



G R E S H A M
S M I T H A N D
P A R T N E R S



September 12, 2012

Mr. Brent Story, P.E.
State Design Policy Engineer
Georgia Department of Transportation
600 West Peachtree Street, 26th Floor
Atlanta, Georgia 30308

**Subject: Responses to Comments to Request for Approval of Design Exception
CSSFT-0008-00(314) Pickens County
P.I. Number: 0008314
SR 136 from SR 136 Connector to SR 515
GS&P Project No. 24643.05**

Dear Mr. Story,

Gresham, Smith and Partners has prepared an updated request for approval of design exception that addresses each of the comments and questions from FHWA in their letter to the Department on March 20, 2012. The following is a summary of how each comment has been addressed.

1. *Please verify if there are any differences in the vertical and horizontal alignment requirements in the 2004 AASHTO Policy on Geometric Design of Highways and Streets (Green Book) and the 2010 Green Book.*

Verified and noted on page 5 in the first paragraph of section titled "Features Requiring Design Exception".

2. *In the Mitigating Factors section of the request, it is noted that the crash frequency and severity along SR 136 should potentially be reduced. The information presented seems to suggest uncertainty in the assessment of the proposed project benefits. Please provide information on the types of assessments conducted that resulted in potential accomplishment of the proposed project's need and purpose.*

Previous wording has been revised and several proposed types of mitigation strategies are described.

3. *In the Mitigating Factors section of the request, it is noted that lighting is not recommended due to the uncertainty of obtaining a lighting agreement with Pickens County. With unsubstantiated information provided in the request, supplemental information should be provided. Please provide complete and supported assessments and determinations for review of the design exception.*

Design Services For The Built Environment

2325 Lakeview Parkway, Suite 400 / Alpharetta, Georgia 30009-7940 / Phone 770.754.0755 / www.gspnet.com

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Injury and fatal crash data has been included on page 10 that shows the lighting environment during each event. A discussion of lighting as a mitigation strategy has been included.

- 4. The crash history information provided in the design exception request shows that there have consistently been crashes resulting in non-fatal injuries and/or fatal injuries over a consecutive nine year period along the proposed project corridor. Furthermore, in the comparison to similar roadway facilities, SR 136 is reported to have rates significantly higher than the statewide averages. Please provide additional information to demonstrate the infeasibility of the increasing the project cost by \$2,860,000.00 to construct SR 136 vertical alignment to AASHTO standards.*

Additional information to support the design exception has been added to the request. A summary is included on pages 10 and 11.

- 5. In the Recommendations section it is concluded that an adjusted profile per AASHTO guidance would have little to no potential in reducing crashes or frequency of crashes. Please provide explanation and supporting documentation for the noted conclusion.*

This discussion has been removed from the revised request. A drawing has been included that conveys the seven vertical alignment areas and the documented crashes in each area.

- 6. The proposed project layout provided on the last page of the design exception request supplements the crash data (Table 1) by providing the location of the fatalities that occurred along the project corridor. Please also provide information on the time of day and type of crash that resulted in injury and/or fatality for the locations identified.*

Injury and fatal crash data has been included on page 10.

- 7. On the proposed project layout, it is noted that unfamiliar regional drivers along the proposed project corridor contribute to the accidents experienced along SR 136. Furthermore, it is noted that trucks travel along the corridor at speeds greater than 55mph. The proposed project layout shows flags for the following geometric deficiencies along the proposed project corridor: sight distance, intersection angle, and horizontal curve. With the combination of unfamiliar drivers, trucks traveling at high speeds (55+mph), inadequate sight distance, and substandard horizontal alignment; it is recommended that the proposed improvements and mitigation strategies be re-evaluated. Please provide information on how the deficiencies will be addressed and what can be implemented in an effort to improve safety along the corridor.*

In addition to the specific other improvements associated with the project, ten types of mitigation strategies are proposed and described on page 9.

- 8. Page 13-01, the drive located near STA 130+00 seems to present the opportunity to cause adverse impact to the roundabout intersection located west of the location. As shown on the*



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construction layout, the permissible left turn movement by eastbound drivers can influence the free flow operations of the roundabout. Furthermore, the left turning movement at the noted location could also increase the occurrence of rear-end crashes. Please ensure that the proposed design provides adequate operations throughout.

This suggestion will be considered during the design phase of the project, however is unrelated to the design exception being requested, and therefore has not been included in the revised request.

9. *Page 15-01, the profile sheet does not show the profile tie to existing on the west side of STA 126+00. Please provide the related profile sheet to show how the entire extent of the proposed project profile ties to existing.*

The extended profile sheets for all three legs of the proposed roundabout at SR 136 and SR 136 Connector has been included in the revised request. Please see sheet 16-01.

Please do not hesitate to contact us if you have any questions concerning these responses.

Sincerely,

A handwritten signature in blue ink, appearing to read "Eric J. Rickert", with a long horizontal flourish extending to the right.

Eric J. Rickert, P.E.
Gresham, Smith and Partners

Copy File
Derrick Cameron, GDOT Office of Program Delivery
Charity Belford, GDOT Office of Program Delivery
Jody Braswell, P.E., GS&P



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Rec'd
from
FHWA

September 12, 2012



Mr. Brent Story, P.E.
State Design Policy Engineer
Georgia Department of Transportation
600 West Peachtree Street, 26th Floor
Atlanta, Georgia 30308

Subject: Revised Request for Approval of Design Exception
CSSFT-0008-00(314) Pickens County
P.I. Number: 0008314
SR 136 from SR 136 Connector to SR 515
GS&P Project No. 24643.05

Dear Mr. Story,

Gresham, Smith and Partners is assisting the department with the design of P.I. No. 0008314 in Pickens County. The project consists of improvements to SR 136 between SR 136 Connector and SR 515 (see attached). The existing SR 136 vertical profile has several vertical alignments with K-values not typically desirable for the current posted 55 mph speed limit.

Unfortunately, adjusting the profile to adhere to AASHTO guidance would increase impacts to the environmental, cultural, and historic resources in the area, require off site detours that would be disruptive to the community, contradict desires of the Citizens Advisory Committee created for the project, and would increase construction and right of way costs. For these reasons, we recommend approval of a design exception.

We have identified several mitigation strategies that are appropriate to the exception. The following letter describes the development of the project, details of this request, and those mitigating strategies.

Project Description

SR 136 currently consists of one 12 ft wide travel lanes in each direction with rural shoulders (of which 2 ft are paved). GDOT Project CSSFT-0008-00(314) on SR 136 is proposed to address the crash frequency and severity at select locations and widen the shoulders to comply with AASHTO guidance. The proposed project begins at the intersection with SR 136 Connector (MP 3.64) in the Blaine community and ends at the intersection with the SR 515 connector road (MP 6.35) approximately one mile west from Talking Rock city limits. The widened shoulders along SR 136 will be designed to accommodate bicyclists along SR 136 as recommended in the (2005) North Georgia Regional Bicycle and Pedestrian Plan. The speed design on SR 136 is 55 mph throughout the project. The proposed project has an overall length of 2.7 miles, all within Pickens County.

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A Citizen Advisory Committee (CAC) public involvement process was used to develop the project concept. The CAC was created in response to local concerns during initial project data gathering and as recommended by FHWA. The Citizen Advisory Committee was made up of the Project Team, Staff Work Group and a Community Work Group. The committee members and participants included local stakeholders and residents, City of Talking Rock officials, Pickens County's sole commissioner, Northwest Georgia Regional Commission (MPO), Georgia Chapter of the Trail of Tears Association, the Marble Valley Historical Society, and FHWA. The CAC was assembled for three meetings, each progressing in design detail. This process allowed GDOT to work in an iterative design process ensuring proper design principles while also receiving public input. The CAC process produced consensus from the public and GDOT for the proposed project while satisfying the need and purpose established by GDOT.

Through the CAC process, the proposed project consists of the following improvements:

- Replace the existing 'T' intersection at SR 136 and SR 136 Connector in the Blaine community with a roundabout. A roundabout at this location is anticipated to reduce the number and severity of crashes by reducing the number of conflicting turn movements and by reducing the speed of vehicles through the intersection.



- A horizontal curve on SR 136 is proposed to be improved to meet AASHTO guidance and left and right turn lanes would be added on SR 136 at Antioch Church Road. The improved horizontal geometry, intersection angle and additional storage lanes would increase the intersection sight distance and provide queue storage for turning vehicles. These improvements are anticipated to reduce the number of single vehicle, rear end, and angle type crashes.



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- The two intersection angles at Priest Circle with SR 136 are proposed to be modified from 40 degrees to 70 degrees. The improved intersection angles would increase the intersection sight distance thereby reducing angle type crashes.



- The existing sharp horizontal curve on SR 136 (at Sta 135+00 RT) is proposed to be modified to meet the updated AASHTO guidance. This would be accomplished by



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realigning SR 136 onto new location roadway to intersect with Ellijay Road at 90 degrees. A roundabout is proposed for the realigned SR 136 and Ellijay Road intersection and the existing 'T' intersection will be removed. The reduced number of conflict points in the roundabout is anticipated to reduce the number of angle type crashes. Also, the elimination of the horizontal curve and widened shoulder on SR 136 would reduce the potential for single vehicle run off and head-on crashes.

- The intersection angle of SR 136 and the SR 515 connector road is proposed to be adjusted to improve intersection sight distance and it anticipated to reduce the number of angle type crashes.





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The shoulders along both sides of SR 136 (except at the roundabouts) would be widened to 10 ft with 6.5 ft paved to accommodate bicyclists per the *GDOT Design Policy Manual-Version 2.0* and AASHTO Publication *Guide for the Development of Bicycle Facilities*. Rumble strips would be embedded into the paved shoulder to help decrease the potential of single vehicle run off crashes. The foreslopes, ditches, and drainage structures affected by the shoulder widening will be upgraded to comply with clear zone requirements per the *AASHTO Roadside Design Guide*. The existing pavement between the five improvement areas would be overlaid and restriped.

Features Requiring Design Exception

There are design parameters associated with the proposed roadway profile which will require exception based upon the 55 mph design speed (please note all references to the AASHTO Publication, *A Policy on Geometric Design of Highways and Streets 2004*, also apply to the 2010 edition):

1. The proposed broken back sag vertical curves on SR 136 between the SR 136 Connector intersection and the Antioch Church Road intersection have K values that are 78.96 (PVC Sta. 143+34.92 to PVT Sta. 146+34.92) and 74.70 (PVC Sta. 148+41.80 to PVT Sta. 153+41.80), respectively. These values match the existing profile and correspond to a 45 mph design speed that is lower than the minimum (K value of 115) sag vertical curve as required by the AASHTO Publication, *A Policy on Geometric Design of Highways and Streets 2004*, Exhibits 3-75 Design Controls for Sag Vertical Curves, page 277.
2. The proposed crest vertical curve on SR 136 at the Antioch Church Road intersection has a K value of 69.76 (PVC Sta. 159+08.79 to PVT Sta. 167+08.79). This value matches the existing profile and correspond to a 45 mph design speed that is lower the minimum (K value of 114) crest vertical curve as required by the AASHTO Publication, *A Policy on Geometric Design of Highways and Streets 2004*, Exhibits 3-72 Design Controls for Sag Vertical Curves, page 272.
3. The proposed sag vertical curve on SR 136 between the intersections of Antioch Church Road and the Priest Circle has a K value of 96.73 (PVC Sta. 182+32.19 to PVT Sta 186+92.19). This value matches the existing profile and correspond to a 50 mph design speed that is lower than the minimum (K value of 115) sag vertical curve as required by the AASHTO Publication, *A Policy on Geometric Design of Highways and Streets 2004*, Exhibits 3-75 Design Controls for Sag Vertical Curves, page 277.
4. The proposed crest vertical curve on SR 136 at the western Priest Circle intersection leg has a K value of 90.59 (PVC Sta. 192+98.35 to PVT Sta. 196+98.35). This value matches the existing profile and correspond to a 50 mph design speed that is lower than the minimum (K value of 114) crest vertical curve as required by the AASHTO Publication, *A Policy on Geometric Design of Highways and Streets 2004*, Exhibits 3-72 Design Controls for Sag Vertical Curves, page 272.



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5. The proposed sag vertical curve on SR 136 between the western intersection and eastern intersection of Priest Circle has a K value of 80.63 (PVC Sta. 198+02.98 to PVT Sta 201+02.98). This value matches the existing profile and correspond to a 45 mph design speed that is lower than the minimum (K value of 115) sag vertical curve as required by the AASHTO Publication, *A Policy on Geometric Design of Highways and Streets 2004*, Exhibits 3-75 Design Controls for Sag Vertical Curves, page 277.
6. The proposed crest vertical curve on SR 136 at the eastern intersection Priest Circle has a K value of 86.54 (PVC Sta. 207+44.34 to PVT Sta. 211+44.34). This value matches the existing profile and correspond to a 50 mph design speed that is lower than the minimum (K value of 114) crest vertical curve as required by the AASHTO Publication, *A Policy on Geometric Design of Highways and Streets 2004*, Exhibits 3-72 Design Controls for Sag Vertical Curves, page 272.
7. The proposed sag vertical curve on SR 136 just east of the eastern intersection with Priest Circle has a K value of 94.43 (PVC Sta. 211+79.89 to PVT Sta 214+79.89). This value matches the existing profile and correspond to a 50 mph design speed that is lower than the minimum (K value of 115) sag vertical curve as required by the AASHTO Publication, *A Policy on Geometric Design of Highways and Streets 2004*, Exhibits 3-75 Design Controls for Sag Vertical Curves, page 277.

