

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA



INTERDEPARTMENT CORRESPONDENCE

FILE NH000-0056-01(061), Fulton County
SR 400 at CR 145/Northridge Road
P.I. # 751580-

OFFICE Innovative Program Delivery

DATE October 15, 2012


FROM Darryl D. VanMeier, P.E., State Innovative Program Delivery Engineer

TO Brent Story, P.E., State Design Policy Engineer

SUBJECT Request for Design Variance – Roundabout Lighting

The Office of Innovative Program Delivery recommends approval of the attached Request for Design Variance on the above listed project. The roundabout was included in the design as a context sensitive solution following public involvement, a roundabout feasibility study, and a peer review. The typical roundabout lighting transition lengths would not fit context of the neighborhood surrounding this roundabout. If you have any questions or require additional information, please contact Marlo Clowers at (404) 631-1713 or by email.

DVM:MLC



Kimley-Horn
and Associates, Inc.

■
Suite 220
2 Sun Court
Peachtree Corners, Georgia
30092

October 10, 2012

Brent Story, P.E.
Design Policy and Support Administrator
Georgia Department of Transportation
One Georgia Center
600 West Peachtree Street, NW
Atlanta, Georgia 30308

Subject: **Request for Design Variance**
NH000-0056-01(061), Fulton County
P.I. No. 751580-
SR400/US19 @ CR145/Northridge Road

Approval of Design Variance is requested for the above project.

This project consists of approximately 0.4 miles of widening along Northridge Road at SR400 in the City of Sandy Springs. The total length of the project is 0.41 miles. The project will provide capacity and operational improvements to the SR400 ramps at Northridge Road as well as the intersections of Northridge Road at Dunwoody Place and Roberts Drive. Operational improvements will include additional signage for the northbound exit ramp from SR400 and additional through lane on Northridge Road to accommodate improved traffic flow. The project also includes replacing the existing bridge over SR 400 to include provisions for future manage lanes on SR400 and treatments to address wrong way movements at the intersection of Northridge Road and Somerset Court.

A design variance is requested for roundabout lighting transition requirements of 80 meters (262 feet) beyond the roundabout. The proposed project will have a lighting transition of 66 feet beyond the roundabout's east approach.

According to the Illuminating Engineering Society (IES) DG-19-08, *Design Guide for Roundabout Lighting* (IES DG-19-08), an 80 meter (262 feet) transition lighting is recommended for the approach of a roundabout.

AADT: Base Year (2014): 31,025

Design Year (2034): 34,250

Crash data within proximity of the Northridge Road intersections with the SR400 on- and off- ramps were obtained from the Georgia Department of Transportation for the years 2007, 2008, and 2009. The crash data were obtained for the Northridge corridor between the residential neighborhood driveway directly west of the SR400 southbound ramps and Somerset Court directly east of the SR400 northbound ramps as well as for the tops of the ramps themselves, a segment length of approximately 0.5 miles. The statewide average crash rates for 2009, 2008, and 2007 for an Urban Minor Arterial were 463, 469, and 513 crashes per 100 million vehicle miles traveled and the corridor crash rates were 1687, 1188 and 1033 crashes per 100 million vehicle miles traveled. This shows that the accident rates for this section of Northridge Road, has been consistently higher than the statewide average.

Total Accidents	2007	2008	2009
Accidents per 100 MVMT	1687	1188	1033
Statewide Accidents per 100 MVMT	513	469	463
Injury Accidents			
Injury Accidents per 100 MVMT	517	275	155
Statewide Injury Accidents per 100 MVMT	126	117	115
Fatalities			
Fatalities per 100 MVMT	17.22	0.00	17.22
Statewide Fatalities per 100 MVMT	1.48	1.47	1.10

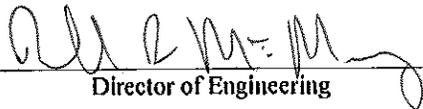
Transition lighting of 80 meters (262 feet) for the eastbound approach of the roundabout will not be met due to the coordination with the local neighborhood. Coordination with the neighborhood occurred during Public Information Open Houses and stakeholder meetings which led to the neighborhood's request to not have roadway lighting within the neighborhood beyond the roundabout.

