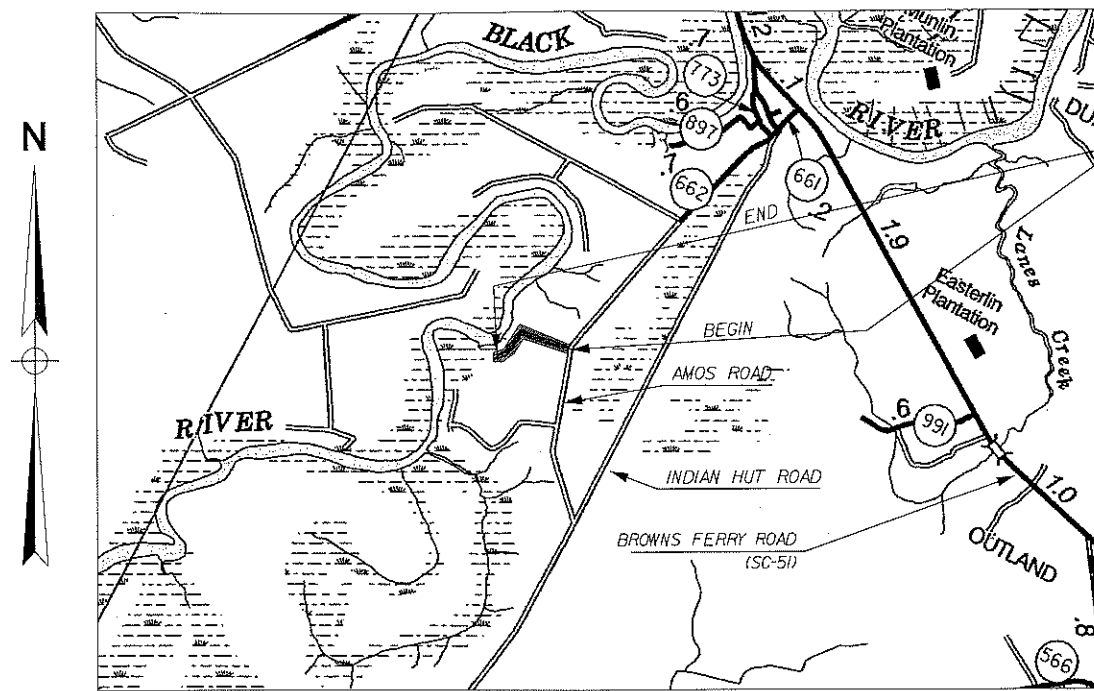
N.T.S.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	ROUTE NO.	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.07	ARAPAHO/NAVAJO		1	33

GEORGETOWN COUNTY DEPARTMENT OF PUBLIC SERVICES
DIVISION OF PUBLIC WORKS

PLAN OF PROPOSED IMPROVEMENTS
FOR ARAPAHO DRIVE AND NAVAJO TRAIL

Handwritten notes in the top left corner, including "MULLIS" and "NO. 24 213".



LAYOUT
1" = 2640'

SOUTH CAROLINA
DEPT. OF HEALTH AND ENVIRONMENTAL CONTROL
DAM SAFETY AND STORMWATER PERMITTING DIVISION
CONSTRUCTION STORMWATER PERMITTING
APPROVED - FOR CONSTRUCTION ONLY
DHEC PERMIT #: SCR102975
DATE ISSUED: 10-25-2021
BY: Without Review

NPDES PERMIT INFORMATION	
NPDES Disturbed Area =	1.85 Acres
Approximate Location of Roadway is:	
Longitude	79° 24' 57.24" W
Latitude	33° 30' 59.22" N
Hydrology and NPDES Design provided by:	
Davis & Floyd	

NET LENGTH OF ROADWAY	0.41 MILES
NET LENGTH OF OUTFALL	0.00 MILES
NET LENGTH OF PROJECT	0.41 MILES
LENGTH OF EXCEPTIONS	0.00 MILES
GROSS LENGTH OF PROJECT	0.41 MILES

NOTE: ALL WORKMANSHIP AND MATERIAL ON THIS PROJECT TO CONFORM WITH SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2007 EDITION), AND BOOK OF STANDARD DRAWINGS FOR ROAD CONSTRUCTION.

RAILROAD INVOLVEMENT?
YES / NO

INDEX OF SHEETS

SHEET #	DESCRIPTION	SHEET TOTALS
1	TITLE SHEET	1
3	TYPICAL SECTIONS	1
5	GENERAL CONSTRUCTION NOTES	1
5A-5C	REFERENCE DATA SHEET	3
6 - II	PLAN AND PROFILE SHEETS	6
EC1-EC2	EROSION CONTROL SHEETS	2
UI	UTILITY SHEET	1
XI - X9	CROSS SECTIONS	9
DI - D9	DETAIL SHEETS	9
	TOTAL SHEETS	33

3 DAYS BEFORE DIGGING IN
SOUTH CAROLINA
CALL 811
PALMETTO UTILITY PROTECTION SERVICES, INC. (PUPS)
ALL UTILITIES MAY NOT BE A MEMBER OF PUPS.

CONSULTING ENGINEERING FIRM
CONSULTANT - PROJECT ENGINEER

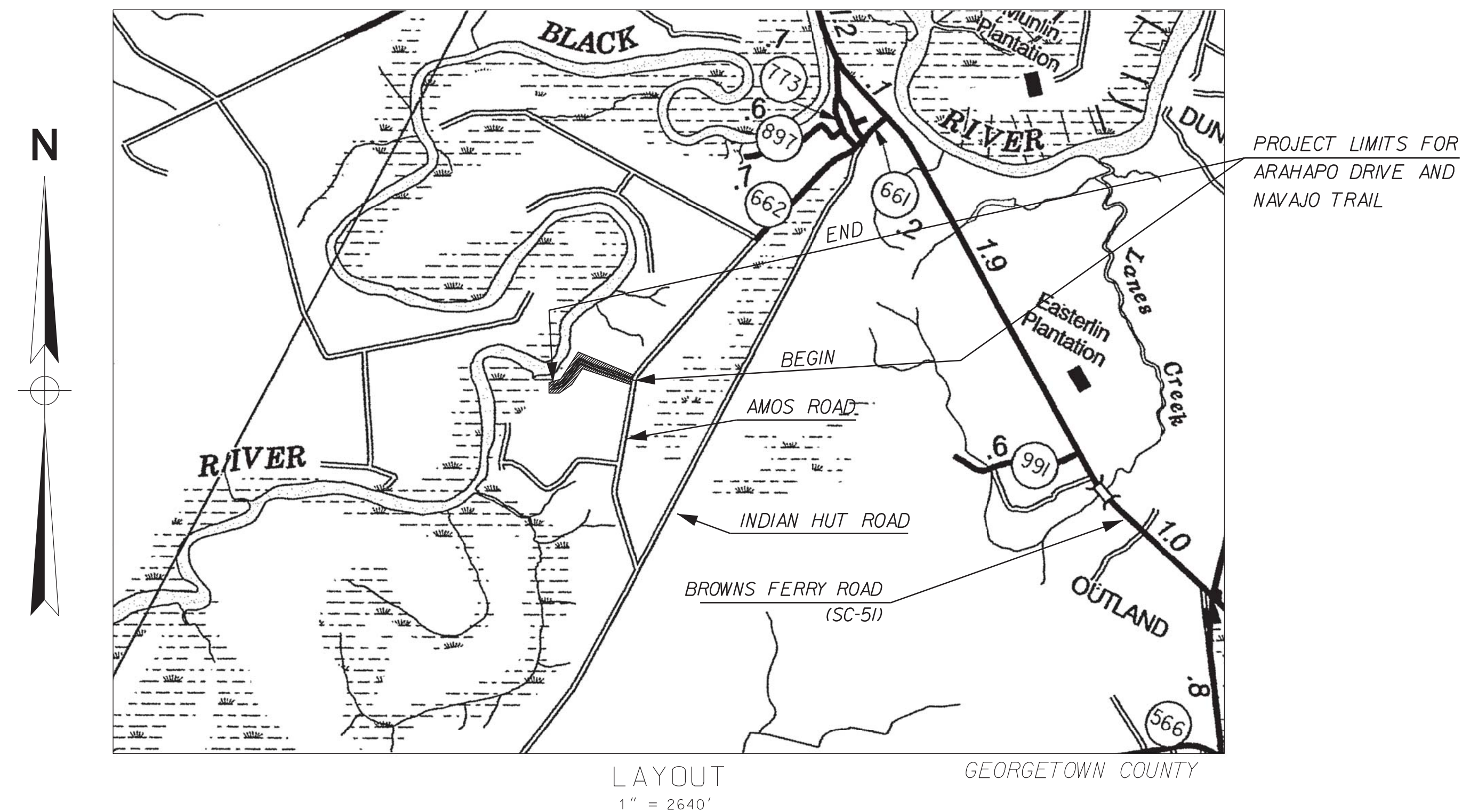
DAVIS & FLOYD, INC.
No. 000538
AGENCY REVIEW
NOT FOR CONSTRUCTION

FOR CONSTRUCTION: _____ DATE _____

GEORGETOWN COUNTY DEPARTMENT OF PUBLIC SERVICES

DIVISION OF PUBLIC WORKS

PLAN OF PROPOSED IMPROVEMENTS FOR ARAPAHO DRIVE AND NAVAJO TRAIL



NPDES PERMIT INFORMATION
NPDES Disturbed Area = <u>1.85</u> Acres
Approximate Location of Roadway is: Longitude <u>79°24'57.24"W</u> Latitude <u>33°30'59.22"N</u>
Hydrology and NPDES Design provided by: <u>Davis & Floyd</u>

NET LENGTH OF ROADWAY	0.41 MILES
NET LENGTH OF OUTFALL	0.00 MILES
NET LENGTH OF PROJECT	0.41 MILES
LENGTH OF EXCEPTIONS	0.00 MILES
GROSS LENGTH OF PROJECT	0.41 MILES

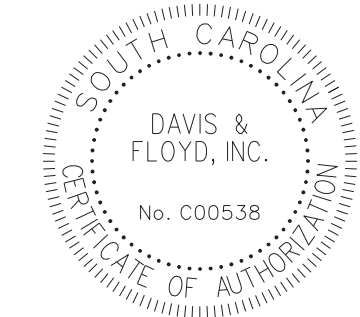
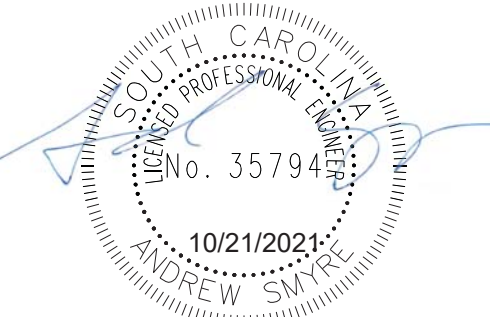
NOTE: ALL WORKMANSHIP AND MATERIAL ON THIS PROJECT TO CONFORM WITH SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2007 EDITION), AND BOOK OF STANDARD DRAWINGS FOR ROAD CONSTRUCTION.

RAILROAD INVOLVEMENT?
YES / NO

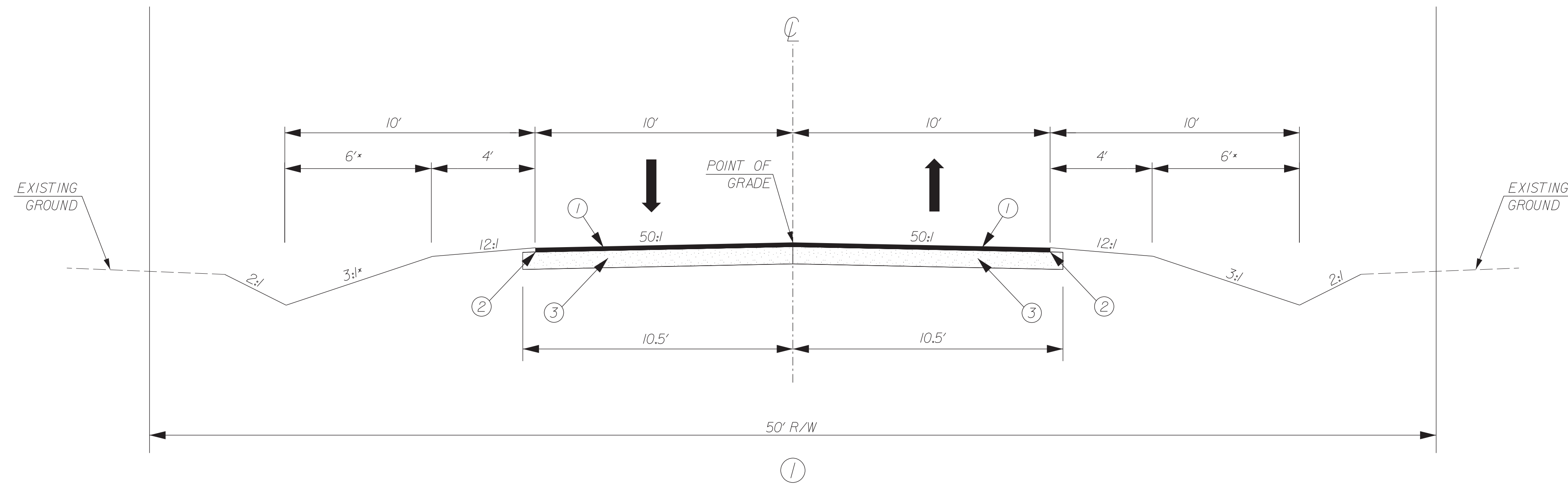
INDEX OF SHEETS

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XI - X9	CROSS SECTIONS	9
DI - D9	DETAIL SHEETS	9
	TOTAL SHEETS	33

3 DAYS BEFORE DIGGING IN
SOUTH CAROLINA
CALL 811
PALMETTO UTILITY PROTECTION SERVICES, INC. (PUPS)
ALL UTILITIES MAY NOT BE A MEMBER OF PUPS.

CONSULTING ENGINEERING FIRM	CONSULTANT - PROJECT ENGINEER
	
FOR CONSTRUCTION : _____ DATE _____	

TYPICAL SECTION
ARAPAHO DRIVE / NAVAJO TRAIL
GEORGETOWN COUNTY



TWO LANE
TYPICAL SECTION
STA. 10+10.32 TO STA. 25+32.92
STA. 50+00.00 TO STA. 56+45.72

*NOTE: DITCH FORESLOPE WIDTH VARIES DUE TO SPECIAL DITCHES IN THE AREAS BELOW:

ARAPAHO DRIVE:
SPECIAL DITCH RIGHT
STA. 13+00.00 TO STA. 13+50.00
STA. 22+50.00 TO STA. 25+00.00

SPECIAL DITCH LEFT
STA. 22+50.00 TO STA. 24+50.00

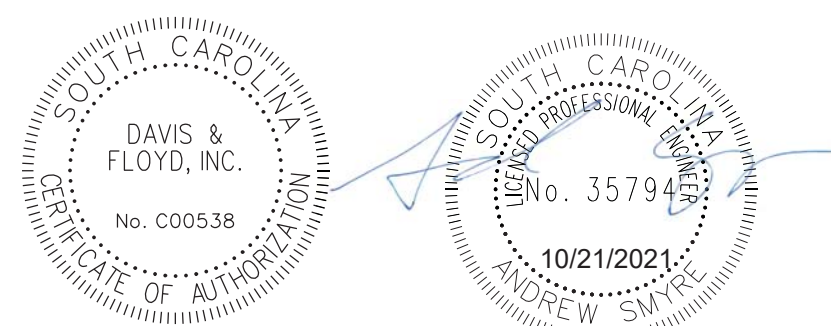
NAVAJO TRAIL:
SPECIAL DITCH RIGHT
STA. 50+00.00 TO STA. 53+24.74
STA. 54+54.38 TO STA. 55+50.00

SPECIAL DITCH LEFT
STA. 50+00.00 TO STA. 53+39.55
STA. 54+56.24 TO STA. 55+50.00

SEE CROSS SECTIONS FOR MORE INFORMATION.

**NOTE: CONTRACTOR SHALL FOLLOW GEOTECHNICAL REPORT

PAVEMENT LEGEND	
①	H/M ASPHALT CONCRETE SURFACE COURSE TYPE C (250*/SY)
②	PRIME COAT
③	8" GRADED AGGREGATE BASE COURSE



DAVIS & FLOYD

SINCE 1954

WWW.DAVISFLOYD.COM

3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

4			
3			
2			
1			
REV. NO.	BY	DATE	DESCRIPTION OF REVISION
DGN.	AMS	DATE	
R/W		DATE	
CHK.	JJG	DATE	

GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM
ARAPAHO DRIVE / NAVAJO TRAIL
TYPICAL SECTION SHEET

SCALE 1" = 3'

GENERAL CONSTRUCTION NOTES:

THE CONTRACTOR MUST PERFORM ALL WORK IN ACCORDANCE WITH THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS FOR ROAD CONSTRUCTION (LATEST EDITION), SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION), SCDOT TRAFFIC SIGNAL SPECIFICATIONS, AND THE MUTCD, 2009 EDITION.

THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES TO PREVENT THE TRANSFER OF SUSPENDED SOLIDS AND/OR CHEMICAL SOLUTIONS OFF-SITE, AND TO PREVENT EXCESSIVE SILTATION OF EXISTING DRAINAGE PIPES, CULVERTS, AND DITCHES. THE CONTRACTOR SHALL ROUTINELY INSPECT AND MAINTAIN THESE DEVICES. ALL CHECK DAMS AND RIPRAP SHOWN ARE CLASS B UNLESS OTHERWISE STATED.

THE LOCATIONS OF EXISTING UTILITIES AND STORM DRAINAGE FACILITIES SHOWN ON THE PLANS ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE UTILITIES INFORMATION SHOWN ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION OF ALL UTILITIES BEFORE CONSTRUCTION. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THAT THE PROPER COORDINATION WITH THE VARIOUS UTILITY OWNERS HAS BEEN PERFORMED. THE CONTRACTOR SHALL COOPERATE WITH THE UTILITY DURING RELOCATION OPERATIONS.

THE LOCATION OF UTILITIES SHOWN IN THE PLANS SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS DESIGNATED BY A TEST HOLE. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.

THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, STORM DRAINS, UTILITIES AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR OR COORDINATE WITH UTILITY OWNERS TO REPAIR ANY DAMAGES DUE TO CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.

THE CONTRACTOR SHALL NOT STORE ANY MATERIALS OR EQUIPMENT WITHIN 15 FT OF THE EDGE OF TRAVEL WAY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PERMISSION TO STORE EQUIPMENT ON ADJACENT PROPERTIES.

PIPE LENGTHS THAT ARE SHOWN ON THE PLANS ARE ROUNDED TO THE NEAREST 4' INCREMENT AND CALCULATED ALONG THE PIPE SLOPE FROM CENTER OF BOX TO CENTER OF BOX. FIELD ADJUSTMENTS OF THE ACTUAL PIPE LENGTHS MAY BE NECESSARY. ANY COSTS ASSOCIATED WITH REMOVING EXISTING PIPE SHALL BE INCLUDED IN THE COST OF PLACING NEW PIPE OR STRUCTURES ACCORDINGLY.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN PROPER DEWATERING PROCEDURES TO PREVENT THE FLOW AND ACCUMULATION OF SURFACE AND GROUND WATER IN EXCAVATED AREAS. ALL OF THE WATER PUMPED OR DRAINED SHALL BE DISPOSED OF WITHOUT UNDUE INTERFERENCE WITH OTHER WORK OR DAMAGE TO PAVEMENTS AND OTHER SURFACES OR PROPERTY. DISCHARGED WATER FROM ALL DEWATERING OPERATIONS SHALL BE FILTERED IN ACCORDANCE WITH SCDHEC OR OCRM REGULATIONS OR AS APPROVED BY THE ENGINEER. A PLAN FOR DEWATERING SHALL BE SUBMITTED TO THE RESIDENT CONSTRUCTION ENGINEER AND OCRM FOR APPROVAL PRIOR TO ANY WORK BEING PERFORMED WHERE DEWATERING IS REQUIRED. ONCE APPROVED AN ADDITIONAL COPY OF THE PLAN SHOULD BE PROVIDED TO CHARLESTON COUNTY

THE CONTRACTOR SHALL PROVIDE A DETAILED CONTRACTOR'S EROSION CONTROL PLAN TO THE RESIDENT CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO COMMENCING ANY WORK ON THE PROJECT.

THE CONTRACTOR SHALL PROVIDE A DETAILED TRAFFIC CONTROL PLAN TO THE RESIDENT CONSTRUCTION MANAGER FOR APPROVAL BEFORE STARTING ANY WORK ON THE PROJECT. THIS PLAN SHALL INCLUDE DETAILS CONCERNING PLACEMENT OF REFLECTORIZED BARRELS, CONES, AND/OR TYPE 2 BARRICADES IN ACCORDANCE WITH THE 2009 MUTCD.

THE CONTRACTOR SHALL PROVIDE ALL SHEETING, SHORING, AND BRACING REQUIRED TO PROTECT ADJACENT STRUCTURES AND UTILITIES OR TO MINIMIZE TRENCH WIDTH AS REQUIRED. PAYMENT FOR SUCH MEASURES IS INCLUDED IN THE BID PRICE FOR THE ITEM BEING CONSTRUCTED.

WHERE STORM PIPES AND STRUCTURES ARE IDENTIFIED TO BE ABANDONED IN PLACE, THE FOLLOWING PROCEDURES SHALL BE UTILIZED:

- PIPES: PLUG END(S) WITH BRICK AND GROUT.
- STRUCTURES: REMOVE RIM/COVER AND CONE OR TOP SLAB.
- PLUG PIPE OPENINGS WITH BRICK AND GROUT.
- FILL STRUCTURE WITH FLOWABLE FILL TO BOTTOM OF PAVEMENT SECTION.
- TEMPORARY ASPHALT IF NEEDED.

THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS SHOWN ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEER'S CLARIFICATION BEFORE COMMENCING CONSTRUCTION.

THE ENGINEER RESERVES THE RIGHT TO ADJUST THE LOCATION OF ALL PROPOSED IMPROVEMENTS TO MEET FIELD CONDITIONS IF NECESSARY.

STABILIZATION MEASURES MUST 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.

IF, DURING CONSTRUCTION, AN EXISTING MANHOLE OR VALVE IS FOUND TO BE PARTIALLY WITHIN SIDEWALK LIMITS, SIDEWALK WIDTH SHALL BE ADJUSTED TO COMPLETELY PLACE OR REMOVE MANHOLE OR VALVE WITHIN SIDEWALK LIMITS. MAXIMUM SLOPES SHOWN WITHIN PLANS AND MINIMUM 36" WIDTH MUST BE MAINTAINED.

ALL DISTURBED AREAS SHALL BE SEEDED AFTER GRADING IS COMPLETE OR WITHIN 7 DAYS AFTER WORK STOPS IN AN AREA UNLESS WORK IS TO RESUME IN THAT AREA IN LESS THAN 21 DAYS.

NOTE:

- IF A SIGN MARKED TO BE RELOCATED IS DAMAGED BY THE CONTRACTOR, THE CONTRACTOR IS RESPONSIBLE FOR REPLACING THE SIGN.
- CONTRACTOR IS TO SAW-CUT CONNECTIONS TO EXISTING ROADWAYS AND/OR DRIVEWAYS WHERE APPLICABLE.

STANDARD SYMBOLS

CONCRETE MARKER	STATE LINE	NORTH CAROLINA / SOUTH CAROLINA	MARSH/SWAMP	BUILDING	FRAME DWLG.
R/W MONUMENT	COUNTY LINE	RICHLAND COUNTY / LEXINGTON COUNTY	PAMPAS GRASS	RIVERS, CREEKS, STREAMS	
PROPERTY CORNER	CITY LIMITS	COLUMBIA CITY LIMITS	BENCHMARK	EXISTING BOX CULVERT	
PROPERTY PIN	PRESENT RIGHT-OF-WAY / PROPERTY LINE	PRESENT 50' R/W	SPOT ELEVATION	NEW BOX CULVERT	
SIGN	PRESENT RIGHT-OF-WAY / EXISTING CONTROL OF ACCESS	PRESENT 33' R/W	FILL CAP FOR UNDERGROUND TANK	BRIDGE	
NEW SIGN	NEW RIGHT-OF-WAY	NEW 50' R/W	WITNESS POST	NPDES	
ELECTRIC PEDESTAL	NEW RIGHT-OF-WAY / NEW CONTROL OF ACCESS	NEW 45' R/W	PARKING METER	DRAINAGE DITCHES	
UNDERGROUND TANK	CONSTRUCTION LIMITS	22'C / 24'F / 21'C	ELECTRIC OUTLET/RESIDENTIAL	NEW DRAINAGE STRUCTURES	
WELL	EXISTING FENCE	X X X X X	VACUUM/COMMERCIAL	EXISTING DRAINAGE STRUCTURES/PIPE	
AIR CONDITIONER	NEW FENCE	X X X X X	SEDIMENT DAM	NEW PIPE	
COLUMN	EXISTING PAVED ROAD		SEDIMENT FILTER	EXISTING PIPE	
RADIO/TV/CELLULAR TOWER	EXISTING DIRT ROAD		TREE/SHRUB (NOT SURVEYED)	NORTH ARROW	
SATELLITE DISH	EXISTING PAVED ROAD WITH CURB & GUTTER		WOODED AREA OUTLINE	FACE OF CURB	
GRAVE	NEW PAINTED MEDIAN		TREE LINE	RAILROAD TRACK	
SPRING	NEW CONCRETE SIDEWALK / MEDIAN/DITCH GUTTER		R/R CROSSING ARM	EXISTING GUARDRAIL w/ TYPE B END TREATMENT	
GEODETIC MARKER			R/R MILE POST	NEW GUARDRAIL	
FLOOD/GROUND LIGHT			R/R SIGNAL	TYPE T END TREATMENT	
TELEPHONE BOX			R/R SIGNAL BOX		
WATER SPIGOT					
SPRINKLER					
FLAG POLE					

NOTE:

- SEE SCDOT STANDARD DRAWING NO. 625-305-00 AND 625-410-00 FOR PAVEMENT MARKING DETAILS
 - SEE SCDOT STANDARD DRAWING NO. 719-016-01 AND 719-016-02 FOR CATCH BASIN TYPE 16 DETAIL
 - SEE SCDOT STANDARD DRAWING NO. 720-105-02 FOR CURB TRANSITION DETAIL
- SEE DETAIL SHEETS D04-D05 FOR LANE AND SHOULDER CLOSURE DETAILS

INCLUSION ITEMS

THE FOLLOWING QUANTITIES ARE NOT SHOWN IN DETAIL ON THE PLANS BUT ARE INCLUDED IN THE SUMMARY OF ESTIMATED QUANTITIES AND MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.

	DESCRIPTION	UNIT	QUANTITY	DESCRIPTION
1031000	MOBILIZATION	LS	NEC	PER CONTRACT DCCUMENTS
1032010	BONDS AND INSURANCE	LS	1	PER CONTRACT DCCUMENTS
1050800	CONSTRUCTION STAKES, LINES & GRADES	EA	1	PER CONTRACT DCCUMENTS
1071000	TRAFFIC CONTROL	LS	NEC	PER CONTRACT DCCUMENTS
1092000	AS-BUILT CONSTRUCTION PLANS	LS	1	PER CONTRACT DCCUMENTS
2012000	CLEARING & GRUBBING WITHIN ROADWAY	LS	NEC	FOR ALL AREAS WITHIN ROADWAY
2031000	UNCLASSIFIED EXCAVATION	CY	804	FOR STRIPPING
2031000	UNCLASSIFIED EXCAVATION	CY	1500	STRIPPING FOR DITCH BACKSLOPES
2033000	BORROW EXCAVATION	CY	3230	FILL FOR STRIPPING
2081001	FINE GRADING	SY	5600	WHERE DIRECTED BY THE ENGINEER
3069900	MAINTENANCE STONE	TON	100	WHERE DIRECTED BY THE ENGINEER
6021120	PERMANENT CONSTRUCTION SIGNS (GROUND MOUNTED)	SF	232	WHERE DIRECTED BY THE ENGINEER
8100100	PERMANENT COVER	ACRE	1.600	FOR ALL DISTURBED AREAS
8100200	TEMPORARY COVER	ACRE	0.800	FOR ALL DISTURBED AREAS
8105005	AGRICULTURAL GRANULAR LIME	LB	3196.000	FOR ALL DISTURBED AREAS
8104005	FERTILIZER (NITROGEN)	LB	160.000	FOR ALL DISTURBED AREAS
8104010	FERTILIZER (PHOSPHORIC ACID)	LB	160.000	FOR ALL DISTURBED AREAS
8104015	FERTILIZER (POTASH)	LB	160.000	FOR ALL DISTURBED AREAS
8109050	SELECTIVE WATERING	GAL	43376.000	FOR ALL DISTURBED AREAS
8109901	MOWING	ACRE	5.000	FOR ALL DISTURBED AREAS
8151101	TURF REINFORCEMENT MATTING (TRM) TYPE 1	MSY	1.700	WHERE DIRECTED BY THE ENGINEER
8151110	TEMPORARY EROSION CONTROL BLANKET (ECB)	MSY	1.700	WHERE DIRECTED BY THE ENGINEER
8152007	SEDIMENT TUBES FOR DITCH CHECKS	LF	60	WHERE DIRECTED BY THE ENGINEER
8153090	REPLACE/REPAIR SILT FENCE	LF	83	FOR MAINTENANCE OF SILT FENCE
8154050	REMOVAL OF SILT RETAINED BY SILT FENCE	LF	208	FOR MAINTENANCE OF SILT FENCE
8156490	STABILIZED CONSTRUCTION ENTRANCE	SY	550	WHERE DIRECTED BY THE ENGINEER



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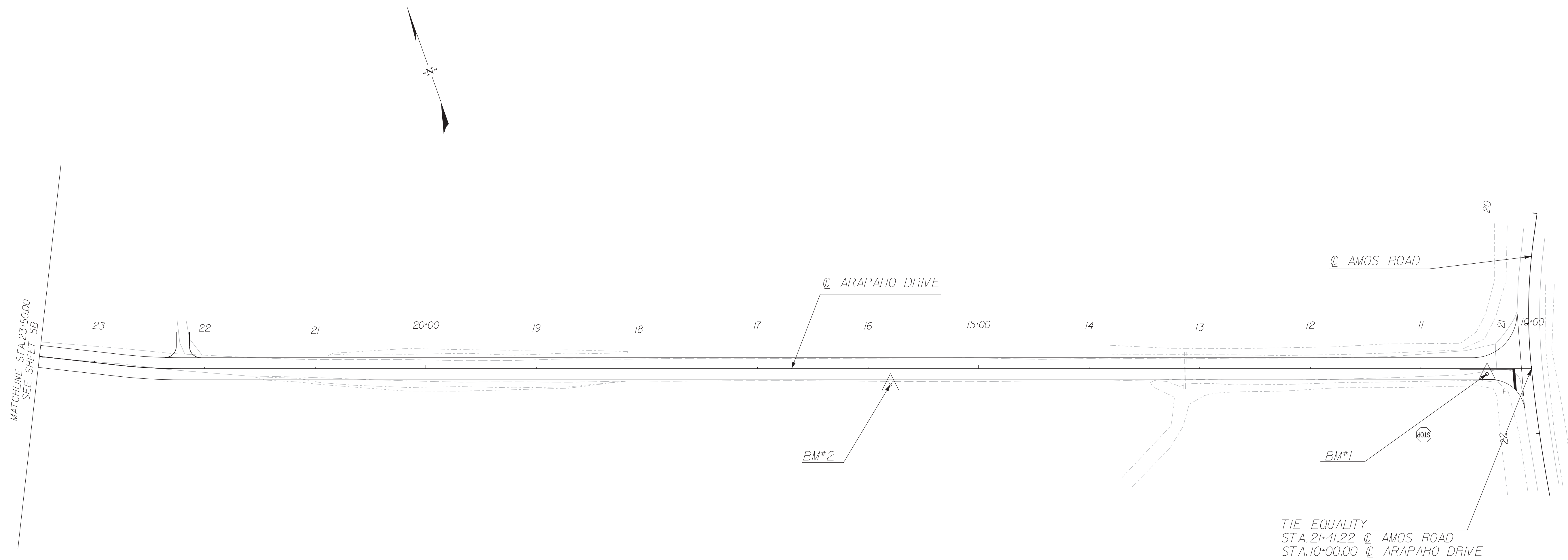
3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

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1			
REV. NO.	BY	DATE	DESCRIPTION OF REVISION
DGN.	AMS	DATE	
R/W		DATE	
CHK.	JUG	DATE	

