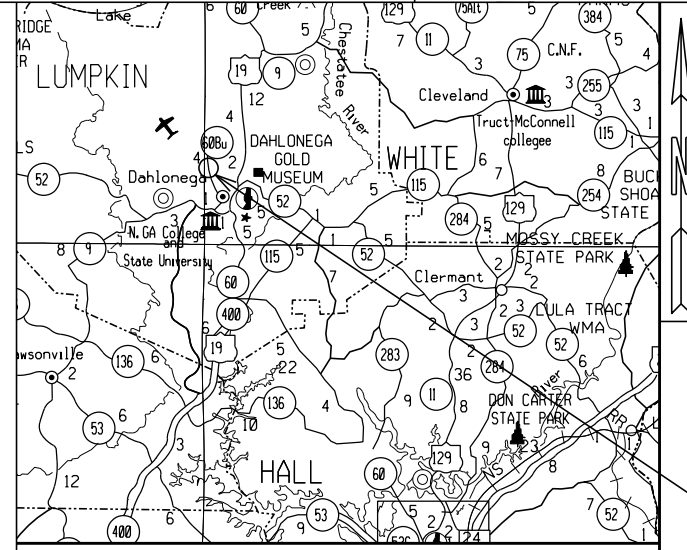


# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

## PLAN AND PROFILE OF PROPOSED US 19 BUS/SR 60 BUS AT OAK GROVE RD ROUNDAABOUT LUMPKIN COUNTY



LOCATION SKETCH

**DESIGN DATA:**  
 TRAFFIC A.D.T.: 9570 (2019)  
 DIRECTIONAL DIST: 50%  
 % TRUCKS: 4%  
 SPEED DESIGN: 45 MPH

**LOCATION & DESIGN APPROVAL DATE:** N/A  
**FUNCTIONAL CLASS:**  
 US 19 BUS/SR 60 BUS - RURAL ARTERIAL  
 OAK GROVE RD - LOCAL COLLECTOR  
 THIS PROJECT IS 100% IN LUMPKIN COUNTY AND IS 100% IN CONG.DIST.NO.09.  
**PROJECT DESIGNATION:** STATE FUNDED

THIS PROJECT HAS BEEN PREPARED USING THE HORIZONTAL GEORGIA COORDINATE SYSTEM OF 1984 (NAD 1983/94 WEST ZONE, AND THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

LIMIT OF CONSTRUCTION  
 OAK GROVE RD  
 STA 35+50.00  
 N: 1655189.0482  
 E: 2347639.8015

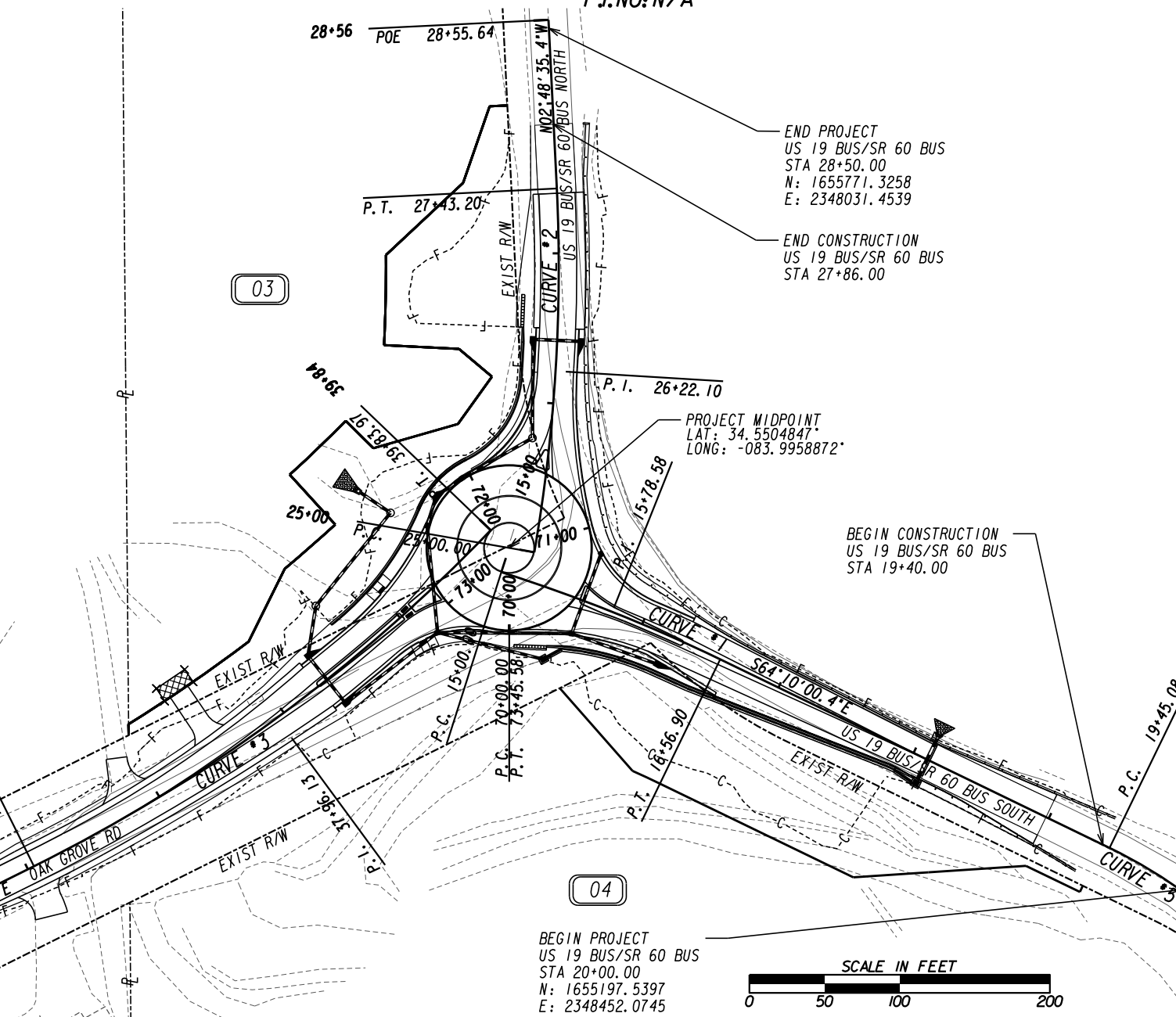
LENGTH OF PROJECT	COUNTY No.187
	Project No. N/A
	MILES
NET LENGTH OF ROADWAY	0.38
NET LENGTH OF BRIDGES	0.000
NET LENGTH OF PROJECT	0.38
NET LENGTH OF EXCEPTIONS	0.000
GROSS LENGTH OF PROJECT	0.38

PROJECT LOCATION

FEDERAL ROUTE \* US 19 BUS  
 STATE ROUTE \* SR 60 BUS  
 P.I. NO: N/A

THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS OR IN ANYWAY INDICATED THEREBY, WHETHER BY DRAWINGS OR NOTES, OR IN ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY, ARE NOT GUARANTEED, AND DO NOT BIND THE DEPARTMENT OF TRANSPORTATION IN ANY WAY. THE ATTENTION OF BIDDER IS SPECIFICALLY DIRECTED TO SUBSECTIONS 102.04, 102.05, AND 104.03 OF THE SPECIFICATIONS.

**NOTE:**  
 ALL REFERENCES IN THIS DOCUMENT, WHICH INCLUDES ALL PAPERS, WRITINGS, DOCUMENTS, DRAWINGS, OR PHOTOGRAPHS USED, OR TO BE USED IN CONNECTION WITH THIS DOCUMENT, TO "STATE HIGHWAY DEPARTMENT OF GEORGIA," "STATE HIGHWAY DEPARTMENT," "GEORGIA STATE HIGHWAY DEPARTMENT," "HIGHWAY DEPARTMENT," OR "DEPARTMENT" WHEN THE CONTEXT THEREOF MEANS THE STATE HIGHWAY DEPARTMENT OF GEORGIA, AND SHALL BE DEEMED TO MEAN THE DEPARTMENT OF TRANSPORTATION.



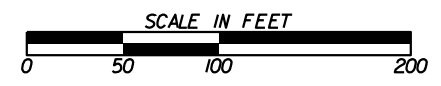
PLANS PREPARED BY: AUSTIN GRAY, P.E.  
 DESIGN ENGINEER

RECOMMENDED FOR SUBMISSION BY: JUSTIN LOTT, P.E.  
 DISTRICT DESIGN ENGINEER - DISTRICT 1

RECOMMENDED FOR APPROVAL BY: \_\_\_\_\_  
 DISTRICT ENGINEER - DISTRICT 1

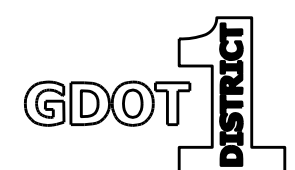
DATE	CHIEF ENGINEER
PLANS COMPLETED	
REVISIONS	

BEGIN PROJECT  
 US 19 BUS/SR 60 BUS  
 STA 20+00.00  
 N: 1655197.5397  
 E: 2348452.0745



DRAWING NO.	DESCRIPTION
01-0001	Cover
02-0001	Index
03-0001	Revision Summary
04-0001 to 04-0003	General Notes
05-0001 to 05-0014	Typical Sections
06-0001 to 06-0005	Summary of Quantities
07-0001	Quantities by Amendment
08-0001	Quantities Required on Construction
13-0001 to 13-0004	Mainline Plans
15-0001 to 15-0002	Mainline Profiles
16-0001	Crossroad Profile
17-0001	Driveway Profile
18-0001 to 18-0002	Special Grading
20-0001	Staging Details
21-0001 to 21-0002	Drainage Area Map
22-0001 to 22-0003	Drainage Profiles
23-0001 to 23-0014	Cross Sections
24-0000 to 24-0004	Utility Plans
26-0001 to 26-0005	Signing and Marking Plans
31-0001 to 31-0002	Retaining Wall Envelopes
40-0001 to 40-0026	Construction Details
41-0001 to 41-0026	Construction Standards
60-0001 to 60-0006	Right of Way Cover and Plans
	Davis Engineering & Surveying Plans
Sheet 1 of 9	Cover Sheet
Sheet 2 of 9	Existing Conditions/Demo Plan
Sheet 3 of 9	Utility Plan
Sheet 4 of 9	ES&PC Plans
Sheet 5 of 9	ES&PC Plans
Sheet 6 of 9	ES&PC Plans
Sheet 7 of 9	ES&PC Notes
Sheet 8 of 9	ES&PC Details
Sheet 9 of 9	Water & Sewer Details
	Total Sheets: 136

DRAWING NO.	DESCRIPTION
<i>Construction Details</i>	
40-0001	A-3 Concrete Sidewalk Details Curb Cut (Wheelchair) Ramps (09/16)
40-0002	A-4 Detectable Warning Surface Truncated Dome Size, Spacing, and Alignment Requirements (06/09)
40-0003	D-4 Ditch Drop Inlet with Fabricated Safety Grate and Weir Openings (10/00)
40-0004	D-49 Ditch Back of Retaining Wall; Swale Ditches; Rip Rap Ditch (02/11)
40-0005	D-55A Rip Rap Outlet Protection (04/14)
40-0006	G-2 Guardrail Anchorage Type 8 (01/01)
40-0007	G-11 Impact Attenuator Units (07/11)
40-0008	P-7 Pavement Edge Treatment Asphalt and Concrete Pavement (11/11)
40-0009	RA-1 Roundabout Landscaping Detail (09/11)
40-0010	RA-2 Roundabout Typical Section Asphaltic Concrete Circulatory Roadway (01/12)
40-0011	S-4 Shoulder Paving and Surfacing at Guardrail (04/16)
40-0012	S-7 Serrated Slope Detail; Benching Detail (06/09)
40-0013	T-1 Details of Sign Plates (01/00)
40-0014	T-2 Details for Typical Framing (03/00)
40-0015	T-3A Type 7, 8, and 9 Square Tube Post Installation Detail (07/02)
40-0016	T-3B Details of Square Tube Post (Breakaway Sign Support) (07/02)
40-0017	T-4 Details of Cardinal Direction Signs (01/00)
40-0018	T-11A Pavement Marking Placement Non-Limited Access Roadway (09/16)
40-0019	T-13A Pavement Marking Words (11/20)
40-0020	T-14 Detail of Pavement Marking Hatching (11/08)
40-0021	T-15A Raised Pavement Marker Location Non-Limited Access Roadway (09/16)
40-0022	T-15C Details of Raised Pavement Markers (09/11)
40-0023	T-19 Rumble Strip: Roundabouts and Stop Controlled Intersections (11/20)
40-0024	T-23A Edge Line Rumble Strips (09/17)
40-0025	T-23B Shoulder Rumble Strips: Non-Freeway (09/17)
40-0026	T-25 Rumble Strip Details for Shoulder, Edgeline, and Freeway (09/17)
<i>Construction Standards</i>	
41-0001	1001B Pipe Culvert Concrete Headwall (08/99)
41-0002	1011A Brick Manholes (06/09)
41-0003	1011AP Precast Reinforced Concrete Manhole (06/75)
41-0004	1019B Drop Inlet Types V-1 and V-2 (08/99)
41-0005	1033D Catch Basin for Use with Curb (6" or 8" HT.) & Gutter (08/82)
41-0006	1033DP Precast Catch Basins for Use with Curb (6" or 8" HT.) & Gutter (09/82)
41-0007	1034D Catch Basins for Use with Curb (6" or 8" HT.) & Gutter (08/82)
41-0008	1034DP Precast Catch Basins for Use with Curb (6" or 8" HT.) & Gutter (09/82)
41-0009	1125 Tapered Inlet Headwall - Outlet Headwall (Built-in-Place) (10/99)
41-0010	3901 Bar Bending Details (08/69)
41-0011	4000W Guardrail Warrant Guides (01/16)
41-0012	4360 Reflectorized Guardrail Washers, Delineator, and Anchorage Nose Striping (10/14)
41-0013	4380 *W* Beam Guardrail 31 Inch Guardrail Height (01/16)
41-0014	4381 Posts and Offset Blocks for *W* & *T* Beam Guardrail 31 Inch Guardrail Height (01/16)
41-0015	4382 Guardrail Connection at Bridge End or at Concrete Barrier End for 31 Inch High Guardrail (01/16)
41-0016	4383 Guardrail Anchorage Type 1 31 Inch Guardrail Height (08/11)
41-0017	4384 Guardrail Terminals, Type 12A, 12B, and 12C 31 Inch Guardrail Height (01/16)
41-0018	4385 *T* Beam Guardrail Connection to 31 Inch Height *W* Beam (08/11)
41-0019	4391 Guardrail Location (on Roads with Curb & Gutter, Header Curb or Integral Curb) 31 Inch Guardrail Height (01/16)
41-0020	4949B Concrete Side Barrier Types 2-S, 2-SA, 2-SA and 2-SC (05/20)
41-0021	4949C Concrete Side Barrier Types 6-S, 6-SA, 6-SB and 6-SC (05/20)
41-0022	9003 Details of Markers Federal Aid and State Right of Way Markers (04/06)
41-0023	9031L Gravity Wall Typical Sections, Raising Headwall, and Typical Pipe Plug (09/16)
41-0024	9032B Concrete Curb & Gutter, Concrete Curbs, Concrete Medians (01/21)
41-0025	9100 Traffic Control General Notes, Standard Legend, Miscellaneous Details (03/06)
41-0026	9102 Traffic Control Detail for Lane Closure on Two-Lane Highway (03/06)



**REVISION DATES**

**INDEX**

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

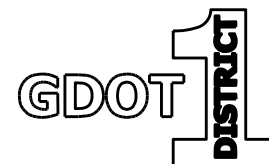
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BACKCHECKED:	DATE:	02-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	



1. AN N.O.I. IS REQUIRED FOR THIS PROJECT.
2. ALL BORROW AND WASTE SITES FOR THIS PROJECT SHALL BE ENVIRONMENTALLY APPROVED PRIOR TO CONSTRUCTION ACTIVITIES OCCURRING IN THEM. ALL COMMON FILL OR EXCESS MATERIAL DISPOSED OUTSIDE THE PROJECT RIGHT OF WAY SHALL BE PLACED IN EITHER A PERMITTED SOLID WASTE FACILITY, A PERMITTED INERT WASTE LANDFILL, OR IN AN ENGINEERED FILL. SEE SECTION 201 OF THE STANDARD SPECIFICATION AND SUPPLEMENTS THERETO FOR ADDITIONAL INFORMATION.
3. THERE IS NO KNOWN SUITABLE PLACE TO BURY EXISTING CONSTRUCTION DEBRIS WITHIN THE PROJECT'S LIMITS. THE CONTRACTOR SHALL PROVIDE AN ENVIRONMENTALLY APPROVED SITE AS SHOWN IN GA. SPECIFICATION 201 TO DISPOSE OF EXISTING CONSTRUCTION DEBRIS AT NO ADDITIONAL COST TO THE DEPARTMENT.
4. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL SIDE STREETS AND DRIVEWAYS IN ACCORDANCE WITH SPECIAL PROVISION 10B.
5. THE CONTRACTOR SHALL MILL VARIABLE DEPTH TO ENSURE SMOOTH TRANSITION AT TIE-IN.
6. TWO (2) WEEKS PRIOR TO OPENING OF ROUNDABOUT, THE CONTRACTOR SHALL INFORM THE TRAVELLING PUBLIC OF THE UPCOMING CHANGE USING PORTABLE CHANGEABLE MESSAGE SIGNS.
7. REMOVAL OF ALL EXISTING DRAINAGE SHALL BE INCLUDED IN THE OVERALL BID PRICE FOR GRADING COMPLETE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY SITE, AS WHAT IS BEING SHOWN IS FOR INFORMATIONAL PURPOSES ONLY. ANY ADDITIONAL DRAINAGE FOUND WILL NOT BE MEASURED FOR PAYMENT.
8. ALL TEMPORARY SHORING WILL BE CONSIDERED INCIDENTAL TO GRADING COMPLETE AND WILL NOT BE MEASURED FOR PAYMENT. TEMPORARY SHORING IS TO BE INCLUDED IN THE OVERALL BID PRICE SUBMITTED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE NEED FOR SHORING. WHAT IS SHOWN IS FOR INFORMATIONAL PURPOSES ONLY.
9. ALL DRIVEWAYS THAT ARE TO BE RECONSTRUCTED WILL BE PAVED BACK TO THE TIE IN POINT OR REQUIRED RIGHT OF WAY, WHICHEVER IS GREATER, UNLESS PLANS SHOW OTHERWISE. ALL DRIVEWAYS OVER 11% IN GRADE SHALL BE PAVED WITH CONCRETE UNLESS OTHERWISE NOTED IN THE PLANS. ALL OTHER DRIVEWAYS SHALL BE REPLACED AS FOLLOWS: ASPHALT FOR ASPHALT, CONCRETE FOR CONCRETE AND ASPHALT FOR EARTH / GRAVEL DRIVES. RESIDENTIAL DRIVES SHALL BE 14 FEET WIDE AT THE THROAT UNLESS NOTED OTHERWISE IN THE PLANS. COMMERCIAL DRIVES SHALL BE 24 FEET WIDE UNLESS NOTED OTHERWISE IN THE PLANS. EXISTING DRIVEWAY LOCATIONS ARE SHOWN FROM THE BEST AVAILABLE DATA; THE CONTRACTOR SHALL CONSTRUCT DRIVEWAYS TO MATCH THE LOCATION OF EXISTING DRIVEWAYS AT THE TIE IN POINT, IF APPLICABLE. THE CONTRACTOR SHALL OBTAIN THE APPROVAL FROM THE ENGINEER PRIOR TO MAKING ANY REVISIONS TO LOCATION, WIDTH, AND/OR NUMBER OF DRIVES TO BE CONSTRUCTED. DRIVES SHALL BE CONSTRUCTED USING:  
  
 RESIDENTIAL:  
 ASPHALT - 165 LB/SY RECYCLED ASPHALT CONC. 12.5 MM SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME GRADED AGGREGATE BASE, 6".  
 CONCRETE - DRIVEWAY CONCRETE, 6 IN THICK, (URBAN SHOULDER) CONC VALLEY GUTTER, 6 IN.
10. ROUNDABOUT LIGHTING WILL BE INSTALLED BY GA POWER AND WILL NOT BE INCLUDED AS PART OF THE CONTRACT. CONTACT BEN JONES AT 404-764-9823 OR BENRJONE@SOUTHERNCO.COM REGARDING COORDINATION REQUIRED BETWEEN THE CONTRACTOR AND GA POWER.
11. THE CONTRACTOR IS TO FOLLOW THE GDOT 2021 SPECIFICATIONS REGARDING CONSTRUCTION, MEASUREMENT, AND PAYMENT FOR ALL CONTRACT ITEMS.

UTILITY OWNER	SERVICE
ATLANTA GAS LIGHT	GAS
CITY OF DAHLONEGA	WATER
CITY OF DAHLONEGA	SANITARY SEWER
WINDSTREAM	TELECOMMUNICATIONS
GEORGIA POWER	ELECTRIC

UTILITY LOCATIONS PROVIDED BY UTILITY OWNERS.



REVISION DATES

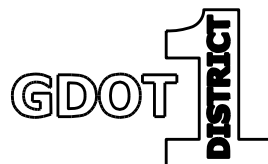

GENERAL NOTES

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	04-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	

### GENERAL NOTES - STANDARD SIGNS

1. ALL STANDARD HIGHWAY SIGNS SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PLANS, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, AND THE GEORGIA SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, AND/OR SPECIAL PROVISIONS.
2. SIGN ERECTION STATIONS ARE APPROXIMATE AND MAY BE ADJUSTED TO MEET FIELD CONDITIONS WHERE NECESSARY, BUT SHALL BE WITHIN THE LIMITATIONS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION. NO SIGN LOCATION SHALL BE CHANGED BY THE CONTRACTOR OR BY THE PROJECT ENGINEER WITHOUT PRIOR APPROVAL FROM THE OFFICE OF TRAFFIC OPERATIONS.
3. ALL STANDARD HIGHWAY SIGNS SHALL BE ERECTED AT A HEIGHT OF 7 FEET ABOVE THE NORMAL EDGE OF PAVEMENT TO THE BOTTOM OF THE SIGN OR ASSEMBLY. IF SIDEWALK IS PROPOSED OR EXISTING, THE SIGNS SHALL BE ERECTED AT A HEIGHT OF 7 FEET ABOVE THE SIDEWALK.
- 4a. HORIZONTAL CLEARANCE FOR STANDARD HIGHWAY SIGNS ON INTERSTATE HIGHWAYS SHALL BE 32 FEET FROM THE NORMAL EDGE OF PAVEMENT TO THE NEARER EDGE OF THE SIGN(S), UNLESS SPECIFIED OTHERWISE IN THE PLANS. HORIZONTAL CLEARANCE FOR STANDARD HIGHWAY SIGNS ON RAMPS SHALL BE 2 FEET FROM THE NORMAL EDGE OF PAVED SHOULDER, OR EDGE OF GRADED SHOULDER WHEN PRESENT.
- 4b. HORIZONTAL CLEARANCE FOR STANDARD HIGHWAY SIGNS ON ALL OTHER ROADWAYS SHALL BE 6 FEET FROM THE EDGE OF THE PAVED SHOULDER OR 12 FEET FROM THE NORMAL EDGE OF PAVEMENT TO THE NEARER EDGE OF THE SIGN(S), WHICHEVER IS GREATER. THE HORIZONTAL CLEARANCE IN NON-MOUNTABLE CURB SECTIONS SHALL BE AT LEAST 2 FEET FROM THE CURB FACE TO THE NEARER EDGE OF THE SIGN(S).
- 4c. WHEN GUARDRAIL IS PRESENT OR BEING PROPOSED, SIGNS SHALL BE POSTED AN UNSTIPULATED DISTANCE BEHIND GUARDRAIL.
5. SINGLE PLATE, HORIZONTAL RECTANGULAR SIGNS OVER 48 INCHES IN WIDTH SHALL BE MOUNTED ON TWO POSTS WITH 2 EACH 2 INCH x 1/2 INCH x (WIDTH OF SIGN) ALUMINUM OR GALVANIZED STEEL STRAPS. THE STRAPS SHALL BE FLUSH WITH THE BACK OF THE SIGN WITH ONE EACH ACROSS THE TOP AND BOTTOM OF THE SIGN. THE CENTERLINE OF EACH POST SHALL BE INSET 1/6TH OF THE SIGN WIDTH FROM THE EDGE OF THE SIGN. SIGN PLATE BOLT HOLES SHALL BE 3/8 INCH DIAMETER, DRILLED OR PUNCHED, AS SHOWN ON THE SIGN PLATE DETAILS.
6. EACH 42 OR 48 INCH WIDE x 18 OR 24 INCH HIGH SIGN REQUIRES ONE 2 INCH x 1/2 INCH x (WIDTH OF SIGN) ALUMINUM OR GALVANIZED STEEL STRAP LOCATED IN THE CENTER OF THE SIGN AND FLUSH WITH THE BACK OF THE SIGN.
7. SIGN ASSEMBLIES SHALL BE MOUNTED ON ALUMINUM OR GALVANIZED STEEL STRAP FRAMES. FOR DETAILS AND STRAP SPECIFICATIONS REFER TO SIGN ASSEMBLY-TYPICAL FRAMING DETAILS.
8. TYPE 9 (VERY HIGH INTENSITY) REFLECTIVE SHEETING SHALL BE USED FOR ALL STANDARD HIGHWAY SIGNS REQUIRING REFLECTORIZED BACKGROUNDS EXCEPT AS SPECIFIED BELOW OR SPECIFIED OTHERWISE IN THE PLANS. EITHER CLASS 1 OR CLASS 2 ADHESIVE BACKING IS PERMISSIBLE.
9. TYPE 11 (VERY HIGH INTENSITY) REFLECTIVE SHEETING SHALL BE USED FOR ALL RED SERIES SIGNS (R1-1, R1-2, R1-3P, R5-1, R5-1A, R5-1B).
10. TYPE 11 (VERY HIGH INTENSITY) FLUORESCENT YELLOW REFLECTIVE SHEETING SHALL BE USED FOR ALL WARNING SIGNS.
11. TYPE 11 (VERY HIGH INTENSITY) FLUORESCENT YELLOW GREEN REFLECTIVE SHEETING SHALL BE USED FOR SCHOOL ZONE (S1-1, S2-1, S3-1, S4-3, AND THE TOP PORTION OF THE S5-1) SIGNS. ALL REGULATORY SIGNS WITHIN THE SCHOOL ZONE SIGNING SHALL HAVE TYPE 9 (VERY HIGH INTENSITY) REFLECTIVE SHEETING.
12. A 1/2 INCH MINIMUM AIR SPACE SHALL BE REQUIRED BETWEEN ALL SIGN PLATES WITHIN AN ASSEMBLY.
13. WHERE SIGNS WITHIN AN ASSEMBLY EXTEND BELOW THE STANDARD MOUNTING HOLES ON THE POST(S), ADDITIONAL 3/8 INCH DIAMETER HOLE(S), DRILLED OR PUNCHED, SHALL BE REQUIRED TO PROPERLY MOUNT THE ASSEMBLY.
14. ALL INTERSTATE, U.S., AND GEORGIA SHIELDS REQUIRING ALT, BUS, CONN, LOOP, OR SPUR SHALL USE 4 INCH SERIES "D" LETTERS. REFER TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, FOR DETAILS.
15. FOR DETAILS OF SPECIAL DESIGN HIGHWAY SIGNS, SEE DETAILS OF MISCELLANEOUS SIGNS.
16. REFER TO PLAN SHEETS FOR LOCATION OF THE DISTRICT ENGINEERS OFFICE TO BE SHOWN ON ALL R552-1 (LIMITED ACCESS) SIGNS IN THIS PROJECT, IF ANY.
17. THE CONTRACTOR WILL, AS REQUESTED BY THE DISTRICT TRAFFIC OPERATIONS ENGINEER, BE REQUIRED TO REMOVE ANY EXISTING SIGNS THAT ARE DUPLICATED OR ARE CONTRARY TO THESE SIGN PLANS.



REVISION DATES

NO.	DATE	DESCRIPTION

**GENERAL NOTES**

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	04-0002
CORRECTED:	DATE:	
VERIFIED:	DATE:	

Project Number: N/A

County: Lumpkin

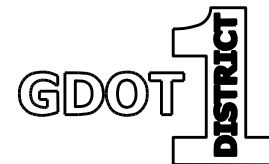
P.I. Number: N/A

### Pipe Culvert Material Alternates

TYPE OF INSTALLATION			PIPE TYPE											
			CONCRETE	STEEL			ALLUMINUM	THERMOPLASTIC						
			REINFORCED CONCRETE AASHTO M-170	CORRUGATED STEEL ALUMINUM COATED (TYPE 2) AASHTO M-36	CORRUGATED STEEL PLAIN ZINC COATED AASHTO M-36	POLYMER COATED STEEL AASHTO M-245	CORRUGATED ALUMINUM AASHTO M-196	CORRUGATED HDPE AASHTO M-252	CORRUGATED SMOOTHED LINED HDPE TYPE "S" AASHTO M-294	CORRUGATED SMOOTH LINED POLYPROPYLENE AASHTO M 330	PVC CORRUGATED SMOOTH INTERIOR ASTM F-949	PVC Profile Wall Drain Pipe AASHTO M-304		
STORM DRAIN	NON-TRAVEL BEARING (OUTSIDE ROADBED)	INTERSTATE	X											
		NON INTERSTATE	X	X		X	X		X	X	X	X		
	TRAVEL BEARING (INSIDE ROADBED)	GRADE ≤ 10%	ADT < 1,500	X	X		X	X		X	X	X	X	
			1,500 < ADT < 5,000	X	X		X	X		X	X	X	X	
			5,000 < ADT < 15,000	X							X	X	X	X
			ADT > 15,000 & INTERSTATES	X										
		GRADE > 10%				X				X	X	X	X	
SIDE DRAIN			X	X	X	X	X		X	X	X	X		
PERMANENT SLOPE DRAIN				X	X	X	X		X	X	X	X		
PERFORATED UNDERDRAIN				X	X			X	X	X	X	X		

**NOTES:**

- 1 Allowable materials are indicated by an "X".
- 2 Structural, installation, fill height and backfill requirements of storm drain pipe will be in accordance with Georgia Standard 1030-D or 1030-P and the Standard Specifications
- 3 The Contractor shall provide additional storm sewer capacity calculations if a pipe material other than concrete is selected.
- 4 Pipe used under mechanically stabilized earth (MSE) walls, within MSE wall backfill, or within five feet of an MSE wall face shall be Class V Concrete Pipe.

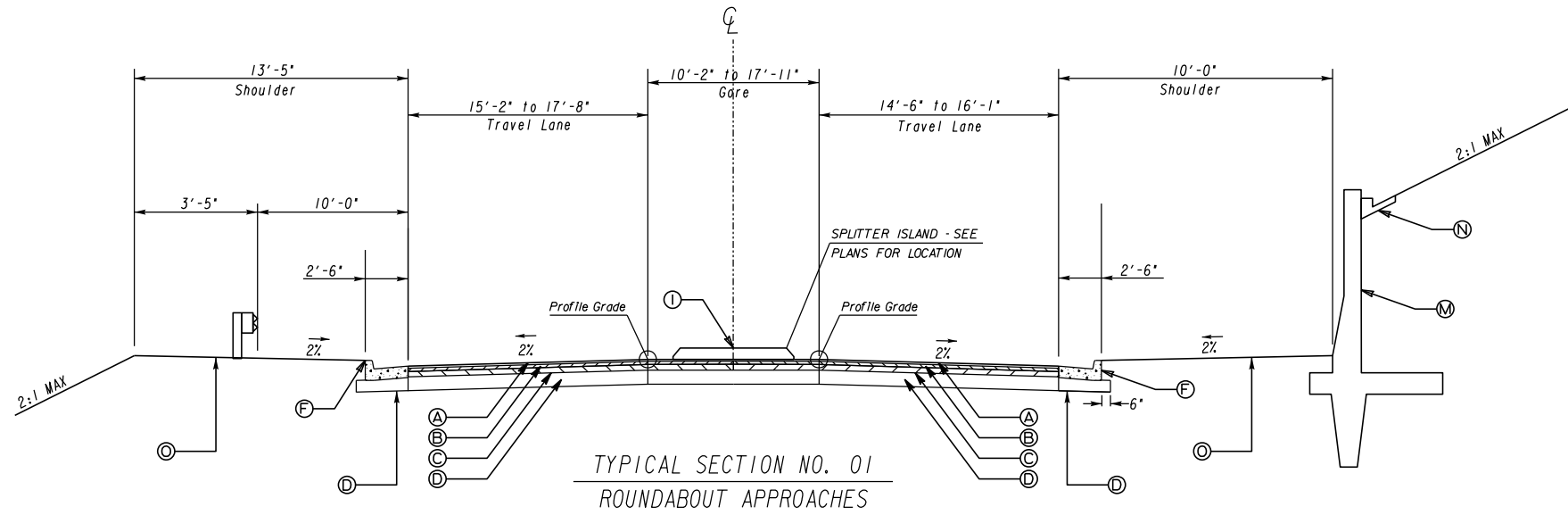


REVISION DATES


**GENERAL NOTES**

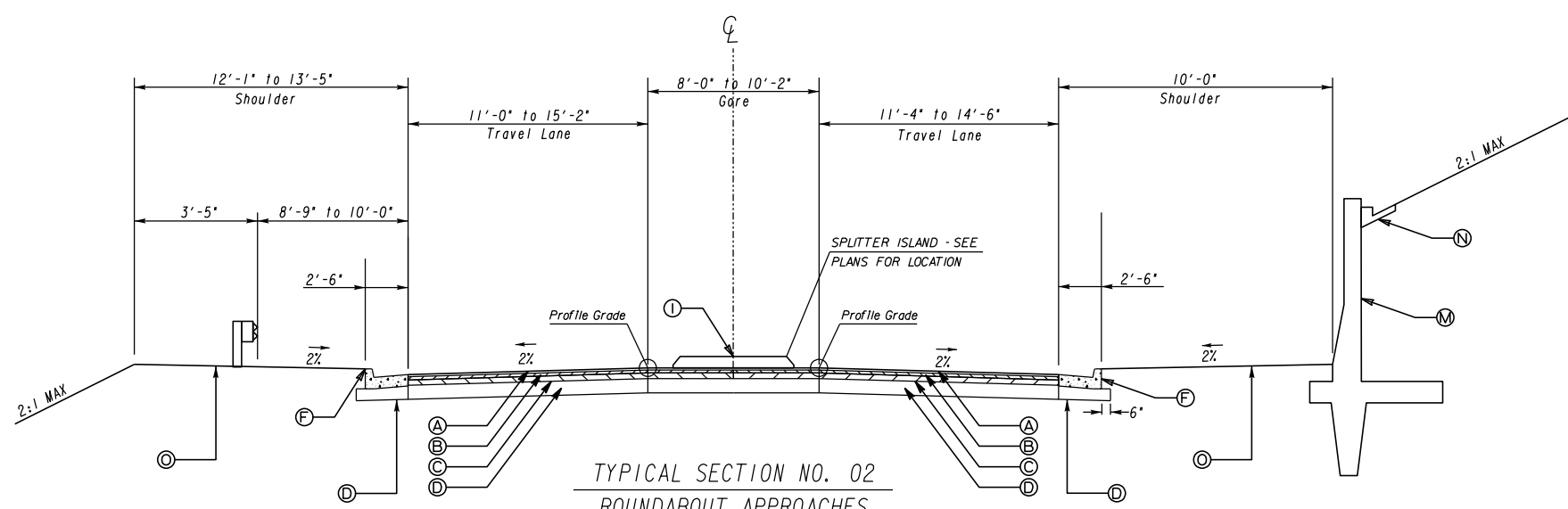
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	04-0003
CORRECTED:	DATE:	
VERIFIED:	DATE:	



TYPICAL SECTION NO. 01  
ROUNDBOUNT APPROACHES

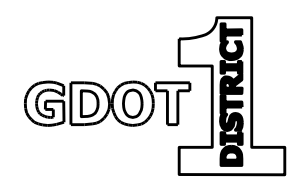
US 19 BUS/SR 60 BUS SOUTH  
STA 15+55.20 TO STA 15+72.00



TYPICAL SECTION NO. 02  
ROUNDBOUNT APPROACHES

US 19 BUS/SR 60 BUS SOUTH  
STA 15+72.00 TO STA 16+04.00

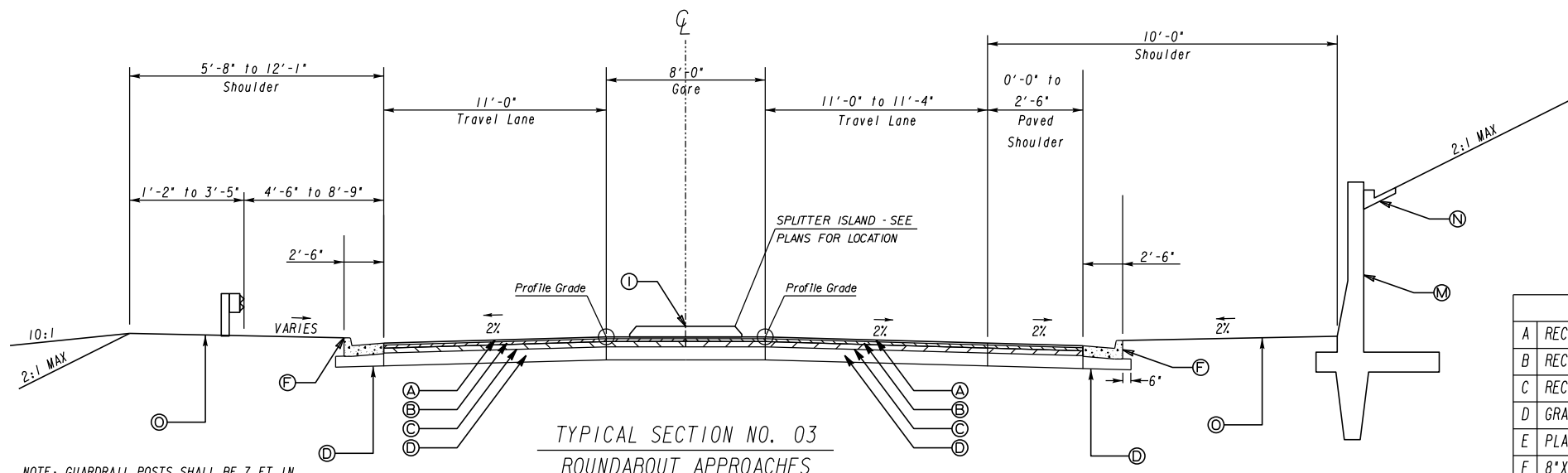
PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
C	RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 550 LB/SY
D	GRADED AGGREGATE BASE, 12"
E	PLAIN PC CONC PVMT, CL HES CONC, 10" THK, STAMPED AND COLORED (FEDRAL CODE *31136)
F	8"x30" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 2
G	8"x32" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 9
H	PAVEMENT REINFORCED FABRIC STRIPS, TP 2, 18" WIDTH
I	CONCRETE DOWELED MEDIAN, 6" TP. 7 FACE
J	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME (AS REQ'D)
K	MILL ASPH CONC PVMT, VARIABLE DEPTH
L	CONCRETE SIDE BARRIER, TYPE 2-S - SEE PLANS FOR TYPE AND HEIGHT
M	CONCRETE SIDE BARRIER, TYPE 6-S - SEE PLANS FOR TYPE AND HEIGHT
N	4" CONC DITCH PAVING
O	SOD
P	SHOULDER RUMBLE STRIPS, SEE GDOT DETAILS T-23B & T-25
Q	EDGE LINE RUMBLE STRIPS, SEE GDOT DETAILS T-23A & T-25



N. T. S.

REVISION DATES	

TYPICAL SECTIONS			
US 19 BUS/SR 60 BUS @ OAK GROVE RD			
LUMPKIN COUNTY			
CHECKED:		DATE:	
BACKCHECKED:		DATE:	
CORRECTED:		DATE:	
VERIFIED:		DATE:	
DRAWING No.			05-0001

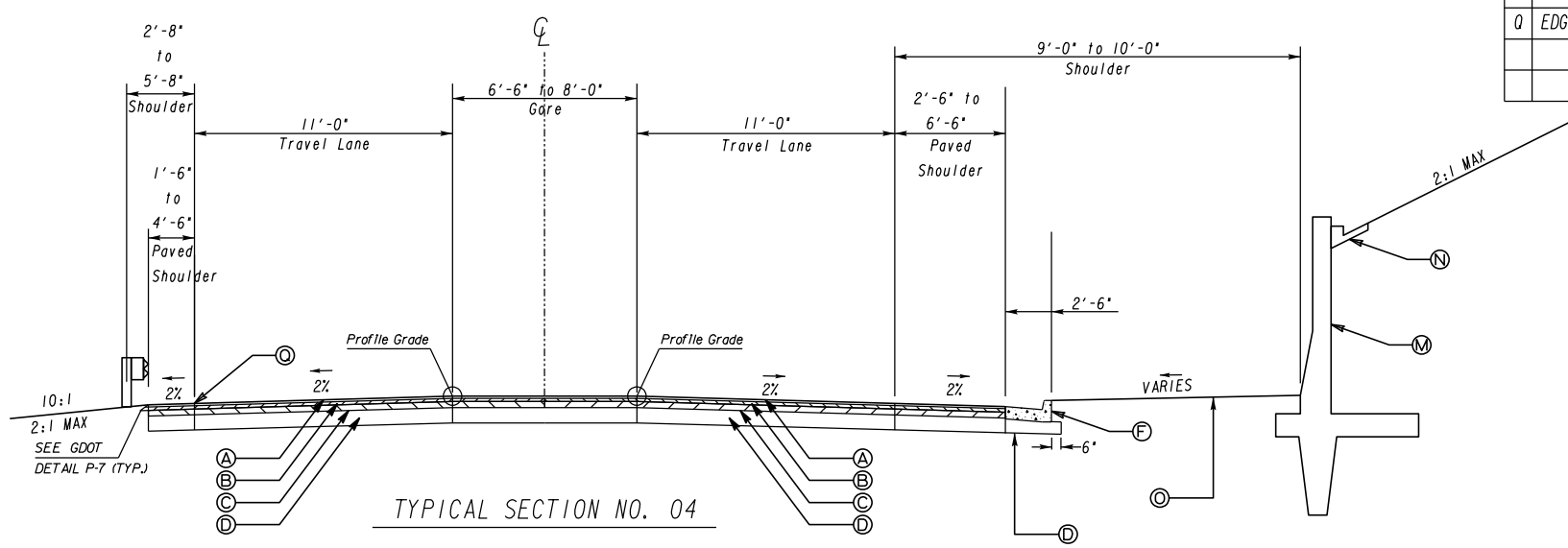


TYPICAL SECTION NO. 03  
ROUNDBOUT APPROACHES

US 19 BUS/SR 60 BUS SOUTH  
STA 16+04.00 TO STA 16+30.21

NOTE: GUARDRAIL POSTS SHALL BE 7 FT IN LENGTH WHEN OFFSET FROM BACK OF POST TO SHOULDER BREAK IS LESS THAN 2'-0" BUT GREATER THAN OR EQUAL TO 1'-0". GUARDRAIL POSTS SHALL BE 9 FT IN LENGTH WHEN OFFSET FROM BACK OF POST TO SHOULDER BREAK IS LESS THAN 1'-0" AND WHEN CENTER OF POST IS PLACED ON SHOULDER BREAK POINT. SEE GA STD. 4381 FOR ADDITIONAL INFORMATION.

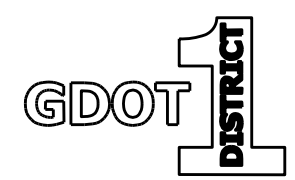
PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
C	RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 550 LB/SY
D	GRADED AGGREGATE BASE, 12"
E	PLAIN PC CONC PVMT, CL HES CONC, 10" THK, STAMPED AND COLORED (FEDRAL CODE *31136)
F	8"x30" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 2
G	8"x32" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 9
H	PAVEMENT REINFORCED FABRIC STRIPS, TP 2, 18" WIDTH
I	CONCRETE DOWELED MEDIAN, 6" TP. 7 FACE
J	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME (AS REQ'D)
K	MILL APSPH CONC PVMT, VARIABLE DEPTH
L	CONCRETE SIDE BARRIER, TYPE 2-S - SEE PLANS FOR TYPE AND HEIGHT
M	CONCRETE SIDE BARRIER, TYPE 6-S - SEE PLANS FOR TYPE AND HEIGHT
N	4" CONC DITCH PAVING
O	SOD
P	SHOULDER RUMBLE STRIPS, SEE GDOT DETAILS T-23B & T-25
Q	EDGE LINE RUMBLE STRIPS, SEE GDOT DETAILS T-23A & T-25



TYPICAL SECTION NO. 04

US 19 BUS/SR 60 BUS SOUTH  
STA 16+30.21 TO STA 16+64.24

NOTE: GUARDRAIL POSTS SHALL BE 9 FT IN LENGTH WHEN CENTER OF POST IS PLACED ON SHOULDER BREAK POINT. SEE GA STD. 4381 FOR ADDITIONAL INFORMATION.



N. T. S.

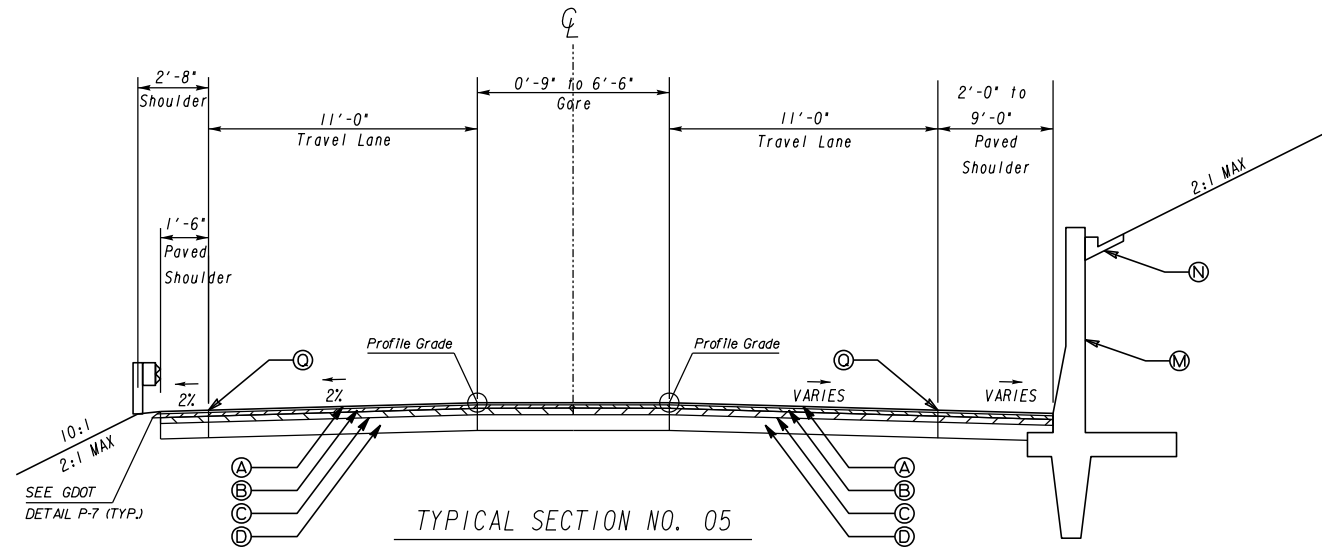
REVISION DATES


TYPICAL SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0002
CORRECTED:	DATE:	
VERIFIED:	DATE:	

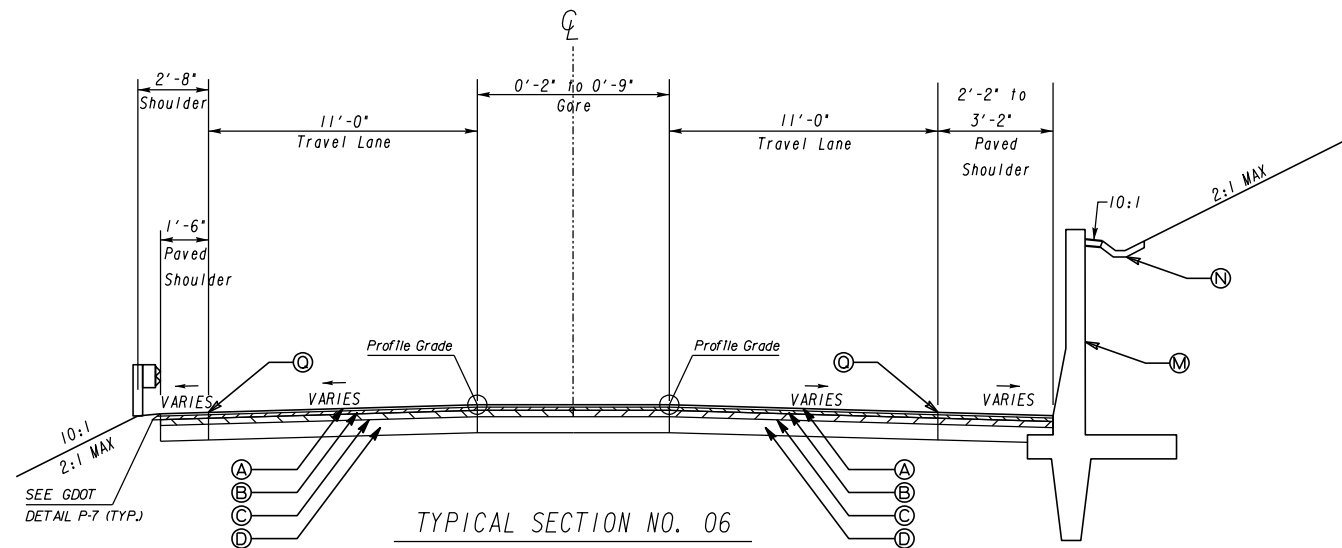




TYPICAL SECTION NO. 05

US 19 BUS/SR 60 BUS SOUTH  
STA 16+64.24 to STA 17+93.46

NOTE: GUARDRAIL POSTS SHALL BE 9 FT IN LENGTH WHEN CENTER OF POST IS PLACED ON SHOULDER BREAK POINT. SEE GA STD. 4381 FOR ADDITIONAL INFORMATION.

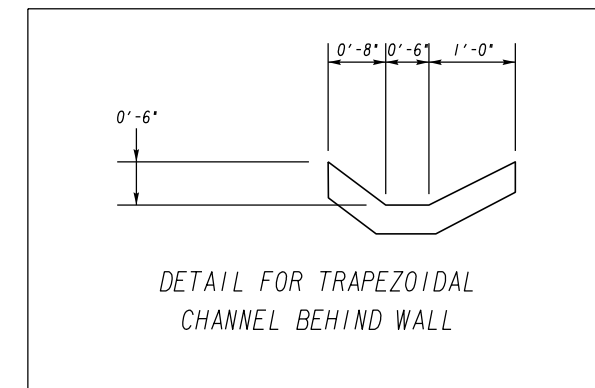


TYPICAL SECTION NO. 06

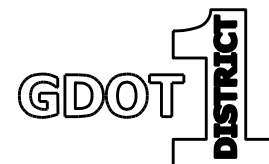
US 19 BUS/SR 60 BUS SOUTH  
STA 17+93.46 to STA 18+06.95

NOTE: GUARDRAIL POSTS SHALL BE 9 FT IN LENGTH WHEN CENTER OF POST IS PLACED ON SHOULDER BREAK POINT. SEE GA STD. 4381 FOR ADDITIONAL INFORMATION.

PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
C	RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 550 LB/SY
D	GRADED AGGREGATE BASE, 12"
E	PLAIN PC CONC PVMT, CL HES CONC, 10" THK, STAMPED AND COLORED (FEDRAL CODE *31136)
F	8"x30" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 2
G	8"x32" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 9
H	PAVEMENT REINFORCED FABRIC STRIPS, TP 2, 18" WIDTH
I	CONCRETE DOWELED MEDIAN, 6" TP. 7 FACE
J	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME (AS REQ'D)
K	MILL ASPH CONC PVMT, VARIABLE DEPTH
L	CONCRETE SIDE BARRIER, TYPE 2-S - SEE PLANS FOR TYPE AND HEIGHT
M	CONCRETE SIDE BARRIER, TYPE 6-S - SEE PLANS FOR TYPE AND HEIGHT
N	4" CONC DITCH PAVING
O	SOD
P	SHOULDER RUMBLE STRIPS, SEE GDOT DETAILS T-23B & T-25
Q	EDGE LINE RUMBLE STRIPS, SEE GDOT DETAILS T-23A & T-25



DETAIL FOR TRAPEZOIDAL CHANNEL BEHIND WALL



N. T. S.

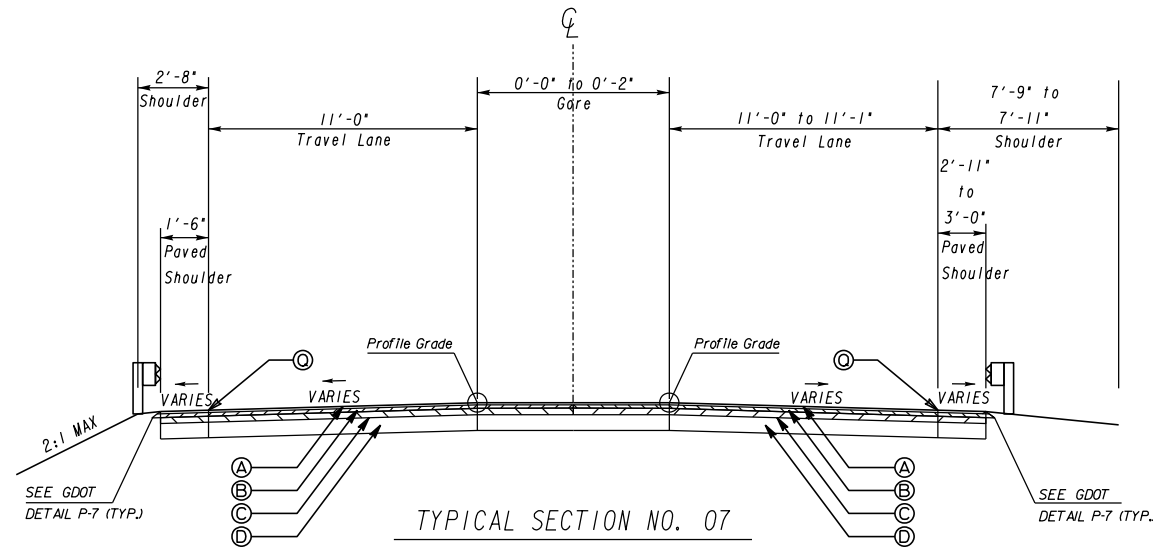
REVISION DATES

NO.	DATE	DESCRIPTION

TYPICAL SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0003
CORRECTED:	DATE:	
VERIFIED:	DATE:	

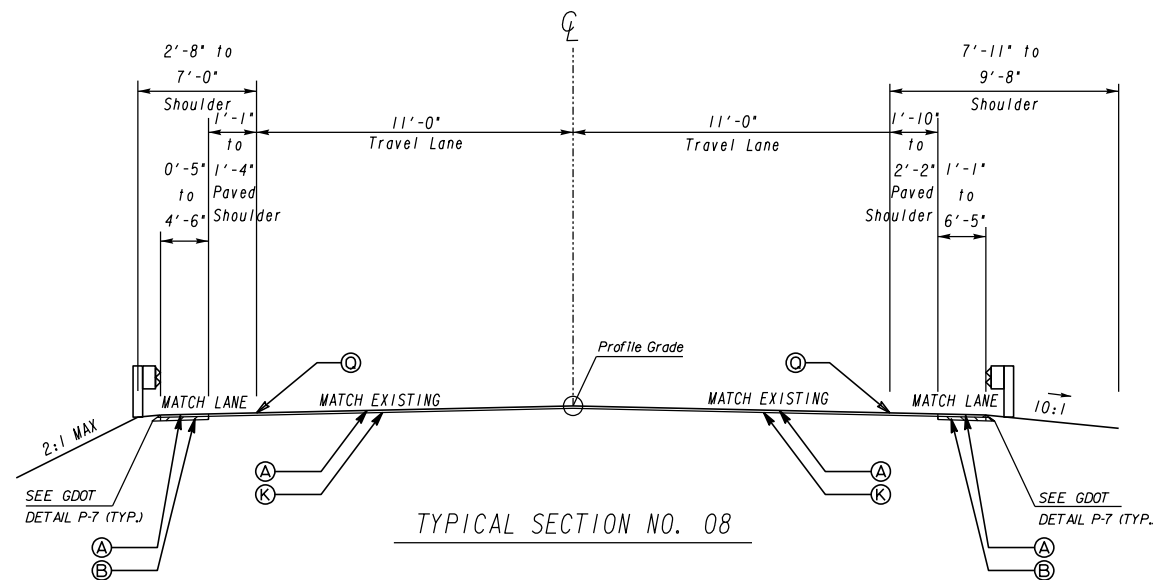


TYPICAL SECTION NO. 07

US 19 BUS/SR 60 BUS SOUTH  
STA 18+06.95 to STA 18+12.00

NOTE: GUARDRAIL POSTS SHALL BE 9 FT IN LENGTH WHEN CENTER OF POST IS PLACED ON SHOULDER BREAK POINT. SEE GA STD. 4381 FOR ADDITIONAL INFORMATION.

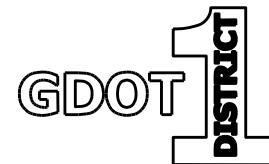
PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
C	RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 550 LB/SY
D	GRADED AGGREGATE BASE, 12"
E	PLAIN PC CONC PVMT, CL HES CONC, 10" THK, STAMPED AND COLORED (FEDRAL CODE *31136)
F	8"X30" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 2
G	8"X32" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 9
H	PAVEMENT REINFORCED FABRIC STRIPS, TP 2, 18" WIDTH
I	CONCRETE DOWELED MEDIAN, 6" TP. 7 FACE
J	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME (AS REQ'D)
K	MILL ASPH CONC PVMT, VARIABLE DEPTH
L	CONCRETE SIDE BARRIER, TYPE 2-S - SEE PLANS FOR TYPE AND HEIGHT
M	CONCRETE SIDE BARRIER, TYPE 6-S - SEE PLANS FOR TYPE AND HEIGHT
N	4" CONC DITCH PAVING
O	SOD
P	SHOULDER RUMBLE STRIPS, SEE GDOT DETAILS T-23B & T-25
Q	EDGE LINE RUMBLE STRIPS, SEE GDOT DETAILS T-23A & T-25



TYPICAL SECTION NO. 08

US 19 BUS/SR 60 BUS SOUTH  
STA 18+12.00 to STA 18+98.00

NOTE: GUARDRAIL POSTS SHALL BE 9 FT IN LENGTH WHEN CENTER OF POST IS PLACED ON SHOULDER BREAK POINT. SEE GA STD. 4381 FOR ADDITIONAL INFORMATION.



N. T. S.

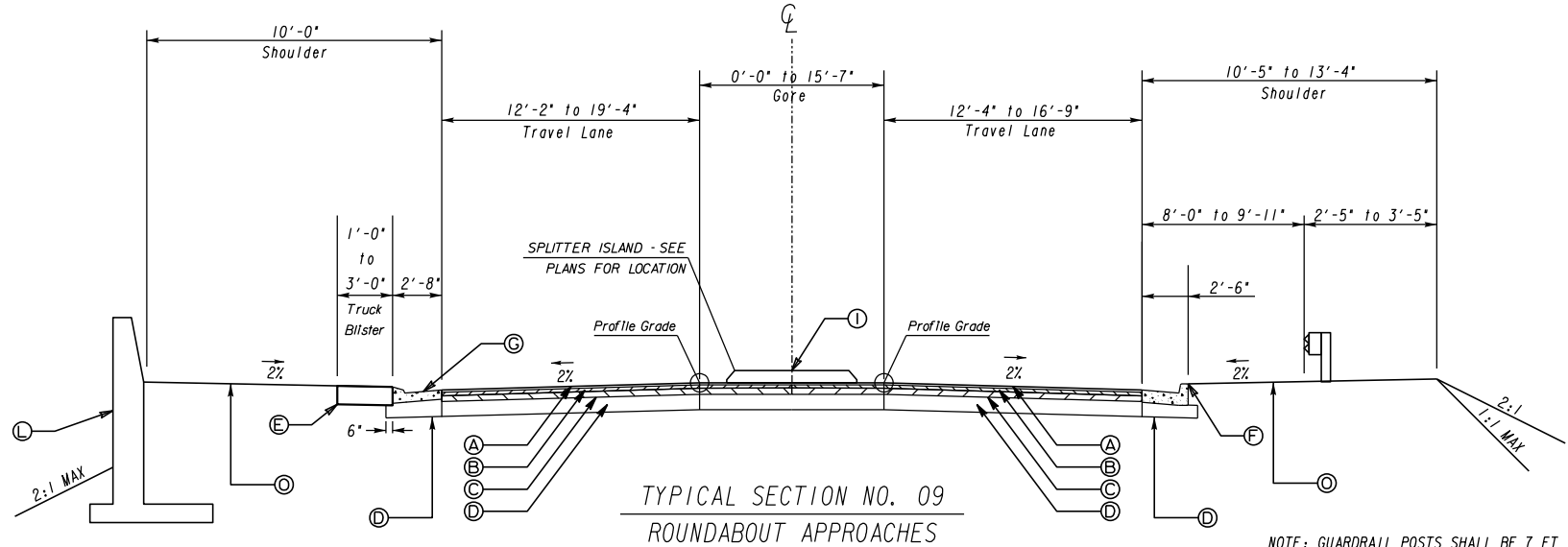
REVISION DATES

NO.	DATE	DESCRIPTION

TYPICAL SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0004
CORRECTED:	DATE:	
VERIFIED:	DATE:	

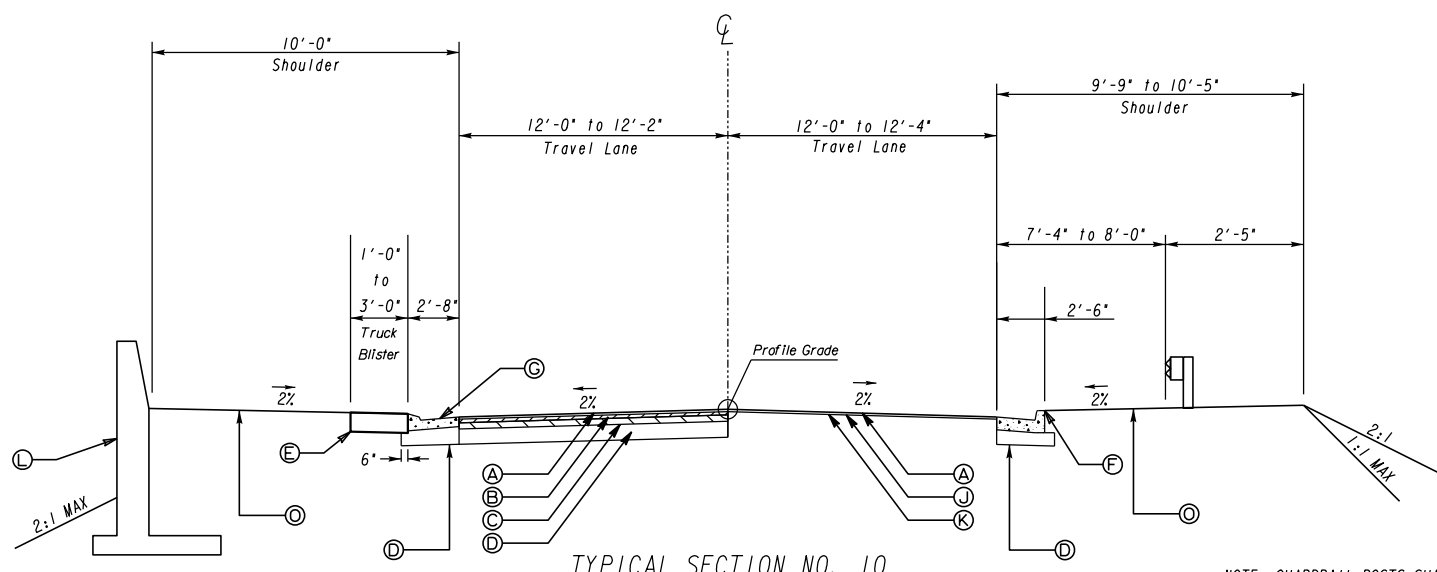


TYPICAL SECTION NO. 09  
ROUNDBOAT APPROACHES

US 19 BUS/SR 60 BUS NORTH  
STA 26+55.89 TO STA 26+10.00

NOTE: GUARDRAIL POSTS SHALL BE 7 FT IN LENGTH WHEN OFFSET FROM BACK OF POST TO SHOULDER BREAK IS LESS THAN 2'-0" BUT GREATER THAN OR EQUAL TO 1'-0". SEE GA STD. 4381 FOR ADDITIONAL INFORMATION.

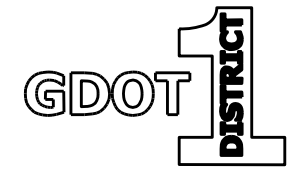
PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
C	RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 550 LB/SY
D	GRADED AGGREGATE BASE, 12"
E	PLAIN PC CONC PVMT, CL HES CONC, 10" THK, STAMPED AND COLORED (FEDRAL CODE *31136)
F	8"x30" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 2
G	8"x32" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 9
H	PAVEMENT REINFORCED FABRIC STRIPS, TP 2, 18" WIDTH
I	CONCRETE DOWELED MEDIAN, 6" TP, 7 FACE
J	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME (AS REQ'D)
K	MILL APSPH CONC PVMT, VARIABLE DEPTH
L	CONCRETE SIDE BARRIER, TYPE 2-S - SEE PLANS FOR TYPE AND HEIGHT
M	CONCRETE SIDE BARRIER, TYPE 6-S - SEE PLANS FOR TYPE AND HEIGHT
N	4" CONC DITCH PAVING
O	SOD
P	SHOULDER RUMBLE STRIPS, SEE GDOT DETAILS T-23B & T-25
Q	EDGE LINE RUMBLE STRIPS, SEE GDOT DETAILS T-23A & T-25



TYPICAL SECTION NO. 10  
ROUNDBOAT APPROACHES

US 19 BUS/SR 60 BUS NORTH  
STA 26+10.00 TO STA 26+20.00

NOTE: GUARDRAIL POSTS SHALL BE 7 FT IN LENGTH WHEN OFFSET FROM BACK OF POST TO SHOULDER BREAK IS LESS THAN 2'-0" BUT GREATER THAN OR EQUAL TO 1'-0". SEE GA STD. 4381 FOR ADDITIONAL INFORMATION.



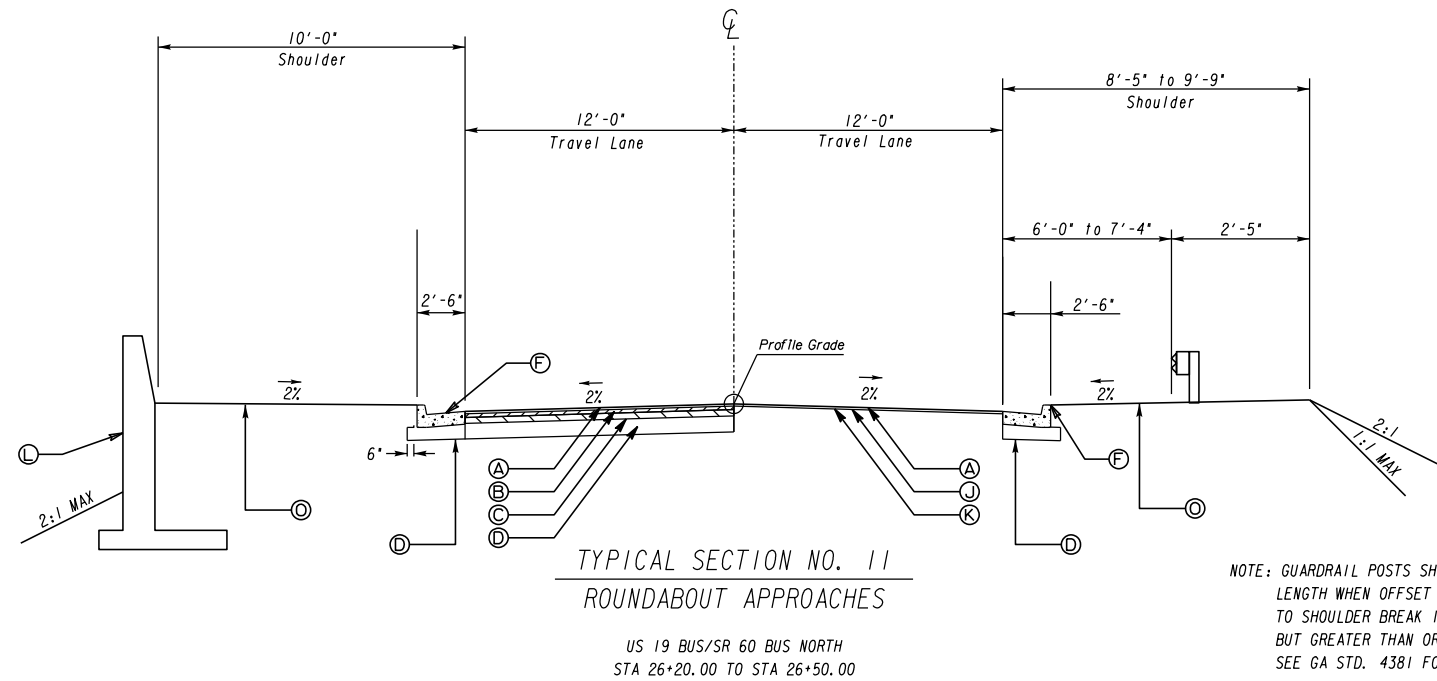
N. T. S.

REVISION DATES

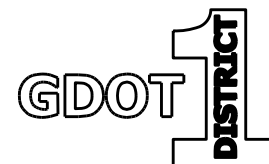
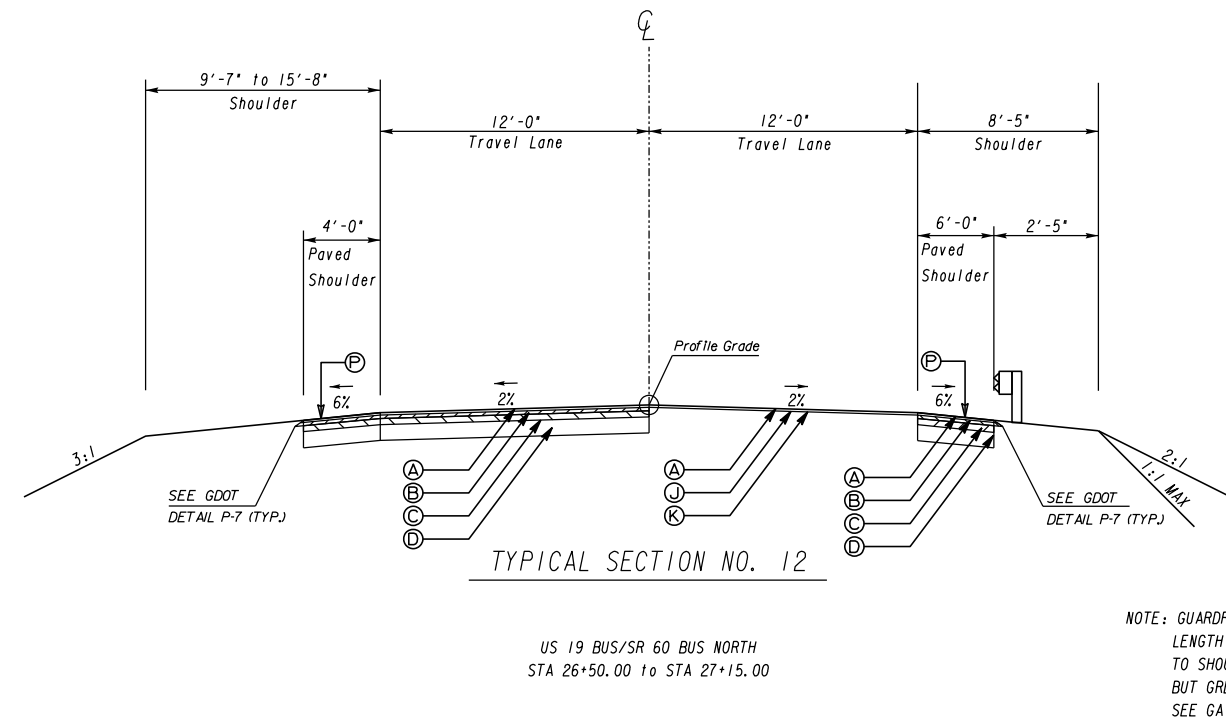

TYPICAL SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0005
CORRECTED:	DATE:	
VERIFIED:	DATE:	



PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
C	RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 550 LB/SY
D	GRADED AGGREGATE BASE, 12"
E	PLAIN PC CONC PVMT, CL HES CONC, 10" THK, STAMPED AND COLORED (FEDRAL CODE *31136)
F	8"X30" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 2
G	8"X32" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 9
H	PAVEMENT REINFORCED FABRIC STRIPS, TP 2, 18" WIDTH
I	CONCRETE DOWELED MEDIAN, 6" TP. 7 FACE
J	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME (AS REQ'D)
K	MILL ASPH CONC PVMT, VARIABLE DEPTH
L	CONCRETE SIDE BARRIER, TYPE 2-S - SEE PLANS FOR TYPE AND HEIGHT
M	CONCRETE SIDE BARRIER, TYPE 6-S - SEE PLANS FOR TYPE AND HEIGHT
N	4" CONC DITCH PAVING
O	SOD
P	SHOULDER RUMBLE STRIPS, SEE GDOT DETAILS T-23B & T-25
Q	EDGE LINE RUMBLE STRIPS, SEE GDOT DETAILS T-23A & T-25



N. T. S.

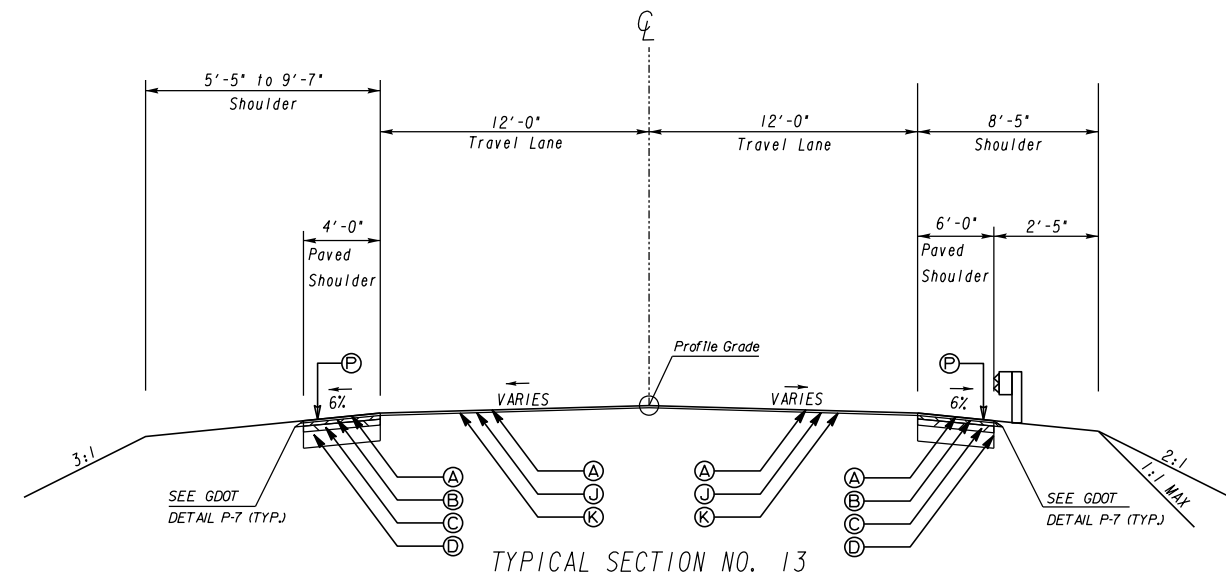
REVISION DATES

NO.	DATE	DESCRIPTION

TYPICAL SECTIONS

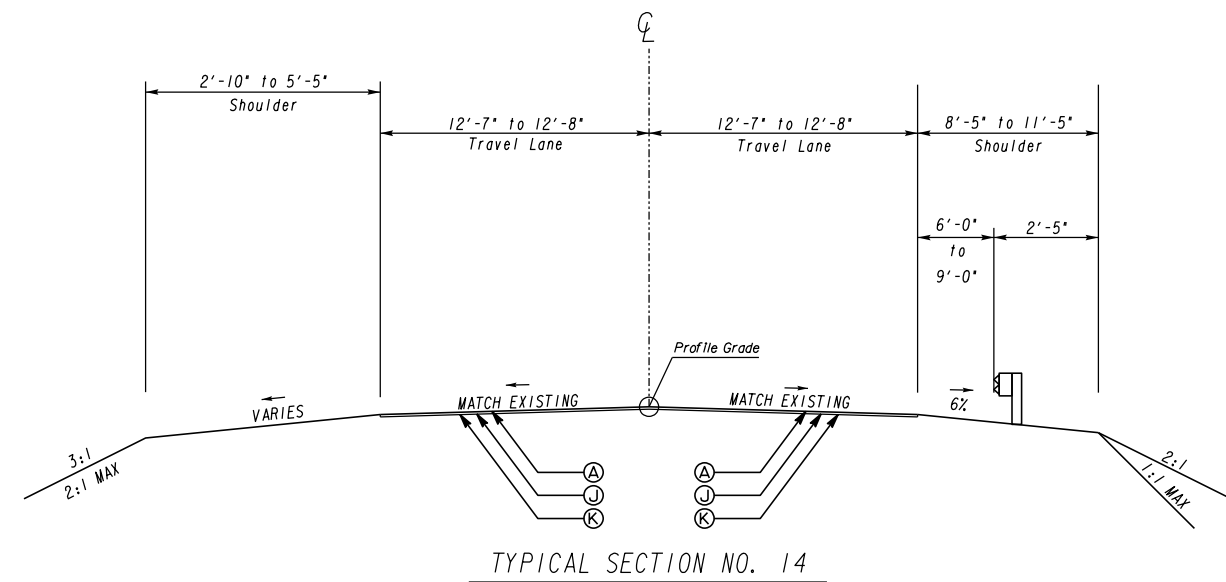
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0006
CORRECTED:	DATE:	
VERIFIED:	DATE:	



US 19 BUS/SR 60 BUS NORTH  
STA 27+15.00 to STA 27+40.00

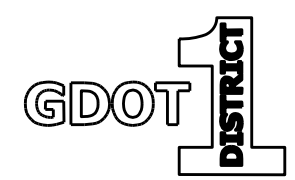
NOTE: GUARDRAIL POSTS SHALL BE 7 FT IN LENGTH WHEN OFFSET FROM BACK OF POST TO SHOULDER BREAK IS LESS THAN 2'-0" BUT GREATER THAN OR EQUAL TO 1'-0". SEE GA STD. 4381 FOR ADDITIONAL INFORMATION.



US 19 BUS/SR 60 BUS NORTH  
STA 27+40.00 to STA 27+86.00

NOTE: GUARDRAIL POSTS SHALL BE 7 FT IN LENGTH WHEN OFFSET FROM BACK OF POST TO SHOULDER BREAK IS LESS THAN 2'-0" BUT GREATER THAN OR EQUAL TO 1'-0". SEE GA STD. 4381 FOR ADDITIONAL INFORMATION.

PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
C	RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 550 LB/SY
D	GRADED AGGREGATE BASE, 12"
E	PLAIN PC CONC PVMT, CL HES CONC, 10" THK, STAMPED AND COLORED (FEDRAL CODE *31136)
F	8"x30" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 2
G	8"x32" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 9
H	PAVEMENT REINFORCED FABRIC STRIPS, TP 2, 18" WIDTH
I	CONCRETE DOWELED MEDIAN, 6" TP, 7 FACE
J	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME (AS REQ'D)
K	MILL APSPH CONC PVMT, VARIABLE DEPTH
L	CONCRETE SIDE BARRIER, TYPE 2-S - SEE PLANS FOR TYPE AND HEIGHT
M	CONCRETE SIDE BARRIER, TYPE 6-S - SEE PLANS FOR TYPE AND HEIGHT
N	4" CONC DITCH PAVING
O	SOD
P	SHOULDER RUMBLE STRIPS, SEE GDOT DETAILS T-23B & T-25
Q	EDGE LINE RUMBLE STRIPS, SEE GDOT DETAILS T-23A & T-25



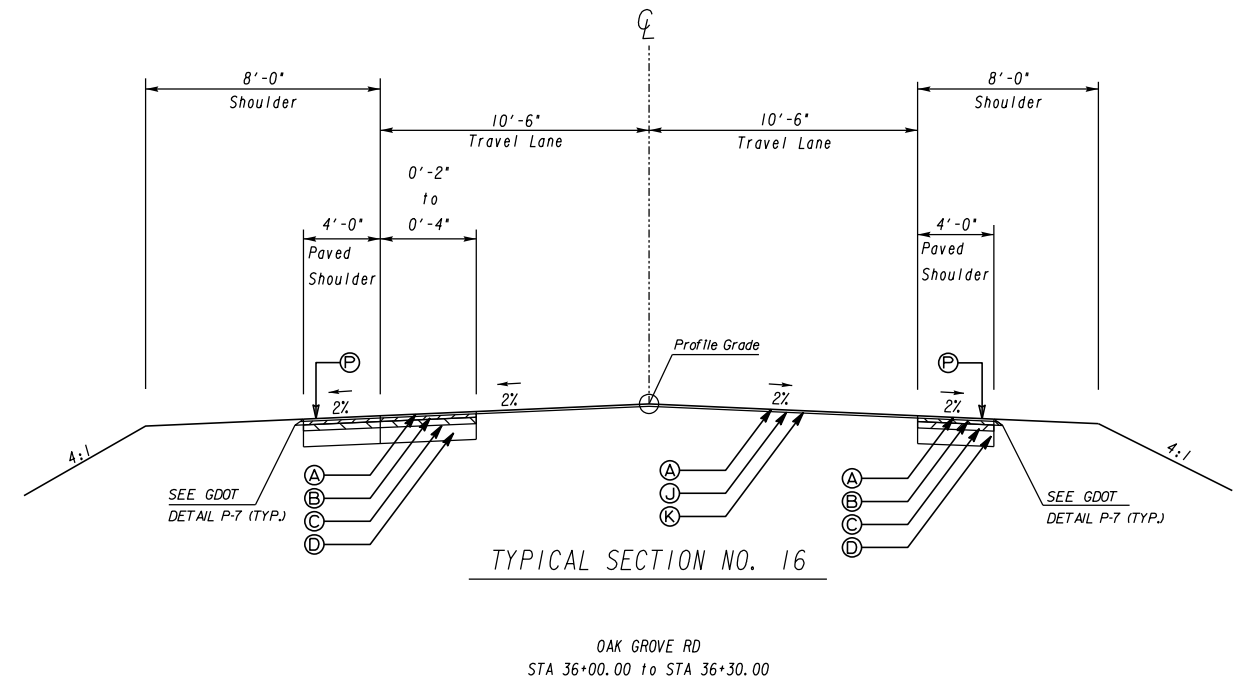
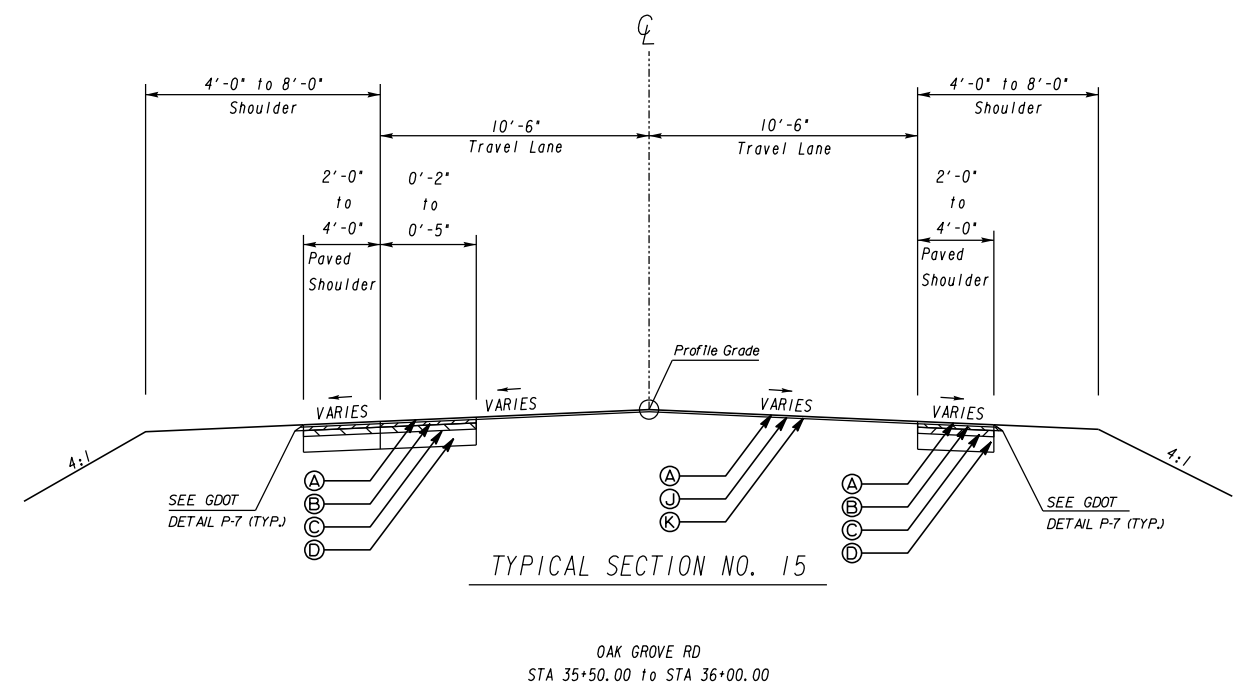
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REVISION DATES

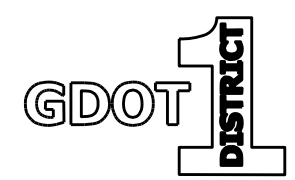
NO.	DATE	DESCRIPTION

**TYPICAL SECTIONS**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0007
CORRECTED:	DATE:	
VERIFIED:	DATE:	

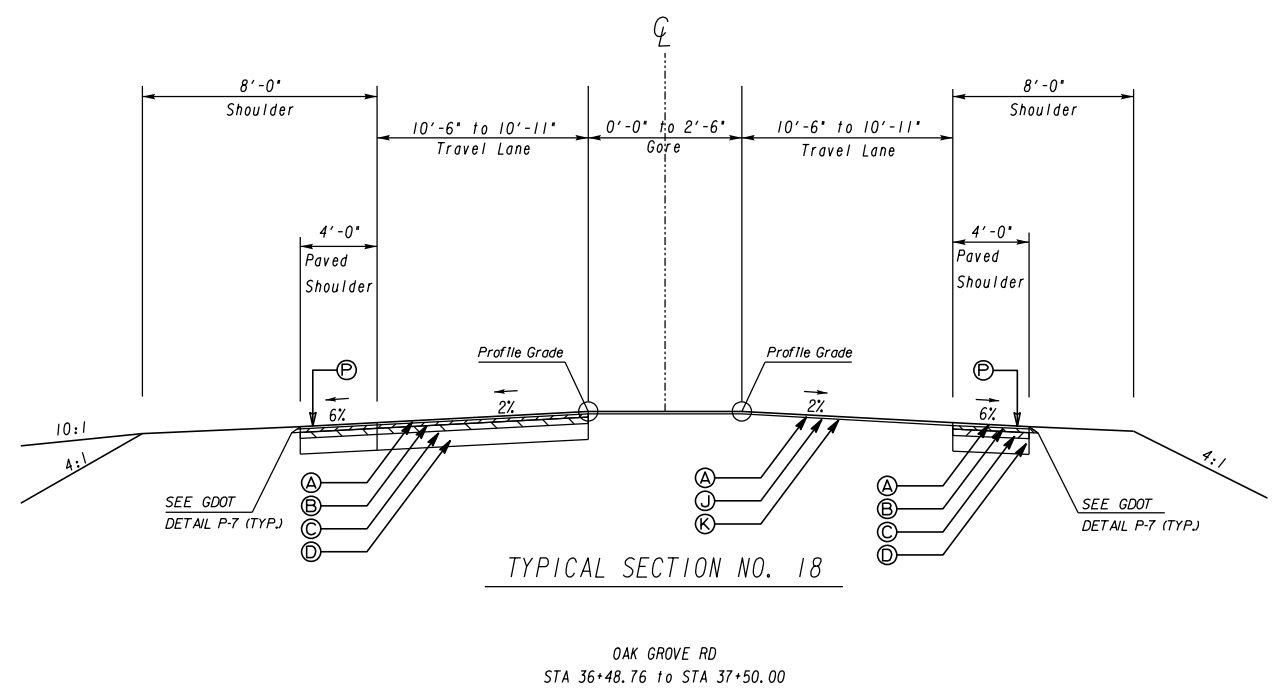
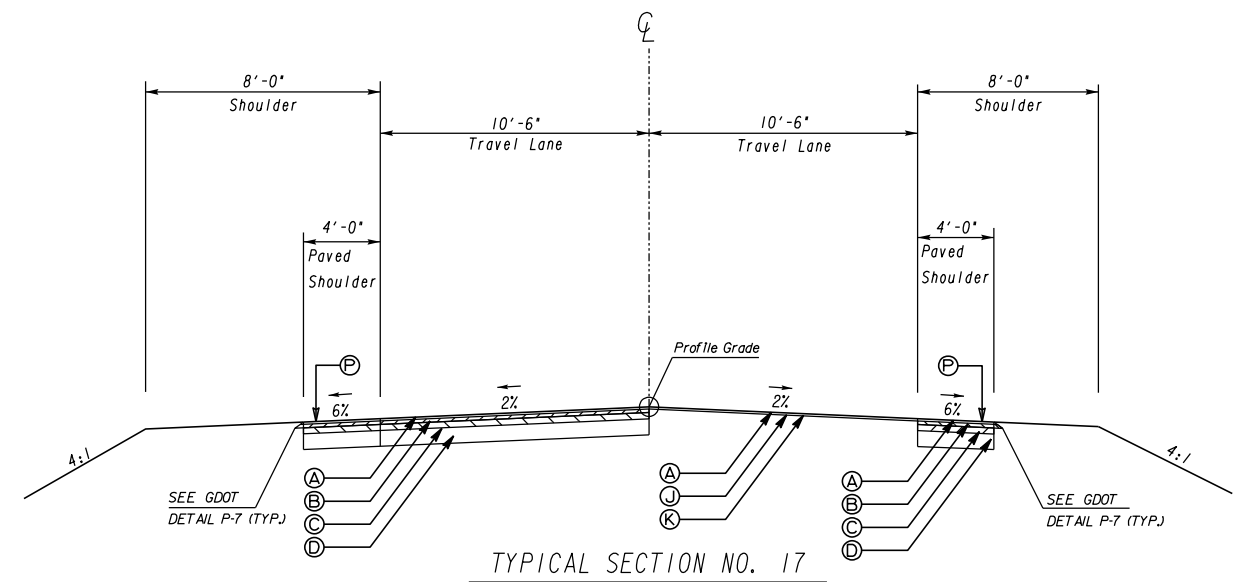


PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
C	RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 550 LB/SY
D	GRADED AGGREGATE BASE, 12"
E	PLAIN PC CONC PVMT, CL HES CONC, 10" THK, STAMPED AND COLORED (FEDRAL CODE *31136)
F	8"x30" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 2
G	8"x32" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 9
H	PAVEMENT REINFORCED FABRIC STRIPS, TP 2, 18" WIDTH
I	CONCRETE DOWELED MEDIAN, 6" TP. 7 FACE
J	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME (AS REQ'D)
K	MILL ASPH CONC PVMT, VARIABLE DEPTH
L	CONCRETE SIDE BARRIER, TYPE 2-S - SEE PLANS FOR TYPE AND HEIGHT
M	CONCRETE SIDE BARRIER, TYPE 6-S - SEE PLANS FOR TYPE AND HEIGHT
N	4" CONC DITCH PAVING
O	SOD
P	SHOULDER RUMBLE STRIPS, SEE GDOT DETAILS T-23B & T-25
Q	EDGE LINE RUMBLE STRIPS, SEE GDOT DETAILS T-23A & T-25

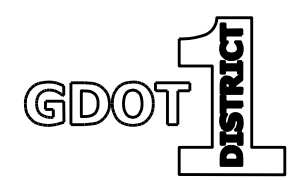


N. T. S.

REVISION DATES		TYPICAL SECTIONS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:		DATE:	
BACKCHECKED:		DATE:	
CORRECTED:		DATE:	
VERIFIED:		DATE:	
DRAWING No.			05-0008



PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
C	RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 550 LB/SY
D	GRADED AGGREGATE BASE, 12"
E	PLAIN PC CONC PVMT, CL HES CONC, 10" THK, STAMPED AND COLORED (FEDRAL CODE *31136)
F	8"x30" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 2
G	8"x32" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 9
H	PAVEMENT REINFORCED FABRIC STRIPS, TP 2, 18" WIDTH
I	CONCRETE DOWELED MEDIAN, 6" TP. 7 FACE
J	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME (AS REQ'D)
K	MILL ASPH CONC PVMT, VARIABLE DEPTH
L	CONCRETE SIDE BARRIER, TYPE 2-S - SEE PLANS FOR TYPE AND HEIGHT
M	CONCRETE SIDE BARRIER, TYPE 6-S - SEE PLANS FOR TYPE AND HEIGHT
N	4" CONC DITCH PAVING
O	SOD
P	SHOULDER RUMBLE STRIPS, SEE GDOT DETAILS T-23B & T-25
Q	EDGE LINE RUMBLE STRIPS, SEE GDOT DETAILS T-23A & T-25

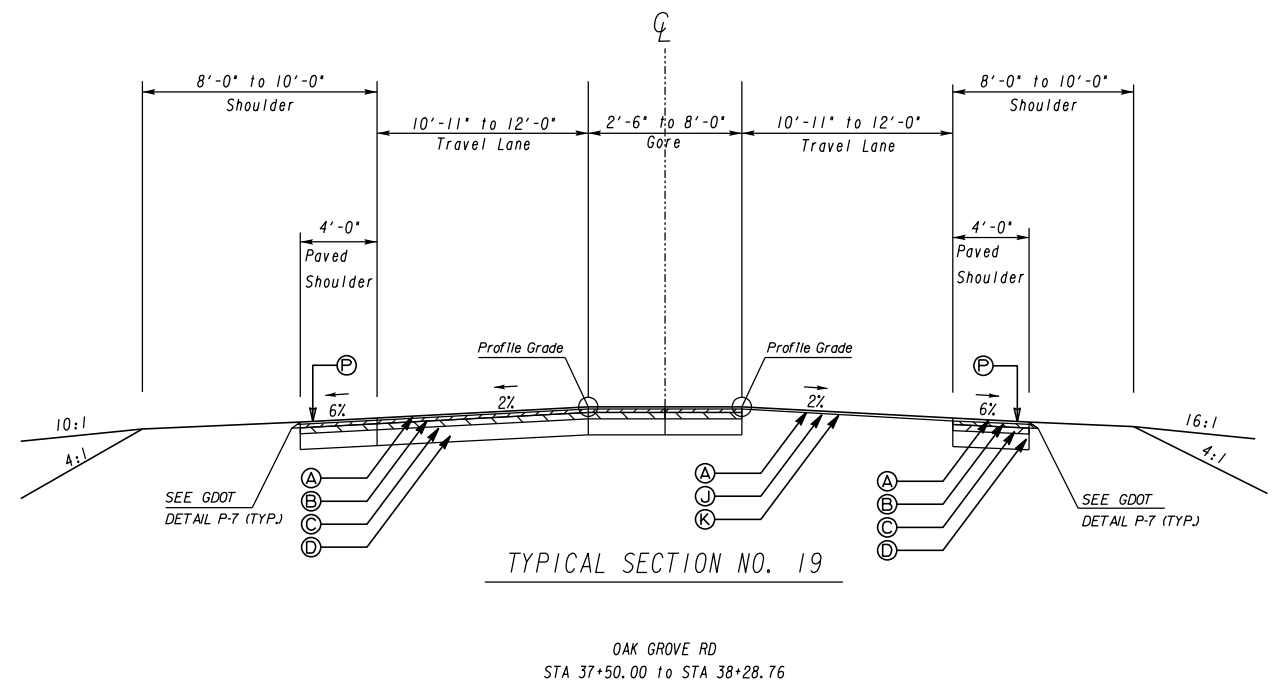


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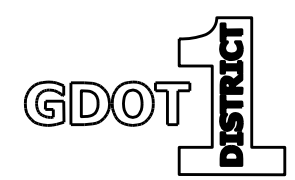
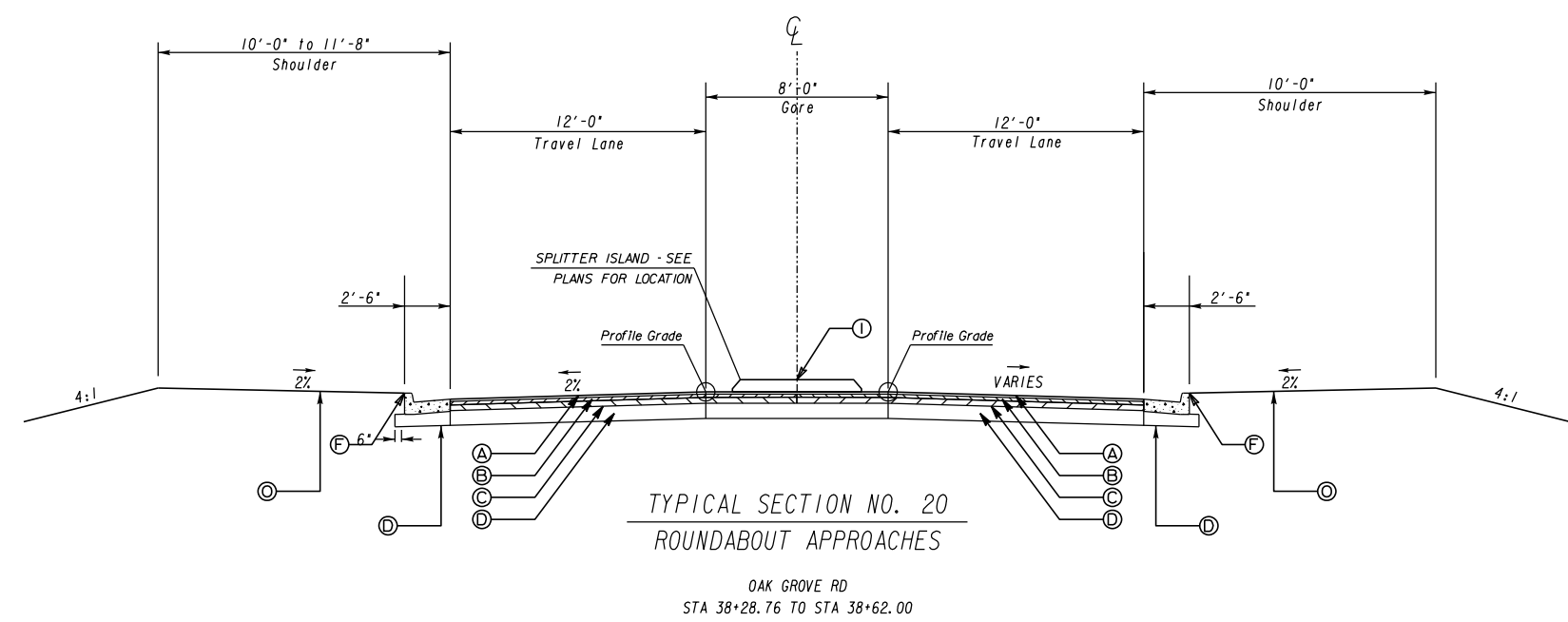
REVISION DATES