Attached to this request is a drawing showing the seven vertical alignment areas described above. Each area has been identified and located in proximity to the documented crashes during the study period.



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Traffic / Crash Data

Roadway Segment	2010 Existing Year AADT	2014 Opening Year AADT	2034 Design Year AADT
SR 136 from SR 136 Conn. to SR 515	6,150	7,050	14,050

This project has a 24 hour truck percentage of 16%.

Table 1. Summary of Traffic Crash History by Severity along SR 136¹

Year	Crashes			Crashes Per 100 Million Vehicle Miles ²		
	Total	Injury	Fatal	Total	Injury	Fatal
2000	16	5	3	394 (188)	123 (62)	73.89 (2.28)
2001	13	3	2	320 (185)	74 (62)	49.26 (2.02)
2002	11	6	1	271 (195)	148 (68)	24.63 (2.20)
2003	9	5	0	222 (211)	123 (70)	0.00 (2.65)
2004	13	6	0	320 (273)	148 (94)	0.00 (2.93)
2005	14	6	0	345 (197)	148 (74)	0.00 (3.00)
2006	11	4	0	271 (203)	99 (73)	0.00 (3.28)
2007	11	3	2	271 (203)	74 (72)	49.26 (3.24)
2008	6	2	0	148 (194)	49 (68)	0.00 (3.03)
Total	104	40	8			

Note: (1) The crash data provided is for the section of SR 136 between MP 3.60 to MP 6.30.
 (2) The number in parentheses represents the statewide average crash rates for rural major collectors

Table 2. Summary of Traffic Crash History by Manner of Collision along SR 136

Year	Manner of Collision						Total
	Angle	Head On	Rear End	Sideswipe - Same Direction	Sideswipe - Opposite Direction	Other (Single-Vehicle)	
2000	2	0	0	2	0	12	16
2001	3	1	3	0	0	6	13
2002	4	0	1	0	0	6	11
2003	4	0	2	0	0	3	9
2004	3	0	0	2	0	8	13
2005	3	0	2	0	0	9	14
2006	2	0	2	1	0	6	11
2007	2	1	1	0	1	6	11
2008	0	1	3	0	0	2	6
Total	23	3	14	5	1	58	104



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Why Current Guidelines Cannot be Met

A profile with AASHTO compliant vertical curves would raise SR 136 as much as 2.9 ft between the intersections of the SR 136 Connector and Antioch Church Road and undercut the roadway 7.1 ft at the Antioch Church Road intersection. It would also raise SR136 approximately one foot at the other locations (see attached profile). This profile would increase the construction limits, require additional right of way, and require an on-site detour. There is not a nearby parallel state route to accomplish an efficient off site detour.

A profile with AASHTO compliant vertical curves would increase the potential for adverse impacts to the many historical, cultural, and wetland resources along the corridor. SR 136 is bordered throughout much of the project on the north side by the Old Federal Road, a Section 4(f) historical resource, and on the south side by two community resources, a Masonic Lodge and a potential cemetery (currently under investigation). Additionally, wetlands are present in the aforementioned sag vertical curves and would be impacted by profile changes.

Profiles changes were discussed at length during the Citizen Advisory Committee meetings. The citizens and stakeholders in the CAC were strongly opposed to additional impacts to the character and environmental resources of the SR 136 corridor. The profile changes described in this request would further impact those areas. The GDOT design team committed to avoiding these impacts if possible.

The summary of crash history from the years 2000 to 2008 (see attachment) show that the vast majority of crashes within the project are angle or other types of single vehicle crashes. Such crashes are typically attributed to design features such as horizontal or intersection geometry than stopping sight distance or roadway profile features. In addition, most of the crashes do not correlate with the locations of the aforementioned deficient vertical curves and none of the fatal crashes originated in these areas.

Cost to Meet the Current Guidelines

Changes to the vertical alignments is anticipated to increase the construction costs by the following amounts:

- \$1,000,000 in earthwork and site preparation
- \$200,000 in maintenance of traffic costs
- \$200,000 in asphalt leveling

Total construction:	\$1,400,000
Right of way:	\$ 60,000
Total:	\$2,860,000

The overall construction cost with an approved design exception and without the above amounts is estimated at \$5,400,000. At least one residential displacement is anticipated if



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vertical alignments were included in the design, however value of such has not been determined at this time and are not included in the reported estimates.

Additional, immeasurable costs also associated with the vertical alignment changes include impacts to the environmental features along the corridor including the Old Federal Road, a Section 4(f) historic resource, ecology features, and local community features, along with negating a commitment to the CAC team to limit impacts as much as possible, which would further erode the goodwill and trust developed by GDOT and the community.

Mitigating Strategies

Several features and benefits to the project have been identified including improved shoulders along the entire project length of SR 136, bicycle lanes, intersection improvements and horizontal geometric improvements. All of these are anticipated to reduce the crash frequency and severity along SR 136.

For the features requiring a design exception, we have identified the following mitigation strategies:

Objective	Proposed Mitigation Strategies
Improve ability to stay within the lane	Enhanced pavement markings with paved shoulders to be included Delineators to be included Centerline rumble strips to be included Shoulder rumble strips to be included Painted edgeline rumble strips to be included
Improve ability to recover if driver leaves the lane	Paved shoulders to be included Safety edge to be included
Mitigate sight distance restrictions	Signing and speed advisory plaques to be included
Improve ability to avoid crashes	10' wide shoulders to be included
Improve driver awareness on approach to intersections	Advanced warning signs to be included

Lighting

The placement of lighting as a mitigating strategy was analyzed and a summary of injury and fatal crashes are summarized on the following page. During the study year of 2000-2007, 12 of the 48 injury or fatal crashes (25%) occurred at dark, non-lighted conditions. Additional study would be required to determine whether lighting would have prevented or lessen the severity of those crashes. If lighting was determined to be an appropriate mitigating strategy, acceptance of future operation and maintenance costs by the local government would be required.



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Injury and Fatal Crashes along SR 136 in Pickens County (Milelogs: 3.6 to 6.3)						
Accident No	Date	Time	Severity	Type	Light	
'00540004	Sunday, January 02, 2000	3:33 PM	Injury	Not A Collision With A Motor Vehicle	Daylight	
'00560778	Sunday, February 13, 2000	9:44 PM	Injury	Angle	Dark-Not Lighted	
'02190024	Sunday, July 09, 2000	2:53 AM	Injury	Not A Collision With A Motor Vehicle	Dark-Not Lighted	
'02460365	Sunday, August 27, 2000	7:17 PM	Injury	Sideswipe - Same Direction	Dusk	
'02460382	Sunday, August 27, 2000	7:17 PM	Injury	Sideswipe - Same Direction	Dusk	
'10210476	Monday, January 29, 2001	12:30 AM	Injury	Not A Collision With A Motor Vehicle	Dark-Not Lighted	
'11150349	Wednesday, June 13, 2001	1:14 PM	Injury	Not A Collision With A Motor Vehicle	Daylight	
'14160508	Saturday, December 01, 2001	5:10 PM	Injury	Rear End	Dusk	
'20800023	Thursday, February 21, 2002	3:41 PM	Injury	Angle	Daylight	
'20800024	Friday, February 22, 2002	11:01 PM	Injury	Not A Collision With A Motor Vehicle	Dark-Not Lighted	
'22280214	Sunday, April 14, 2002	1:40 PM	Injury	Not A Collision With A Motor Vehicle	Daylight	
'22280218	Thursday, April 18, 2002	2:06 PM	Injury	Angle	Daylight	
'22390113	Wednesday, July 31, 2002	8:07 AM	Injury	Rear End	Daylight	
'24280357	Monday, December 09, 2002	12:25 AM	Injury	Not A Collision With A Motor Vehicle	Dark-Not Lighted	
'31620551	Friday, August 15, 2003	6:40 PM	Injury	Rear End	Daylight	
'32040310	Saturday, September 20, 2003	9:12 AM	Injury	Not A Collision With A Motor Vehicle	Daylight	
'32450390	Thursday, October 16, 2003	9:27 AM	Injury	Angle	Daylight	
'32860445	Friday, November 07, 2003	6:02 PM	Injury	Angle	Dark-Not Lighted	
'32860462	Sunday, November 23, 2003	5:06 PM	Injury	Angle	Daylight	
'41210052	Monday, February 09, 2004	3:32 PM	Injury	Not A Collision With A Motor Vehicle	Daylight	
'41210055	Wednesday, February 11, 2004	11:01 AM	Injury	Not A Collision With A Motor Vehicle	Daylight	
'42300527	Sunday, April 04, 2004	3:48 PM	Injury	Angle	Daylight	
'43160370	Sunday, July 11, 2004	2:26 PM	Injury	Not A Collision With A Motor Vehicle	Daylight	
'43560135	Thursday, September 16, 2004	1:53 PM	Injury	Angle	Daylight	
'44840659	Friday, December 24, 2004	4:55 AM	Injury	Not A Collision With A Motor Vehicle	Dark-Not Lighted	
'51170655	Monday, March 07, 2005	6:45 PM	Injury	Not A Collision With A Motor Vehicle	Dusk	
'51170671	Friday, March 18, 2005	7:10 AM	Injury	Angle	Daylight	
'52100680	Thursday, May 26, 2005	3:17 PM	Injury	Angle	Daylight	
'53560059	Wednesday, September 14, 2005	4:13 AM	Injury	Not A Collision With A Motor Vehicle	Dark-Not Lighted	
'53930454	Monday, September 26, 2005	7:00 AM	Injury	Not A Collision With A Motor Vehicle	Dark-Not Lighted	
'54820162	Friday, December 02, 2005	5:12 PM	Injury	Angle	Daylight	
'60950216	Wednesday, March 29, 2006	12:33 PM	Injury	Not A Collision With A Motor Vehicle	Daylight	
'64100618	Wednesday, October 04, 2006	5:42 PM	Injury	Angle	Daylight	
'65110126	Wednesday, December 27, 2006	5:50 PM	Injury	Rear End	Dark-Not Lighted	
'65170140	Friday, December 22, 2006	7:49 AM	Injury	Not A Collision With A Motor Vehicle	Daylight	
'72090027	Sunday, May 27, 2007	1:25 PM	Injury	Not A Collision With A Motor Vehicle	Daylight	
'75230342	Friday, November 02, 2007	8:26 PM	Injury	Angle	Dark-Lighted	
'75580389	Monday, December 17, 2007	7:59 AM	Injury	Not A Collision With A Motor Vehicle	Daylight	
'83340441	Thursday, July 31, 2008	1:53 PM	Injury	Rear End	Daylight	
'83670391	Monday, September 22, 2008	7:19 AM	Injury	Head On	Dawn	
'03180064	Tuesday, November 07, 2000	4:30 PM	Fatal	Angle	Daylight	
'03180065	Tuesday, November 07, 2000	7:15 PM	Fatal	Not A Collision With A Motor Vehicle	Dark-Not Lighted	
'03180158	Thursday, July 13, 2000	4:57 PM	Fatal	Not A Collision With A Motor Vehicle	Daylight	
'12430173	Monday, August 13, 2001	6:48 AM	Fatal	Head On	Dawn	
'13950211	Monday, December 17, 2001	3:35 PM	Fatal	Angle	Daylight	
'22840115	Thursday, October 17, 2002	10:00 AM	Fatal	Angle	Daylight	
'73170106	Monday, July 16, 2007	2:40 PM	Fatal	Not A Collision With A Motor Vehicle	Daylight	
'75130046	Friday, October 19, 2007	5:30 AM	Fatal	Head On	Dark-Not Lighted	

Recommendation

The existing SR 136 vertical profile has several vertical curve with K-values not typically desirable for a 55 mph design speed. However, adjusting the profile to adhere to AASHTO guidance is not recommended for the following reasons:

- Vertical alignment changes would increase impacts to the environmental, cultural, and historical resources of the corridor
- Vertical alignment changes would require off-site detours, disruptive to the residents and stakeholders in the area



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- Vertical alignment changes would contradict the desires of the CAC to limit impacts of improvements to character and environmental resources of the corridor
- Vertical alignment changes would increase the proposed project construction costs
- Vertical alignment changes would increase right of way costs

If approved, a commitment from GDOT is recommended to include all of the mitigating strategies listed in this request into the project. Gresham, Smith and Partners in conjunction with the Office of Program Delivery recommends the approval of these exceptions.

