

Technical Proposal
SCDOT Design Build Project
Bridge Package 16 DB Project
Contract ID 3962240



PROJECT DELIVERY AND APPROACH

Palmetto Infrastructure Inc. (PII) and Carolina Transportation Engineers & Associates, PC

(CTEA) have assembled a highly qualified and motivated team to deliver this project for SCDOT. We have the design capabilities and available contracting resources to **beat Final Completion by more than a year (9 months guaranteed)**. CTEA's bridge and roadway design staff is supported with geotechnical, utility coordination, permitting / public involvement, traffic and right of way specialists to complete the preconstruction efforts for each site. The Design Manager, Derek Staton, works daily with PII, and has routine discussions with our prestressed concrete and steel fabricators, subcontractors, utility providers and community stakeholders to resolve construction issues, reduce risk and develop plans to facilitate construction.

Our fundamental design and construction approach to bridge replacements is "Keep It Simple." We have worked with SCDOT to develop Formal Alternative Technical Concepts (FATC) for this project to simplify the project, minimize impacts, reduce scope and eliminate risk. Two of the five sites will be constructed with single span structures. Four bridges are replaced as close as practical to the current alignment, and every roadway is reconstructed as near as possible to the existing profile. Our design minimizes project limits, ROW and utility impacts, and temporary works, and provides maintenance friendly designs. It facilitates construction by reducing risks. Safety is maximized by separating traffic from construction activities.

The PII_CTEA plan for this project helps achieve all SCDOT goals for the project including:

- Minimization to right-of-way, driveways, businesses
- Minimization to utility impacts
- Minimization to environmental impacts
- Schedule certainty
- Cost Certainty

Using a phased construction approach, earthwork at both SC 183 bridges is reduced as compared to the proposal plans. We will construct Phase 1 at each site, consisting of most earthwork and half of each bridge. Phase 2 will complete the bridge and shift traffic to the final configuration. The bridge at SC 183 over Gregory Creek will be overbuilt to align the final traffic pattern closer to the existing tangent alignment. We understand the RFP has limitations when squaring off bridges in curves, but our design is specifically intended to place the permanent alignment closer to the existing tangent and does not fall under this requirement.

PII will coordinate bridge crews with earthwork and paving subcontractors. CTEA will obtain traffic data, perform the analysis and determine what improvements are needed for the SC 124 detour. We will obtain approval of our traffic analysis and detour plans as soon as possible after Notice-To-Proceed (NTP). We will initiate clearing/grubbing activities prior to closing roadways, while awaiting plan approvals. Erosion control will be installed, and each site will be cleared and/or grubbed to the ROW limits (or nearest water feature) per RFP requirements.

US 123 bridges with associated earthwork and maintenance of traffic (MOT) will control the overall schedule, so an early start is critical. Design Team 1 will proceed, at risk, prior to NTP, to develop the northbound lane (NBL) ROW and preliminary bridge plans for submittal. We will continue to develop final plans for this site, incorporating review comments when available. Design Team 1 will move to the US 123 southbound lane (SBL) bridge next. Crossovers will be developed for temporary traffic control as part of this design. Since the bridge is being replaced with a very similar structure to NBL, and essentially on alignment, this bridge will be progressed immediately to final design. Comments received from the NBL structure will be incorporated as appropriate to the SBL bridge.

The SC 124 bridge replacement will be constructed simultaneously with US 123 NBL. Traffic analysis and detour improvements (if needed) will be developed by Design Team 2, at risk, and submitted shortly after NTP for approval. CTEA anticipates submitting only a final plan package for the SC 124 bridge due

to its simplicity (single span bridge replacement on alignment). Design Team 2 will move to the SC 183 over Twelvemile Creek second. This will be the third design package developed for submittal and will be presented as preliminary, ROW and Final Plans for review, including the construction staging for MOT. Steel girders have a longer fabrication lead time than concrete beams, so obtaining approvals early for this bridge design allows PII to order the girders in time to meet our construction schedule. Design Team 2 will develop SC 183 over Gregory Creek last. This stage constructed bridge replacement is very similar to the SC 183 over Twelvemile Creek phasing. Comments received from the MOT and staging plans at Twelvemile Creek will be incorporated into this design, and we will immediately progress this bridge to final plans for submittal and review.

Utilities: US 123 NBL and SC 124 requires limited early utility relocations – only a single pole in the field southeast of the US 123 NBL bridge. The waterline on existing NBL will remain in place during construction of the proposed NBL bridge and can be connected any time before the existing NBL is demolished. The AT&T fiber lines will be placed on the adjacent poles during the first 18 months of the project and will be relocated to new conduits on the proposed bridge anytime after construction of the SBL is completed (at AT&T's leisure and/or after substantial completion). SC 183 bridges will require utility relocations, but we will have 18 months (after bid opening) to move the utilities in conflict.

TELICS has and will continue to coordinate with utility providers at each site to ensure relocations are completed prior to the start of construction.

ROW: Minimal ROW required at US 123 NBL, and no ROW is required at US 123 SBL. The 75 ft ROW requirements at SC 124 will be extended to cover slope limits and potential stream relocation. Approved FATCs to lower the low chord and shorten the bridge allow us to perform the SC 124 bridge replacement on alignment under a General Permit (keeping stream impacts less than 300 ft). SC 183 bridges require ROW to maintain traffic. Our schedule provides for 18 months after NTP to acquire this ROW, and we anticipate having access to all properties prior to the start of construction at these sites.

The PII construction schedule is based on completing work at each site before moving construction crews to the next site. We recognize our ability to work on concurrent sites and are therefore confident in our assurances to complete this project ahead of schedule – even beating our own guarantees. Many construction activities will take place simultaneously, and when necessary, we can utilize multiple crews at a site to accelerate the schedule. Adding time for weather delays, equipment issues, subcontractor performance and other delays, each site will be completed in less time than the minimum allotted Construction Time per the RFP.

To achieve our schedule, PII will self-perform major construction items on the critical path including project management, DB coordination, construction oversight, bridge demolition, bridge foundations, bridge substructures, bridge superstructures and traffic control / MOT. Specialty subcontractors, including DBEs, will be utilized for items including earthwork, paving, guardrail installation and striping. PII has the equipment, resources and availability to provide two crews to the project as soon as possible after NTP (once designs are approved for construction) and anticipates adding a third crew in 2025.

Approach to design and how it minimized the need for new right-of-way on the project:

PII and the CTEA Design Team performed site visits at each bridge. We reviewed the proposal plans and researched ways to reduce major risk items on the project. This evaluation included a review of the utilities, review of the channel and proposed bridge layout, review of ROW, and a constructability review. We coordinated with utility providers (AT&T), local stakeholders (Pickens County EMS), fabricators, trucking & shipping companies, and others to ensure our plans are constructible and reduce risks to the construction schedule as well as SCDOT. FATCs presented and approved by SCDOT will facilitate this risk reduction and ultimately provide economical bridge replacements delivered ahead of schedule.

CTEA and PII approached this project with a goal for simplicity. Single-span structures, completely spanning the channel with required setbacks, and appropriately sized to provide hydraulic requirements as defined by the RFP, are utilized to the maximum extent practical (SC 124 and SC 183 over Gregory

Creek). When not practical, multi-span structures are used. Our designs focus efforts on providing quality bridge replacement, minimizing scope for all other items; and achieving the stated goals of SCDOT.

SC183 over Twelvemile Creek was especially challenging as the choice to achieve one of SCDOT's goals (minimize environmental impacts) is at the expense of another goal (minimize ROW). Approved FATCs that help us achieve SCDOT's goals include:

- FATC 02 Remove HDB 2019-4 criteria for lowering low chords.
- FATC 05 Increase column spacing.
- FATC 07 Reduce 75 FT ROW required at US 123 NBL.
- FATC 08 Construct SC 124 and US 123 bridges simultaneously.
- FATC 09 Construct separate bridges for us 123 NBL and SBL.
- FATC 10 Close and Detour SC 124.
- FATC 12 Reduce minimum bridge limits.
- FATC 13 Remove HDB 2019-4 criteria for restricting the bridge length to a minimum of the existing bridge.

We developed a phasing plan to replace the US 123 bridges that reduces temporary works, separates traffic from construction, eliminates utility risk and facilitates future widenings. Our plan constructs the new NBL outside of existing, and the SBL essentially on alignment.

CTEA set all bridges based on minimum geometrical constraints including setbacks from the top of channel, RFP channel length requirements, and minimum / maximum abutment heights. Hydraulic models provided by SCDOT (and verified by our team) were used and the low chord is set based on maintaining the maximum elevation of **1 foot freeboard over 500-year HWEL (Controls)**, 50-year HWEL plus 2 feet freeboard, and ordinary highwater plus 8 feet for navigable waterways. The bridge lengths provide a maximum 1-foot backwater as compared to the natural conditions, and more hydraulic opening than the existing condition (a condition of our FATC).

Roadway profiles are based on maintaining the minimum required low chord across the bridge, matching maximum grades within project limits, providing vertical curves to meet project requirements, and keeping the low point off the bridge for the appropriate bridge end drainage.

Paving limits are developed for the area where the roadway profile is reconstructed and/or the horizontal alignment is tied in. Construction limits are extended when guardrail attachments to the bridge extends beyond the profile adjustment limits and for temporary works required.

CTEA designs meet all design requirements of the SCDOT manuals and memorandums as well as the RFP, except as specifically allowed by our approved ATCs.

ROW: We will acquire 75 ft of ROW on each side of centerline of the existing roadway for a length of 75 ft from each end of the bridge, except as allowed by approved FATC. ROW will not be acquired, per the RFP, if a 75 ft wide ROW is already provided for a minimum of 45 ft from the bridge ends. ROW will also be obtained to contain all construction limits. The total reduction in ROW (number of parcels and total area of takes) from the SCDOT provided plans to the PII / CTEA concept is nearly 7.5 acres:

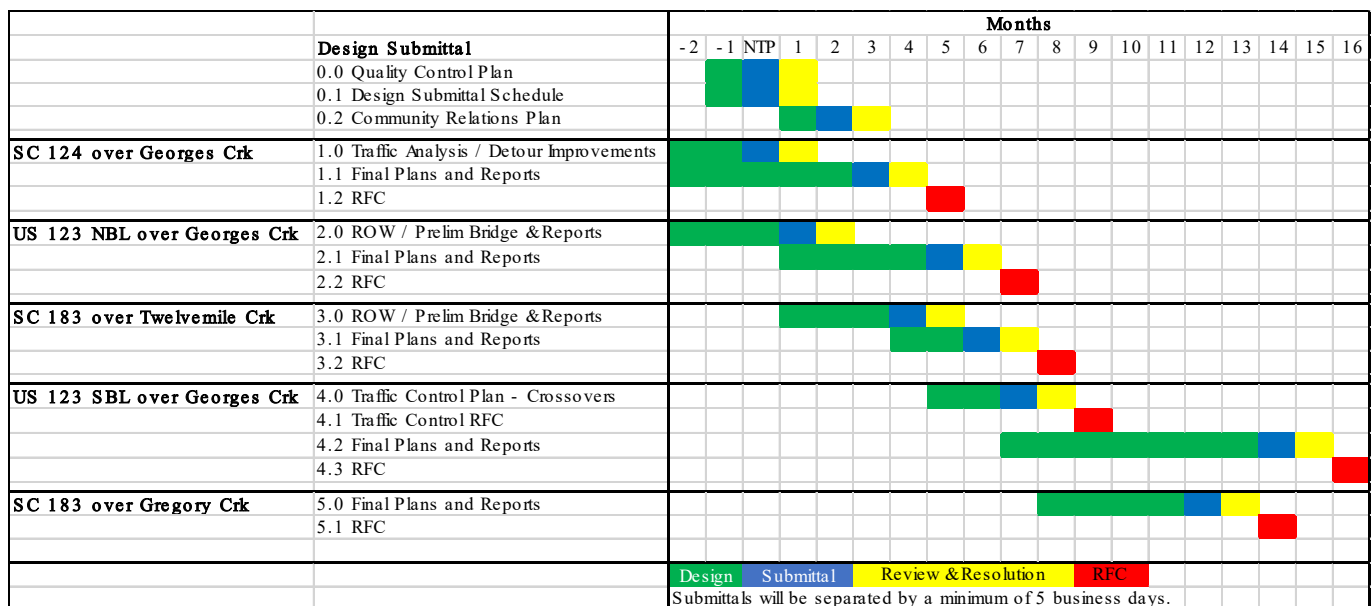
	ROW (each, acres)				
	SCDOT Plans		PII CTEA Plans		Reduction
	# Parcels	Area	# Parcels	Area	
SC 124 / Georges Crk	3	2.81	3	0.68	2.13
US 123 NBL / Georges Crk	N/A	N/A	0	0	N/A
US 123 SBL / Georges Crk	N/A	N/A	0	0	N/A
SC 183 / Twelvemile Crk	7	5.34	6	1.84	3.50
SC 183 / Gregory Crk	10 *	4.78	5	2.98	1.80
					7.43

* Tract 5 was a total take.

Proposed ROW is anticipated as follows:

- **SC 124 over Georges Creek:** ROW is required from Parcels 2, 3, 4. ROW is required for construction of the roadway embankment east of the bridge. ROW is reduced from the SCDOT provided plans by using an on-alignment replacement.

- **SC 183 over Gregory Creek:** ROW is required from Parcels 7, 8, 12, 13 and 14. ROW is required for construction of the roadway cut and embankment of the proposed roadway. ROW is reduced from the SCDOT provided plans by using staged construction.
- **SC 183 over Twelvemile Creek:** ROW is required from Parcels 2, 3, 4, 5 and 10. ROW is required for construction of the roadway cut and embankment south of the existing roadway. ROW is reduced from the SCDOT provided plans by using staged construction. Our proposed alignment is shifted upstream to minimize stream impacts and avoid an individual permit.
- **US 123 NBL over Georges Creek: ROW is not required.**
- **US 123 SBL over Georges Creek: ROW is not required.**



the first two sites to help PII get to work as soon as possible and complete this project for SCDOT ahead of schedule. Our team is familiar with SCDOT policies, file naming conventions, report formats, and design plan requirements. We will produce quality deliverables that meet the requirements of the RFP as well as the intent of SCDOT in a format SCDOT expects, which will facilitate quick design reviews and expedite approvals. **Our goal on this project will be to have no comments on the plan submittals.**

CTEA will develop SC 124 over Georges Creek and US 123 NBL over Georges Creek first. Traffic analysis of the SC 124 detour route will be performed at risk, prior to NTP. If improvements are required, we will survey the impacted areas and develop plans for the improvements necessary to meet the requirements of our FATC. CTEA anticipates this analysis and detour package will be the first design submittal for review, and plan to submit it within a month of NTP. SC 124 is proposed as a single span bridge replacement on alignment. Due to its simplicity, we will develop this site to a final design package. Review comments will be incorporated, and RFC drawings will be submitted.

US 123 NBL will be developed by a separate design team, and we propose to deliver ROW / Preliminary Plans and Reports a month after NTP (more than 5 business days after the SC 124 submittal above). The complexity of US 123 NBL warrants a ROW plan submission with preliminary bridge plans and reports. Comments received will be incorporated into the final plan package as necessary.

SC 183 over Twelvemile Creek will progress after SC 124 plans are submitted. The lead time for the fabrication of steel girders will control this site, so getting girder plans approved as soon as possible is a priority. This site will also be submitted initially as a ROW, preliminary bridge and reports package. We will incorporate review comments and progress to final design deliverable with the RFC to follow.

The same design team that developed US 123 NBL will complete the US 123 SBL design package. The MOT designs (crossovers) will be submitted for review and approval independent of the bridge and

roadway drawings. Since the design is very similar to the NBL, comments previously received will be incorporated, and the design will be submitted as a final package as the initial submittal.

SC 183 over Gregory Creek will be the last design progressed and is similar to SC 183 over Twelvemile Creek in staging and traffic control. Previous comments received will be incorporated into this design.

All plans and reports will undergo independent QC reviews prior to submittal to SCDOT.

Post RFC, CTEA will review and approve shop drawings, and deliver construction submittals to SCDOT for pile and drilled shaft installation plans and approved shop drawings. CTEA will assemble this information as well as plan markups during construction, and ROW markers, and deliver As-Built Plans to SCDOT prior to Final Completion of the Project.

4.1.5 INNOVATION AND ADDED VALUE

PII and CTEA bring significant innovation and added value to this project.

- PII and CTEA have reduced project limits, the number of parcels impacted, total ROW, environmental impacts, utility conflicts, and the project schedule.
- We developed a construction plan and a CPM schedule that nearly eliminates schedule risks associated with utilities, ROW, and fabrication and therefore reduces our liquidated damages risk.
- We identified constructability challenges associated with the provided plans and made necessary corrections to be able to build the replacement bridges without change orders.
- We provide bridge replacements at US 123 that will facilitate a future median widening – with no additional ROW, utility relocations, and almost no earthwork.
- Our FATC for closing and detouring SC 124 significantly reduces wetland and stream impacts, reduces ROW and almost eliminates earthwork. This achieves nearly all SCDOT goals.
- All bridge work and most earthwork performed by the PII_CTEA Team will be behind barrier.

This is a safer condition for the travelling public, SCDOT, PII and all others in the work zone.

Appendix A – Roadway Plans
SCDOT Design Build Project
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Contract ID 3962240




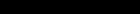
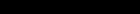
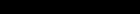
**** NOTE:**
THIS SLOPE MAY BE VARIED WHEN A
DEEPER DITCH IS NECESSARY FOR DRAINAGE
PURPOSES, USING A MINIMUM SLOPE OF 12:1 AND
A MAXIMUM SLOPE OF 4:1. WHERE A DEEPER DITCH
THAN PROVIDED BY 4:1 IS NECESSARY, THE DITCH
SHALL BE PLACED FARTHER FROM THE C/L CONTINUING
THE 4:1 SLOPE TO PROVIDE THE NECESSARY DEPTH.
SEE PROFILE FOR SPECIAL DITCH GRADES.

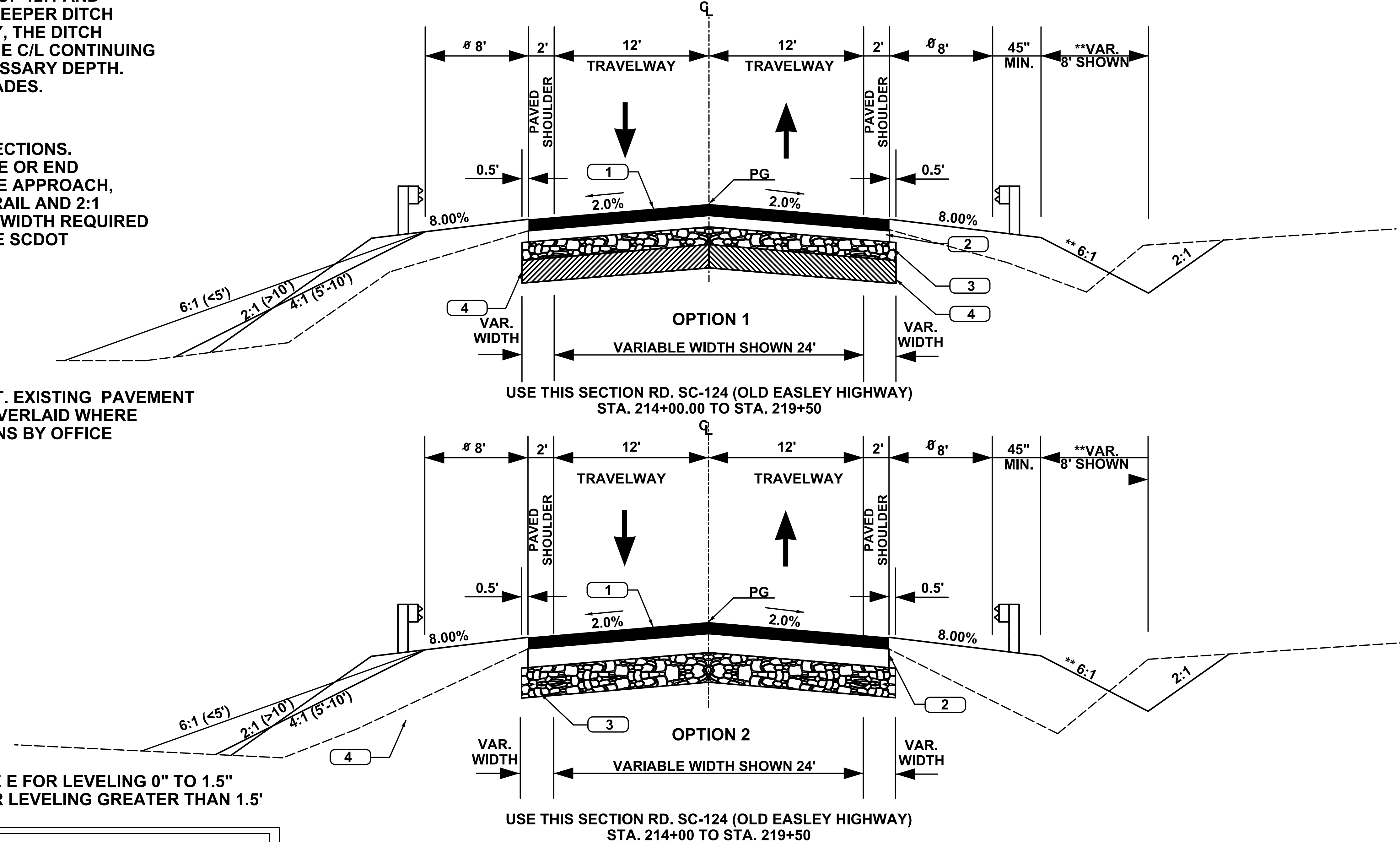
8 NOTES:
VARIABLE- SEE PLANS AND CROSS SECTIONS.
WHERE CLEARZONE IS UNATTAINABLE OR END
TREATMENT IS REQUIRED FOR BRIDGE APPROACH,
ADD 3.75' TO SHOULDER FOR GUARDRAIL AND 2:1
FORESLOPE. ADDITIONAL SHOULDER WIDTH REQUIRED
FOR END TREATMENT TYPE "MT3" SEE SCDOT
STANDARD DRAWING 805-115-10.

NOTES:
TYPICALS ILLUSTRATE NEW PAVEMENT. EXISTING PAVEMENT
WILL BE RETAINED, BUILT UP, AND OVERLAID WHERE
PRACTICAL. BASED ON RECOMMENDATIONS BY OFFICE
OF RESEARCH AND MATERIALS.

NOTE: USE HMA SURFACE COURSE TYPE E FOR LEVELING 0" TO 1.5"
USE HMA INTERMEDIATE CR. TYPE B FOR LEVELING GREATER THAN 1.5'
OPTION 1

OPTION 2

1		HMA SURFACE COURSE TYPE B 200 #/S.Y.
2		HMA INTERMEDIATE COURSE TYPE- B 400 #/S.Y.
3		HMA BASE COURSE TYPE- A 700 #/S.Y.
4		EXISTING GROUND



SC-124 URBAN MINOR ARTERIAL		
RTE SC-124	DESIGN	SPEED
MPH	FROM STA.	TO STA.
50	214+00	219+50
EXCEPTIONS TO DESIGN SPEED		

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROAD DESIGN COLUMBIA, S.C.

TYPICAL SECTION
SC-124 (OLD EASLEY HIGHWAY)

SCALE I'V=NTS	SCALE I'H=NTS	RTE./RD.
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*NOT FOR
CONSTRUCTION*



PAVEMENT DESIGN

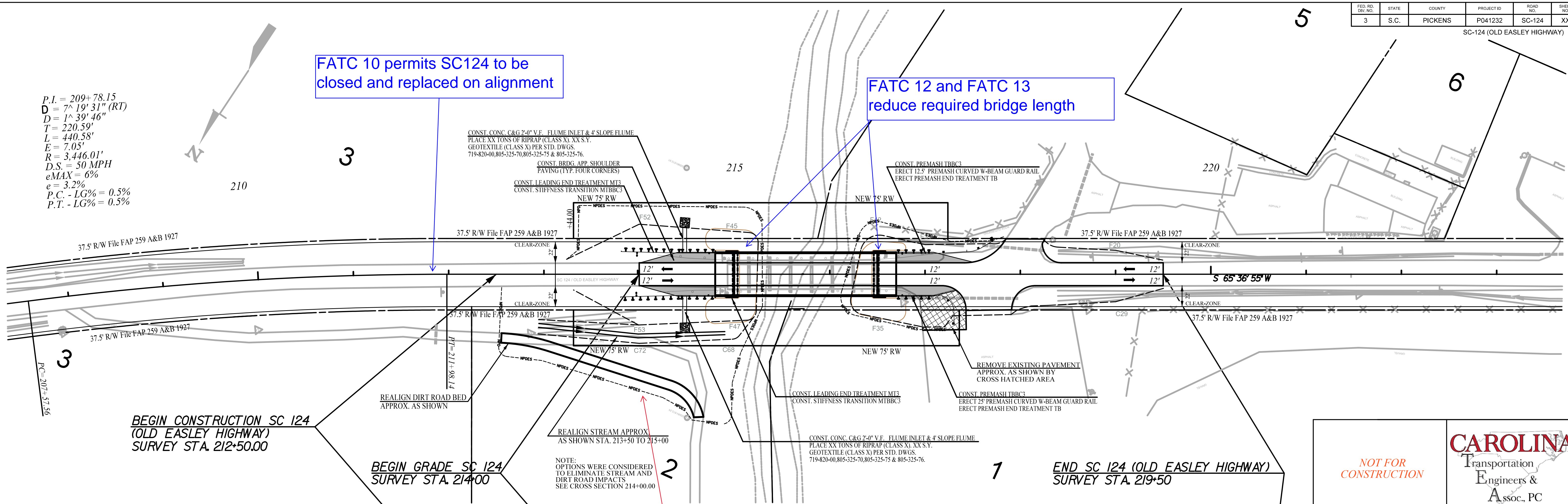
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	ROAD NO.	SHEET NO.
3	S.C.	PICKENS	P041232	SC-124	XX

SC-124 (OLD EASLEY HIGHWAY)

$P.I. = 209+78.15$
 $D = 7^\circ 19' 31''$ (RT)
 $D = 1^\circ 39' 46''$
 $T = 220.59'$
 $L = 440.58'$
 $E = 7.05'$
 $R = 3,446.01'$
 $D.S. = 50$ MPH
 $eMAX = 6\%$
 $e = 3.2\%$
 $P.C. - LG\% = 0.5\%$
 $P.T. - LG\% = 0.5\%$

FATC 10 permits SC124 to be closed and replaced on alignment

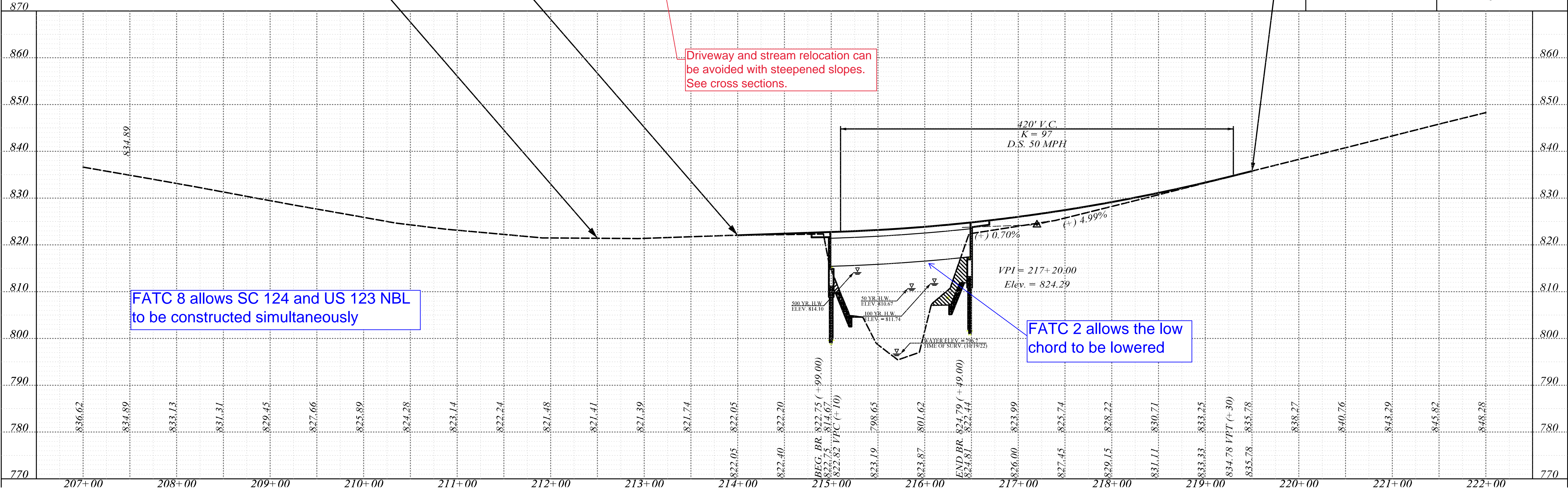
FATC 12 and FATC 13 reduce required bridge length



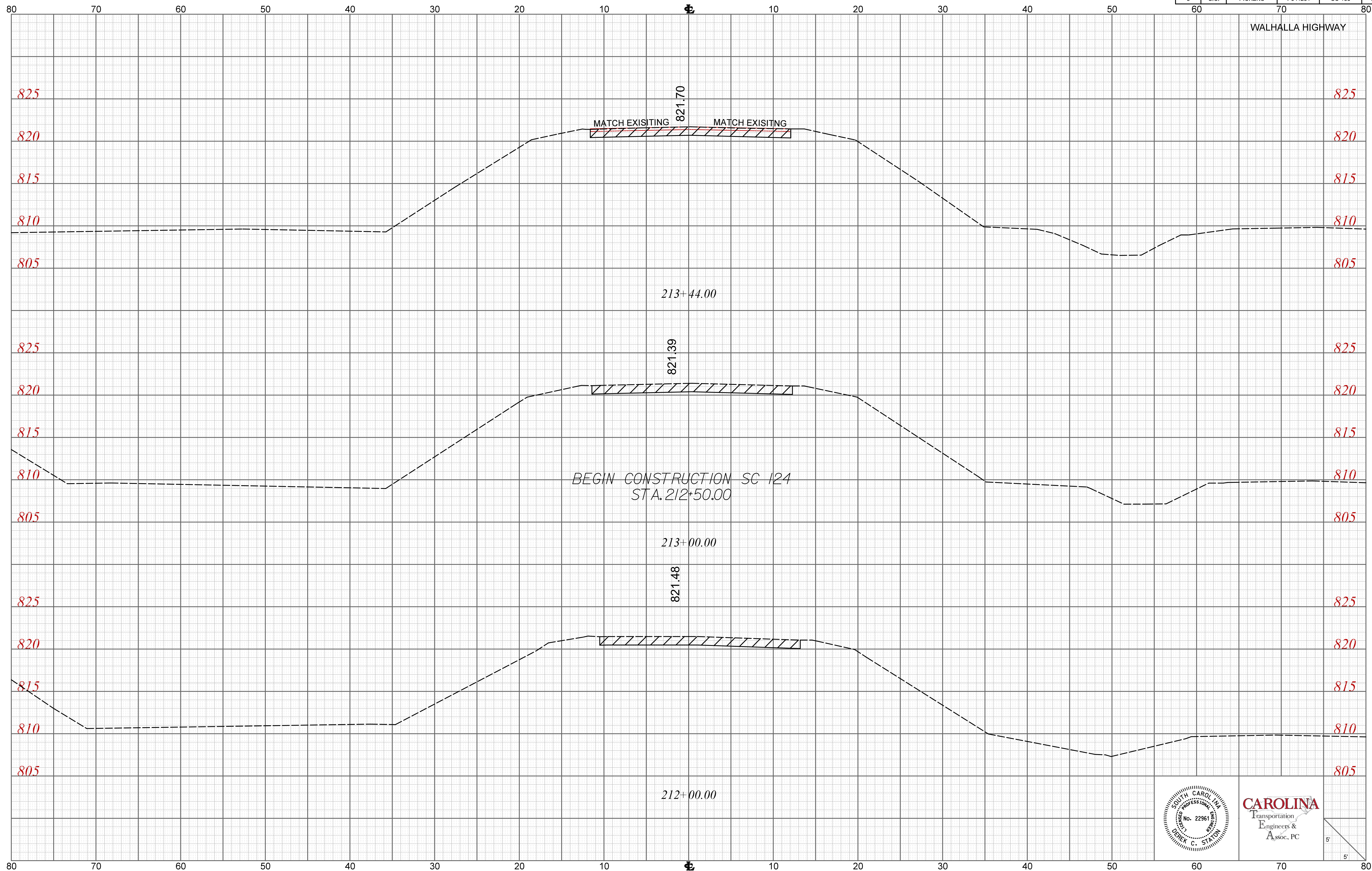
Driveway and stream relocation can be avoided with steepened slopes. See cross sections.

FATC 8 allows SC 124 and US 123 NBL to be constructed simultaneously

FATC 2 allows the low chord to be lowered




FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	SC-183 NO.	SHEE NO.
3	S.C.	PICKENS	P041231	SC-183	X1



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$$$$$path$$$$$filename$$$$$$$
$$$user$$$
$$$date$$$

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Assoc., PC

A right triangle is drawn on a grid. The horizontal leg is labeled $5'$ and the vertical leg is labeled $5'$. The hypotenuse connects the endpoints of these legs.

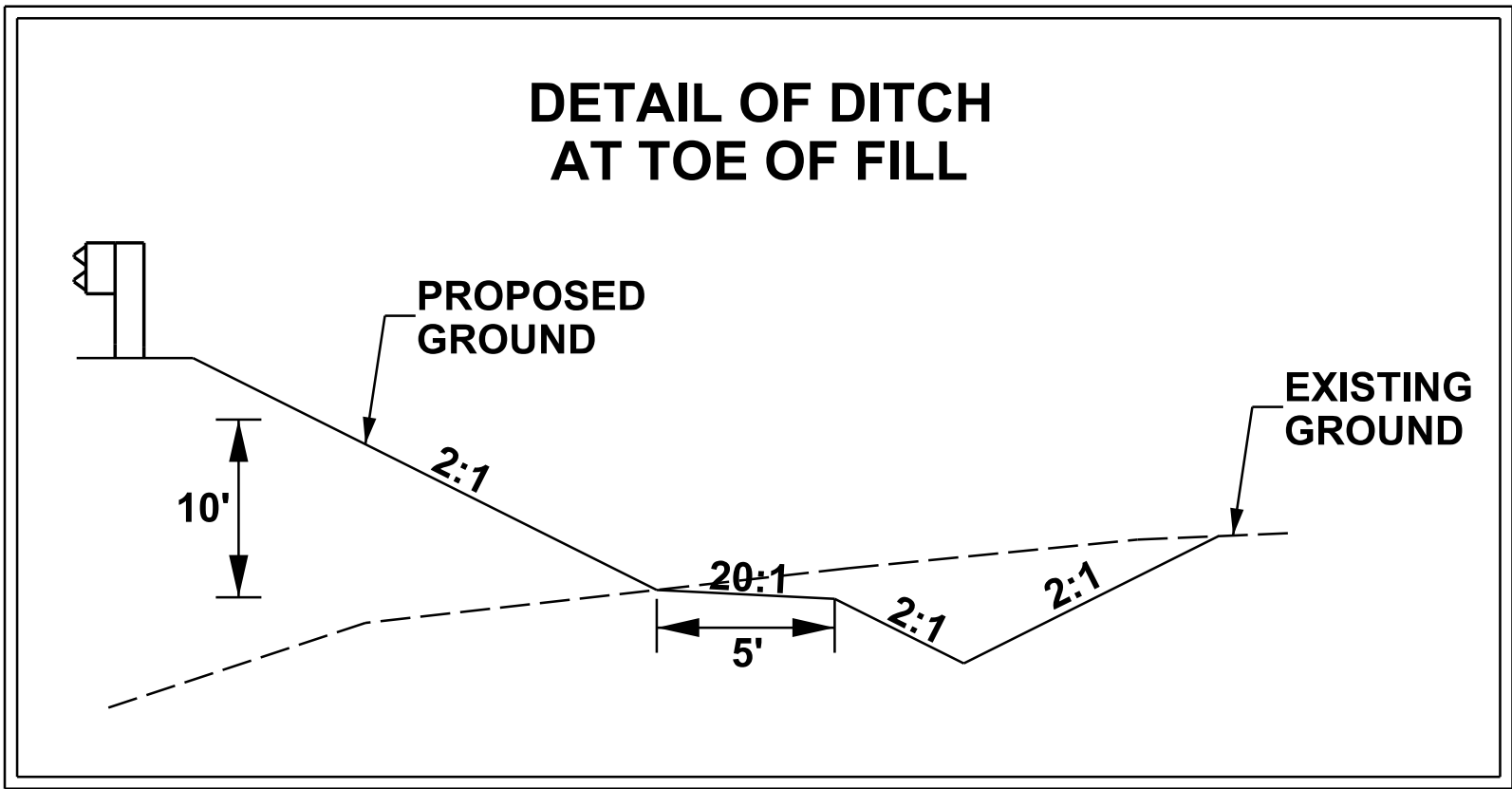
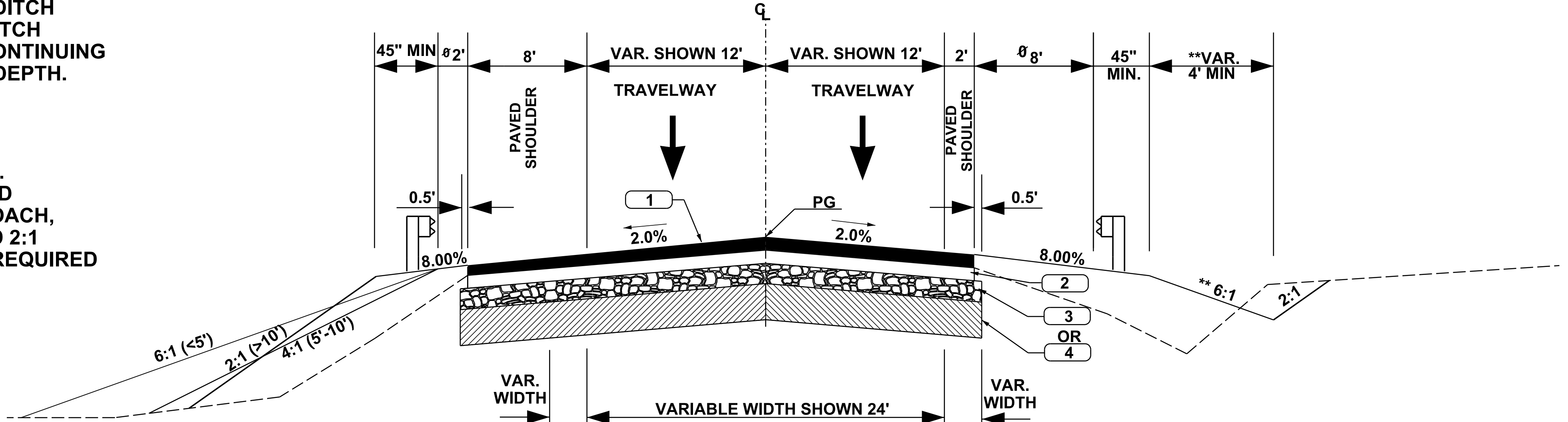
FED. RD. DIST. NO.	STATE	COUNTY	PROJECT ID	ROAD NO.	SHEET NO.
3	SC	PICKENS	P041233	US-123	3

CALHOUN MEMORIAL HIGHWAY NORTHBOUND

TYPICAL SECTION OF IMPROVEMENT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
COLUMBIA, S.C.

**** NOTE:**
THIS SLOPE MAY BE VARIED WHEN A DEEPER DITCH IS NECESSARY FOR DRAINAGE PURPOSES, USING A MINIMUM SLOPE OF 12:1 AND A MAXIMUM SLOPE OF 4:1. WHERE A DEEPER DITCH THAN PROVIDED BY 4:1 IS NECESSARY, THE DITCH SHALL BE PLACED FARTHER FROM THE C/L CONTINUING THE 4:1 SLOPE TO PROVIDE THE NECESSARY DEPTH. SEE PROFILE FOR SPECIAL DITCH GRADES.

NOTES:
VARIABLE- SEE PLANS AND CROSS SECTIONS. WHERE CLEARZONE IS UNATTAINABLE OR END TREATMENT IS REQUIRED FOR BRIDGE APPROACH, ADD 3.75' TO SHOULDER FOR GUARDRAIL AND 2:1 FORESLOPE. ADDITIONAL SHOULDER WIDTH REQUIRED FOR END TREATMENT TYPE "MT3" SEE SCDOT STANDARD DRAWING 805-115-10.



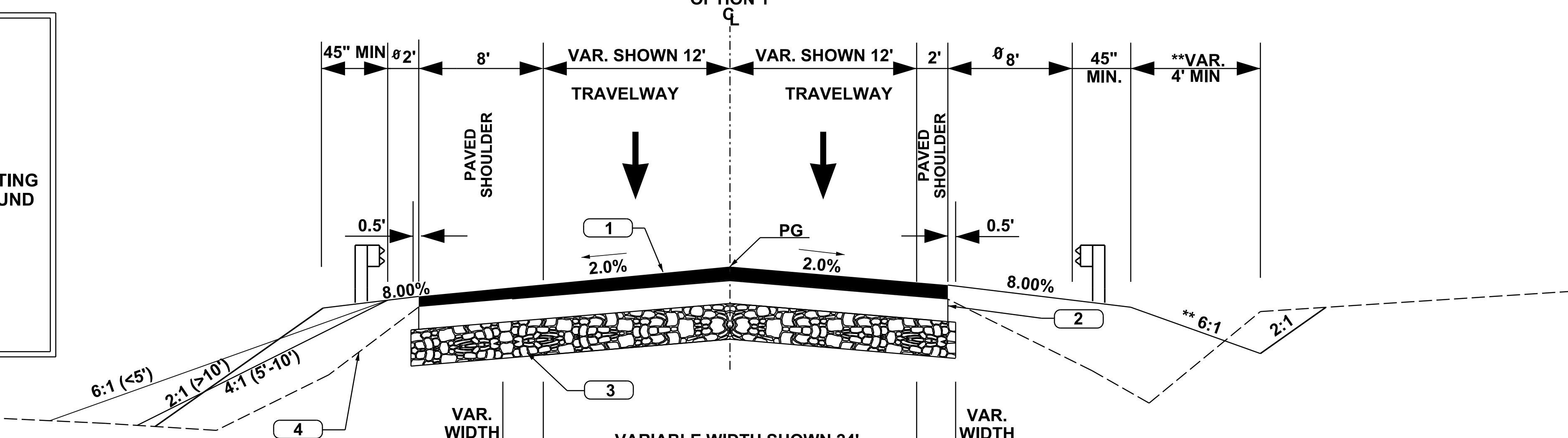
NOTE: USE HMA SURFACE COURSE TYPE E FOR LEVELING 0" TO 1.5"
USE HMA INTERMEDIATE CR. TYPE B FOR LEVELING GREATER THAN 1.5'

OPTION 1

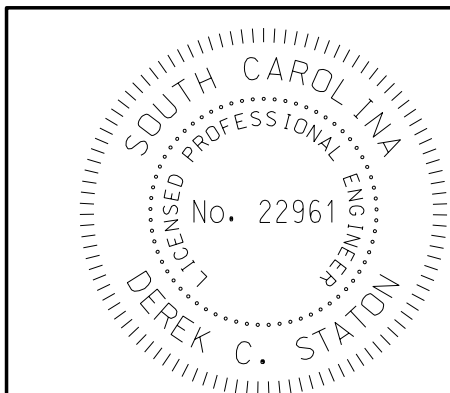
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2	HMA INTERMEDIATE COURSE TYPE- B 200 #/S.Y.
3	HMA BASE COURSE TYPE- A 450 #/S.Y.
4	10 INCHES GABC

OPTION 2

1	HMA SURFACE COURSE TYPE B 200 #/S.Y.
2	HMA INTERMEDIATE COURSE TYPE- B 400 #/S.Y.
3	HMA BASE COURSE TYPE- A 800 #/S.Y.
4	EXISTING GROUND



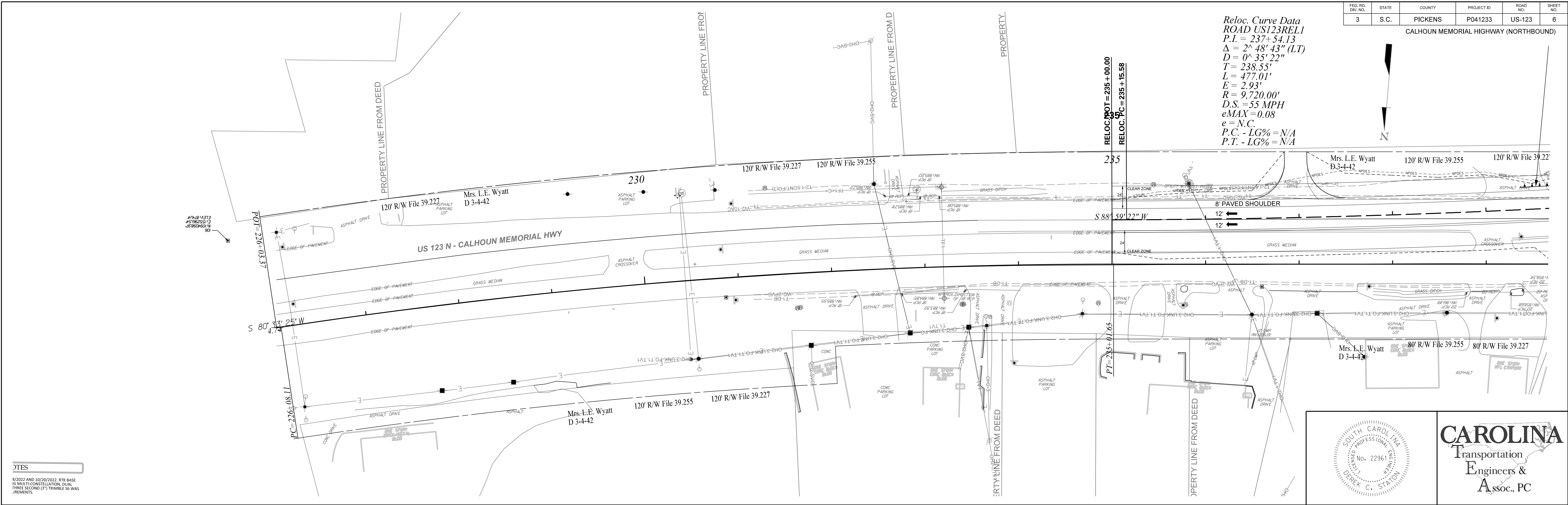
USE THIS SECTION RD. US-123 NORTHBOUND (CALHOUN MEMORIAL HIGHWAY)
STA. 235+00.00 TO STA. 261+41.98
OPTION 2



PAVEMENT DESIGN

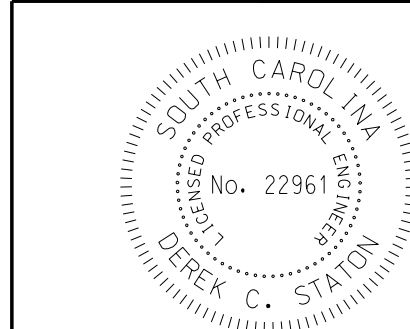
US-123 URBAN PRINCIPAL ARTERIAL		
RTE US-123 NB		DESIGN SPEED
MPH	FROM STA.	TO STA.
55	235+00	261+42
EXCEPTIONS TO DESIGN SPEED		

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION ROAD DESIGN COLUMBIA, S.C.		
TYPICAL SECTION US-123 (CALHOUN MEMORIAL HIGHWAY)		
SCALE 1"V=NTS	SCALE 1"=NTS	RTE./RD.

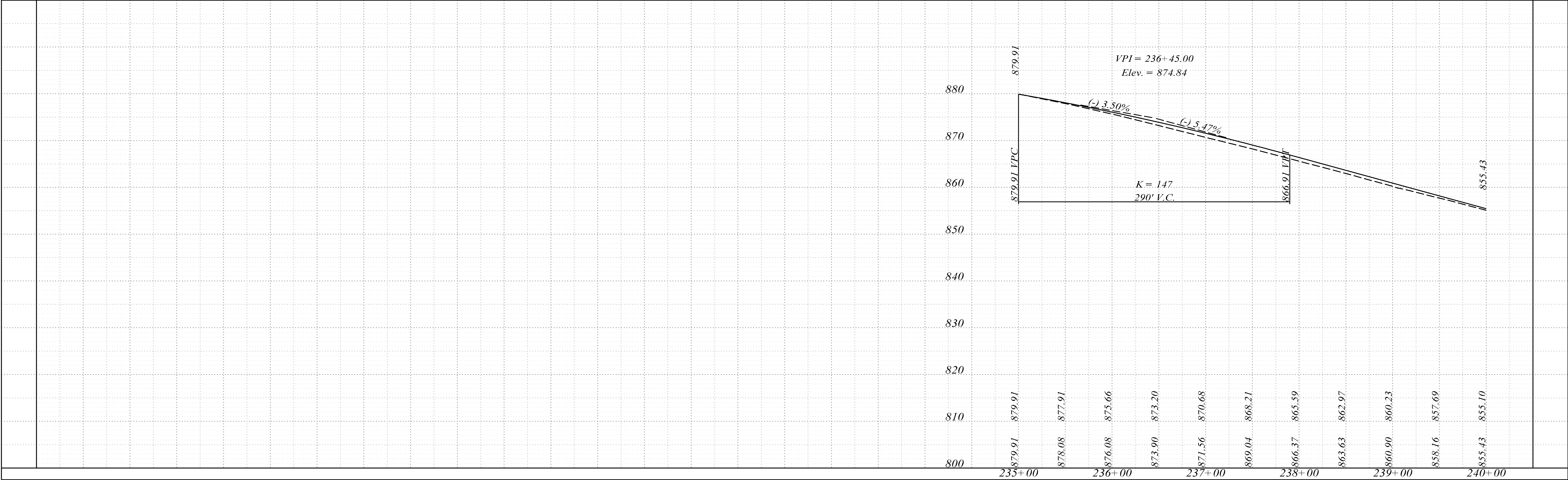


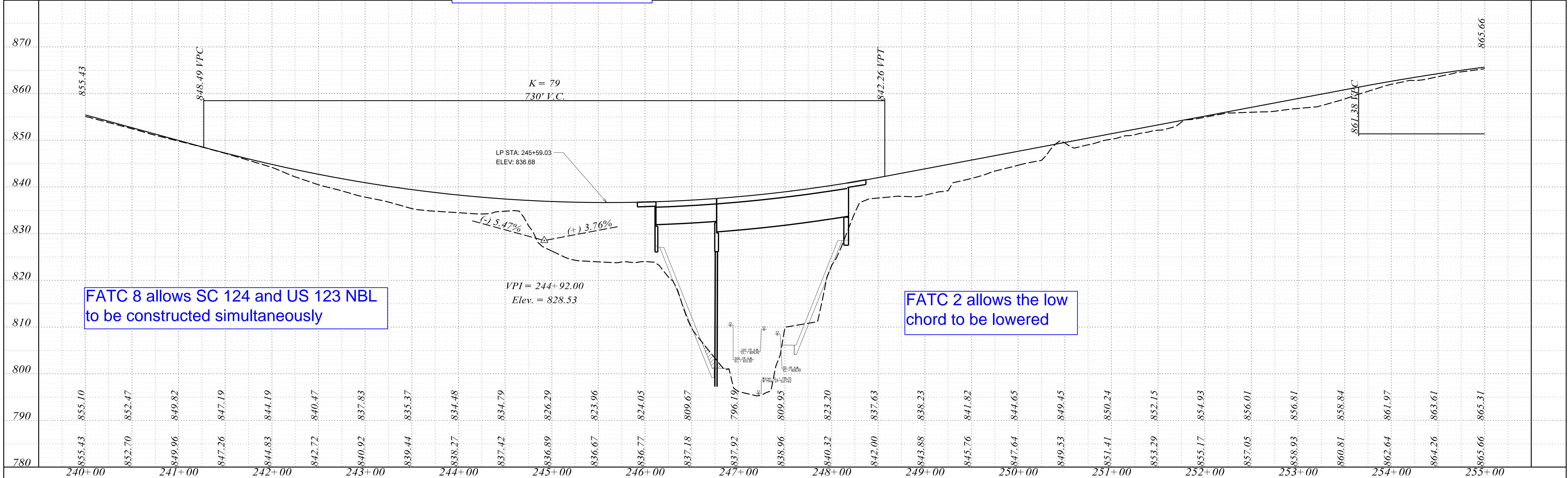
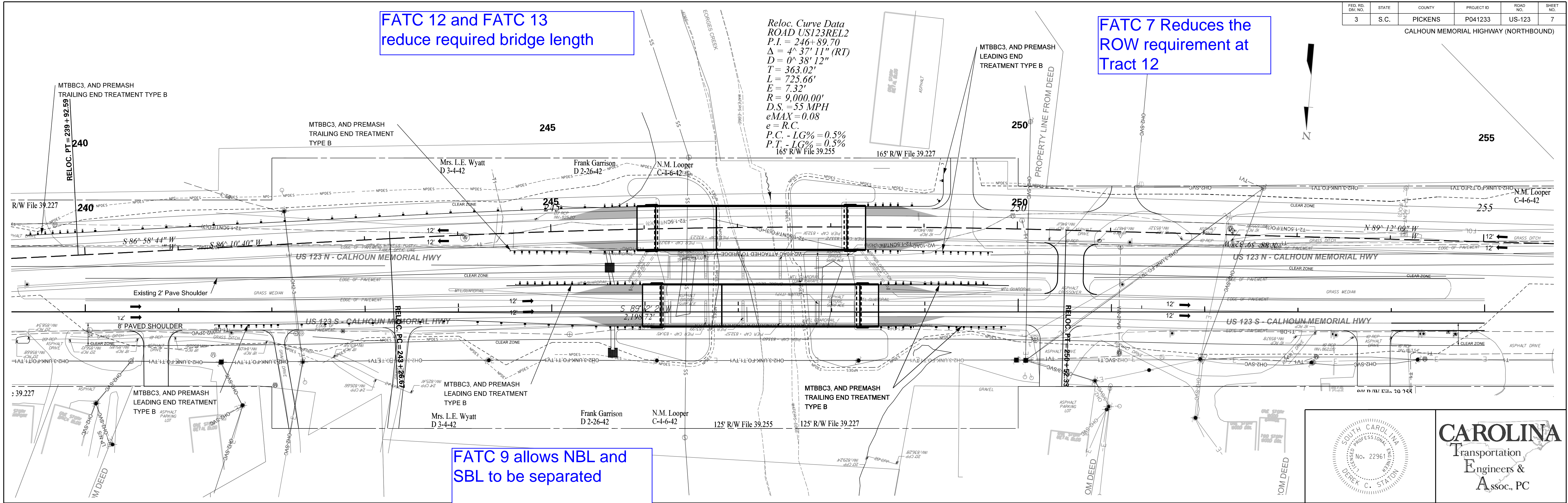
YES

8/2022 AND 10/20/2022: RTK BASE
RE-MITTY CONSTITUTIONAL DUAL
THREE SECOND (3") TRIMBLE SE WAS
UMENTS.