**TYPICAL SECTIONS**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0009
CORRECTED:	DATE:	
VERIFIED:	DATE:	



PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
C	RECYCLED ASPH CONC. 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 550 LB/SY
D	GRADED AGGREGATE BASE, 12"
E	PLAIN PC CONC PVMT, CL HES CONC, 10" THK, STAMPED AND COLORED (FEDRAL CODE *31136)
F	8"x30" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 2
G	8"x32" CONC CURB AND GUTTER, GA. STD. 9032B, TYP 9
H	PAVEMENT REINFORCED FABRIC STRIPS, TP 2, 18" WIDTH
I	CONCRETE DOWELED MEDIAN, 6" TP. 7 FACE
J	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME (AS REQ'D)
K	MILL APSPH CONC PVMT, VARIABLE DEPTH
L	CONCRETE SIDE BARRIER, TYPE 2-S - SEE PLANS FOR TYPE AND HEIGHT
M	CONCRETE SIDE BARRIER, TYPE 6-S - SEE PLANS FOR TYPE AND HEIGHT
N	4" CONC DITCH PAVING
O	SOD
P	SHOULDER RUMBLE STRIPS, SEE GDOT DETAILS T-23B & T-25
Q	EDGE LINE RUMBLE STRIPS, SEE GDOT DETAILS T-23A & T-25



N. T. S.

REVISION DATES

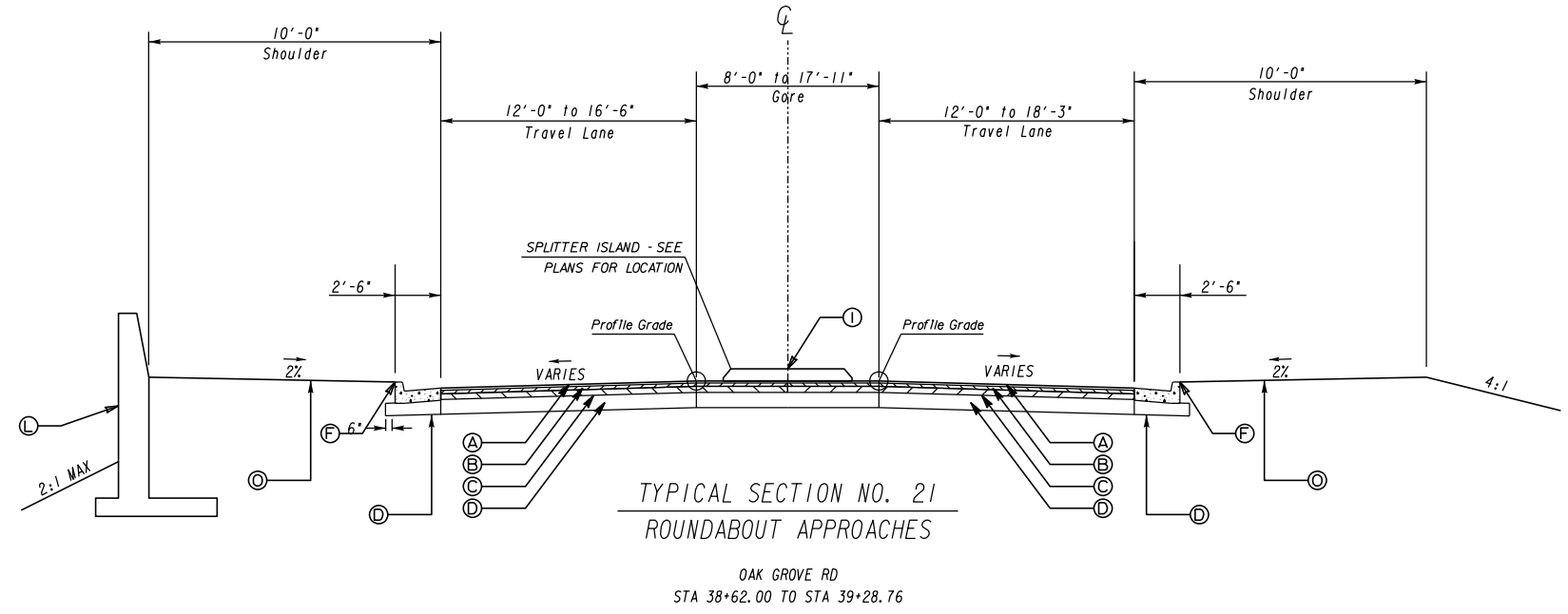
NO.	DATE	DESCRIPTION

TYPICAL SECTIONS

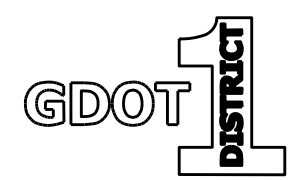
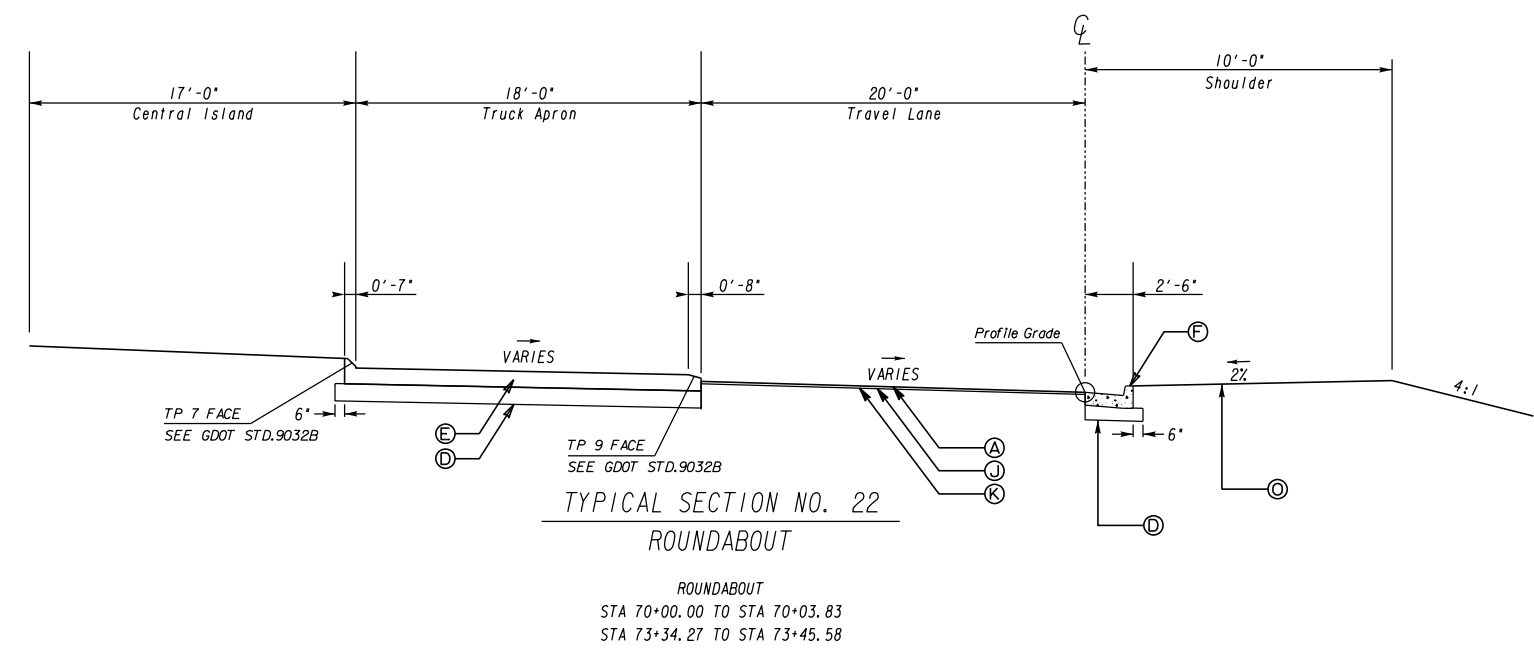
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0010
CORRECTED:	DATE:	
VERIFIED:	DATE:	





PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
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K	MILL APH CONC PVMT, VARIABLE DEPTH
L	CONCRETE SIDE BARRIER, TYPE 2-S - SEE PLANS FOR TYPE AND HEIGHT
M	CONCRETE SIDE BARRIER, TYPE 6-S - SEE PLANS FOR TYPE AND HEIGHT
N	4" CONC DITCH PAVING
O	SOD
P	SHOULDER RUMBLE STRIPS, SEE GDOT DETAILS T-23B & T-25
Q	EDGE LINE RUMBLE STRIPS, SEE GDOT DETAILS T-23A & T-25



N. T. S.

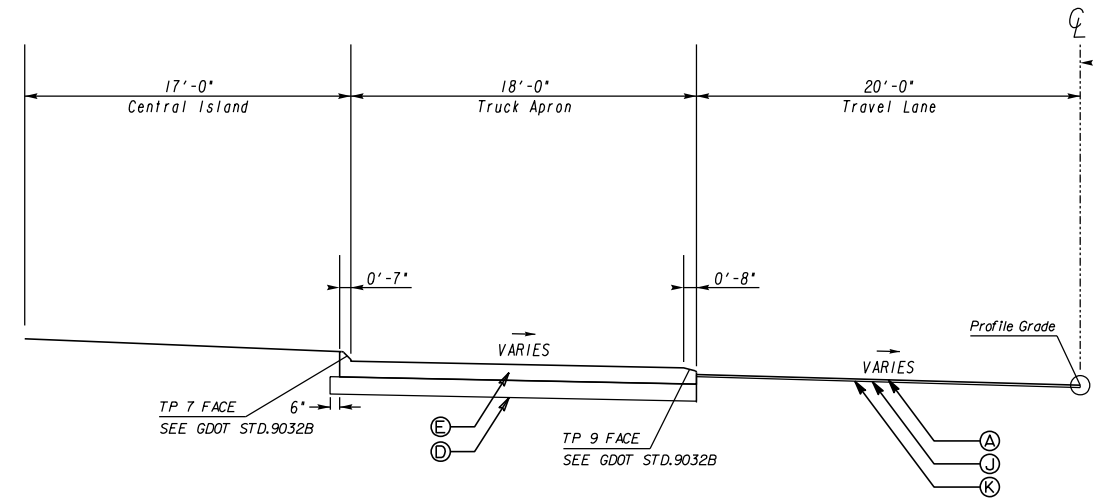
REVISION DATES

NO.	DATE	DESCRIPTION

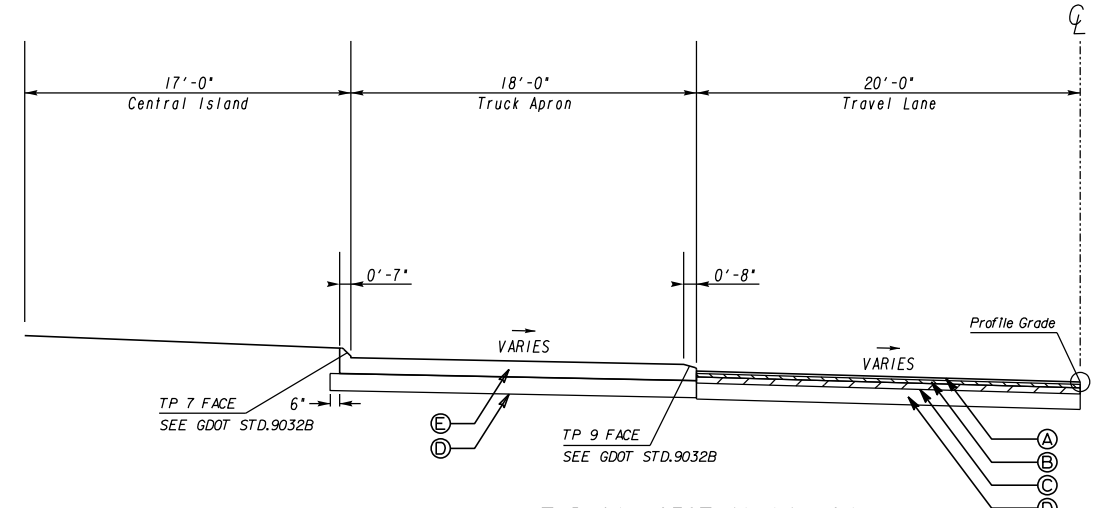
TYPICAL SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0011
CORRECTED:	DATE:	
VERIFIED:	DATE:	

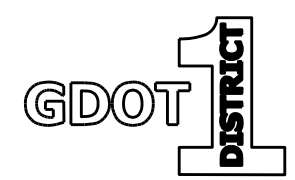


**TYPICAL SECTION NO. 23**  
**ROUNDAABOUT**  
ROUNDAABOUT  
STA 70+03.83 TO STA 70+85.00  
STA 73+32.00 TO STA 73+34.27



**TYPICAL SECTION NO. 24**  
**ROUNDAABOUT**  
ROUNDAABOUT  
STA 70+85.00 TO STA 70+99.63  
STA 71+00.32 TO STA 71+97.43  
STA 72+37.47 TO STA 73+32.00

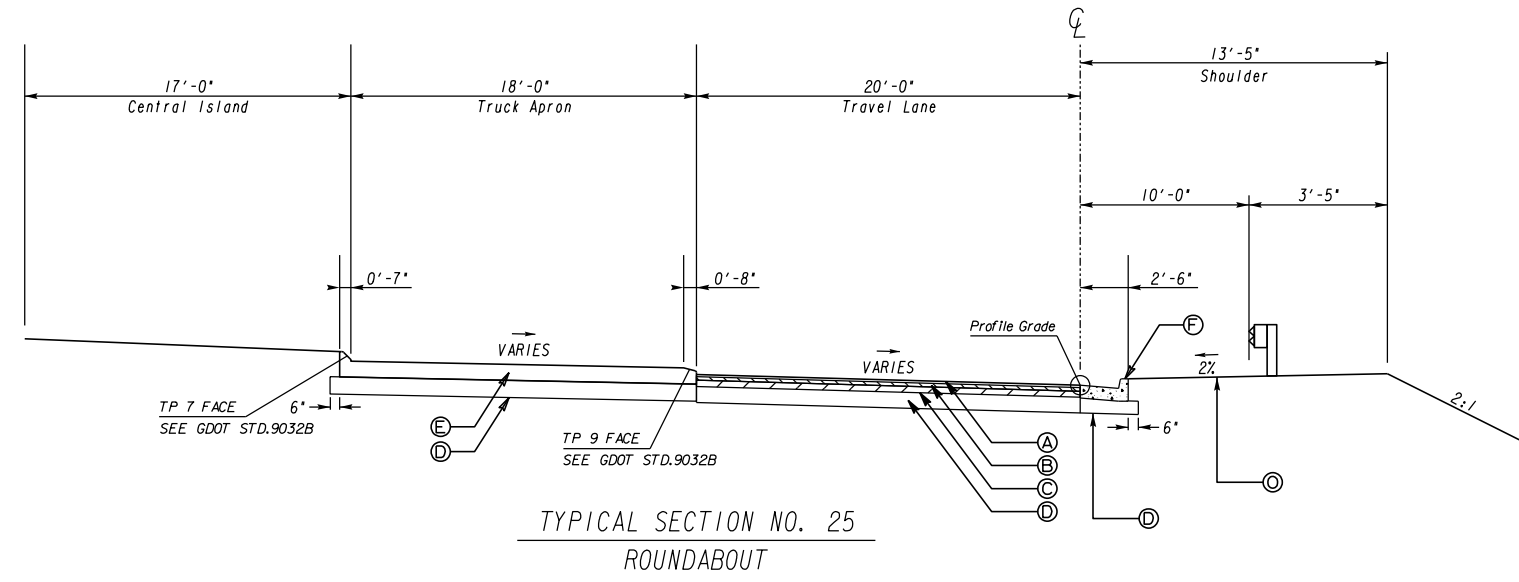
PAVEMENT MATERIAL SCHEDULE	
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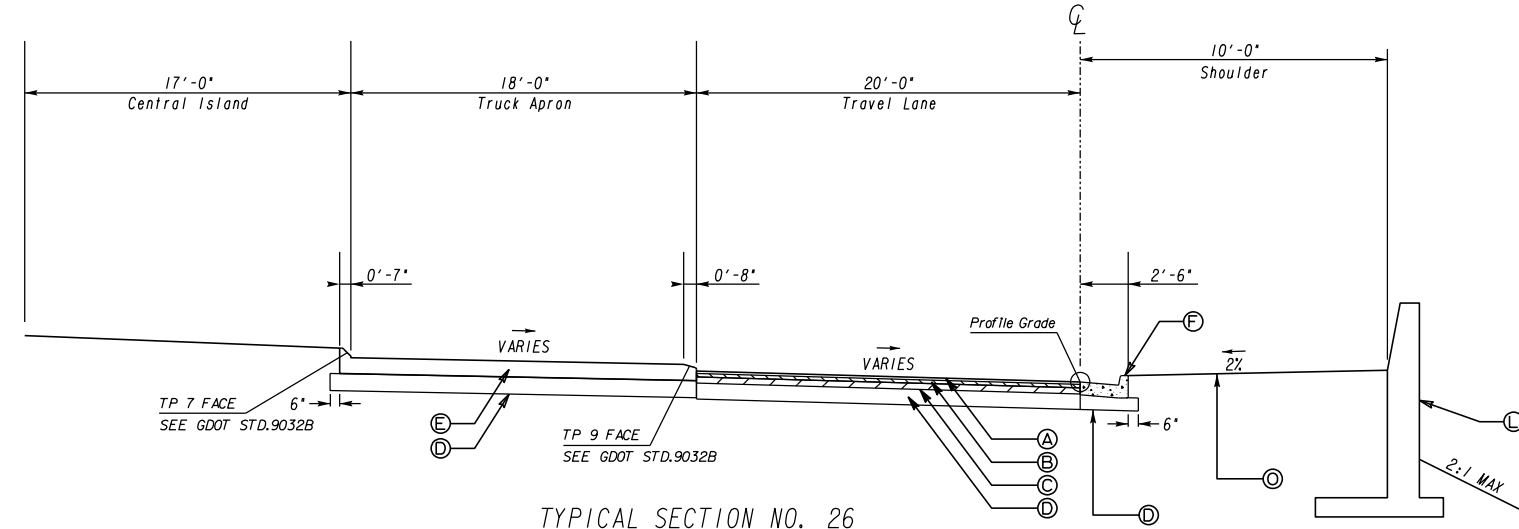
N. T. S.

REVISION DATES	

TYPICAL SECTIONS		
US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY		
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0012
CORRECTED:	DATE:	
VERIFIED:	DATE:	

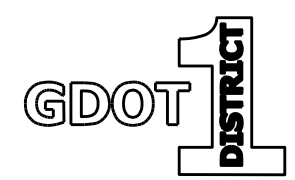


**TYPICAL SECTION NO. 25**  
**ROUNDBABOUT**  
ROUNDBABOUT  
STA 70+99.63 TO STA 71+00.32



**TYPICAL SECTION NO. 26**  
**ROUNDBABOUT**  
ROUNDBABOUT  
STA 71+97.43 TO STA 72+37.47

PAVEMENT MATERIAL SCHEDULE	
A	RECYCLED ASPH CONC. 12.5 mm SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME, 165 LB/SY
B	RECYCLED ASPH CONC. 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME, 220 LB/SY
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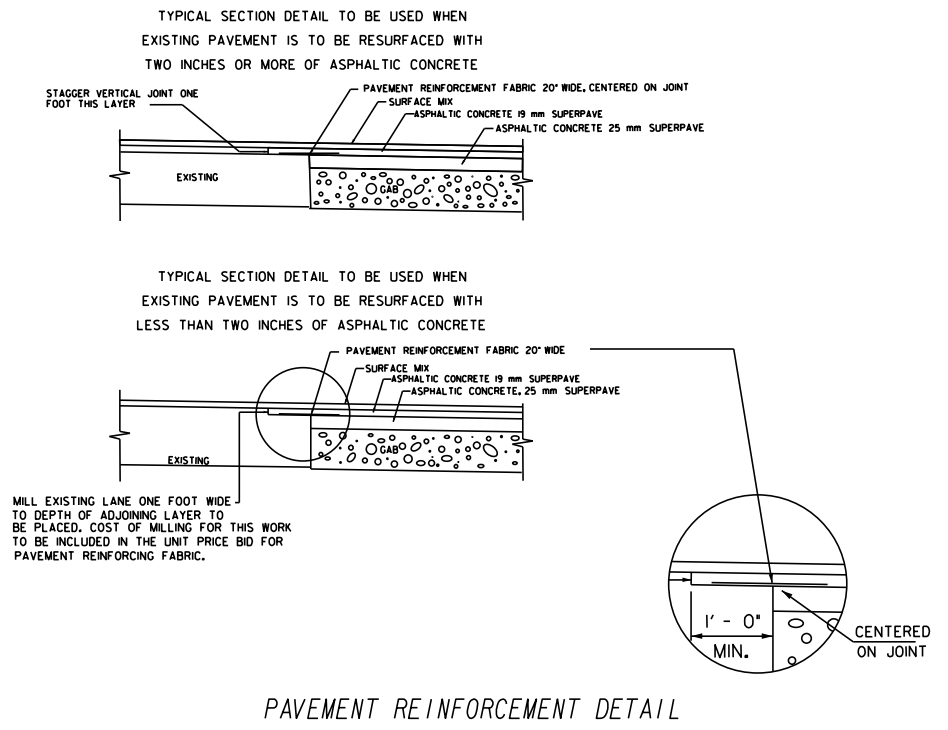
N. T. S.

REVISION DATES

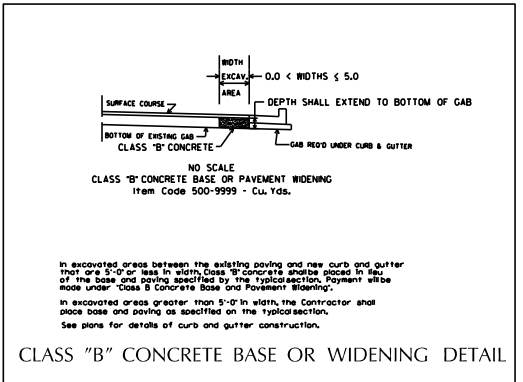
NO.	DATE	DESCRIPTION

**TYPICAL SECTIONS**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	05-0013
CORRECTED:	DATE:	
VERIFIED:	DATE:	



PAVEMENT REINFORCEMENT DETAIL



### ALLOWABLE RANGES TABLE

FOR THIS PROJECT, CROSS SLOPES THAT ARE ADJUSTED TO "BEST FIT" EXISTING PAVEMENT SLOPES ARE SUBJECT TO THE FOLLOWING LIMITS:

**A. NORMAL CROWN**

SECTION WITH GRADES 0.5% OR GREATER	SECTION WITH GRADES LESS THAN 0.5%
0.0150 FT/FT - MINIMUM	0.0156 FT/FT - MINIMUM
0.0208 FT/FT - DESIRABLE	0.0208 FT/FT - DESIRABLE
0.0250 FT/FT - MAXIMUM	0.0300 FT/FT - MAXIMUM

**B. SUPERELEVATION RATE**

S.E. RATE SHOWN ON PLANS OR SE RATE EXISTING IN FIELD, WHICHEVER IS GREATER.

**C. SUPERELEVATION TRANSITION LENGTH (LENGTH FROM FLAT POINT TO FULL SE)**

RATE OF CHANGE	CORRESPONDING DIFFERENCE IN GRADE BETWEEN PIVOT POINT AND EDGE OF PAVEMENT
MINIMUM 1:150	0.67%
DESIRABLE 1:200	0.50%
MAXIMUM 1:300	0.33%

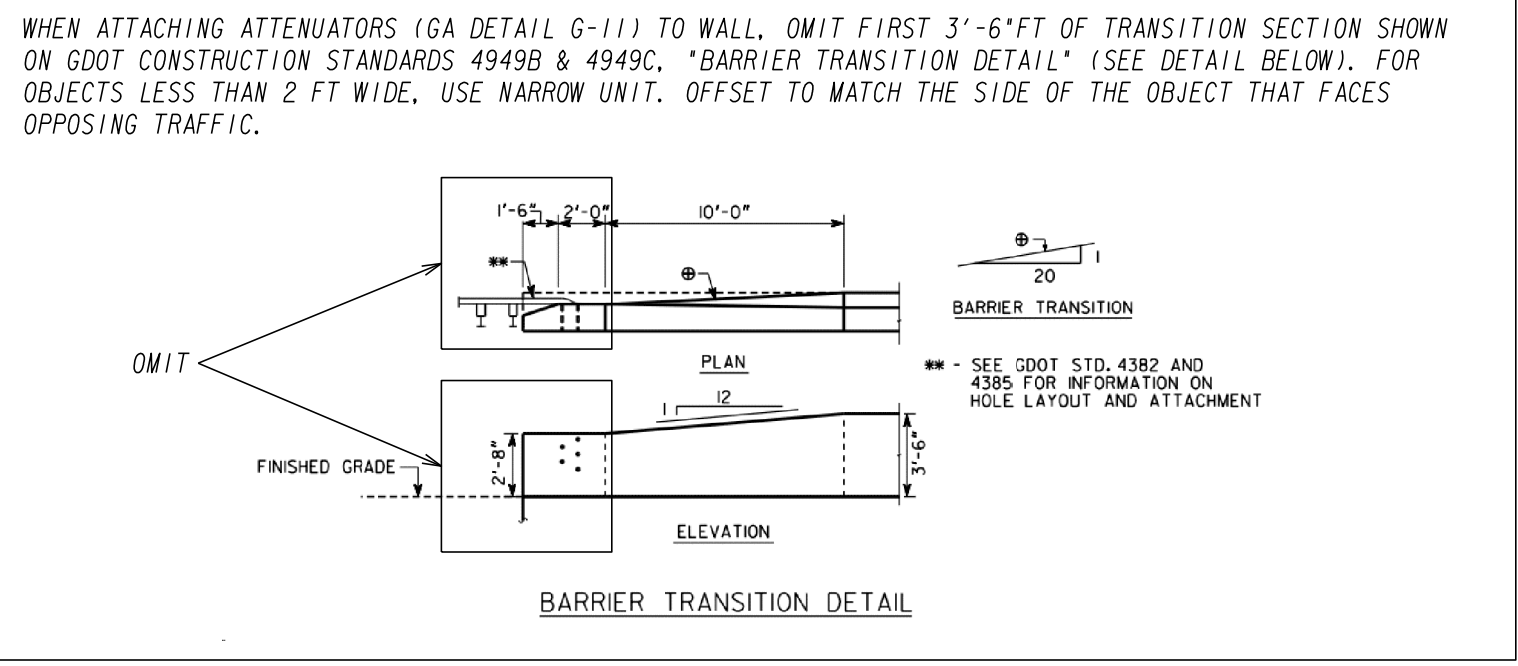
LENGTH SHALL BE SET TO AVOID CREATING A FLAT GUTTER GRADE ON LOW SIDE AND TO AVOID FLAT CROSS SLOPES AT OR NEAR THE LOW POINT OF VERTICAL CURVES.

**D. POSITIONING OF SUPERELEVATION TRANSITION LENGTH ON SIMPLE CURVES**

50% OF TRANSITION INSIDE CURVE - MAXIMUM
33% OF TRANSITION INSIDE CURVE - DESIRABLE
20% OF TRANSITION INSIDE CURVE - MINIMUM

NOTE: CROWN WIPE-OUT SHALL BE AT THE SAME RATE AS THE SE TRANSITION.

**E. SMOOTHING OF BREAKS IN EDGE PROFILE AT BEGIN AND END OF TRANSITION SHALL BE ACCOMPLISHED BY VERTICAL CURVE WITH A MINIMUM LENGTH (IN FEET) EQUAL TO THE SPEED DESIGN (IN MPH).**



SLOPE : SEE ROADWAY PLANS FOR SUPERELEVATION RATES AND TRANSITIONS.

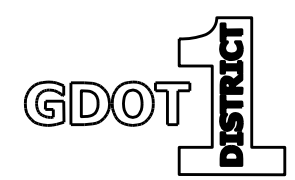
NOTE: FOR METHOD OF SUPERELEVATION SEE CONSTR PLAN & PROFILE SHEETS-CURVE DATA. LOCATIONS OF NORMAL CROWN & FULL S.E. NOTED ON CONSTR CENTERLINE.

★ SEE PLAN SHEETS.

SHOULDER MAY BE GRADED AWAY FROM ROADWAY TO FACILITATE THE SLOPE TIE TO EXISTING GROUND.

SEE ROADWAY PLANS FOR LOCATION OF GUARDRAIL.

SEE ROADWAY PLANS FOR LOCATION OF CURB AND GUTTER.



N. T. S.

REVISION DATES		TYPICAL SECTIONS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:		DATE:	
BACKCHECKED:		DATE:	
CORRECTED:		DATE:	
VERIFIED:		DATE:	
DRAWING No.			05-0014

# SUMMARY OF QUANTITIES

GRADING COMPLETE	
ITEM NO. 210-0100, LUMP SUM	1

TRAFFIC CONTROL	
ITEM NO. 150-1000, LUMP SUM	1

PVMT REINF FAB STRIPS, TP 2, 18"	
ITEM NO. 446-1100	852 LF

RUMBLE STRIPS - GROUND IN PLACE SEE TYPICAL SECTIONS FOR LOCATION		
ITEM NO.	DESCRIPTION	GLM
456-2015	INDENTATION RUMBLE STRIPS - GROUND IN PLACE (SKIP)	1
456-2020	INDENTATION EDGE LINE RUMBLE STRIPS - GROUND IN PLACE (CONTINUOUS)	1
456-2022	INDENTATION EDGE LINE RUMBLE STRIPS - GROUND IN PLACE (SKIP)	1

CONC SIDEWALK, 8 IN GA. DET. A-3			
DESCRIPTION	LOCATION	SIDE	SY
OAK GROVE RD - WEST LEG			
TYPE B RAMP	38+93 - 39+09	RT	27
TYPE B RAMP	38+95 - 39+12	LT	
ITEM NO. 441-0108	TOTAL		27

GPS DATA COLLECTION AND SUBMITTAL	
ITEM NO. 156-0100, LUMP SUM	1

RIGHT-OF-WAY MARKERS*	
ITEM NO. 634-1200	23 EACH

CHANGEABLE MESSAGE SIGN, PORTABLE, TYPE 3	
ITEM NO. 632-0003	6 EA

CONC MED (DOWELED) 6 IN, TYPE 7 - STD. 9032B				
DESCRIPTION	LOCATION	SIDE	SY	
US 19 BUS/SR 60 BUS SOUTH - S LEG	15+55.22 - 16+30.23	CTR	53	
US 19 BUS/SR 60 BUS NORTH - N LEG	25+55.06 - 25+68.89	CTR	10	
OAK GROVE ROAD - W LEG	38+28.76 - 39+01.88	CTR	38	
	39+09.88 - 39+28.75	CTR	21	
ITEM NO. 441-0748	TOTAL		122	

999-5200: DETECTABLE WARNING SURFACE	
OAK GROVE RD	20 SF

AGGREGATE SURFACE COURSE (AS DIRECTED BY ENGINEER)	
ITEM NO. 318-3000	50 TN

CONC CURB & GUTTER, 8 IN x 32 IN TYPE 9 - STD. 9032-B			
DESCRIPTION	LOCATION	SIDE	LF
SR 60 N - NORTH LEG	25+49.0 - 26+20.00	LT	82
ITEM NO. 441-6745	TOTAL		82

CONC CURB & GUTTER, 8 IN x 30 IN TYPE 2 - STD. 9032-B			
DESCRIPTION	LOCATION	SIDE	LF
SR 60 S - S LEG	15+06.1 - 16+64.2	RT	254
	15+44.8 - 16+30.2	LT	
SR 60 N - N LEG	25+21.7 - 26+50.0	RT	184
	25+34.1 - 25+49.0	LT	
	26+20.0 - 26+50.0	LT	
OAK GROVE RD - W LEG	38+28.8 - 39+37.3	RT	276
	38+28.8 - 39+84.0	LT	
ITEM NO. 441-6222	TOTAL		714

4" CONCRETE DITCH PAVING			
DESCRIPTION	LOCATION	SIDE	SY
SR 60 S - SE LEG	15+48.09 - 18+06.95	RT	60
ITEM NO. 441-0204	TOTAL		60

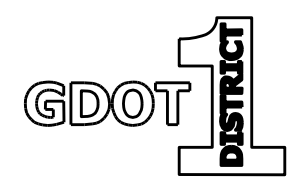
SUMMARY OF DRIVEWAY QUANTITIES					
* NOTE: FOR INFORMATION ONLY. SEE SURFACING QUANTITIES BLOCK.					
LOCATION	WIDTH	LENGTH	12.5 MM SUPERPAVE	6 IN GAB	6" CONC DWY
STATION & SIDE	FT	FT	TN	TN	SY
OAK GROVE RD - WEST LEG					
STA 36+01.59 RT	22	20.5	5	18	-
STA 36+72.89 LT	14	24.13	4	17	-
STA 37+50.00 LT	14	35.78	5	21	-
		TOTAL	14	56	-

SIDE BARRIER		
	LF	PAY ITEM NO.
CONCRETE SIDE BARRIER, TP 2-S	42	621-6200
CONCRETE SIDE BARRIER, TP 2-SA	50	621-6201
CONCRETE SIDE BARRIER, TP 2-SB	23	621-6202
CONCRETE SIDE BARRIER, TP 2-SC	134	621-6203
CONCRETE SIDE BARRIER, TP 6-S	66	621-6210
CONCRETE SIDE BARRIER, TP 6-SA	32	621-6211
CONCRETE SIDE BARRIER, TP 6-SB	39	621-6212
CONCRETE SIDE BARRIER, TP 6-SC	125	621-6213

ATTENUATORS			
STATION	ITEM NO	DESCRIPTION	EA
15+44.95 RT	648-1550	IMPACT ATTENUATOR UNIT, TYPE S-3-S-14	1
26+50.00 LT	648-1550	IMPACT ATTENUATOR UNIT, TYPE S-3-B-14	1

GUARDRAIL, 31 INCH HEIGHT		GUARDRAIL ANCHORS		
TYPE	W-BEAM	T-BEAM	TP-1	TP-8
ITEM NO	641-1200	641-1100	641-5001	641-5008
BEGIN STA	END STA	LF	LF	EA
19+40.00	27+70.00	653	-	1.00
19+31.30	18+06.95	106	21	-
TOTALS		759	21	1

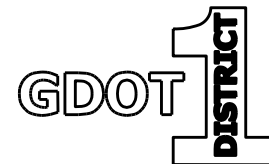
SURFACING QUANTITIES								
ITEMS	UNIT	PAY ITEM NO.	ROUND-ABOUT	SOUTH LEG US 19 BUS/SR 60 BUS SOUTH	NORTH LEG US 19 BUS/SR 60 BUS NORTH	WEST LEG OAK GROVE ROAD	DRIVEWAYS	TOTAL
RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME (165 LB/SY)	TN	402-4510	64	101	64	98	14	341
RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2 ONLY, INCL BITUM MATL & H LIME (220 LB/SY)	TN	402-3190	54	105	48	83	-	290
RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2 ONLY, INCL BITUM MATL & H LIME (550 LB/SY)	TN	402-3121	135	262	121	208	-	726
TACK COAT	GL	413-0750	135	245	127	208	-	715
GRADED AGGREGATE BASE COURSE, INCLUDING MATERIAL	TN	310-1101	386	686	339	554	56	2021
RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	TN	402-1812	27	196	21	3	-	247
CLASS B CONCRETE, BASE OR PAVEMENT WIDENING	CY	500-9999	-	-	-	51	-	51
PLAIN PC CONC PVMT, CL HES CONC, 10" THK, STAMPED AND COLORED (FEDERAL CODE *31136)	SY	439-0052	334	-	22	-	-	356
WILL APSH CONC PVMT, VARIABLE DEPTH	SY	432-5010	279	269	337	437	-	1322



REVISION DATES		SUMMARY QUANTITIES	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	06-0001	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

# SUMMARY OF QUANTITIES

DRAINAGE SUMMARY																					
STRUCTURE NO.	LOCATION	OFFSET	SKEW	CLASS A CONCRETE, INCL REINF STEEL	CLASS B CONCRETE, INCL REINF STEEL	STORM DRAIN PIPE, 18 IN, H 1-10	STORM DRAIN PIPE, 18 IN, H 10-15	STORM DRAIN PIPE, 24 IN, H 1-10	CATCH BASIN, GP 1	CATCH BASIN, GP 1	CATCH BASIN, GP 1, ADDL DEPTH	DROP INLET, GP 1	DROP INLET, GP 1	DROP INLET, GP 1, ADDL DEPTH	STORM SEWER MANHOLE, TP 1	STORM SEWER MANHOLE, TP 1, ADDL DEPTH, CL 1	STORM SEWER MANHOLE, TP 1, ADDL DEPTH, CL 2	OUTLET PROTECTION			
				GA STD 1125	GA STD 1001B				GA STD 1033D	GA STD 1034D		GA DET D-4	GA STD 1019B		GA STD 1011A				STN DUMPED RIP RAP, TP 1, 36 IN	STN DUMPED RIP RAP, TP 3, 18 IN	PLASTIC FILTER FABRIC
				500-3800	500-3900	550-1180	550-1181	550-1240	668-1100	668-1100	668-1110	668-2100	668-2100	668-2110	668-4300	668-4311	668-4312	603-2036	603-2181	603-7000	
				CY	CY	LF	LF	LF	EA	EA	LF	EA	EA	LF	EA	LF	LF	LF	LF	LF	SY
<b>Oak Grove - West Leg</b>																					
A-0	39+39	78.94 LT	-	1.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	14	
A-1	39+44	55.50 LT	-	-	-	-	22	-	-	-	-	-	-	-	1	-	8.93	-	-	-	
A-2	38+62	42.67 LT	-	-	-	-	76	-	-	-	-	-	-	-	1	-	9	-	-	-	
A-3	38+36	20.18 LT	-	-	-	30	-	-	1	-	5.53	-	-	-	-	-	-	-	-	-	
A-4	38+36	20.16 RT	-	-	-	37	-	-	1	-	4.78	-	-	-	-	-	-	-	-	-	
A-5	39+12	23.99 RT	-	-	-	74	-	-	-	-	-	-	1	6.11	-	-	-	-	-	-	
A-6	72+45	1.62 RT	-	-	-	68	-	-	-	-	-	-	1	3.55	-	-	-	-	-	-	
<b>US 19 BUS/SR 60 BUS - North Leg</b>																					
A-7	72+25	4.67 RT	-	-	-	18	-	-	-	1	3.56	-	-	-	-	-	-	-	-	-	
A-8	72+05	1.00 RT	-	-	-	18	-	-	-	-	-	-	1	3.03	-	-	-	-	-	-	
A-9	25+76	11.67 LT	-	-	-	51	-	-	-	-	-	-	-	-	1	3.05	-	-	-	-	
A-10	26+42	16.17 LT	-	-	-	62	-	-	1	-	0.49	-	-	-	-	-	-	-	-	-	
A-11	26+42	16.17 RT	-	-	-	29	-	-	1	-	-	-	-	-	-	-	-	-	-	-	
<b>US 19 BUS/SR 60 BUS - South Leg</b>																					
A-12	15+58	23.26 RT	-	-	-	86	-	-	-	-	-	-	1	0.63	-	-	-	-	-	-	
A-13	15+58	33.18 LT	-	-	-	54	-	-	-	-	-	-	1	-	-	-	-	-	-	-	
A-14	16+20	20.48 RT	-	-	-	57	-	-	1	-	-	-	-	-	-	-	-	-	-	-	
A-15	15+46	45.94 RT	-	-	-	70	-	-	-	-	-	1	-	-	-	-	-	-	-	-	
B-0	18+10	17.22 LT	-	-	0.86	-	-	-	-	-	-	-	-	-	-	-	-	-	9	9	
B-1	18+10	17.39 RT	-	-	-	-	-	34	-	-	-	1	-	-	-	-	-	-	-	-	
<b>SUBTOTALS</b>				<b>1.16</b>	<b>0.86</b>	<b>654</b>	<b>98</b>	<b>34</b>	<b>5</b>	<b>1</b>	<b>14.36</b>	<b>2</b>	<b>5</b>	<b>13.32</b>	<b>3</b>	<b>3.05</b>	<b>17.93</b>	<b>0</b>	<b>23</b>	<b>23</b>	
<b>TOTALS</b>				<b>2</b>	<b>1</b>	<b>654</b>	<b>98</b>	<b>34</b>	<b>5</b>	<b>1</b>	<b>15</b>	<b>2</b>	<b>5</b>	<b>14</b>	<b>3</b>	<b>4</b>	<b>18</b>	<b>0</b>	<b>23</b>	<b>23</b>	



REVISION DATES

<b>SUMMARY QUANTITIES</b>			
US 19 BUS/SR 60 BUS @ OAK GROVE RD			
LUMPKIN COUNTY			
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	06-0002	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

# SUMMARY OF QUANTITIES

## PAVEMENT MARKINGS

## RAISED PAVEMENT MARKERS

PAY ITEM NO.	DESCRIPTION	UNIT	ROUND-ABOUT	US 19 BUS/SR 60 BUS N NORTH LEG	US 19 BUS/SR 60 BUS S SOUTH LEG	OAK GROVE ROAD WEST LEG	TOTAL
429-1000	RUMBLE STRIPS (THERMOPLASTIC)	EA	-	3	3	3	9
653-0296	THERMOPLASTIC PVMT MARKING, WORD, TP 15	EA	-	1	1	1	3
653-1501	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	LF	114	532	756	828	2230
653-1502	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	LF	-	418	368	522	1308
653-1804	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	LF	-	-	-	155	155
653-4830	THERMOPLASTIC SKIP TRAF STRIPE, 18 IN, WHITE	GLF	-	38	37	37	112

LOCATION	YELLOW
	TYPE 1
	654-1001
SOLID DOUBLE YELLOW	30
AROUND HATCHING	36
<b>TOTAL</b>	<b>66</b>

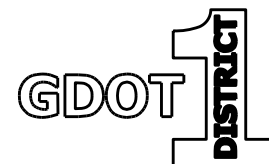
UTILITY RELOCATIONS - SEWER				
ITEM NO.	ITEM DESCRIPTION	SUPPLEMENTAL DESCRIPTION	UNIT	QUANTITY
660-1205	SEWER FORCE MAIN, 2 IN	-	LF	608
D-752-502-01	STRUCTURAL CONCRETE	FORCE MAIN ENCASEMENT	CY	10
205-0100	EXCAVATION BELOW GRADE & CRUSHED STONE REFILL	SEWER FORCE MAIN BEDDING	CY	98

EROSION CONTROL			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
171-0030	TEMPORARY SILT FENCE, TYPE C	LF	2310
165-0030	MAINTENANCE OF TEMP SILT FENCE, TP C	LF	1155
163-0550	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	EA	16
165-0105	MAINTENANCE OF INLET SEDIMENT TRAP	EA	16
163-0301	CONSTRUCT AND REMOVE CONSTRUCTION EXITS	EA	1
165-0101	MAINTENANCE OF CONSTRUCTION EXITS	EA	1
165-0310	MAINTENANCE OF CONST. EXIT TIRE WASH AREA	EA	1
716-2000	EROSION CONTROL MATS, SLOPES	SY	4304
163-0240	MULCH	TN	7
163-0232	TEMPORARY GRASSING	AC	3
700-6910	PERMANENT GRASSING	AC	3
700-7000	AGRICULTURAL LIME	TN	5
700-8000	FERTILIZER MIXED GRADE	TN	1
700-8100	FERTILIZER NITROGEN CONTENT	LB	125
700-9300	SOD	SY	634
167-1000	WATER QUALITY MONITORING AND SAMPLING	EA	6
167-1500	WATER QUALITY INSPECTIONS	MO	18

UTILITY RELOCATIONS - WATER				
ITEM NO.	ITEM DESCRIPTION	SUPPLEMENTAL DESCRIPTION	UNIT	QUANTITY
670-1100	WATER MAIN, 10 IN	DUCTILE IRON PIPE	LF	1000
670-2100	GATE VALVE - 10 IN	-	EA	3
670-4000	FIRE HYDRANT	-	EA	1
670-4515	CONCRETE THRUST COLLAR, 10 IN PIPE	-	EA	14
670-9727	RELOCATE 4FT X 6FT CONCRETE VAULT	-	EA	1
205-0100	EXCAVATION BELOW GRADE & CRUSHED STONE REFILL	WATER FORCE MAIN BEDDING	CY	149

THERMOPLASTIC TRAFFIC STRIPING FOR PAVEMENT HATCHING				
LOCATION	SIDE	DETAIL	WHITE (SY)	YELLOW (SY)
			653-6004	653-6006
US 19 BUS/SR 60 BUS N. NORTH LEG	CTR	A	-	6
US 19 BUS/SR 60 BUS N. SOUTHEAST LEG	CTR	A	-	61
OAK GROVE ROAD SOUTHWEST LEG	CTR	A	-	38
<b>TOTALS</b>			<b>0</b>	<b>105</b>

LANDSCAPING			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
702-0212	CRATAEGUS VIRIDIS - WINTER KING HAWTHORN	EA	3
702-0470	ILEX VOMITORIA NANA - DWARF YAUPON HOLLY	EA	63
702-9005	SPRING APPLICATION FERTILIZER	LB	71
702-9025	LANDSCAPE MULCH	SY	46



REVISION DATES

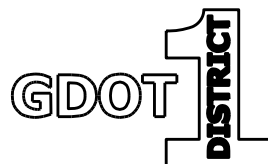

**SUMMARY QUANTITIES**

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	06-0003
CORRECTED:	DATE:	
VERIFIED:	DATE:	

# SUMMARY OF QUANTITIES

Station	Install No.	Sign Code	Highway Signs (Reflective Sheeting Type IX)						Highway Signs (Reflective Sheeting Type XI)						Square Tube Post									Breakaway Sign Support (Each)
			TP 1 Matl, Refl Sheeting TP 9			Tp 2 Matl, Refl Sheeting TP 9			TP 1 Matl, Refl Sheeting TP 11			Tp 2 Matl, Refl Sheeting TP 11			Type 7			Type 8			Type 9			
			Size	Each	SQ FT	Size	Each	SQ FT	Size	Each	SQ FT	Size	Each	SQ FT	Length (ft)	Quantity	Total Length	Length (ft)	Quantity	Total Length	Length (ft)	Quantity	Total Length	
<b>Roundabout</b>																								
15+14 LT		R6-4B				60"x24"	1	10							12	2	24							
25+14 LT		R6-4B				60"x24"	1	10							12	2	24							
39+72 LT		R6-4B				60"x24"	1	10							12	2	24							
<b>South Leg</b>																								
15+57 LT		R1-2							36"x36"x36"	1	4.5				13	1	13							
15+60 CTR		R1-2							36"x36"x36"	1	4.5				13	1	13							
15+60 CTR		M3-3	24"x12"	1	2												14.25	1	14.25					
		M1-4	24"x24"	1	4												-	-	-					
		M1-5	24"x24"	1	4												-	-	-					
		M6-2R	21"x15"	1	2.19												-	-	-					
16+10 RT		M3-3	24"x12"	1	2															13	1	13		
		M1-4	24"x24"	1	4												-	-	-					
		M1-5	24"x24"	1	4												-	-	-					
16+20 CTR		R4-7	24"x30"	1	5																			
16+54 RT		D1-1							54"x18"	1	6.75				11.5	2	23							
17+29 RT		W2-6							36"x36"	1	9				14.5	2	29							
		W13-1P							18"x18"	1	2.25				-	-	-							
18+25 RT		R2-1	24"x30"	1	5												12.5	1	12.5					
18+29 LT		M3-1	24"x12"	1	2															14.25	1	14.25		
		M1-4	24"x24"	1	4												-	-	-					
		M1-5	24"x24"	1	4												-	-	-					
		M5-2R	21"x15"	1	2.19												-	-	-					
<b>North Leg</b>																								
25+59 LT		R1-2							36"x36"x36"	1	4.5				13	1	13							
25+59 CTR		M3-1	24"x12"	1	2															14.25	1	14.25		
		M1-4	24"x24"	1	4												-	-	-					
		M1-5	24"x24"	1	4												-	-	-					
		M6-2R	21"x15"	1	2.19												-	-	-					
25+61 CTR		R1-2							36"x36"x36"	1	4.5				13	1	13							
26+56 LT		D1-1										66"x24"	1	11										
26+75 RT		M3-1	24"x12"	1	2															13	1	13		
		M1-4	24"x24"	1	4												-	-	-					
		M1-5	24"x23"	1	3.84												-	-	-					
27+31 LT		W2-6							36"x36"	1	9				14.5	2	29							
		W13-1P							18"x18"	1	2.25				-	-	-							
27+75 RT		R2-1	24"x30"	1	5												12.5	1	12.5					
<b>Subtotal</b>	-	-	-	21	71.41	-	3	30	-	9	47.25	-	1	11	-	19	242.5	-	3	42.75	-	4	50	-



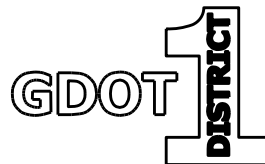
REVISION DATES

<b>SUMMARY QUANTITIES</b>			
US 19 BUS/SR 60 BUS @ OAK GROVE RD			
LUMPKIN COUNTY			
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	06-0004	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



# SUMMARY OF QUANTITIES

Station	Install No.	Sign Code	Highway Signs (Reflective Sheeting Type IX)						Highway Signs (Reflective Sheeting Type XI)						Square Tube Post									Breakaway Sign Support (Each)
			TP 1 Matl, Refl Sheeting TP 9			Tp 2 Matl, Refl Sheeting TP 9			TP 1 Matl, Refl Sheeting TP 11			Tp 2 Matl, Refl Sheeting TP 11			Type 7			Type 8			Type 9			
			Size	Each	SQ FT	Size	Each	SQ FT	Size	Each	SQ FT	Size	Each	SQ FT	Length (ft)	Quantity	Total Length	Length (ft)	Quantity	Total Length	Length (ft)	Quantity	Total Length	
<b>North Leg</b>																								
28+31 LT		M3-3	24"x12"	1	2													14.25	1	14.25				
		M1-4	24"x24"	1	4													-	-	-				
		M1-5	24"x24"	1	4													-	-	-				
		M5-3	24"x15"	1	2.5													-	-	-				
<b>West Leg</b>																								
36+55 RT		M3-1	24"x12"	1	2													16.25	1	16.25	6.34	1	6.34	1
		M1-4	24"x24"	1	4													-	-	-	-	-	-	-
		M1-5	24"x24"	1	4													-	-	-	-	-	-	-
		M5-3	21"x15"	1	2.19													-	-	-	-	-	-	-
		M3-3	24"x12"	1	2													-	-	-	-	-	-	-
		M1-4	24"x24"	1	4													-	-	-	-	-	-	-
		M1-5	24"x24"	1	4													-	-	-	-	-	-	-
		M5-2R	21"x15"	1	2.19													-	-	-	-	-	-	-
37+55 RT		W2-6							36"x36"	1	9				14.5	2	29							
		W13-1P							18"x18"	1	2.25				-	-	-							
38+05 LT		R2-1	24"x30"	1	5									12.5	1	12.5								
38+30 RT		D1-2D										66"x30"	1	13.75	12.5	2	25							
38+39 CTR		R4-7	24"x30"	1	5									12.5	1	12.5								
38+89 RT		W11-2	36"x36"	1	9																14	1	14	
		W16-7P	24"x12"	1	2																-	-	-	
39+16 LT		W11-2	36"x36"	1	9																14	1	14	
		W16-7P	24"x12"	1	2																-	-	-	
39+24 CTR		D1-1D										78"x18"	1	9.75	11.5	2	23							
39+24 RT		R1-2							36"x36"x36"	1	4.5				13	1	13							
39+27 RT		R1-2							36"x36"x36"	1	4.5				13	1	13							
<b>Subtotal</b>																								
<b>Total</b>																								



REVISION DATES

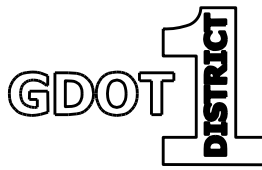

SUMMARY QUANTITIES

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED: _____	DATE: _____	DRAWING No.
BACKCHECKED: _____	DATE: _____	06-0005
CORRECTED: _____	DATE: _____	
VERIFIED: _____	DATE: _____	

# QUANTITIES REQUIRED BY AMENDMENT

DATE	ITEM NO.	AMENDMENT DATE	AMENDMENT NUMBER	DESCRIPTION	UNIT	ORIGINAL QUANTITY	REQUIRED BY AMENDMENT QUANTITY
XX-XX-XX	XXX-XXXX	XX-XX-XX	X	XX	XX	XXX	XXX

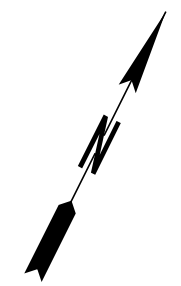


REVISION DATES		QUANTITIES (AMENDMENT)	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD	
		LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	07-0001	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

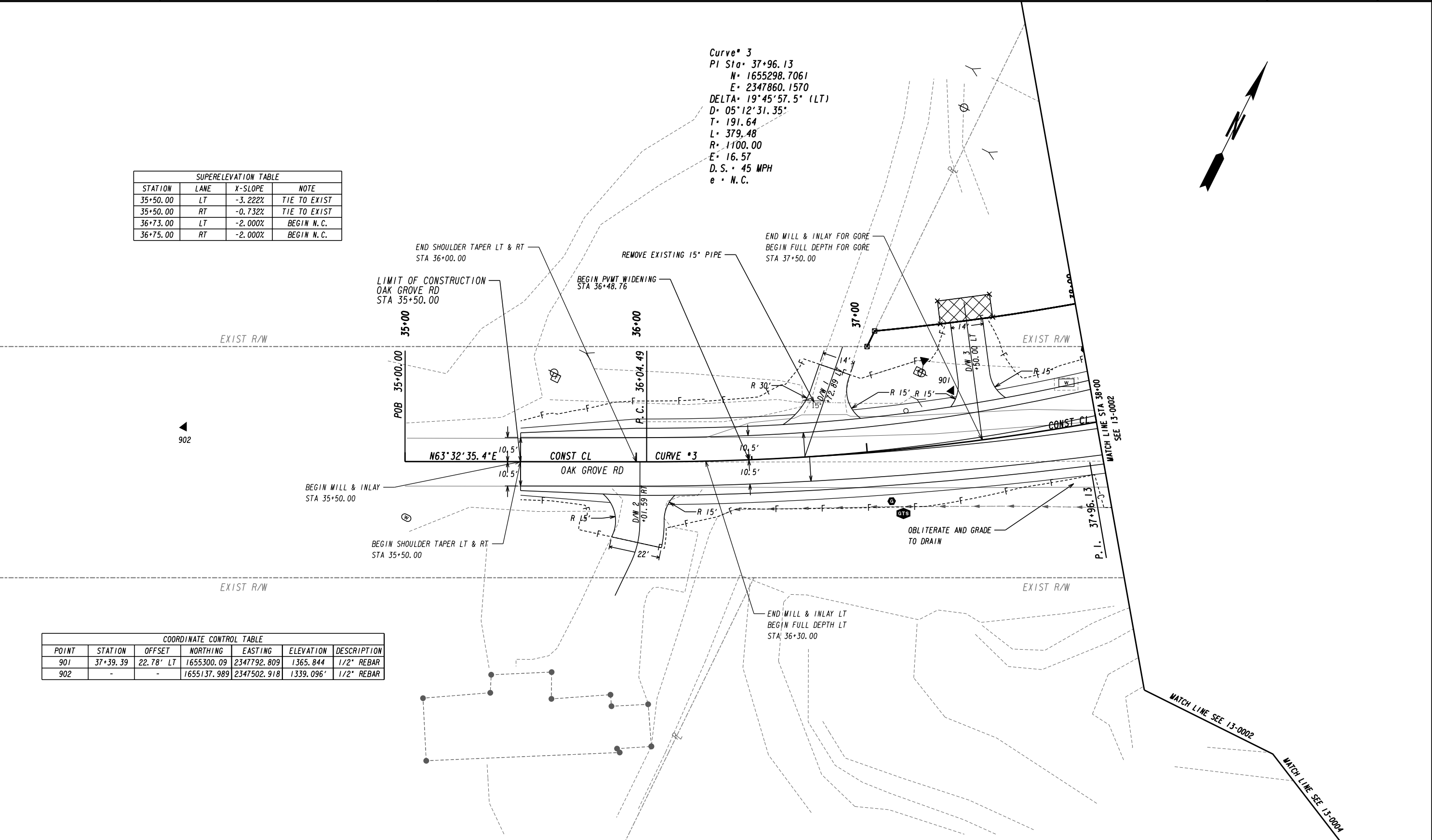


SUPERELEVATION TABLE			
STATION	LANE	X-SLOPE	NOTE
35+50.00	LT	-3.222%	TIE TO EXIST
35+50.00	RT	-0.732%	TIE TO EXIST
36+73.00	LT	-2.000%	BEGIN N.C.
36+75.00	RT	-2.000%	BEGIN N.C.

Curve # 3  
 PI Sta 37+96.13  
 N= 1655298.7061  
 E= 2347860.1570  
 DELTA= 19°45'57.5" (LT)  
 D= 05°12'31.35"  
 T= 191.64  
 L= 379.48  
 R= 1100.00  
 E= 16.57  
 D.S. = 45 MPH  
 e = N.C.

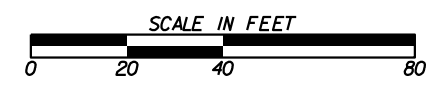
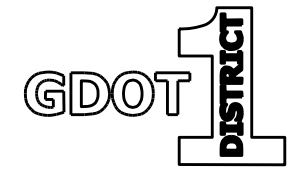
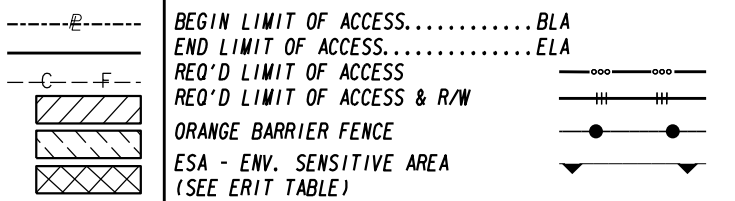


902



COORDINATE CONTROL TABLE							
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION	
901	37+39.39	22.78' LT	1655300.09	2347792.809	1365.844	1/2" REBAR	
902	-	-	1655137.989	2347502.918	1339.096'	1/2" REBAR	

PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 CONSTRUCTION LIMITS  
 EASEMENT FOR CONSTR  
 & MAINTENANCE OF SLOPES  
 EASEMENT FOR CONSTR OF SLOPES  
 EASEMENT FOR CONSTR OF DRIVES



REVISION DATES		CONSTRUCTION PLAN	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD	
		LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	13-0001	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

**SUPERELEVATION TABLE - US 19 BUS/SR 60 BUS NORTH**

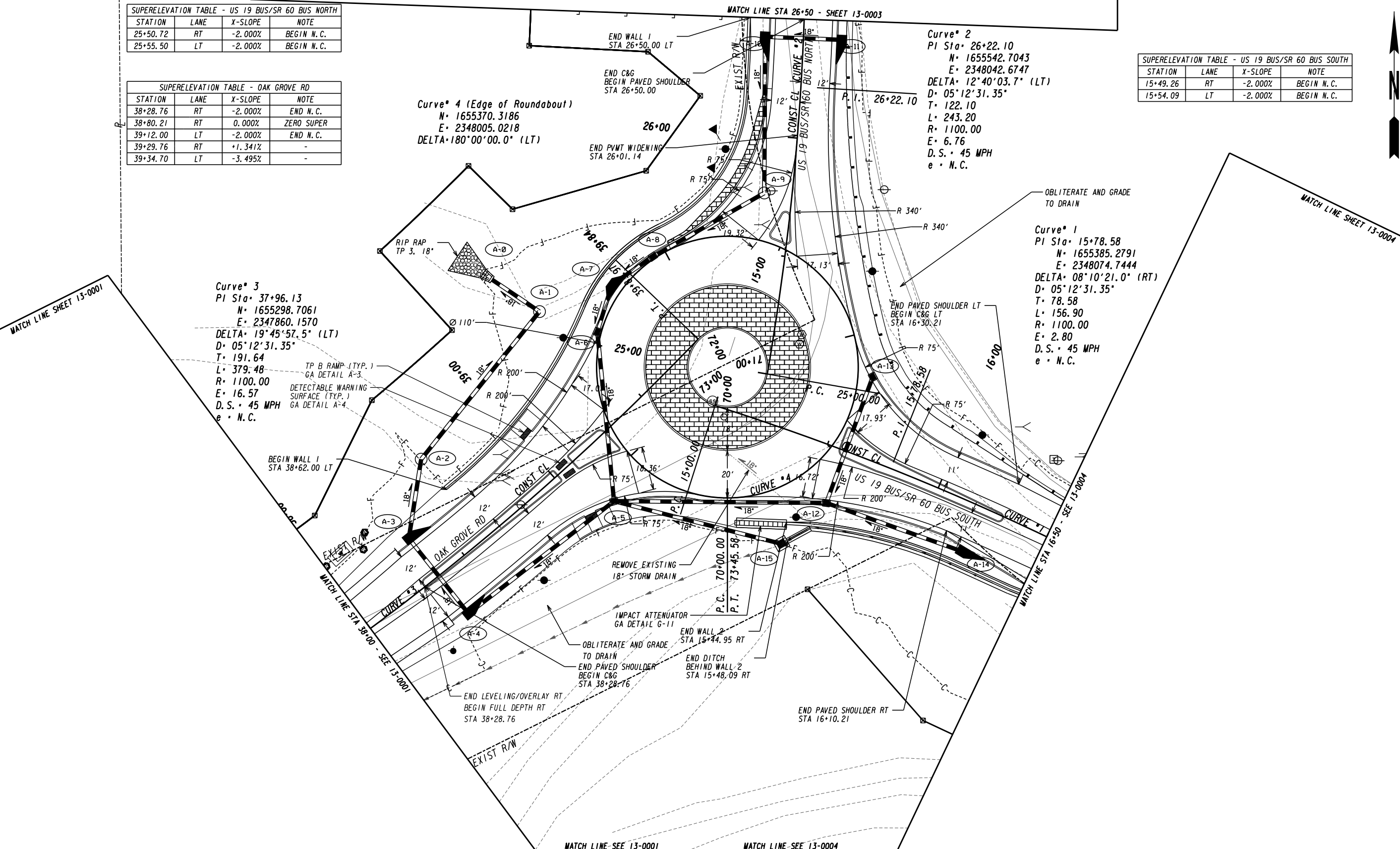
STATION	LANE	X-SLOPE	NOTE
25+50.72	RT	-2.000%	BEGIN N.C.
25+55.50	LT	-2.000%	BEGIN N.C.

**SUPERELEVATION TABLE - OAK GROVE RD**

STATION	LANE	X-SLOPE	NOTE
38+28.76	RT	-2.000%	END N.C.
38+80.21	RT	0.000%	ZERO SUPER
39+12.00	LT	-2.000%	END N.C.
39+29.76	RT	+1.341%	-
39+34.70	LT	-3.495%	-

**SUPERELEVATION TABLE - US 19 BUS/SR 60 BUS SOUTH**

STATION	LANE	X-SLOPE	NOTE
15+49.26	RT	-2.000%	BEGIN N.C.
15+54.09	LT	-2.000%	BEGIN N.C.



MATCH LINE SHEET 13-0001

MATCH LINE STA 26+50 - SHEET 13-0003

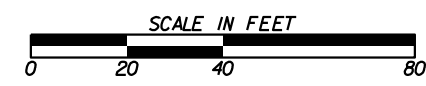
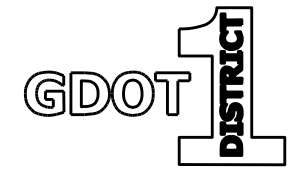
MATCH LINE SHEET 13-0004

PROPERTY AND EXISTING R/W LINE  
REQUIRED R/W LINE  
CONSTRUCTION LIMITS  
EASEMENT FOR CONSTR  
& MAINTENANCE OF SLOPES  
EASEMENT FOR CONSTR OF SLOPES  
EASEMENT FOR CONSTR OF DRIVES

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BEGIN LIMIT OF ACCESS.....BLA  
END LIMIT OF ACCESS.....ELA  
REQ'D LIMIT OF ACCESS  
REQ'D LIMIT OF ACCESS & R/W  
ORANGE BARRIER FENCE  
ESA - ENV. SENSITIVE AREA  
(SEE ERIT TABLE)

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REVISION DATES

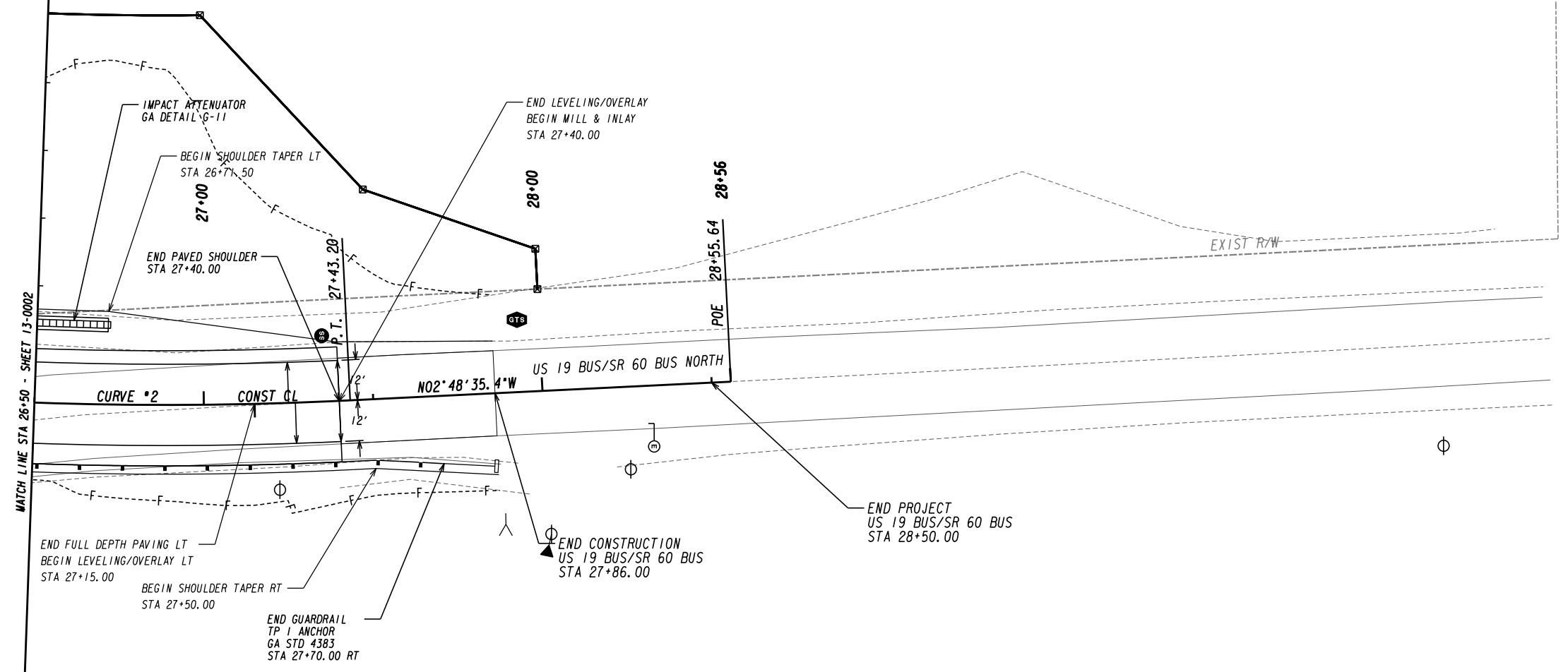
NO.	DATE	DESCRIPTION

**CONSTRUCTION PLAN**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

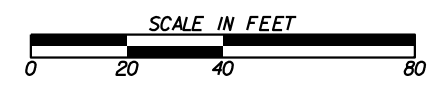
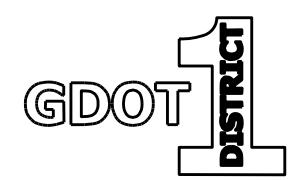
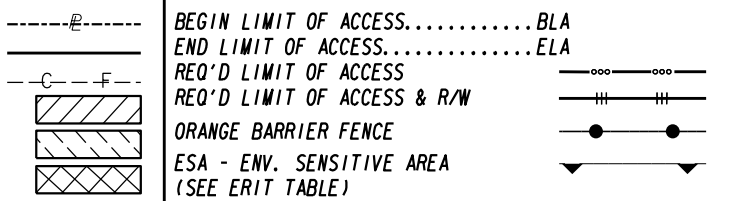
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	13-0002
CORRECTED:	DATE:	
VERIFIED:	DATE:	

Curve\* 2  
 PI Sta= 26+22.10  
 N= 1655542.7043  
 E= 2348042.6747  
 DELTA= 12°40'03.7" (LT)  
 D= 05'12"31.35"  
 T= 122.10  
 L= 243.20  
 R= 1100.00  
 E= 6.76  
 D.S.= 45 MPH  
 e = N.C.

SUPERELEVATION TABLE			
STATION	LANE	X-SLOPE	NOTE
27+25.00	LT	-2.000%	END N.C.
27+27.00	RT	-2.000%	END N.C.
27+40.00	LT	-1.367%	TIE TO EXIST
27+40.00	RT	-2.575%	TIE TO EXIST



PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 CONSTRUCTION LIMITS  
 EASEMENT FOR CONSTR  
 & MAINTENANCE OF SLOPES  
 EASEMENT FOR CONSTR OF SLOPES  
 EASEMENT FOR CONSTR OF DRIVES



REVISION DATES	

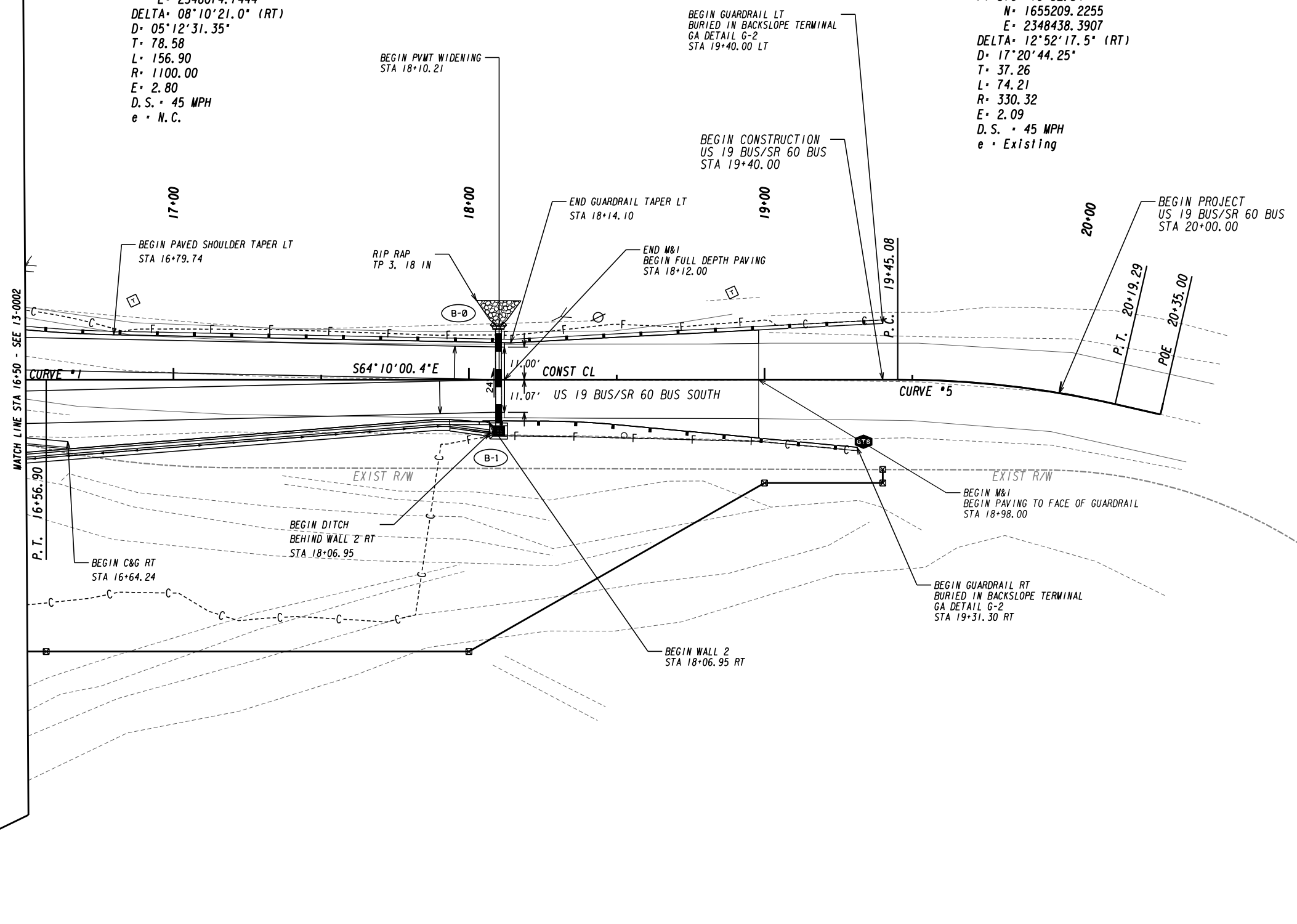
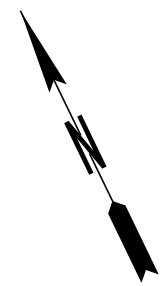
**CONSTRUCTION PLAN**  
 US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	13-0003
CORRECTED:	DATE:	
VERIFIED:	DATE:	

SUPERELEVATION TABLE			
STATION	LANE	X-SLOPE	NOTE
17+90.00	RT	-2.000%	END N.C.
17+95.00	LT	-2.000%	END N.C.
18+12.00	LT	-2.826%	TIE TO EXIST
18+12.00	RT	-0.947%	TIE TO EXIST

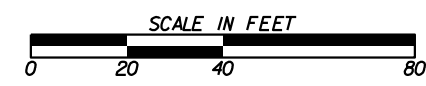
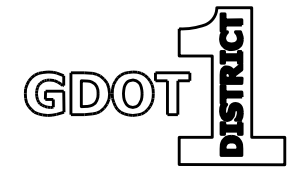
Curve # 1  
 PI Sta 15+78.58  
 N = 1655385.2791  
 E = 2348074.7444  
 DELTA = 08°10'21.0" (RT)  
 D = 05°12'31.35"  
 T = 78.58  
 L = 156.90  
 R = 1100.00  
 E = 2.80  
 D.S. = 45 MPH  
 e = N.C.

Curve # 5  
 PI Sta 19+82.34  
 N = 1655209.2255  
 E = 2348438.3907  
 DELTA = 12°52'17.5" (RT)  
 D = 17°20'44.25"  
 T = 37.26  
 L = 74.21  
 R = 330.32  
 E = 2.09  
 D.S. = 45 MPH  
 e = Existing



PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 CONSTRUCTION LIMITS  
 EASEMENT FOR CONSTR  
 & MAINTENANCE OF SLOPES  
 EASEMENT FOR CONSTR OF SLOPES  
 EASEMENT FOR CONSTR OF DRIVES

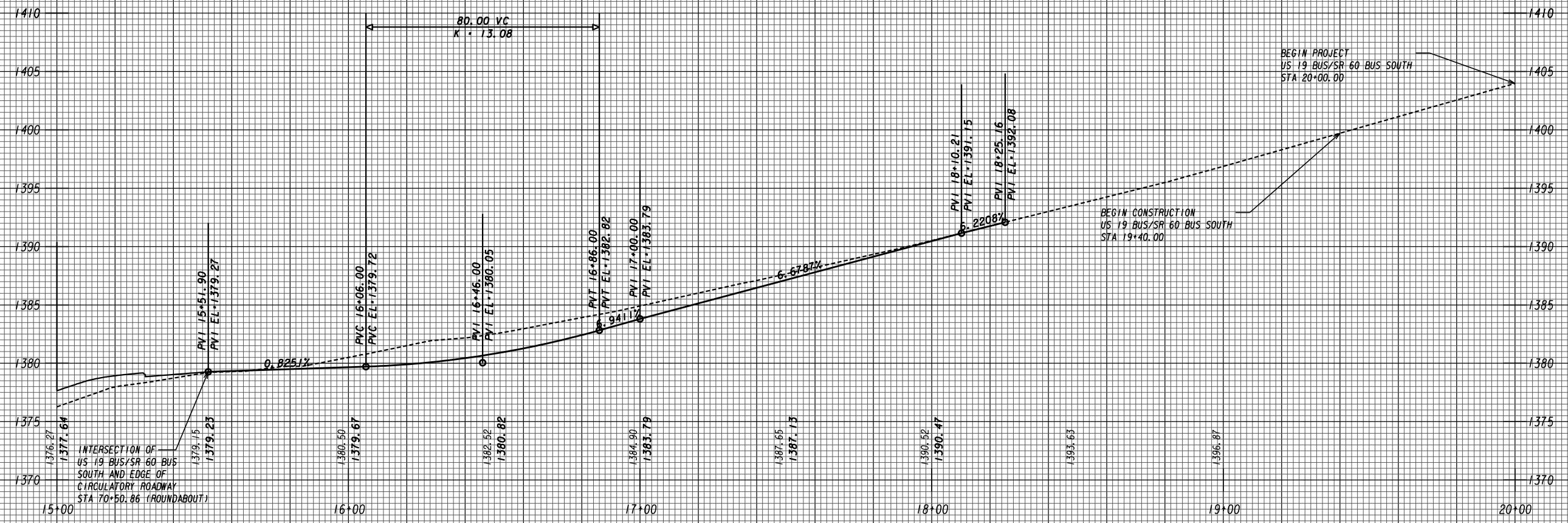
-----e----- BEGIN LIMIT OF ACCESS.....BLA  
 -----f----- END LIMIT OF ACCESS.....ELA  
 -C-F- REQ'D LIMIT OF ACCESS  
 [Hatched Box] REQ'D LIMIT OF ACCESS & R/W  
 [Hatched Box] ORANGE BARRIER FENCE  
 [Hatched Box] ESA - ENV. SENSITIVE AREA  
 (SEE ERIT TABLE)



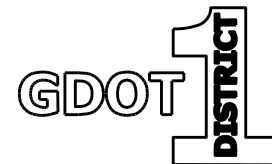
REVISION DATES	

**CONSTRUCTION PLAN**  
 US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	13-0004
CORRECTED:	DATE:	
VERIFIED:	DATE:	



US 19 BUS/SR 60 BUS SOUTH (SOUTH LEG)



REVISION DATES

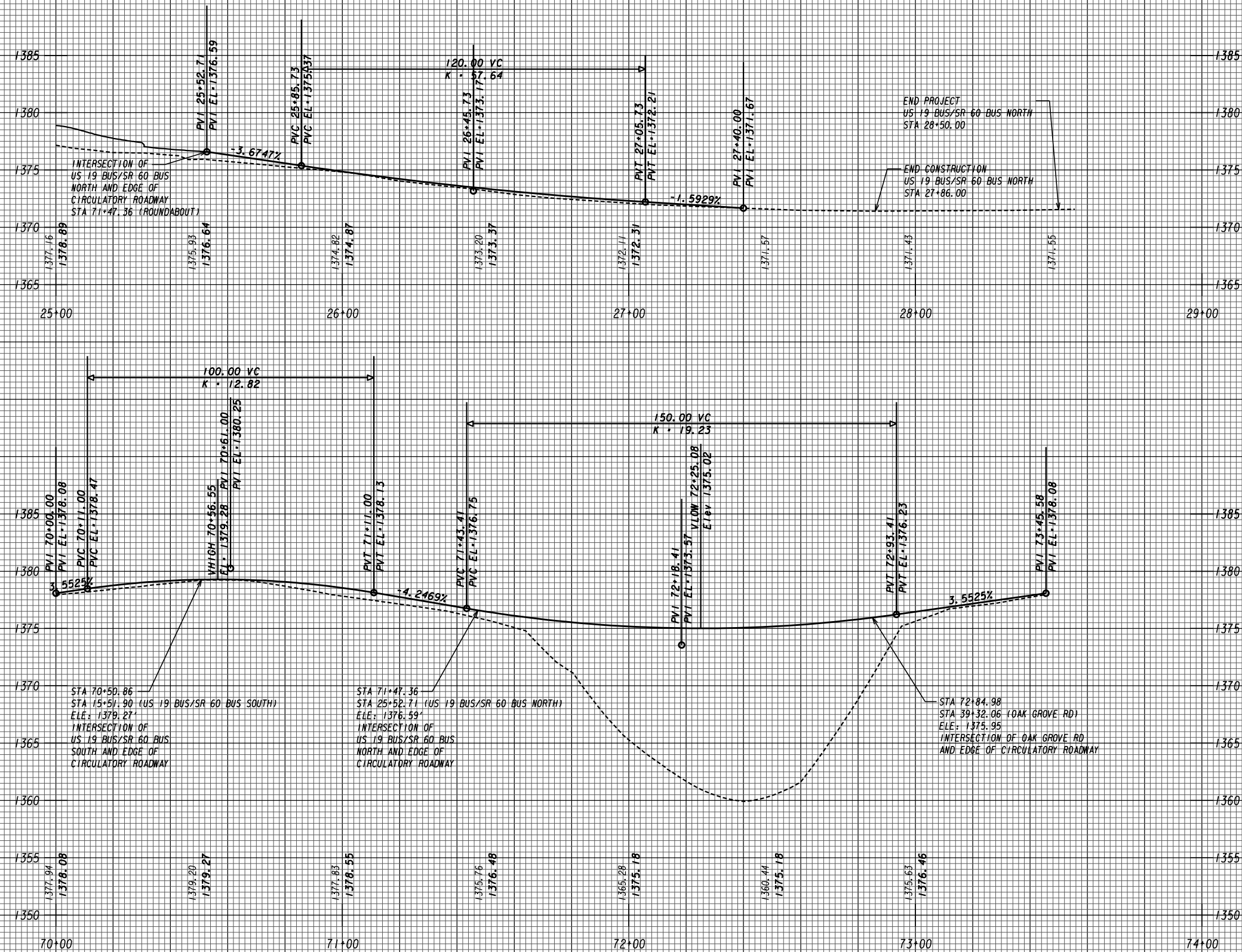
No.	Date	Description

MAINLINE PROFILE

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	15-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	





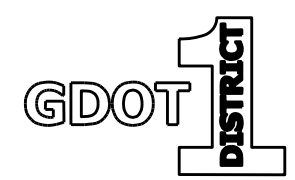
US 19 BUS/SR 60 BUS NORTH  
(NORTH LEG)

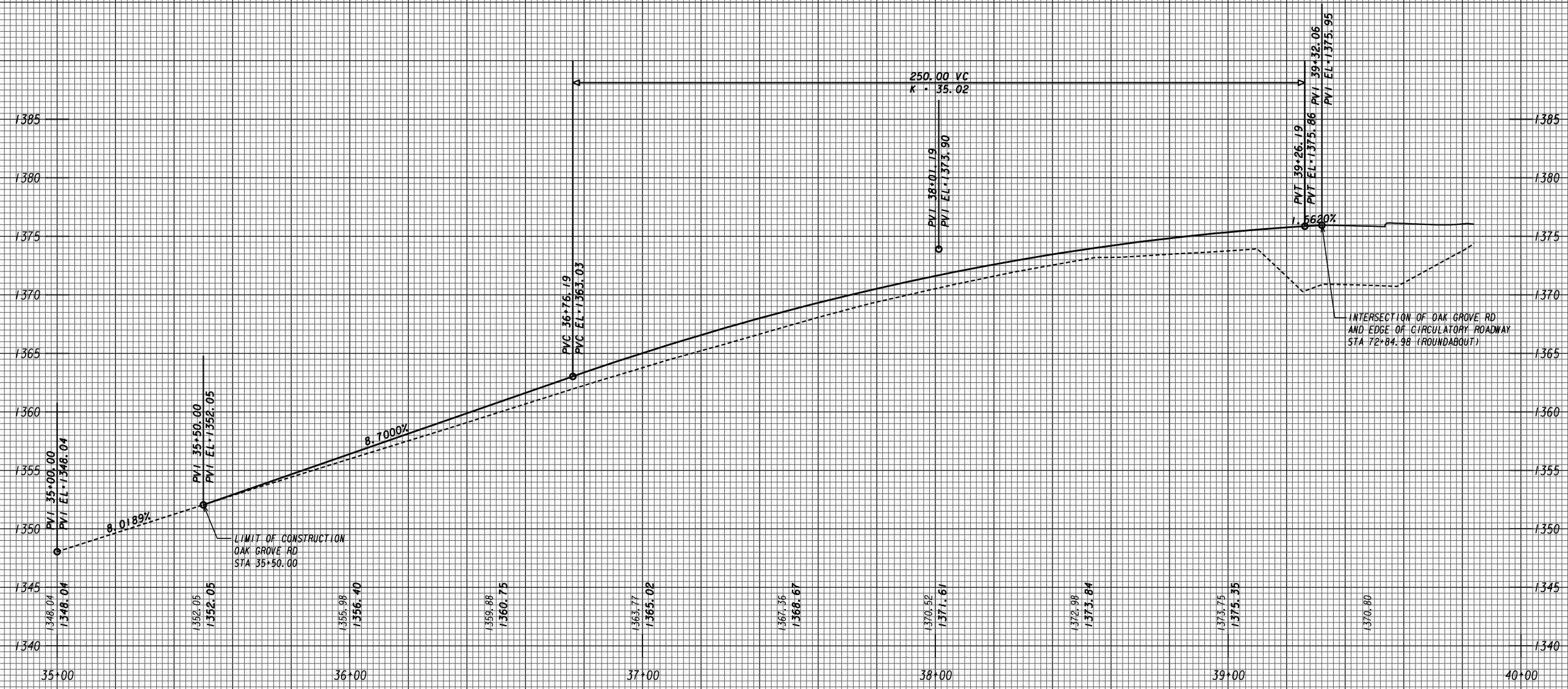
ROUNDABOUT

REVISION DATES

**MAINLINE PROFILE**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

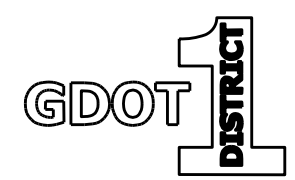
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	15-0002
CORRECTED:	DATE:	
VERIFIED:	DATE:	





LIMIT OF CONSTRUCTION  
OAK GROVE RD  
STA 35+50.00

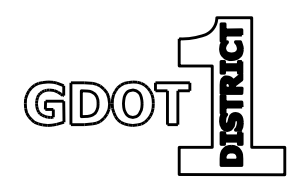
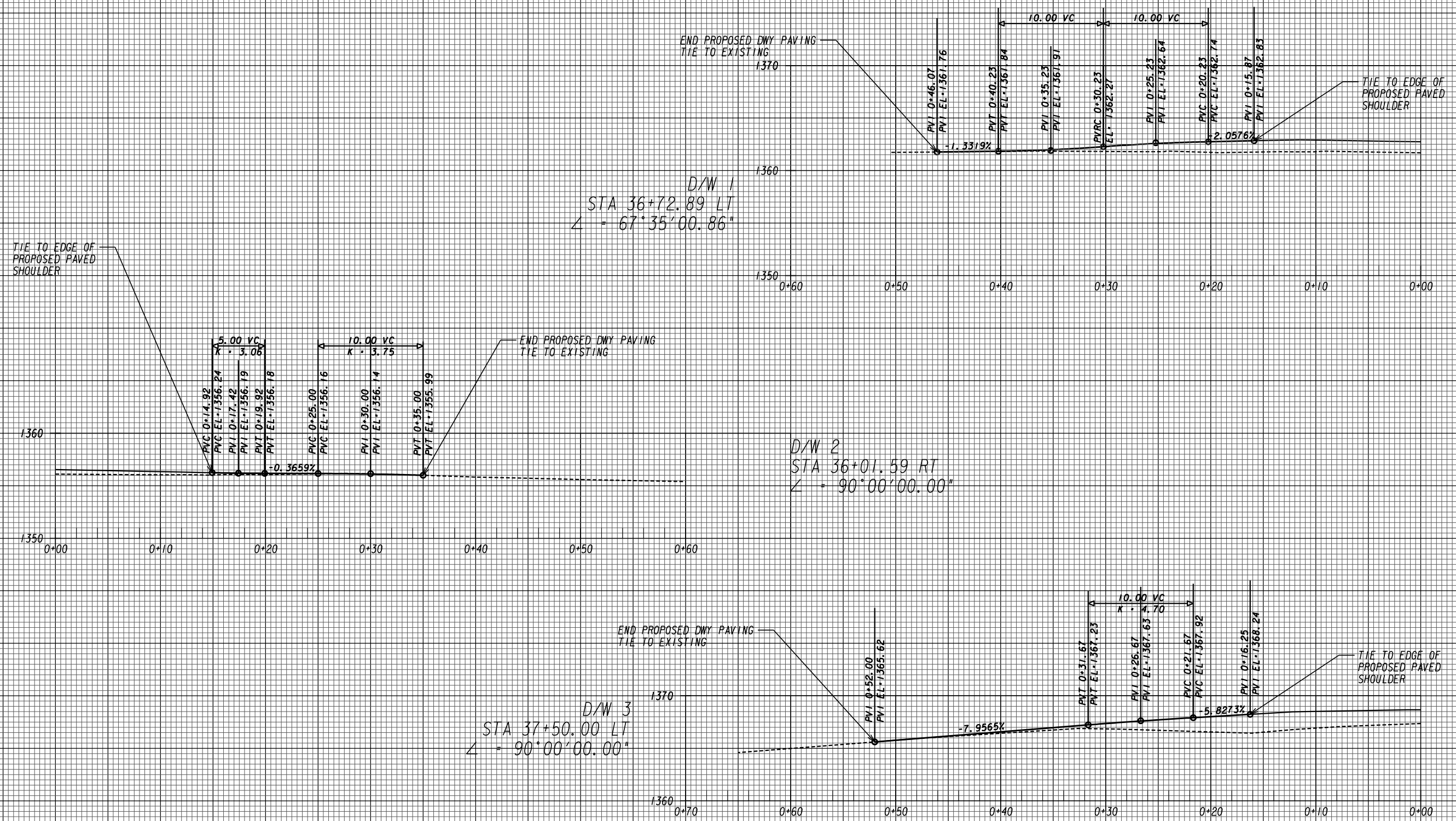
INTERSECTION OF OAK GROVE RD  
AND EDGE OF CIRCULATORY ROADWAY  
STA 72+84.98 (ROUNDAABOUT)



REVISION DATES

**CROSSROAD PROFILE**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	16-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	



REVISION DATES


DRIVEWAY PROFILE

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

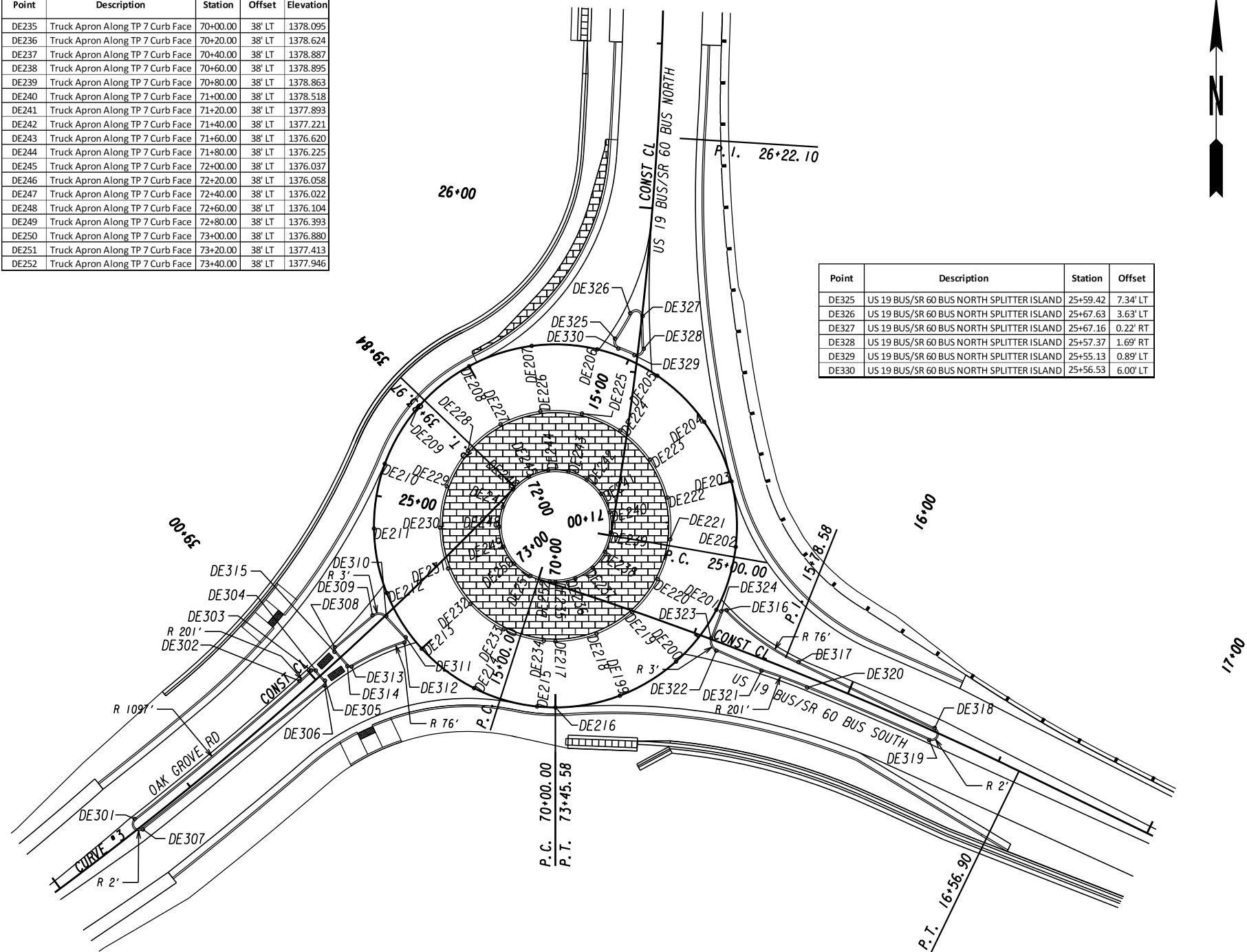
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	17-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	



Point	Description	Station	Offset	Elevation
DE216	Travel Lane Along PGL	70+00.00	0'	1378.083
DE199	Travel Lane Along PGL	70+20.00	0'	1378.762
DE200	Travel Lane Along PGL	70+40.00	0'	1379.176
DE201	Travel Lane Along PGL	70+60.00	0'	1379.278
DE202	Travel Lane Along PGL	70+80.00	0'	1379.068
DE203	Travel Lane Along PGL	71+00.00	0'	1378.547
DE204	Travel Lane Along PGL	71+20.00	0'	1377.744
DE205	Travel Lane Along PGL	71+40.00	0'	1376.895
DE206	Travel Lane Along PGL	71+60.00	0'	1376.117
DE207	Travel Lane Along PGL	71+80.00	0'	1375.544
DE208	Travel Lane Along PGL	72+00.00	0'	1375.180
DE209	Travel Lane Along PGL	72+20.00	0'	1375.023
DE210	Travel Lane Along PGL	72+40.00	0'	1375.074
DE211	Travel Lane Along PGL	72+60.00	0'	1375.333
DE212	Travel Lane Along PGL	72+80.00	0'	1375.800
DE213	Travel Lane Along PGL	73+00.00	0'	1376.464
DE214	Travel Lane Along PGL	73+20.00	0'	1377.174
DE215	Travel Lane Along PGL	73+40.00	0'	1377.885

Point	Description	Station	Offset	Elevation
DE217	Travel Lane Along TP 9 Curb Face	70+00.00	20' LT	1377.911
DE218	Travel Lane Along TP 9 Curb Face	70+20.00	20' LT	1378.509
DE219	Travel Lane Along TP 9 Curb Face	70+40.00	20' LT	1378.843
DE220	Travel Lane Along TP 9 Curb Face	70+60.00	20' LT	1378.895
DE221	Travel Lane Along TP 9 Curb Face	70+80.00	20' LT	1378.780
DE222	Travel Lane Along TP 9 Curb Face	71+00.00	20' LT	1378.353
DE223	Travel Lane Along TP 9 Curb Face	71+20.00	20' LT	1377.646
DE224	Travel Lane Along TP 9 Curb Face	71+40.00	20' LT	1376.891
DE225	Travel Lane Along TP 9 Curb Face	71+60.00	20' LT	1376.208
DE226	Travel Lane Along TP 9 Curb Face	71+80.00	20' LT	1375.730
DE227	Travel Lane Along TP 9 Curb Face	72+00.00	20' LT	1375.460
DE228	Travel Lane Along TP 9 Curb Face	72+20.00	20' LT	1375.399
DE229	Travel Lane Along TP 9 Curb Face	72+40.00	20' LT	1375.403
DE230	Travel Lane Along TP 9 Curb Face	72+60.00	20' LT	1375.567
DE231	Travel Lane Along TP 9 Curb Face	72+80.00	20' LT	1375.939
DE232	Travel Lane Along TP 9 Curb Face	73+00.00	20' LT	1376.508
DE233	Travel Lane Along TP 9 Curb Face	73+20.00	20' LT	1377.124
DE234	Travel Lane Along TP 9 Curb Face	73+40.00	20' LT	1377.739

Point	Description	Station	Offset	Elevation
DE235	Truck Apron Along TP 7 Curb Face	70+00.00	38' LT	1378.095
DE236	Truck Apron Along TP 7 Curb Face	70+20.00	38' LT	1378.624
DE237	Truck Apron Along TP 7 Curb Face	70+40.00	38' LT	1378.887
DE238	Truck Apron Along TP 7 Curb Face	70+60.00	38' LT	1378.895
DE239	Truck Apron Along TP 7 Curb Face	70+80.00	38' LT	1378.863
DE240	Truck Apron Along TP 7 Curb Face	71+00.00	38' LT	1378.518
DE241	Truck Apron Along TP 7 Curb Face	71+20.00	38' LT	1377.893
DE242	Truck Apron Along TP 7 Curb Face	71+40.00	38' LT	1377.221
DE243	Truck Apron Along TP 7 Curb Face	71+60.00	38' LT	1376.620
DE244	Truck Apron Along TP 7 Curb Face	71+80.00	38' LT	1376.225
DE245	Truck Apron Along TP 7 Curb Face	72+00.00	38' LT	1376.037
DE246	Truck Apron Along TP 7 Curb Face	72+20.00	38' LT	1376.058
DE247	Truck Apron Along TP 7 Curb Face	72+40.00	38' LT	1376.022
DE248	Truck Apron Along TP 7 Curb Face	72+60.00	38' LT	1376.104
DE249	Truck Apron Along TP 7 Curb Face	72+80.00	38' LT	1376.393
DE250	Truck Apron Along TP 7 Curb Face	73+00.00	38' LT	1376.880
DE251	Truck Apron Along TP 7 Curb Face	73+20.00	38' LT	1377.413
DE252	Truck Apron Along TP 7 Curb Face	73+40.00	38' LT	1377.946



Point	Description	Station	Offset
DE325	US 19 BUS/SR 60 BUS NORTH SPLITTER ISLAND	25+59.42	7.34' LT
DE326	US 19 BUS/SR 60 BUS NORTH SPLITTER ISLAND	25+67.63	3.63' LT
DE327	US 19 BUS/SR 60 BUS NORTH SPLITTER ISLAND	25+67.16	0.22' RT
DE328	US 19 BUS/SR 60 BUS NORTH SPLITTER ISLAND	25+57.37	1.69' RT
DE329	US 19 BUS/SR 60 BUS NORTH SPLITTER ISLAND	25+55.13	0.89' LT
DE330	US 19 BUS/SR 60 BUS NORTH SPLITTER ISLAND	25+56.53	6.00' LT

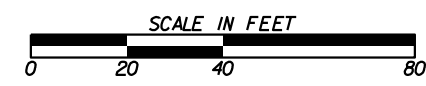
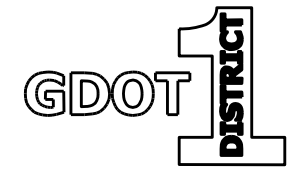
Point	Description	Station	Offset
DE301	OAK GROVE RD SPLITTER ISLAND	38+30.76	3.00' LT
DE302	OAK GROVE RD SPLITTER ISLAND	38+96.09	3.00' LT
DE303	OAK GROVE RD SPLITTER ISLAND	39+00.85	3.05' LT
DE304	OAK GROVE RD SPLITTER ISLAND	39+01.87	2.05' LT
DE305	OAK GROVE RD SPLITTER ISLAND	39+01.90	2.11' RT
DE306	OAK GROVE RD SPLITTER ISLAND	39+00.84	3.11' RT
DE307	OAK GROVE RD SPLITTER ISLAND	38+30.77	1.00' RT
DE308	OAK GROVE RD SPLITTER ISLAND	39+10.92	3.44' LT
DE309	OAK GROVE RD SPLITTER ISLAND	39+25.92	2.74' LT
DE310	OAK GROVE RD SPLITTER ISLAND	39+28.76	0.28' RT
DE311	OAK GROVE RD SPLITTER ISLAND	39+28.68	9.00' RT
DE312	OAK GROVE RD SPLITTER ISLAND	39+27.26	9.89' RT
DE313	OAK GROVE RD SPLITTER ISLAND	39+10.68	4.37' RT
DE314	OAK GROVE RD SPLITTER ISLAND	39+09.88	3.39' RT
DE315	OAK GROVE RD SPLITTER ISLAND	39+09.88	2.44' LT

NOTES:  
 1. ALL CORNER RADII OF SPLITTER ISLANDS ARE 1', UNLESS NOTED OR SHOWN OTHERWISE.  
 2. ALL CORNER RADII OF SPLITTER ISLAND ON US 19 BUS/SR 60 BUS NORTH (NORTH LEG) ARE 2'.