Sincerely,

Eric J. Rickert, P.E.
Gresham, Smith and Partners

Concur:

Derrick Cameron
Project Manager,
GDOT Office of Program Delivery

Concur:

Director of Engineering

Approved:

10/17/12

Chief Engineer

Approved:

for FHWA Division Administrator

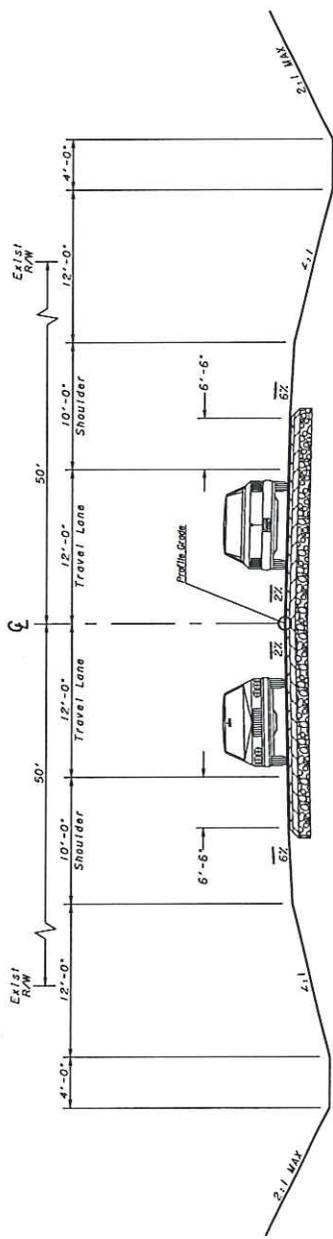
10/10/12
Date

Attachments:

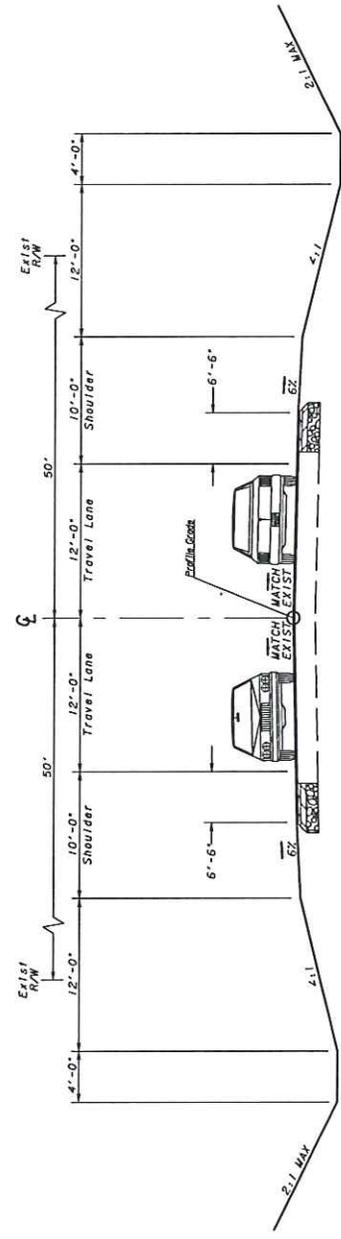
- Crash data map
- SR 136 plan
- SR 136 profile
- Typical Section
- Traffic Diagrams

Copy

- File
- Derrick Cameron, GDOT Office of Program Delivery
- Charity Belford, GDOT Office of Program Delivery
- Jody Braswell, P.E., GS&P

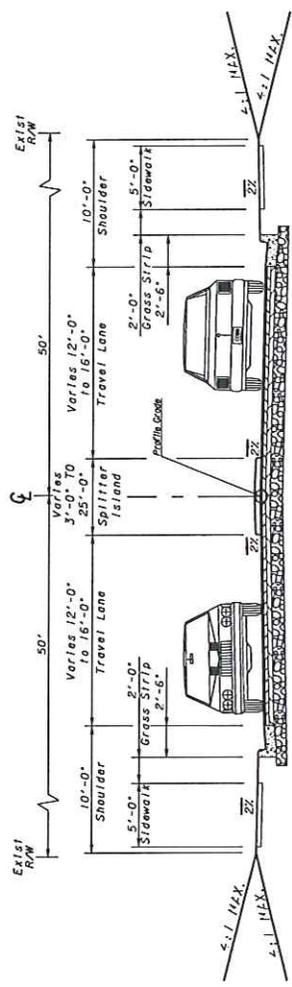


TYPICAL SECTION NO. 1
INSIDE AREAS OF GEOMETRIC AND
INTERSECTION IMPROVEMENTS AT
ANTIOCH CHURCH ROAD AND SR 515 CONNECTION
ROAD INTERSECTIONS

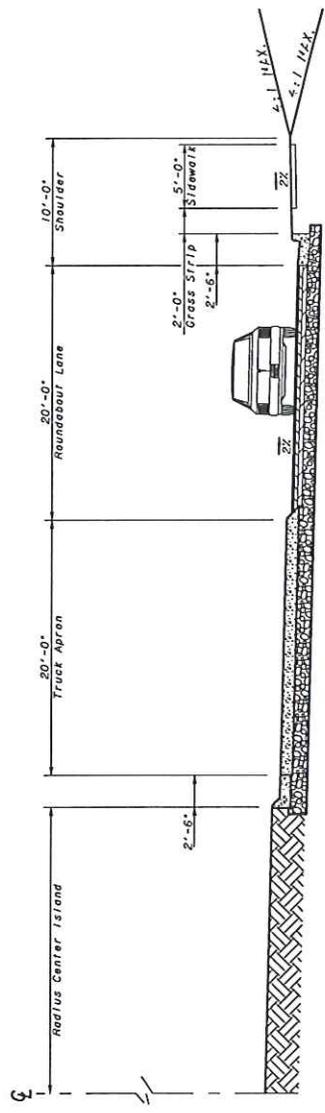


TYPICAL SECTION NO. 2
OUTSIDE AREAS OF GEOMETRIC AND
INTERSECTION IMPROVEMENTS

 GRESHAM SMITH AND PARTNERS	REVISION DATES	GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE: PROGRAM DELIVERY
	NOT TO SCALE	TYPICAL SECTION SR 136 FROM SR 136 CONN. TO SR 515 SAFETY IMPROVEMENT PROJECT

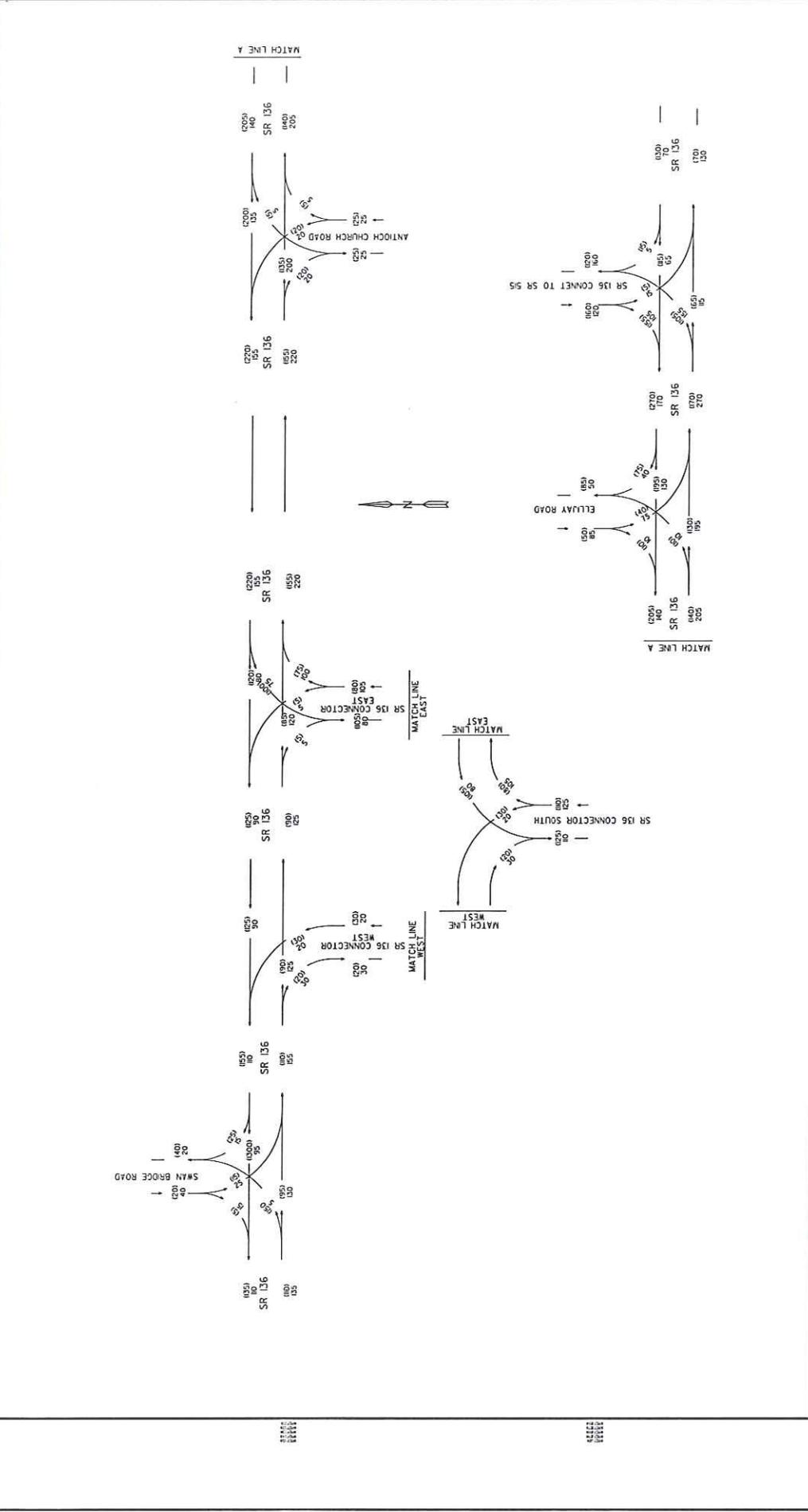


TYPICAL SECTION NO. 3
 INSIDE AREAS OF GEOMETRIC AND
 INTERSECTION IMPROVEMENTS AT
 SR 136 CONNECTOR AND OLD ELLIJAY
 ROAD ROUNDABOUT INTERSECTION APPROACHES

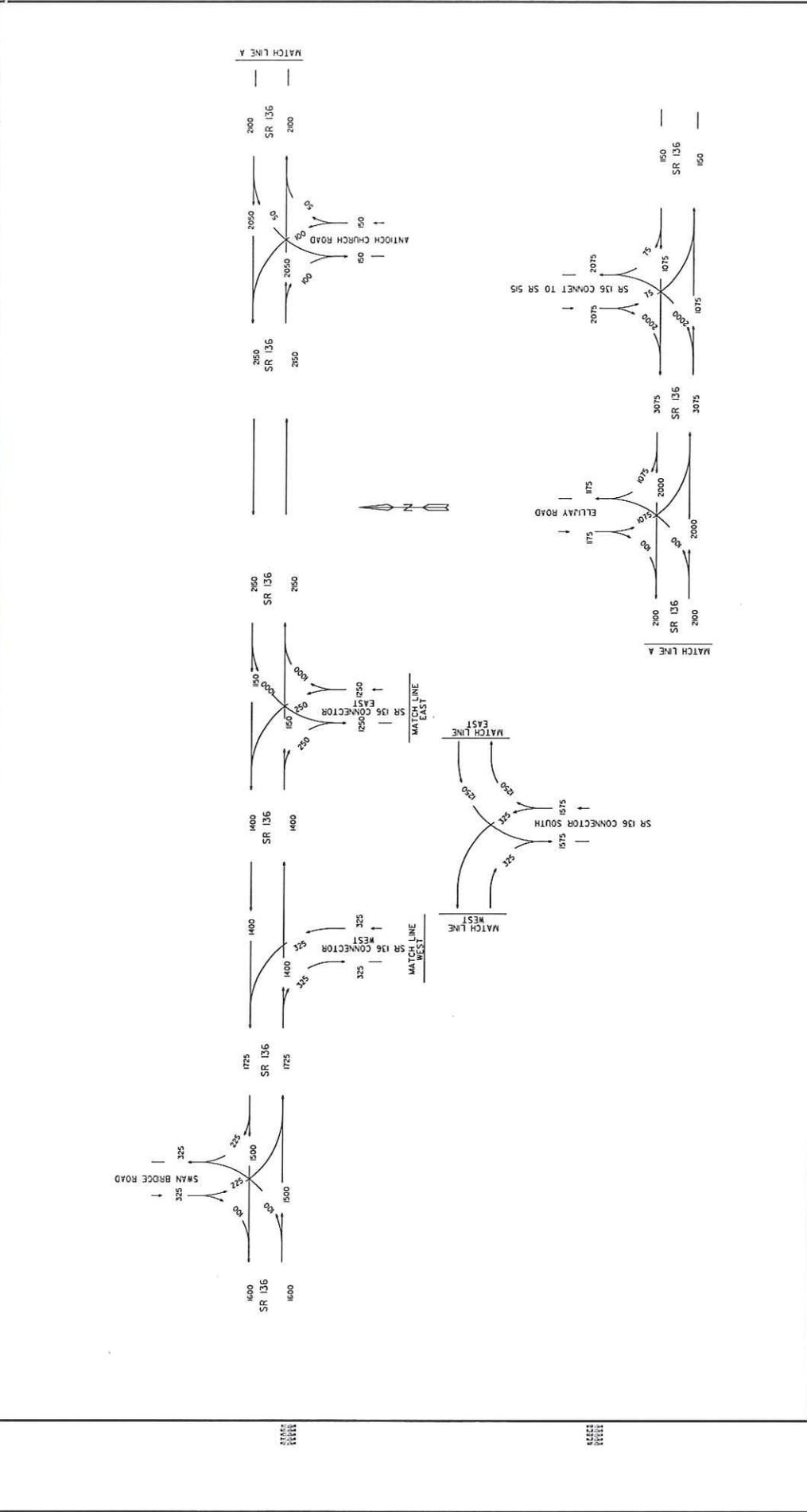


TYPICAL SECTION NO. 4
 INSIDE AREAS OF GEOMETRIC AND
 INTERSECTION IMPROVEMENTS AT
 SR 136 CONNECTOR AND OLD ELLIJAY
 ROAD ROUNDABOUTS