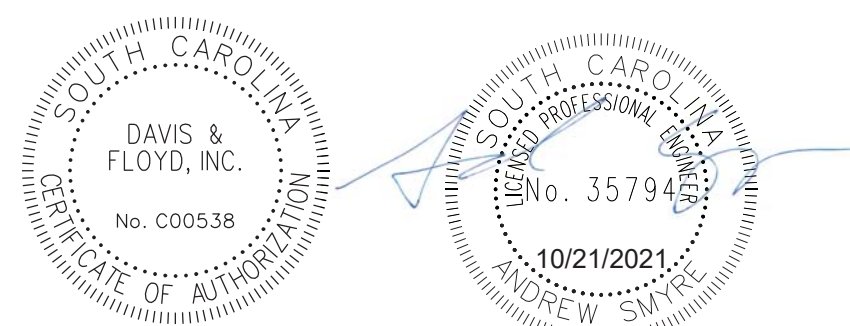
GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

ARAPAHO DRIVE / NAVAJO TRAIL
GENERAL CONSTRUCTION NOTES SHEET

NTS



ID	DESCRIPTION	BENCHMARKS		STATION	OFFSET	ELEVATION
		NORTHING	EASTING			
BM#1	REBAR/CAP	615579.37	2484066.36	10+40.16 (ARAPAHO)	4.70' LT	46.02
BM#2	REBAR/CAP	615750.88	2483554.61	15+79.79 (ARAPAHO)	14.25' LT	44.02



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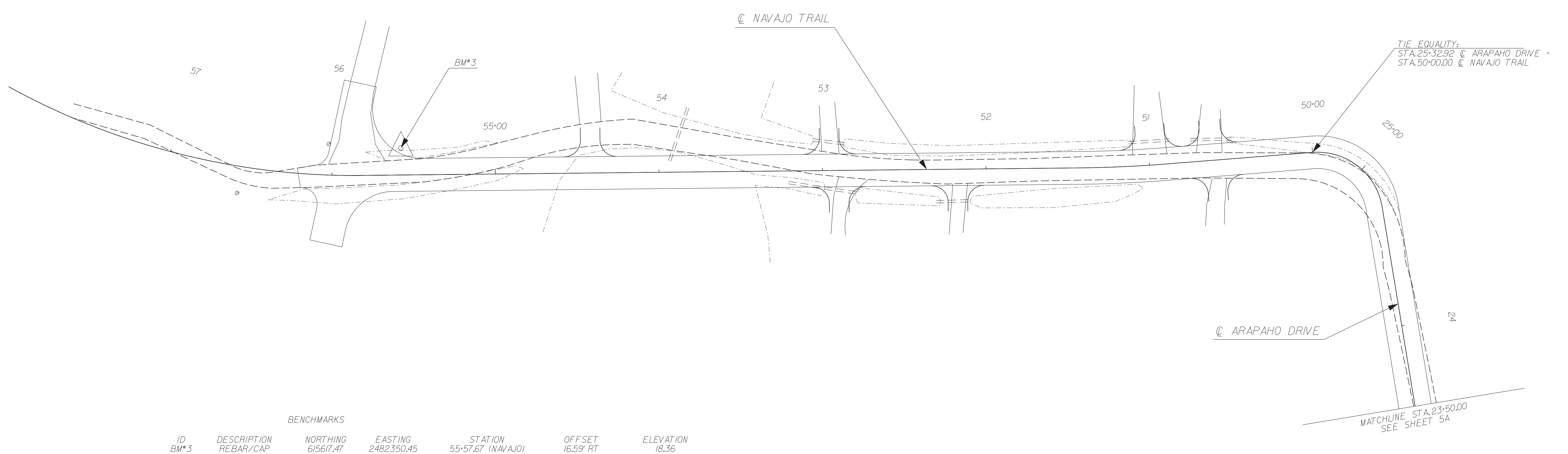
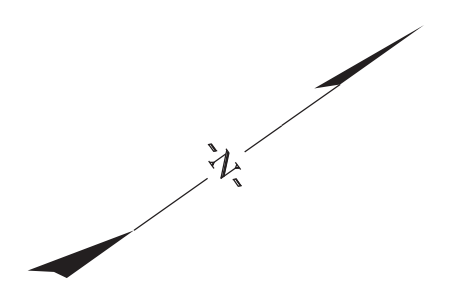
3229 W. MONTAGUE AVENUE
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 (843) 554-8602

4			
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1			
REV. NO.	BY	DATE	DESCRIPTION OF REVISION
DGN.	AMS	DATE	
R/W		DATE	
CHK.	JJG	DATE	

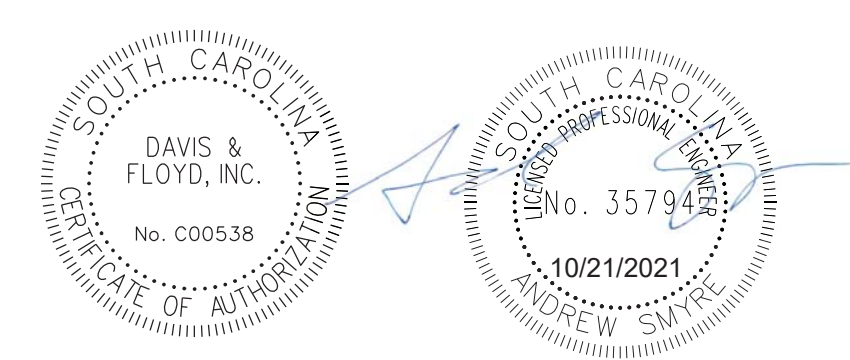
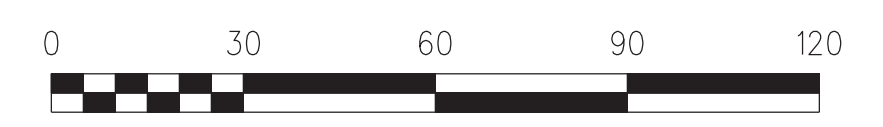
GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM
 ARAPAHO DRIVE / NAVAJO TRAIL
 REFERENCE DATA SHEET

SCALE 1" = 50'

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.07	ARAPAHO DR/NAVAJO TRAIL	5B	



BENCHMARKS						
ID	DESCRIPTION	NORTHING	EASTING	STATION	OFFSET	ELEVATION
BM#3	REBAR/CAP	615617.47	2482350.45	55+57.67 (NAVAJO)	16.59' RT	18.36



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4			
3			
2			
1			
REV. NO.	BY	DATE	DESCRIPTION OF REVISION
DGN.	AMS	DATE	
R/W		DATE	
CHK.	JJG	DATE	

GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM
 ARAPAHO DRIVE / NAVAJO TRAIL
 REFERENCE DATA SHEET
 SCALE 1" = 30'

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.07	ARAPAHO DR/NAVAJO TRAIL	5C	

Beginning chain AMOS_RD_LOCAL description

Point 7000 N 615,701.1716 E 2,484,157.5295 Sta 20+00.00

Course from 7000 to PC AMOS_RD_LOCAL1 S 27° 16' 50.69" W Dist 22.7495

Curve Data
 Curve AMOS_RD_LOCAL1
 P.I. Station 20+83.04 N 615,627.3688 E 2,484,119.4684
 Delta = 13° 45' 03.55" (LT)
 Degree = 11° 27' 32.96"
 Tangent = 60.2897
 Length = 120.0000
 Radius = 500.0000
 External = 3.6217
 Long Chord = 119.7122
 Mid. Ord. = 3.5957
 P.C. Station 20+22.75 N 615,680.9525 E 2,484,147.1022
 P.T. Station 21+42.75 N 615,568.7522 E 2,484,105.3636
 C.C. N 615,451.7770 E 2,484,591.4879
 Back = S 27° 16' 50.69" W
 Ahead = S 13° 31' 47.14" W
 Chord Bear = S 20° 24' 18.92" W

Curve Data
 Curve AMOS_RD_LOCAL2
 P.I. Station 21+65.49 N 615,546.6380 E 2,484,100.0423
 Delta = 1° 46' 22.60" (LT)
 Degree = 3° 53' 51.62"
 Tangent = 22.7454
 Length = 45.4873
 Radius = 1,470.0000
 External = 0.1760
 Long Chord = 45.4855
 Mid. Ord. = 0.1759
 P.C. Station 21+42.75 N 615,568.7522 E 2,484,105.3636
 P.T. Station 21+88.24 N 615,524.3697 E 2,484,095.4077
 C.C. N 615,224.8451 E 2,485,534.5690
 Back = S 13° 31' 47.14" W
 Ahead = S 11° 45' 24.54" W
 Chord Bear = S 12° 38' 35.84" W

Curve Data
 Curve AMOS_RD_LOCAL3
 P.I. Station 22+18.24 N 615,494.9950 E 2,484,089.2942
 Delta = 2° 20' 18.97" (LT)
 Degree = 3° 53' 51.62"
 Tangent = 30.0042
 Length = 60.0000
 Radius = 1,470.0000
 External = 0.3062
 Long Chord = 59.9958
 Mid. Ord. = 0.3061
 P.C. Station 21+88.24 N 615,524.3697 E 2,484,095.4077
 P.T. Station 22+48.24 N 615,465.3953 E 2,484,084.3843
 C.C. N 615,224.8451 E 2,485,534.5690
 Back = S 11° 45' 24.54" W
 Ahead = S 9° 25' 05.57" W
 Chord Bear = S 10° 35' 15.05" W

Course from PT AMOS_RD_LOCAL3 to 7001 S 9° 25' 05.57" W Dist 8.7841

Point 7001 N 615,456.7296 E 2,484,082.9469 Sta 22+57.02

Ending chain AMOS_RD_LOCAL description

Beginning chain ARAPAHO description

Point 10 N 615,570.3670 E 2,484,105.7740 Sta 10+00.00

Course from 10 to PC ARAPAHO1 N 70° 27' 30.61" W Dist 1,221.1632

Curve Data
 Curve ARAPAHO1
 P.I. Station 22+49.04 N 615,988.1589 E 2,482,928.6761
 Delta = 6° 22' 59.06" (RT)
 Degree = 11° 27' 32.96"
 Tangent = 27.8802
 Length = 55.7028
 Radius = 500.0000
 External = 0.7767
 Long Chord = 55.6740
 Mid. Ord. = 0.7755
 P.C. Station 22+21.16 N 615,978.8333 E 2,482,954.9505
 P.T. Station 22+76.87 N 616,000.3478 E 2,482,903.6015
 C.C. N 616,450.0330 E 2,483,122.1952
 Back = N 70° 27' 30.61" W
 Ahead = N 64° 04' 31.55" W
 Chord Bear = N 67° 16' 01.08" W

Course from PT ARAPAHO1 to PC ARAPAHO2 N 64° 04' 31.55" W Dist 196.6135

Curve Data
 Curve ARAPAHO2
 P.I. Station 25+10.23 N 616,102.3701 E 2,482,693.7240
 Delta = 85° 08' 44.78" (LT)
 Degree = 143° 14' 22.02"
 Tangent = 36.7470
 Length = 59.4430
 Radius = 40.0000
 External = 14.3170
 Long Chord = 54.1222
 Mid. Ord. = 10.5433
 P.C. Station 24+73.48 N 616,086.3048 E 2,482,726.7731
 P.T. Station 25+32.92 N 616,070.7989 E 2,482,674.9196
 C.C. N 616,050.3300 E 2,482,709.2856
 Back = N 64° 04' 31.55" W
 Ahead = S 30° 46' 43.66" W
 Chord Bear = S 73° 21' 06.05" W

Ending chain ARAPAHO description

Beginning chain NAVAJO description

Point 50 N 616,070.7989 E 2,482,674.9196 Sta 50+00.00

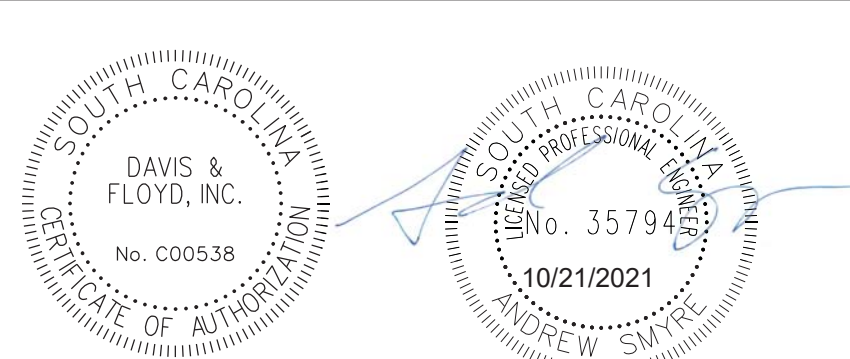
Course from 50 to PC NAVAJO1 S 30° 46' 43.66" W Dist 90.4576

Curve Data
 Curve NAVAJO1
 P.I. Station 51+16.16 N 615,970.9961 E 2,482,615.4753
 Delta = 3° 55' 34.39" (RT)
 Degree = 7° 38' 21.97"
 Tangent = 25.7071
 Length = 51.3941
 Radius = 750.0000
 External = 0.4404
 Long Chord = 51.3840
 Mid. Ord. = 0.4402
 P.C. Station 50+90.46 N 615,993.0824 E 2,482,628.6302
 P.T. Station 51+41.85 N 615,949.8625 E 2,482,600.8389
 C.C. N 616,376.8761 E 2,481,984.2682
 Back = S 30° 46' 43.66" W
 Ahead = S 34° 42' 18.05" W
 Chord Bear = S 32° 44' 30.86" W

Course from PT NAVAJO1 to PC NAVAJO2 S 34° 42' 18.05" W Dist 445.5255

Curve Data
 Curve NAVAJO2
 P.I. Station 56+99.54 N 615,492.1834 E 2,482,282.1891
 Delta = 28° 44' 49.78" (RT)
 Degree = 13° 05' 26.85"
 Tangent = 112.1620
 Length = 219.5983
 Radius = 437.6800
 External = 14.1431
 Long Chord = 217.3022
 Mid. Ord. = 13.7004
 P.C. Station 55+87.38 N 615,583.5986 E 2,482,347.1783
 P.T. Station 58+06.98 N 615,443.2914 E 2,482,181.2442
 C.C. N 615,837.2001 E 2,481,990.4571
 Back = S 35° 24' 35.69" W
 Ahead = S 64° 09' 25.47" W
 Chord Bear = S 49° 47' 00.58" W

Ending chain NAVAJO description



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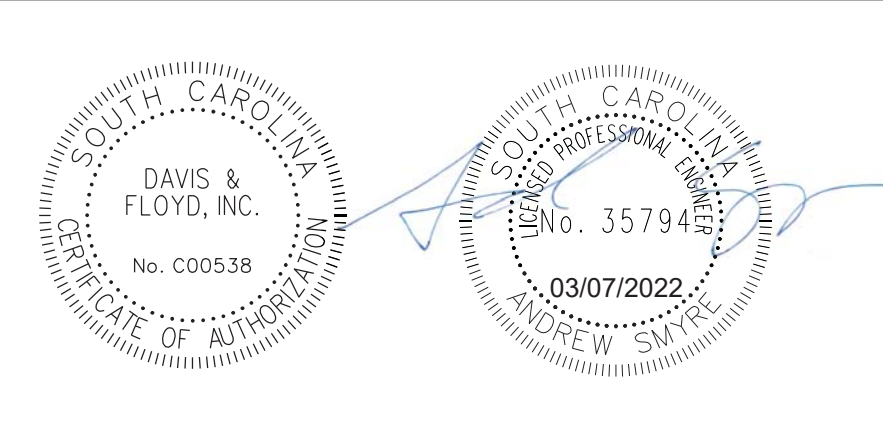
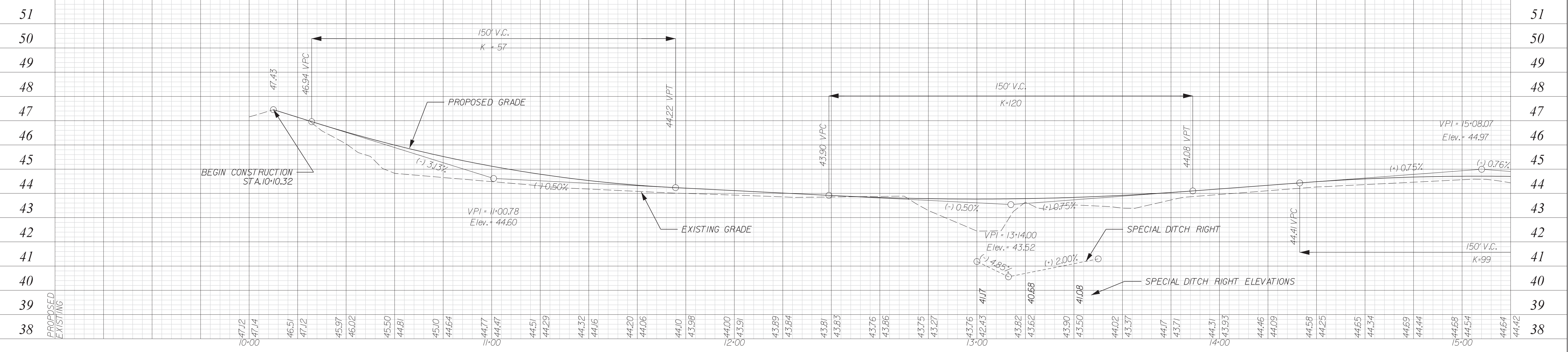
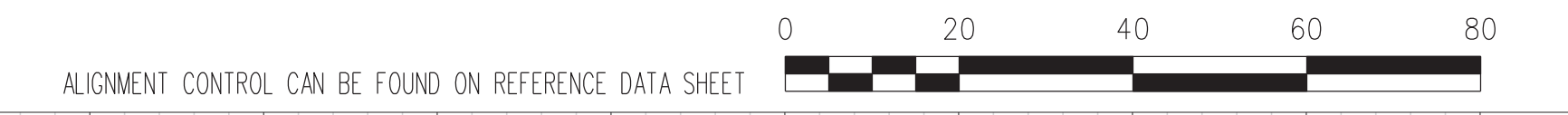
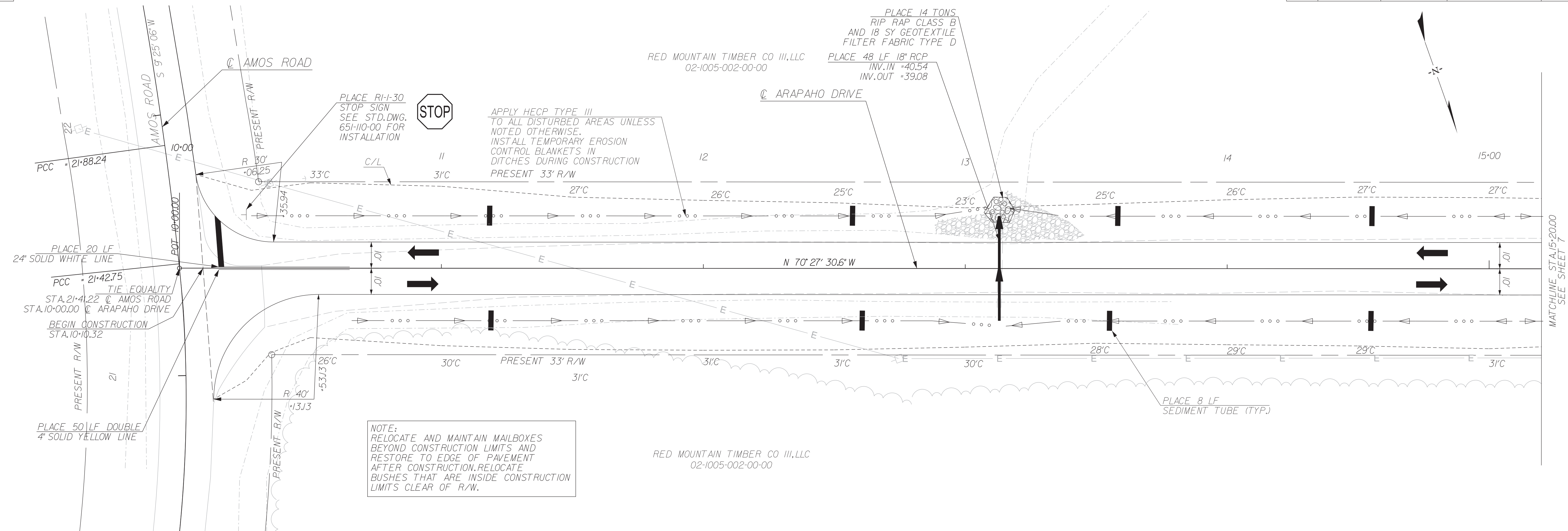
3229 W. MONTAGUE AVENUE
 CHARLESTON, SC 29418
 (843) 554-8602

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REV. NO.	BY	DATE	DESCRIPTION OF REVISION
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GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM

ARAPAHO DRIVE / NAVAJO TRAIL
 REFERENCE DATA SHEET

NTS



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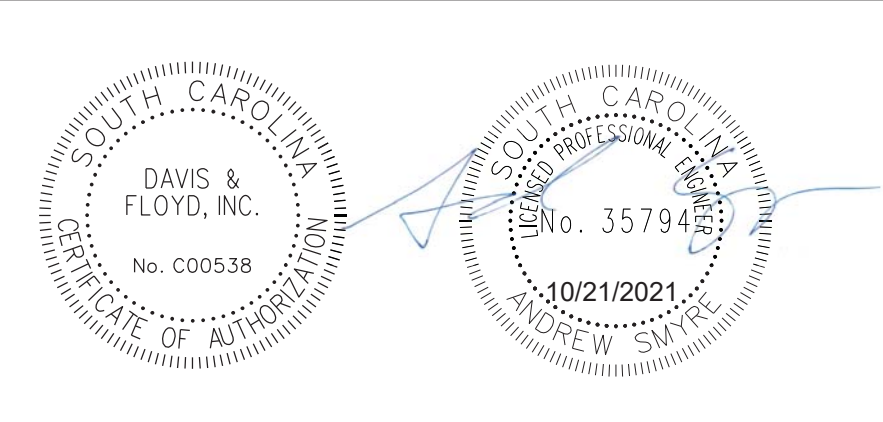
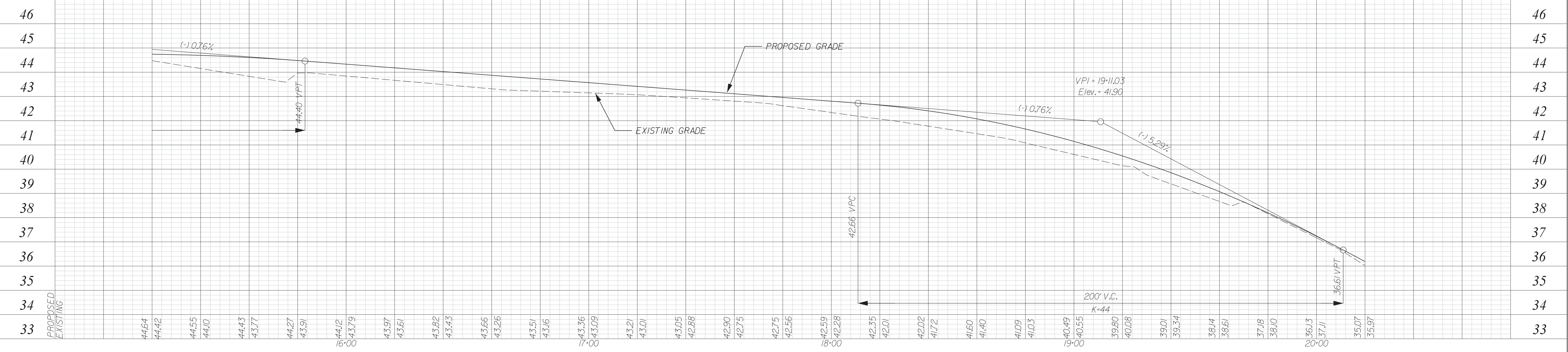
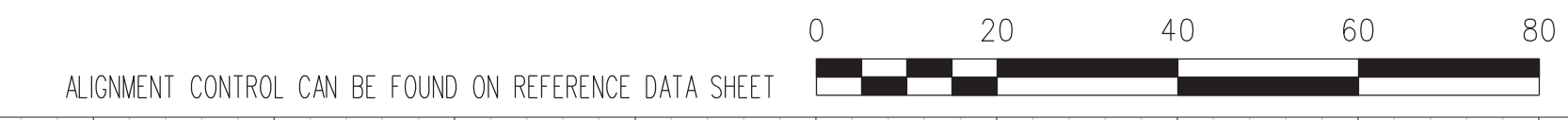
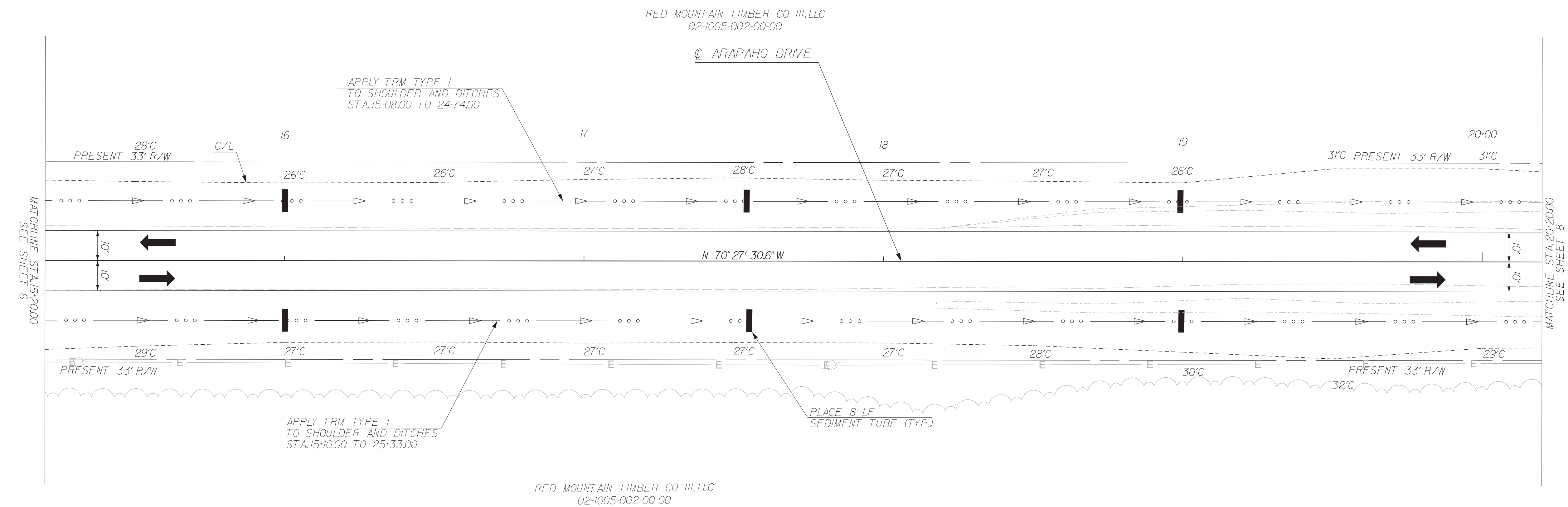
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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

ARAPAHO DRIVE / NAVAJO TRAIL
PLAN/PROFILE SHEET
STA. 10+10.23 TO STA. 15+20.00

SCALE 1" = 20' HOR. 1" = 2' VER.



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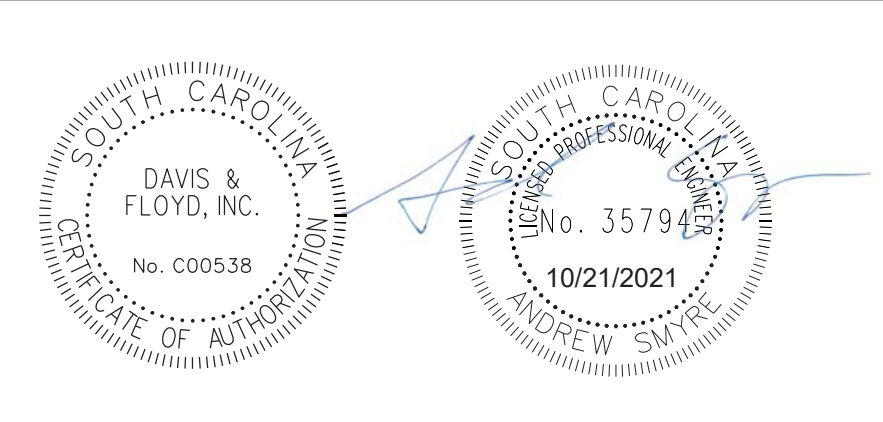
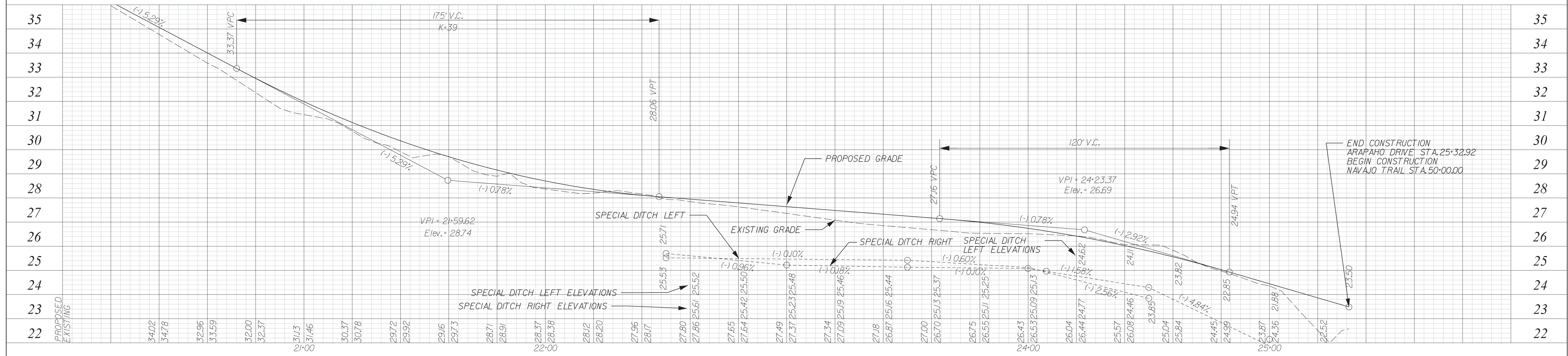
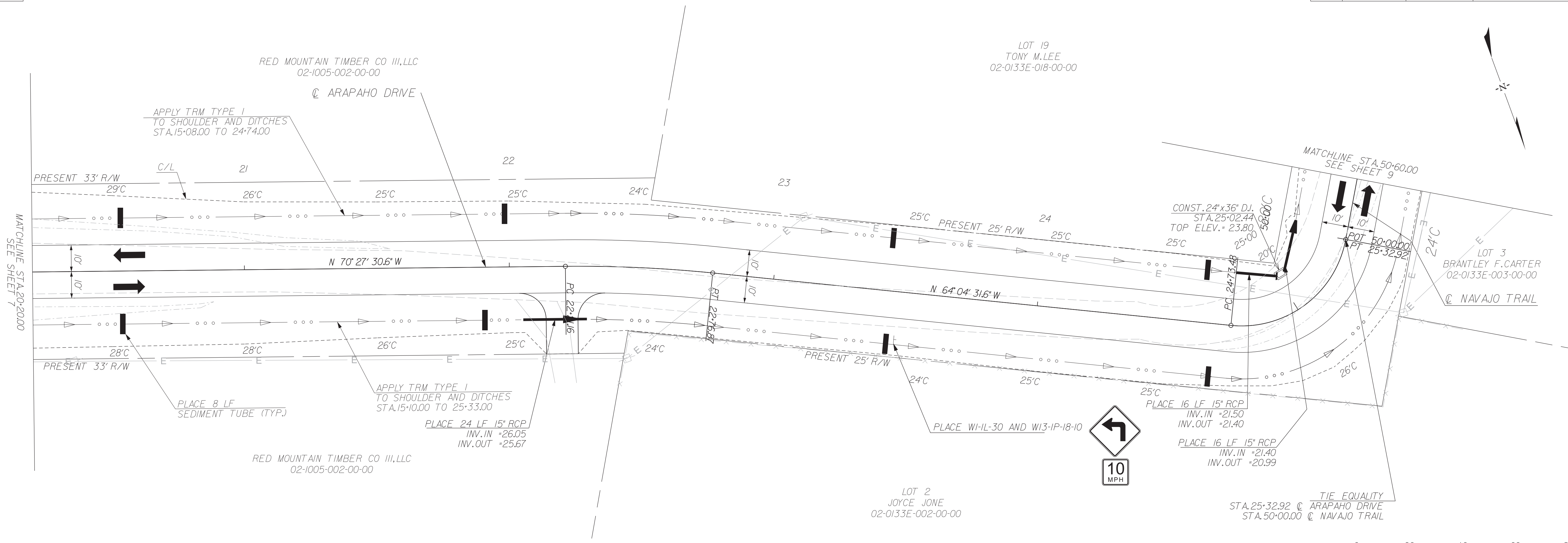
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GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM