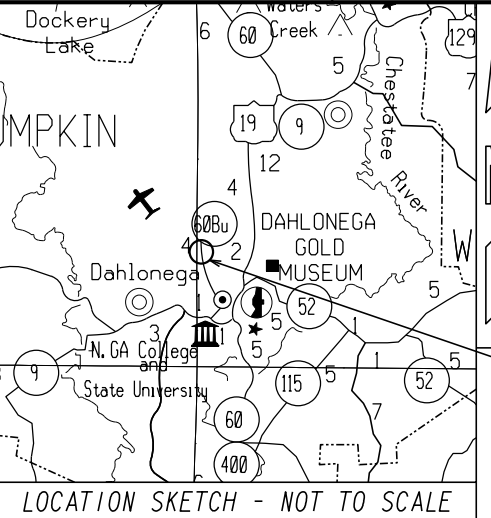
Point	Description	Station	Offset
DE316	US 19 BUS/SR 60 BUS SOUTH SPLITTER ISLAND	15+56.71	9.89' LT
DE317	US 19 BUS/SR 60 BUS SOUTH SPLITTER ISLAND	15+82.55	3.15' LT
DE318	US 19 BUS/SR 60 BUS SOUTH SPLITTER ISLAND	16+28.26	1.00' LT
DE319	US 19 BUS/SR 60 BUS SOUTH SPLITTER ISLAND	16+28.21	3.00' RT
DE320	US 19 BUS/SR 60 BUS SOUTH SPLITTER ISLAND	15+87.88	3.00' RT
DE321	US 19 BUS/SR 60 BUS SOUTH SPLITTER ISLAND	15+73.09	3.44' RT
DE322	US 19 BUS/SR 60 BUS SOUTH SPLITTER ISLAND	15+58.05	2.74' RT
DE323	US 19 BUS/SR 60 BUS SOUTH SPLITTER ISLAND	15+55.21	0.28' LT
DE324	US 19 BUS/SR 60 BUS SOUTH SPLITTER ISLAND	15+55.29	9.00' LT

PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 CONSTRUCTION LIMITS  
 EASEMENT FOR CONSTR  
 & MAINTENANCE OF SLOPES  
 EASEMENT FOR CONSTR OF SLOPES  
 EASEMENT FOR CONSTR OF DRIVES

-----E-----  
 BEGIN LIMIT OF ACCESS.....BLA  
 END LIMIT OF ACCESS.....ELA  
 REQ'D LIMIT OF ACCESS  
 REQ'D LIMIT OF ACCESS & R/W  
 ORANGE BARRIER FENCE  
 ESA - ENV. SENSITIVE AREA  
 (SEE ERIT TABLE)



REVISION DATES		SPECIAL GRADING	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD	
		LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	18-0002	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



**DETOUR LENGTHS & SPEED LIMITS**

TOTAL DETOUR LENGTH: 3.04 MILES  
PROPOSED DURATION: 60 DAYS

US 19 BUS/SR 60 BUS/E MAIN ST  
LENGTH : 0.52 MILES  
SPEED LIMIT: 25 / 35 MPH

US 19/SR 9/SR 60/MORRISON MOORE PKWY  
LENGTH: 2.52 MILES  
SPEED LIMIT: 45 MPH

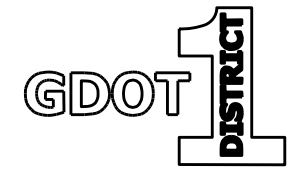
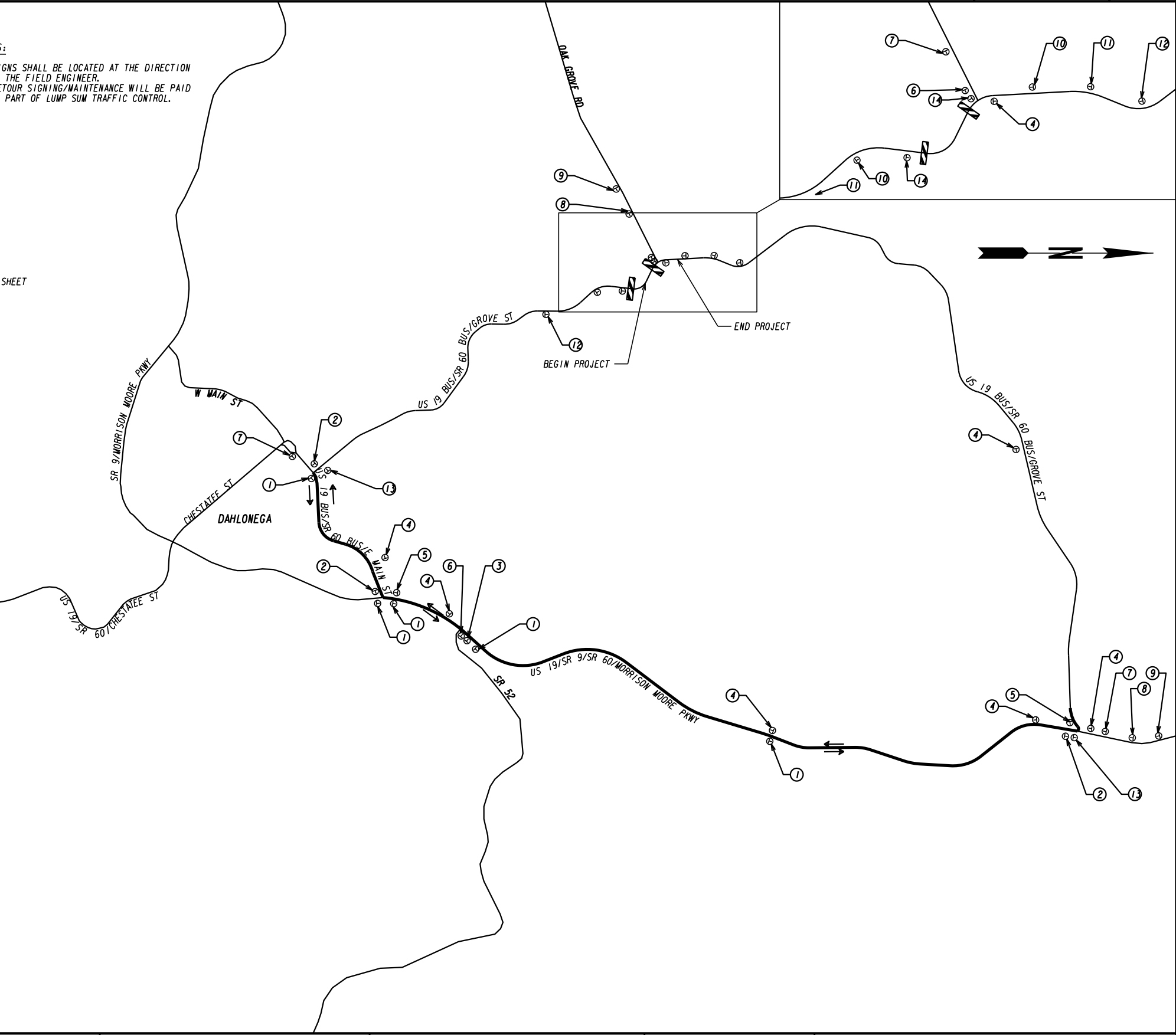
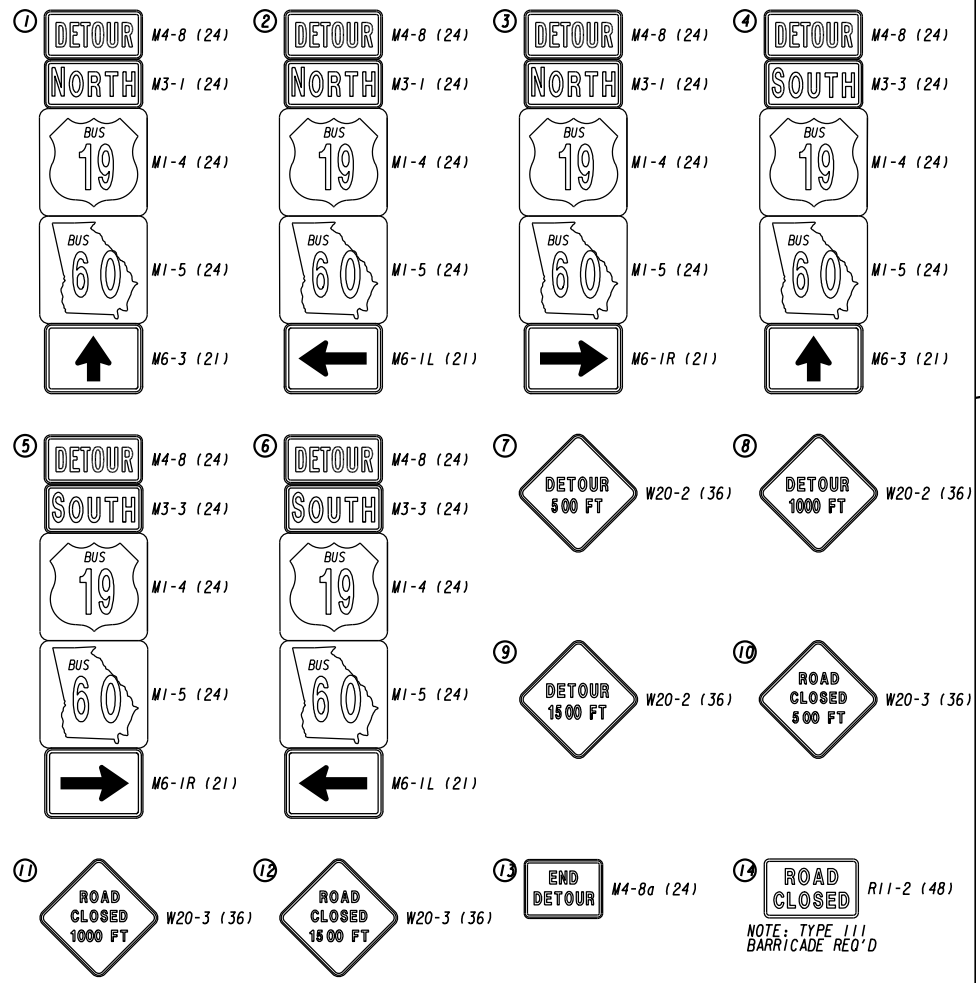
**NOTES:**

1. SIGNS SHALL BE LOCATED AT THE DIRECTION OF THE FIELD ENGINEER.
2. DETOUR SIGNING/MAINTENANCE WILL BE PAID AS PART OF LUMP SUM TRAFFIC CONTROL.

**TRAFFIC DETOUR LEGEND**

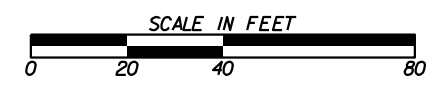
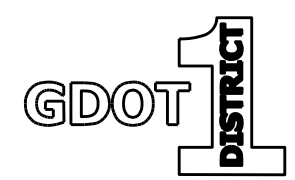
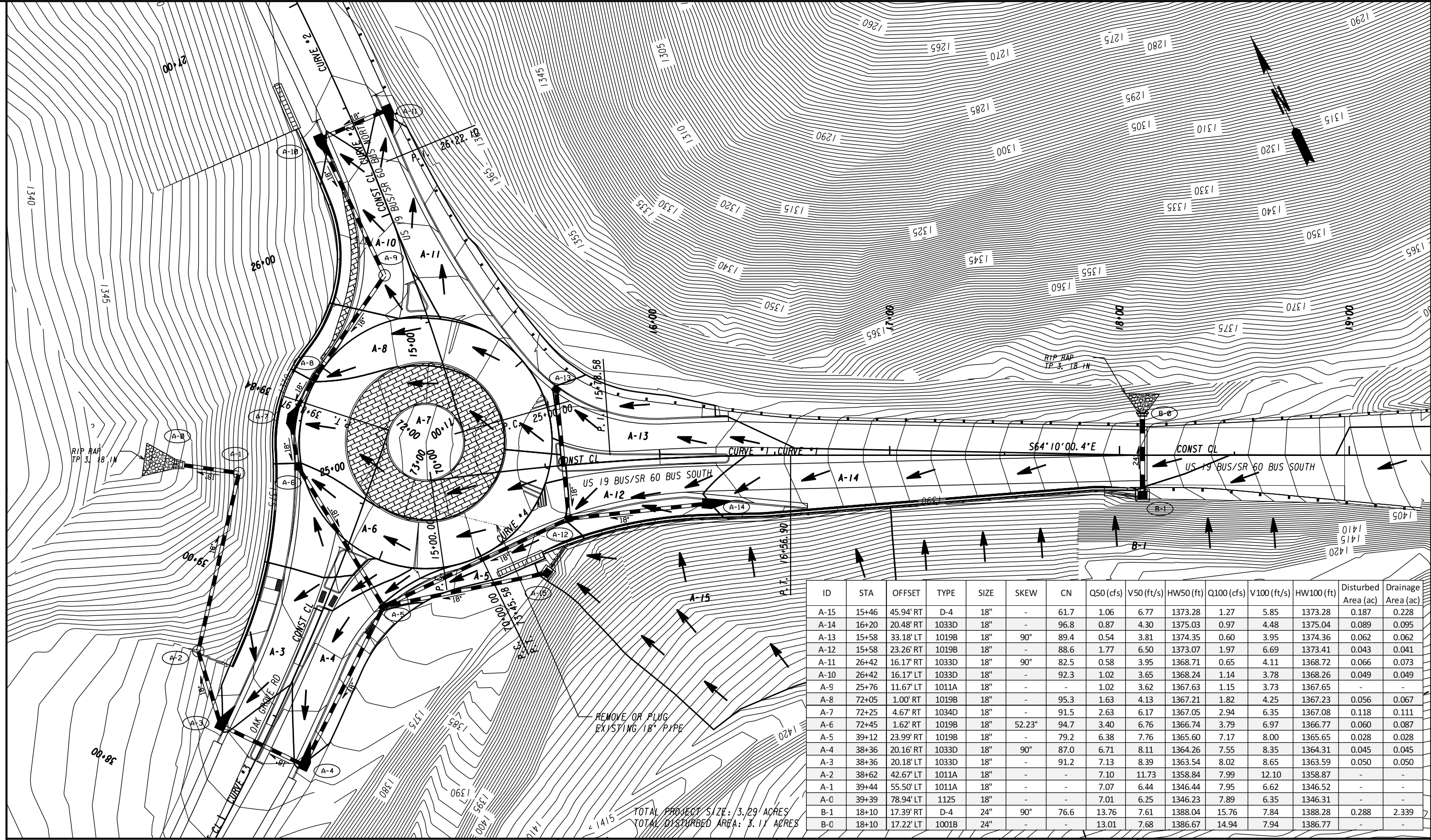
- ⊕ POST-MOUNTED SIGN
- ⊖ 24" TYPE 111 BARRICADE
- ⊕ SIGN REQUIRED: SEE DETAILS ON THIS SHEET
- ⊖ DETOUR ROUTE

**SIGN DETAILS - NOT TO SCALE**



REVISION DATES	

STAGING DETAILS		
US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY		
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	20-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	



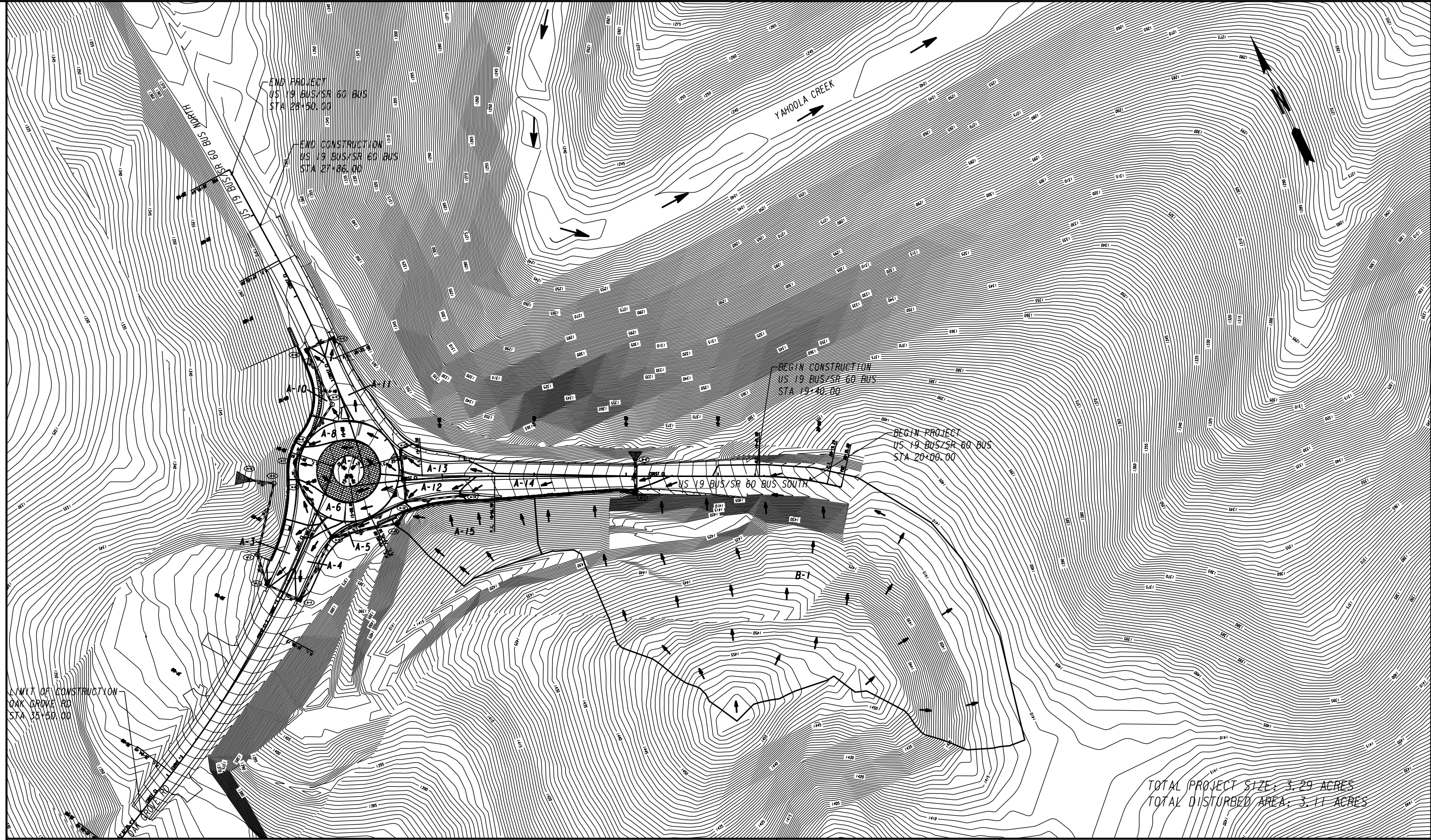
REVISION DATES

**DRAINAGE AREA MAP**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

PROPERTY AND EXISTING R/W LINE  
REQUIRED R/W LINE  
CONSTRUCTION LIMITS  
EASEMENT FOR CONSTR  
& MAINTENANCE OF SLOPES  
EASEMENT FOR CONSTR OF SLOPES  
EASEMENT FOR CONSTR OF DRIVES

BEGIN LIMIT OF ACCESS.....BLA  
END LIMIT OF ACCESS.....ELA  
REQ'D LIMIT OF ACCESS  
REQ'D LIMIT OF ACCESS & R/W  
ORANGE BARRIER FENCE  
ESA - ENV. SENSITIVE AREA  
(SEE ERIT TABLE)

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	21-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	

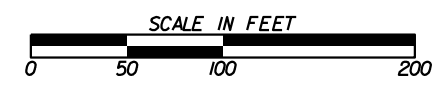
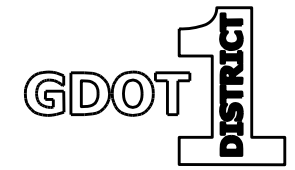


TOTAL PROJECT SIZE: 3.29 ACRES  
 TOTAL DISTURBED AREA: 3.11 ACRES

PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 CONSTRUCTION LIMITS  
 EASEMENT FOR CONSTR  
 & MAINTENANCE OF SLOPES  
 EASEMENT FOR CONSTR OF SLOPES  
 EASEMENT FOR CONSTR OF DRIVES

-----e-----  
 ---c---f---  
 [Hatched Box]  
 [Hatched Box]  
 [Hatched Box]

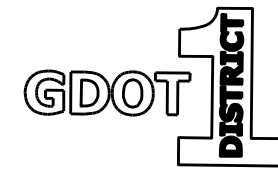
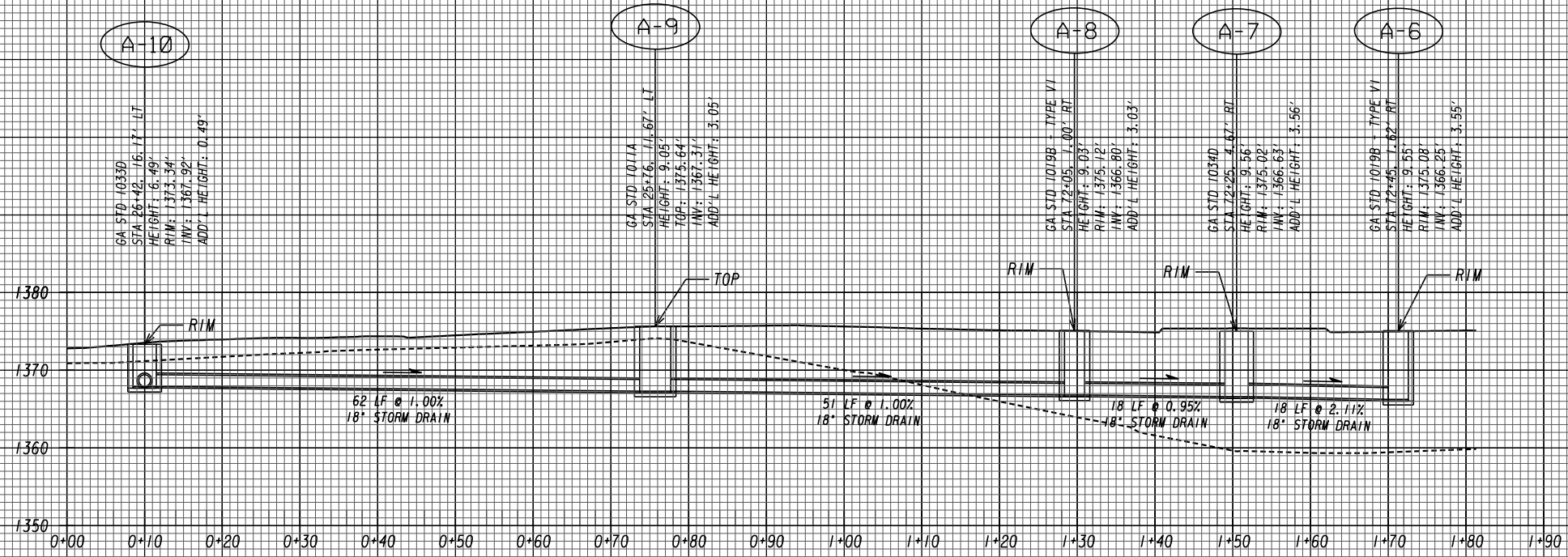
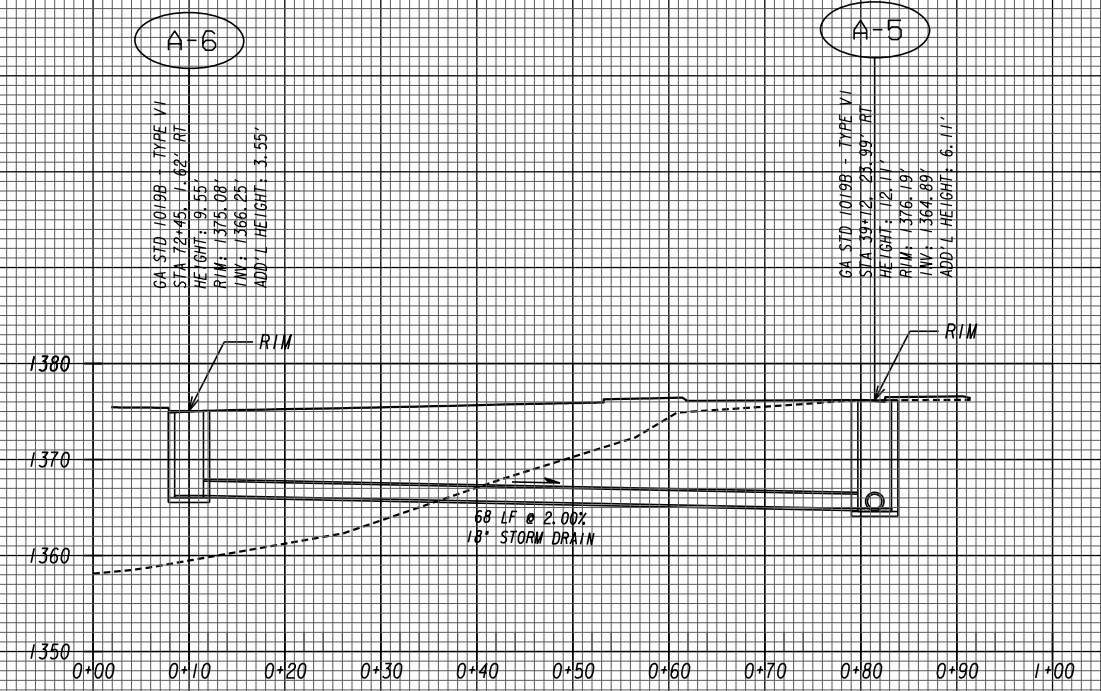
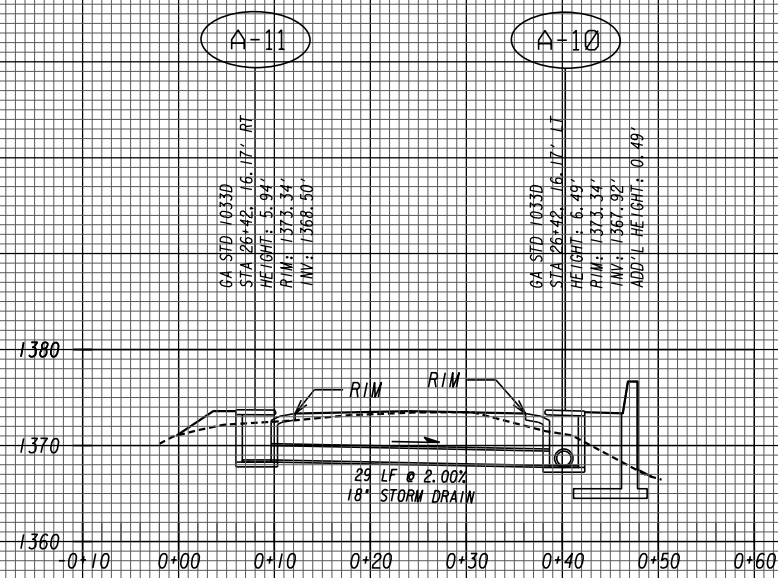
BEGIN LIMIT OF ACCESS.....BLA  
 END LIMIT OF ACCESS.....ELA  
 REQ'D LIMIT OF ACCESS  
 REQ'D LIMIT OF ACCESS & R/W  
 ORANGE BARRIER FENCE  
 ESA - ENV. SENSITIVE AREA  
 (SEE ERIT TABLE)



REVISION DATES	

DRAINAGE AREA MAP		
US 19 BUS/SR 60 BUS @ OAK GROVE RD		
LUMPKIN COUNTY		
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	21-0002
CORRECTED:	DATE:	
VERIFIED:	DATE:	

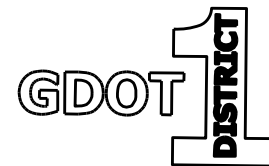
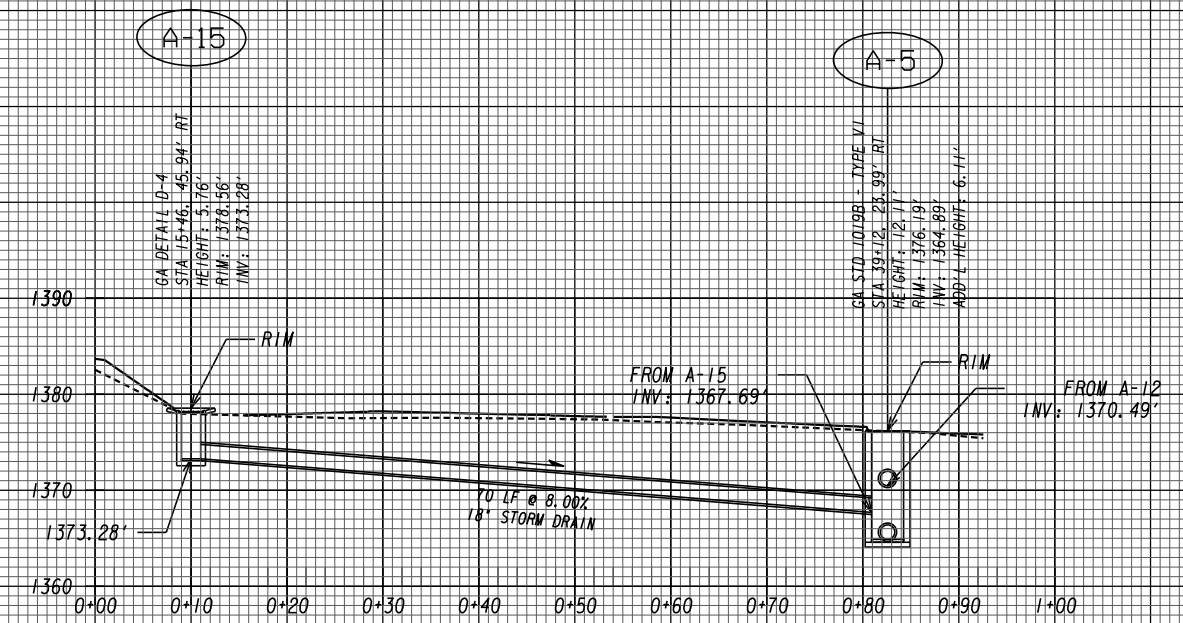
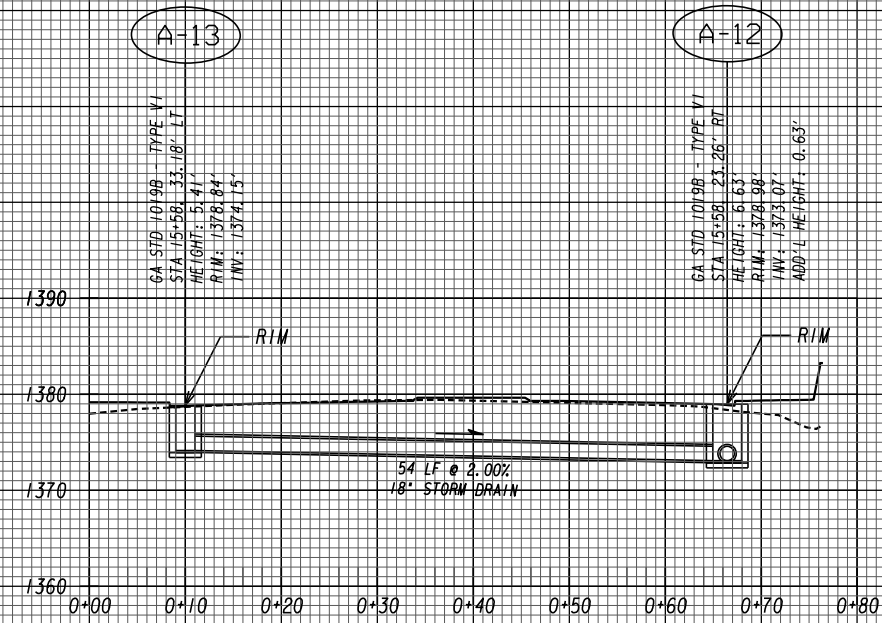
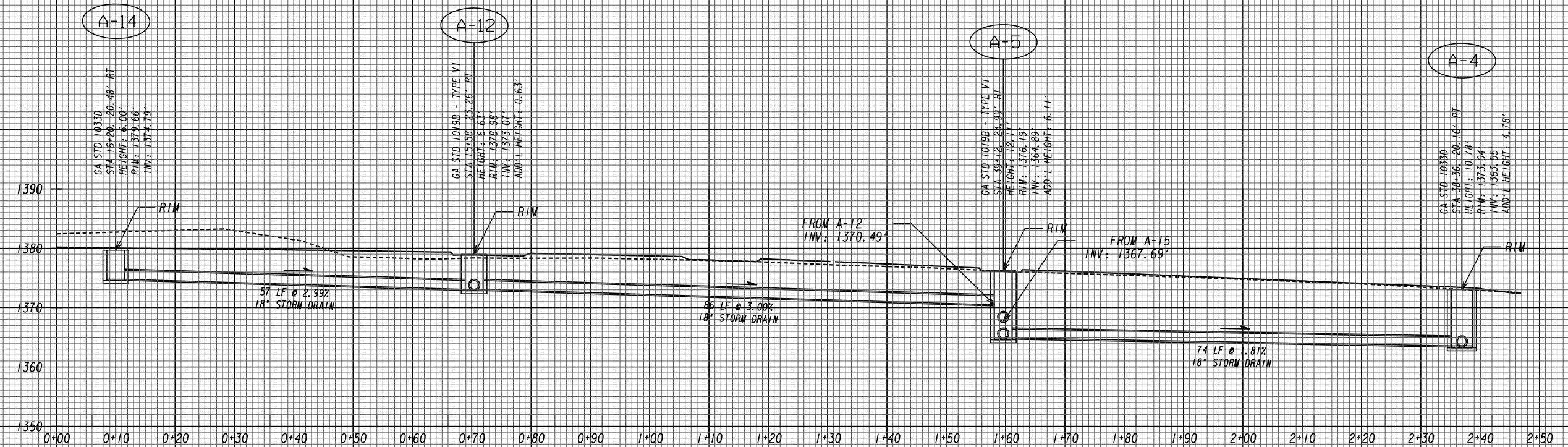




REVISION DATES

**DRAINAGE PROFILES**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

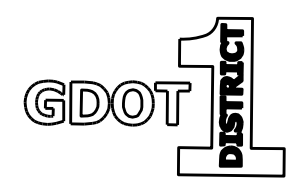
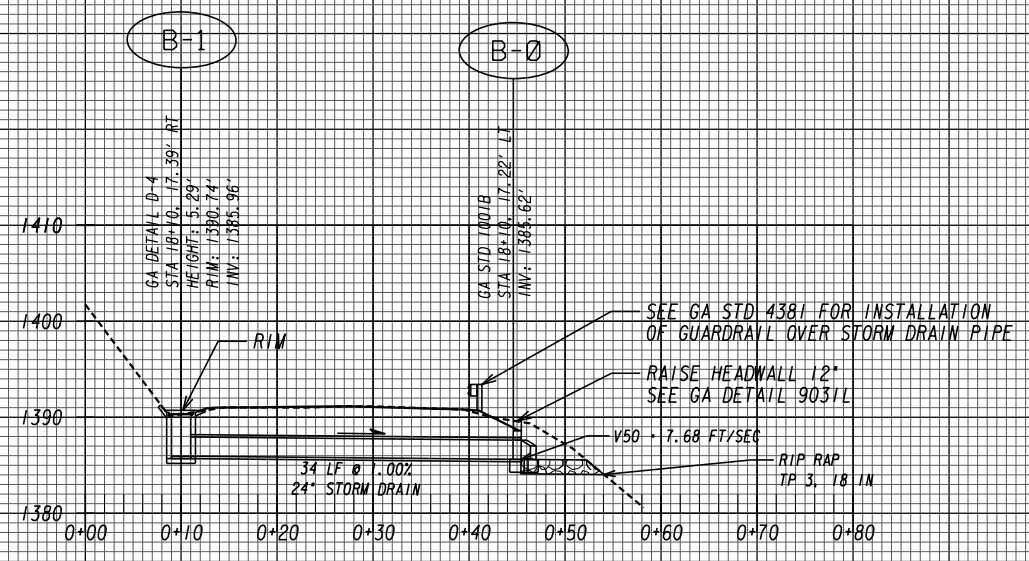
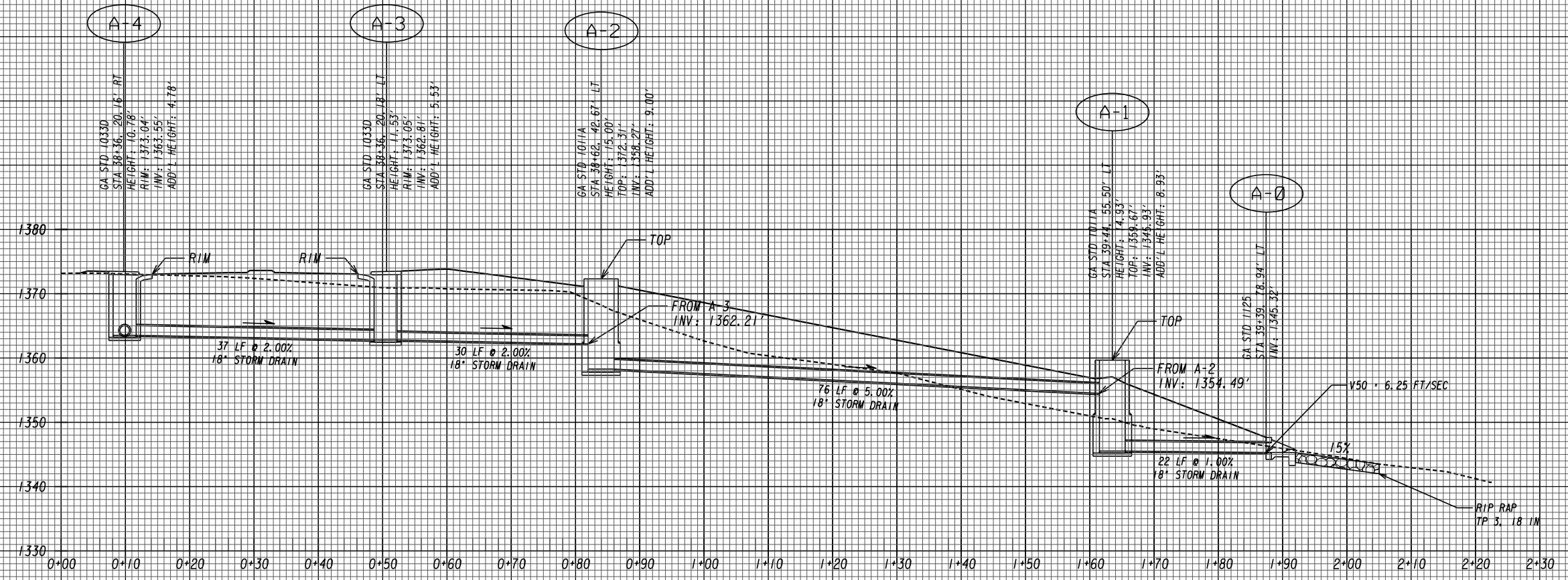
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	22-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	



REVISION DATES

**DRAINAGE PROFILES**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	22-0002
CORRECTED:	DATE:	
VERIFIED:	DATE:	



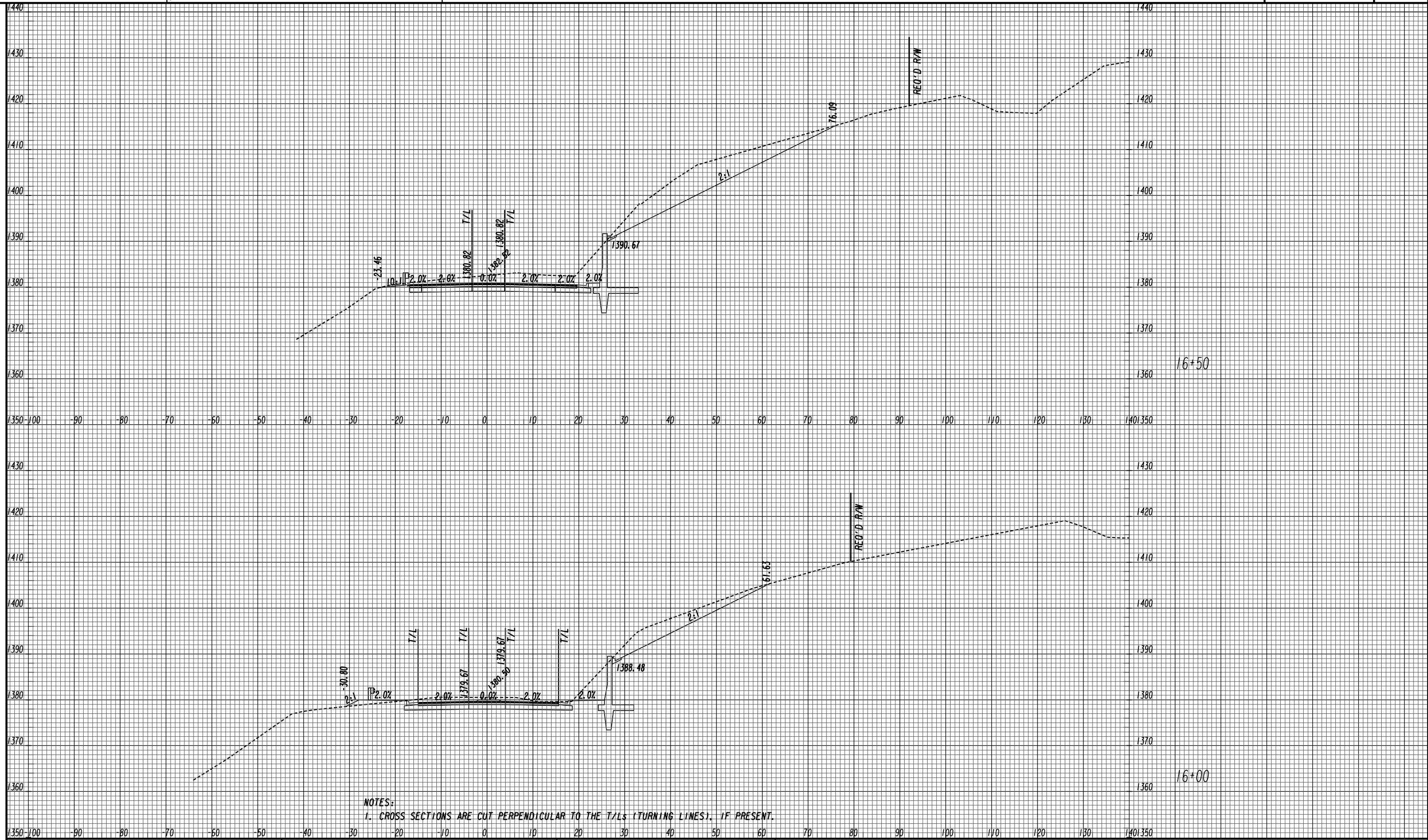
REVISION DATES

NO.	DATE	DESCRIPTION

DRAINAGE PROFILES

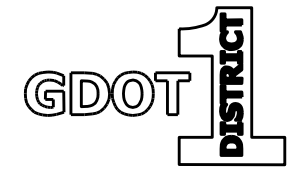
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	22-0003
CORRECTED:	DATE:	
VERIFIED:	DATE:	



NOTES:  
1. CROSS SECTIONS ARE CUT PERPENDICULAR TO THE T/Ls (TURNING LINES), IF PRESENT.

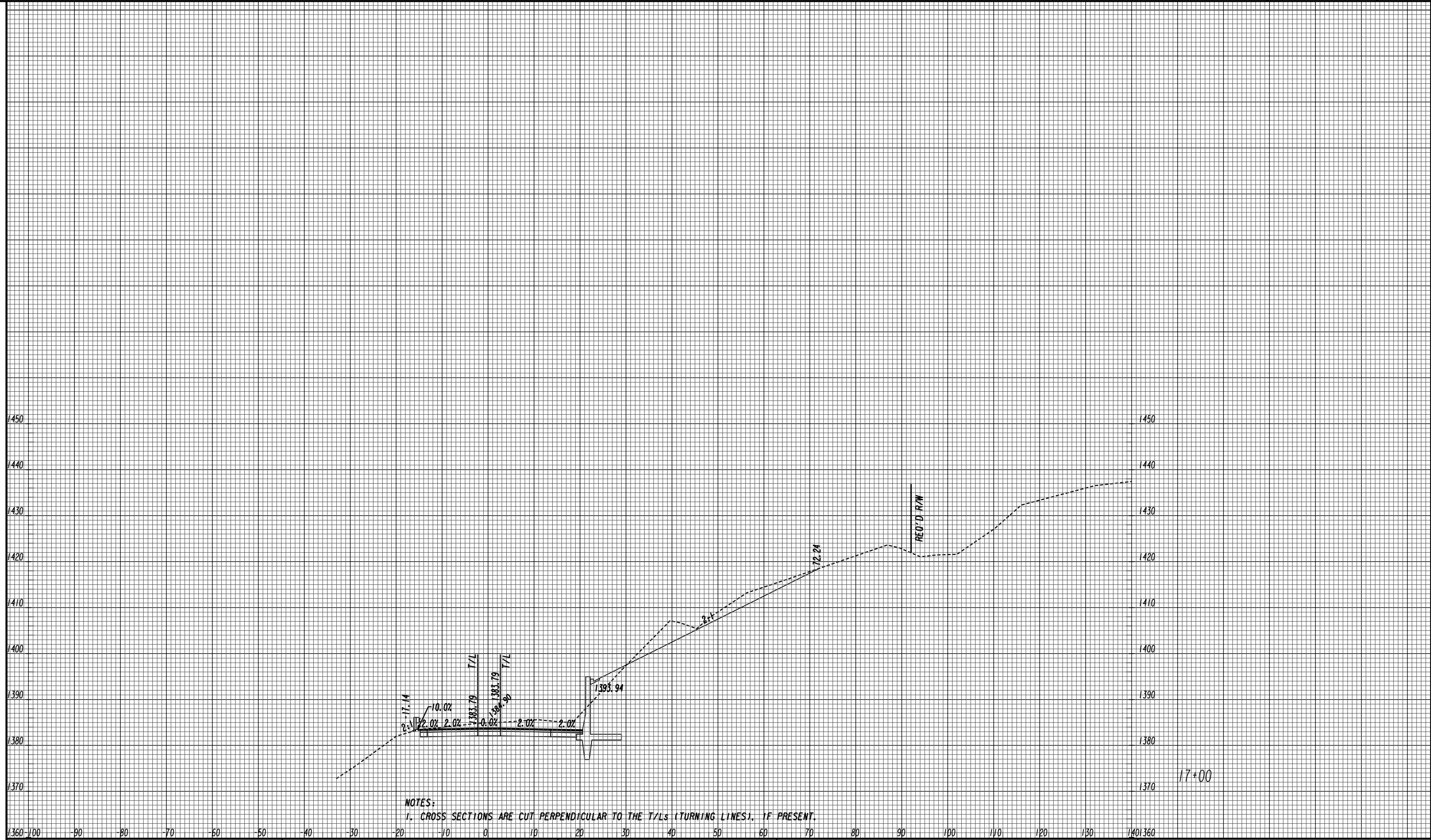
11/8/2018 SUXSEW



SOUTH LEG  
US 19 BUS/SR 60 BUS  
SOUTH

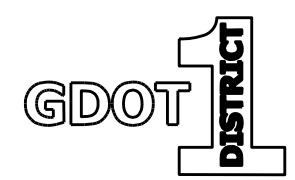
REVISION DATES	

CROSS SECTIONS			
US 19 BUS/SR 60 BUS @ OAK GROVE RD			
LUMPKIN COUNTY			
CHECKED:		DATE:	
BACKCHECKED:		DATE:	
CORRECTED:		DATE:	
VERIFIED:		DATE:	
DRAWING No.			23-0001



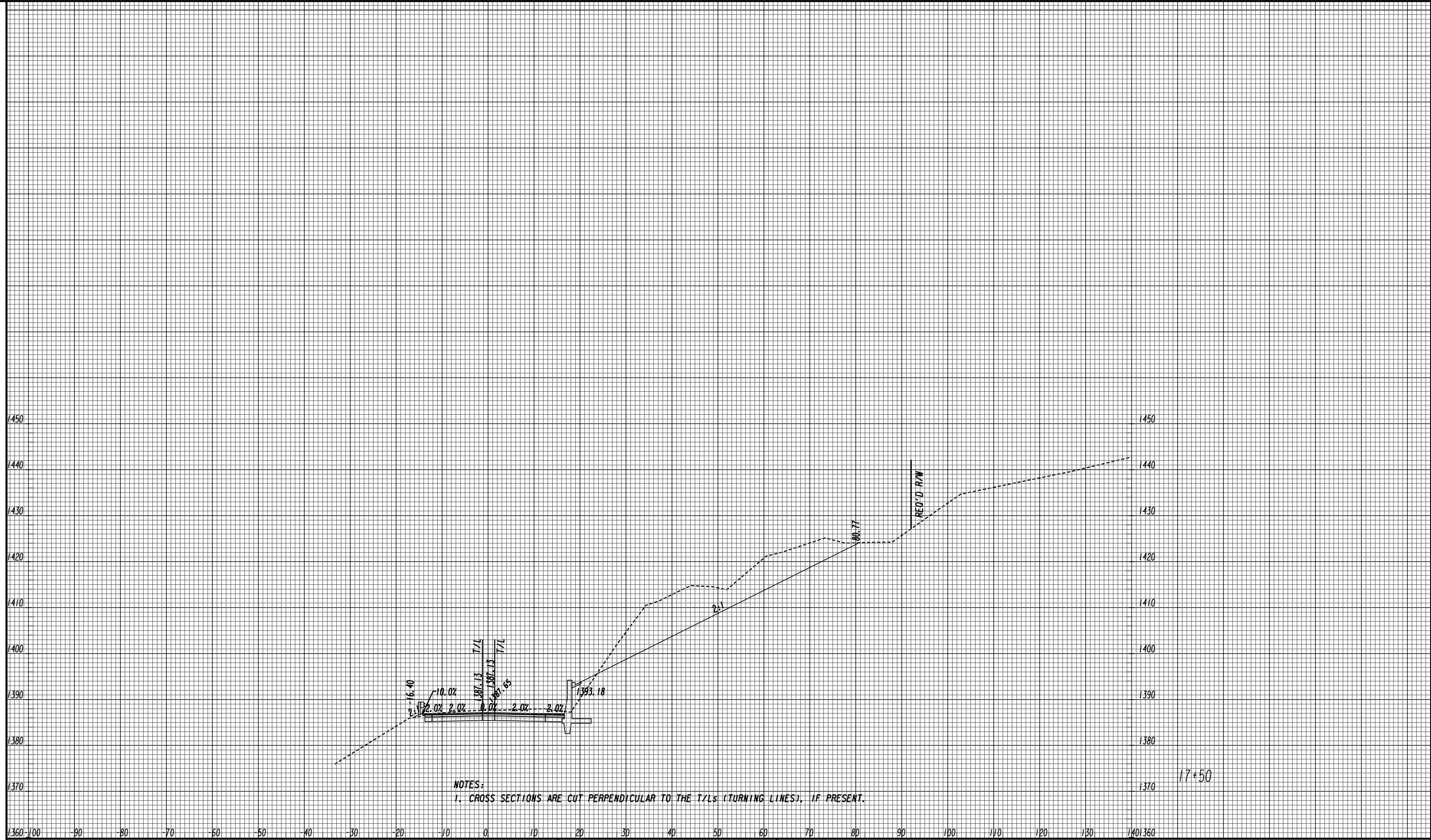
NOTES:  
 1. CROSS SECTIONS ARE CUT PERPENDICULAR TO THE T/Ls (TURNING LINES), IF PRESENT.

1360-1100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 1401360

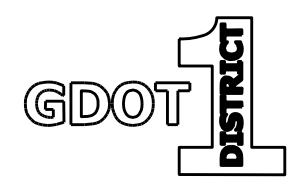


SOUTH LEG  
 US 19 BUS/SR 60 BUS  
 SOUTH

REVISION DATES		CROSS SECTIONS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	23-0002	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

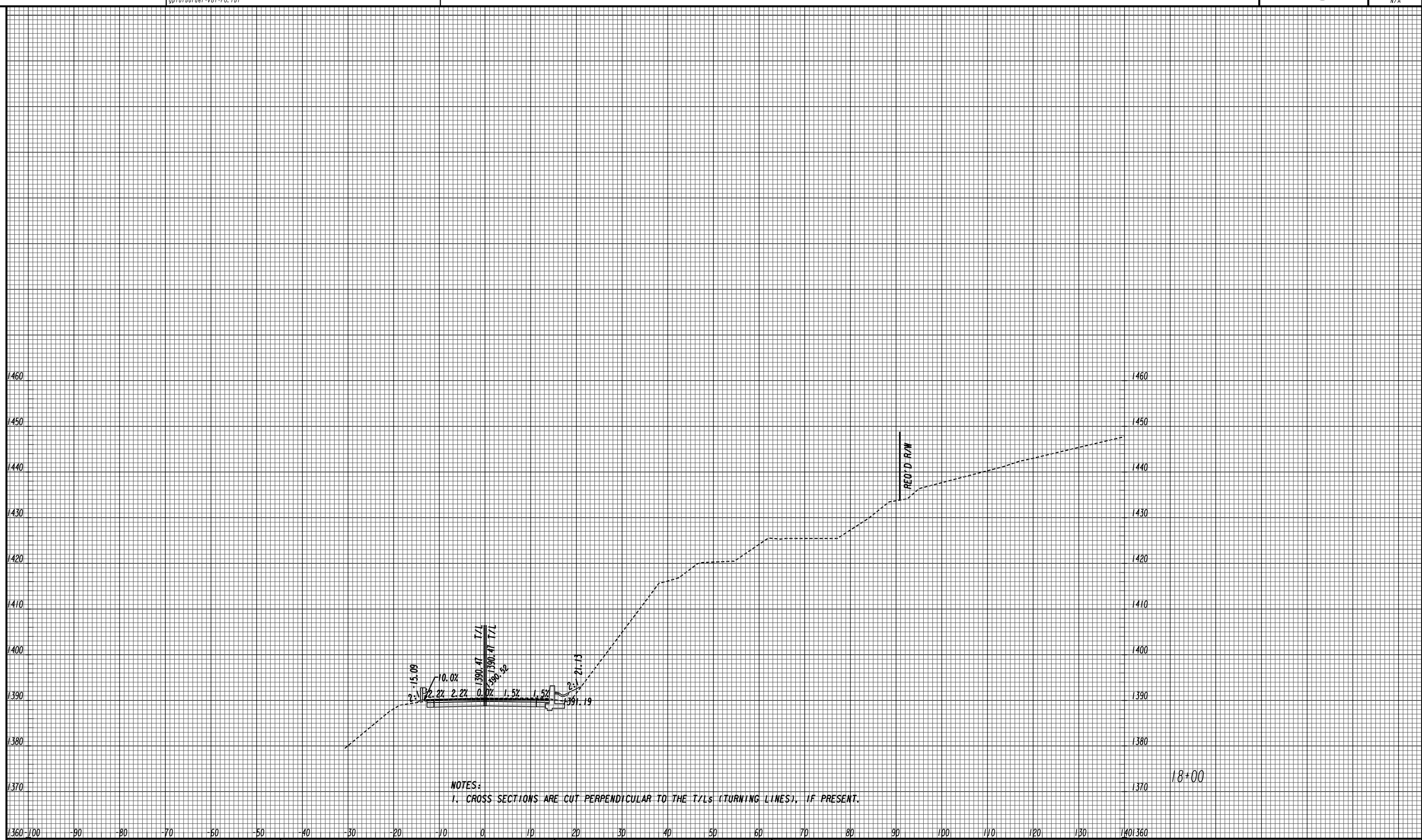


NOTES:  
 1. CROSS SECTIONS ARE CUT PERPENDICULAR TO THE T/Ls (TURNING LINES), IF PRESENT.



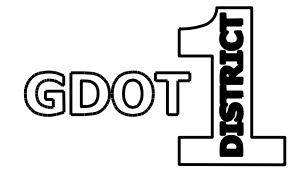
SOUTH LEG  
 US 19 BUS/SR 60 BUS SOUTH

REVISION DATES		CROSS SECTIONS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	23-0003	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



NOTES:  
 1. CROSS SECTIONS ARE CUT PERPENDICULAR TO THE T/Ls (TURNING LINES), IF PRESENT.

1360 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 1360



SOUTH LEG  
 US 19 BUS/SR 60 BUS SOUTH

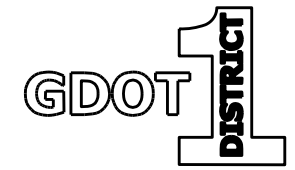
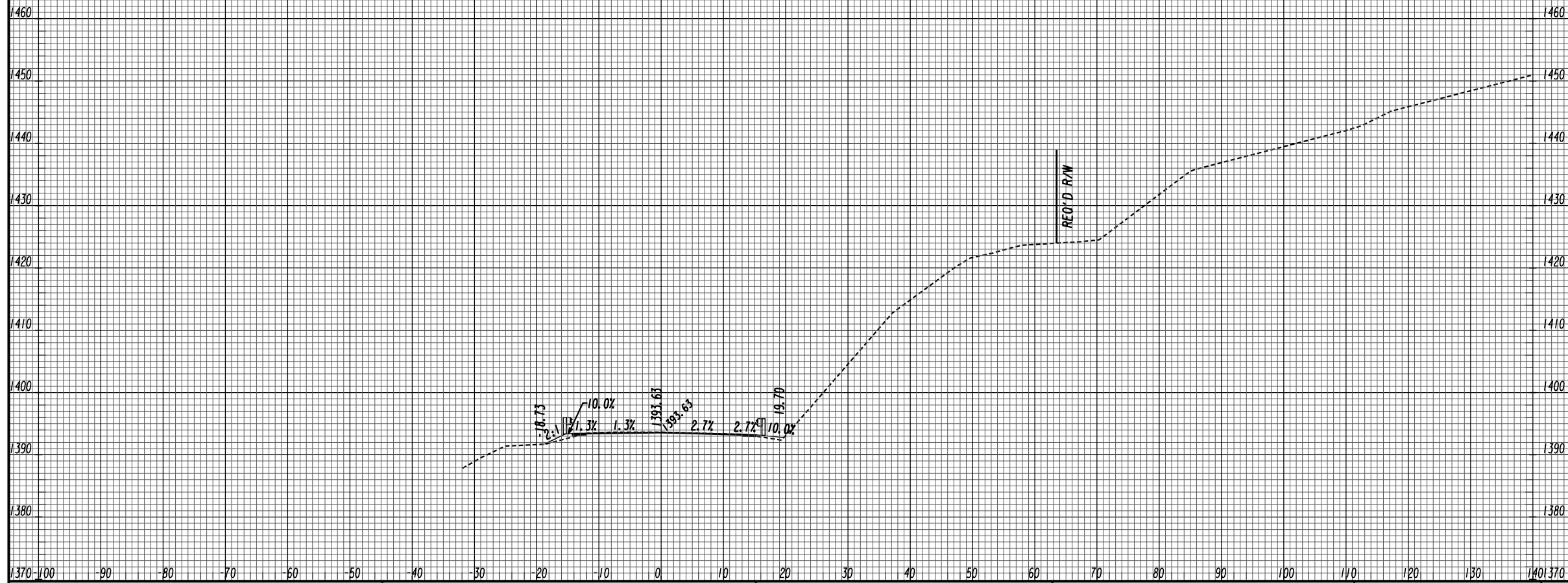
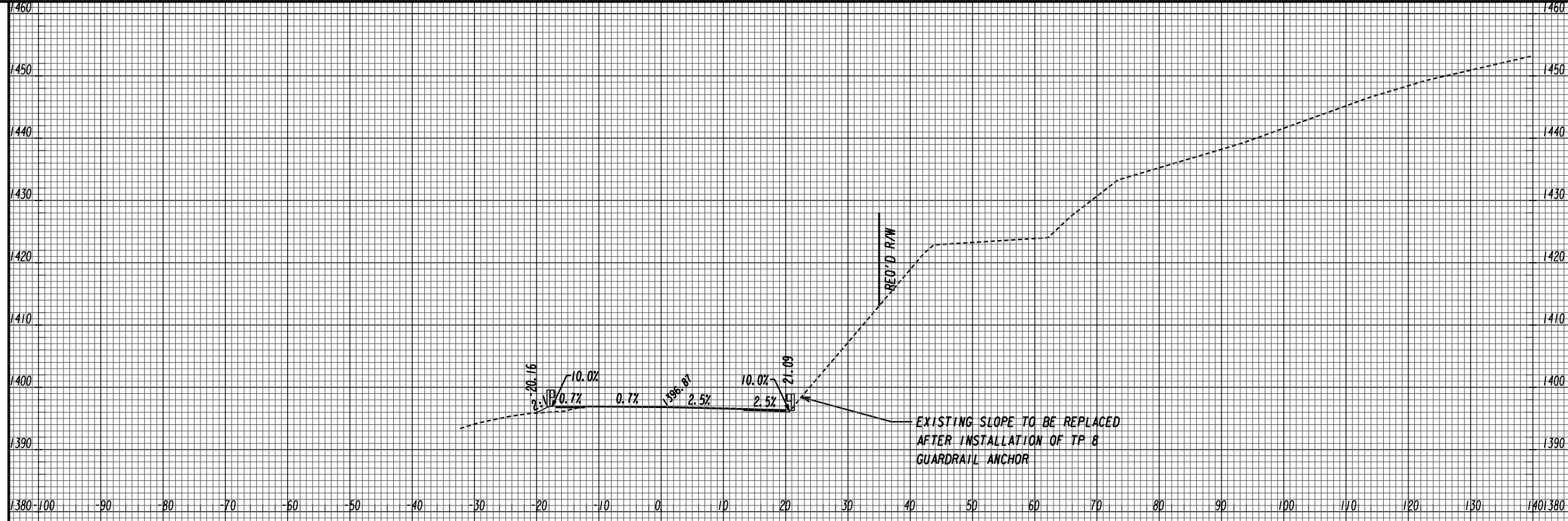
REVISION DATES

NO.	DATE	DESCRIPTION

CROSS SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	23-0004
CORRECTED:	DATE:	
VERIFIED:	DATE:	



SOUTH LEG  
US 19 BUS/SR 60 BUS  
SOUTH

REVISION DATES

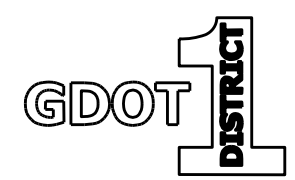
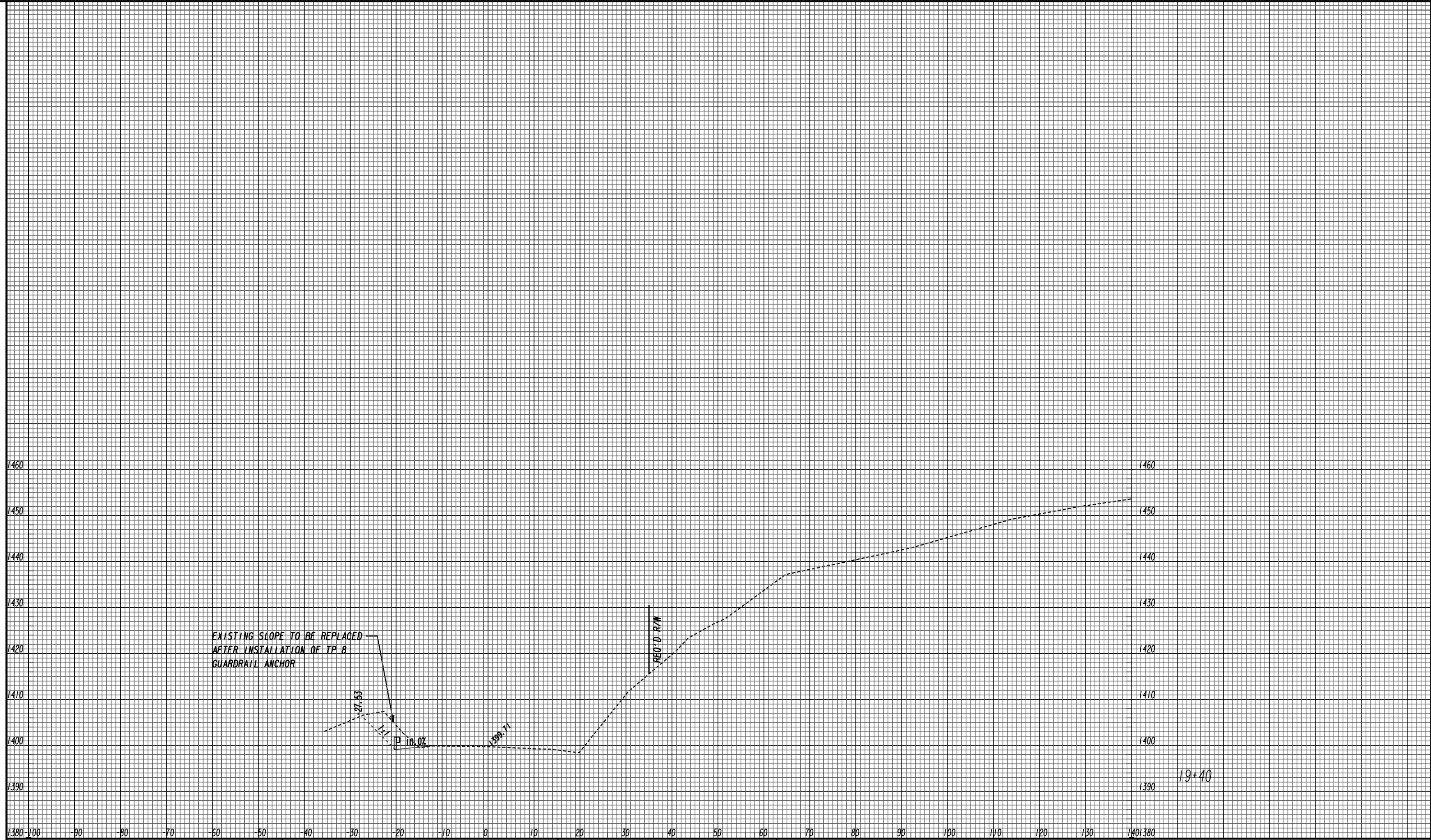
NO.	DATE	DESCRIPTION

CROSS SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

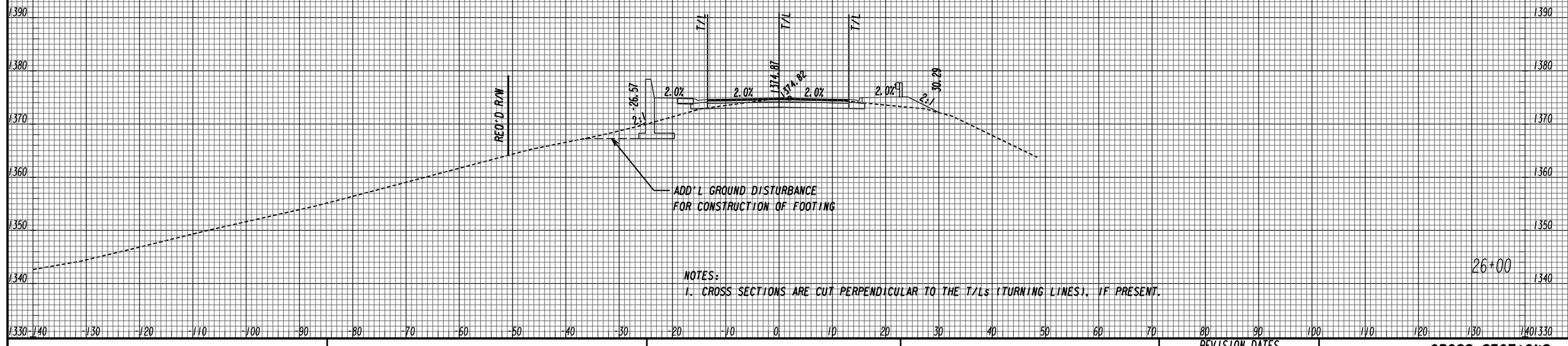
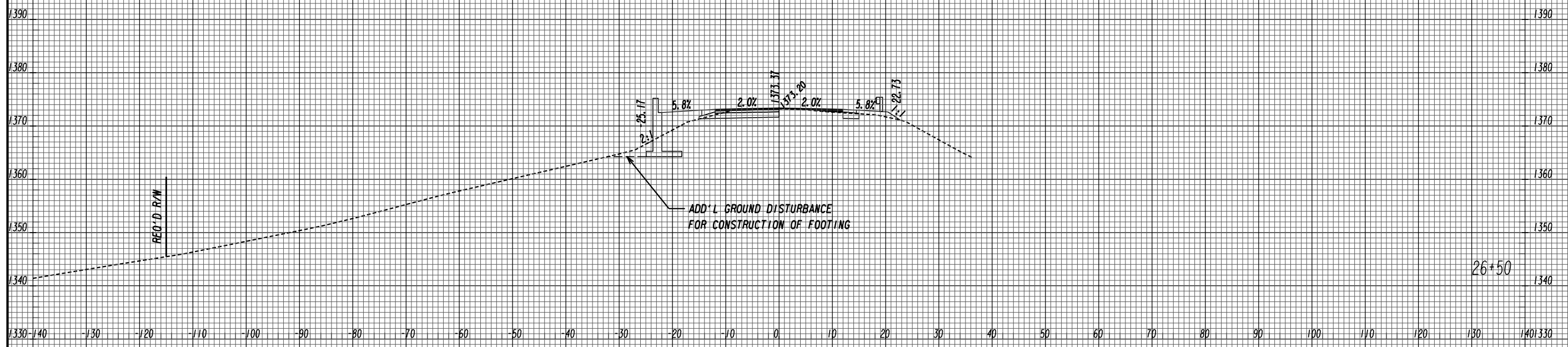
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BACKCHECKED:	DATE:	23-0005
CORRECTED:	DATE:	
VERIFIED:	DATE:	



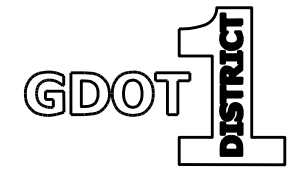


SOUTH LEG  
US 19 BUS/SR 60 BUS  
SOUTH

REVISION DATES		CROSS SECTIONS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:		DATE:	DRAWING No.
BACKCHECKED:		DATE:	23-0006
CORRECTED:		DATE:	
VERIFIED:		DATE:	



NOTES:  
1. CROSS SECTIONS ARE CUT PERPENDICULAR TO THE T/Ls (TURNING LINES), IF PRESENT.



NORTH LEG  
US 19 BUS/SR 60 BUS  
NORTH

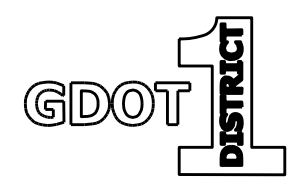
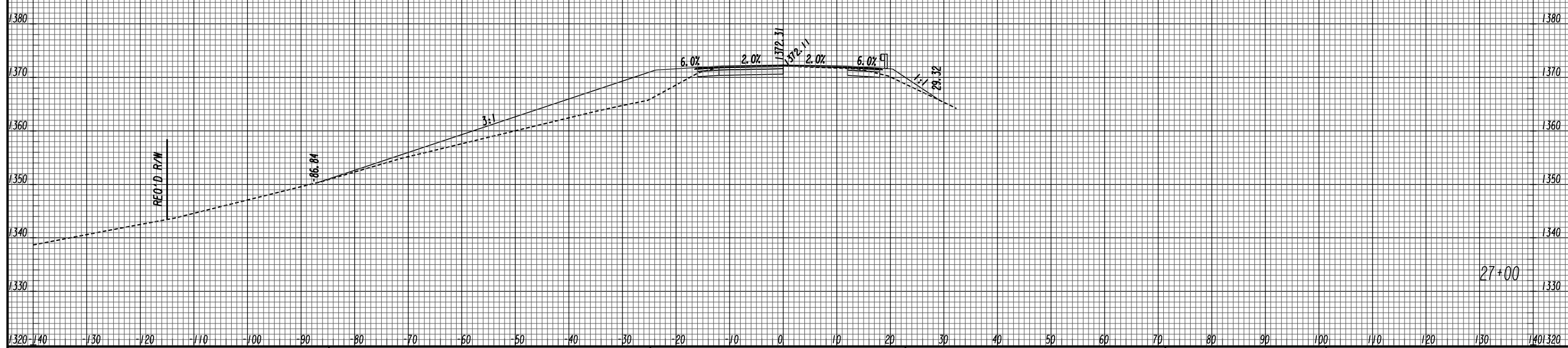
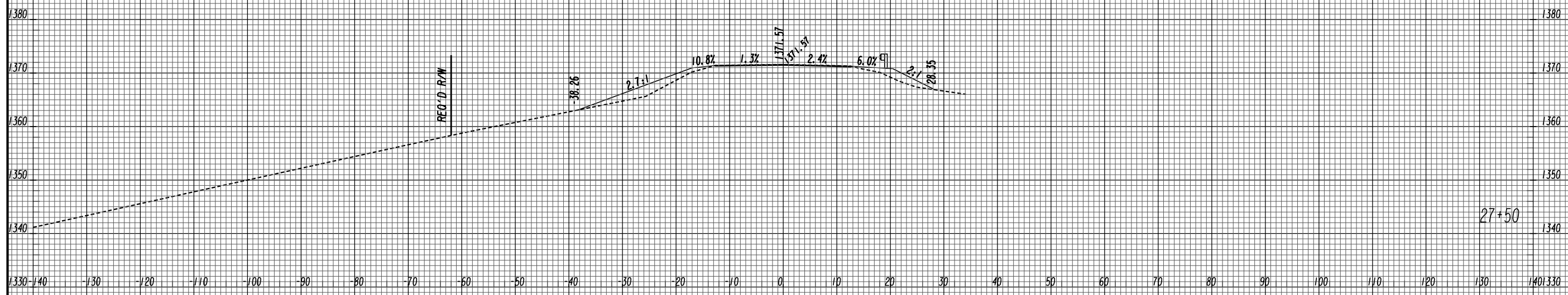
REVISION DATES

NO.	DATE	DESCRIPTION

CROSS SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	23-0007
CORRECTED:	DATE:	
VERIFIED:	DATE:	



NORTH LEG  
US 19 BUS/SR 60 BUS  
NORTH

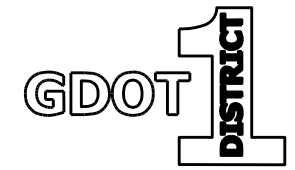
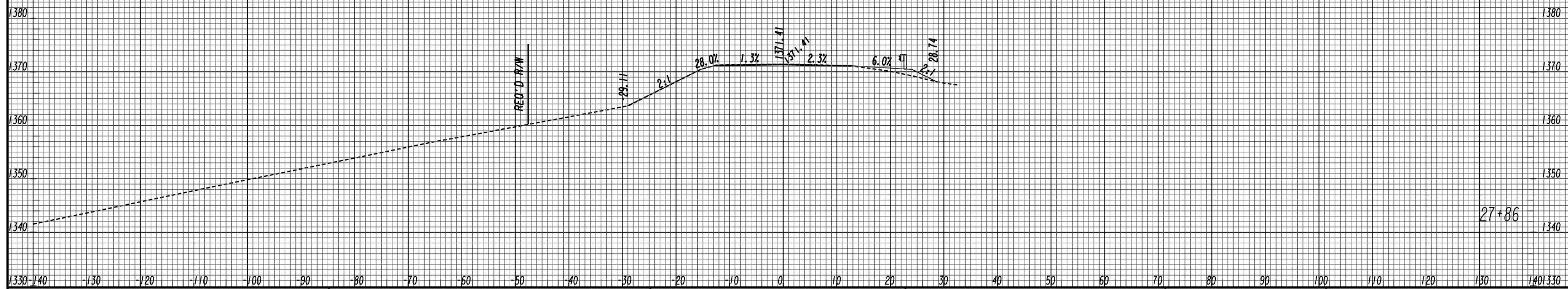
REVISION DATES

NO.	DATE	DESCRIPTION

CROSS SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	23-0008
CORRECTED:	DATE:	
VERIFIED:	DATE:	



NORTH LEG  
US 19 BUS/SR 60 BUS  
NORTH

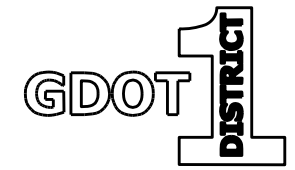
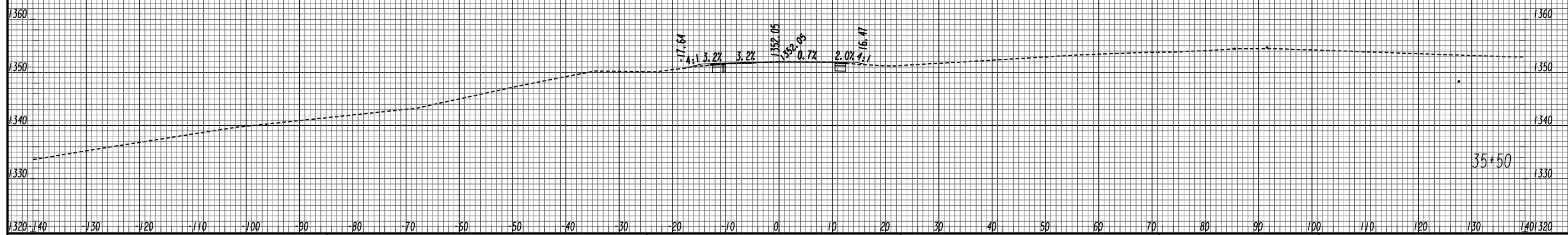
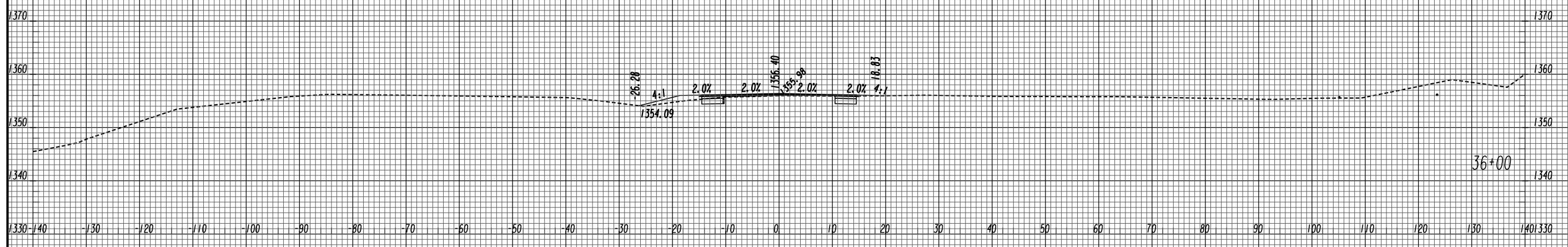
REVISION DATES

NO.	DATE	DESCRIPTION

CROSS SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	23-0009
CORRECTED:	DATE:	
VERIFIED:	DATE:	



WEST LEG  
OAK GROVE RD

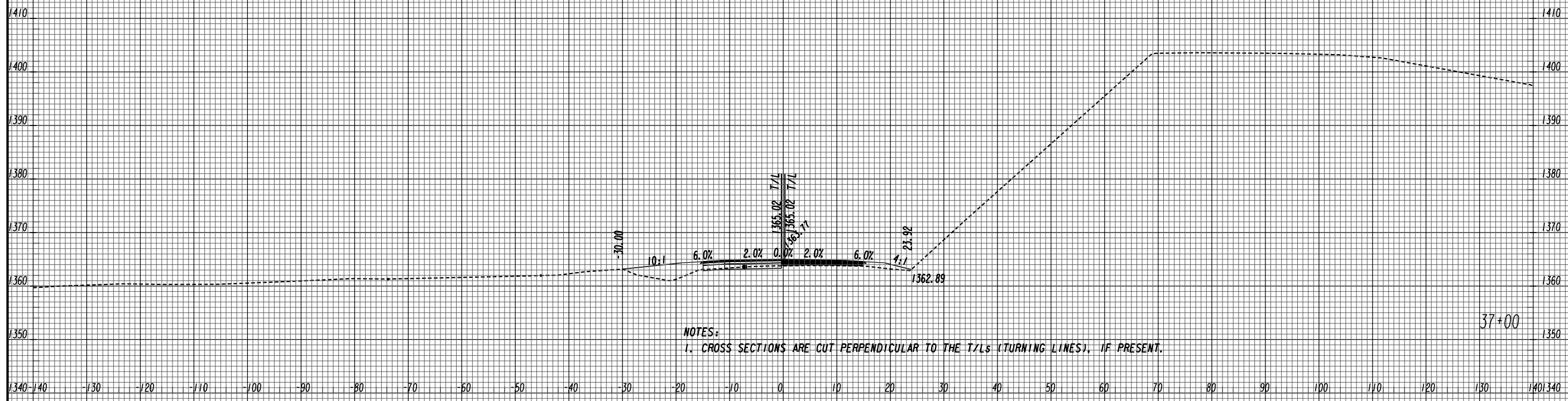
REVISION DATES

NO.	DATE	DESCRIPTION

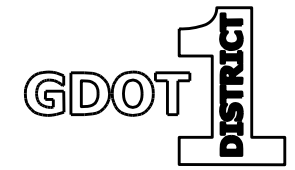
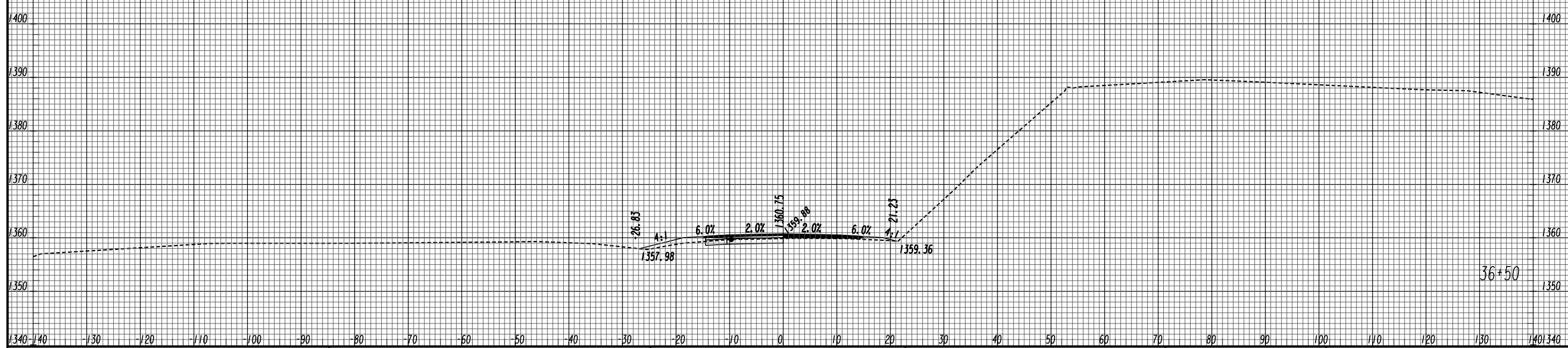
CROSS SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	23-0010
CORRECTED:	DATE:	
VERIFIED:	DATE:	



NOTES:  
 1. CROSS SECTIONS ARE CUT PERPENDICULAR TO THE T/Ls (TURNING LINES), IF PRESENT.



WEST LEG  
 OAK GROVE RD

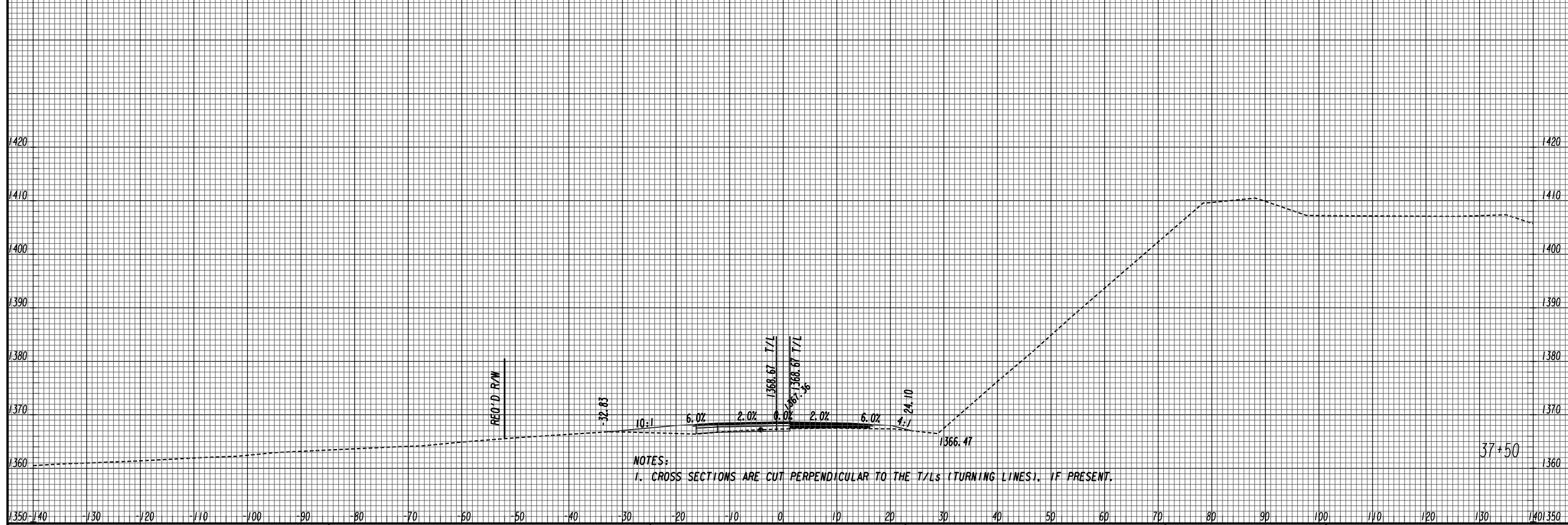
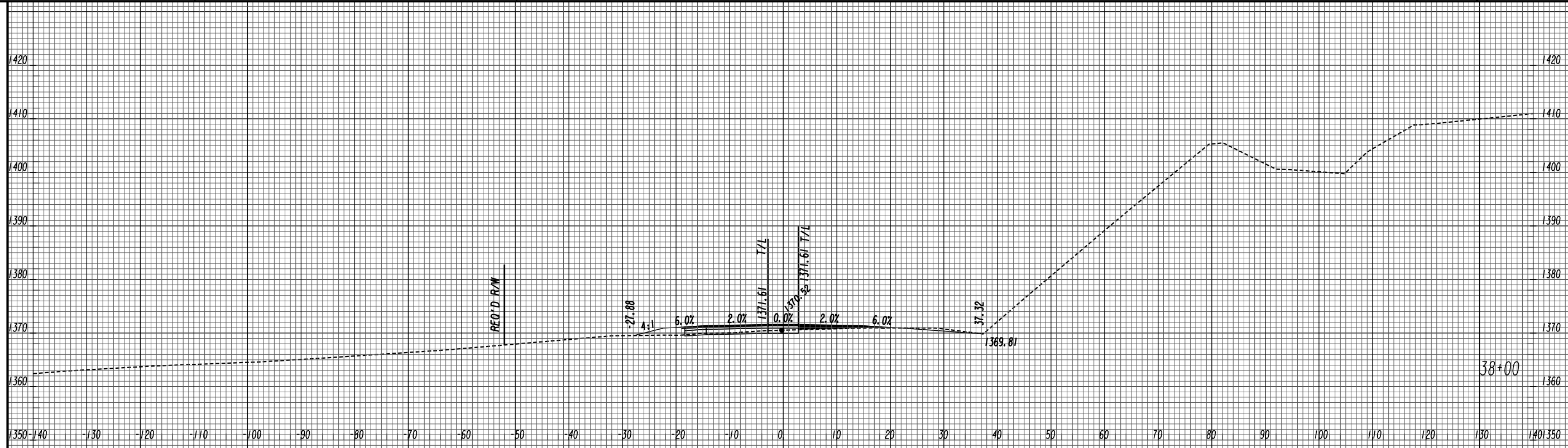
REVISION DATES

NO.	DATE	DESCRIPTION

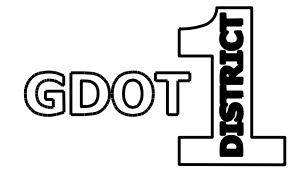
CROSS SECTIONS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	23-0011
CORRECTED:	DATE:	
VERIFIED:	DATE:	



NOTES:  
1. CROSS SECTIONS ARE CUT PERPENDICULAR TO THE T/Ls (TURNING LINES), IF PRESENT.