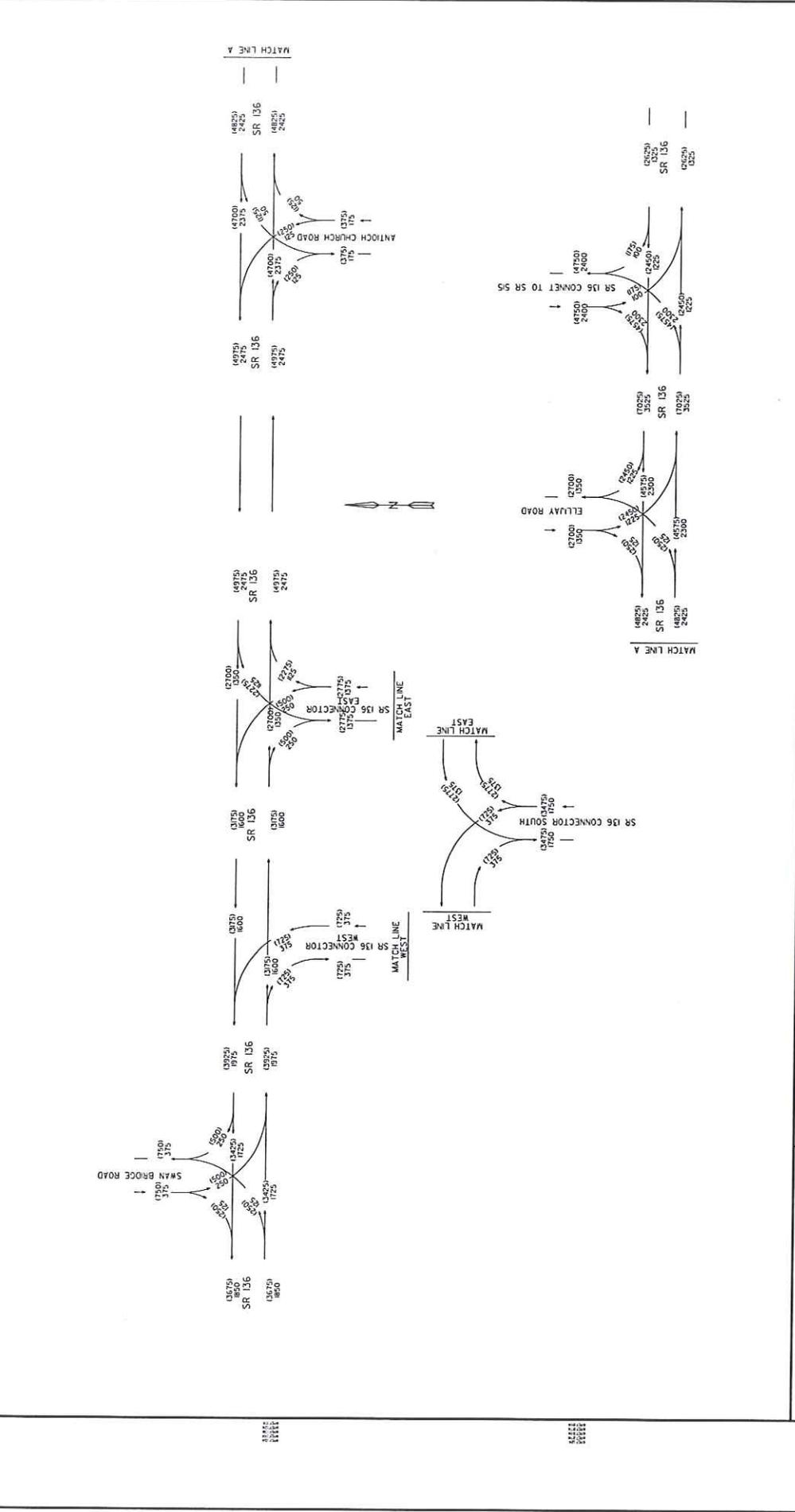
 GRESHAM SMITH AND PARTNERS	REVISION DATES	GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE - PROGRAM DELIVERY
	NOT TO SCALE	TYPICAL SECTION SR 136 FROM SR 136 CONN. TO SR 515 SAFETY IMPROVEMENT PROJECT



<p>STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE: PROGRAM DELIVERY</p>	<p>REVISION DATES</p>	<p>NOT TO SCALE</p>	<p>GRESHAM SMITH AND PARTNERS</p> 	<p>LEGEND 2011 AM DHV - 000 2011 PM DHV - (000) T- 16%</p>	<p>PROJECT: CSST-0008-00(314) COUNTY: PICKENS</p>
	<p>TRAFFIC DIAGRAM</p>				



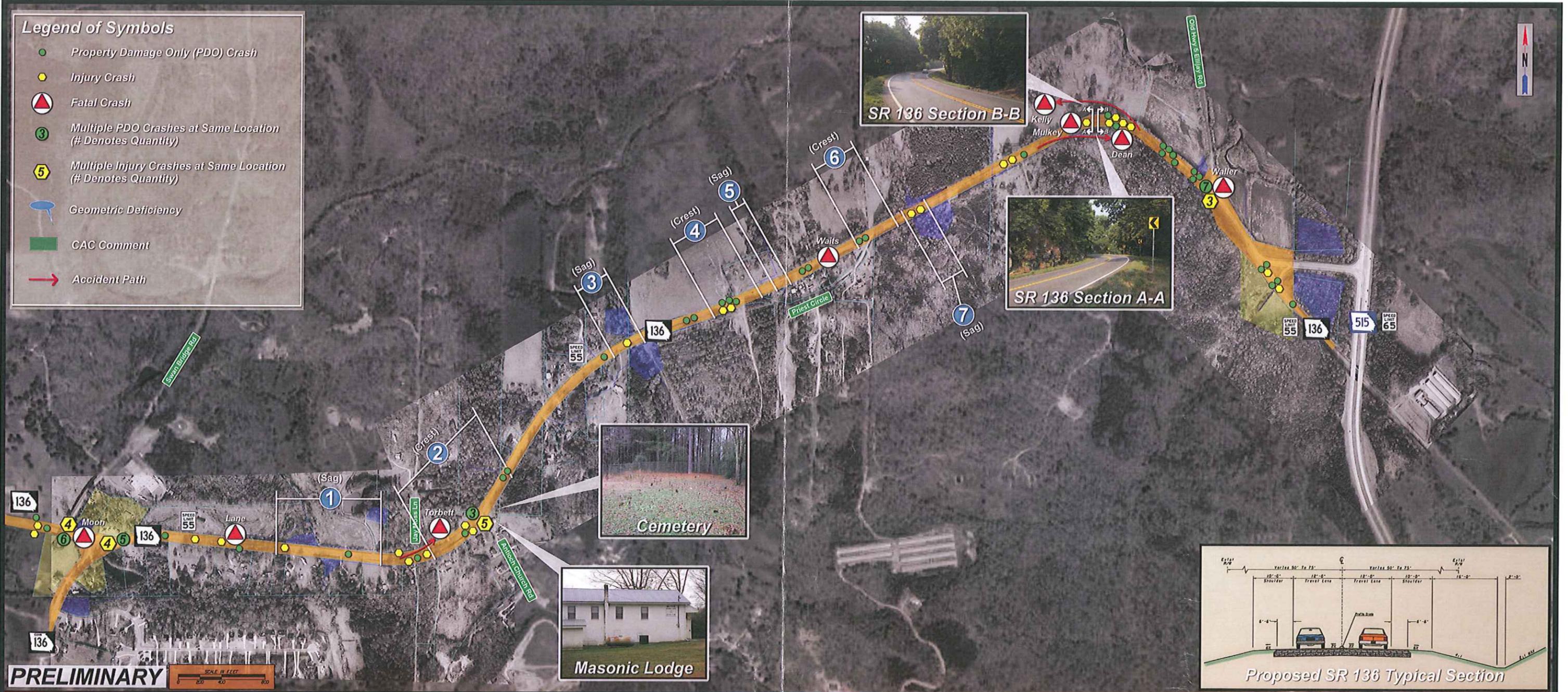
<p style="text-align: center; margin: 0;">GRESHAM SMITH AND PARTNERS</p>	<p>NOT TO SCALE</p>	<p>STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE: PROGRAM DELIVERY TRAFFIC DIAGRAM</p>										
<p>2011 EXISTING YEAR AADT VOLUMES</p>	<p>LEGEND</p> <p>2011 AADT - 000</p> <p>24 HR, T-16X</p> <p>S.U. - 12X, COMB. - 4X</p>	<p>REVISION DATES</p> <table border="1" style="width: 100%; height: 40px;"> <tr><td> </td><td> </td></tr> </table>										
<p>PROJECT: CSSFT-0008-001(314)</p> <p>COUNTY: PICKENS</p>		<p>DRAWING NO. 10-02</p>										



<p>2014 OPENING YEAR AND 2034 DESIGN YEAR NO BUILD AADT VOLUMES</p>	<p>LEGEND</p> <p>2014 AADT • 000 2034 AADT • 000 24 HR, T • 16% S. U. • 12% COMB. • 4%</p>	 <p>GRESHAM SMITH AND PARTNERS</p>	<p>NOT TO SCALE</p>	<p>REVISION DATES</p> <table border="1"> <tr><td> </td><td> </td></tr> </table>																				
<p>STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE: PROGRAM DELIVERY TRAFFIC DIAGRAM</p>		<p>PROJECT: CSST-0008-00(314) COUNTY: PICKENS</p>																						

Legend of Symbols

- Property Damage Only (PDO) Crash
- Injury Crash
- ▲ Fatal Crash
- ③ Multiple PDO Crashes at Same Location (# Denotes Quantity)
- ⑤ Multiple Injury Crashes at Same Location (# Denotes Quantity)
- ⬇ Geometric Deficiency
- CAC Comment
- Accident Path