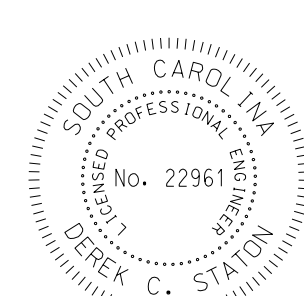
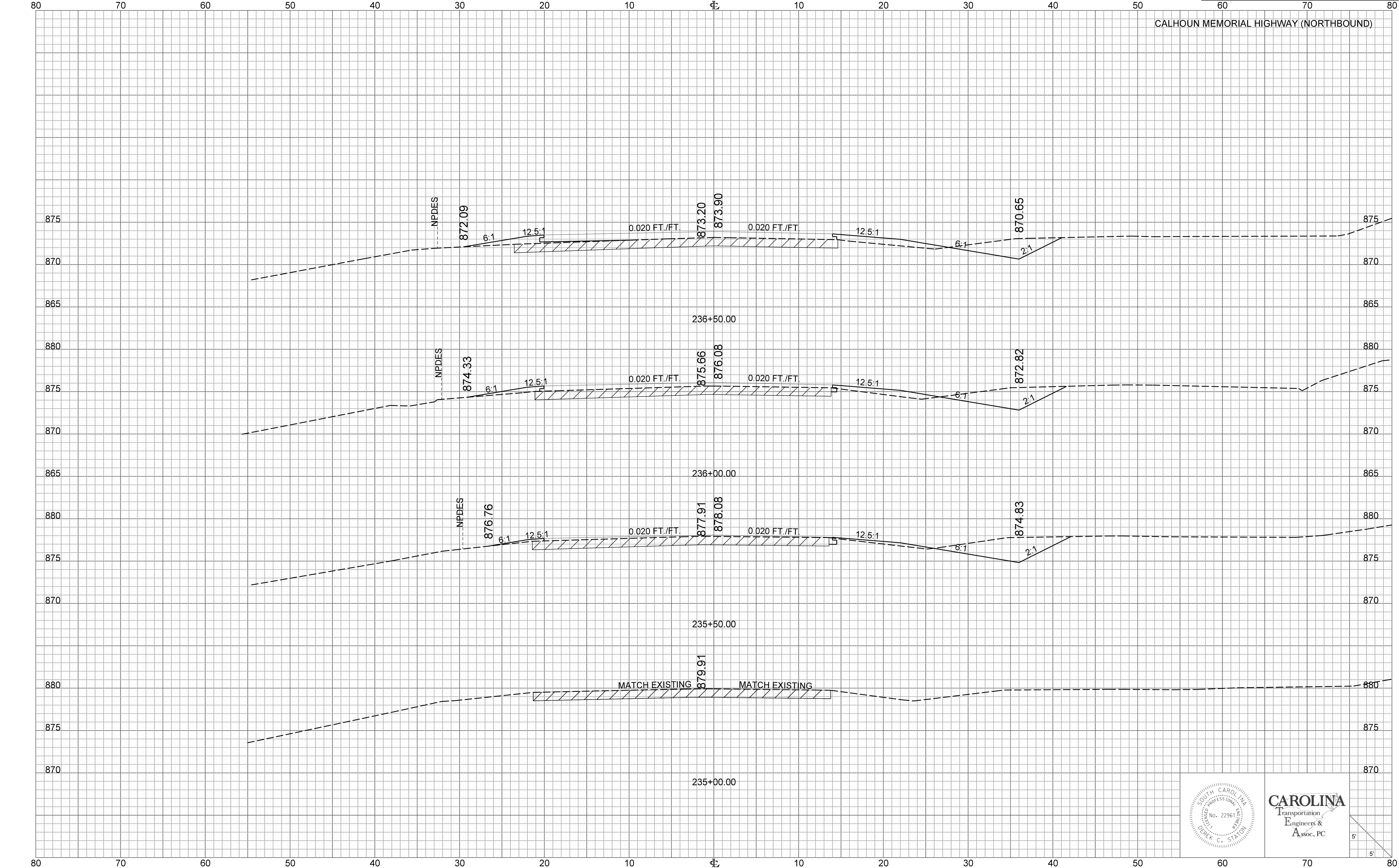


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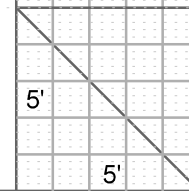




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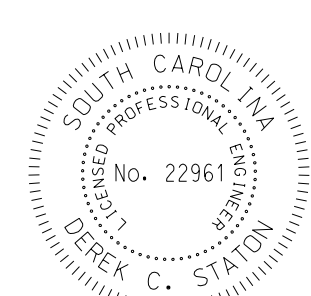
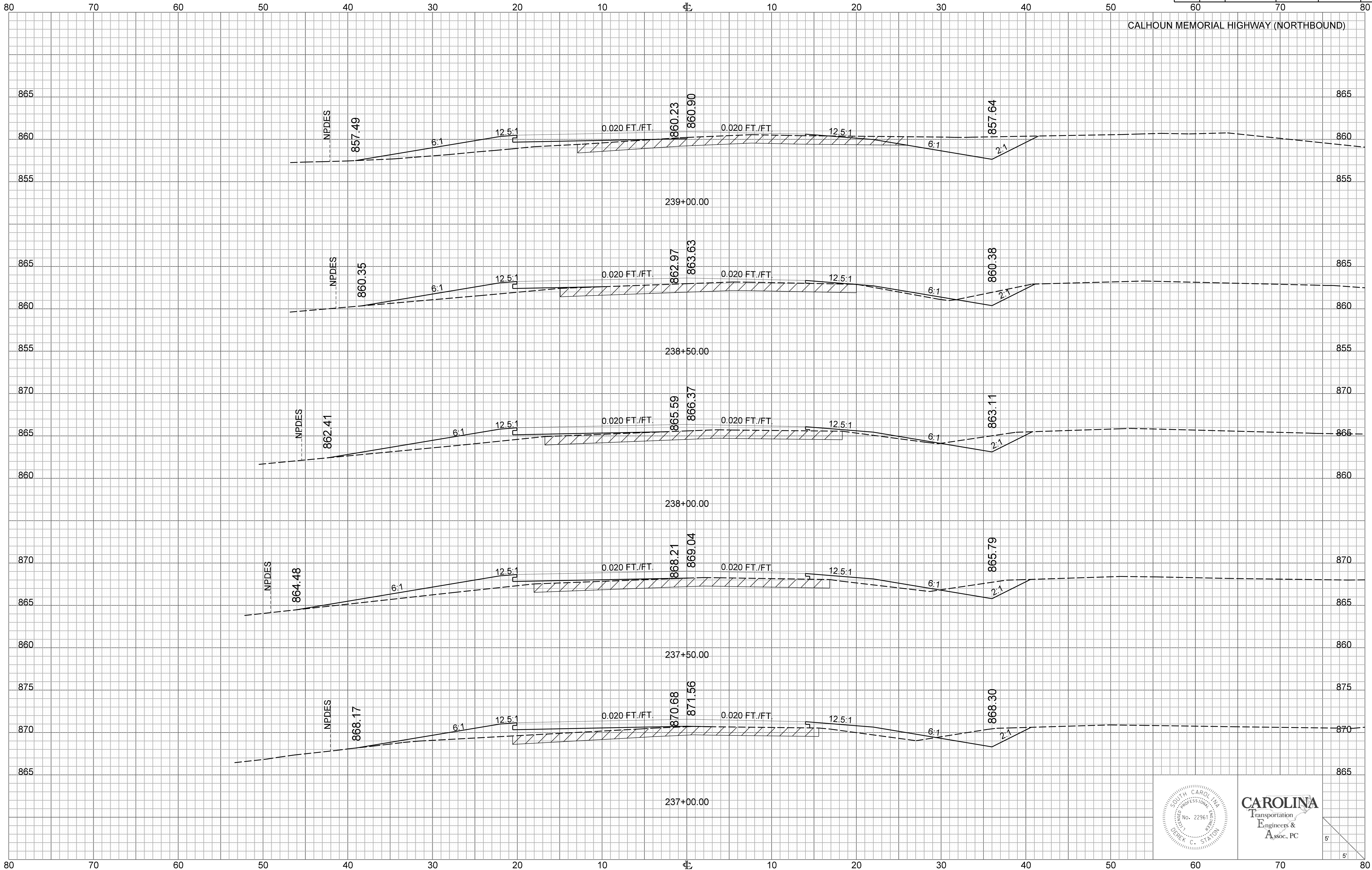


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Assoc. PC

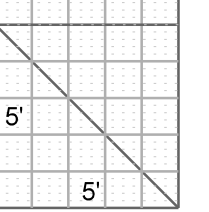


FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X2

CALHOUN MEMORIAL HIGHWAY (NORTHBOUND)

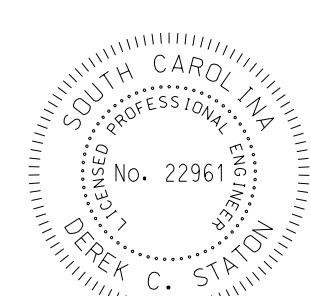
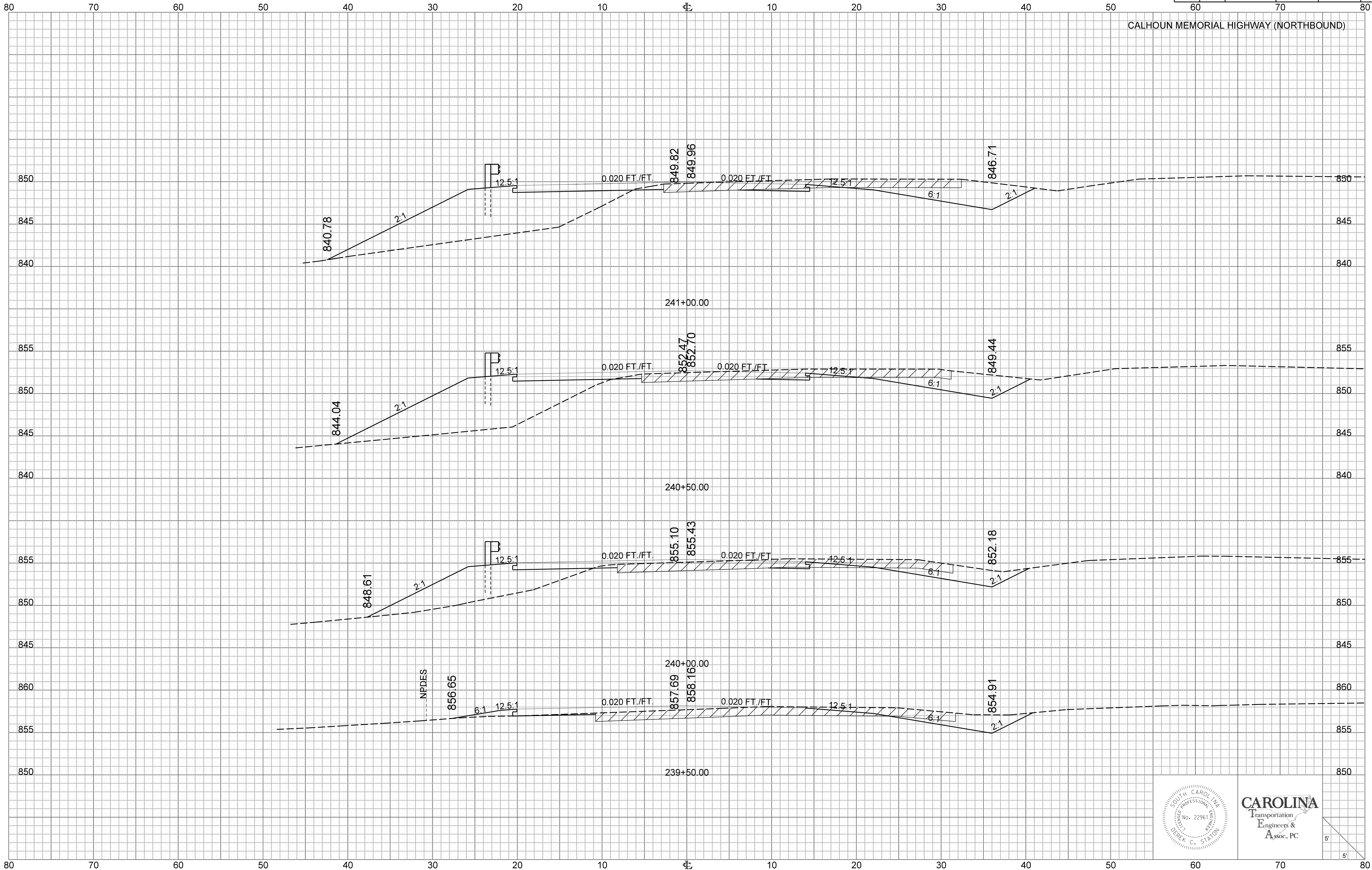


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Engineers &
Assoc. PC

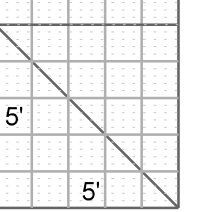


FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X3

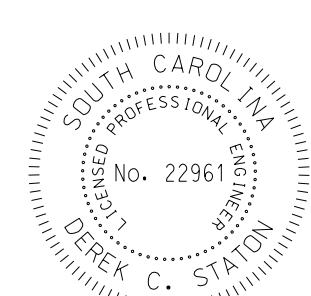
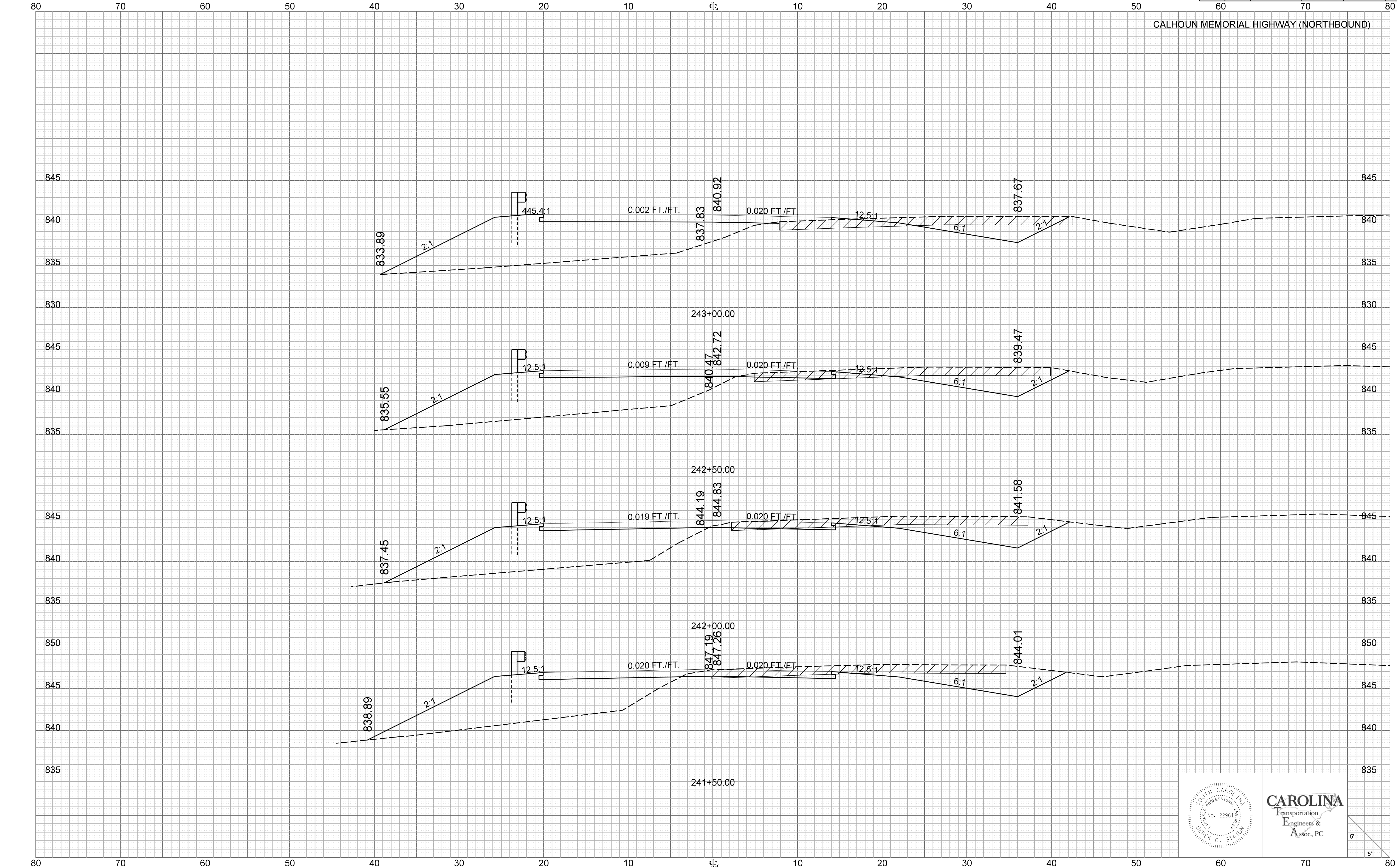
CALHOUN MEMORIAL HIGHWAY (NORTHBOUND)



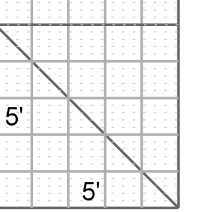
CAROLINA
Transportation
Engineers &
Assoc. PC



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X4

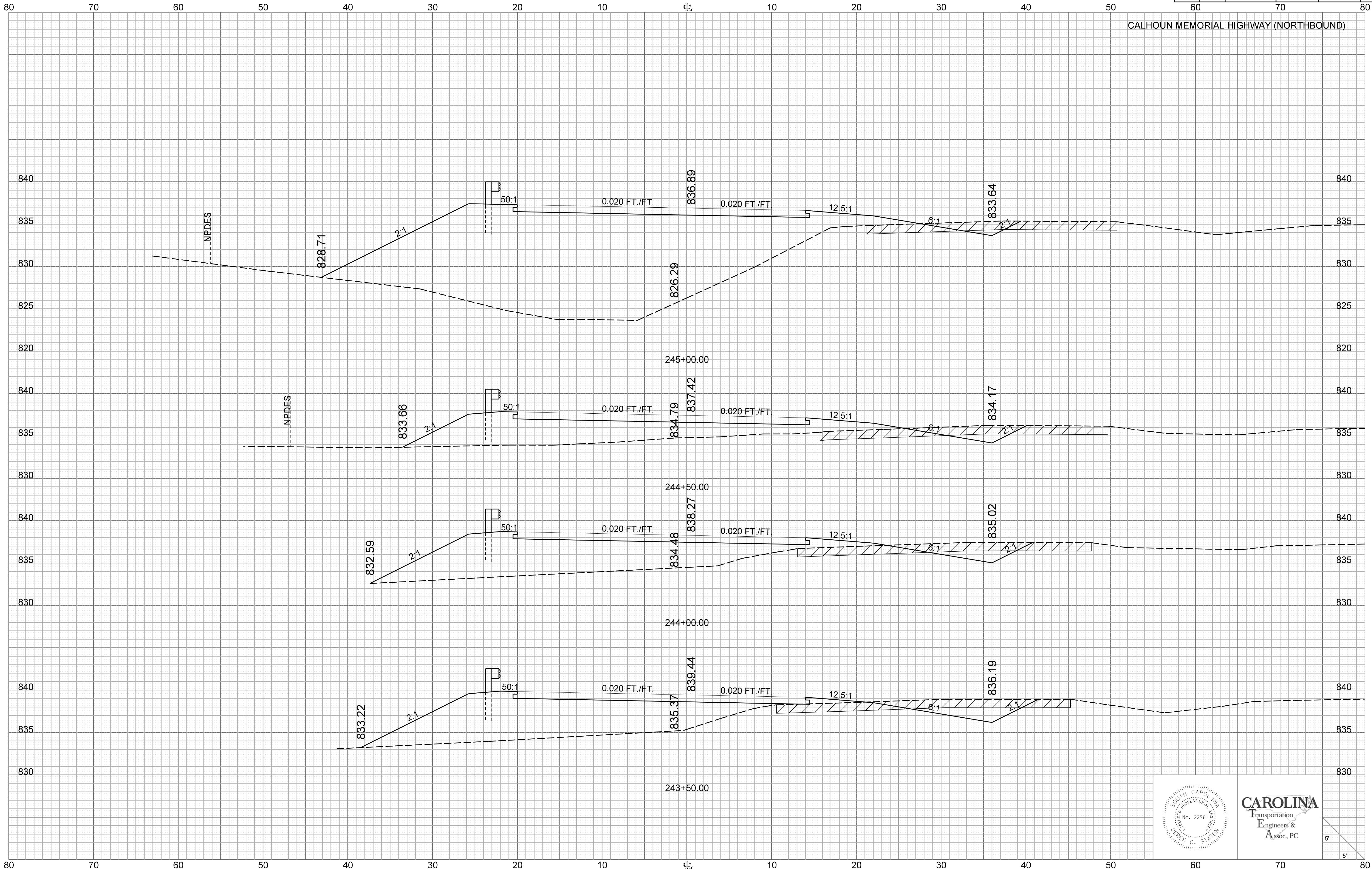


CAROLINA
Transportation
Engineers &
Assoc. PC

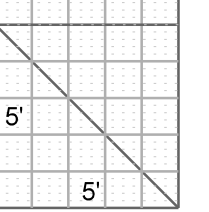


FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X5

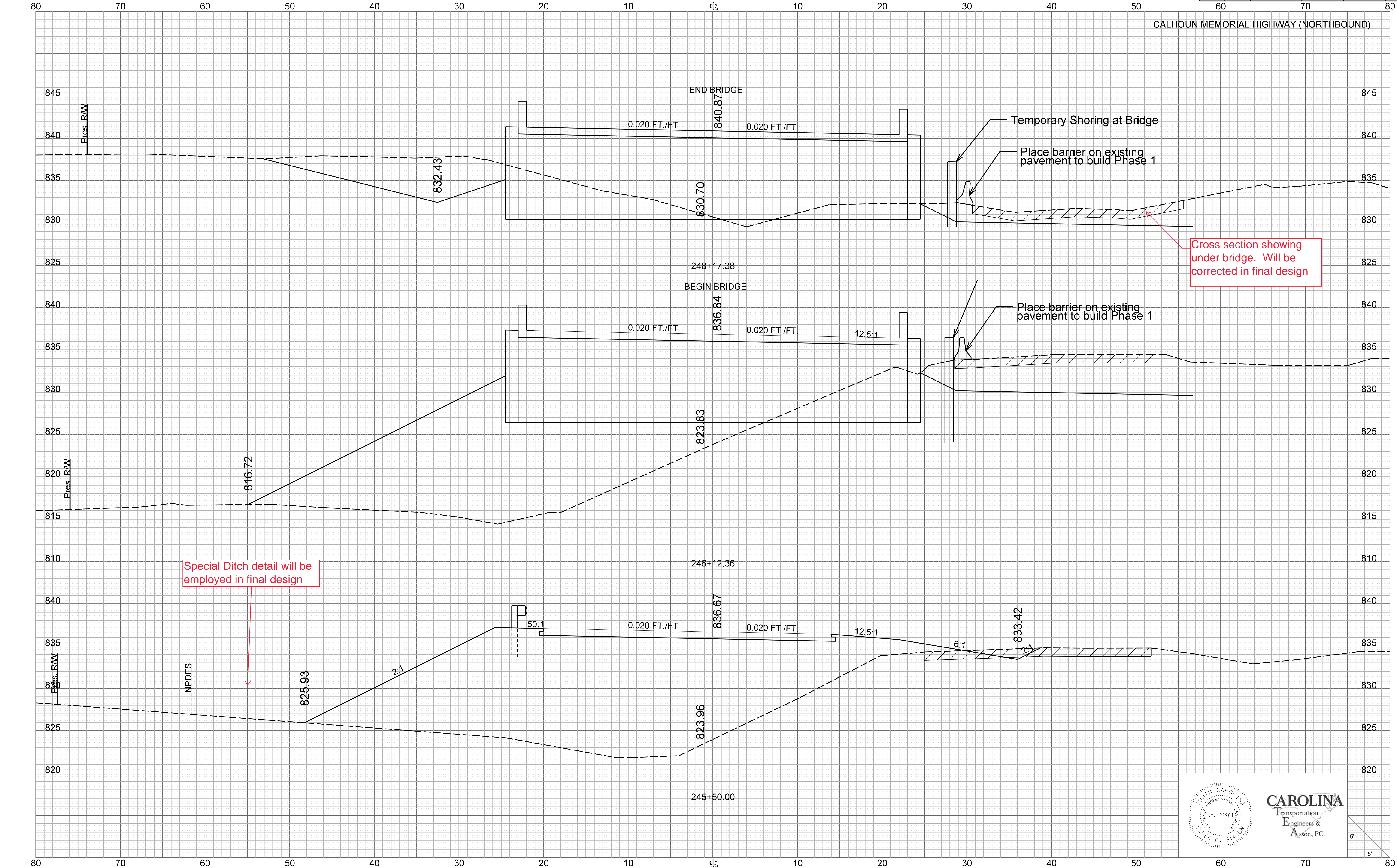
CALHOUN MEMORIAL HIGHWAY (NORTHBOUND)



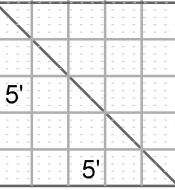
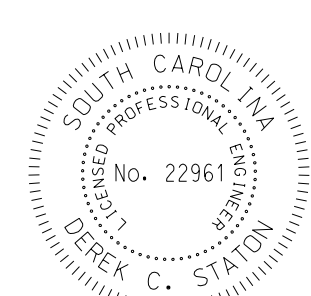
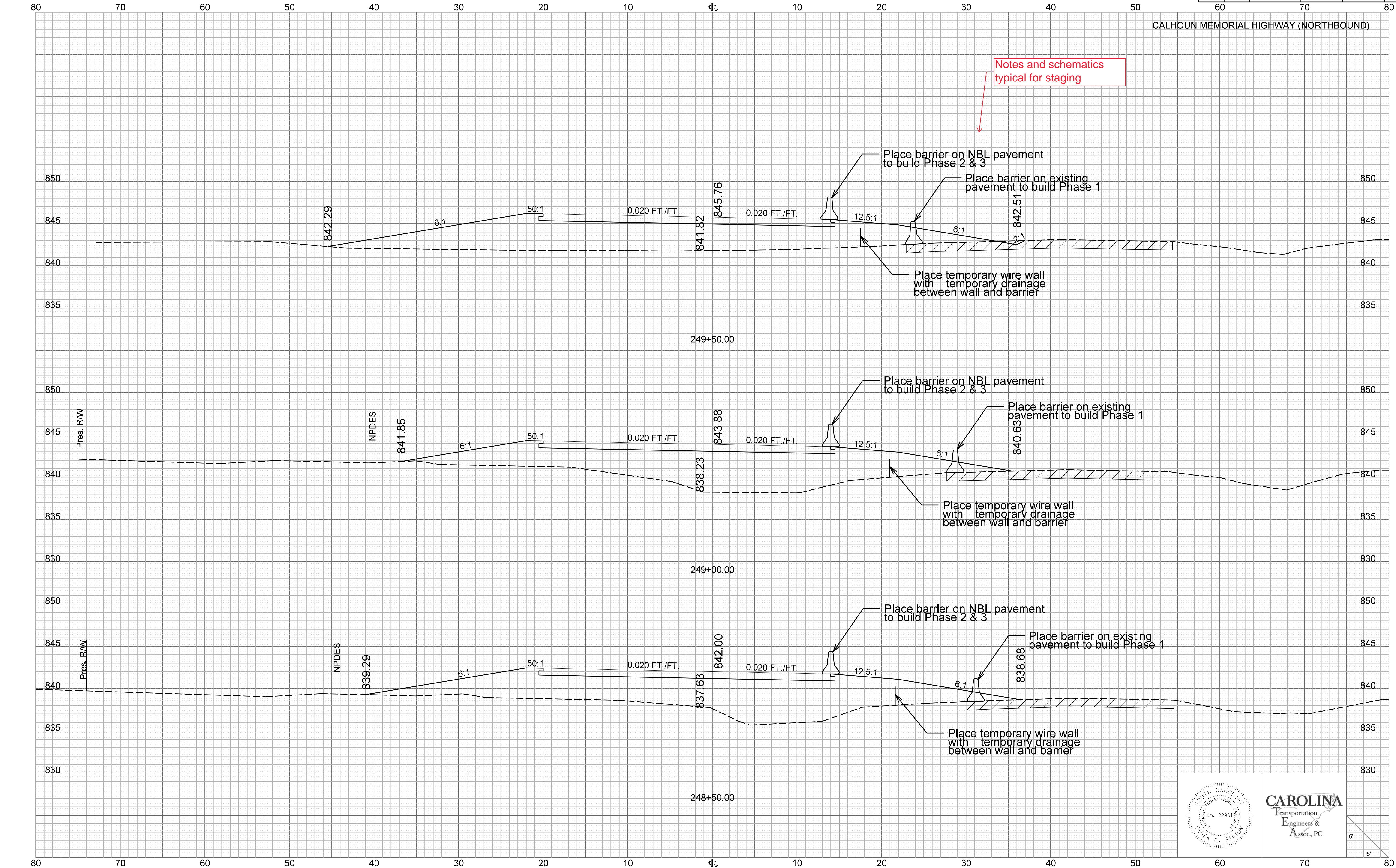
CAROLINA
Transportation
Engineers &
Assoc. PC



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X6

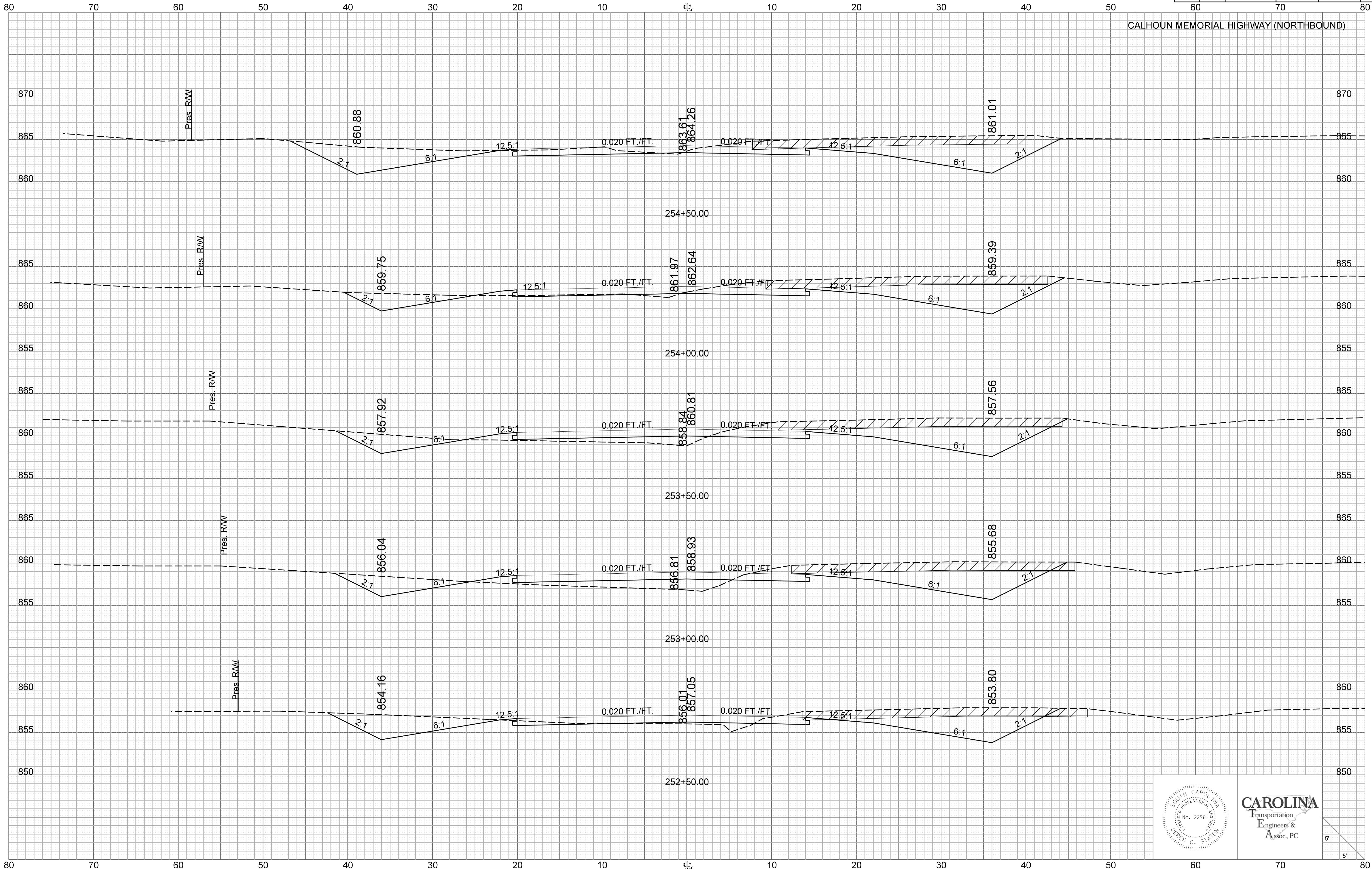


FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X7

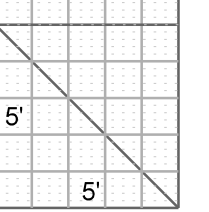


FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X9

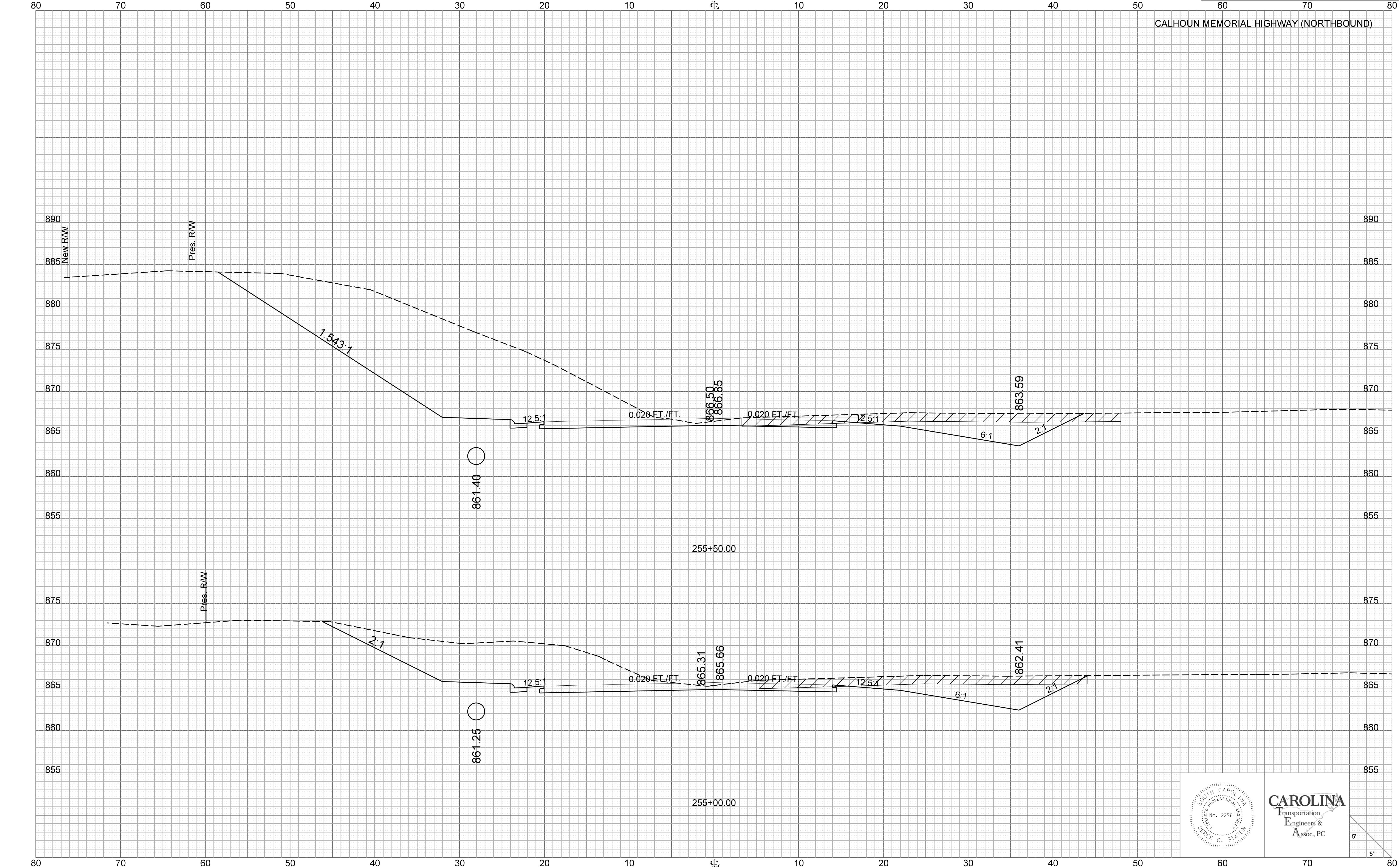
CALHOUN MEMORIAL HIGHWAY (NORTHBOUND)



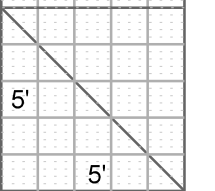
CAROLINA
Transportation
Engineers &
Assoc. PC



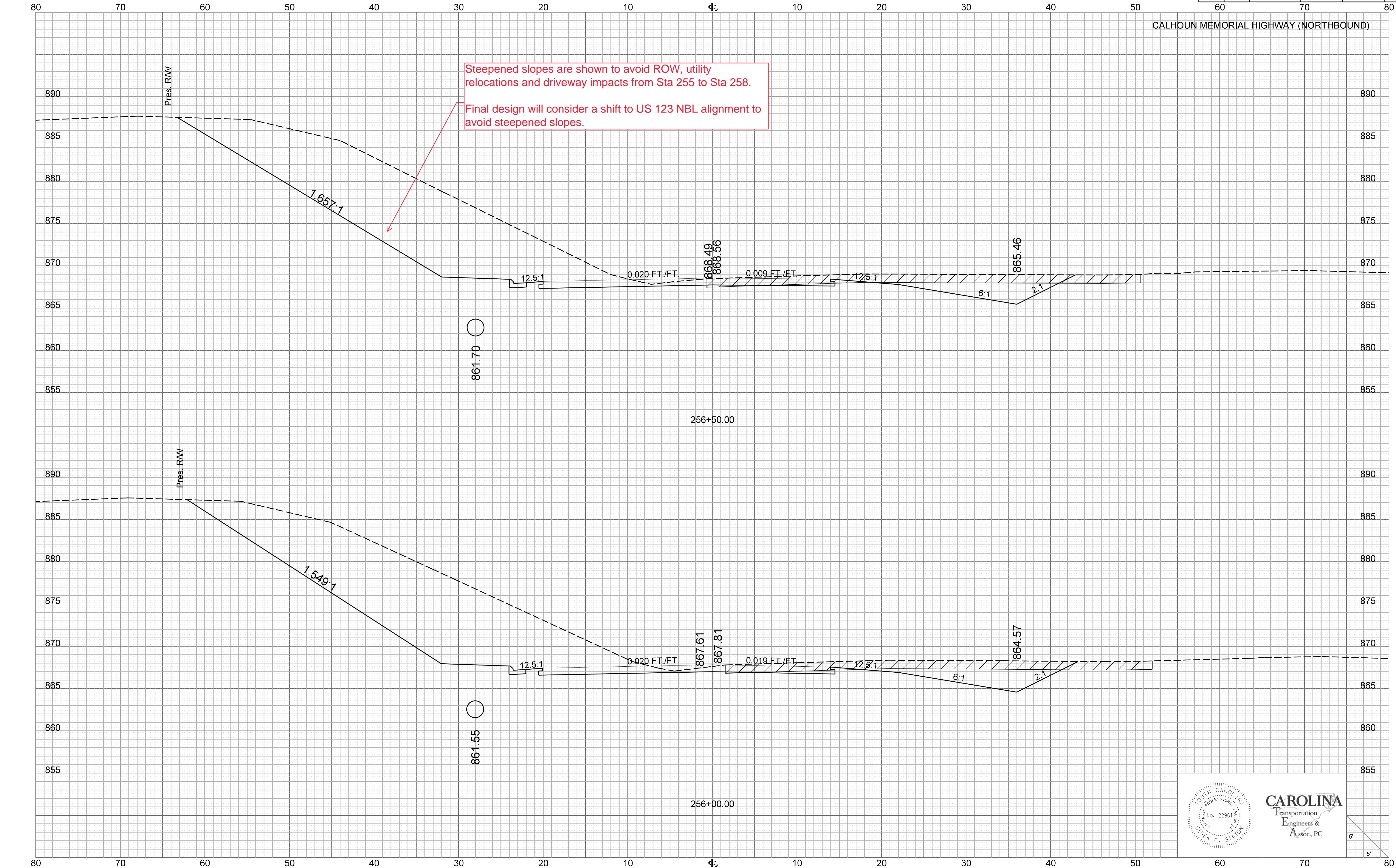
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3	S.C.	PICKENS	P041233	US-123	X10



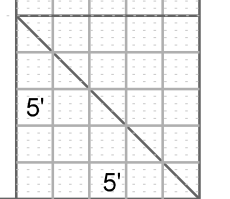
CAROLINA
Transportation
Engineers &
Assoc. PC



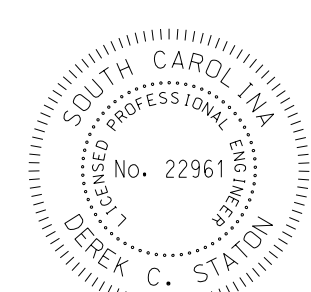
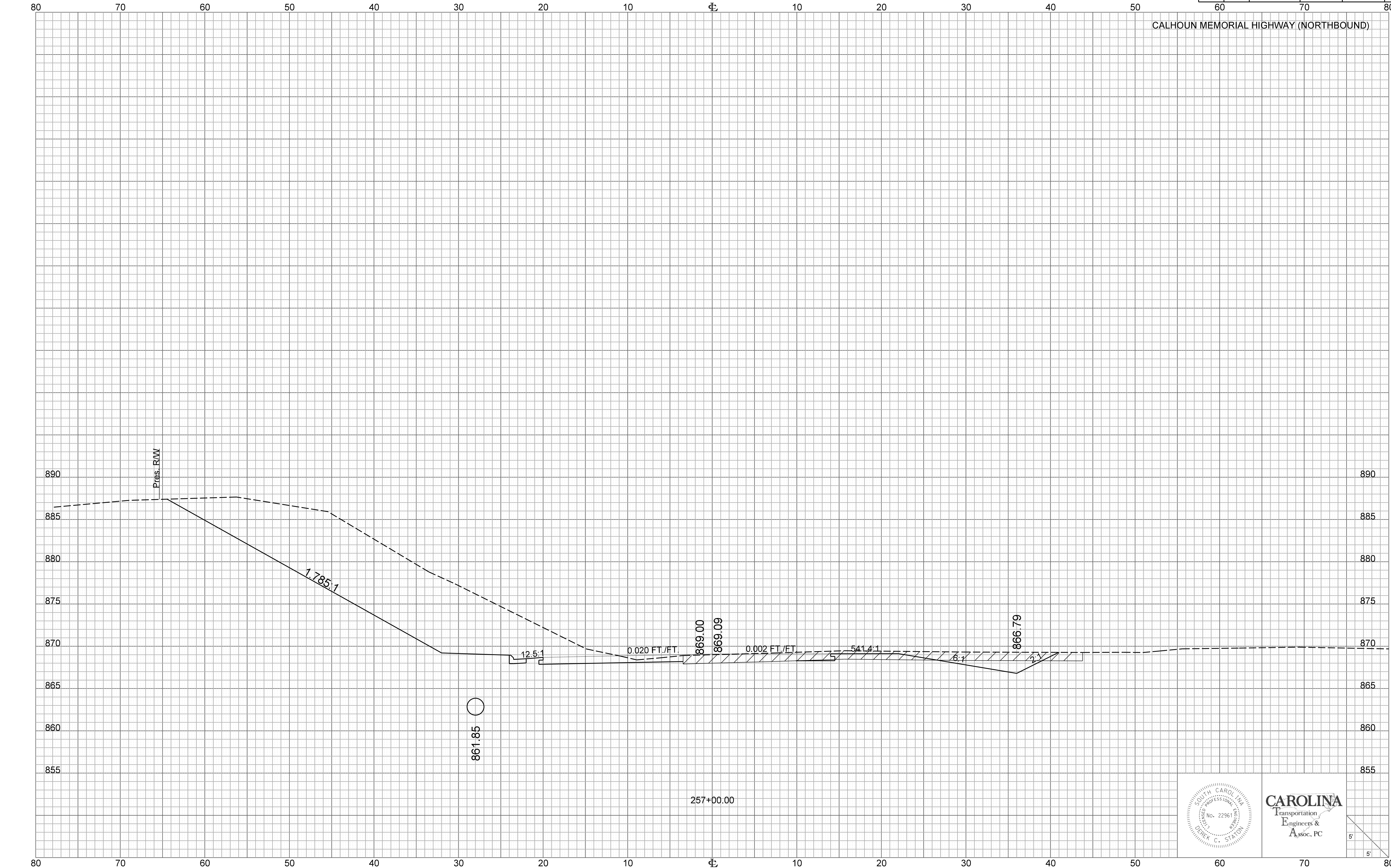
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3	S.C.	PICKENS	P041233	US-123	X11



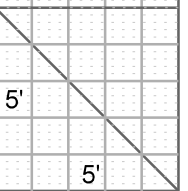
CAROLINA
Transportation
Engineers &
Assoc. PC



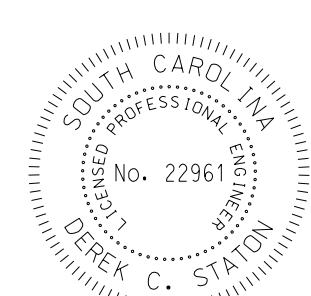
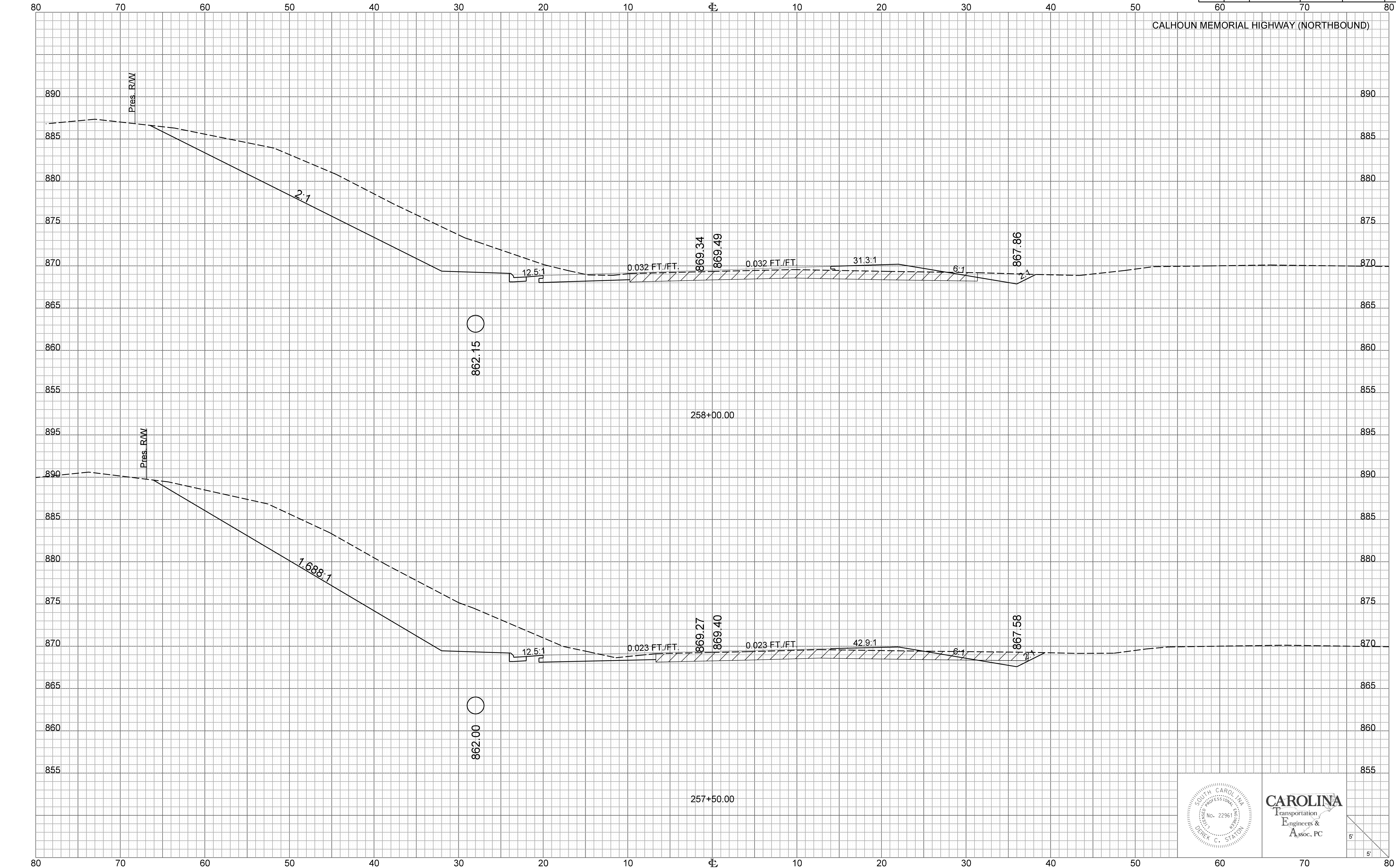
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3	S.C.	PICKENS	P041233	US-123	X12



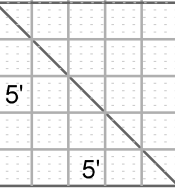
CAROLINA
Transportation
Engineers &
Assoc. PC



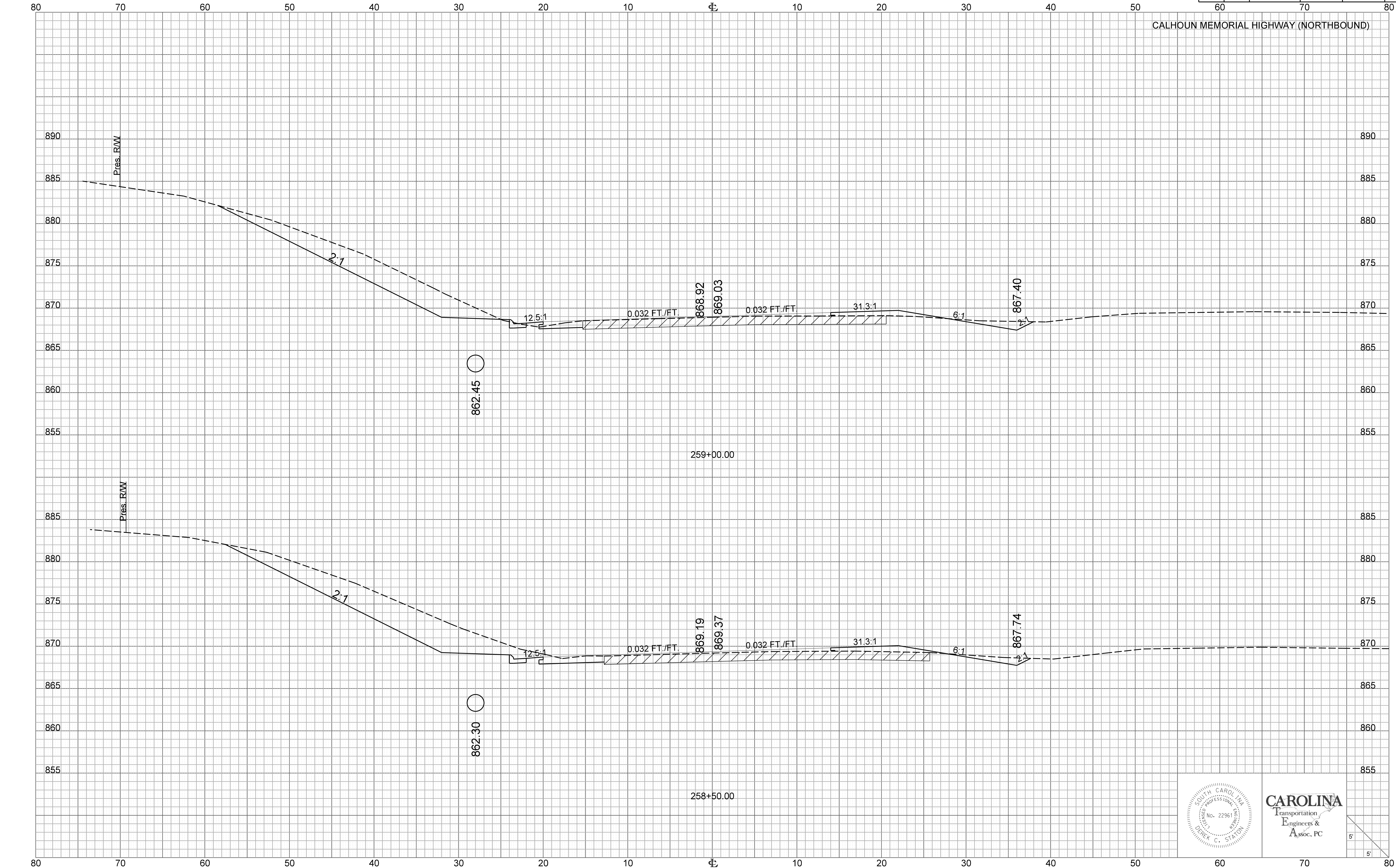
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X13



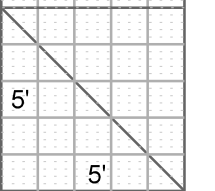
CAROLINA
Transportation
Engineers &
Assoc. PC



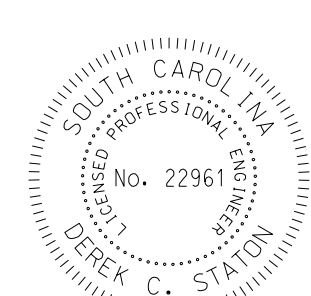
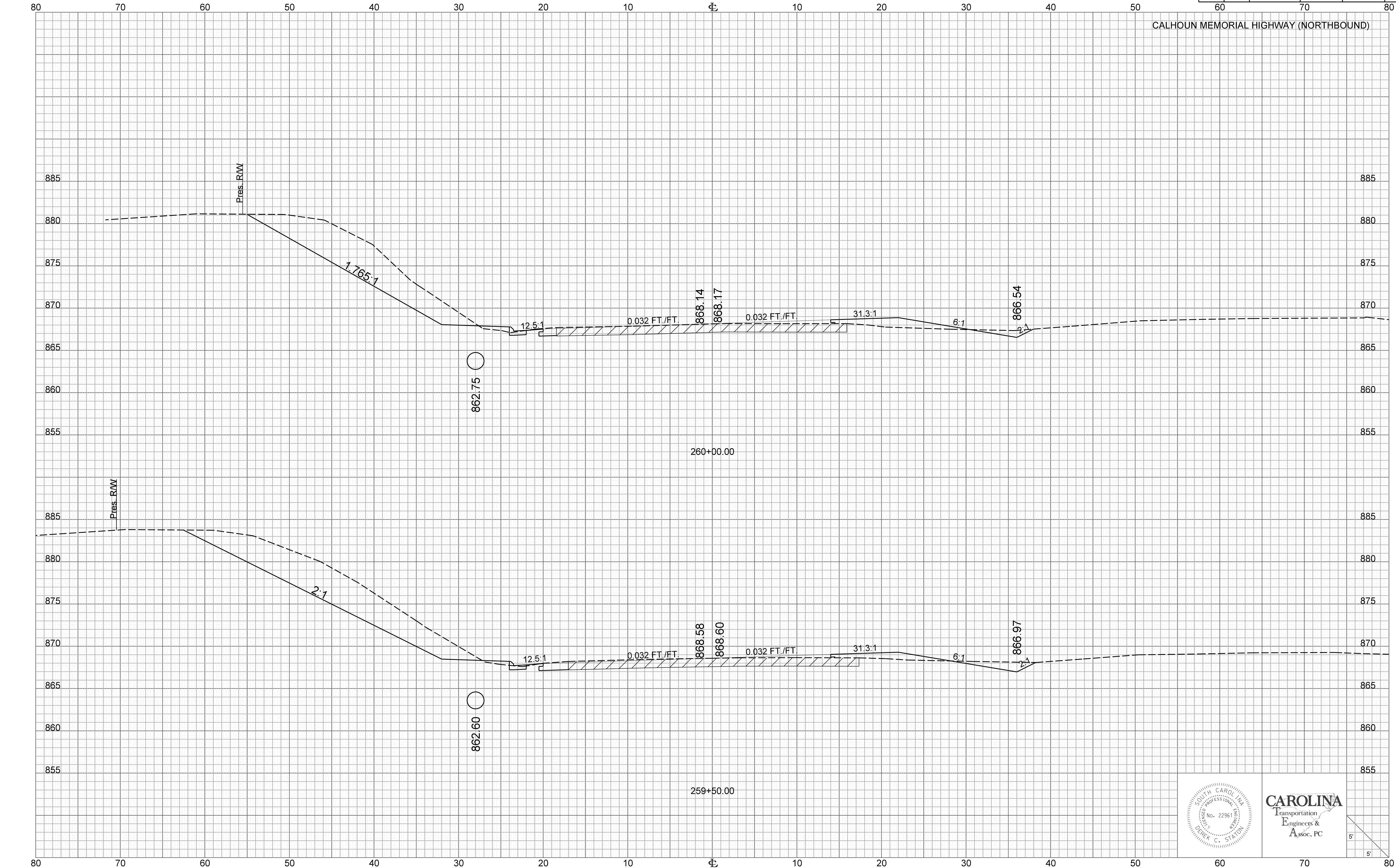
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3	S.C.	PICKENS	P041233	US-123	X14



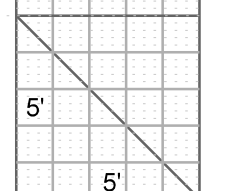
CAROLINA
Transportation
Engineers &
Assoc. PC



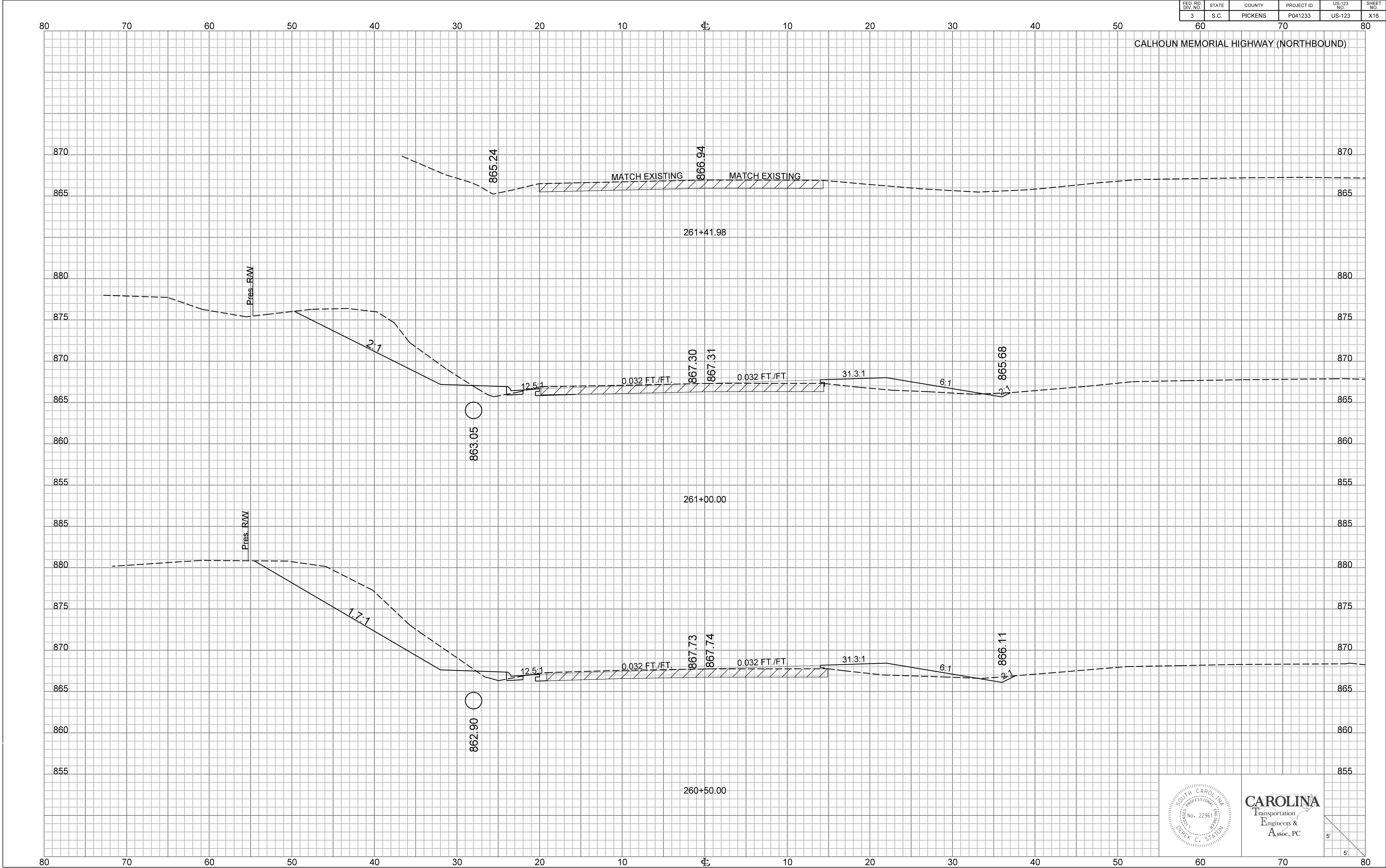
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3	S.C.	PICKENS	P041233	US-123	X15



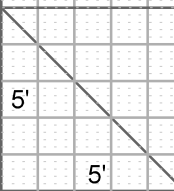
CAROLINA
Transportation
Engineers &
Assoc. PC



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X16



CAROLINA
Transportation
Engineers &
Assoc. PC



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\$\$\$date\$\$\$

FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	ROAD NO.	SHEET NO.
3	SC	PICKENS	P041231	SC-183	3

WALHALLA HIGHWAY

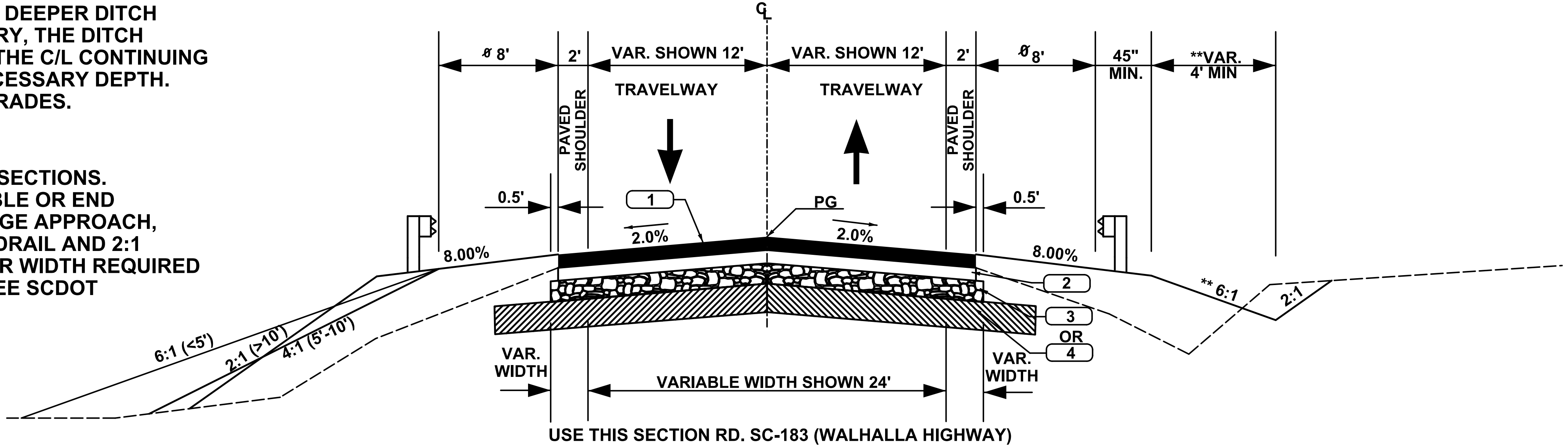
TYPICAL SECTION OF IMPROVEMENT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
COLUMBIA, S.C.