WEST LEG  
OAK GROVE RD

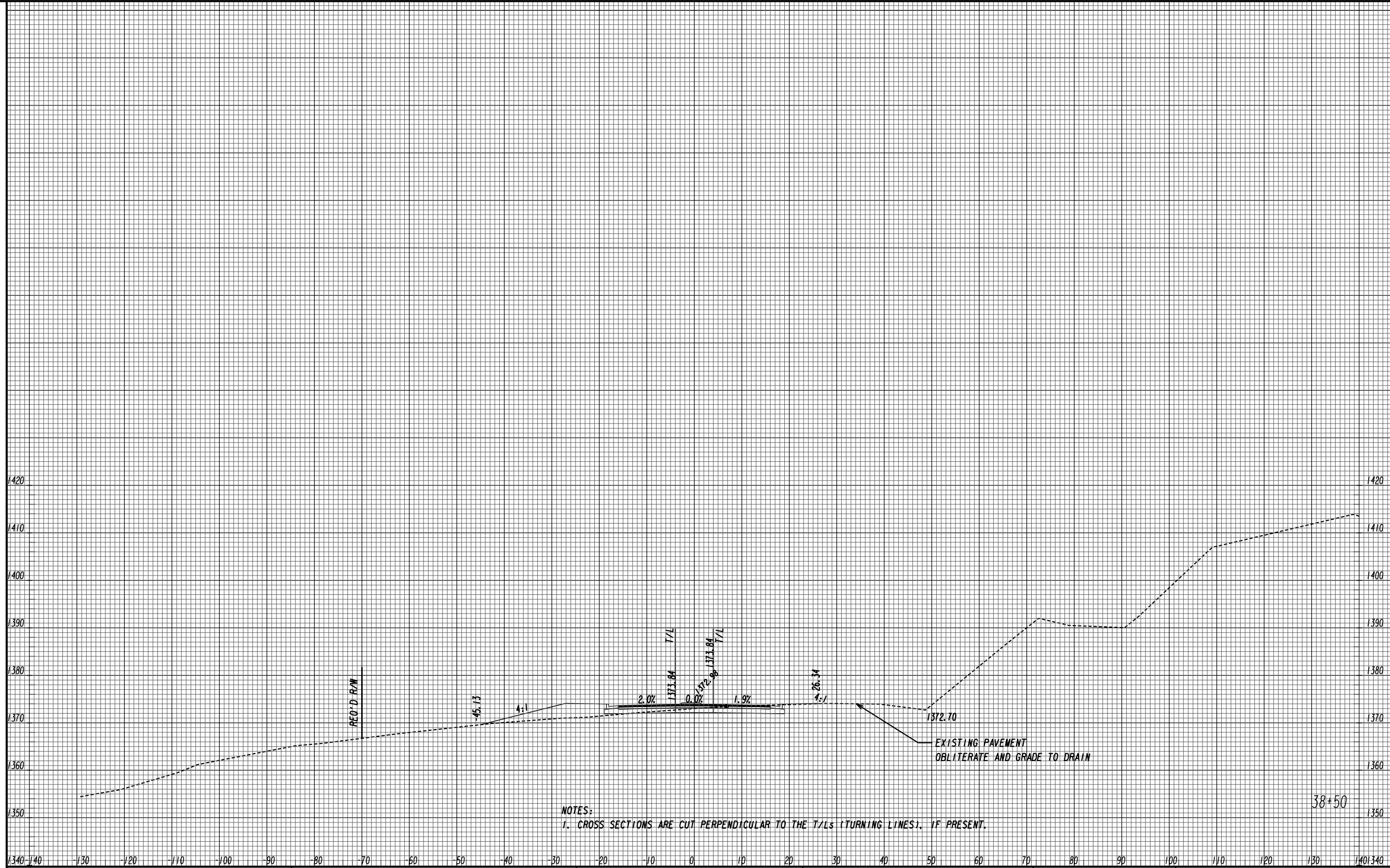
REVISION DATES

NO.	DATE	DESCRIPTION

CROSS SECTIONS

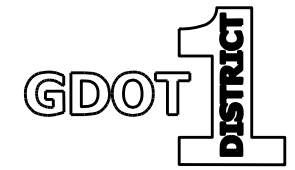
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	23-0012
CORRECTED:	DATE:	
VERIFIED:	DATE:	



NOTES:  
 1. CROSS SECTIONS ARE CUT PERPENDICULAR TO THE T/Ls (TURNING LINES), IF PRESENT.

38+50



WEST LEG  
 OAK GROVE RD

REVISION DATES

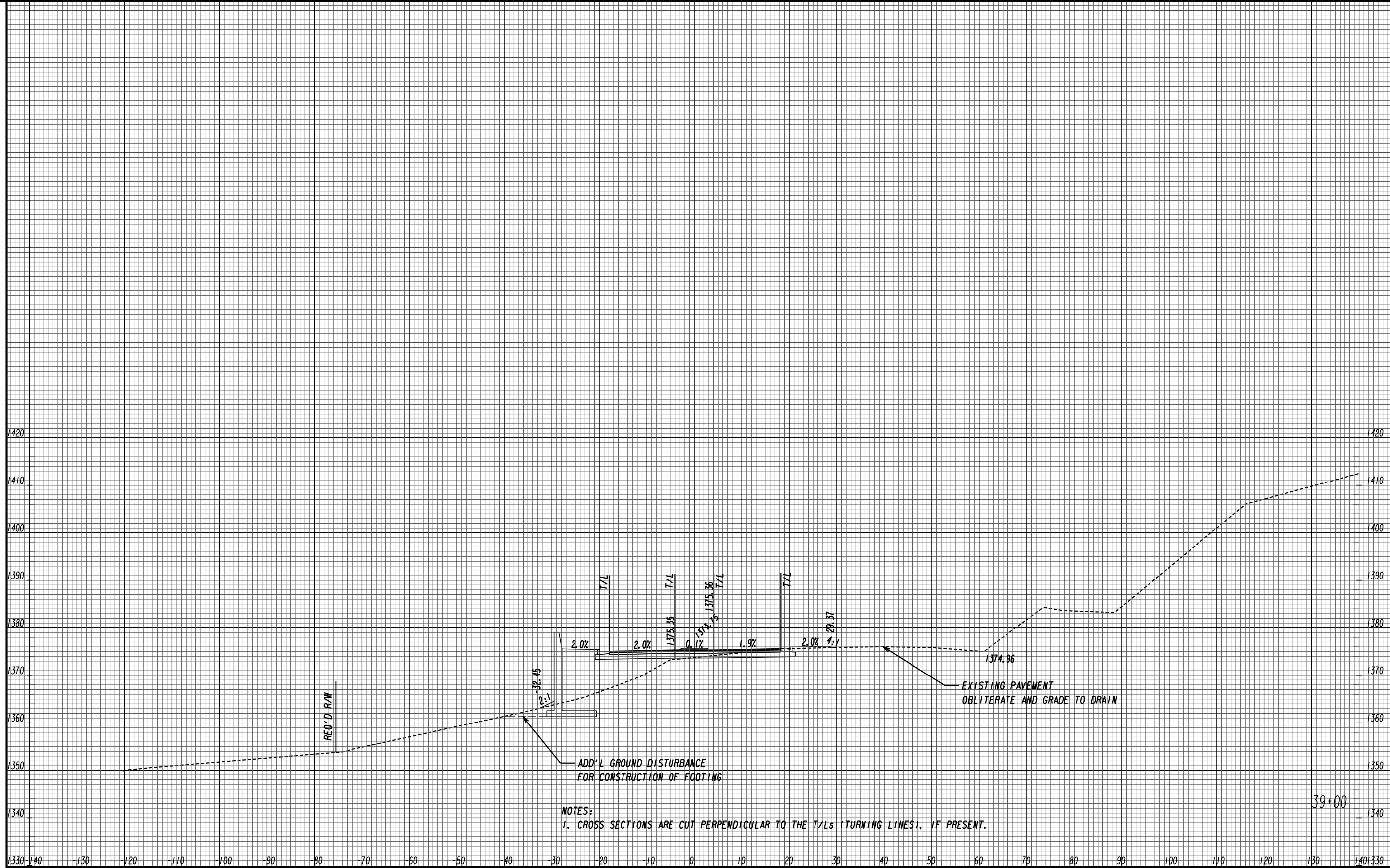
NO.	DATE	DESCRIPTION

CROSS SECTIONS

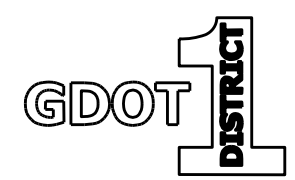
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	23-0013
CORRECTED:	DATE:	
VERIFIED:	DATE:	





NOTES:  
 1. CROSS SECTIONS ARE CUT PERPENDICULAR TO THE T/Ls (TURNING LINES), IF PRESENT.



WEST LEG  
OAK GROVE RD

REVISION DATES

NO.	DATE	DESCRIPTION

**CROSS SECTIONS**  
 US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

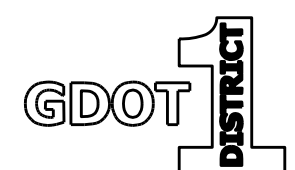
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	23-0014
CORRECTED:	DATE:	
VERIFIED:	DATE:	

UTILITY LINECODES

	EXISTING	TO BE REMOVED	PROPOSED	TYPE OF UTILITY
OVERHEAD	—W—E—W—E—	<del>—W—E—W—E—</del> X	—W—E—W—E—	ELECTRIC
	—W—E—T—W—E—T—	<del>—W—E—T—W—E—T—</del> X	—W—E—T—W—E—T—	ELECTRIC/TELECOMMUNICATIONS
	—W—E—TV—W—	<del>—W—E—TV—W—</del> X	—W—E—TV—W—	ELECTRIC/CABLE TV
	—W—E—T—TV—W—	<del>—W—E—T—TV—W—</del> X	—W—E—T—TV—W—	ELECTRIC/TELECOMMUNICATIONS/CABLE TV
	—W—GW—W—GW—	<del>—W—GW—W—GW—</del> X	—W—GW—W—GW—	GUY WIRE
	—W—T—W—T—	<del>—W—T—W—T—</del> X	—W—T—W—T—	TELECOMMUNICATIONS
	—W—T—TV—W—	<del>—W—T—TV—W—</del> X	—W—T—TV—W—	TELECOMMUNICATIONS/CABLE TV
UNDERGROUND	—E—E—	<del>—E—E—</del> X	—E—E—	ELECTRIC
	—T—T—	<del>—T—T—</del> X	—T—T—	TELECOMMUNICATIONS
	—TV—TV—	<del>—TV—TV—</del> X	—TV—TV—	CABLE TV
	—W—W—	<del>—W—W—</del> X	—W—W—	WATER
	====**W====	<del>====**W====</del> X	====**W====	WATER FOR LABELED PIPE SIZES
	—NW—NW—	<del>—NW—NW—</del> X	—NW—NW—	NON-POTABLE WATER
	====**NW====	<del>====**NW====</del> X	====**NW====	NON-POTABLE WATER FOR LABELED PIPE SIZES
	—STM—STM—	<del>—STM—STM—</del> X	—STM—STM—	STEAM
	====**STM====	<del>====**STM====</del> X	====**STM====	STEAM FOR LABELED PIPE SIZES
	—>SS—>SS—	<del>—&gt;SS—&gt;SS—</del> X	—>SS—>SS—	SANITARY SEWER WITH FLOW DIRECTION
	====Σ**SS====	<del>====Σ**SS====</del> X	====Σ**SS====	SANITARY SEWER WITH FLOW DIRECTION FOR LABELED PIPE SIZES
	—>SFM—>SFM—	<del>—&gt;SFM—&gt;SFM—</del> X	—>SFM—>SFM—	SANITARY SEWER FORCE MAIN WITH FLOW DIRECTION
	—G—G—	<del>—G—G—</del> X	—G—G—	GAS
	====**G====	<del>====**G====</del> X	====**G====	GAS FOR LABELED PIPE SIZES
—P—P—	<del>—P—P—</del> X	—P—P—	PETROLEUM	
====**P====	<del>====**P====</del> X	====**P====	PETROLEUM FOR LABELED PIPE SIZES	

UTILITY SYMBOLS

EXISTING	PROPOSED	TEMPORARY	EXISTING	PROPOSED	TEMPORARY



REVISION DATES


UTILITY PLANS - LEGEND  
US 19 BUS/SR 60 BUS  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	24-0000
CORRECTED:	DATE:	
VERIFIED:	DATE:	

ANDERSON RALPH E & PATRICIA A CROW

NOTE:  
4" MIN. HORIZONTAL SEPARATION  
BETWEEN GAS/SEWER FM (CL/CL)  
  
10' MIN. HORIZONTAL SEPARATION  
BETWEEN WATER AND SEWER FM  
CL/CL) OR ENCASE SEWER WITH  
8 IN CONCRETE.

PROPOSED:  
620' X 4" STEEL GAS MAIN  
WT:0.156/GRADE:X52  
NOP: 60 PSIG  
CP: RECTIFIER  
DAHLONEGA RECTIFIER

MAINTAIN 2" VERTICAL SEPARATION  
AT GAS CROSSING OR ENCASE SEWER  
FORCE MAIN IN CONCRETE FOR 10'  
EITHER SIDE OF CROSSING

LIMIT OF CONSTRUCTION  
OAK GROVE RD  
STA 35+50.00

TIE TO EXISTING  
FORCE MAIN  
EXISTING 6" DIP  
WATER LINE

03  
DUNN BETTY L TRUSTEE

CONST CL CURVE #3  
OAK GROVE RD  
N63°32'35.4"E

EXISTING:  
2" STEEL GAS MAIN  
WT:UNK./GRADE: UNK.  
NOP: 60 PSIG  
CP: RECTIFIER  
DAHLONEGA RECTIFIER

PROPOSED 4" GAS VALVE

PROPOSED:  
5' X 4" STEEL GAS MAIN  
WT:0.156/GRADE:X52  
NOP: 60 PSIG  
CP: RECTIFIER  
DAHLONEGA RECTIFIER

CUT & CAP  
TIE INTO 2" STEEL GAS MAIN  
WT: UNK/GRADE: UNK  
NOP: 60 PSIG  
INSTALL TEST STATION

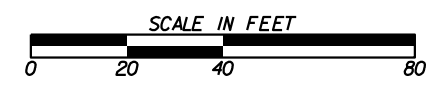
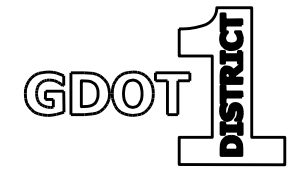
PROPOSED:  
705' X 4" STEEL GAS MAIN  
WT:0.156/GRADE:X52  
NOP: 60 PSIG  
CP: RECTIFIER  
DAHLONEGA RECTIFIER

HOOVER DENNIS

04  
DUNN BETTY L TRUSTEE

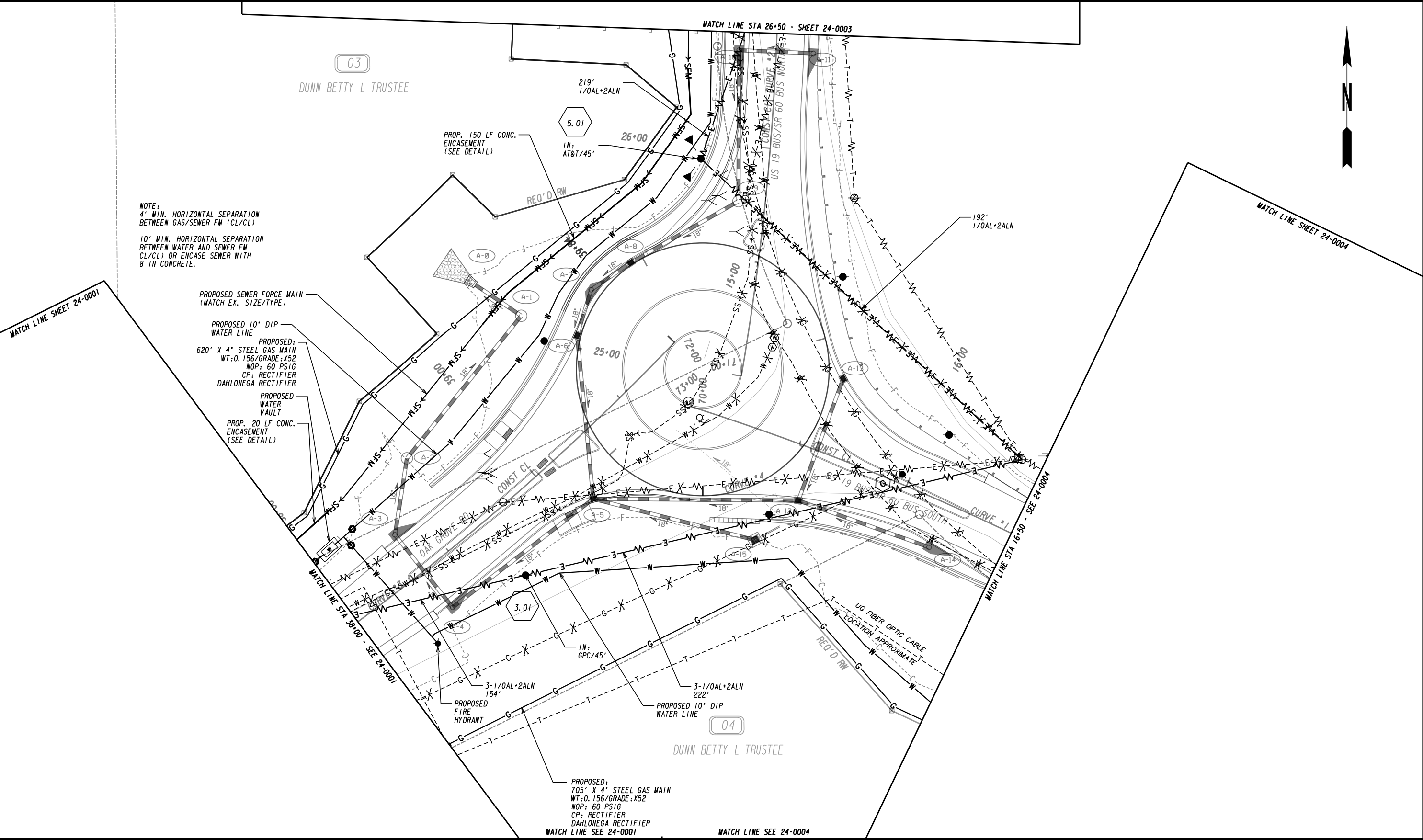
PROPERTY AND EXISTING R/W LINE	-----e-----
REQUIRED R/W LINE	-----f-----
CONSTRUCTION LIMITS	-----g-----
EASEMENT FOR CONSTR	-----h-----
& MAINTENANCE OF SLOPES	-----i-----
EASEMENT FOR CONSTR OF SLOPES	-----j-----
EASEMENT FOR CONSTR OF DRIVES	-----k-----

BEGIN LIMIT OF ACCESS.....BLA	-----l-----
END LIMIT OF ACCESS.....ELA	-----m-----
REQ'D LIMIT OF ACCESS	-----n-----
REQ'D LIMIT OF ACCESS & R/W	-----o-----
ORANGE BARRIER FENCE	-----p-----
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)	-----q-----



REVISION DATES	

UTILITY PLANS			
US 19 BUS/SR 60 BUS @ OAK GROVE RD			
LUMPKIN COUNTY			
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	24-0001	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



**NOTE:**  
4' MIN. HORIZONTAL SEPARATION  
BETWEEN GAS/SEWER FM (CL/CL)

10' MIN. HORIZONTAL SEPARATION  
BETWEEN WATER AND SEWER FM  
CL/CL) OR ENCASE SEWER WITH  
8 IN CONCRETE.

PROPOSED SEWER FORCE MAIN  
(MATCH EX. SIZE/TYP)

PROPOSED 10" DIP  
WATER LINE

PROPOSED:  
620' X 4" STEEL GAS MAIN  
WT:0.156/GRADE:X52  
NOP: 60 PSIG  
CP: RECTIFIER  
DAHLONEGA RECTIFIER

PROPOSED WATER  
VAULT

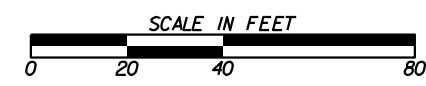
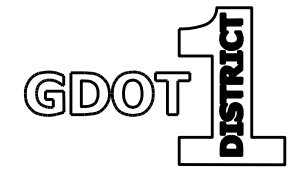
PROP. 20 LF CONC.  
ENCASEMENT  
(SEE DETAIL)

PROPOSED:  
705' X 4" STEEL GAS MAIN  
WT:0.156/GRADE:X52  
NOP: 60 PSIG  
CP: RECTIFIER  
DAHLONEGA RECTIFIER

MATCH LINE SEE 24-0001

PROPERTY AND EXISTING R/W LINE	-----e-----
REQUIRED R/W LINE	-----f-----
CONSTRUCTION LIMITS	-----g-----
EASEMENT FOR CONSTR	-----h-----
& MAINTENANCE OF SLOPES	-----i-----
EASEMENT FOR CONSTR OF SLOPES	-----j-----
EASEMENT FOR CONSTR OF DRIVES	-----k-----

BEGIN LIMIT OF ACCESS.....BLA	-----l-----
END LIMIT OF ACCESS.....ELA	-----m-----
REQ'D LIMIT OF ACCESS	-----n-----
REQ'D LIMIT OF ACCESS & R/W	-----o-----
ORANGE BARRIER FENCE	-----p-----
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)	-----q-----



REVISION DATES	

**UTILITY PLANS**

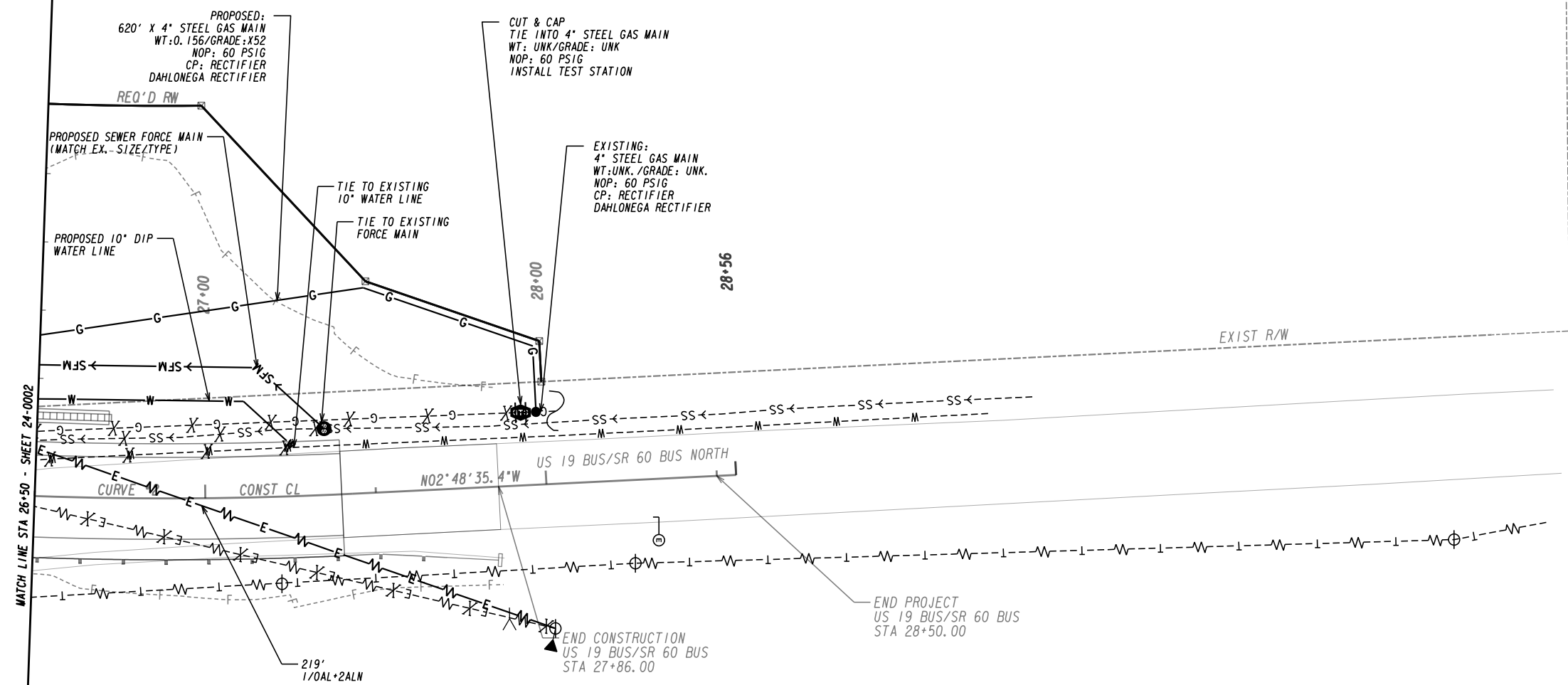
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	24-0002
CORRECTED:	DATE:	
VERIFIED:	DATE:	

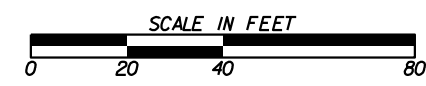
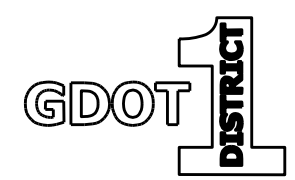
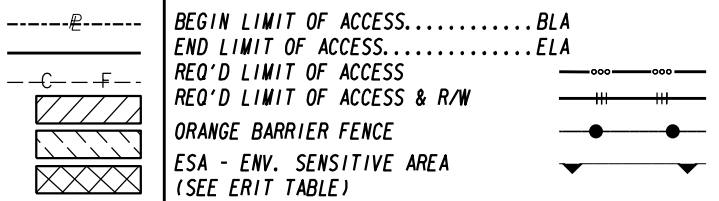
NOTE:  
4' MIN. HORIZONTAL SEPARATION  
BETWEEN GAS/SEWER FM (CL/CL)  
  
10' MIN. HORIZONTAL SEPARATION  
BETWEEN WATER AND SEWER FM  
CL/CL) OR ENCASE SEWER WITH  
8 IN CONCRETE.

03

DUNN BETTY L TRUSTEE



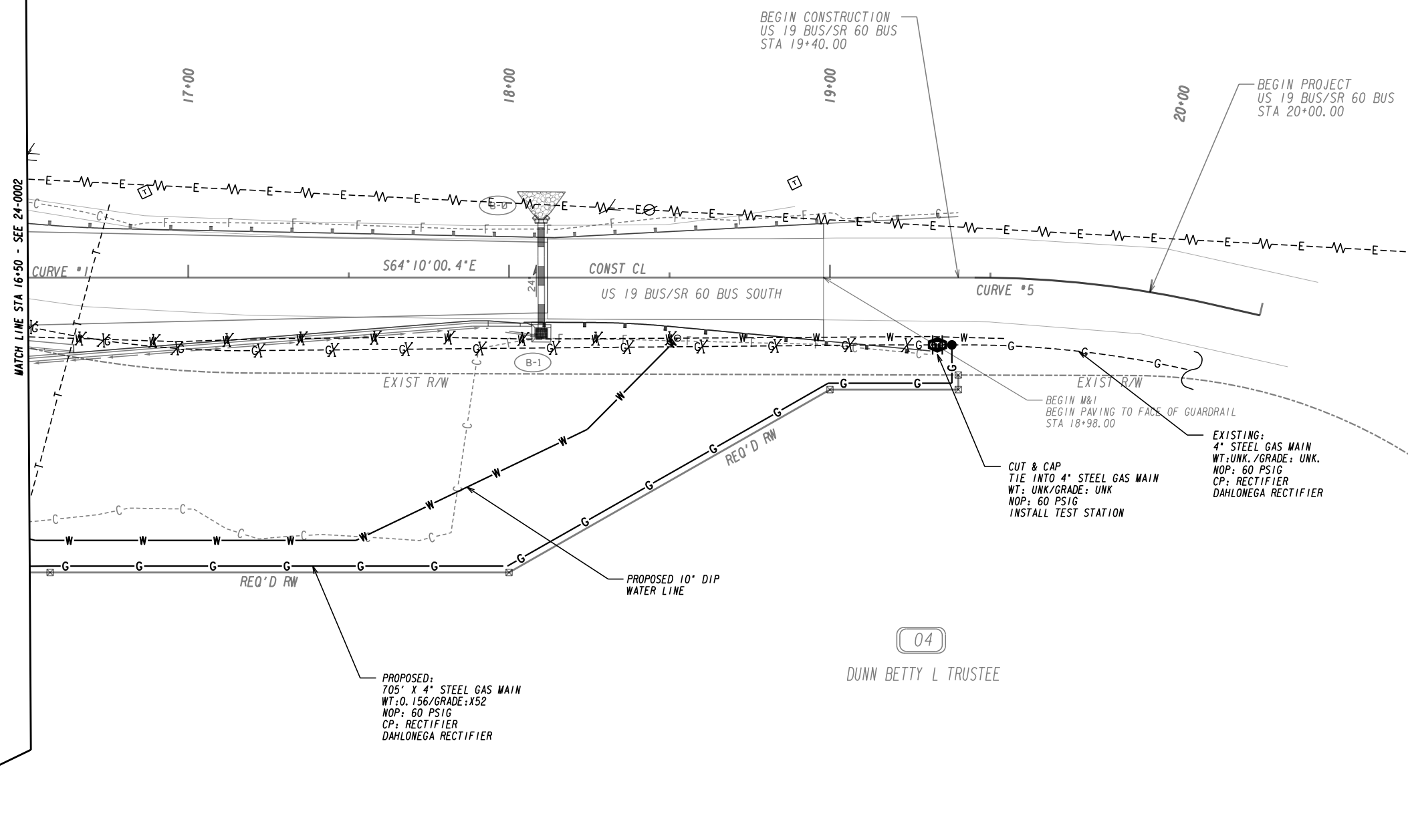
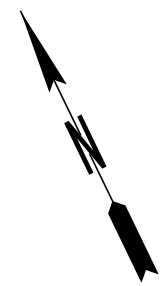
PROPERTY AND EXISTING R/W LINE  
REQUIRED R/W LINE  
CONSTRUCTION LIMITS  
EASEMENT FOR CONSTR  
& MAINTENANCE OF SLOPES  
EASEMENT FOR CONSTR OF SLOPES  
EASEMENT FOR CONSTR OF DRIVES



REVISION DATES	

**UTILITY PLANS**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	24-0003
CORRECTED:	DATE:	
VERIFIED:	DATE:	

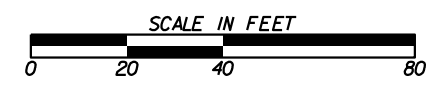
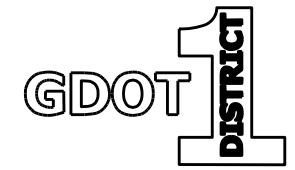


MATCH LINE SEE 24-0002

MATCH LINE STA 16+50 - SEE 24-0002

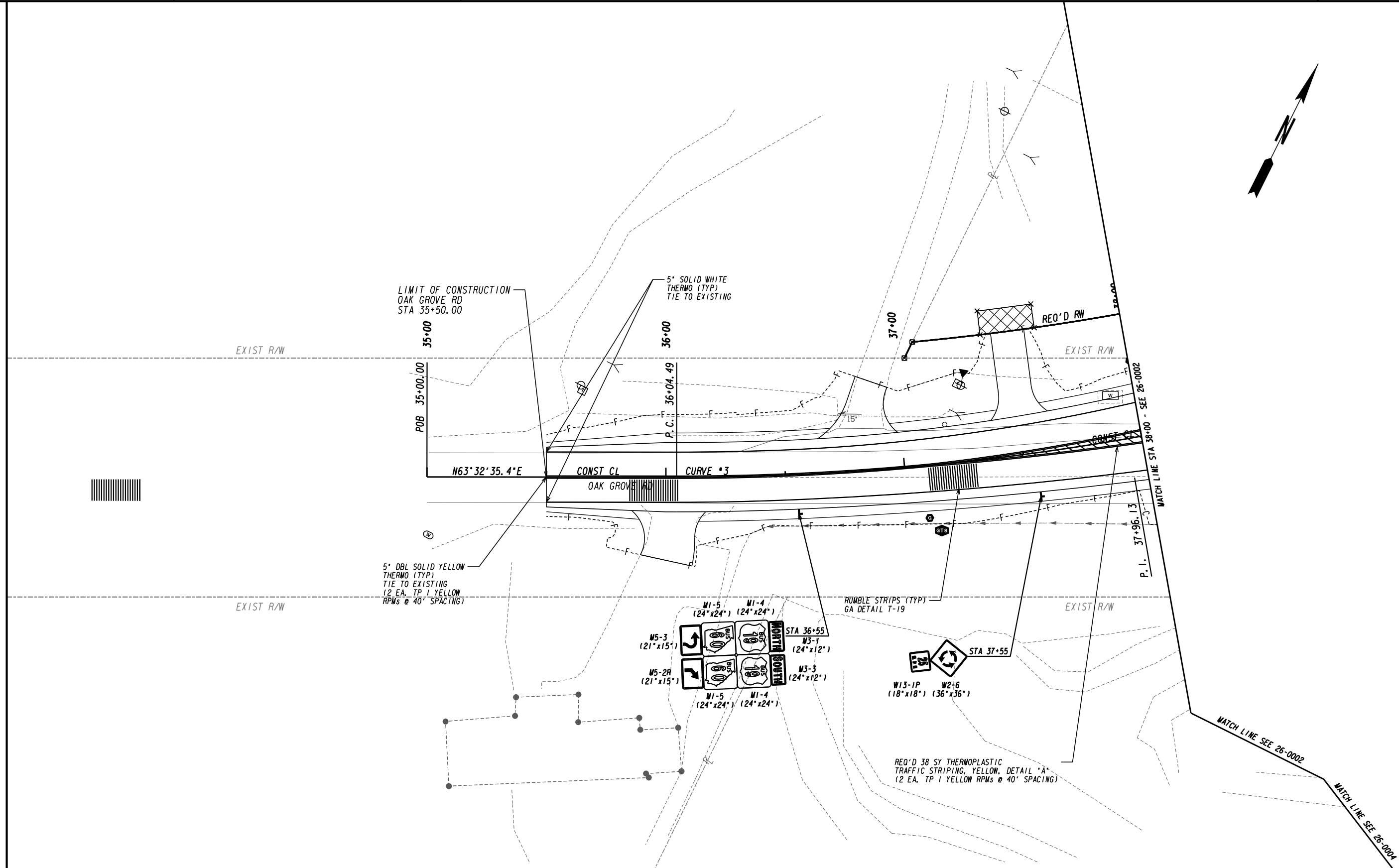
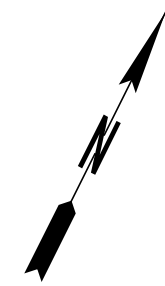
PROPERTY AND EXISTING R/W LINE	-----E-----
REQUIRED R/W LINE	-----F-----
CONSTRUCTION LIMITS	-----G-----
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	-----H-----
EASEMENT FOR CONSTR OF SLOPES	-----I-----
EASEMENT FOR CONSTR OF DRIVES	-----J-----

BEGIN LIMIT OF ACCESS.....BLA	-----K-----
END LIMIT OF ACCESS.....ELA	-----L-----
REQ'D LIMIT OF ACCESS	-----M-----
REQ'D LIMIT OF ACCESS & R/W	-----N-----
ORANGE BARRIER FENCE	-----O-----
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)	-----P-----



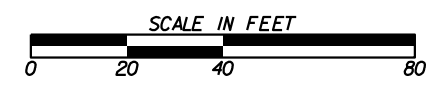
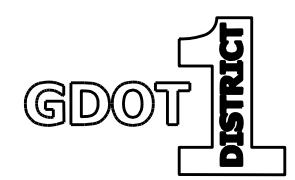
REVISION DATES	

<b>UTILITY PLANS</b>	
US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:
DRAWING No. <b>24-0004</b>	



PROPERTY AND EXISTING R/W LINE	-----e-----
REQUIRED R/W LINE	-----f-----
CONSTRUCTION LIMITS	-----c-----
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	-----f-----
EASEMENT FOR CONSTR OF SLOPES	-----f-----
EASEMENT FOR CONSTR OF DRIVES	-----f-----

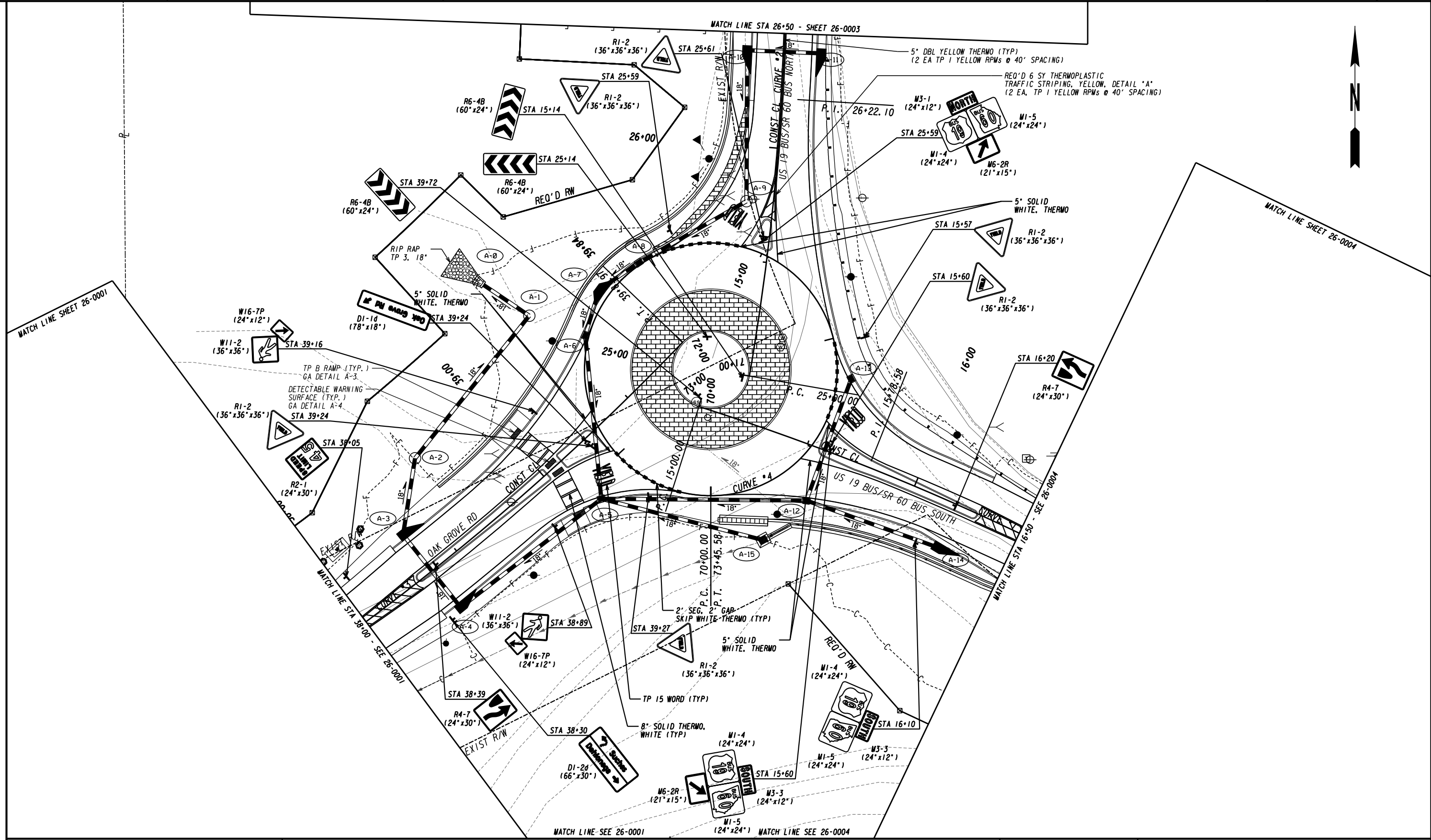
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END LIMIT OF ACCESS.....ELA	-----o-----
REQ'D LIMIT OF ACCESS	-----o-----
REQ'D LIMIT OF ACCESS & R/W	-----o-----
ORANGE BARRIER FENCE	-----o-----
ESA - ENV. SENSITIVE AREA (SEE ERIT TABLE)	-----o-----



REVISION DATES	

**SIGNING AND MARKING PLANS**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

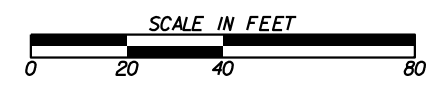
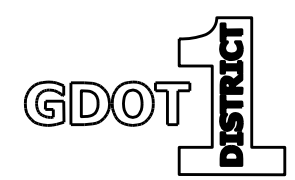
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	26-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	



PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 CONSTRUCTION LIMITS  
 EASEMENT FOR CONSTR  
 & MAINTENANCE OF SLOPES  
 EASEMENT FOR CONSTR OF SLOPES  
 EASEMENT FOR CONSTR OF DRIVES

-----e-----  
 ---C---F---  
 [Hatched Box]  
 [Hatched Box]  
 [Hatched Box]

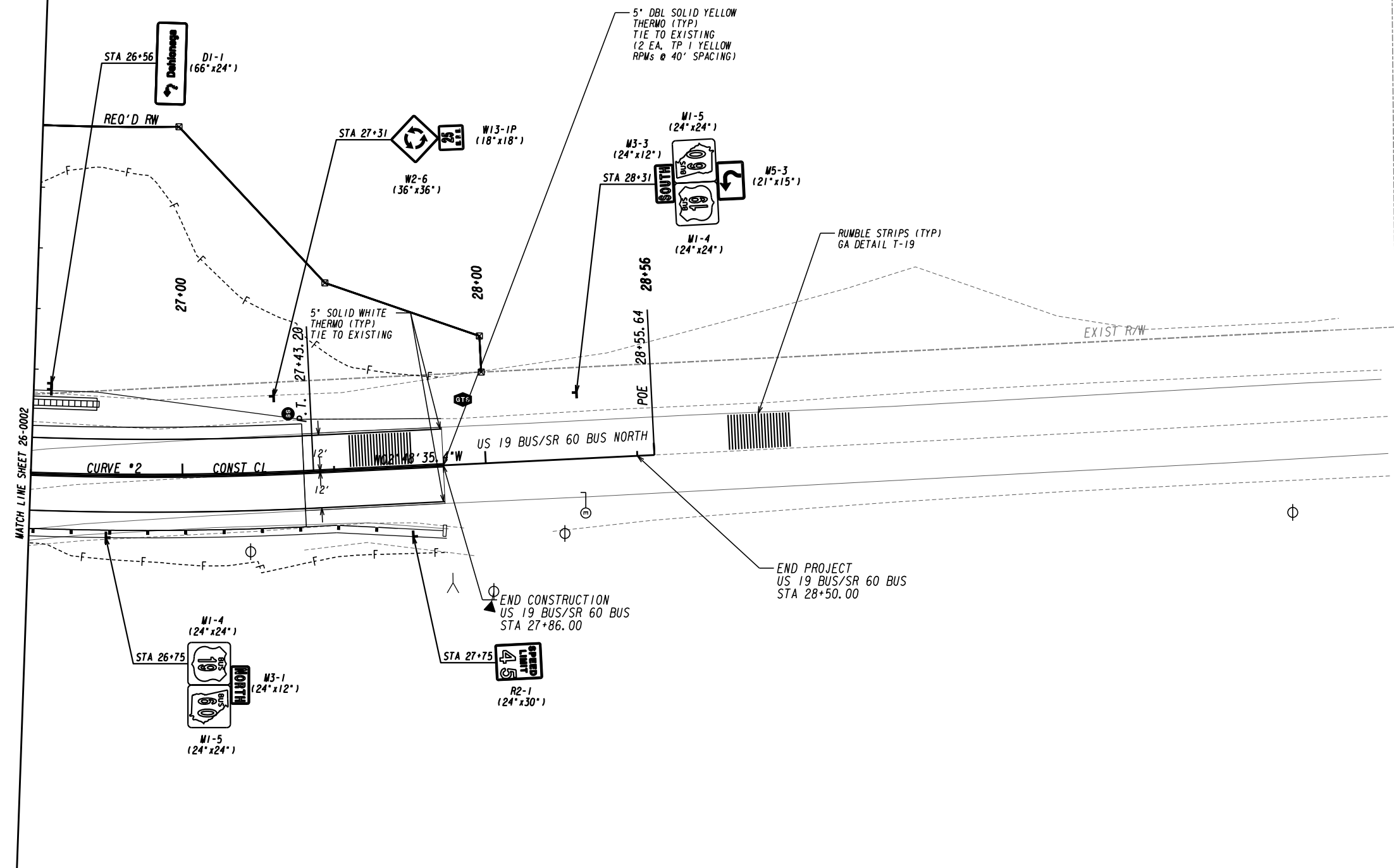
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 END LIMIT OF ACCESS.....ELA  
 REQ'D LIMIT OF ACCESS  
 REQ'D LIMIT OF ACCESS & R/W  
 ORANGE BARRIER FENCE  
 ESA - ENV. SENSITIVE AREA  
 (SEE ERIT TABLE)



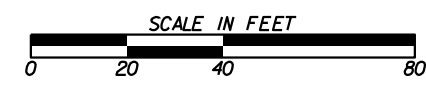
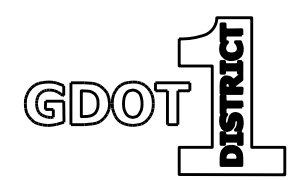
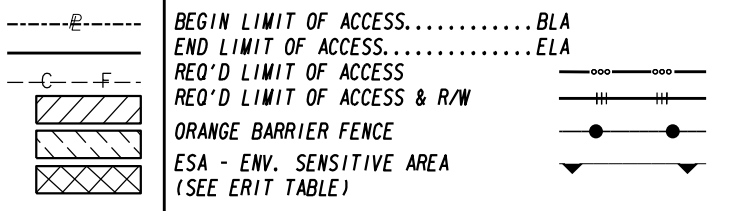
REVISION DATES	

SIGNING AND MARKING PLANS			
US 19 BUS/SR 60 BUS @ OAK GROVE RD			
LUMPKIN COUNTY			
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	26-0002	
CORRECTED:	DATE:		
VERIFIED:	DATE:		





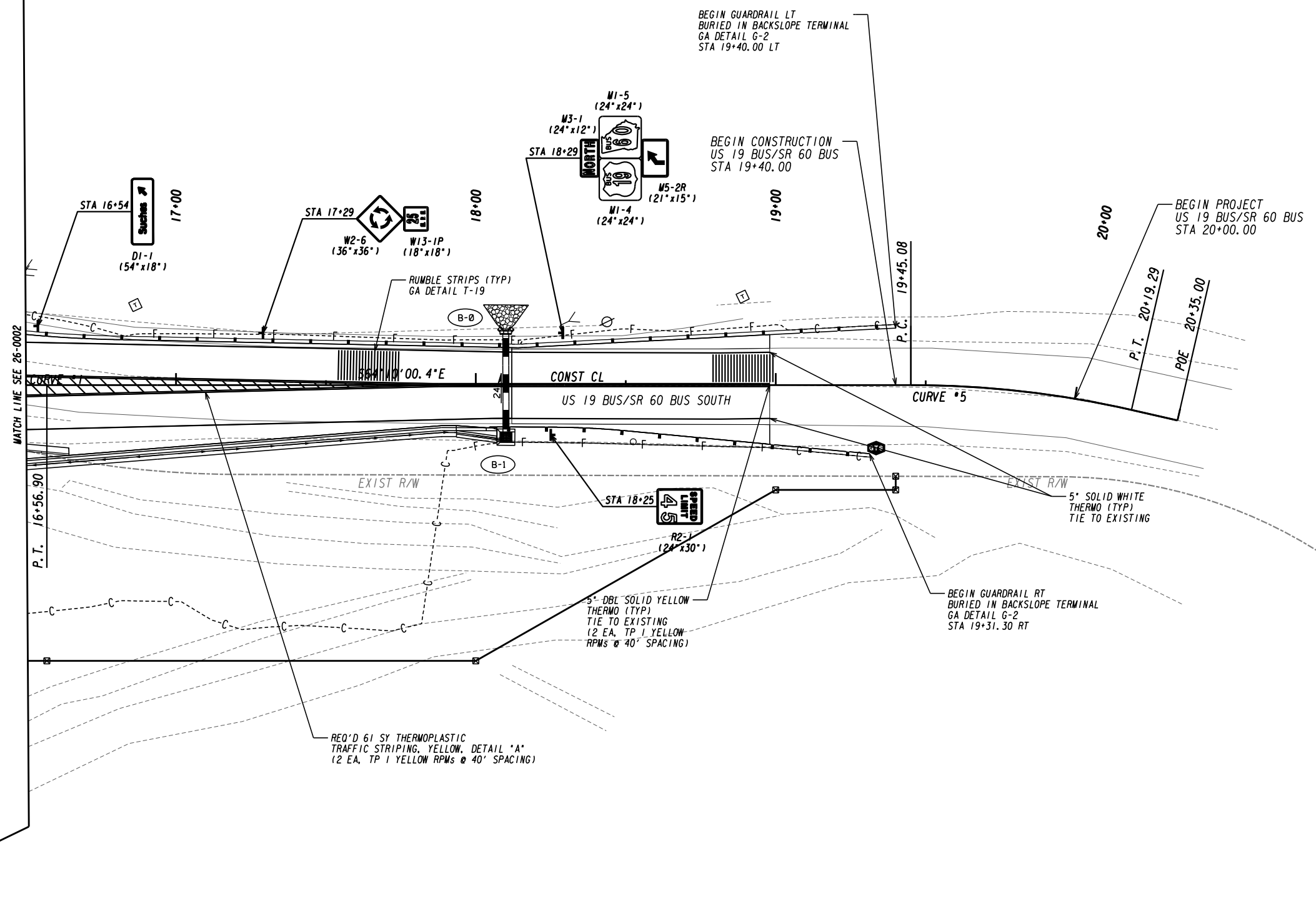
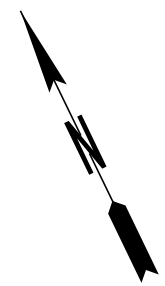
PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 CONSTRUCTION LIMITS  
 EASEMENT FOR CONSTR  
 & MAINTENANCE OF SLOPES  
 EASEMENT FOR CONSTR OF SLOPES  
 EASEMENT FOR CONSTR OF DRIVES



REVISION DATES	

**SIGNING AND MARKING PLANS**  
 US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	26-0003
CORRECTED:	DATE:	
VERIFIED:	DATE:	

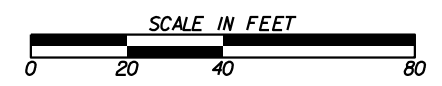
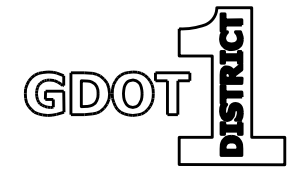


WATCH LINE SEE 26-0002

PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 CONSTRUCTION LIMITS  
 EASEMENT FOR CONSTR  
 & MAINTENANCE OF SLOPES  
 EASEMENT FOR CONSTR OF SLOPES  
 EASEMENT FOR CONSTR OF DRIVES

-----e-----  
 ---C---F---  
 [Hatched Box]  
 [Hatched Box]  
 [Hatched Box]

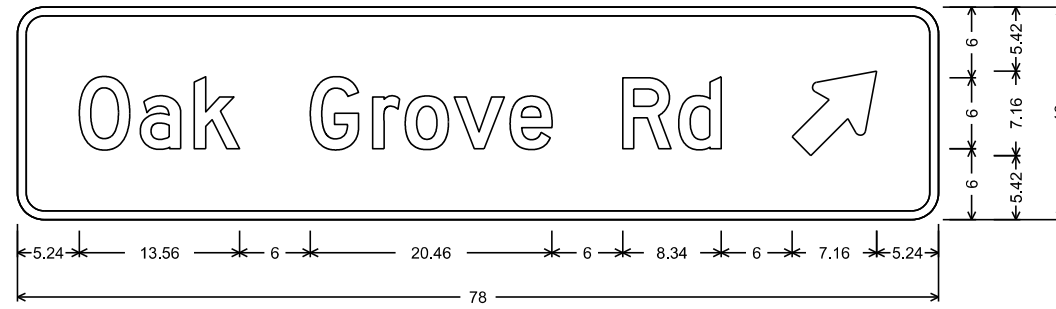
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 REQ'D LIMIT OF ACCESS  
 REQ'D LIMIT OF ACCESS & R/W  
 ORANGE BARRIER FENCE  
 ESA - ENV. SENSITIVE AREA  
 (SEE ERIT TABLE)



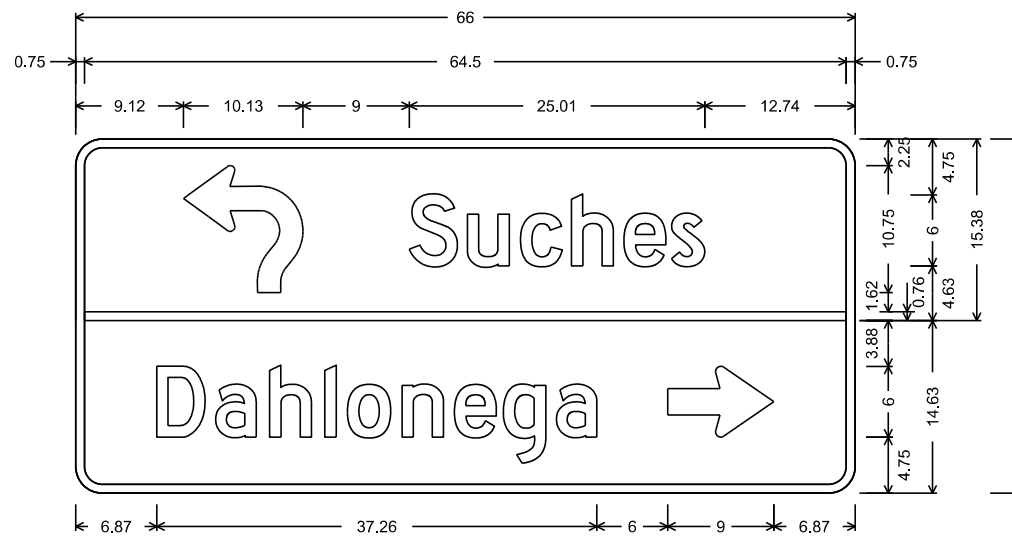
REVISION DATES	

**SIGNING AND MARKING PLANS**  
 US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	26-0004
CORRECTED:	DATE:	
VERIFIED:	DATE:	



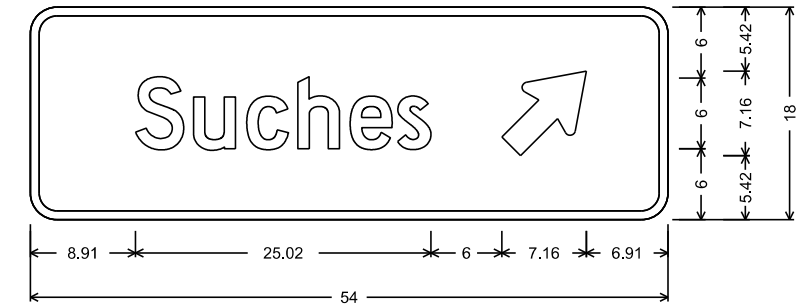
D1-1d: Oak Grove Rd;  
2.25" Radius, 0.75" Border, White on, Green;  
"Oak Grove Rd", D 2K; Standard Arrow Custom 9.00" X 6.00" 45';



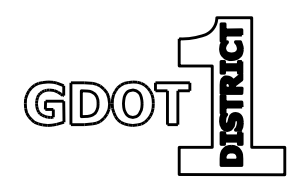
D1-2d: Suches LT, Dahlonega RT;  
2.25" Radius, 0.75" Border, White on, Green;  
"Suches", D 2K;  
2.25" Radius, 0.75" Border, White on, Green;  
"Dahlonega", D 2K; Standard Arrow Custom 9.00" X 6.00" 0';



D1-1: Dahlonega LT;  
2.25" Radius, 0.75" Border, White on, Green;  
"Dahlonega", D 2K;



D1-1: Suches RT;  
2.25" Radius, 0.75" Border, White on, Green;  
"Suches", D 2K;  
Standard Arrow Custom 9.00" X 6.00" 45';



REVISION DATES

NO.	DATE	DESCRIPTION

**SIGNING AND MARKING PLANS**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	26-0005
CORRECTED:	DATE:	
VERIFIED:	DATE:	

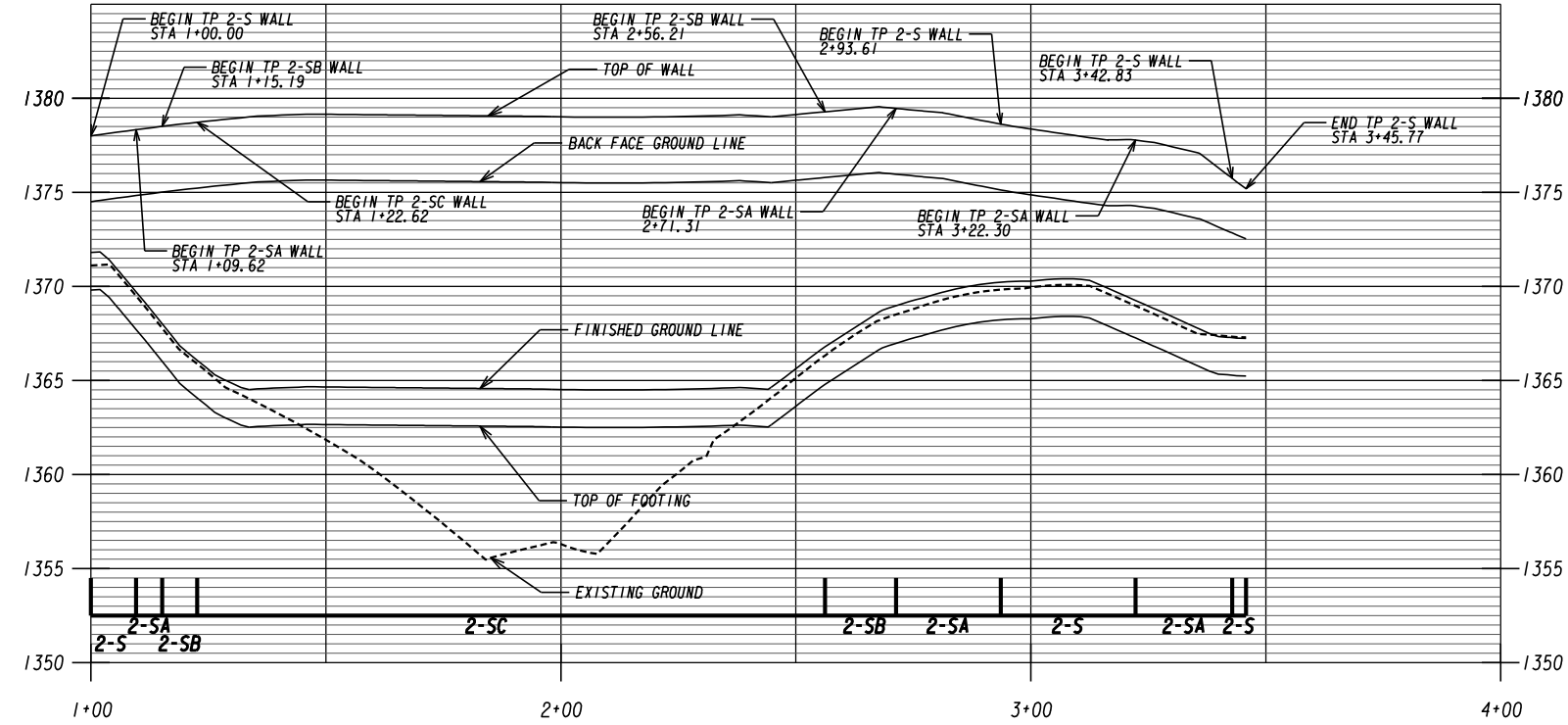
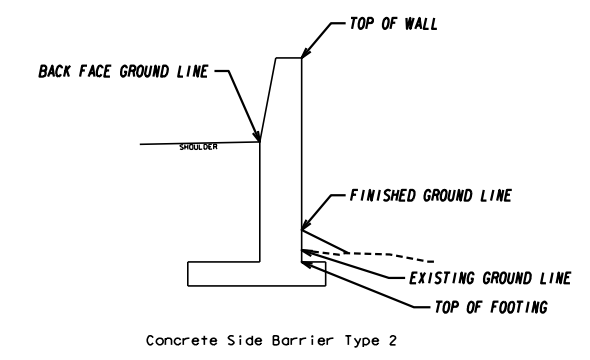
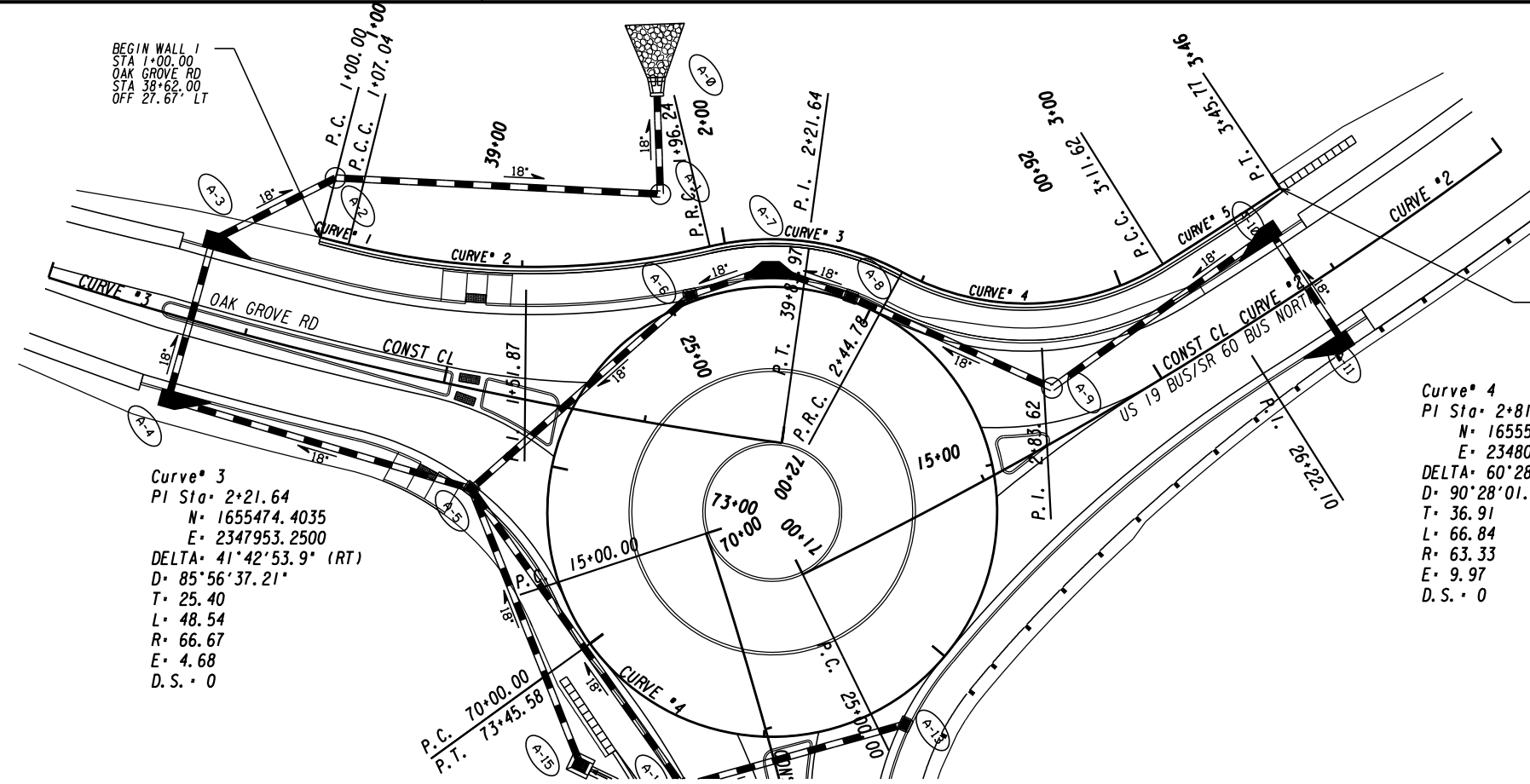
Curve\* 1  
 PI Sta= 1+03.52  
 N= 1655377.3578  
 E= 2347888.6224  
 DELTA= 00°22'33.3" (LT)  
 D= 05°20'35.14"  
 T= 3.52  
 L= 7.04  
 R= 1072.33  
 E= 0.01  
 D.S.= 0

Curve\* 2  
 PI Sta= 1+52.49  
 N= 1655408.9970  
 E= 2347926.0019  
 DELTA= 27°08'16.0" (LT)  
 D= 30°25'21.14"  
 T= 45.45  
 L= 89.20  
 R= 188.33  
 E= 5.41  
 D.S.= 0

Curve\* 3  
 PI Sta= 2+21.64  
 N= 1655474.4035  
 E= 2347953.2500  
 DELTA= 41°42'53.9" (RT)  
 D= 85°56'37.21"  
 T= 25.40  
 L= 48.54  
 R= 66.67  
 E= 4.68  
 D.S.= 0

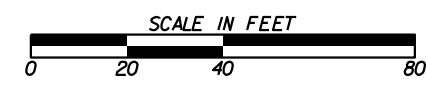
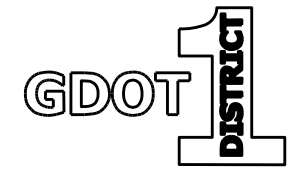
Curve\* 4  
 PI Sta= 2+81.69  
 N= 1655501.3951  
 E= 2348009.4132  
 DELTA= 60°28'07.1" (LT)  
 D= 90°28'01.27"  
 T= 36.91  
 L= 66.84  
 R= 63.33  
 E= 9.97  
 D.S.= 0

Curve\* 5  
 PI Sta= 3+28.69  
 N= 1655555.2618  
 E= 2348013.0504  
 DELTA= 01°49'04.9" (LT)  
 D= 05°19'23.65"  
 T= 17.08  
 L= 34.15  
 R= 1076.33  
 E= 0.14  
 D.S.= 0



ELEVATIONS - PROVIDED AT 25' INTERVALS, LOCATIONS OF WALL TYPE CHANGE, LOCATIONS OF VERTICAL BENDS

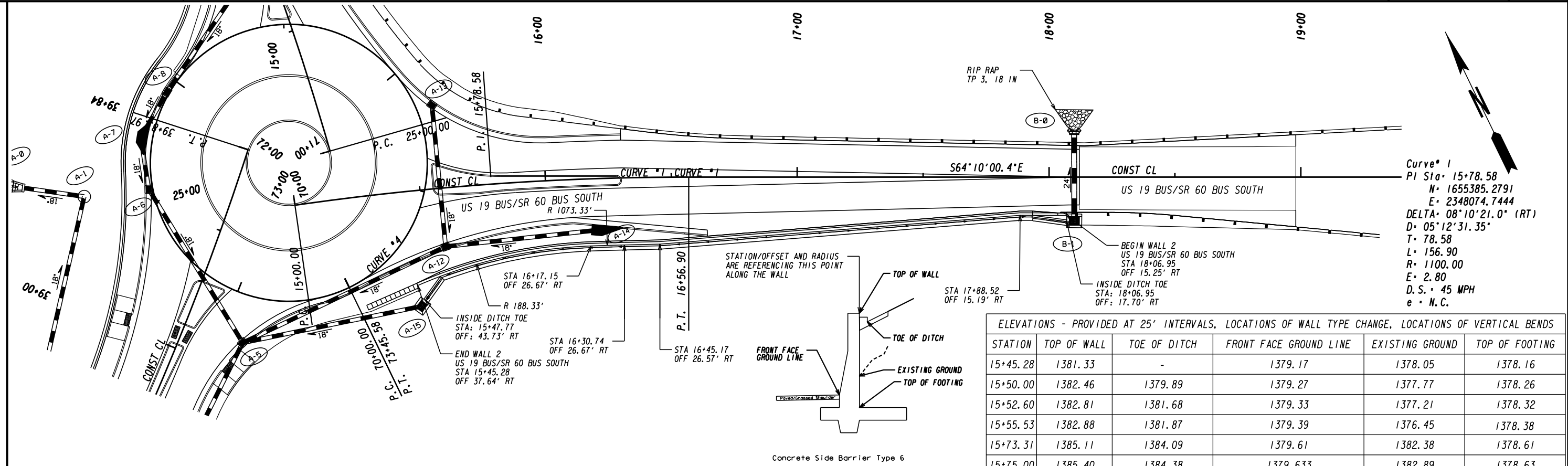
STATION	TOP OF WALL	BACK FACE GROUND LINE	TOP OF FOOTING	STATION	TOP OF WALL	BACK FACE GROUND LINE	TOP OF FOOTING
1+00.00	1378.01	1374.51	1369.81	2+56.21	1379.29	1375.79	1364.80
1+09.62	1378.33	1374.83	1367.71	2+67.69	1379.56	1376.06	1366.64
1+15.19	1378.51	1375.01	1366.01	2+71.51	1379.47	1375.97	1367.98
1+22.62	1378.73	1375.23	1364.07	2+75.00	1379.38	1375.88	1367.25
1+25.00	1378.80	1275.30	1363.59	2+81.34	1379.23	1375.73	1367.70
1+35.45	1379.06	1375.56	1362.56	2+93.61	1378.63	1375.13	1368.22
1+46.73	1379.16	1375.66	1362.66	3+00.00	1378.37	1374.87	1368.28
1+50.00	1379.15	1375.65	1362.65	3+16.41	1377.79	1374.29	1367.90
1+75.00	1379.09	1375.59	1362.59	3+21.31	1377.81	1374.31	1367.37
2+00.00	1379.02	1375.52	1362.52	3+22.30	1377.78	1374.28	1367.26
2+11.26	1379.00	1375.50	1362.50	3+25.00	1377.70	1374.20	1366.96
2+25.00	1379.03	1375.53	1362.53	3+26.20	1377.66	1374.16	1366.83
2+38.02	1379.13	1375.63	1362.63	3+35.63	1377.11	1373.61	1365.76
2+44.78	1379.02	1375.52	1362.63	3+42.83	1375.75	1372.85	1365.28
2+50.00	1379.14	1375.64	1363.63	3+45.77	1375.20	1372.53	1365.23



REVISION DATES

RETAINING WALL ENVELOPES  
 US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

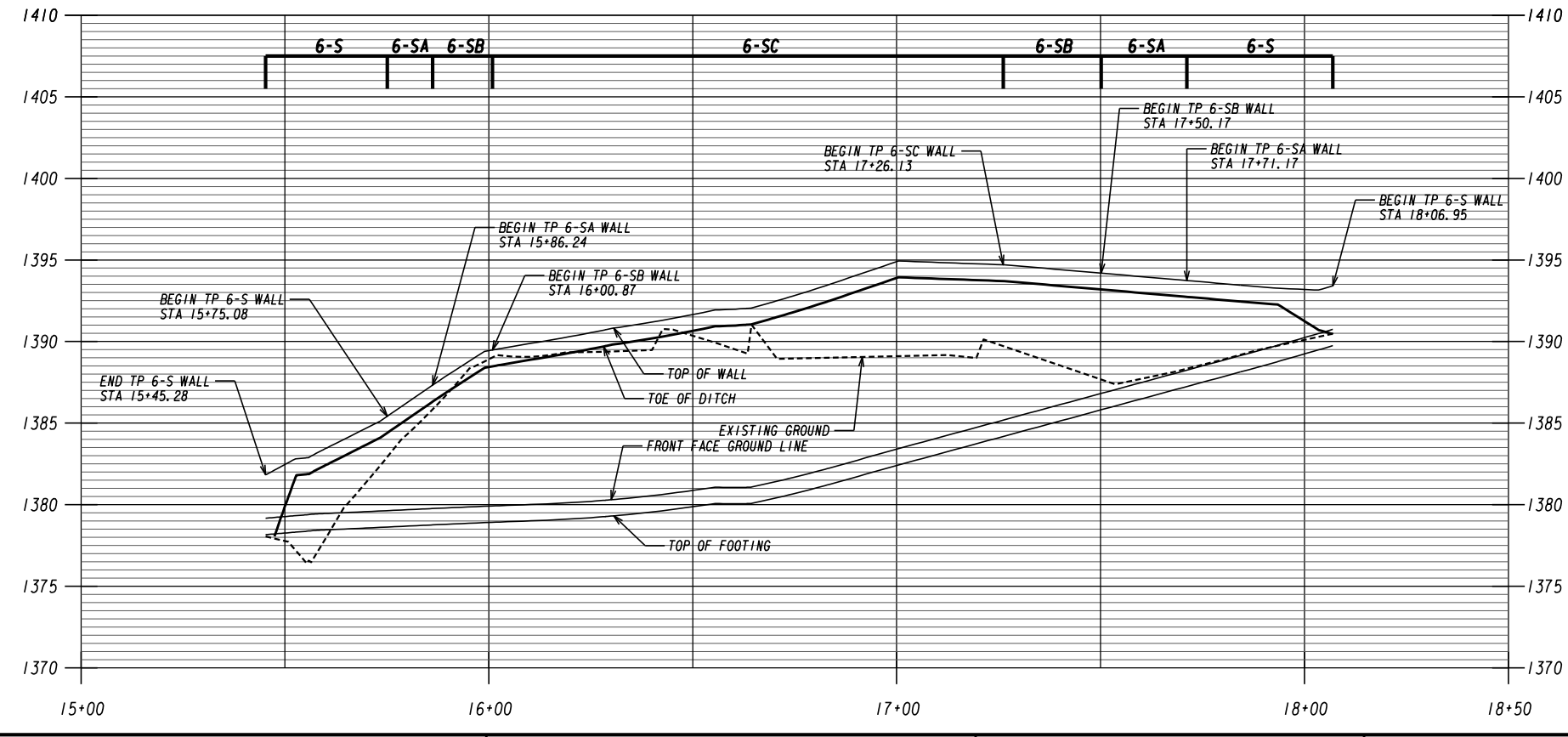
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	31-0001
CORRECTED:	DATE:	
VERIFIED:	DATE:	



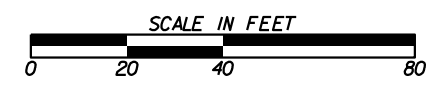
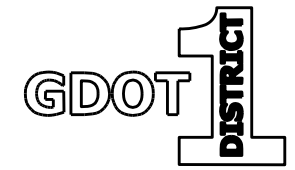
Curve # 1  
 PI Sta: 15+78.58  
 N: 1655385.2791  
 E: 2348074.7444  
 DELTA: 08°10'21.0" (RT)  
 D: 05°12'31.35"  
 T: 78.58  
 L: 156.90  
 R: 1100.00  
 E: 2.80  
 D.S.: 45 MPH  
 e = N.C.

ELEVATIONS - PROVIDED AT 25' INTERVALS, LOCATIONS OF WALL TYPE CHANGE, LOCATIONS OF VERTICAL BENDS

STATION	TOP OF WALL	TOE OF DITCH	FRONT FACE GROUND LINE	EXISTING GROUND	TOP OF FOOTING
15+45.28	1381.33	-	1379.17	1378.05	1378.16
15+50.00	1382.46	1379.89	1379.27	1377.77	1378.26
15+52.60	1382.81	1381.68	1379.33	1377.21	1378.32
15+55.53	1382.88	1381.87	1379.39	1376.45	1378.38
15+73.31	1385.11	1384.09	1379.61	1382.38	1378.61
15+75.00	1385.40	1384.38	1379.633	1382.89	1378.63
15+75.08	1385.42	1384.39	1379.634	1382.92	1378.63
15+86.24	1387.33	1386.32	1379.76	1385.85	1378.76
15+98.92	1389.40	1388.39	1379.90	1388.77	1378.90
16+00.00	1389.45	1388.44	1379.91	1388.91	1378.91
16+00.87	1389.48	1388.48	1379.92	1389.03	1378.92
16+25.00	1390.53	1389.54	1380.20	1389.35	1379.20
16+50.00	1391.65	1390.65	1380.87	1390.36	1379.87
16+55.50	1391.93	1390.93	1381.074	1389.93	1380.07
16+63.92	1392.04	1391.04	1381.069	1390.10	1380.07
16+75.00	1392.82	1391.82	1381.69	1388.96	1380.69
17+00.00	1394.90	1393.89	1383.405	1389.10	1382.40
17+00.90	1394.94	1393.93	1383.414	1389.10	1382.44
17+25.00	1394.71	1393.71	1385.11	1389.82	1384.10
17+26.13	1394.704	1393.704	1385.18	1389.72	1384.18
17+26.44	1394.701	1393.702	1385.20	1389.70	1384.20
17+50.00	1394.194	1393.194	1386.81	1389.70	1385.80
17+50.17	1394.190	1393.190	1386.80	1387.68	1385.82
17+71.17	1393.74	1392.74	1388.25	1388.34	1387.24
17+75.00	1393.66	1392.66	1388.51	1388.58	1387.50
18+00.00	1393.19	1391.25	1390.24	1390.10	1389.24
18+03.46	1393.15	1390.71	1390.49	1390.29	1389.49
18+06.95	1393.41	1390.46	1390.74	1390.48	1389.74



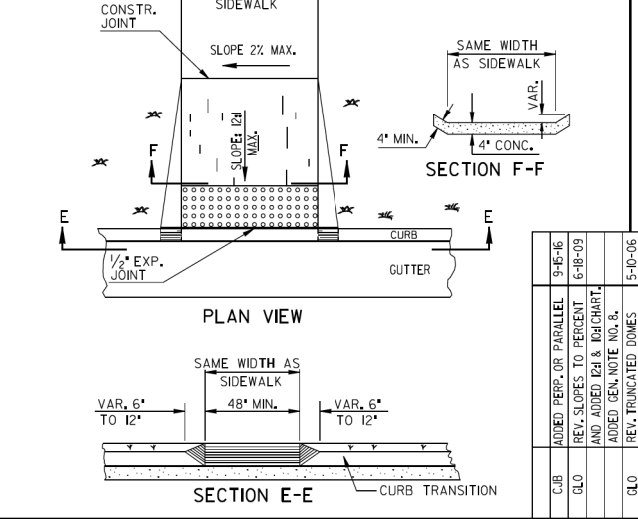
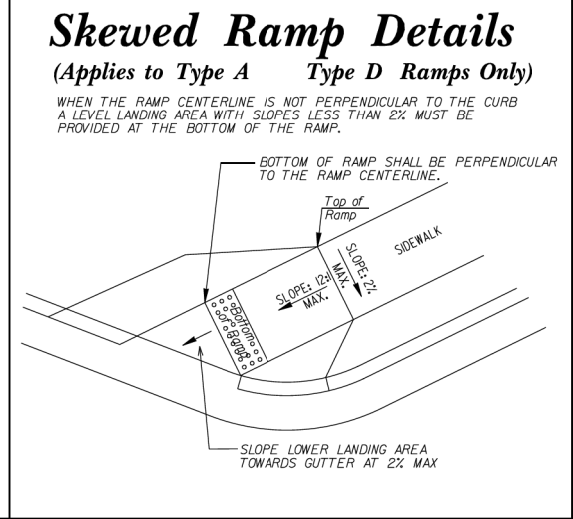
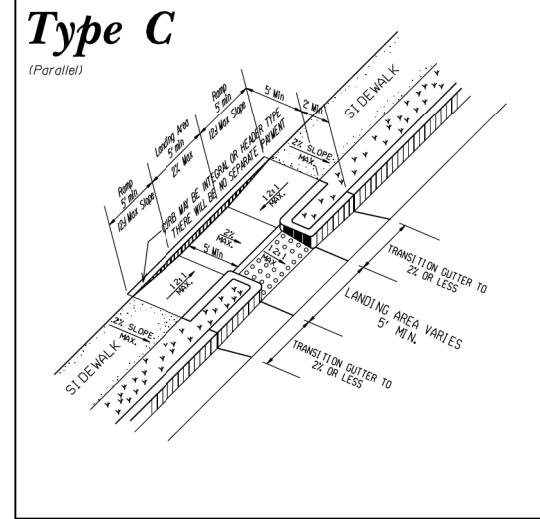
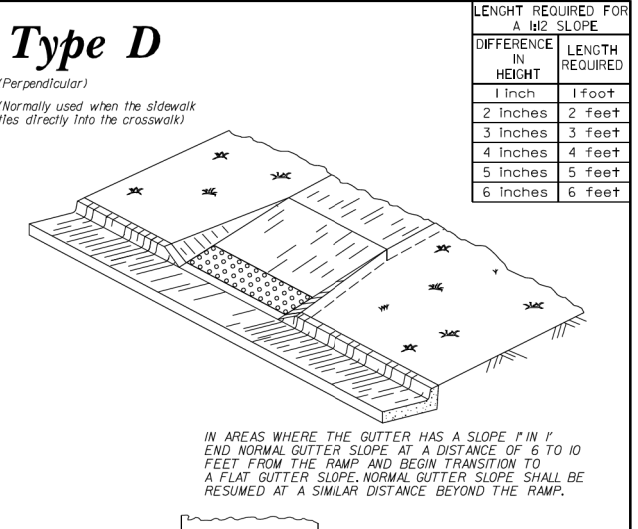
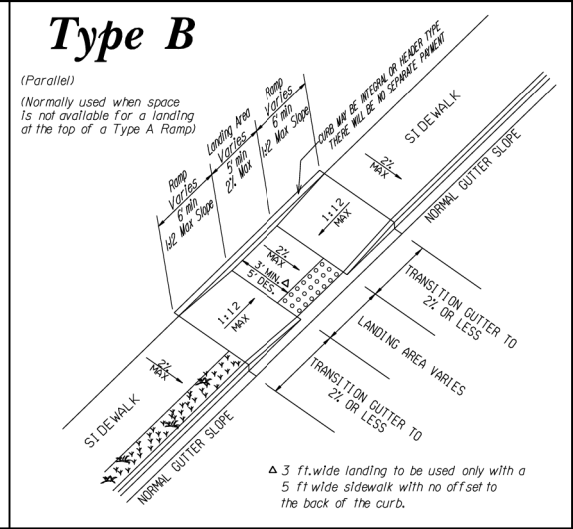
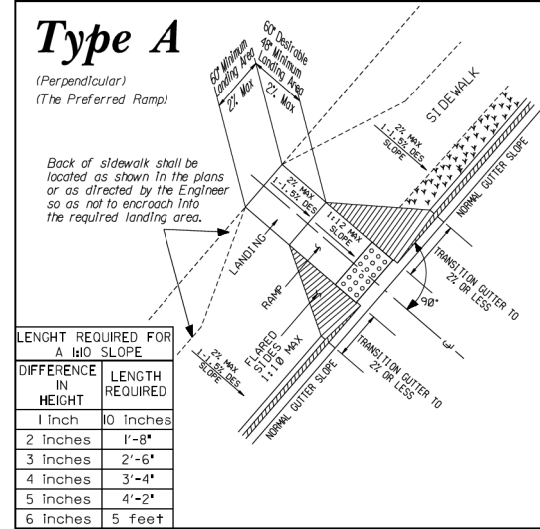
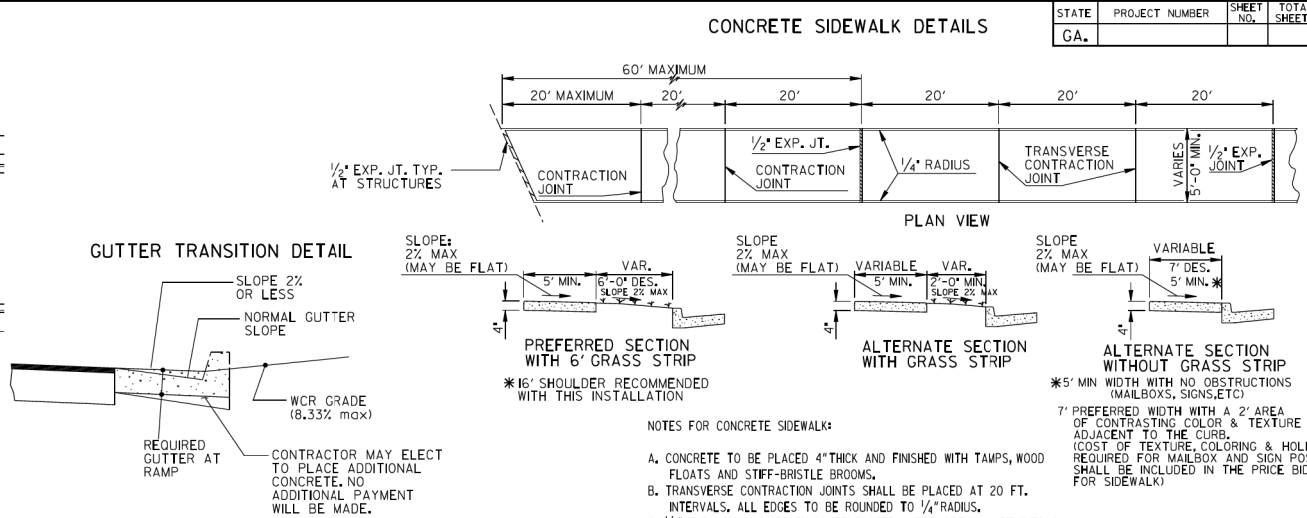
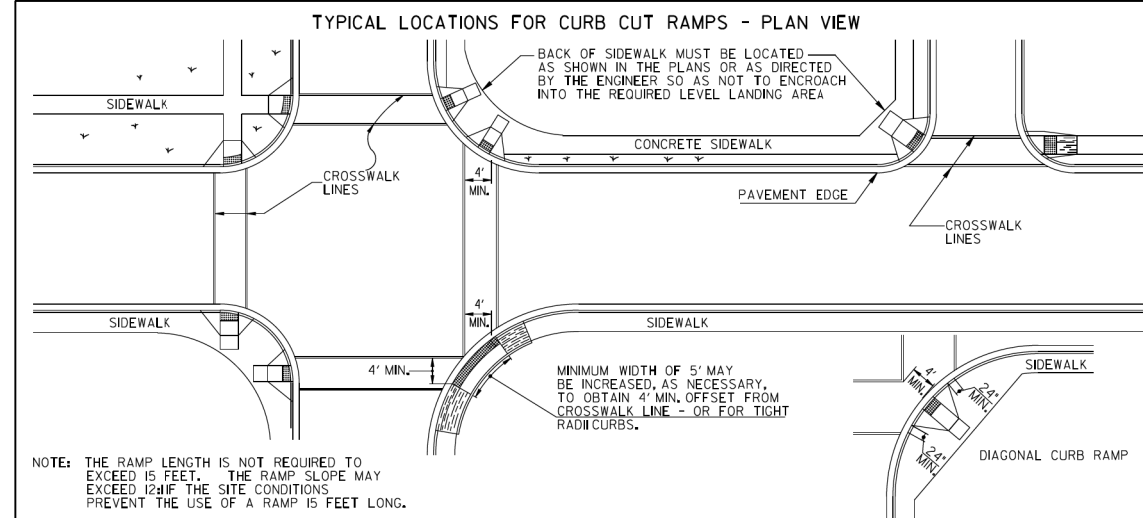
Concrete Side Barrier Type 6



REVISION DATES

RETAINING WALL ENVELOPES  
 US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	31-0002
CORRECTED:	DATE:	
VERIFIED:	DATE:	



- #### NOTES FOR CONCRETE SIDEWALKS:
- CONCRETE TO BE PLACED 4" THICK AND FINISHED WITH TAMPS, WOOD FLOATS AND STIFF-BRISTLE BROOMS.
  - TRANSVERSE CONTRACTION JOINTS SHALL BE PLACED AT 20 FT. INTERVALS. ALL EDGES TO BE ROUNDED TO 1/4" RADIUS.
  - 1/2" EXPANSION JOINTS SHALL BE PLACED WHERE SIDEWALK TIE INTO A STRUCTURE OR TERMINATE AT CURB, RAMPS OR DRIVEWAYS AND AT 60' INTERVALS.
- #### NOTES FOR CURB CUT RAMPS:
- CURB CUT RAMPS WILL BE LOCATED AS FOLLOWS UNLESS PLANS OR CONTRACT SPECIFY OTHERWISE.
    - AT ALL PEDESTRIAN CROSSWALKS WHERE CURB IS CONSTRUCTED OR REPLACED.
    - WHERE THE SIDEWALK, CONCRETE OR UNPAVED, IS INTERRUPTED BY THE CURB AT TURNOUTS OR AT INTERSECTIONS.
    - AT OTHER LOCATIONS SUCH AS HOSPITALS, NURSING HOMES, REST AREAS, ETC., WHERE THE CURB WOULD OTHERWISE BE AN OBSTRUCTION TO THE PHYSICALLY DISABLED.
  - RAMPS WILL BE CONSTRUCTED FROM CONCRETE. SPECIFICATIONS FOR RAMPS WILL BE THE SAME AS FOR CONCRETE SIDEWALK. RAMPS SHALL HAVE EITHER A ROUGH OR A TEXTURED FINISH.
  - DROP INLETS ARE NOT TO BE LOCATED DIRECTLY IN FRONT OF RAMPS. CATCH BASINS SHOULD BE LOCATED AT LEAST 10 FT. FROM RAMPS WHEN FEASIBLE.
  - WHERE RAMPS ARE LOCATED IN RADII, THE DIMENSIONS SHOWN FOR RAMP WIDTHS AND TAPERS ARE MEASURED PERPENDICULAR TO THE RAMP AND NOT ALONG THE CURVE.
  - WHERE UTILITY STRUCTURES CONFLICT, WHERE SIDEWALK GEOMETRY VARIES, AT SKEWED INTERSECTIONS, OR IN OTHER SPECIAL CASES, THE RAMP DESIGN MAY BE MODIFIED BY THE DESIGNER OR ENGINEER, PROVIDED THAT THE WIDTH REMAINS A MINIMUM OF 48 INCHES, AND NO SLOPE ON THE ACCESSIBLE PART OF THE RAMP IS STEEPER THAN 12:1.
  - MIN. FT. OF CURB AND GUTTER WILL INCLUDE THE TRANSITIONED CURB IN FRONT OF RAMPS. SO. YDS. OF CONCRETE SIDEWALK AND CONCRETE MEDIUM PAVING WILL INCLUDE RAMPS. NO ADDITIONAL PAYMENT WILL BE MADE FOR CURB RAMPS. NO ADDITIONAL PAYMENT WILL BE MADE FOR SAWING AND REMOVING EXISTING SIDEWALK OR CURB WHERE NECESSARY FOR RAMP CONSTRUCTION.
  - WHEN A CURB RAMP IS PLACED ON EXISTING PAVEMENT, THE PAVEMENT SHALL BE REMOVED TO PROVIDE A MINIMUM THICKNESS OF 3 INCHES OF CONCRETE AT ALL LOCATIONS. NO SEPARATE PAYMENT WILL BE MADE FOR REMOVAL OF THE PAVEMENT.
  - DETECTABLE WARNING SURFACES ARE REQUIRED ON ALL INTERSECTIONS WITH PUBLIC STREETS, SIGNALIZED COMMERCIAL DRIVEWAYS, AND COMMERCIAL DRIVEWAYS WITH AN AADT OF 25 VPD.

**This Detail Replaces Ga Standard 9031W**  
Guidelines For Usage On Metric Projects

When these details are incorporated into plans and or projects that are being prepared or constructed in metric units, exact or precise conversion to metric units is not required. The dimensions shown that are in feet and inches may be converted to corresponding metric units using the following "Rounded-Off" conversion factors: 1" = 25mm, 4" = 100mm, and 12" = 300mm. All measurement notes that refer to linear feet and square yards shall be interpreted to mean linear meters and square meters.

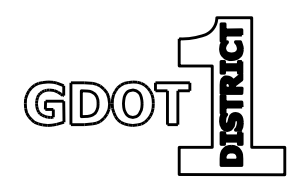
REVISED	DATE	REVISION
9-15-16		
6-18-09		
ADDED PERP. OR PARALLEL		
REV. SLOPES TO PERCENT		
AND ADDED I&M & B&H CHART.		
ADDED GEN. NOTE NO. 8.		
5-10-06		
REV. TRUNCATED DOMES		
2-21-03		
REVISED		
7-29-02		
REVISED		
5-29-02		
REVISED		
5-23-02		
REVISED		
5-13-02		
REVISED		
4-29-02		
REVISED		
4-4-02		
REVISED		
4-3-02		
REVISED		
3-28-02		
REVISED		

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

SPECIAL DETAIL  
CONCRETE SIDEWALK DETAILS  
CURB CUT (WHEELCHAIR) RAMPS

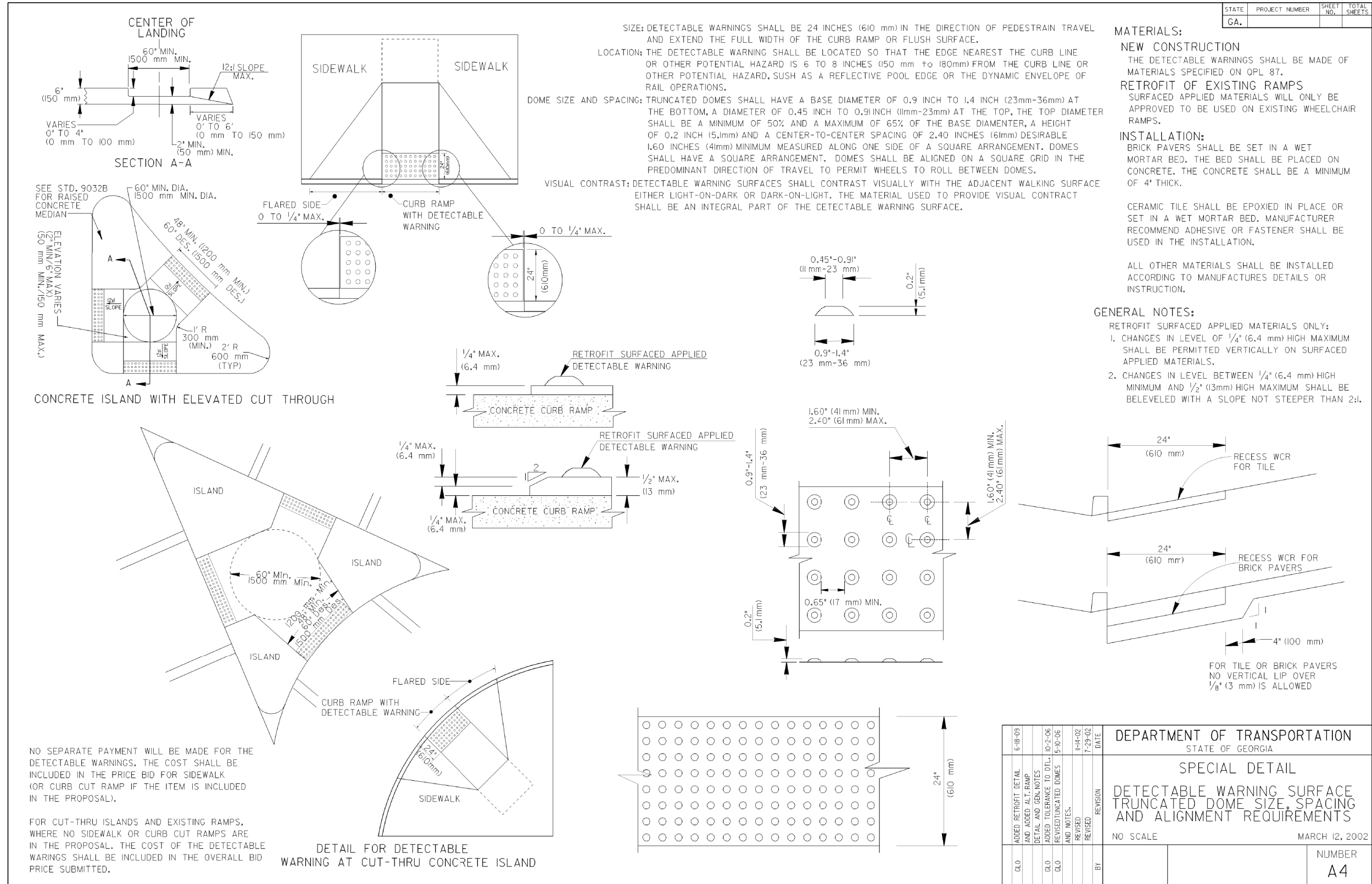
NO SCALE MARCH 12, 2002

NUMBER  
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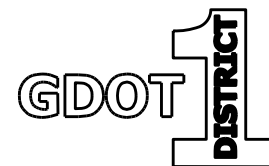


REVISION DATES		CONSTRUCTION DETAILS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	40-0001	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

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REVISION DATES		CONSTRUCTION DETAILS	
CHECKED:	DATE:	US 19 BUS/SR 60 BUS @ OAK GROVE RD	
BACKCHECKED:	DATE:	LUMPKIN COUNTY	
CORRECTED:	DATE:	CHECKED:	DATE:
VERIFIED:	DATE:	DRAWING No. 40-0002	

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

DROP INLET WITH CIRCULAR BASE			
OULET PIPE	ADAPTOR	W X W <sub>1</sub>	GRATE SIZE (L. X W.)
TO 18"	TP. 3	2'-0" X 2'-0"	2'-0" X 2'-6"
TO 30"	TP. 2	3'-0" X 2'-0"	3'-0" X 2'-6"

**NOTE:** MIN. 'H' IS BASED ON TYPICAL OUTSIDE DIAMETER OF CONCRETE PIPES AND MAY BE REDUCED SLIGHTLY WHERE SPECIFIED IN THE PLANS, OR AS DIRECTED BY THE ENGINEER.