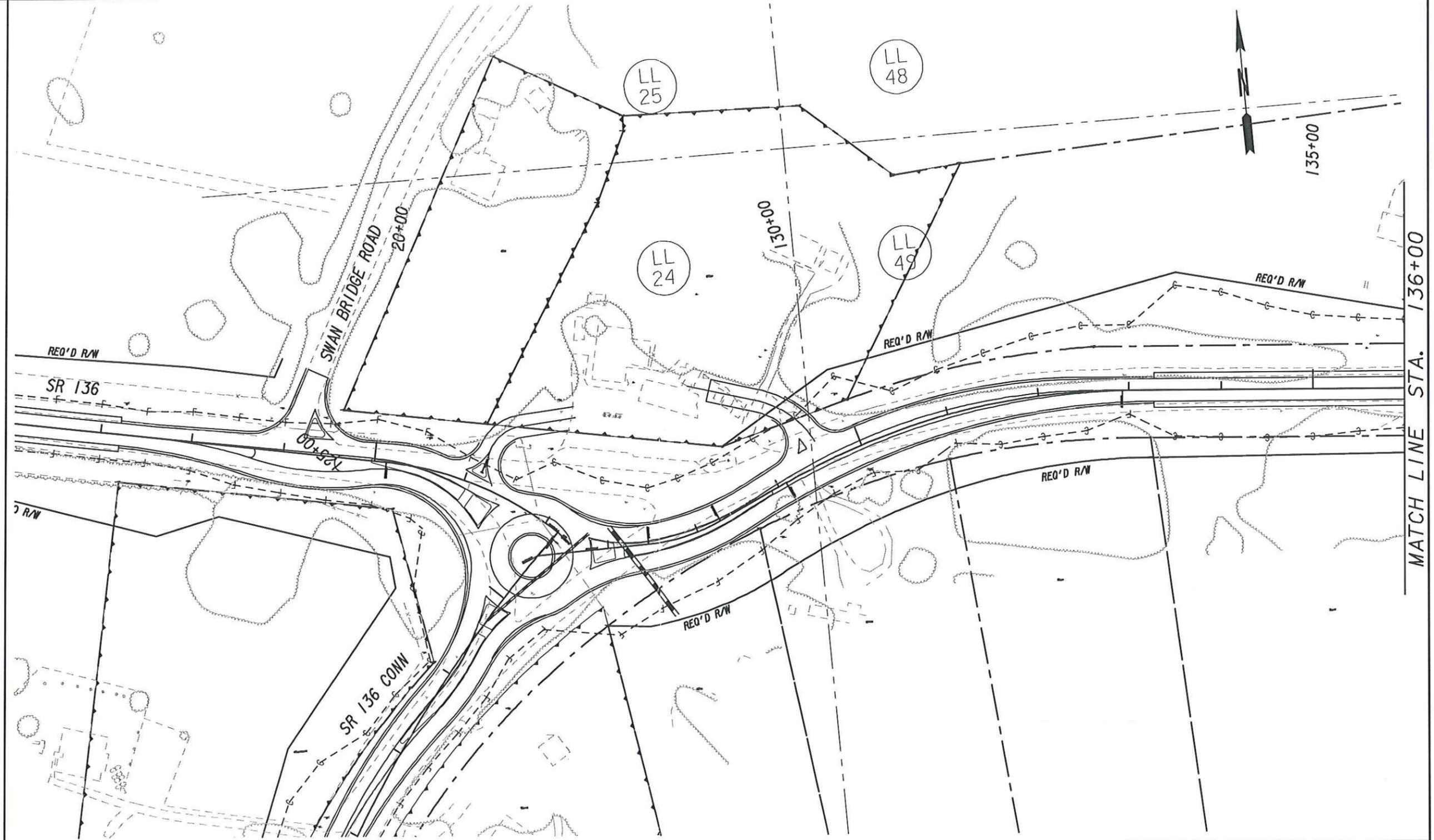


PRELIMINARY



**SR 136 from SR 136 Connector to SR 515
Safety Improvement Project**
CSSFT-0008-00(314) P.I. Number: 0008314





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PARTNERS

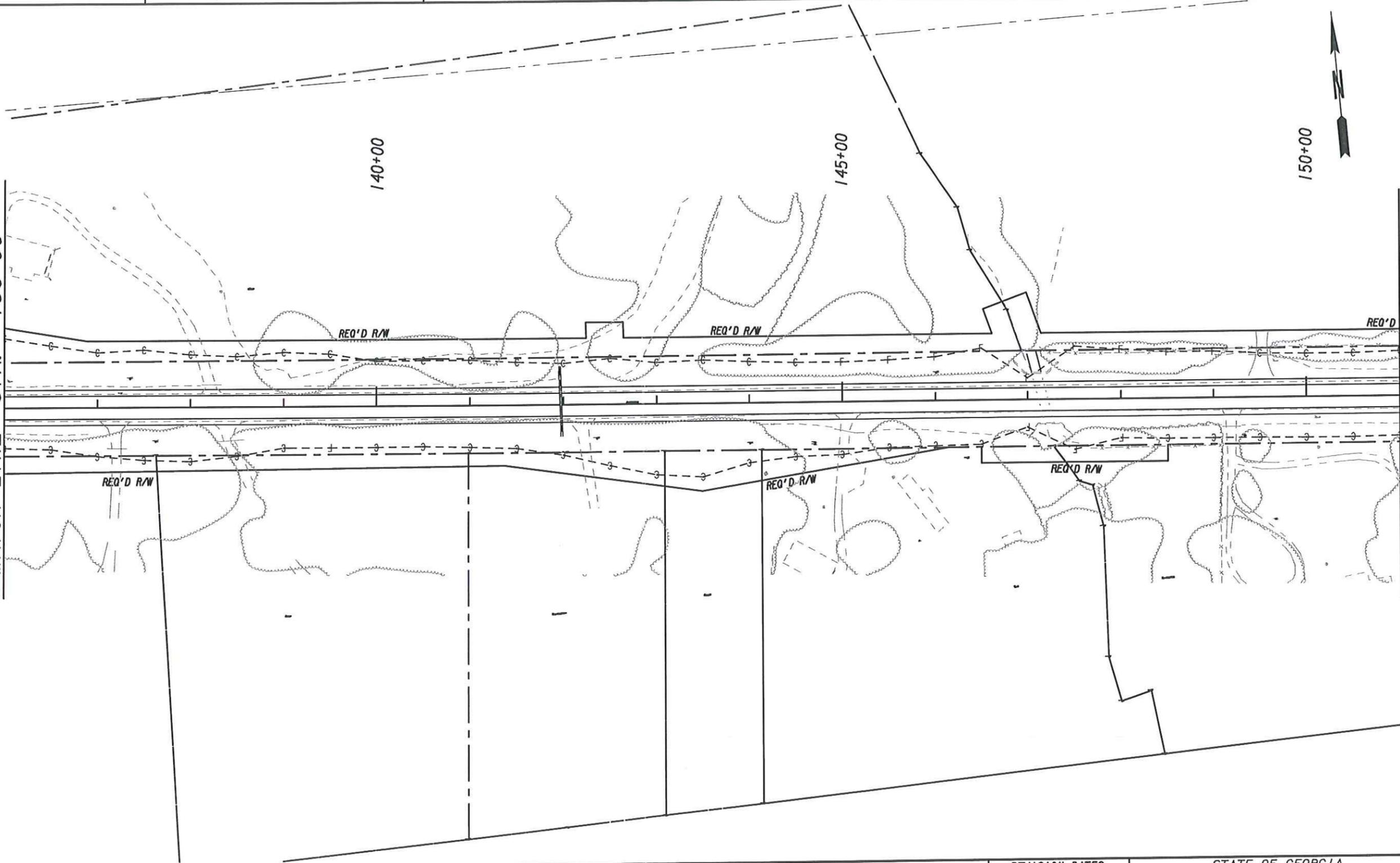


REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
MAINLINE PLAN
PROJECT: CSSFT-0008-00(314)
COUNTY: PICKENS
DRAWING No. 13-01