**** NOTE:**

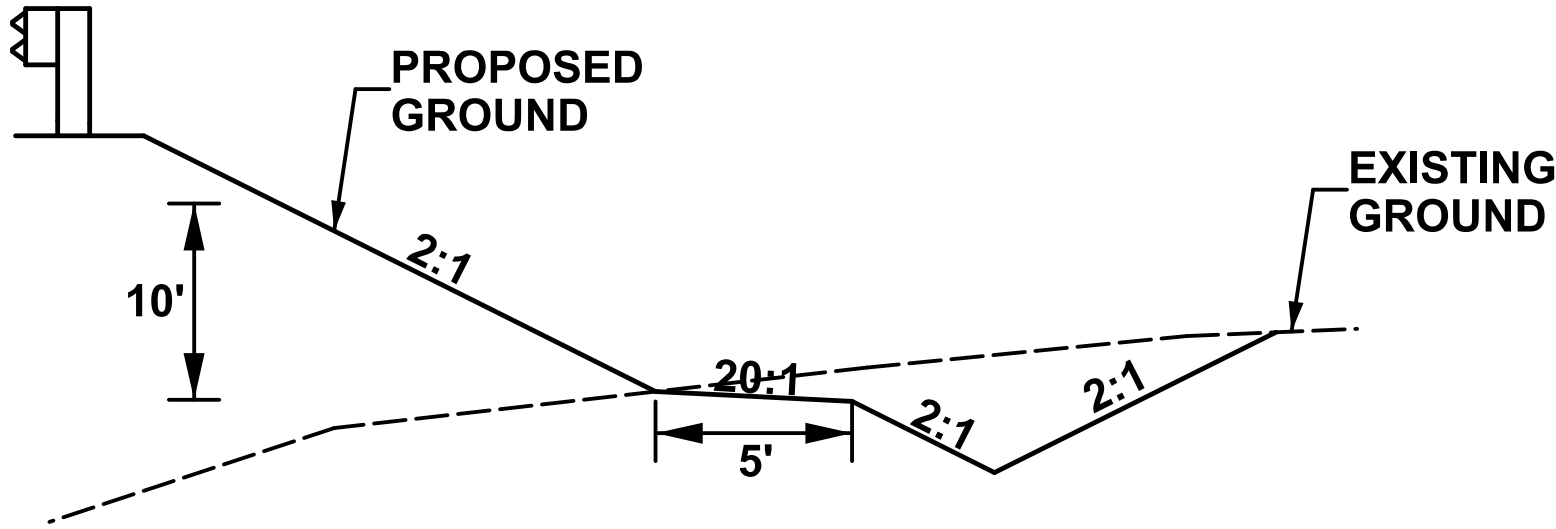
THIS SLOPE MAY BE VARIED WHEN A DEEPER DITCH IS NECESSARY FOR DRAINAGE PURPOSES, USING A MINIMUM SLOPE OF 12:1 AND A MAXIMUM SLOPE OF 4:1. WHERE A DEEPER DITCH THAN PROVIDED BY 4:1 IS NECESSARY, THE DITCH SHALL BE PLACED FARTHER FROM THE C/L CONTINUING THE 4:1 SLOPE TO PROVIDE THE NECESSARY DEPTH. SEE PROFILE FOR SPECIAL DITCH GRADES.

NOTES:

VARIABLE- SEE PLANS AND CROSS SECTIONS. WHERE CLEARZONE IS UNATTAINABLE OR END TREATMENT IS REQUIRED FOR BRIDGE APPROACH, ADD 3.75' TO SHOULDER FOR GUARDRAIL AND 2:1 FORESLOPE. ADDITIONAL SHOULDER WIDTH REQUIRED FOR END TREATMENT TYPE "TL3" SEE SCDOT STANDARD DRAWING 805-115-11.



**DETAIL OF DITCH
AT TOE OF FILL**



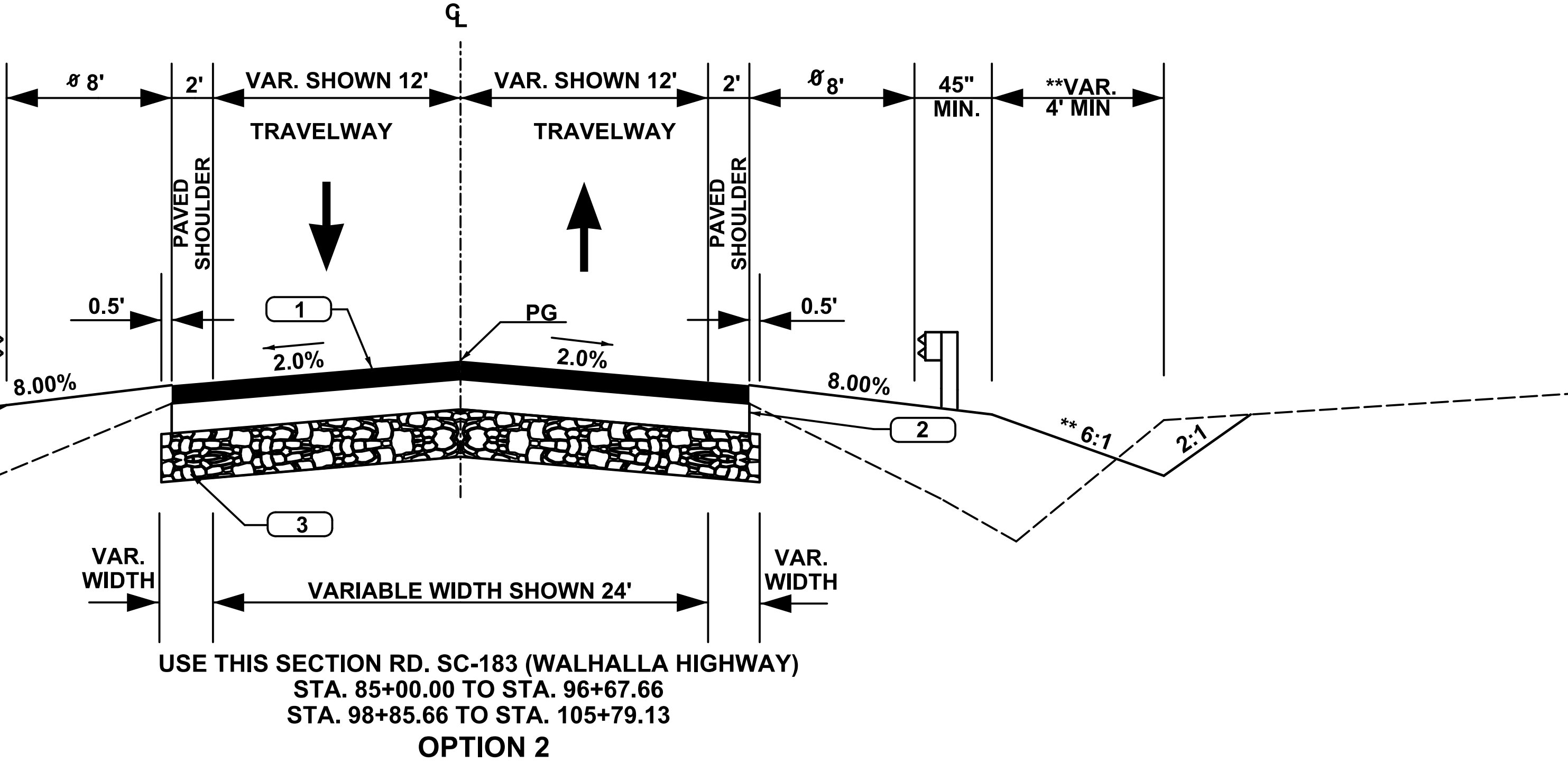
NOTE: USE HMA SURFACE COURSE TYPE E FOR LEVELING 0" TO 1.5"
USE HMA INTERMEDIATE CR. TYPE B FOR LEVELING GREATER THAN 1.5"

OPTION 1

- | | |
|---|--|
| 1 | HMA SURFACE COURSE TYPE B 175 #/S.Y. |
| 2 | HMA INTERMEDIATE COURSE TYPE- B 200 #/S.Y. |
| 3 | HMA BASE COURSE TYPE- A 400 #/S.Y. |
| 4 | 10 INCHES GABC |

OPTION 2

- | | |
|---|--|
| 1 | HMA SURFACE COURSE TYPE B 200 #/S.Y. |
| 2 | HMA INTERMEDIATE COURSE TYPE- B 400 #/S.Y. |
| 3 | HMA BASE COURSE TYPE- A 700 #/S.Y. |
| 4 | EXISTING GROUND |



NOT FOR
CONSTRUCTION

CAROLINA
Transportation
Engineers &
Assoc., PC

PAVEMENT DESIGN

SC-183 RURAL MINOR ARTERIAL		
RTE. SC-183	DESIGN SPEED	
MPH	FROM STA.	TO STA.
50	85+00.00	105+31.24
EXCEPTIONS TO DESIGN SPEED		

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROAD DESIGN COLUMBIA, S.C.

TYPICAL SECTION
SC-183 (WALHALLA HIGHWAY)

SCALE 1"V=NTS SCALE 1"=NTS RTE./RD.

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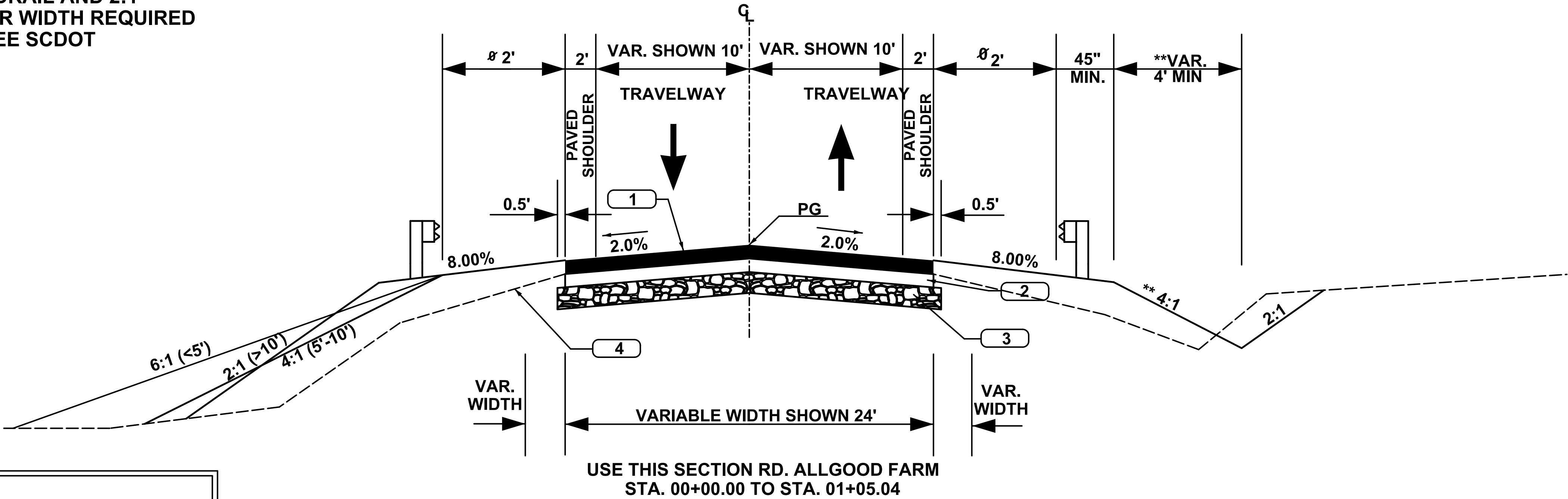
TYPICAL SECTION OF IMPROVEMENT SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION COLUMBIA, S.C.

FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	ROAD NO.	SHEET NO.
3	SC	PICKENS	P041231	SC-183	3

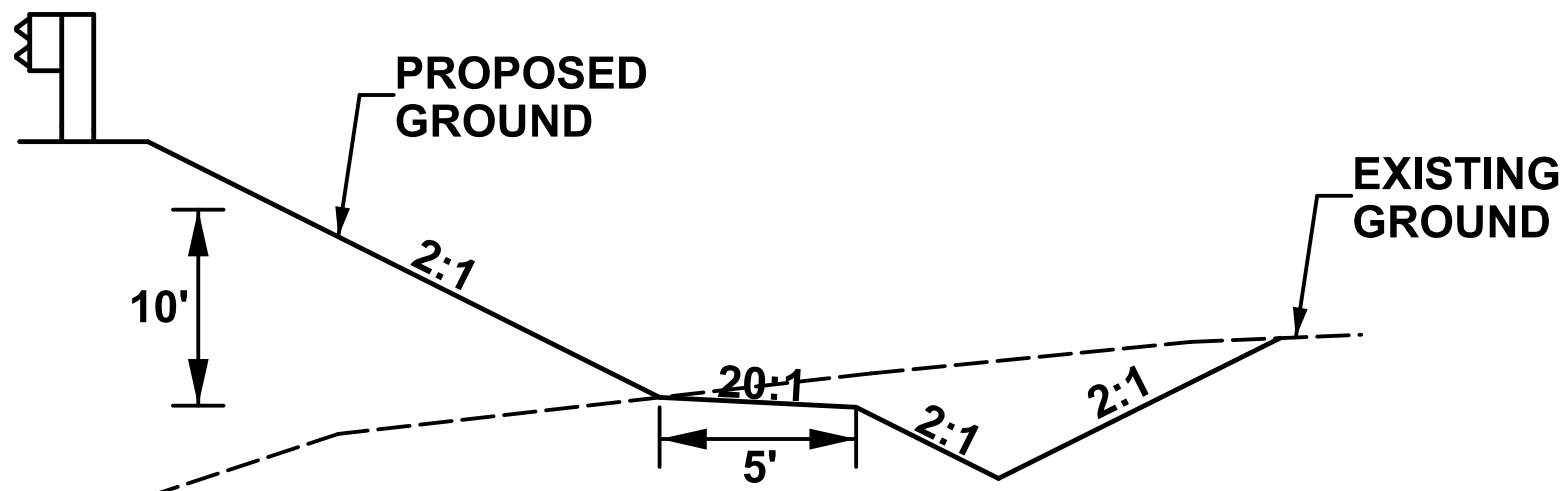
ALLGOOD FARM ROAD

**** NOTE:**
THIS SLOPE MAY BE VARIED WHEN A DEEPER DITCH IS NECESSARY FOR DRAINAGE PURPOSES, USING A MINIMUM SLOPE OF 12:1 AND A MAXIMUM SLOPE OF 4:1. WHERE A DEEPER DITCH THAN PROVIDED BY 4:1 IS NECESSARY, THE DITCH SHALL BE PLACED FARTHER FROM THE C/L CONTINUING THE 4:1 SLOPE TO PROVIDE THE NECESSARY DEPTH. SEE PROFILE FOR SPECIAL DITCH GRADES.

NOTES:
VARIABLE- SEE PLANS AND CROSS SECTIONS. WHERE CLEARZONE IS UNATTAINABLE OR END TREATMENT IS REQUIRED FOR BRIDGE APPROACH, ADD 3.75' TO SHOULDER FOR GUARDRAIL AND 2:1 FORESLOPE. ADDITIONAL SHOULDER WIDTH REQUIRED FOR END TREATMENT TYPE "TL2" SEE SCDOT STANDARD DRAWING 805-115-51.



DETAIL OF DITCH
AT TOE OF FILL



OPTION 1

- | | |
|---|--|
| 1 | HMA SURFACE COURSE TYPE B 200 #/S.Y. |
| 2 | HMA INTERMEDIATE COURSE TYPE- B 400 #/S.Y. |
| 3 | HMA BASE COURSE TYPE- A 700 #/S.Y. |
| 4 | EXISTING GROUND |

NOT FOR
CONSTRUCTION

CAROLINA
Transportation
Engineers &
Assoc., PC

PAVEMENT DESIGN

RURAL LOCAL - GROUP 3		
RTE. ALLGOOD	DESIGN	SPEED
MPH	FROM STA.	TO STA.
40	00+00.00	01+05.04
EXCEPTIONS TO DESIGN SPEED		

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROAD DESIGN
COLUMBIA, S.C.

TYPICAL SECTION
ALLGOOD FARM RD

SCALE 1"V=NTS SCALE 1"=NTS RTE./RD.

\$\$\$user\$\$\$
\$\$\$path\$\$\$filename\$\$\$\$\$
\$\$\$date\$\$\$

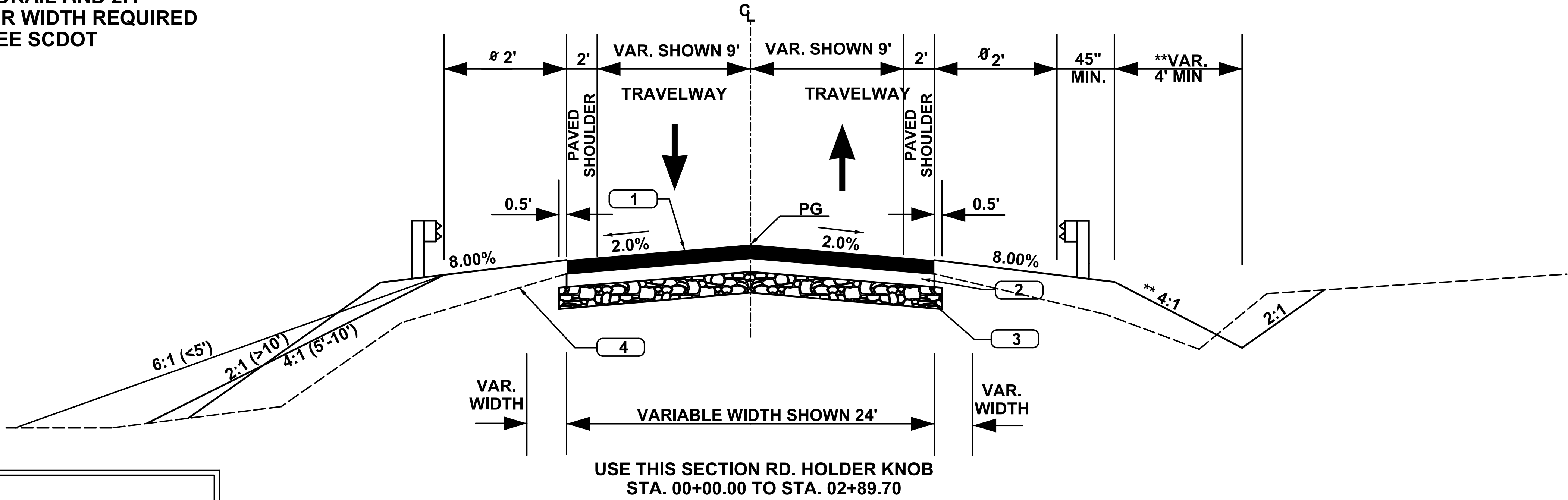
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	ROAD NO.	SHEET NO.
3	SC	PICKENS	P041231	SC-183	3

HOLDER KNOB ROAD

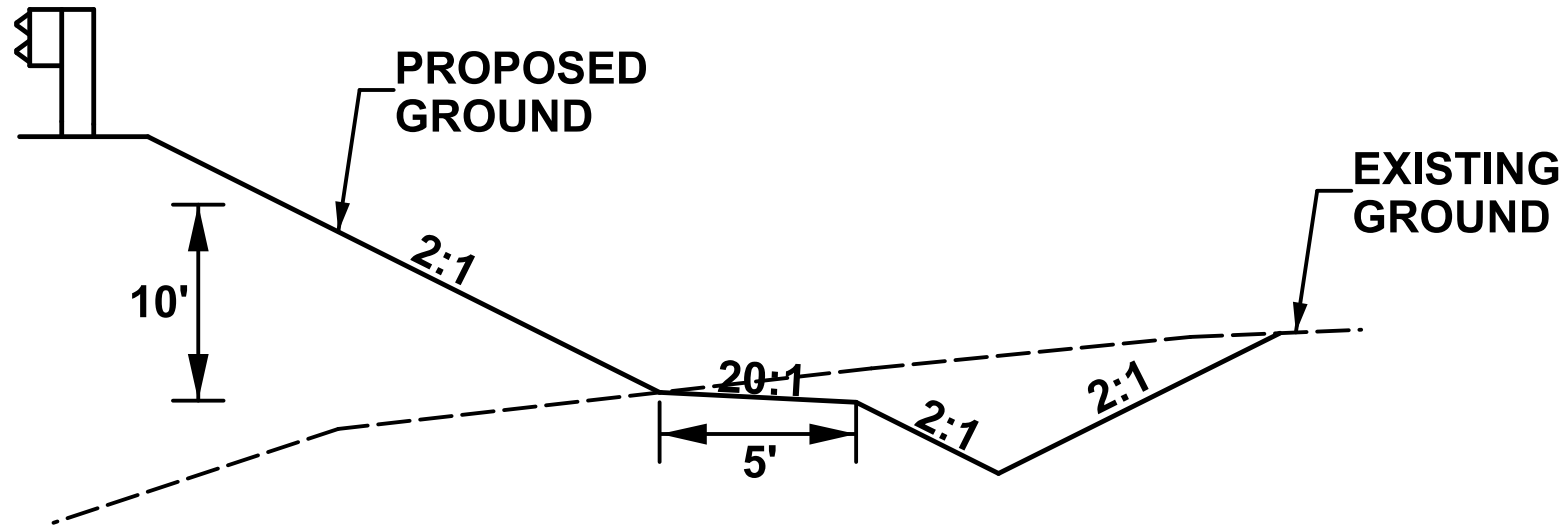
TYPICAL SECTION OF IMPROVEMENT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
COLUMBIA, S.C.

**** NOTE:**
THIS SLOPE MAY BE VARIED WHEN A DEEPER DITCH IS NECESSARY FOR DRAINAGE PURPOSES, USING A MINIMUM SLOPE OF 12:1 AND A MAXIMUM SLOPE OF 4:1. WHERE A DEEPER DITCH THAN PROVIDED BY 4:1 IS NECESSARY, THE DITCH SHALL BE PLACED FARTHER FROM THE C/L CONTINUING THE 4:1 SLOPE TO PROVIDE THE NECESSARY DEPTH. SEE PROFILE FOR SPECIAL DITCH GRADES.

NOTES:
VARIABLE- SEE PLANS AND CROSS SECTIONS. WHERE CLEARZONE IS UNATTAINABLE OR END TREATMENT IS REQUIRED FOR BRIDGE APPROACH, ADD 3.75' TO SHOULDER FOR GUARDRAIL AND 2:1 FORESLOPE. ADDITIONAL SHOULDER WIDTH REQUIRED FOR END TREATMENT TYPE "TL2" SEE SCDOT STANDARD DRAWING 805-115-51.



DETAIL OF DITCH
AT TOE OF FILL



OPTION 1

- 1

HMA SURFACE COURSE TYPE B 200 #/S.Y.
- 2

HMA INTERMEDIATE COURSE TYPE- B 400 #/S.Y.
- 3

HMA BASE COURSE TYPE- A 700 #/S.Y.
- 4

EXISTING GROUND

NOT FOR
CONSTRUCTION

CAROLINA
Transportation
Engineers &
Assoc., PC

PAVEMENT DESIGN

RURAL LOCAL - GROUP 1		
RTE. ALLGOOD		DESIGN SPEED
MPH	FROM STA.	TO STA.
20	00+00.00	02+89.70
EXCEPTIONS TO DESIGN SPEED		

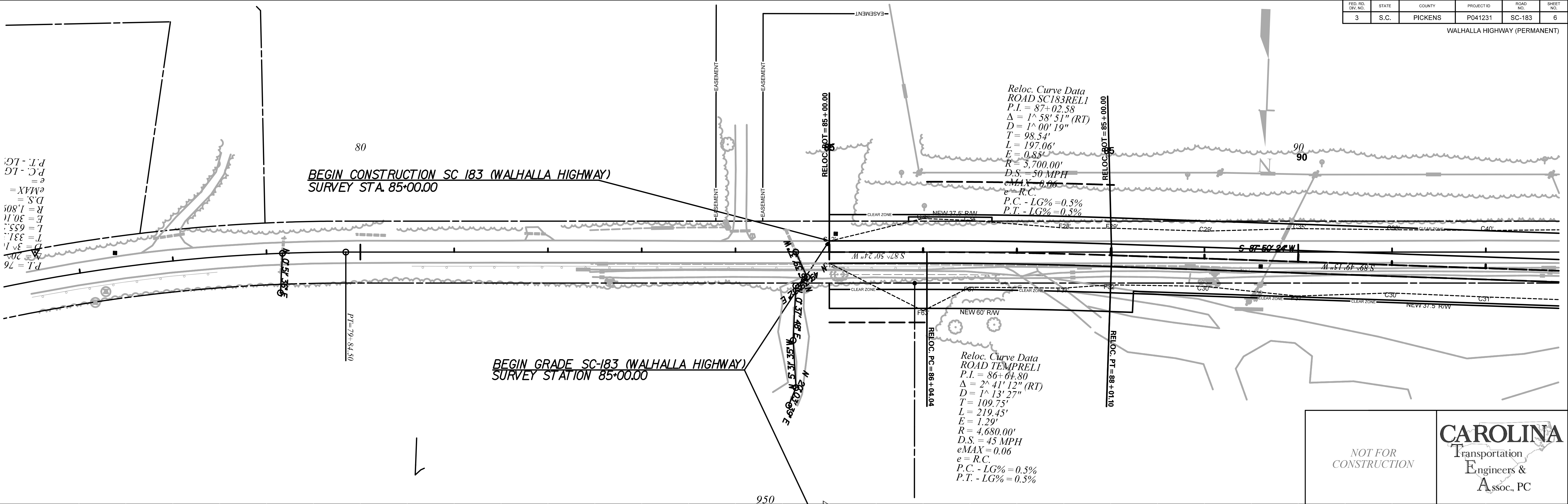
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROAD DESIGN COLUMBIA, S.C.

TYPICAL SECTION
HOLDER KNOB RD

SCALE 1"V=NTS SCALE 1"=NTS RTE./RD.

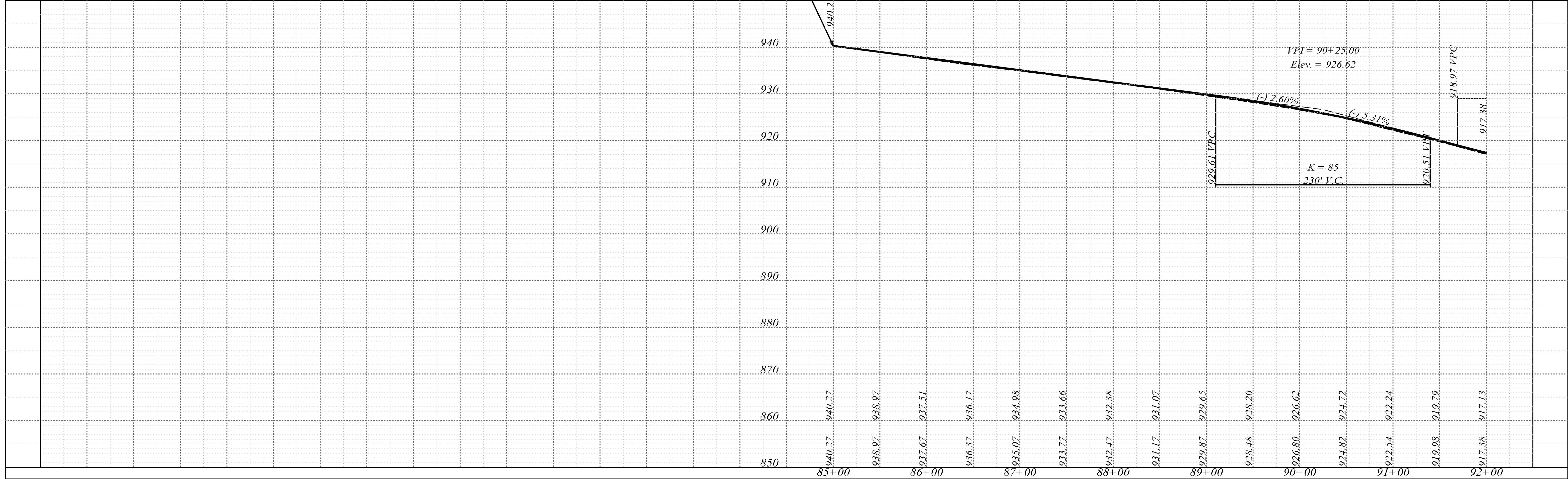
FED. RD. DIST. NO.	STATE	COUNTY	PROJECT ID	ROAD NO.	SHEET NO.
3	S.C.	PICKENS	P041231	SC-183	6

WALHALLA HIGHWAY (PERMANENT)



NOT FOR
CONSTRUCTION

CAROLINA
Transportation
Engineers &
Assoc., PC



SSSSSSpathSSSSSS\$filenameSSSSSSSS
SSuserSS
SS\$dateSSSS

WALHALLA HIGHWAY (PERMANENT)

CONST. BRDG. APP. SHOULDER PAVING &
CONC. C&G 2'-0" V.F. (TYP. ALL CORNERS)
CONST. FLUME INLET & 4' SLOPE FURNE.
PLACE XX TONS OF RIPRAP (CLASS X). XX S.Y.
GEOTEXTILE (CLASS X) PER STD. DWGS.
719-820-00 805-325-70 805-325-75 & 805-325-76

ROAD ALLGOODRELOP
P.I. = 0+90.20
 $\Delta = 17^\circ 08' 22''$ (RT)
 $D = 57^\circ 17' 45''$
 $T = 15.07'$
 $L = 29.91'$
 $E = 1.13'$
 $R = 100.00'$
 $D.S. = 40$ MPH
 $e_{MAX} = 0.04$
 $e = N.C.$
 $P.C. - LG\% = 0.5\%$ (LT) 42
 $P.T. - LG\% = 0.5\%$ 99

ROAD SC183REL2
 P.I. = 94+04.87
 $\Delta = 2^\circ 00' 14''$ (LT)
 $D = 1^\circ 00' 19''$
 $T = 99.69'$
 $L = 199.37'$
 $E = 0.87'$
 $R = 5,700.00'$
 $D.S. = 50$ MPH
 $eMAX = 0.06$
 $e = R.C.$
 $P.C. - LG\% = 0.5\%$
 $P.T. - LG\% = 0.5\%$

P.C. STA 10+00.00 ALLG

P.C. STA 0+00.00 H

END GRADE SC 183 (WALHALLA HIGHWAY)
SURVEY STA. 105+79.13 $L = 267.72'$

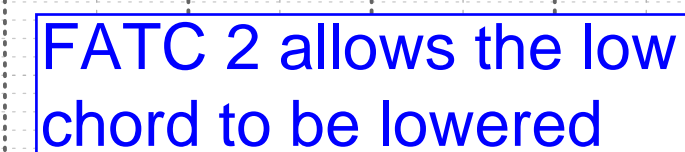
ROAD HOLDERKNOBRE
P.I. = 1+74.57
 $\Delta = 76^\circ 41' 58''$ (LT)
(WALSH A2 HIGHWAY)
135.25
3L = 267.72'
E = 55.02'
R = 200.00'
D.S. = 20 MPH
eMAX = 0.04
e = 0.034
P.C. - LG% = 0.5%
P.T. - LG% = 0.5%

NOT FOR
CONSTRUCTION



CAROLINA
Transportation
Engineers &
Assoc., PC

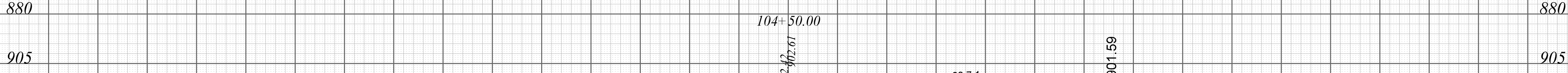
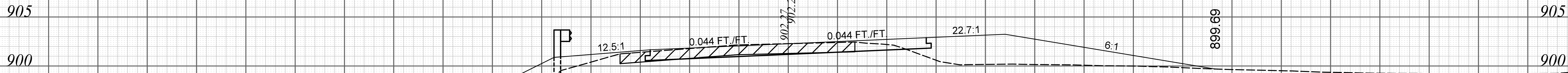
Need additional survey



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	SC-183 NO.	SHEET NO.
3	S.C.	PICKENS	P041231	SC-183	X11

WALHALLA HIGHWAY

80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80

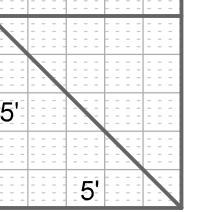


80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80

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CAROLINA
Transportation
Engineers &
Assoc. PC

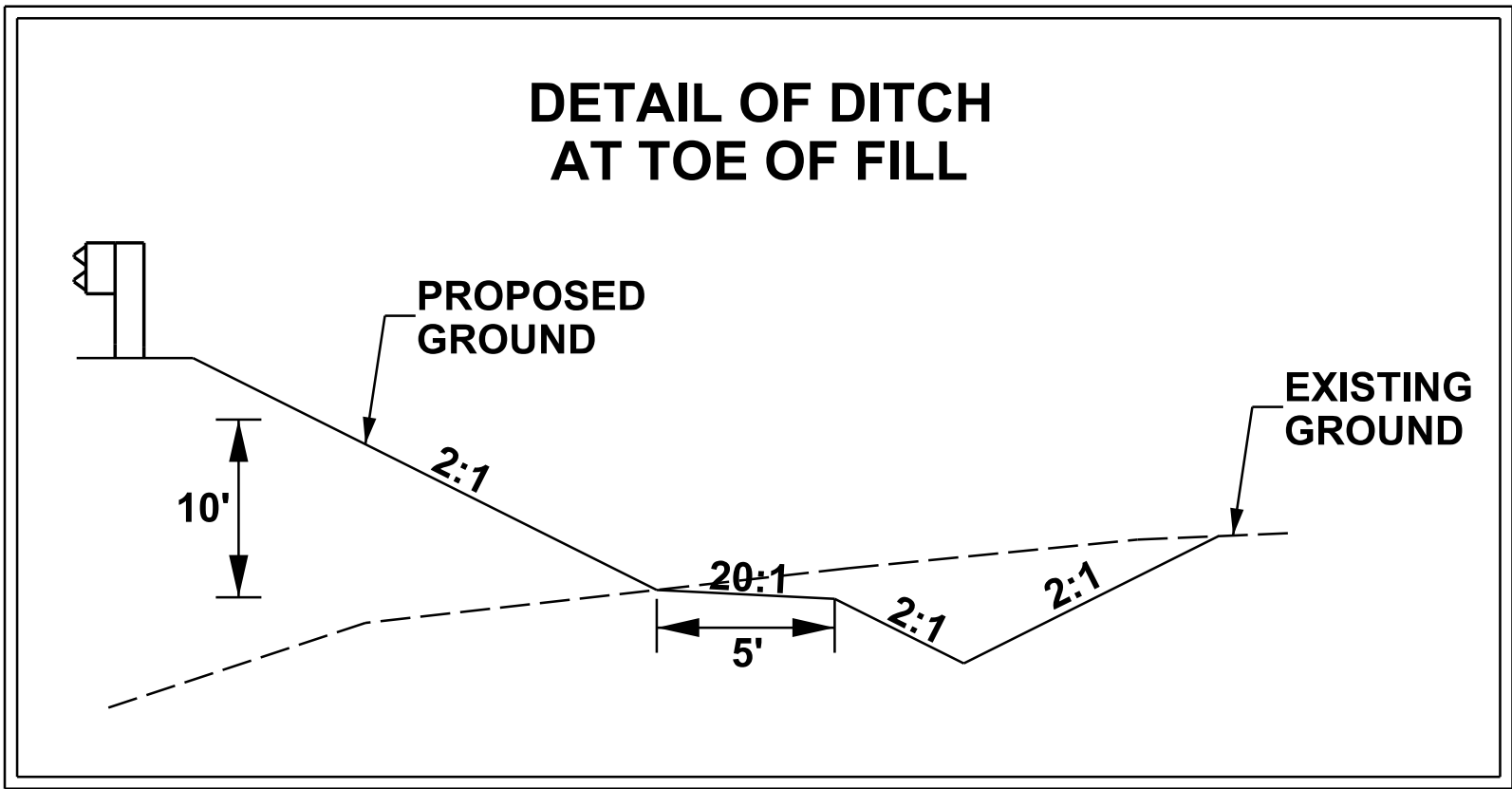
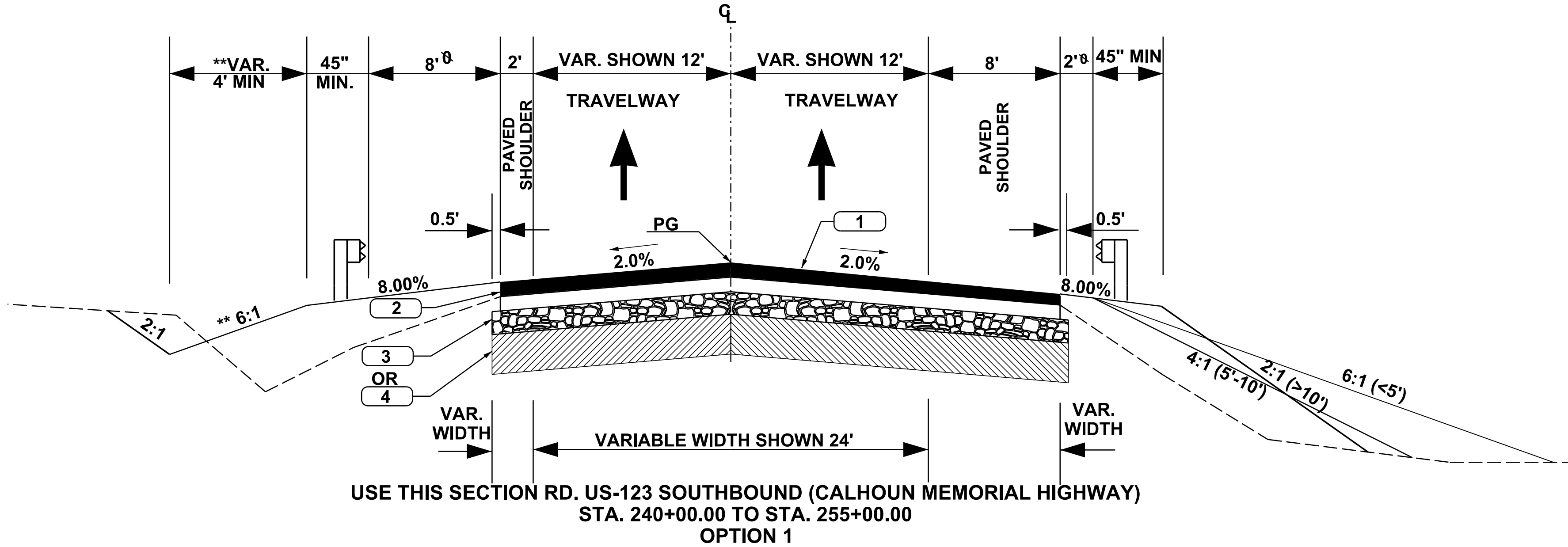
SOUTH CAROLINA
PROFESSIONAL
ENGINEER
No. 22961
DICK C. STATION



TYPICAL SECTION OF IMPROVEMENT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
COLUMBIA, S.C.

**** NOTE:**
THIS SLOPE MAY BE VARIED WHEN A DEEPER DITCH IS NECESSARY FOR DRAINAGE PURPOSES, USING A MINIMUM SLOPE OF 12:1 AND A MAXIMUM SLOPE OF 4:1. WHERE A DEEPER DITCH THAN PROVIDED BY 4:1 IS NECESSARY, THE DITCH SHALL BE PLACED FARTHER FROM THE C/L CONTINUING THE 4:1 SLOPE TO PROVIDE THE NECESSARY DEPTH. SEE PROFILE FOR SPECIAL DITCH GRADES.

NOTES:
VARIABLE- SEE PLANS AND CROSS SECTIONS. WHERE CLEARZONE IS UNATTAINABLE OR END TREATMENT IS REQUIRED FOR BRIDGE APPROACH, ADD 3.75' TO SHOULDER FOR GUARDRAIL AND 2:1 FORESLOPE. ADDITIONAL SHOULDER WIDTH REQUIRED FOR END TREATMENT TYPE "MT3" SEE SCDOT STANDARD DRAWING 805-115-10.

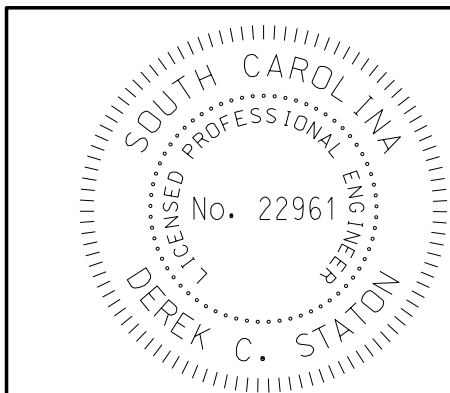
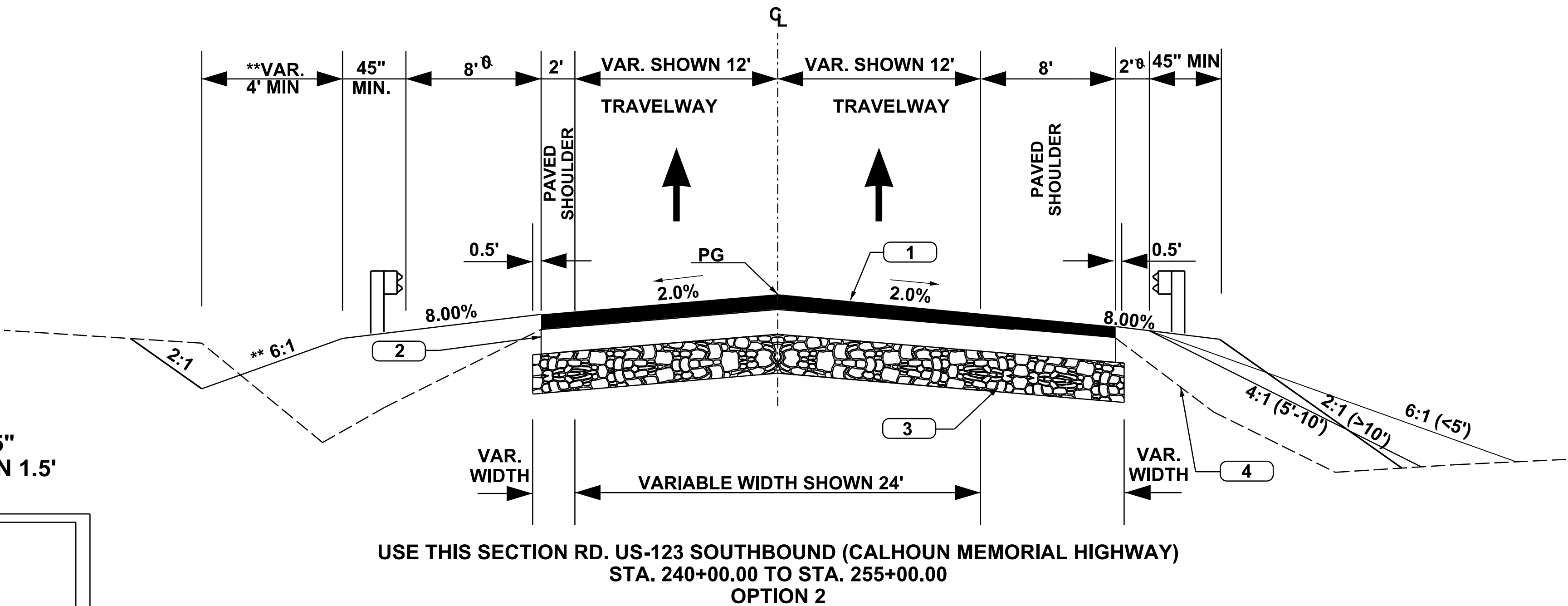


NOTE: USE HMA SURFACE COURSE TYPE E FOR LEVELING 0" TO 1.5"
USE HMA INTERMEDIATE CR. TYPE B FOR LEVELING GREATER THAN 1.5"
OPTION 1

1	HMA SURFACE COURSE TYPE B 200 #/S.Y.
2	HMA INTERMEDIATE COURSE TYPE- B 200 #/S.Y.
3	HMA BASE COURSE TYPE- A 450 #/S.Y.
4	10 INCHES GABC

OPTION 2

1	HMA SURFACE COURSE TYPE B 200 #/S.Y.
2	HMA INTERMEDIATE COURSE TYPE- B 400 #/S.Y.
3	HMA BASE COURSE TYPE- A 800 #/S.Y.
4	EXISTING GROUND

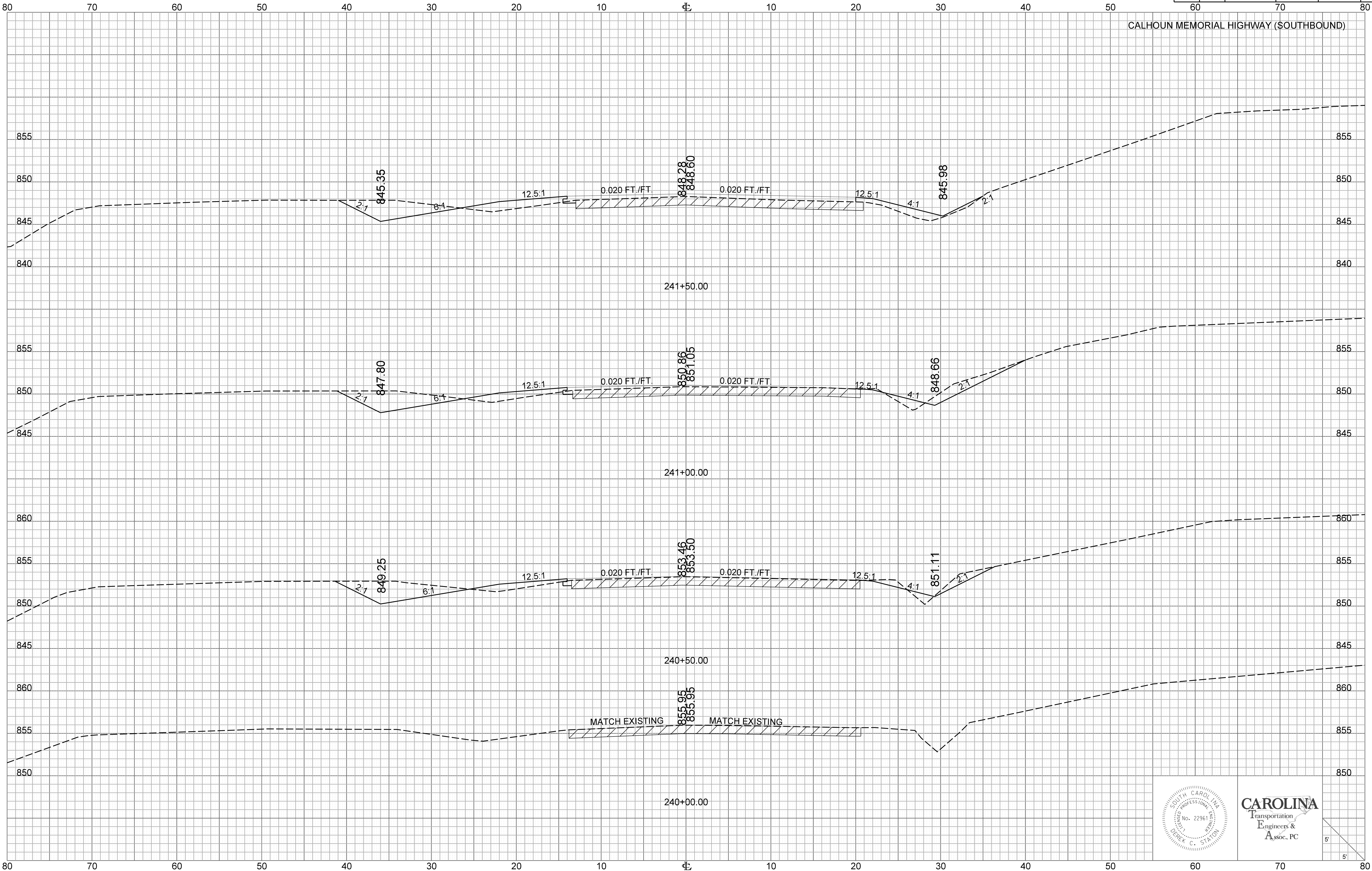


PAVEMENT DESIGN

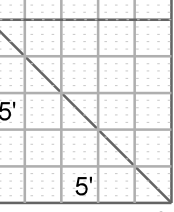
US-123 URBAN PRINCIPAL ARTERIAL		
RTE. US-123 SB	FROM STA.	TO STA.
55	240+00	255+00
EXCEPTIONS TO DESIGN SPEED		

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION ROAD DESIGN COLUMBIA, S.C.
TYPICAL SECTION US-123 (CALHOUN MEMORIAL HIGHWAY)
SCALE 1"V=NTS SCALE 1"=NTS RTE./RD.