PIPE SIZE	MIN. H	NORMAL W	75° SKEW W	60° SKEW W	45° SKEW W	MIN. H IF CIRCULAR ALTER. (STD. 1040) IS USED
15"	3'-0"	2'-0"	2'-0"	2'-6"	3'-0"	3'-10"
18"	3'-6"	2'-6"	2'-6"	3'-0"	3'-6"	4'-3"
24"	4'-0"	3'-0"	3'-0"	3'-6"	4'-0"	4'-9"
30"	4'-6"	3'-6"	4'-0"	4'-0"	5'-0"	6'-2"
36"	5'-0"	4'-0"	4'-6"	5'-0"	6'-0"	6'-9"
42"	5'-6"	5'-0"	5'-0"	5'-6"	6'-6"	7'-4"
48"	6'-0"	5'-6"	5'-6"	6'-0"	7'-6"	7'-11"

**PICTORIAL VIEW**

25:1 SLOPE REQUIRED ON EACH SIDE OF EARTH DITCH PLUG IN MEDIAN DITCH. 10:1 SLOPES MAY BE USED IN SIDE DITCHES. (PLUG IS NOT REQUIRED IN SACS.)

**SECTION B-B FOR: CIRCULAR ALTERNATE OR ENLARGED BASE**

REDUCED SLAB OR ADAPTOR TYPE (SEE STD. NO. 1040 FOR ADDITIONAL DETAILS.)

CIRCULAR CONST. BOX TOP PER STD. NO. 1040 OR ENLARGED BASE (SEE LEFT)

**PLAN VIEW**

125 mm WEIR OPENING EACH SIDE

CLASS "A" CONCRETE APRON (INCLUDED IN COST OF INLET)

ALTERNATE LOCATION FOR BOLTS IF NEEDED BECAUSE OF SMALL 'H'. TWO BOLTS ON SIDE WITH PIPE, MIN. OF THREE BOLTS TOTAL, IF ALTERNATE LOCATION IS USED.

**DETAIL OF DEPTH LIMITS FOR BRICK WALL THICKNESS**

CONC. REINF. WITH #4 BARS @ 12" O.C. BOTH WAYS

8" MIN. TO 2' CL.

**SECTION A-A**

CONC. APRON (W/BELVE TYP.)

5" WEIR OPENINGS

1'-0" DEPTH PLUG, OR AS SPECIFIED BY THE ENGINEER

8" BRICK OR 6" CL "A" CONC.

LONGITUDINAL PIPE (IF REQ'D.)

CONCRETE INLET MAY BE PRECAST OR BUILT-IN-PLACE. ALL PRECAST INLETS AND ANY CAST-IN-PLACE CONC. INLETS WITH 'H' OVER 4'-6" WILL BE REINFORCED IN ALL SIDES & BOTTOM. REINFORCING FOR BOX INLET WILL BE EITHER #4 BARS AT 12" O.C. BOTH WAYS OR 2/2.6X6 WELDED WIRE FABRIC. ALL REINFORCING WILL HAVE 2" MIN. COVER.

**SECTION B-B**

25:1 OR FLATTER FOR MEDIAN DITCH 10:1 OR FLATTER FOR SIDE DITCH

EARTH DITCH PLUG

1'-0" DEPTH PLUG, OR AS SPECIFIED BY THE ENGINEER

5" WEIR OPENINGS

8" BRICK OR 6" CL "A" CONC.

LONGITUDINAL PIPE (IF REQ'D.)

CONCRETE APRON (W/BELVE TYP.)

8" MIN.

CONCRETE INLET MAY BE PRECAST OR BUILT-IN-PLACE. ALL PRECAST INLETS AND ANY CAST-IN-PLACE CONC. INLETS WITH 'H' OVER 4'-6" WILL BE REINFORCED IN ALL SIDES & BOTTOM. REINFORCING FOR BOX INLET WILL BE EITHER #4 BARS AT 12" O.C. BOTH WAYS OR 2/2.6X6 WELDED WIRE FABRIC. ALL REINFORCING WILL HAVE 2" MIN. COVER.

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**SECTION C-C**

VAR. - GRATE LENGTH = L

3' x 3' x 3/8"

#5 LONGITUDINAL BARS AT 6" O.C.

3/4" DIA. HOLES OR 3/4" x 2" SLOTS

TYPICAL WELD ALL JOINTS: ±3/8" ON #9, #10 & #11 BARS; ±1/2" ON #14 BARS

BARS MAY BE SHEAR CUT OR SAWED.

3' x 3' x 3/8"

1/4" TOLERANCE

**BAR SCHEDULE FOR GRATE**

W1	GRATE TYPE	BAR SIZE
1'-6" TO 2'-0"	1	#9
2'-6"	2	#10
3'-0" TO 3'-6"	3	#11
4'-0" TO 4'-6"	4	#14

NOTE: \*\* ALTERNATE: INSTEAD OF 3/4" DIAMETER HOLE, A 2" x 3/4" OVAL HOLE MAY BE PROVIDED.

**NOTES FOR GRATE:**

FABRICATOR WILL ARRANGE FOR TESTING BY THE GA. D.O.T. LABORATORY 14 DAYS PRIOR TO FABRICATION.

ALL BARS SHALL MEET THE REQUIREMENTS OF AASHTO M 31 GRADE 60.

ALL LONGITUDINAL BARS WILL BE #5 BARS.

GRATE BAR SPACINGS SHOWN ARE "NOMINAL-MINIMUM" AND MAY BE INCREASED (UP TO 10% TYPICAL) WITH NO ADDITIONAL PAYMENT TO PROVIDE BEST FIT FOR STRUCTURE.

DATE	REVISION

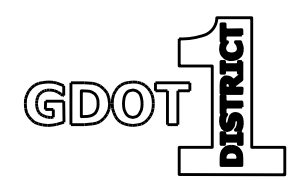
**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**CONSTRUCTION DETAILS  
DITCH DROP INLET WITH FABRICATED SAFETY GRATE AND WEIR OPENINGS**

NO SCALE OCT., 2000

DES. (SUBMITTED)	STATE ROAD & AIRPORT DESIGN ENGR.
TRA. (APPROVED)	CHIEF ENGINEER
CHK.	

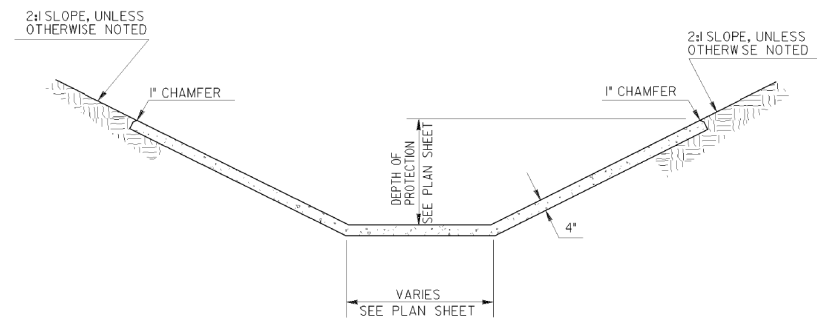
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**D-4**



REVISION DATES		CONSTRUCTION DETAILS	
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BACKCHECKED:	DATE:	40-0003	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

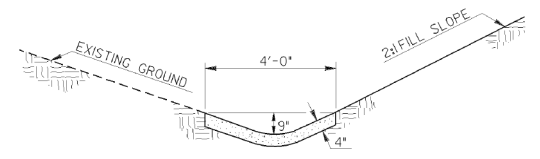


STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



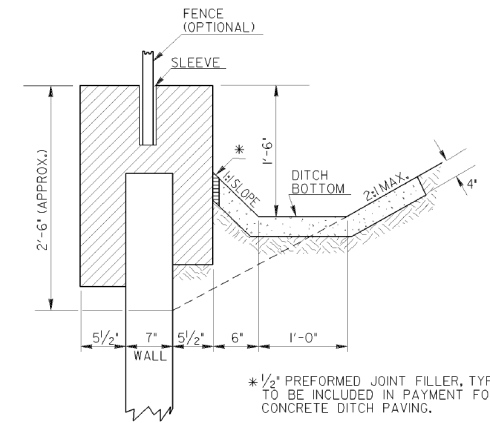
TYPICAL FLAT BOTTOM PAVED DITCH

- GENERAL NOTES:
- SEE CONSTRUCTION DETAIL D-10 (14" CONCRETE DITCH PAVING DETAILS AND QUANTITIES)
  - WEEP HOLE LOCATION SEE CONSTRUCTION DETAIL D-10

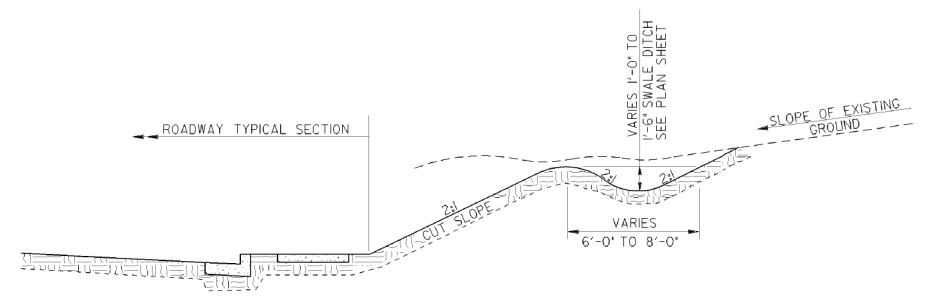


PAVED SWALE DITCH

- GENERAL NOTES:
- CONCRETE SHALL BE PER SECTION 441.
  - EARTH SHALL BE THOROUGHLY TAMPED OVER ENTIRE AREA UNDER DITCH PAVEMENT.

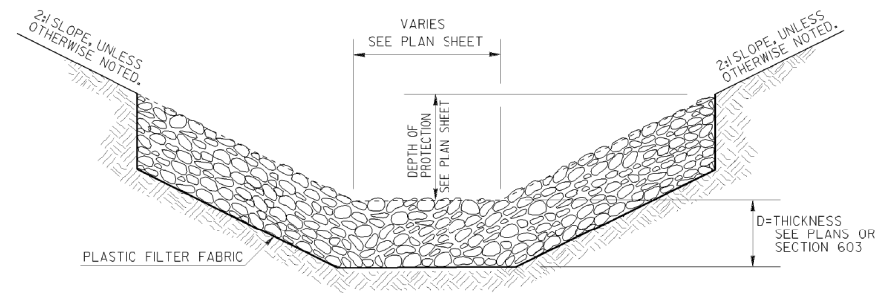


PAVED DITCH (IN BACK OF RETAINING WALL)



DETAIL OF SWALE DITCH

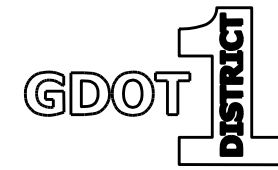
- GENERAL NOTES:
- APPLICABLE AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER ON CONSTRUCTION.
  - TO BE PAID FOR AS UNCLASSIFIED EXCAVATION OR GRADING COMPLETE.



TYPICAL FLAT BOTTOM RIP RAP DITCH

- GENERAL NOTES:
- BASIS OF PAYMENT: STONE RIP RAP, PER SQ. YD.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
CONSTRUCTION DETAIL DITCH BACK OF RETAINING WALL SWALE DITCHES; RIP RAP DITCH	
NO SCALE	FEBRUARY, 2011
BY	NUMBER D-49

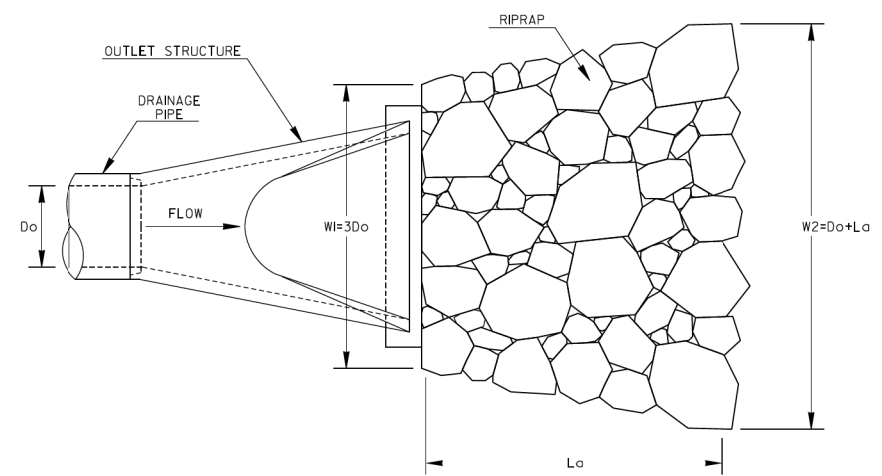


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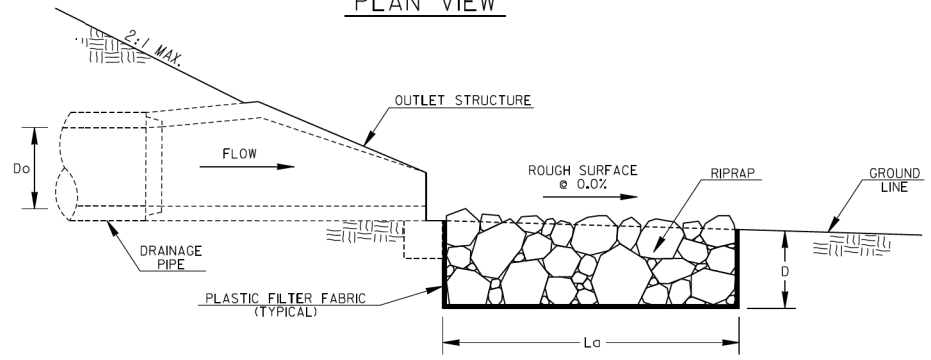
<b>CONSTRUCTION DETAILS</b>		
US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY		
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	40-0004
CORRECTED:	DATE:	
VERIFIED:	DATE:	

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

**OUTLET TO FLAT AREA**

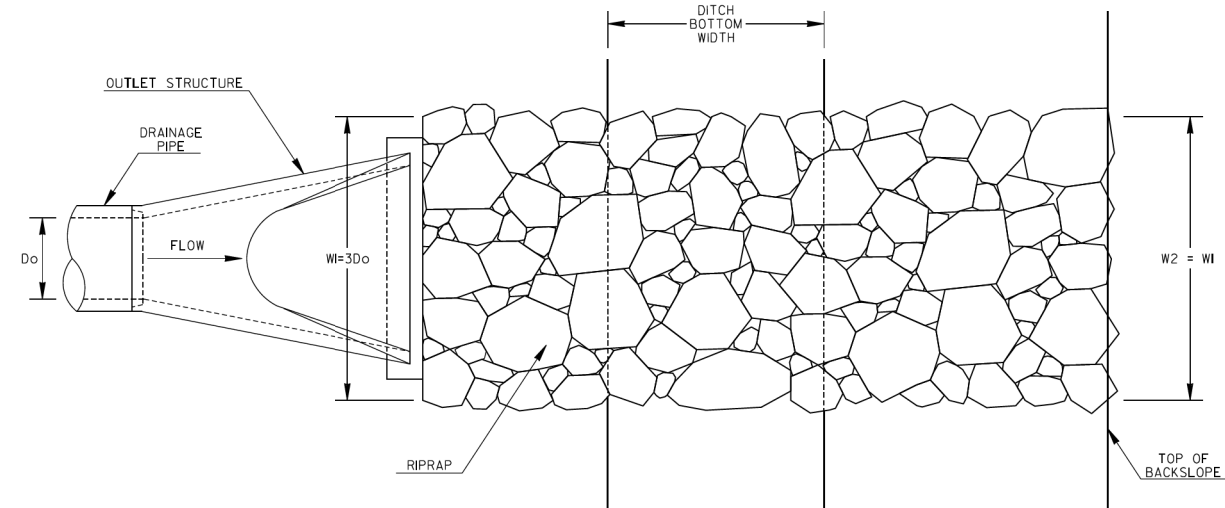


PLAN VIEW

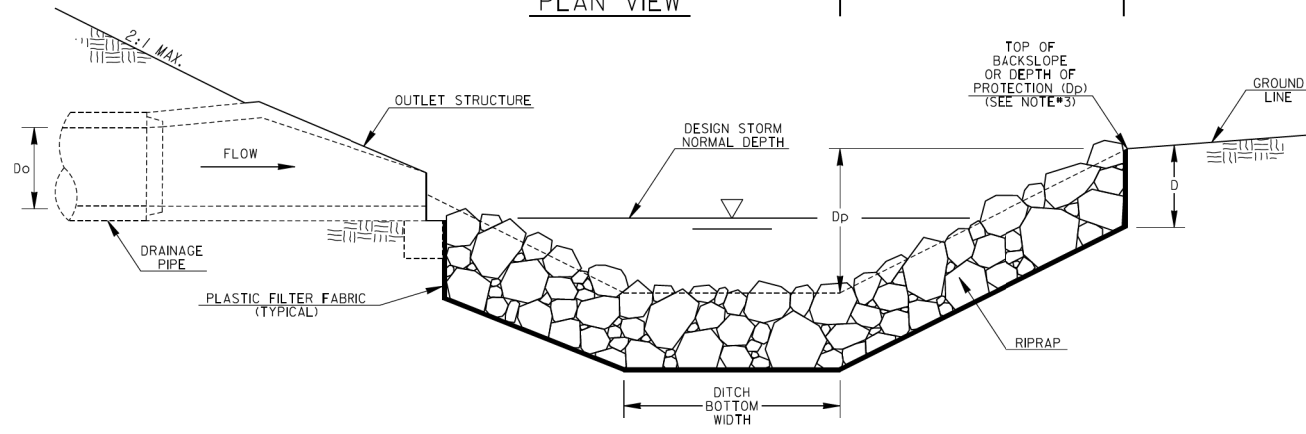


PROFILE VIEW

**OUTLET PERPENDICULAR TO WELL-DEFINED CHANNEL**



PLAN VIEW



PROFILE VIEW

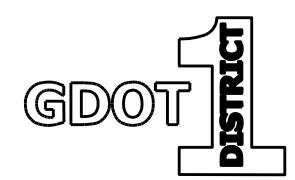
GENERAL NOTES:

- RIPRAP OUTLET PROTECTION SHOULD BE USED TO REDUCE A DRAINAGE STRUCTURE'S DISCHARGE VELOCITY. RIPRAP OUTLET PROTECTION IS SHOWN FOR GEORGIA STANDARD #20, BUT IS INSTALLED SIMILARLY FOR OTHER DRAINAGE OUTLET STRUCTURES.
- RIPRAP OUTLET PROTECTION SHALL BE DESIGNED IN ACCORDANCE WITH THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA". THE DESIGNER SHALL PROVIDE THE FOLLOWING IN THE PLANS: PIPE DIAMETER (Do), FLOW RATE OF DESIGN STORM (Q), VELOCITY (V), TAILWATER CONDITION (Tw), APRON LENGTH (La), APRON WIDTH AT DRAINAGE STRUCTURE (W), APRON WIDTH DOWNSTREAM (W2), AVERAGE STONE DIAMETER (d50), INSTALLATION DEPTH (D), AND TYPE OF RIPRAP WITH QUANTITY.  
  
THE MINIMUM DESIGN FOR RIPRAP OUTLET PROTECTION SHALL BE THE 25-YEAR STORM EVENT, BUT LARGER STORMS ARE RECOMMENDED.
- THE APRON WIDTHS SHALL BE THE SAME WHEN THE DRAINAGE STRUCTURE DISCHARGES PERPENDICULAR INTO A WELL-DEFINED CHANNEL. THE LENGTH SHALL EXTEND ACROSS THE CHANNEL AND UP TO THE TOP OF THE CHANNEL BACKSLOPE OR 1-FOOT ABOVE THE NORMAL DEPTH OF THE CHANNEL'S DESIGN STORM (WHICHEVER IS LESS). THE DESIGNER SHALL PROVIDE THE DEPTH OF PROTECTION (Dp) IF THE APRON DOES NOT EXTEND TO THE TOP OF THE BACKSLOPE.
- IF THE OUTLET HYDRAULICS REQUIRE A d50<=0.70 FEET, TYPE-3 RIPRAP MAY BE USED.  
IF THE OUTLET HYDRAULICS REQUIRE A d50<=1.20 FEET, TYPE-1 RIPRAP SHOULD BE USED.  
IF THE OUTLET HYDRAULICS REQUIRE A d50>1.20 FEET, THE DESIGNER SHALL DESIGN AND PROVIDE A SPECIAL DETAIL FOR APPROPRIATE OUTLET PROTECTION.
- PLASTIC FILTER FABRIC IS REQUIRED UNDERNEATH RIPRAP APRON.
- PAYMENT FOR RIPRAP SHALL BE MEASURED IN SQUARE YARDS FOR SPECIFIED INSTALLATION DEPTH. PAYMENT FOR PLASTIC FILTER FABRIC SHALL BE MEASURED IN SQUARE YARDS CONSISTENT WITH RIPRAP QUANTITY AND PAID FOR SEPARATELY.

- Do = PIPE DIAMETER
- Q = DESIGN STORM FLOW RATE
- V = DESIGN STORM VELOCITY
- Tw = TAILWATER CONDITION/DESIGN STORM NORMAL DEPTH
- La = APRON LENGTH
- W1 = APRON WIDTH UPSTREAM
- W2 = APRON WIDTH DOWNSTREAM
- d50 = AVERAGE STONE DIAMETER
- D = INSTALLATION DEPTH
- Dp = DEPTH OF PROTECTION

RIPRAP TYPE	REQUIRED d50 (FT)	MIN. DEPTH "D" (IN)
1	≤1.20	36
3	≤0.67	18

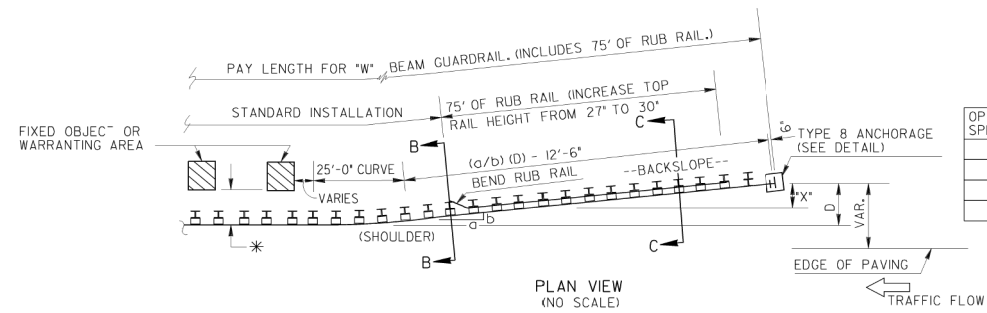
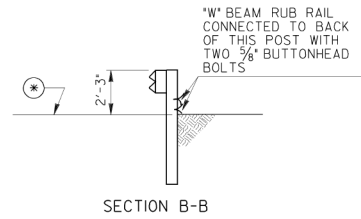
DATE		DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
REVISION		CONSTRUCTION DETAILS	
		RIPRAP OUTLET PROTECTION (SHEET 1 OF 2)	
NO SCALE		4-22-2016	
BY	DESIGNED	NUMBER	
	DRAWN	D-55A	
	TRACED		
	CHECKED		



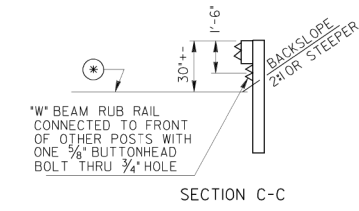
REVISION DATES		CONSTRUCTION DETAILS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
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BACKCHECKED:	DATE:	40-0005	
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VERIFIED:	DATE:		

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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



OPERATING SPEED (MPH)	FLARE RATE g/d
70	15 MIN.
60	13 MIN.
50	11 MIN.
40	9 MIN.

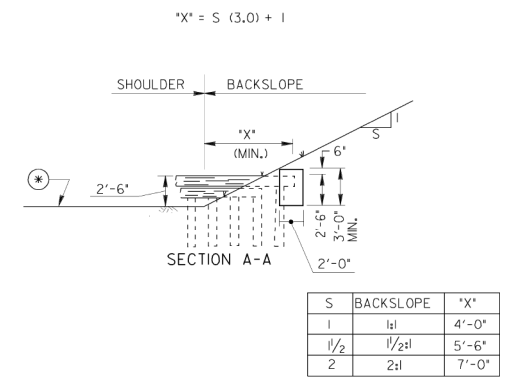
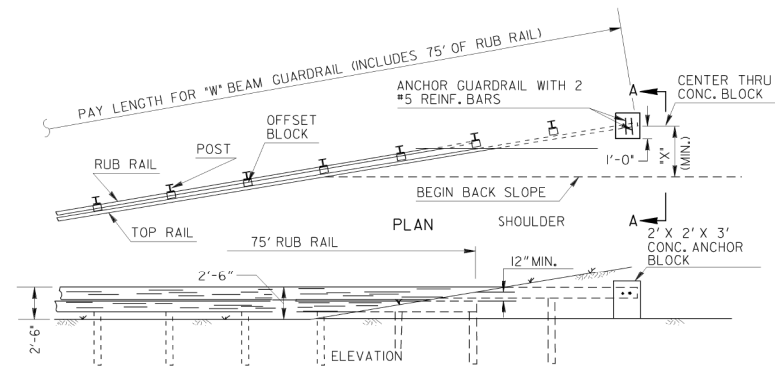


\*IF RIGID OBJECT (BRIDGE PIERS, ETC.) IS BEHIND GUARDRAIL, THE OFFSET FROM RAIL FACE TO OBJECT SHALL BE 5 FT. +- DESIRABLE (4'-3" MINIMUM) WHERE AN OFFSET OF AT LEAST 4'-3" CANNOT BE OBTAINED, DOUBLE POST SPACINGS (3'-1/2" C. TO C.) IN FRONT OF THE RIGID OBJECT PLUS A MIN. OF 7 SUCH SPACINGS IN ADVANCE ARE REQUIRED WITH A 3'-0" MINIMUM OFFSET FROM RAIL FACE TO OBJECT.

WHERE GUARDRAIL IS PROTECTING STEEP FILL SLOPES, THE MINIMUM OFFSET FROM RAIL FACE TO SLOPE BREAK POINT SHALL BE AS SHOWN ON APPLICABLE STANDARD WITH NORMAL POST SPACINGS.

NOTE: TYPICAL USE OF TYPE 8 ANCHORAGE IS WHERE CUT SLOPES 2:1 OR STEEPER, ARE WITHIN THE VICINITY OF THE INSTALLATION AND SLOPES IN FRONT OF THE GUARDRAIL ARE 10:1 OR FLATTER AT ALL POINTS. GUARDRAIL SHALL NOT BE BROUGHT ACROSS CURBS.

SEE SEPARATE STANDARDS, CONSTRUCTION DETAILS, AND/OR SPECIFICATIONS FOR OTHER TYPE ANCHORAGES WHERE REQUIRED.

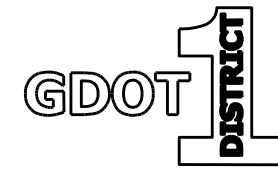


\* NEGATIVE SLOPES IN FRONT OF GUARDRAIL SHALL BE 10:1 OR FLATTER.

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
CONSTRUCTION DETAILS  
GUARDRAIL ANCHORAGE TYPE 8  
REV. & REDR. AUG., 1999

DES.		G-2
DRW.		
TRA.		
CHK.		

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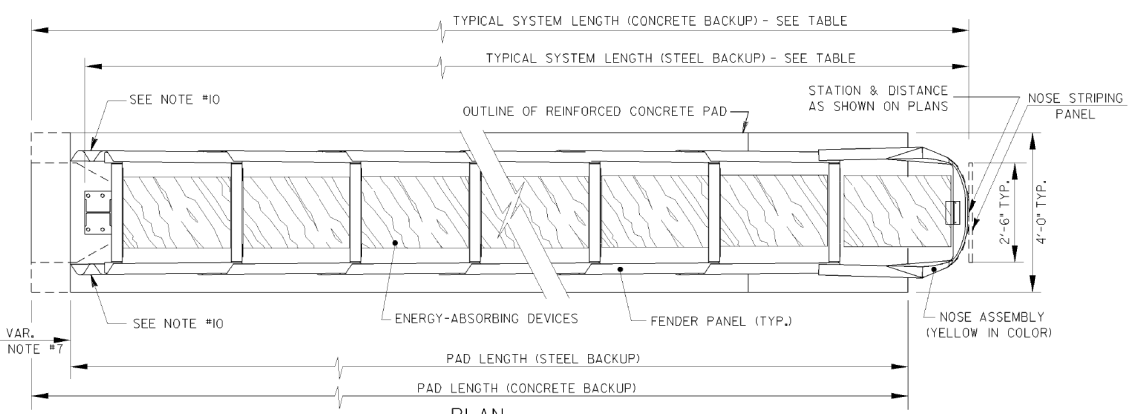
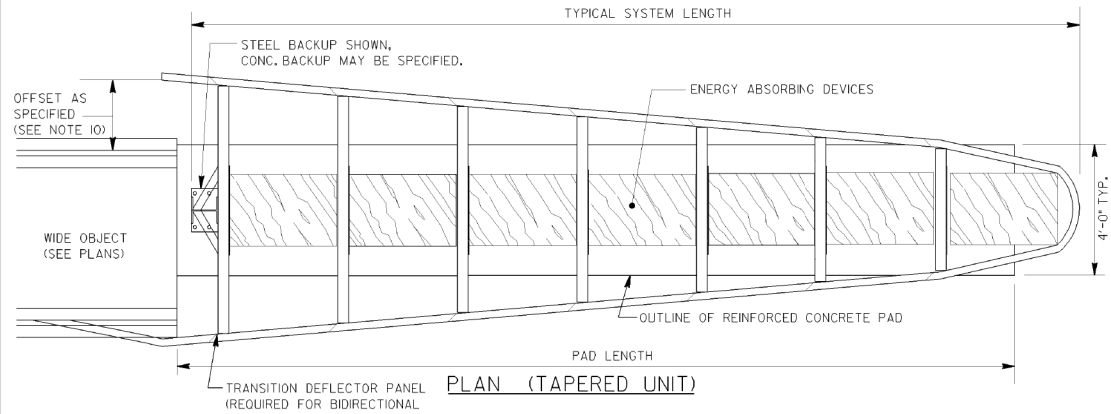


REVISION DATES		CONSTRUCTION DETAILS	
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		LUMPKIN COUNTY	
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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

NOTE: PLAN & ELEVATION VIEWS ARE SHOWN AS TYPICAL AND MAY VARY PER THE MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 648.

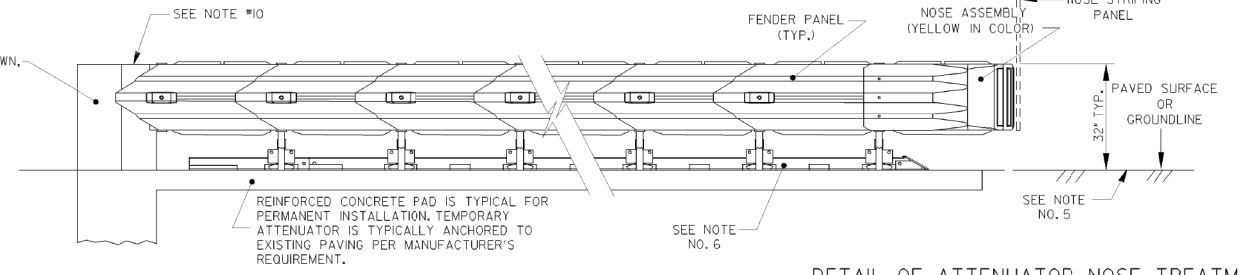


DESIGN SPEED (mph)	TYPICAL SYSTEM LENGTHS (FT.)		
	STANDARD LENGTH (WITH STEEL BACK-UP)	MODIFIED FOR CONC. BACK-UP	WITH 10 FT. CONC. TRANS.
TO 35	10	11.5	20
40-45	13	14.5	23
50	16	17.5	26
55	19	20.5	29
60	22	23.5	32
65	25	27.5	36
70	31	32.5	41
75	34	35.5	44

STANDARD STEEL BACK-UP SHALL BE USED UNLESS SPECIFIED OTHERWISE. CONCRETE BACK-UP MAY BE USED AS AN ALTERNATE AT LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.

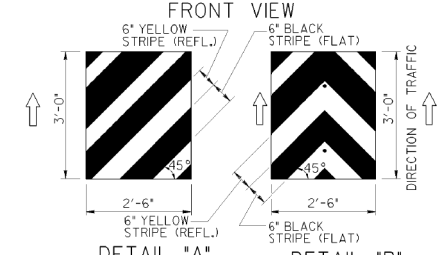
THE LENGTHS IN ABOVE TABLE ARE COMMON OVERALL APPROXIMATE LENGTHS. VARIATIONS MAY BE SUBMITTED FOR APPROVAL. SEE SUB-SECTION 648.3.05

CONCRETE BACKUP SHOWN, STEEL BACKUP MAY BE SPECIFIED.



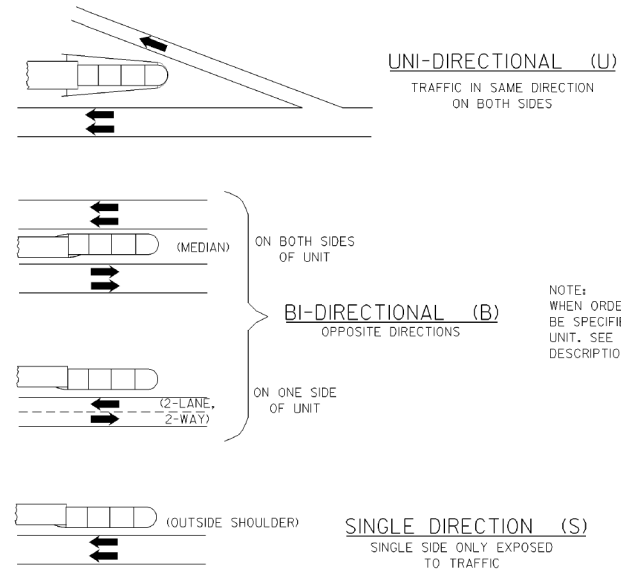
ELEVATION

DETAIL OF ATTENUATOR NOSE TREATMENT



\* STRIPES SHALL SLOPE DOWNWARD AT AN ANGLE OF 45° TOWARD THE SIDE ON WHICH TRAFFIC IS TO PASS, LEFT SHOWN, RIGHT NOT SHOWN, BUT MAY BE SPECIFIED. THE 6" YELLOW STRIPES SHALL BE REFLECTIVE SHEETING, TYPE IX. THE 6" BLACK STRIPES SHALL BE FLAT (NON-GLOSS) PAINT OR ANY OTHER APPROVED APPLICATION. COLORS SHALL BE ACCORDING TO THE MUTCD. STRIPING SHALL BE APPLIED TO A 0.04" THICK ALUMINUM PLATE. OBJECT MARKER SHALL BE SECURED TO NOSE FRONT WITH THREE GALVANIZED 5/8" DIA. BOLTS WITH NUT AND WASHERS AS DIRECTED BY THE ENGINEER.

TRAFFIC FLOW DESIGNATIONS (TYP.)  
SEE SUB-SECTION 648.3.04



GENERAL NOTES

- SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION AND SUPPLEMENTS THERETO. SEE SECTION 648.
- ALL ATTENUATORS WILL BE OF TYPE WHICH HAS BEEN APPROVED BY THE GA. D.O.T. AND FEDERAL HIGHWAY ADMINISTRATION AS MEETING AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) REQUIREMENTS AND HAS BEEN CLASSIFIED AS 'ACCEPTED' BY THE GDOT OFFICE OF MATERIALS AND RESEARCH AND LISTED ON OPL 64.
- THE WIDTH OF THE SYSTEM SHALL BE 2'-6" UNLESS SPECIFIED OTHERWISE. UNITS HAVING A REAR WIDTH LESS THAN THE BASE OF THE SHIELDED OBJECT SHALL REQUIRE A CONCRETE TRANSITION, EXCEPT WHERE THE UNIT IS LOCATED ON THE OUTSIDE SHOULDER.
- WHERE OBJECT BEING SHIELDED IS WIDER THAN THE DESIGNATED ATTENUATOR WIDTH, A TRANSITION WILL BE REQUIRED EITHER (a) BY PROVIDING A SPECIAL DESIGN CONCRETE TAPERED TRANSITION (SEE SEPARATE DETAILS) AS PART OF THE BACK-UP SYSTEM OR (b) BY MATCHING ATTENUATOR REAR WIDTH TO OBJECT SIZE UTILIZING A TAPERED ATTENUATOR MODEL WHICH INCREASES IN WIDTH FROM NOSE TO REAR (PER MANUFACTURER'S TAPERED MODEL NO.) WITH A STANDARD BACK-UP UNIT.
- CROSS SLOPE OF PAD SHALL NOT EXCEED 8% AND NOT VARY MORE THAN 2% FROM FRONT TO BACK. THE ATTENUATOR SYSTEM SHALL BE LOCATED ON A RELATIVE FLAT AREA CLOSE TO OR AT ROADWAY LEVEL.
- ALL ATTENUATOR UNITS SHALL BE CORRECTLY ANCHORED TO REINFORCED CONCRETE PAD OR OTHER APPROVED PAVED SURFACE PER MANUFACTURER'S RECOMMENDATIONS.
- THE AREA IMMEDIATELY BACK OF THE ATTENUATOR SHALL BE CLEAR OF OBSTRUCTIONS THAT WOULD PREVENT THE REAR PANELS FROM SLIDING BACKWARD UPON IMPACT FOR A DISTANCE AS RECOMMENDED BY THE MANUFACTURER.
- PAYMENT FOR IMPACT ATTENUATOR OF THE TYPE SPECIFIED SHALL INCLUDE THE ENTIRE UNIT WITH ALL ACCESSORIES, THE CONCRETE PAD, THE BACKUP SYSTEM, ANY TRANSITION REQUIRED, THE NOSE STRIPING PANEL WITH ALL MATERIALS AND LABOR NECESSARY TO COMPLETE THE SYSTEM.
- BEFORE WORK BEGINS, THE CONTRACTOR SHALL OBTAIN THE MANUFACTURER'S INSTALLATION MANUAL, ASSEMBLY DETAILS, ANCHORING REQUIREMENTS, REINFORCING STEEL FOR CONCRETE RECOMMENDATIONS, AND ALL OTHER GUIDES AND INSTRUCTIONS NECESSARY FOR PROPER INSTALLATION AND PROVIDE COPIES OF SAME TO THE ENGINEER. THE CONTRACTOR SHALL INFORM THE MANUFACTURER OF ATTENUATOR OF SITE CONDITIONS INCLUDING FURNISHING ANY PLAN SHEETS OR SKETCHES AS NEEDED TO SHOW TRAFFIC FLOW DIRECTIONS, LOCATION AND DESIGN OF SHIELDED OBJECT, AND AVAILABLE AREA SIZE FOR LOCATION OF UNIT.
- TO PREVENT VEHICLE SNAGING, AN OFFSET AND/OR A TRANSITION DEFLECTION PANEL OR A CONCRETE TRANSITION SECTION IS REQUIRED AT ATTENUATOR REAR ON EACH SIDE SUBJECT TO TRAFFIC. SEE MANUFACTURER'S REQUIREMENTS.

NOTE:  
WHEN ORDERING ATTENUATOR, TRAFFIC SHALL BE SPECIFIED AS 'U' OR 'B' OR 'S' FOR EACH UNIT. SEE SECTION 648 FOR ADDITIONAL DESCRIPTION.

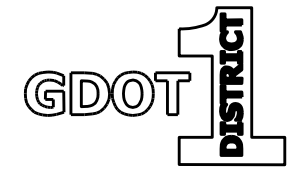
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REV. REFLECTIVE STRIPING		DATE	
BY		DATE	

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA  
CONSTRUCTION DETAIL  
IMPACT ATTENUATOR UNITS  
TYPE P - - - } SUB-SEC.  
TYPE S - - - } 648.3.04

NO SCALE REV. & REDR. MAR., 2001

NUMBER  
G-II

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REVISION DATES

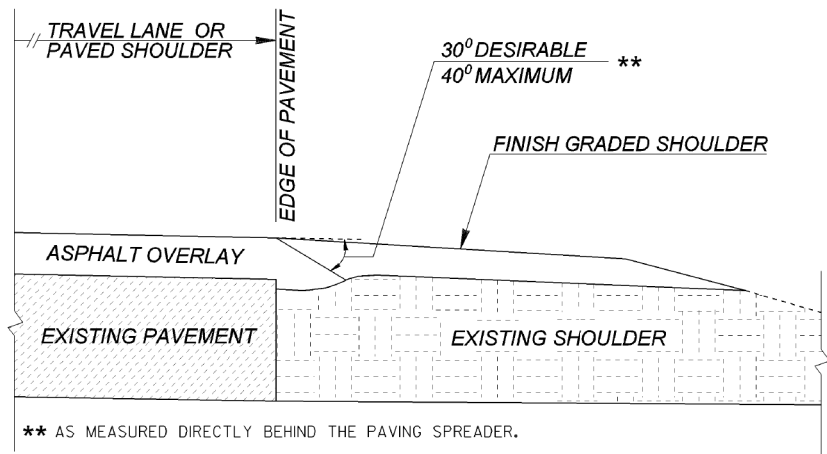
CONSTRUCTION DETAILS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

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BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	40-0007

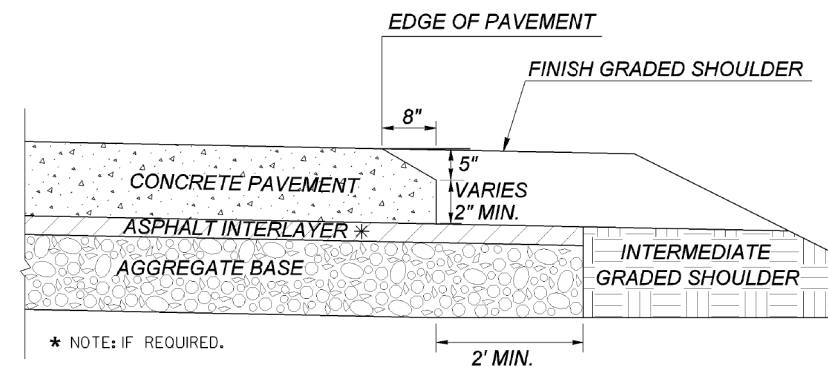
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**ASPHALT PAVEMENT - OVERLAY**



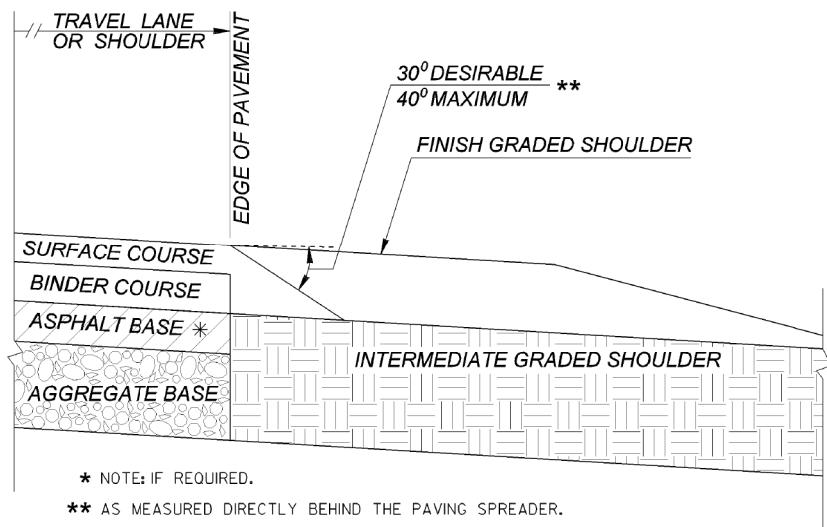
ADDITIONAL QUANTITIES:  
DEPTH OF OVERLAY (T), NO RUTTING  
(T)<sup>2</sup> (IN.) X 0.000441 TN/IN.-FT X LENGTH (FT) = \_\_\_\_\_ TN  
  
DEPTH OF OVERLAY (T), WITH 1 IN. RUTTING  
(T)<sup>2</sup> (IN.) X 0.000441 TN/IN.-FT X LENGTH (FT) + (T) (IN.) X 0.000882 TN/IN.-FT X LENGTH (FT) = \_\_\_\_\_ TN

**PLAIN PC CONCRETE PAVEMENT OR ROLLER COMPACTED CONCRETE PAVEMENT**



ADDITIONAL QUANTITIES:  
CONCRETE  
0.07407 SY/FT X LENGTH (FT) = \_\_\_\_\_ SY  
  
ASPHALT INTERLAYER, IF REQUIRED  
(T) IN. X LENGTH (FT) X 0.004074 TN/IN.-FT = \_\_\_\_\_ TN  
  
AGGREGATE BASE (BASED ON 2.07 TN/CY)  
(T) IN. X LENGTH (FT) X 0.0042592 TN/IN.-FT = \_\_\_\_\_ TN

**ASPHALT PAVEMENT - NEW**



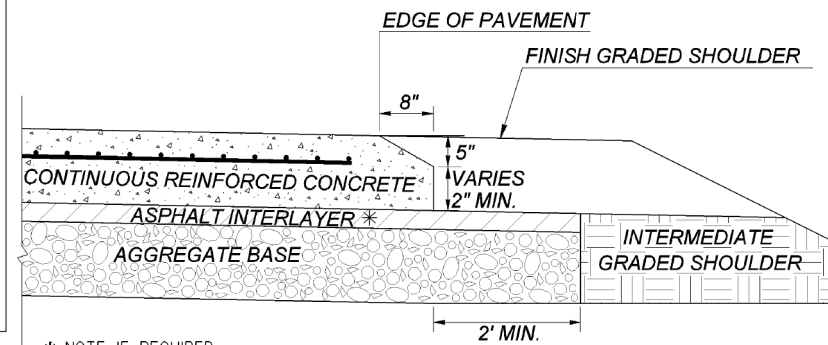
ADDITIONAL QUANTITIES:  
SURFACE COURSE PAVING DEPTH (T)  
(T)<sup>2</sup> (IN.) X 0.000441 TN/IN.-FT X LENGTH (FT) = \_\_\_\_\_ TN

GENERAL NOTES:  
1. THE SAFETY EDGE SHALL BE CONSTRUCTED AS AN INTEGRAL OPERATION OF THE ROADWAY PAVEMENT PLACEMENT PROCESS.

(ASPHALT PAVEMENT)

- USE AN APPROVED MECHANICAL DEVICE THAT WILL:
  - APPLY COMPACTIVE EFFORT TO THE ASPHALT MIXTURE TO ELIMINATE OBJECTABLE VOIDS AS THE MIXTURE PASSES THROUGH THE WEDGE DEVICE.
  - PRODUCE A WEDGE WITH A UNIFORM TEXTURE, SHAPE, AND DENSITY WHILE AUTOMATICALLY ADJUSTING TO VARYING HEIGHTS ENCOUNTERED ALONG THE ROADWAY SHOULDER.
- A SINGLE-PLATE STRIKE-OFF METHOD SHALL NOT BE USED FOR BITUMINOUS PAVING, AS THE SINGLE-PLATE STRIKE-OFF METHOD HAS BEEN FOUND TO PRODUCE A NON-DURABLE EDGE.
- COMPACTION OF THE EDGE SHOULD NOT BE DONE WITH THE FIRST PASS OF THE ROLLER; WITH THE ROLLER STAYING OFF THE EDGE AT LEAST 6 INCHES. THIS IS IN ORDER TO ALLOW THE EDGE MIX TO SLIGHTLY COOL PRIOR TO COMPACTION.
- SHORT SECTIONS OF HANDWORK ARE ALLOWED, WHEN NECESSARY, FOR TRANSITIONS AND TURNOUTS.

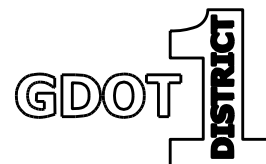
**CONTINUOUS REINFORCED CONCRETE PAVEMENT**



ADDITIONAL QUANTITIES:  
CONCRETE  
0.07407 SY/FT X LENGTH (FT) = \_\_\_\_\_ SY  
  
ASPHALT INTERLAYER, IF REQUIRED  
(T) IN. X LENGTH (FT) X 0.004074 TN/IN.-FT = \_\_\_\_\_ TN  
  
AGGREGATE BASE (BASED ON 2.07 TN/CY)  
(T) IN. X LENGTH (FT) X 0.0042592 TN/IN.-FT = \_\_\_\_\_ TN

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
CONSTRUCTION DETAIL PAVEMENT EDGE TREATMENT ASPHALT AND CONCRETE PAVEMENT	
NO SCALE	SEPTEMBER 2011
DES. B.A.S. DRW. G.L.O. CHK. D.G.P. REVIEW B.A.S.	NUMBER P-7

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REVISION DATES

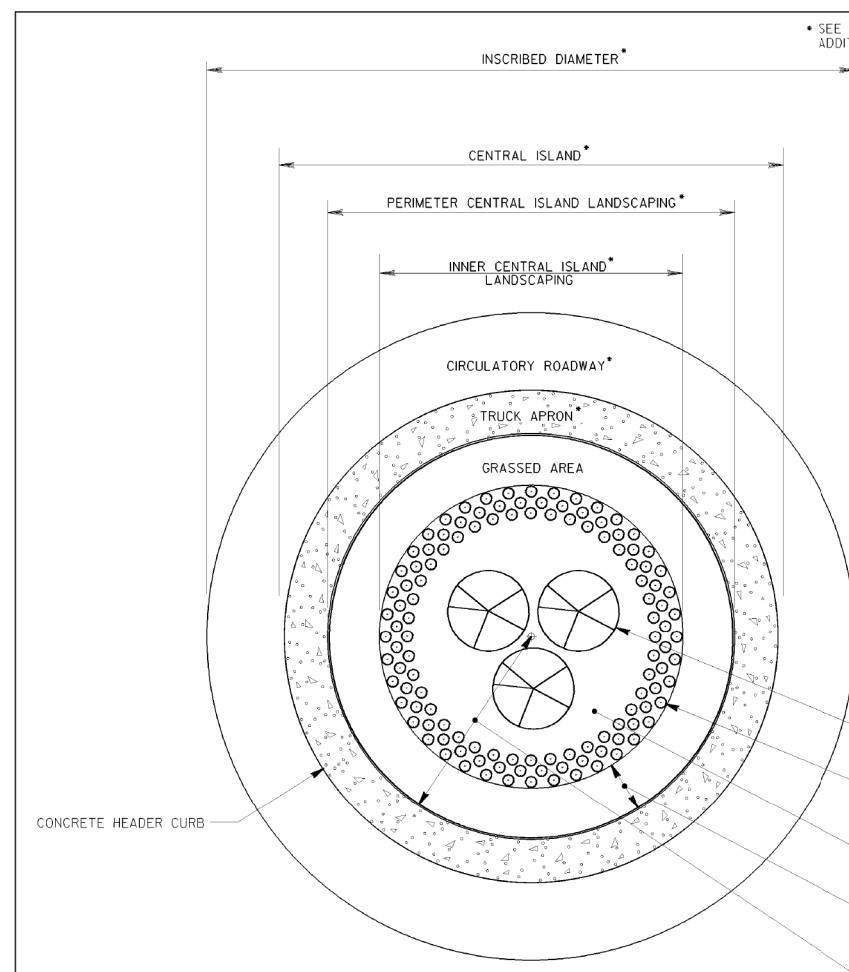
NO.	DATE	DESCRIPTION

CONSTRUCTION DETAILS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

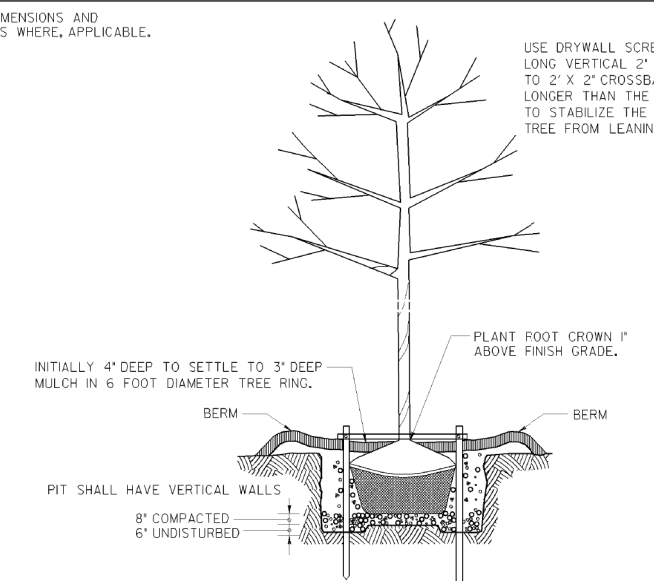
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BACKCHECKED:	DATE:	40-0008
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VERIFIED:	DATE:	

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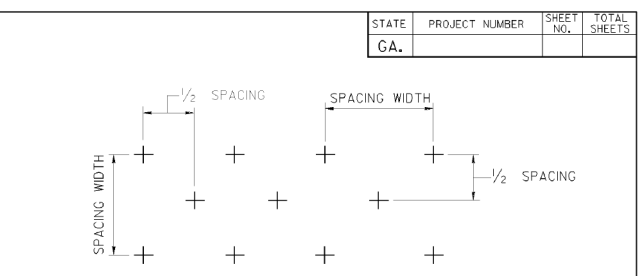


**PLANTING LAYOUT**  
NO SCALE

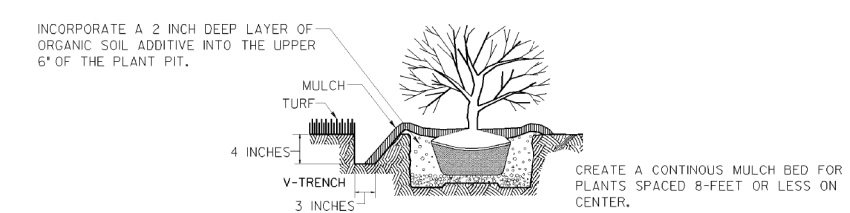
\* SEE PLANS FOR DIMENSIONS AND ADDITIONAL DETAILS WHERE APPLICABLE.



**TREE PLANTING DETAIL - ELEVATION**  
NO SCALE



**ON CENTER SPACING - STAGGERED ROW**  
NO SCALE

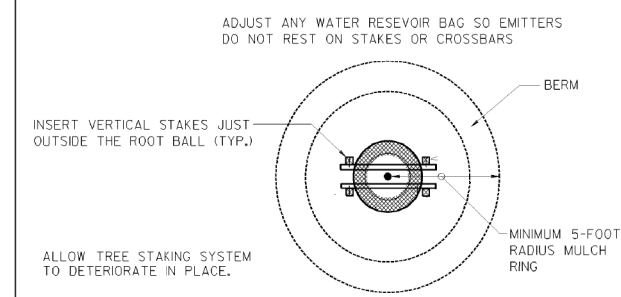


**VINE AND SHRUB PLANTING DETAIL**  
NO SCALE

- 3 CRATAEGUS VIRIDIS 'WINTER KING'
- ILEX VOMITORIA NANA  
3 GALLON, STAGGERED SPACING 3-FOOT ON CENTER  
QUANTITY MAY VARY WITH THE SIZE OF THE ROUNDABOUT  
LANDSCAPE ISLAND
- MULCH ENTIRE INNER CENTRAL ISLAND BED WITH PINE STRAW MULCH
- CYNODON DACTYLON 'TIFWAY 419' SOD
- CROWN THE LANDSCAPED PART OF THE CENTRAL ISLAND AND GRADES WITH A MINIMUM 3% SLOPE, USING SOIL PREPARATION ACCORDING TO THE SPECIAL PROVISIONS SECTION 700 - GRASSING AND SECTION 702 - VINE, SHRUB AND TREE PLANTING.

**GENERAL NOTES:**

1. SPECIFICATIONS: GEORGIA STANDARD CURRENT EDITION, AND SUPPLEMENTS THERETO.
2. SEE SPECIAL PROVISIONS 700 AND 702 FOR PLANTING REQUIREMENTS.
3. SEE PLAN SHEETS FOR THE WIDTH OF THE PERIMETER CENTRAL ISLAND LANDSCAPING.
4. THE DESIGNER MAY SPECIFY ALTERNATE PLANT MATERIALS WITH PRIOR REVIEW AND APPROVAL BY THE OFFICE OF MAINTENANCE, IF ALTERNATE MATERIALS ARE SPECIFIED, THEY WILL BE DESCRIBED ELSEWHERE IN THE PLANS.
5. THIS DETAIL CAN BE INCORPORATED INTO PROJECT PLANS AFTER THE DEPARTMENT HAS ENTERED A SEPARATE RIGHT-OF-WAY MOWING AND MAINTENANCE AGREEMENT.

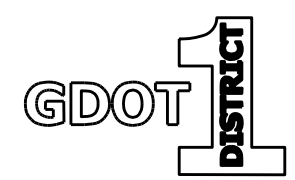


**TREE PLANTING DETAIL - PLAN**  
NO SCALE

BASIS OF PAYMENT:						
PAY ITEM NUMBER	UNIT	PAY ITEM DESCRIPTION	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
150-1000	LS	TRAFFIC CONTROL	-	-	-	-
700-9300	SY	SOD	CYNODON DACTYLON 'TIFWAY 419' SOD	HYBRID BERMUDA GRASS	-	-
702-0212	EA	CRATAEGUS VIRIDIS	CRATAEGUS VIRIDIS 'WINTER KING'	WINTER KING HAWTHORN	3 INCH CALIPER	SPACING AS SHOWN
702-0470	EA	ILEX VOMITORIA	ILEX VOMITORIA 'NANA'	DWARF YALPON HOLLY	3 GAL	SPACING AS SHOWN
702-9005	LB	SPRING APPLICATION FERTILIZER	SPRING FERTILIZER	FERTILIZER	-	-
702-9025	SY	LANDSCAPE MULCH	-	PINE STRAW MULCH	-	-

DATE	DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA
REVISION	CONSTRUCTION DETAIL
BY	ROUNDABOUT LANDSCAPING DETAILS
	NO SCALE
	SEPTEMBER 2011
	NUMBER RA-1

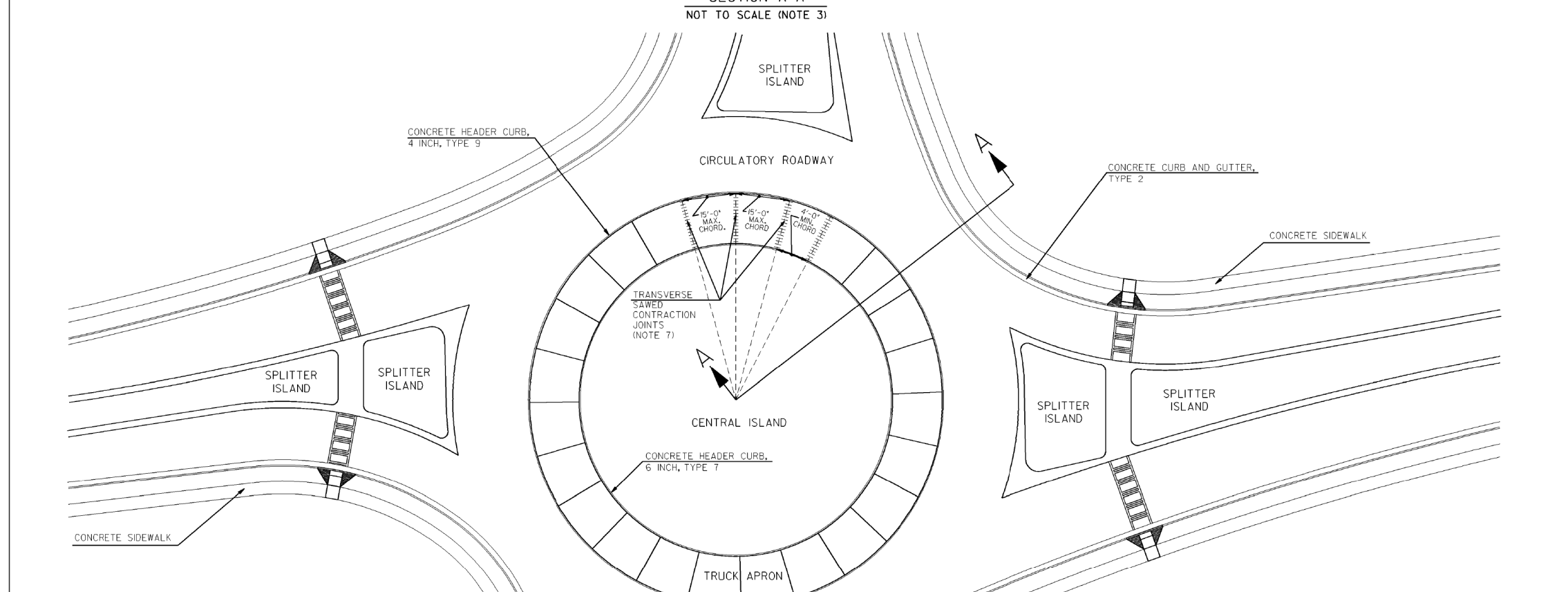
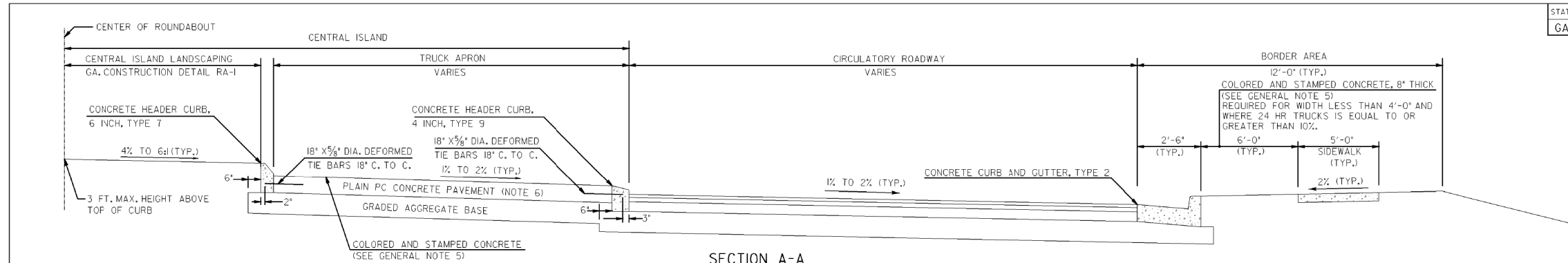
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REVISION DATES		CONSTRUCTION DETAILS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	40-0009	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

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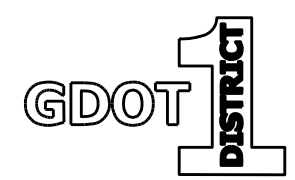
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



- GENERAL NOTES:
1. GEORGIA STANDARD SPECIFICATIONS CURRENT EDITION, AND SUPPLEMENTS THERETO.
  2. USE THIS STANDARD FOR SINGLE-LANE AND MULTI-LANE ROUNDABOUTS WHERE CIRCULATORY ROADWAY PAVING IS ASPHALT CONCRETE.
  3. REFER TO PLANS FOR SECTION A-A SLOPES AND DIMENSIONS SHOWN AS VARIES OR TYPICAL, AND FOR CIRCULATORY ROADWAY PAVEMENT SCHEDULE.
  4. SEE GA. STANDARD 9032-B FOR CONCRETE CURB AND GUTTER, HEADER CURBS, AND SPLITTER ISLANDS (CONCRETE MEDIANS). SEE GA. CONSTRUCTION DETAILS A-3 AND A-4 FOR WHEELCHAIR RAMPS AND CROSSWALK DETAILS.
  5. STAMPED CONCRETE SHALL BE RED WITH COBBLE PATTERN UNLESS OTHERWISE SPECIFIED ON PLANS.
  6. CONCRETE TRUCK APRON SHALL BE 10' THICK UNLESS OTHERWISE SPECIFIED ON PLANS.
  7. CONTRACTION JOINTS SHALL BE EQUALLY SPACED, THE OUTSIDE CHORD SHALL BE LESS THAN OR EQUAL TO 15'-0", THE INSIDE CHORD SHALL BE GREATER THAN OR EQUAL TO 4'-0". IF TRUCK APRON IS WIDER THAN 14', LONGITUDINAL SAWED JOINTS, SEALS AND TIE-BARS ARE REQUIRED. SEE GA. STANDARD 5046-H FOR ADDITIONAL PORTLAND CEMENT CONCRETE PAVING JOINT DETAILS.

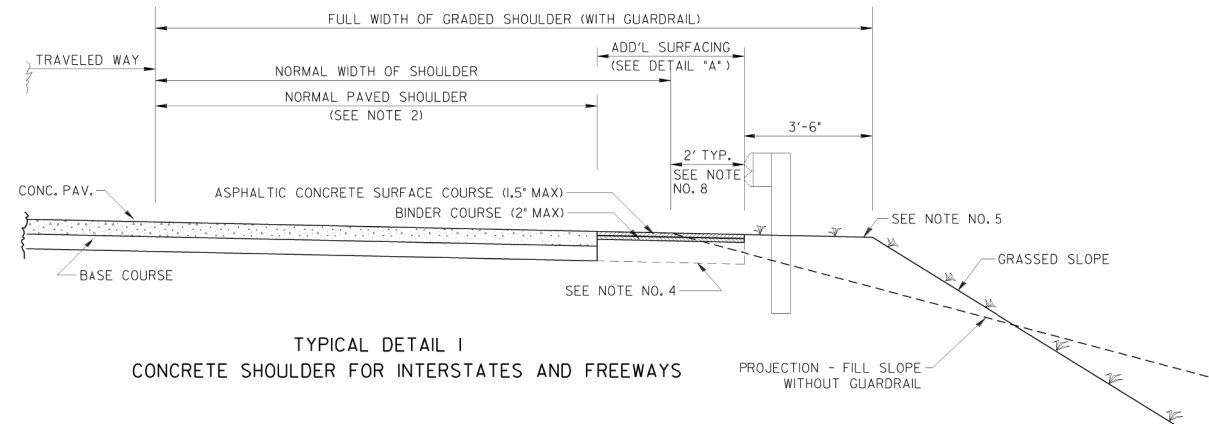
DATE		DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
REVISION		CONSTRUCTION DETAIL ROUNDABOUT TYPICAL SECTION ASPHALTIC CONCRETE CIRCULATORY ROADWAY	
BY		NO SCALE	JANUARY 2012
		NUMBER RA-2	

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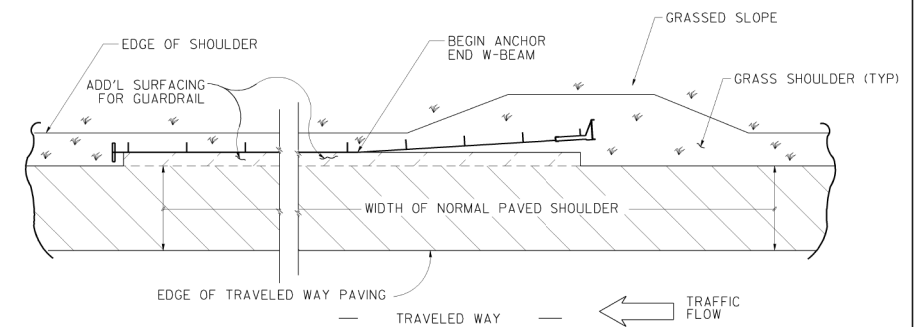


REVISION DATES		CONSTRUCTION DETAILS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	40-0010	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

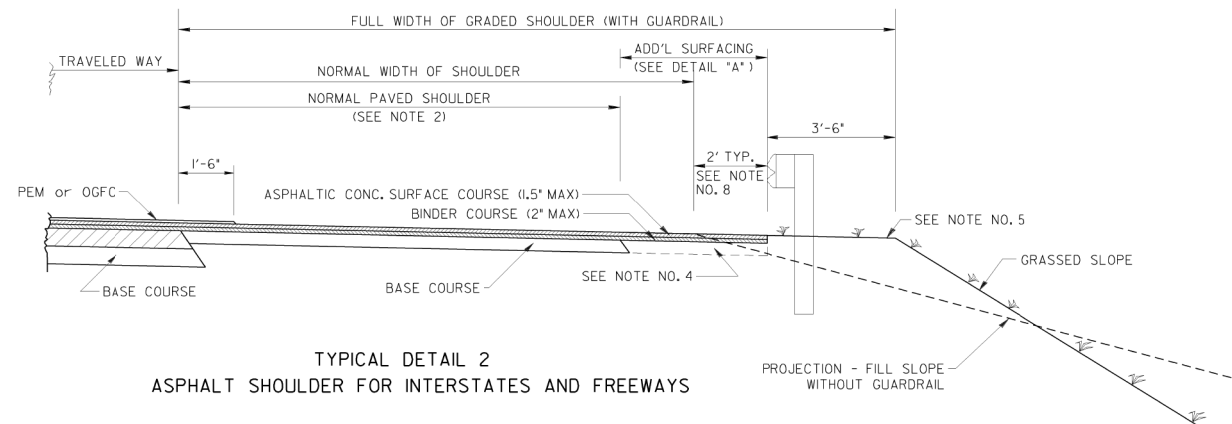
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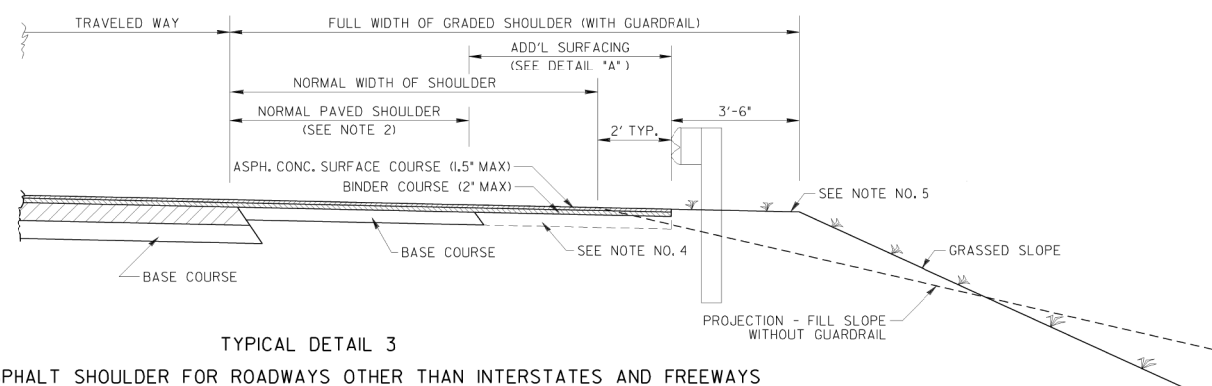
TYPICAL DETAIL 1  
CONCRETE SHOULDER FOR INTERSTATES AND FREEWAYS



DETAIL "A"  
ADDITIONAL SURFACING AT GUARDRAIL  
TYPICAL PLAN VIEW



TYPICAL DETAIL 2  
ASPHALT SHOULDER FOR INTERSTATES AND FREEWAYS

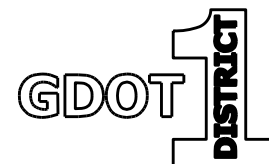


TYPICAL DETAIL 3  
ASPHALT SHOULDER FOR ROADWAYS OTHER THAN INTERSTATES AND FREEWAYS

GENERAL NOTES:

1. USE OF THESE DETAILS IS WHERE A PAVED SHOULDER WIDTH IS SPECIFIED AND GUARDRAIL IS REQUIRED
2. DETAILS OF NORMAL SHOULDER PAVING ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. SEE PROJECT PLANS FOR MATERIALS AND DIMENSIONS.
3. ADDITIONAL SURFACING SHALL TERMINATE AT THE FACE OF THE GUARDRAIL.
4. THE NORMAL PAVED SHOULDER WIDTH MAY BE EXTENDED TO THE FACE OF THE GUARDRAIL, WHERE SPECIFIED ON PROJECT PLANS.
5. IN AREAS WITH HIGHLY ERODIBLE SOIL, TEMPORARY EROSION CONTROL MEASURES SHALL BE PLACED ON THE SHOULDER UNTIL THE FORESLOPE IS FULLY GRASSED AND STABILIZED.
6. SEE GUARDRAIL STANDARDS FOR SHOULDER WIDENING DIMENSIONS AT ANCHORAGE, WHERE REQUIRED
7. SEE PROJECT PLANS FOR SHOULDER DIMENSIONS.
8. THE 2-FT OFFSET IS NOT REQUIRED FOR FREEWAYS AND INTERSTATES WITH 14-FT WIDE NORMAL SHOULDERS

4-19-16		3-1-16		9-30-02		4-23-02		DATE		DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
ADDED NOTE 8		REV. PMAT UNDER GUARDRAIL		COMBINED TWO S-4 DETAILS		REVISED		REVISION		CONSTRUCTION DETAIL SHOULDER PAVING AND SURFACING AT GUARDRAIL	
B/JD		F/BF		BY		NO SCALE		RE-DRAWN APRIL 2013		NUMBER S-4	



REVISION DATES

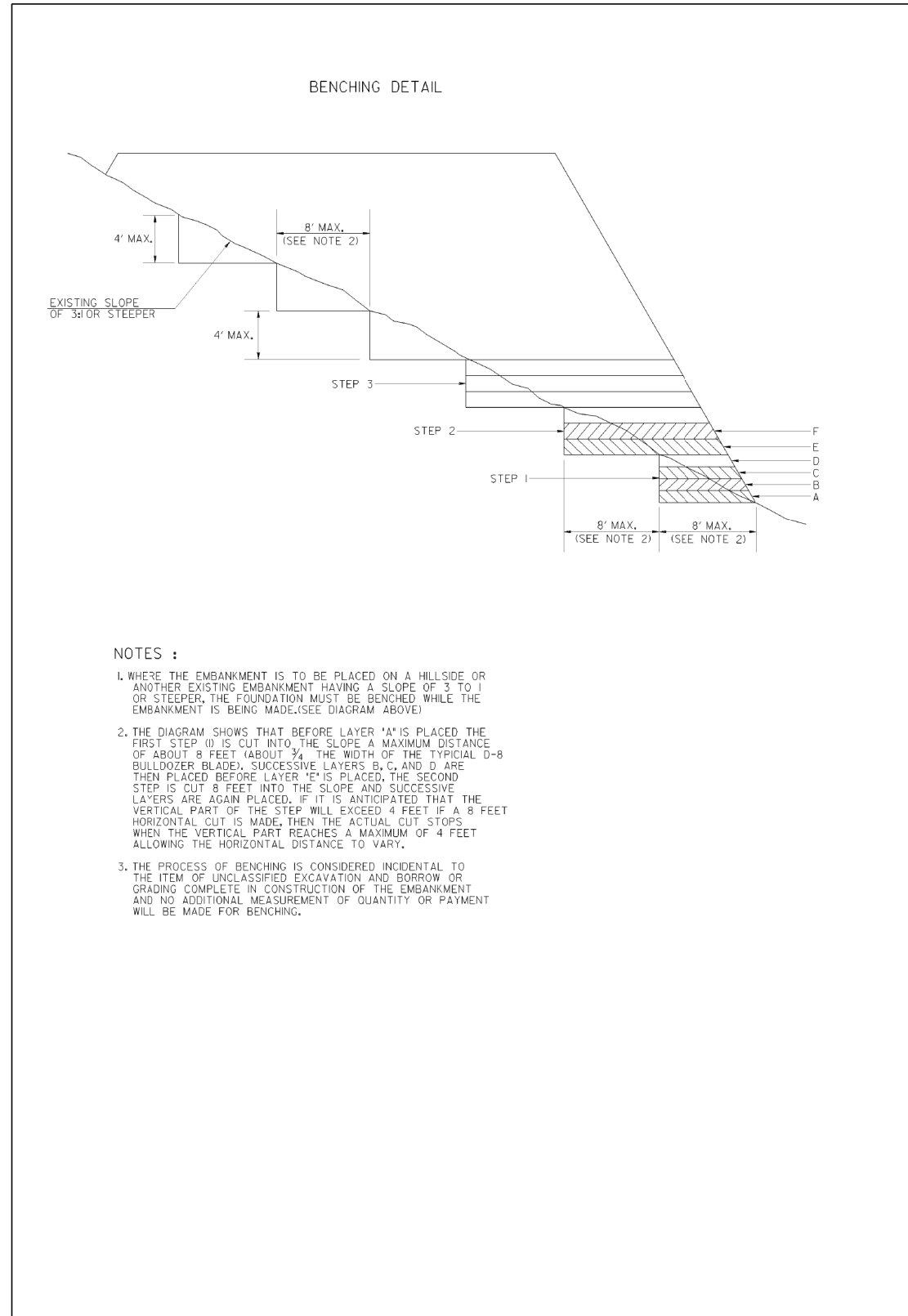

CONSTRUCTION DETAILS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	40-0011
CORRECTED:	DATE:	
VERIFIED:	DATE:	



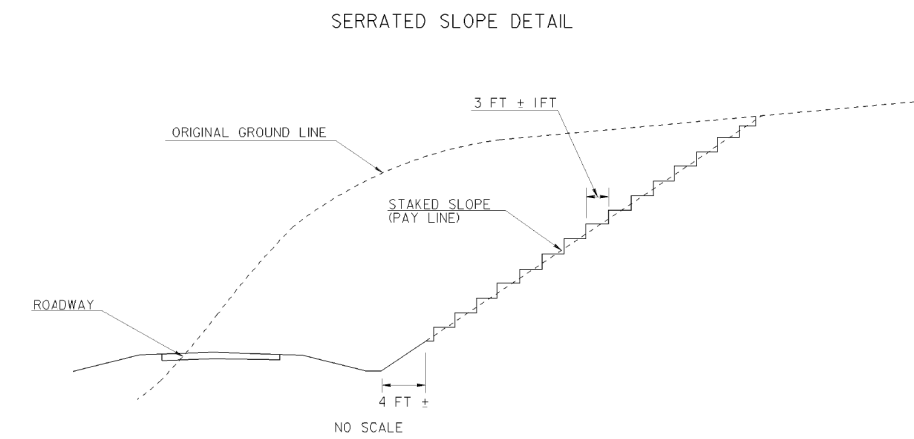
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**NOTES :**

1. WHERE THE EMBANKMENT IS TO BE PLACED ON A HILLSIDE OR ANOTHER EXISTING EMBANKMENT HAVING A SLOPE OF 3 TO 1 OR STEEPER, THE FOUNDATION MUST BE BENCHED WHILE THE EMBANKMENT IS BEING MADE.(SEE DIAGRAM ABOVE)
2. THE DIAGRAM SHOWS THAT BEFORE LAYER 'A' IS PLACED THE FIRST STEP (1) IS CUT INTO THE SLOPE A MAXIMUM DISTANCE OF ABOUT 8 FEET (ABOUT 3/4 THE WIDTH OF THE TYPICAL D-8 BULLDOZER BLADE). SUCCESSIVE LAYERS B, C, AND D ARE THEN PLACED BEFORE LAYER 'E' IS PLACED, THE SECOND STEP IS CUT 8 FEET INTO THE SLOPE AND SUCCESSIVE LAYERS ARE AGAIN PLACED. IF IT IS ANTICIPATED THAT THE VERTICAL PART OF THE STEP WILL EXCEED 4 FEET IF A 8 FEET HORIZONTAL CUT IS MADE, THEN THE ACTUAL CUT STOPS WHEN THE VERTICAL PART REACHES A MAXIMUM OF 4 FEET ALLOWING THE HORIZONTAL DISTANCE TO VARY.
3. THE PROCESS OF BENCHING IS CONSIDERED INCIDENTAL TO THE ITEM OF UNCLASSIFIED EXCAVATION AND BORROW OR GRADING COMPLETE IN CONSTRUCTION OF THE EMBANKMENT AND NO ADDITIONAL MEASUREMENT OF QUANTITY OR PAYMENT WILL BE MADE FOR BENCHING.

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

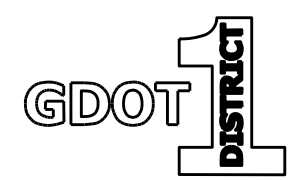


**NOTES :**

1. SLOPES STEEPER THAN 3:1 SHALL BE SERRATED.
2. WIDTH OF STEP SHALL BE 3 FT ± 1 FT.
3. HEIGHT OF STEP IS A FUNCTION OF WIDTH AND STAKED SLOPE.
4. TREAD OF STEP SHALL BE APPROXIMATELY HORIZONTAL.
5. SERRATED SLOPES SHALL BE USED ON ALL PROJECTS IN DISTRICTS 1, 6, AND 7, EXCEPT WHERE SPECIFICALLY EXCEPTED BY THE GEOTECHNICAL BUREAU IN THE SOIL SURVEY REPORT. SERRATED SLOPES SHALL NOT BE USED IN DISTRICTS 2, 3, 4, AND 5, UNLESS REQUIRED BY THE SOIL SURVEY.

REVISED BENCHING DETAIL & 6-B-09		DEPARTMENT OF TRANSPORTATION	
REVISED TITLE BLOCK		STATE OF GEORGIA	
GEN. REVISION	1-28-82	CONSTRUCTION DETAIL	
BY	DATE		
NO SCALE		JULY, 1981	
NUMBER		S-7	

6/18/2009 1:38:27 PM \\GDOT-DSN1\BPL01\OCF\gs\_11ff\_sutpat.qcf gowens V:\GARY\REVISED S-7\S-7.plt

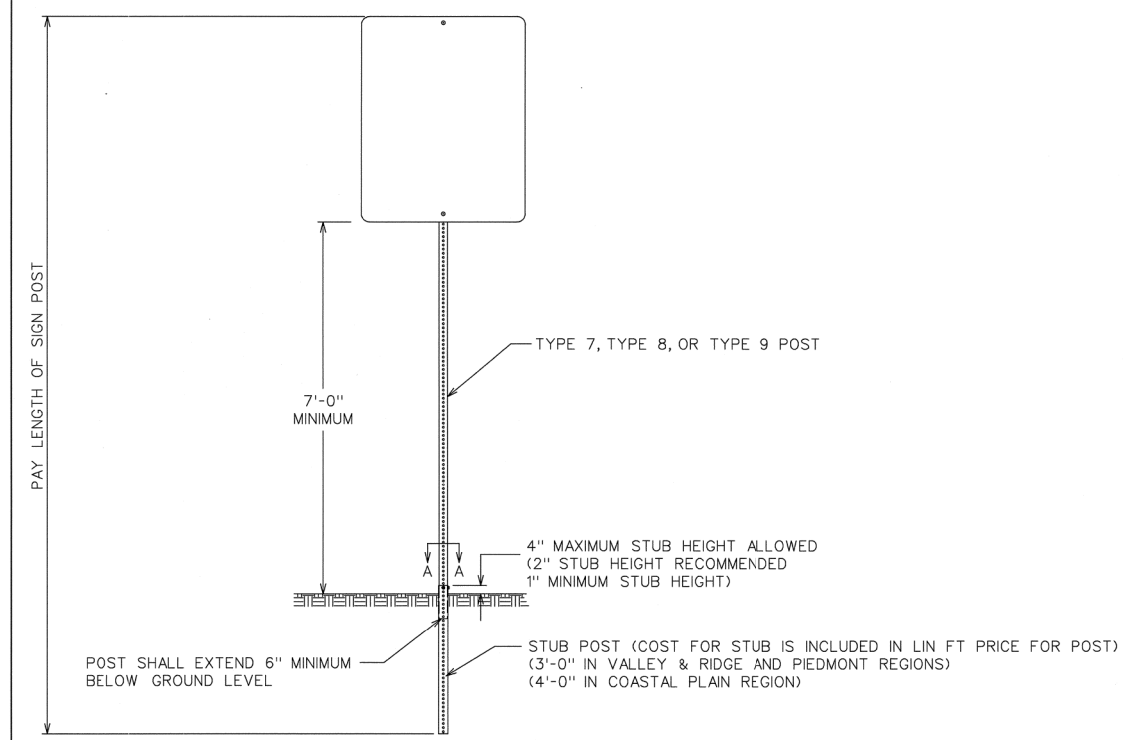


REVISION DATES		CONSTRUCTION DETAILS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD	
		LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	40-0012	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



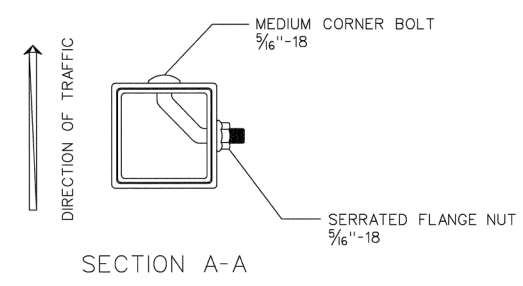


STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



FRONT VIEW

POST	STUB SIZE
TYPE 7	2 1/4" x 2 1/4"
TYPE 8	2 3/4" x 2 3/4"
TYPE 9	2 1/2" x 2 1/2"



SECTION A-A

SIGN POST SELECTION CHART

70 MPH Wind Load Chart + 15% Gust Factor

Sign Centroid	SLIP BASE NOT REQUIRED				GROUND MOUNTED BREAKAWAY SIGN SUPPORT REQUIRED				
	TYPE 7 2" x 1 1/4 ga.		TYPE 9 2-1/4" x 1 1/4 ga.	TYPE 8 2-1/2" x 1 1/2 ga.	TYPE 8 2-1/2" x 1 1/2 ga.		TYPE 8 w/TYPE 9 Insert* 2-1/2" x 1 1/2 ga. w/2-1/4" x 1 1/4 ga.		
	1 Post	2 Post	1 Post	1 Post	2 Post	3 Post	1 Post	2 Post	3 Post
	SQUARE FOOTAGE								
6'	13.50	27.00	19.25	30.00	60.00	90.00	49.25	98.50	147.75
7'	11.60	23.20	16.50	25.75	51.50	77.25	42.25	84.50	126.75
8'	10.15	20.30	14.45	22.55	45.10	67.65	37.00	74.00	111.00
9'	9.00	18.00	12.85	20.00	40.00	60.00	32.85	65.70	98.55
10'	8.10	16.20	11.55	18.00	36.00	54.00	29.55	59.10	88.65
11'	7.40	14.80	10.50	16.40	32.80	49.20	26.90	53.80	80.70
12'	6.80	13.60	9.65	15.00	30.00	45.00	24.65	49.30	73.95
13'	6.25	12.50	8.90	13.85	27.70	41.55	22.75	45.50	68.25
14'	5.80	11.60	8.25	12.90	25.80	38.70	21.15	42.30	63.45
15'	5.00	10.00	6.45	10.10	20.20	30.30	16.55	33.10	49.65
16'	4.70	9.40	6.05	9.45	18.90	28.35	15.50	31.00	46.50
17'	4.40	8.80	5.70	8.90	17.80	26.70	14.60	29.20	43.80
18'	4.15	8.30	5.40	8.40	16.80	25.20	13.80	27.60	41.40
19'	3.95	7.90	5.10	7.95	15.90	23.85	13.05	26.10	39.15
20'	3.75	7.50	4.85	7.55	15.10	22.65	12.40	24.80	37.20

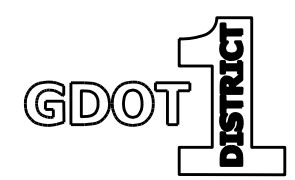
SIGN CENTROID IS DISTANCE FROM GROUND LEVEL TO BOTTOM OF SIGN PLUS HALF THE HEIGHT OF SIGN.  
 EXAMPLE: 24" X 48" SIGN THAT IS 7 FEET FROM GROUND TO BOTTOM OF SIGN. ADD HALF OF 48" (24" OR 2 FT) PLUS 7 FT. = 9' CENTROID.

SIGN PLATE SHALL NOT EXCEED 48" IN WIDTH ON A SINGLE POST.  
 TYPE 9 INSERT SHALL BE A CONTINUOUS POST INSERTED INTO THE TYPE 8 POST WHERE REQUIRED. THE INSERT POST SHALL EXTEND FROM THE BOTTOM OF THE SLIP BASE UPPER ASSEMBLY TO 4" BELOW THE BOTTOM OF THE SIGN. THE INSERT POST SHALL NOT EXTEND ABOVE THE BOTTOM OF THE SIGN. PAYMENT FOR THE INSERT POST SHALL BE PER LINEAR FOOT OF TYPE 9 POST.

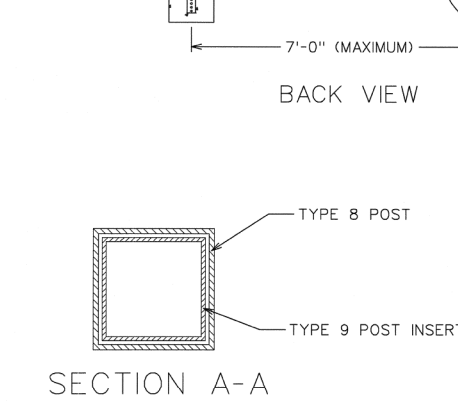
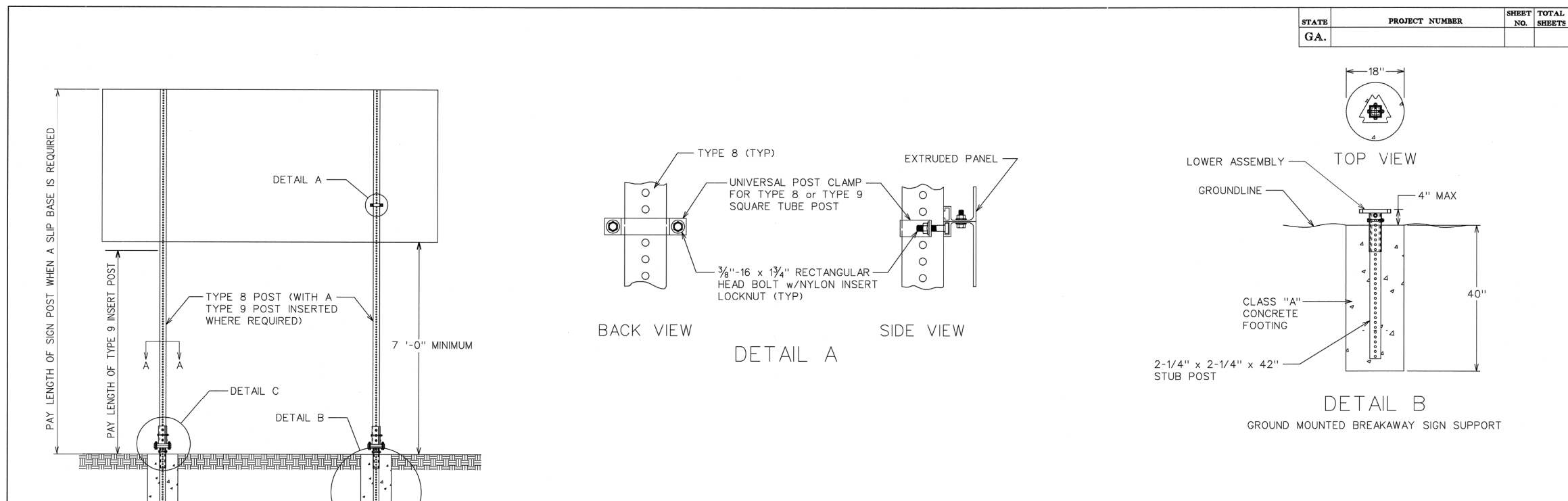
GROUND MOUNTED BREAKAWAY SIGN SUPPORT WILL BE MEASURED AND PAID FOR SEPARATELY. THE COST FOR THIS WORK SHALL INCLUDE THE UPPER AND LOWER ASSEMBLY, STUB POST, CLASS "A" CONCRETE, ALL HARDWARE NECESSARY TO COMPLETE THE INSTALLATION, AND BE INCLUDED IN THE BID PRICE SUBMITTED FOR ITEM 636-3010.

DATE	REVISIONS	GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE OF TRAFFIC SAFETY & DESIGN
		TYPE 7, 8, AND 9 SQUARE TUBE POST INSTALLATION DETAIL
		NO SCALE JULY 2002

T-3A



REVISION DATES		CONSTRUCTION DETAILS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	40-0015	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



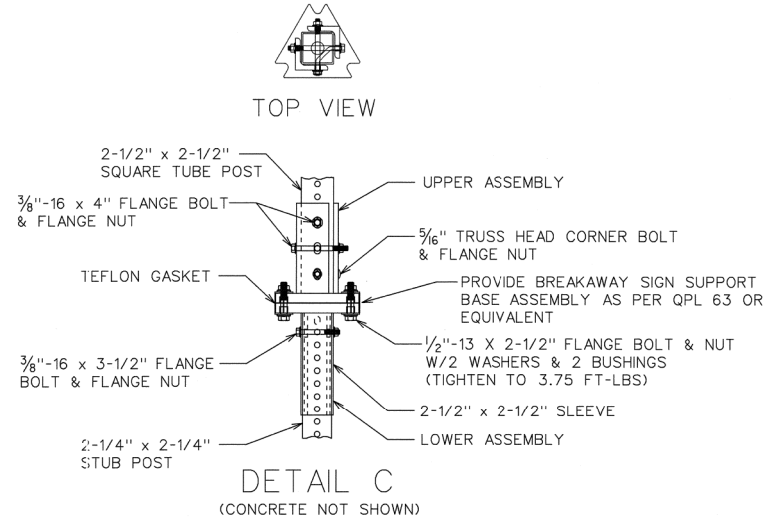
**SIGN POST SELECTION CHART**  
70 MPH Wind Load Chart + 15% Gust Factor

Sign Centroid	SLIP BASE NOT REQUIRED				GROUND MOUNTED BREAKAWAY SIGN SUPPORT REQUIRED				
	TYPE 7 2 1/4" 14 ga.		TYPE 9 2 1/4" 14 ga.	TYPE 8 2 1/2" 12 ga.	TYPE 8 2 1/2" 12 ga.		TYPE 8 w/TYPE 9 Insert 2 1/2" 12 ga. w/2 1/4" 14 ga.		
	1 Post	2 Post	1 Post	1 Post	2 Post	3 Post	1 Post	2 Post	3 Post
	SQUARE FOOTAGE				SQUARE FOOTAGE				
6'	13.50	27.00	19.25	30.00	60.00	90.00	49.25	98.50	147.75
7'	11.60	23.20	16.50	25.75	51.50	77.25	42.25	84.50	126.75
8'	10.15	20.30	14.45	22.55	45.10	67.65	37.00	74.00	111.00
9'	9.00	18.00	12.85	20.00	40.00	60.00	32.85	65.70	98.55
10'	8.10	16.20	11.55	18.00	36.00	54.00	29.55	59.10	88.65
11'	7.40	14.80	10.50	16.40	32.80	49.20	26.90	53.80	80.70
12'	6.80	13.60	9.65	15.00	30.00	45.00	24.65	49.30	73.95
13'	6.25	12.50	8.90	13.85	27.70	41.55	22.75	45.50	68.25
14'	5.80	11.60	8.25	12.90	25.80	38.70	21.15	42.30	63.45
15'	5.00	10.00	6.45	10.10	20.20	30.30	16.55	33.10	49.65
16'	4.70	9.40	6.05	9.45	18.90	28.35	15.50	31.00	46.50
17'	4.40	8.80	5.70	8.90	17.80	26.70	14.60	29.20	43.80
18'	4.15	8.30	5.40	8.40	16.80	25.20	13.80	27.60	41.40
19'	3.95	7.90	5.10	7.95	15.90	23.85	13.05	26.10	39.15
20'	3.75	7.50	4.85	7.55	15.10	22.65	12.40	24.80	37.20

SIGN CENTROID IS DISTANCE FROM GROUND LEVEL TO BOTTOM OF SIGN PLUS HALF THE HEIGHT OF SIGN.  
EXAMPLE: 24" X 48" SIGN THAT IS 7 FEET FROM GROUND TO BOTTOM OF SIGN. ADD HALF OF 48" (24" OR 2 FT) PLUS 7 FT. = 9' CENTROID.  
SIGN PLATE SHALL NOT EXCEED 48" IN WIDTH ON A SINGLE POST.

TYPE 9 INSERT SHALL BE A CONTINUOUS POST INSERTED INTO THE TYPE 8 POST WHERE REQUIRED. THE INSERT POST SHALL EXTEND FROM THE BOTTOM OF THE SLIP BASE UPPER ASSEMBLY TO 4" BELOW THE BOTTOM OF THE SIGN. THE INSERT POST SHALL NOT EXTEND ABOVE THE BOTTOM OF THE SIGN. PAYMENT FOR THE INSERT POST SHALL BE PER LINEAR FOOT OF TYPE 9 POST.

GROUND MOUNTED BREAKAWAY SIGN SUPPORT WILL BE MEASURED AND PAID FOR SEPARATELY. THE COST FOR THIS WORK SHALL INCLUDE THE UPPER AND LOWER ASSEMBLY, STUB POST, CLASS "A" CONCRETE, ALL HARDWARE NECESSARY TO COMPLETE THE INSTALLATION, AND BE INCLUDED IN THE BID PRICE SUBMITTED FOR ITEM 636-3010.