ARAPAHO DRIVE / NAVAJO TRAIL
 PLAN/PROFILE SHEET
 STA. 15+20.00 TO STA. 20+20.00

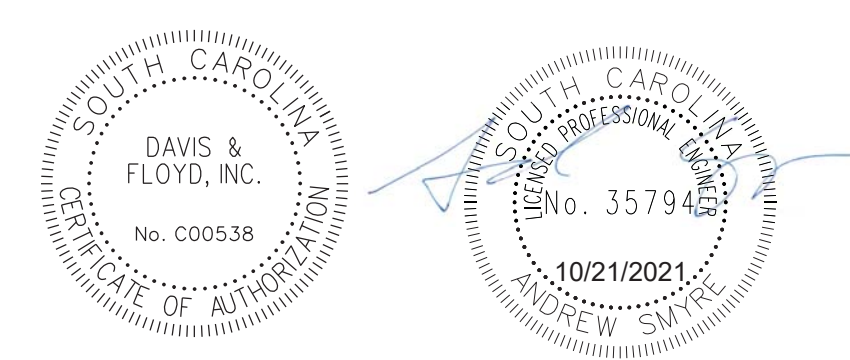
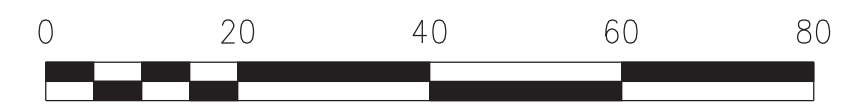
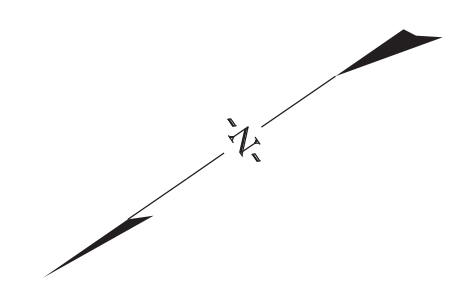
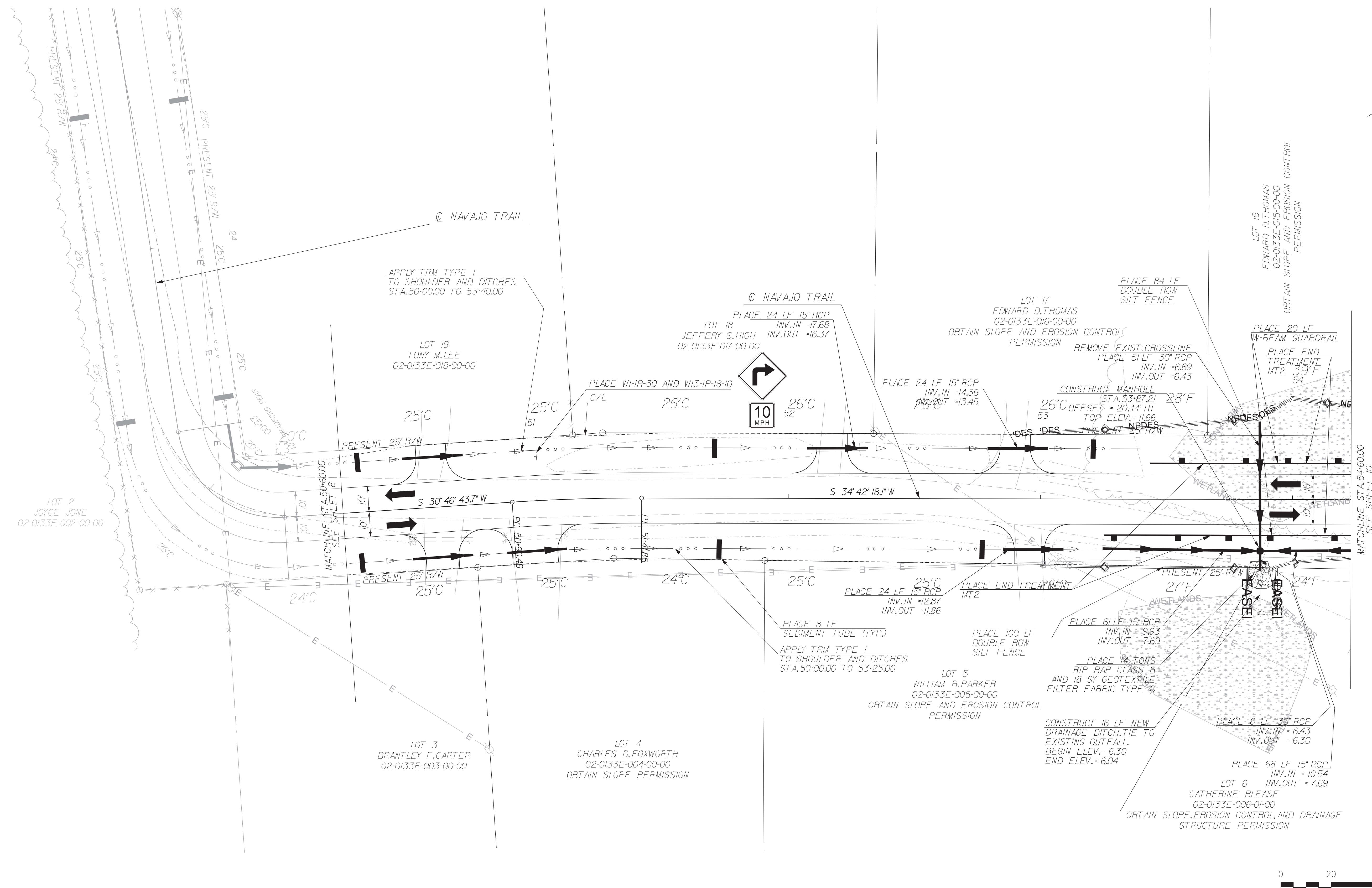
SCALE 1" = 20' HOR. 1" = 2' VER.



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GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM
 ARAPAHO DRIVE / NAVAJO TRAIL
 PLAN/PROFILE SHEET
 STA. 20+20.00 TO STA. 25+32.92
 SCALE 1" = 20' HOR. 1" = 2' VER.



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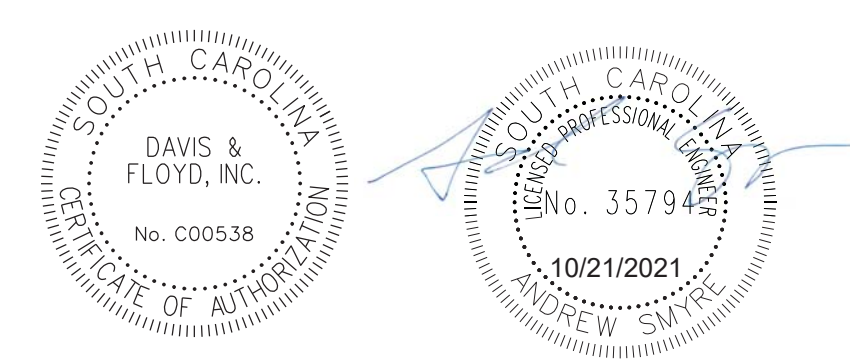
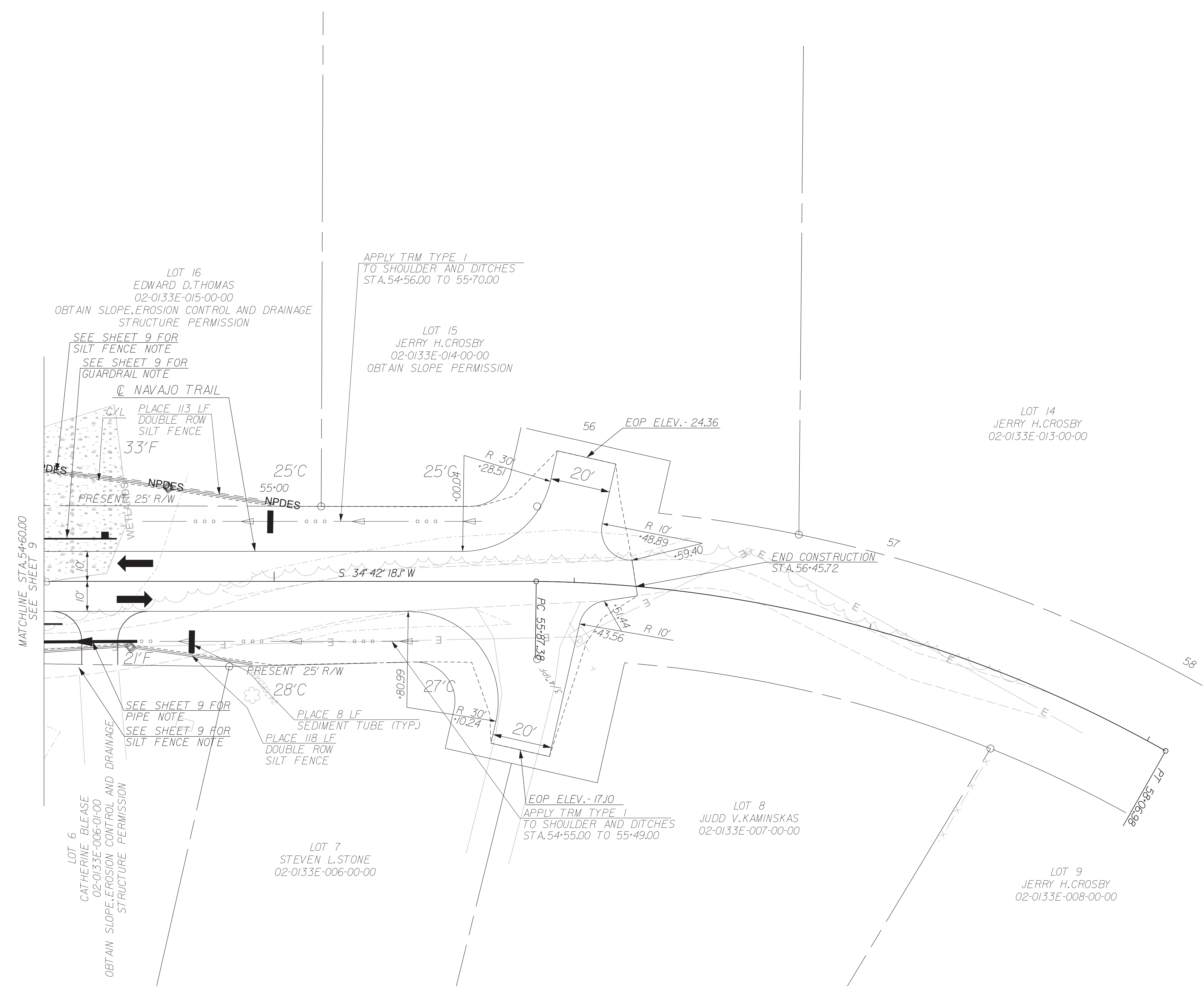
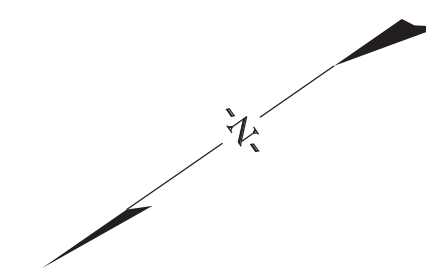
3229 W. MONTAGUE AVENUE
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1843/354-8602

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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

ARAPAHO DRIVE / NAVAJO TRAIL
PLAN SHEET
STA. 50+60.00 TO STA. 54+60.00

SCALE 1" = 20' HOR.

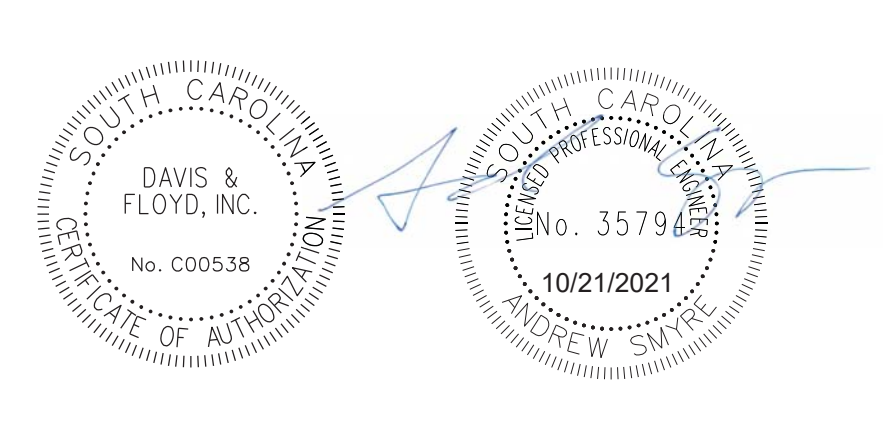
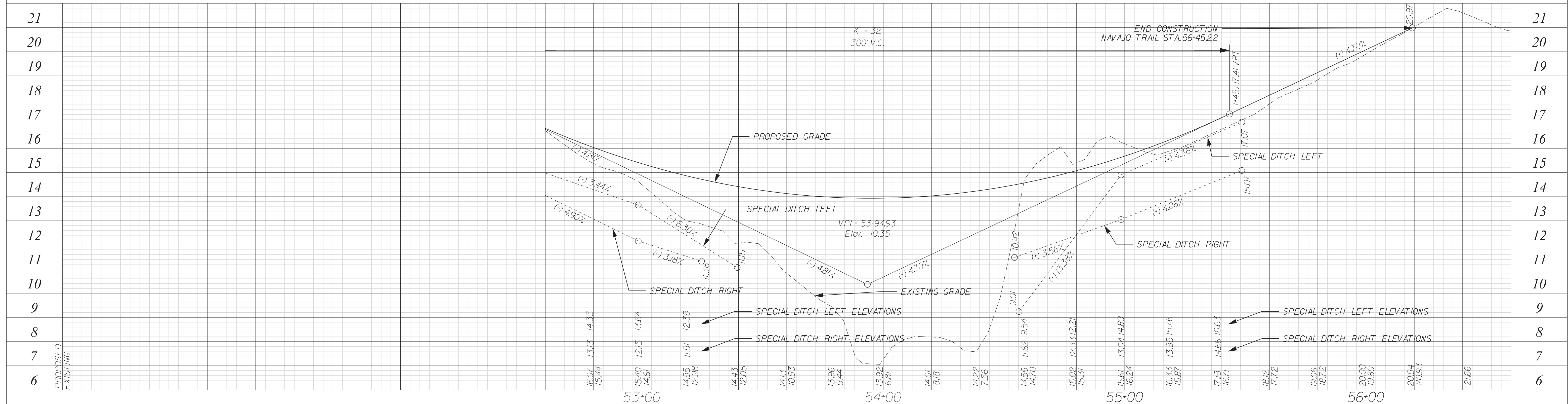
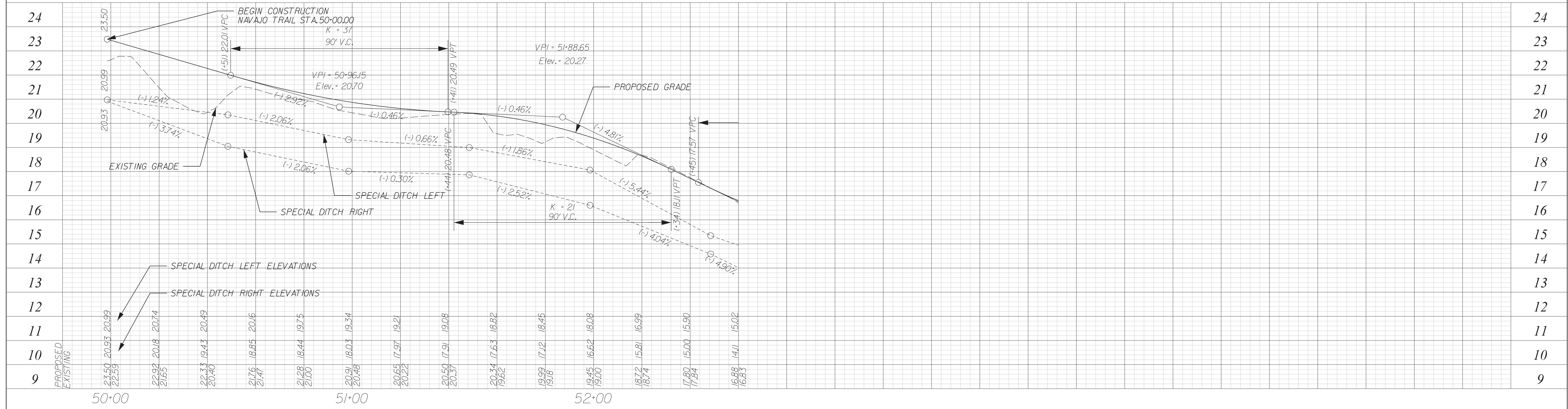


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GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM
 ARAPAHO DRIVE / NAVAJO TRAIL
 PLAN SHEET
 STA. 54+60.00 TO STA. 56+45.72
 SCALE 1" = 20' HOR.



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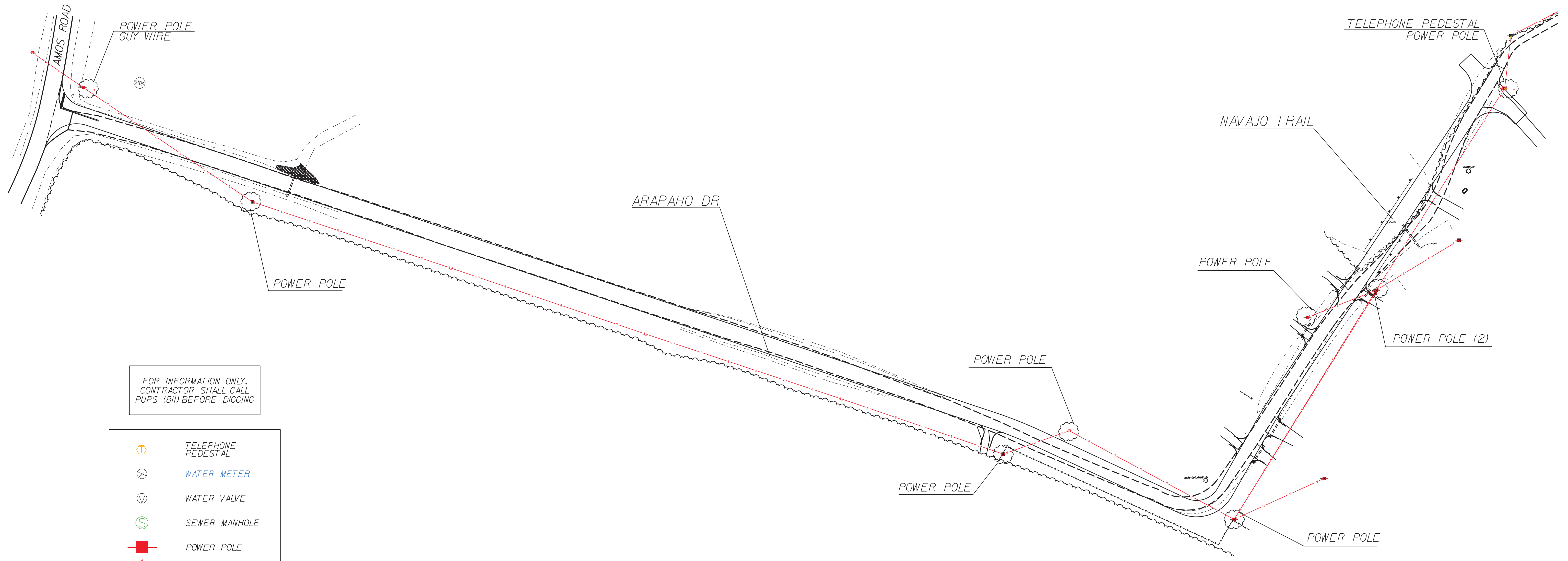
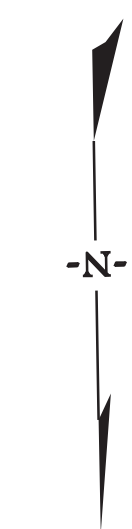
3229 W. MONTAGUE AVENUE
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 (864) 534-6862

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GEORGETOWN COUNTY
 ENGINEERED ROADS PROGRAM

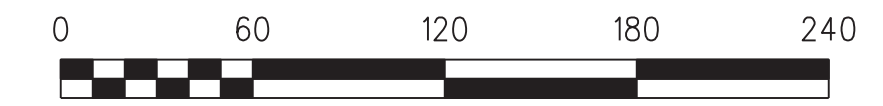
ARAPAHO DRIVE / NAVAJO TRAIL
 PROFILE SHEET
 STA. 50+00.00 TO STA. 56+45.22

SCALE 1" = 20' HOR. 1" = 2' VER.



FOR INFORMATION ONLY.
CONTRACTOR SHALL CALL
PUPS (811) BEFORE DIGGING

- TELEPHONE PEDESTAL
- WATER METER
- WATER VALVE
- SEWER MANHOLE
- POWER POLE
- LIGHT POLE
- GUY WIRE
- SEWER CLEANOUT
- SEWER VALVE
- POTENTIAL CONFLICT



FOR UTILITY
COORDINATION ONLY

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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

ARAPAHO DRIVE / NAVAJO TRAIL
UTILITY SHEET

SCALE 1" = 60'

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.07	ARAPAHO DR/NAVAJO TRAIL	EC1	

OCRM STANDARD NOTES

1. If necessary, slopes which exceed eight (8) feet should be stabilized with synthetic or vegetative mats, in addition to 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 below:
 - *Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions stabilization measures must be initiated as soon as practicable.
 - *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 periodic inspection or other information indicates that a BMP has been inappropriately or incorrectly installed, the Permittee must address the necessary replacement or modification required to correct the BMP within 48 hours of identification.
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 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 back into any waters of the state.
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 the site is stabilized.
6. The contractor must take necessary action to minimize the tracking of mud onto paved roadway(s) from the construction area 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 ET SEQ. 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't be maintained between the disturbed area and all WOS. A 10-foot buffer should be maintained between the last row of silt fence and all WOS..
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 being a pollutant source in storm water discharges.
11. A copy of the SWPPP, inspections records, and rainfall data must be retained at the construction site or a nearby location easily 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 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 equivalent 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 from sites are prohibited:
 - *Wastewater from washout of concrete, unless managed by an appropriate control;
 - *Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
 - *Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
 - *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 this permit 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 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.

SEEDING INSTALLATION

- A. Seed all disturbed areas of construction (excluding riprap lined ditches).
- B. No seeding should be undertaken in windy or unfavorable weather, when the ground is too wet to rake easily, when it is in a frozen condition, or too dry.
- C. The subgrade of all areas to be seeded shall be raked and all rubbish, sticks, roots, and stones larger than 2 IN shall be removed.
- D. Fertilizer shall be uniformly spread and disked or roto-tilled to a depth of at least 4 IN.
- E. Immediately following this preparation the seed shall be uniformly applied and lightly raked into the surface. Lightly roll the surface and water with fine spray. Seed shall be applied, depending on the period of year, at the rates indicated in Section 810 of the SCDOT Standard Specifications for Highway Construction (Edition 2007).

All seeded areas shall be mulched with clean small-grain straw at a rate of 1/2 to 2 tons per acre. Asphalt emulsion shall be applied uniformly at a rate of 300 GAL per acre to tack the mulch, unless otherwise shown on the plans. Mechanical tacking will be considered on a case-by-case basis as approved by the Engineer.
- F. All seeded areas shall be watered and maintained in good condition. Reseeding shall be done if and when necessary until a good, healthy, uniform growth is established over the entire area seeded.
- G. Slopes shall be protected against washouts by an approved method. Any washout which occurs shall be regraded and reseeded until good sod is established.

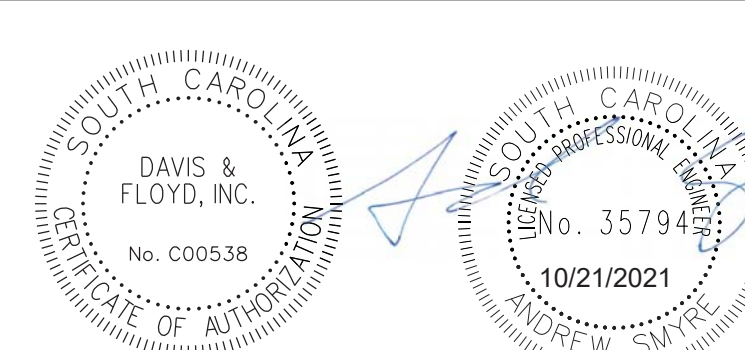
SEQUENCE OF CONSTRUCTION

- A. Obtain all permits.
- B. Contact the office of Ocean and Coastal Resource Management (OCRM) at (843)238-4528 prior to commencing construction activities.
- C. Install sediment erosion controls as follows:
 1. Silt Fences shall be used to prevent silt from leaving the limits of construction.
 2. Stabilized Graveled Construction Entrances shall be used at locations where construction vehicles access public non-construction areas. Vehicles shall be washed down as necessary to prevent tracking of silt offsite.
 3. A temporary rock filter dam or sediment tube shall be used as ditch checks as directed by the Engineer.
 4. Adhere by all of the OCRM Standard Notes listed on the right of this sheet and install BMP's per the SCDOT Standard Drawings for Erosion Control.
- D. A recommended sequence of construction follows:
 1. Clear and grub only areas necessary for perimeter erosion and sediment control silt fence, hay bales, and temporary sediment traps.
 2. Construct perimeter controls.
 3. Construct new drainage appurtenances within the areas protected by perimeter controls.
 4. Install protection around inlets and stabilize disturbed areas as soon as possible (within 7 calendar days).
 5. Proceed with construction. Limit disturbed areas to areas with work in progress to limit disruption to traffic. Schedule work to maintain access to all driveways as long as possible.
 6. Erosion controls may be removed after the area contributing flow to that particular erosion control device has been stabilized.
 7. Stabilize all remaining areas.
 8. Clean out temporary sediment control as needed; check controls every seven (7) days.
 9. Remove sediment controls 30 days after all disturbed areas have stabilized.

SEE DETAIL SHEETS AND SCDOT STANDARD DRAWINGS
FOR EROSION CONTROL DETAILS

TYPE F INLET FILTER

DRAWING NO.
815-006-00



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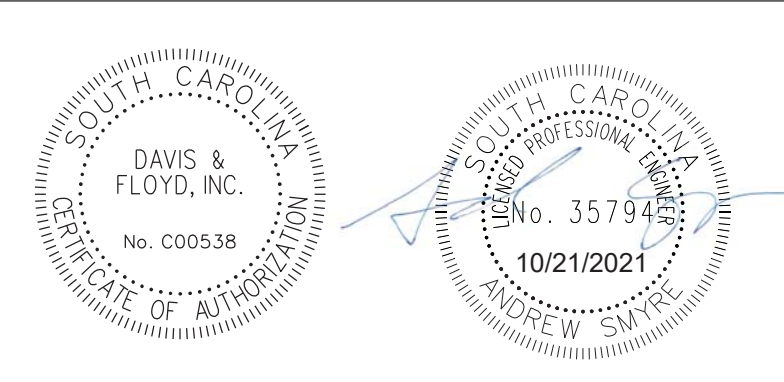
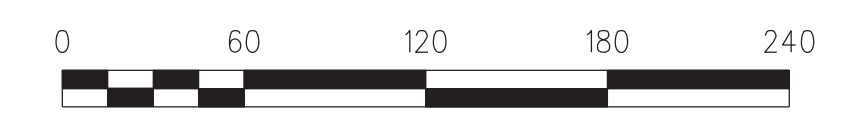
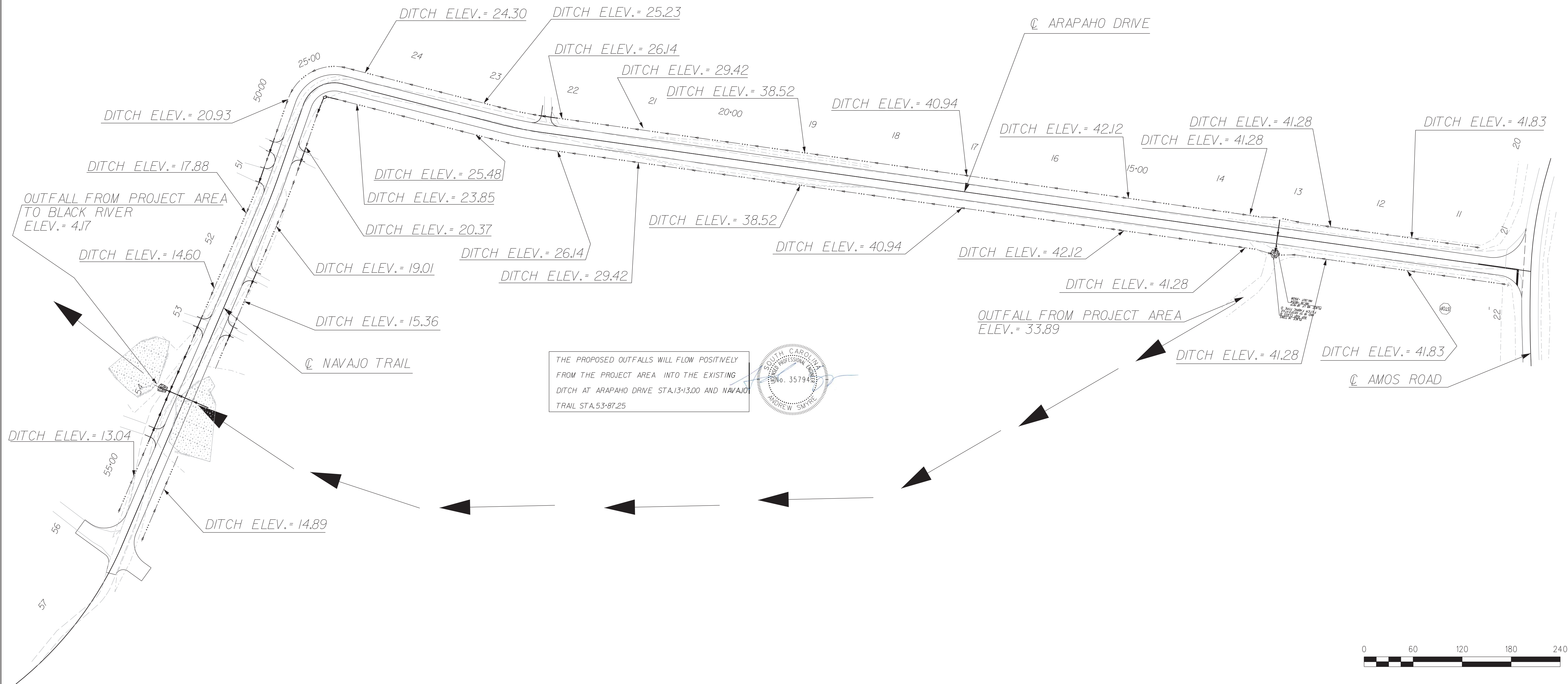
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GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

ARAPAHO DRIVE / NAVAJO TRAIL
EROSION CONTROL NOTES

N.T.S.