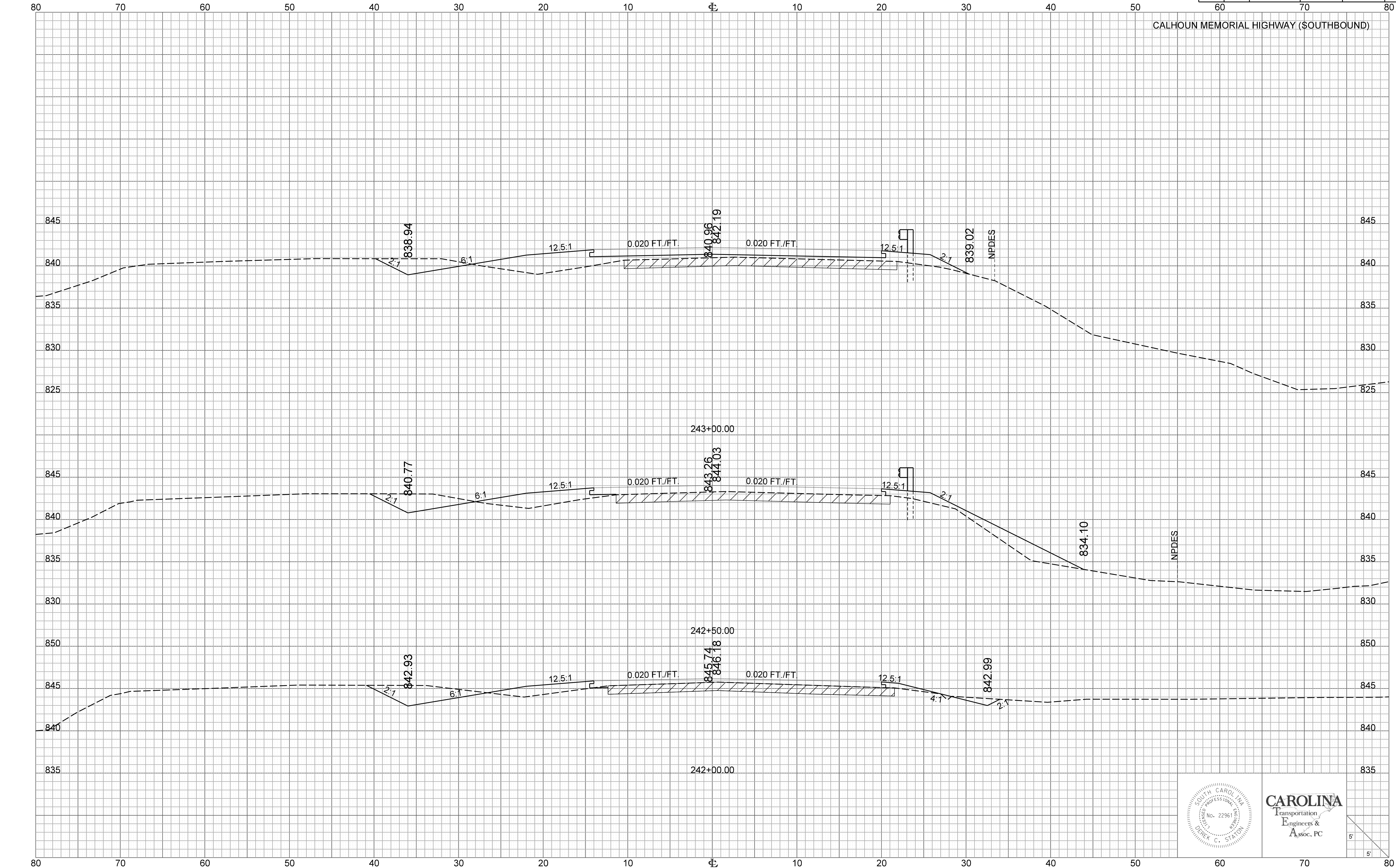
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3	S.C.	PICKENS	P041233	US-123	X1



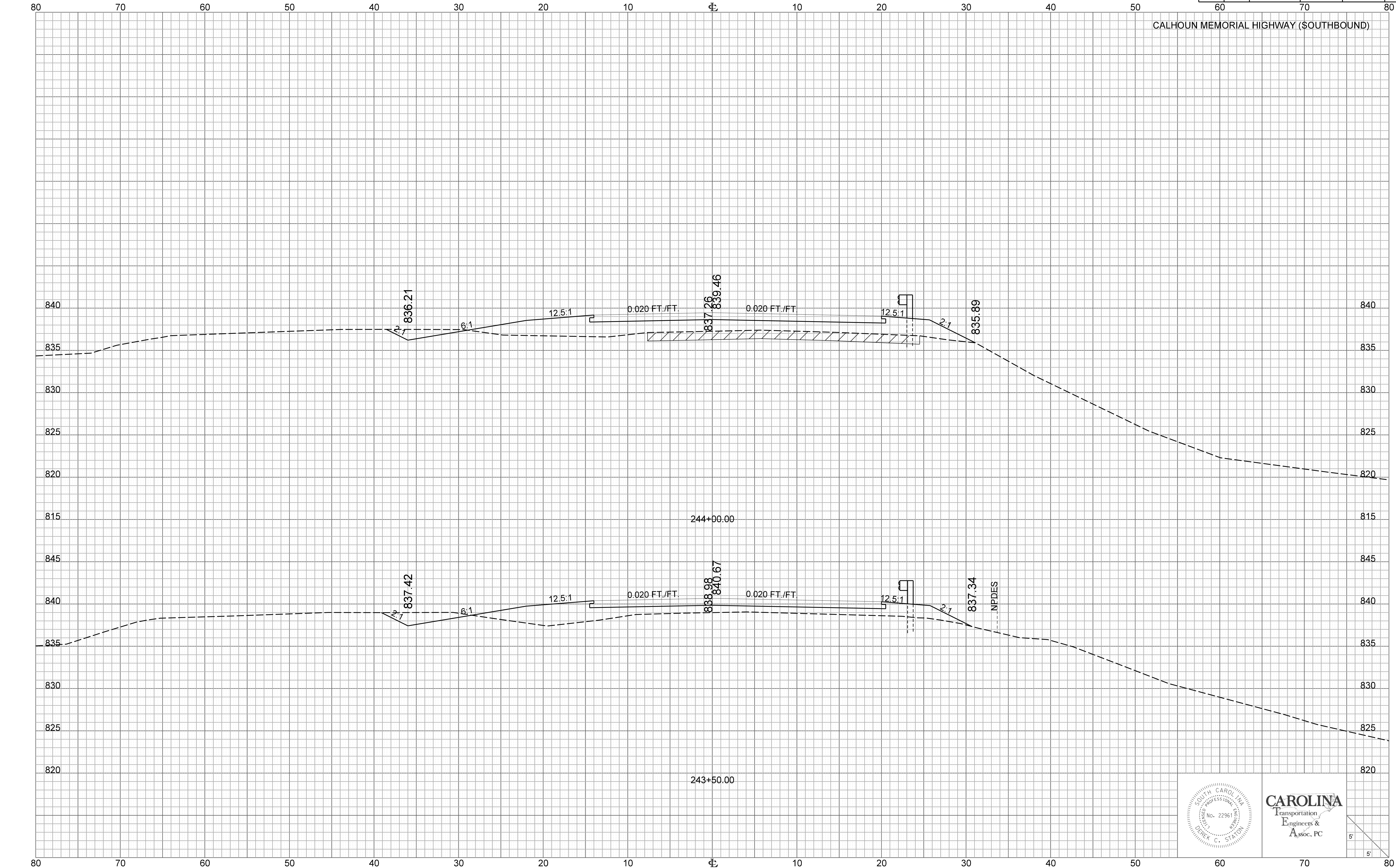
CAROLINA
Transportation
Engineers &
Assoc. PC



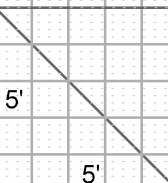
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3	S.C.	PICKENS	P041233	US-123	X2



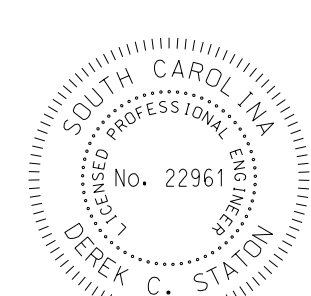
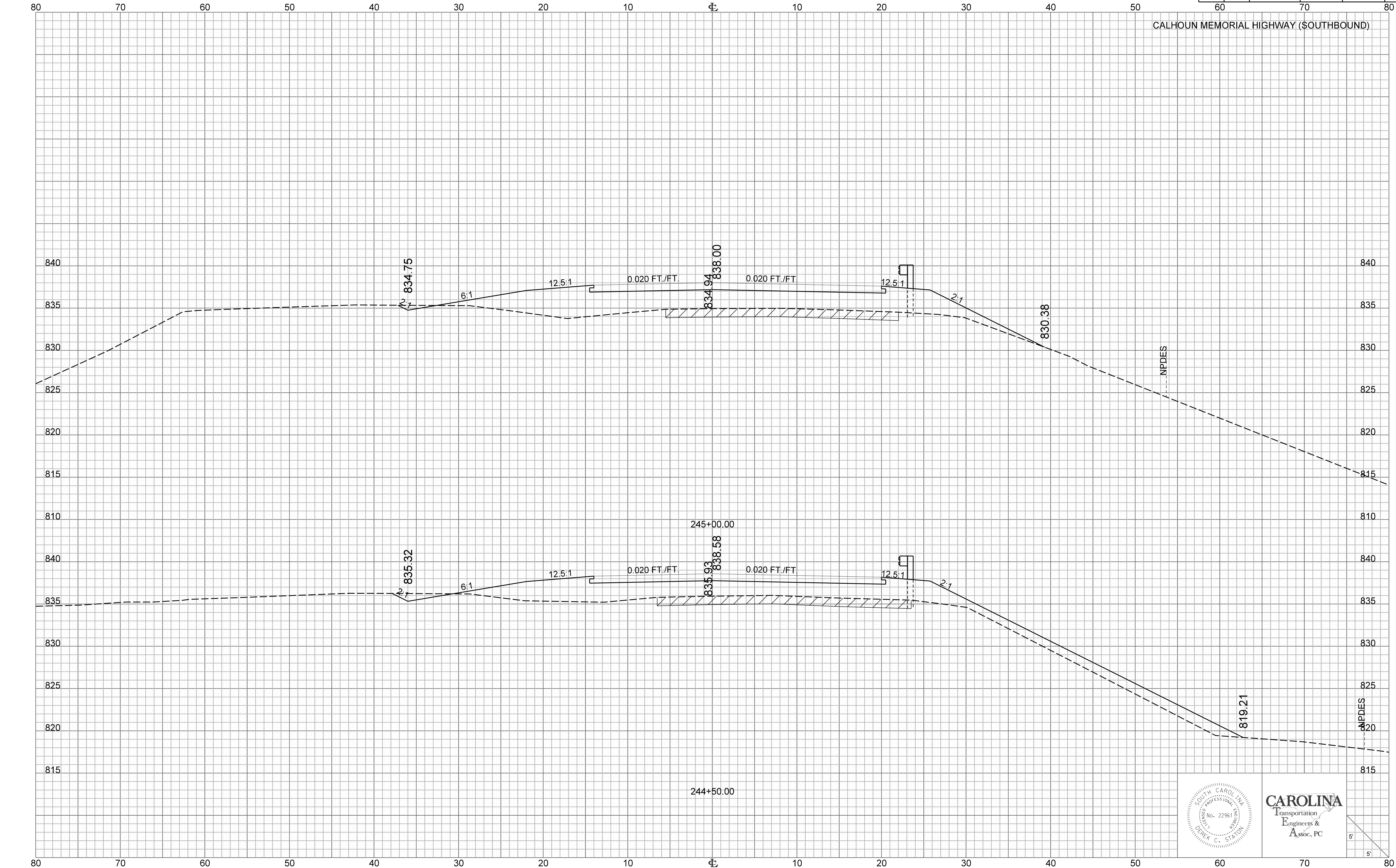
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3	S.C.	PICKENS	P041233	US-123	X3



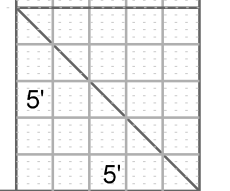
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Engineers &
Assoc. PC



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
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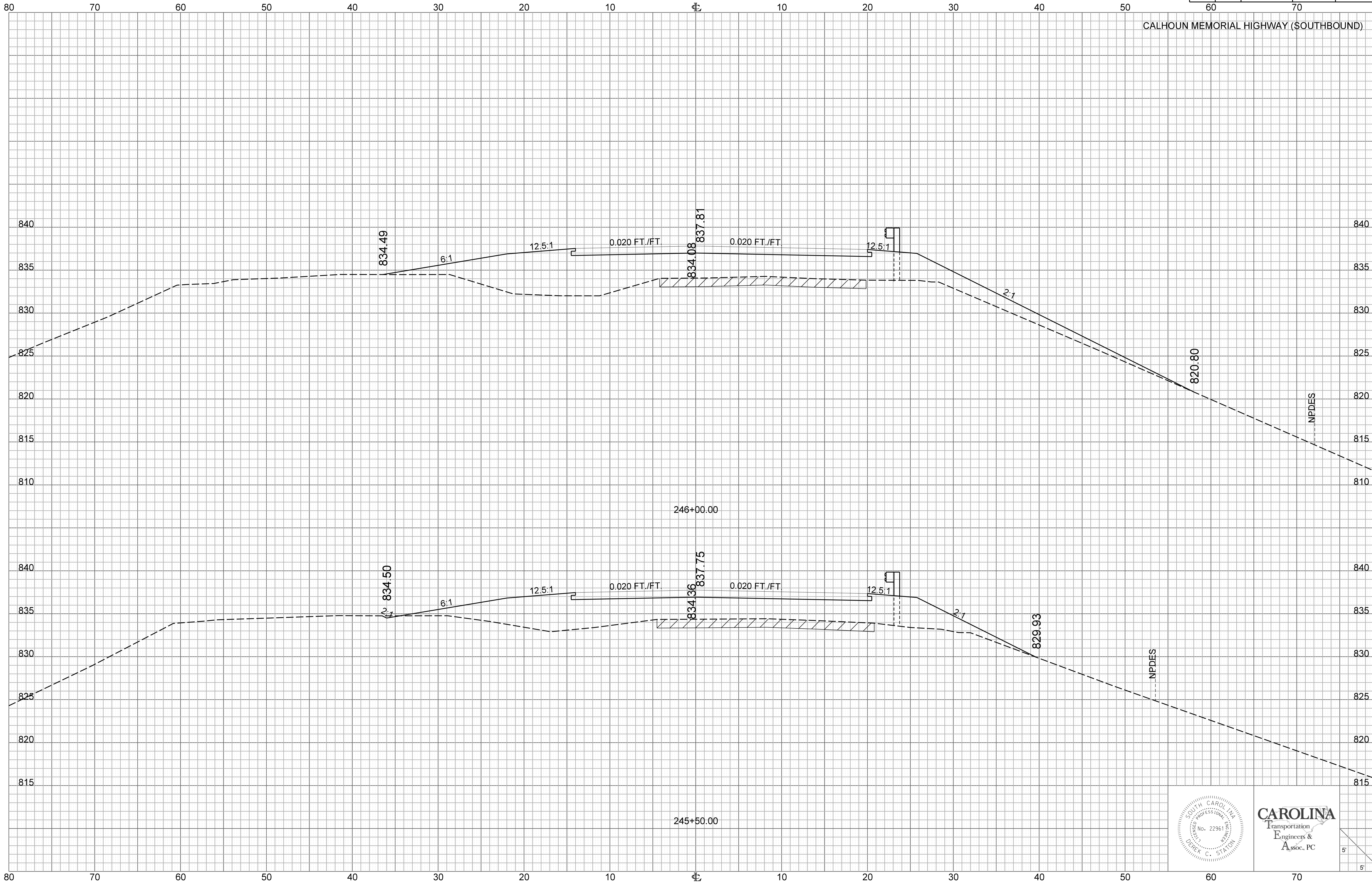


CAROLINA
Transportation
Engineers &
Assoc. PC

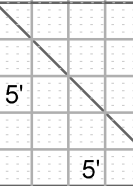


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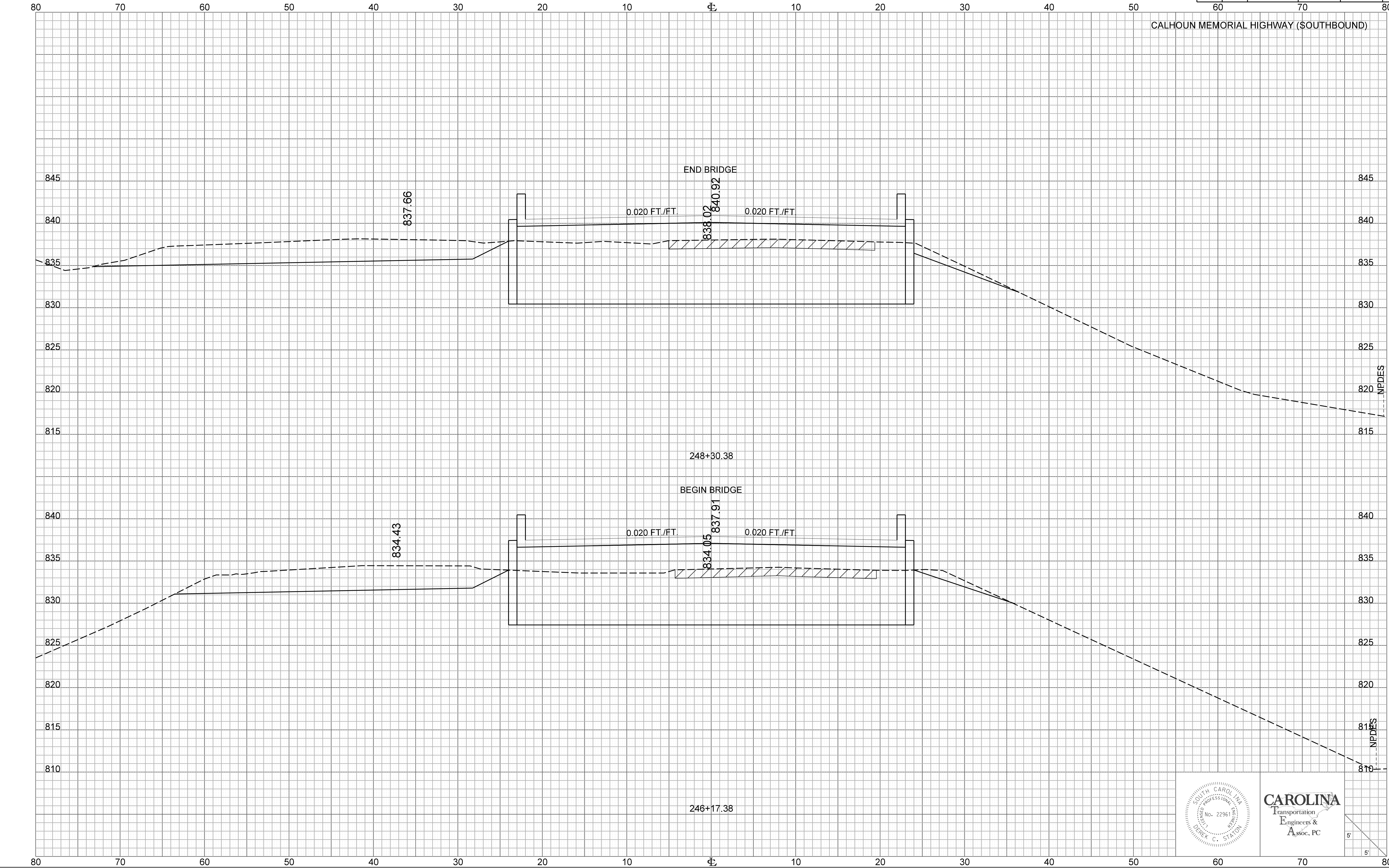
CALHOUN MEMORIAL HIGHWAY (SOUTHBOUND)



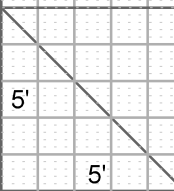
CAROLINA
Transportation
Engineers &
Assoc. PC



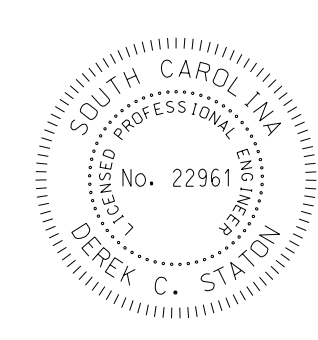
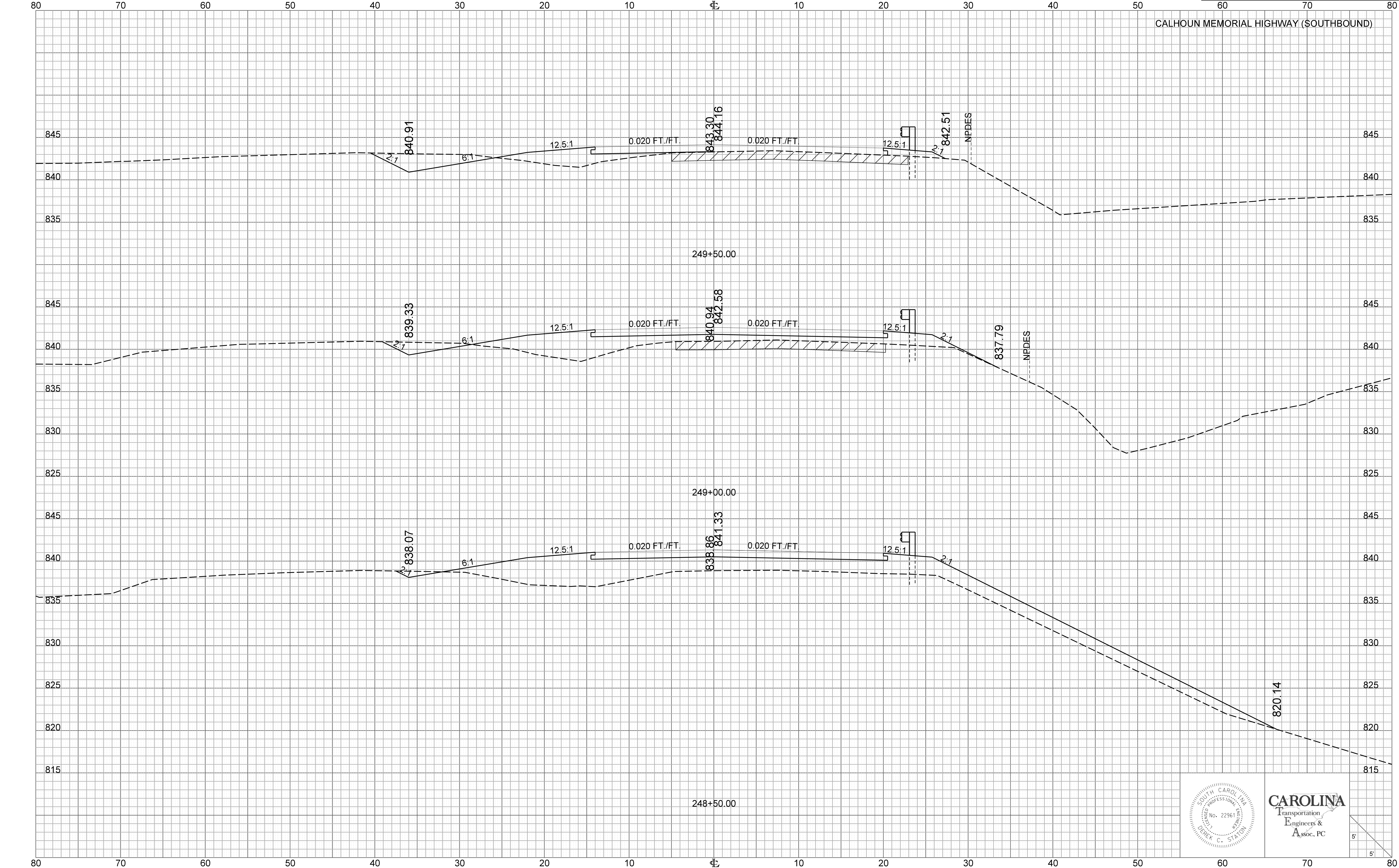
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3	S.C.	PICKENS	P041233	US-123	X6



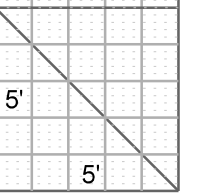
CAROLINA
Transportation
Engineers &
Assoc. PC



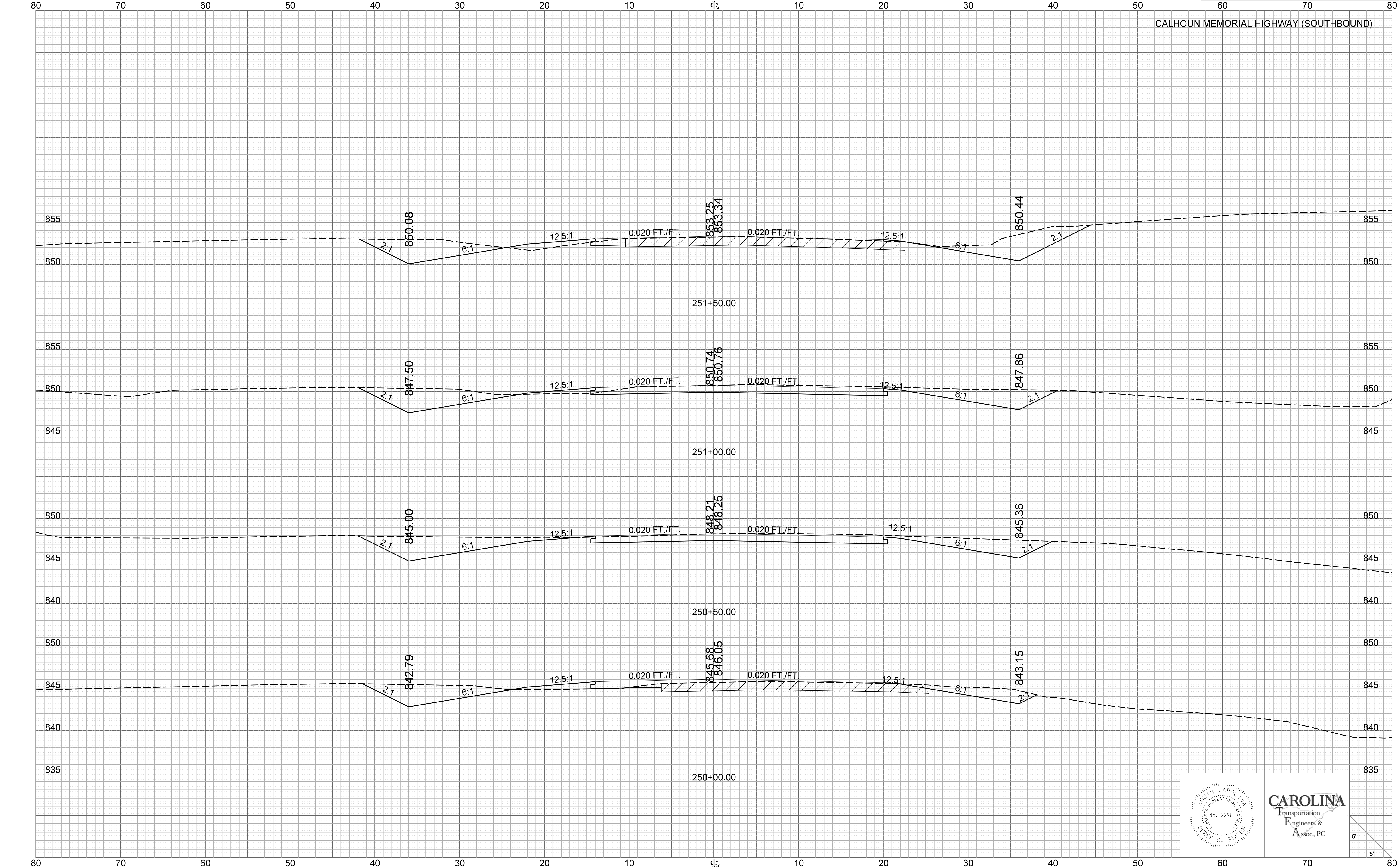
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X7



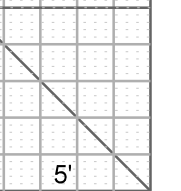
CAROLINA
Transportation
Engineers &
Assoc. PC



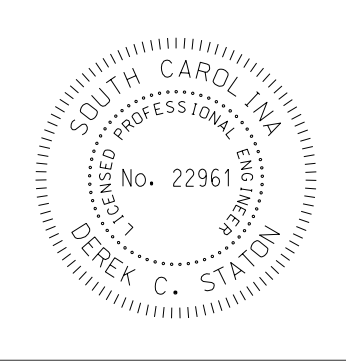
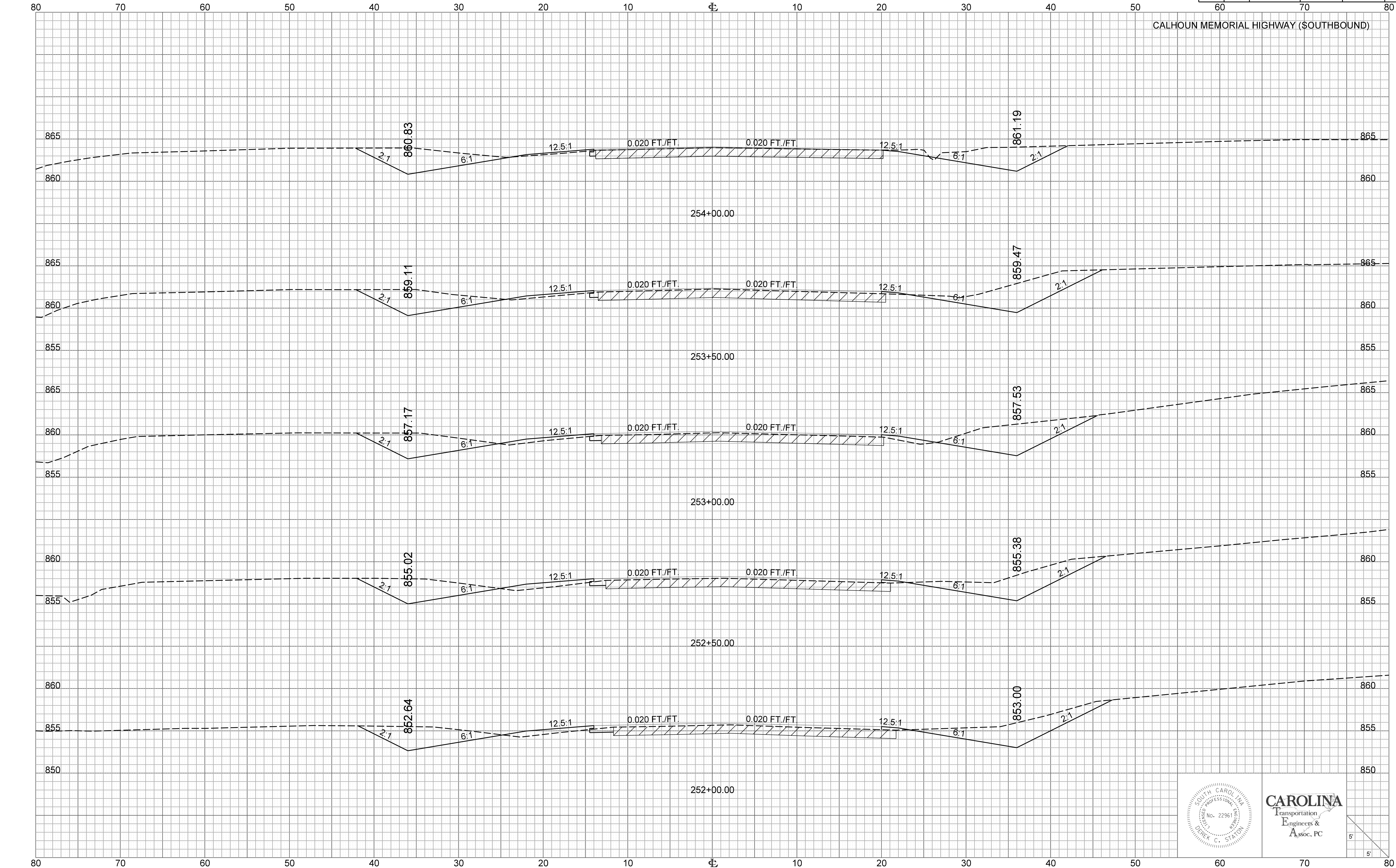
FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X8



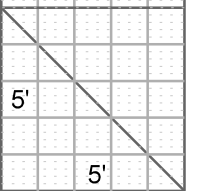
CAROLINA
Transportation
Engineers &
Assoc. PC



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X9

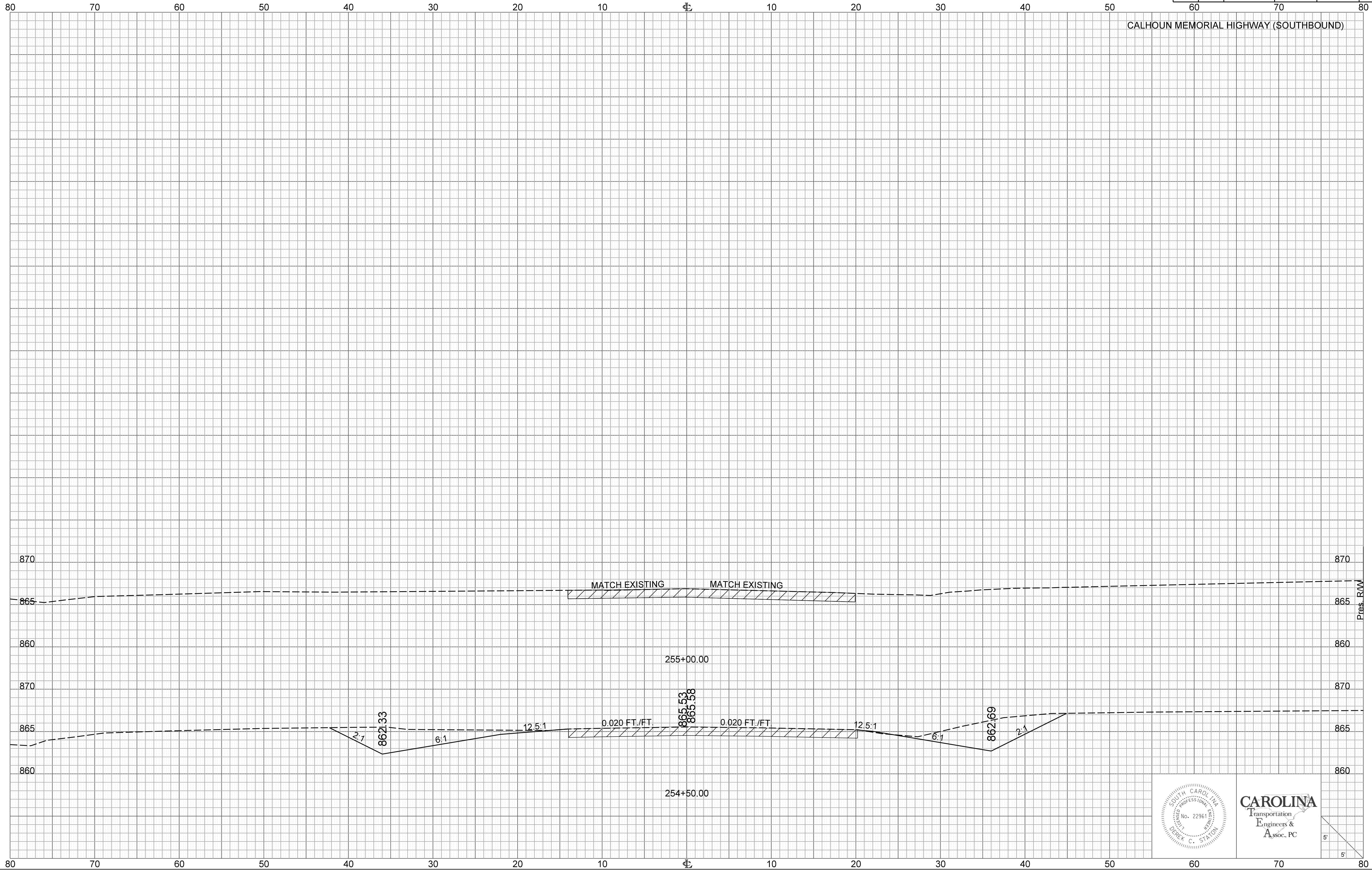


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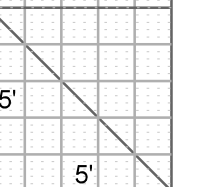


FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	US-123 NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	X10

CALHOUN MEMORIAL HIGHWAY (SOUTHBOUND)



CAROLINA
Transportation
Engineers &
Assoc. PC



\$\$\$user\$\$\$
\$\$\$path\$\$\$
\$\$\$date\$\$\$

FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	ROAD NO.	SHEET NO.
3	SC	PICKENS	P041230	SC-183	3

WALHALLA HIGHWAY

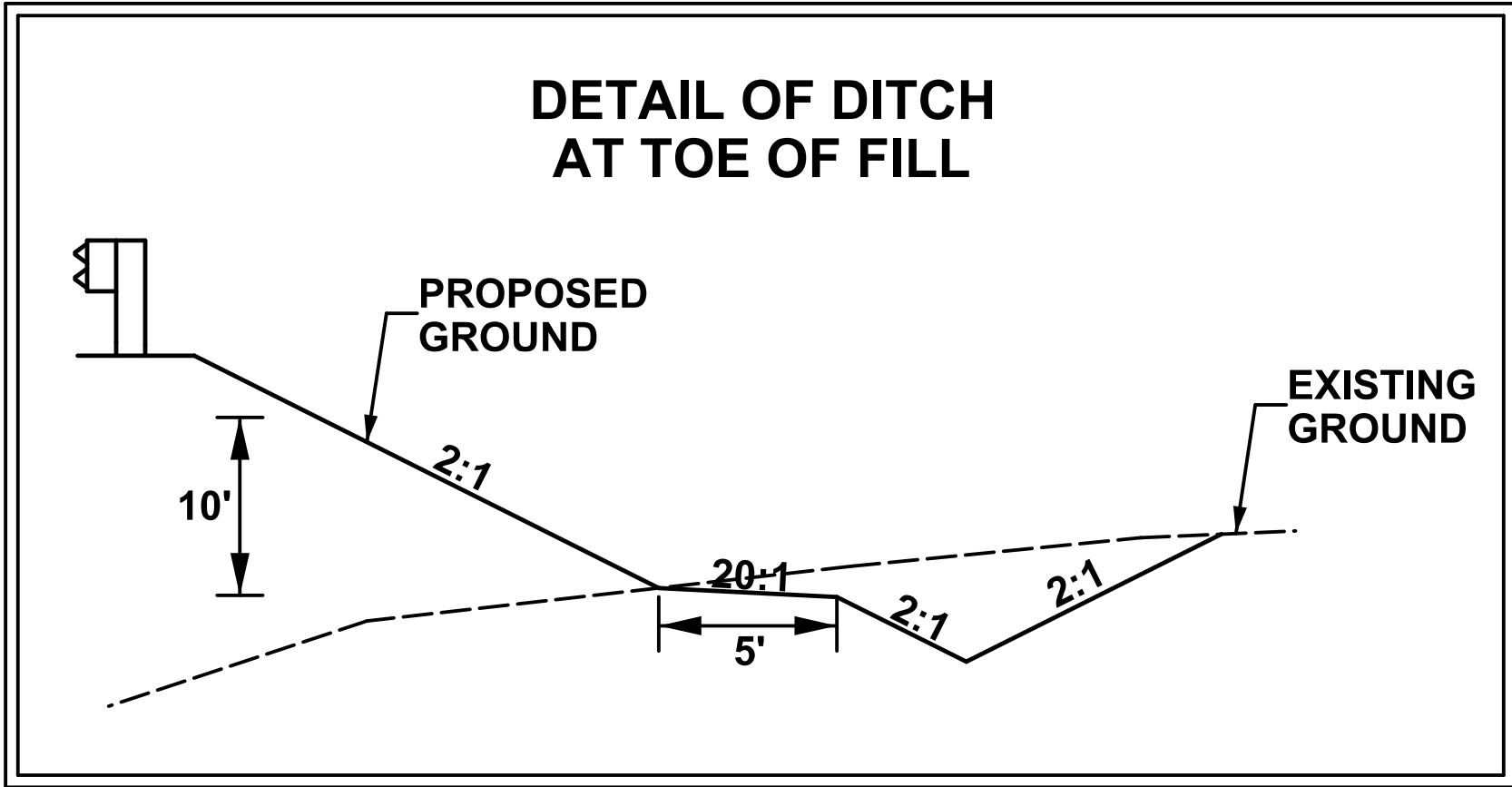
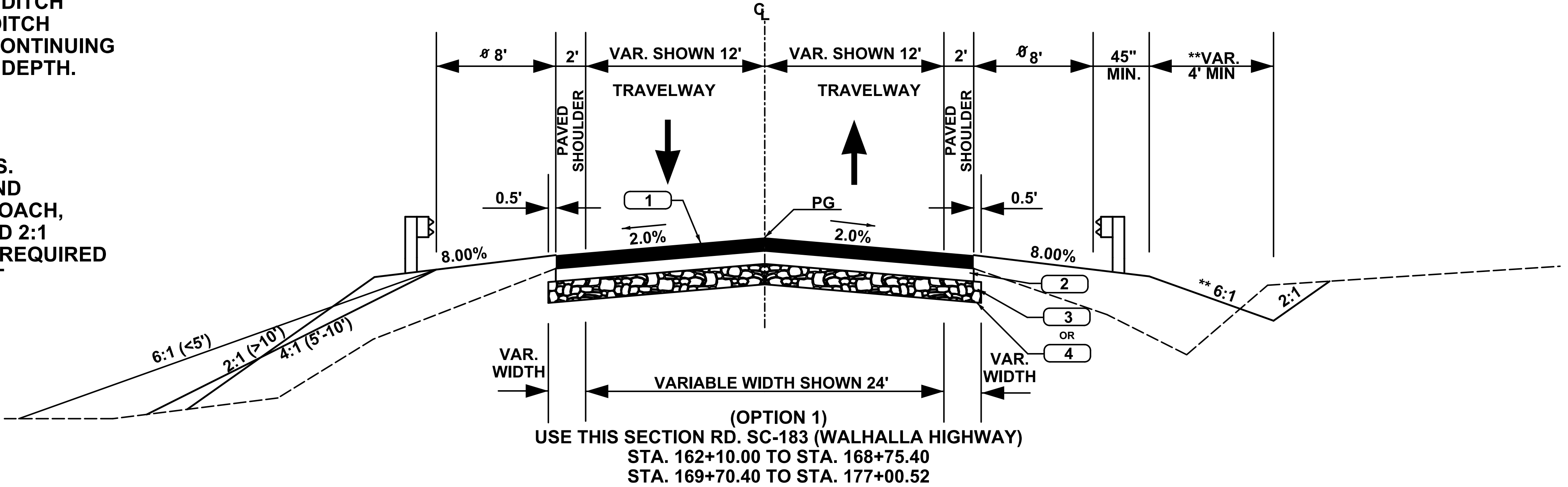
TYPICAL SECTION OF IMPROVEMENT
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
COLUMBIA, S.C.

**** NOTE:**

THIS SLOPE MAY BE VARIED WHEN A DEEPER DITCH IS NECESSARY FOR DRAINAGE PURPOSES, USING A MINIMUM SLOPE OF 12:1 AND A MAXIMUM SLOPE OF 4:1. WHERE A DEEPER DITCH THAN PROVIDED BY 4:1 IS NECESSARY, THE DITCH SHALL BE PLACED FARTHER FROM THE C/L CONTINUING THE 4:1 SLOPE TO PROVIDE THE NECESSARY DEPTH. SEE PROFILE FOR SPECIAL DITCH GRADES.

Ø NOTES:

VARIABLE- SEE PLANS AND CROSS SECTIONS. WHERE CLEARZONE IS UNATTAINABLE OR END TREATMENT IS REQUIRED FOR BRIDGE APPROACH, ADD 3.75' TO SHOULDER FOR GUARDRAIL AND 2:1 FORESLOPE. ADDITIONAL SHOULDER WIDTH REQUIRED FOR END TREATMENT TYPE "TL3" SEE SCDOT STANDARD DRAWING 805-115-11.



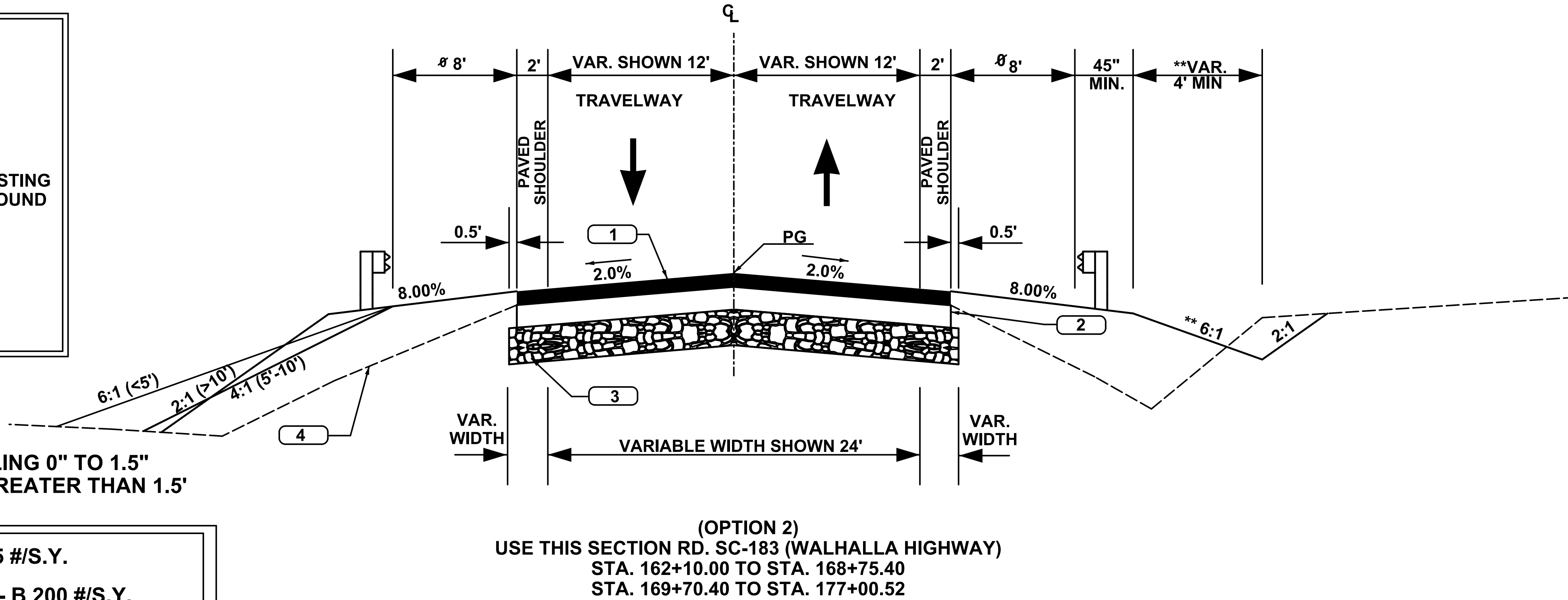
NOTE: USE HMA SURFACE COURSE TYPE E FOR LEVELING 0" TO 1.5"
USE HMA INTERMEDIATE CR. TYPE B FOR LEVELING GREATER THAN 1.5'

OPTION 1

- | | |
|---|--|
| 1 | HMA SURFACE COURSE TYPE B 175 #/S.Y. |
| 2 | HMA INTERMEDIATE COURSE TYPE- B 200 #/S.Y. |
| 3 | HMA BASE COURSE TYPE- A 400 #/S.Y. |
| 4 | 10 INCHES GABC |

OPTION 2

- | | |
|---|--|
| 1 | HMA SURFACE COURSE TYPE B 200 #/S.Y. |
| 2 | HMA INTERMEDIATE COURSE TYPE- B 400 #/S.Y. |
| 3 | HMA BASE COURSE TYPE- A 700 #/S.Y. |
| 4 | EXISTING GROUND |



PAVEMENT DESIGN

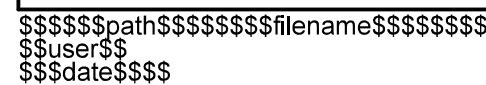
CAROLINA
Transportation
Engineers &
Associates, PC

SC-183 RURAL MINOR ARTERIAL		
RTE. SC-183	DESIGN SPEED	
MPH	FROM STA.	TO STA.
60	162+01.00	175+13.40
EXCEPTIONS TO DESIGN SPEED		

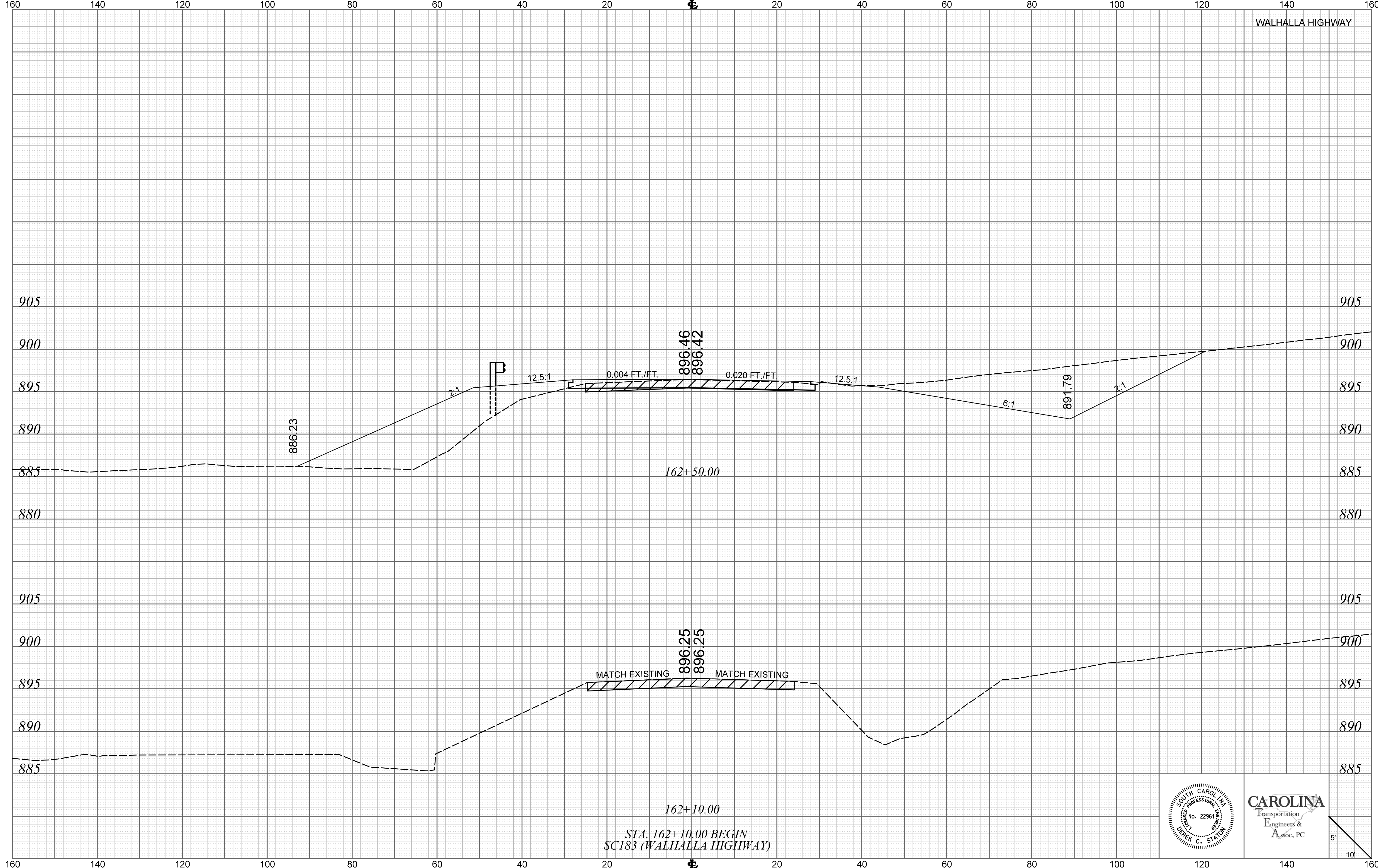
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ROAD DESIGN COLUMBIA, S.C.

TYPICAL SECTION
SC-183 (WALHALLA HIGHWAY)


SCALE 1"V=NTS SCALE 1"=NTS RTE./RD.

SC-183 (WALHALLA HIGHWAY) BRIDGE OVER GREGORY CREEK

FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	SC-183 NO.	SHEET NO.
3	S.C.	PICKENS	P041231	SC-183	X1



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SSuserSS
SS\$dateSS\$



CAROLINA
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Engineers &
Assoc. PC

5'
10'

Engineering drawing showing two cross-sections of a road profile, labeled 163+00.00 and 163+50.00, plotted on a grid. The vertical axis represents elevation in feet, ranging from 875 to 915. The horizontal axis represents stationing, ranging from 160 to 160 (labeled on both sides).

The top cross-section (163+50.00) shows a road profile with a centerline elevation of 896.90 and 896.94. The profile includes a 50:1 slope on the left, a 0.020 FT./FT. grade, a 12.5:1 slope on the right, and a 6:1 slope. The bottom cross-section (163+00.00) shows a road profile with a centerline elevation of 896.68 and 896.62. The profile includes a 68.6:1 slope on the left, a 0.015 FT./FT. grade, a 12.5:1 slope on the right, and a 6:1 slope.

Key data points and labels include:

- Top cross-section: 885.42, 892.32, 896.90, 896.94, 896.32, 892.09.
- Bottom cross-section: 885.15, 892.09, 896.68, 896.62, 896.32, 892.09.

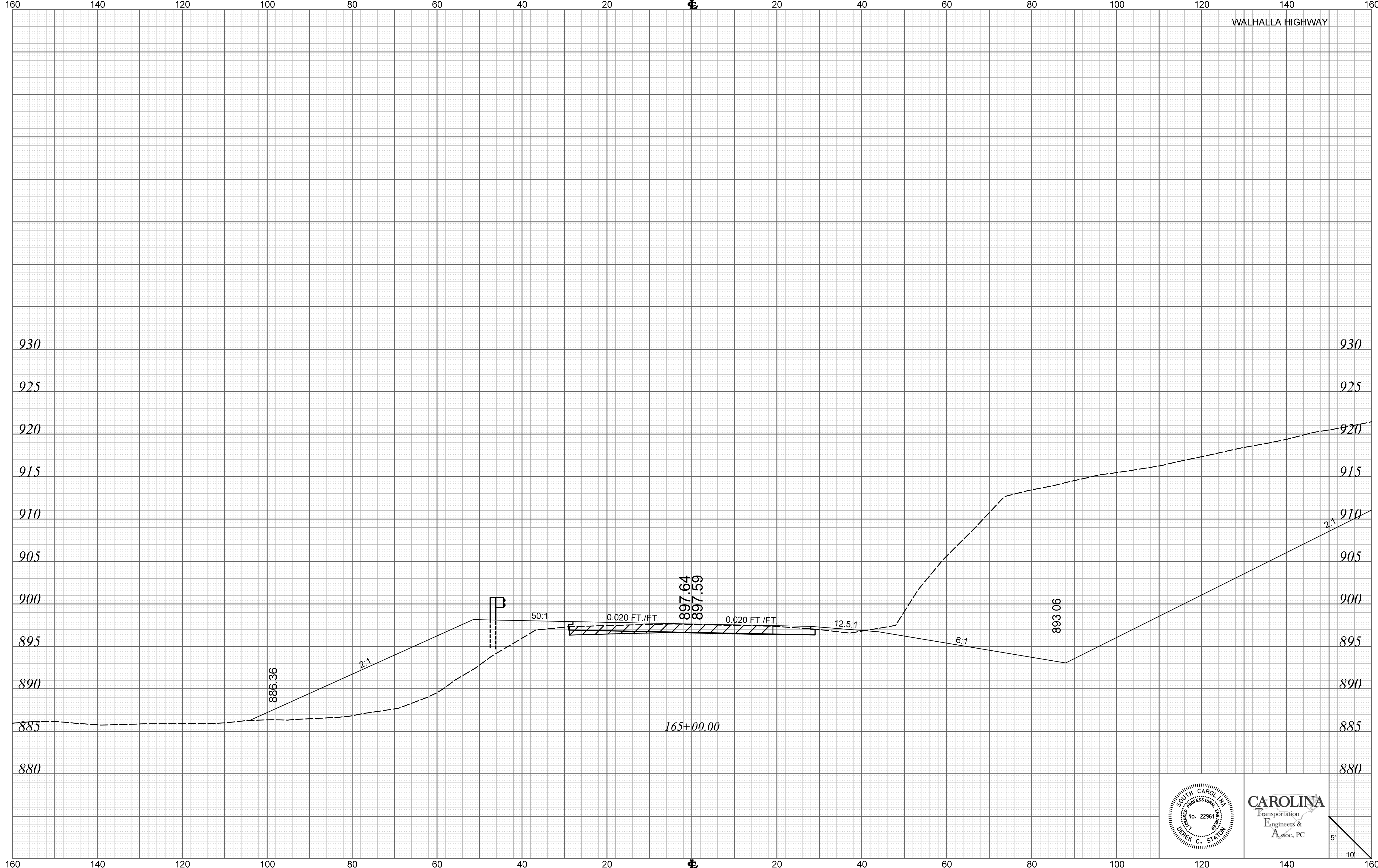
Grid lines are spaced at 20-foot intervals horizontally and 5-foot intervals vertically. The drawing is titled "WALHALLA HIGHWAY" and includes a scale bar indicating 5' and 10'.

FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	SC-183 NO.	SHEET NO.
3	S. C.	PICKENS	P041231	SC-183	X2

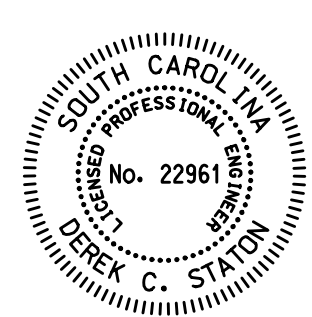
Carolina Transportation Engineers & Assoc., PC logo and seal are present in the bottom right corner.