MATCH LINE STA. 136+00

MATCH LINE STA. 151+00



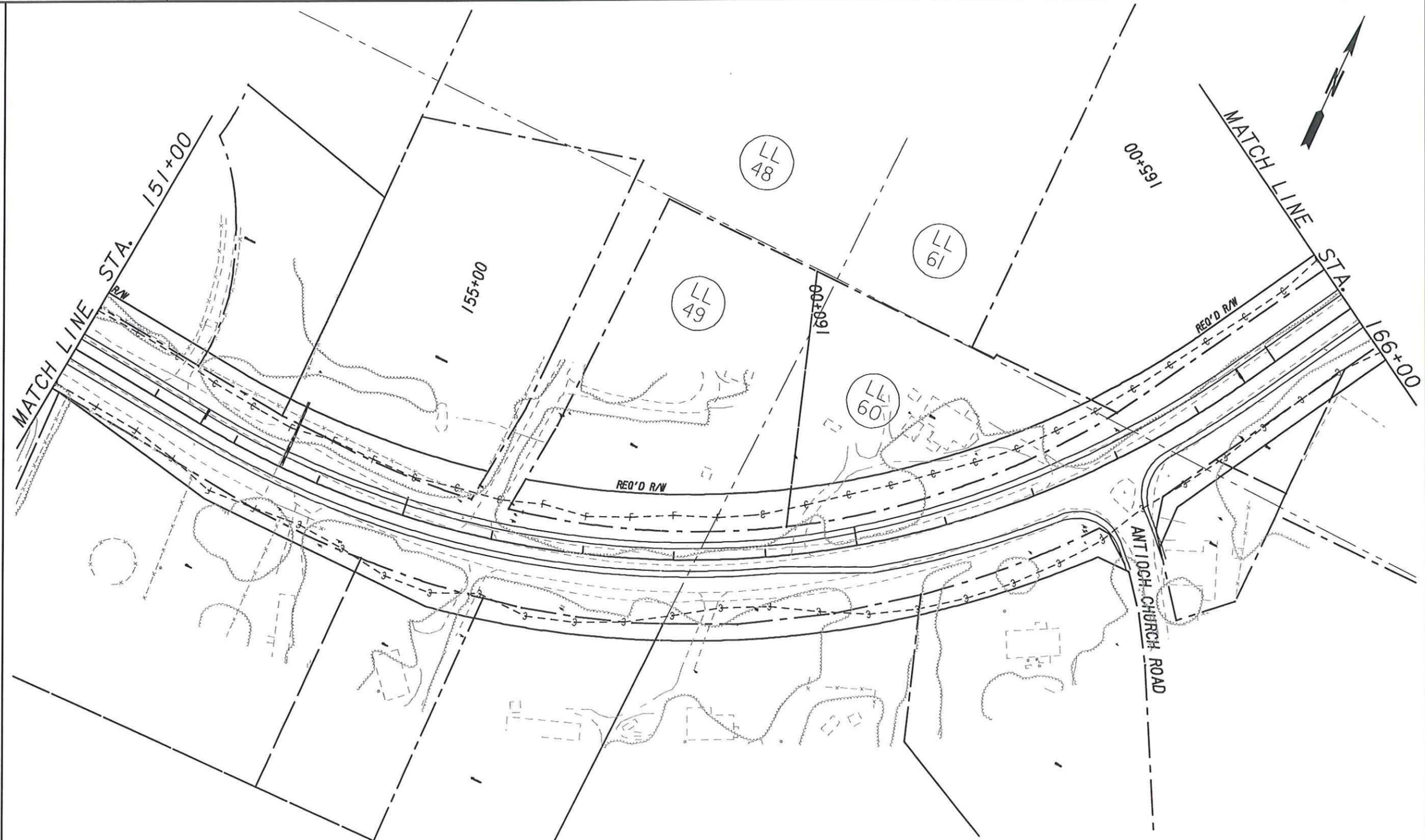
GRESHAM
SMITH AND
PARTNERS



REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
MAINLINE PLAN
PROJECT: CSSFT-0008-00(314)
COUNTY: PICKENS

DRAWING No.
13-02



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PARTNERS

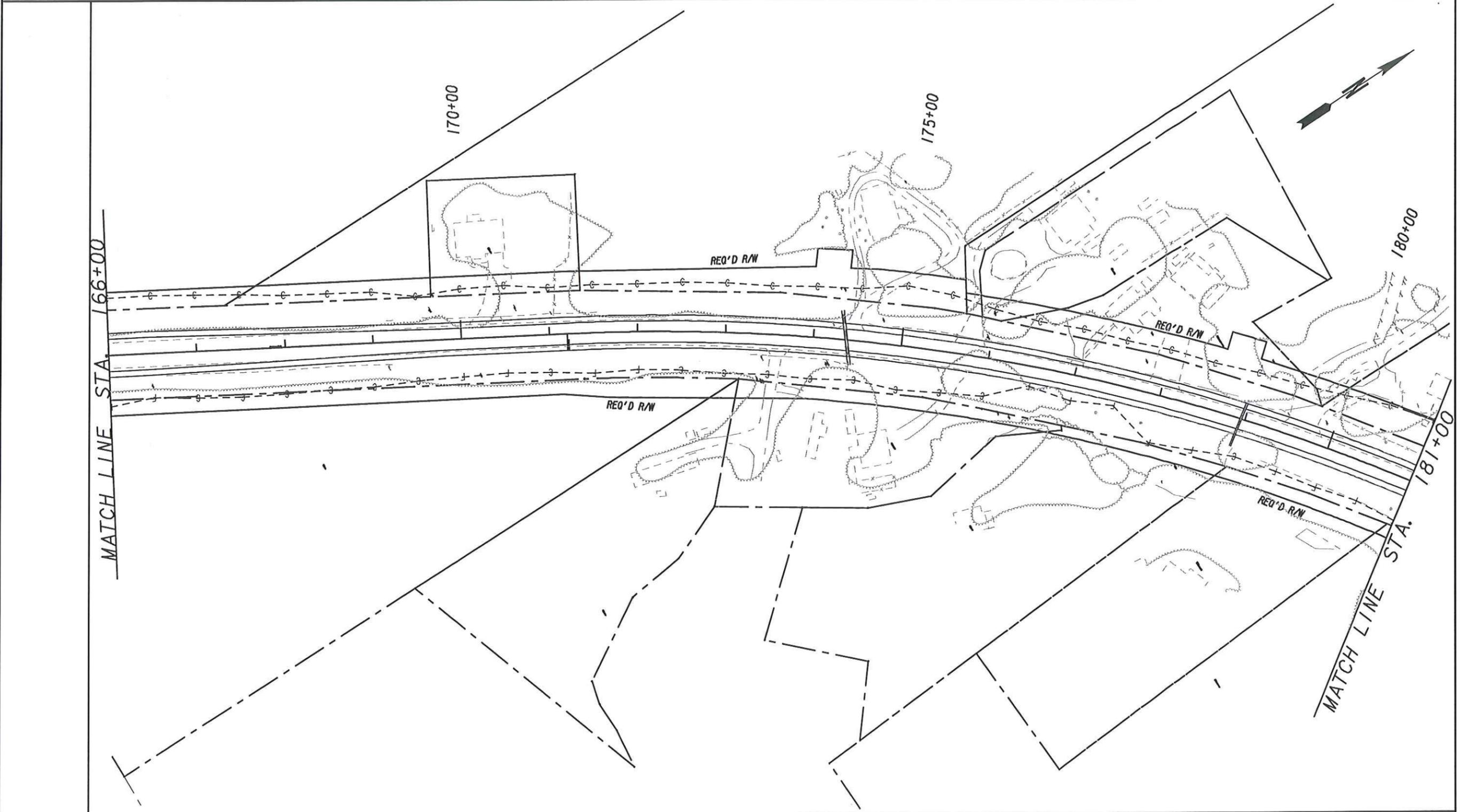


REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
MAINLINE PLAN

PROJECT: CSSFT-0008-00(314)
COUNTY: PICKENS

DRAWING No.
13-03



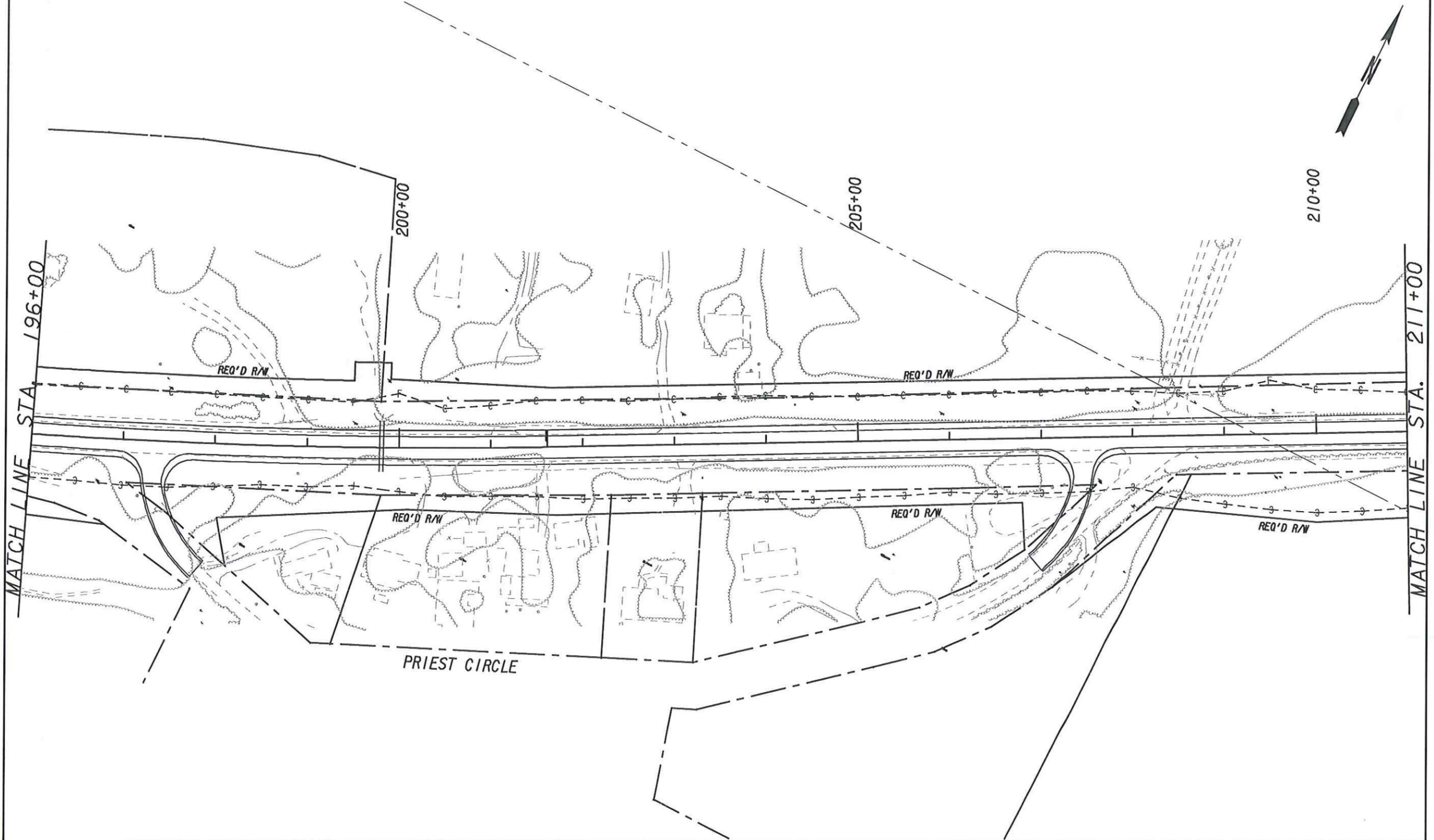
GRESHAM
SMITH AND
PARTNERS



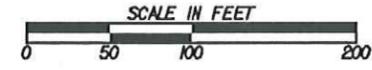
REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
MAINLINE PLAN
PROJECT: CSSFT-0008-00(314)
COUNTY: PICKENS

DRAWING NO.
13-04



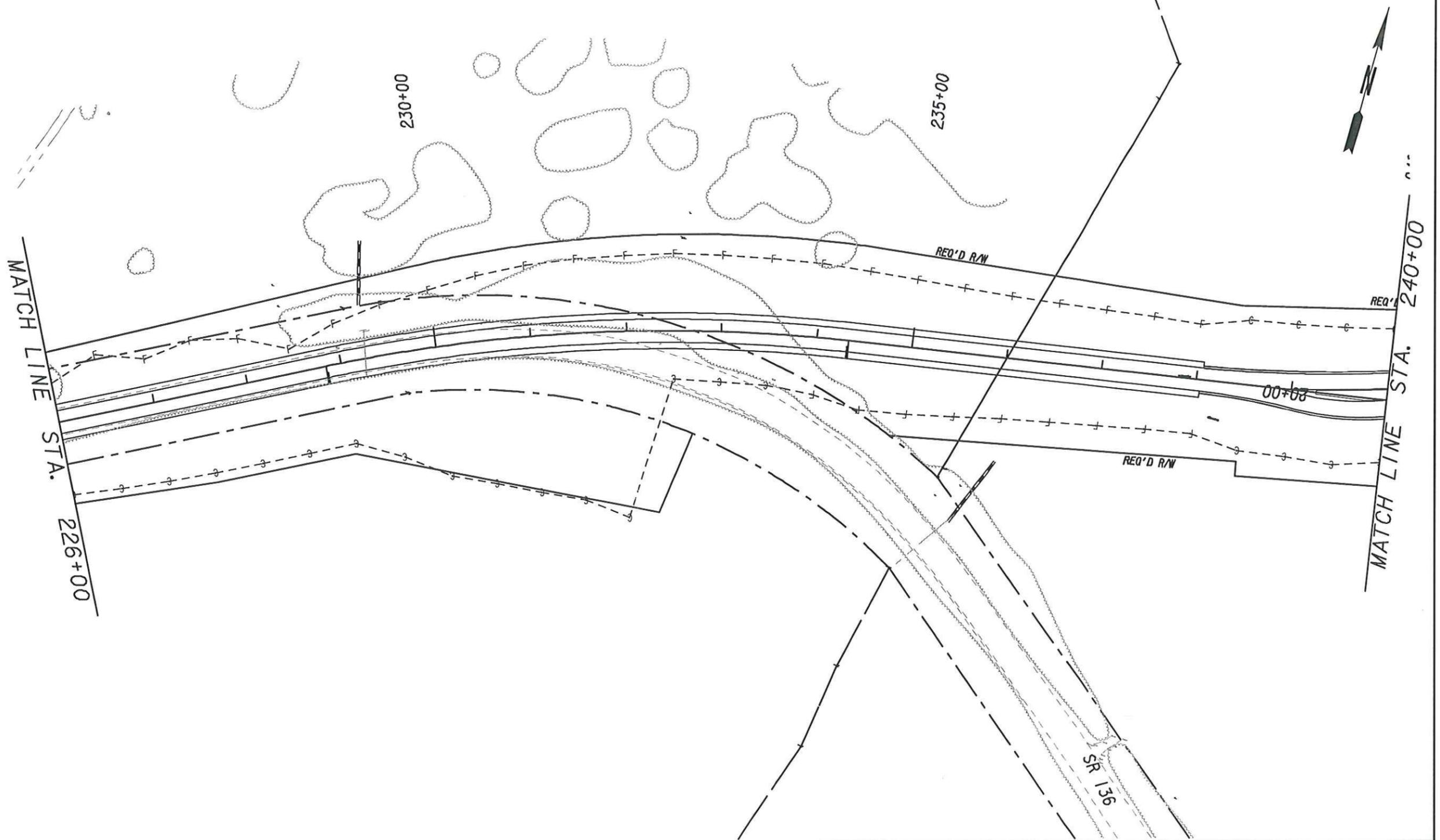
GRESHAM
SMITH AND
PARTNERS



REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
MAINLINE PLAN
PROJECT: CSSFT-0008-00(314)
COUNTY: PICKENS

DRAWING No.
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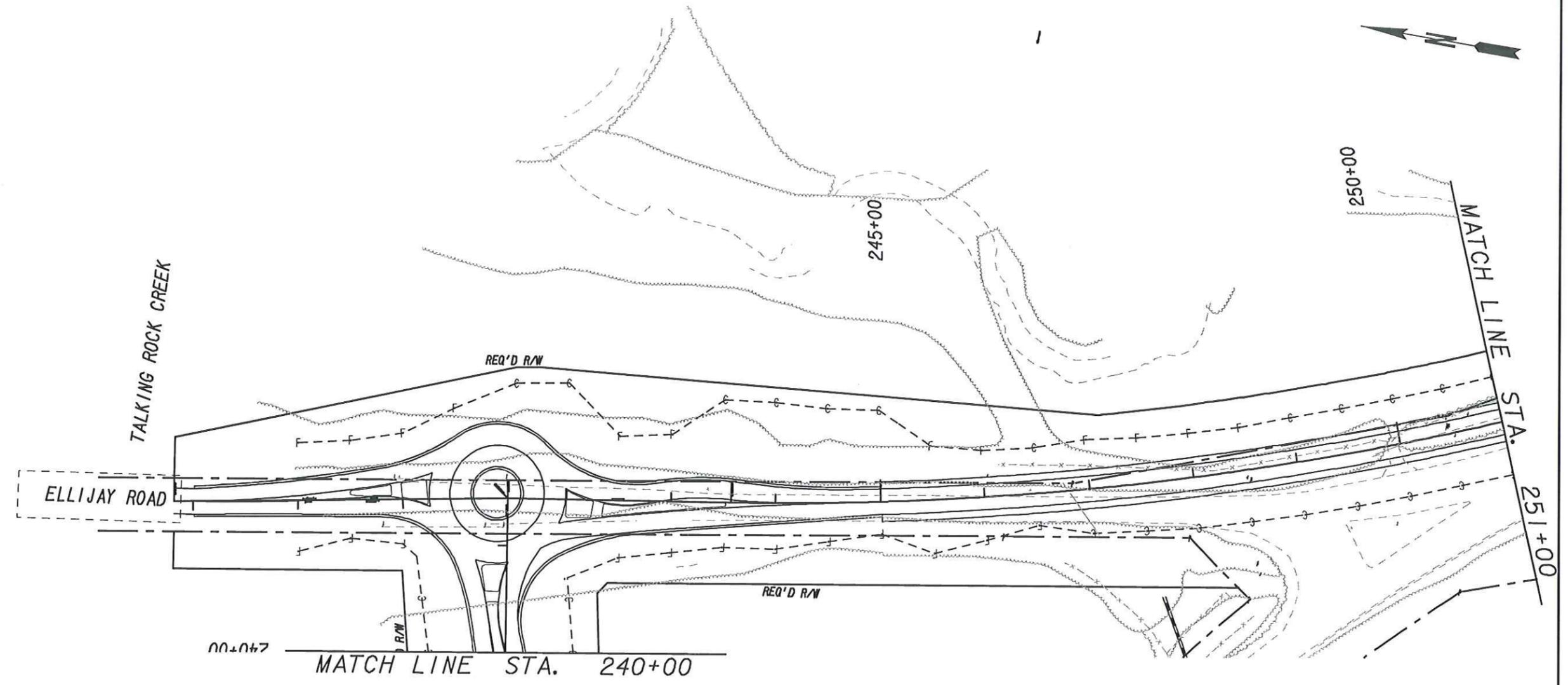


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PARTNERS



REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
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MAINLINE PLAN
PROJECT: CSSFT-0008-00(314)
COUNTY: PICKENS
DRAWING NO. 13-08