DATE	REVISIONS	GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE OF TRAFFIC SAFETY & DESIGN

NC SCALE July 2002

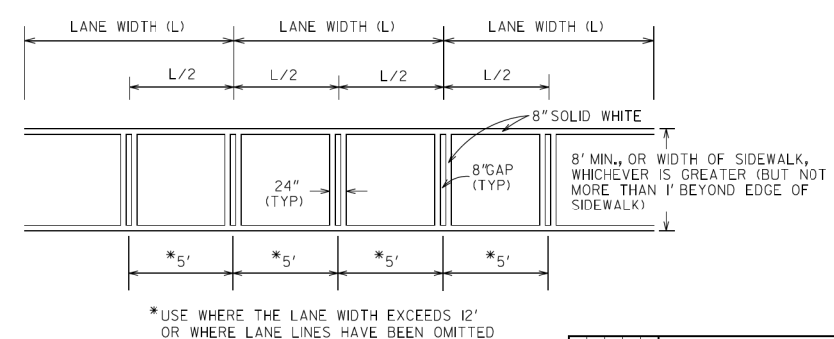
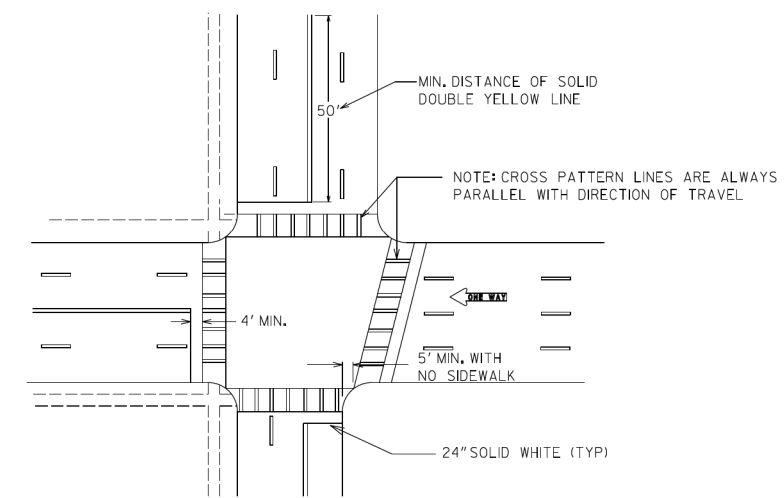
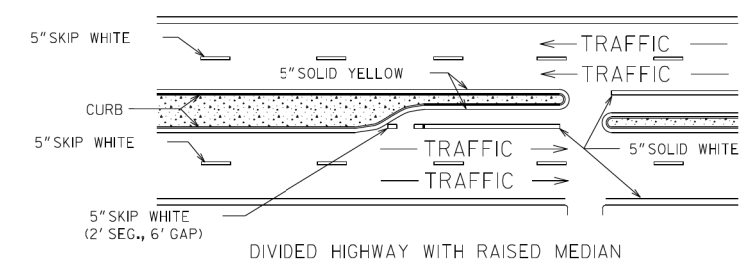
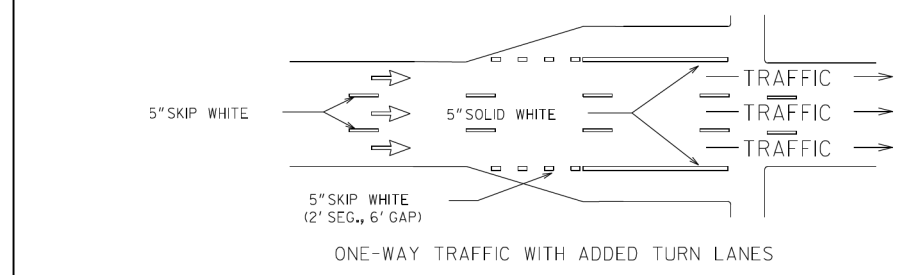
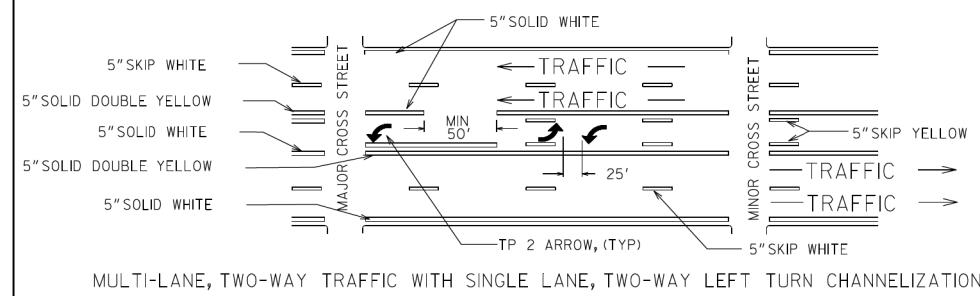
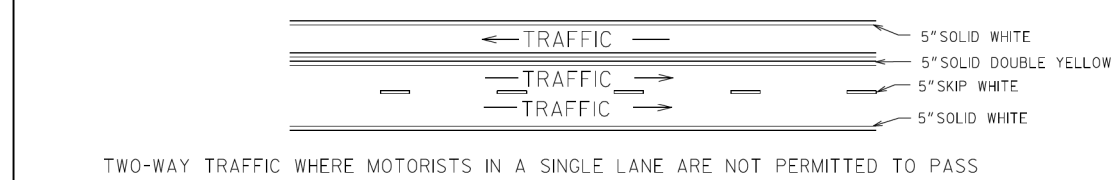
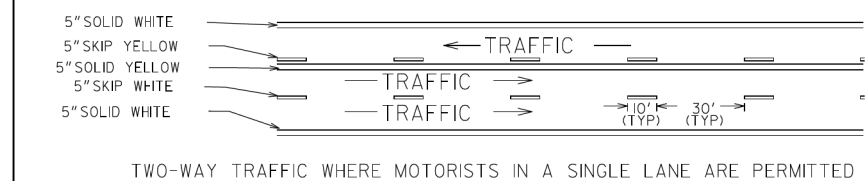
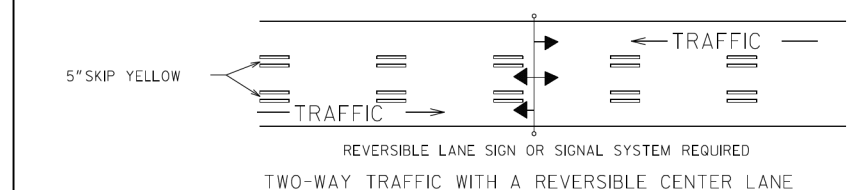
REVISION DATES	

**CONSTRUCTION DETAILS**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	40-0016
CORRECTED:	DATE:	
VERIFIED:	DATE:	

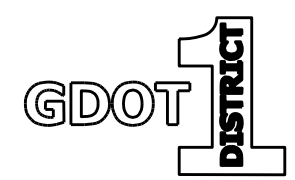


STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



- GENERAL NOTES:**
1. SPACING BETWEEN DOUBLE LINES SHALL BE EQUAL TO THE LINE WIDTH.
  2. EDGE LINES SHALL BE PLACED A MINIMUM OF 4 INCHES FROM THE NORMAL EDGE OF PAVEMENT.
  3. CONTRAST MARKINGS FOR SKIP STRIPING SHALL BE AS SHOWN IN DETAIL T-II B.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA			
<b>CONSTRUCTION DETAILS</b>			
PAVEMENT MARKING PLACEMENT NON-LIMITED ACCESS ROADWAY			
NO SCALE		JANUARY 2000	
DESIGNED	BY	NUMBER	
DRAWN	BY	T-IIA	
TRACED	BY		
CHECKED	BY		



REVISION DATES	

CONSTRUCTION DETAILS			
US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY			
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	40-0018	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

STATE	PROJECT NUMBER	SHEET No.	TOTAL SHEETS
GA.			

TYPE 1: ONLY (8'-0" height, 7'-11" width)

TYPE 3B (TWO LANES): SCHOOL BUSES (10'-0" height, 19'-4" width)

TYPE 6: SCHOOL BUSES (8'-0" height, 10'-5" width)

TYPE 2: STOP (8'-0" height, 7'-9" width)

TYPE 4: AHEAD (8'-0" height, 8'-6" width)

TYPE 15: YIELD (8'-0" height, 8'-6" width)

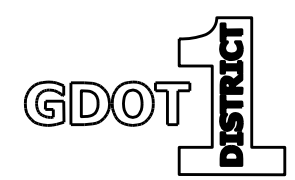
TYPE 20: EXPRESS (8'-0" height, 10'-1" width)

TYPE 3A (SINGLE LANE): SCHOOL (8'-0" height, 9'-8" width)

TYPE 5: SLOW (8'-0" height, 7'-8" width)

TYPE 16: SIGNAL (8'-0" height, 9'-10" width)

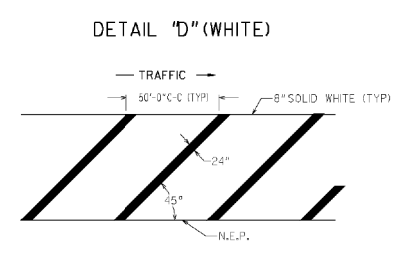
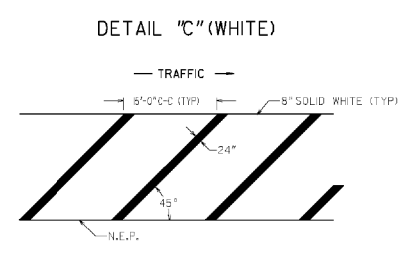
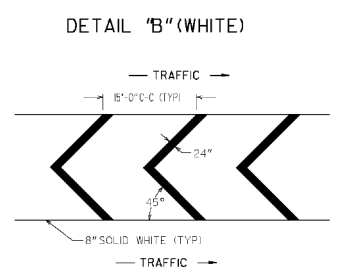
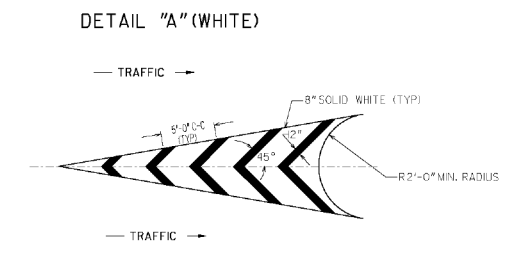
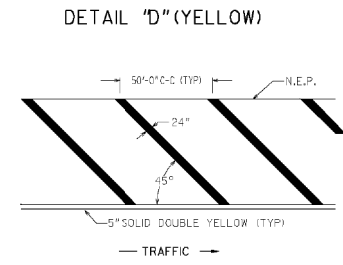
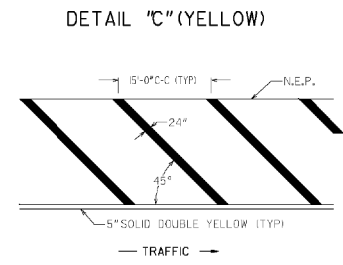
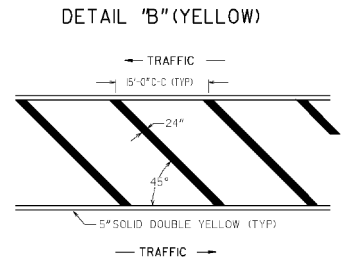
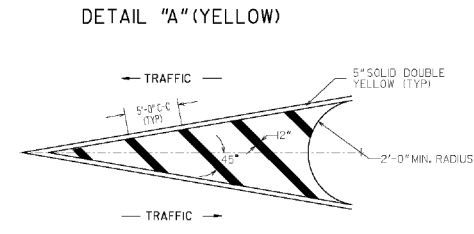
DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA CONSTRUCTION DETAILS PAVEMENT MARKINGS WORDS SHEET 1 OF 2 NO SCALE JAN. 2000	DATE	11-04-20
	BY	ACP
	DESIGNED	_____
	DRAWN	_____
TRACED	_____	NUMBER
CHECKED	_____	T-13A



REVISION DATES		CONSTRUCTION DETAILS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	40-0019	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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- GENERAL NOTES:**
1. FOR YELLOW STRIPING, THE SQUARE YARDS SHOWN ON PLAN, SUMMARY AND DETAILED ESTIMATE SHEETS INCLUDE THE AREA WITHIN THE BORDERS AND THE 5" SOLID DOUBLE YELLOW BORDER.
  2. FOR WHITE STRIPING, THE SQUARE YARDS SHOWN ON PLAN, SUMMARY AND DETAILED ESTIMATE SHEETS INCLUDES THE AREA WITHIN THE BORDERS AS WELL AS THE 8" SOLID WHITE BORDER.

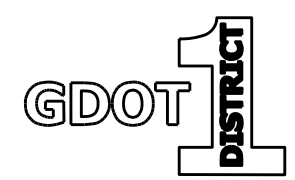
**GEORGIA**  
DEPARTMENT  
OF  
TRANSPORTATION

- NO SCALE -

DATE	REVISIONS
6/25/04	Modified general note 1
1/18/05	CHANGED BORDER
11/21/08	Modified general note 1

STATE OF GEORGIA  
DEPARTMENT OF TRANSPORTATION  
OFFICE: TRAFFIC OPERATIONS  
SIGNING AND MARKING PLANS  
DETAIL OF PAVEMENT MARKING  
HATCHING  
JANUARY 2000

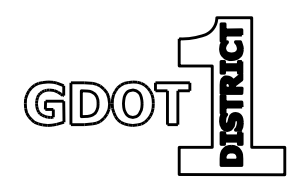
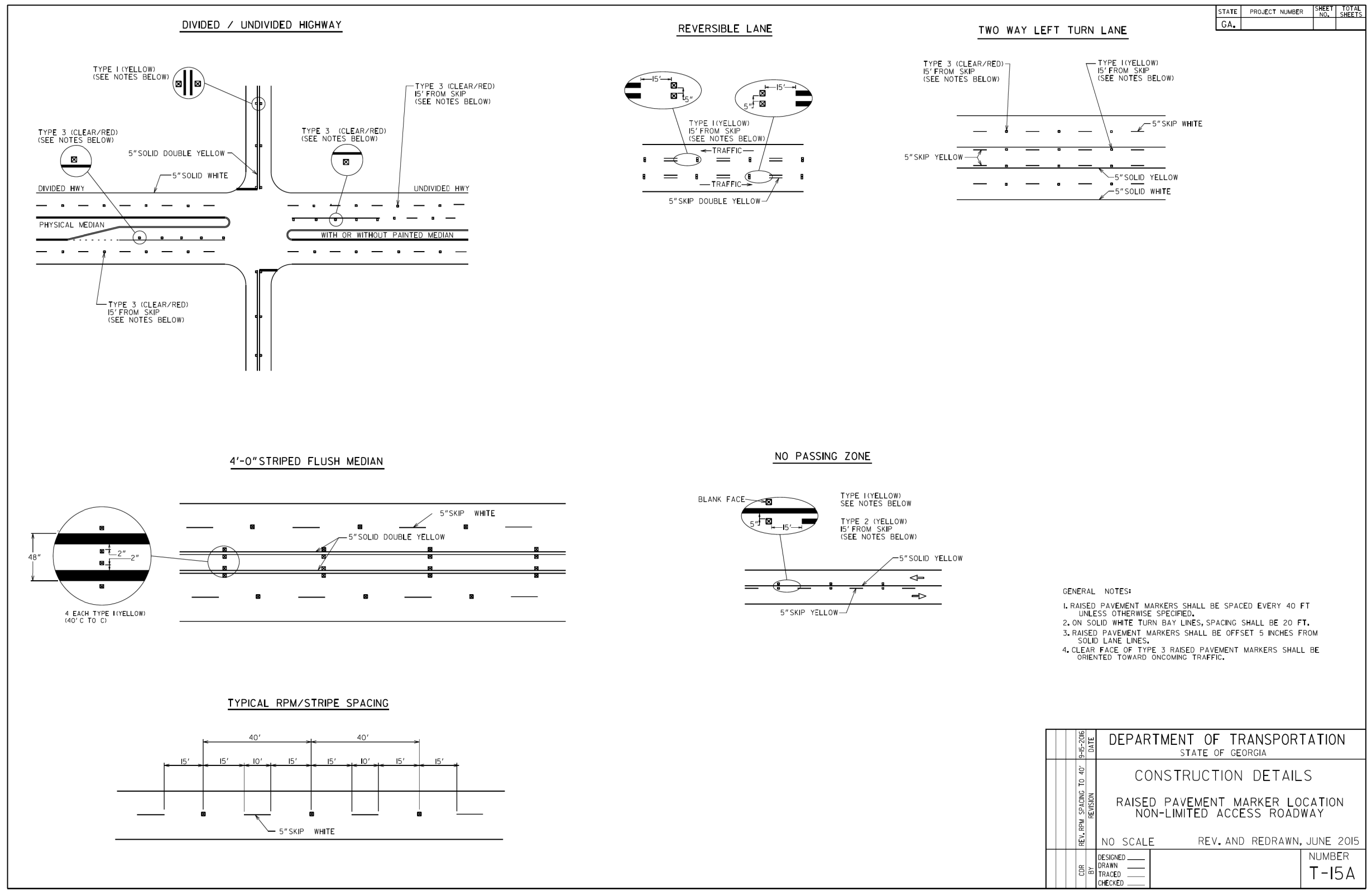
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NUMBER  
T -14



**REVISION DATES**

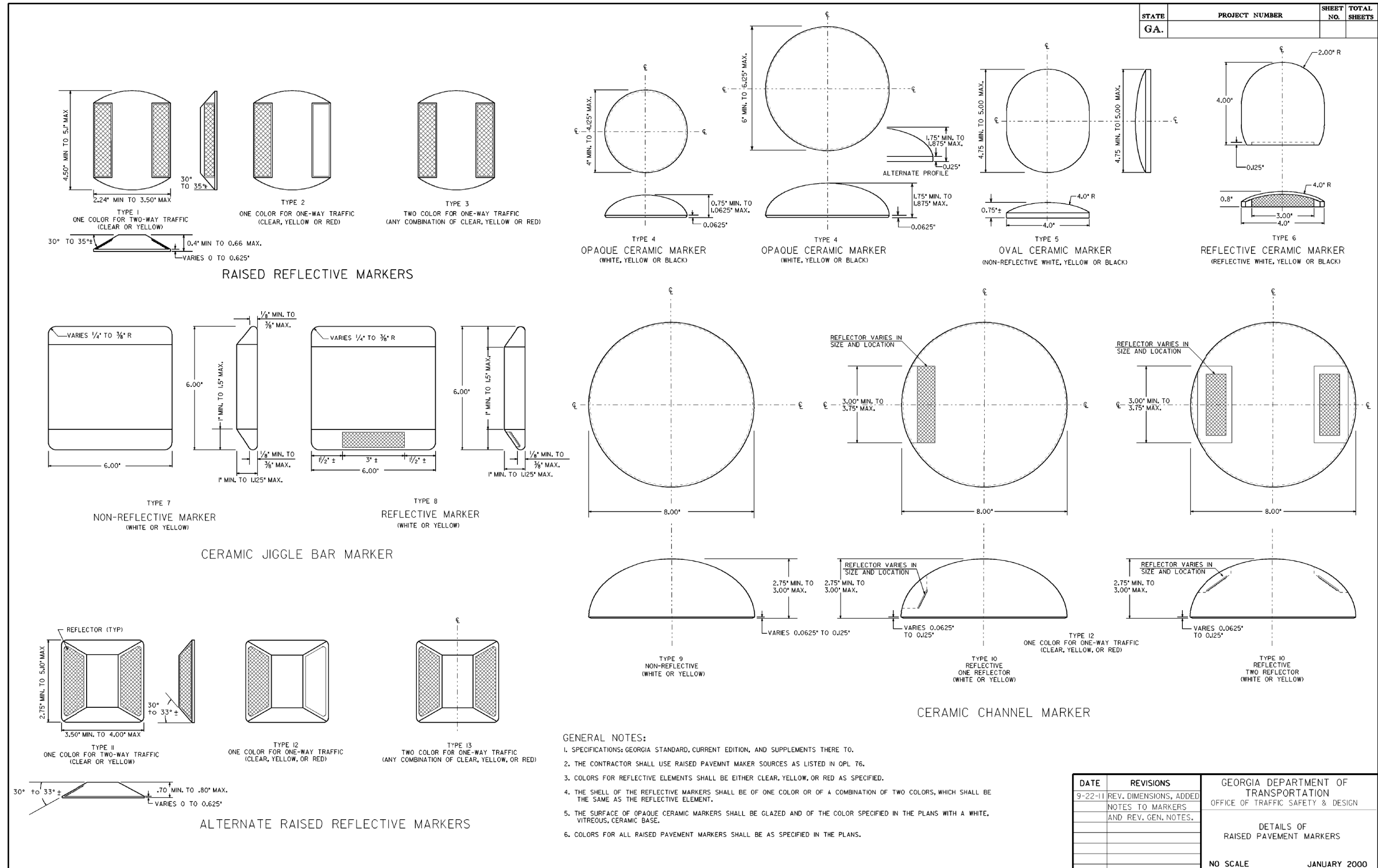

**CONSTRUCTION DETAILS**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	40-0020
CORRECTED:	DATE:	
VERIFIED:	DATE:	



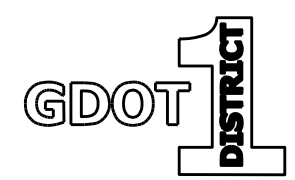
REVISION DATES		CONSTRUCTION DETAILS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	40-0021	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

9/22/2011 10:58:57 AM \\GDOT-DRN\GDOT\GDOT\Kip8000.qcf gdwene V:\GARY\Released Pavement markings\T15c.prf 00-R06

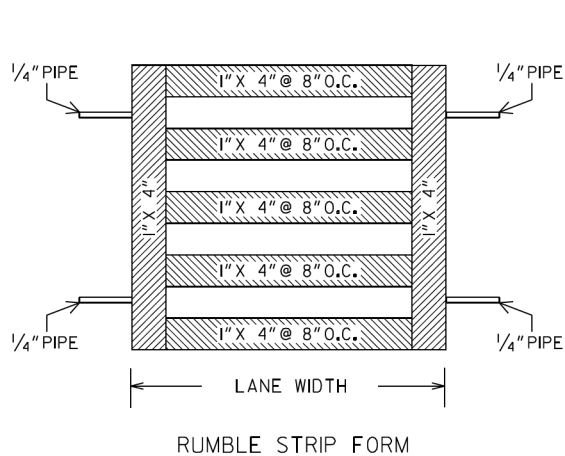


DATE	REVISIONS	GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE OF TRAFFIC SAFETY & DESIGN
9-22-11	REV. DIMENSIONS, ADDED NOTES TO MARKERS AND REV. GEN. NOTES.	DETAILS OF RAISED PAVEMENT MARKERS
		NO SCALE JANUARY 2000

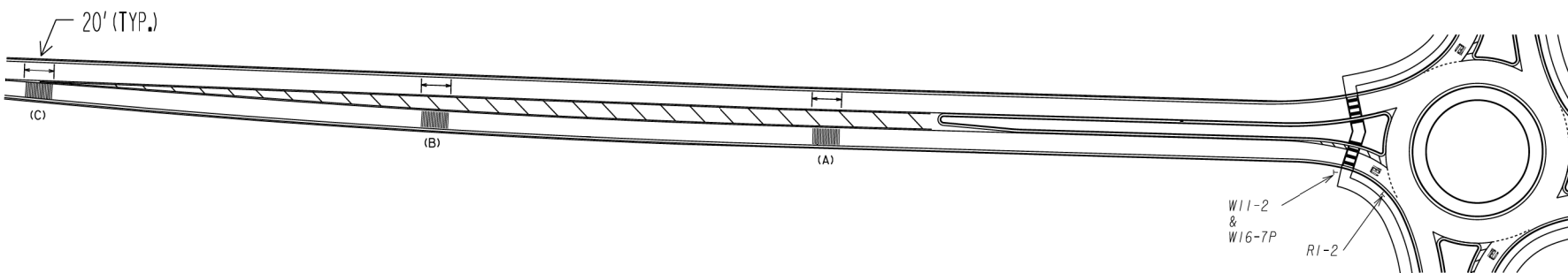
T-15C



REVISION DATES		CONSTRUCTION DETAILS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	40-0022	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



ROUNDAABOUT



GENERAL NOTES

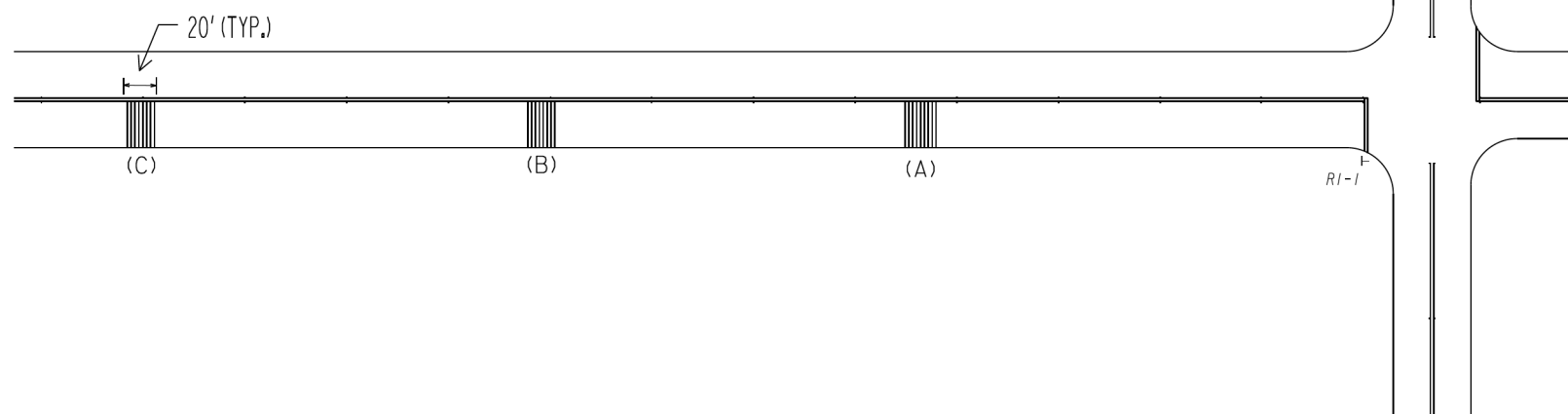
1. FORM SHALL BE FULL WIDTH OF LANE. (NOTE: NOT TO EXCEED CENTER LINE OR EDGE LINE PAVEMENT MARKINGS INCLUDING, IF APPLICABLE, RAISED PAVEMENT MARKERS). FOR MULTILANE APPROACHES, RUMBLE STRIPS SHALL BE PLACED ACROSS BOTH LANES

2. SEE SECTION 429 OF THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS CONSTRUCTION OF TRANSPORTATION SYSTEMS FOR MATERIALS, CONSTRUCTION REQUIREMENTS, MEASUREMENT, AND PAYMENT.

3. FORM SHOWN FOR REQUIRED SIZE AND SPACING OF RUMBLE STRIPS. OTHER MATERIALS FOR CONSTRUCTION OF FORM MAY BE USED AS APPROVED BY THE ENGINEER.

4. THERMOPLASTIC REFLECTORIZED PAVEMENT MARKING COMPOUND RUMBLE STRIPS SHOULD BE USED ON APPROACHES WITH 50 MPH OR GREATER SPEED LIMIT. FOR APPROACHES WITH SPEED LIMITS LESS THAN 50 MPH THERMOPLASTIC REFLECTORIZED PAVEMENT MARKING COMPOUND MAY BE USED IN LIEU OF ASPHALTIC CONCRETE IF APPROVED BY THE DISTRICT MAINTENANCE ENGINEER.

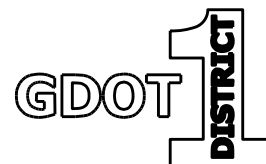
STOP CONTROLLED INTERSECTION



SPACING DIMENSIONS FROM STOP BAR/YIELD LINE			
SPEED LIMIT	(A)	(B)	(C)
40 MPH	200'	325'	475'
45 MPH		325'	550'
50 MPH		375'	625'
55 MPH	300'	450'	700'
60 MPH		500'	775'
65 MPH		550'	850'

DRAWINGS ARE NOT TO SCALE

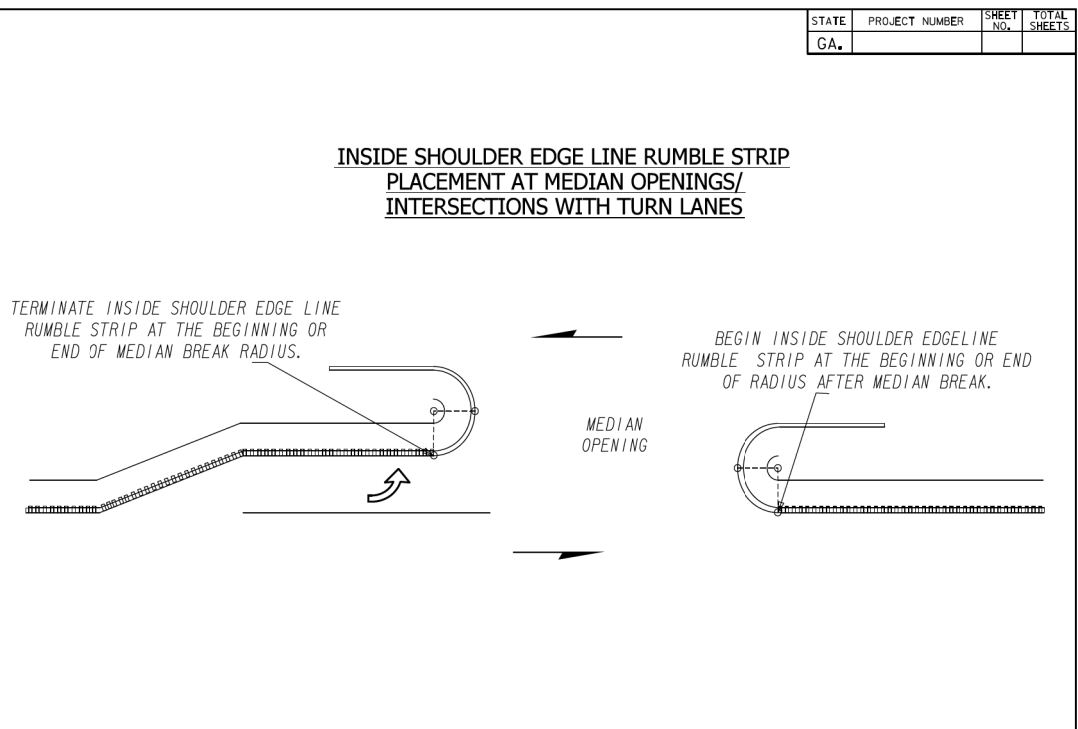
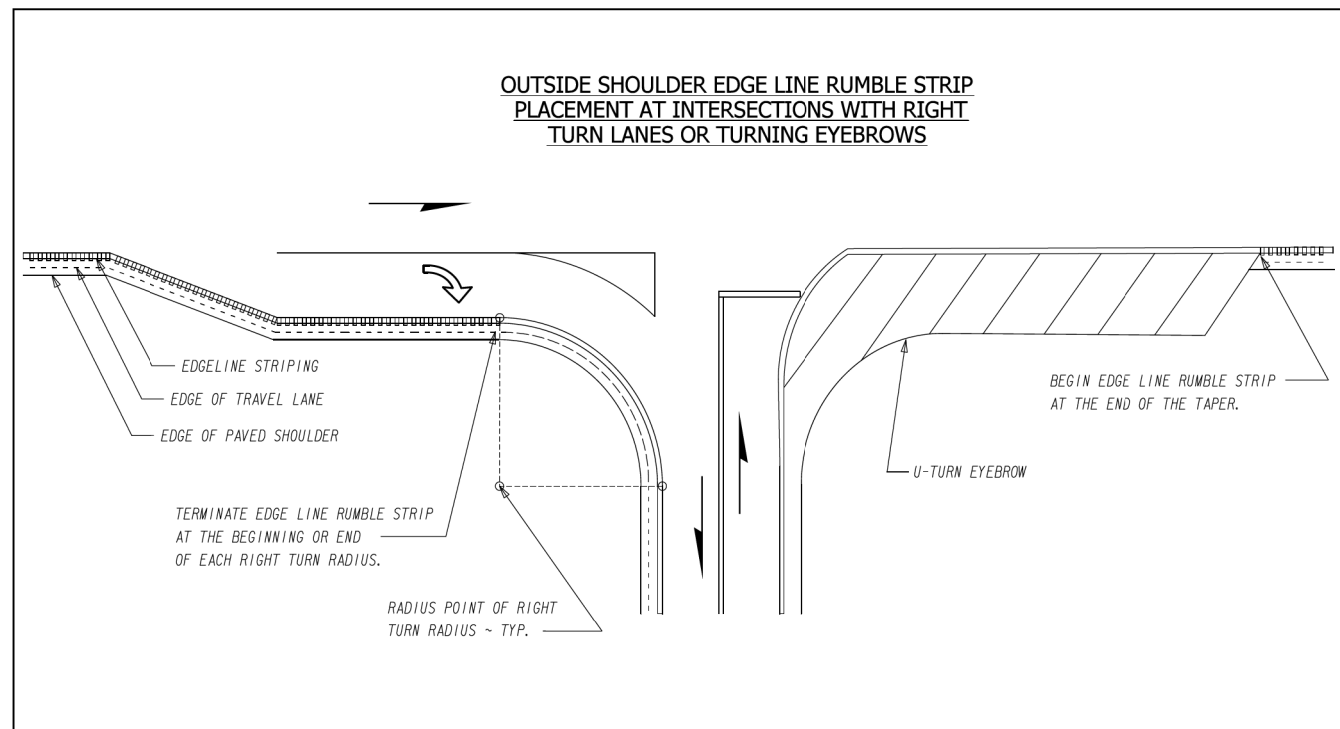
ADJUSTED RUMBLE STRIP SPACING	11-04-20	DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA  CONSTRUCTION DETAILS RUMBLE STRIPS; ROUNDABOUTS AND STOP CONTROLLED INTERSECTIONS  NO SCALE JANUARY 2000
ADD ROUNDABOUT DTL.		
ADJUSTED W3-16 SIGN LOC.	4-08-03	
CHANGED LANE WIDTH OF RUMBLE STRIP GEN. NOTES		
CHANGED R4-1 SIGN TO 36 IN.	3-31-00	
BY	REVISION	DATE
ACP	DESIGNED	_____
ACP	DRAWN	_____
ACP	TRACED	_____
	CHECKED	_____
		NUMBER T-19



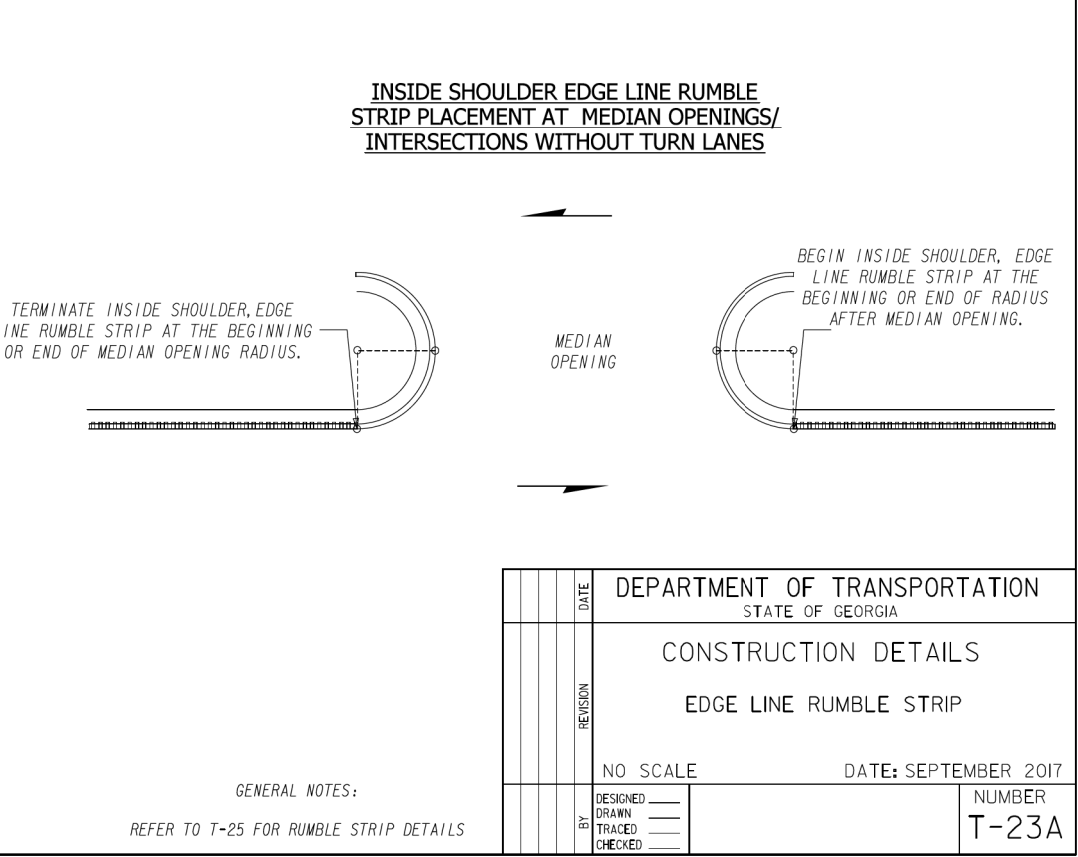
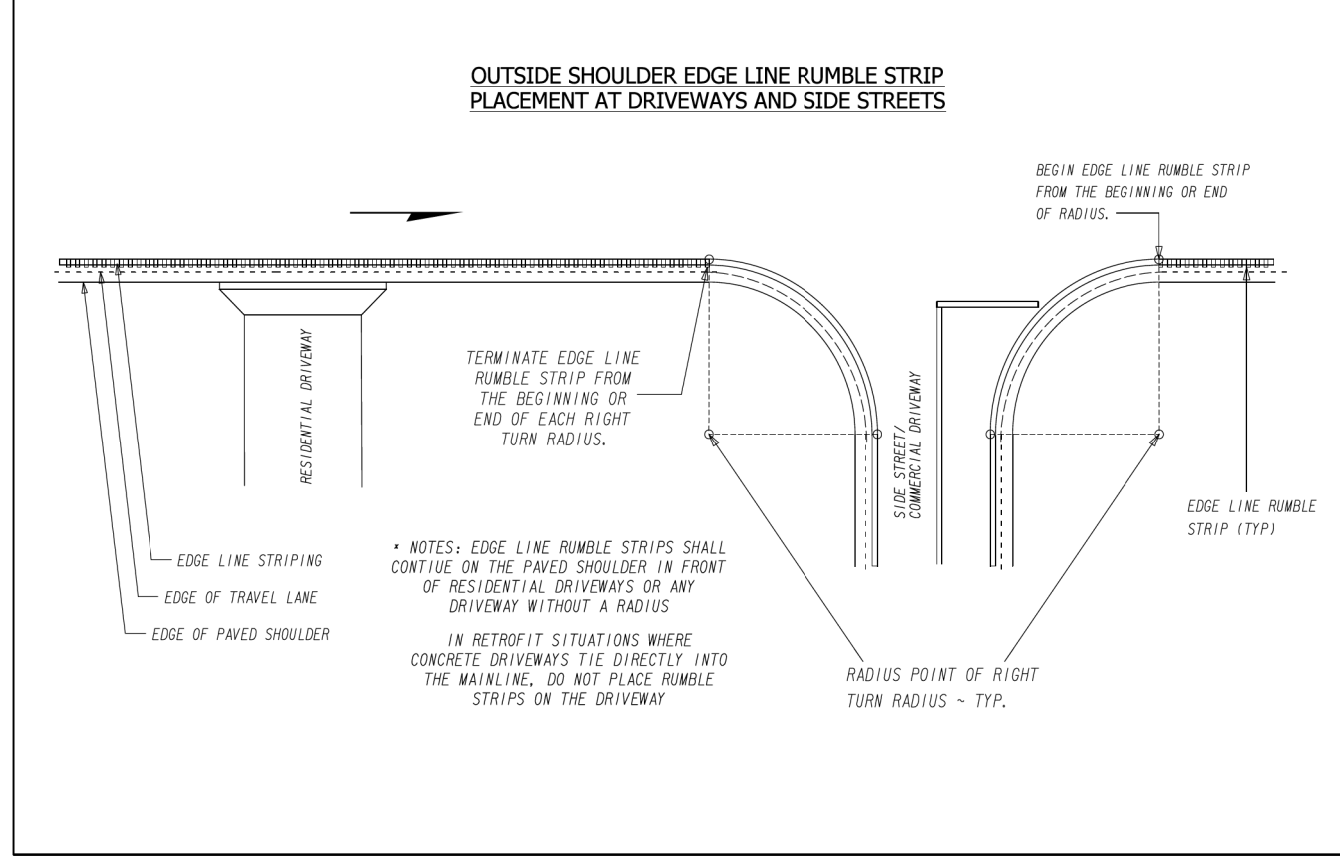
REVISION DATES

**CONSTRUCTION DETAILS**  
 US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	40-0023
CORRECTED:	DATE:	
VERIFIED:	DATE:	

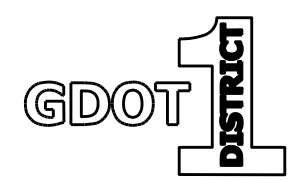


STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
CONSTRUCTION DETAILS	
EDGE LINE RUMBLE STRIP	
NO SCALE	DATE: SEPTEMBER 2017
DESIGNED _____	NUMBER T-23A
DRAWN _____	
TRACED _____	
CHECKED _____	

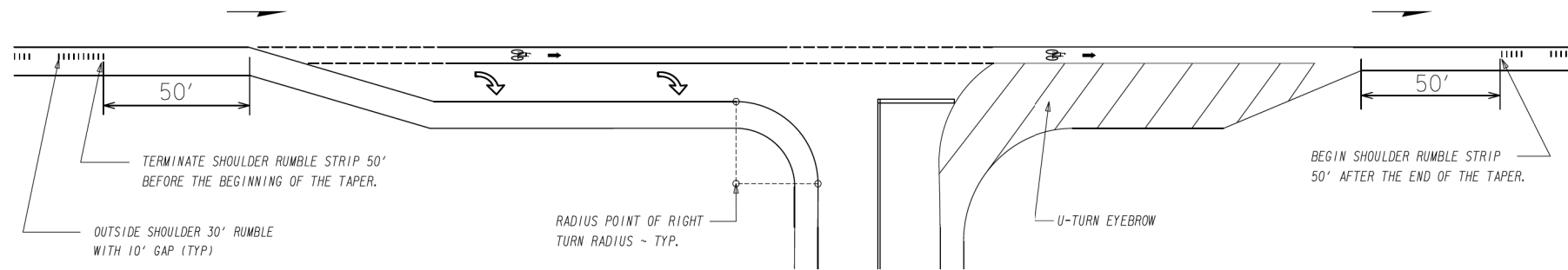
GENERAL NOTES:  
REFER TO T-25 FOR RUMBLE STRIP DETAILS



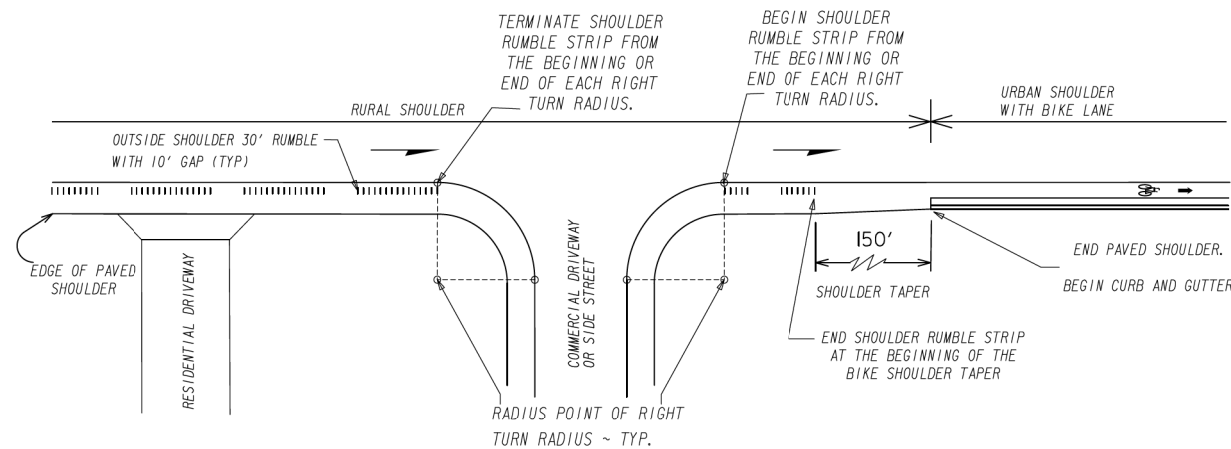
REVISION DATES		CONSTRUCTION DETAILS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	40-0024	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

**OUTSIDE SHOULDER RUMBLE STRIP  
PLACEMENT AT INTERSECTIONS WITH  
RIGHT TURN LANES OR TURNING EYEBROWS**



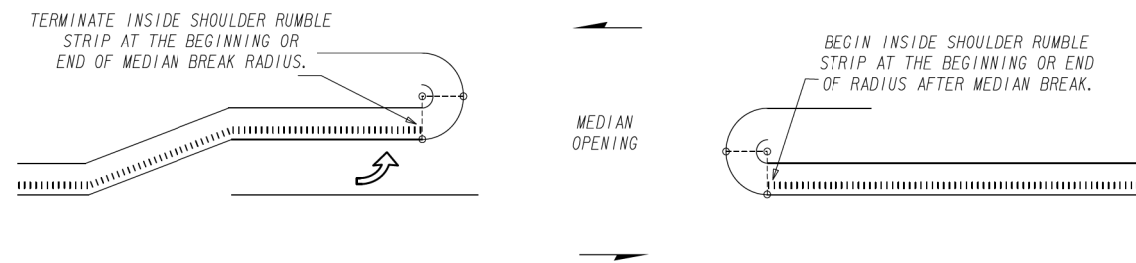
**OUTSIDE SHOULDER RUMBLE STRIP PLACEMENT AT DRIVEWAYS/  
SIDESTREETS AND TRANSITION FROM RURAL TO URBAN SHOULDER**



\* NOTES: SHOULDER RUMBLE STRIPS SHALL CONTINUE ON THE PAVED SHOULDER IN FRONT OF RESIDENTIAL DRIVEWAYS OR ANY DRIVEWAY WITHOUT A RADIUS

IN RETROFIT SITUATIONS WHERE CONCRETE DRIVEWAYS TIE DIRECTLY INTO THE MAINLINE, DO NOT PLACE RUMBLE STRIPS ON THE DRIVEWAY

**INSIDE SHOULDER RUMBLE STRIP PLACEMENT  
AT INTERSECTIONS WITH TURN LANES**

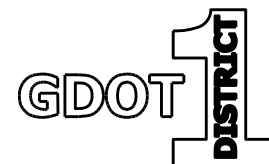


**INSIDE SHOULDER RUMBLE STRIP PLACEMENT  
AT INTERSECTIONS WITHOUT TURN LANES**



GENERAL NOTES:  
REFER TO T-25 FOR RUMBLE STRIP DETAILS

DATE		DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
REVISION		CONSTRUCTION DETAILS SHOULDER RUMBLE STRIP: NON-FREEWAY	
BY		NO SCALE	DATE: SEPTEMBER 2017
DESIGNED		NUMBER	
DRAWN		T-23B	
TRACED			
CHECKED			



REVISION DATES

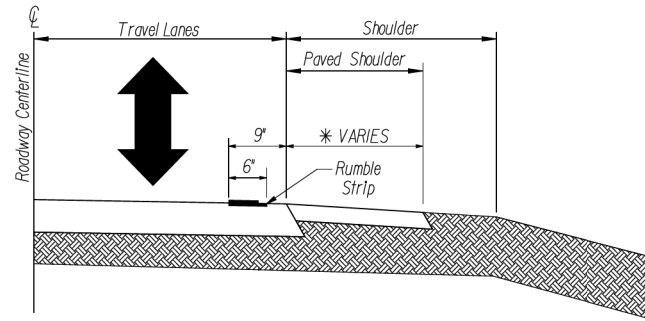

CONSTRUCTION DETAILS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	40-0025
CORRECTED:	DATE:	
VERIFIED:	DATE:	

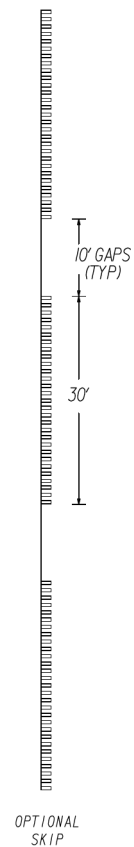
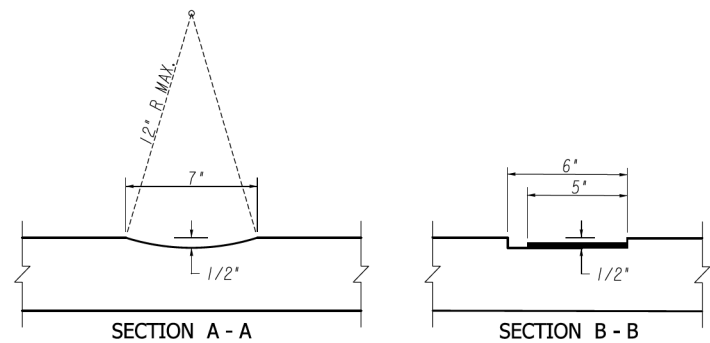
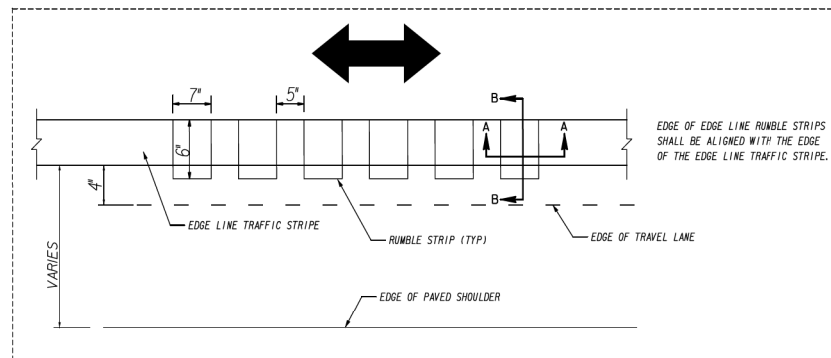
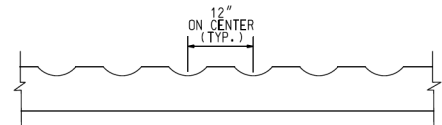
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

### EDGE LINE RUMBLE STRIP DETAILS



\* <4' PAVED OUTSIDE SHOULDER WITH 6" MILLED RUMBLE STRIPS ON ROADS WITH OTHER PAVEMENT MIX

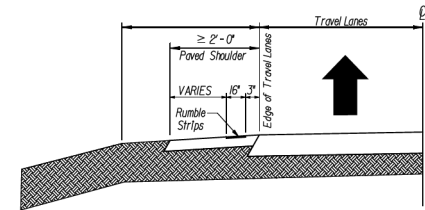
\* <2' PAVED INSIDE SHOULDER WITH 6" MILLED RUMBLE STRIPS ON ROADS WITH OTHER PAVEMENT MIX



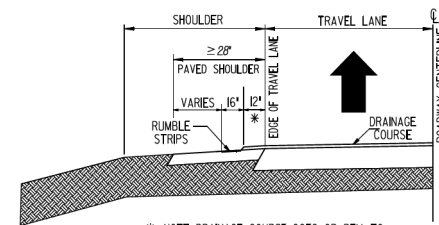
### SHOULDER RUMBLE STRIP DETAILS

INSIDE

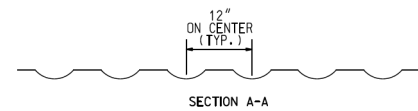
≥ 2' PAVED INSIDE SHOULDER WITH 16" MILLED RUMBLE STRIPS ON ROADS WITH OTHER PAVEMENT MIX



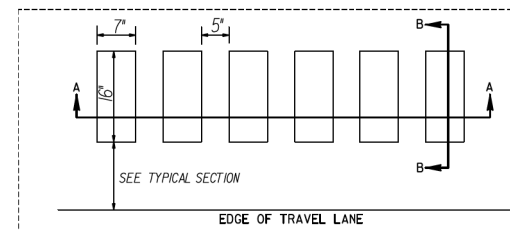
OGFC OR PEM, INSIDE PAVED SHOULDER WITH 16" MILLED RUMBLE STRIPS



\* NOTE: DRAINAGE COURSE OGFC OR PEM TO BE PLACED ON TO THE SHOULDER PAVING A DISTANCE OF 12" ON THE INSIDE SHOULDER.

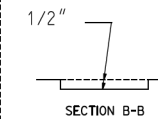


SECTION A-A



SEE TYPICAL SECTION

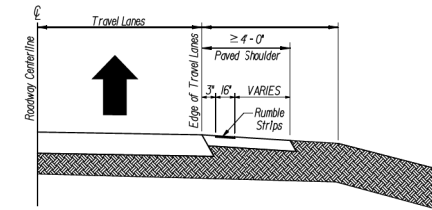
EDGE OF TRAVEL LANE



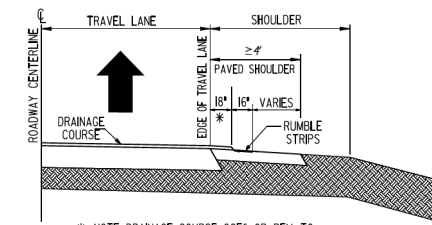
SECTION B-B

OUTSIDE

≥ 4' PAVED SHOULDER WITH 16" MILLED RUMBLE STRIPS ON ROADS WITH OTHER PAVEMENT MIX



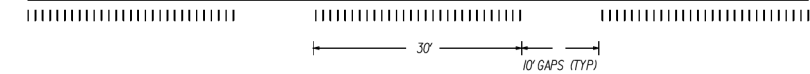
OGFC OR PEM, ≥ 4' \*\* PAVED SHOULDER WITH 16" MILLED RUMBLE STRIPS



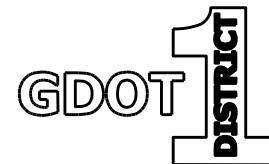
\* NOTE: DRAINAGE COURSE OGFC OR PEM TO BE PLACED ON TO THE SHOULDER PAVING A DISTANCE OF 18" ON THE OUTSIDE SHOULDER.

\*\* NOTE: IF OGFC OR PEM SHOULDER IS UTILIZED TO ACCOMMODATE BIKING ON THE SHOULDER, PAVED SHOULDER MUST BE A MINIMUM OF 7' WIDE.

OUTSIDE SKIP PATTERN (FOR NON-FREEWAY, USE CONTINUOUS PATTERN FOR FREEWAY)



DATE		DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
REVISION		CONSTRUCTION DETAILS	
BY		RUMBLE STRIP DETAILS FOR SHOULDER, EDGELINE AND FREEWAY	
DESIGNED	_____	NO SCALE	DATE: SEPTEMBER 2017
DRAWN	_____		NUMBER T-25
TRACED	_____		
CHECKED	_____		



#### REVISION DATES

NO.	DATE	DESCRIPTION

#### CONSTRUCTION DETAILS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	40-0026
CORRECTED:	DATE:	
VERIFIED:	DATE:	

9/9/2005 10:51:31 AM \\GDOT-DSN1\GDOT\QC\Fig\_1\Fig\_output\qf\_gburne17\_M\ANGEL\_DESIGN\_SERVICES\CORRECTED ENGLISH-METRIC STANDARDS\1001B.prp\_P01

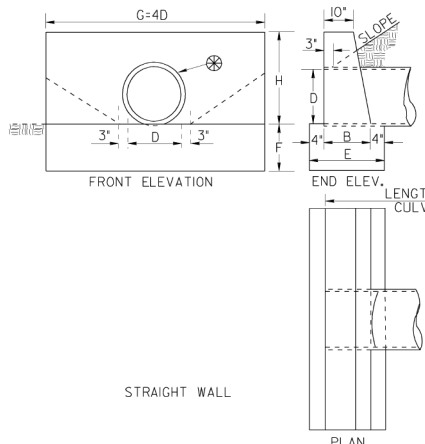
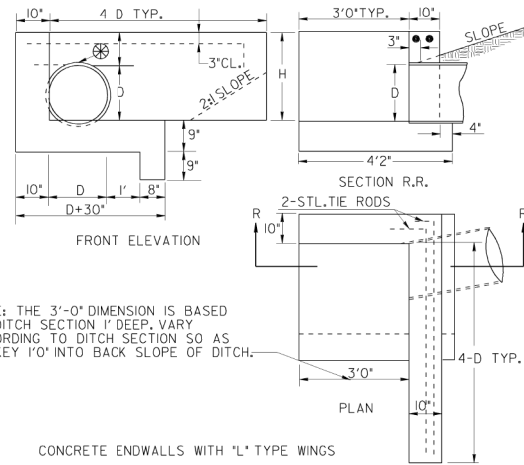


Table with 2 main columns: DIMENSIONS and QUANTITIES ONE STRAIGHT ENDWALL. Sub-columns include Opening, Wall, Footing, Class 'B' Concrete, and Steel Tie Rods.

FOR EACH ADDITIONAL PIPE LINE, ADD TO G: OD+10 OR 3 FEET, WHICHEVER IS SMALLER!



NOTE: THE 3'-0" DIMENSION IS BASED ON DITCH SECTION 1' DEEP. VARY ACCORDING TO DITCH SECTION SO AS TO KEY 1'0" INTO BACK SLOPE OF DITCH.

NOTE: THESE QUANTITIES WILL VARY ACCORDING TO DITCH SECTION AND ARE TO BE USED FOR ESTIMATING PURPOSES ONLY. PAYMENT TO BE MADE ACCORDING TO QUANTITIES MEASURED AS ACTUALLY PLACED.

Table with 2 main columns: DIMENSIONS and QUANTITIES ONE 'L' ENDWALL. Sub-columns include Area, H, 4D, D+30, Conc., and Steel Tie Rods.

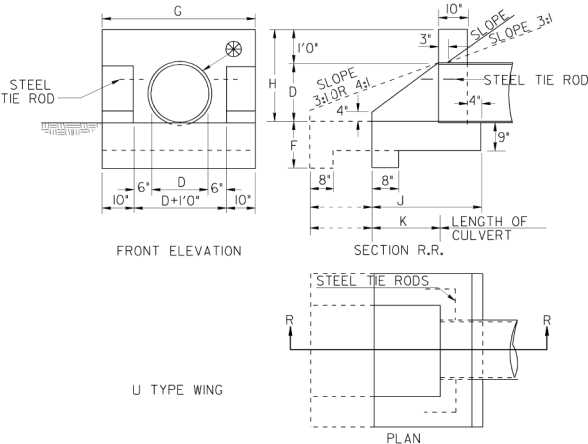


Table with 2 main columns: DIMENSIONS and QUANTITIES ONE 'U' ENDWALL. Sub-columns include Opening, Wall, Footing, Class 'B' Concrete, and Steel Tie Rods.

Table with 2 main columns: DIMENSIONS and QUANTITIES ONE ENDWALL WITH 45° WING WALLS. Sub-columns include Opening, Wall, Footing, Class 'B' Concrete, and Steel Tie Rods.

Table with 2 main columns: DIMENSIONS and QUANTITIES ONE 'L' ENDWALL. Sub-columns include Area, H, 4D, D+30, Conc., and Steel Tie Rods.

NOTE: QUANTITIES OF CONCRETE ARE BASED ON INSIDE DIAMETER OF PIPE. NO DEDUCTIONS SHALL BE MADE FOR SHELL THICKNESS OR SKEW OF PIPE IN COMPUTING PAY QUANTITIES.

\* IF PIPE HAS NEITHER A GROOVE NOR A SPIGOT AT ITS INLET, AN INLET BEVEL WILL BE REQ'D.

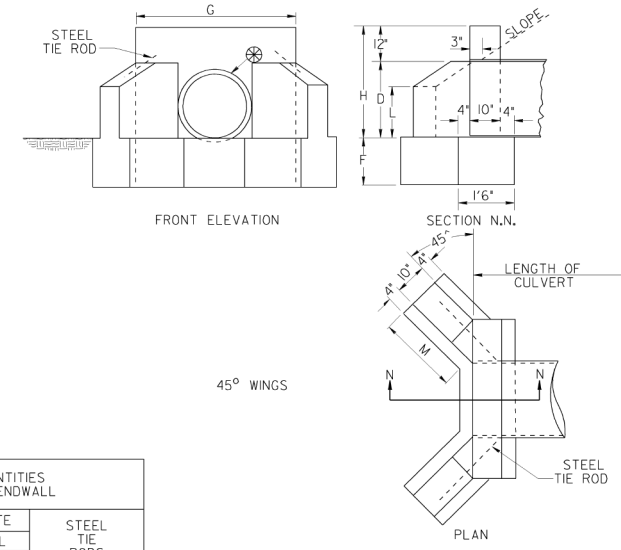
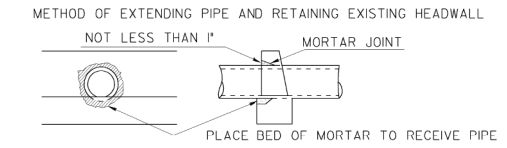
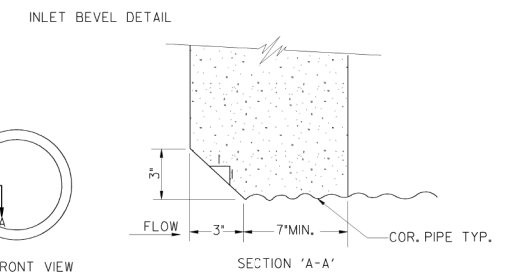


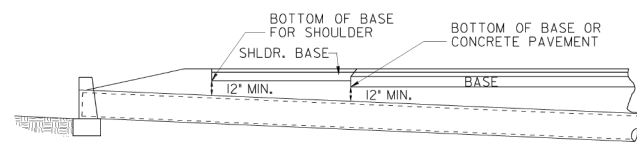
Table with 2 main columns: DIMENSIONS and QUANTITIES ONE ENDWALL WITH 45° WING WALLS. Sub-columns include Opening, Wall, Footing, Class 'B' Concrete, and Steel Tie Rods.

Table with 4 columns: STATE, PROJECT NUMBER, SHEET NO., TOTAL SHEETS.



CONCRETE WITHIN THE HATCHED AREA TO BE REMOVED BY CHIPPING OR IN A MANNER APPROVED BY THE ENGINEER, FORMING A RECESS NO LESS THAN 1" LARGER THAN THE OUTSIDE DIMENSION OF THE PIPE.

SECTION SHOWING MINIMUM COVER OVER CULVERTS

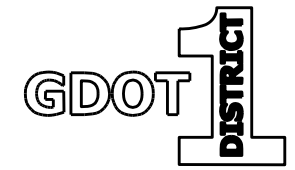


NOTE: GRADE GENERALLY TO FOLLOW SLOPE OF STREAM.

NOTE TO DESIGNER

THIS STANDARD IS LIMITED FOR USE ONLY AT SPECIAL CONDITIONS, OTHERWISE, SEE CURRENT STANDARDS 1120 & 1125. HEADWALLS ARE NOT TO BE PLACED INSIDE THE CLEAR ZONE.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA STANDARD PIPE CULVERT CONCRETE HEADWALL. Includes revision table, date, and engineer signatures.



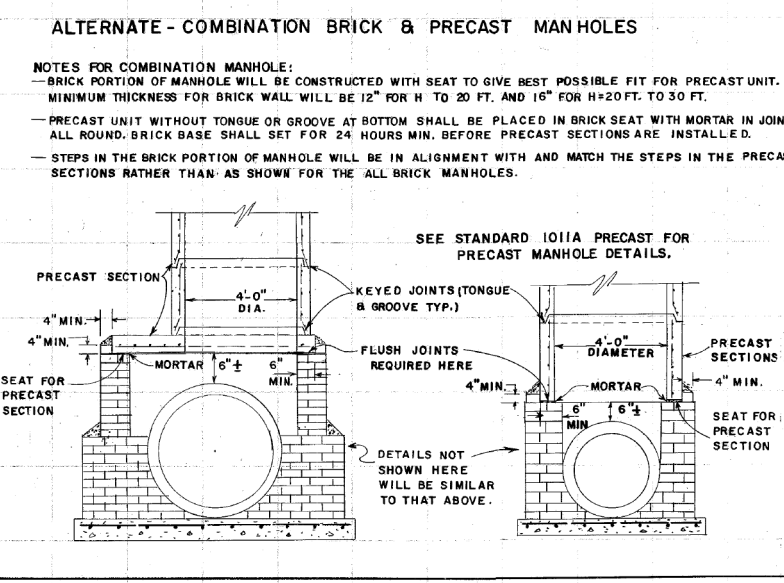
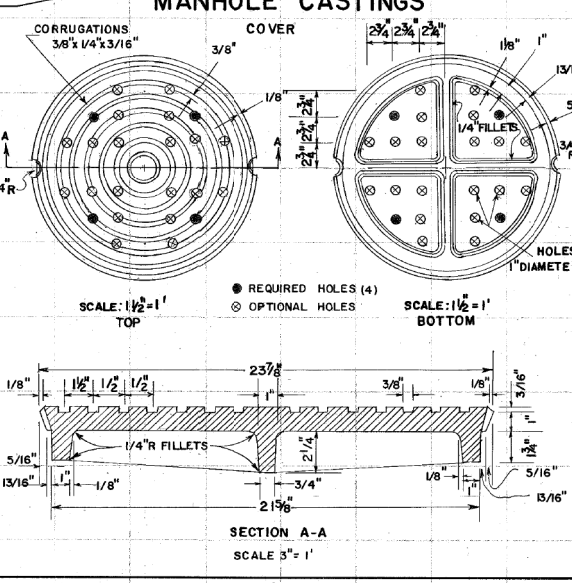
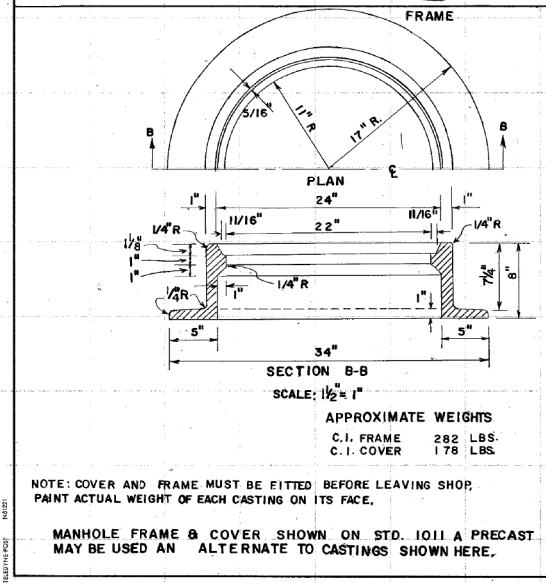
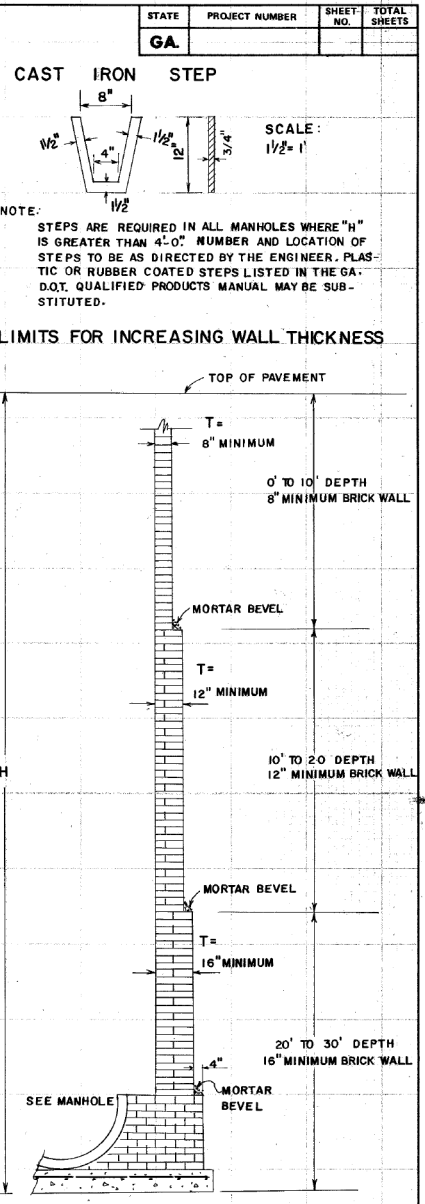
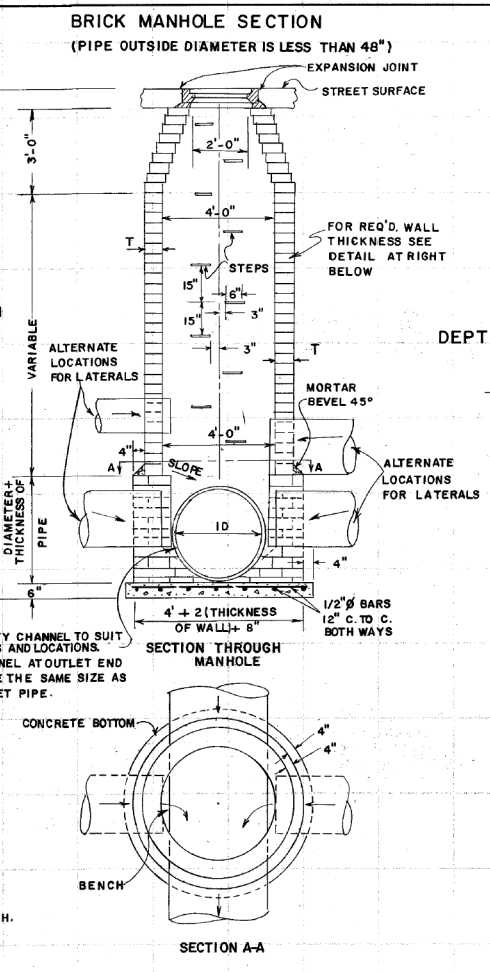
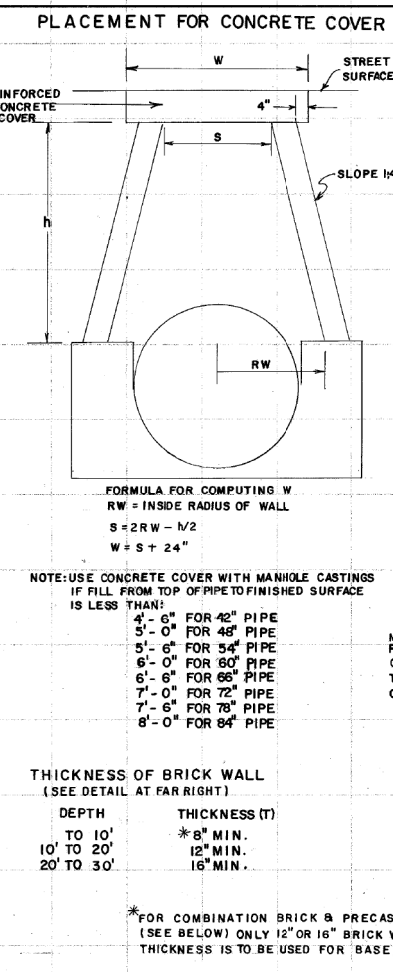
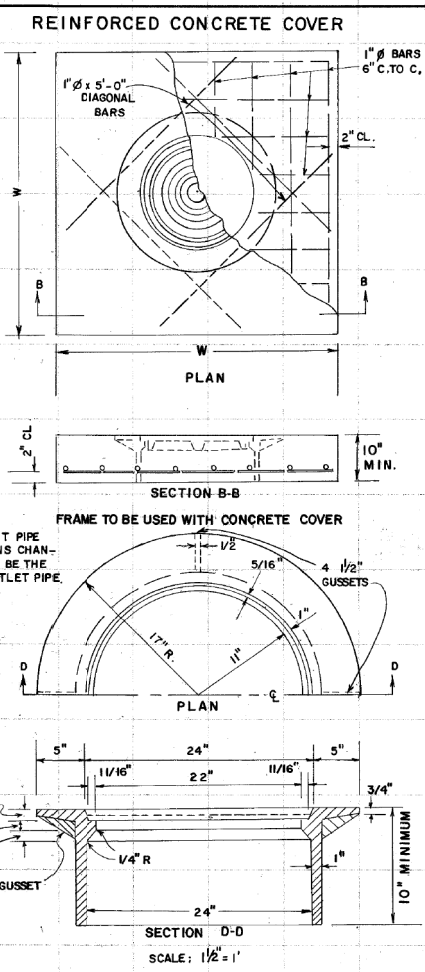
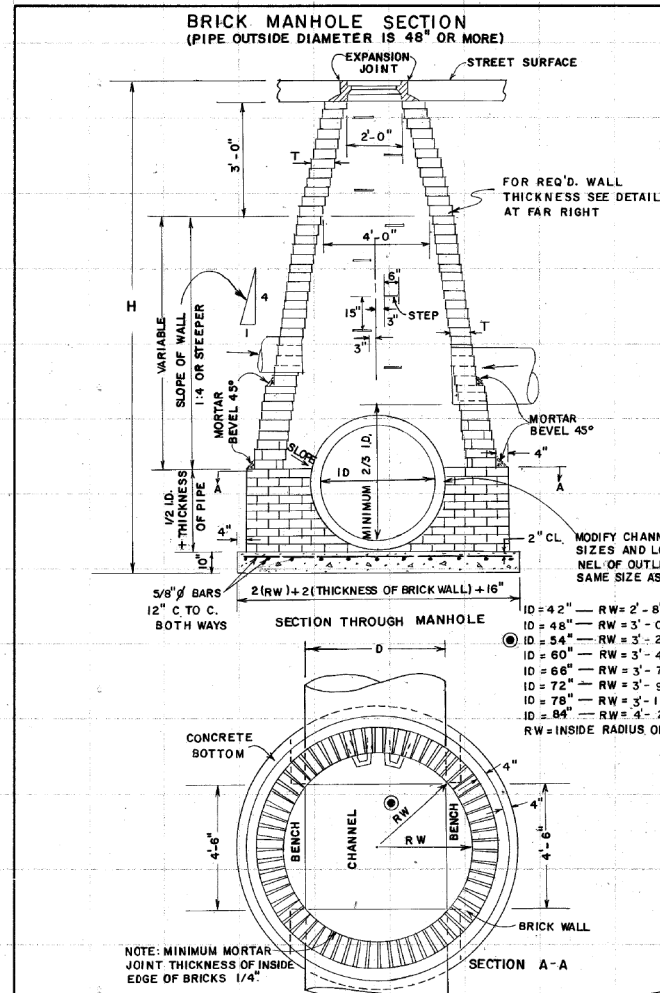
REVISION DATES

Table with 4 columns: REVISION, DATE, CHECKED, DATE. Includes Georgia Standards information.

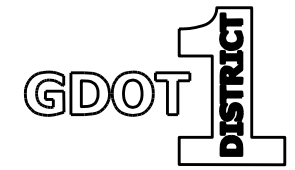
GEORGIA STANDARDS US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY

Table with 4 columns: CHECKED, DATE, BACKCHECKED, DATE, CORRECTED, DATE, VERIFIED, DATE. Includes drawing number 41-0001.





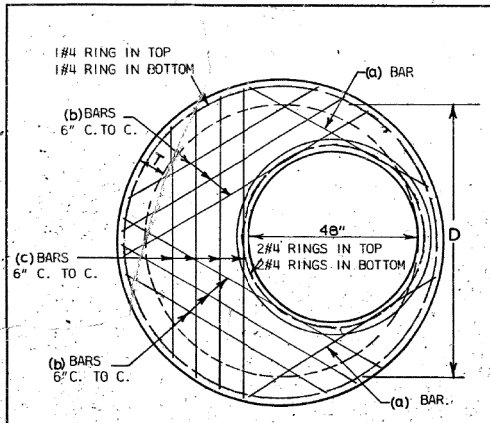
STATE		PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA				
<b>DEPARTMENT OF TRANSPORTATION</b> STATE OF GEORGIA				
<b>STANDARD</b> <b>BRICK MANHOLES</b>				
SCALE AS SHOWN		REV. & REDR. OCTOBER, 1981		
DES. B-58	(SUBMITTED) <i>Handwritten Signature</i>	STATE ROAD & AIRPORT DESIGN ENGR		NUMBER
DRW. R.M.U.	(APPROVED) <i>Handwritten Signature</i>	STATE HIGHWAY ENGINEER		1011A
TRA. G.M.E.				
CHK. R.K.C.				



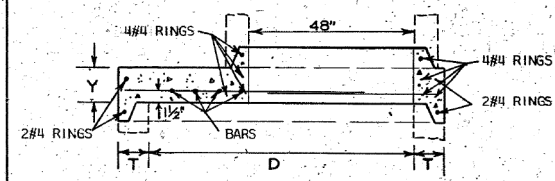
REVISION DATES	

<b>GEORGIA STANDARDS</b>	
US 19 BUS/SR 60 BUS @ OAK GROVE RD	
LUMPKIN COUNTY	
CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:
DRAWING No.	
41-0002	

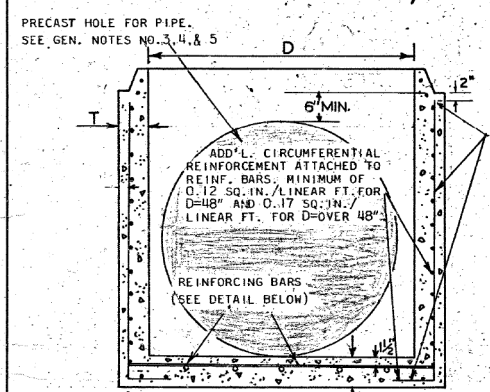
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



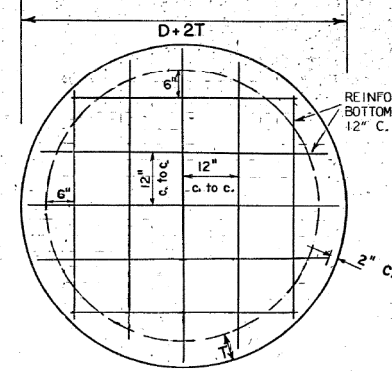
PLAN OF STEEL REINFORCEMENT



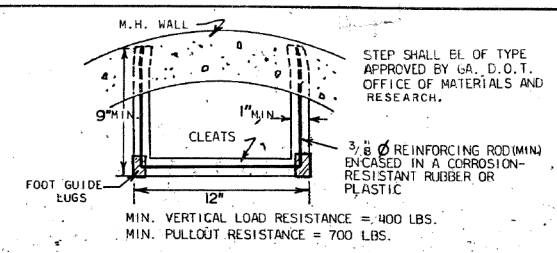
SECTIONAL DETAIL REDUCER SLAB



SECTIONAL DETAIL BASE UNIT



PLAN OF STEEL REINFORCEMENT IN BOTTOM SLAB BASE UNIT



STEP DETAIL

D	Y MIN.	(a) BARS No. SIZE	(b) BARS No. SIZE	(c) BARS No. SIZE
60"	8"	2 #6	4 #6	2 #6
72"	9"	2 #6	6 #6	4 #6

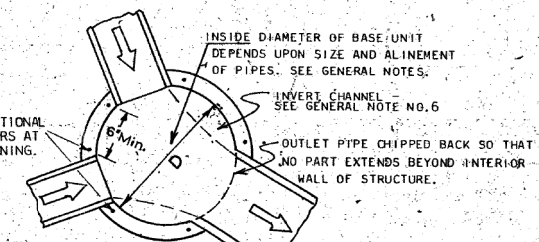
NOTE: 10 FT. MAXIMUM ALLOWANCE COVER ABOVE TOP OF REDUCER SLABS. REDUCER CONES TO BE USED WHERE REDUCER SLABS NOT PERMITTED.

D = INSIDE DIAMETER OF BASE UNIT

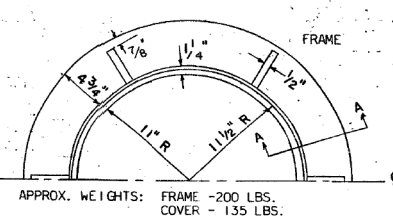
D	T (MIN.)
48"	5"
60"	5"
72"	6"

D	X (MIN.)	Z (MIN.)
60"	1'-6"	5"
72"	3'-0"	6"

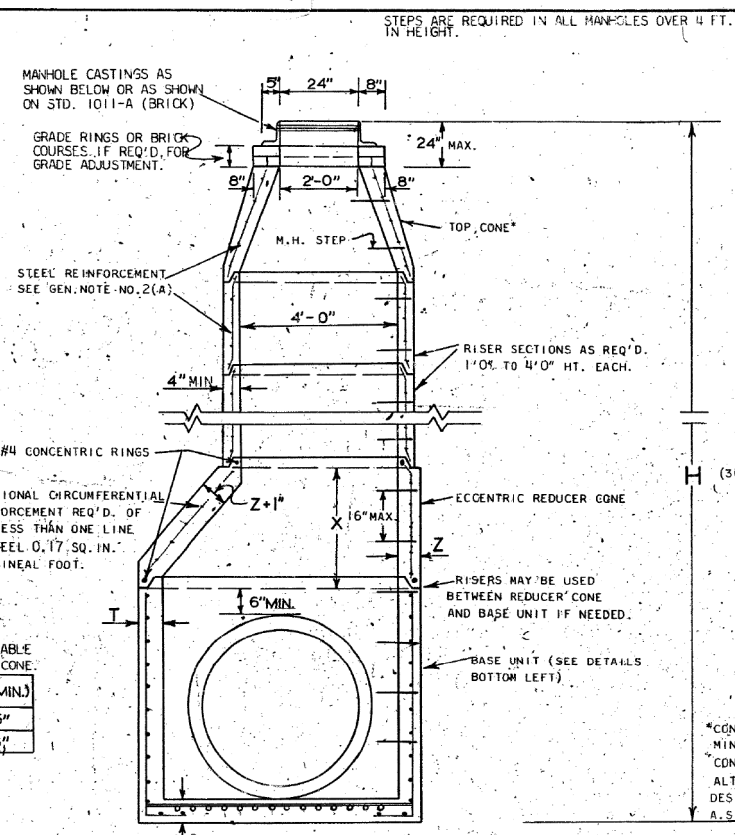
NOTE: 25 FT. MAXIMUM ALLOWABLE COVER ABOVE REDUCER CONE.



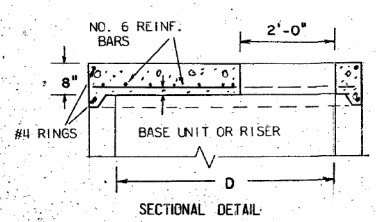
PIPE PLACEMENT DETAIL



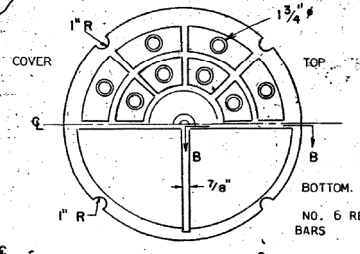
MANHOLE CASTINGS (C.1)



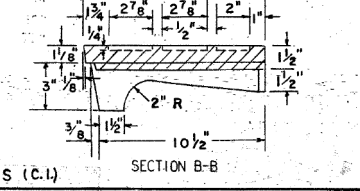
SECTIONAL DETAIL (MANHOLE WITH BASE UNIT OF D-OVER 48")



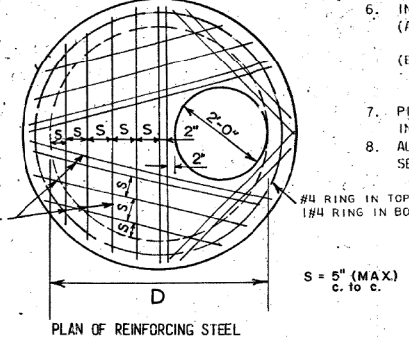
SECTIONAL DETAIL



COVER



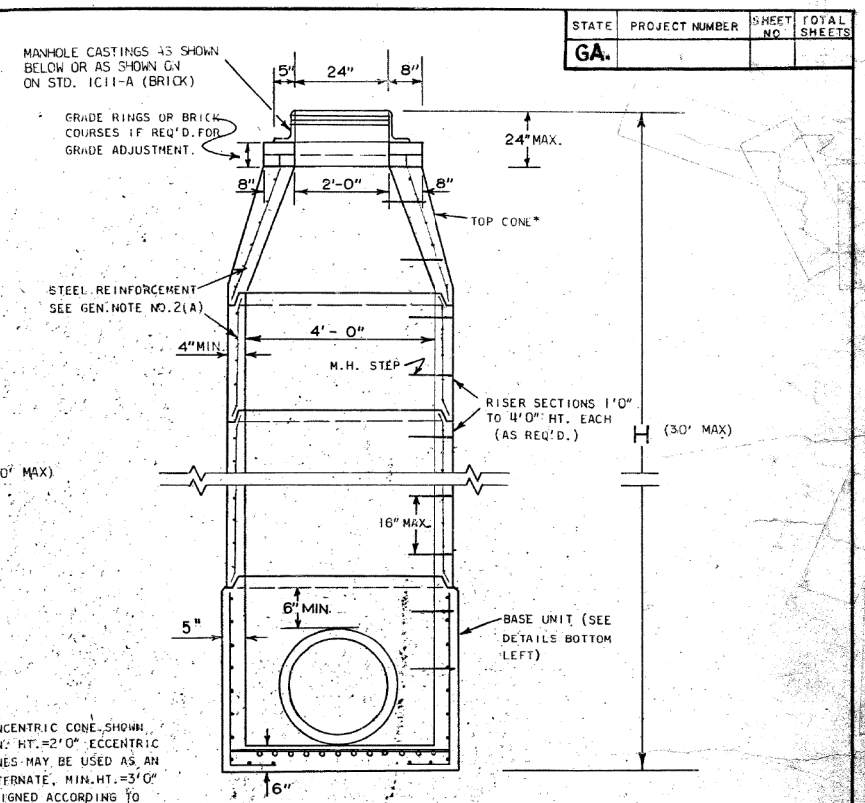
SECTION A-A SECTION B-B



PLAN OF REINFORCING STEEL

FLAT TOP SLAB IS FOR USE IN AREA OF MINIMUM COVER ONLY. MAXIMUM HEIGHT OF MANHOLE WITH FLAT TOP SLAB SHALL BE 8 FT. ABOVE TOP OF HIGHEST ENTERING PIPE.

FLAT TOP SLAB



SECTIONAL DETAIL (MANHOLE WITH BASE UNIT OF D=48")

GENERAL NOTES:

- MATERIALS: ALL CONCRETE, STEEL BARS AND STEEL WIRE REINFORCEMENT SHALL COMPLY WITH SECTION 866.02 OF GEORGIA STANDARD SPECIFICATIONS AND SPECIAL PROVISION WHICH MODIFY SECTION 866.02.
- REINFORCEMENT: (A) PLACEMENT AND DESIGN OF STEEL REINFORCEMENT IN RISER UNITS, CONE SECTIONS, GRADE RINGS AND JOINTS SHALL BE IN COMPLIANCE WITH A.S.T.M. C-478 UNLESS OTHERWISE NOTED. (B) BASE UNITS, REDUCER SLABS AND FLAT TOP SLABS SHALL HAVE STEEL REINFORCEMENT AS SHOWN IN DETAILS AT LEFT.
- OPENINGS FOR PIPES LARGER THAN 6 INCHES IN DIAMETER ARE TO BE PRECAST. A MINIMUM OF 6" ALONG THE INTERCIRCUMFERENCE IS TO REMAIN BETWEEN THE EXTREMITIES OF HOLE FOR ADJACENT PIPE IN ANY SINGLE UNIT. A MINIMUM OF TWO REINF. BARS SHALL REMAIN IN WALL BETWEEN ANY TWO OPENINGS.
- THE CONTRACTOR WILL FURNISH THE FABRICATOR WITH THE ANGLE OF ALIGNMENT AND SIZE OF ALL PIPES TO ENTER MANHOLE AND THE HEIGHT OF STRUCTURE.
- BASE UNITS SHALL HAVE SUFFICIENT HEIGHT TO ALLOW FOR MINIMUM OF 6" OF WALL BETWEEN TOP OF HIGHEST OPENING FOR PIPES AND BOTTOM OF JOINT.
- INVERT CHANNELS: (A) FOR SANITARY SEWER MANHOLES SEE GEORGIA STANDARD SPECIFICATIONS FOR CHANNEL REQUIREMENTS. (B) FOR STORM SEWER MANHOLES, CHANNELS BUILT TO SUIT PIPE SIZES AND LOCATION. HEIGHT OF CHANNEL EQUAL TO 1/2 DIAMETER OF OUTLET PIPE. CHANNEL BUILT FROM GROUT OR CLASS "A" CONCRETE.
- PIPES ARE TO BE EXTENDED INTO STRUCTURE WALL A MINIMUM OF 4" BUT SHOULD NOT EXTEND BEYOND INTERIOR WALL OF STRUCTURE.
- ALL JOINTS, EXCEPT FOR GRADE RINGS AND TOP OF TOP CONE, SHALL HAVE TONGUE AND GROOVE SECTION.

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

STANDARD  
PRECAST REINFORCED CONCRETE  
MANHOLE

NO SCALE AUGUST, 1973

DESIGNED: GCL  
DRAWN: JWA  
CHECKED: JEC

SUBMITTED: J.S. Kuter  
STATE ROAD DESIGN ENGINEER

APPROVED: JEC  
STATE HIGHWAY ENGINEER

NUMBER  
1011A  
PRECAST

REVISION DATES

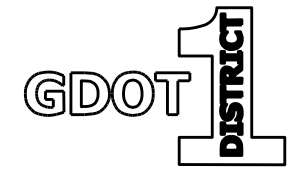
NO.	DATE	DESCRIPTION

GEORGIA STANDARDS

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	

41-0003



9/15/2004 10:05:45 AM \\GDOT\DSN\GOLPLOT\DEF\GD\_TIFF\_OUTPUT\GCF\_GOWENS\GDOT-FS02\STANDARDS AND CONSTRUCTION DETAILS\STANDARDS\ENGLISH STANDARDS (.PDF)\1019B.PRF\_G0-ROB

**DROP INLET TYPE V-1 (WITH HOOD)**  
REDUCER SLABS OR BRICK TAPER (bottom left) ARE FOR USE WITH LARGER PIPES, IN GENERAL. THIS WILL BE CROSS DRAIN PIPES OVER 24", LONGITUDINAL PIPES OVER 18" (TYPE V-1) AND LONGITUDINAL PIPES OVER 15" (TYPE V-2)

**SECTION A-A** (SEE GEN. NOTE NO. 7)  
SCALE: 1/2" = 1 FT.

**SECTION B-B**  
SCALE: 1/2" = 1 FT.

**MINIMUM W1, W2 AND H DIMENSIONS**

PIPE SIZE	W1 (MIN.) OR W2 (MIN.)		H (MIN.)
	BRICK	REINF. CONC.	
15"	1'-8"	1'-8"	3'-10"
18"	2'-0"	2'-0"	4'-2"
24"	2'-7"	2'-7"	4'-9"
30"	3'-4"	3'-6"	5'-10"
36"	3'-10"	4'-0"	6'-5"
42"	4'-5"	4'-6"	7'-0"
48"	5'-0"	5'-0"	7'-10"
54"	5'-7"	5'-6"	8'-5"
60"	6'-2"	6'-0"	9'-0"

**BRICK WALL THICKNESS**

H	T (MIN.)
TO 10'	8"
10' TO 20'	12"
20' TO 30'	16"

**MINIMUM H DIMENSIONS (FOR DETAIL AT LEFT)**

PIPE SIZE	H (MIN.)
18"	4'-2"
24"	4'-9"
30"	5'-9"
36"	6'-9"
42"	7'-10"
48"	8'-11"
54"	10'-0"
60"	11'-2"

**DETAIL OF REDUCING W1 OR W2 DIMENSIONS WITH REDUCER SLAB.**

**PLAN OF REINFORCING IN REDUCER SLAB**

**DETAIL OF #100D (non-mountable) (use with Tp2 Curb)**

**DETAIL OF #100D (mountable) (use with Tp7 Curb)**

**ALTERNATE-REDUCTION OF W1 OR W2 DIMENSIONS WITH BRICK MASONRY**  
SCALE: 1/2" = 1 FT.

**ALTERNATE - STANDARD IO40 CIRCULAR SECTIONS - PLAN VIEW LOCATION.**  
NO SCALE

**ALTERNATE - CAST-IN-PLACE REINFORCED CONCRETE**  
SCALE: 1/2" = 1 FT.

**GRATE AND FRAME DETAILS**

**PLAN VIEW**  
SCALE: 1/4" = 1"

**SECTION C-C**  
SCALE: 1/4" = 1"

**SECTION D-D**

**GENERAL NOTES:**

- SPECIFICATIONS: GEORGIA STANDARD AND/OR SPECIAL PROVISIONS EXCEPT THAT VANE GRATE WILL BE GRAY IRON A.S.T.M. A-48 CLASS 30.
- ALIGNMENT, NUMBER AND SIZES OF PIPES SHOWN ARE ONLY TYPICAL. SEE PLANS FOR ACTUAL PIPE CULVERT REQUIREMENTS.
- SLOPE OF GRATE WILL MATCH GUTTER SLOPE WHEN USED WITH CURB AND GUTTER. SLOPE OF GRATE WILL MATCH ROADWAY SLOPE WHERE THERE IS NO GUTTER (E.G. HEADER CURB, INTEGRAL CURB, ETC.). TOP OF HOOD WILL BE FLUSH WITH TOP OF CURB FOR TYPE V-1.
- CONCRETE WILL BE CLASS "A" CONCRETE.
- 1/2" EXPANSION JOINTS WILL BE REQUIRED IF RIGID PAVEMENT, SIDEWALK OR CONCRETE GUTTER MEETS DROP INLETS.
- ALL STRUCTURES OVER 4 FT. DEEP SHALL REQUIRE STEPS OF A TYPE APPROVED BY THE MATERIALS LABORATORY OR 3/4" DIA. BARS STEPS AS SHOWN FOR OTHER INLET TYPES. NUMBER AND LOCATION OF STEPS SHALL BE AS DIRECTED BY THE ENGINEER.
- METAL HOODS DO NOT IMPROVE HYDRAULICS OF INLETS. TYPE V-DROP INLETS ARE NORMALLY USED TO PROVIDE CONTINUITY OF CURB OR TO ALLOW LARGER BOX WITHOUT TAPER OR REDUCER SLAB.