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810.07	ARAPAHO DR/NAVAJO TRAIL	EC2	



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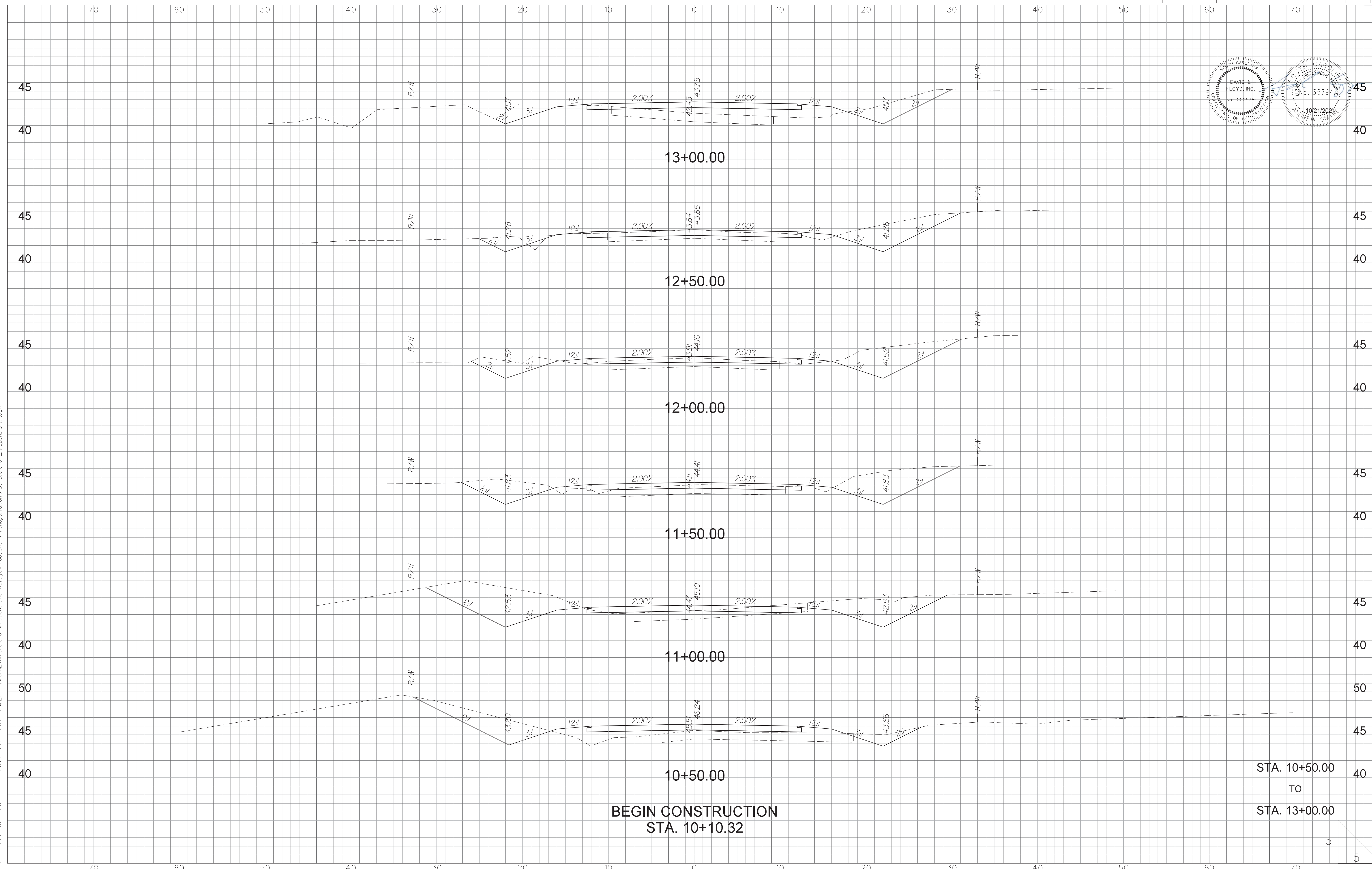
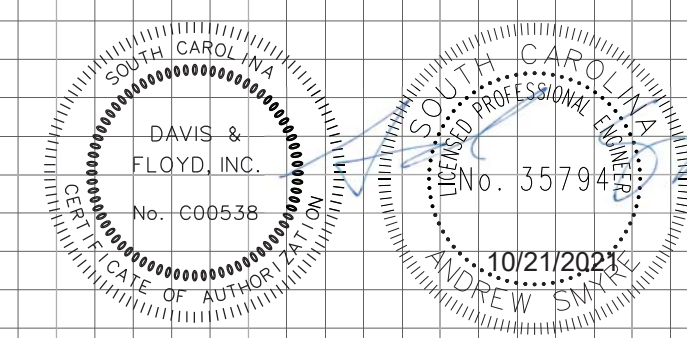
GEORGETOWN COUNTY
ENGINEERED ROADS PROGRAM

ARAPAHO DRIVE / NAVAJO TRAIL
DITCH ELEVATIONS SHEET

SCALE 1"= 60'

ARAPAHO DRIVE

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-07	ARAPAHO DR/NAVAJO TRAIL	X1	



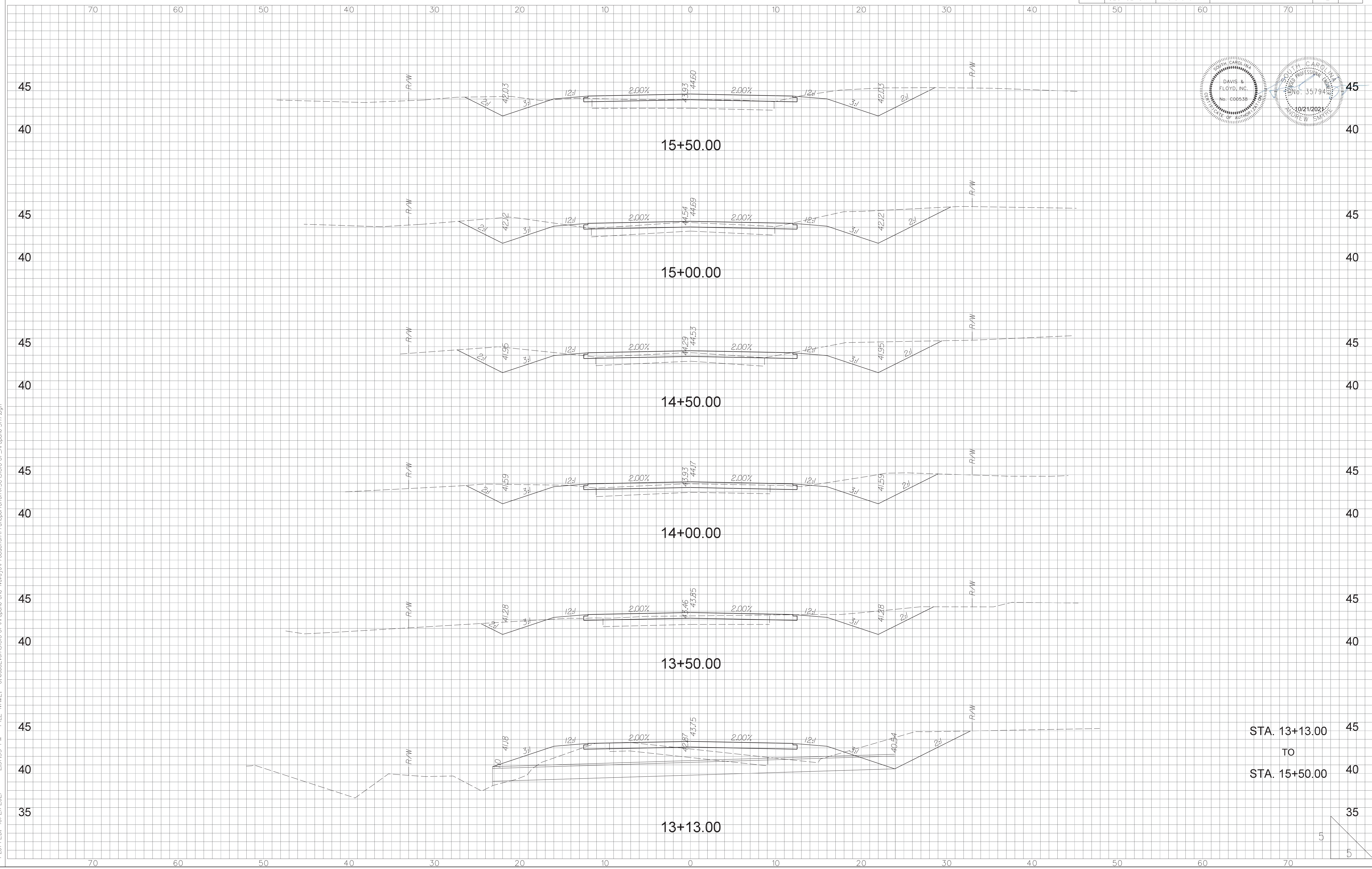
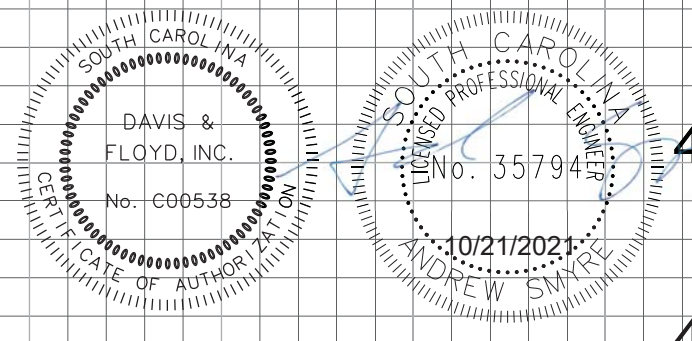
BEGIN CONSTRUCTION
STA. 10+10.32

STA. 10+50.00
TO
STA. 13+00.00

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ARAPAHO DRIVE

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-07	ARAPAHO DR/NAVAJO TRAIL	X2	

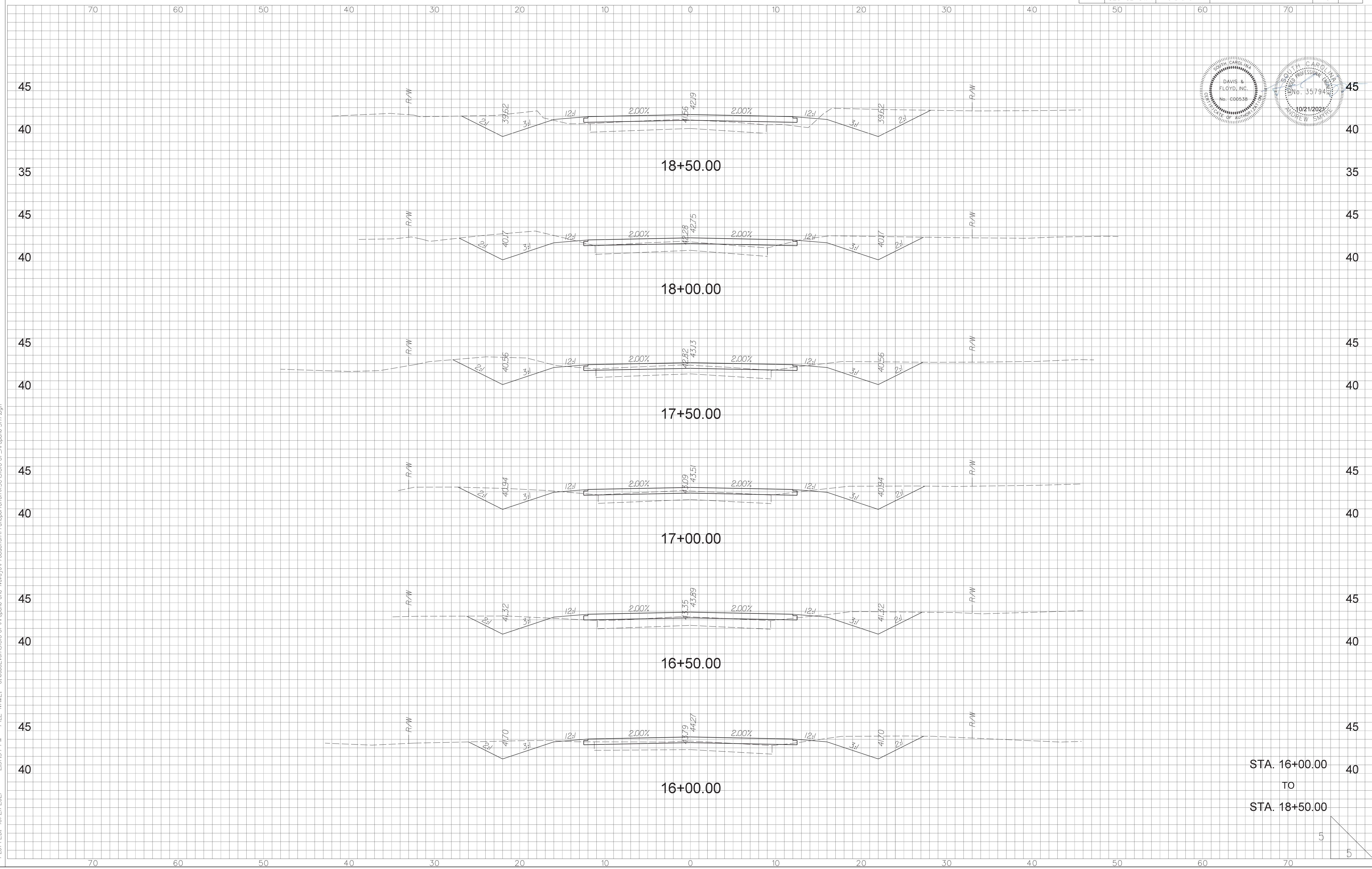
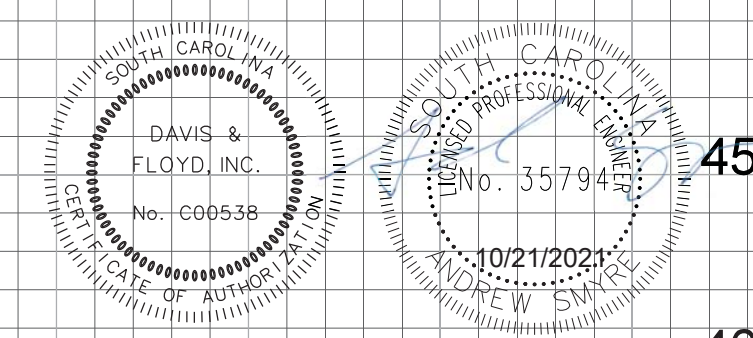


STA. 13+13.00
TO
STA. 15+50.00

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ARAPAHO DRIVE

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-07	ARAPAHO DR/NAVAJO TRAIL	X3	

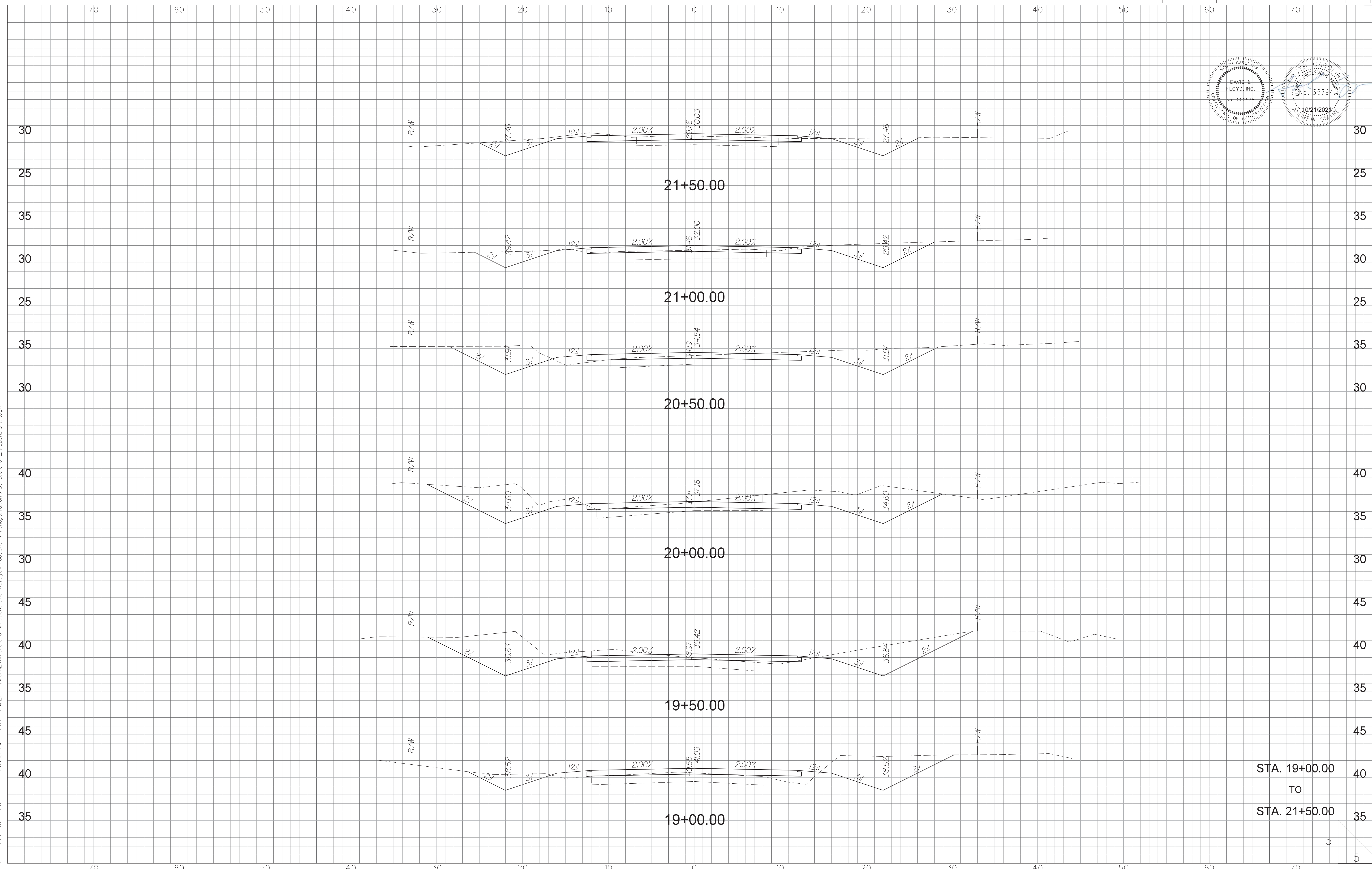
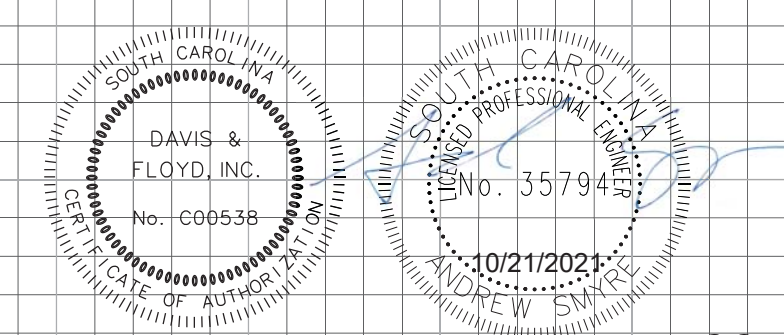


STA. 16+00.00
TO
STA. 18+50.00

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ARAPAHO DRIVE

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-07	ARAPAHO DR/NAVAJO TRAIL	X4	

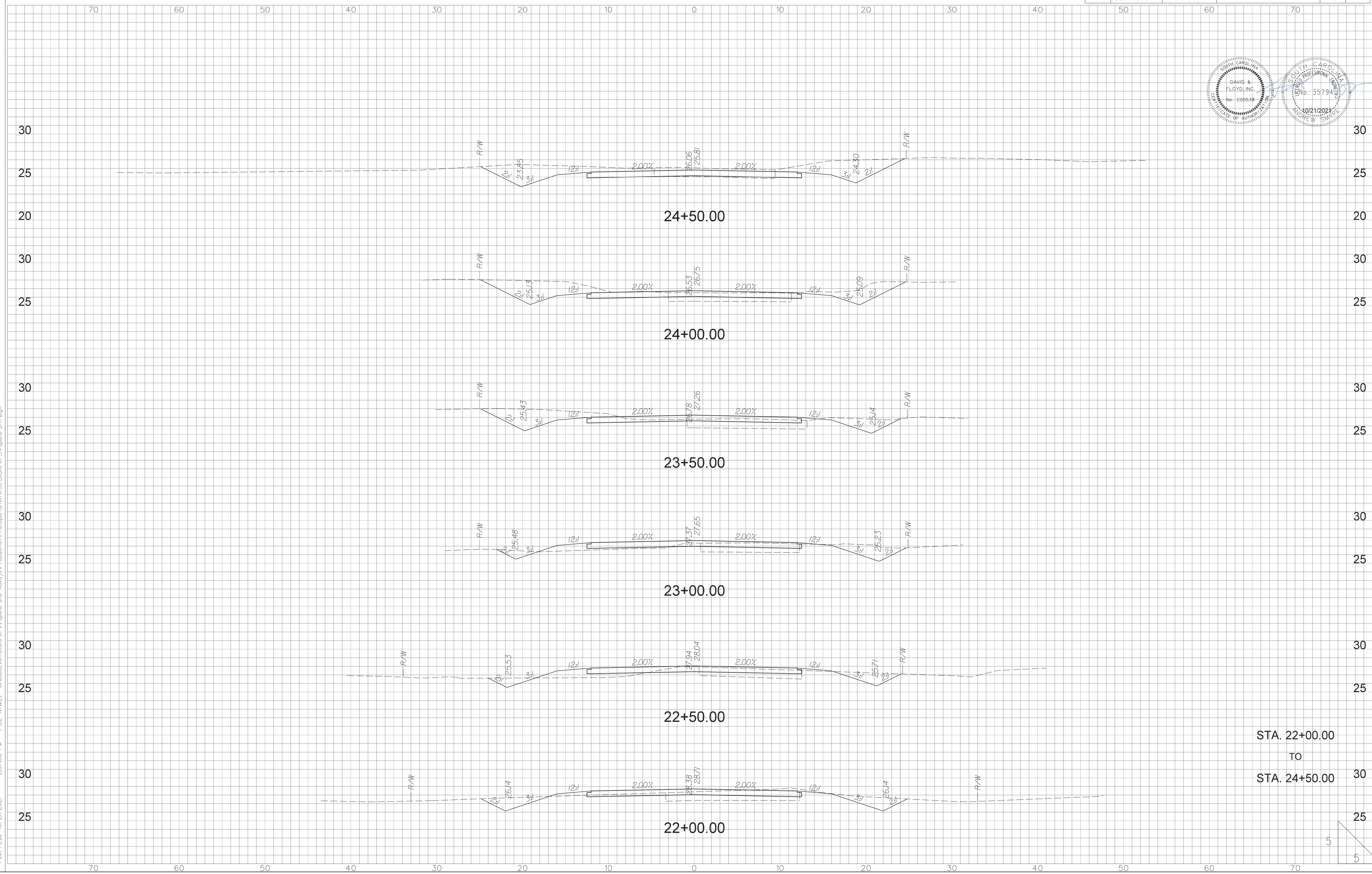
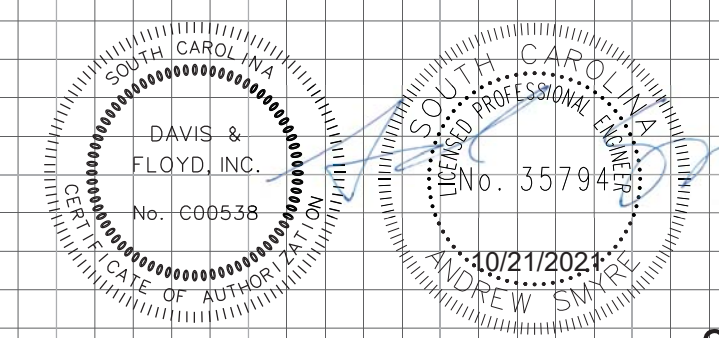


STA. 19+00.00
TO
STA. 21+50.00

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ARAPAHO DRIVE

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-07	ARAPAHO DR/NAVAJO TRAIL	X5	

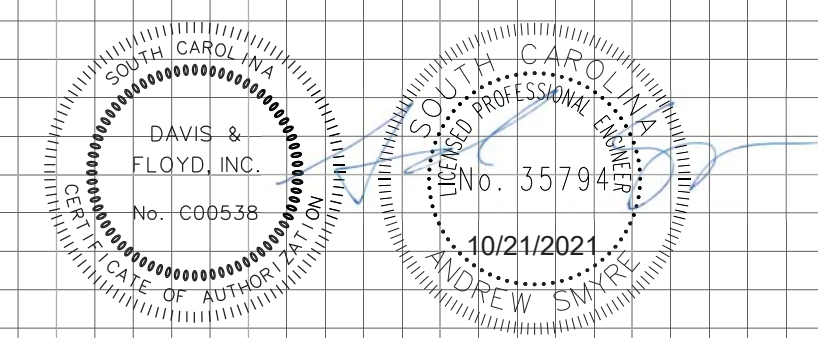


STA. 22+00.00
TO
STA. 24+50.00

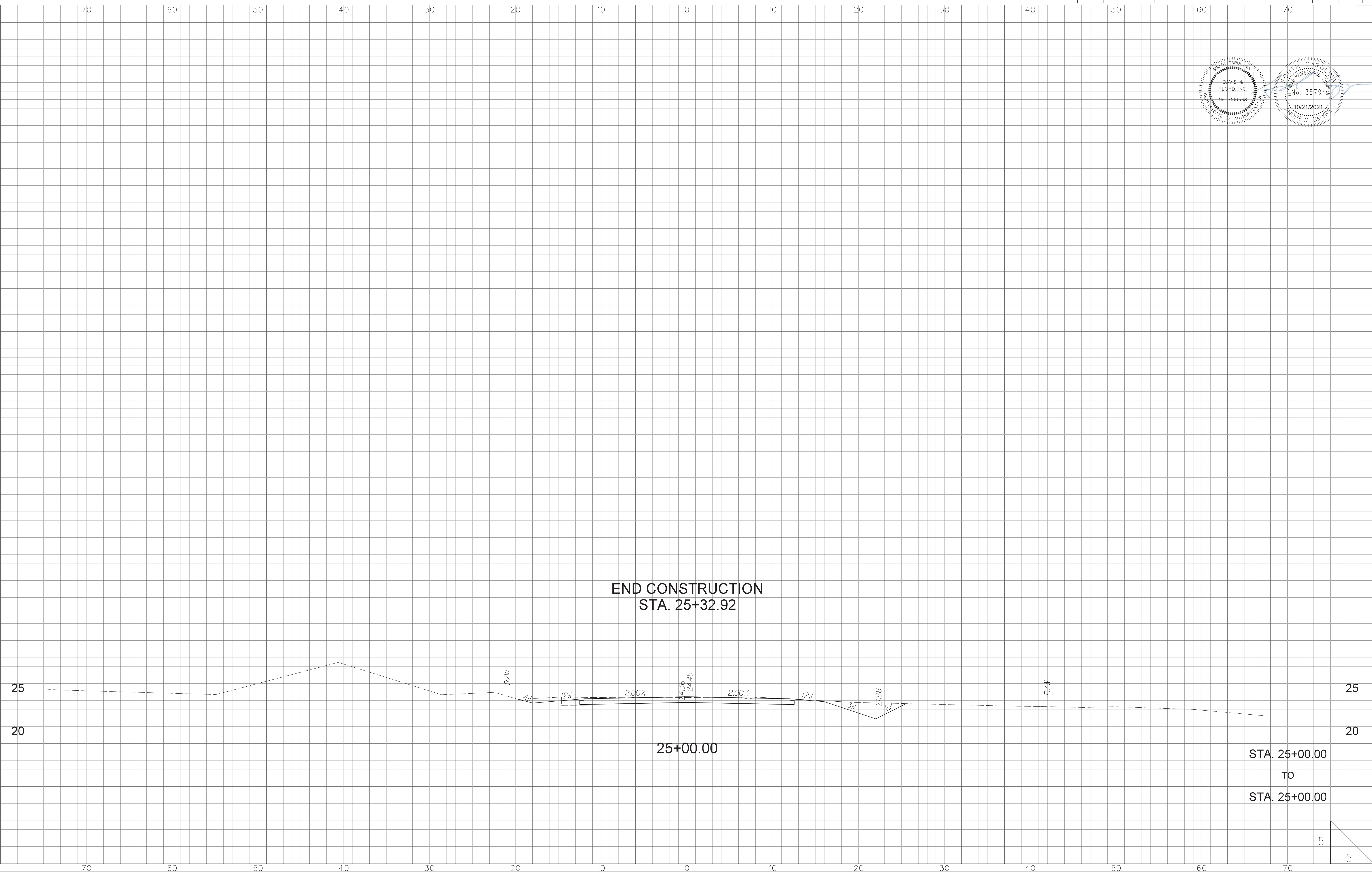
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ARAPAHO DRIVE

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-07	ARAPAHO DR/NAVAJO TRAIL	X6	



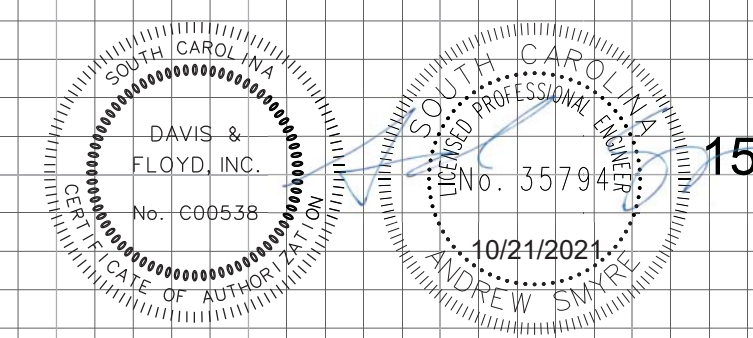
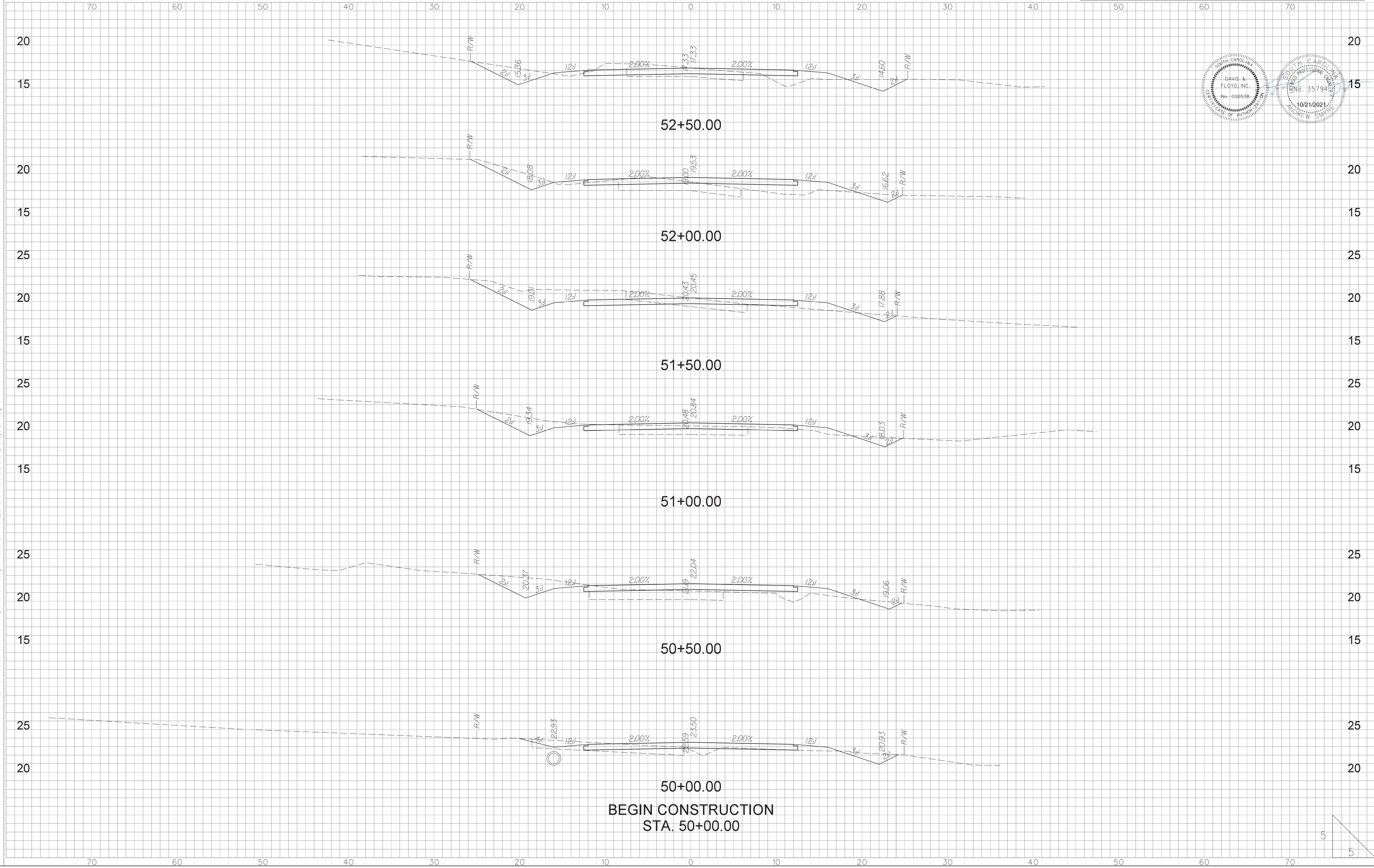
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TO
STA. 25+00.00