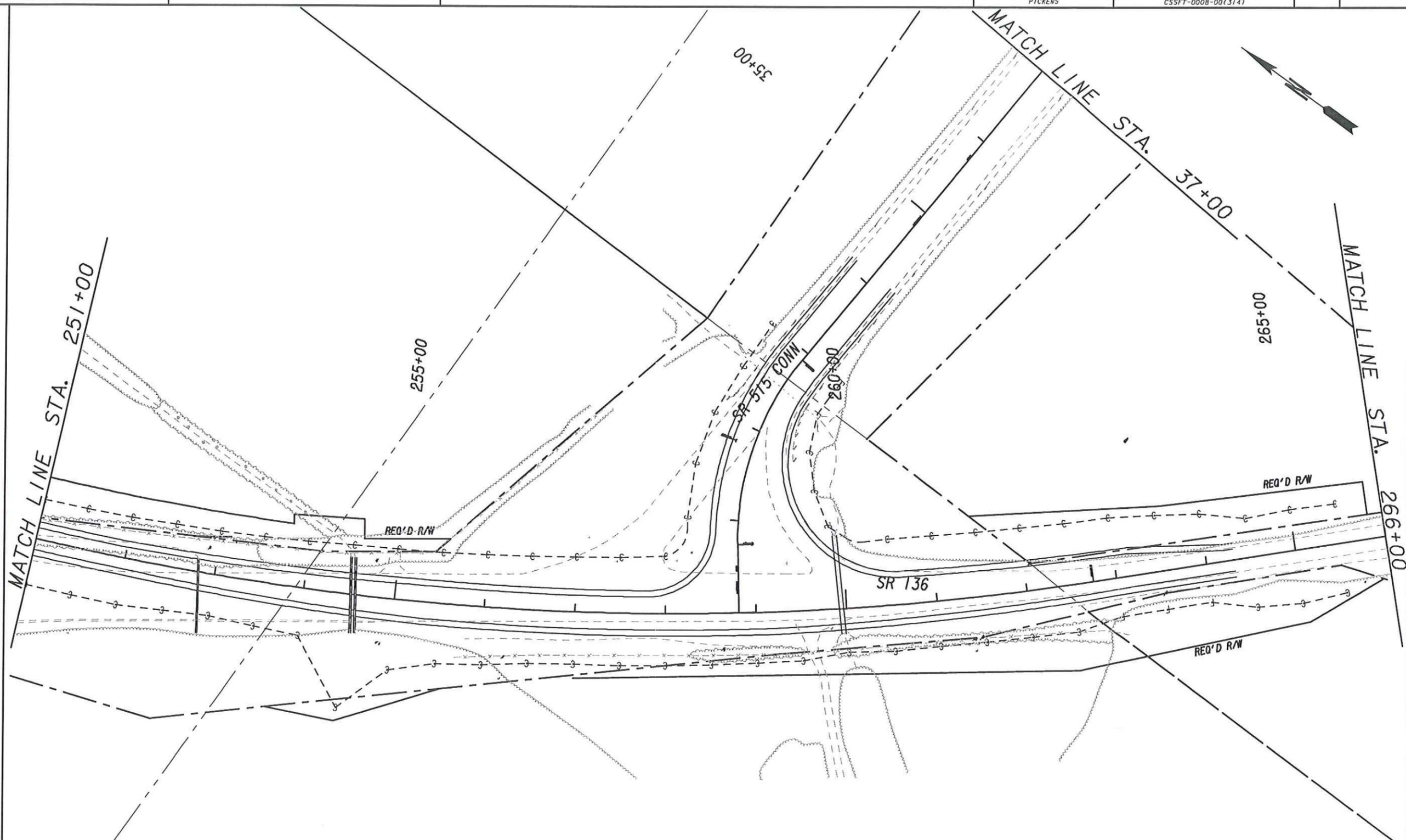


REVISION DATES	

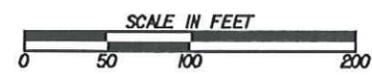
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DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
MAINLINE PLAN
PROJECT: CSSFT-0008-00(314)
COUNTY: PICKENS

DRAWING NO.
13-09

COUNTY PICKENS	PROJECT NUMBER CSSFT-0008-00(314)	SHEET NO.	TOTAL SHEETS
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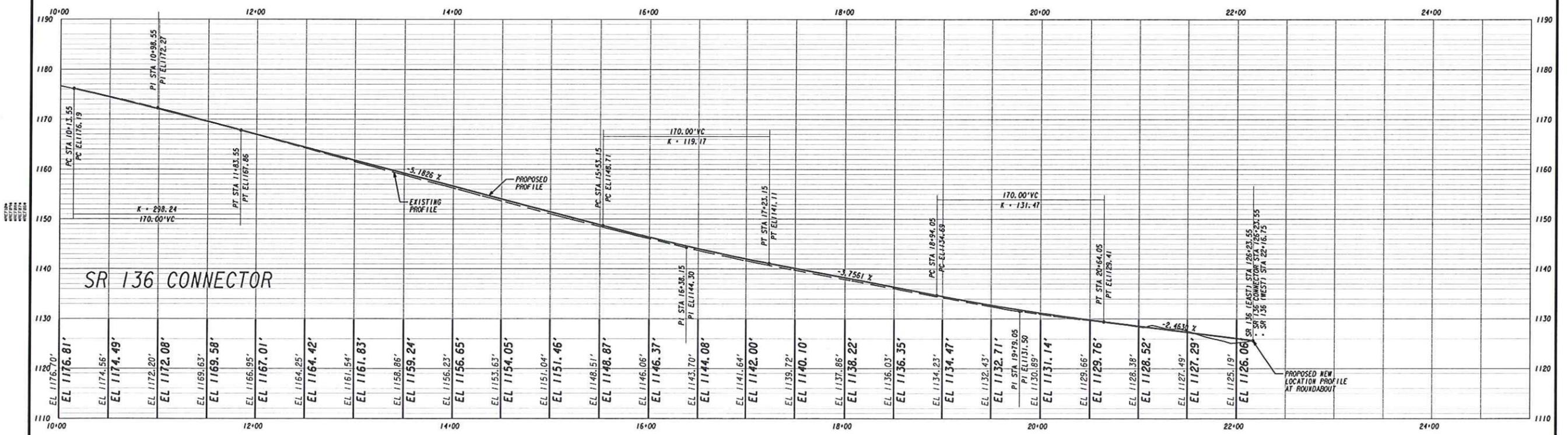
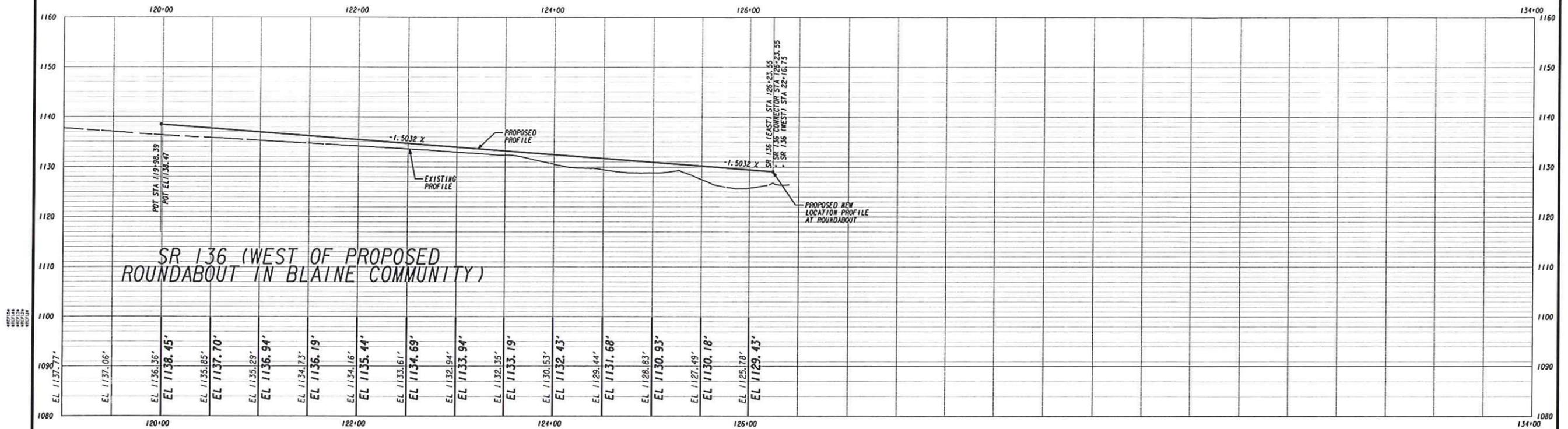
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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
MAINLINE PLAN
PROJECT: CSSFT-0008-00(314)
COUNTY: PICKENS

DRAWING No.
13-10



3/1/2007 G2E06

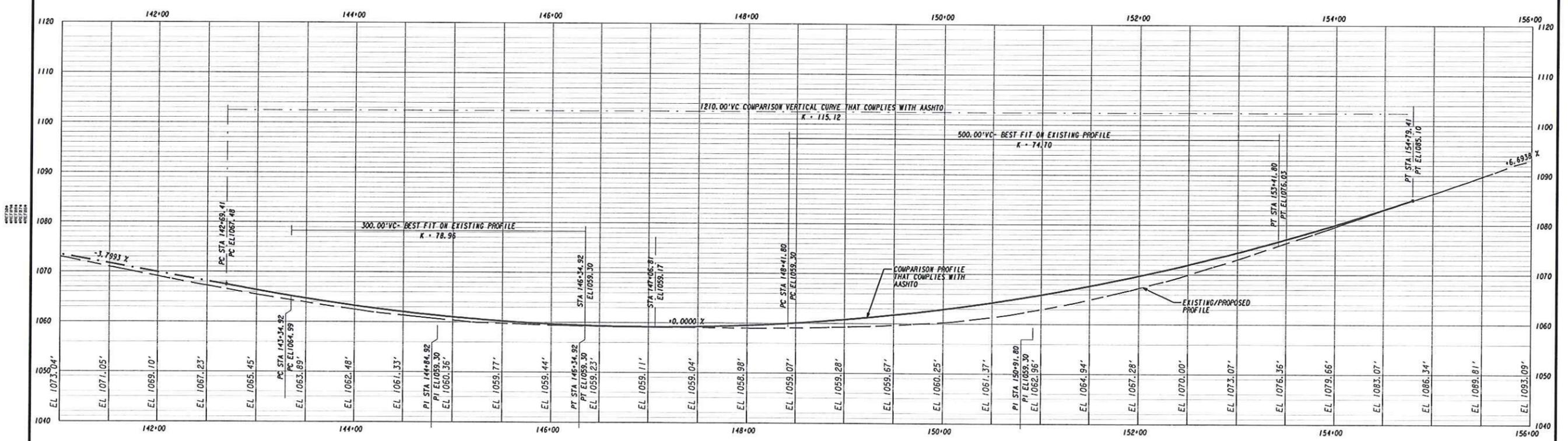
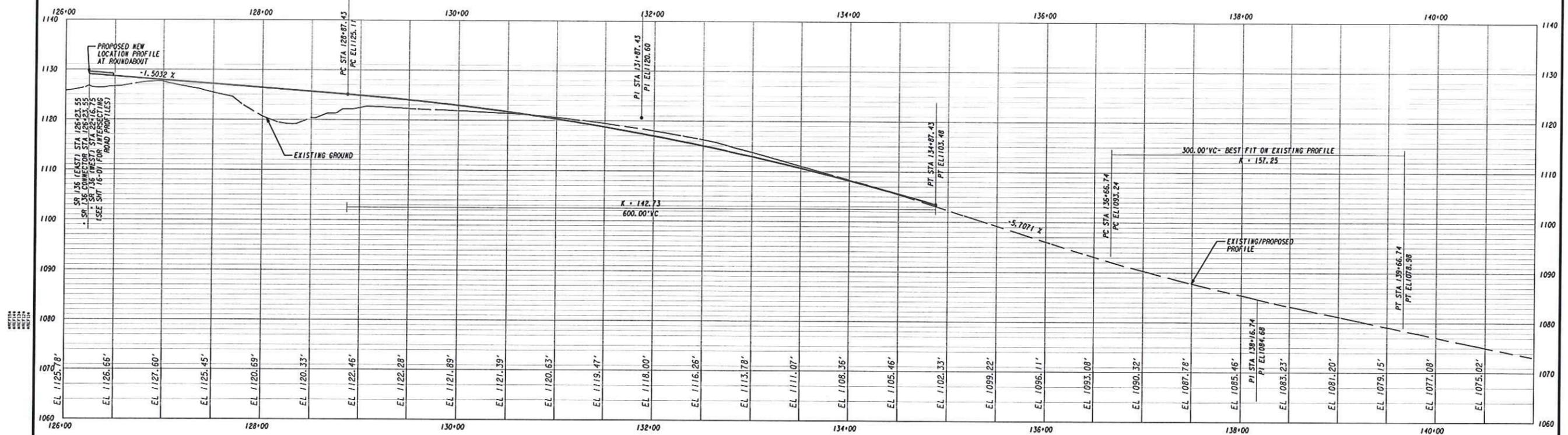


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REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
MAINLINE PROFILE