The section of Northridge Road east of the roundabout is a residential street consisting of low volumes (Design Year AADT = 2050) and low speed (25mph). The west side of the roundabout will be included in the roadway lighting across the bridge. The installation of 66 feet of transition lighting will include the illumination of the east bound and Somerset Court splitter islands. The installation of this lighting along with roadside signs and pavement markings will provide mitigation necessary to lessen the impact of not providing 262 feet of transition lighting east of the roundabout.

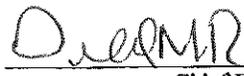
Based on the warranting conditions presented (the existing and proposed geometry, roadway conditions, and accident analysis), I, Gary Newton, P.E. of Kimley-Horn and Associates, Inc., (770) 825-0744, recommended that a Design Variance be approved for the controlling substandard design element.

Submitted By: 
Engineer of Record

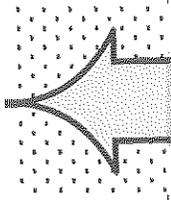
10/10/12
Date

Recommended: 
Director of Engineering

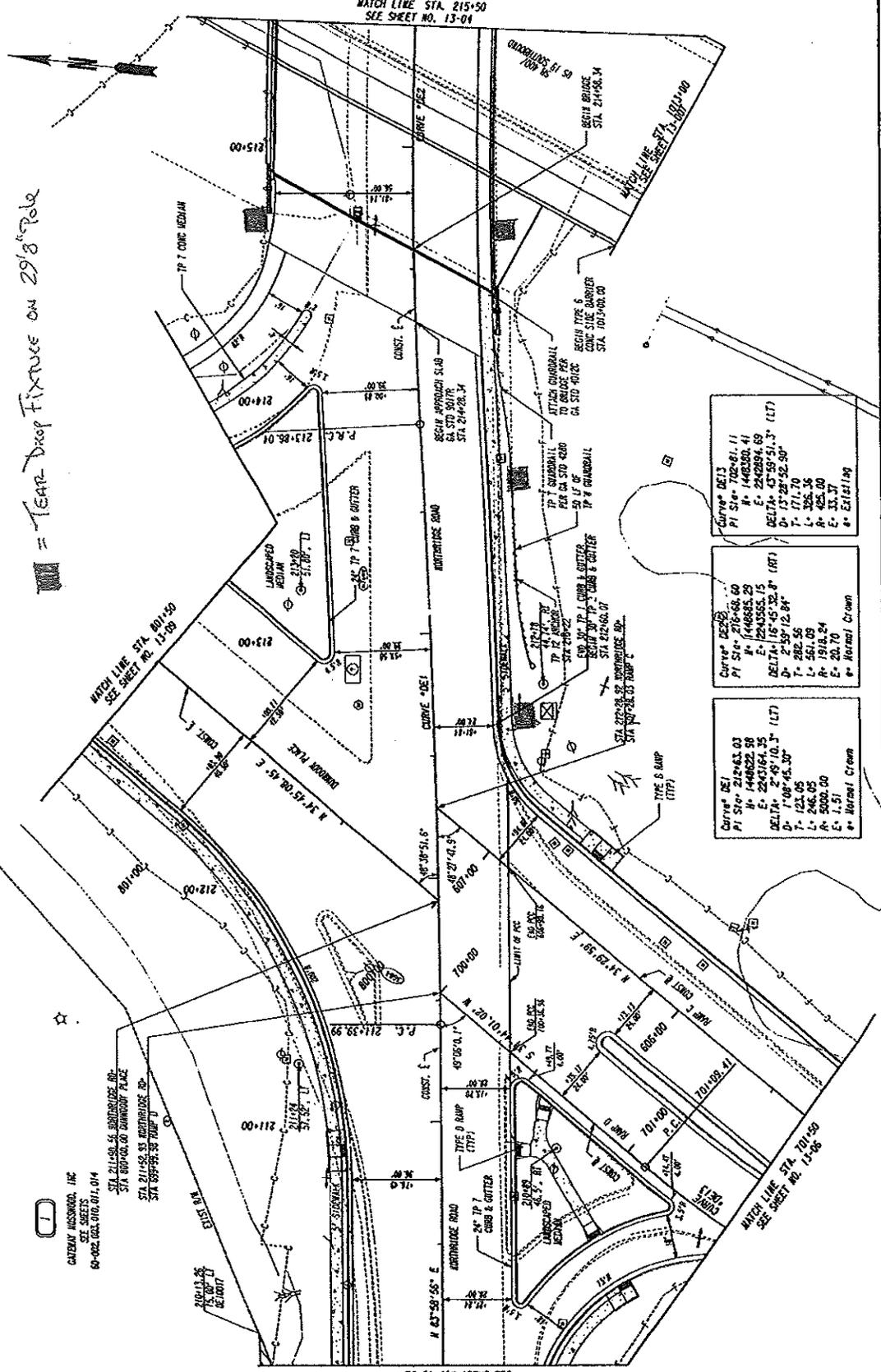
10/19/12
Date

Approved: 
Chief Engineer

10/23/12
Date



TEAR DROP FIXTURE ON 29' 8" POLE



<p>Curve Data 1</p> <p>PI Sta. 212+63.03 R= 1448300.41 E= 2242894.69 DELTA= 43°59'51.3" (RT) L= 123.05 T= 246.05 A= 5000.00 E= 1.51 * Normal Crown</p>	<p>Curve Data 2</p> <p>PI Sta. 212+63.03 R= 1448300.41 E= 2242894.69 DELTA= 43°59'51.3" (RT) L= 123.05 T= 246.05 A= 5000.00 E= 1.51 * Normal Crown</p>	<p>Curve Data 3</p> <p>PI Sta. 212+63.03 R= 1448300.41 E= 2242894.69 DELTA= 43°59'51.3" (RT) L= 123.05 T= 246.05 A= 5000.00 E= 1.51 * Normal Crown</p>
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STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: MAINTENANCE PROGRAM DELIVERY
 MAINLINE PLAN

REVISION DATES

SCALE IN FEET

GEORGIA
 DEPARTMENT OF
 TRANSPORTATION

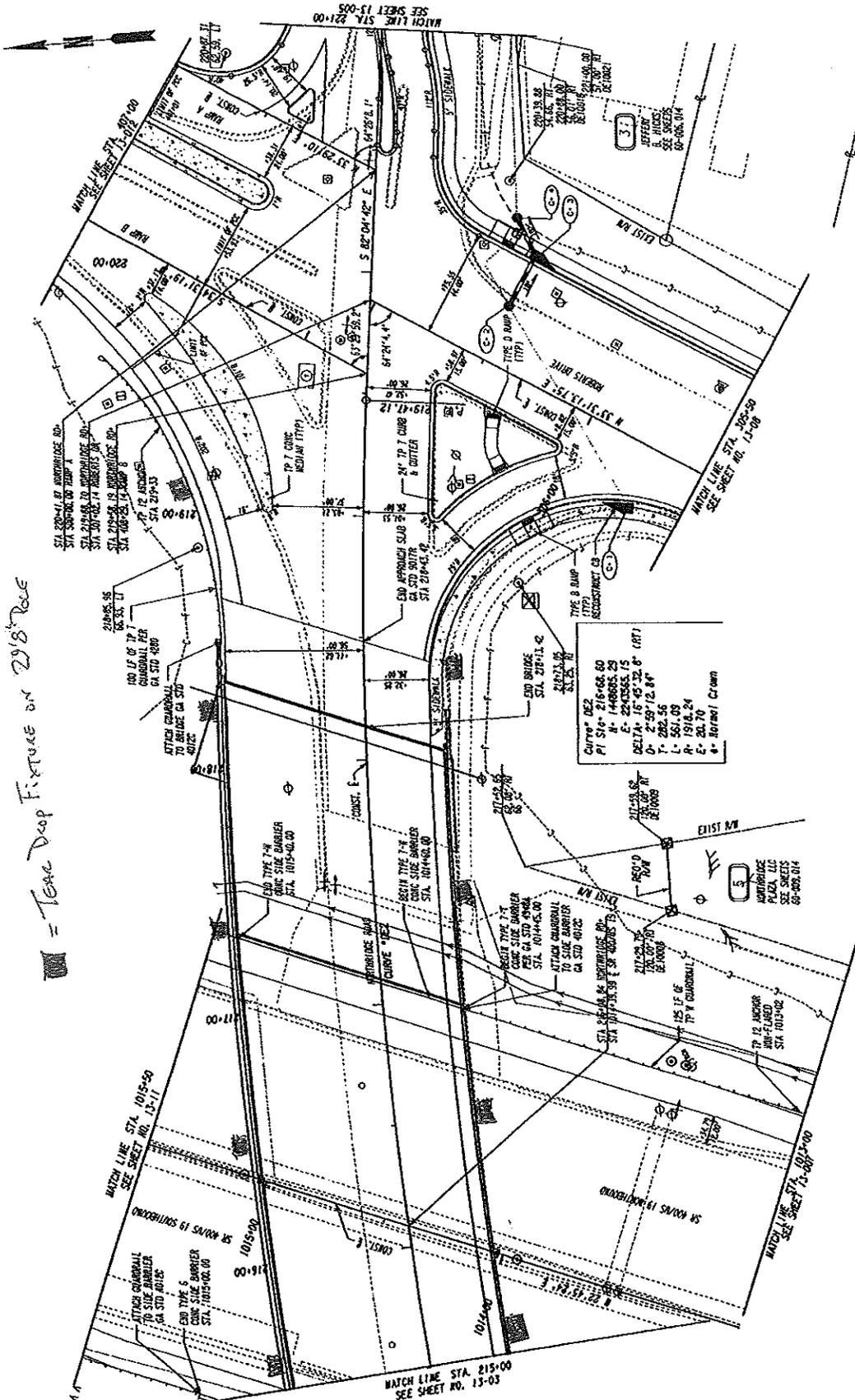
Kimley-Horn
 and Associates, Inc. TRANSPORTATION