NAVAJO TRAIL

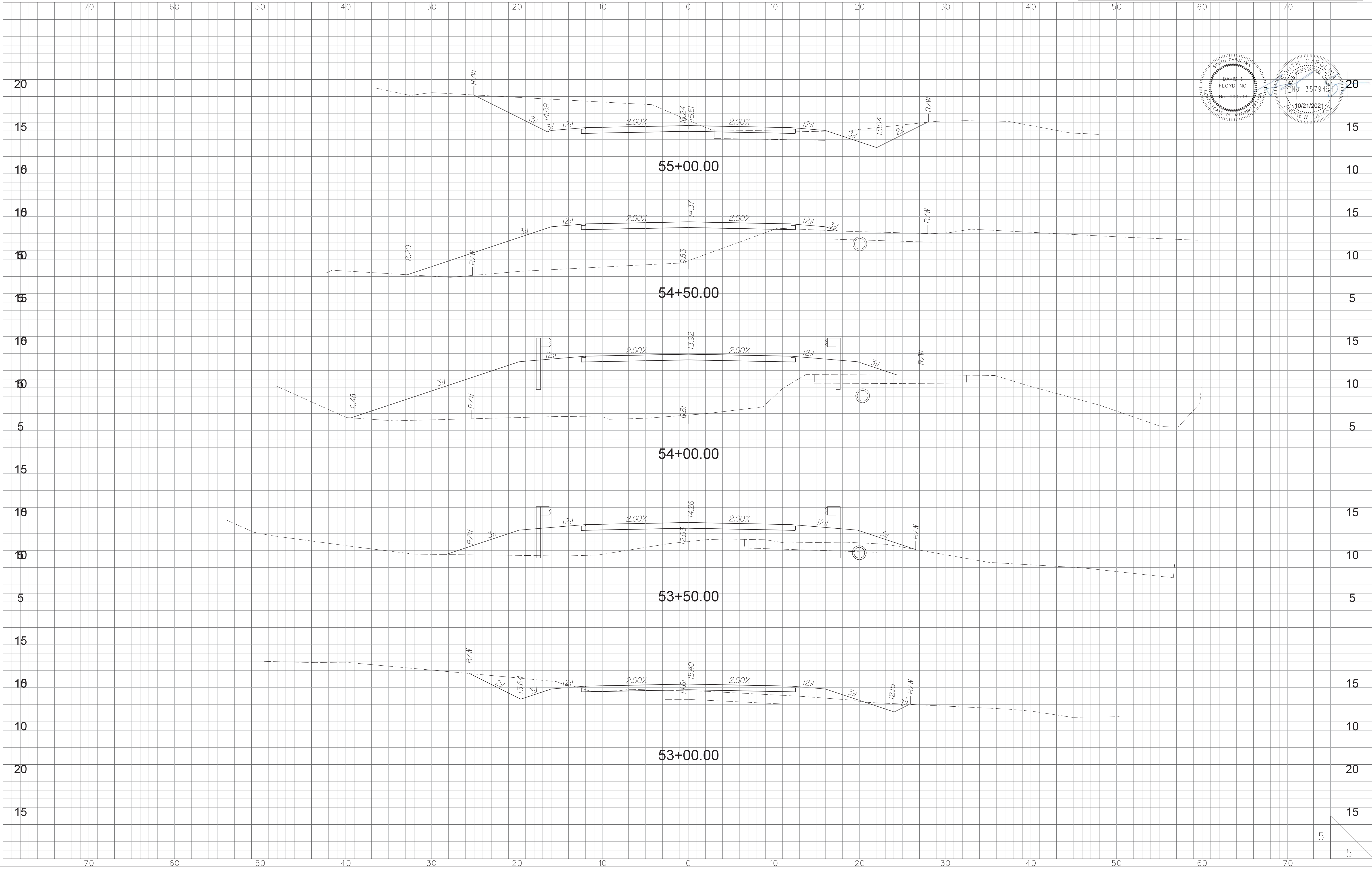
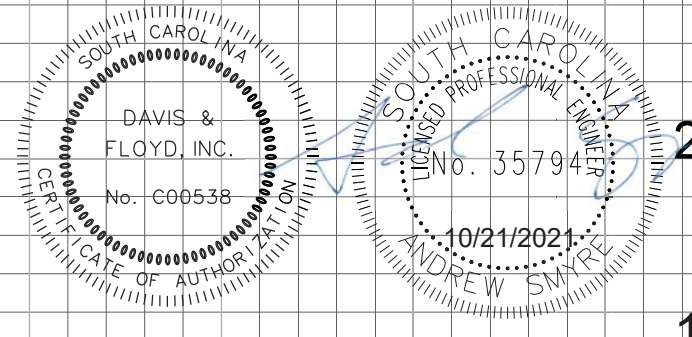
STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-07	ARAPAHO DR/NAVAJO TRAIL	X7	



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NAVAJO TRAIL

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-07	ARAPAHO DR/NAVAJO TRAIL	X8	

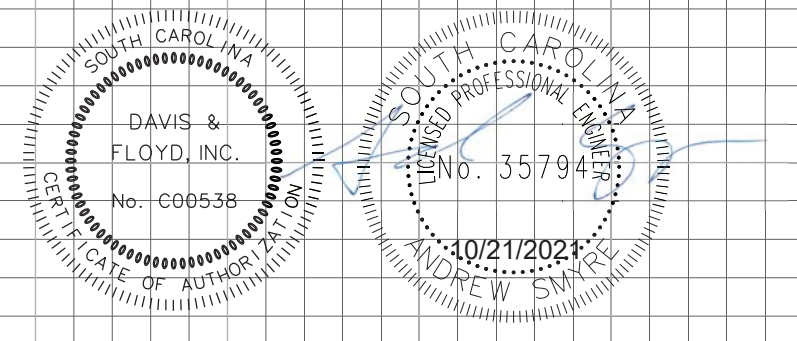


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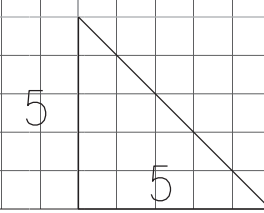
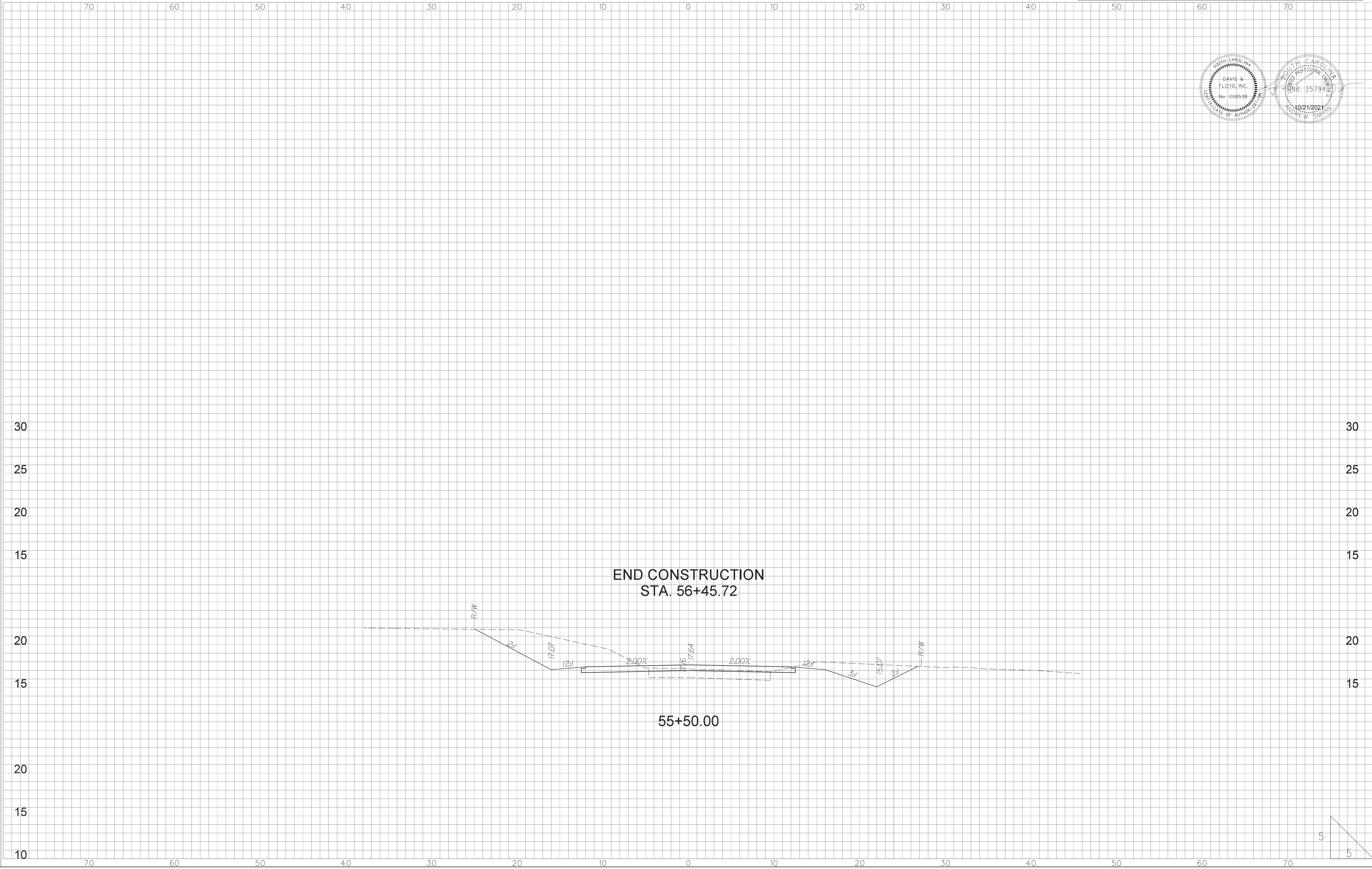
10/21/2021

NAVAJO TRAIL

STATE	COUNTY	D&F PROJECT NO.	ROAD NAME	SHEET NO.	TOTAL SHEETS
S.C.	GEORGETOWN	31810-07	ARAPAHO DR/NAVAJO TRAIL	X9	

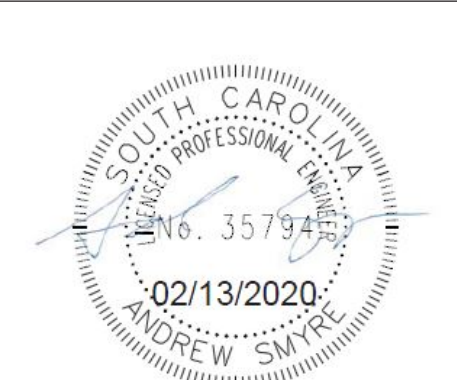
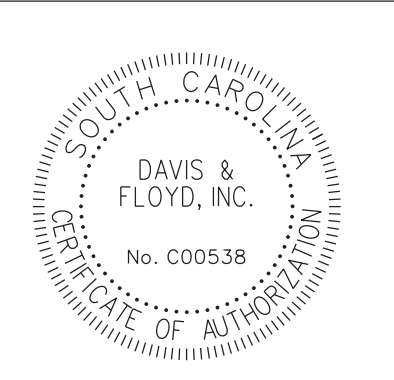


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PERMANENT SEEDING - COASTAL													
SPECIES	LBS/Ac	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SANDY, DROUGHTY SITES													
BROWNTOP MILLET	10 LBS/Ac												
BAHIAGRASS	40 LBS/Ac												
BROWNTOP MILLET	10 LBS/Ac												
BAHIAGRASS	30 LBS/Ac												
SERICEA LESPEDEZA	40 LBS/Ac												
BROWNTOP MILLET	10 LBS/Ac												
ATLANTIC COASTAL PANICGRASS	15 LBS/Ac PLS												
BROWNTOP MILLET	10 LBS/Ac												
SWITCHGRASS (ALAMO)	8 LBS/Ac PLS												
LITTLE BLUESTEM	4 LBS/Ac												
SERICEA LESPEDEZA	20 LBS/Ac												
BROWTOP MILLET	10 LBS/Ac												
WEEPING LOVEGRASS	8 LBS/Ac												
WELL DRAINED, CLAYEY/LOAMEY SITES													
BROWNTOP MILLET	10 LBS/Ac												
BAHIAGRASS	40 LBS/Ac												
RYE, GRAIN	10 LBS/Ac												
BAHIAGRASS	40 LBS/Ac												
CLOVER, CRIMSON (ANNUAL)	5 LBS/Ac												
BROWTOP MILLET	10 LBS/Ac												
BAHIAGRASS	30 LBS/Ac												
SERICEA LESPEDEZA	40 LBS/Ac												
BROWTOP MILLET	10 LBS/Ac												
BERMUDA, COMMON	10 LBS/Ac												
SERICEA LESPEDEZA	40 LBS/Ac												
BROWNTOP MILLET	10 LBS/Ac												
BERMUDA, COMMON	12 LBS/Ac												
KOBE LESPEDEZA (ANNUAL)	10 LBS/Ac												
BROWNTOP MILLET	10 LBS/Ac												
BAHIAGRASS	20 LBS/Ac												
BERMUDA, COMMON	6 LBS/Ac												
SERICEA LESPEDEZA	40 LBS/Ac												
BROWNTOP MILLET	10 LBS/Ac												
SWITCHGRASS	8 LBS/Ac												
LITTLE BLUESTEM	PLS												
INDIANGRASS	3 LBS/Ac PLS 3 LBS/Ac PLS												
TEMPORARY SEEDING - COASTAL													
SPECIES	LBS/Ac	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SANDY, DROUGHTY SITES													
BROWNTOP MILLET	40 LBS/Ac												
RYE, GRAIN	56 LBS/Ac												
RYEGRASS	50 LBS/Ac												
WELL DRAINED, CLAYEY/LOAMEY SITES													
BROWNTOP MILLET OR JAPANESE MILLET	40 LBS/Ac												
RYE, GRAIN OR	56 LBS/Ac												
OATS	75												
RYEGRASS	50 LBS/Ac												

NOTES:
 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.



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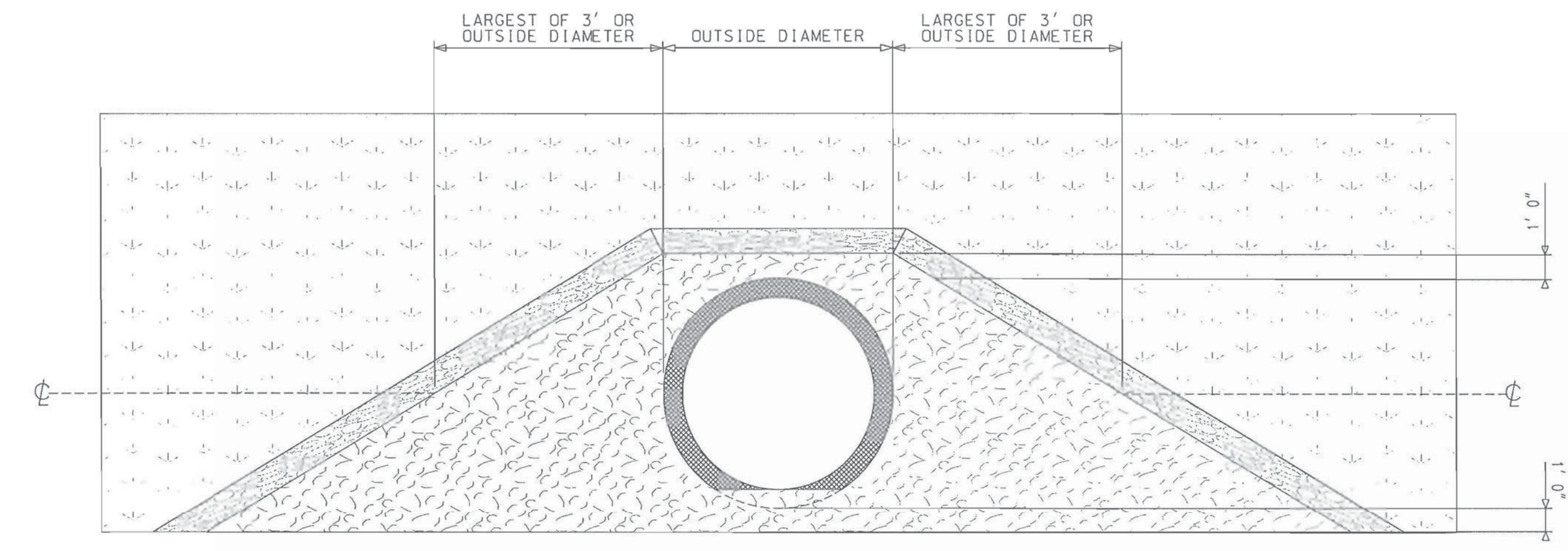
3229 W. MONTAGUE AVENUE
 CHARLESTON, SC 29418
 (843) 554-8602

SEEDING SCHEDULE

N.T.S.

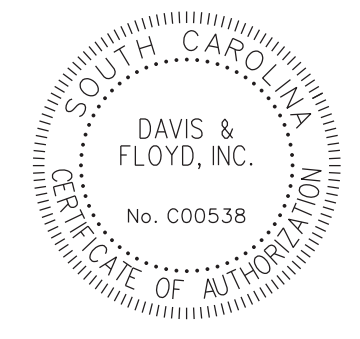
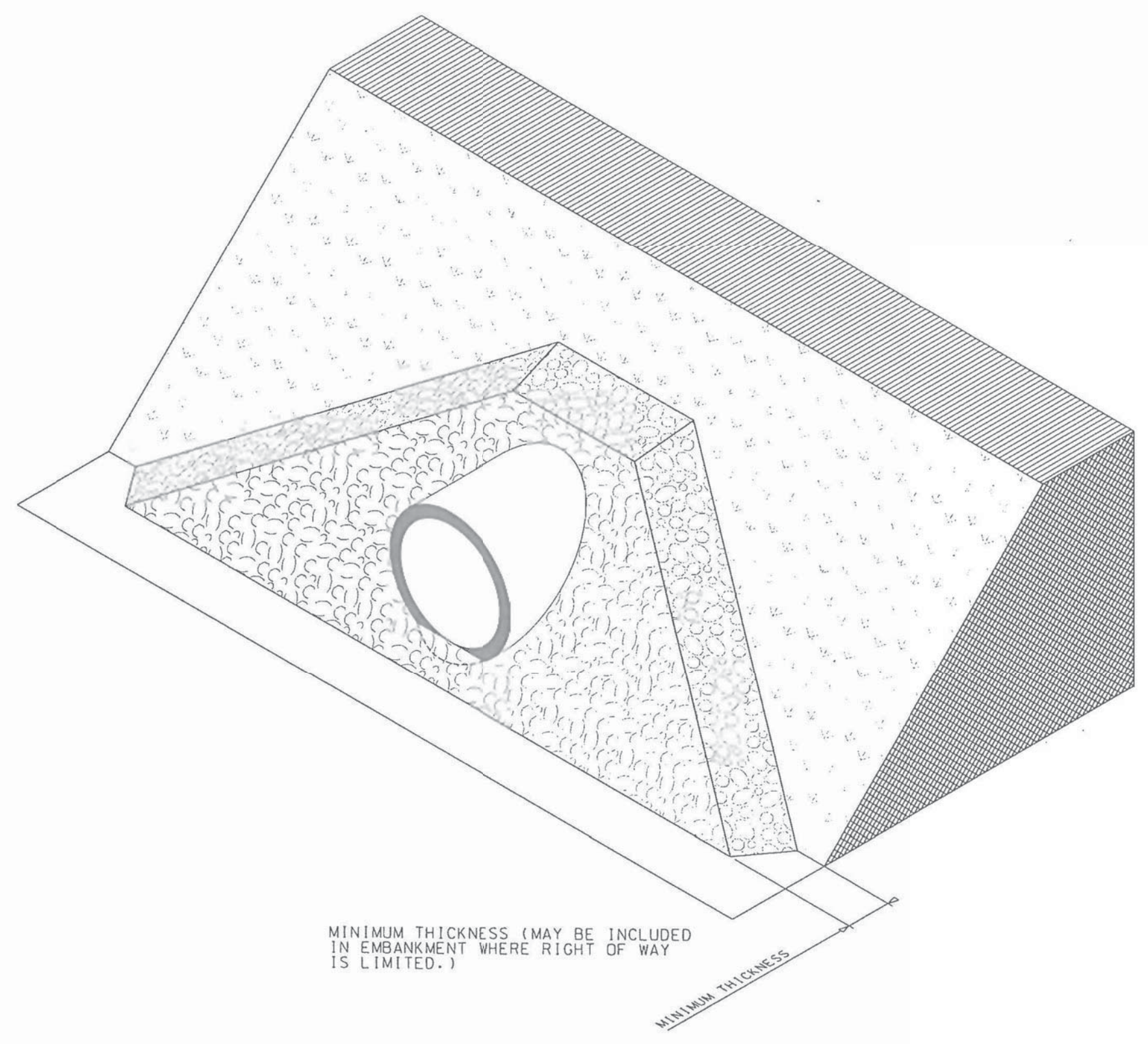
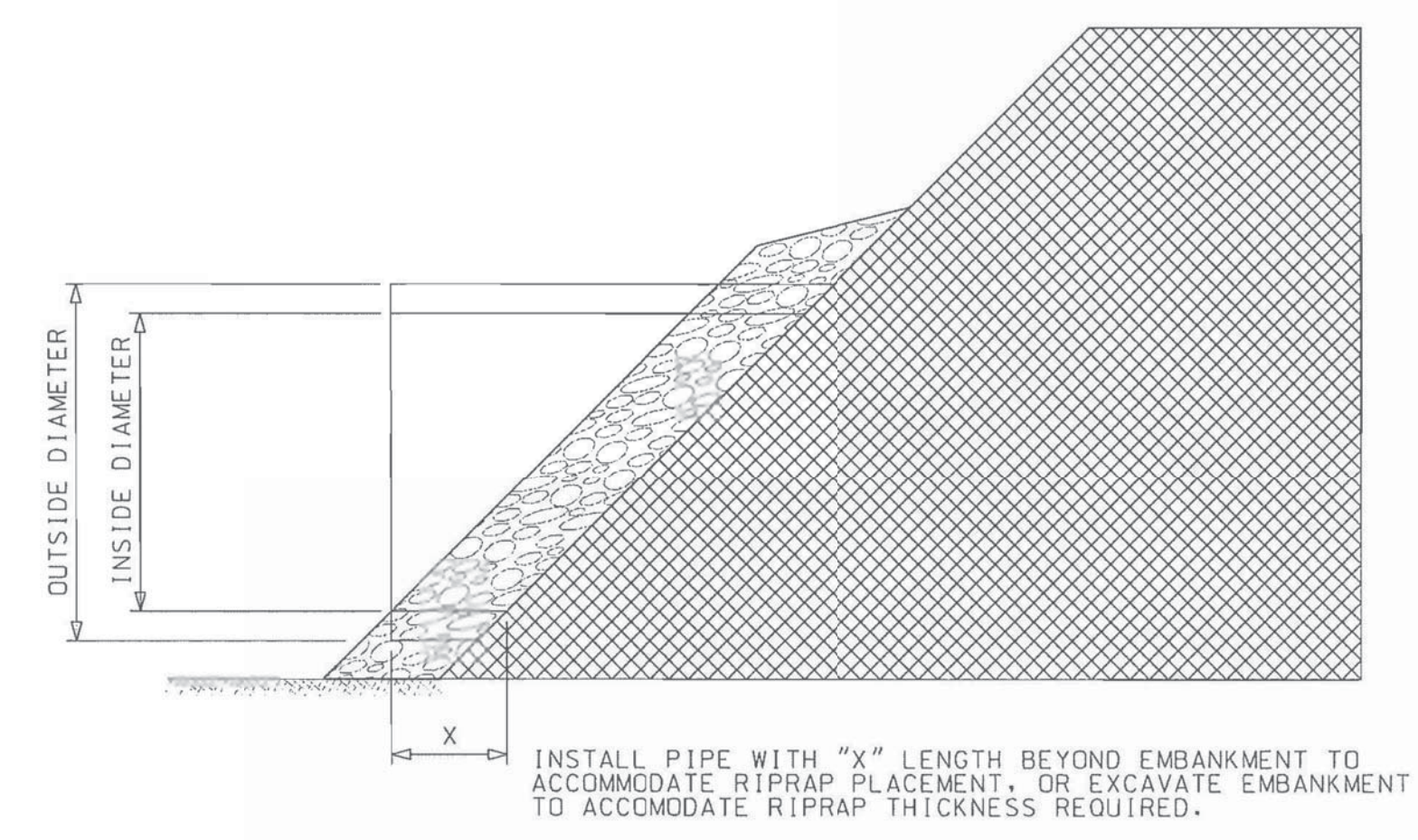
- NOTES:
1. GEOTEXTILE FABRIC TO BE USED UNDER RIPRAP WHEN INCLUDED IN THE PLANS
 2. ALTERNATE PIPE END TREATMENTS ARE ALSO AVAILABLE. SEE STANDARD DRAWING SECTION 719-600-00.
 3. PAY ITEMS:
8041xxx RIP-RAP (CLASS -) - TON
8048xxx GEOTEXTILE FOR EROSION CONTROL UNDER RIPRAP (CLASS 2) TYPE - SY

- NOTES:
- 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 - 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.



**CHART 804-305A
RIPRAP PLACEMENT**

MINIMUM CLASS	D ₅₀ (FT)	MINIMUM THICKNESS (FT)	PIPE DIAMETER
B	0.75	1.50	UP TO 84"
C	1.30	2.60	LARGER THAN 84"



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RIPRAP PIPE DETAIL

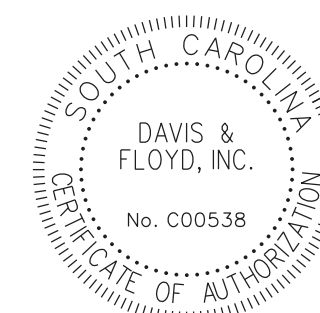
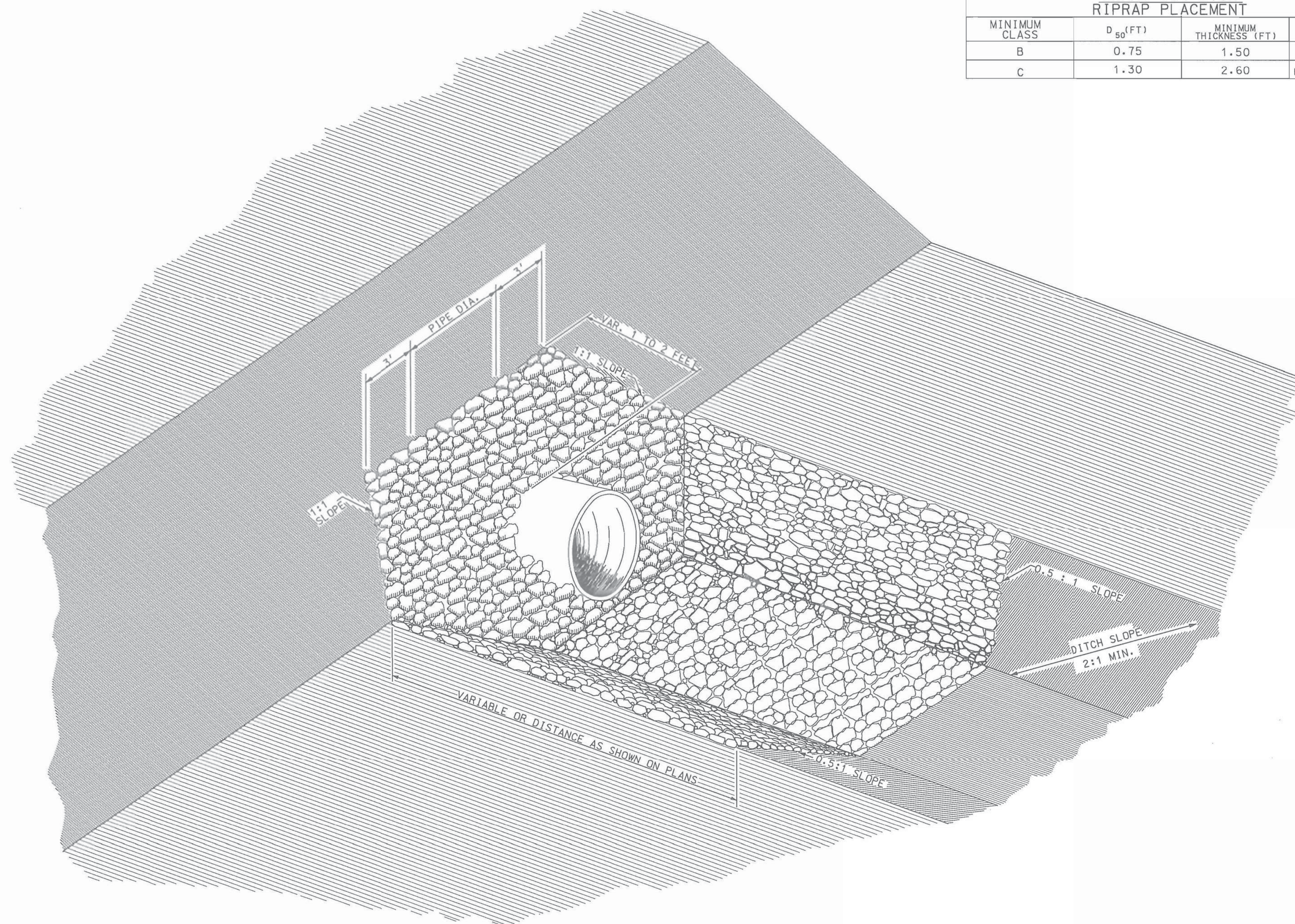
N.T.S.

- NOTES:
1. GEOTEXTILE FABRIC TO BE USED UNDER RIPRAP WHEN INCLUDED IN THE PLANS.
 2. SEE STANDARD DRAWINGS SECTION 719-600-00 FOR ADDITIONAL PIPE END TREATMENT OPTIONS.
 3. THE PAY ITEMS SHALL BE:
 RIPRAP CLASS _____ TON
 GEOTEXTILE FOR EROSION CONTROL UNDER RIPRAP (CLASS "I") TYPE _____ S.Y.

- NOTES:
- 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 - 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

**CHART 804-310A
RIPRAP PLACEMENT**

MINIMUM CLASS	D ₅₀ (FT)	MINIMUM THICKNESS (FT)	PIPE DIAMETER
B	0.75	1.50	UP TO 84"
C	1.30	2.60	LARGER THAN 84"



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RIPRAP DITCH DETAIL

N.T.S.