X1_XS_Sheet_10x8

FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	SC-183 NO.	SHEET NO.
3	S.C.	PICKENS	P041231	SC-183	X5

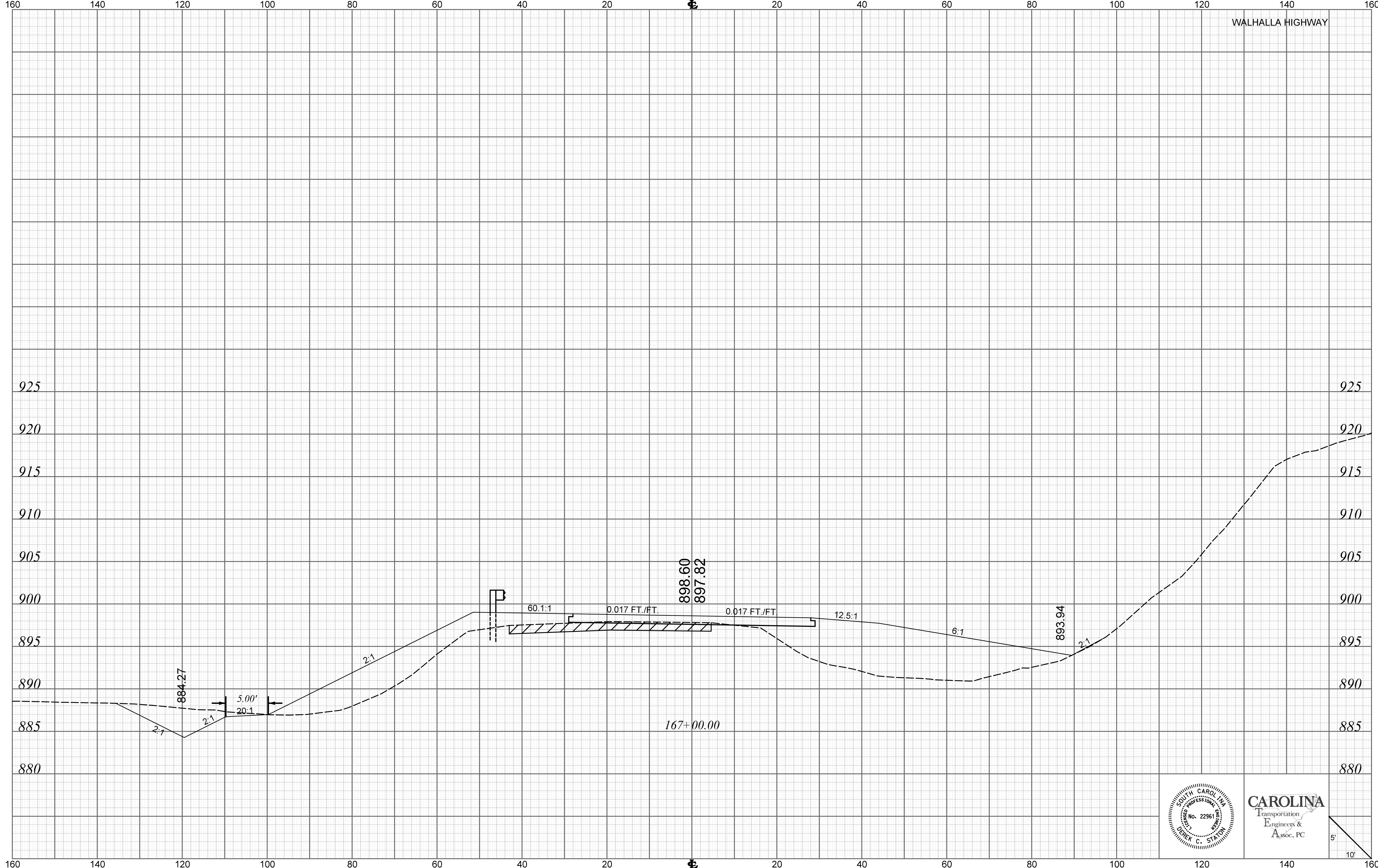


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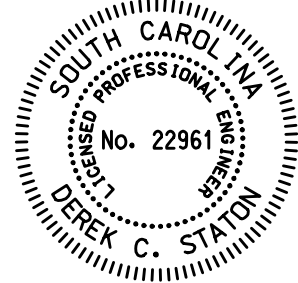


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FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	SC-183 NO.	SHEET NO.
3	S.C.	PICKENS	P041231	SC-183	X9

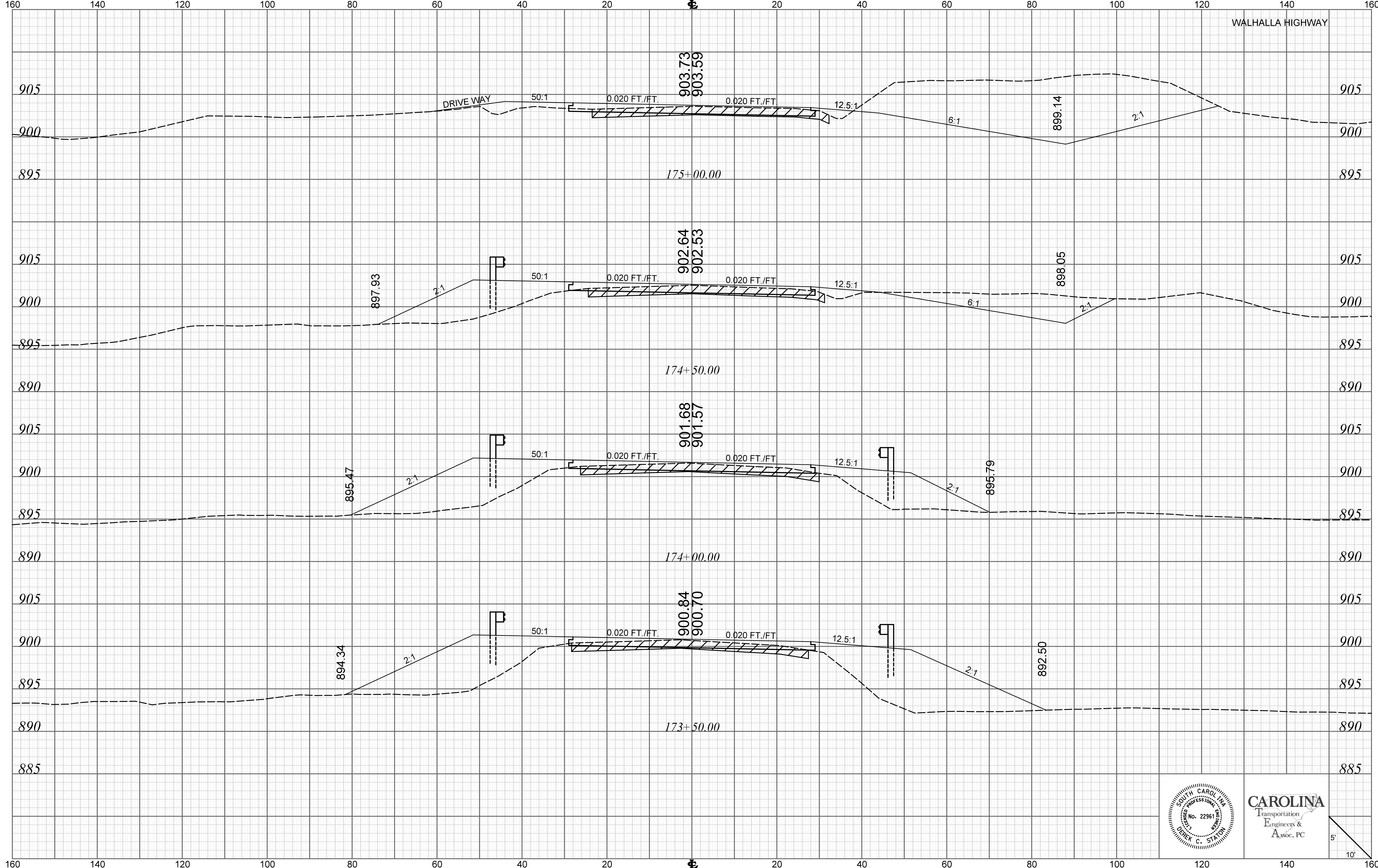


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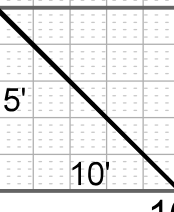
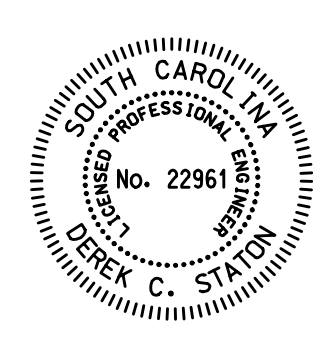


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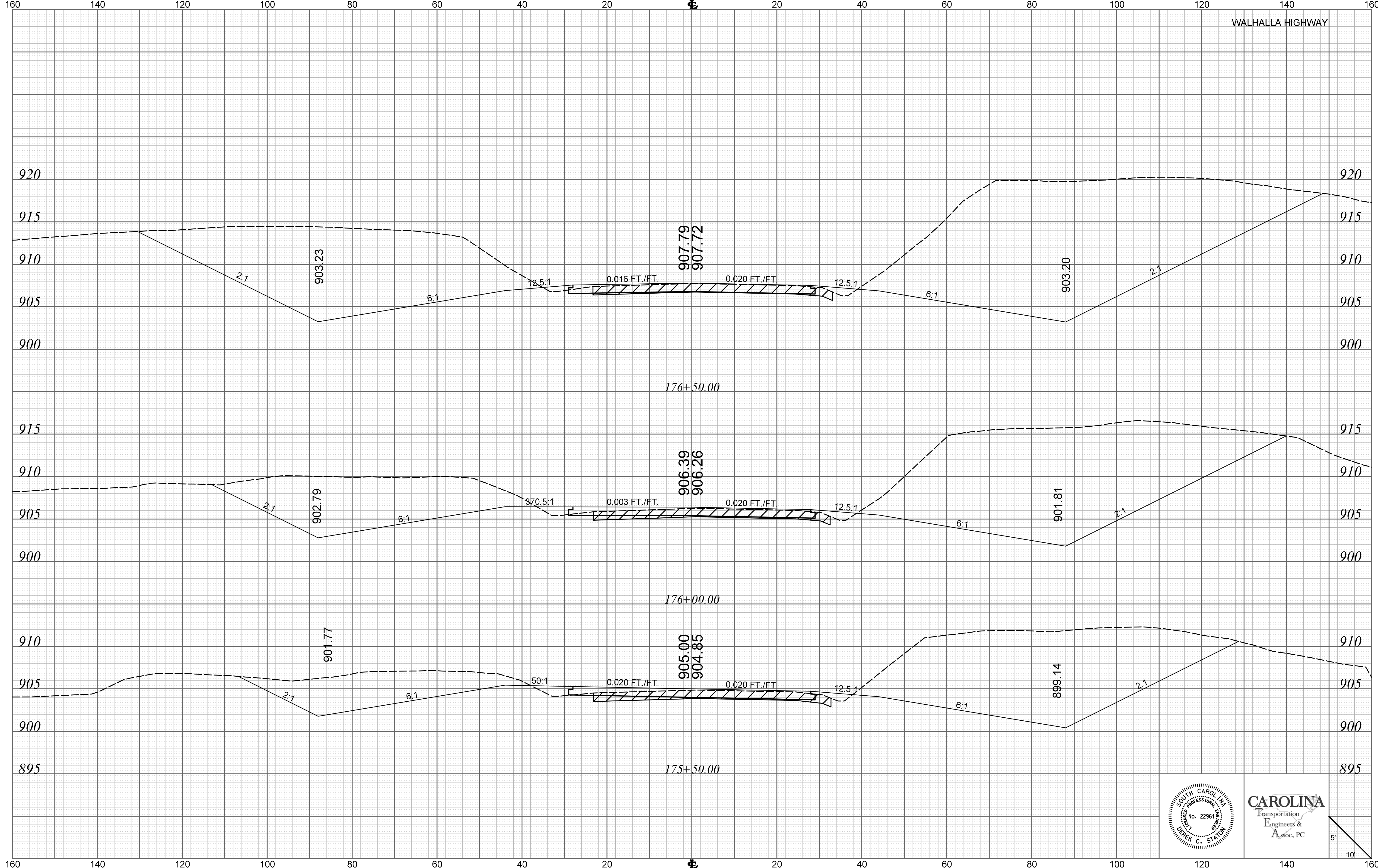
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3	S.C.	PICKENS	P041231	SC-183	X16



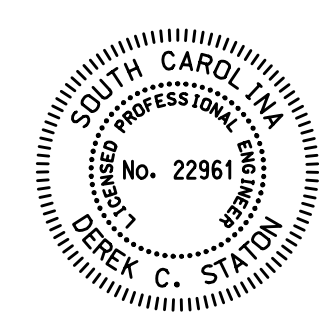
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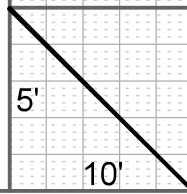
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3	S.C.	PICKENS	P041231	SC-183	X17



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SS\$dateSS\$



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Appendix A – MOT Plans
SCDOT Design Build Project
Bridge Package 16 DB Project
Contract ID 3962240



US 123 Bridge Replacement over Georges Creek - Construction Phasing

- Phase 1 Construction:
- Behind existing guardrail and/or temporary concrete barrier, place earthwork.
 - Construct NBL bridge.
 - Complete final grading and guardrail.
 - Pave temporary roadway alignment.

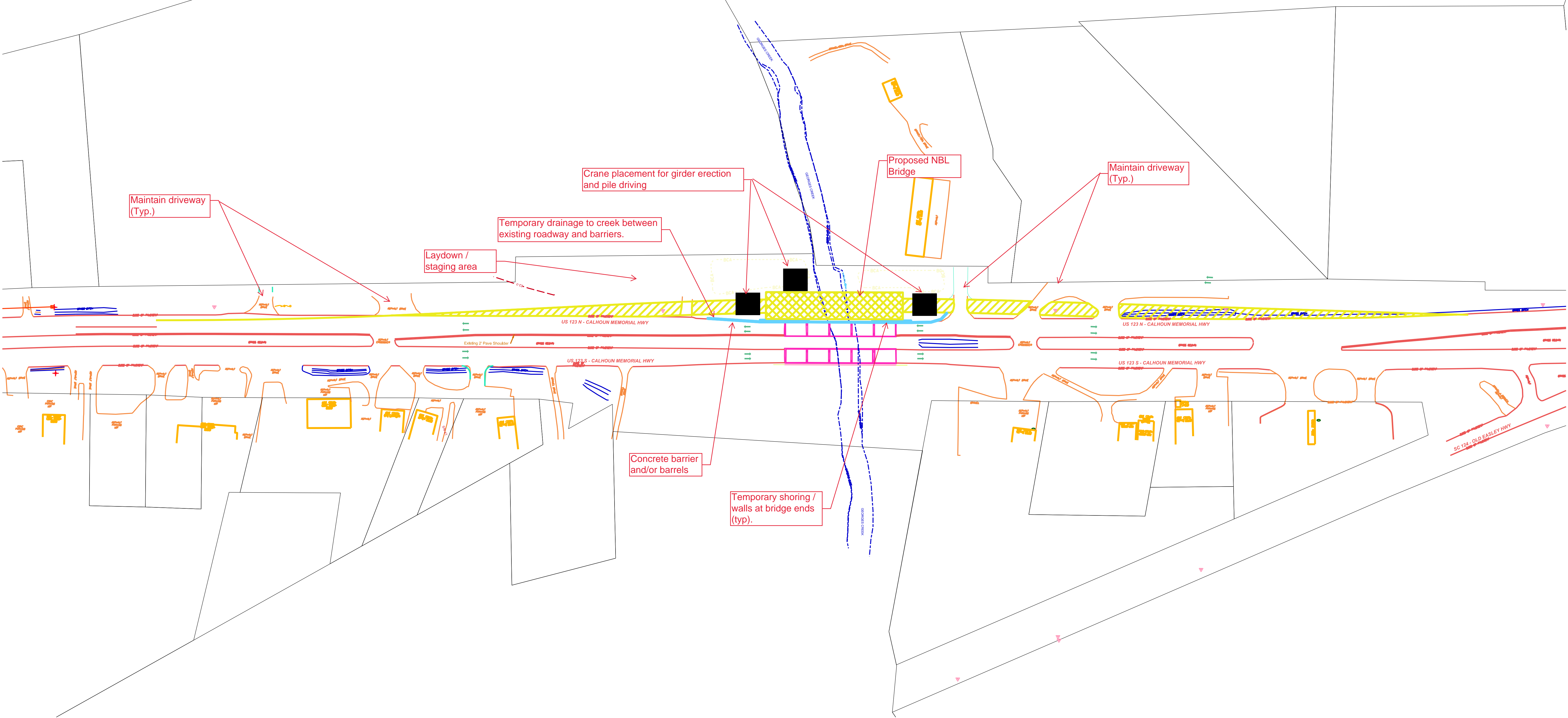
Utilizing flaggers and single lane closures, move NBL traffic from existing condition to proposed NBL pattern.

Existing driveways in construction zone are to be retained and will be maintained throughout construction at existing location and grade.

No areas are deemed critical by the Team for staging concerns.

Temporary drainage will be developed in final design, but generally will flow along the roadway (temporary and permanent) to the creek.

Public notifications will be presented in the Public Information Plan



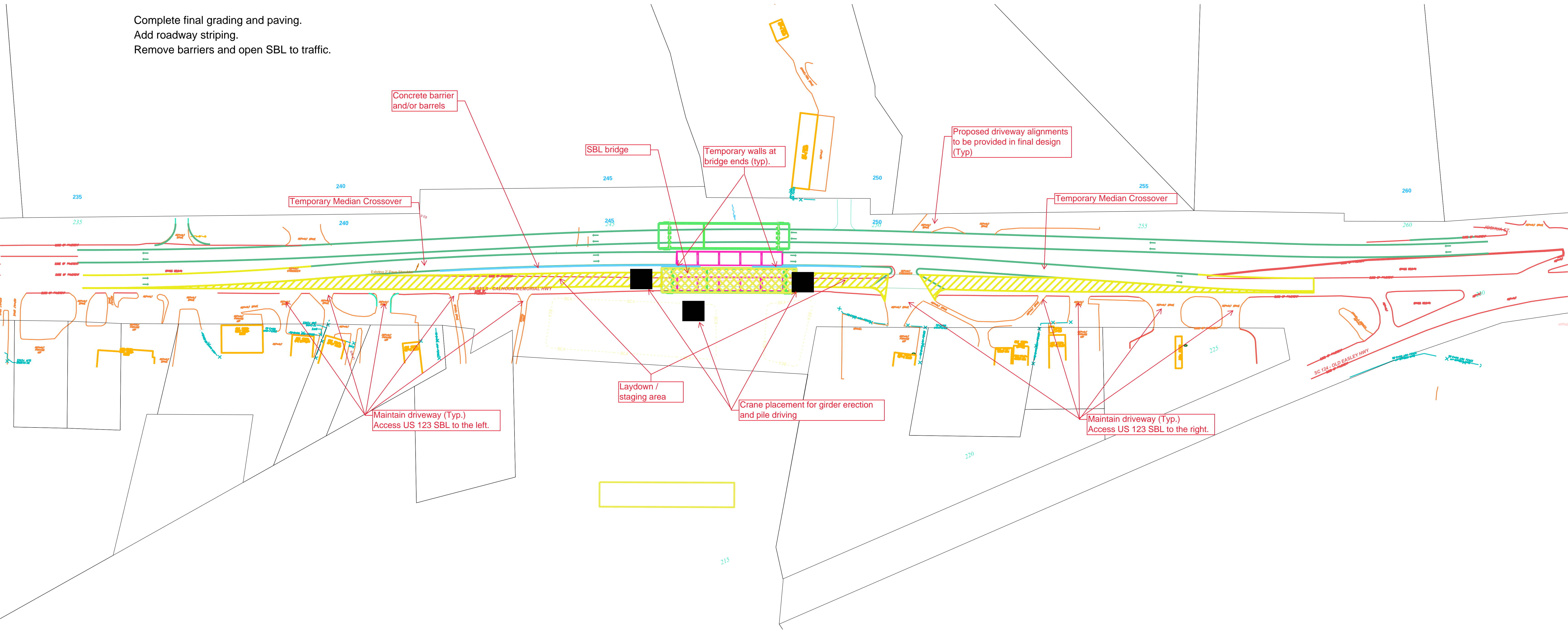
US 123 Bridge Replacement over Georges Creek - Construction Phasing

Phase 2 Construction:
Construct Median Crossovers (to be designed post award).
Shift SBL traffic to existing NBL.

Demolish existing SBL bridge.

Construct Proposed SBL bridge

Complete final grading and paving.
Add roadway striping.
Remove barriers and open SBL to traffic.



Phase 3 Construction:

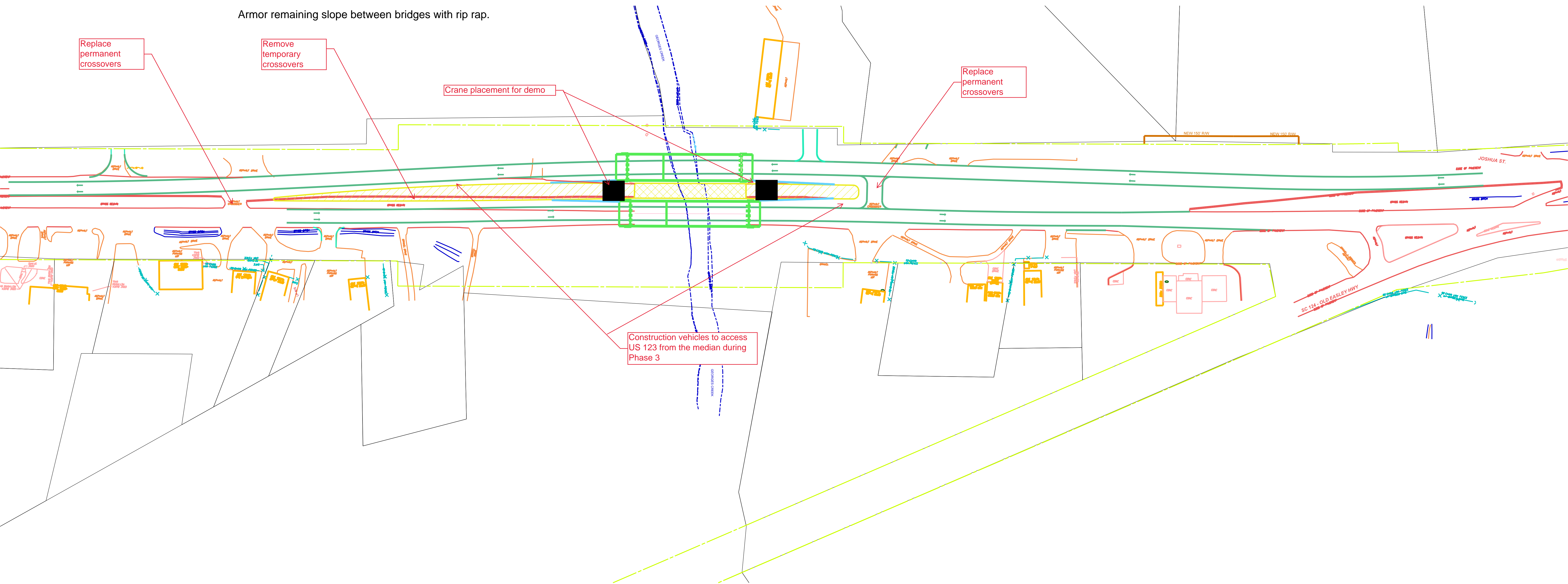
Remove temporary median crossovers.

Demolish existing NBL bridge.

Complete final grading in median.

Construct permanent median crossovers.

Armor remaining slope between bridges with rip rap.



SC 183 Bridge Replacement over Twelvemile Creek - Construction Phasing

Phase 1 Construction:

- Behind existing guardrail and/or temporary concrete barrier, place earthwork.
- Construct Phase 1 bridge.
- Extend culvert upstream.
- Relocate Holder Knob Road.
- Complete final grading and guardrail.
- Pave temporary roadway alignment.

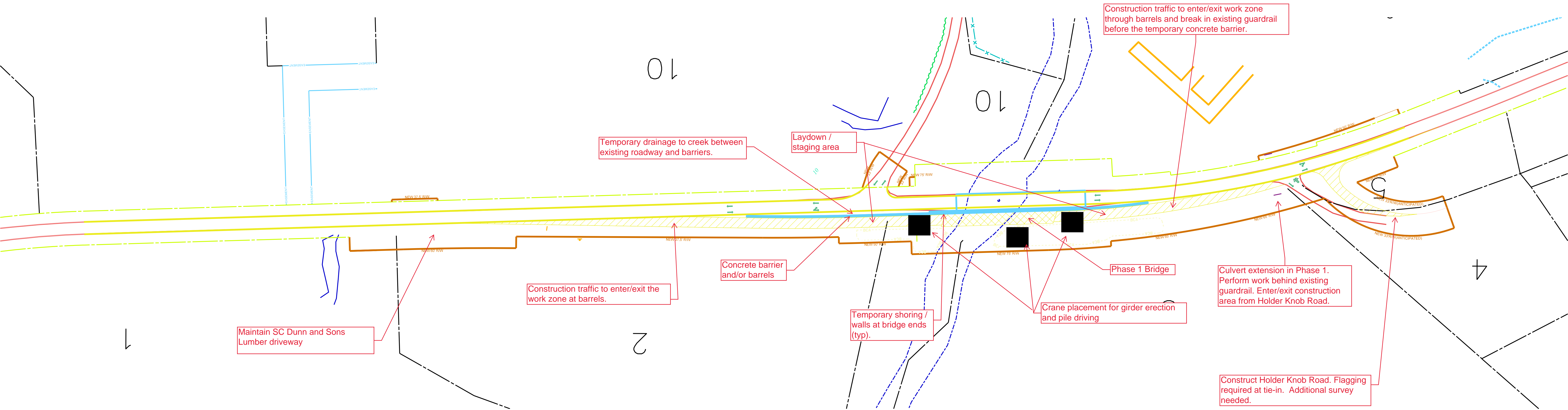
Utilizing flaggers and single lane closures, move traffic from existing condition to temporary pattern.

The existing driveway in construction zone that is to be retained (SC Dunn & Sons Lumber) will be maintained throughout construction at existing location and grade.

No areas are deemed critical by the Team for staging concerns.

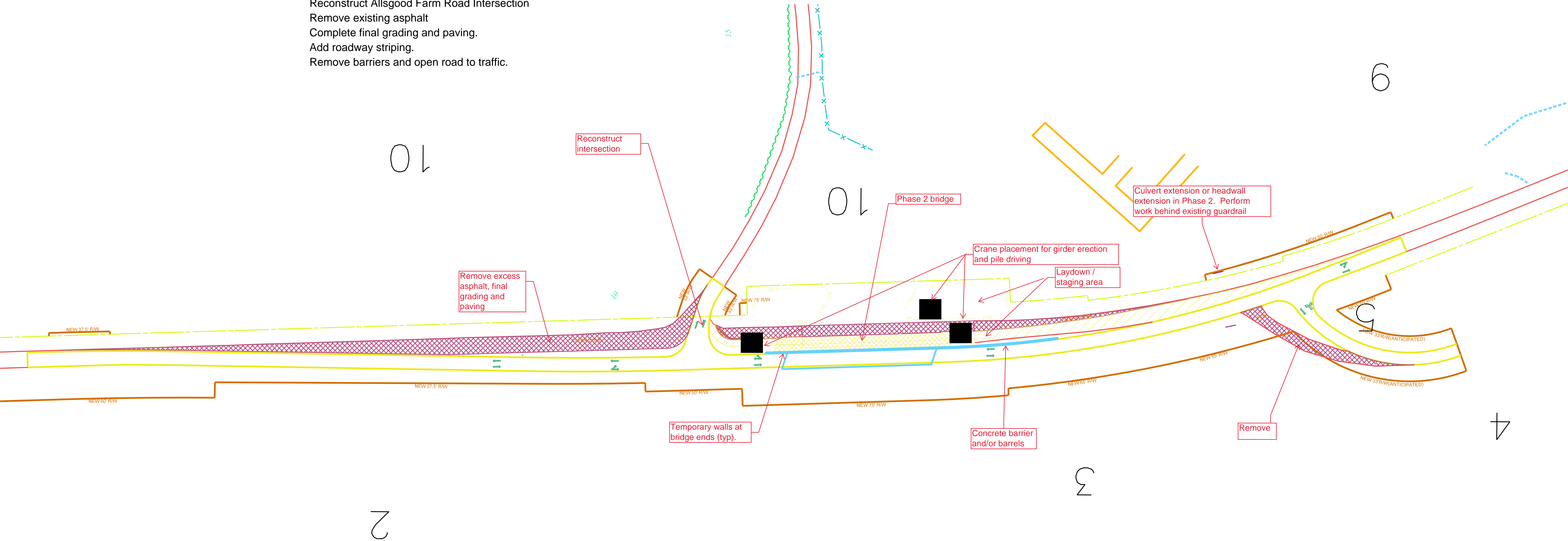
Temporary drainage will be developed in final design, but generally will flow along the roadway (temporary and permanent) to the creek.

Public notifications will be presented in the Public Information Plan



SC 183 Bridge Replacement over Twelvemile Creek - Construction Phasing

- Phase 2 Construction:
- Demolish existing bridge.
 - Remove excess fill under structure
 - Construct Phase 2 bridge
 - Place closure pour.
 - Reconstruct Allsgood Farm Road Intersection
 - Remove existing asphalt
 - Complete final grading and paving.
 - Add roadway striping.
 - Remove barriers and open road to traffic.



SC 183 Bridge Replacement over Gregory Creek - Construction Phasing

- Phase 1 Construction:
- Behind existing guardrail and/or temporary concrete barrier, place earthwork.
 - Construct Phase 1 bridge.
 - Complete final grading and guardrail.
 - Pave temporary roadway alignment.

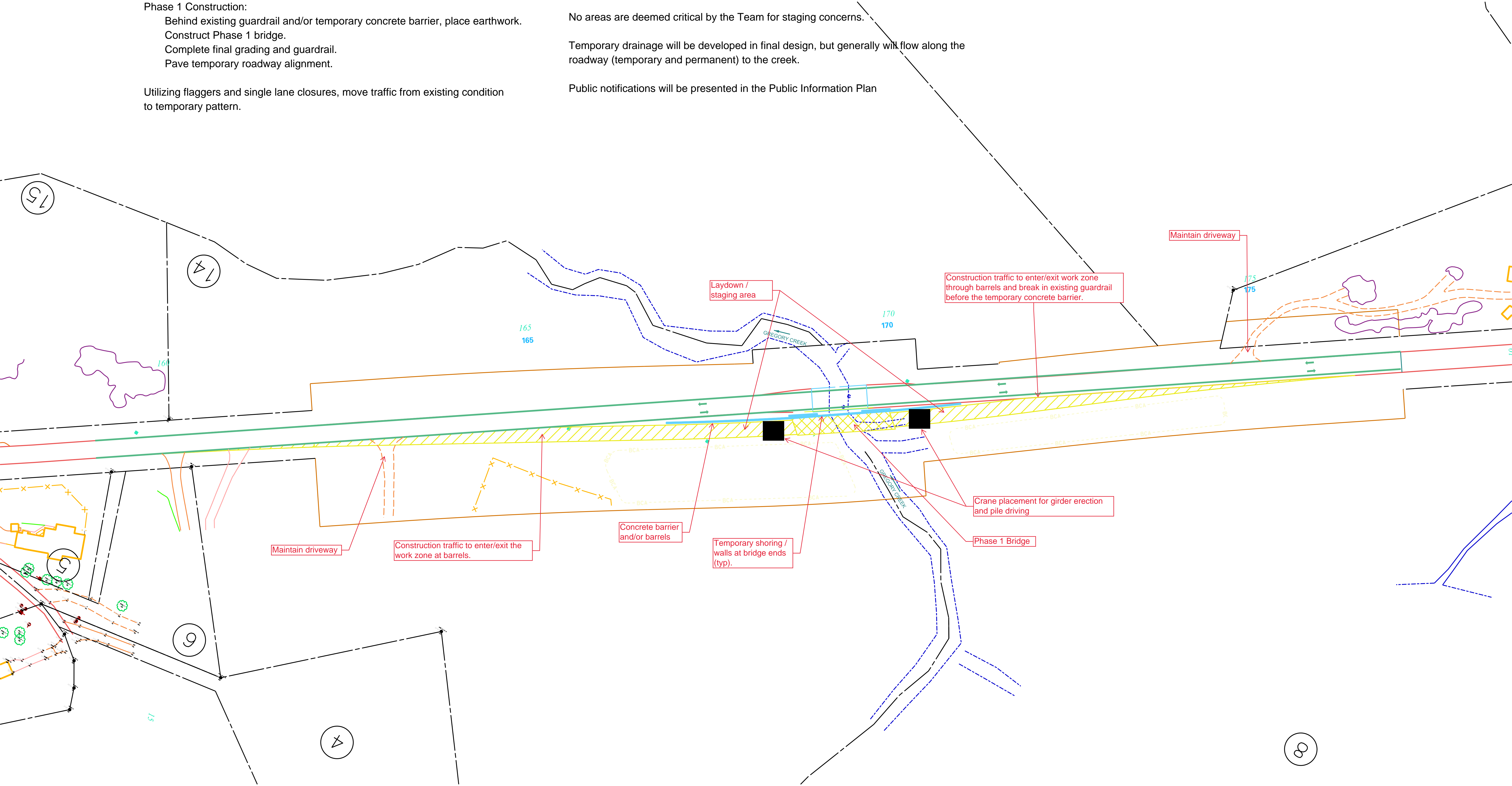
Utilizing flaggers and single lane closures, move traffic from existing condition to temporary pattern.

All existing driveways in construction zone are near the ends of construction and will be maintained throughout construction at existing location and grade.

No areas are deemed critical by the Team for staging concerns.

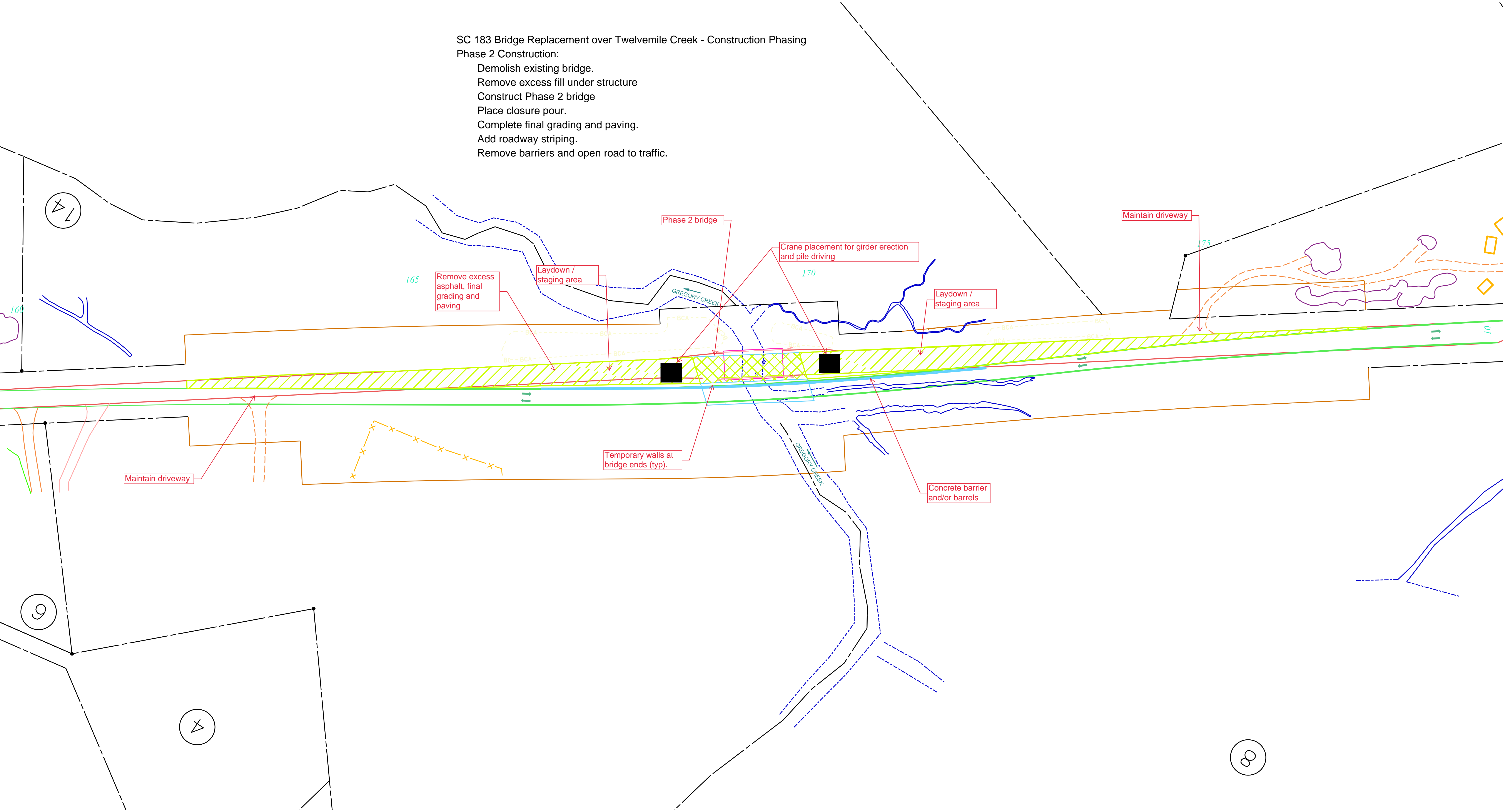
Temporary drainage will be developed in final design, but generally will flow along the roadway (temporary and permanent) to the creek.

Public notifications will be presented in the Public Information Plan



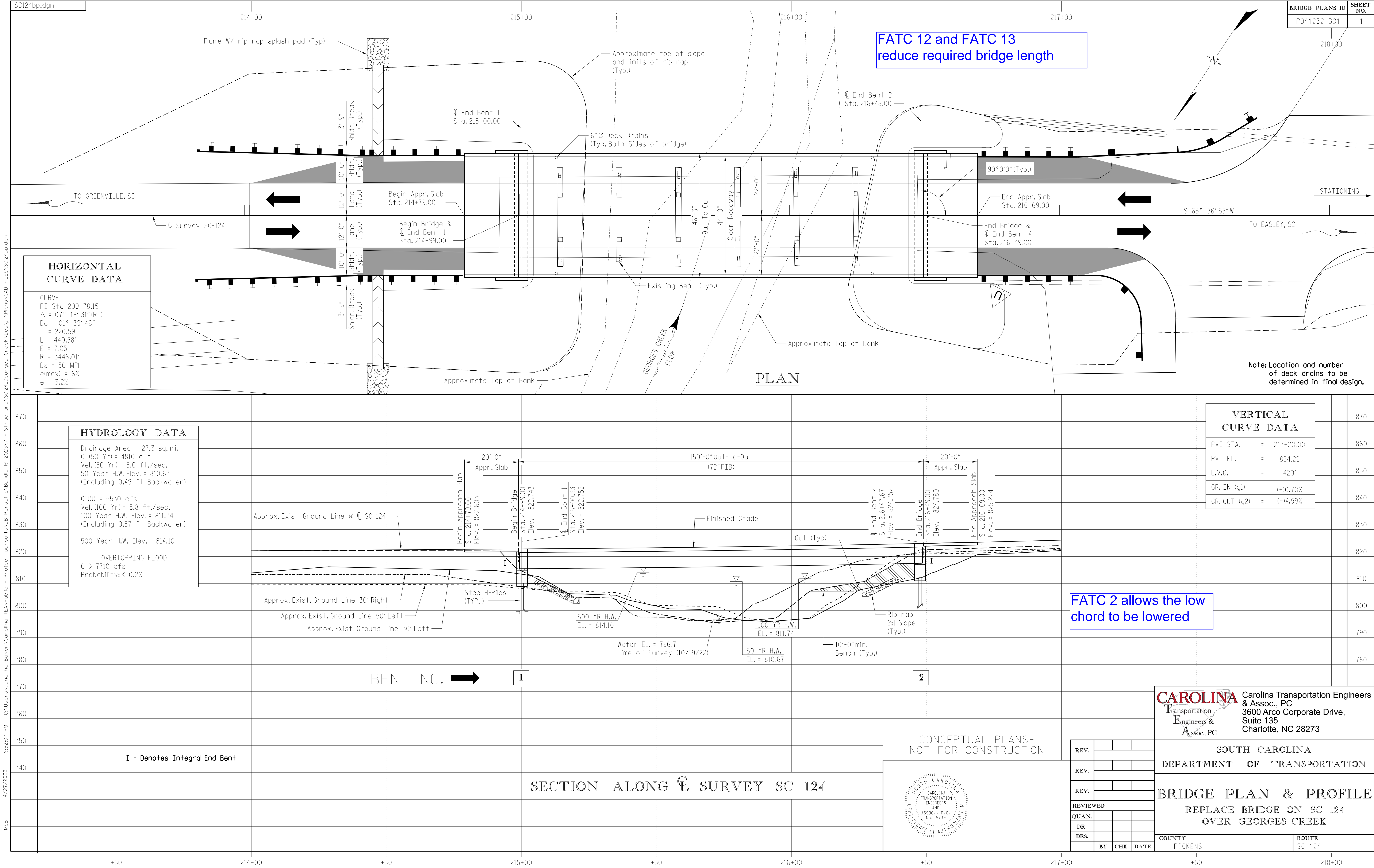
SC 183 Bridge Replacement over Twelvemile Creek - Construction Phasing

- Phase 2 Construction:
- Demolish existing bridge.
 - Remove excess fill under structure
 - Construct Phase 2 bridge
 - Place closure pour.
 - Complete final grading and paving.
 - Add roadway striping.
 - Remove barriers and open road to traffic.



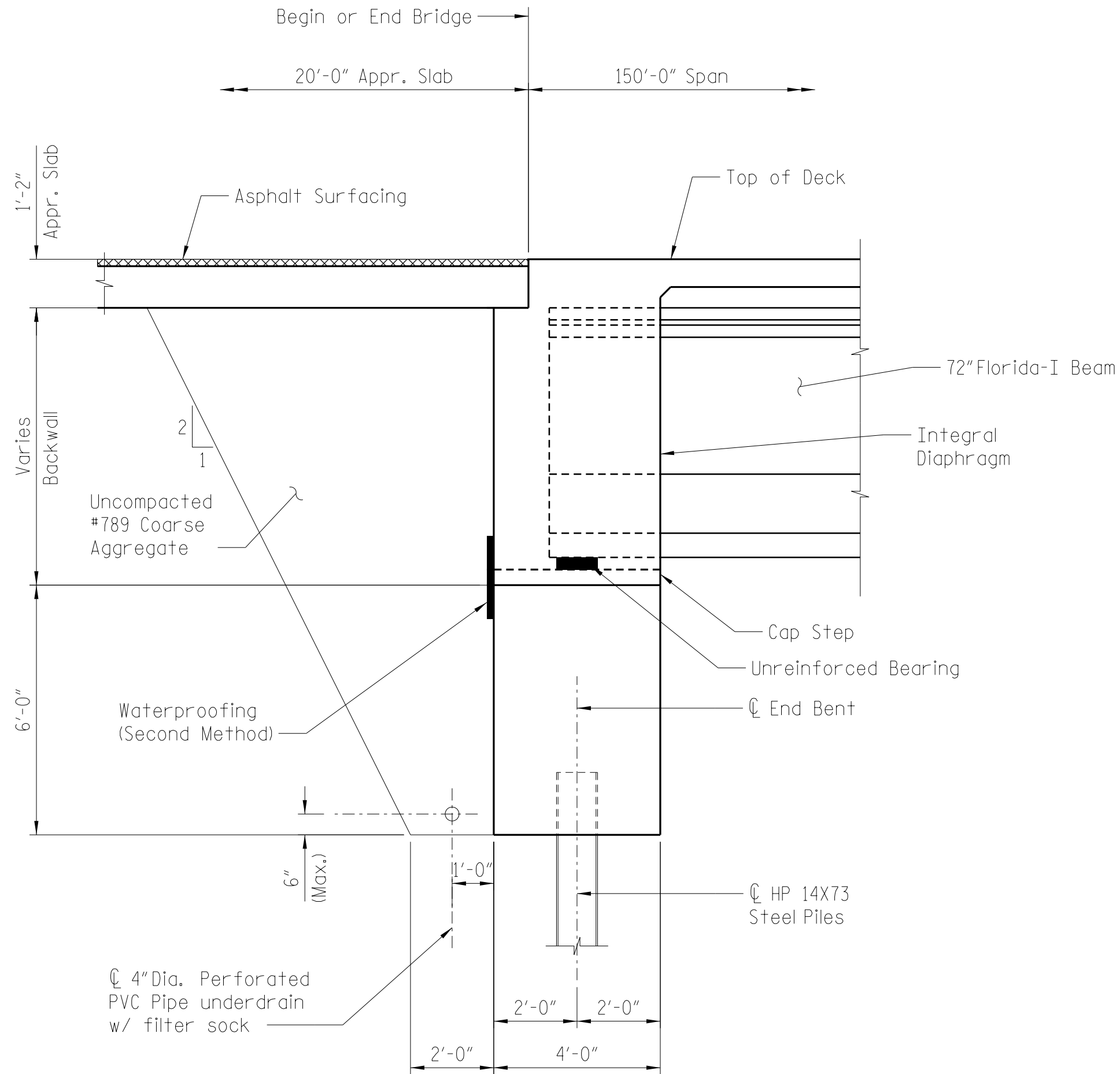
Appendix A – Bridge Plans
SCDOT Design Build Project
Bridge Package 16 DB Project
Contract ID 3962240



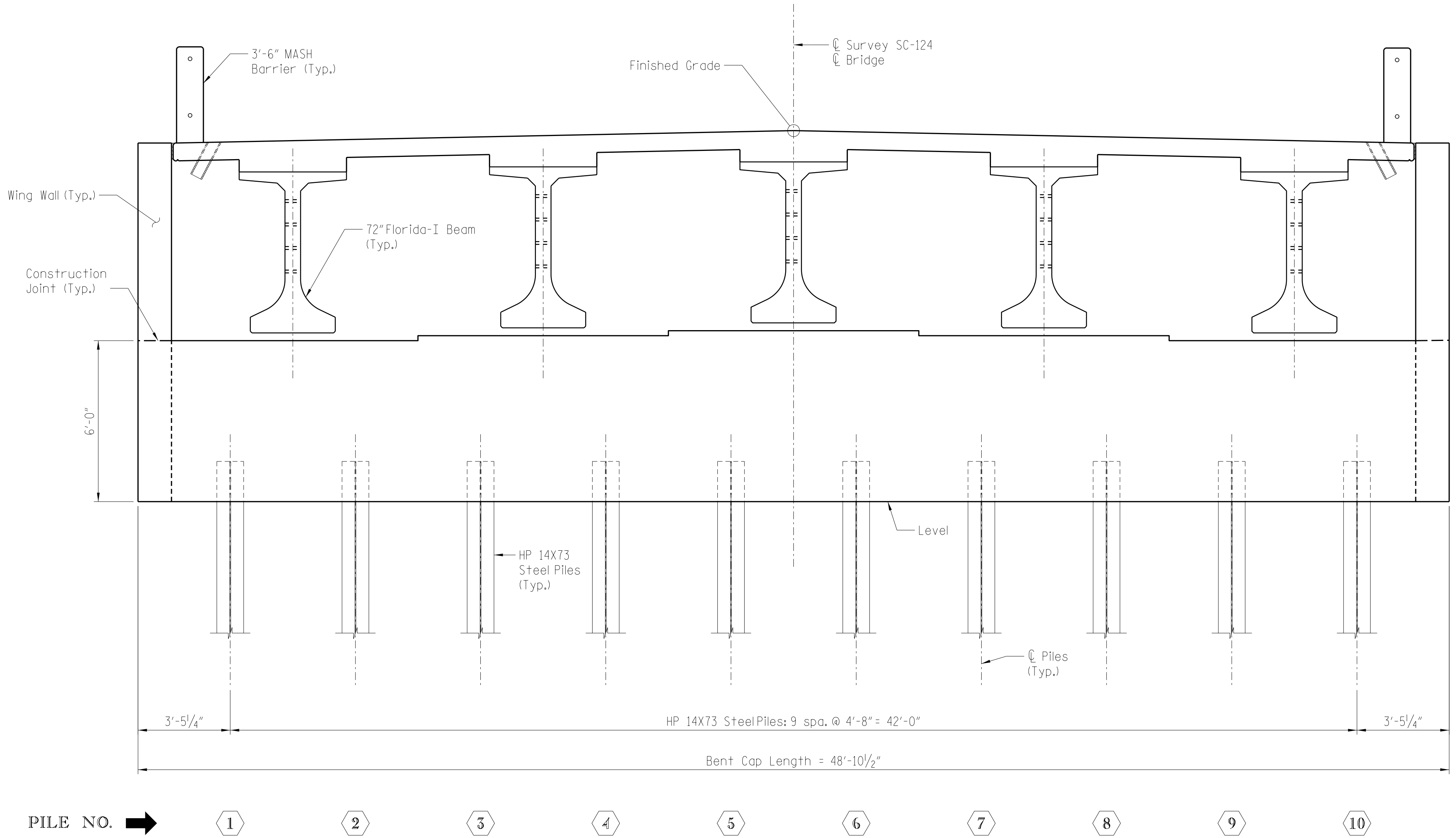


C:\Users\JonathanBaker\Carolina TEA Public - Project pursuits\OB Pursuits\Bundled 16 2023\17 - Structure\SC124 Georges Creek\Design\Plans\CAD FILES\SC124eb.dgn 4/26/19 PM 4/27/2023 MSB

BRIDGE PLANS ID	SHEET NO.
P041232-B01	2

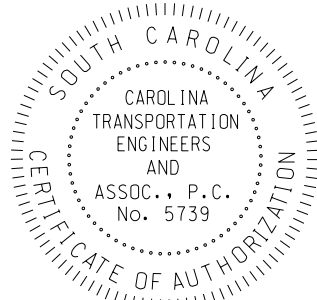


SECTION AT END BENTS
(EB1 Shown, EB2 Similar)



ELEVATION

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NOT FOR CONSTRUCTION



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REVIEWED			
QUAN.			
DR.			
DES.			
BY	CHK.	DATE	

CAROLINA
Transportation
Engineers &
Assoc., PC

Carolina Transportation Engineers
& Assoc., PC
3600 Arco Corporate Drive,
Suite 135
Charlotte, NC 28273

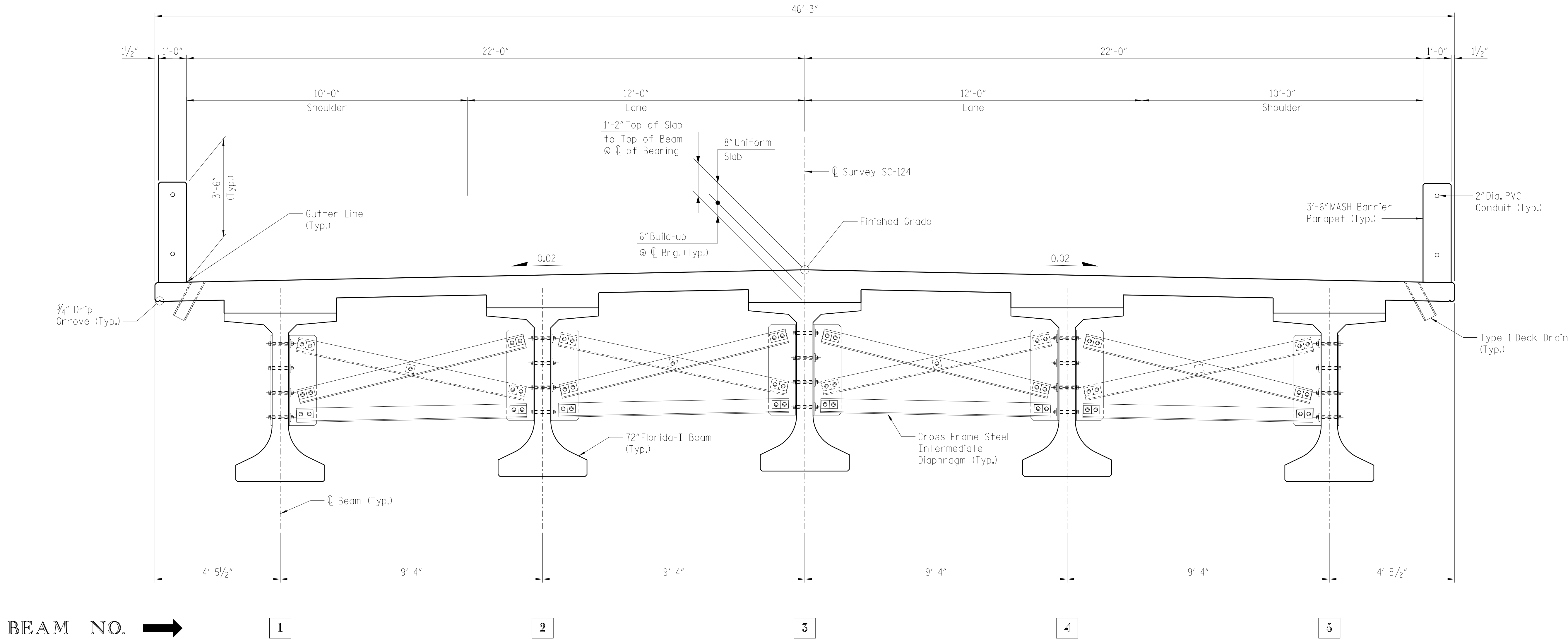
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

END BENT DETAILS
REPLACE BRIDGE OVER
GEORGES CREEK

COUNTY PICKENS ROUTE SC 124

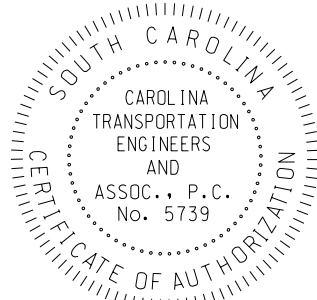
C:\Users\JonathanBaker\Carolina TEA Public - Project pursuits\OB Pursuits\Bundled 16 2023\17 - Structure\SC124 Georges Creek\Design\Plans\CAD FILES\SC124ss.dgn 6/5/2026 PM 4/27/2023 MSB