**SPECIAL NOTE:**  
BARS OF GRATE WILL BE PERPENDICULAR TO DIRECTION OF TRAFFIC FLOW.

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

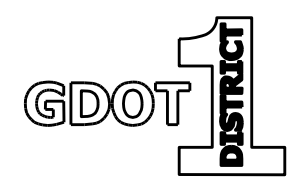
**STANDARD  
DROP INLET TYPES  
V-1 AND V-2**

SCALE AS SHOWN AUGUST, 1999

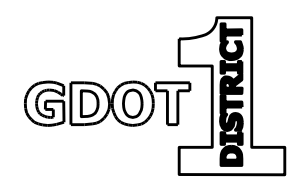
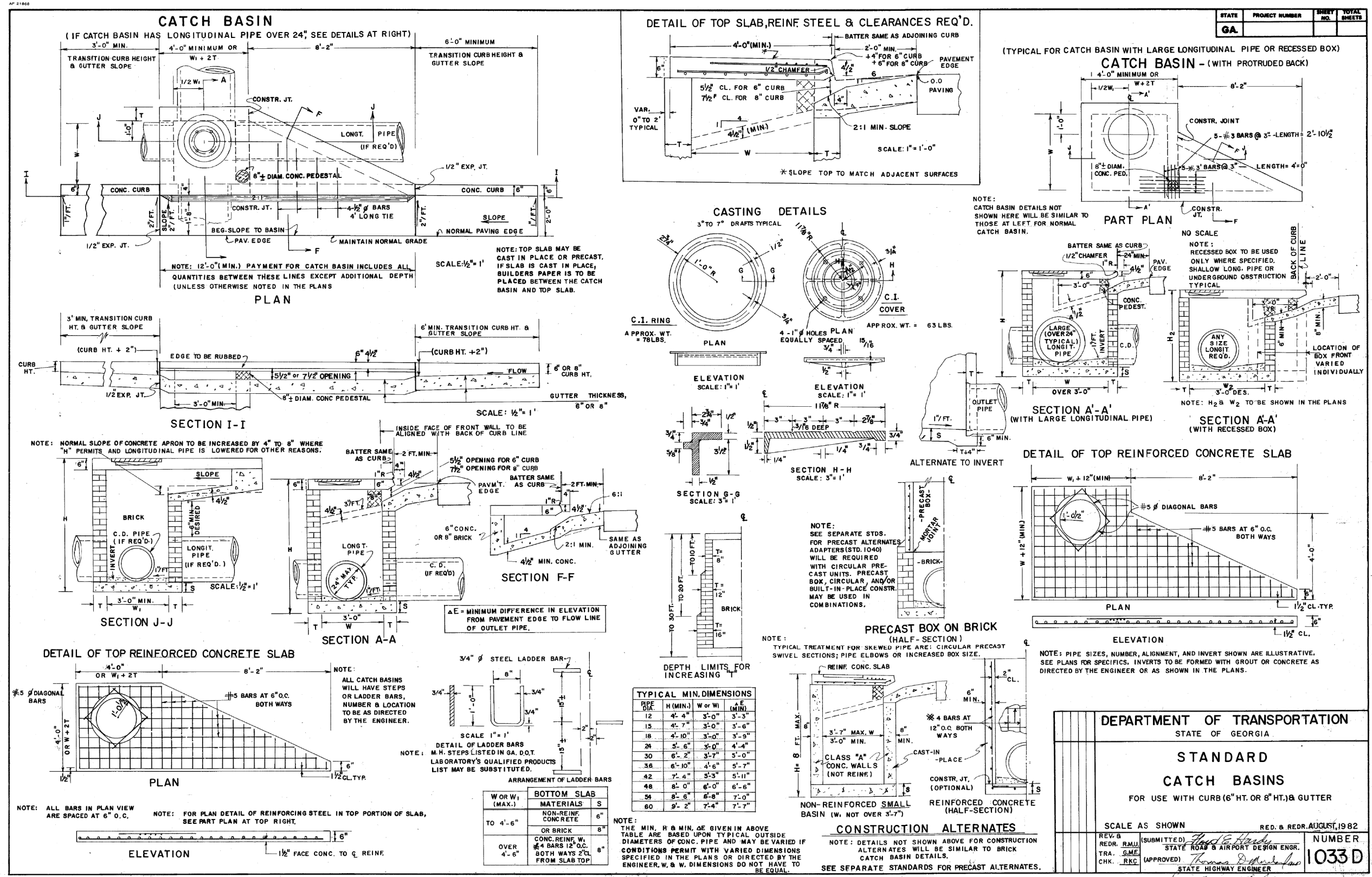
BY: \_\_\_\_\_ (SUBMITTED) *James A. Brouil*  
 \_\_\_\_\_ (APPROVED) *Paul L. Smith*  
 \_\_\_\_\_ (CHECKED) \_\_\_\_\_  
 \_\_\_\_\_ (VERIFIED) \_\_\_\_\_

NUMBER 1019B

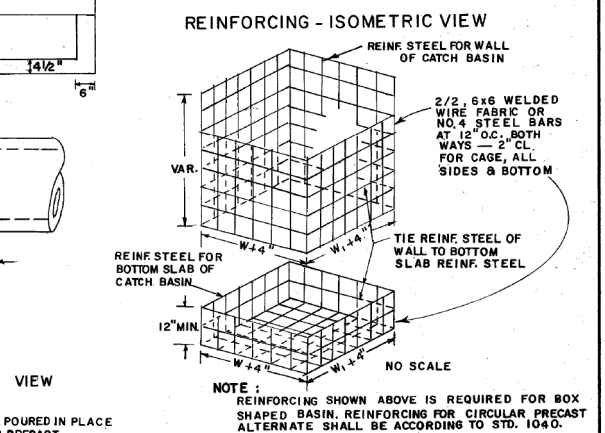
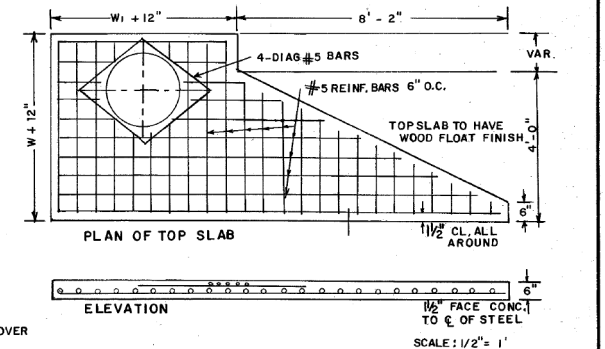
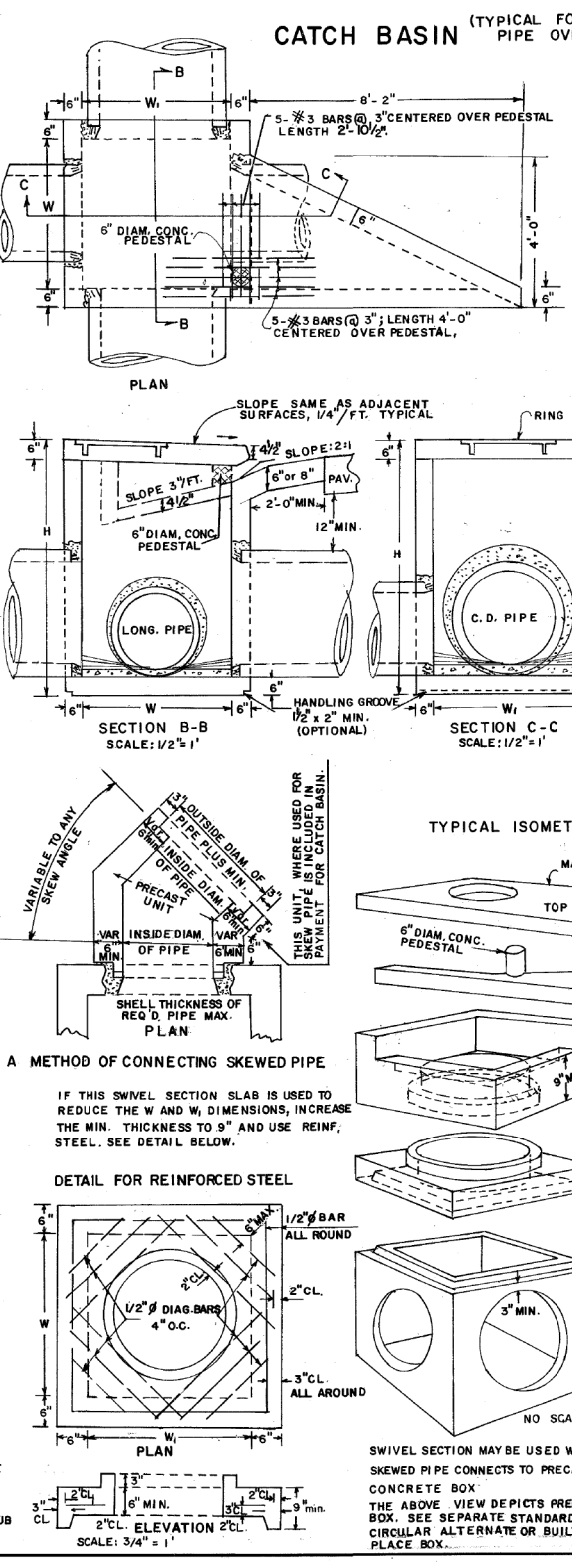
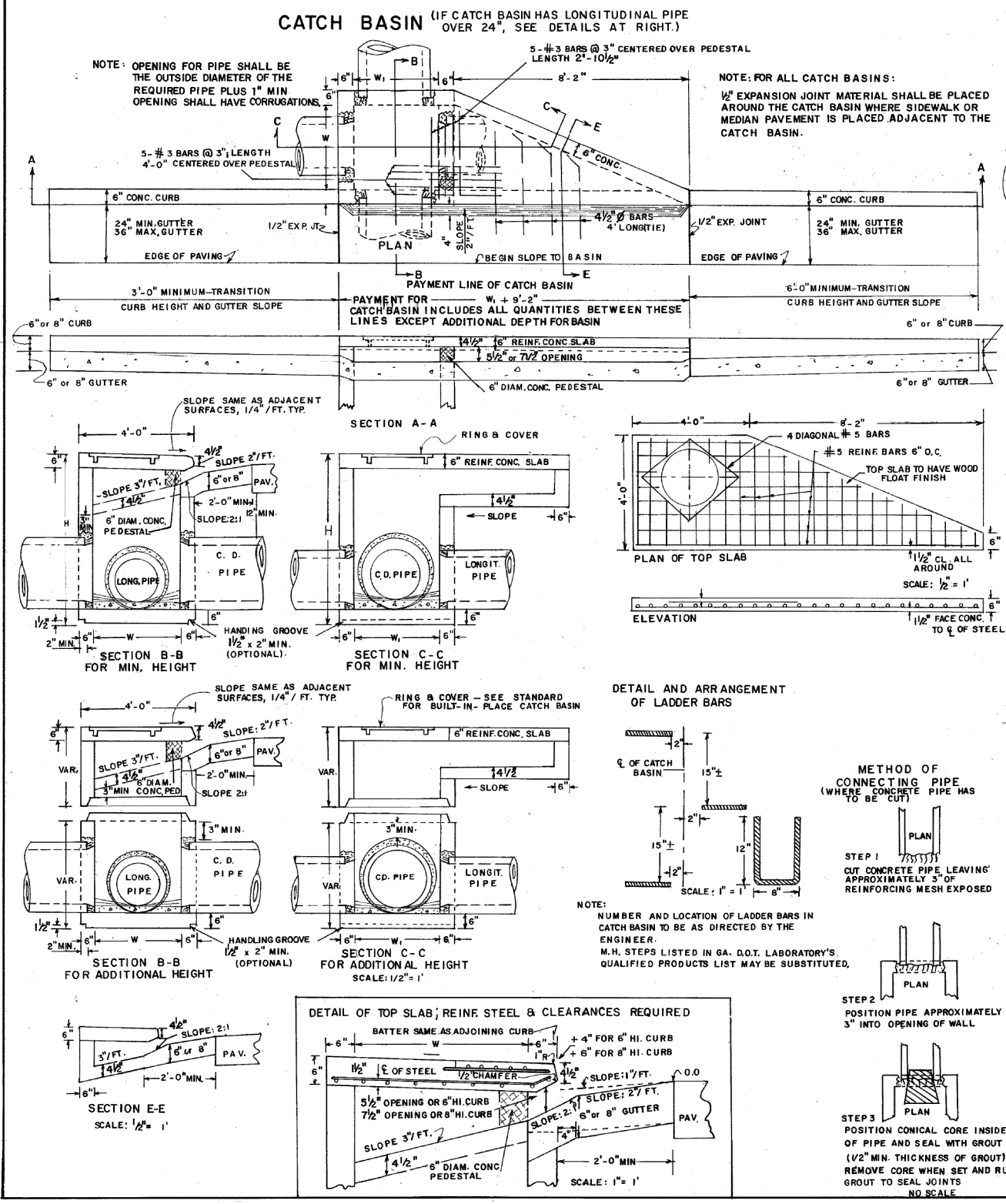
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REVISION DATES		GEORGIA STANDARDS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD	
		LUMPKIN COUNTY	
CHECKED:		DATE:	
BACKCHECKED:		DATE:	
CORRECTED:		DATE:	
VERIFIED:		DATE:	
		DRAWING No. 41-0004	



AP 21888



### DIMENSIONS FOR CATCH BASINS

PIPE SIZE	NORMAL W OR W <sub>i</sub>	MIN H
12"	3'-0"	4'-4"
15"	3'-0"	4'-7"
18"	3'-0"	4'-10"
24"	3'-0"	5'-6"
30"	3'-6"	6'-2"
36"	4'-0"	6'-10"
42"	5'-0"	7'-4"
48"	5'-0"	8'-0"
54"	6'-0"	8'-6"
60"	6'-0"	9'-2"

NOTE: DIMENSIONS FOR CATCH BASINS ARE BASED UPON TYPICAL OUTSIDE DIAMETERS OF CONCRETE PIPES AND MAY BE VARIED IF CONDITIONS PERMIT AND THE ENGINEER APPROVES. W & W<sub>i</sub> DIMENSIONS DO NOT HAVE TO BE EQUAL.

ALTERNATE: BUILT-IN-PLACE PRECAST BOX, AND/OR PRECAST CIRCULAR UNITS WITH THE REQUIRED ADAPTERS, REDUCERS, FITTINGS, CONNECTIONS, ETC. MAY BE USED IN COMBINATIONS.

NOTE: FOR RING & COVER DETAILS AND OTHER DETAILS NOT SHOWN, SEE STANDARD 10.33.D FOR BUILT-IN-PLACE CATCH BASIN.

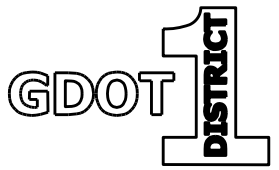
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

### STANDARD PRECAST CATCH BASINS

FOR USE WITH CURB (6" OR 8" HT.) & GUTTER

SCALE AS SHOWN REV. & REDR., SEPT., 1982

REV. & REDR. (SUBMITTED) <i>Florida Hardy</i>	NUMBER <b>1033D</b>
TRA. S.M.E. (APPROVED) <i>Thomas W. Wareham</i>	PRECAST
CHK. R.K.C. STATE HIGHWAY ENGINEER	



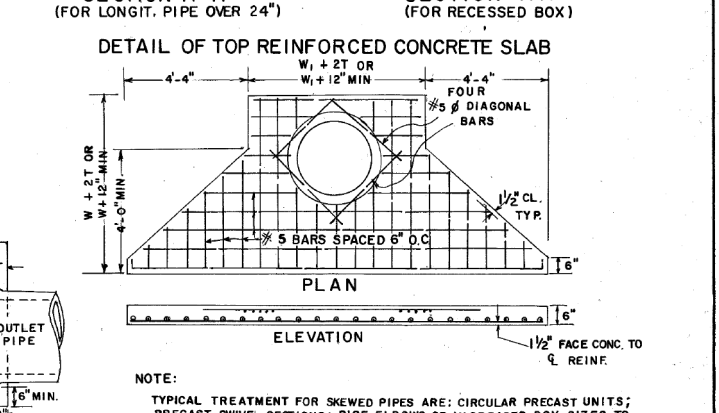
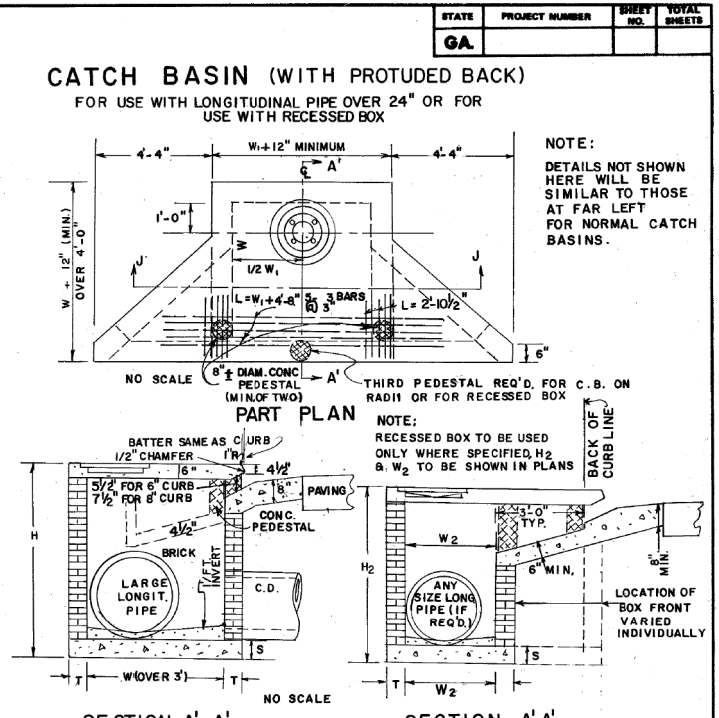
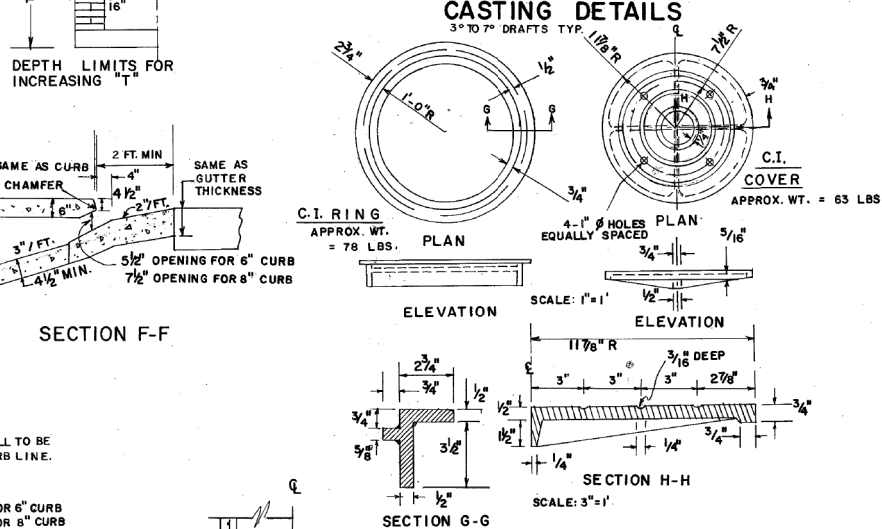
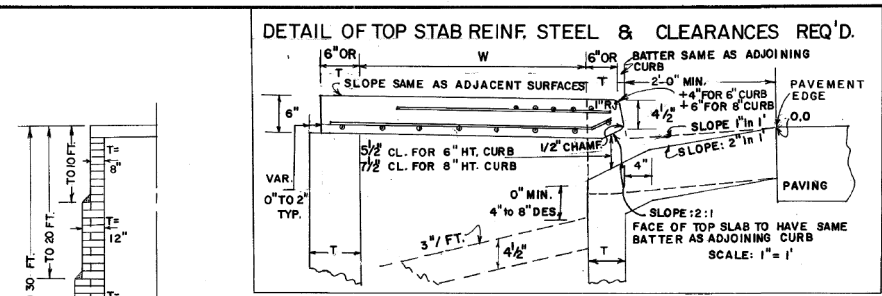
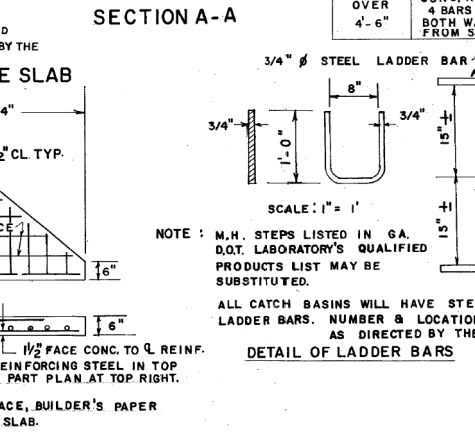
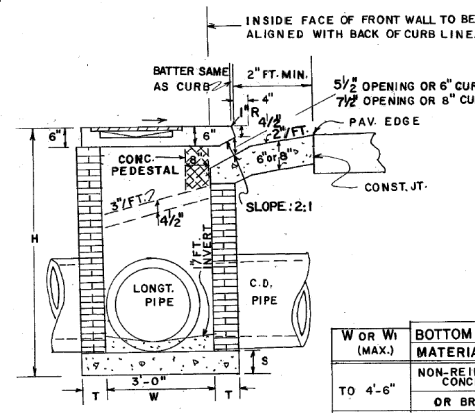
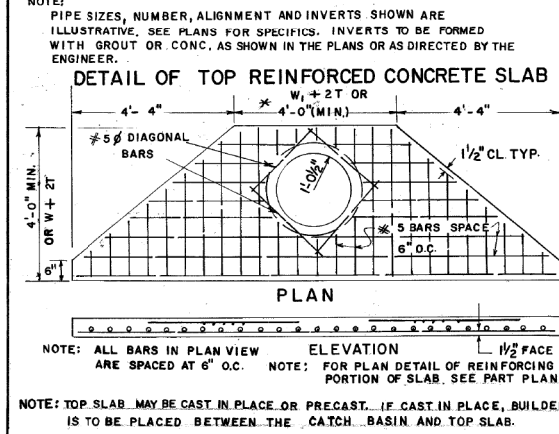
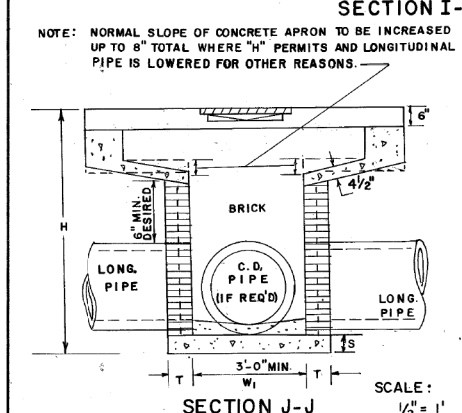
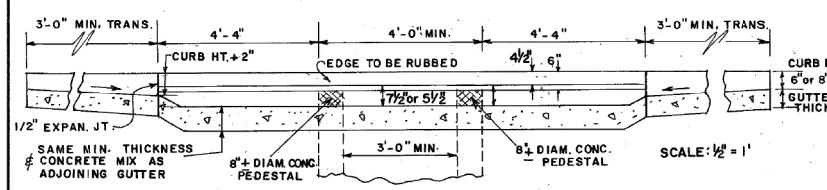
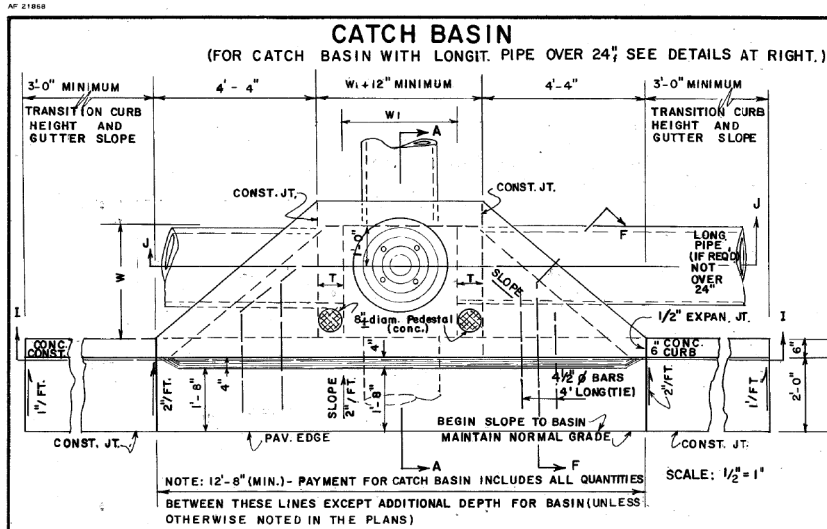
REVISION DATES	

**GEORGIA STANDARDS**

US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	

41-0006



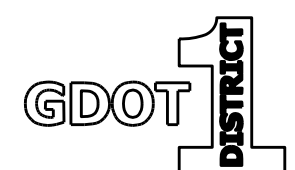
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

**STANDARD  
CATCH BASINS**

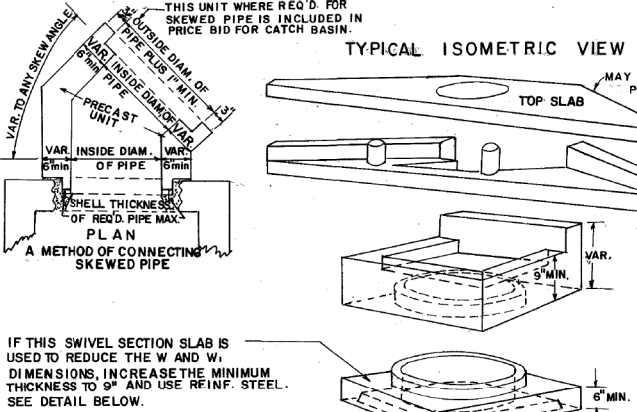
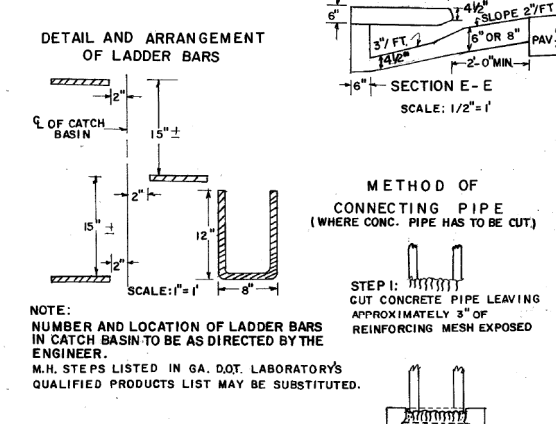
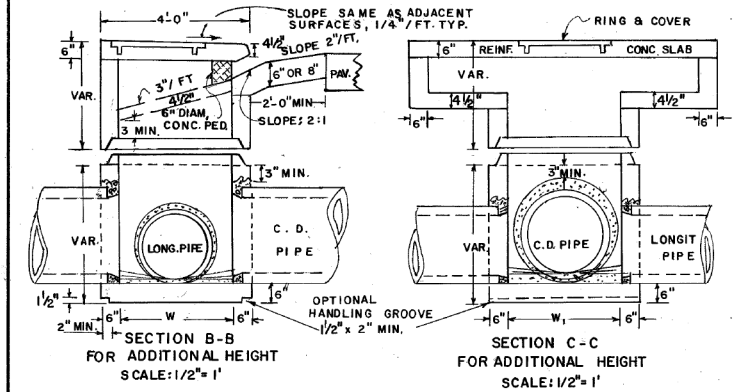
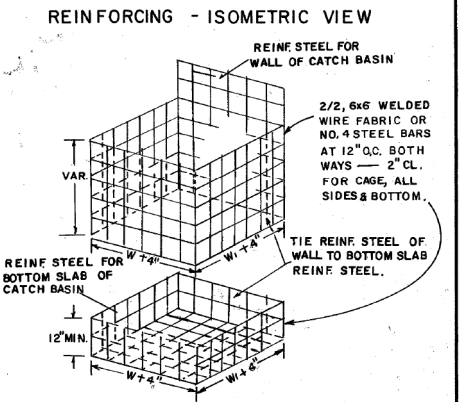
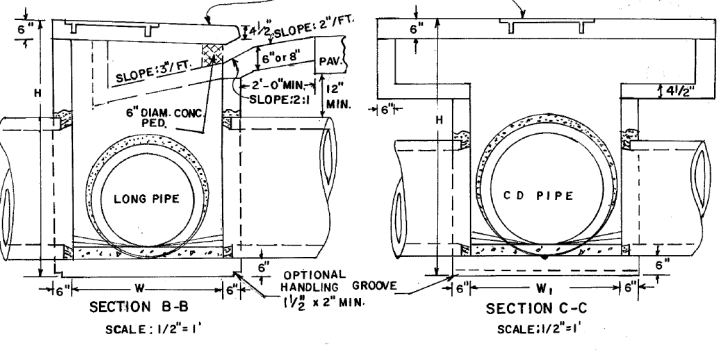
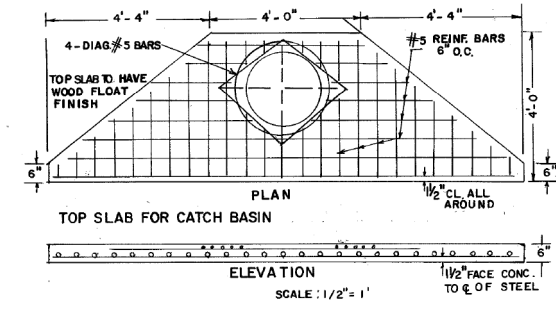
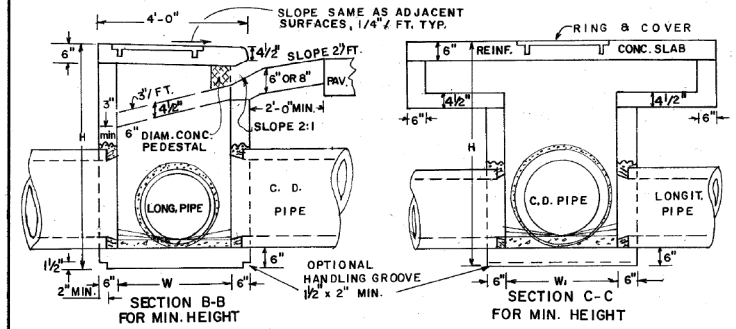
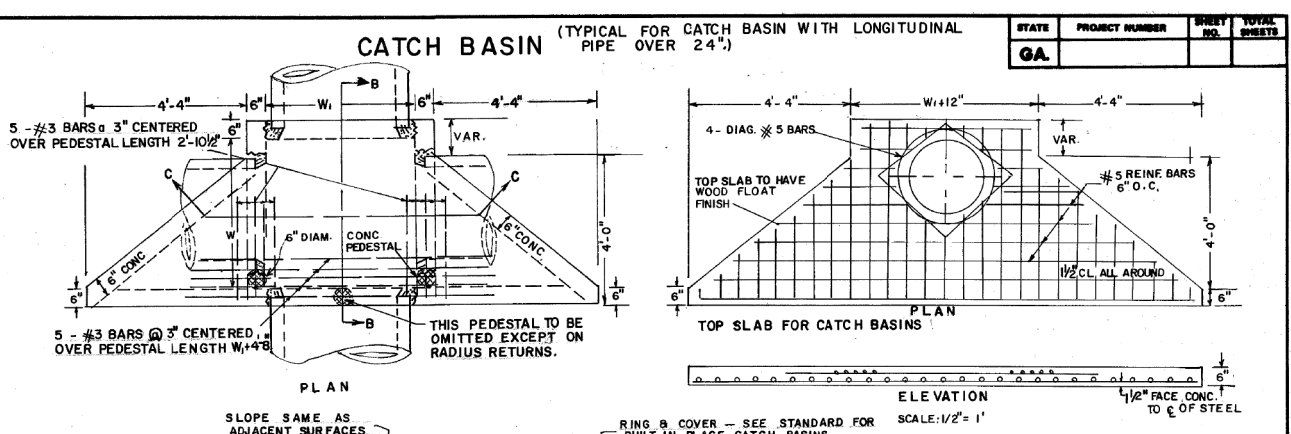
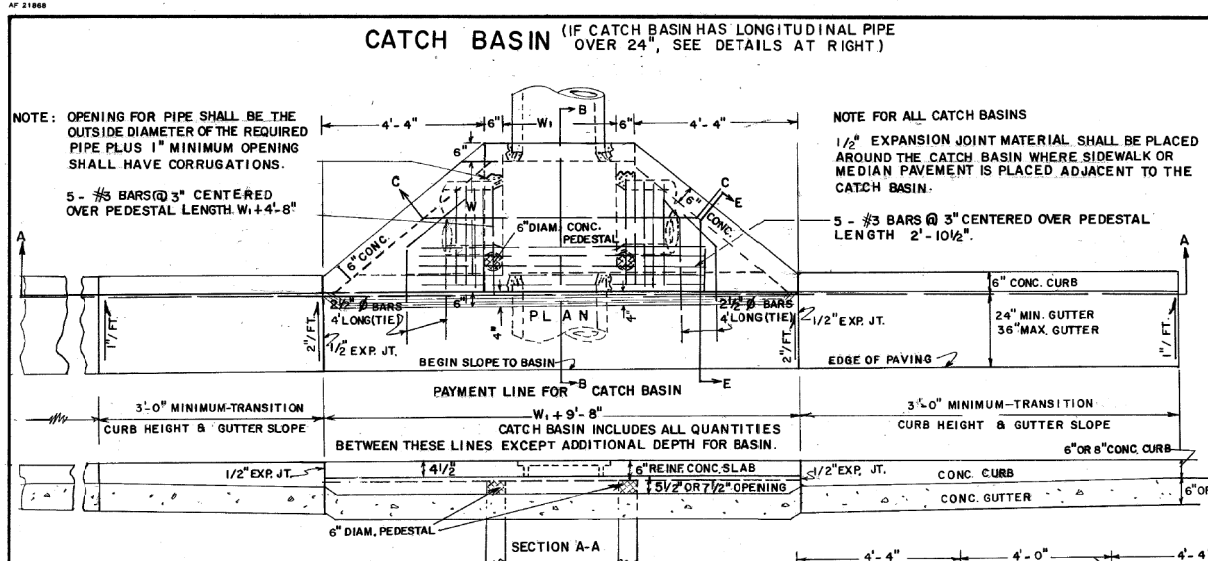
FOR USE WITH CURB (6" OR 8" HT.) & GUTTER  
(IN SAGS OR LOW POINTS)

SCALE AS SHOWN

REV. 8 REDR. R.M.U.	(SUBMITTED) <i>Fluor &amp; Hardy</i> STATE ROAD & AIRPORT DESIGN ENGR.	REV. & RED. AUGUST, 1982	NUMBER 1034D
TRA S.M.E. CHK. R.K.C.	(APPROVED) <i>James B. ...</i> STATE HIGHWAY ENGINEER		



REVISION DATES		GEORGIA STANDARDS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	41-0007	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



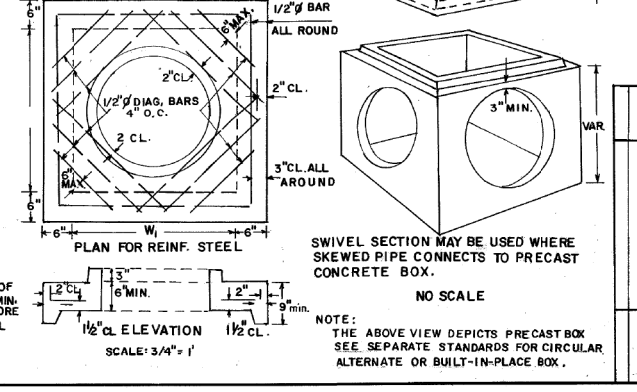
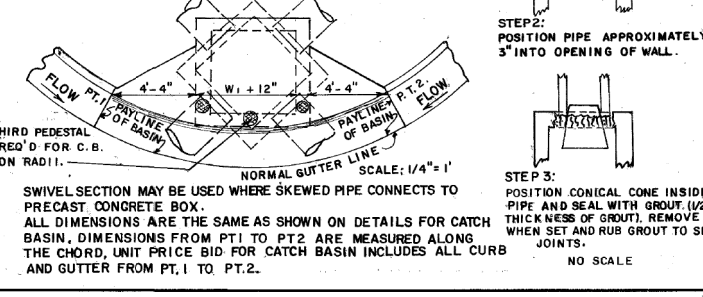
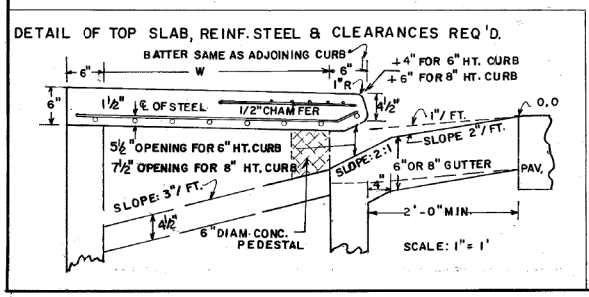
#### DIMENSIONS FOR CATCH BASINS

PIPE SIZE	NORMAL W or W <sub>1</sub>	MIN. H
12"	3'-0"	4'-4"
15"	3'-0"	4'-7"
18"	3'-0"	4'-10"
24"	3'-0"	5'-6"
30"	3'-6"	6'-2"
36"	4'-0"	6'-10"
42"	5'-0"	7'-4"
48"	5'-0"	8'-0"
54"	6'-0"	8'-6"
60"	6'-0"	9'-2"

**NOTE:** DIMENSIONS FOR CATCH BASINS ARE BASED UPON TYPICAL OUTSIDE DIAMETERS OF CONCRETE PIPES AND MAY BE VARIED IF CONDITIONS PERMIT AND THE ENGINEER APPROVES. W & W<sub>1</sub> DIMENSIONS DO NOT HAVE TO BE EQUAL.

**ALTERNATE:** BUILT-IN-PLACE, PRECAST BOX, AND/OR PRECAST CIRCULAR UNITS WITH THE REQUIRED ADAPTERS, REDUCERS, FITTINGS, CONNECTIONS, ETC. MAY BE USED IN COMBINATIONS.

**NOTE:** FOR RING & COVER DETAILS AND OTHER DETAILS NOT SHOWN, SEE STANDARD 1034 D FOR BUILT-IN-PLACE CATCH BASIN.



DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

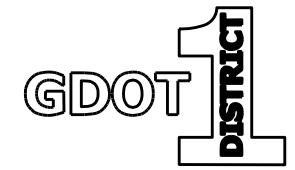
### STANDARD PRECAST CATCH BASINS

FOR USE WITH CURB (6" OR 8" HT.) & GUTTER (IN SAGS OR LOW POINTS)

SCALE AS SHOWN REV. & REDR., SEPT. 1982

REV. & REDR. R.M.M. (SUBMITTED) *Head E. Hardy* STATE ROAD & AIRPORT DESIGN ENGR.  
TRA. G.M.E. (APPROVED) *Thomas D. McFarland* STATE HIGHWAY ENGINEER  
CHK. R.K.C.

NUMBER 10340 PRECAST



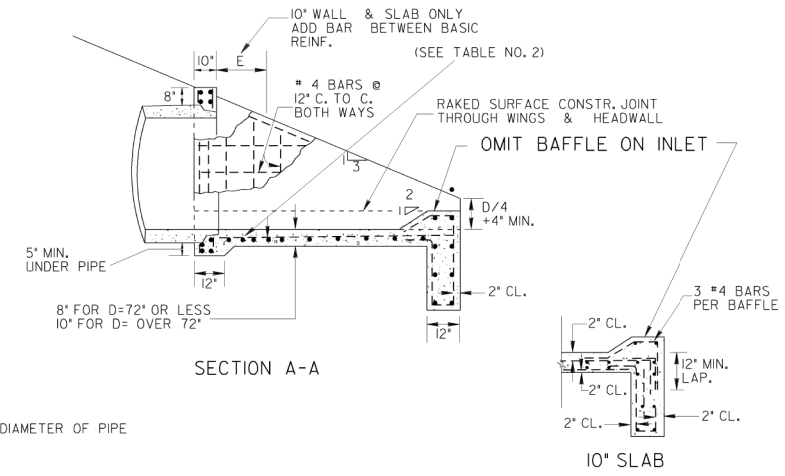
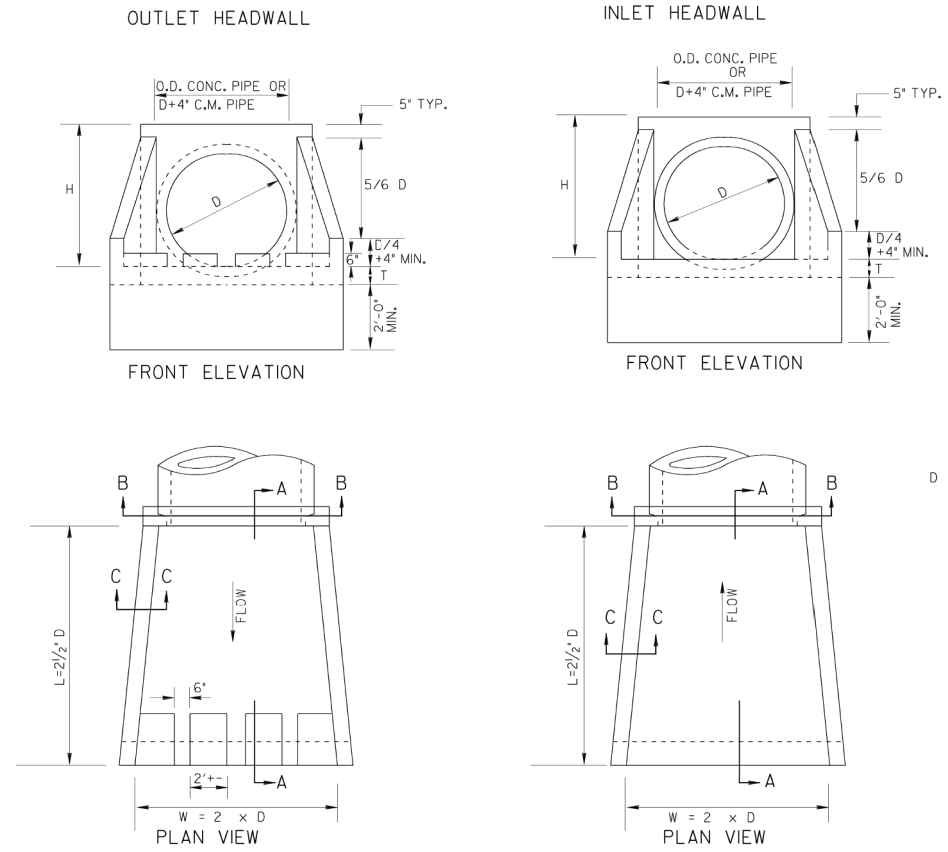
REVISION DATES

GEORGIA STANDARDS  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	41-0008

7/7/2004 10:49:45 AM \\GDOT\DRN\GDOT\GCF\GO\_TIFF\_OUTPUT\_DCF\_GOWENS\_M\GARY\ENGLISH\_STANDARDS\_UPDATED\_AND\_UPDATED\_INDEX\125.PDF\_G0-RD6

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



D = INSIDE DIAMETER OF PIPE

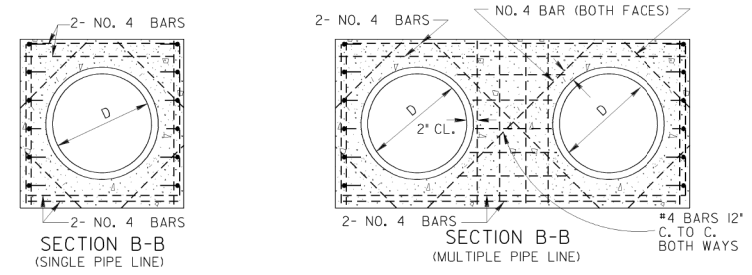


TABLE NO. 1 - QUANTITIES FOR HEADWALLS

D	CU. YDS. CONCRETE (PAY QUANTITIES)				LBS. STEEL (GIVEN FOR INFORMATION ONLY)			
	FOR SINGLE LINE		ADD FOR ADD'L LINE		FOR SINGLE LINE		ADD FOR EACH ADD'L LINE	
15"	0.87	0.93	0.60	0.66	102	113	73	83
18"	1.10	1.16	0.85	0.93	106	117	93	104
24"	1.61	1.69	1.29	1.37	127	138	124	134
30"	2.21	2.32	1.83	1.96	170	180	154	164
36"	2.92	3.05	2.49	2.63	238	254	196	212
42"	3.73	3.87	3.00	3.17	290	306	231	247
48"	4.62	4.80	3.58	3.74	335	351	265	281
54"	5.63	5.83	4.17	4.38	407	428	319	340
60"	6.72	6.95	4.82	5.01	456	477	360	391
72"	9.22	9.48	6.24	6.46	623	649	475	494
84"	14.84	15.19	9.05	9.29	1517	1539	1017	1044
96"	18.88	19.27	11.93	12.41	2188	2150	1323	1350

\*NOTE: QUANTITIES SHOWN WILL BE ACTUAL PAY QUANTITIES FOR CLASS "A" CONCRETE, INCLUDING REINFORCED STEEL. NO ADJUSTMENT WILL BE MADE FOR AS BUILT QUANTITIES.

D - INSIDE DIAMETER OF PIPE CULVERT

H = D + 10" MIN. FOR C.M. PIPE  
 H = D + PIPE WALL THICKNESS + 8" FOR CONC. PIPE (3/12 D + 9" TYP.)  
 T = 8" FOR D = 72" OR LESS  
 T = 10" FOR D = OVER 72"

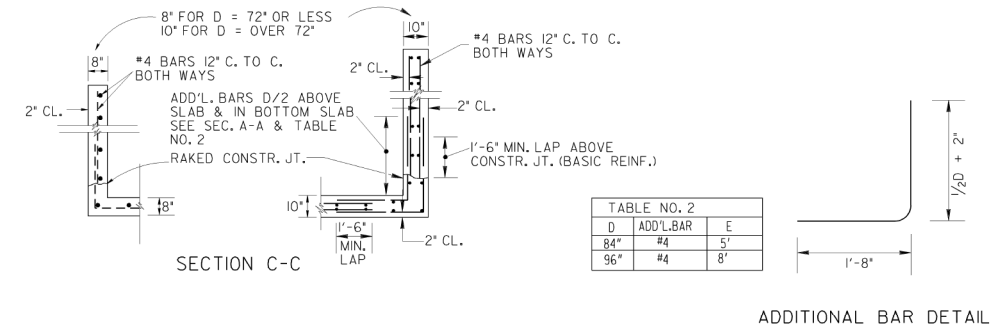


TABLE NO. 2

D	ADD'L BAR	E
84"	#4	5'
96"	#4	8'

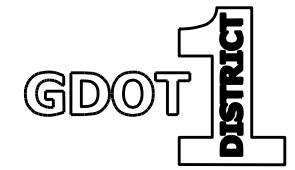
DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

STANDARD TAPERED  
INLET HEADWALL - OUTLET HEADWALL  
(BUILT-IN-PLACE)

NO SCALE REV. & REDR. OCT., 1999

DES. (SUBMITTED) *James H. Kinnel*  
 DRAW. (APPROVED) *Carol L. Pankratz*  
 TRAFFIC ENGINEER & AIRPORT DESIGN ENGR.  
 CHIEF ENGINEER

NUMBER 1125



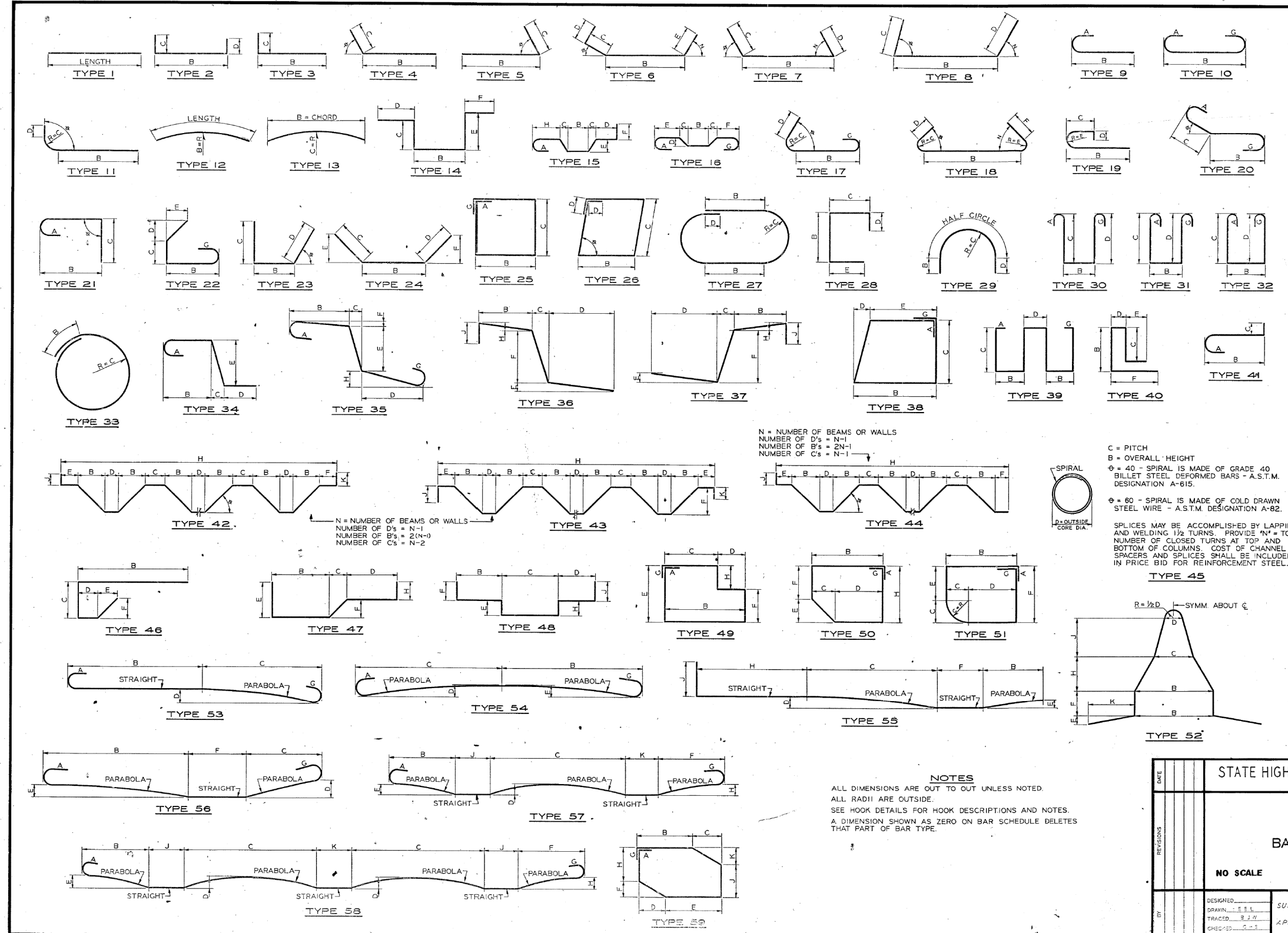
REVISION DATES

NO.	DATE	DESCRIPTION

GEORGIA STANDARDS  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	41-0009
CORRECTED:	DATE:	
VERIFIED:	DATE:	





FED ROAD DIV NO	STATE	FED AID PROJ NO	STATE AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
3	GA					

### HOOK DETAILS

**RECOMMENDED 180° HOOKS**  
 GRADE 40 ksi  
 D = 5d for #3 through #11  
 D = 10d for #14 and #18  
 GRADES 50-60-75 ksi  
 D = 5d for #3 through #8  
 D = 5d for #9, #10, and #11  
 D = 10d for #14 and #18

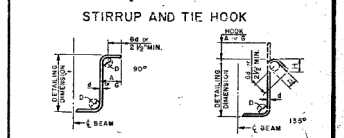
**RECOMMENDED 180° END HOOK DIMENSIONS**

BAR SIZE	GRADES 50-60-75 ksi		GRADE 40 ksi	
	A or G	J	A or G	J
#3	5	3	5	2 1/4
#4	7	4	7	3 1/2
#5	8	5	8	4 1/2
#6	10	6	10	5 1/4
#7	11	7	11	6 1/4
#8	13	8	13	7
#9	1-3	1-1 1/4	1-0	5
#10	1-5	1-0 3/4	1-1	9
#11	1-7	1-2 1/4	1-2	10
#14	2-2	1-8 1/2	2-2	1-8 1/2
#18	2-11	2-3	2-11	2-3

**RECOMMENDED 90° END HOOK DIMENSIONS**  
 ALL GRADES  
 D = 5d for #3 through #8  
 D = 5d for #9, #10, and #11  
 D = 10d for #14 and #18

BAR SIZE	HOOK A or G
#3	6
#4	8
#5	10
#6	1-0
#7	1-2
#8	1-4
#9	1-7
#10	1-10
#11	2-0
#14	2-7
#18	3-5

HOOK STYLE 3

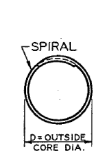


**STIRRUPS AND TIE HOOK DIMENSIONS**  
 GRADES 40-50-60 ksi

BAR SIZE	D (in.)	90° HOOK A or G	135° HOOK A or G	180° HOOK A or G
#3	1 1/2	4	4	2 1/2
#4	2	4 1/2	4 1/2	3
#5	2 1/2	6	5 1/2	3 3/4
#6	3	6 1/2	6 1/2	4 1/2

STYLE 6 = NO HOOK  
 HOOK STYLES DETAILED ON THIS SHEET ARE FOR ILLUSTRATION ONLY. ACTUAL HOOK STYLE FOR ANY PARTICULAR BAR WILL BE SHOWN UNDER A or G HEADING ON BAR SCHEDULE.

N = NUMBER OF BEAMS OR WALLS  
 NUMBER OF D's = N-1  
 NUMBER OF B's = 2N-1  
 NUMBER OF C's = N-1



C = PITCH  
 B = OVERALL HEIGHT  
 φ = 40 - SPIRAL IS MADE OF GRADE 40 BILLET STEEL DEFORMED BARS - A.S.T.M. DESIGNATION A-615.  
 φ = 60 - SPIRAL IS MADE OF COLD DRAWN STEEL WIRE - A.S.T.M. DESIGNATION A-82.

SPLICING MAY BE ACCOMPLISHED BY LAPPING AND WELDING 1 1/2 TURNS. PROVIDE 'N' = TOTAL NUMBER OF CLOSED TURNS AT TOP AND BOTTOM OF COLUMNS. COST OF CHANNEL SPACERS AND SPLICES SHALL BE INCLUDED IN PRICE BID FOR REINFORCEMENT STEEL.

**NOTES**  
 ALL DIMENSIONS ARE OUT TO OUT UNLESS NOTED.  
 ALL RADII ARE OUTSIDE.  
 SEE HOOK DETAILS FOR HOOK DESCRIPTIONS AND NOTES.  
 A DIMENSION SHOWN AS ZERO ON BAR SCHEDULE DELETES THAT PART OF BAR TYPE.

STATE HIGHWAY DEPARTMENT OF GEORGIA  
 BRIDGE DIVISION

**STANDARD**  
 BAR BENDING DETAILS

NO SCALE AUGUST 1969

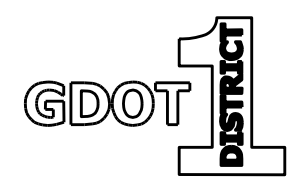
DESIGNED: SUBMITTED: *R.H. Chapman* NUMBER  
 DRAWN: E.S.L. BRIDGE ENGINEER 3901  
 TRACED: B.S.H. APPROVED: STATE HIGHWAY ENGINEER  
 CHECKED: S.S.S.

### REVISION DATES

NO.	DATE	DESCRIPTION

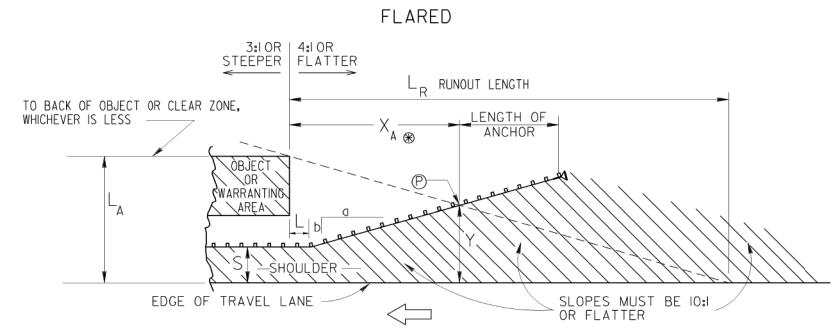
**GEORGIA STANDARDS**  
 US 19 BUS/SR 60 BUS @ OAK GROVE RD  
 LUMPKIN COUNTY

CHECKED: DATE: DRAWING No.  
 BACKCHECKED: DATE:  
 CORRECTED: DATE:  
 VERIFIED: DATE: 41-0010



9/27/2016 12:54:30 PM \\GDOT\OSNJ\GDOT\GCF\OGC\gcf\baquar\es\P\ppl\lay\lgh\ng\Standards\GA\_Standards\4000W\Rev\Jan-2015-12-16\4000W\_Rev\std\_2016-1-29.ppt

### LENGTH OF GUARDRAIL ADVANCEMENT AT FIXED OBJECTS OR AT WARRANTING FILL SLOPES (TYPICAL)

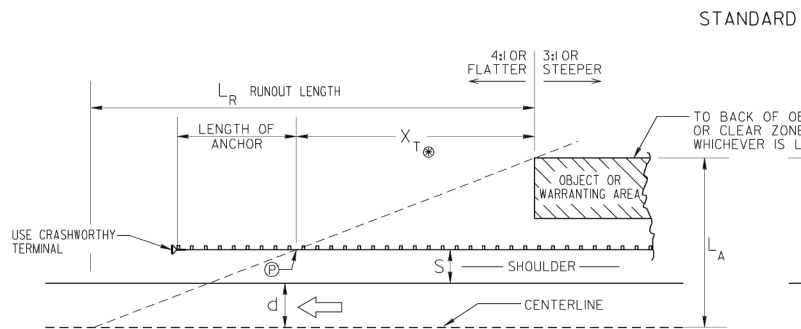


DESIGN SPEED (mph)	FLARE RATE		
	SHY-LINE OFFSET (ft)	(a/b) BARRIER INSIDE SHY-LINE	BARRIER AT OR BEYOND SHY-LINE
70	9	3:0	1:5
60	8	2:6	1:4
55	7	2:4	1:2
50	6.5	2:1	1:1
45	6	1:8	1:0
40	5	1:6	8
30	4	1:3	7

$$Y = L_A - \frac{L_A}{L_R} (X_A)$$

$$X_A = \frac{L_A + (b/a)L - S}{b/a + (L_A/L_R)}$$

WHERE 'S' IS LESS THAN THE SHY-LINE OFFSET, USE FLATTER RATES GIVEN IN TABLE.



$$X_T = L_R \times \frac{L_A - (S+d)}{L_A}$$

(TRAILING END)

$$X = L_R \times \frac{L_A - S}{L_A}$$

(APPROACH END)

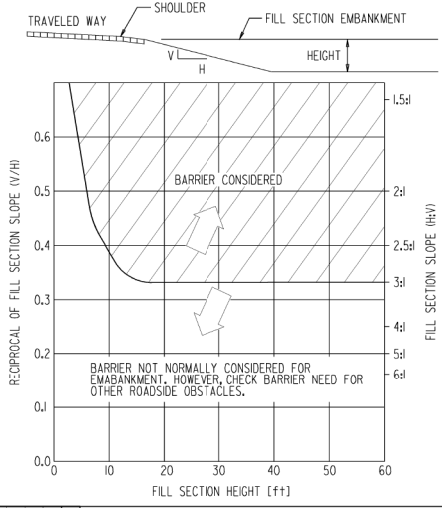
DESIGN SPEED (MPH)	L <sub>R</sub> Runout Length in feet			
	OVER 10000 (A.D.T.)	10000-10000 (A.D.T.)	1000-5000 (A.D.T.)	UNDER 1000 (A.D.T.)
80	470	430	380	330
70	360	330	290	250
60	300	250	210	200
50	230	190	160	150
40	160	130	110	100
30	110	90	80	70

S = NORMAL WIDTH OF USUABLE SHOULDER PLUS 2 FT (TYP.)

⊕ = BEGINNING OF TERMINAL (TYP.)

⊗ X<sub>A</sub>, X<sub>T</sub>, AND X MEASURED TO THE END OF W-BEAM, WHERE TERMINAL BEGINS

### COMPARATIVE BARRIER CONSIDERATION FOR EMBANKMENTS



### CLEAR ZONE DISTANCES

CLEAR ZONE DISTANCES (FT) CHART

DESIGN SPEED	DESIGN ADT	FORESLOPES			BACKSLOPES		
		OR FLATTER	IV:5H TO IV:4H	IV:3H	IV:3H	IV:5H TO IV:4H	OR FLATTER
40 M.P.H. OR LESS	UNDER 750	7-10	7-10	**	7-10	7-10	7-10
	750-1500	10-12	12-14	**	12-14	12-14	12-14
	1500-6000	12-14	14-16	**	14-16	14-16	14-16
45-50 M.P.H.	UNDER 750	10-12	12-14	**	8-10	8-10	10-12
	750-1500	14-16	16-20	**	10-12	12-14	14-16
	1500-6000	16-18	20-26	**	12-14	14-16	16-18
55 M.P.H.	UNDER 750	12-14	14-18	**	8-10	10-12	10-12
	750-1500	16-18	20-24	**	10-12	14-16	16-18
	1500-6000	20-22	24-30	**	14-16	16-18	20-22
60 M.P.H.	UNDER 750	16-18	20-24	**	10-12	12-14	14-16
	750-1500	20-24	26-32*	**	12-14	16-18	20-22
	1500-6000	26-30	32-40*	**	14-18	18-22	24-26
65-70 M.P.H.	UNDER 750	18-20	20-26	**	10-12	14-16	14-16
	750-1500	24-26	28-36*	**	12-16	18-20	20-22
	1500-6000	28-32*	34-42*	**	16-20	22-24	26-28
OVER 6000	30-34*	38-46*	**	22-24	26-30	28-30	

\* WHEN A SITE-SPECIFIC INVESTIGATION INDICATES A HIGH PROBABILITY OF CONTINUING CRASHES OR WHEN SUCH OCCURRENCES ARE INDICATED BY CRASH HISTORY, THE DESIGNER MAY PROVIDE CLEAR-ZONE DISTANCES GREATER THAN THE CLEAR ZONE SHOWN ABOVE. CLEAR ZONES MAY BE LIMITED TO 30 FT. FOR PRACTICALITY AND TO PROVIDE A CONSISTENT ROADWAY TEMPLATE IF PREVIOUS EXPERIENCE WITH SIMILAR PROJECTS OR DESIGNS INDICATES SATISFACTORY PERFORMANCE.

\*\* BECAUSE RECOVERY IS LESS LIKELY ON THE UNSHIELDED, TRAVERSABLE IV:3H FILL SLOPES, FIXED OBJECTS SHOULD NOT BE PRESENT IN THE VICINITY OF THE TOE OF THESE SLOPES. RECOVERY OF HIGH-SPEED VEHICLES THAT ENCR OACH BEYOND THE EDGE OF THE SHOULDER MAY BE EXPECTED TO OCCUR BEYOND THE TOE OF SLOPE. DETERMINATION OF THE WIDTH OF THE RECOVERY AREA AT THE TOE OF SLOPE SHOULD CONSIDER RIGHT-OF-WAY AVAILABILITY, ENVIRONMENTAL CONCERNS, ECONOMIC FACTORS, SAFETY NEEDS, AND CRASH HISTORIES. ALSO, THE DISTANCE BETWEEN THE EDGE OF THE THROUGH TRAVELED LAND AND THE BEGINNING OF THE IV:3H SLOPE SHOULD INFLUENCE THE RECOVERY AREA PROVIDED AT THE TOE OF SLOPE. A 10-FT RECOVERY AREA AT THE TOE OF SLOPE SHOULD BE PROVIDED FOR ALL TRAVERSABLE, NON RECOVERABLE FILL SLOPES.

### HORIZONTAL CURVE ADJUSTMENTS

RADIUS (FEET)	K <sub>CZ</sub> (CURVE CORRECTION FACTOR)						
	DESIGN SPEED (MPH)						
	40	45	50	55	65	70	
2950	1.1	1.1	1.1	1.2	1.2	1.2	
2300	1.1	1.1	1.2	1.2	1.2	1.3	
1970	1.1	1.2	1.2	1.2	1.3	1.4	
1640	1.1	1.2	1.2	1.3	1.3	1.4	
1475	1.2	1.2	1.3	1.3	1.4	1.5	
1315	1.2	1.2	1.3	1.3	1.4	1.5	
1150	1.2	1.2	1.3	1.4	1.4	1.5	
985	1.2	1.3	1.4	1.5	1.5	1.5	
820	1.3	1.3	1.4	1.5	1.5	1.5	
660	1.3	1.4	1.5				
495	1.4	1.5					
330	1.5						

CZ<sub>c</sub> = (L<sub>c</sub>) (K<sub>CZ</sub>)

Where:

CZ<sub>c</sub> = CLEAR ZONE ON OUTSIDE OF CURVATURE, FEET

L<sub>c</sub> = CLEAR ZONES DISTANCE, FEET (SEE CHART AT LEFT)

K<sub>CZ</sub> = CURVE CORRECTION FACTOR

NOTE: THE CURVE CORRECTION FACTOR IS APPLIED TO THE OUTSIDE OF CURVES ONLY. CORRECTIONS ARE TYPICALLY MADE ONLY TO CURVES LESS THAN 2,950-FT RADIUS.

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

### STANDARD GUARDRAIL WARRANT GUIDES LENGTHS OF ADVANCEMENT CLEAR ZONE DISTANCES FILL HEIGHT EMBANKMENTS

NOT TO SCALE

DEC., 1999

NUMBER 4000W

REV. ANCH. LOC. UPDATED	DATE	BY	REVISION
F.B.F.	1-29-16		
FLARE TBL. ADDED CHART	4-16-15		
REVISED TO 201803			
REVISED GUARDRAIL WARRANTS	9-4-07		
REVISED GUARDRAIL AND CLEAR ZONE			

DES. (SUBMITTED) *[Signature]*

TRA. (APPROVED) *[Signature]*

CHK. CHECK ENGINEER

### REVISION DATES

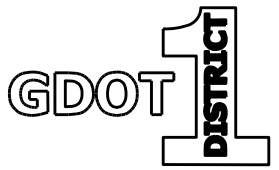
DATE	DESCRIPTION

GEORGIA STANDARDS

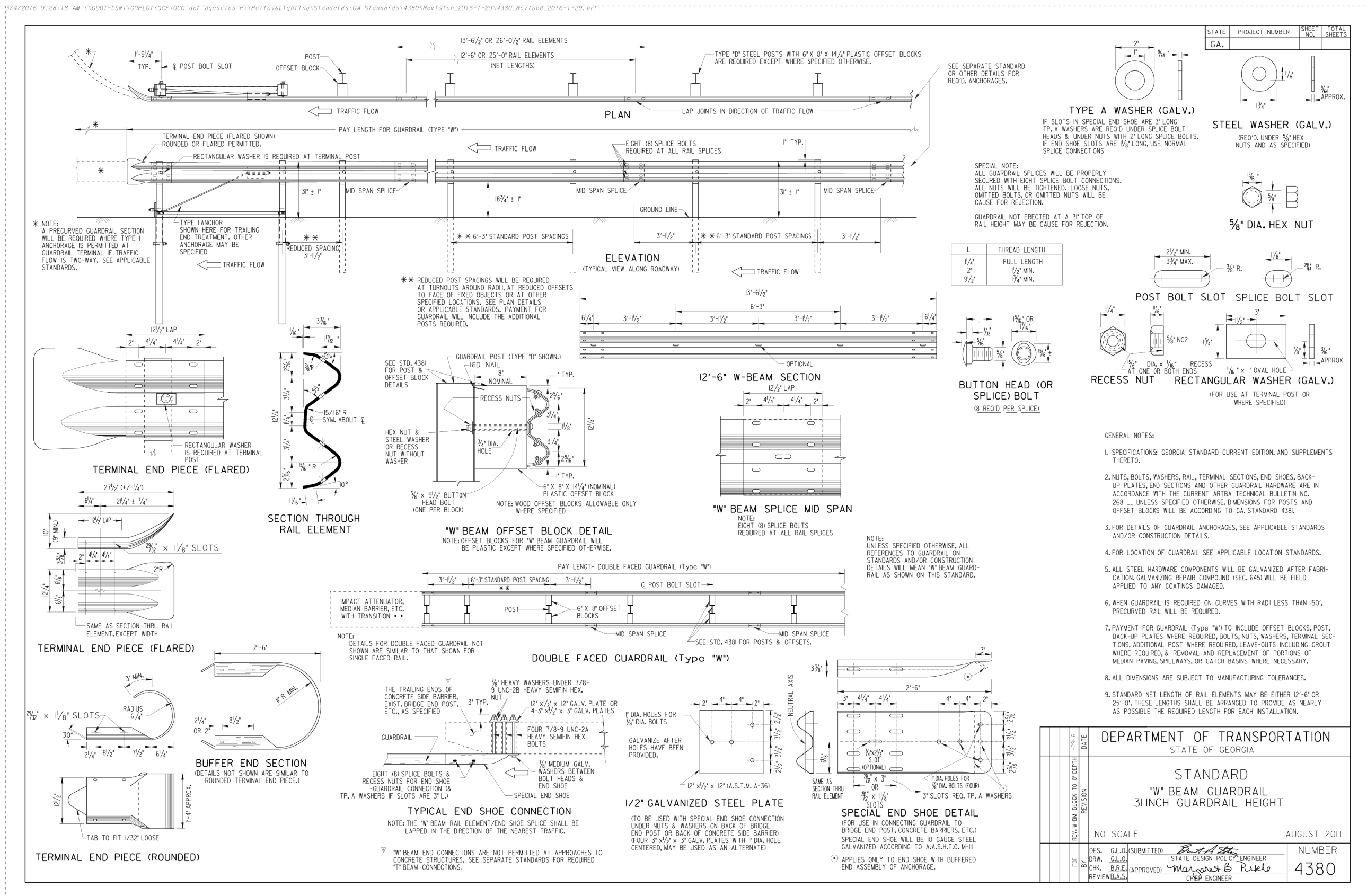
US 19 BUS/SR 60 BUS @ OAK GROVE RD

LUMPKIN COUNTY

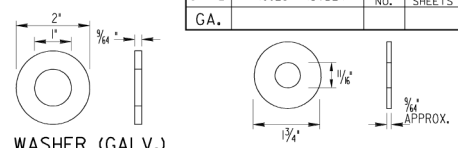
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	41-0011
CORRECTED:	DATE:	
VERIFIED:	DATE:	







STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

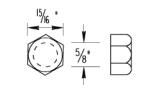


TYPE A WASHER (GALV.)

IF SLOTS IN SPECIAL END SHOE ARE 3" LONG TP, A WASHERS ARE REQ'D UNDER SPICE BOLT HEADS & UNDER NUTS WITH 2" LONG SPICE BOLTS. IF END SHOE SLOTS ARE 1/8" LONG, USE NORMAL SPICE CONNECTIONS

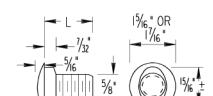
STEEL WASHER (GALV.)

(REQ'D UNDER 3/8" HEX NUTS AND AS SPECIFIED)

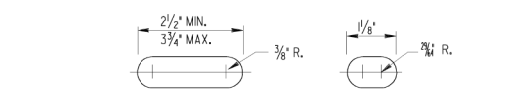


5/8" DIA. HEX NUT

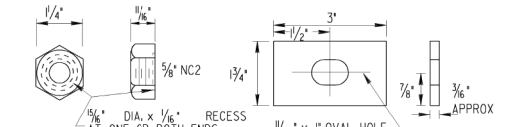
L	THREAD LENGTH
1/4"	FULL LENGTH
2"	1/2" MIN.
9/2"	1 3/4" MIN.



BUTTON HEAD (OR SPICE) BOLT (8 REQ'D PER SPICE)



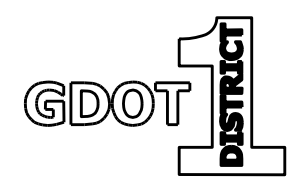
POST BOLT SLOT SPICE BOLT SLOT



RECESS NUT RECTANGULAR WASHER (GALV.) (FOR USE AT TERMINAL POST OR WHERE SPECIFIED)

- GENERAL NOTES:
- SPECIFICATIONS: GEORGIA STANDARD CURRENT EDITION, AND SUPPLEMENTS THERETO.
  - NUTS, BOLTS, WASHERS, RAIL, TERMINAL SECTIONS, END SHOES, BACK-UP PLATES, END SECTIONS AND OTHER GUARDRAIL HARDWARE ARE IN ACCORDANCE WITH THE CURRENT ARTBA TECHNICAL BULLETIN NO. 268 ... UNLESS SPECIFIED OTHERWISE, DIMENSIONS FOR POSTS AND OFFSET BLOCKS WILL BE ACCORDING TO GA. STANDARD 438I.
  - FOR DETAILS OF GUARDRAIL ANCHORAGES, SEE APPLICABLE STANDARDS AND/OR CONSTRUCTION DETAILS.
  - FOR LOCATION OF GUARDRAIL SEE APPLICABLE LOCATION STANDARDS.
  - ALL STEEL HARDWARE COMPONENTS WILL BE GALVANIZED AFTER FABRICATION GALVANIZING REPAIR COMPOUND (SEC. 645) WILL BE FIELD APPLIED TO ANY COATINGS DAMAGED.
  - WHEN GUARDRAIL IS REQUIRED ON CURVES WITH RADI LESS THAN 150', PRECURVED RAIL WILL BE REQUIRED.
  - PAYMENT FOR GUARDRAIL (Type "W") TO INCLUDE OFFSET BLOCKS, POST, BACK-UP PLATES WHERE REQUIRED, BOLTS, NUTS, WASHERS, TERMINAL SECTIONS, ADDITIONAL POST WHERE REQUIRED, LEAVE-OUTS INCLUDING GROUT WHERE REQUIRED, & REMOVAL AND REPLACEMENT OF PORTIONS OF MEDIAN PAVING, SPILLWAYS, OR CATCH BASINS WHERE NECESSARY.
  - ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
  - STANDARD NET LENGTH OF RAIL ELEMENTS MAY BE EITHER 12'-6" OR 25'-0", THESE LENGTHS SHALL BE ARRANGED TO PROVIDE AS NEARLY AS POSSIBLE THE REQUIRED LENGTH FOR EACH INSTALLATION.

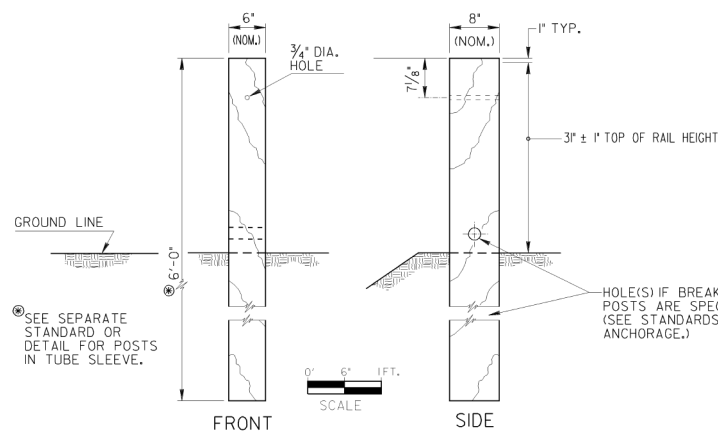
DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
STANDARD "W" BEAM GUARDRAIL 31 INCH GUARDRAIL HEIGHT	
NO SCALE	AUGUST 2011
DES. G.L.O. (SUBMITTED) <i>[Signature]</i>	NUMBER
DRW. G.L.O. (APPROVED) <i>[Signature]</i>	4380
CHK. B.R.E. (APPROVED) <i>[Signature]</i>	
REVIEWER A.S. <i>[Signature]</i>	



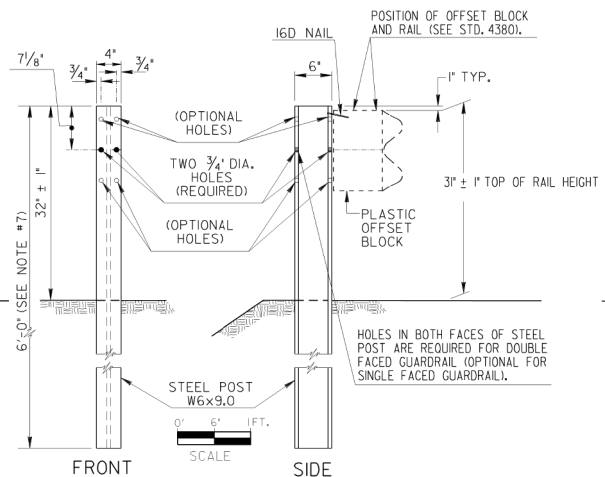
REVISION DATES		GEORGIA STANDARDS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	CHECKED:	DATE:
BACKCHECKED:	DATE:	CORRECTED:	DATE:
CORRECTED:	DATE:	VERIFIED:	DATE:
			41-0013

3/4/2016 9:33:31 AM \\GDOT-DSN1\GDOT\DC\DCG.dgn - gpplotborder-VBI-PO.tbl

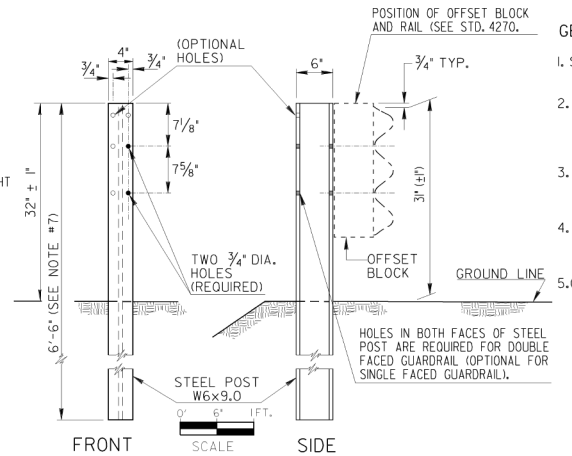
**TYPE A WOOD POST (FOR "W" BEAM GUARDRAIL)**  
NOTE: WOOD POST ARE ALLOWABLE ONLY WHERE SPECIFIED.



**TYPE D STEEL POST (FOR "W" BEAM GUARDRAIL)**

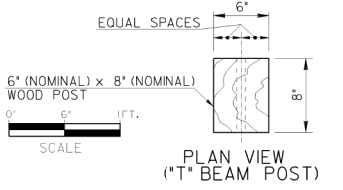


**TYPE D-T STEEL POST (FOR "T" BEAM GUARDRAIL)**

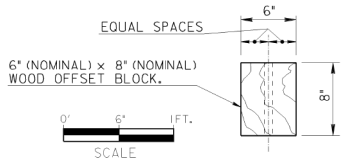
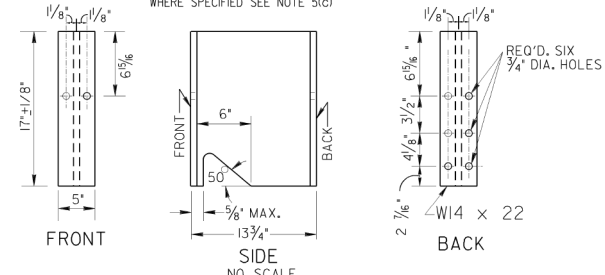


STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

- GENERAL NOTES:**
- SPECIFICATIONS GEORGIA STANDARD, CURRENT EDITION AND SUPPLEMENTS THERETO.
  - STEEL POSTS MAY BE EITHER ROLLED OR WELDED STRUCTURAL SHAPES. STEEL OFFSET BLOCKS SHALL BE ROLLED, WELDED POSTS SHALL BE SEAL WELDED BETWEEN WEB AND FLANGE BEFORE GALVANIZING.
  - WHERE WOOD POST OR WOOD OFFSET BLOCKS ARE PERMITTED, THE WOOD SHALL BE TREATED IN ACCORDANCE WITH GEORGIA STANDARD SPECIFICATIONS.
  - ALL BOLTS USED FOR FASTENING THE RAIL AND OFFSET BLOCKS TO WOOD POSTS SHALL HAVE SUFFICIENT LENGTH TO EXTEND AT LEAST 1/4" BEYOND THE FULL NUT, UP TO 3" BEYOND.
  - (a) "W" BEAM GUARDRAIL: ALL OFFSET BLOCKS SHALL BE 8" DEPTH PLASTIC BLOCKS EXCEPT FOR (d) BELOW.  
(b) "T" BEAM GUARDRAIL: STANDARD INSTALLATION WILL USE 8" DEPTH PLASTIC BLOCKS UNLESS OTHERWISE APPROVED.  
(c) 13 1/4" DEPTH MODIFIED STEEL OFFSETS MAY BE SPECIFIED WHERE JUSTIFIED FOR MORE SEVERE CONDITIONS. PAY ITEM IS --GUARDRAIL, TP "T", MODIFIED OFFSET BLOCK--PER LIN. FT.  
(d) WOOD OFFSET BLOCKS MAY BE USED ONLY AT AN ISOLATED LOCATION WITHIN A RUN OF GUARDRAIL, WHERE OTHER BLOCK TYPES WOULD NOT PROVIDE PROPER FIT, AS DETERMINED BY THE ENGINEER OR SHOWN IN THE PLANS.
  - POSTS WILL BE SPACED AT 6'-3" C. TO C., UNLESS OTHERWISE NOTED.
  - ADDITIONAL LENGTH POSTS, WHERE SPECIFIED, SHALL BE 7'-0" AND 7'-6" LONG FOR "W" BEAM AND "T" BEAM GUARDRAILS RESPECTIVELY, WITH HOLES DIMENSIONED FROM THE POST-TOP THE SAME AS SHOWN.
  - 9'-0" POST REQUIRED IF GUARDRAIL INSTALLED ON A 2:1 SLOPE.
  - GROUT FILL SHALL BE A CONTROLLED LOW STRENGTH FLOWABLE FILL THAT HAS A MAXIMUM 28-DAY COMPRESSIVE STRENGTH OF 100 P.S.I. ACCORDING TO SPEC. 600.



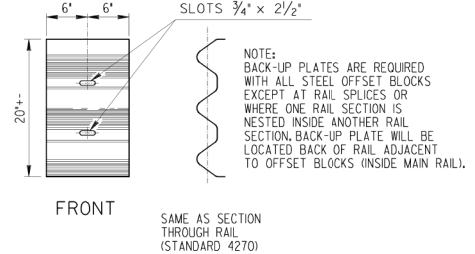
**MODIFIED STEEL OFFSET BLOCK FOR "T" BEAM GUARDRAIL**  
NOTE: MODIFIED STEEL OFFSET BLOCK ARE USED ONLY WHERE SPECIFIED SEE NOTE 5(d)



**PLAN VIEW (FOR "W" BEAM OFFSET BLOCK)**

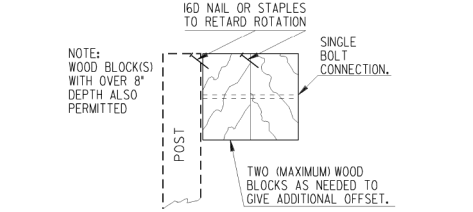
WOOD POSTS AND WOOD OFFSET BLOCKS MAY BE ROUGH OR SURFACED.  
DIMENSIONS FOR WOOD POSTS AND WOOD OFFSET BLOCKS ARE NOMINAL IN ACCORDANCE WITH ACCEPTED LUMBER INDUSTRY STANDARDS.  
NOTE: WHERE WOOD OFFSET BLOCK ON STEEL POST IS PERMITTED IN "W" BEAM INSTALLATION, A NAIL OR SCREW FROM POST TO WOOD IS REQUIRED TO PREVENT ROTATION OF THE BLOCK.

**BACK-UP PLATE (FOR "T" BEAM GUARDRAIL)**



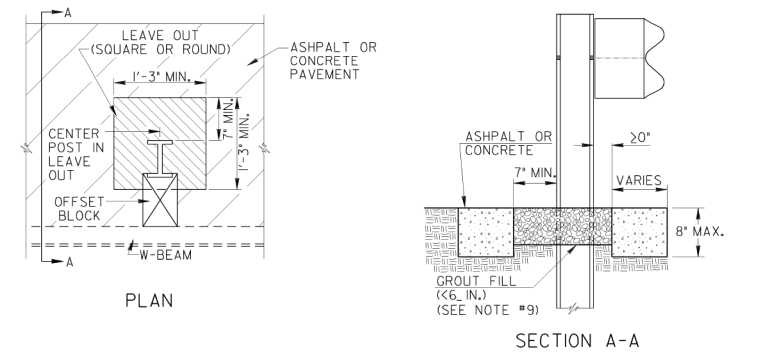
NOTE: BACK-UP PLATES ARE REQUIRED WITH ALL STEEL OFFSET BLOCKS EXCEPT AT RAIL SPLICES OR WHERE ONE RAIL SECTION IS NESTED INSIDE ANOTHER RAIL SECTION. BACK-UP PLATE WILL BE LOCATED BACK OF RAIL ADJACENT TO OFFSET BLOCKS (INSIDE MAIN RAIL).

**ADDITIONAL DEPTH OFFSET BLOCKOUTS**  
(FOR USE WHERE GREATER THAN STANDARD OFFSET IS SPECIFIED)

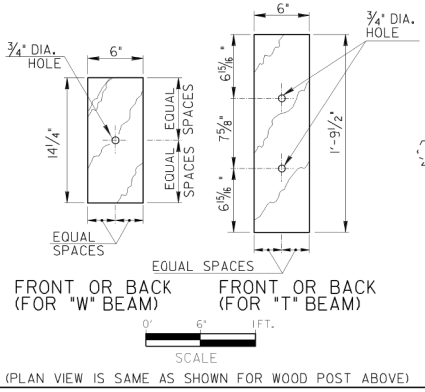


NOTE: ADDITIONAL DEPTH OFFSETS BELOW ARE SHOWN FOR "W" BEAM. SIMILAR OFFSETS MAY BE APPLIED FOR "T" BEAM GUARDRAIL.  
NOTE: ADDITIONAL DEPTH OFFSETS ARE PERMITTED ONLY WHERE AN ISOLATED POST MUST BE PLACED AT A GREATER THAN NORMAL OFFSET.  
NOTE: FOR BLOCK CONNECTION TO POST AND TO RAIL SEE STD. 4380 OR 4385.

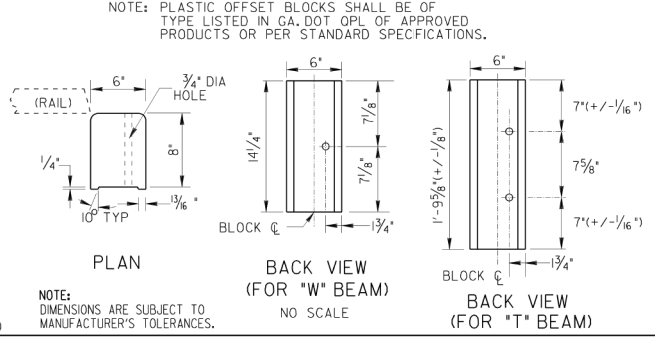
**GUARDRAIL POST DETAILS IN ASPHALT OR CONCRETE PAVEMENT APPLICATIONS**



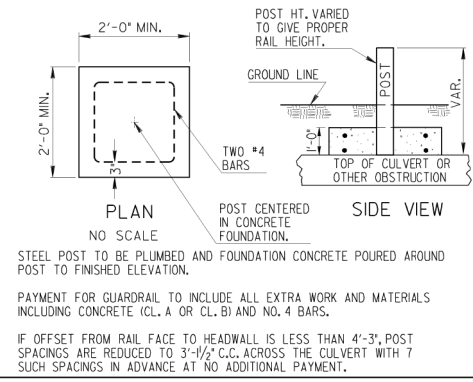
**WOOD OFFSET BLOCKS**  
(WHERE PERMITTED, SEE NOTE 5(d))



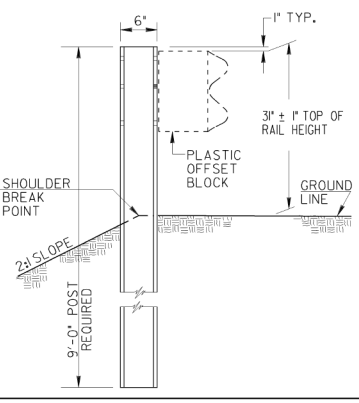
**STANDARD PLASTIC OFFSET BLOCKS**  
NOTE: PLASTIC OFFSET BLOCKS SHALL BE OF TYPE LISTED IN GA. DOT OPL OF APPROVED PRODUCTS OR PER STANDARD SPECIFICATIONS.



**CONCRETE FOUNDATION FOR POST IN SHALLOW FILLS OVER CULVERTS OR OTHER OBSTRUCTIONS**  
(NOTE: PLATE MOUNTED POST MAY BE USED AS AN ALTERNATE, SEE SEPARATE SHEET).



**2:1 SLOPE DETAIL**



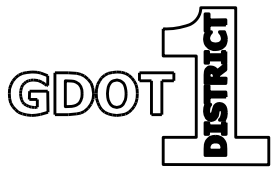
REV.	DATE	REVISION
1	1-23-16	ADD. DIM. STRIP/RIGID PAV. INSTALLATION DETAILS

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

STANDARD  
POSTS AND OFFSET BLOCKS  
FOR "W" & "T" BEAM GUARDRAIL  
3 INCH GUARDRAIL HEIGHT

SCALE: AS SHOWN      AUGUST 2011

DES. G.L.O. (SUBMITTED)	NUMBER
DRW. G.L.O. (STATE DESIGN POLICY ENGINEER)	4381
CHK. B.R.E. (APPROVED)	
REVIEW B.A.S. (ENGINEER)	



REVISION DATES		GEORGIA STANDARDS	
CHECKED:	DATE:	US 19 BUS/SR 60 BUS @ OAK GROVE RD	
BACKCHECKED:	DATE:	LUMPKIN COUNTY	
CORRECTED:	DATE:	CHECKED:	DATE:
VERIFIED:	DATE:	DRAWING No. 41-0014	

0574/2016 9:38:14 AM \GDOT-DSM\GPLOT\DF\DCG\gpc\haver\p3\p10110\lgh\ing\Standards\GA\_Standards\4382\Rev1\std\_2016-1-29\4382\_Rev1\std\_2016-1-29.dwg

**31 INCH HIGH GUARDRAIL CONNECTION AT TRAILING ENDS**  
 (SEE NOTE AT BOTTOM LEFT)

**GUARDRAIL CONNECTION AT BRIDGE END (OR CONCRETE BARRIER)**  
 (DETAILS ARE ILLUSTRATED WITH APPROACH SLAB, SPILLWAY, ETC. FOR TYPICAL BRIDGE END, POST SPACINGS AND END SHOE CONNECTION APPLIES TO ROADWAY CONCRETE BARRIER AS WELL AS BRIDGE ENDS.)

**PLAN**

**ELEVATION**

**SECTION A-A \*\***

STATE: GA. PROJECT NUMBER: SHEET NO.: TOTAL SHEETS: 4382

**NOTES FOR GUARDRAIL CONNECTION:**

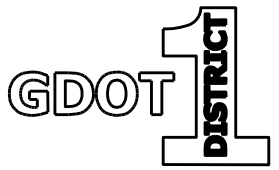
- A. WHERE GREATER THAN THE MINIMUM LENGTH OF T-BEAM GUARDRAIL IS REQUIRED, ADDITIONAL POSTS REMAIN AS SHOWN WITHIN THE FIRST 20'-7 1/4" LENGTH, WITH NORMAL (6'-3" C. TO C.) SPACINGS FOR THE REMAINDER OF THE INSTALLATION (STD. 4385) UNLESS SPECIFIED OTHERWISE.
- B. PAYMENT FOR GUARDRAIL TYPE T INCLUDES ALL ADDITIONAL POST, ALL ADDITIONAL OFFSET BLOCKS, THE SPECIAL END SHOE CONNECTION WITH ACCOMPANYING HARDWARE, THE EXTRA SECTION OF "T" BEAM RAIL NESTED INSIDE THE OTHER, AND THE "T" BEAM TO "W" BEAM TRANSITION SECTION.
- C. WHERE GUARDRAIL POSTS ARE ERECTED THRU SPILLWAY, CONCRETE CAP OR PAVING UNDER GUARDRAIL, PAYMENT FOR GUARDRAIL OF ANY TYPE SHALL INCLUDE REPLACING THE BLOCKED OUT CONCRETE AND/OR REMOVING AND REPLACING PORTIONS OF SPILLWAY, CONCRETE, OR GROUT AS NECESSARY FOR POST INSTALLATIONS.

\*\* FOR CURB DETAILS ASSOCIATED WITH APPROACH SLAB, SEE APPROACH SLAB STANDARD. FOR GUARDRAIL INSTALLATION LOCATIONS WHERE AN APPROACH SLAB IS NOT USED, PROVIDE A CONCRETE CURB IN ACCORDANCE WITH SECTION "A-A". CONCRETE CURB SHALL BE PAID FOR PER LINEAR FOOT.

NOTE: POST SPACINGS SHOWN ARE TYPICAL AVERAGE WITH NORMAL CONSTRUCTION TOLERANCES ALLOWED.

**GENERAL NOTES:**

1. SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION & SUPPLEMENTS THERETO.
2. FOR DETAILS OF GUARDRAIL HARDWARE, POST, OFFSET BLOCKS, END SHOE, TRANSITION SECTION, ETC., SEE SEPARATE STANDARDS AS APPLICABLE.
3. GUARDRAIL INSTALLATIONS, INCLUDING ANCHORAGES AND CONNECTIONS, ARE TO BE COMPLETED BEFORE BEING SUBJECT TO TRAFFIC UNLESS OTHERWISE APPROVED.
4. OFFSET BLOCKS SHALL BE PLASTIC UNLESS SPECIFIED OTHERWISE. OFFSET BLOCKS ARE REQUIRED AT ALL POSTS.
5. THE COST FOR DRILLING HOLES FOR THE END SHOE CONNECTION SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE GUARDRAIL.

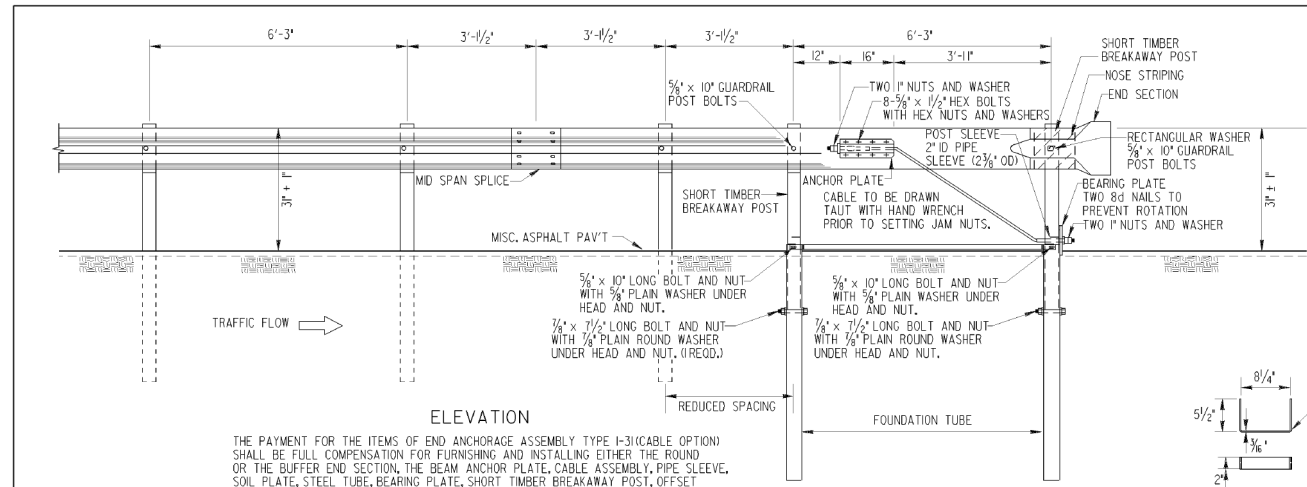


REVISION DATES			

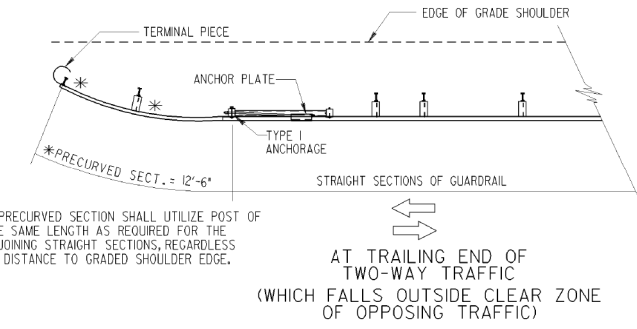
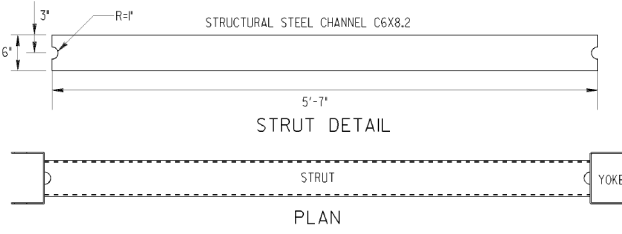
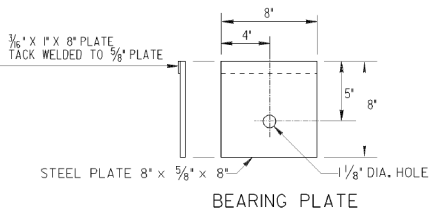
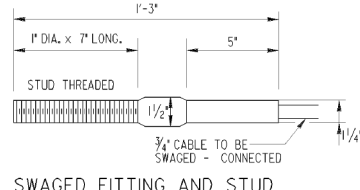
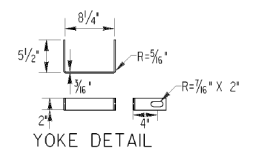
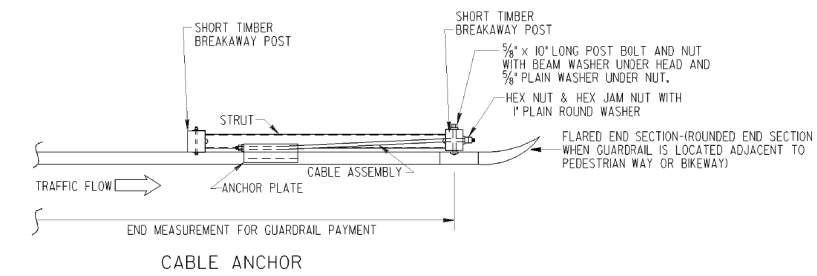
GEORGIA STANDARDS			
US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY			
CHECKED: _____	DATE: _____	DRAWING No.  <b>41-0015</b>	
BACKCHECKED: _____	DATE: _____		
CORRECTED: _____	DATE: _____		
VERIFIED: _____	DATE: _____		

12/7/2011 8:05:15 AM \\GDOT-DSN\GDPLOT\OCF\GD\_K1p8000.qcf Icon C:\tpc\31inch guardrail\new 31 inch guardrail files\4383.pdf GD-R06  
9/21/2011 8:13:55 AM \\GDOT-DSN\GDPLOT\OCF\GD\_K1p8000.qcf gowens V:\GARY\31 inch guardrail etandards\4012D\_rev 4383.pdf

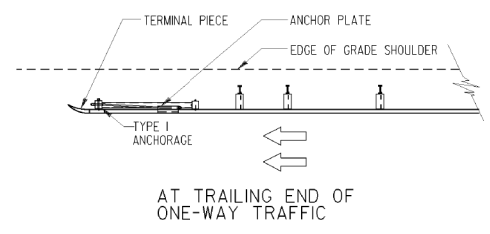
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



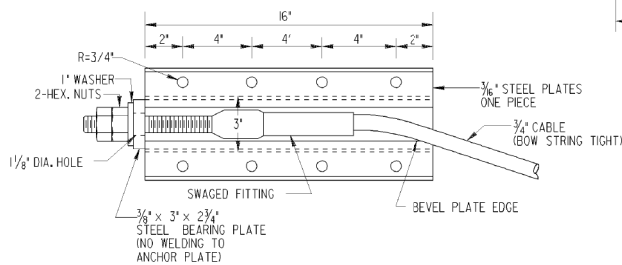
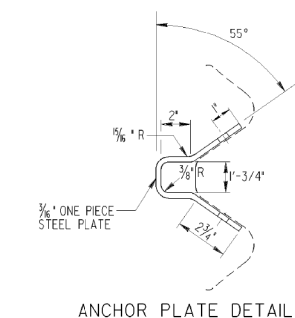
THE PAYMENT FOR THE ITEMS OF END ANCHORAGE ASSEMBLY TYPE I-31(CABLE OPTION) SHALL BE FULL COMPENSATION FOR FURNISHING AND INSTALLING EITHER THE ROUND OR THE BUFFER END SECTION, THE BEAM ANCHOR PLATE, CABLE ASSEMBLY, PIPE SLEEVE, SOIL PLATE, STEEL TUBE, BEARING PLATE, SHORT TIMBER BREAKAWAY POST, OFFSET BLOCKS AND THE NECESSARY HARDWARE.