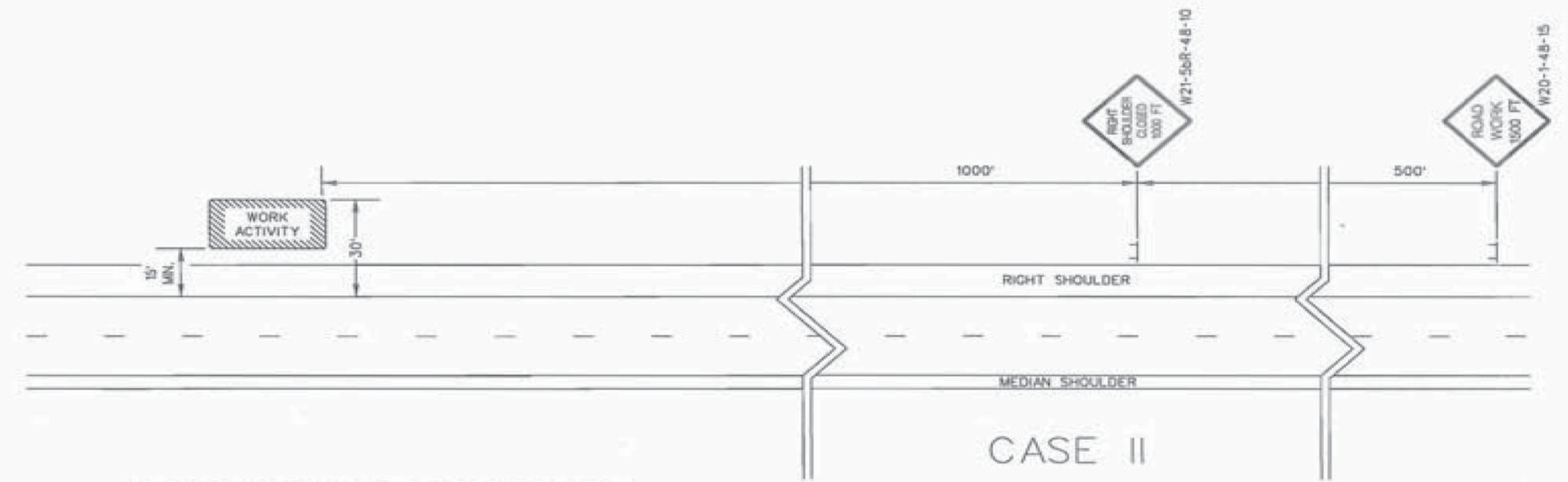
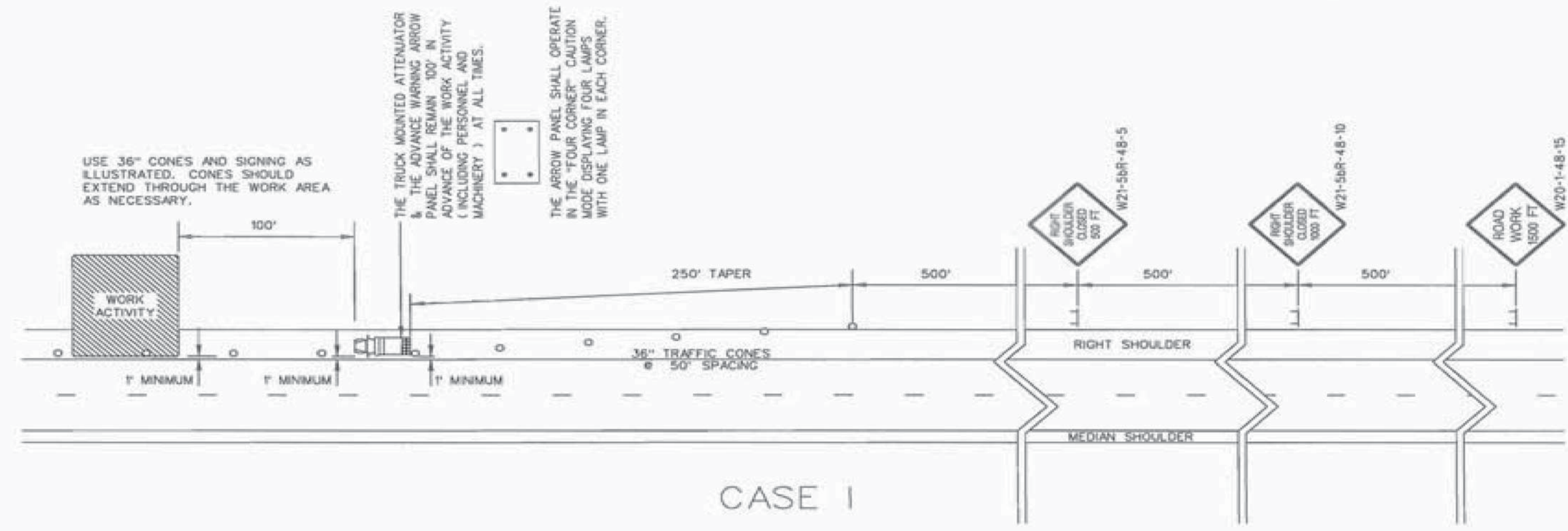
NOTES:
 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

GENERAL NOTES

- ALL SIGN LOCATIONS ARE TO BE MEASURED FROM THE WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.
- INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
- SPACINGS INDICATED ARE FOR NORMAL CONDITIONS; ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS.
- ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL POSTS OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
- REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
- ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALL MCHRP REPORT 350 REQUIREMENTS AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org.
- THE CONTRACTOR SHALL PROVIDE AND UTILIZE ANY SPECIAL SIGN MOUNTING ASSEMBLIES AND HARDWARE THAT MAY BE NECESSARY FOR INSTALLING AND MOUNTING SIGNS IN AREAS OF CONCRETE MEDIAN BARRIER, BRIDGE PARAPET WALLS OR DOUBLED FACED GUARDRAIL.
- THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR DAYTIME SHOULDER CLOSURES ARE 36" CONES. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR NIGHTTIME SHOULDER CLOSURES ARE PORTABLE PLASTIC DRUMS. DURING DAYTIME SHOULDER CLOSURES, 42" OVERSIZED CONES MAY BE SUBSTITUTED FOR 36" CONES. DURING NIGHTTIME SHOULDER CLOSURES, 42" OVERSIZED CONES ARE PROHIBITED FOR USE. IF THIS TRAFFIC CONTROL SETUP EXTENDS INTO THE HOURS OF DARKNESS, REPLACE ALL CONES, 36" OR 42" OVERSIZED, WITH PORTABLE PLASTIC DRUMS.
- THE 36" CONES UTILIZED DURING DAYLIGHT HOURS ARE NOT REQUIRED TO BE REFLECTORIZED. REFLECTORIZE ALL 42" OVERSIZED CONES UTILIZED DURING DAYTIME SHOULDER CLOSURES WITH TYPE II FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS WITH TYPE III FLEXIBLE PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
- THE DEPARTMENT PROHIBITS CONDUCTING WORK ON PRIMARY AND SECONDARY ROUTES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE UNDER A SHOULDER CLOSURE. ALL WORK THAT MAY REQUIRE THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE SHALL BE CONDUCTED UNDER A LANE CLOSURE.

CASE 1: WHENEVER ANY PORTION OF THE SHOULDER AREA WITHIN 15' BUT NOT CLOSER THAN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE MUST BE OCCUPIED BY EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES TO CONDUCT THE WORK, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL DEVICES AS ILLUSTRATED.

CASE 2: WHENEVER THE WORK IS CONDUCTED BEYOND 15' BUT WITHIN 30' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE, INCLUDING THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES, INSTALL AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL AS ILLUSTRATED.
- CONDUCT THE WORK IN SUCH A MANNER THAT WILL NOT REQUIRE ENCROACHMENT OF TRAFFIC CONTROL DEVICES, EQUIPMENT, PERSONNEL, MATERIALS OR ANY WORK RELATED VEHICLES WITHIN 1' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
- PLACE THE TRUCK MOUNTED ATTENUATOR AT A LOCATION 100' IN ADVANCE OF THE WORK ACTIVITY AND NO CLOSER THAN 1' FROM THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
- FOR A CASE 1 SCENARIO IN THE RIGHT SHOULDER AREA, ADJUST THE TAPER AS NECESSARY TO FIT THE WIDTH OF THE SHOULDER WHILE MAINTAINING THE REQUIRED 250' TAPER LENGTH.
- IF WORK IS BEING CONDUCTED SIMULTANEOUSLY AT TWO DIFFERENT LOCATIONS AT THE SAME TIME UNDER CASE 1 SHOULDER CLOSURES, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 1 MILE FROM THE END OF THE FIRST CASE 1 CLOSURE THAT A MOTORIST WILL ENCOUNTER TO THE BEGINNING OF THE TAPER OF THE SECOND CASE 1 CLOSURE. A MINIMUM SEPARATION DISTANCE OF ONE-HALF MILE IS RECOMMENDED BETWEEN SHOULDER CLOSURES WHEN ONE OR BOTH SHOULDER CLOSURES IS A CASE 1 CLOSURE.
- THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.
- THIS TYPICAL TRAFFIC CONTROL SETUP APPLIES TO THE INSTALLATION OF SHOULDER CLOSURES IN THE RIGHT SHOULDER AREAS OF PRIMARY AND SECONDARY ROADWAYS.



PORTABLE TRUCK MOUNTED ATTENUATOR

- UTILIZE A TRUCK MOUNTED ATTENUATOR ATTACHED TO THE REAR OF A TRUCK WITH A MINIMUM GROSS VEHICLE WEIGHT (GVW) OF 15,000 POUNDS (ACTUAL WEIGHT). IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE ATTACHED TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
- LOCATE THE TRUCK MOUNTED ATTENUATOR 100 FEET IN ADVANCE OF THE WORK AREA UNLESS OTHERWISE SPECIFIED.
- PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

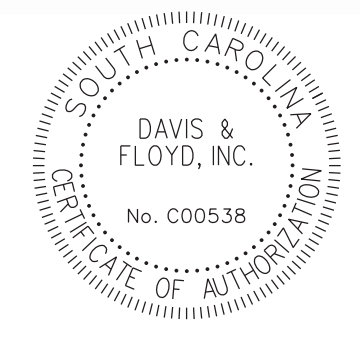
ADVANCE WARNING ARROW PANEL

ALL ADVANCE WARNING ARROW PANELS SHALL BE 48" x 96" WITH A MINIMUM LEGIBILITY DISTANCE OF 1 MILE. PLACEMENT OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS. THE PANEL FACE SHALL BE NONREFLECTIVE BLACK. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

WHEN AN ADVANCE WARNING ARROW PANEL IS REQUIRED TO OPERATE IN THE CAUTION MODE, THE ADVANCE WARNING ARROW PANEL SHALL DISPLAY THE "FOUR CORNERS" CAUTION MODE, WITH ONE LAMP IN EACH CORNER. DISPLAY OF ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE SUCH AS THE "FLASHING BAR" OR THE "ALTERNATING DIAMOND" CAUTION MODES ARE UNACCEPTABLE AND PROHIBITED.

LEGEND

○ 36" TRAFFIC CONES



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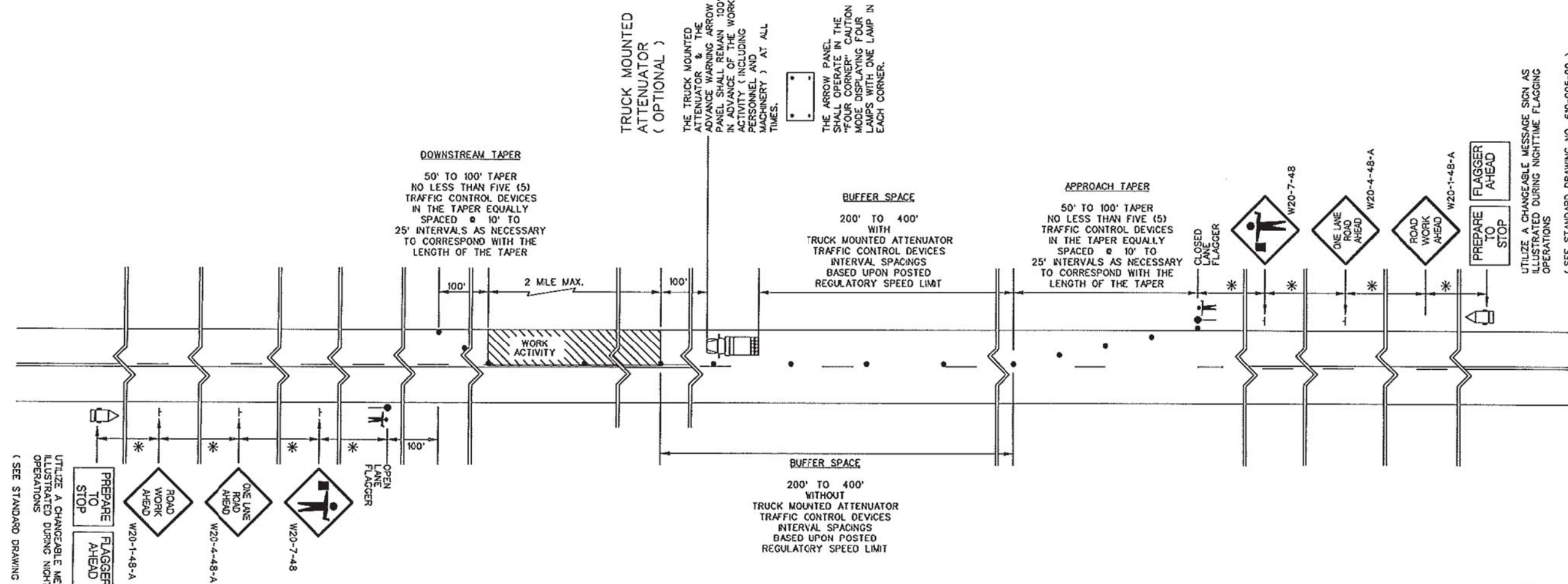
3229 W. MONTAGUE AVENUE
CHARLESTON, SC 29418
(843) 554-8602

SHOULDER CLOSURE

N.T.S.

NOTES:

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**FLAGGING OPERATIONS
GENERAL NOTES**

(ALL NOTES, SPECIFICATIONS AND REQUIREMENTS ON THIS STANDARD DRAWING APPLY TO ALL SUBSEQUENT STANDARD DRAWINGS REGARDING FLAGGING OPERATIONS UNLESS OTHERWISE NOTED)

FLAGGING OPERATIONS -

1. KEY FEATURES RELEVANT TO FLAGGING OPERATIONS:

- APPROACH TAPER** - THIS IS A ONE-LANE TWO-WAY TAPER PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE. THIS TAPER PRECEDES THE BUFFER SPACE AND THE WORK ACTIVITY AREA. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES EQUALLY SPACED AT 10' TO 25' INTERVALS AS NECESSARY TO CORRESPOND WITH THE LENGTH OF THE TAPER.
- DOWNSTEAM TAPER** - THIS TAPER, PLACED IN THE TRAVEL LANE WHERE THE WORK ACTIVITY TAKES PLACE, FOLLOWS THE WORK ACTIVITY AREA AND SERVES AS THE TERMINATION AREA FOR THE CLOSURE OF THE TRAVEL LANE. THE LENGTH OF THIS TAPER MAY VARY FROM 50 FEET TO 100 FEET. INSTALL AND MAINTAIN NO LESS THAN FIVE (5) TRAFFIC CONTROL DEVICES IN THIS TAPER.
- FLAGGER STATION** - THIS IS THE SPECIFIC LOCATION OF THE FLAGGER.
- CLOSED LANE FLAGGER** - THIS FLAGGER IS STATIONED ADJACENT TO THE FIRST TRAFFIC CONTROL DEVICE IN THE APPROACH TAPER WHO CONTROLS THE TRAFFIC THAT REQUIRES RELOCATION FROM THE TRAVEL LANE BEING CLOSED TO TRAFFIC.
- OPEN LANE FLAGGER** - THIS FLAGGER IS STATIONED 100 FEET BEYOND THE LAST TRAFFIC CONTROL DEVICE IN THE DOWNSTEAM TAPER WHO CONTROLS THE TRAFFIC OPERATING IN THE TRAVEL LANE REMAINING OPEN TO TRAFFIC.
- BUFFER SPACE** - THIS AREA IS LOCATED BETWEEN THE DOWNSTEAM TAPER AND THE NEAREST LIMITS OF THE WORK ACTIVITY AREA AND MAY PROVIDE SOME RECOVERY SPACE FOR AN ERRANT VEHICLE. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE BUFFER SPACE IS PROHIBITED. HOWEVER, WHEN THE MAXIMUM DISTANCE REQUIREMENTS FOR THE BUFFER SPACE ARE UNAVAILABLE, A TRUCK MOUNTED ATTENUATOR MAY TEMPORARILY ENDOACH UPON THE BUFFER SPACE IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THE SECTION BELOW ENTITLED, "BUFFER SPACE", WHEN APPROVED BY THE ENGINEER.
- WORK ACTIVITY AREA** - PERSONNEL, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. ARE PRESENT WITHIN THIS AREA TO CONDUCT THE WORK.
- LIMITS OF THE WORK ACTIVITY AREA** - THIS IS THE BOUNDARY OF THE WORK ACTIVITY AREA FIRST ENCOUNTERED, FROM EITHER DIRECTION, BY MOTORISTS PASSING BY THE WORK ACTIVITY AREA IN THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC AND CONTROLLED BY THE FLAGGERS.
- APPROACH LANE** - TRAFFIC APPROACHES AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.
- DEPARTURE LANE** - TRAFFIC DEPARTS FROM AN INTERSECTION OR A SPECIFIC LOCATION IN THIS TRAVEL LANE.
- MAINLINE APPROACH** - THIS IS AN APPROACH TO THE WORK ACTIVITY AREA ON THE ROADWAY WHERE THE WORK ACTIVITY AREA IS LOCATED.
- SIDE ROADS** - THESE ROADS INTERSECT THE ROADWAY ON WHICH THE WORK ACTIVITY AREA IS LOCATED.
- LIMITS OF THE INTERSECTION** - THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION OF STOP BARS WHEN PRESENT. WHEN STOP BARS ARE ABSENT, THE LIMITS OF OR THE PHYSICAL AREA WITHIN AN INTERSECTION IS DEFINED BY THE LOCATION POINTS WHERE THE CORNER RADI BETWEEN ADJACENT ROADWAY APPROACHES TO THE TO THE EDGE OF PAVEMENT OR THE EDGE OF TRAVEL LANE ADJACENT TO THE EDGE OF PAVEMENT OF EACH ROADWAY.

2. INSTALL, CONDUCT AND MAINTAIN FLAGGING OPERATIONS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, THE STANDARD DRAWINGS, THE MUTCD AND THE "SOUTH CAROLINA FLAGGER'S HANDBOOK" UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. INSTALL ALL SIGNS RELATIVE TO THE FLAGGING OPERATION PRIOR TO INITIATION OF THE OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION. EQUIP EACH FLAGGER WITH A 24" x 24" STOP/SLOW PADDLE MOUNTED ON A RIGID HANDLE WITH A MAXIMUM LENGTH OF 7 FEET. THE DEPARTMENT PROHIBITS THE USE OF FLAGS EXCEPT DURING EMERGENCY SITUATIONS.
3. LANE CLOSURES FOR FLAGGING OPERATIONS ARE RESTRICTED TO A MAXIMUM DISTANCE OF 2 MILES UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE WORK LIMITS WILL COMPLY WITH THE CONTRACT AND SHALL REQUIRE THE ENGINEER'S APPROVAL PRIOR TO BEGINNING THE WORK.
4. INSTALL AND MAINTAIN THE PROPER ARRAY OF ADVANCE WARNING SIGNS FOR EACH "MAINLINE APPROACH" WHEN A FLAGGING OPERATION IS IN PLACE AND ACTIVE. WHEN NECESSARY TO RELOCATE THE FLAGGER STATION WHILE ACTIVELY MAINTAINING THE FLAGGING OPERATION, INSTALL AN ADDITIONAL ARRAY OF ADVANCE WARNING SIGNS AT THE LOCATION RELATIVE TO THE NEW "FLAGGER STATION" AND REMOVE THE ORIGINAL ARRAY OF ADVANCE WARNING SIGNS IMMEDIATELY UPON COMPLETION OF THE RELOCATION OF THE FLAGGER TO THE NEW "FLAGGER STATION".
5. INSTALL ALL ADVANCE WARNING SIGNS IMMEDIATELY PRIOR TO INITIATING A FLAGGING OPERATION AND REMOVE OR COVER ALL SIGNS IMMEDIATELY UPON TERMINATION OF THE OPERATION.
6. MAINTAIN TWO-WAY RADIO COMMUNICATIONS BETWEEN ALL FLAGGERS.

NIGHTTIME FLAGGING OPERATIONS -

1. EACH FLAGGER SHALL WEAR SAFETY APPAREL IN COMPLIANCE WITH THE REQUIREMENTS OF ANSI / ISEA 107 STANDARD PERFORMANCE FOR CLASS 3 RISK EXPOSURE, LATEST REVISION, WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
2. ILLUMINATE EACH "FLAGGER STATION" WITH ANY COMBINATION OF PORTABLE LIGHTS, STANDARD ELECTRIC LIGHTS, EXISTING STREET LIGHTS, ETC. THAT WILL PROVIDE A MINIMUM ILLUMINATION LEVEL OF 108 Lx OR 10 fc WHEN CONDUCTING NIGHTTIME FLAGGING OPERATIONS.
3. SUPPLEMENT EACH ARRAY OF ADVANCE WARNING SIGNS ON EACH "MAINLINE APPROACH" WITH A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN. THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED ON THE "SIDE ROADS" INTERSECTING THE ROADWAY WHERE THE "WORK ACTIVITY AREA" IS LOCATED. ALSO, THESE CHANGEABLE MESSAGE SIGNS ARE NOT REQUIRED DURING DAYTIME FLAGGING OPERATIONS UNLESS OTHERWISE DIRECTED BY THE STANDARD DRAWINGS. INSTALL THE CHANGEABLE MESSAGE SIGNS IN ADVANCE OF THE ADVANCE WARNING SIGN ARRAYS. THE MESSAGES SHOULD BE "PREPARE TO STOP", "FLAGGER AHEAD". A TRUCK MOUNTED CHANGEABLE MESSAGE SIGN IS NOT AN ACCEPTABLE ALTERNATIVE TO A TRAILER MOUNTED CHANGEABLE MESSAGE SIGN DURING NIGHTTIME FLAGGING OPERATIONS.
4. UTILIZE PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES IN PLACE OF 36" STANDARD TRAFFIC CONES DURING NIGHTTIME FLAGGING OPERATIONS.

BUFFER SPACE -

1. THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE BASED UPON THE LEGAL POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING THE WORK.
- | SPEED LIMIT | DISTANCES |
|-----------------------------------|-----------|
| LOW SPEED
≤ 35 MPH | 200 FEET |
| INTERMEDIATE SPEED
40 - 50 MPH | 300 FEET |
| HIGH SPEED
≥ 55 MPH | 400 FEET |
2. THE PRESENCE OF PERSONNEL, TOOLS, MATERIALS, EQUIPMENT, WORK VEHICLES, ETC. WITHIN THE LIMITS OF THE "BUFFER SPACE" IS PROHIBITED. A TRUCK MOUNTED ATTENUATOR IS THE ONLY WORK VEHICLE THAT MAY TEMPORARILY ENDOACH UPON THE "BUFFER SPACE" IN ACCORDANCE WITH THE CONDITIONS SPECIFIED IN THE FOLLOWING NOTE WHEN APPROVED BY THE ENGINEER. SEE NOTE NO. 3.
 3. WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS, IT MAY BE NECESSARY FOR A TRUCK MOUNTED ATTENUATOR TO TEMPORARILY ENDOACH UPON THE "BUFFER SPACE" WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED ATTENUATOR IS THE ONLY VEHICLE PERMITTED TO TEMPORARILY ENDOACH UPON THE "BUFFER SPACE" AND THIS ENDOACHMENT IS ONLY PERMITTED WHEN ALL REASONABLE OPTIONS TO AVOID DOING SO HAVE BEEN EXHAUSTED. WHEN ENDOACHMENT UPON THE "BUFFER SPACE" IS APPROVED BY THE ENGINEER, MINIMIZE THE TIME DURATION OF THE ENDOACHMENT BY THE REMOVAL OF THE TRUCK MOUNTED ATTENUATOR FROM THE "BUFFER SPACE" AT THE FIRST OPPORTUNITY THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" BECOME AVAILABLE.

SIGNS AND TRAFFIC CONTROL DEVICES -

1. MEASURE THE ADVANCE WARNING SIGN LOCATIONS FOR EACH APPROACH FROM THE "FLAGGER STATION" LOCATED ON THAT APPROACH.
2. INSTALL THE ADVANCE WARNING SIGNS AS SPACING INTERVALS BASED UPON THE POSTED REGULATORY SPEED LIMIT OF THE ROADWAY PRIOR TO BEGINNING ANY WORK. THE ADVANCE WARNING SIGN SPACING INTERVALS INDICATED ARE FOR NORMAL CONDITIONS. ADJUSTMENTS TO THESE DISTANCES MAY BE NECESSARY DUE TO EXISTING SIGNS, INTERSECTING ROADWAYS, HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGHT DISTANCE RESTRICTIONS. SEE TABLE A.
3. INSTALL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 4 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH EARTH SHOULDERS AND NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE ON ROADWAYS WITH PAVED SHOULDERS. WHEN CURB & GUTTER IS PRESENT, INSTALL THE SIGN NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED U-CHANNEL OR SQUARE STEEL TUBE POSTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GRADE ELEVATION OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGNS PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE REQUIREMENTS OF NCHRP REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSED ON THE DEPARTMENT'S WEB SITE AT: www.scdot.org
7. REFLECTORIZATION OF 36" TRAFFIC CONES USED DURING DAYLIGHT HOURS IS NOT REQUIRED IN THE EVENT A DAYTIME FLAGGING OPERATION EXTENDS INTO THE NIGHTTIME HOURS. REPLACE ALL 36" TRAFFIC CONES WITH EITHER PORTABLE PLASTIC DRUMS OR 42" OVERSIZED TRAFFIC CONES. REFLECTORIZE ALL PORTABLE PLASTIC DRUMS AND 42" OVERSIZED TRAFFIC CONES WITH TYPE II OR GREATER FLEXIBLE MICROPRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
8. DELINEATE THE TANGENT AREA OF THE LANE CLOSURE WITH THE NECESSARY TRAFFIC CONTROL DEVICES TO MINIMIZE ENDOACHMENT BY MOTORISTS INTO THE CLOSED TRAVEL LANE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 35 MPH OR LESS, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 25 FEET. ON ROADWAYS WITH POSTED REGULATORY SPEED LIMITS OF 40 MPH OR GREATER, INSTALL THE TRAFFIC CONTROL DEVICES AT SPACING INTERVALS OF 50 FEET. SEE TABLE B.

ADVANCE WARNING ARROW PANEL -

1. DURING FLAGGING OPERATIONS, AN ADVANCE WARNING ARROW PANEL SHALL OPERATE IN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS SPECIFIC TO A FLAGGING OPERATION. OPERATION OF AN ADVANCE WARNING ARROW PANEL IN AN ARROW, CHEVRON OR ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "FOUR CORNERS" CAUTION MODE WHEN LOCATED WITHIN OR IN BETWEEN THE LIMITS OF THE ADVANCE WARNING SIGN ARRAYS AS SPECIFIED HEREBEFORE IS PROHIBITED.
2. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION. THE SPECIFIC LOCATION OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGHT DISTANCE RESTRICTIONS.

TRUCK MOUNTED ATTENUATOR -

1. A TRUCK MOUNTED ATTENUATOR IS OPTIONAL. UTILIZATION OF A TRUCK MOUNTED ATTENUATOR SHOULD BE CONSIDERED WHEN THE MINIMUM DISTANCE REQUIREMENTS FOR THE "BUFFER SPACE" ARE UNAVAILABLE DUE TO FIELD CONDITIONS. HOWEVER, A TRAILER MOUNTED ADVANCE WARNING ARROW PANEL MAY BE UTILIZED IN PLACE OF A TRUCK MOUNTED ATTENUATOR DURING TRAFFIC CONTROL SETUPS FOR WORK ACTIVITIES SUCH AS ASPHALT CONCRETE PLACEMENT OPERATIONS WHEN APPROVED BY THE ENGINEER.
2. WHEN UTILIZING A TRUCK MOUNTED ATTENUATOR, ENSURE THE TRUCK HAS THE CORRECT GROSS VEHICULAR WEIGHT (GVW) REQUIRED FOR THE TYPE OF TRUCK MOUNTED ATTENUATOR BEING UTILIZED. A DIRECT TRUCK MOUNTED TRUCK MOUNTED ATTENUATOR, A UNIT MOUNTED AND ATTACHED TO BRACKETS OR SIMILAR DEVICES CONNECTED TO THE FRAME OF THE TRUCK, REQUIRES A TRUCK WITH A MINIMUM GVW OF 15,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. A TRAILER TOWED TRUCK MOUNTED ATTENUATOR, A TRAILER TYPE UNIT TOWED FROM BEHIND AND ATTACHED TO THE FRAME OF THE TRUCK VIA A PINTLE HOOK / HITCH, REQUIRES A TRUCK WITH A MINIMUM GVW OF 10,000 POUNDS (ACTUAL WEIGHT) UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALLAST IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THIS STEEL STRUCTURE TO HAVE A MAXIMUM OF FOUR (4) SIDES AND A BOTTOM. A TOP IS OPTIONAL. BOLT THIS STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT UPON THE TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CONFINES OF THE STEEL STRUCTURE IN ITS ENTIRETY AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
3. LOCATE THE TRUCK MOUNTED ATTENUATOR APPROXIMATELY 100 FEET IN ADVANCE OF THE "WORK ACTIVITY AREA" UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

GENERAL -

1. CONDUCT THE WORK IN SUCH A MANNER SO AS NOT TO ENDOACH ONTO THE ADJACENT TRAVEL LANE OPEN TO TRAFFIC. INSTALL, MAINTAIN AND ADJUST THE TRAFFIC CONTROL DEVICES AS NECESSARY TO ENSURE PROPER DELINEATION OF THE WORK AREA.
2. IF WORK IS BEING CONDUCTED AT TWO DIFFERENT LOCATIONS AT THE SAME TIME, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 2 MILES FROM THE LAST TRAFFIC CONTROL DEVICE IN THE "DOWNSTEAM TAPER" OF THE FIRST LANE CLOSURE TO THE FIRST TRAFFIC CONTROL DEVICE IN THE "APPROACH TAPER" OF THE SECOND LANE CLOSURE ENCOUNTERED BY A MOTORIST UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MONTHLY ESTIMATE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE ENGINEER.

TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
≤ 35 MPH LOW SPEED	200
40 - 50 MPH INTERMEDIATE SPEED	350
55 MPH HIGH SPEED	500

* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET

UTILIZE A CHANGEABLE MESSAGE SIGN AS ILLUSTRATED DURING NIGHTTIME FLAGGING (SEE STANDARD DRAWING NO. 80-005-00)

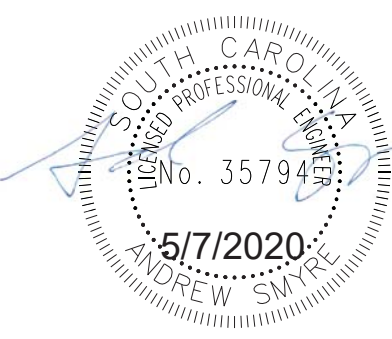
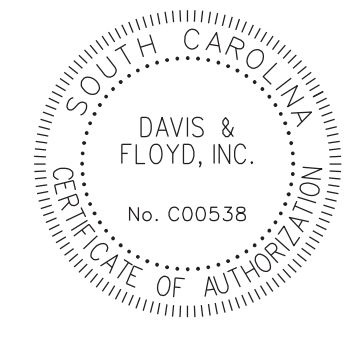
TABLE A

SIGN PLACEMENT INTERVALS	
SPEED LIMIT	*
≤ 35 MPH LOW SPEED	200
40 - 50 MPH INTERMEDIATE SPEED	350
55 MPH HIGH SPEED	500

* REGULATORY POSTED SPEED LIMIT PRIOR TO BEGINNING WORK

TABLE B

TRAFFIC CONTROL DEVICE SPACING INTERVALS WORK ACTIVITY / BUFFER SPACE AREAS	
SPEED LIMIT	SPACING INTERVALS
≤ 35 MPH	25 FEET
40 - 55 MPH	50 FEET



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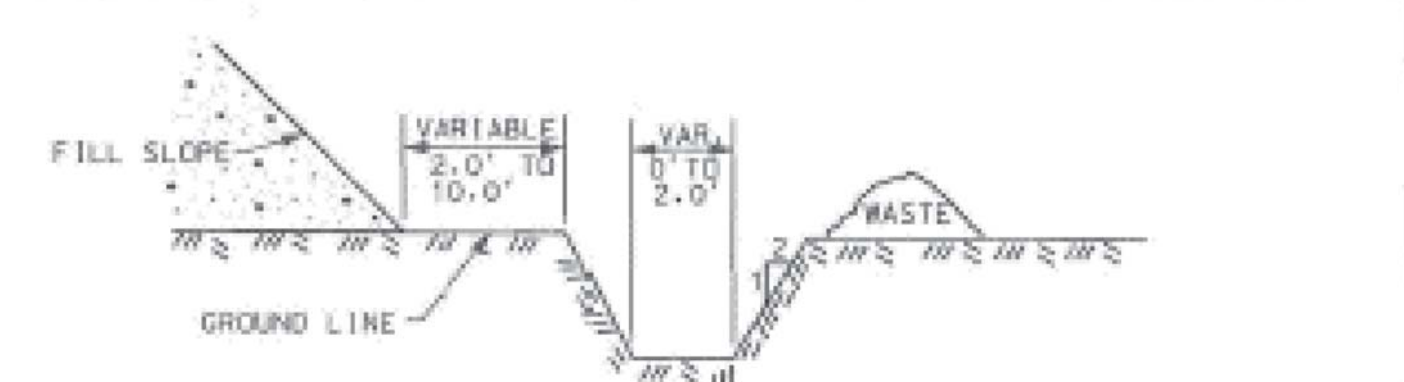


EXCEPT AT DRIVES
TEMPORARY DIVERSION DIKE WITH DITCH
THE PAY ITEM SHALL BE: TEMPORARY DIVERSION DIKE WITH DITCH.....L.F.