BRIDGE PLANS ID	SHEET NO.
P041232-B01	3



TYPICAL SECTION

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NOT FOR CONSTRUCTION



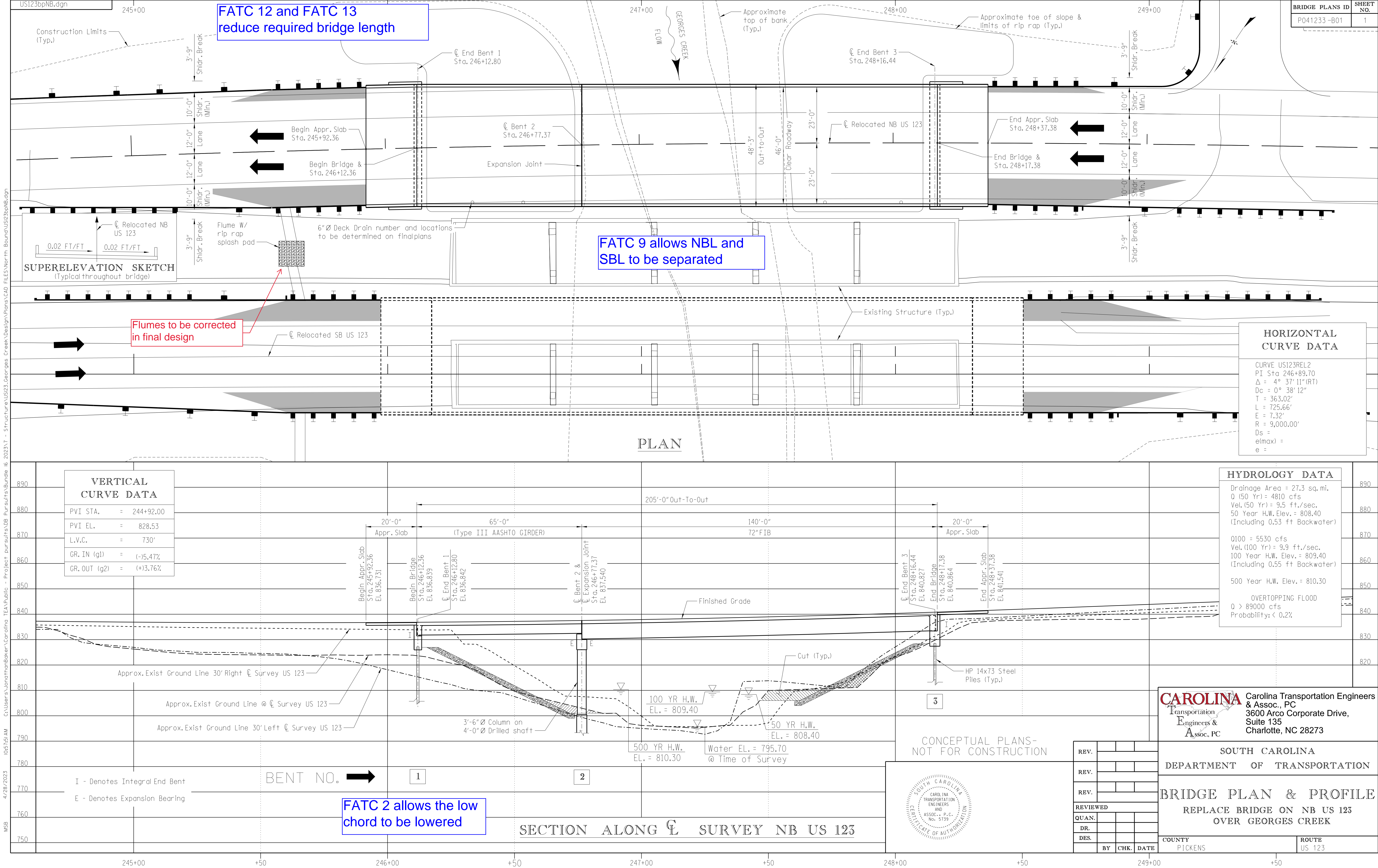
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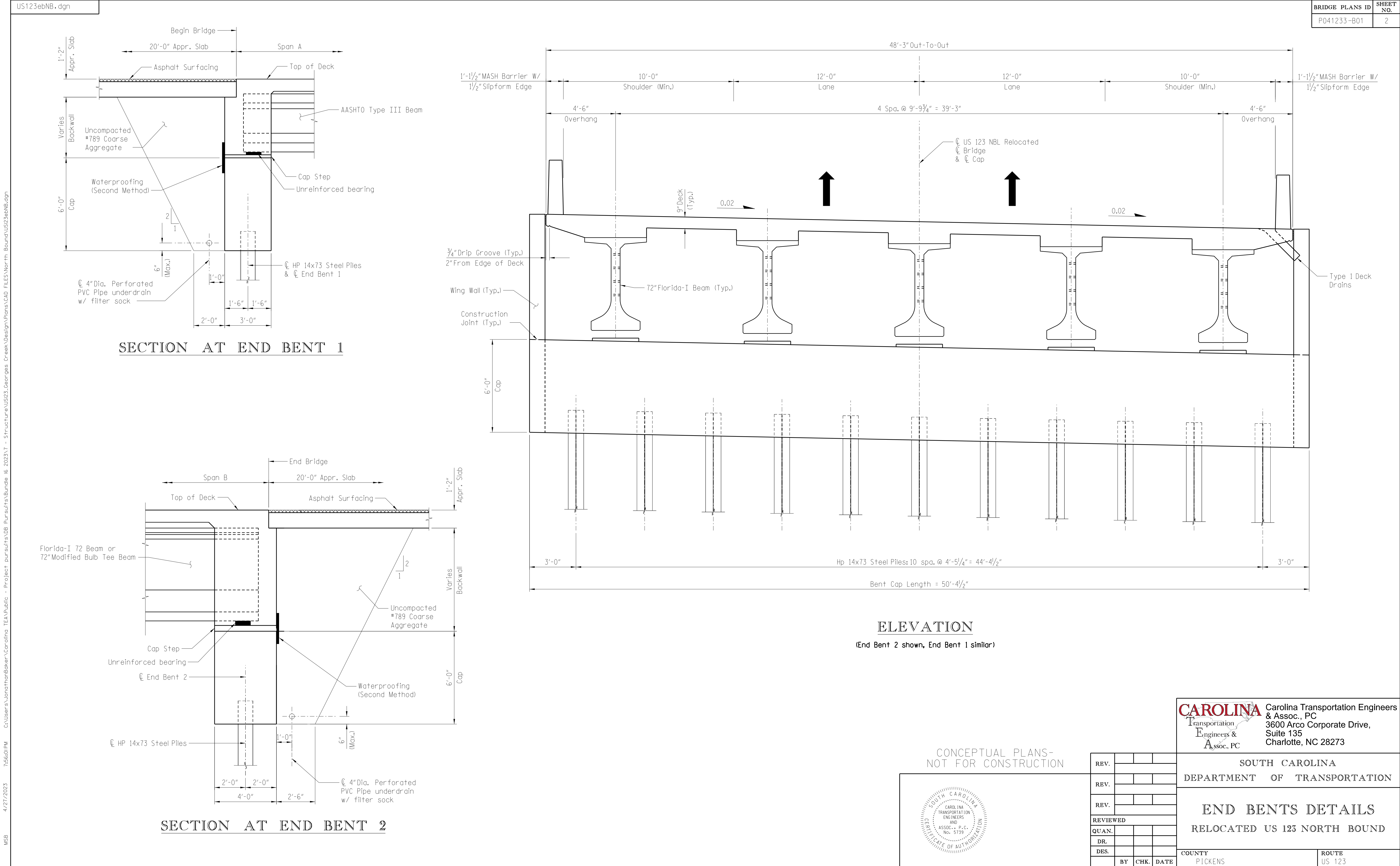
CAROLINA Carolina Transportation Engineers & Assoc., PC
3600 Arco Corporate Drive,
Suite 135
Charlotte, NC 28273

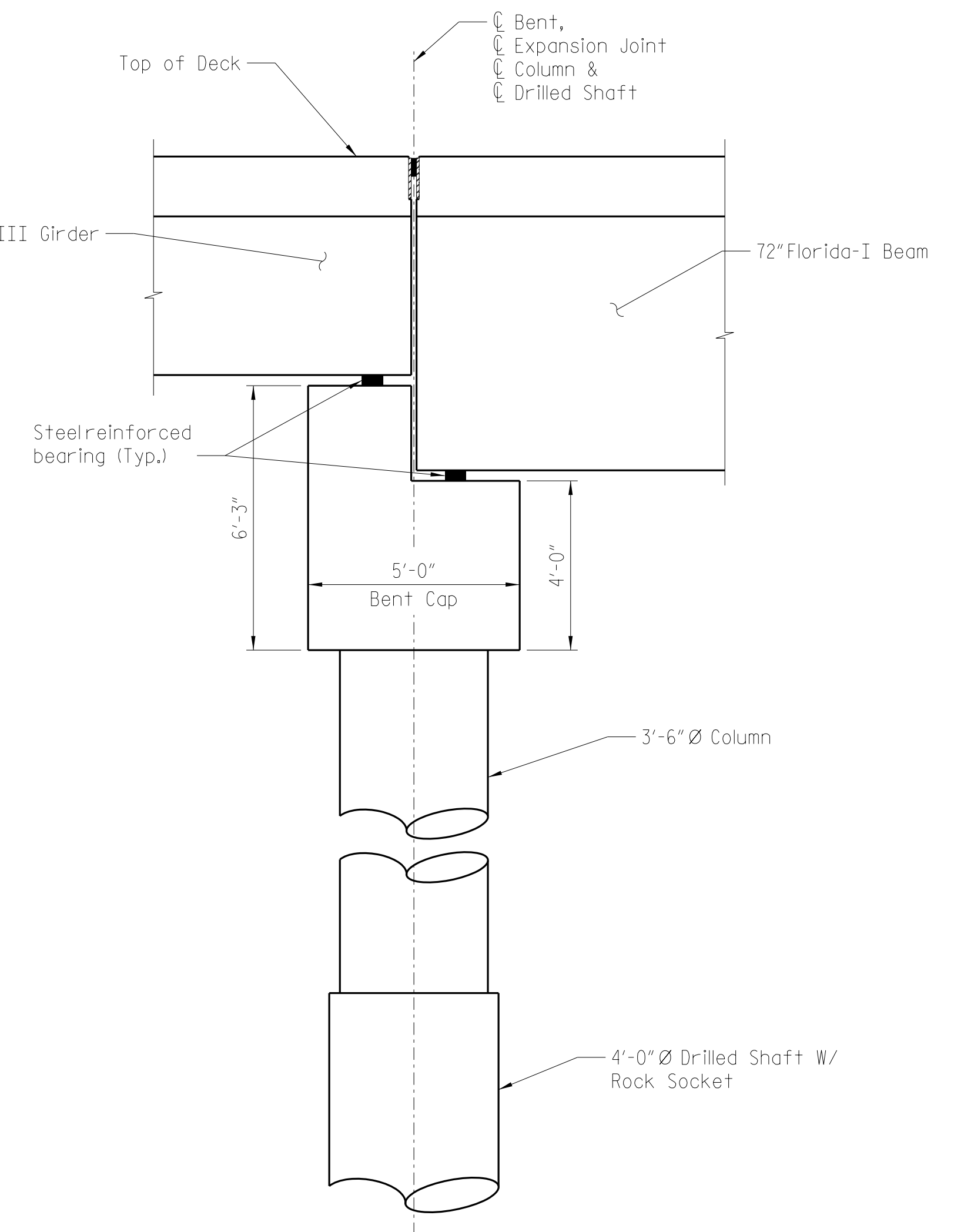
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION
REPLACE BRIDGE OVER
GEORGES CREEK

COUNTY PICKENS ROUTE SC 124



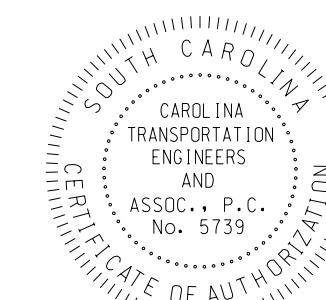




SECTION AT INTERIOR BENT 2

(Span A shown, Span B similar)
(Looking in direction of stationing
(72" Florida-I Beam not shown for clarity))

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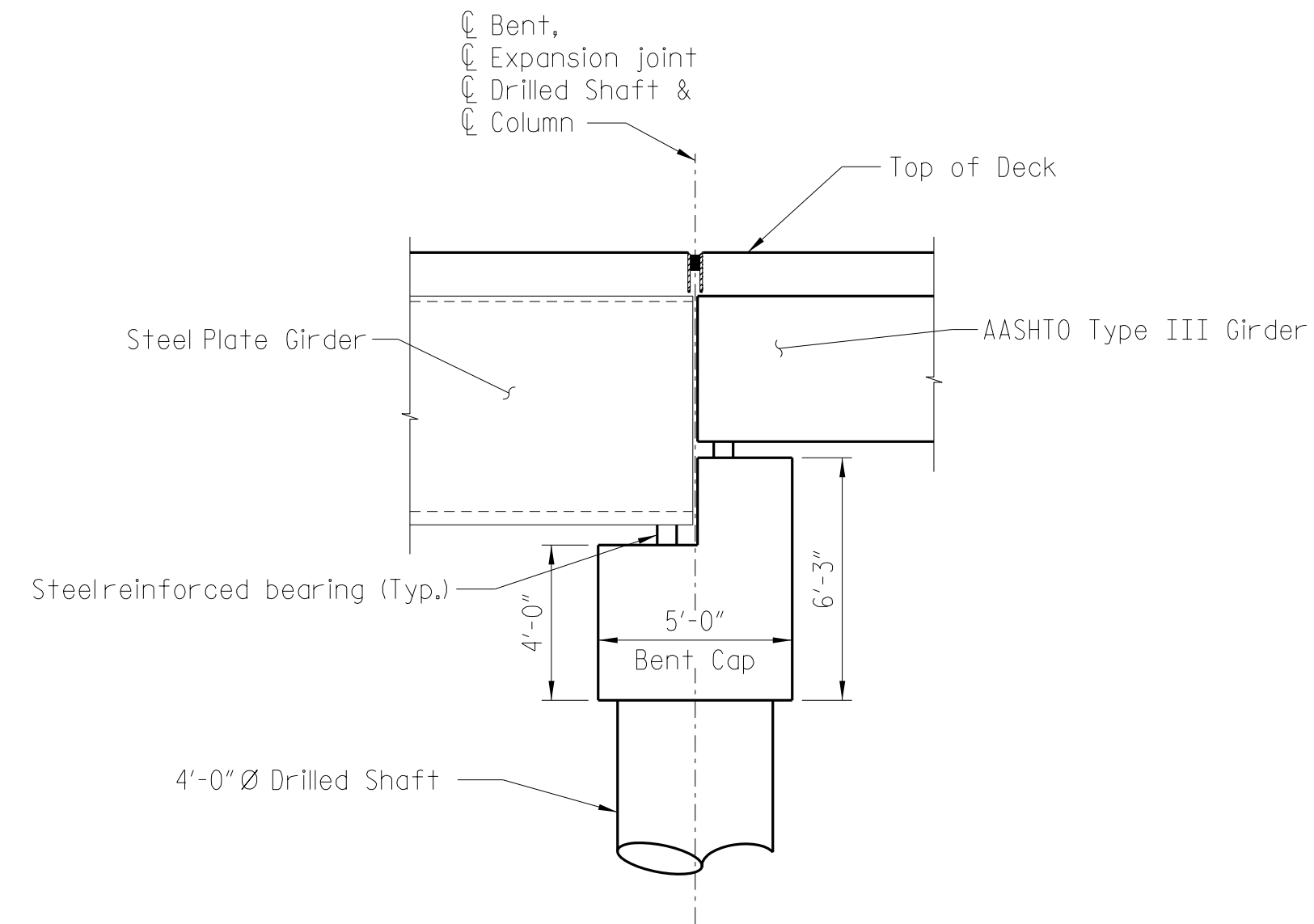
CAROLINA
Transportation
Engineers &
Assoc., PC

Carolina Transportation Engineers
& Assoc., PC
3600 Arco Corporate Drive,
Suite 135
Charlotte, NC 28273

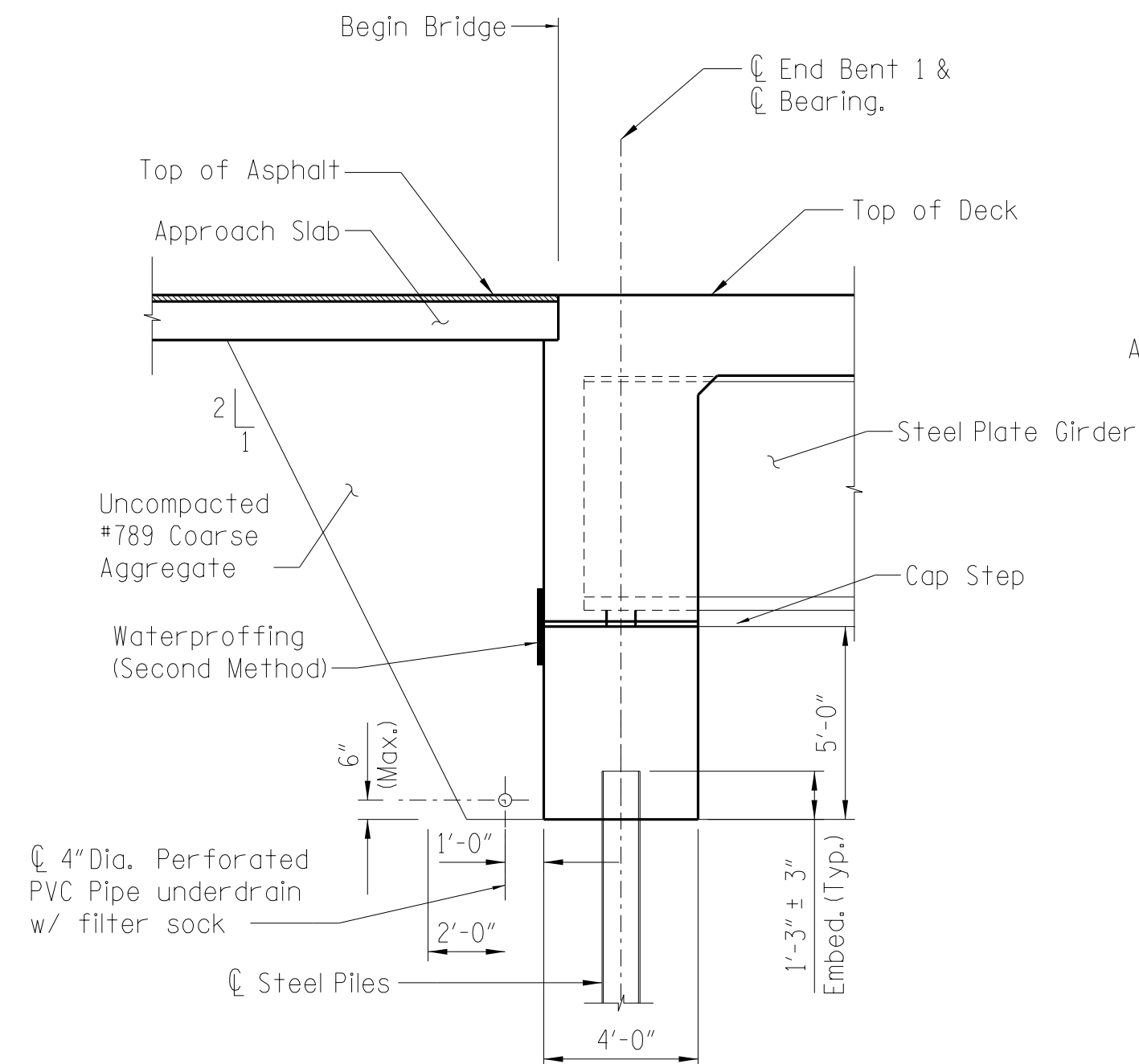
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION
RELOCATED US 123 NORTH BOUND

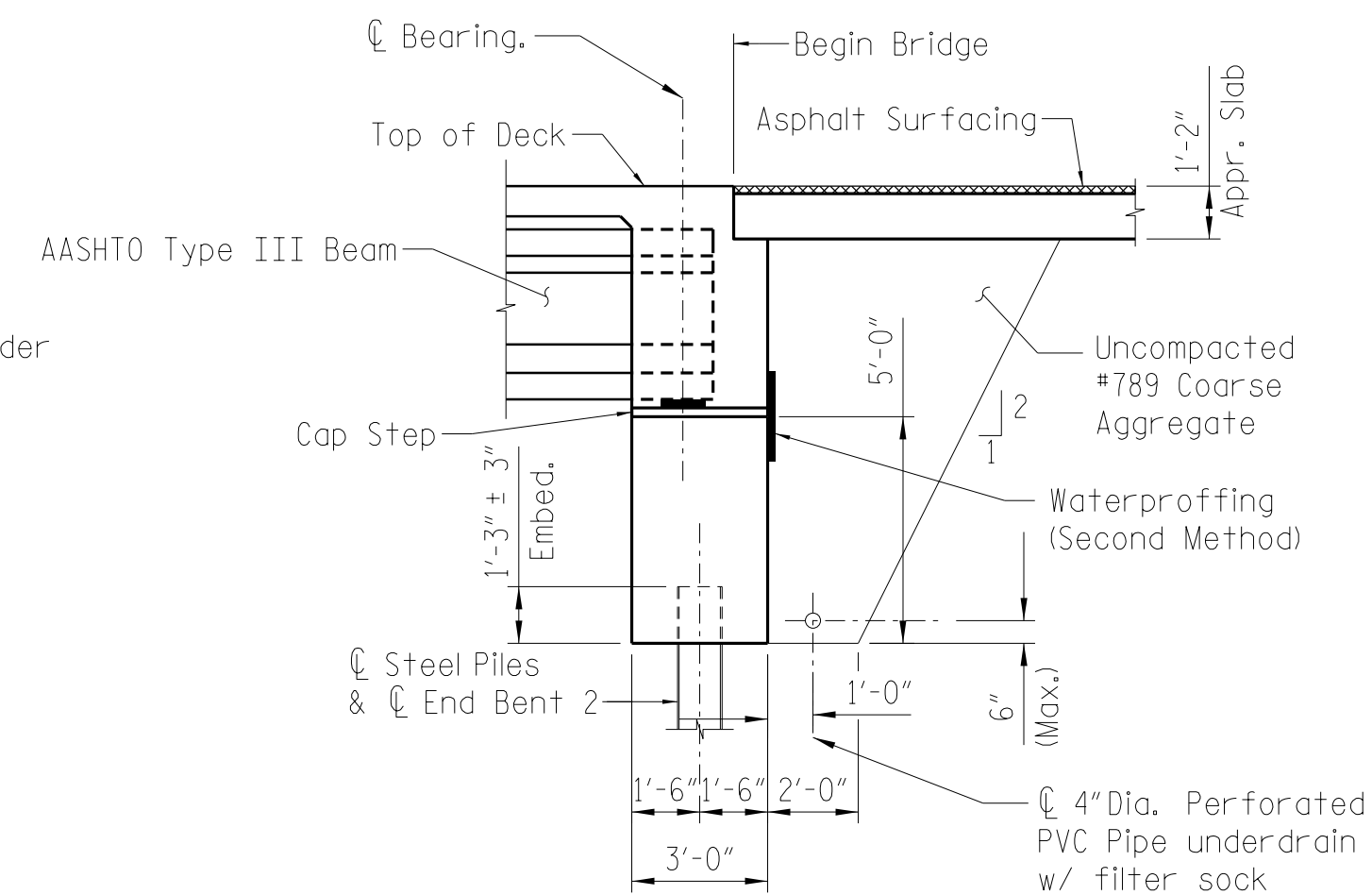
COUNTY	ROUTE
PICKENS	US 123



ELEVATION AT INTERIOR BENT

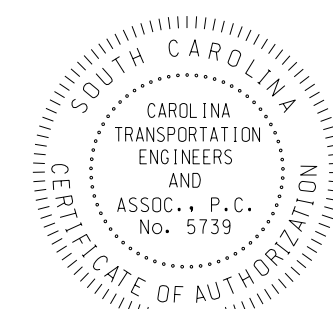


ELEVATION AT END BENT 1



ELEVATION AT END BENT 2

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NOT FOR CONSTRUCTION



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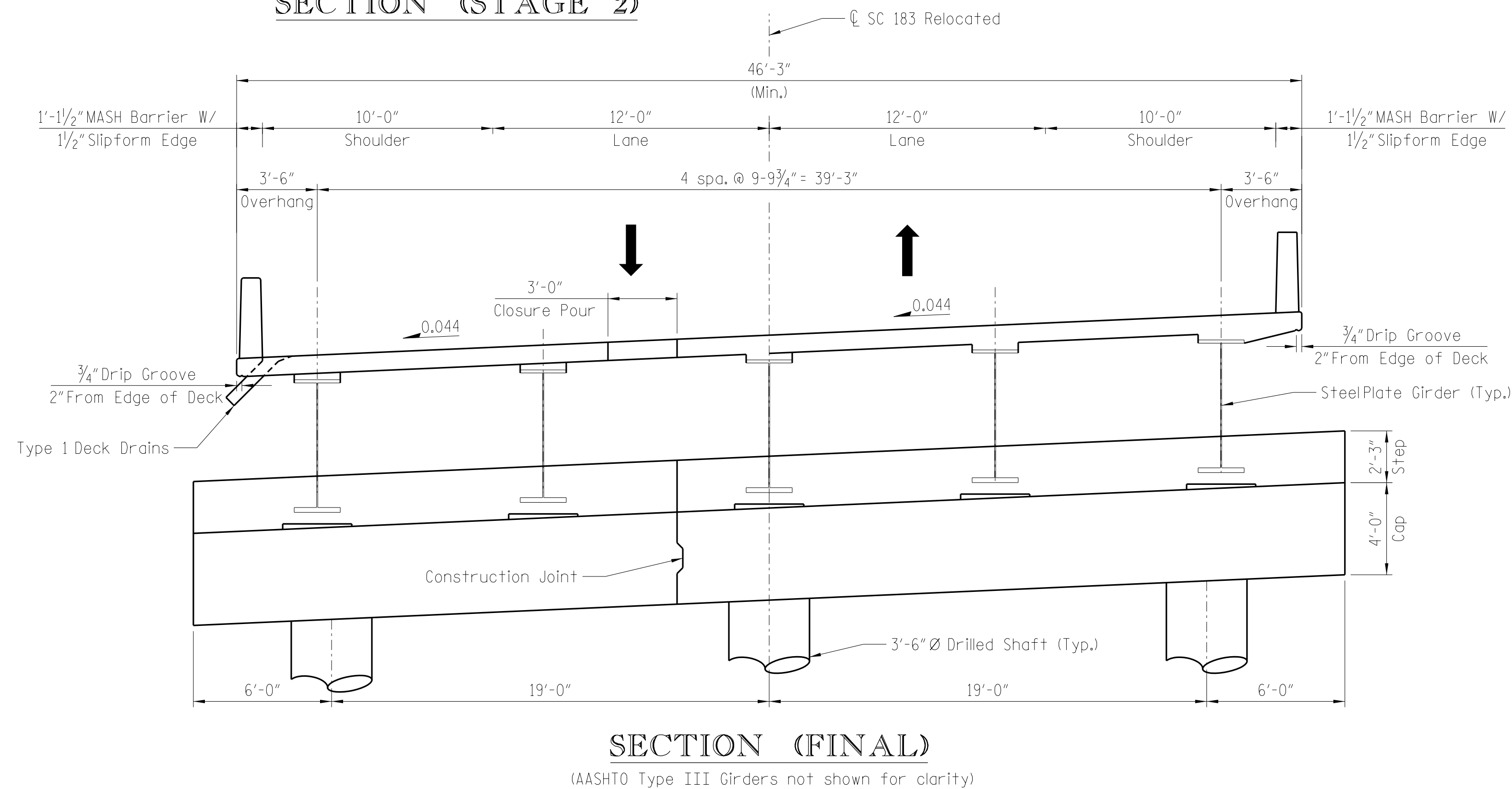
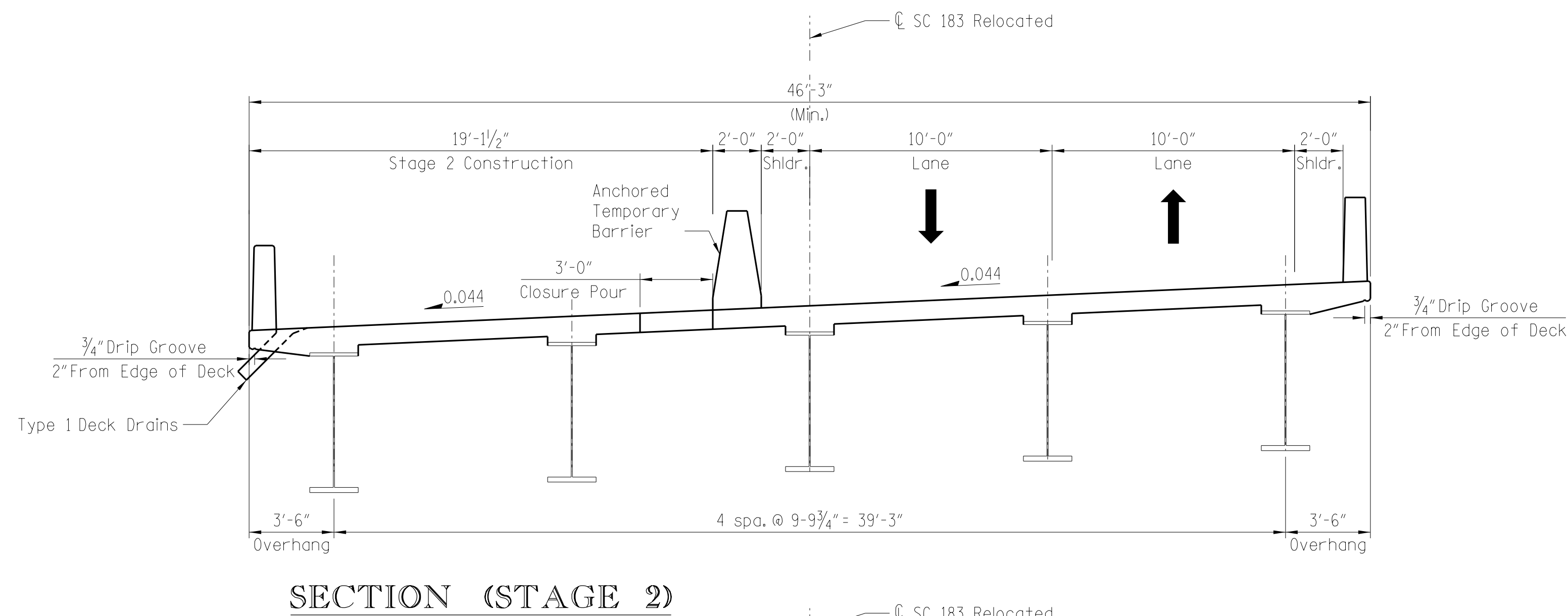
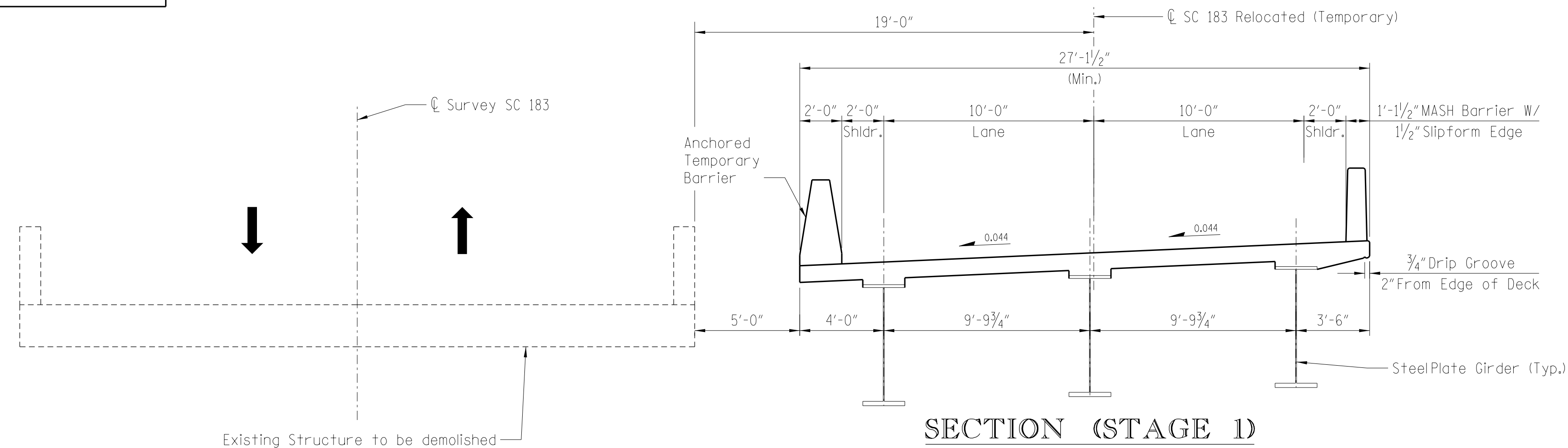
CAROLINA
Transportation
Engineers &
Assoc., PC

Carolina Transportation Engineers
& Assoc., PC
3600 Arco Corporate Drive,
Suite 135
Charlotte, NC 28273

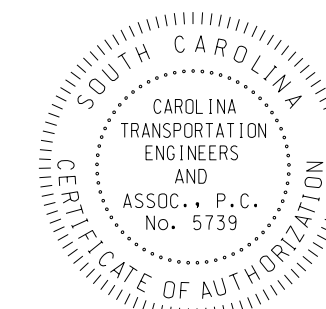
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BENTS
RELOCATED SC 183 OVER
TWELVE MILE CREEK

COUNTY	ROUTE
PICKENS	SC 183



CONCEPTUAL PLANS-
NOT FOR CONSTRUCTION



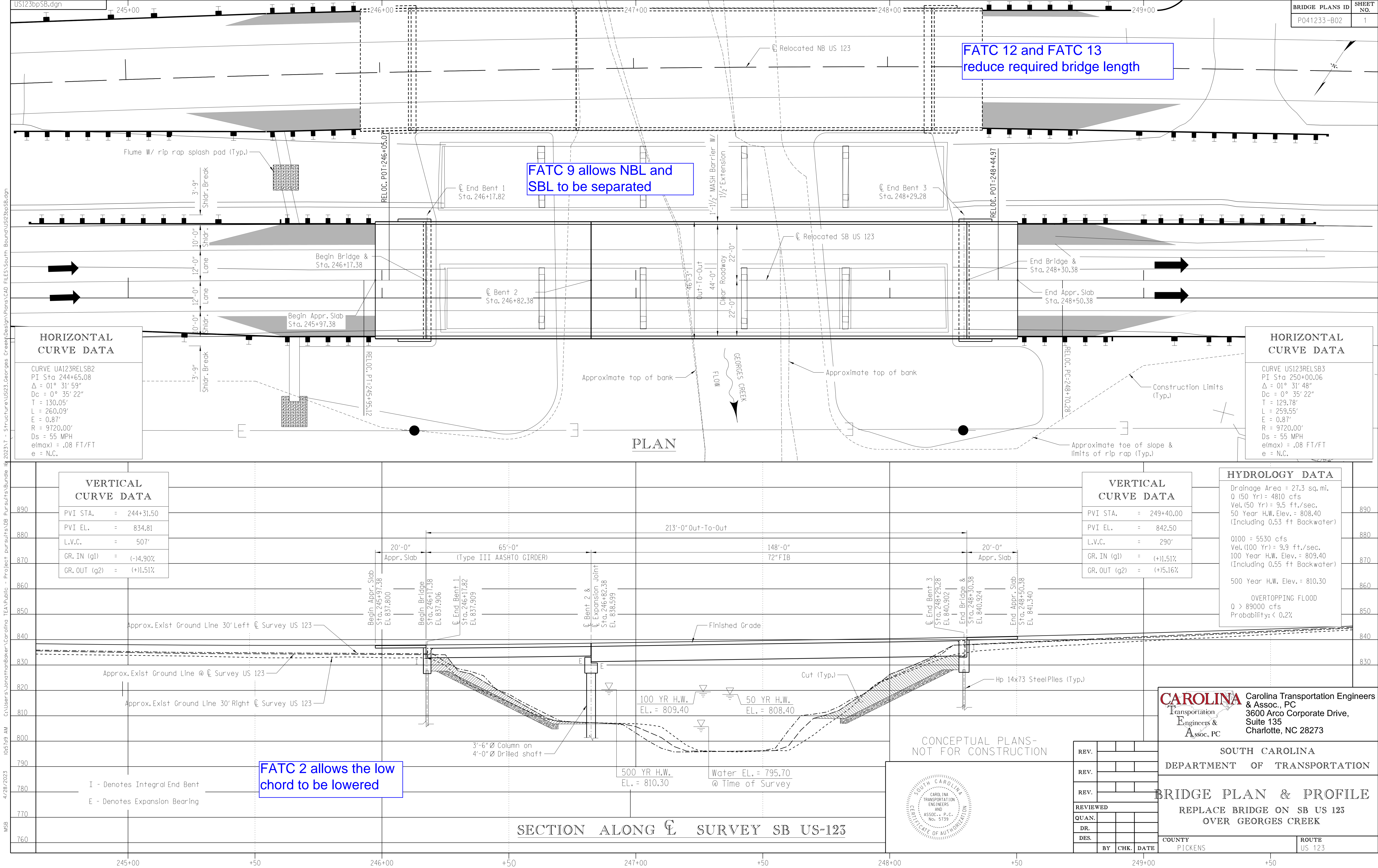
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DR.			
DES.			
	BY	CHK.	DATE

CAROLINA Transportation Engineers & Assoc., PC
3600 Arco Corporate Drive,
Suite 135
Charlotte, NC 28273

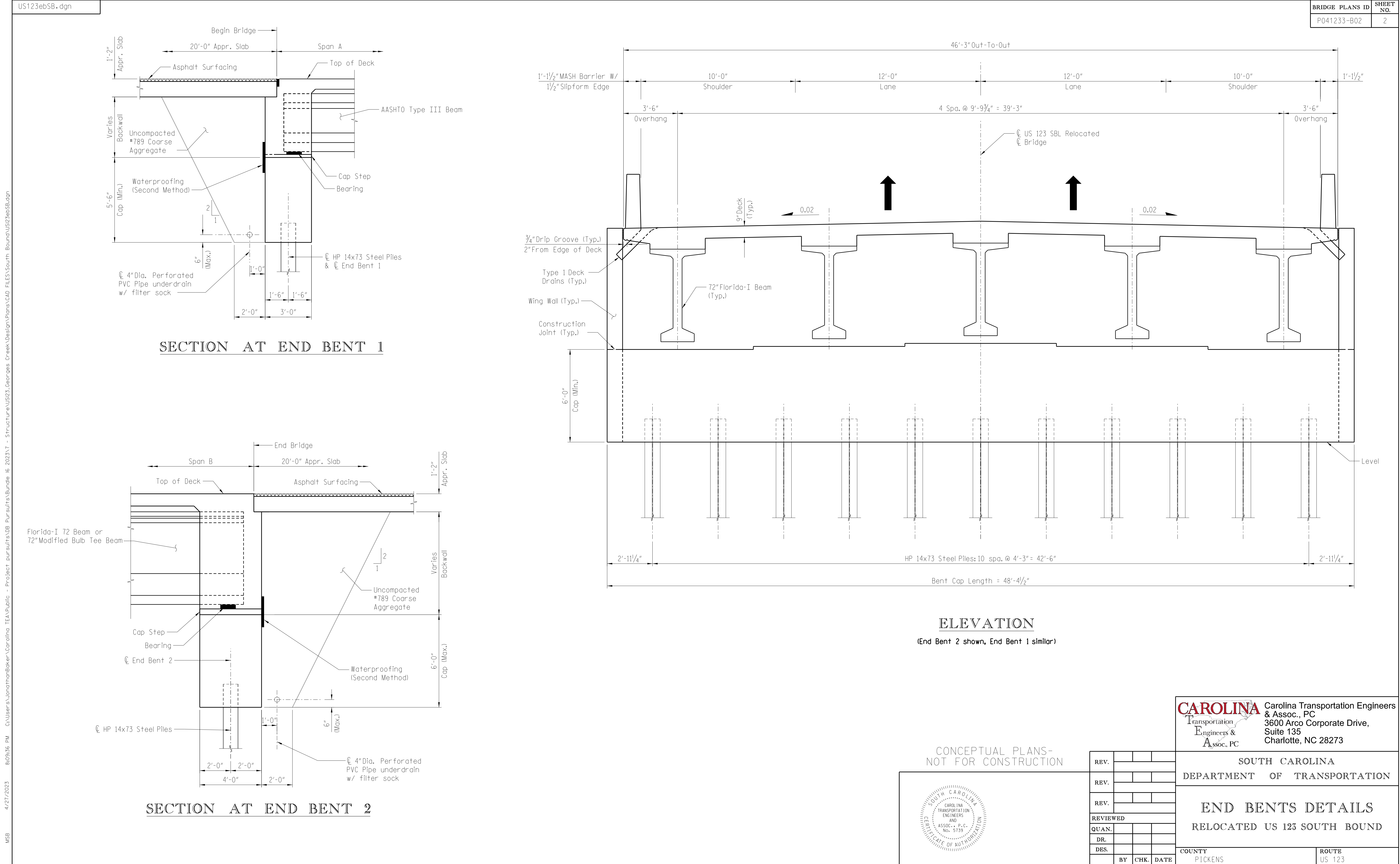
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

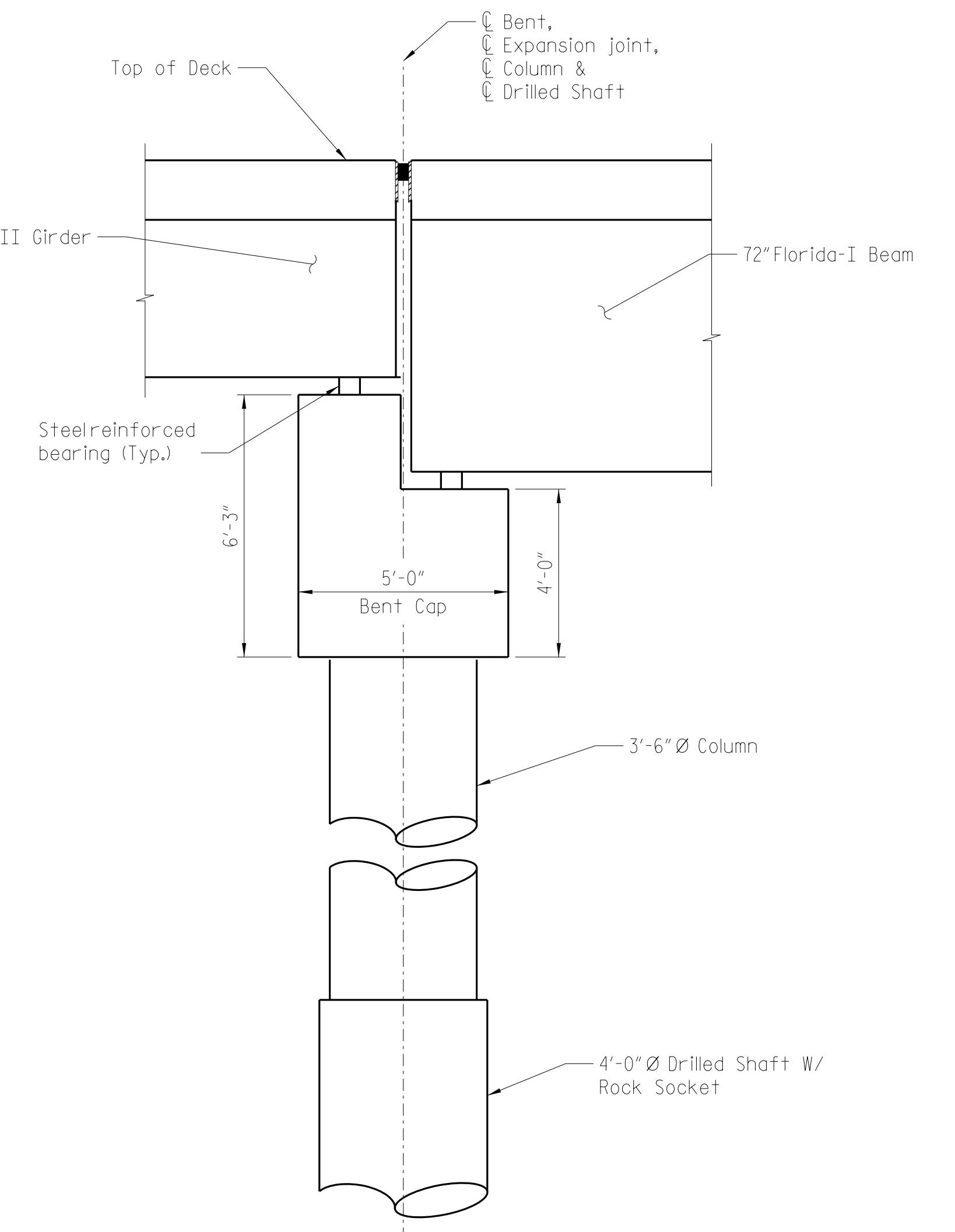
STAGES OF
CONSTRUCTION
RELOCATED SC 183 OVER
TWELVE MILE CREEK

COUNTY	ROUTE
PICKENS	SC 183



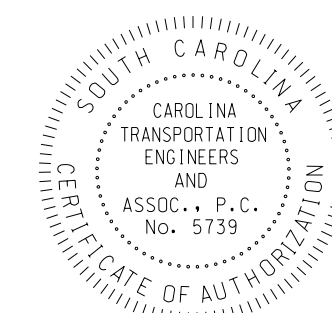
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(Span A shown, Span B similar)
(Looking in direction of stationing)
(72" Florida-I Beam not shown for clarity)

CONCEPTUAL PLANS-
NOT FOR CONSTRUCTION



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	BY	CHK.	DATE	

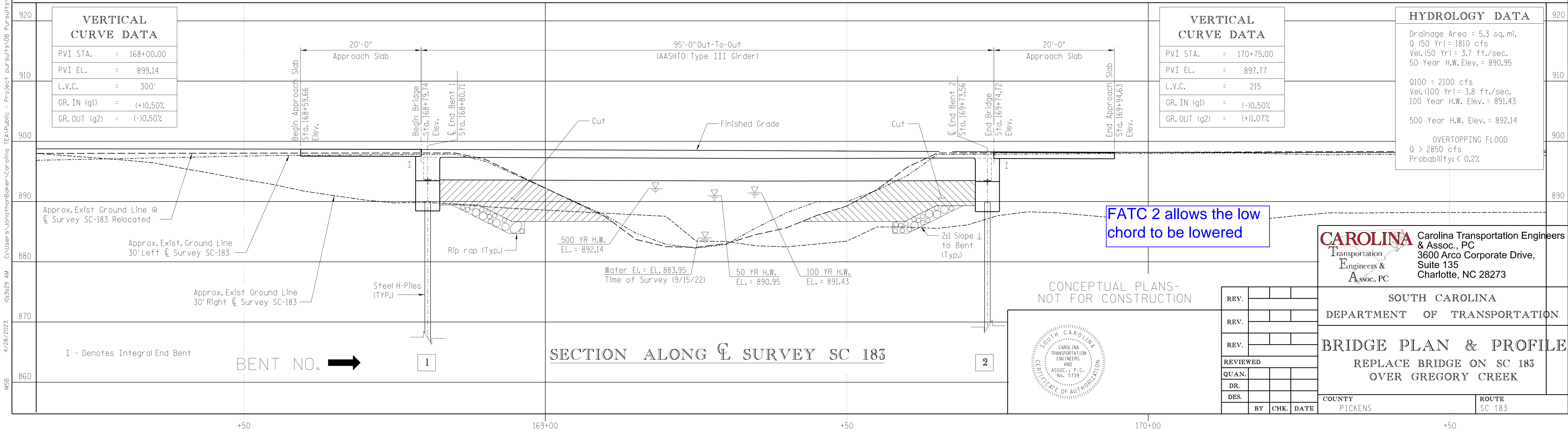
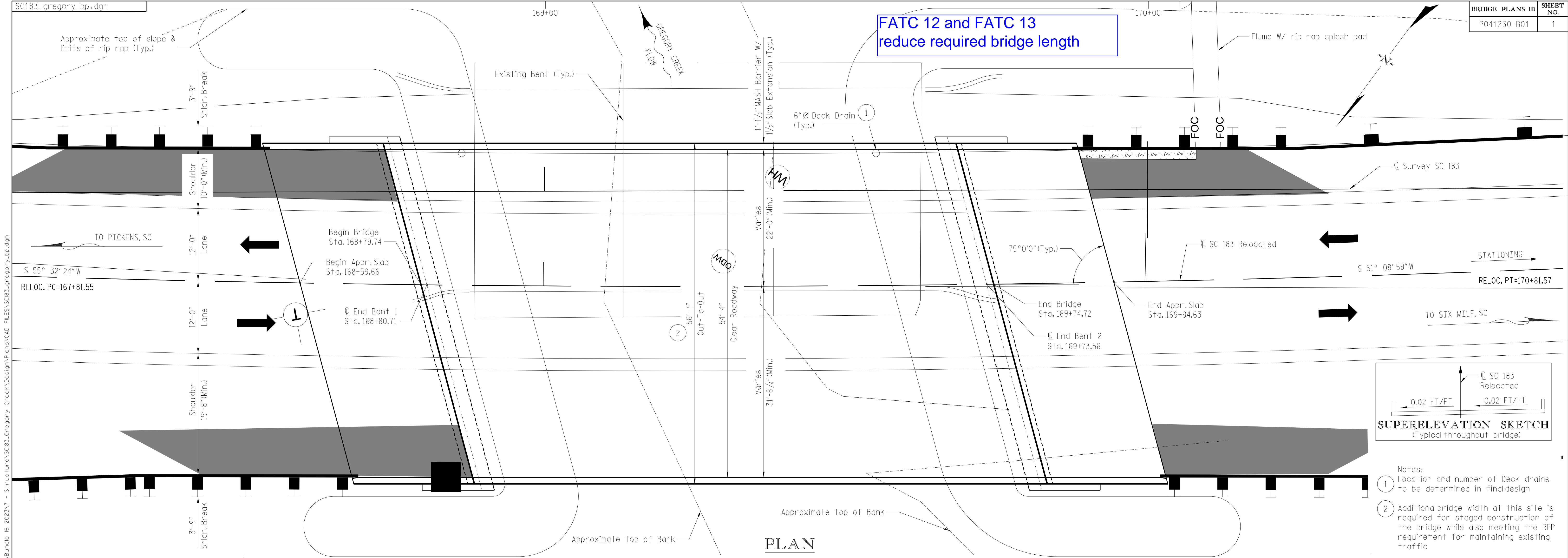
CAROLINA
Transportation
Engineers &
Assoc., PC

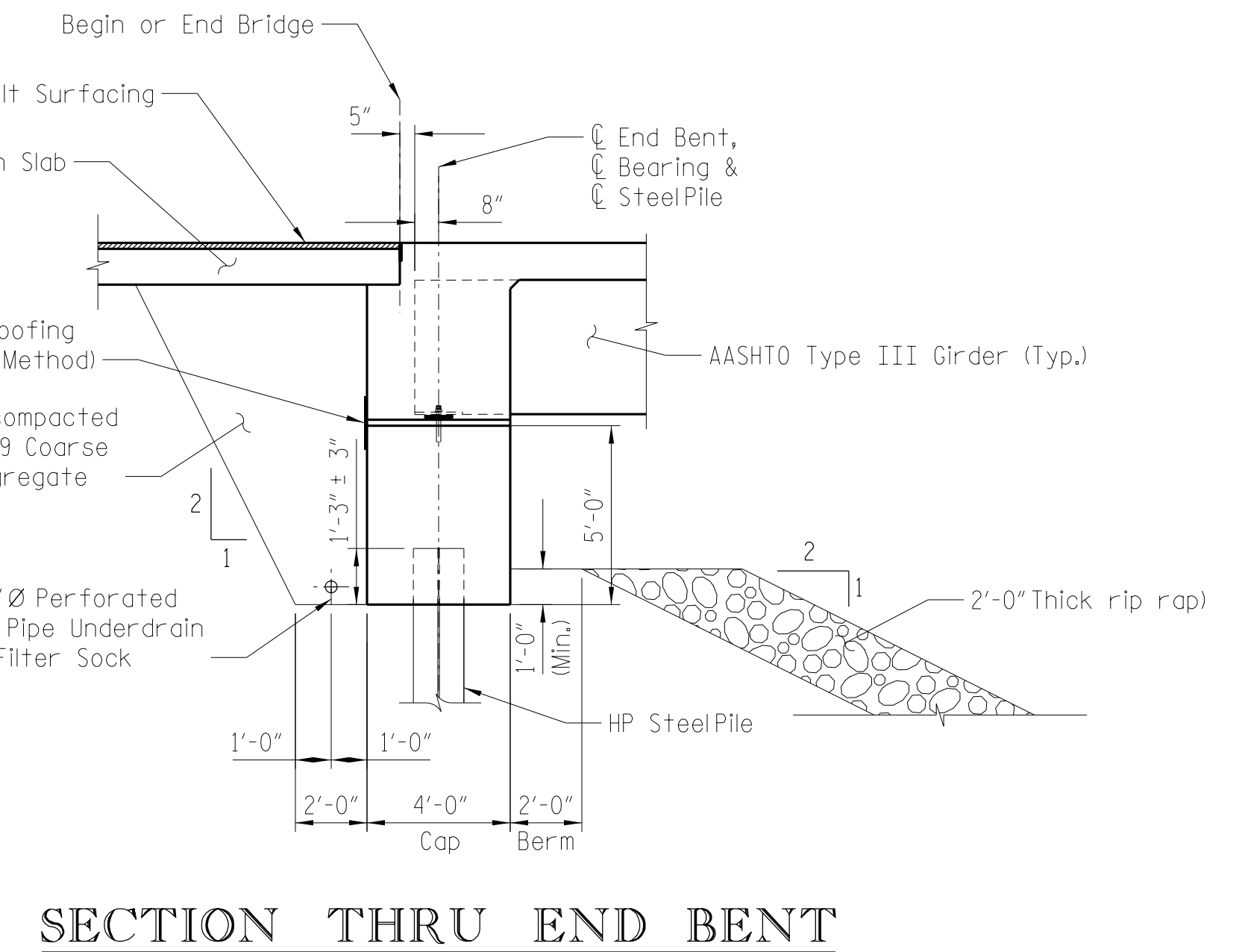
Carolina Transportation Engineers
& Assoc., PC
3600 Arco Corporate Drive,
Suite 135
Charlotte, NC 28273

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION
RELOCATED US 123 SOUTH BOUND

	COUNTY	ROUTE
E	PICKENS	US 123





A circular professional engineer seal for the State of South Carolina. The outer ring contains the text "SOUTH CAROLINA" at the top and "CERTIFICATE OF AUTHORIZATION" at the bottom, separated by small tick marks. The inner circle contains the text "CAROLINA TRANSPORTATION ENGINEERS AND ASSOC., P.C." and "No. 5739".