BEGIN LIMIT OF ACCESS.....BLA
 END LIMIT OF ACCESS.....ELA
 LIMIT OF ACCESS.....
 REVD RW & LIMIT OF ACCESS.....

PROPERTY AND EXISTING RW LINE
 REGULATED RW LINE
 CONSTRUCTION LIMITS
 EASEMENT FOR CONSTR
 EASEMENT FOR SLOPES
 EASEMENT FOR CURBS OF BRIDGES

DATE: 13-03

Teac Deep Fixture on 2018 Pace



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

REVISION DATES:

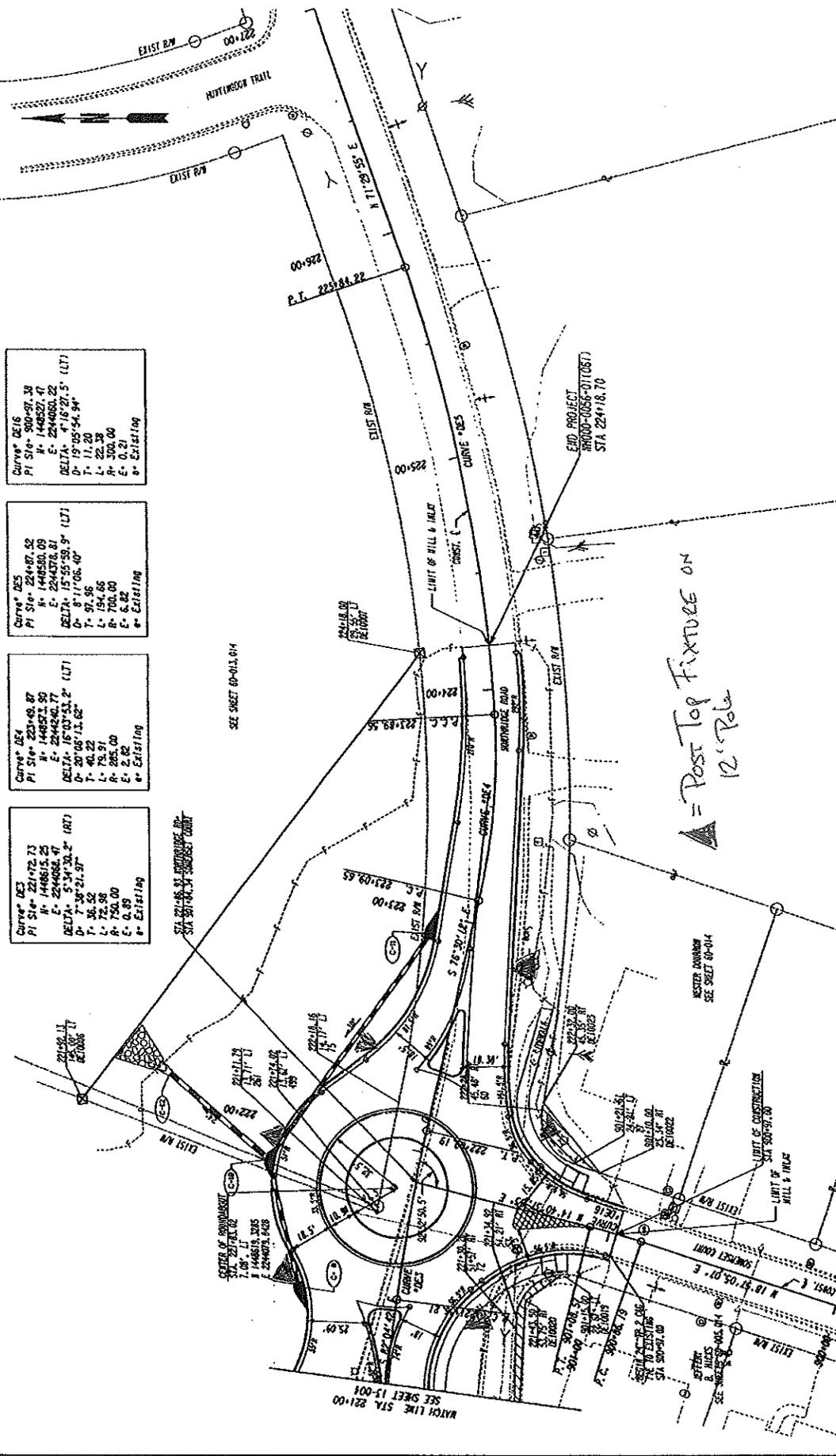
SCALE IN FEET: 0 20 40 80

GEORGIA
 DEPARTMENT OF TRANSPORTATION
 Kinley-Horn and Associates, Inc. TRANSPORTATION

LEGEND:
 BEGIN LIMIT OF ACCESS: BLA
 END LIMIT OF ACCESS: ELA
 LIMIT OF ACCESS: [Symbol]
 ROW'D ROW & LIMIT OF ACCESS: [Symbol]
 PROPERTY AND EXISTING DR LINE: [Symbol]
 REQUIRED ROW LINE: [Symbol]
 CONSTRUCTION LIMITS: [Symbol]
 EASMENT FOR CONSTRUCTION: [Symbol]
 EASMENT FOR CONSTRUCTION OF SLOPES: [Symbol]
 EASMENT FOR CONSTRUCTION OF BRIDGES: [Symbol]

DRAWING NO. 13-01
 13-01

Curve DE16 PI Sta: 900+97.38 N: 1448527.47 E: 2244060.22 DELTA: 4°18'27.5" (L7) D: 19°05'54.94" L: 11.20 P: 10.10 R: 0.21 S: Existing