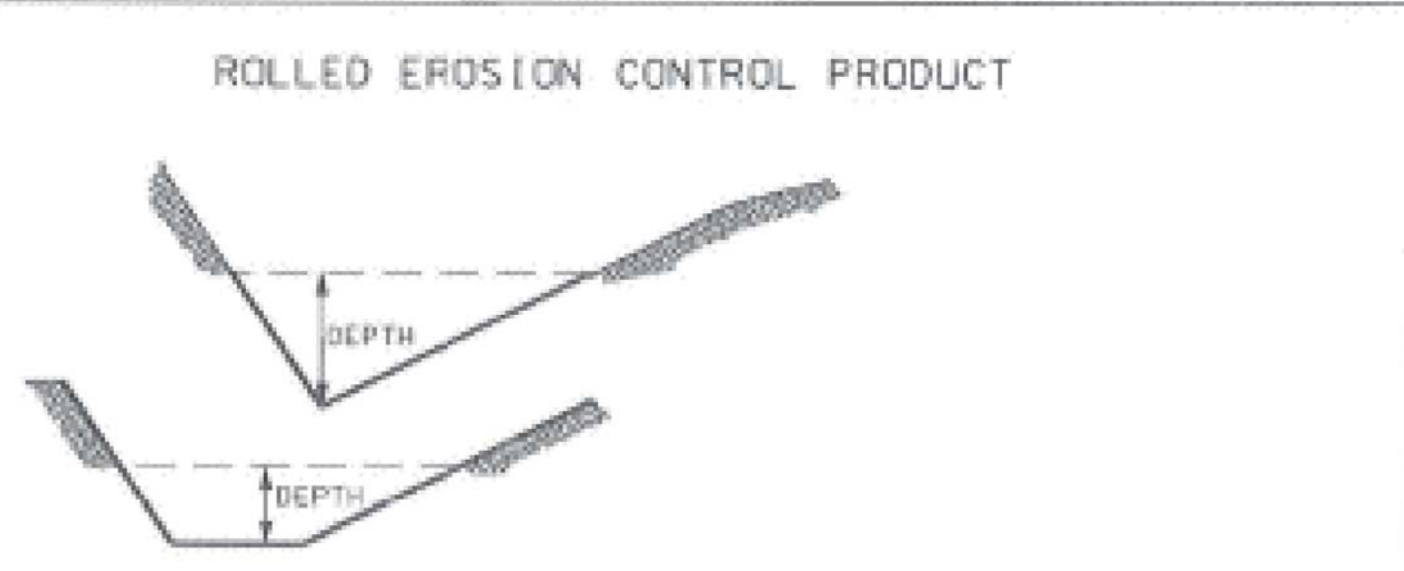
EXCEPT AT DRIVES
TEMPORARY DIVERSION DIKE

- NOTES
1. THIS ITEM IS FOR DIVERTING CLEAN WATER AROUND A CONSTRUCTION AREA.
 2. CLEAR AND GRUB ALL TREES, BRUSH, STUMPS AND OTHER OBJECTIONABLE MATERIAL.
 3. ENSURE THAT THE MINIMUM CONSTRUCTED CROSS SECTION MEETS ALL DIMENSIONS SHOWN.
 4. IMMEDIATELY AFTER CONSTRUCTION ESTABLISH VEGETATION, PLACING TEMPORARY EROSION CONTROL BLANKET ON THE DIKE, (AS APPLICABLE).
 5. PAYMENT FOR TEMPORARY DIVERSION DIKE INCLUDES ALL MATERIALS IN PLACE, REMOVAL AND DISPOSAL OF MATERIALS AND RESHAPING DIKE TO DRAIN. SEEDING TO BE PAID FOR SEPARATELY.
 6. THE PAY ITEM SHALL BE: TEMPORARY DIVERSION DIKE.....L.F.



TEMPORARY SILT DITCH

- NOTES
1. THIS ITEM IS TO MOVE SEDIMENT LADEN WATER FROM A CONSTRUCTION SITE TO A SEDIMENT CONTROL STRUCTURE.
 2. SEED DITCH AND WASTE AREA WITH TEMPORARY SEEDING IMMEDIATELY AFTER CONSTRUCTION.
 3. IMMEDIATELY AFTER CONSTRUCTION ESTABLISH VEGETATION, PLACING TEMPORARY EROSION CONTROL BLANKET ON THE DITCH (AS APPLICABLE).
 4. THE PAY ITEM SHALL BE: SILT DITCHES.....C.Y.



ROLLED EROSION CONTROL PRODUCT

- NOTES
1. THE DEPTH OF THE EROSION CONTROL PRODUCTS ARE TO BE DETERMINED BY DESIGN AND PLACED ON PLAN SHEETS.
 2. INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
 3. COST OF INSTALLATION AND MATERIALS SHALL BE INCLUDED IN THE PAY ITEM FOR ROLLED EROSION CONTROL PRODUCT.
 4. PAY ITEMS:
TEMPORARY EROSION CONTROL BLANKET.....SY
PERMANENT TURF REINFORCEMENT MAT.....SY

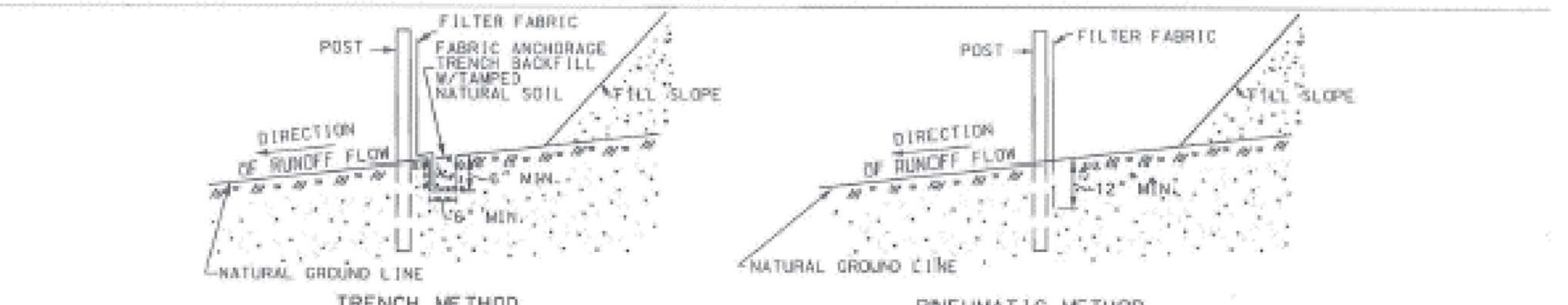
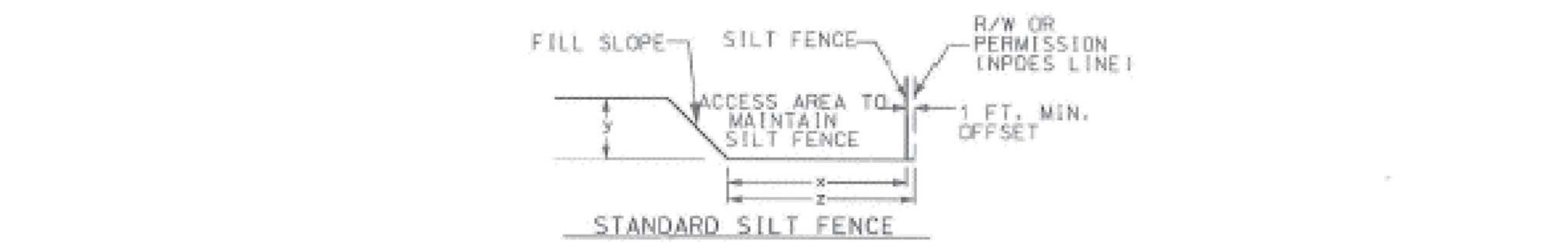
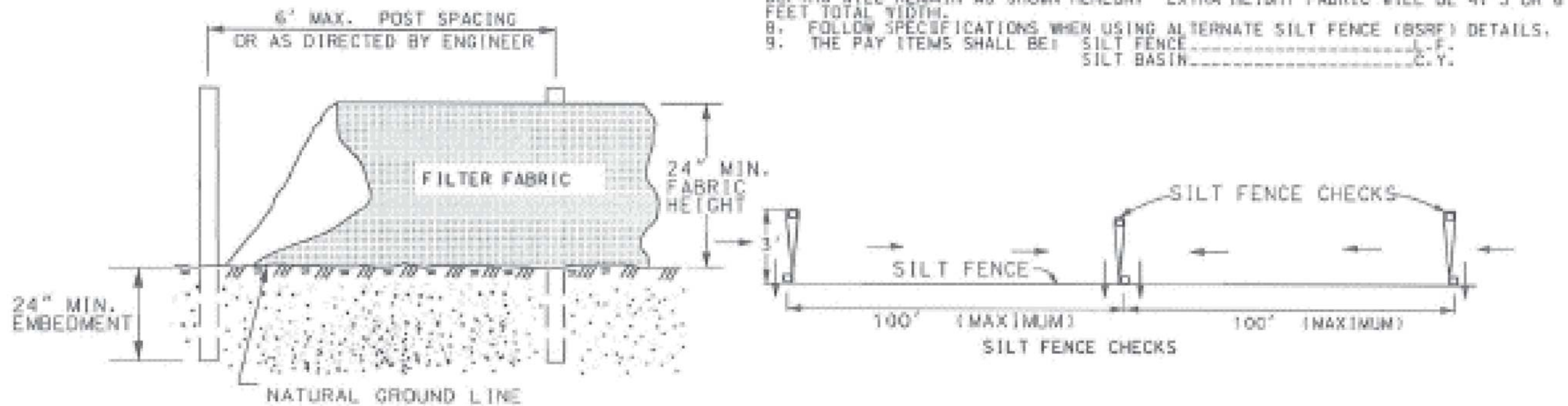
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SILT FENCE

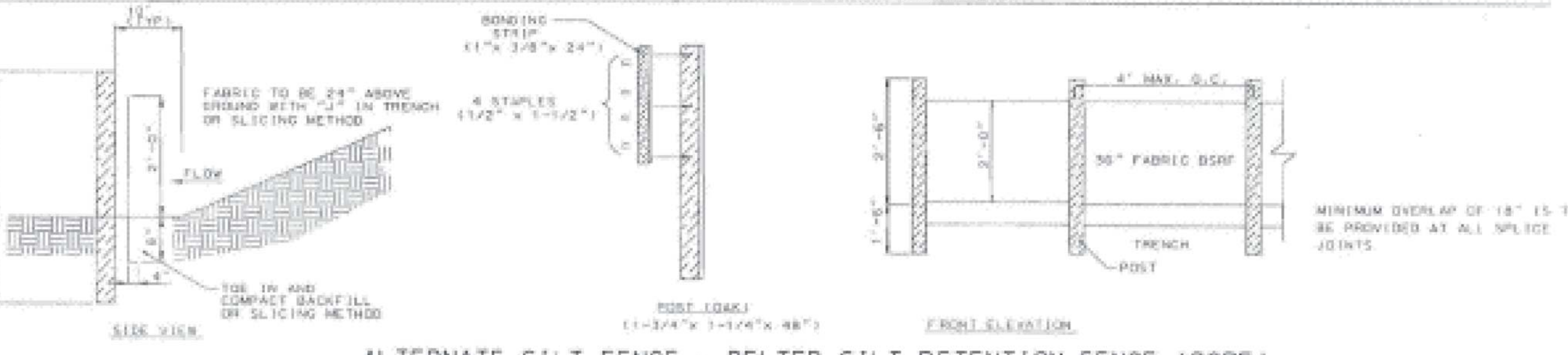
HEIGHT OF FILL (FT) IN FEET	FILL SLOPE	MINIMUM SILT FENCE OFFSET FROM TOE OF SLOPE (X) IN FEET	MINIMUM RIGHT OF WAY OFFSET FROM TOE OF SLOPE (Y) IN FEET	CHECK LENGTH IN FEET
<6	2:1	2	3	2
	4:1	2	3	2
	6:1	2	3	2
6-10	2:1	12*	13*	5
	4:1	3	4	3
>10	2:1	12*	13*	5
	4:1	4	5	4

*WHENSE MINIMUM OFFSETS MAY BE REDUCED WHEN CURB AND GUTTER OR SOME OTHER FEATURE REDUCES THE FLOW OF WATER DOWN THE SLOPE. THE SMALL OFFSETS OF EACH GROUP OF HEIGHT OF FILL CANNOT BE REDUCED.
**SILT FENCE CHECKS WILL HAVE A MAXIMUM LENGTH OF FIVE (5) FEET OR UNTIL THEY TIE BACK INTO THE SLOPE.

- NOTES
1. SILT FENCE CHECKS MUST BE LOCATED EVERY 100 FT. MAXIMUM AND AT LOW POINTS. FILTER FABRICS SHALL CONFORM TO SCDDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (LATEST EDITION).
 2. USE POSTS CONFORMING TO SCDDOT STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS. POSTS SHALL BE A MINIMUM OF 5 FEET LONG AND INSTALLED TO A MINIMUM DEPTH OF 24 INCHES WITH NO MORE THAN 3 FEET OF THE POST ABOVE GROUND. AT LEAST 1 TO 2 INCHES OF THE POSTS SHALL EXTEND ABOVE THE TOP OF THE FABRIC. POST SPACING WILL BE A MAXIMUM OF 6 FEET ON CENTER.
 3. POSTS SHALL HAVE PROJECTIONS FOR FASTENING THE FABRIC TO THE POST. POSTS SHALL ALSO HAVE A SOIL PLATE NEAR THE BOTTOM OF THE POST, EXCEPT WHEN HEAVY CLAY SOILS ARE PRESENT ON-SITE.
 4. ATTACH FABRIC TO POSTS USING HEAVY-DUTY PLASTIC TIES THAT ARE EVENLY SPACED AND PLACED IN A MANNER TO PREVENT SAGGING OR TEARING OF THE FABRIC. IN ALL CASES, TIES SHOULD BE AFFIXED IN NO LESS THAN 4 PLACES.
 5. SILT SHALL BE REMOVED AND DISPOSED OF WHEN SILT ACCUMULATES TO 1/3 THE HEIGHT OF THE FENCE. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON-SITE. MAINTENANCE OF SILT FENCE WILL BE MEASURED AND PAID FOR BY THE ITEM OF SILT BASIN.
 6. TYPICAL SILT FENCE APPLICATIONS REQUIRE 24 INCHES OF THE FABRIC TO BE ABOVE GROUND. WHEN NEEDED, THE HEIGHT OF SILT FENCE FABRIC ABOVE THE GROUND MAY BE GREATER THAN 24". SEE PLANS FOR APPLICATION OF HIGHER SILT FENCE. PAY ITEMS AND INSTALLATION METHODS.
 7. IN TIDAL AREAS, EXTRA SILT FENCE HEIGHT MAY BE REQUIRED. THE LENGTH OF POST WILL BE TWICE THE EXPOSED POST HEIGHT. POST SPACING AND BURIED DEPTHS WILL REMAIN AS SHOWN HEREON. EXTRA HEIGHT FABRIC WILL BE 4, 5 OR 6 FEET TOTAL HEIGHT.
 8. FOLLOW SPECIFICATIONS WHEN USING ALTERNATE SILT FENCE (BSRF) DETAILS.
 9. THE PAY ITEMS SHALL BE: SILT FENCE.....L.F.
SILT BASIN.....C.Y.

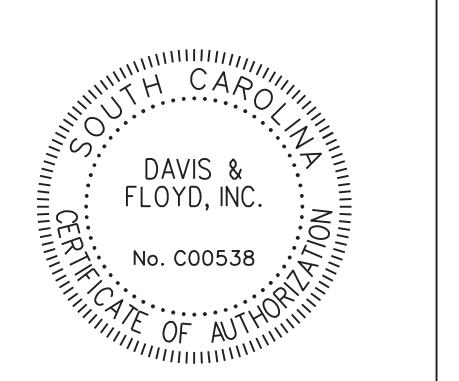


12 INCHES OF THE FABRIC SHALL BE BURIED REGARDLESS, IF PLACED PNEUMATICALLY OR BY AND WITH A TRENCHER. BOTH METHODS SHOWN HERE.



ALTERNATE SILT FENCE - BELTED SILT RETENTION FENCE (BSRF)

- NOTES:
- 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 - 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.



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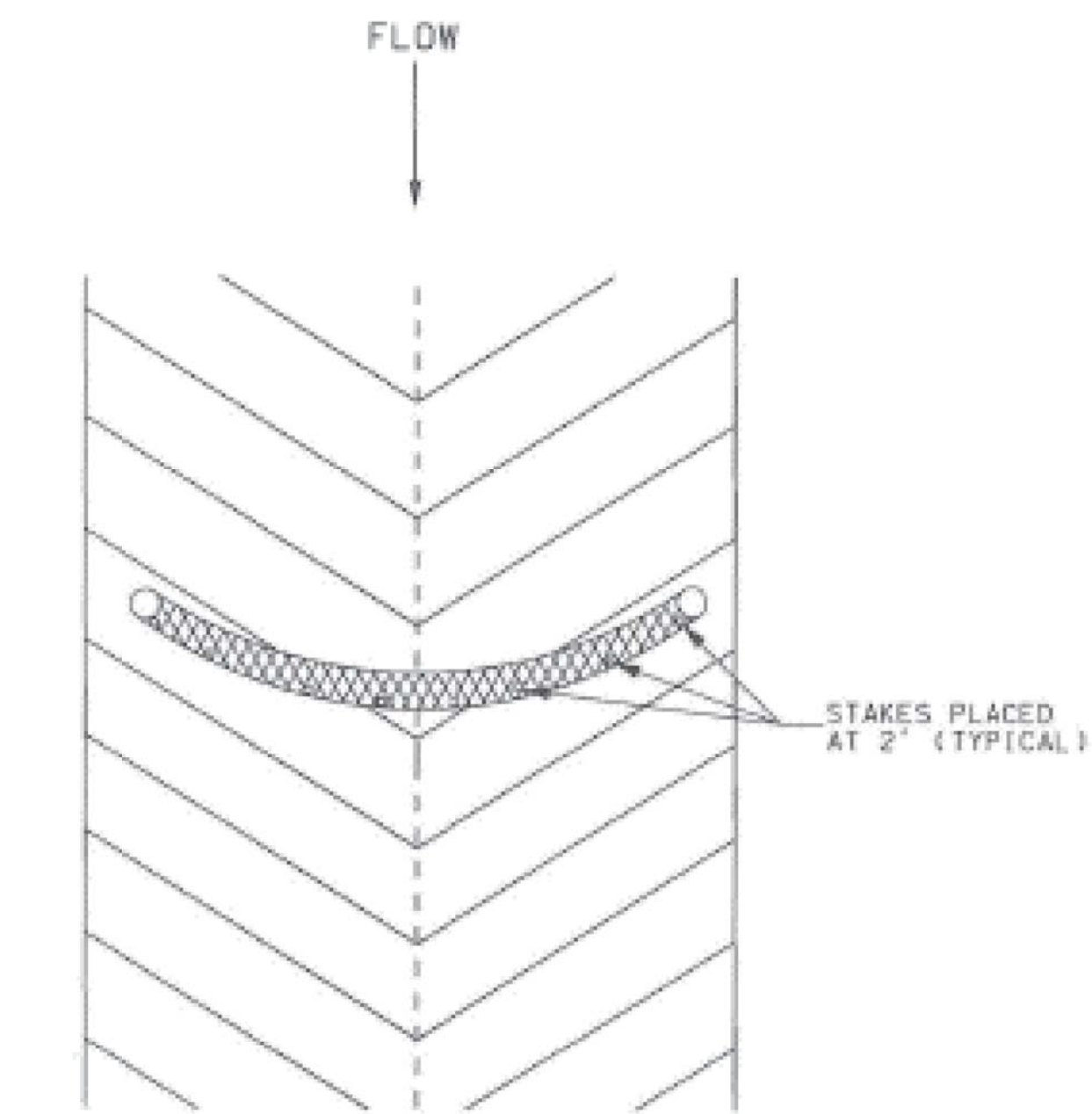
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(803) 554-8600

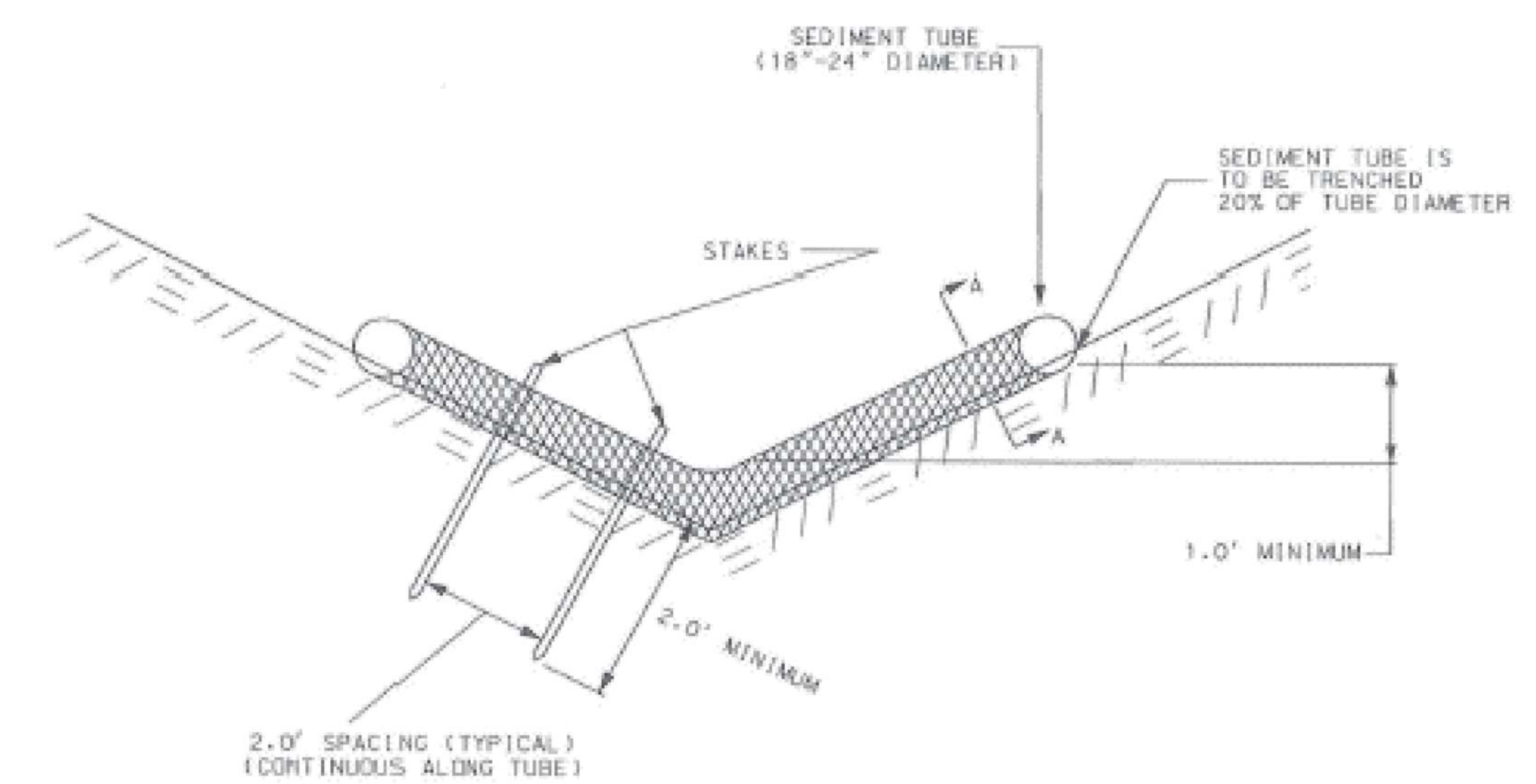
EROSION CONTROL DETAILS

N.T.S.

NOTES:
 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.



TOP VIEW OF DITCH

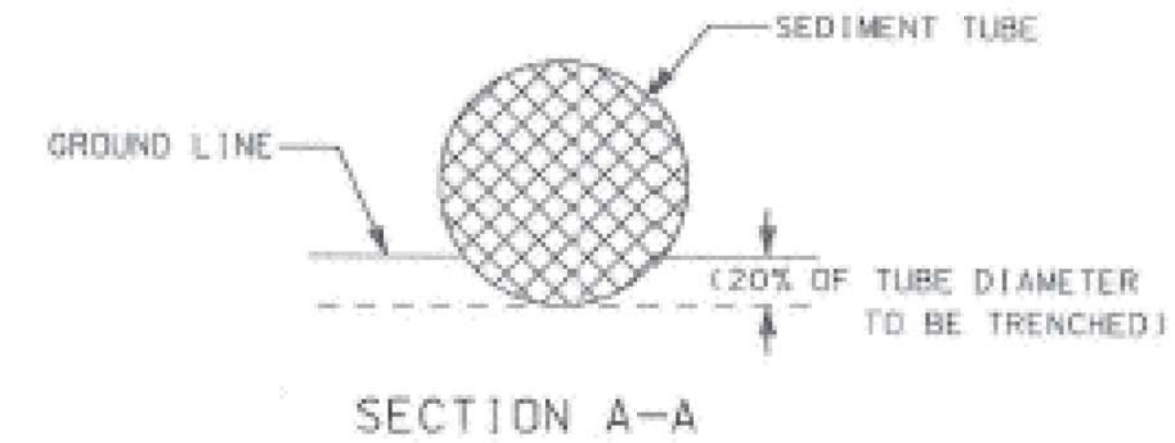


END VIEW OF DITCH

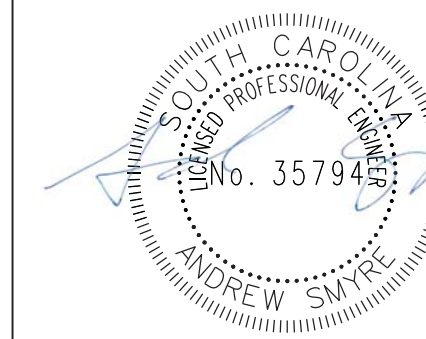
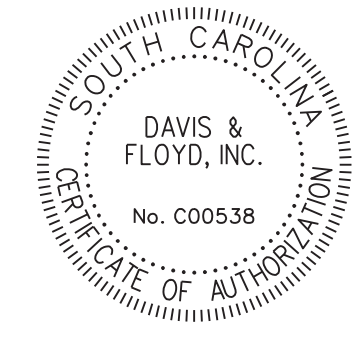
- NOTES:
1. SEDIMENT TUBE SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 815 OF THE SCOD STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION (LATEST EDITION), AND MUST BE LISTED ON SCOD QUALIFIED PRODUCT LIST NUMBER 57. SEDIMENT TUBES MUST MEET THE CRITERIA OUTLINED IN THE SUPPLEMENTAL SPECIFICATIONS BEFORE BEING LISTED ON GPL, AND BE FREE FROM DEFECTS OR TRANSPORTATION DAMAGE.
 2. PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE SEDIMENT TUBES ARE IN COMPLETE CONTACT WITH UNDERLYING SOIL. SEDIMENT TUBES ARE TO BE 18-24 INCHES IN DIAMETER AND ARE TO BE TRENCHED TO A DEPTH OF 20% OF TUBE DIAMETER. LAY THE SEDIMENT TUBE FLAT IN THE U-SHAPED TRENCH AND COMPACT THE UPSTREAM SEDIMENT TUBE SOIL INTERFACE. PLACE AND ANCHOR THE SEDIMENT TUBE ENDS SO THEY ARE POSITIONED UPSTREAM OF THE SEDIMENT TUBE CENTER POINT. SEDIMENT TUBES FOR DITCH CHECKS WEIGHING MORE THAN 18 POUNDS PER FOOT DO NOT REQUIRE TRENCHING.
 3. SEDIMENT TUBE SHALL BE INSTALLED IMMEDIATELY AFTER GRADING AND CONSTRUCTION. SEDIMENT TUBE SHALL BE MAINTAINED DURING SUBGRADE AND BASE PREPARATION UNTIL BASE COURSE IS COMPLETE. SEDIMENT TUBES MAY BE TEMPORARILY MOVED DURING CONSTRUCTION.
 4. SEDIMENT TUBES ARE TO BE INSTALLED PERPENDICULAR TO WATER FLOW AND EXTEND UP SIDE SLOPES A MINIMUM OF 1 FOOT ABOVE DESIGN FLOW DEPTH. SPACE TUBES ACCORDING TO THE FOLLOWING TABLE:

SLOPE	MAXIMUM 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

5. STAKE SEDIMENT TUBES FOR DITCH CHECKS USING STAKES WITH A MINIMUM MEASURED DIMENSION OF 2" X 2" AND A MAXIMUM MEASURED DIMENSION OF 2" X 2", OR USING STEEL POSTS (1/2" DIA) WITH A MINIMUM OF 4" IN LENGTH. USE STEEL POSTS WITHOUT A KICK PLATE AND PAINTING IS NOT REQUIRED. SPACE POSTS OR STAKES ON 2' CENTERS AND DRIVE THEM INTO THE GROUND TO A DEPTH OF 2" OR TO THE MAXIMUM EXTENT PRACTICABLE. INSTALL THE STAKES ON THE DOWNSTREAM THIRD OF THE SEDIMENT TUBE. SEDIMENT TUBES FOR DITCH CHECKS WEIGHING MORE THAN 18 POUNDS PER FOOT DO NOT REQUIRE STAKING.
6. SELECT PROPER LENGTH OF TUBE TO MINIMIZE THE NUMBER NEEDED TO SPAN THE WIDTH OF DRAINAGE AREA. ONE CONTINUOUS LENGTH IS PREFERRED COMPARED TO TWO OVERLAPPING TUBES. IF NECESSARY, SEDIMENT TUBES CAN BE LAPPED A MINIMUM OF 6 INCHES TO PREVENT PASSAGE OF FLOW AND SEDIMENT THROUGH FIELD JOINT.
7. INSTALL SEDIMENT TUBES FOR DITCH CHECKS OVER BARE SOIL, MULCHED AREAS, OR EROSION CONTROL BLANKETS. KEEP SEDIMENT TUBES FOR DITCH CHECKS IN PLACE UNTIL FULLY ESTABLISHED VEGETATION AND ROOT SYSTEMS HAVE COMPLETELY DEVELOPED AND CAN SURVIVE ON THEIR OWN.
8. INSPECT SEDIMENT TUBES AFTER INSTALLATION FOR GAPS UNDER THE SEDIMENT TUBES AND FOR GAPS BETWEEN THE JOINTS OF ADJACENT ENDS OF SEDIMENT TUBES. INSPECT SEDIMENT TUBES EVERY 7 DAYS. REPAIR ALL RILLS, GULLIES, AND UNDERCUTTING NEAR SEDIMENT TUBES. REMOVE ALL SEDIMENT DEPOSITS THAT IMPAIR THE FILTRATION CAPABILITY OF SEDIMENT TUBES WHEN THE SEDIMENT REACHES 1/3 THE HEIGHT OF THE EXPOSED SEDIMENT TUBE.
9. REMOVE AND/OR REPLACE INSTALLED SEDIMENT TUBES AS REQUIRED TO ADAPT TO CHANGING CONSTRUCTION SITE CONDITIONS. REMOVE SEDIMENT TUBES WHEN THE FUNCTIONAL LIFESPAN IS EXCEEDED AS DETERMINED BY THE ENGINEER, INSPECTOR, OR MANUFACTURER'S REPRESENTATIVE. GATHER SEDIMENT TUBES AND DISPOSE OF THEM IN REGULAR MEANS AS NON-HAZARDOUS, INERT MATERIAL.
10. PRIOR TO FINAL STABILIZATION, BACKFILL ALL TRENCHES, DEPRESSIONS, AND OTHER GROUND DISTURBANCES CAUSED BY THE REMOVAL OF SEDIMENT TUBES.
11. CLEAN OUT OF TUBES WILL BE PAID FOR AS SILT BASIN IN C.Y.
12. PAYMENT SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, MAINTENANCE, AND INCIDENTALS NECESSARY TO COMPLETE WORK.
13. PAY ITEM SHALL BE:
 SEDIMENT TUBE LF



SECTION A-A



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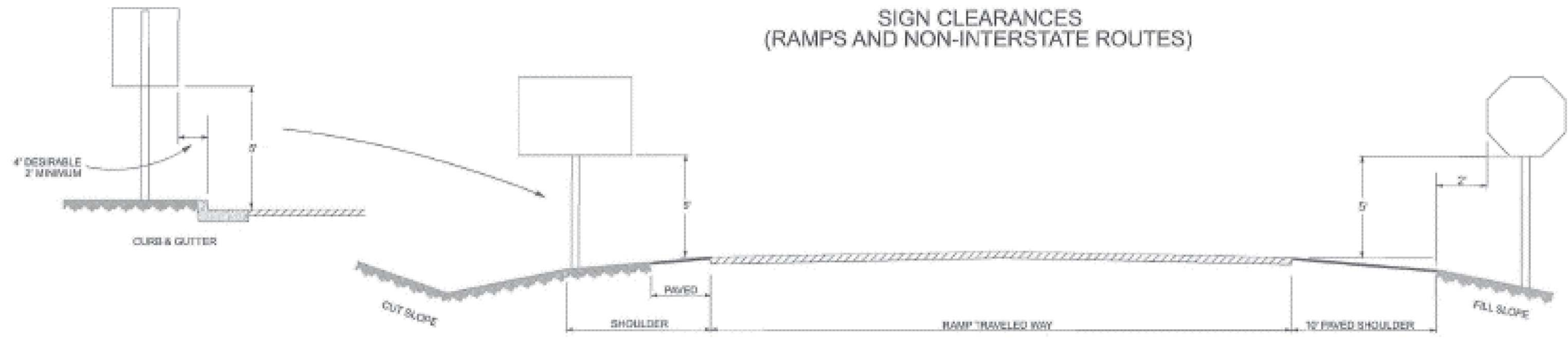
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SEDIMENT TUBE DETAIL

N.T.S.