REV.			
REV.			
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REVIEWED			
QUAN.			
DR.			
DES.			
	BY	CHK.	DATE

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

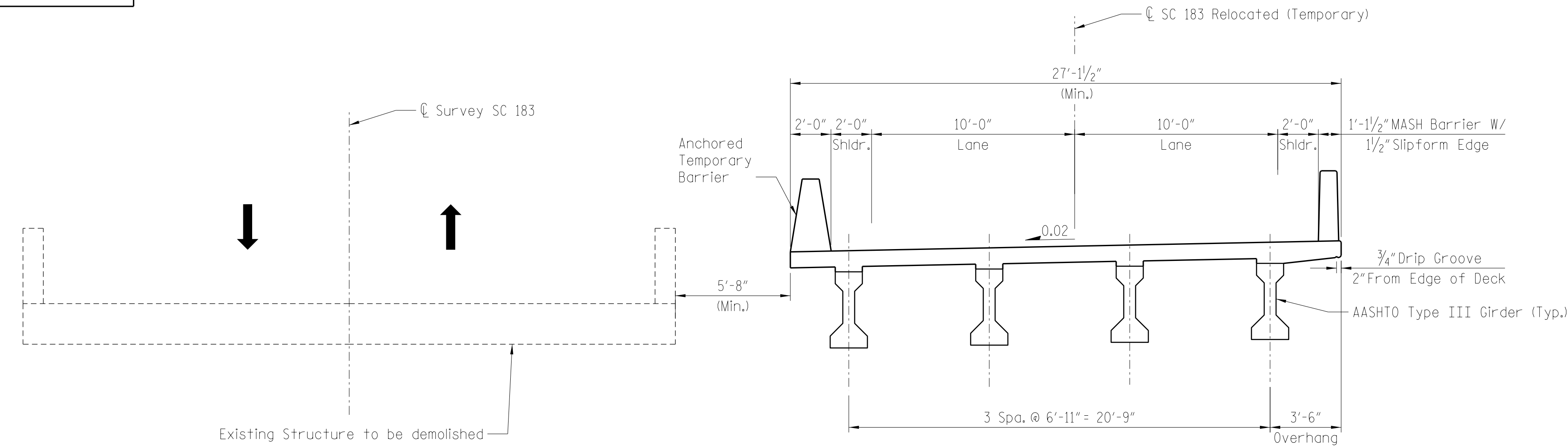
END BENTS
RELOCATED SC 183 OVER
GREGORY CREEK

COUNTY	ROUTE
PICKENS	SC 183

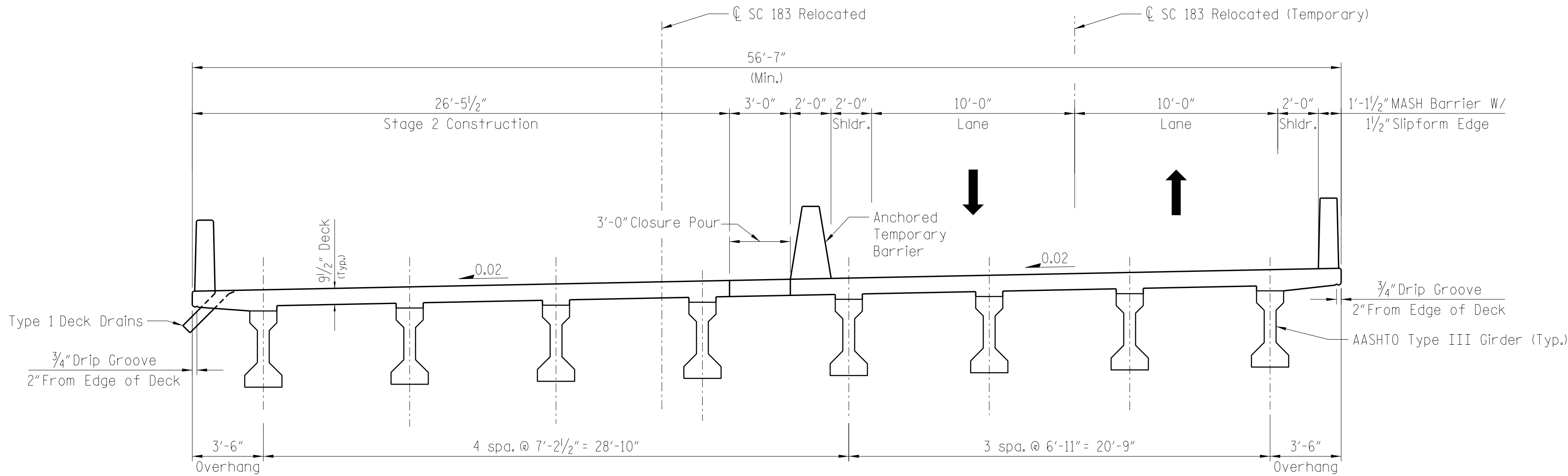
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SC183_gregory.sc.dgn

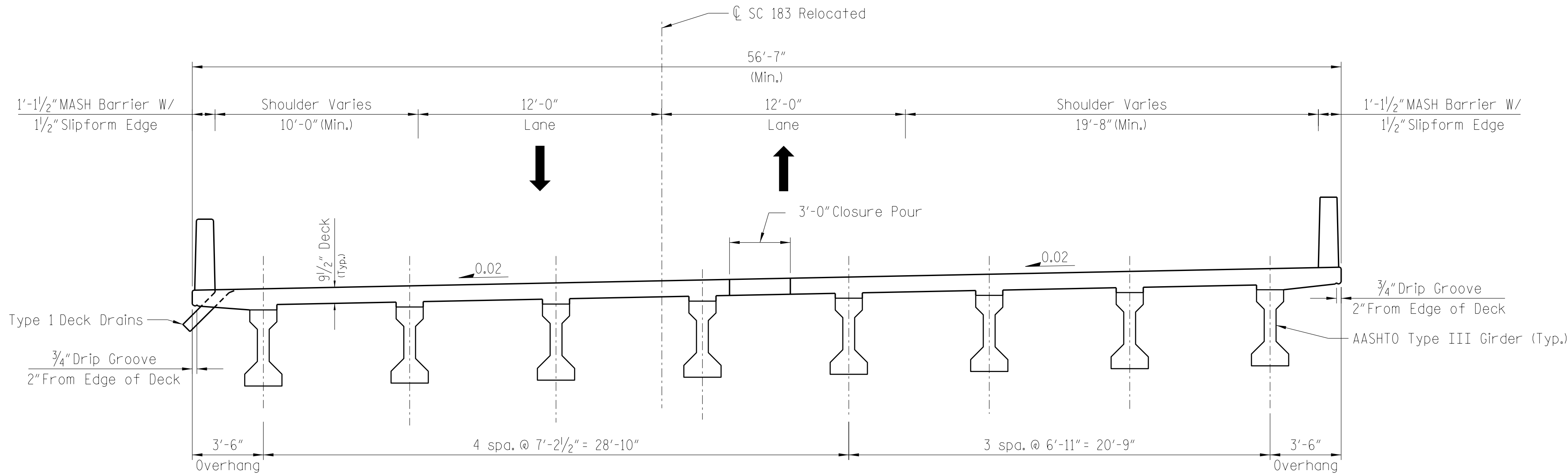
BRIDGE PLANS ID	SHEET NO.
P041230-B01	3



SECTION (STAGE 1)

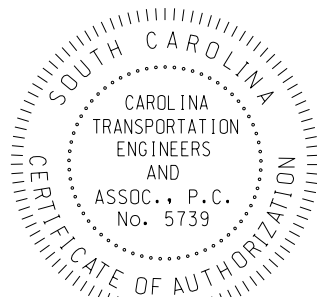


SECTION (STAGE 2)




SECTION (FINAL)

CONCEPTUAL PLANS-
NOT FOR CONSTRUCTION



REV.			
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DR.			
DES.			
BY	CHK.	DATE	



Carolina Transportation Engineers
& Assoc., PC
3600 Arco Corporate Drive,
Suite 135
Charlotte, NC 28273

SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

STAGING
RELOCATED SC 183 OVER
GREGORY CREEK

COUNTY PICKENS ROUTE SC 183





Appendix A – CPM Schedule
SCDOT Design Build Project
Bridge Package 16 DB Project
Contract ID 3962240



3962240 Bid Schedule - Bridge Package 16				Palmetto Infrastructure, Inc. - Summary												27-Apr-23																																																							
Activity ID		Activity Name		Original Duration	Start	Finish	Total Float																																																																
								2024												2025												2026												2027												2028															
								S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
3962240 Bid Schedule - Bridge Package 16				942	13-Sep-23	17-Mar-28	0	17-Mar-28, 3962240 Bid S																																																															
Milestones				942	13-Sep-23	17-Mar-28	0	17-Mar-28, Milestones																																																															
M1000	Notice to Proceed	0	13-Sep-23*		0	◆ Notice to Proceed																																																																	
M1010	Begin Bridge - SC 124	0	27-Feb-24		994	◆ Begin Bridge - SC 124																																																																	
M1020	Begin Bridge - US 123 NB	0	03-Apr-24		968	◆ Begin Bridge - US 123 NB																																																																	
M1030	Begin Bridge - US 123 SB	0	23-Jun-25		649	◆ Begin Bridge - US 123 SB																																																																	
M1040	Begin Bridge - SC 183 over Twelvemile Creek	0	15-Jan-25		763	◆ Begin Bridge - SC 183 over Twelvemile Creek																																																																	
M1050	Begin Bridge - SC 183 over Gregory Creek	0	07-Dec-26		269	◆ Begin Bridge - SC 183 over Gregory Creek																																																																	
M1060	Open SC 124 to Traffic	0	25-Dec-24		478	◆ Open SC 124 to Traffic																																																																	
M1070	Open US 123 NB to Traffic	0	21-May-25		672	◆ Open US 123 NB to Traffic																																																																	
M1080	Open US 123 SB to Traffic	0	01-Oct-26		316	◆ Open US 123 SB to Traffic																																																																	
M1090	Open SC 183 over Twelvemile Creek to Traffic	0	09-Apr-26		441	◆ Open SC 183 over Twelvemile Creek to Traffic																																																																	
M1100	Open SC 183 over Gregory Creek to Traffic	0	17-Dec-27		0	◆ Open SC 183 over Gregory Creek to Traffic																																																																	
M1110	Substantial Completion	0		17-Dec-27*	0	◆ Substantial Completion																																																																	
M1120	Final Completion	0	17-Mar-28		0	◆ Final Completion																																																																	
Submittals				671	13-Sep-23	30-Nov-26	271	30-Nov-26, Submittals																																																															
SC 124 Submittals				35	13-Sep-23	14-Nov-23	907	14-Nov-23, SC 124 Submittals																																																															
S1000	Submit Detour Plan - SC 124	5	13-Sep-23	21-Sep-23	932	■ Submit Detour Plan - SC 124																																																																	
S1010	Review/Approve Detour Plan - SC 124	5	21-Sep-23	02-Oct-23	932	■ Review/Approve Detour Plan - SC 124																																																																	
S1020	Submit DHEC Demolition Permit - SC 124	5	13-Sep-23	21-Sep-23	446	■ Submit DHEC Demolition Permit - SC 124																																																																	
S1030	Review/Approve DHEC Demolition Permit - SC 124	10	21-Sep-23	10-Oct-23	446	■ Review/Approve DHEC Demolition Permit - SC 124																																																																	
S1040	Notice of Detour - SC 124	0	14-Nov-23		532	◆ Notice of Detour - SC 124																																																																	
US 123 NB Submittals				76	13-Sep-23	24-Jan-24	866	24-Jan-24, US 123 NB Submittals																																																															
S1050	Submit Traffic Control Plan - US 123 NB	10	13-Sep-23	02-Oct-23	922	■ Submit Traffic Control Plan - US 123 NB																																																																	
S1060	Review/Approve Traffic Control Plan - US 123 NB	10	02-Oct-23	18-Oct-23	922	■ Review/Approve Traffic Control Plan - US 123 NB																																																																	
S1070	Submit DHEC Demolition Permit - US 123 NB	5	13-Sep-23	21-Sep-23	927	■ Submit DHEC Demolition Permit - US 123 NB																																																																	
S1080	Review/Approve DHEC Demolition Permit - US 123 NB	10	21-Sep-23	10-Oct-23	927	■ Review/Approve DHEC Demolition Permit - US 123 NB																																																																	
S1090	Notice of Demolition - US 123 NB	0	24-Jan-24		1082	◆ Notice of Demolition - US 123 NB																																																																	
US 123 SB Submittals				353	13-Sep-23	21-May-25	18	21-May-25, US 123 SB Submittals																																																															
S1100	Submit Traffic Control Plan - US 123 SB	10	13-Sep-23	02-Oct-23	334	■ Submit Traffic Control Plan - US 123 SB																																																																	
S1110	Review/Approve Traffic Control Plan - US 123 SB	10	02-Oct-23	18-Oct-23	334	■ Review/Approve Traffic Control Plan - US 123 SB																																																																	
S1120	Submit DHEC Demolition Permit - US 123 SB	5	13-Sep-23	21-Sep-23	356	■ Submit DHEC Demolition Permit - US 123 SB																																																																	
S1130	Review/Approve DHEC Demolition Permit - US 123 SB	10	21-Sep-23	10-Oct-23	356	■ Review/Approve DHEC Demolition Permit - US 123 SB																																																																	
S1140	Notice of Demolition - US 123 SB	0	21-May-25		1	◆ Notice of Demolition - US 123 SB																																																																	
SC 183 over Twelvemile Creek Submittals				262	13-Sep-23	16-Dec-24	680	16-Dec-24, SC 183 over Twelvemile Creek Submittals																																																															
S1150	Submit Traffic Control Plan - SC 183 over Twelvemile Creek	10	13-Sep-23	02-Oct-23	922	■ Submit Traffic Control Plan - SC 183 over Twelvemile Creek																																																																	
S1160	Review/Approve Traffic Control Plan - SC 183 over Twelvemile	10	02-Oct-23	18-Oct-23	922	■ Review/Approve Traffic Control Plan - SC 183 over Twelvemile Creek																																																																	
S1170	Submit DHEC Demolition Permit - SC 183 over Twelvemile C	5	13-Sep-23	21-Sep-23	927	■ Submit DHEC Demolition Permit - SC 183 over Twelvemile Creek																																																																	
S1180	Review/Approve DHEC Demolition Permit - SC 183 over Twe	10	21-Sep-23	10-Oct-23	927	■ Review/Approve DHEC Demolition Permit - SC 183 over Twelvemile Creek																																																																	
S1190	Submit Drawings for Steel Beam - SC 183 over Twelvemile C	5	13-Sep-23	21-Sep-23	474	■ Submit Drawings for Steel Beam - SC 183 over Twelvemile Creek																																																																	
S1200	Review/Approve Drawings for Steel Beam - SC 183 over Twe	10	21-Sep-23	10-Oct-23	474	■ Review/Approve Drawings for Steel Beam - SC 183 over Twelvemile Creek																																																																	
S1210	Notice of Demolition - SC 183 over Twelvemile Creek	0	16-Dec-24		849	◆ Notice of Demolition - SC 183 over Twelvemile Creek																																																																	
SC 183 over Gregory Creek Submittals				671	13-Sep-23	30-Nov-26	271	30-Nov-26, SC 183 over Gregory Creek Submittals																																																															
S1220	Submit Traffic Control Plan - SC 183 over Gregory Creek	10	13-Sep-23	02-Oct-23	922	■ Submit Traffic Control Plan - SC 183 over Gregory Creek																																																																	
S1230	Review/Approve Traffic Control Plan - SC 183 over Gregory C	10	02-Oct-23	18-Oct-23	922	■ Review/Approve Traffic Control Plan - SC 183 over Gregory Creek																																																																	
S1240	Submit DHEC Demolition Permit - SC 183 over Gregory Cree	5	13-Sep-23	21-Sep-23	660	■ Submit DHEC Demolition Permit - SC 183 over Gregory Creek																																																																	
S1250	Review/Approve DHEC Demolition Permit - SC 183 over Gre	10	21-Sep-23	10-Oct-23	660	■ Review/Approve DHEC Demolition Permit - SC 183 over Gregory Creek																																																																	
<div><div></div> Remaining Level of Effort</div> <div><div></div> Actual Work</div> <div><div></div> Critical Remaining Work</div> <div><div></div> Actual Level of Effort</div> <div><div></div> Remaining Work</div> <div><div>◆</div> Milestone</div>					Page 1 of 5					Data Date: 01-Apr-23					3962240 Bid Schedule - Bridge Package 16 Palmetto Infrastructure, Inc. - Summary																																																								

Remaining Level of Effort Actual Work Critical Remaining Work Actual Level of Effort Remaining Work Milestone	Page 2 of 5	Data Date: 01-Apr-23	3962240 Bid Schedule - Bridge Package 16 Palmetto Infrastructure, Inc. - Summary
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Remaining Level of Effort Actual Level of Effort	Actual Work Remaining Work	Critical Remaining Work Milestone	Page 3 of 5	Data Date: 01-Apr-23	3962240 Bid Schedule - Bridge Package 16 Palmetto Infrastructure, Inc. - Summary
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Remaining Level of Effort  Actual Level of Effort	Actual Work  Remaining Work	Critical Remaining Work   Milestone	Page 4 of 5	Data Date: 01-Apr-23	3962240 Bid Schedule - Bridge Package 16 Palmetto Infrastructure, Inc. - Summary
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Remaining Level of Effort Actual Level of Effort	Actual Work Remaining Work	Critical Remaining Work Milestone	Page 5 of 5	Data Date: 01-Apr-23	3962240 Bid Schedule - Bridge Package 16 Palmetto Infrastructure, Inc. - Summary
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Appendix B – Forms & Quality Matrix
SCDOT Design Build Project
Bridge Package 16 DB Project
Contract ID 3962240



12. STIPEND ACKNOWLEDGEMENT FORM

Stipend Acknowledgement Form

Bridge Package 16 Pickens County

Proposer: Palmetto Infrastructure, Inc.

ADDRESS: 3620 Pelham Rd. PMB 349 Greenville, SC 29615

The undersigned Proposer, hereby:

☐

Waives the stipend for this Project.

☒

Accepts the stipend for this Project.

By accepting the stipend for this Project, Proposer agrees:

- 1) to execute and include the Stipend Agreement in Article XIII of the RFP with its RFP response;
- 2) to submit an invoice with FEIN number for the stipend amount to the SCDOT POC after SCDOT's posting of the Notice of Award on SCDOT's Design-Build Website.;
- 3) to transfer all rights to its Work Product used to develop the Proposal as of the date of this acknowledgement. "Work Product" means all submittals, including ATCs, ideas, innovations, solutions, methods, processes, design concepts, materials, electronic files, marked up drawings, cross sections, quantity lists and intellectual property, made by Proposer during the RFP process, including the Proposal, exchange of information during the pre-Proposal and post-Proposal period.

SCDOT will pay the stipend to each eligible unsuccessful Proposer, who has signed a Stipend Agreement, within ninety (90) days after execution of the Contract or the decision to not award a contract.

4-30-23
Date

Palmetto Infrastructure, Inc.
Proposer

Greg Canniff
Print Name



13. STIPEND AGREEMENT

STIPEND AGREEMENT
Project ID: 3962240
Bridge Package 16
Pickens County

THIS STIPEND AGREEMENT (the “Agreement”) is made and entered into as of the ____ day of _____, 20__, by and between the SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION (hereinafter “SCDOT”), and **Palmetto Infrastructure, Inc.** (“Proposer”), with reference to the following facts:

SCDOT issued a Request for Proposal (“RFP”) for design and construction of the above-referenced Design-Build Project (“Project”), pursuant to procurement authority granted in Section 57-5-1625 of the S.C. Code of Laws, 1976, as amended. The RFP provided for payment of stipends as provided herein. Capitalized terms used, but not defined, have the meanings ascribed in the RFP.

NOW, THEREFORE, Proposer hereby agrees as follows:

1. Work Product.

1.1 Proposer shall prepare and submit a responsible and responsive Technical Proposal and Cost Proposal that conforms in all material respects to the requirements and provisions of the RFP, as determined by SCDOT, and are timely received by SCDOT in accordance with the RFP Milestone Schedule.

1.2 By signing this Stipend Agreement, Proposer agrees to transfer full and complete ownership to SCDOT of all Work Product. The Work Product (as defined below) shall become the property of SCDOT without restriction or limitation on its use, without further compensation or consideration, and can be used in connection with this Project or any future projects by SCDOT. Neither Proposer nor any of its team members shall copyright any of the material developed under this Agreement.

1.3 The term “Work Product” shall mean the Proposal and all material, electronic files, marked up drawings, cross sections, quantity lists, submittals, alternative technical concepts (ATC), ideas, innovations, solutions, methods, processes, design concepts, Trade Secrets or confidential information, and intellectual property, made by or produced for Proposer in the development and submission of the Technical and Cost Proposal, including exchanges of information during the pre-Proposal and post-Proposal period.

2. Compensation and Payment.

2.1 A stipend to Proposer for the Work Product described herein shall be \$70,000.00 and is payable to Proposer that was determined to be responsible and (1) submitted a responsive Technical Proposal and responsive Cost Proposal to the RFP which is not selected for award of this Project, or (2) was awarded the Contract but the Contract was terminated by SCDOT for convenience after the Submittal of Proposal Due Date (See Final RFP Milestone schedule) but prior to the Notice to Proceed #1. Responsibility of Proposers and responsiveness of the Technical Proposal and Cost Proposal will be determined by SCDOT as a condition of payment.

2.2 SCDOT will pay the stipend to Proposer as follows, subject (as applicable) to the following conditions:

- (a) Proposer has submitted this signed Stipend Agreement, unchanged with its response to the RFP.
- (b) After posting of the Notice of Award on SCDOT’s Design-Build Website, Proposer has submitted to SCDOT an invoice, with FEIN Number, for the Stipend amount.
- (c) After execution of the Contract or the decision not to award a contract, SCDOT will pay the invoice for the stipend amount to the unsuccessful Proposer meeting the criteria of Section 2.1 within 90 calendar days of receipt of the invoice from Proposer.
- (d) If the procurement is suspended or cancelled prior to the Proposal Due Date (see FINAL RFP Milestone schedule), no stipend will be paid to Proposer.
- (e) After the submittal of Proposals, but prior to award, if the procurement is cancelled, all Proposers that provide a responsive Technical Proposal and Cost Proposal to the final RFP and submitted a signed Stipend Agreement with their RFP shall receive the stipend
- (f) In the event of a Best and Final Offer, only one stipend will be paid to each Proposer that executed a Stipend Agreement and met the other criteria and conditions herein.
- (g) No stipends will be paid for submitting RFQ responses.
- (h) No stipends will be paid to a Proposer who withdraws at any time from this procurement.

2.3 Acceptance by the Proposer of payment of the stipend amount from SCDOT shall constitute a waiver by Proposer of any and all right, equitable or otherwise, to bring any claim in connection with this procurement, procurement process, award of the Contract, or cancellation of this procurement.

2.4 The Proposer awarded the contract shall be not eligible to receive a stipend.

2.5 If Proposer elects to waive payment of the stipend, SCDOT will not use the ideas or information contained in that Proposer's Proposal for this Project. However, the Proposer's Proposal will be subject to the South Carolina Freedom of Information Act.

3. Indemnities.

3.1 Subject to the limitations contained in Section 3.2, Proposer shall indemnify, protect and hold harmless SCDOT and its directors, officers, employees and contractors from, and Proposer shall defend at its own expense, all claims, costs, expenses, liabilities, demands, or suits at law or equity arising, in whole or in part, from the negligence or willful misconduct of Proposer or any of its agents, officers, employees, representatives or subcontractors or breach of any of Proposer's obligations under this Agreement.

3.2 This indemnity shall not apply with respect to any claims, demands or suits arising from use of the Work Product by SCDOT.

4. Compliance With Laws.

4.1 Proposer shall comply with all federal, state, and local laws, ordinances, rules, and regulations applicable to the work performed or paid for under this Agreement and covenants and agrees that it and its employees shall be bound by the standards of conduct provided in applicable laws, ordinances, rules, and regulations as they relate to work performed under this Agreement. Proposer agrees to incorporate the provisions of this paragraph in any subcontract into which it might enter with reference to the work performed pursuant to this Agreement.

4.2 The Proposer agrees (a) not to discriminate in any manner against an employee or applicant for employment because of race, color, religion, creed, age, sex, marital status, national origin, ancestry or disability of a qualified individual with a disability; (b) to include a provision similar to that contained in subsection (a) in any subcontract; and (c) to post and to cause subcontractors to post in conspicuous places available to employees and applicants for employment, notices setting forth the substance of this clause.

5. Assignment.

Proposer shall not assign this Agreement without SCDOT's prior written consent. Any assignment of this Agreement without such consent shall be null and void.

6. Miscellaneous.

6.1 Proposer and SCDOT agree that Proposer, its team members, and their respective employees are not agents of SCDOT as a result of this Agreement.

6.2 This Agreement, together with the RFP, as amended from time to time, the provisions of which are incorporated herein by reference, embodies the entire agreement of the parties. There are no promises, terms, conditions, or obligations other than those contained herein or in the RFP, and this Agreement shall supersede all previous communications, representation, or agreements, either oral or written, between the parties hereto.

6.3 It is understood and agreed by the parties hereto that if any part, term, or provision of this Agreement is by the courts held to be illegal or in conflict with any law of the State of South Carolina, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term, or provisions to be invalid.

6.4 This Agreement shall be governed by and construed in accordance with the laws of the State of South Carolina.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

Witness:

Recommended:

Michael Pitts
Alternative Delivery Program Manager

Witness:

_____ 

Derek Staton

SOUTH CAROLINA DEPARTMENT
OF TRANSPORTATION

By:

Jae Mattox
Alternative Delivery Engineer

Proposer

Palmetto Infrastructure, Inc.
Name of Proposer

By:

_____ 

Its:

Greg Canniff, President

11. EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

(COMPLETE THIS SECTION FOR FEDERAL PROJECTS ONLY) EQUAL EMPLOYMENT OPPORTUNITY PERFORMANCE

Select the Certification that applies to the PROPOSER:

Certification (1) ☐ or Certification (2) ☒

Select the appropriate responses in the applicable Certification:

Certification (1): Pursuant to 41 C.F.R. §60-1.7(b)(1), Previous Equal Employment Opportunity Performance Certification, as the Prospective Prime Contractor, I HEREBY CERTIFY THAT I:

(a) **(HAVE / HAVE NOT)** developed and filed an Affirmative Action Program pursuant to 41C.F.R. §60-2 and/or 60-4;

(b) **(HAVE / HAVE NOT)** participated in a previous contract or subcontract subject to the equal opportunity clause;

(c) **(HAVE / HAVE NOT)** filed with the Joint Reporting Committee, the Director of Office of Federal Contract Compliance, or the Equal Employment Opportunity Commission, all reports due under the applicable filing requirements,

OR

Certification (2): I, HEREBY CERTIFY that as the Prospective Prime Contractor submitting this Proposal, **(CLAIM / DO NOT CLAIM)** exemption from the submission of the Standard Form 100 (EEO-1) due to the fact that it employs a total of less than fifty (50) employees under C.F.R. §60-1.7, or qualifies for an exempted status under 41 C.F.R. §60-1.5.

I FURTHER CERTIFY that the above Certification will be made part of any Subcontract Agreement, or other agreement involved with this project.

Executed on 4/30, 20 23 .

Signed: _____

(Officer/PROPOSER)

Title: President

Company: Palmetto Infrastructure, Inc

Address: 3620 Pelham Rd. PMB 349
Greenville, SC 29615

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1)), and must be submitted by PROPOSERS only in connection with contracts which are subject to the equal opportunity clause. Contracts that are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally, only contracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by Executive Orders or their implementing regulations.

Proposers, Primary Members, or proposed Subcontractors (any tier) and Consultants who have participated in a previous contract subject to the Executive Orders and have not filed the required reports shall note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

10. NON-COLLUSION CERTIFICATION

NON-COLLUSION CERTIFICATION

Project ID: 3962240

IN ACCORDANCE WITH THE PROVISIONS OF S.C. CODE ANN. §§ 39-3-10 ET. SEQ., 39-5-10 ET. SEQ., 15 U.S.C. §45; 23 C.F.R. §635.112(F); AND 28 U.S.C. §1746, I HEREBY ACKNOWLEDGE THAT I AM AN OFFICER OF THE PROPOSER FIRM AND, UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES AND SOUTH CAROLINA, DECLARE, BY MY CERTIFICATION BELOW, THAT THE FOLLOWING IS TRUE AND CORRECT, AND FURTHER, THAT THIS JOINT-VENTURE, FIRM, PARTNERSHIP, ASSOCIATION OR CORPORATION, OR ANY OTHER LEGAL ENTITY HAS NOT, EITHER DIRECTLY OR INDIRECTLY, ENTERED INTO ANY AGREEMENT, PARTICIPATED IN ANY COLLUSION, OR OTHERWISE TAKEN ANY ACTION IN RESTRAINT OF FREE COMPETITIVE BIDDING IN CONNECTION WITH THE SUBMISSION OF A BID PROPOSAL ON THE ABOVE REFERENCED PROJECT.

BY CHECKING THIS BOX ☒ , I CERTIFY THAT I HAVE READ, UNDERSTAND, ACCEPT, AND ACKNOWLEDGE ALL OF THE ABOVE STATEMENTS.

Executed on 4-30-23
(Date)

Signed: 
(Officer/Proposer)

President
(Title)

3620 Pelham Rd. PMB 349
(Address)

Greenville, SC 29615

NOTICE OF RECEIPT
Bridge Package 16
Design-Build – Contract ID 3962240
Pickens County

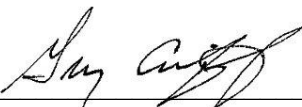
Addendum 1

The information in this addendum shall be made part of the contract documents. PROPOSERS are instructed to incorporate the information into the previously provided RFP documents.

PROPOSERS are required to sign this document and enclose it with their Technical Proposal. Receipt of this signed document by The South Carolina Department of Transportation serves as confirmation that the PROPOSER has received and incorporated this Addendum into the contract documents.

Confirmation Statement:

I, the PROPOSER confirm that I have received this addendum package and have incorporated the information provided in the addendum into the contract documents.



PROPOSER's Signature

4-30-23

Date

Greg Canniff

Printed Name

For: Palmetto Infrastructure, Inc.

Design-Build Team Name



NOTICE OF RECEIPT
Bridge Package 16
Design-Build – Contract ID 3962240
Pickens County

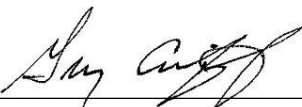
Addendum 2

The information in this addendum shall be made part of the contract documents. PROPOSERS are instructed to incorporate the information into the previously provided RFP documents.

PROPOSERS are required to sign this document and enclose it with their Technical Proposal. Receipt of this signed document by The South Carolina Department of Transportation serves as confirmation that the PROPOSER has received and incorporated this Addendum into the contract documents.

Confirmation Statement:

I, the PROPOSER confirm that I have received this addendum package and have incorporated the information provided in the addendum into the contract documents.



PROPOSER's Signature

4-30-23

Date

Greg Canniff

Printed Name

For: Palmetto Infrastructure, Inc.
Design-Build Team Name



NOTICE OF RECEIPT
Bridge Package 16
Design-Build – Contract ID 3962240
Pickens County

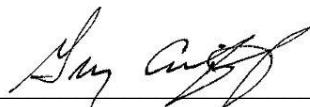
Addendum 3

The information in this addendum shall be made part of the contract documents. PROPOSERS are instructed to incorporate the information into the previously provided RFP documents.

PROPOSERS are required to sign this document and enclose it with their Technical Proposal. Receipt of this signed document by The South Carolina Department of Transportation serves as confirmation that the PROPOSER has received and incorporated this Addendum into the contract documents.

Confirmation Statement:

I, the PROPOSER confirm that I have received this addendum package and have incorporated the information provided in the addendum into the contract documents.



PROPOSER's Signature

4-30-23

Date

Greg Canniff

Printed Name

For: Palmetto Infrastructure, Inc.

Design-Build Team Name





Contract ID 3962240

Organizational Chart Updates

The following updates have been made to the Organizational Chart:

None

A handwritten signature in black ink, appearing to read "Greg Canniff". The signature is fluid and cursive, with the first name "Greg" and last name "Canniff" clearly distinguishable.

Gregory Canniff

President

4-30-23




Contract ID: 3962240

Key Individual Statement

Greg Canniff and Billy McCoy will be available, barring any unforeseen circumstances, at the earliest of the times and durations identified in the RFQ and RFP, until expiration of the Warranty Period, or such earlier date as the Contract is terminated or SCDOT releases, in writing, such Key Individual from this requirement.

Thank you,

Signed:  Dated: 4-30-23
Name: Greg Canniff Title: Project Manager



Contract ID: 3962240

Key Individual Statement

Derek Staton will be available, barring any unforeseen circumstances, at the earliest of the times and durations identified in the RFQ and RFP, until expiration of the Warranty Period, or such earlier date as the Contract is terminated or SCDOT releases, in writing, such Key Individual from this requirement.

Thank you,

Signed:  Dated: 4-30-23

Name: Derek C Staton Title: President

Signed:  Dated: 4-30-23

Name: Greg Canniff Title: Project Manager



Contract ID 3962240

Confidential and/or Proprietary Information Page List

The following section of this proposal is considered confidential and should not be disclosed under the South Carolina Freedom of Information Act:

None

Gregory Canniff

President

4-30-23



Columbia, South Carolina

**SOUTH CAROLINA DEPARTMENT
OF
TRANSPORTATION**

PRIME CONTRACTOR

PREQUALIFICATION CERTIFICATE

This Certifies that your company has complied with the rules and regulations of the Department and the State of South Carolina, and subject to the rules and regulations for a prime contractor, is declared eligible to submit a bid and be awarded any construction contract issued by the Department, subject to obtaining proper bonds and insurance acceptable to the Department and complying with all other statutory and contract requirements.

ALL BIDS SUBMITTED TO THE DEPARTMENT MUST BE IN THE NAME AS SHOWN BELOW.

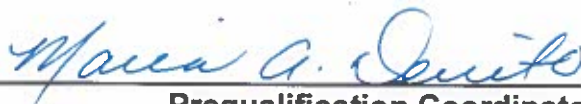
PALMETTO INFRASTRUCTURE, INC.

Vendor ID: 1PA056

Issued : March 15, 2023

Expires: April 30, 2024

Approved By:

A handwritten signature in blue ink, appearing to read "Maria G. Smith", is written over a horizontal line.

Prequalification Coordinator



Contract ID 3962240

Joint Venture Organizational Agreement

Not Applicable.

A handwritten signature in black ink, appearing to read "Gregory Canniff", written in a cursive style.

Gregory Canniff

President

4-30-23

Number	Description	Added Value/Benefits	Cost/Schedule Impacts	Self-imposed Assurance
1	SC 124 Utility Avoidance	On alignment bridge replacement as allowed by ATC 11 avoids relocation of utilities (waterline or telecom) as proposed on conceptual plans.	No delay to start construction for utility relocations. Waterline relocation and LD risk cost savings is approximately \$350,000.	Utility coordination and relocation built into our schedule and bid. LD's imposed for late delivery of bridge or contract.
2	US 123 NBL Utility Coordination (waterline)	Phasing plan at US 123 provides a window for the waterline relocation of over 12 months. Only 1 switch required (from existing to proposed new line.	Removes risk of LDs associated with waterline relocation (\$100,000 savings).	Utility coordination and relocation built into our schedule and bid. LD's imposed for late delivery of bridge or contract.
3	US 123 NBL Utility Coordination (AT&T fiber)	Phasing plan at US 123 allows over 18 months for temporary relocation of fiber (AT&T) and takes the permanent placement of fiber off the critical path to final completion.	Removes risk of LDs associated with fiber relocation (\$500,000 savings)	Utility coordination and relocation built into our schedule and bid. LD's imposed for late delivery of bridge or contract.
4	SC 183 over Twelvemile Creek Utility Coordination	Alignment shift to the north avoids aerial power lines and utilities to the south. Time is allowed for other utility relocations before construction.	Removes risk of LDs associated with utility relocations (\$200,000 savings)	Utility coordination and relocation built into our schedule and bid. LD's imposed for late delivery of bridge or contract.
5	SC 183 over Twelvemile Creek Utility Coordination	Staged construction minimizes alignment shift to avoid relocation of natural gas line.	Removes risk of LDs associated with utility relocations (\$200,000 savings)	Utility coordination and relocation built into our schedule and bid. LD's imposed for late delivery of bridge or contract.
6	SC 124 ROW Reduction	On alignment bridge replacement as allowed by ATC 11 greatly reduces ROW proposed on conceptual plans.	Reductions in ROW will reduce costs to SCDOT. ROW reduced from 2.81 acres to 0.68 acres).	
7	US 123 ROW Reduction	ATC 7 removes a sliver of ROW from Parcel 12. The staging plan and design for US 123 eliminates all other ROW.	Reductions in ROW will reduce costs to SCDOT.	
8	SC 183 over Twelvemile Creek Utility Coordination	Staged construction minimizes alignment shift to reduce ROW.	Reductions in ROW will reduce costs to SCDOT. ROW reduced from 5.34 acres to 1.5 acres).	
9	SC 183 over Gregory Creek ROW Reduction	Staged construction minimizes alignment shift to reduce ROW.	Reductions in ROW will reduce costs to SCDOT. ROW reduced from 4.78 acres to 2.98 acres).	
10	SC 124 Environmental Impacts	On alignment bridge replacement minimizes wetland impacts and stream impacts as proposed on conceptual plans. Stream impacts (shift) are less than 300 LF and will not require an IP. Single span bridge replacement further reduces environmental impact footprint.	Removes risk of LDs associated with environmental and permitting delays. Reduces mitigation costs.	Permitting is built into our schedule and mitigation is in our bid. LD's imposed for late delivery of bridge or contract.
11	US 123 Environmental Impacts	2-span replacements reduce the construction footprint - especially on the west bank where access is difficult.	Removes risk of LDs associated with environmental and permitting delays. Reduces mitigation costs.	Permitting is built into our schedule and bid. LD's imposed for late delivery of bridge or contract.
12	SC 183 over Twelvemile Creek Utility Coordination	Alignment shift to the north avoids the stream along SC 183 west of the bridge replacement.	Removes risk of LDs associated with environmental and permitting delays. Reduces mitigation costs.	Permitting is built into our schedule and mitigation is in our bid. LD's imposed for late delivery of bridge or contract.
13	SC 183 over Gregory Creek ROW Reduction	Alignment shift to the north avoids Gregory Creek and an unnamed stream along SC 183 south of the bridge replacement. Staged construction minimizes the fill in the wetlands north of the bridge.	Removes risk of LDs associated with environmental and permitting delays. Reduces mitigation costs.	Permitting is built into our schedule and mitigation is in our bid. LD's imposed for late delivery of bridge or contract.
14	SC 183 over Twelvemile Creek Steel Structure	Main channel span is designed with a steel structure that can be assembled on site. This span will have a maximum shipping length of 87 ft which can be delivered to the site.	SCDOT will not have change orders as compared to design of a prestressed concrete girder delivery as shown in the conceptual plans.	Cost of the steel span and time for fabrication is in our design and construction schedule as bid. LD's imposed for late delivery of bridge or contract.
15	Substantial Completion	PII is committed to completing this project 270 days early.	The Project schedule is reduced by 270 days.	PII will self imposed LDs for construction time exceeding our proposed schedule. LDs will be set at \$1250 / day matching the LDs for Final Completion.
16	US 123 Future Widening	Adding a third lane to the US 123 bridges for a future widening can be performed in the median. There will be no utility conflicts or ROW needed, and only minor earthwork required as compared to an outside widening.	All cost savings will be recognized by SCDOT in the future.	
17	Safety	Nearly all significant earthwork and bridge construction will be completed behind barrier. This significantly improves safety at the jobsite for the Contractor, SCDOT, inspectors, and the travelling public.	Cost impacts are recognized in PII's low insurance rates due to no claims or injuries on the job site.	

Cost/Schedule Impacts – Describe the Cost in dollars and/or Schedule impacts in days associated with the feature (positive or negative).

Self-imposed Assurance – Discuss any penalties or liquidated damages that will apply in the event the CONTRACTOR cannot implement the feature as described.

Appendix C – FATCs
**SCDOT Design Build Project
Bridge Package 16 DB Project
Contract ID 3962240**



Formal ATCs - Final Determination

Date Received: 4/10/2023

Palmetto			SCDOT	
ATC No.	Primary Discipline	Concept	Response	Final?
1	Structures	Cored slab and box beam superstructures w/ composite concrete deck (124 and 184 bridges)	Not Approved	Yes
2	Hydrology	Remove HDB 2019-4 criteria for lowering low chords	Approved	Yes
3	Roadway	Allow reduction in sag curve "k" value	Not Approved	Yes
4	Traffic	Design Speed Reduction for MOT	Not Approved	Yes
5	Structures	Increase column spacing	Approved	Yes
7	Roadway	Reduce 75 FT ROW required at US 123 NB	Approved	Yes
8	Traffic	Construct SC 124 and US 123 bridges simultaneously	Approved	Yes
9	Structures	Construct separate bridges for us 123 NB and SB	Approved	Yes
10	Traffic	Close and Detour SC 124	Approved	Yes
11	Traffic	Close and Detour SC 183 bridges	Not Approved	Yes
12	Hydrology	Reduce minimum bridge limits	Approved	Yes
13	Hydrology	Remove HDB 2019-4 criteria for restricting the bridge length to a minimum of the existing bridge	Approved	Yes
14	Structures	Variation from minimum channel length/Bent in channel at 183 12 mile	Not Approved	Yes

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 2

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Description (required):

Remove HDB 2019-4 Criteria for lowering the low chord of bridges.

PI_CTEA proposes to verify the hydraulic models and associated highwater elevations (HWEL) at each site. We will compare the Design HWEL + 2 ft freeboard, 100 year HWEL, and ordinary water elevation + 8 ft freeboard for navigable waterways to determine our required low chord elevation.

Additionally, we will ensure the 500 yr flood passes at each bridge with 1 foot freeboard minimum.

Initial investigations based on the current hydraulic models, including the minimum low chord elevation allowable by the above criteria is included as an attachment.

Usage:

This ATC will be used at all bridges on the project including SC 124 over Georges Creek, US 123 NBL and SBL over Georges Creek, SC 183 over Twelvemile Creek and SC 183 over Gregory Creek.

Deviations (required):

HDB 2019-4

1.1.9 Bridge Replacements

The low chord of a replacement bridge should not be below the low chord of the existing bridge, and the bridge ends should not be within the limits of the existing bridge. Additionally, the abutment toe of the replacement bridge should not extend past the abutment toe of the existing bridge.

This ATC would allow the low chord of the proposed bridge to be lower than the existing bridge.

Justification:

HDB 2019-4 requirements do not account for situations where a bridge is set based on roadway profile requirements or other, like US 123, and not based on hydraulic criteria. Eliminating this criteria will help achieve all SCDOT goals for the project.

The requirement to hold the low chord elevation, when SCDOT is routinely increasing span lengths to get piers out of the channel, requires many roadways to be elevated without a hydraulic need to elevate them.

Reducing the roadway profile will decrease project limits, decrease cost, reduce construction schedule, minimize environmental impacts and limit impacts to the traveling public.

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 2

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

The are potential reductions to ROW, impacts to businesses / driveways and no reduction or decrease in hydraulic performance of the bridge.

Based on a preliminary assessment reductions at each site could include (elevations and dimensions in feet):

Site	Min Low Chord	Existing Low Chord	Potential to Lower Low Chord
US 123 / Georges Creek	811.3	838.0	26.7
SC124 / Georges Creek	815.1	820.0	4.9
SC 183 / Twelvemile Creek	896.5	900.0	3.5
SC 183 / Gregory Creek	893.9	896.0	2.1

This ATC helps achieve SCDOT's goals for the project including:

- Minimization to right-of-way, driveways, businesses
- Minimization to utility impacts
- Minimization to environmental impacts
- Schedule certainty
- Cost Certainty
- No change orders

Schedule:

Approval of this ATC will positively impact the schedule.

Roadway profiles will be reduced which allow the project limits to be tied down sooner. Allowing the bridges to be replaced at or close to existing grade will positively impact the MOT at each site, further reducing the required project limits.

It is anticipated this ATC will reduce six months or more of construction at US 123 and two months at every other site. This work reduction could include additional fill for the roadway, temporary walls to maintain traffic for MOT, utility relocations, paving and other.

Reduction of construction timeframe = reduction in construction zone, resulting in a safer project.

Impacts:

For the calculated HWEL of the design storm, 100 yr storm, and 500 year storm, there are no negative impacts for this ATC. The water will flow under the structure in the same way it would if the bridge low chord was increased.

The impacts to not allowing this ATC at US 123 are high. MOT patterns will need to consider the fact that all crossovers will be closed for the duration of construction within the project limits. This may require a ""superstreet" traffic pattern through the construction zone that increases the number of vehicles crossing through the site, and impacts the local businesses. See graphic attached.

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 2

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

History:

Design Variances are noted in the HDB 2019-4 as a way to not use these criteria. Carolina TEA has used design variances on multiple existing traditional projects in South Carolina to reduce this criteria. We are currently designing a bridge in Richland County (S-985 over unnamed creek) utilizing this same reduction since holding the low chord of the bridge would impact residential driveways and greatly increase ROW costs.

Risks:

Ensuring the passage of the 500 year flood plus 1' freeboard will minimize or eliminate any risks associated with this ATC. It ensures we construct the bridge replacement to a higher standard than if we were building a new bridge at the same site with the same conditions.

Costs (required):

This ATC will reduce costs significantly.

The roadway profile at each site will be lowered (From 3 to 6 ft+), which in turn leads to shorter project limits, reduced bridge lengths, more optimal span arrangements, less fill, less environmental impacts, less business impacts, etc.

The cost benefit is moderate at SC 183 over Gregory Creek but includes potentially significant wetland and stream mitigation costs.

The savings is significantly higher at SC 183 over Twelvemile Creek where this ATC could help avoid the intersection relocation at Allgood Farm Road.

70% of the earthwork required at SC 124 could be eliminated with this ATC.

The most significant cost savings will be realized at US 123. The project limits could be reduced, business impacts / ROW will be reduced and MOT will be greatly simplified. Temporary walls for each stage of construction will be eliminated and safety will be dramatically improved.

The combined savings of earthwork, MOT, bridge length, utility relocation costs and construction overhead (reduced schedule) can exceed \$5 million.

Quality:

There is no adverse quality with this ATC. The reduced earthwork may even lead to reductions in long term settlement, which could improve the quality of construction. Hydraulic performance is not altered.



Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 2

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Operations & Maintenance:

There will be no difference in operations and maintenance of the bridges regarding this ATC.

Maintenance may be better as inspection access under the bridge is improved due to the lowered bridge heights.



	Ordinary Water (Time of Survey	Navigable Water (+8 ft)	50 Yr HWEL	Design Flood + 2 ft Freeboard	100 Yr HWEL	500 Yr HWEL Upstream WSE	500 yr HWEL + 1 ft Freeboard	Minimum Low Chord Elevation	Existing Low Chord	Potential to lower profile	Proposal profile above existing
US 123 / Georges Creek	795.7	803.7	808.4	810.4	809.4	810.3	811.3	811.3	838	26.7	8
SC124 / Georges Creek	796.7	804.7	811.4	813.4	812.5	814.1	815.1	815.1	820	4.9	6
SC 183 / Twelvemile Creek	880.8	888.8	893.2	895.2	893.8	895.5	896.5	896.5	900	3.5	6
SC 183 / Gregory Creek	884.0		891.0	893.0	891.4	892.9	893.9	893.9	896	2.1	4

All elevations and dimensions in feet.

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 5

Priority: Low

Team: Palmetto Infrastructure_Carolina TEA

Date:

Description (required):

PII and CTEA request increasing the column spacing nominally above 25 ft for beam bridges to allow for 2 column bents.
We propose a maximum column spacing of 26 ft.

Usage:

This ATC may be used at all bridge sites, including US 123, SC 124 and SC 183 bridges.

Deviations (required):

Exhibit 4b. Section 2.1.22

"The following applies to multi-column interior bents:

- The column spacing shall not exceed 25 feet center to center of columns.
- Provide a cantilever distance from the center of exterior column to the end of the bent cap that is less than or equal to 35 percent of the average column spacing of the bent."

Justification:

This ATC helps achieve SCDOT's goals for the project including:

- Schedule certainty
- Cost Certainty
- No change orders

The typical out-out dimension for the SC 124 and SC 183 bridges is 46'-3". With consideration of beam spacing, overhangs, minimum dimension to the anchor bolts, etc., the anticipated cap length is about 43 ft.

Using the above criteria, with a maximum 25 ft column spacing, the overhang will be 36 percent of the average column spacing, requiring 3 column bents in lieu of 2-column bents. A nominal increase to 26 ft max column spacing can eliminate 1 column at each interior bent.

Schedule:

Approval of this ATC will positively impact the schedule as foundations will be installed faster, and substructures will be easier to erect and pour. It is anticipated this ATC will reduce 2 weeks of construction at each interior bent (up to 4 months total).

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 5

Priority: Low

Team: Palmetto Infrastructure_Carolina TEA

Date:

Impacts:

There are no identified impacts associated with this ATC.

History:

SCDOT routinely allows nominal increases to the 25 ft maximum column spacing.

Risks:

The PII_CTEA Team does not recognize any additional risks due to this ATC.

Costs (required):

This ATC will reduce drilling, construction casing, CSL testing, column formwork, concrete, reinforcement and time.

The combined savings for the additional columns may exceed \$500,000.

Quality:

There is no adverse quality with this ATC.

Operations & Maintenance:

There should be no difference in operations and maintenance for this ATC.

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 7

Priority: Low

Team: Palmetto Infrastructure_Carolina TEA

Date:

Description (required):

Reduce the 75 feet ROW required at US 123 NBL.

The PII Team proposes to replace the NBL bridge off alignment to the outside of existing NBL. Constructing the entire bridge in a single phase and with a 5 foot minimum offset from the existing NBL structure, the ROW to parcel 12 is approximately 70 ft from the proposed CL.

This ATC would eliminate ~4 ft sliver of ROW from parcel 12. See attached graphic.

Usage:

This ATC will be used only for Parcel 12 in the southwest quadrant of the US 123 NBL bridge replacement.

Deviations (required):

Exhibit 4a. Section 2.11

"Secure a minimum right-of-way width of 75 feet on each side of the structure centerline and minimum 75 feet from each end of the bridge at each site where any right-of-way is required as described herein; refer to SCOOT Roadway Design Manual Chapter 12 Section 12.1.14.

For bridge sites that currently have a complete 75 feet right-of-way width on each side of the structure and where the length of 75 foot wide right-of-way is at least 45 feet from each end of the proposed bridge, no additional right-of-way is necessary unless the design and construction results in permanent facilities extending outside of the existing right-of-way.

For bridge sites that do not currently have a complete 75 feet right-of-way width on each side of the structure or where the length of 75 foot wide right-of-way is not present at least 45 feet from each end of the proposed bridge, provide a minimum right-of-way width of 75 feet on each side of the structure centerline a minimum of 75 feet from each end of the bridge. Provide right-of-way described within this paragraph regardless of whether the design requires this right-of-way or not."

Justification:

PII and CTEA plan to replace the US 123 bridges, from NBL to SBL.

The first phase of construction will build the US 123 NBL bridge to the outside of existing - approximately 5 ft clear of the existing NBL bridge. This will place the new centerline of US 123 NBL approximately 70 ft from the fence on parcel 12, and slightly less to the shed at the gate. The primary building is close to the 75 ft offset requirement. See ATC 7 - ROW supplemental information.

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 7

Priority: Low

Team: Palmetto Infrastructure_Carolina TEA

Date:

PII and CTEA propose to not take any land from this parcel. Given the geometry at the site, SCDOT will have ample room and access for bridge maintenance from each corner of the proposed bridge, median or outside shoulders.

This ATC helps achieve SCDOT's goals for the project including:

- Minimization to right-of-way, driveways, businesses

Schedule:

There is no impact to the schedule for this ATC.

Impacts:

There are no negative impacts to this ATC.

History:

SCDOT has reduced ROW requirements in the past, on a case by case basis and has allowances for reducing ROW within this RFP.

Risks:

The PII_CTEA Team does not recognize any additional risks due to this ATC.

There will be excellent access to all quadrants of the NBL bridge (from median or outside shoulders).

Costs (required):

There is no cost savings to the PII_CTEA Team for this ATC. Cost savings will be realized by SCDOT in the payment for ROW.

Quality:

There should be no adverse quality with this ATC.



Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 7

Priority: Low

Team: Palmetto Infrastructure_Carolina TEA

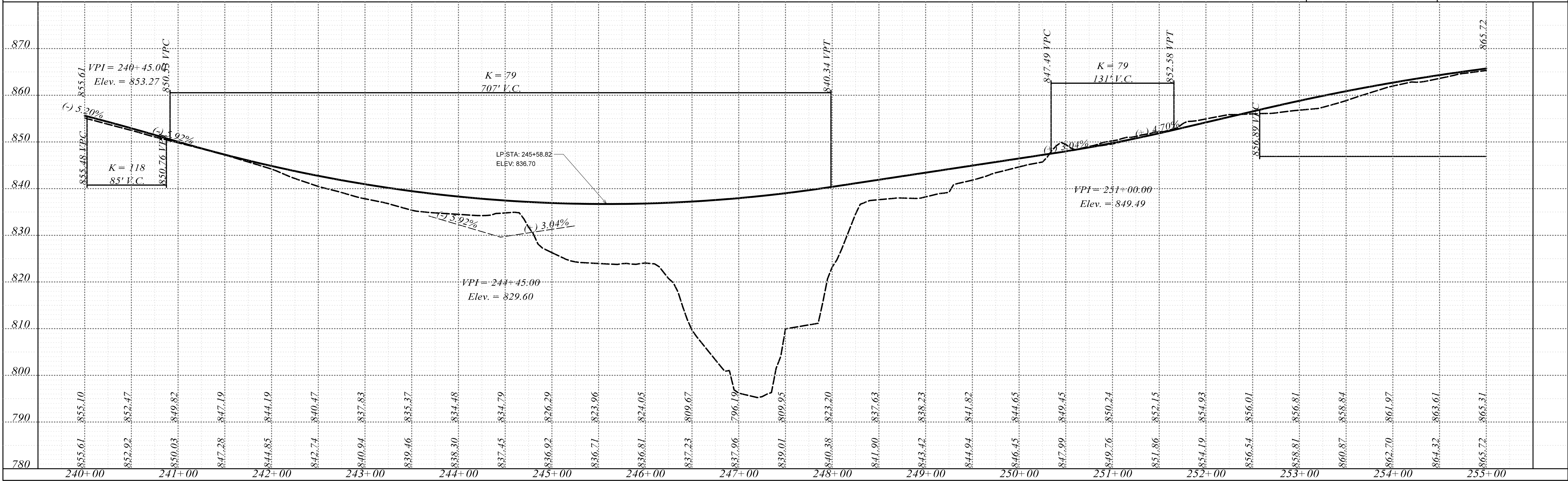
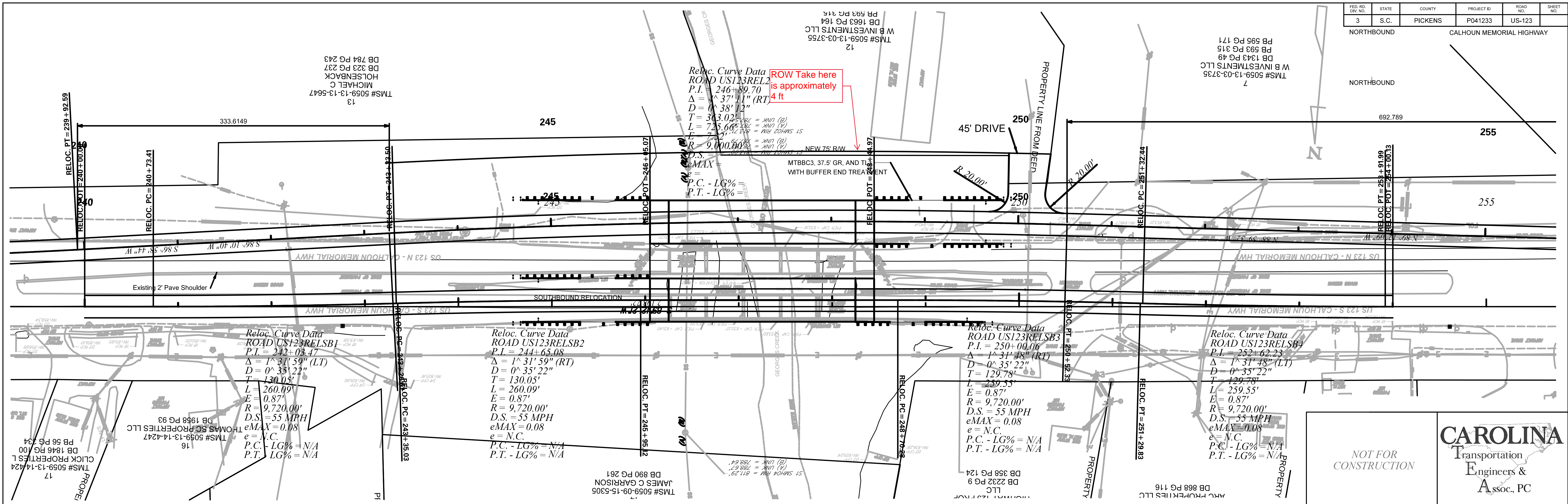
Date:

Operations & Maintenance:

There will be no difference in operations and maintenance of the bridges regarding this ATC.



FED. RD. DIV. NO.	STATE	COUNTY	PROJECT ID	ROAD NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	



Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 8

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Description (required):

Construct SC 124 bridge replacement and US 123 NBL bridge simultaneously.

Roadway CONCEPTUAL Plan sheets attached. These are still under development.

Usage:

This ATC will be used at SC 124 and US 123.

Deviations (required):

Exhibit 4d. Section 2.6

"The SC-124 and US-123 bridges shall be constructed under separate and non-concurrent schedules."

Justification:

PII and CTEA believe the intent of this requirement is to not impact traffic on US 123 at the same time SC 124 is under construction.

Our phasing plan allows simultaneous construction of both bridges without impacting traffic on US 123. Existing traffic patterns on US 123 will be maintained during the construction of SC 124.

Further, we commit to not impacting traffic, closing lanes, switching MOT phases or have any other adverse impacts on US 123, except to detour traffic from SC 124 to US 123 if allowed under a separate Close and Detour ATC, until SC 124 is complete and open to traffic.

The PII_CTEA plan for replacing the US 123 bridges will begin with a new NBL bridge built off alignment to the outside of the NBL. This bridge will be constructed outside the existing structure, behind barrier. There is reduced earthwork to be completed at this location, especially if other ATCs are accepted. Performing this work off alignment will have no impact on the existing US 123 travel lanes. Therefore, the impact to US 123 traffic whether in construction or not - is negligible, regardless of the construction of SC 124.

This ATC helps achieve SCDOT's goals for the project including:

- Schedule certainty
- Cost Certainty
- No change orders

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 8

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Schedule:

This ATC could accelerate final completion by over 12 months.

Impacts:

There are no negative impacts to this ATC.

History:

SCDOT routinely builds bridges simultaneously everywhere. Restrictions for impacting traffic on a detour route is common.

Risks:

The PII_CTEA Team does not recognize any additional risks due to this ATC.

Costs (required):

PII_CTEA Team believe the risks associated with a long-term construction contract can be reduced through this ATC. We will reduce risks of construction inflation and risk of LDs as well as a reduction in overhead as the project will be completed sooner. The combined cost savings in our bid for the risk of LDs is in excess of \$1.5 million.

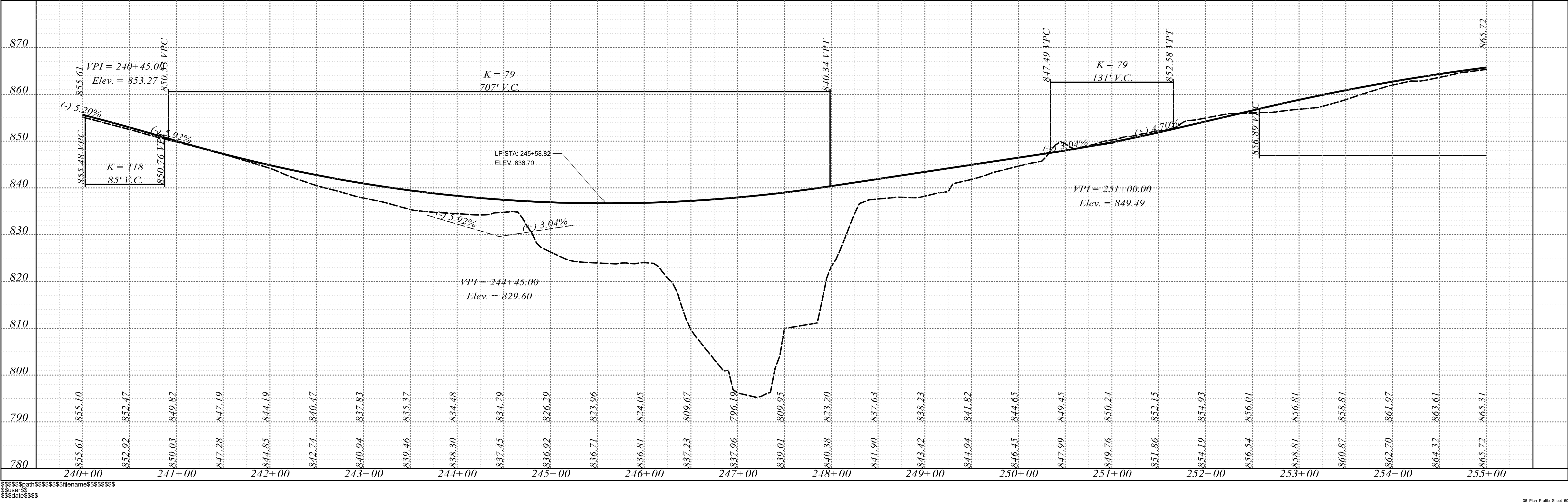
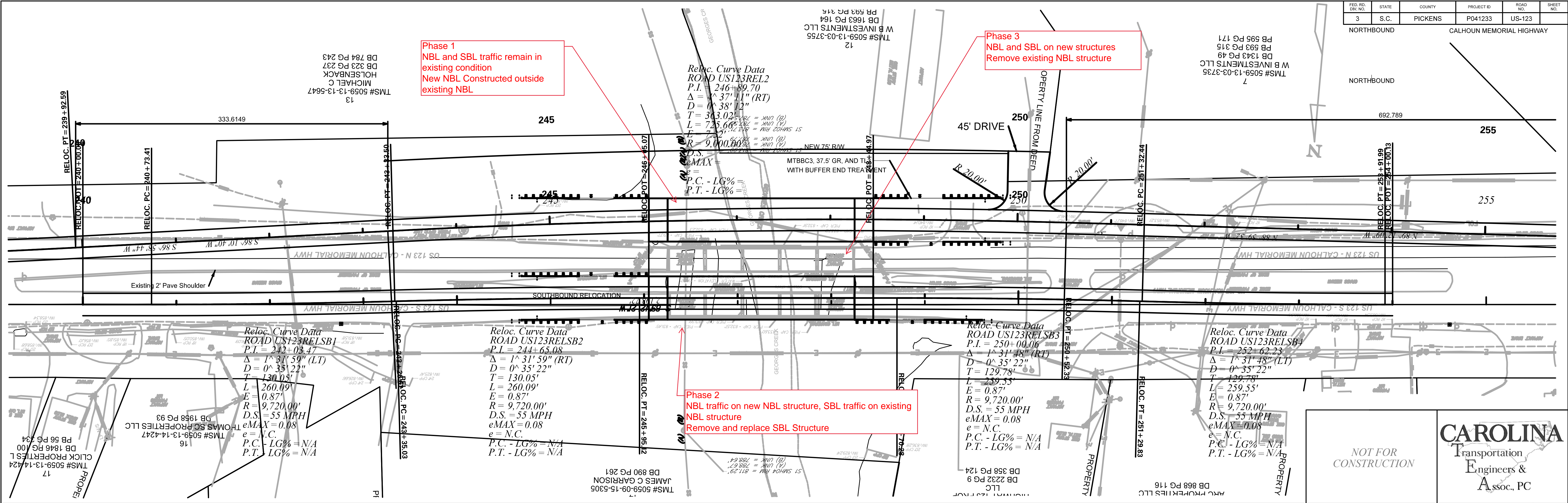
If user costs for the public are included, this number is significantly higher.