Curve DE5 PI Sta: 224+87.52 N: 1448550.09 E: 2244278.81 DELTA: 15°55'59.9" (L7) D: 8°17'06.40" L: 91.96 P: 154.66 R: 700.00 S: Existing
Curve DE4 PI Sta: 223+60.87 N: 1448571.50 E: 2244262.77 DELTA: 15°03'53.2" (L7) D: 20°08'13.82" L: 40.22 P: 75.91 R: 385.00 S: Existing
Curve DE3 PI Sta: 221+72.73 N: 1448615.26 E: 2244068.47 DELTA: 5°34'30.2" (R7) D: 7°38'21.97" L: 36.52 P: 72.58 R: 750.00 S: Existing



STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: **MAINLINE PLAN**

REVISION DATES:

SCALE: 1" = 20'

GEORGIA
 DEPARTMENT OF TRANSPORTATION
 Kimley-Horn and Associates, Inc. TRANSPORTATION

LEGEND:
 B/LA: BOUNDARY LINE
 E/LA: END LIMIT OF ACCESS
 L/A: LIMIT OF ACCESS
 R/W & L/A: RIGHT OF WAY & LIMIT OF ACCESS
 P & E: PROPERTY AND EXISTING R/W LINE
 R/L: REQUIRED R/W LINE
 C/L: CONSTRUCTION LIMITS
 E/S: ESSENTIAL FOR CONSTRUCTION
 E/S/S: ESSENTIAL FOR CONSTRUCTION OF SLOPES
 E/S/D: ESSENTIAL FOR CONSTRUCTION OF DRAINAGE

SHEET NO. 13-05