DRAWING No.
16-01



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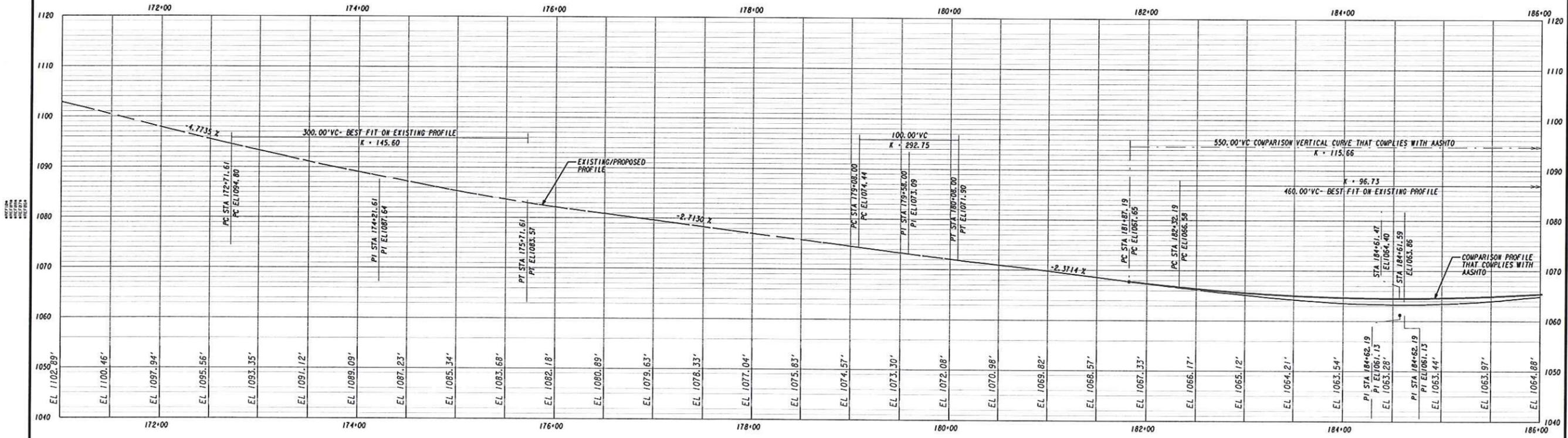
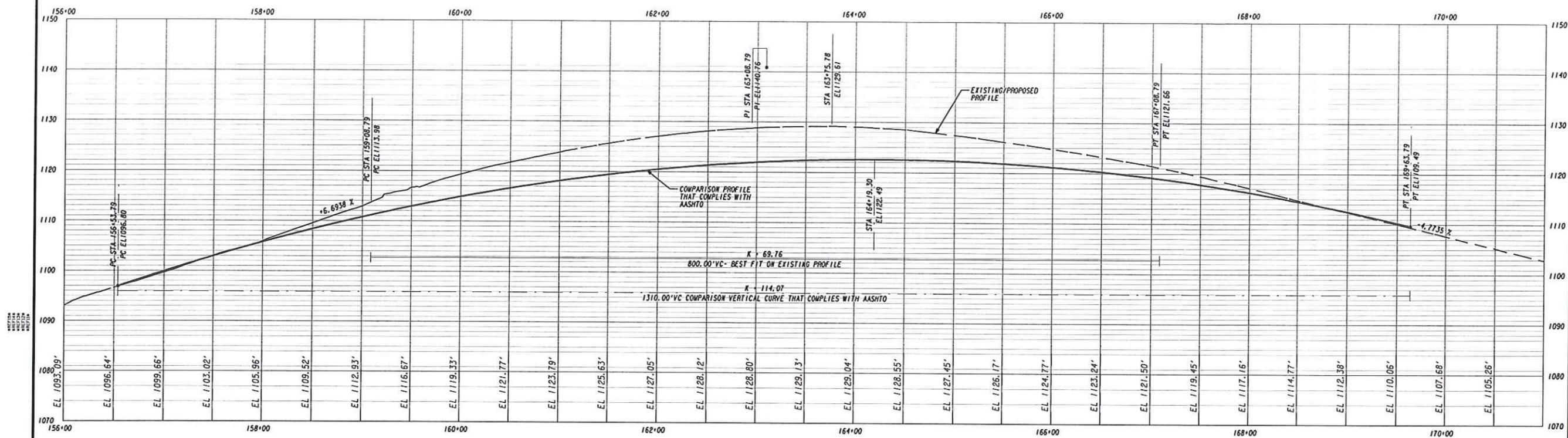


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REVISION DATES	

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
MAINLINE PROFILE

DRAWING No.
15-01



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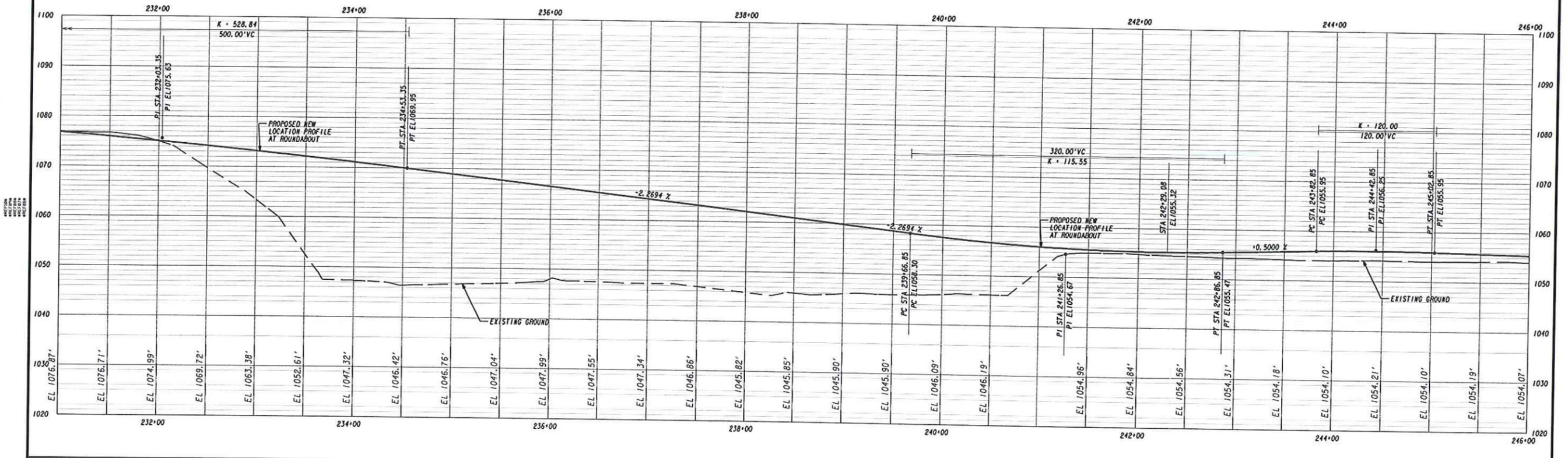
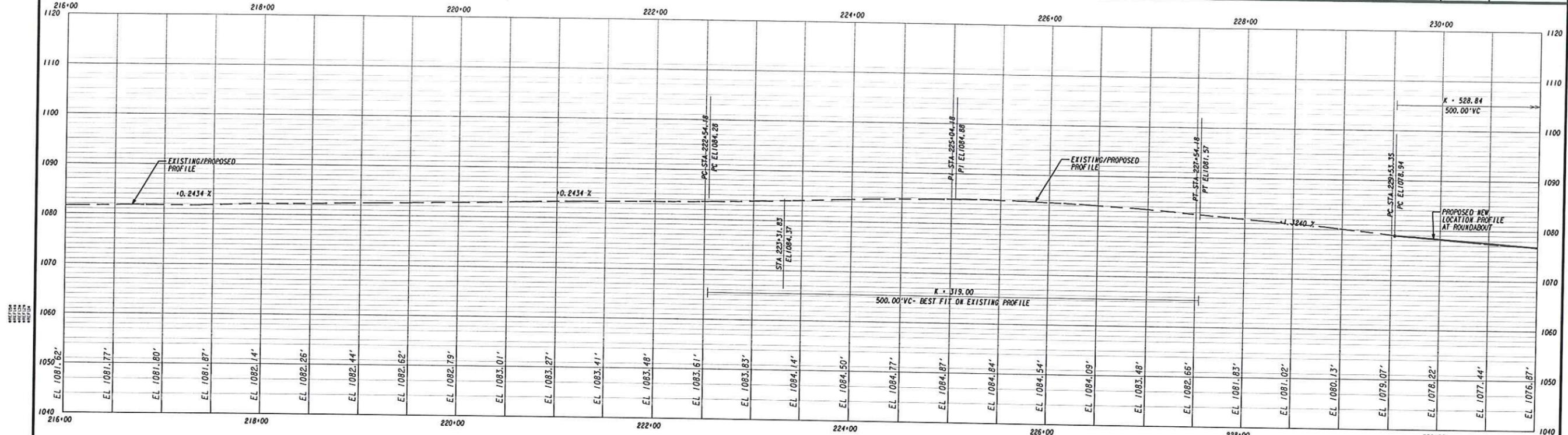


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REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: PROGRAM DELIVERY
MAINLINE PROFILE

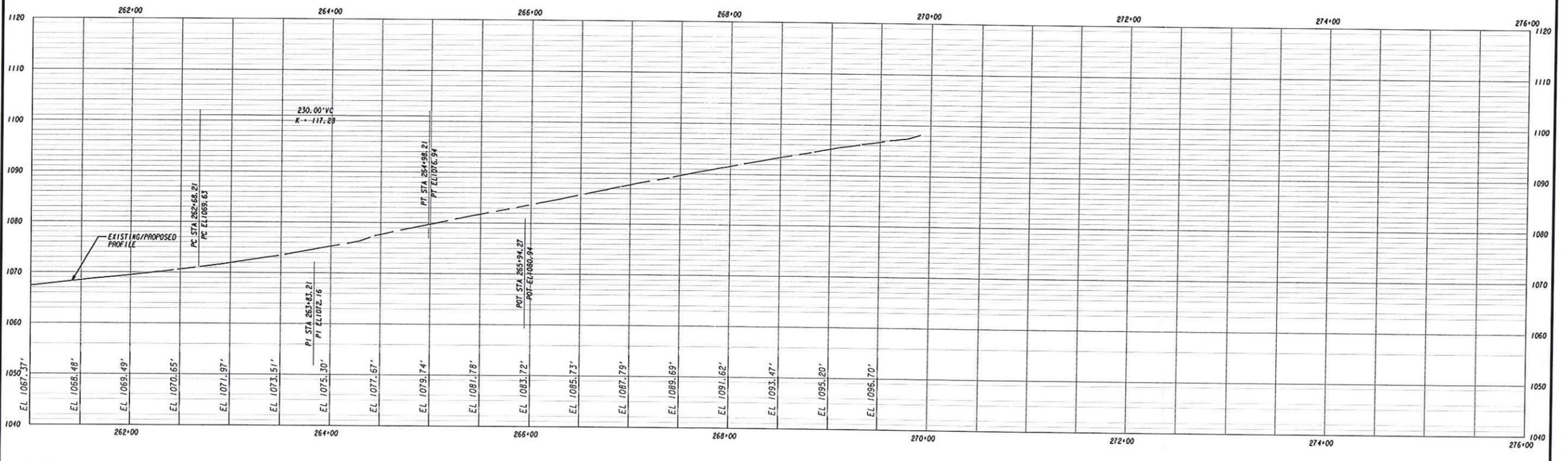
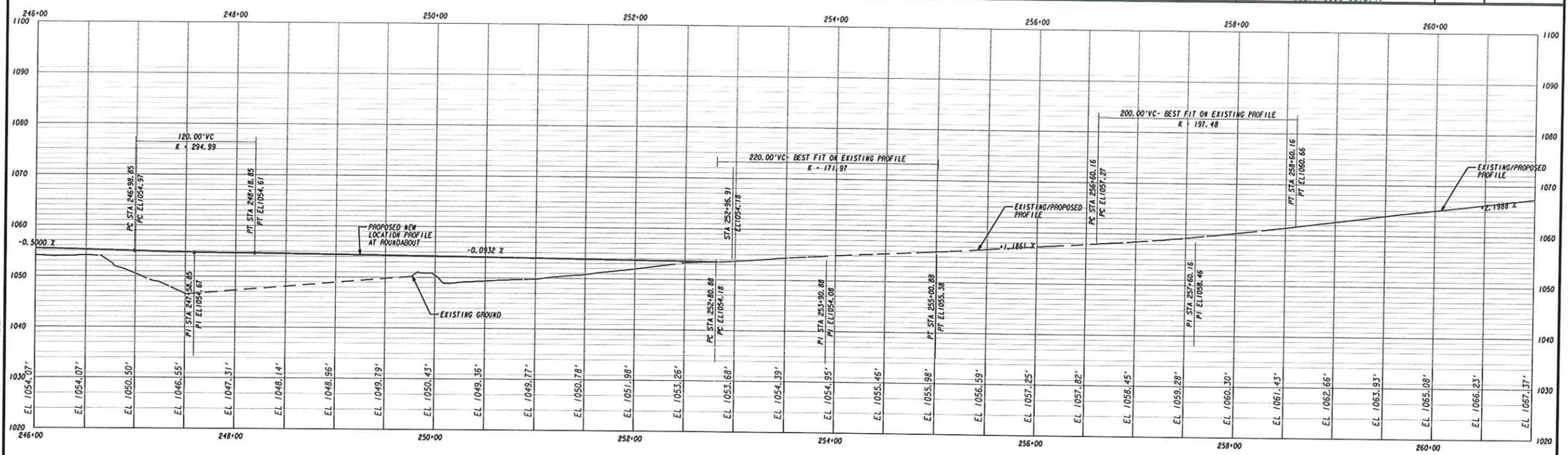
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REVISION DATES	

STATE OF GEORGIA
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 OFFICE: PROGRAM DELIVERY
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REVISION	DATE

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: PROGRAM DELIVERY
MAINLINE PROFILE

DRAWING No.
15-05