Quality:

There will be no adverse quality with this ATC.

Operations & Maintenance:

There will be no difference in operations and maintenance of the bridges regarding this ATC.



Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 9

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Description (required):

Construct separate bridges for US 123 NBL and SBL.

The PII Team proposes to replace the NBL bridge off alignment outside existing NBL, constructing the entire bridge in a single phase with a 5' minimum offset from the existing NBL structure. We then propose to replace US 123 SBL approximately on its current alignment, leaving a wide median between the proposed structures. This wide median will facilitate a future widening of US 123.

See attached for conceptual alignment for proposed NBL & SBL. The NBL proposed alignment utilizes large radii and minimum superelevation for the proposed alignment to tie to the existing alignment. We will develop adequate tangent length between curves to perform superelevation transitions where necessary and tie to the existing alignment curves as applicable. Conceptual plans are included for information. These plans will be corrected for all required geometry to ensure design speed criteria are met for final design.

Temporary barrier will be provided during the second phase of construction (SBL traffic placed on NBL bridges). However, at completion, the trailing end median guardrail will be eliminated from each structure as these barriers will be outside the clear zone of opposing traffic. PII and CTEA will work with SCDOT post award to determine if this guardrail should be eliminated or left in place.

Replacing the SBL in approximately the same location is to facilitate the AT&T fiber replacement on the SBL bridge. AT&T needs a fairly straight line between vaults to pull their fiber through the ducts.

Usage:

This ATC will be used at US 123.

Deviations (required):

Exhibit 4b. Section 2.1.4 Dimensions:

"At US 123 over Georges Creek, provide a single structure for Northbound and Southbound travel lanes in accordance with the Bridge Typical Section provided in Attachment B."

Attachment B - Supplemental Project Design Criteria:

This plan deviates from R1_ Roadway Typical Section for the Typical Section at Bridge Approaches.

Exhibit 4a. Section 2.10 Clear zones:

Provide guardrail and/or barrier on all approaching quadrants of each bridge. Provide guardrail and/or barrier on all trailing end quadrants of each bridge if the guardrail/barrier does not eliminate access to any tract. Provide MASH compliant leading end treatments (MT2 or MT3) in all locations where guardrail is terminated.

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 9

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Pre-MASH guardrail will be used at the NBL outside shoulder approach to avoid impacts to the driveway access at Parcel 12.

The PII Team will provide the trailing end median guardrail from each bridge in our technical proposal as required by the Clear Zone criteria above. We will work with SCDOT post award to determine if this guardrail should be eliminated to facilitate median access to the bridges, or improve sight distance at median crossovers.

Justification:

This ATC enhances utility coordination, construction safety, and future widening, while reducing temporary works and costs.

PII has met with AT&T in the field to review the fiber lines and discuss opportunities and requirements for the relocation / replacement. AT&T requests to reconnect the 12 duct conduits with the existing duct work beyond the bridge limits. These ducts need to be in a fairly straight alignment in order to pull the fiber through the conduits. This requires the SBL bridge be constructed approximately on existing alignment.

The PII_CTEA plan for replacing the US 123 bridges begins with a new US 123 NBL built off alignment outside existing NBL. Phase 2 places the NBL traffic on the new structure and shifts SBL traffic onto the existing NBL bridge. PII will then demolish and replace the SBL bridge in its current alignment, including the installation of the new 12 duct bank.

The final phase of construction shifts SBL traffic onto the new SBL bridge, and the existing NBL bridge will be demolished.

Utility Coordination:

AT&T will have over 18 months to perform a temporary relocation of their lines which we understand can be placed on aerial poles temporarily, and can reestablish the lines on the bridge after substantial and final completion have been obtained. AT&T has indicated this schedule is acceptable, and is the best option within RFP requirements to facilitate this.

The waterline on NBL is also facilitated with this phasing schedule as the new line will be constructed in Phase 1 and can be connected at any time before demolition of the NBL occurs in the final phase.

Construction Safety:

Proposed bridges are constructed on the outside of traffic. Limited construction (crossovers) will occur between travel lanes.

Future Widening:

Widening to 3 lanes at the bridge will be to the median. All utilities will be relocated, and most earthwork will be in place.

Temporary Works:

Temporary works are eliminated, which will result in a cost savings to SCDOT.

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 9

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

This ATC helps achieve SCDOT's goals for the project including:

- Reduce Utility impacts
- Schedule certainty
- Cost Certainty
- No change orders

Schedule:

This ATC allows for AT&T to replace their lines in approximately the same location. It also takes AT&T final work to pull fiber through the new duct bank out of the construction schedule, eliminating this coordination from the potential for LDs.

The only way to construct the bridge per the RFP and allow AT&T to replace their lines on the bridge is to use a temporary bridge in phase 1 (outside existing NBL) and stage the construction from NBL to SBL, with multiple traffic shifts, temporary waterline relocation, and significant temporary works. A temporary bridge will add a minimum of 6 months, and potentially 12 months to the schedule for installation and removal.

Impacts:

The NBL alignment will be shifted to the south at the bridge. Roadway approaches will be designed to accommodate the shift at the proper design speed. The SBL bridge will be shifted slightly.

Access under the bridges for future maintenance can be provided in the median as well as outside shoulders, which could be an improvement.

Future widening of this corridor will widen the US 123 bridges to the median, which is a huge improvement as compared to widening the SBL to the outside. It eliminates future utility coordination for the widening as well as the significant fill and ROW impacts for an outside widening.

History:

The current bridges are separated. Many dual bridges in SC are separated.

Risks:

The PII_CTEA Team does not recognize any additional risks due to this ATC. In fact, this ATC dramatically reduces risk for SCDOT, PII, and AT&T.

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 9

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Costs (required):

The cost will be reduced by the amount of a temporary bridge structure, for the duration of construction of the NBL and SBL structures. This cost could exceed \$1 million.

Quality:

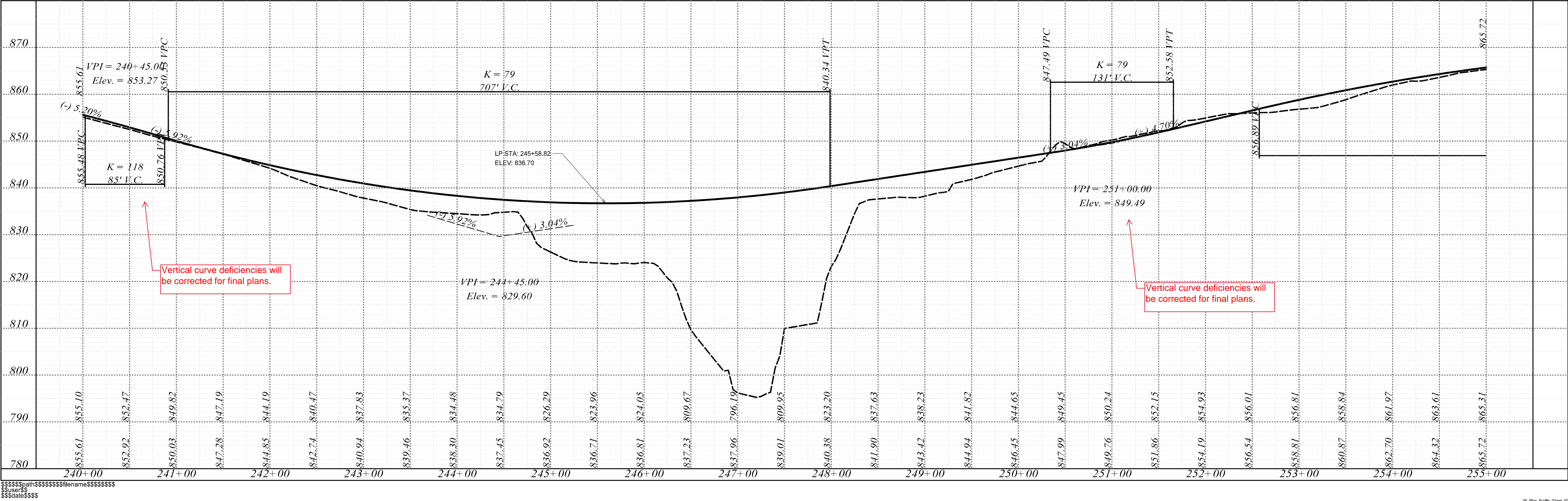
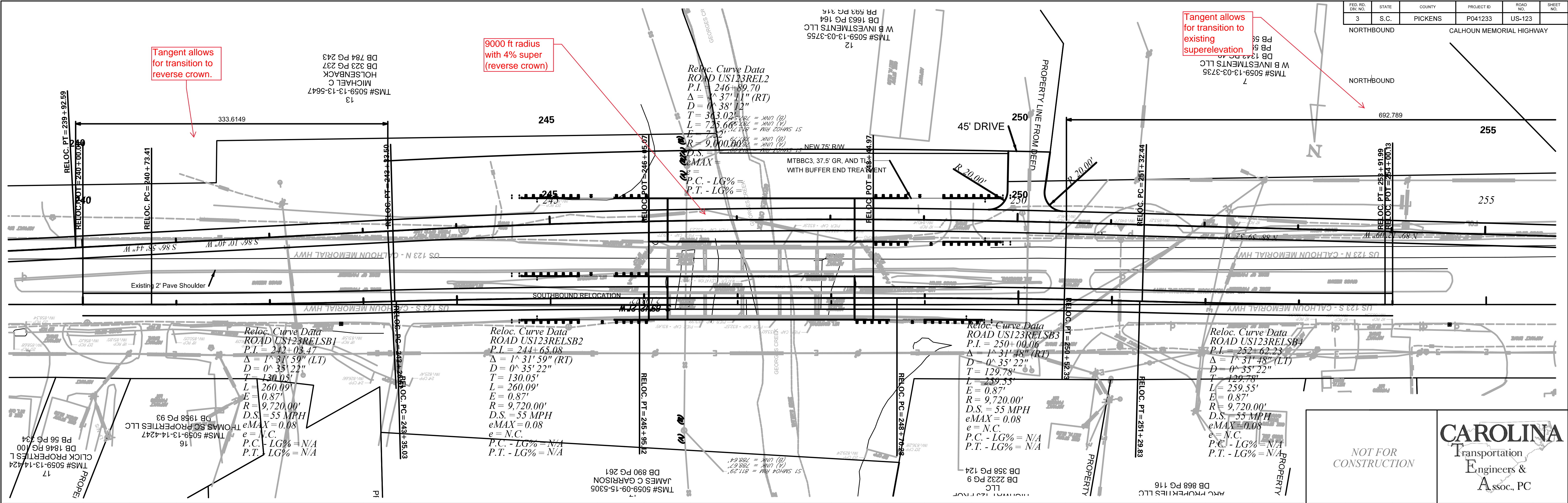
There will be no adverse quality with this ATC. Safety will be enhanced during construction with this ATC.

Operations & Maintenance:

There will be no difference in operations and maintenance of the bridges regarding this ATC.

Maintenance may be improved by providing median access to both bridges, and inspection access is improved with separate structures (snooper access from each side).

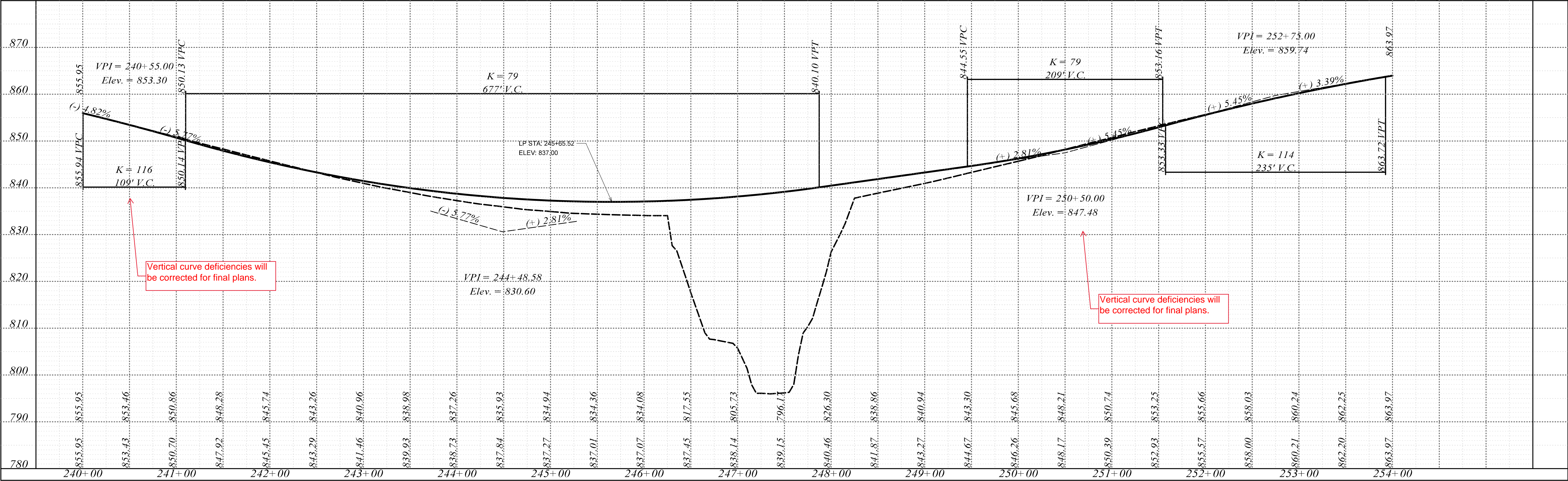
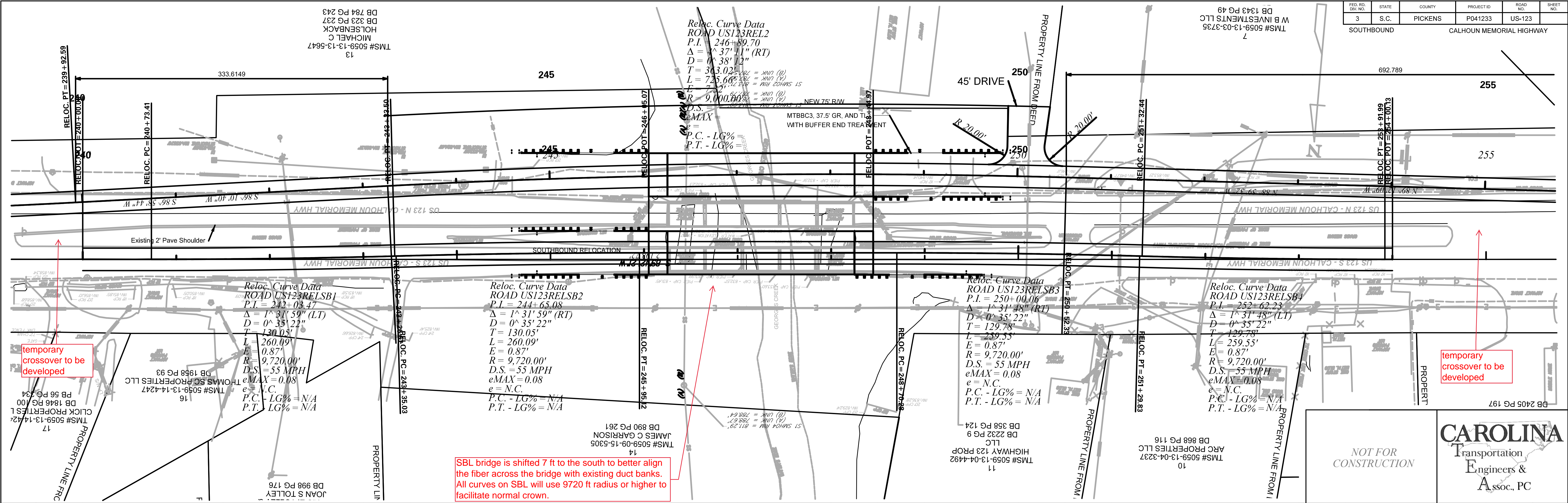
Traffic Operations will be improved during construction by separating traffic from construction activities.



FED. RD. NO.	STATE	COUNTY	PROJECT ID	ROAD NO.	SHEET NO.
3	S.C.	PICKENS	P041233	US-123	

STATE	COUNTY	PROJECT ID	ROAD NO.	SHEET NO.
S.C.	PICKENS	P041233	US-123	

SOUTHBOUND CALHOUN MEMORIAL HIGHWAY



Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 10

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Description (required):

Close and Detour SC 124 for bridge replacement.

PII and CTEA request permission to close SC 124 to replace the structure over Georges Creek.

PII will guarantee a 10 month duration of the closure by self imposed LDs of \$1500 / day for each day over 10 months after closure of the roadway.

A detour utilizing US 123 and US 25 will be signed, although local traffic will be able to use alternate routes. Intersections at US 123 and US 25 as well as US 25 and SC 124 will be analyzed to ensure all movements function to a LOS C or better with the additional traffic or improvements will be made. PII and CTEA will obtain traffic counts, perform the analysis and submit the analysis as well as planned detour improvements to SCDOT for approval prior to implementation.

Analysis will include delay/LOS for the entire interchange / intersection and individual movements including 95th percentile queuing from SimTraffic simulation. Improvements may add temporary signals, enhanced signage, and intersection improvements including additional ramp storage. All detour improvements will be completed to ensure a LOS C during the detour before closing SC 124.

We will monitor the detour weekly and maintain the route during use. We commit to work with SCDOT District personnel and make adjustments to the route as necessary to keep traffic at a LOS C or higher.

Initial review of traffic shows the current ADT of US 123 plus the additional traffic from SC 124 is still less than the future design ADT at US 123.

The proposed detour route is attached.

Pre-MASH guardrail will be used on the approach at the southwest quadrant of the bridge to minimize impacts to the existing driveway for this predominantly on-alignment replacement.

Usage:

This ATC will be used at SC 124 over Georges Creek.

Deviations (required):

Exhibit 4d

2.6 Staging:

"Traffic Control Restrictions (Project Specific General)

The CONTRACTOR shall maintain one travel lane in each direction of SC-124 and SC-183 at all times. No closure or restriction in movement or detour is allowed unless otherwise approved by SCDOT."

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 10

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Exhibit 4a. Section 2.10 Clear zones:

Provide guardrail and/or barrier on all approaching quadrants of each bridge. Provide guardrail and/or barrier on all trailing end quadrants of each bridge if the guardrail/barrier does not eliminate access to any tract. Provide MASH compliant leading end treatments (MT2 or MT3) in all locations where guardrail is terminated.

Justification:

Replacing the bridge at SC 124 over Georges Creek while maintaining traffic creates challenges including:

- Project limits may impact the stream north of the roadway and may require an individual permit (proposal alignment).
- Project limits may impact the wetlands south of the roadway.
- Significant fill will need to be brought to the site (trucks mingling with traffic), and placed immediately beside the existing roadway.
- Significant ROW will be required from the parcel on the south west quadrant of the bridge.
- A retaining wall (not currently allowed by the RFP) may be required in the southwest quadrant to avoid taking a building.
- Construction schedule will be approximately 17 months (400 days allowed by RFP) to stage construct.

Performing this bridge replacement under a Close and Detour will improve safety (for the public, the contractor and SCDOT), reduce cost, avoid environmental impacts and potentially a Individual Permit that would be required to impact the stream, and greatly accelerate the schedule. It will void any retaining wall needs, and significantly reduce the earthwork required.

This ATC helps achieve all SCDOT's goals for the project including:

- Minimization to right-of-way, driveways, businesses
- Minimization to utility impacts
- Minimization to environmental impacts
- Schedule certainty
- Cost Certainty
- No change orders

The use of MASH barrier at the southwest quadrant of the bridge will require the displacement of the existing driveway. Pre-MASH barrier at this location avoids this displacement.

Schedule:

This ATC will reduce the construction timeframe from approximately 17 months to approximately 12 months, including 10 months of roadway closure.

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 10

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Impacts:

There are significantly less impacts to the channel, businesses and driveways, utilities and streams with the approval of this ATC. We will replace the bridge essentially on existing alignment (shifted slightly to the south to avoid impacts to the stream parallel to the roadway on the north side.

This will also allow us to also avoid relocation of the telecom and waterlines on the north side of the roadway.

Pre-MASH guardrail in the southwest quadrant reduces impacts to the driveway.

History:

SCDOT evaluates and allows / disallows roadway closures based on value, time and traffic. We believe the value here outweighs the negative impacts for traffic to utilize the detour.

Risks:

The PII_CTEA Team recognizes the increased safety at the construction site as a huge mitigation of risk. Eliminating traffic from the construction zone is better for the public, the contractor, the inspectors, and SCDOT.

Schedule risks due to permitting wetland and stream impacts are reduced.

Costs (required):

There is a significant cost reduction to this ATC. Replacing the bridge on alignment greatly reduces borrow, project length, ROW, utility relocation and MOT. The estimated cost savings at this site for this ATC is \$1.5 million.

Quality:

The quality of the approach roadway should be improved with this ATC as there will be less long-term settlement in the roadway approach as compared to a new alignment on new fill. Since the roadway will stay on alignment, differential settlements and cracking through the pavement for traffic staging may also be eliminated. There is no difference in the quality of the bridge.

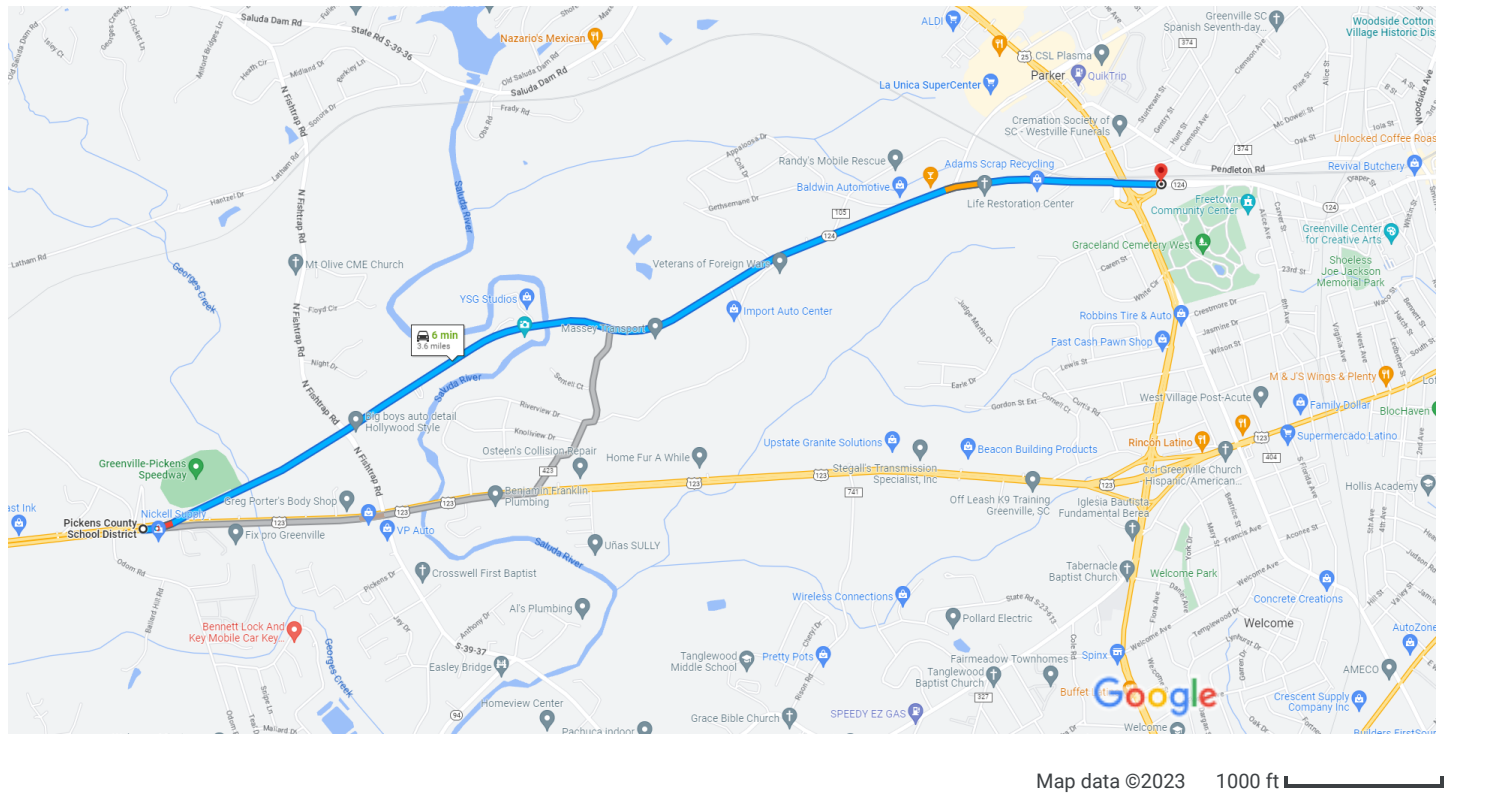
Operations & Maintenance:

There will be no difference in operations and maintenance.

Google Maps

Pickens County School District, South Carolina to 480-442 Old Easley Hwy, Greenville, SC 29611

Drive 3.6 miles, 6 min



- via SC-124

Fastest route now due to traffic conditions

6 min

3.6 miles
- via US-123 N and SC-124

7 min

3.8 miles

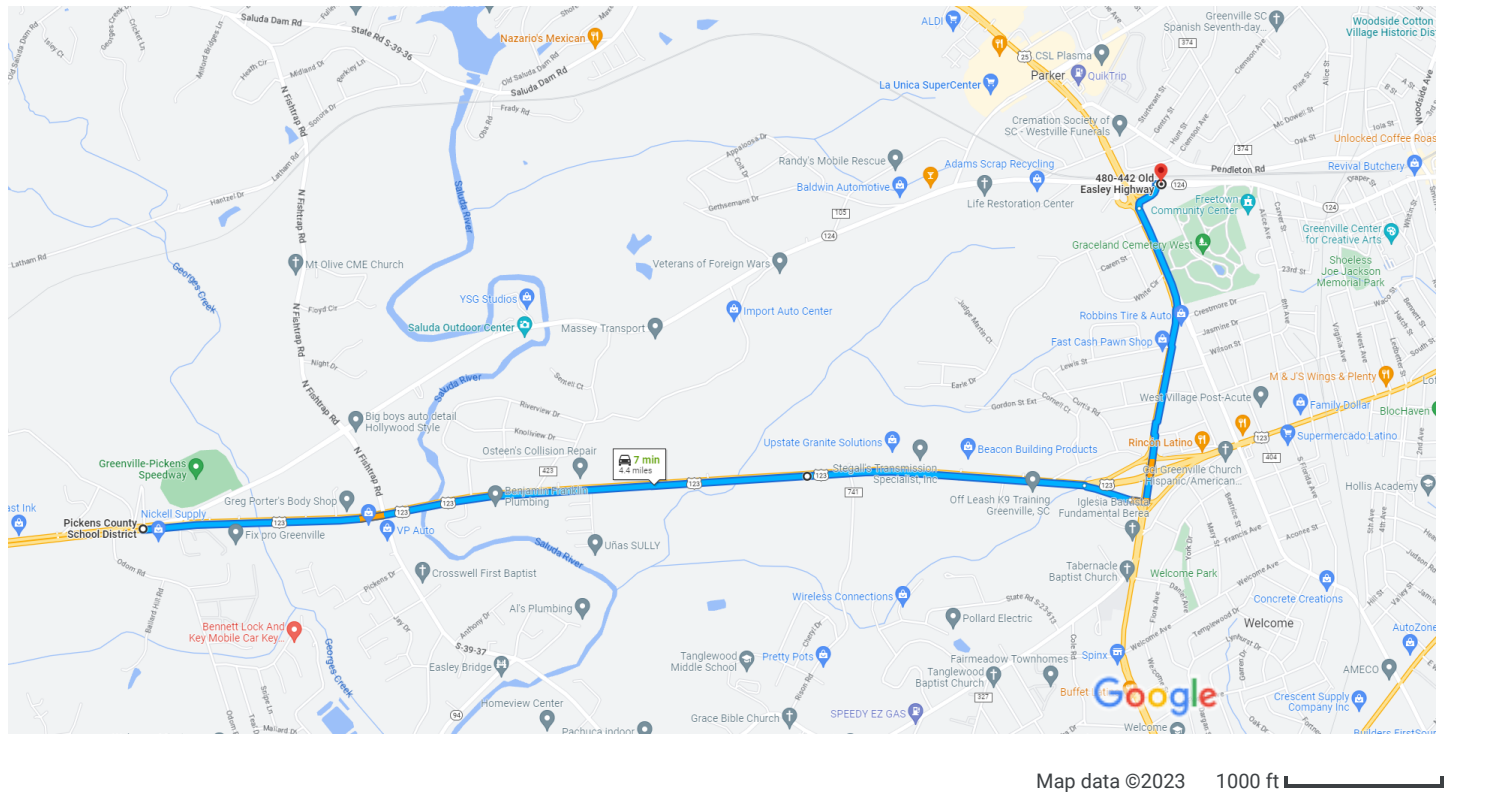
Explore 480-442 Old Easley Hwy


Restaurants Hotels Gas stations Parking Lots More

Google Maps

Pickens County School District, South Carolina to 480-442 Old Easley Hwy, Greenville, SC 29611

Drive 4.4 miles, 7 min





via US-123 N

6 min without traffic

7 min

4.4 miles

Explore 480-442 Old Easley Hwy

Restaurants Hotels Gas stations Parking Lots More

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 12

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Description (required):

PII and CTEA request to reduce the minimum bridge limits as shown in the RFP, PIP and proposal plans.

We propose to set the bridge limits based on rules SCDOT has provided through design manuals, memorandums and other criteria as partially shown below:

- 10 ft setbacks will be established from the top of channel (channel as defined in SCDOT proposal plans) to interior bents (drilled piers) or toe of abutment slopes.
- Interior bents will not be placed in the SCDOT defined channel including 10 ft setbacks (5 ft for pile bents) defined by the proposal provided survey, except as specifically allowed by ATC 14.
- Toe of 2:1 spill through abutment fill will be set back a minimum of 10 ft along the centerline of the bridge along the bench. 10 ft setback will be measured to face of rip rap (away from abutment).
- 2:1 spill through slope will extend up to the berm which is set a maximum of 5 ft below the low chord of the bridge.
- Minimum approach spans (if used) will follow the guidance in the RFP (40 ft at SC 124, 50 ft all other sites).
- Projection of 2:1 spill through slopes will remain a minimum of 10 ft from any point on the channel / stream.

Usage:

This ATC may be used at all bridge sites.

Deviations (required):

Exhibit 4b

2.1.8 Span Arrangement and Skew:

"Provide the minimum channel span length, minimum bridge length, and minimum bent skew angle (measured from a line perpendicular to the alignment centerline) at each site as listed in Attachment B - Hydrology. Do not locate bents within the channel.

At SC 124 over Georges Creek, the minimum approach (not spanning the channel) span length is 40 feet. At all other bridge sites on this project, the minimum approach span length is 50 feet.

All bents shall be parallel to each other. The maximum skew angle for this project is 30 degrees."

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 12

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Attachment B shows:

Bridge	County	Route	Creek	Min Channel Span	Minimum Bridge Length	Minimum Skew
1	Pickens	SC 183	Twelvemile	140 ft	290 ft	15 degree
2	Pickens	SC 183	Gregory	88 ft	150 ft	15 degree
3	Pickens	US 123	Georges	105 ft	245 ft	0 degree
4	Pickens	SC 124	Georges	85 ft	172 ft	0 degree

This ATC requests the Minimum Bridge Length be eliminated as a controlling criteria, and allow the bridge to be set based on controlling criteria (roadway, hydro or other).

Justification:

Removing the Minimum bridge length criteria allows the teams more flexibility in setting bridges based on other approved ATCs, contractor preferences, and contractor abilities. The minimum bridge lengths shown are developed from the solution presented to SCDOT for the conceptual plans. This is not the optimum solution for every contractor, and the optimum solution will change from one contractor to another based on abilities and equipment.

PII and CTEA request SCDOT utilize performance based criteria (required freeboard over design highwater, maximum backwater, no bents in the channel, etc) and allow our team to engineer the solution that meets this criteria while maximizing the abilities of our team.

PII and CTEA cannot set final bridge lengths until the ATC process is completed and we know which ATCs we can employ. We have produced 3 example layouts for SC 124 over Georges Creek showing span arrangements that could be used pending the approval of ATCs.

- Option 1 utilizes a 40-100-40 layout of short spans (cored slabs and box beams if approved) and meets the minimum required channel span (100 > 85) as well as the required minimum bridge length above (180 > 172). Our solution increases the channel span since we moved the bridge from the proposal plans location and need to maintain the 10 ft setback.
- Option 2 utilizes AASHTO Girders in a 40-125 2-span arrangement. We eliminate 1 interior bent. The minimum channel span is still met (115), but the bridge (165 ft) is shorter than the required 172 ft. The ends of the bridge are set outside the existing bridge limits as per HDB 2019-4.
- Option 3 utilizes FIBs and provides a single span solution. The 140 FT bridge is 30 ft shorter than the required bridge length, and shorter than the existing bridge - which would require approval of ATC 13 as well.

For the 3 options shown, the hydraulic capacity is nearly identical. The bench elevation is set the same (for comparison purposes) and end slopes are approximately the same location. For flood events up to and including the 500 year event, there is no difference in hydraulic performance.

Options 1 and 2 maintain bents in the floodplain, while option 3 does not. This may eliminate debris on the interior bents, eliminate scour concerns, and provide a better solution hydraulically than the RFP criteria, while maintaining a shorter bridge which can in turn reduce maintenance.

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 12

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

This ATC helps achieve all SCDOT's goals for the project including:

- Minimization to right-of-way, driveways, businesses
- Minimization to utility impacts
- Schedule certainty
- Cost Certainty
- No change orders

Schedule:

The schedule for the project may be positively impacted by this ATC, especially if interior bents are omitted. It will allow our team to evaluate the various options and pick the one that suits our contractor best.

Until final approval of all ATCs is complete and the bridge layouts are finalized, we do not know if there will be significant schedule differences.

Impacts:

Impacts associated with this ATC are expected to be minor. We anticipate the toe of slopes will be approximately the same location at many sites (or the same as existing). The begin and end bridges may be shortened, and some interior bents could be removed based on the girder depth, low chord, profile, etc.

Other ATCs that allow for lowering of the profile could significantly change the required begin and end bridge stations associated with this ATC.

History:

SCDOT has recently prescribed the required bridge lengths at each site. We encourage a less prescriptive approach and more performance based criteria to allow teams to maximize innovation and quality.

Risks:

The PII_CTEA Team does not believe there are any risks associated with this ATC. Bridge layouts developed by teams that do not meet the requirements and standards of SCDOT will have to be modified to achieve design approval. Requests by SCDOT for items that do meet requirements, but where SCDOT has a different option they would like to have implemented can be changed with a change order if there is a cost difference. SCDOT has the ability to hold teams accountable on future shortlist opportunities where appropriate if teams are taking advantage of the criteria (quality scoring).

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 12

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Costs (required):

PII and CTEA will realize a cost savings to our bid from this ATC. The amount is to be determined based on the approval of other ATCs and final layout of the bridges as compared to the proposal requirements. We estimate the savings could exceed \$1.5 million for this ATC.

Quality:

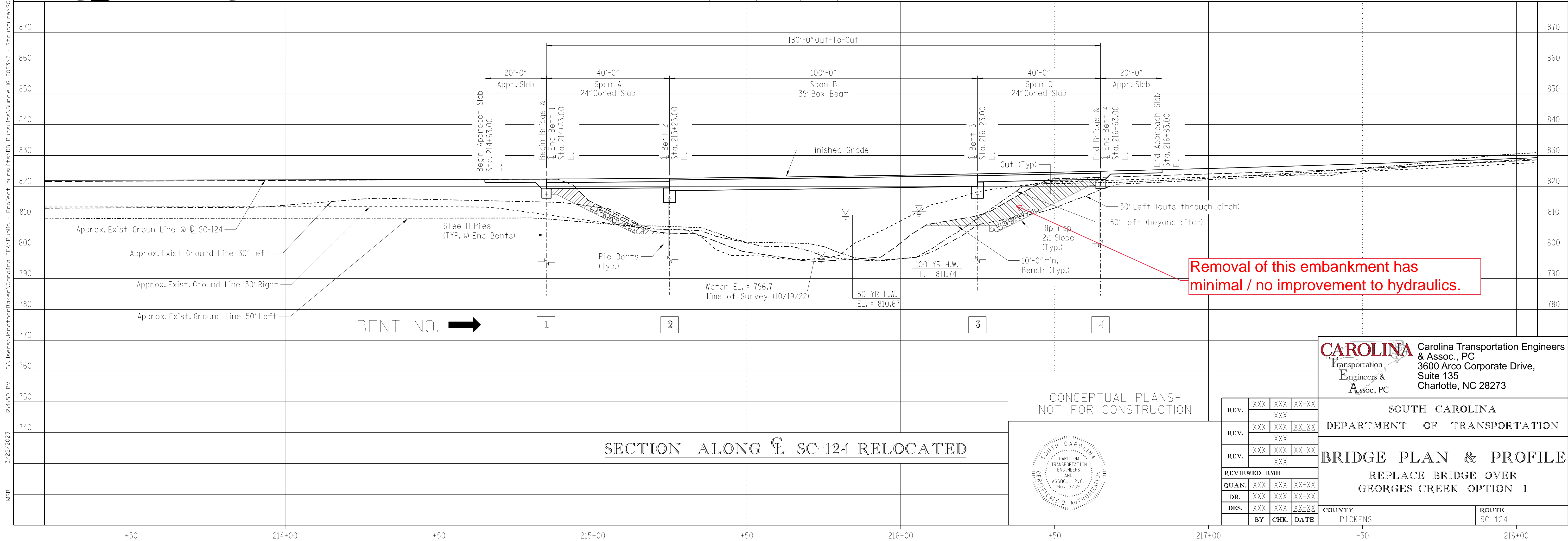
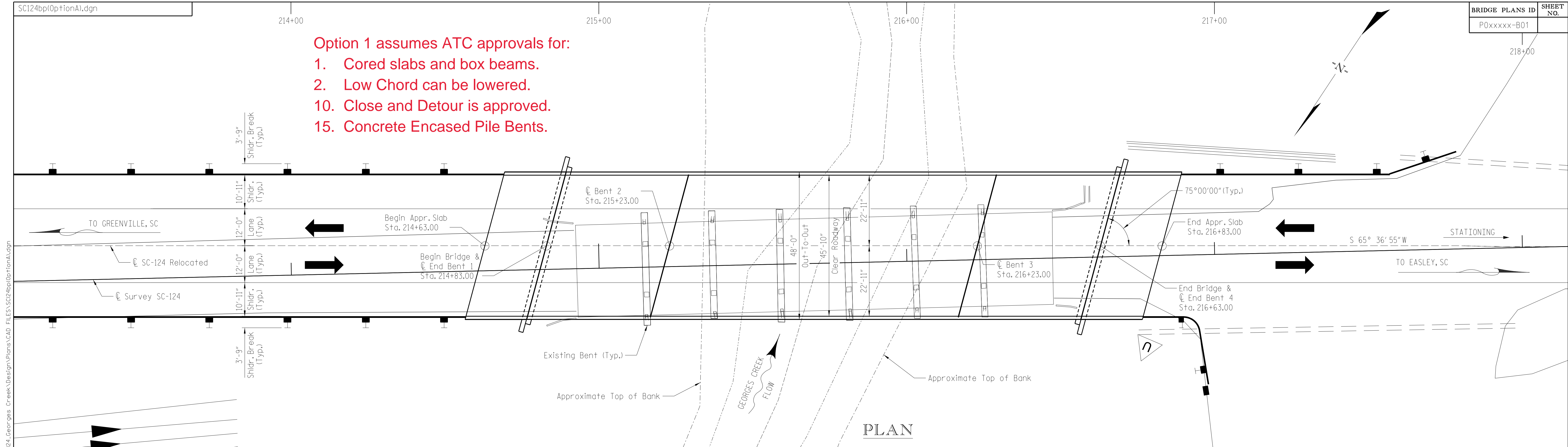
There will be no difference in quality of the bridges or of the project with this ATC.

Operations & Maintenance:

There will be no difference in operations and maintenance. A modest decrease in maintenance may be realized by the decrease in bridge deck area.

1. Cored slabs and box beams.
2. Low Chord can be lowered.
10. Close and Detour is approved.
15. Concrete Encased Pile Bents.

BRIDGE PLANS ID	SHEET NO.
P0xxxxx-B01	



Removal of this embankment has minimal / no improvement to hydraulics.

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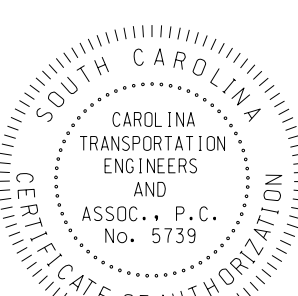
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BRIDGE PLAN & PROFILE

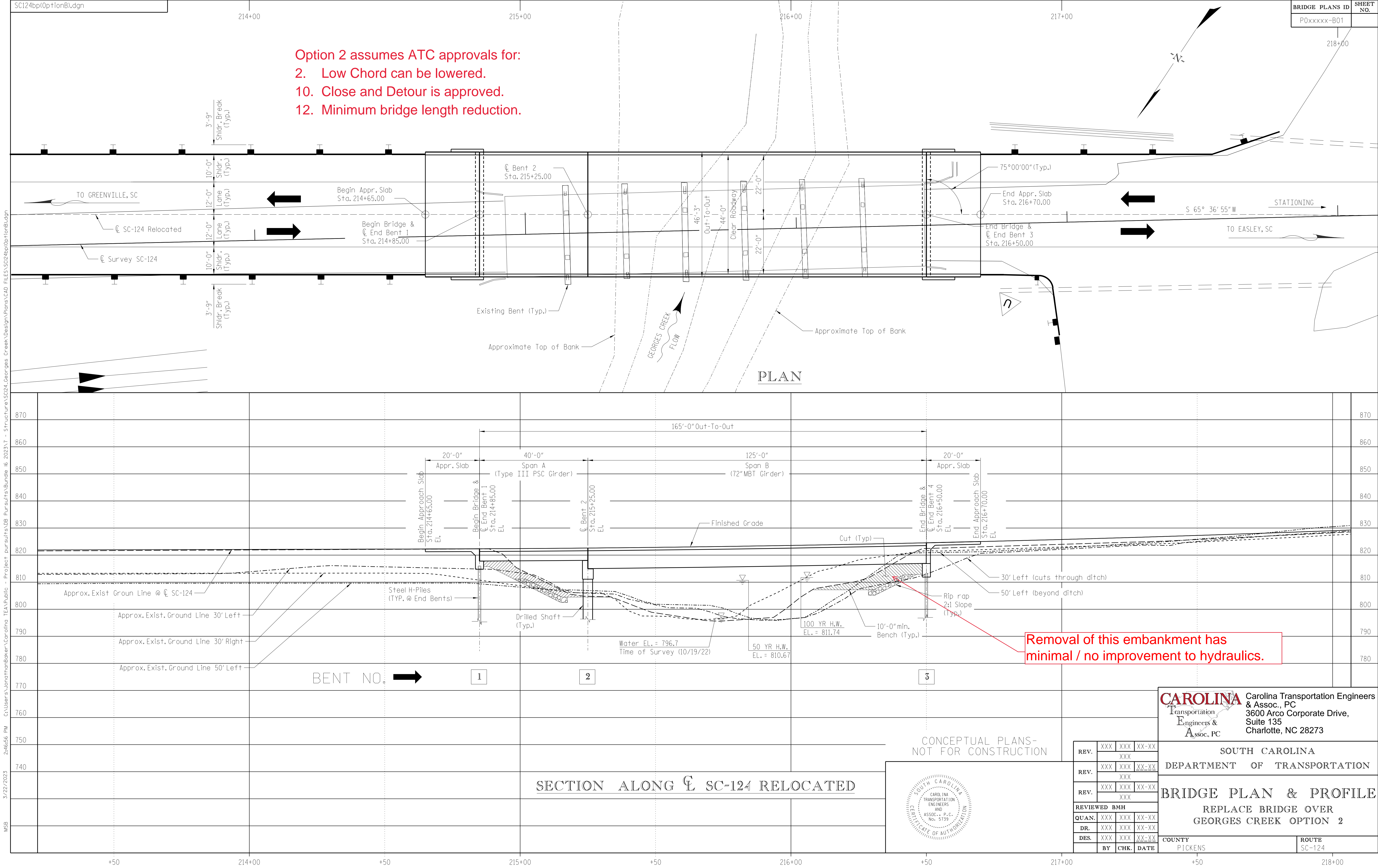
REPLACE BRIDGE OVER GEORGES CREEK OPTION 1

COUNTY PICKENS	ROUTE SC-124
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CONCEPTUAL PLANS-
NOT FOR CONSTRUCTION



REV.	XXX	XXX	XX-XX
	XXX		
REV.	XXX	XXX	XX-XX
	XXX		
REV.	XXX	XXX	XX-XX
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REVIEWED BMH			
QUAN.	XXX	XXX	XX-XX
DR.	XXX	XXX	XX-XX
DES.	XXX	XXX	XX-XX
	BY	CHK.	DATE

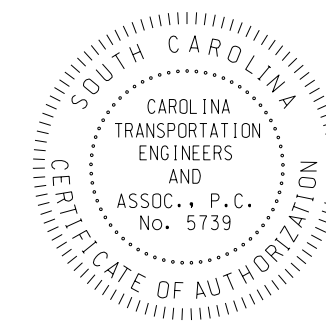


Removal of this embankment has minimal / no improvement to hydraulics.

STATIONING



CONCEPTUAL PLANS-
NOT FOR CONSTRUCTION

SECTION ALONG \mathbb{G} SC-124 RELOCATED

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Charlotte, NC 28273

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DEPARTMENT OF TRANSPORTATION

BRIDGE PLAN & PROFILE

REPLACE BRIDGE OVER GEORGES CREEK OPTION 3

REV.	XXX	XXX	XX-XX
	XXX		
REV.	XXX	XXX	XX-XX
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REV.	XXX	XXX	XX-XX
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REVIEWED BMH			
QUAN.	XXX	XXX	XX-XX
DR.	XXX	XXX	XX-XX
DES.	XXX	XXX	XX-XX
	BY	CHK.	DATE

COUNTY PICKENS	ROUTE SC-124
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Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 13

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Description (required):

Remove HDB 2019-4 Criteria for restricting the bridge length to a minimum of the existing bridge.

PI_CTEA proposes to shorten bridges below the existing bridge limits, so long as the hydraulic capacity under the bridge can be maintained or improved. Option 3 for ATC 12 at SC 124 is an example showing how a bridge with a shorter total length can provide an improved hydraulic opening, which we believe is the ultimate goal of HDB 2019-4.

Usage:

This ATC may be used at all sites when applicable.

Deviations (required):

HDB 2019-4

1.1.9 Bridge Replacements

The low chord of a replacement bridge should not be below the low chord of the existing bridge, and the bridge ends should not be within the limits of the existing bridge. Additionally, the abutment toe of the replacement bridge should not extend past the abutment toe of the existing bridge.

This ATC would allow PII and CTEA to reduce the total bridge length, but we would maintain or improve the existing abutment toe of the existing bridge.

Justification:

HDB 2019-4 requirements ensure a proposed hydraulic opening of a bridge replacement exceeds the existing bridge being replaced. PII and CTEA have developed a replacement solution at SC 124 as an example that provides an increased opening, but allows the bridge to be shorter than the existing. See option 3 of ATC 12 supplemental information.

Eliminating interior bents and reducing the bridge length while providing equal or better hydraulic opening will reduce future maintenance on the structure, and may reduce construction costs and construction schedule. The shortened bridges may also reduce ROW required - a savings realized by SCDOT.

This ATC helps achieve SCDOT's goals for the project including:

- Minimization to right-of-way, driveways, businesses
- Schedule certainty
- Cost Certainty
- No change orders

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 13

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

Schedule:

Approval of this ATC will positively impact the schedule.

Eliminating interior bents, shortening the bridge, being able to move the crane a little closer to main channel picks - these are all items that can improve the schedule.

Approval of this ATC could improve the construction schedule of SC 124 by 30 to 60 days.

Impacts:

The water in Georges Creek will not be impacted by this change for flood events up to and including the 500 yr event. The toe of the abutment slope will not be placed closer to the creek. The additional bridge length being constructed is not adding hydraulic benefit, or any other benefit, to the project.

History:

It is unknown if SCDOT has ever violated this HDB criteria. However, SC 124 is the perfect example of where good engineering judgement should allow for a variance of this criteria.

Risks:

PII and CTEA see no risks associated with this ATC.

Costs (required):

This ATC may reduce costs.

Pending multiple other ATCs, the PII_CTEA team will evaluate options available for the bridge replacement and pick the strategy that best fits each site.

Considering SC 124, a 135ft FIB girder bridge at \$325 / sf versus a 172ft AASHTO girder bridge at \$300/sf, the cost savings will be approximately \$350,000

Quality:

There will be no adverse quality with this ATC. There is no reduction in hydraulic capacity as compared to the proposal

Formal Alternative Technical Concepts Submittal Form

Project: Bridge Package 16 Design Build Project

Project ID: 3962240

ATC No.: 13

Priority: High

Team: Palmetto Infrastructure_Carolina TEA

Date:

plans, and an increase in hydraulic capacity as compared to the existing conditions.

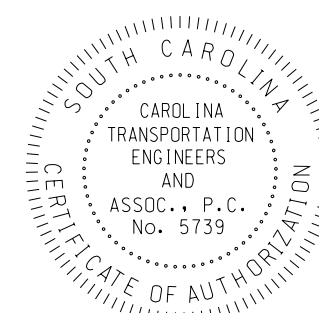
Operations & Maintenance:

The reduction of bridge length and interior bents will be a long term benefit to the maintenance of this bridge. Scour concerns are practically eliminated with this ATC.

1. Cored slabs and box beams.
2. Low Chord can be lowered.
10. Close and Detour is approved.
15. Concrete Encased Pile Bents.



CONCEPTUAL PLANS-
NOT FOR CONSTRUCTION



REV.	XXX	XXX	XX-XX
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REV.	XXX	XXX	<u>XX-XX</u>
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REV.	XXX	XXX	XX-XX
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REVIEWED BMH			
QUAN.	XXX	XXX	XX-XX
DR.	XXX	XXX	XX-XX
DES.	XXX	XXX	<u>XX-XX</u>
	BY	CHK.	DATE

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Assoc., PC

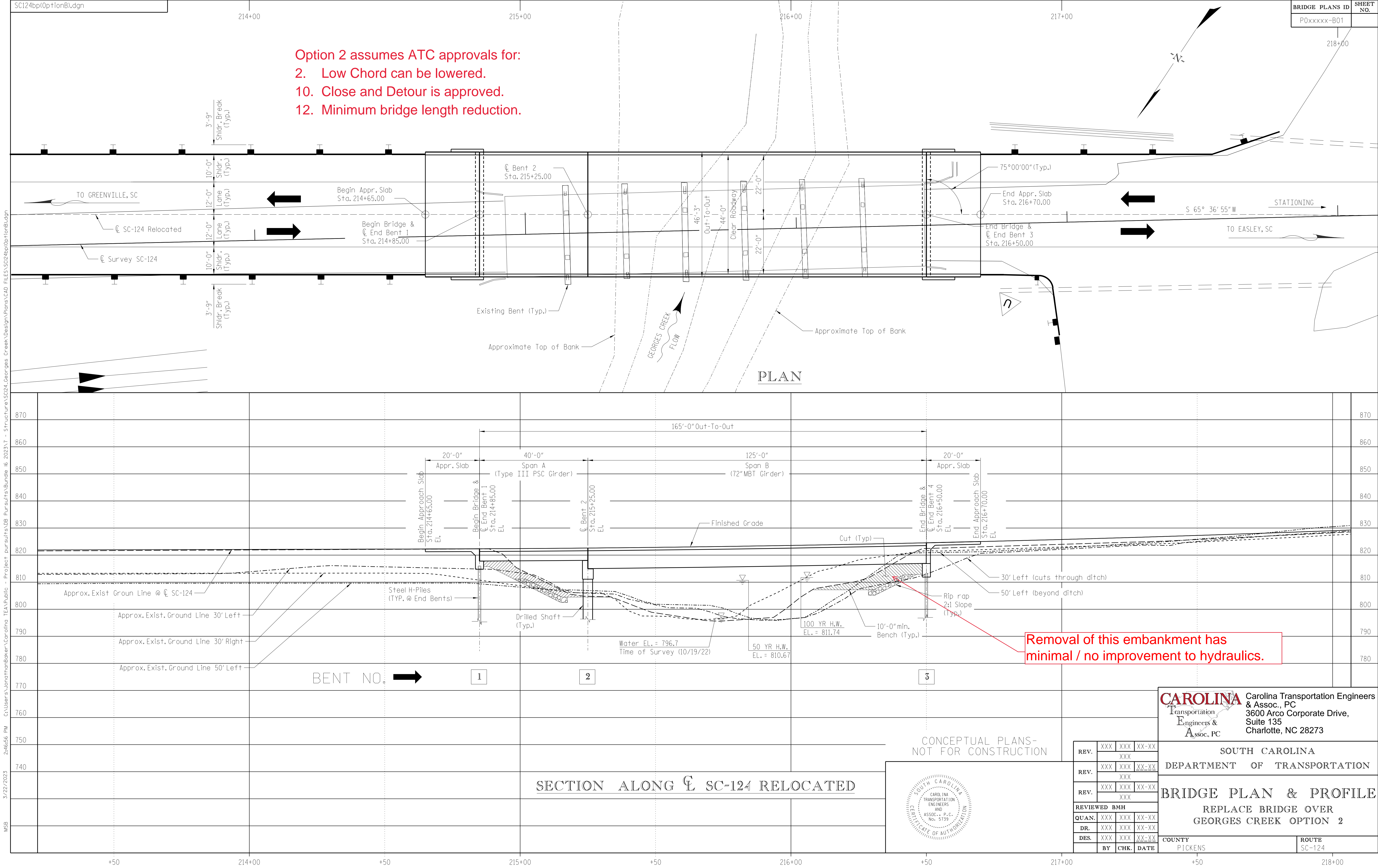
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SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BRIDGE PLAN & PROFILE

REPLACE BRIDGE OVER GEORGES CREEK OPTION 1

COUNTY	ROUTE
PICKENS	SC-124



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STATIONING



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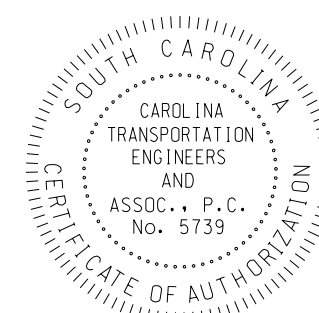
SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BRIDGE PLAN & PROFILE

REPLACE BRIDGE OVER GEORGES CREEK OPTION 3

COUNTY	ROUTE
PICKENS	SC-124

CONCEPTUAL PLANS-
NOT FOR CONSTRUCTION



REV.	XXX	XXX	XX-XX
	XXX		
REV.	XXX	XXX	XX-XX
	XXX		
REV.	XXX	XXX	XX-XX
	XXX		
REVIEWED BMH			
QUAN.	XXX	XXX	XX-XX
DR.	XXX	XXX	XX-XX
DES.	XXX	XXX	XX-XX
	BY	CHK.	DATE