TYPICAL INSTALLATION GUIDE (2)

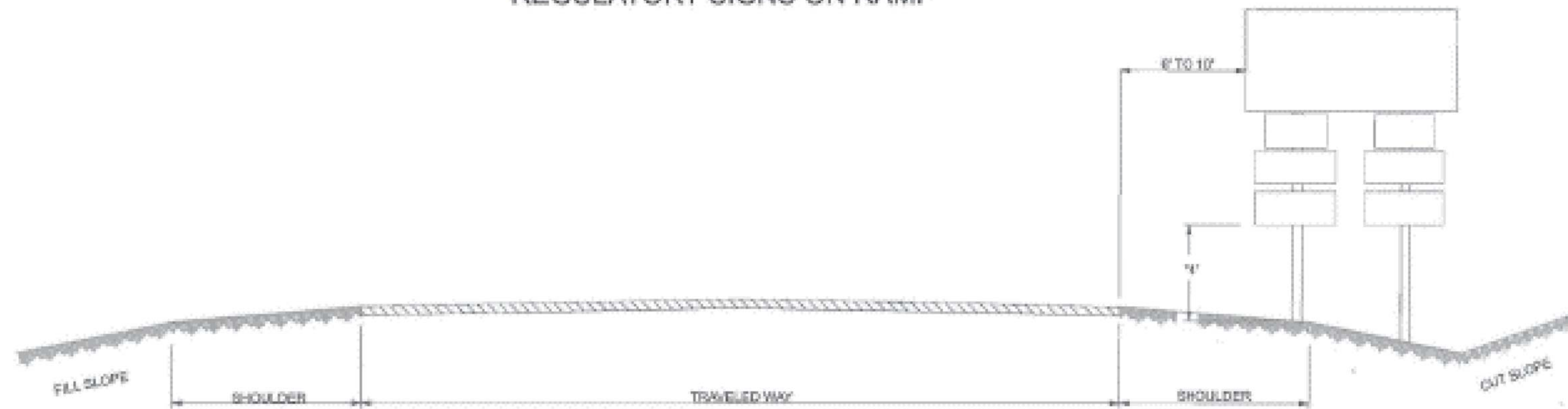
SIGN CLEARANCES (RAMPS AND NON-INTERSTATE ROUTES)



- NOTES:
- 1) ANY REFERENCES TO PAYMENT IS SUPERCEDED BY PROJECT SPECIFICATIONS IN THE CONTRACT.
 - 2) FIELD ADJUSTMENTS TO IMPLEMENT DETAILS MAY BE REQUIRED AND CAN BE APPROVED BY THE COUNTY RESIDENT CONSTRUCTION MANAGER OR THE PROJECT ENGINEER.

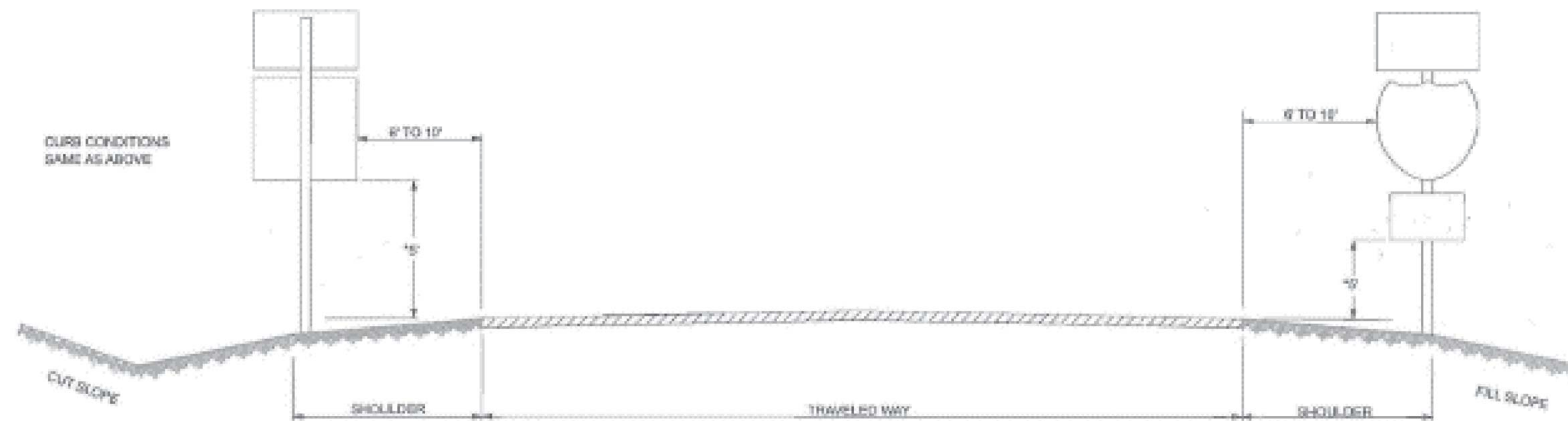
REGULATORY SIGNS ON RAMP

- Ⓜ (1) USE 4' VERTICAL CLEARANCE WHERE A PLATE (EITHER SUPPLEMENTARY, DISTANCE, ADVISORY SPEED, ETC.) IS USED UNDER A SIGN.

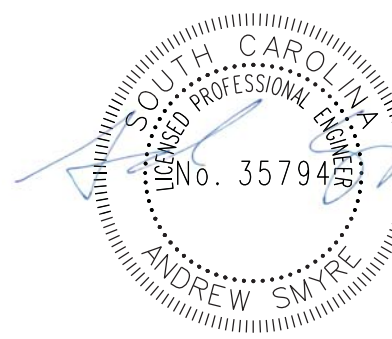
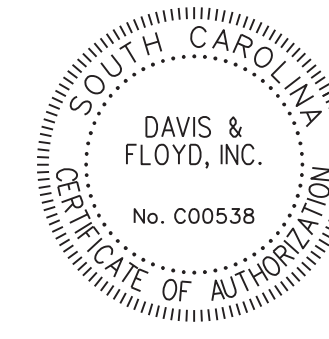


DESTINATION SIGNS ON RAMPS

- Ⓜ (1) USE 7' VERTICAL CLEARANCE WHERE PARKING OR PEDESTRIAN TRAFFIC IS PREVALENT.
(2) USE 4' VERTICAL CLEARANCE WHERE A PLATE (EITHER SUPPLEMENTARY, DISTANCE, ADVISORY SPEED, ETC.) IS USED UNDER A SIGN.



CROSS ROADS AND FRONTAGE ROADS



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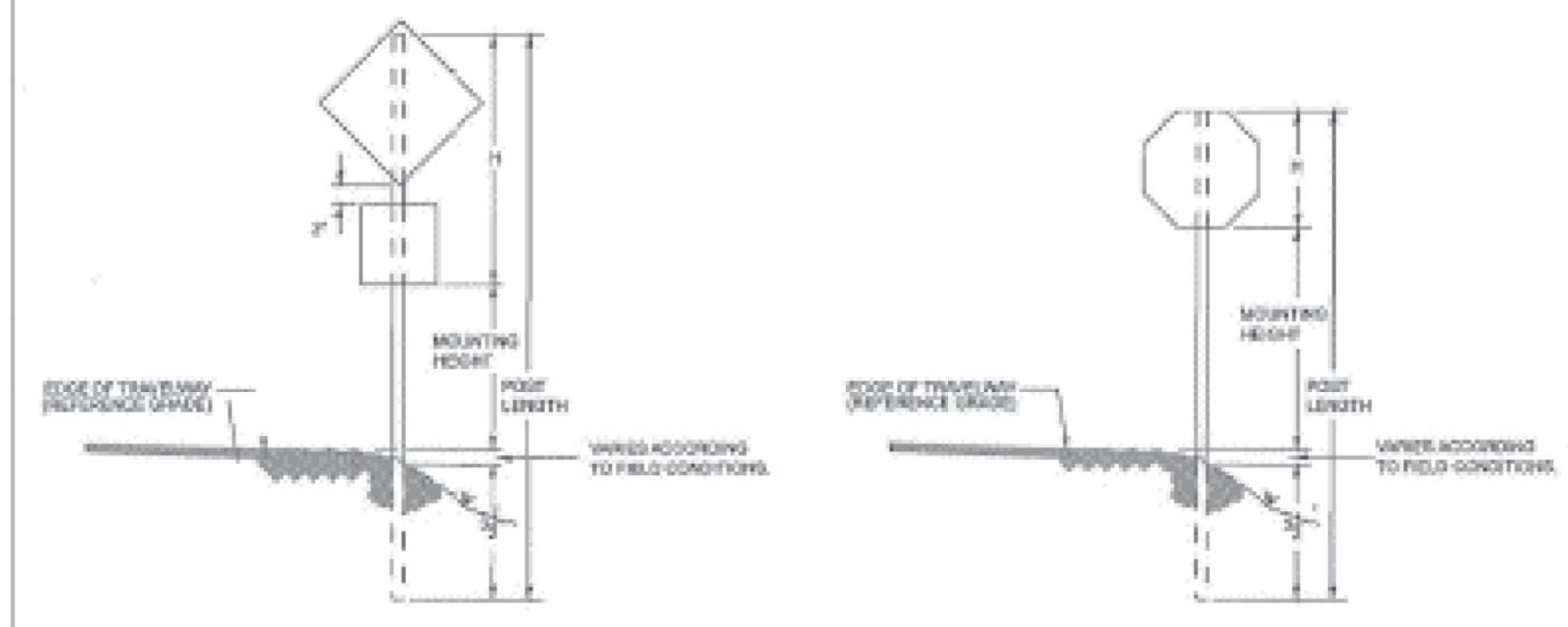
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SIGN INSTALLATION DETAIL

N.T.S.

FLAT SHEET SIGN MOUNTING DETAILS



SIGNS MOUNTED ON FREEWAY RAMPS AND CONVENTIONAL ROADS

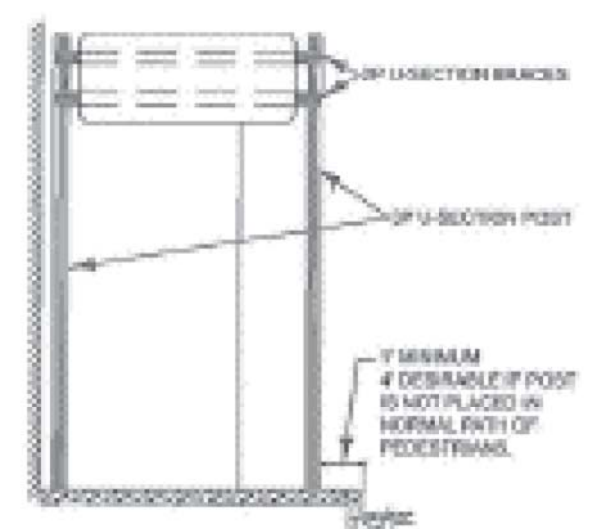
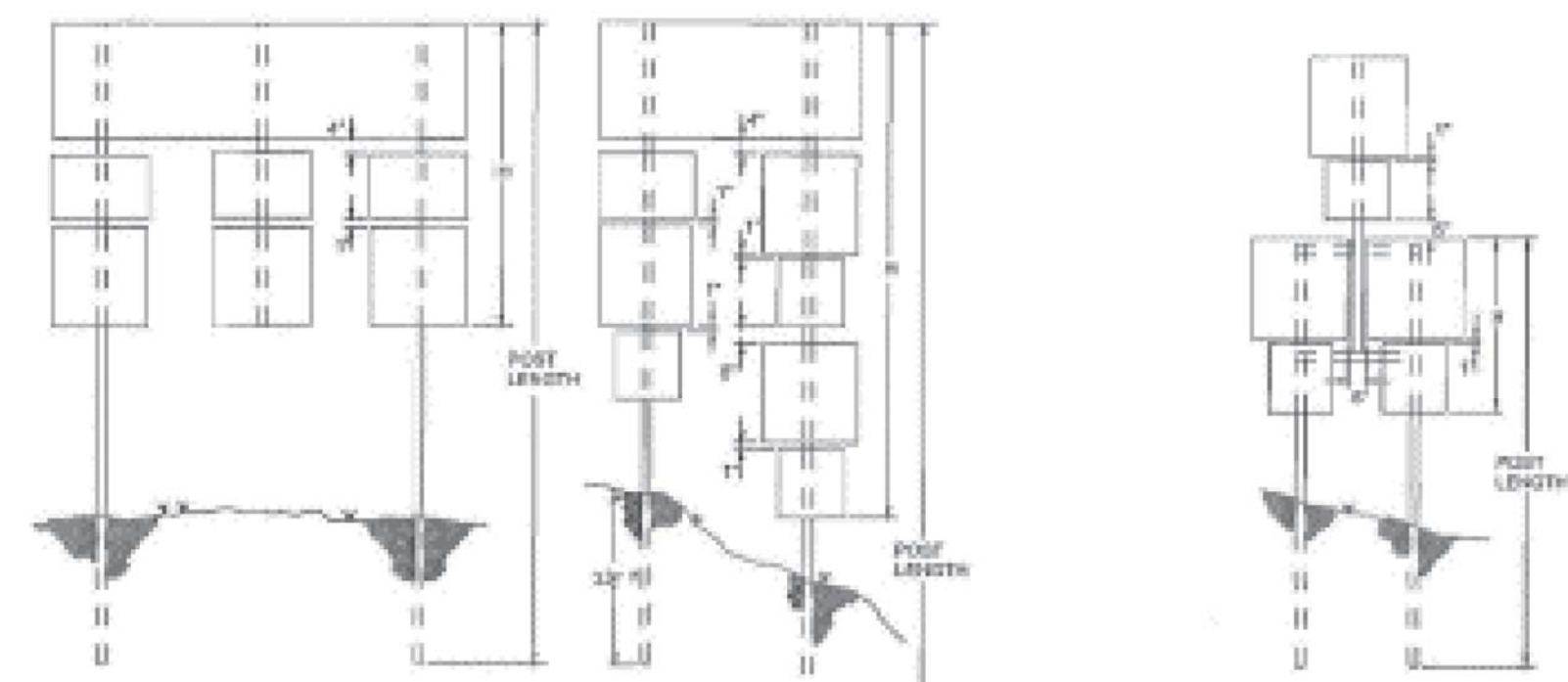


ILLUSTRATION OF SIGN ASSEMBLY SPANNING SIDEWALK

NOTE:
THE PURPOSE OF SPANNING THE SIDEWALK IS TO PROVIDE AN UNOBSTRUCTED WAY FOR PEDESTRIANS AND AT THE SAME TIME LOCATE SIGNS WITHIN ROWS OF TRAFFIC WITH GOOD VISIBILITY FOR TRAFFIC. EACH INSTALLATION MUST BE INDIVIDUALLY PLANNED AND CONSTRUCTED TO ACCOMPLISH THIS PURPOSE. THE PROJECT ENGINEER SHOULD APPROVE THE CONTRACTOR'S PLAN FOR SUPPORTING SIGNS SPANNING SIDEWALKS BEFORE THEY ARE ERRECTED.

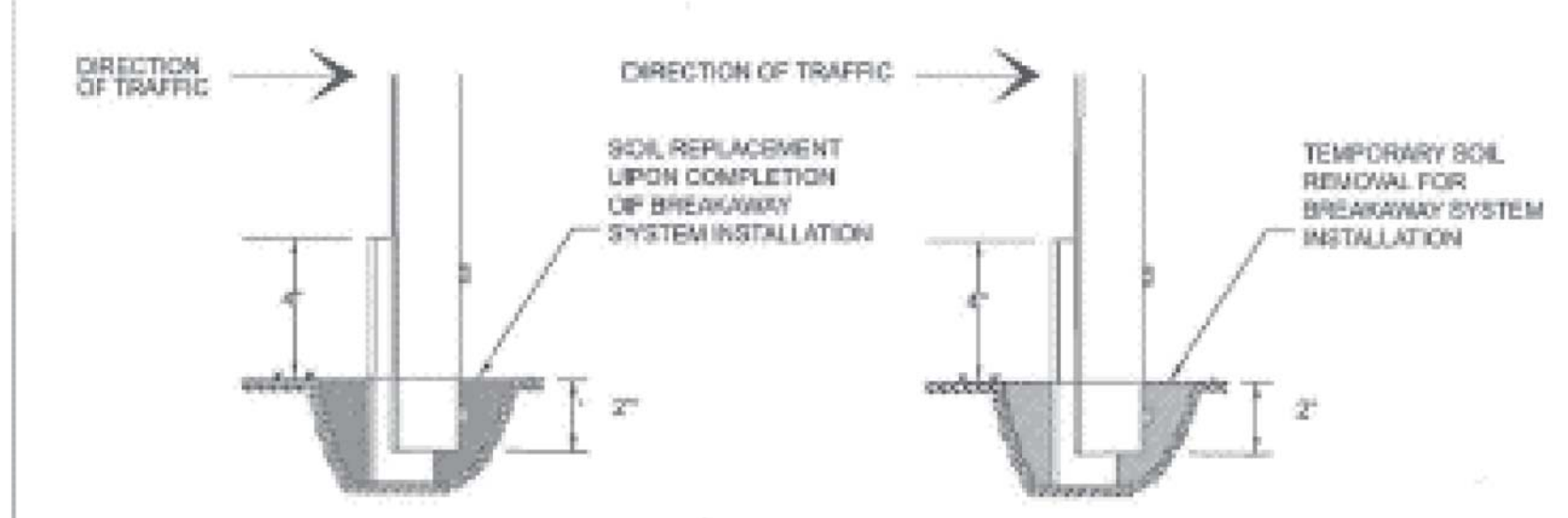


THIS TABLE GIVES APPROXIMATE POST LENGTHS FOR NORMAL CONDITIONS. WHEN CUT OFF FULL SECTIONS ARE SIGNIFICANT, POST LENGTH SHALL BE ADJUSTED ACCORDINGLY.

WHEN H IS LESS THAN	2 TO 2 1/2'	2 TO 2 1/2'	2 TO 2 1/2'	2 TO 2 1/2'	8' AND LONGER
POST LENGTH (FT.)	12'	12'	12'	12'	PLUS 12'

NOTE: ADD 2' TO POST LENGTH FOR 7' MOUNTING HEIGHT.

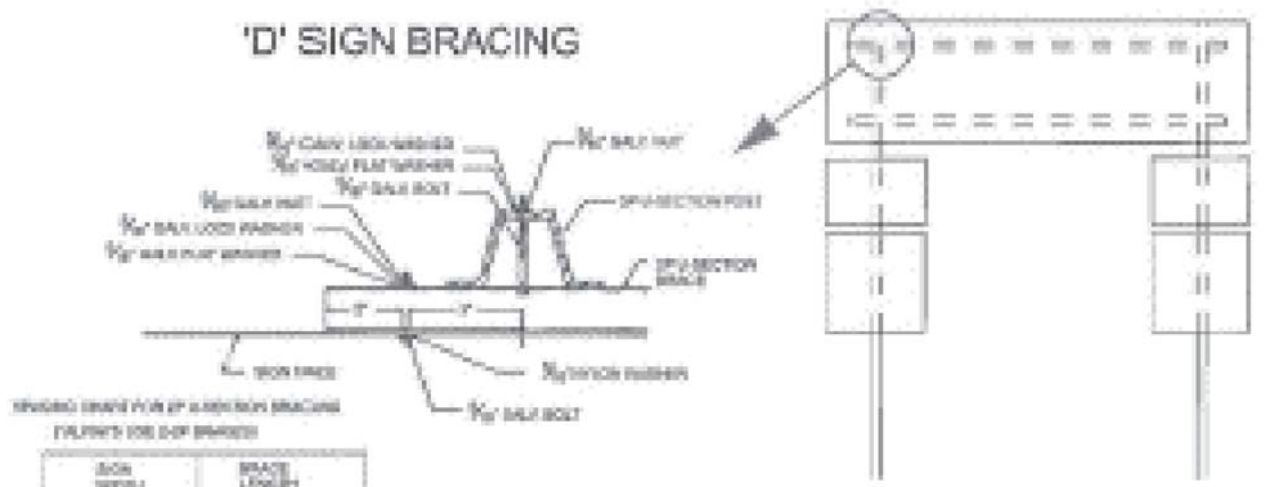
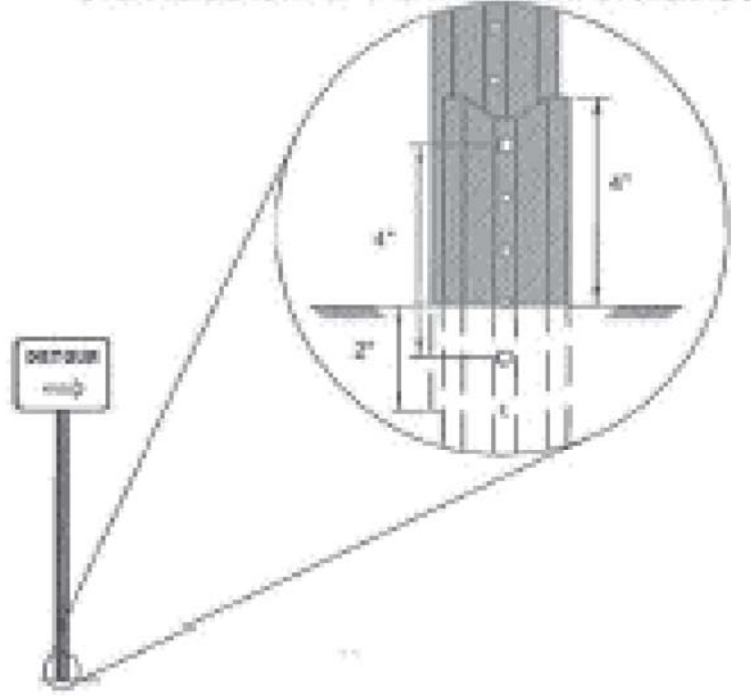
NOTE: POST LENGTHS NOT SHOWN ON THIS SHEET ARE SHOWN ON THE PLANSHEETS.



DRIVE THE GROUND SUPPORT (STUB) APPROXIMATELY 30" TO 36" INTO THE GROUND AS SPECIFIED BY THE MANUFACTURER OF THE BREAKAWAY SYSTEM SO THAT NO MORE THAN 4" OF THE GROUND SUPPORT (STUB) EXTENDS ABOVE THE GROUND. REMOVE ENOUGH SOIL FROM AROUND THE GROUND SUPPORT (STUB) TO PERMIT ACCESS TO THE HOLES FOR THE INSERTION AND TIGHTENING OF THE LOWER BOLT OF THE BREAKAWAY SYSTEM. UPON COMPLETING THE INSTALLATION OF THE BREAKAWAY SYSTEM, REPLACE THE SOIL AND TAMP.

LAP SPLICE FOR U-SECTION POSTS

BOLTS MUST BE 4" APART. THE GROUND SUPPORT (STUB) SHALL NOT EXTEND HIGHER THAN 4" ABOVE THE GROUND. ATTACH THE SIGN SUPPORT TO THE BACK OF THE GROUND SUPPORT (STUB) WITH THE APPROPRIATE HARDWARE PROVIDED BY THE MANUFACTURER OF THE BREAKAWAY SYSTEM. OVERALL LENGTH OF THE BREAKAWAY SYSTEM IS 6'.



SIGN WIDTH	BRACE LENGTH
11"	36"
12"	36"
14"	36"
16"	36"
18"	36"
20"	36"
22"	36"
24"	36"
26"	36"
28"	36"
30"	36"
32"	36"
34"	36"
36"	36"

1.) ALL 'D' TYPE SIGNS ARE TO BE SUPPORTED BY 2 VERTICAL U-SECTION POSTS. ALL 'D' TYPE SIGNS WHICH ARE 8' WIDE OR WIDER WILL BE HORIZONTALLY BRACED WITH 2 2" U-SECTION POSTS. ADDITIONALLY, ANY ASSEMBLY OF SIGNS ATTACHED BETWEEN VERTICAL SUPPORTS WILL BE ATTACHED WITH A PRESCRIBED LENGTH OF U-SECTION POST.

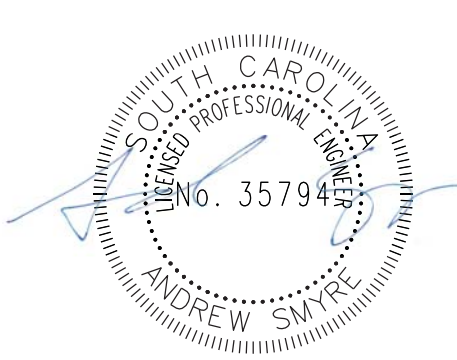
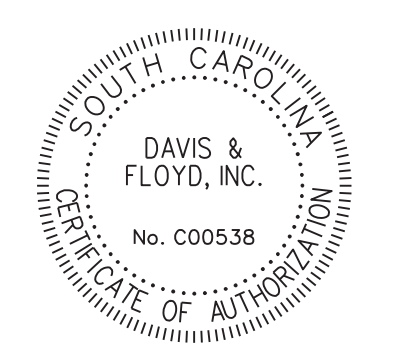
2.) ALL 2" POSTS USED AS CENTER VERTICAL MEMBERS IN SIGN ASSEMBLIES SHALL HAVE HOLES ON 1" CENTERS FOR ENTIRE LENGTH.

SIZE & LENGTH OF U-SECTION POSTS FOR SINGLE SIGNS

POST CANNOT BE LESS THAN 12' LONG UNLESS OTHERWISE SPECIFIED

SIGN NO.	SIGN WIDTH	POST SIZES				SIGN NO.	SIGN WIDTH	POST SIZES				SIGN NO.	SIGN WIDTH	POST SIZES			
		8' HIGH		7' HIGH				8' HIGH		7' HIGH				8' HIGH		7' HIGH	
		U-SECTION POST	U-SECTION POST	U-SECTION POST	U-SECTION POST			U-SECTION POST	U-SECTION POST	U-SECTION POST	U-SECTION POST			U-SECTION POST	U-SECTION POST	U-SECTION POST	U-SECTION POST
8101	12"	12"	12"	12"	12"	8102	12"	12"	12"	12"	8103	12"	12"	12"	12"		
8104	14"	14"	14"	14"	14"	8105	14"	14"	14"	14"	8106	14"	14"	14"	14"		
8107	16"	16"	16"	16"	16"	8108	16"	16"	16"	16"	8109	16"	16"	16"	16"		
8110	18"	18"	18"	18"	18"	8111	18"	18"	18"	18"	8112	18"	18"	18"	18"		
8113	20"	20"	20"	20"	20"	8114	20"	20"	20"	20"	8115	20"	20"	20"	20"		
8116	22"	22"	22"	22"	22"	8117	22"	22"	22"	22"	8118	22"	22"	22"	22"		
8119	24"	24"	24"	24"	24"	8120	24"	24"	24"	24"	8121	24"	24"	24"	24"		
8122	26"	26"	26"	26"	26"	8123	26"	26"	26"	26"	8124	26"	26"	26"	26"		
8125	28"	28"	28"	28"	28"	8126	28"	28"	28"	28"	8127	28"	28"	28"	28"		
8128	30"	30"	30"	30"	30"	8129	30"	30"	30"	30"	8130	30"	30"	30"	30"		
8131	32"	32"	32"	32"	32"	8132	32"	32"	32"	32"	8133	32"	32"	32"	32"		
8134	34"	34"	34"	34"	34"	8135	34"	34"	34"	34"	8136	34"	34"	34"	34"		
8137	36"	36"	36"	36"	36"	8138	36"	36"	36"	36"	8139	36"	36"	36"	36"		
8140	38"	38"	38"	38"	38"	8141	38"	38"	38"	38"	8142	38"	38"	38"	38"		
8143	40"	40"	40"	40"	40"	8144	40"	40"	40"	40"	8145	40"	40"	40"	40"		
8146	42"	42"	42"	42"	42"	8147	42"	42"	42"	42"	8148	42"	42"	42"	42"		
8149	44"	44"	44"	44"	44"	8150	44"	44"	44"	44"	8151	44"	44"	44"	44"		
8152	46"	46"	46"	46"	46"	8153	46"	46"	46"	46"	8154	46"	46"	46"	46"		
8155	48"	48"	48"	48"	48"	8156	48"	48"	48"	48"	8157	48"	48"	48"	48"		
8158	50"	50"	50"	50"	50"	8159	50"	50"	50"	50"	8160	50"	50"	50"	50"		
8161	52"	52"	52"	52"	52"	8162	52"	52"	52"	52"	8163	52"	52"	52"	52"		
8164	54"	54"	54"	54"	54"	8165	54"	54"	54"	54"	8166	54"	54"	54"	54"		
8167	56"	56"	56"	56"	56"	8168	56"	56"	56"	56"	8169	56"	56"	56"	56"		
8170	58"	58"	58"	58"	58"	8171	58"	58"	58"	58"	8172	58"	58"	58"	58"		
8173	60"	60"	60"	60"	60"	8174	60"	60"	60"	60"	8175	60"	60"	60"	60"		
8176	62"	62"	62"	62"	62"	8177	62"	62"	62"	62"	8178	62"	62"	62"	62"		
8179	64"	64"	64"	64"	64"	8180	64"	64"	64"	64"	8181	64"	64"	64"	64"		
8182	66"	66"	66"	66"	66"	8183	66"	66"	66"	66"	8184	66"	66"	66"	66"		
8185	68"	68"	68"	68"	68"	8186	68"	68"	68"	68"	8187	68"	68"	68"	68"		
8188	70"	70"	70"	70"	70"	8189	70"	70"	70"	70"	8190	70"	70"	70"	70"		
8191	72"	72"	72"	72"	72"	8192	72"	72"	72"	72"	8193	72"	72"	72"	72"		
8194	74"	74"	74"	74"	74"	8195	74"	74"	74"	74"	8196	74"	74"	74"	74"		
8197	76"	76"	76"	76"	76"	8198	76"	76"	76"	76"	8199	76"	76"	76"	76"		
8200	78"	78"	78"	78"	78"	8201	78"	78"	78"	78"	8202	78"	78"	78"	78"		
8203	80"	80"	80"	80"	80"	8204	80"	80"	80"	80"	8205	80"	80"	80"	80"		
8206	82"	82"	82"	82"	82"	8207	82"	82"	82"	82"	8208	82"	82"	82"	82"		
8209	84"	84"	84"	84"	84"	8210	84"	84"	84"	84"	8211	84"	84"	84"	84"		
8212	86"	86"	86"	86"	86"	8213	86"	86"	86"	86"	8214	86"	86"	86"	86"		
8215	88"	88"	88"	88"	88"	8216	88"	88"	88"	88"	8217	88"	88"	88"	88"		
8218	90"	90"	90"	90"	90"	8219	90"	90"	90"	90"	8220	90"	90"	90"	90"		
8221	92"	92"	92"	92"	92"	8222	92"	92"	92"	92"	8223	92"	92"	92"	92"		
8224	94"	94"	94"	94"	94"	8225	94"	94"	94"	94"	8226	94"	94"	94"	94"		
8227	96"	96"	96"	96"	96"	8228	96"	96"	96"	96"	8229	96"	96"	96"	96"		
8230	98"	98"	98"	98"	98"	8231	98"	98"	98"	98"	8232	98"	98"	98"	98"		
8233	100"	100"	100"	100"	100"	8234	100"	100"	100"	100"	8235	100"	100"	100"	100"		

NOTE: POST LENGTHS SHOWN IN THIS CHART ARE GENERAL AND SHOULD BE USED FOR BID PURPOSES ONLY. CONTRACTOR IS REQUIRED TO VERIFY FIELD CONDITIONS TO DETERMINE EXACT LENGTHS OF POSTS NEEDED.



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SIGN MOUNTING DETAIL

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