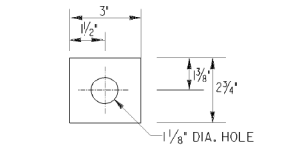
\* PRECURVED SECTION SHALL UTILIZE POST OF THE SAME LENGTH AS REQUIRED FOR THE ADJOINING STRAIGHT SECTIONS, REGARDLESS OF DISTANCE TO GRADED SHOULDER EDGE.



NOTE: SEE STD. 4388 OR OTHER APPLICABLE DETAILS FOR REQUIREMENT FOR TYPE I2 ANCHORAGE ON THE TRAILING END.

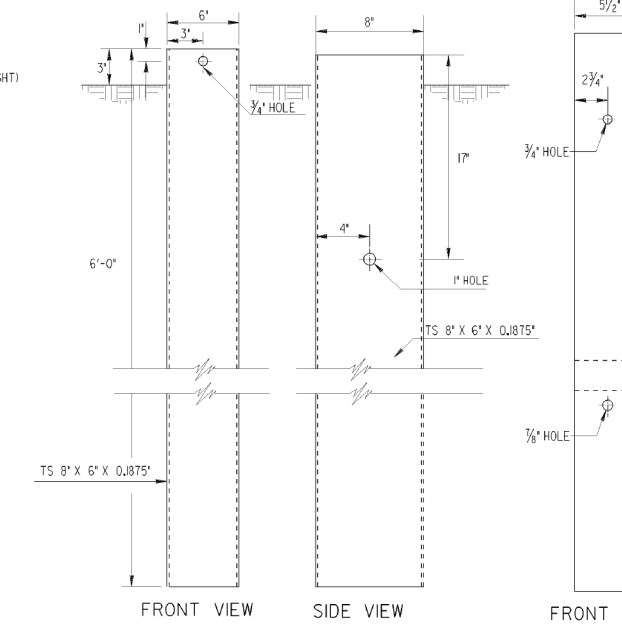
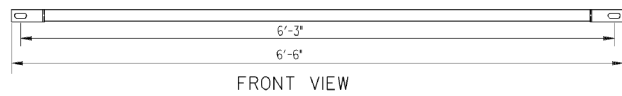
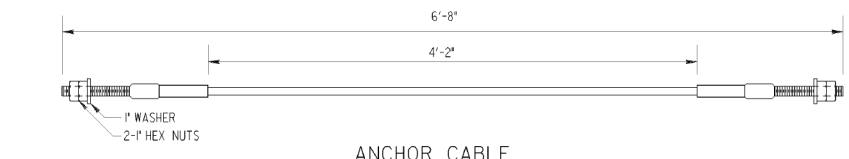


NOTE: ANCHOR PLATES SHOWN HERE WITH GUARDRAIL (TYPE "M") ATTACHMENT TO GUARDRAIL (TYPE "T") WILL BE THE SAME EXCEPT THAT THE ANCHOR PLATE WILL BE LOCATED BETWEEN THE BOTTOM AND MIDDLE CORRUGATIONS.

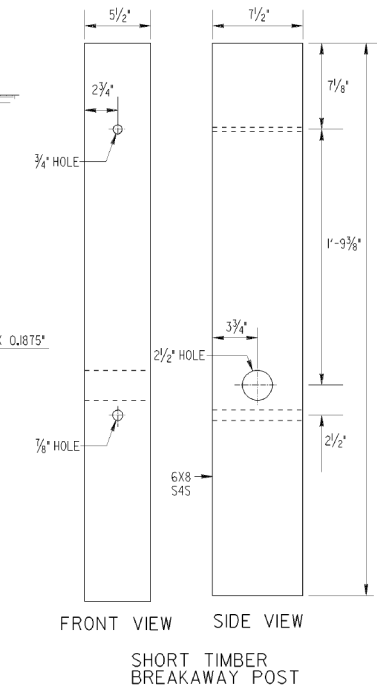


ANCHOR PLATE BEARING PLATE DETAIL

ANCHOR CABLE



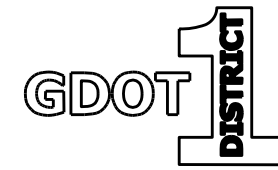
FOUNDATION TUBE  
NOTE: SEE STANDARD 4382 FOR GUARDRAIL CONNECTION TO CONCRETE FACE.



- GENERAL NOTES:
- SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION & SUPPLEMENTS THERE TO.
  - FOR DETAILS OF GUARDRAIL HARDWARE, POST, OTHER TYPE ANCHORAGE, LOCATION, ETC. SEE SEPARATE STANDARDS AS APPLICABLE.
  - GUARDRAIL INSTALLATIONS, INCLUDING ANCHORAGES AND CONNECTIONS, ARE TO BE COMPLETED BEFORE BEING SUBJECT TO TRAFFIC UNLESS OTHERWISE APPROVED.
  - PAYMENT FOR ANCHORAGE INCLUDES ANCHOR PLATE; 3/4" CABLE; BREAKAWAY POSTS; FOUNDATION TUBES; STRUT AND ALL ACCOMPANYING HARDWARE.

DATE		DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
REVISION		STANDARD GUARDRAIL ANCHORAGE TYPE I 31 INCH GUARDRAIL HEIGHT	
NO SCALE		AUGUST 2011	
DES. G.L.O. (SUBMITTED)	BY	NUMBER	
DRW. G.L.O.	STATE DESIGN POLICY ENGINEER	4383	
CHK. B.R.E. (APPROVED)	CHIEF ENGINEER		
REVIEW B.A.S.			

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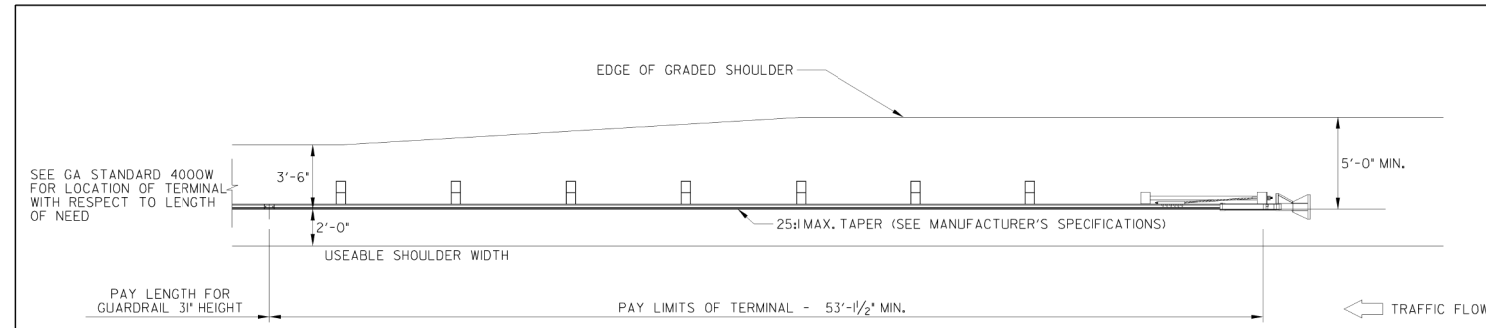
REVISION DATES

GEORGIA STANDARDS  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	41-0016

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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

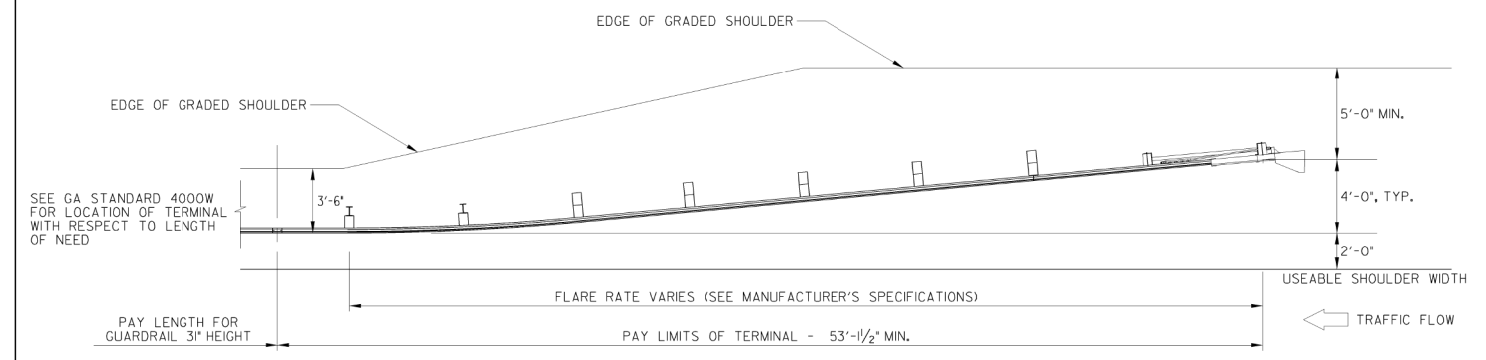


**TYPE I2A - 3' GUARDRAIL TERMINAL  
(TANGENT, ENERGY-ABSORBING)**

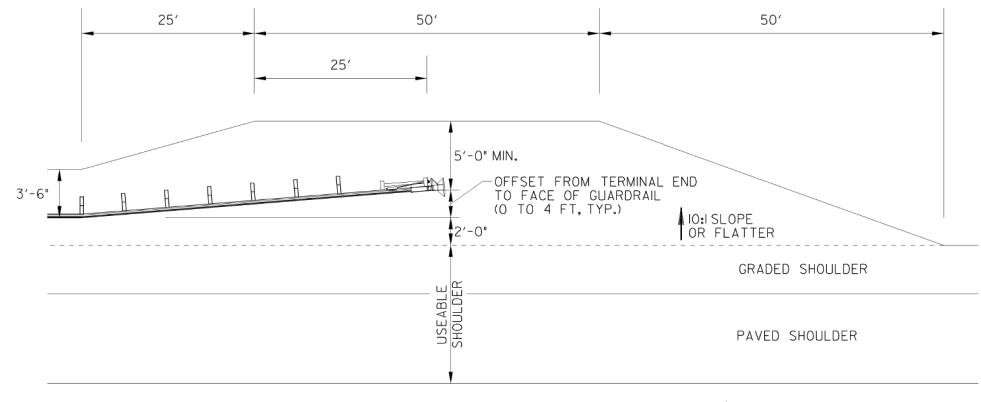
**GENERAL NOTES:**

- SPECIFICATIONS: GEORGIA STANDARD CURRENT EDITION, AND SUPPLEMENTS THERETO.
- SEE GDOT OPL 64 FOR APPROVED PRODUCTS.
- THIS SHEET DEPICTS THE PAY LIMITS FOR GUARDRAIL AND TYPE I2 TERMINALS. TYPE I2 TERMINALS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- W-BEAM INSTALLATIONS LESS THAN 150 FEET IN ADVANCE OF ANY SHIELDED OBJECT OR TOTAL LENGTH OF W-BEAM INSTALLATION IS LESS THAN ABOUT 150 FEET, AN ENERGY-ABSORBING TERMINAL SHOULD BE SELECTED.

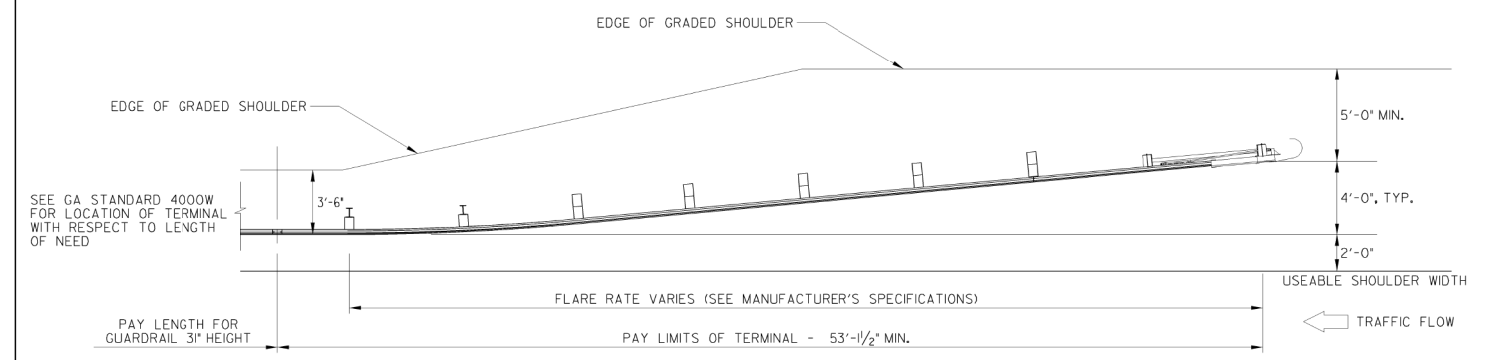
ITEM NO.	UNITS	DESCRIPTION
64I-5015	EA	GUARDRAIL TERMINAL, TP I2A - 3', TANGENT, ENERGY-ABSORBING
64I-5020	EA	GUARDRAIL TERMINAL, TP I2B - 3', FLARED, ENERGY-ABSORBING
64I-5025	EA	GUARDRAIL TERMINAL, TP I2C - 3', FLARED, NON-ENERGY-ABSORBING



**TYPE I2B - 3' GUARDRAIL TERMINAL  
(FLARED, ENERGY-ABSORBING)**



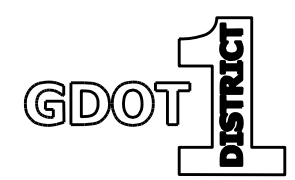
**TERMINAL PAD GRADING DETAIL**



**TYPE I2C - 3' TERMINAL  
(FLARED, NON-ENERGY-ABSORBING)**

1-29-16		DATE	DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
ADDED I2A, I2B, & I2C; ADDED GRADING DTL		REVISION	STANDARD GUARDRAIL TERMINALS, TYPE I2A, I2B, AND I2C 31 INCH GUARDRAIL HEIGHT	
NO SCALE			AUGUST 2011	
DES. G.L.O.	CHK. B.R.E.	REVIEW B.A.S.	STATE DESIGN POLICY ENGINEER	NUMBER
			4384	

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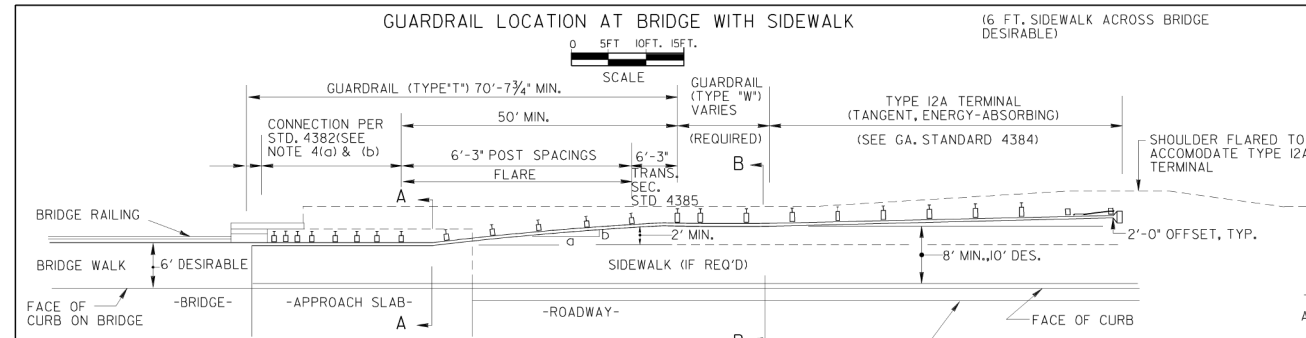


REVISION DATES		GEORGIA STANDARDS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	41-0017	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



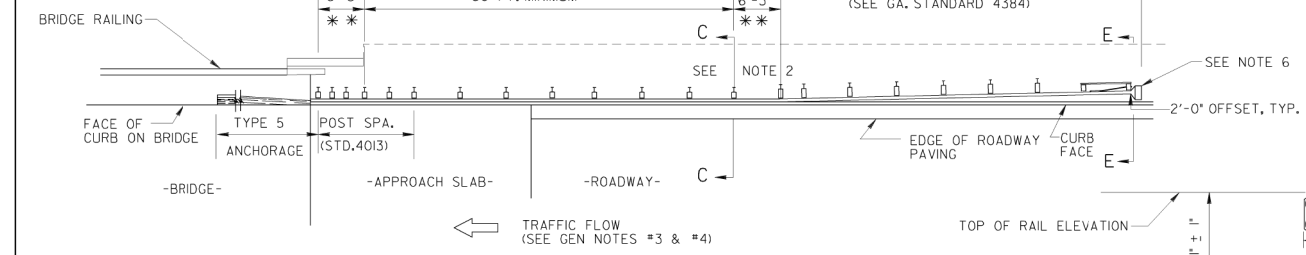


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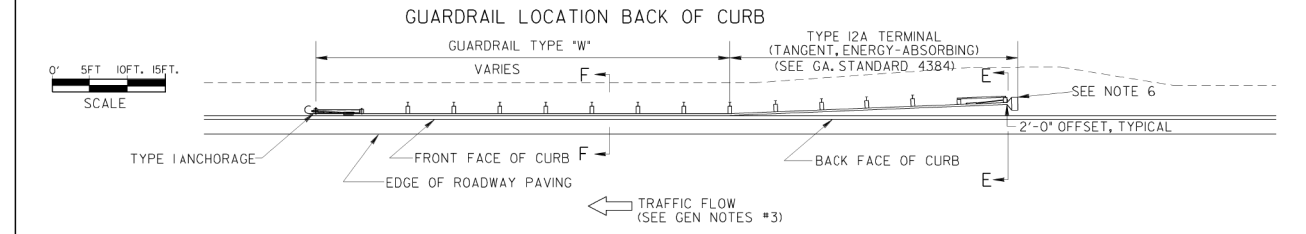
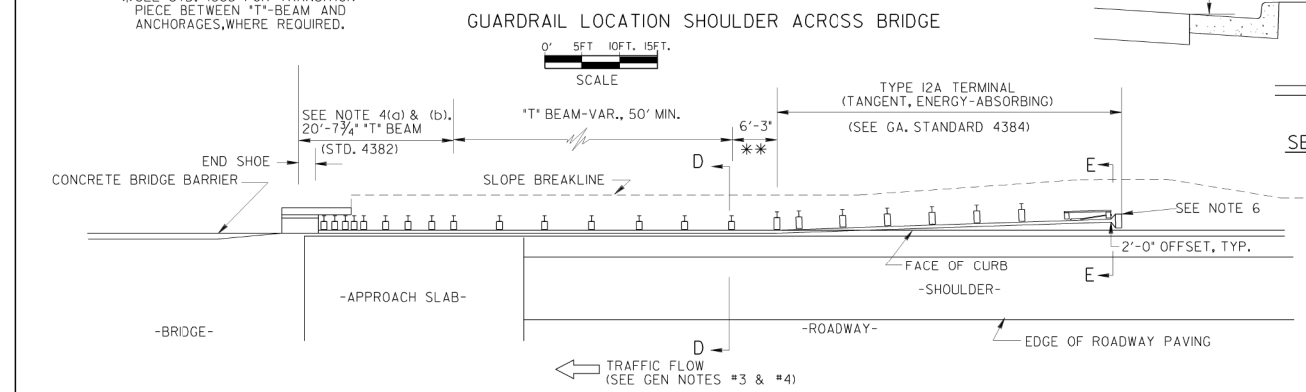


DESIGN SPEED (mph)	SHY-LINE OFFSET (ft)	FLARE RATE (a/b)	BARRIER AT OR BEYOND SHY-LINE
70	9	30	15
60	8	26	14
55	7	24	12
50	6.5	21	11
45	6	18	10
40	5	16	8
30	4	13	7

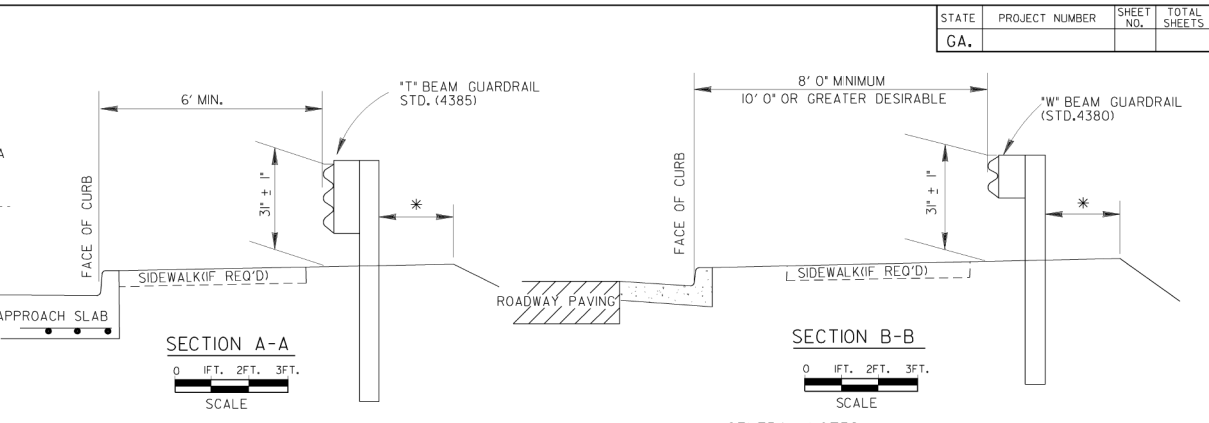
IF THE OFFSET FROM THE EDGE OF THE TRAVEL LANE TO THE FACE OF THE GUARDRAIL AT ANY POINT ALONG THE INSTALLATION IS LESS THAN THE SHY-LINE OFFSET, USE THE FLATTER RATES GIVEN IN THE TABLE.



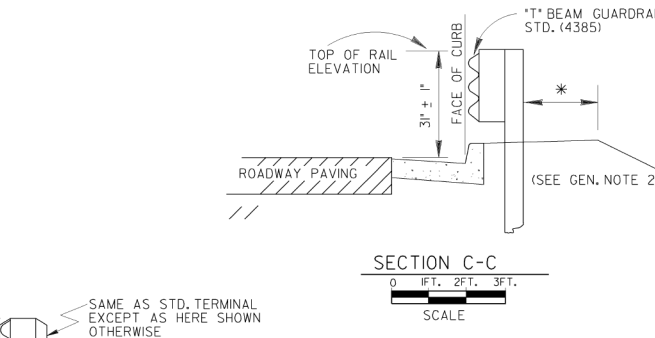
\*SEE STD. 4385 FOR TRANSITION PIECE BETWEEN T-BEAM AND ANCHORAGES, WHERE REQUIRED.



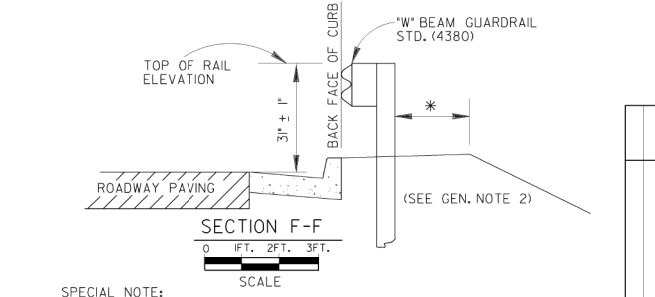
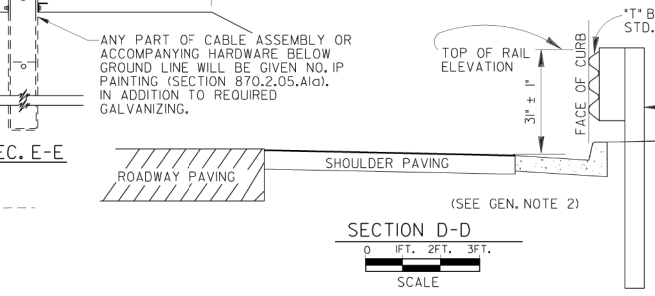
NOTE: APPLICATION OF ABOVE DETAILS IS TYPICAL FOR URBAN TYPE FACILITIES WITH CONTINUOUS CONCRETE CURB & GUTTER ADJACENT TO THE PAVEMENT. SEE SEPARATE DETAILS WHERE SECTIONS OF ASPHALT CURB ARE LOCATED UNDER GUARDRAIL ON SHOULDERS OF RURAL TYPE FACILITIES.



\* DISTANCE FROM BACK OF POST TO EDGE OF GRADED SHOULDER SHALL NOT BE LESS THAN 2 FEET WITH NORMAL LENGTH POST AND NOT LESS THAN 1 FOOT WITH ADDITIONAL LENGTH POST (STD. 4385)



SAME AS STD. TERMINAL EXCEPT AS HERE SHOWN OTHERWISE



SPECIAL NOTE: LOCATION AND QUANTITIES GIVEN IN THE PLANS FOR GUARDRAIL, TERMINALS, AND ANCHORAGES ARE ESTIMATES MADE FROM OFFICE COMPUTATIONS. A FINAL DETERMINATION AS TO LOCATIONS AND QUANTITIES OF GUARDRAIL, TERMINALS, AND ANCHORAGES WILL BE MADE BY THE ENGINEER OR A REPRESENTATIVE FROM THE OFFICE OF TRAFFIC OPERATIONS AFTER CONSTRUCTION OF ROADWAY AND CURB. THIS APPLIES TO ALL CONDITIONS SHOWN ON THIS STANDARD.

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

- GENERAL NOTES:**
- SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION, AND SUPPLEMENTS THERETO.
  - IF GUARDRAIL IS DIRECTLY ABOVE CURB, DO NOT USE STD. 10330, 10336, 10340, 10346 CATCH BASINS AT SAME LOCATION. EITHER USE OTHER DRAINAGE STRUCTURES OR ADJUST LOCATION OF CATCH BASINS TO MISS GUARDRAIL.
  - (a) TYPE 12A, 12B, OR 12C TERMINALS ARE REQUIRED AT ALL APPROACH ENDS OF GUARDRAIL AND AT TRAILING ENDS THAT FALL WITHIN THE C.Z.W. OF THE TWO-WAY TRAFFIC. C.Z.W.-CLEAR ZONE WIDTH.  
(b) TYPE 1 ANCHORAGE WITH A 30\"/>

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

**STANDARD GUARDRAIL LOCATION**  
(ON ROADS WITH CURB & GUTTER, HEADER CURB OR INTEGRAL CURB)  
3 INCH GUARDRAIL HEIGHT

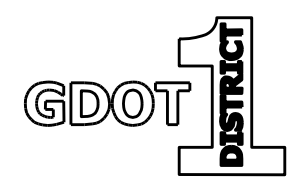
SCALE AS SHOWN AUGUST 2011

DES. G.L.O. (SUBMITTED)	DATE	NUMBER
DRW. G.L.O.		4391
CHK. B.R.E. (APPROVED)		
REVIEW B.A.S.		

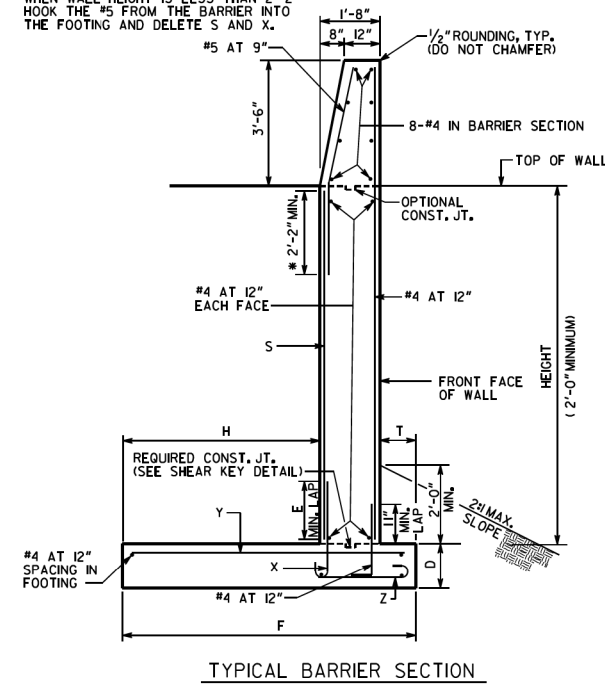
STATE DESIGN POLICY ENGINEER  
MARGARET B. PUELO  
CHIEF ENGINEER

REVISION DATES	

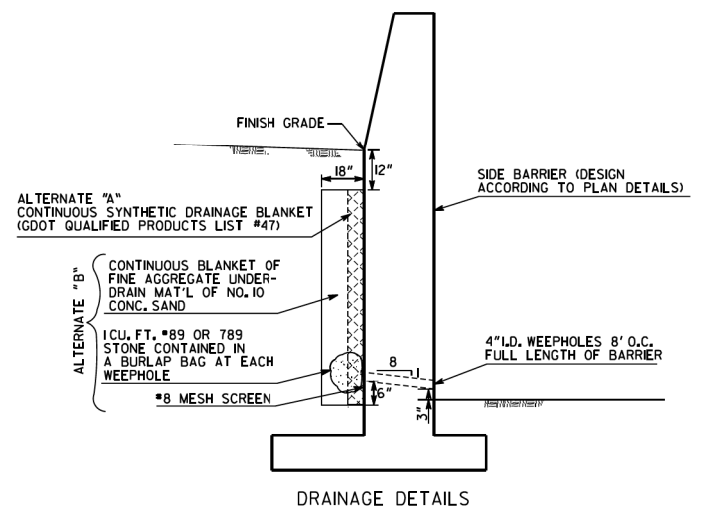
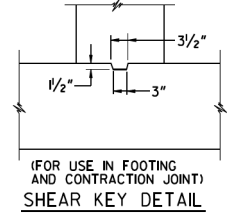
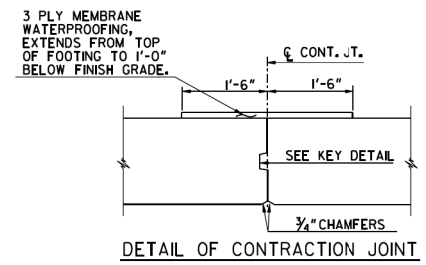
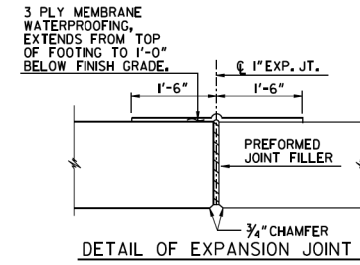
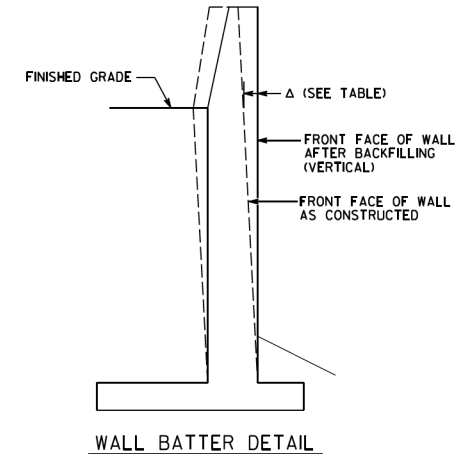
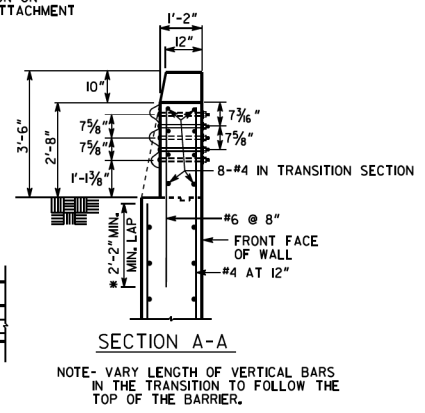
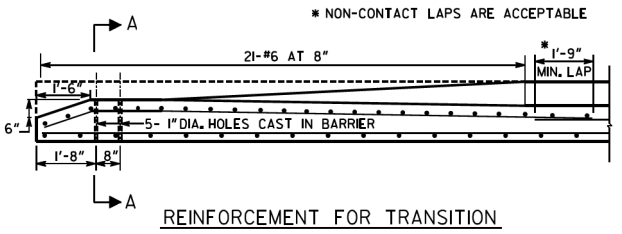
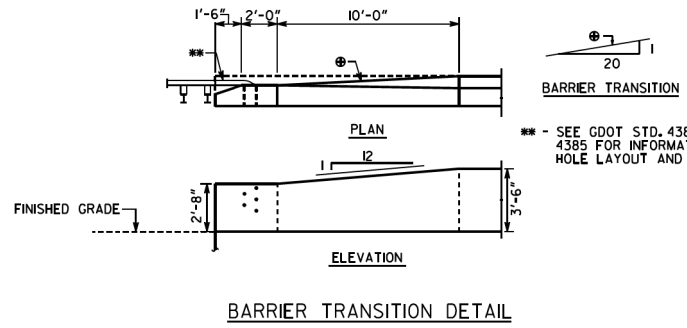
CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	41-0019
CORRECTED:	DATE:	
VERIFIED:	DATE:	



\* NON-CONTACT LAPS ARE ACCEPTABLE. WHEN WALL HEIGHT IS LESS THAN 2'-2" HOOK THE #5 FROM THE BARRIER INTO THE FOOTING AND DELETE S AND X.



MAX. HEIGHT	WALL DIMENSIONS					REINFORCEMENT				Δ (INCHES)	MAX. FACTORED BEARING PRESSURE	TYPE
	D	E	F	H	T	S	X	Y	Z			
7'	1'-0"	2'-2"	6'-8"	3'-9"	1'-3"	#5 AT 11"	#5 AT 11"	#5 AT 11"	#4 AT 12"	0"	2.6 KSF	2-S
9'	1'-0"	2'-2"	8'-2"	5'-3"	1'-3"	#5 AT 9"	#5 AT 9"	#5 AT 9"	#4 AT 12"	1/8"	2.4 KSF	2-SA
11'	1'-3"	2'-2"	9'-2"	6'-3"	1'-3"	#5 AT 8"	#5 AT 8"	#6 AT 8"	#4 AT 12"	1/8"	3.0 KSF	2-SB
13'	1'-3"	2'-2"	10'-5"	7'-3"	1'-6"	#5 AT 7"	#5 AT 7"	#6 AT 7"	#4 AT 12"	3/8"	3.3 KSF	2-SC



STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

- GENERAL NOTES:
- SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION, AND SUPPLEMENTS THERETO.
  - CONCRETE SHALL BE CLASS "AA", REINFORCING STEEL SHALL BE GRADE 60.
  - DRAINAGE DETAIL ALTERNATES A OR B, PER THE DETAIL ON THIS SHEET, ARE REQUIRED FOR TYPES 2-S, 2-SA, 2-SB, AND 2-SC. INCLUDE COSTS OF MATERIALS AND WORK IN PRICE BID FOR SIDE BARRIER.
  - MAINTAIN 2" COVER ON ALL REINFORCING IN STEM AND BARRIER AND 3" COVER IN FOOTING. USE OF FORMLINERS PER THE CONTRACT WILL REQUIRE OVERALL STEM AND BARRIER WIDTHS TO BE INCREASED TO MAINTAIN COVER.
  - EXPOSED CONCRETE SURFACES SHALL RECEIVE A TYPE III FINISH UNLESS A FORMLINER IS REQUIRED PER THE CONTRACT. FORMLINERS SHALL NOT BE APPLIED TO THE BARRIER FACE.
  - APPLY A GRAFFITI PROOF COATING AS PER SECTION 838 TO ALL EXPOSED CONCRETE SURFACES.
  - SIDE BARRIERS OVER 20'-0" IN LENGTH SHALL HAVE CONTRACTION JOINTS SPACED AT A MAXIMUM OF 20'-0". CONTRACTION JOINTS SHALL EXTEND THROUGH THE BARRIER, AND STEM. SIDE BARRIERS OVER 80'-0" IN LENGTH SHALL HAVE EXPANSION JOINTS SPACED UNIFORMLY AT A MAXIMUM SPACING OF 80'-0" WITH 1" PREFORMED JOINT FILL EXTENDING THROUGH BARRIER, STEM AND FOOTING. AT EACH EXPANSION JOINT, GALVANIZED 10# NAILS SHALL BE USED TO INSTALL EXPANSION MATERIAL.
  - PLACE AND TIE ALL REINFORCING STEEL IN ACCORDANCE WITH THE GEORGIA DOT SPECIFICATIONS. DO NOT WELD REINFORCING STEEL. LONGITUDINAL REINFORCING SHALL NOT EXTEND THROUGH EXPANSION JOINTS. STEM LONGITUDINAL REINFORCING SHALL NOT EXTEND THROUGH CONTRACTION JOINTS. LONGITUDINAL REINFORCING SHALL BE LAP SPICED 2'-4". LONGITUDINAL FOOTING REINFORCING SHALL BE CONTINUOUS BETWEEN EXPANSION JOINTS. WHEN FOOTING SIZE CHANGES, LONGITUDINAL REINFORCING FOR SMALLER FOOTING SHALL EXTEND 1'-4" MINIMUM INTO LARGER FOOTING.
  - EXPANSION AND CONTRACTION JOINTS IN TYPES 2-S, 2-SA, 2-SB, AND 2-SC SIDE BARRIER SHALL BE WATERPROOFED ON THE BACK SIDE. WATERPROOFING SHALL BE 3-PLY AND EXTEND FROM 1'-0" BELOW FINISH GRADE TO TOP OF FOOTING FOR 1'-6" MIN. EACH SIDE OF JOINT.
  - TYPES 2-S, 2-SA, 2-SB AND 2-SC SIDE BARRIER SHALL BE PAID FOR PER LIN. FT. AS CONCRETE SIDE BARRIER, TYPE 2-S, 2-SA, 2-SB, OR 2-SC. INCLUDE COST OF WATERPROOFING AND ALL INCIDENTALS AS SPECIFIED IN SECTION 621 OF THE STANDARD SPECIFICATIONS IN THE PRICE BID.
  - TYPE 2-S, 2-SA, 2-SB AND 2-SC SIDE BARRIERS ARE DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, 2017. THE BARRIERS INCLUDED IN THE DESIGN HAVE BEEN CERTIFIED BY THE DEPARTMENT TO SATISFY MASH TL-4 REQUIREMENTS FOR PROJECTS IN GEORGIA.
  - SIDE BARRIERS DESIGNED FOR THE FOLLOWING SOIL PROPERTIES:
 

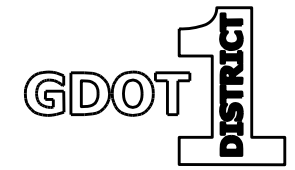
FOUNDATION	BACKFILL
0 KSF	0 KSF
8 = 28°	28°
UNIT WT. = 0.120 KCF	0.120 KCF
  - WIRE FABRIC REINFORCING OR ALTERNATE REBAR SIZE/SPACING MAY BE USED IF DETAILS ARE SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO USE.
  - WHERE GUARDRAIL ATTACHMENT IS REQUIRED, USE BARRIER TRANSITION DETAIL. INCLUDE COSTS FOR TRANSITION AND THE FIVE 1" DIA. HOLES, PROPERLY LOCATED FOR CONNECTING THE SPECIAL END SHOE IN THE PRICE BID FOR CONCRETE SIDE BARRIER, TYPE 2-S, 2-SA, 2-SB, OR 2-SC BASED ON STEM HEIGHT REQUIRED.

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

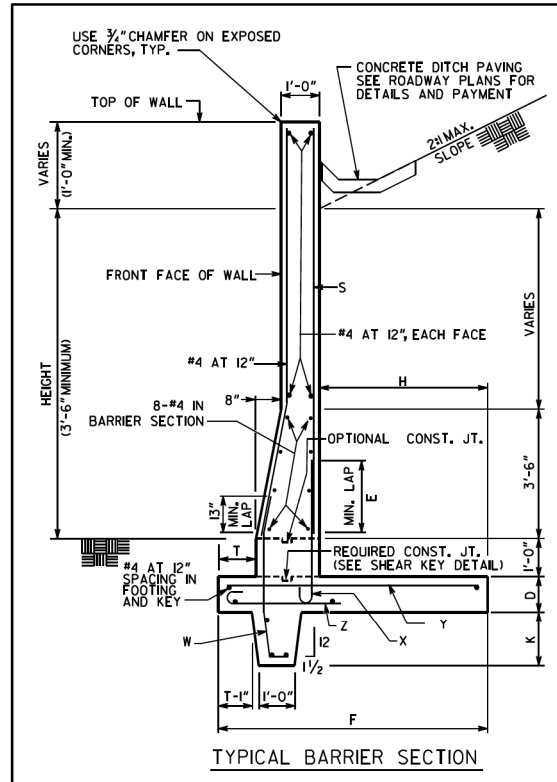
STANDARD  
CONCRETE SIDE BARRIER  
TYPES 2-S, 2-SA, 2-SB AND 2-SC

NO SCALE MAY 2020

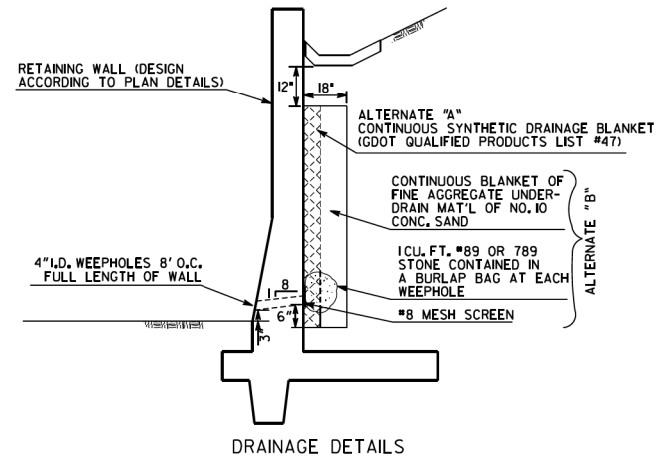
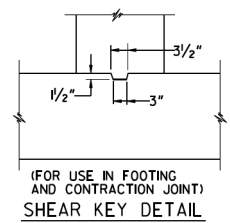
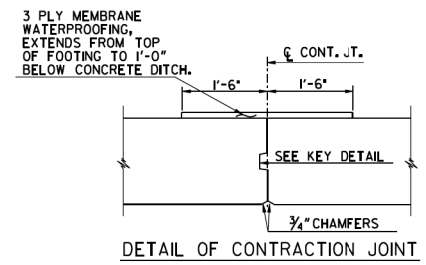
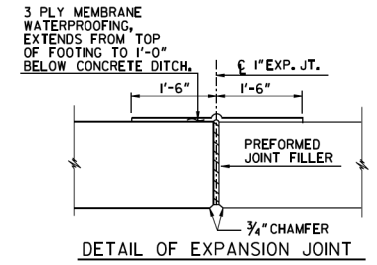
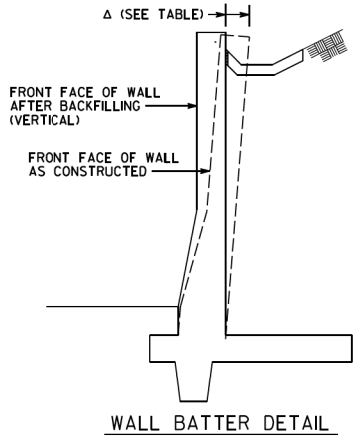
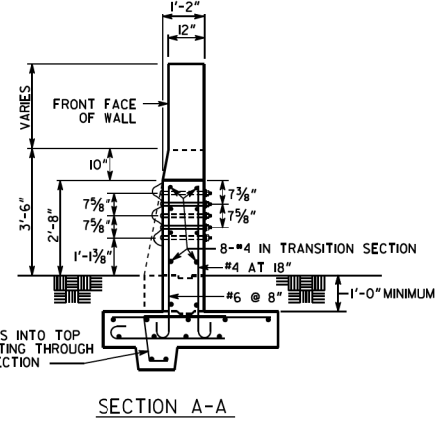
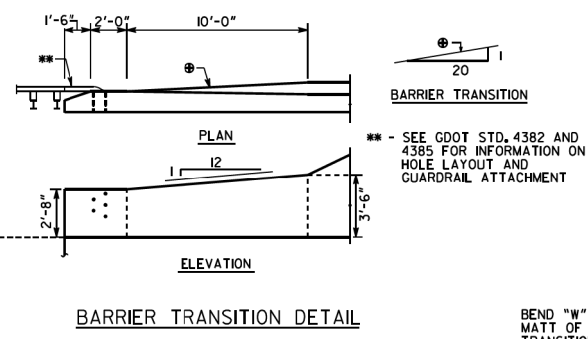
DES. DDF	(SUBMITTED)	<i>J. M. ...</i>	NUMBER
DRW. DDF		STATE DESIGN POLICY ENGINEER	4949B
CHK. CEW	(APPROVED)	<i>Margaret B. ...</i>	
REV. WMD/BAS		CHIEF ENGINEER	



REVISION DATES		GEORGIA STANDARDS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	41-0020	
CORRECTED:	DATE:		
VERIFIED:	DATE:		



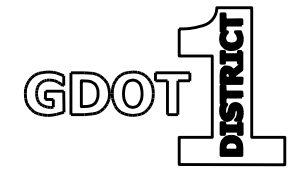
MAX. HEIGHT	WALL DIMENSIONS						REINFORCEMENT						Δ (INCHES)	MAX. FACTORED BEARING PRESSURE	TYPE
	D	E	F	H	T	K	S	W	X	Y	Z				
3'-6"	1'-0"	1'-9"	4'-4"	2'-2"	0'-6"	0'-6"	#4 AT 18"	#4 AT 12"	#4 AT 18"	#5 AT 18"	#4 AT 12"	0	1.4 KSF	6-S	
4'-6"	1'-0"	1'-9"	5'-11"	3'-9"	0'-6"	0'-6"	#4 AT 18"	#4 AT 12"	#4 AT 18"	#6 AT 12"	#4 AT 12"	1/8"	1.6 KSF	6-S	
5'-6"	1'-0"	1'-9"	4'-6"	2'-4"	0'-6"	2'-3"	#4 AT 18"	#4 AT 12"	#4 AT 18"	#5 AT 12"	#4 AT 12"	1/8"	2.4 KSF	6-SA	
6'-6"	1'-0"	1'-9"	6'-4"	4'-2"	0'-6"	2'-3"	#4 AT 18"	#4 AT 12"	#4 AT 18"	#8 AT 12"	#4 AT 12"	3/8"	2.4 KSF	6-SB	
7'-6"	1'-0"	1'-9"	6'-0"	3'-10"	0'-6"	3'-3"	#4 AT 12"	#4 AT 12"	#4 AT 12"	#9 AT 12"	#4 AT 12"	1/4"	3.1 KSF	6-SB	
8'-6"	1'-0"	1'-9"	7'-9"	5'-7"	0'-6"	3'-3"	#4 AT 8"	#4 AT 12"	#4 AT 8"	#9 AT 8"	#4 AT 12"	3/8"	3.1 KSF	6-SB	
9'-6"	1'-3"	2'-2"	7'-9"	4'-9"	1'-4"	4'-3"	#5 AT 10"	#5 AT 12"	#5 AT 10"	#9 AT 10"	#4 AT 12"	1/2"	3.3 KSF	6-SC	
10'-6"	1'-3"	2'-2"	9'-9"	6'-9"	1'-4"	4'-3"	#5 AT 8"	#5 AT 12"	#5 AT 8"	#9 AT 8"	#4 AT 12"	3/8"	3.3 KSF	6-SC	



- GENERAL NOTES:
- SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION, AND SUPPLEMENTS THERETO.
  - CONCRETE SHALL BE CLASS "AA". REINFORCING STEEL SHALL BE GRADE 60.
  - DRAINAGE DETAIL ALTERNATES A OR B PER THE DETAIL ON THIS SHEET. ARE REQUIRED FOR TYPES 6-S, 6-SA, 6-SB, AND 6-SC. INCLUDE COST OF MATERIALS AND WORK IN PRICE BID FOR BARRIER.
  - MAINTAIN 2" COVER ON ALL REINFORCING IN STEM AND BARRIER AND 3" COVER IN FOOTING. USE OF FORMLINERS PER THE CONTRACT WILL REQUIRE OVERALL STEM AND BARRIER WIDTHS TO BE INCREASED TO MAINTAIN COVER.
  - EXPOSED CONCRETE SURFACES SHALL RECEIVE A TYPE III FINISH UNLESS A FORMLINER IS REQUIRED PER THE CONTRACT. FORMLINERS SHALL NOT BE APPLIED TO THE BARRIER FACE.
  - APPLY A GRAFFITI PROOF COATING AS PER SECTION 838 TO ALL EXPOSED CONCRETE SURFACES.
  - SIDE BARRIERS OVER 20'-0" IN LENGTH SHALL HAVE CONTRACTION JOINTS SPACED AT A MAXIMUM OF 20'-0". CONTRACTION JOINTS SHALL EXTEND THROUGH THE BARRIER, AND STEM. SIDE BARRIERS OVER 80'-0" IN LENGTH SHALL HAVE EXPANSION JOINTS SPACED UNIFORMLY AT A MAXIMUM SPACING OF 80'-0" WITH 1" PREFORMED JOINT FILLER EXTENDING THROUGH BARRIER, STEM, AND FOOTING AT EACH EXPANSION JOINT. GALVANIZED 10# NAILS SHALL BE USED TO INSTALL EXPANSION MATERIAL.
  - PLACE AND TIE ALL REINFORCING STEEL IN ACCORDANCE WITH THE GEORGIA DOT SPECIFICATIONS. DO NOT WELD REINFORCING STEEL. LONGITUDINAL REINFORCING SHALL NOT EXTEND THROUGH EXPANSION JOINTS. STEM LONGITUDINAL REINFORCING SHALL NOT EXTEND THROUGH CONTRACTION JOINTS. LONGITUDINAL REINFORCING SHALL BE LAP SPLICED 2'-4". LONGITUDINAL FOOTING REINFORCING SHALL BE CONTINUOUS BETWEEN EXPANSION JOINTS. WHEN FOOTING SIZE CHANGES, LONGITUDINAL REINFORCING FOR SMALLER FOOTING SHALL EXTEND 1'-9" MINIMUM INTO LARGER FOOTING.
  - EXPANSION AND CONTRACTION JOINTS IN TYPES 6-S, 6-SA, 6-SB, AND 6-SC SIDE BARRIER SHALL BE WATERPROOFED ON THE BACK SIDE. WATERPROOFING SHALL BE 3-PLY AND EXTEND FROM 1'-0" BELOW CONCRETE DITCH TO TOP OF FOOTING FOR 1'-6" MIN. EACH SIDE OF JOINT.
  - TYPES 6-S, 6-SA, 6-SB AND 6-SC SIDE BARRIER SHALL BE PAID FOR PER LIN. FT. AS CONCRETE SIDE BARRIER, TYPE 6-S, 6-SA, 6-SB, OR 6-SC. INCLUDE COST OF WATERPROOFING AND ALL INCIDENTALS AS SPECIFIED IN SECTION 621 OF THE STANDARD SPECIFICATIONS IN THE PRICE BID.
  - TYPE 6-S, 6-SA, 6-SB AND 6-SC SIDE BARRIERS ARE DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION, 2017. THE BARRIER DETAILS INCLUDED IN THE DESIGN HAVE BEEN CERTIFIED BY THE DEPARTMENT TO SATISFY MASH TL-4 REQUIREMENTS FOR PROJECTS IN GEORGIA.
  - SIDE BARRIER DESIGN FOR THE FOLLOWING SOIL PROPERTIES:
 

COHESION =	FOUNDATION	BACKFILL
0	0 KSF	0 KSF
8	= 28°	28°
UNIT WT. =	0.120 KCF	0.120 KCF
  - WIRE FABRIC REINFORCING OR ALTERNATE REBAR SIZE/SPACING MAY BE USED IF DETAILS ARE SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO USE.
  - AT CONTRACTOR'S OPTION, SIDES OF KEY MAY BE VERTICAL. MAINTAIN WIDTH SHOWN AT TOP OF KEY.
  - WHERE GUARDRAIL ATTACHMENT IS REQUIRED, USE BARRIER TRANSITION DETAIL. INCLUDE COSTS FOR TRANSITION AND THE FIVE 1" DIA. HOLES, PROPERLY LOCATED FOR CONNECTING THE SPECIAL END SHOE IN THE PRICE BID FOR CONCRETE SIDE BARRIER, TYPE 6-S, 6-SA, 6-SB, OR 6-SC BASED ON STEM HEIGHT REQUIRED.
  - WHERE GUARDRAIL ATTACHMENT IS REQUIRED, RETAINED SOIL SHALL BE GRADED SO AS TO EXPOSE THE GUARDRAIL ATTACHMENT HARDWARE ON THE BACK OF THE BARRIER TRANSITION.

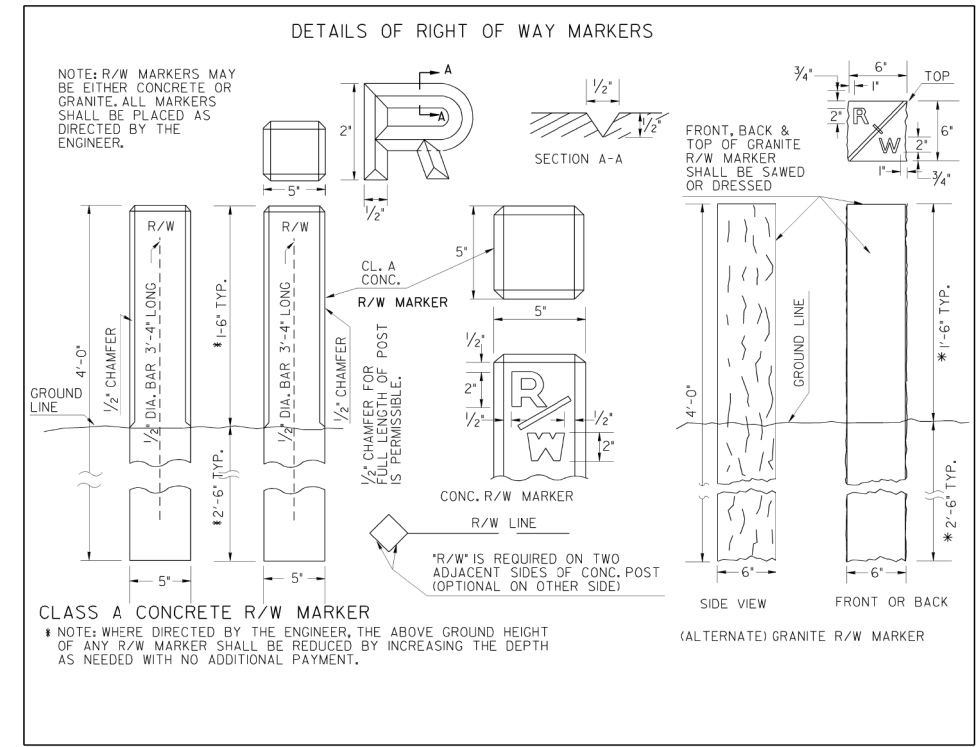
DATE		DEPARTMENT OF TRANSPORTATION	
REVISION		STATE OF GEORGIA	
STANDARD			
CONCRETE SIDE BARRIER			
TYPES 6-S, 6-SA, 6-SB AND 6-SC			
NO SCALE		MAY 2020	
DES. CEW	(SUBMITTED)	R. Margaret Rudd STATE DESIGN POLICY ENGINEER	
DRW. DDF	(APPROVED)		
CHK. DDF	(APPROVED)		
REV. WMD/BAS		Margaret B. Ruelo CHIEF ENGINEER	
		NUMBER	4949C



REVISION DATES		GEORGIA STANDARDS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD	
		LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	41-0021	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

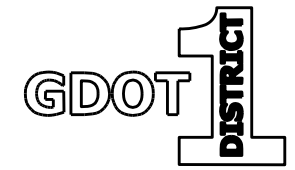
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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



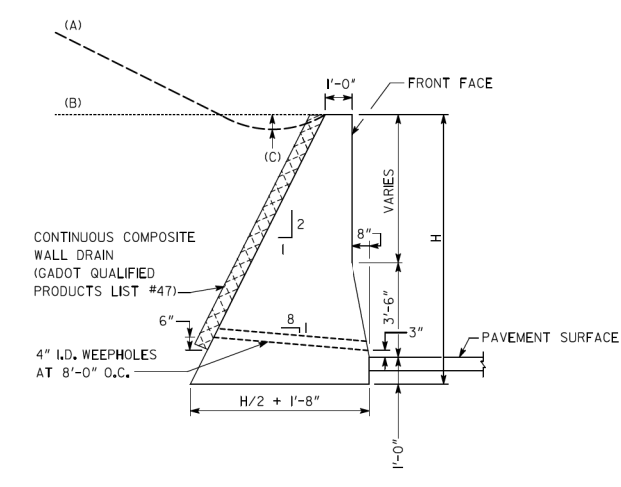
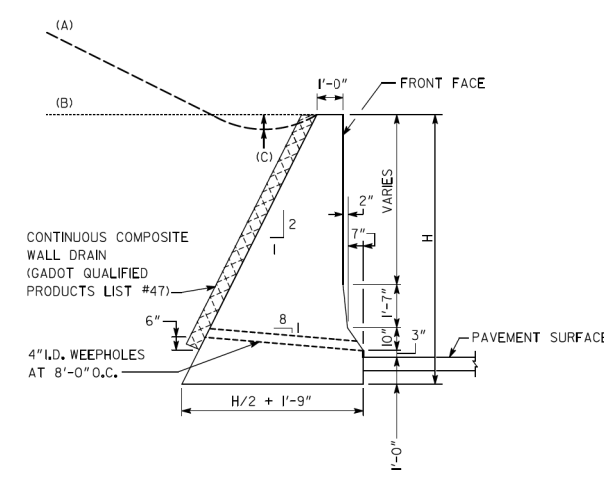
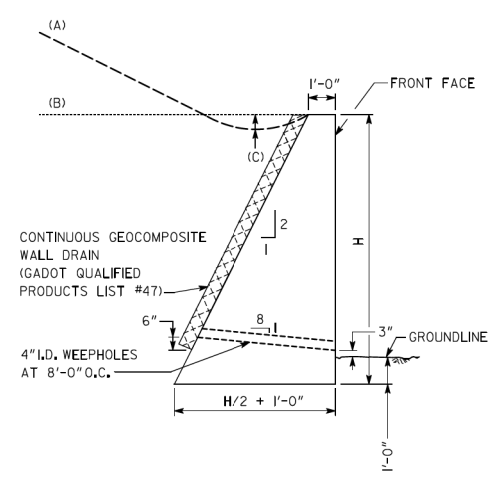
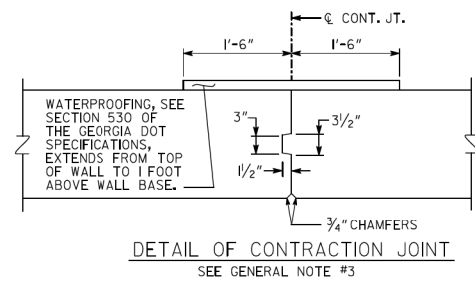
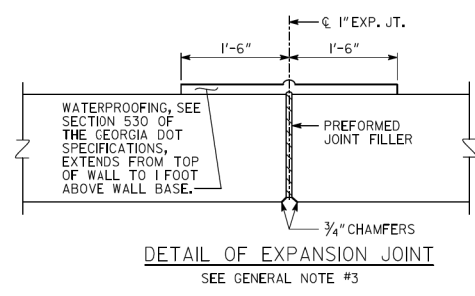
REDRAWN TO MATCH METRIC 4-10-06		GA. STD. 9003		DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
G.L.D.	G.J.P.	R.M.J.	R.M.J.	DES. TRA. CHK.	(SUBMITTED) STATE ROAD & AIRPORT DESIGN ENGINEER
					(APPROVED) <i>[Signature]</i> CHIEF ENGINEER
					NUMBER 9003

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REVISION DATES		GEORGIA STANDARDS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	41-0022	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



MAXIMUM "H"*			
BACKSLOPE	TYP. SECTION A	TYP. SECTION B **	TYP. SECTION C **
FLAT	8'-6"	10'-0"	10'-0"
SLOPE TO 4:1	6'-3"	7'-0"	7'-0"
SLOPE TO 2:1	4'-6"	4'-9"	4'-9"

\* GREATER "H" PERMITTED IF APPROVED BY BRIDGE DESIGN.  
 \*\* TYPICAL SECTION B SHALL HAVE A MINIMUM H OF 3'-8"  
 TYPICAL SECTION C SHALL HAVE A MINIMUM H OF 4'-6"

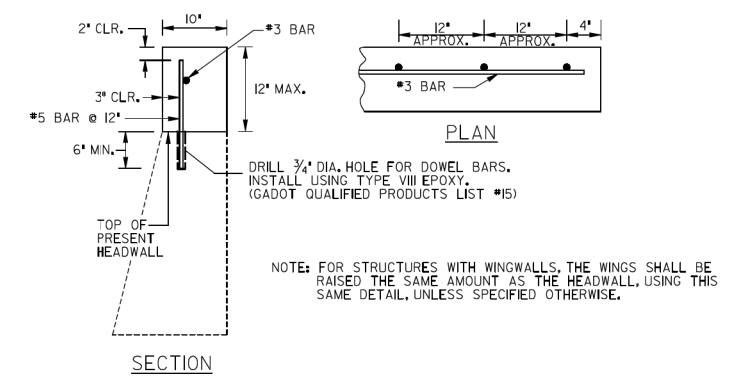
GENERAL NOTES:

- GRAVITY WALLS SHALL NOT BE USED WHEN HORIZONTAL DISTANCE FROM EDGE OF TRAVEL WAY TO FRONT FACE OF WALL IS LESS THAN (H + 1'-0").
- GRAVITY WALLS DESIGNED FOR THE FOLLOWING SOIL PROPERTIES:  

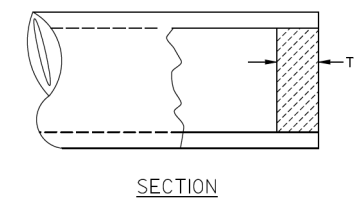
	FOUNDATION	BACKFILL
COHESION =	0 PSF	0 PSF
$\phi$ =	28°	28°
UNIT WEIGHT =	120 PCF	120 PCF
- EXPANSION JOINTS SHALL BE LOCATED AT A MAXIMUM SPACING OF 90'-0" AND EXTEND THROUGH THE WALL. CONTRACTION JOINTS SHALL BE LOCATED AT A MAXIMUM SPACING OF 30'-0".
- GRAVITY WALLS WITH A VERTICAL FRONT FACE SHALL BE PAID FOR AS "CLASS B CONCRETE OR MORTAR RUBBLE MASONRY, RETAINING WALL". GRAVITY WALLS WITH A BARRIER FRONT FACE SHALL BE PAID FOR AS "CLASS A CONCRETE, RETAINING WALL". WATERPROOFING, JOINT FILLER, WALL DRAIN, AND OTHER INCIDENTAL ITEMS SHALL BE INCLUDED IN OVERALL BID SUBMITTED.

- A CONCRETE DITCH DETAIL FOR THE TOP OF THE WALL SHOULD BE INCLUDED IN THE ROADWAY PLANS WHEN WATER IS FLOWING TOWARDS THE BACK OF THE WALL. SEE CONSTRUCTION DETAIL D-49.
- FINISH EXPOSED SURFACES OF THE WALL WITH A TYPE III FINISH.
- APPLY GRAFFITI PROOF COATING AS PER SECTIONS 500 AND 838 OF THE GEORGIA DOT SPECIFICATIONS.
- ALL NECESSARY FENCE AND HANDRAIL SHOULD BE INCLUDED IN THE ROADWAY PLANS WHEN APPROPRIATE.
- GRAVITY WALL TYPICAL SECTIONS A, B, AND C HAVE BEEN DESIGNED PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION, 2014.

DETAIL FOR RAISING HEADWALL



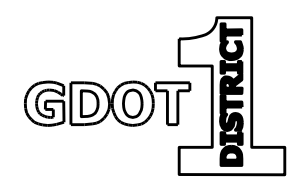
TYPICAL PIPE PLUG



D	T (MIN)	PIPE PLUG (CU. YDS.)
12"	8"	0.0194
15"	8"	0.0303
18"	8"	0.0436
24"	8"	0.0776
30"	8"	0.1212
36"	8"	0.1745
42"	8"	0.2376
48"	8"	0.3103
54"	12"	0.5890
60"	12"	0.7272
66"	12"	0.8799
72"	12"	1.0472

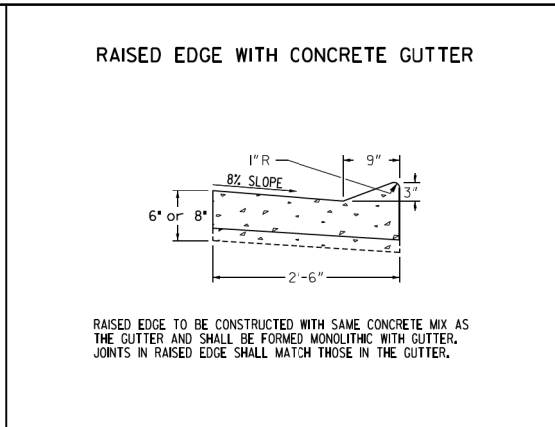
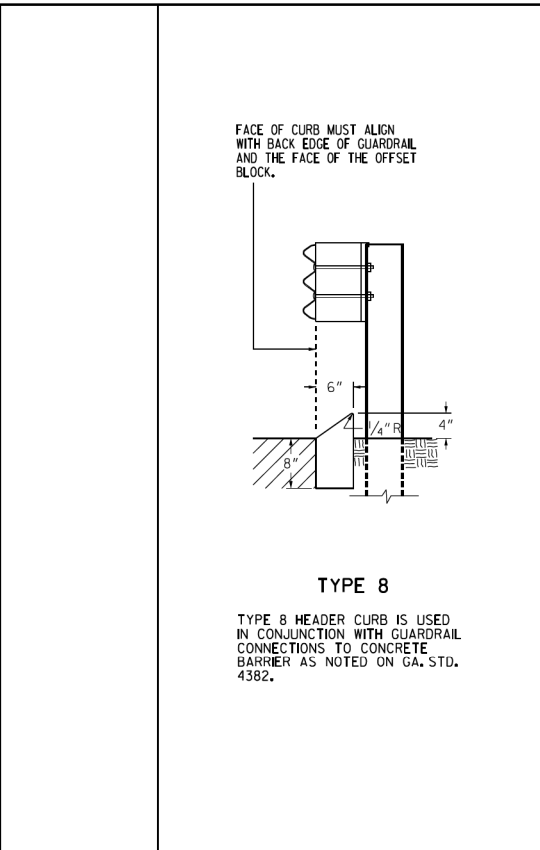
NOTE: PLAN PAY QUANTITIES ARE TO REFLECT PIPE PLUGS AS CU. YDS. OF CL. B CONCRETE. ON CONSTRUCTION PLUGS MAY BE BUILT WITH BRICK MASONRY, MORTAR RUBBLE MASONRY, CL. A CONC., OR CL. B CONC. WITH NO ADJUSTMENT IN PAYMENT MADE FOR ALTERNATES.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
STANDARD GRAVITY WALL TYPICAL SECTIONS, RAISING HEADWALL, AND TYPICAL PIPE PLUG	
NO SCALE:	REV. & REDR. SEPT. 2016
REV. & C.E.W. (SUBMITTED):	NUMBER 9031L
REDR.:	STATE ROAD & AIRPORT DESIGN ENGR.
CHK. D.D.E. (APPROVED):	STATE HIGHWAY ENGINEER
SHEET 1 OF 2	



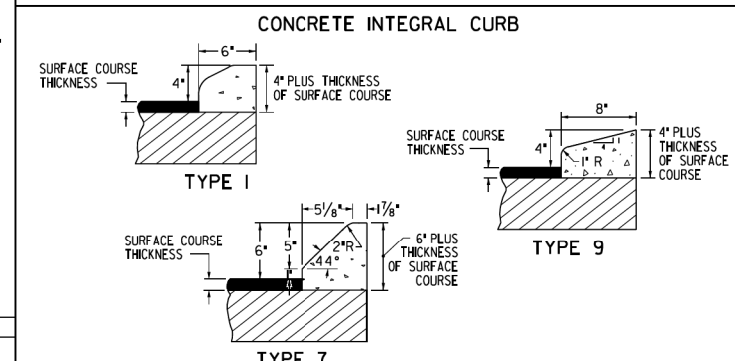
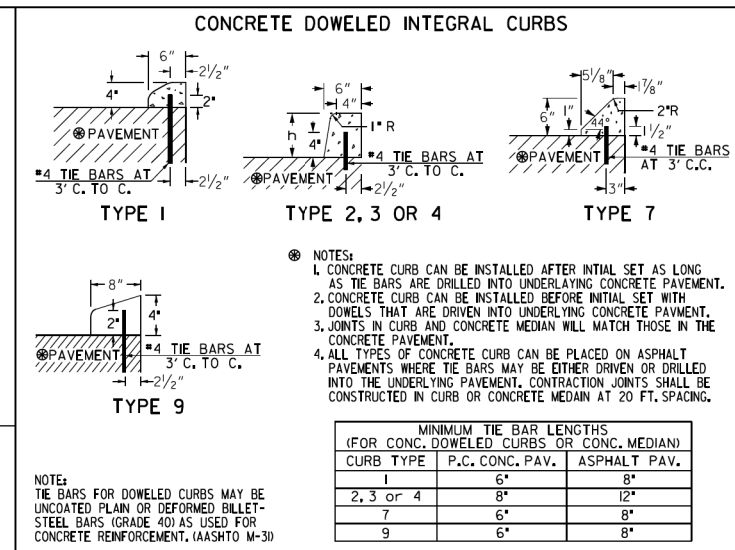
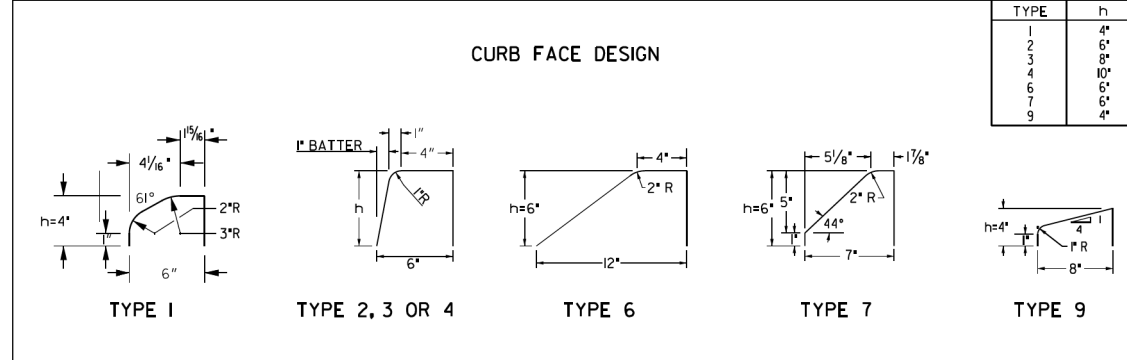
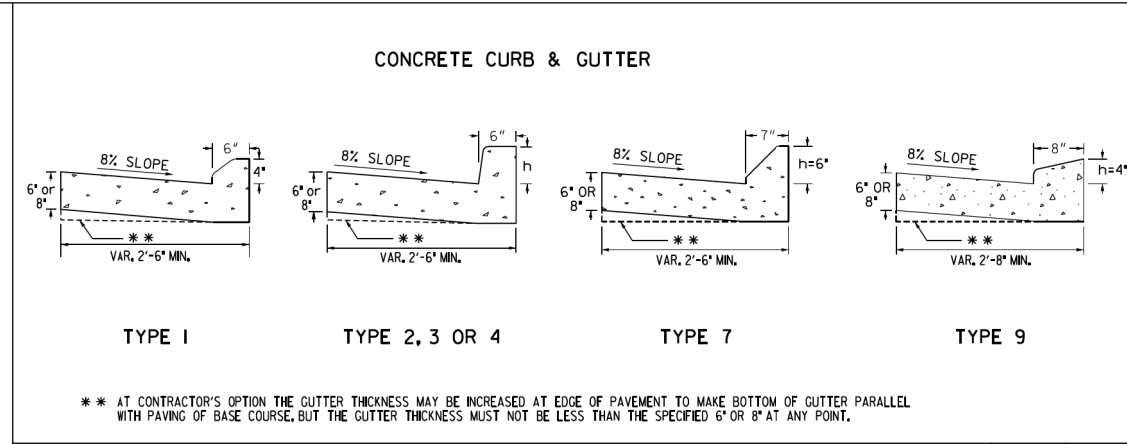
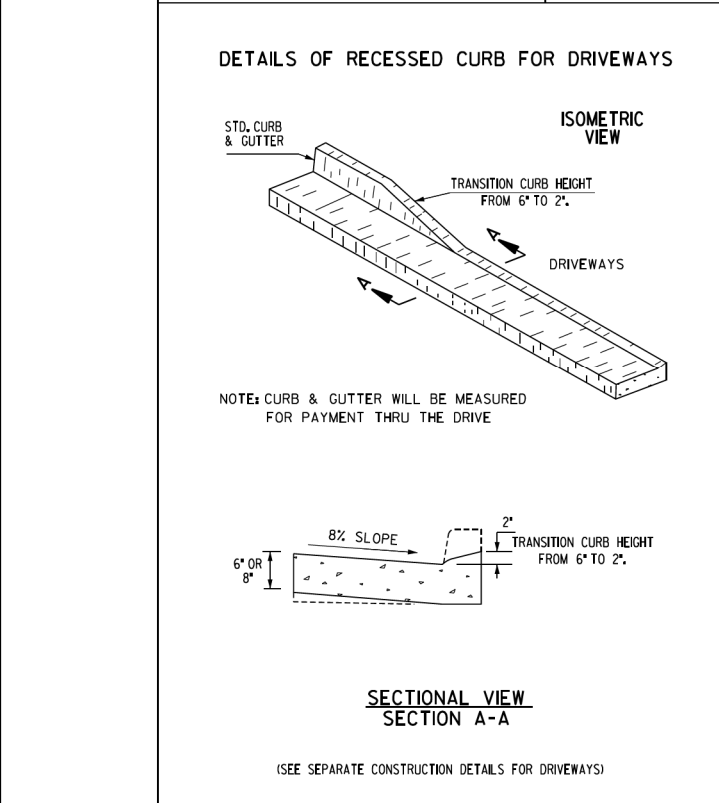
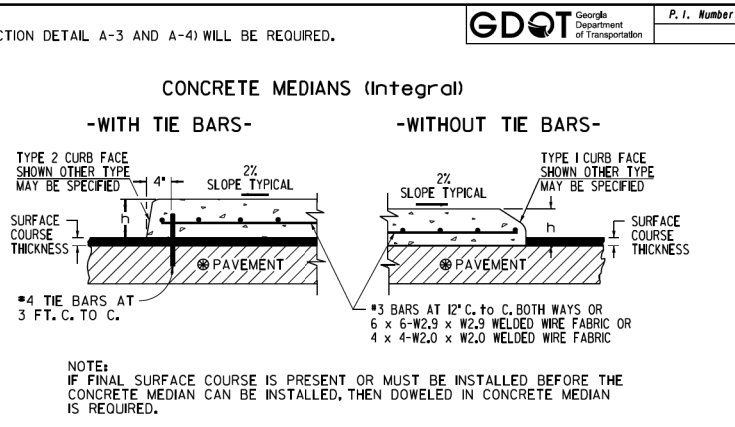
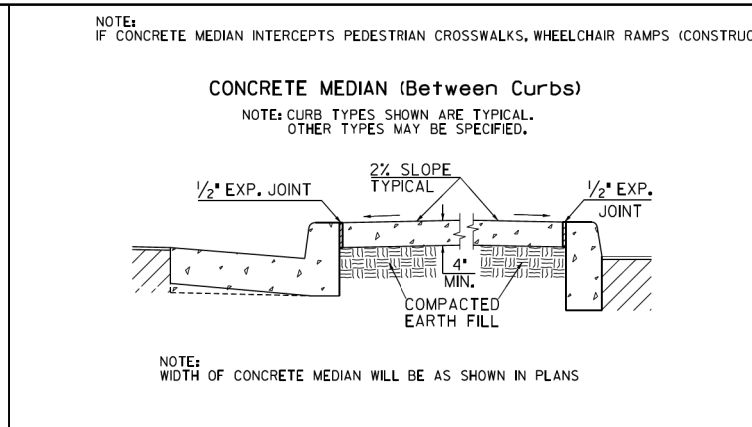
REVISION DATES

GEORGIA STANDARDS	
US 19 BUS/SR 60 BUS @ OAK GROVE RD	
LUMPKIN COUNTY	
CHECKED:	DATE:
BACKCHECKED:	DATE:
CORRECTED:	DATE:
VERIFIED:	DATE:
DRAWING No. 41-0023	



CURB TYPE	h	d
1	4"	6" min.
2	6"	8" min.
3	8"	10" min.
4	10"	12" min.
6	6"	7" min.
7	6"	8" min.
9	4"	8" min.

THE DIMENSION d MAY BE INCREASED AT CONTRACTOR'S OPTION SO BOTTOM OF HEADER CURB WILL ALIGN WITH BOTTOM OF PAVEMENT TYPICAL SECTION.



DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

STANDARD  
CONCRETE CURB & GUTTER  
CONCRETE CURBS, CONCRETE MEDIANS

NOT TO SCALE OCT. 2011

DES. (SUBMITTED) *[Signature]*  
STATE DESIGN POLICY ENGINEER  
TRA. (APPROVED) *[Signature]*  
Dwight M. Run  
CHIEF ENGINEER

NUMBER  
9032B

8/3/2006 11:33:34 AM \\GDOT-DSN1\GDOT\QC\Fig-1\Fig\_output.qcf gowens M:\GARY\REVISED 9100\9100\_ptf\_60-R06

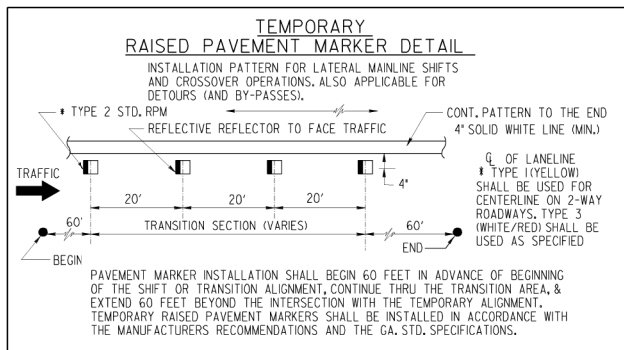
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

GENERAL NOTES :

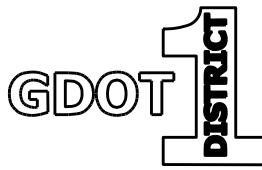
- ALL TRAFFIC CONTROL DEVICES SHALL BE MADE AND ERECTED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS; THE MUTCD; THE GEORGIA STANDARD SPECIFICATIONS, AND/OR SPECIAL PROVISIONS. (SEE SECTION 150)
- ALL TRAFFIC CONTROL DEVICES SHALL BE AS SHOWN, OR AS DIRECTED BY THE ENGINEER. ADDITIONAL DEVICES MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.
- ALL PORTABLE SIGNS SHALL BE MOUNTED A MINIMUM OF 1 FOOT ABOVE THE LEVEL OF PAVEMENT EDGE FOR DIRECTIONAL TRAFFIC OF TWO (2) LANES OR LESS AND A MINIMUM OF 7 FEET FOR DIRECTIONAL OF THREE (3) OR MORE LANES. ALL PORTABLE SIGNS AND SIGN MOUNTING DEVICES UTILIZED IN THE WORK SHALL BE NCHRP 350 COMPLIANT. PORTABLE SIGNS MAY BE USED WHEN THE DURATION OF THE WORK IS LESS THAN 3 DAYS.
- WHEN THE CONSTRUCTION AREA HAS ENTRANCE/EXIT RAMP OR INTERSECTIONS, WORK WILL BE PERFORMED IN SUCH A MANNER TO PERMIT TRAFFIC TO OPERATE WITH THE LEAST AMOUNT OF INCONVENIENCE AS POSSIBLE. ADDITIONAL CHANNELIZATION AND SIGNING SHALL BE INSTALLED, AS REQUIRED, TO ALLOW TRAFFIC TO REMAIN AS OPERATIONAL AS POSSIBLE. WHEN ENTRANCE RAMP/INTERSECTIONS ARE INOPERABLE, FLAGGERS WILL BE UTILIZED TO CONTROL AND PROHIBIT MOVEMENT INTO THE PROJECT AT THAT POINT UNTIL CONSTRUCTION HAS CLEARED THE RESTRICTION SUFFICIENT TO RETURN TO OPERATIONAL STATUS.
- FOR NIGHT TIME OPERATIONS, DRUMS SHALL HAVE, FOR THE LENGTH OF THE TAPER ONLY, A SIX (6) INCH ORANGE REFLECTIZED TOP STRIPE ON EACH DRUM IN THE TAPER AS REQUIRED IN SECTION 150. SPACING OF DEVICES SHALL BE AS SHOWN. DURING DAYLIGHT HOURS, CONES (28" MIN.) MAY BE USED IN ADVANCE OF AND THROUGHOUT WORK AREA.
- SIGN LOCATIONS ARE APPROXIMATE AND MAY BE ADJUSTED TO MEET FIELD CONDITIONS BUT MUST BE WITHIN THE LIMITATIONS SET FORTH IN THE MUTCD.
- A PORTABLE SELF-SUSTAINED SEQUENTIAL OR FLASHING ARROW SIGN SHALL BE USED AT THE BEGINNING OF EACH LANE CLOSURE ON MULTI-LANE HIGHWAYS. ARROW PANELS SHALL NOT BE USED ON TWO-LANE TWO-WAY HIGHWAYS EXCEPT IN CAUTION MODE.
- WHEN NOT IN USE, PORTABLE SIGNS SHALL BE REMOVED FROM THE TRAVELWAY SO THAT THE MESSAGE IS NOT VISIBLE TO THE MOTORIST. INTERIM SIGNS THAT ARE PERMANENTLY MOUNTED SHALL BE COVERED WHEN NOT APPLICABLE. SEE SECTION 150.
- PROJECT SIGNS W20-1, G20-1 & G20-2 FOR THIS PROJECT SHALL BE COORDINATED WITH ADJACENT CONSTRUCTION PROJECTS. ONLY ONE SET OF SIGNS IS REQUIRED IN EACH DIRECTION FOR THE TOTAL LENGTH OF ALL PROJECTS - AT THE BEGINNING OF THE FIRST PROJECT AND AT THE ENDING OF THE LAST PROJECT. ADVANCE CONSTRUCTION SIGNS ARE NOT REQUIRED ON INTERMEDIATE PROJECTS, UNLESS CONSTRUCTION ON THE ADJACENT PROJECTS IS COMPLETED BEFOREHAND, THEN PROJECT CONSTRUCTION SIGNS WILL BE ADDED AS NECESSARY.
- ALL THE COST OF THE MATERIALS, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID FOR TRAFFIC CONTROL SECTION 150, LUMP SUM, WHEN SHOWN AS A PAYMENT ITEM IN THE PROPOSAL. OTHERWISE, ALL THE COST WILL BE INCLUDED IN THE OVER-ALL BID SUBMITTED, EXCEPT ON CERTAIN PROJECTS SOME ITEMS MAY BE PAID FOR SEPARATELY BY THE UNIT WHEN SPECIFIED ON THE PLANS AND IN THE PROPOSAL.
- FOR FREEWAY CONSTRUCTION THE CONTRACTOR SHALL ARRANGE HIS WORK SO THAT THERE IS AN EXIT GORE SIGN AND AN EXIT DIRECTION SIGN IN PLACE FOR ALL EXIT RAMPS AT ALL TIMES.
- ALL CROSSROADS, SIDEROADS, RAMP OR OTHER ENTRANCES TO MAINLINE CONSTRUCTION SHALL REQUIRE W20-1 SIGNS LOCATED AS SHOWN IN THE PLANS, OR AS DIRECTED BY THE ENGINEER.
- MARKINGS AND/OR SIGNS IN CONFLICT WITH INTERIM TRAFFIC CONTROL SHALL BE REMOVED, RELOCATED OR COVERED; APPLICABLE EXISTING AND INTERIM MARKINGS AND/OR SIGNING SHALL BE MAINTAINED PER SECTION 150.
- ANY CHANNELIZING DEVICES (DRUMS OR BARRICADES) IN CONFLICT WITH CONCRETE BARRIERS SHALL BE OMITTED.
- CONTRACTOR SHALL PROVIDE THE NECESSARY TRAFFIC CONTROL DURING THE TIE-IN OPERATION.
- THE TRAFFIC CONTROL DEVICES SHOWN FOR ANY STAGE CONSTRUCTION SHALL REMAIN IN PLACE AND BE UTILIZED SO LONG AS NECESSARY FOR THE FOLLOWING STAGES AND SHALL BE REMOVED IMMEDIATELY WHEN NO LONGER REQUIRED. THE DEVICES MAY OR MAY NOT BE SHOWN ON THE PLANS FOR THESE FOLLOWING STAGES. REFER TO THE PLAN SHEET FOR THE INITIAL STAGE FOR THESE TRAFFIC CONTROLS.
- EXISTING GUIDE SIGNS SHALL REMAIN IN PLACE SO LONG AS THEY DO NOT CONFLICT WITH THE CONSTRUCTION OF THIS PROJECT. WHEN IN CONFLICT, THEY SHALL BE RELOCATED ON TEMPORARY POSTS AT THE LOCATION AS DIRECTED BY THE ENGINEER. ANY DISTANCE SHOWN ON THE SIGN SHALL BE ADJUSTED ACCORDINGLY. IF THE SIGNS CANNOT BE RELOCATED, THEN THE SIGN SHALL BE REMOVED AND STORED AT A PLACE DESIGNATED BY THE ENGINEER. IF NEITHER OF THE ABOVE CAN BE DONE, THEN THE CONTRACTOR SHALL PROVIDE INTERIM GUIDE SIGNS AS COVERED IN SECTION 150.
- (a) ON PROJECTS WITH LOW OR SOFT SHOULDERS, THE CONTRACTOR SHALL ERECT IMMEDIATELY AHEAD OF CONSTRUCTION OPERATIONS "LOW/SOFT SHOULDER" WARNING SIGNS AT THE PROJECT TERMINI, AT INTERVALS NOT TO EXCEED 1 MILE AND IMMEDIATELY PAST EACH CROSSROAD.  
(b) WHERE THE CONTRACTOR IS NOT RESPONSIBLE FOR SHOULDER CONSTRUCTION, THE DEPARTMENT WILL FURNISH THESE SIGNS FOR THE CONTRACTOR TO PICK UP, TRANSPORT, AND ERECT. THE DEPARTMENT WILL LATER REMOVE AND RETAIN THE SIGNS.

STANDARD LEGEND

- STRIPED DRUM
- ▨ TYPE III BARRICADES
- × SPECIAL BARRICADE WITH BI-DIRECTIONAL, TYPE 'C' STEADY BURNING LIGHT OR HIGHWAY SIGN AS SPECIFIED (SEE DETAIL)
- ⋮ SEQUENTIAL OR FLASHING ARROW
- ▭ PORTABLE CHANGEABLE MESSAGE SIGN
- ├ PERMANENT TYPE POST MOUNTED SIGN
- ⊕ TEMPORARY POST MOUNTED SIGN
- Ⓚ PORTABLE MOUNTED SIGN - FLAGS NOT REQUIRED
- ▨ WORK AREA
- ▲ TRAFFIC CONE - 28" MIN. - (DAYTIME USE ONLY)
- ⬮ FLAGGER WITH STOP-SLOW PADDLE
- ⊕ TRAFFIC IMPACT ATTENUATOR (CRASH CUSHION)
- TYPE I CLEAR (WHITE) DELINEATOR - SINGLE FACE
- TYPE I YELLOW DELINEATOR - SINGLE FACE
- TYPE I CLEAR (WHITE) DELINEATOR DOUBLE FACE
- TYPE I YELLOW DELINEATOR DOUBLE FACE



DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
STANDARD TRAFFIC CONTROL GENERAL NOTES, STANDARD LEGEND, MISCELLANEOUS DETAILS	
NO SCALE	AUG., 1999
DES. _____ (SUBMITTED)	NUMBER 9100
DRW. _____ STATE ROAD & AIRPORT DESIGN ENGINEER	
TRA. _____ (APPROVED) <i>O.R. HULL</i>	
CHK. _____ CHIEF ENGINEER	



REVISION DATES


**GEORGIA STANDARDS**  
US 19 BUS/SR 60 BUS @ OAK GROVE RD  
LUMPKIN COUNTY

CHECKED:	DATE:	DRAWING No. <b>41-0025</b>
BACKCHECKED:	DATE:	
CORRECTED:	DATE:	
VERIFIED:	DATE:	



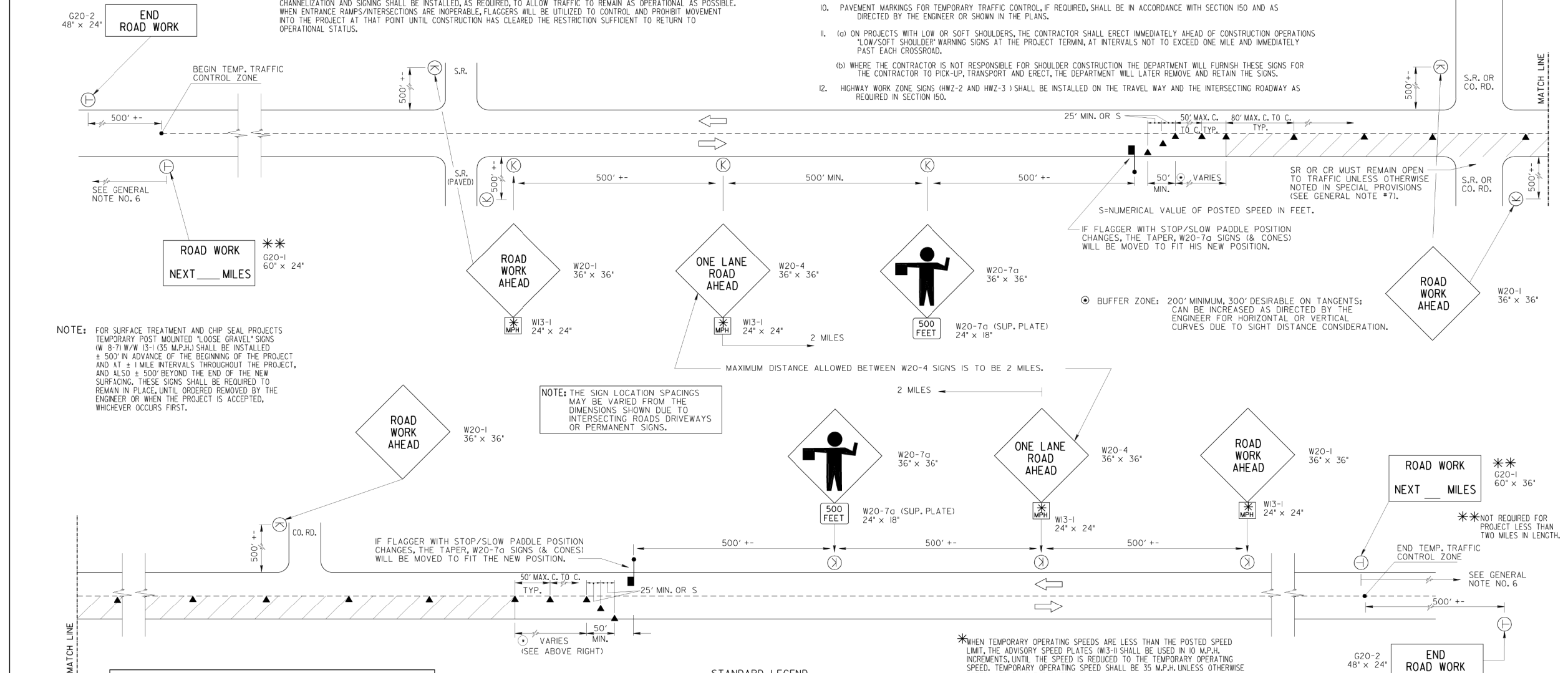
8/3/2006 11:38:53 AM \\GDOT-DSN1\GDOT\QC\Fig\_1\Fig\_output\_qcf.gwens M:\GARY\Revised 9102\9102.prf\_60-R06

GENERAL NOTES:

- ALL TRAFFIC CONTROL DEVICES SHALL BE MADE AND ERECTED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS; THE MUTCD; THE GEORGIA STANDARD SPECIFICATIONS; AND/OR SPECIAL PROVISIONS. (SEE SECTION 150)
- ALL TRAFFIC CONTROL DEVICES SHALL BE AS SHOWN, OR AS DIRECTED BY THE ENGINEER. ADDITIONAL DEVICES MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.
- ALL PORTABLE SIGNS SHALL BE MOUNTED A MINIMUM OF 1 FOOT ABOVE THE LEVEL OF PAVEMENT EDGE FOR DIRECTIONAL TRAFFIC OF TWO (2) LANES OR LESS AND A MINIMUM OF 7 FEET FOR DIRECTIONAL OF THREE (3) OR MORE LANES. ALL PORTABLE SIGNS AND SIGN MOUNTING DEVICES UTILIZED IN THE WORK SHALL BE NCHRP 350 COMPLIANT. PORTABLE SIGNS MAY BE USED WHEN THE DURATION OF THE WORK IS LESS THAN 3 DAYS.
- WHEN THE CONSTRUCTION AREA HAS ENTRANCE/EXIT RAMP OR INTERSECTIONS, WORK WILL BE PERFORMED IN SUCH A MANNER TO PERMIT TRAFFIC TO OPERATE WITH THE LEAST AMOUNT OF INCONVENIENCE AS POSSIBLE. ADDITIONAL CHANNELIZATION AND SIGNING SHALL BE INSTALLED, AS REQUIRED, TO ALLOW TRAFFIC TO REMAIN AS OPERATIONAL AS POSSIBLE. WHEN ENTRANCE RAMP/INTERSECTIONS ARE INOPERABLE, FLAGGERS WILL BE UTILIZED TO CONTROL AND PROHIBIT MOVEMENT INTO THE PROJECT AT THAT POINT UNTIL CONSTRUCTION HAS CLEARED THE RESTRICTION SIGNING TO RETURN TO OPERATIONAL STATUS.

- FOR NIGHT TIME OPERATIONS, DRUMS SHALL HAVE, FOR THE LENGTH OF THE TAPER ONLY, A SIX (6) INCH ORANGE REFLECTIZED TOP STRIPE ON EACH DRUM IN THE TAPER AS REQUIRED IN SECTION 150. SPACING OF DEVICES SHALL BE AS SHOWN. DURING DAYLIGHT HOURS, CONES (28" MIN.) MAY BE USED IN ADVANCE OF AND THROUGHOUT WORK AREA.
- SIGNS SHOWN HERE ARE IN ADDITION TO ALL ADVANCE WARNING SIGNS REQUIRED IN SECTION 150.
- FLAGGERS SHALL BE PROVIDED AS NECESSARY TO PROHIBIT WRONG DIRECTION OF TRAFFIC THRU WORK AREAS.
- WHEN NOT IN USE, PORTABLE SIGNS SHALL BE REMOVED FROM THE TRAVELWAY SO THAT THE MESSAGE IS NOT VISIBLE TO THE MOTORIST. INTERM SIGNS THAT ARE PERMANENT MOUNTED SHALL BE COVERED WHEN NOT APPLICABLE. SEE SECTION 150.
- PAYMENT FOR TRAFFIC CONTROL SHALL BE PER SECTION 150.
- PAYMENT MARKINGS FOR TEMPORARY TRAFFIC CONTROL, IF REQUIRED, SHALL BE IN ACCORDANCE WITH SECTION 150 AND AS DIRECTED BY THE ENGINEER OR SHOWN IN THE PLANS.
- (a) ON PROJECTS WITH LOW OR SOFT SHOULDERS, THE CONTRACTOR SHALL ERECT IMMEDIATELY AHEAD OF CONSTRUCTION OPERATIONS "LOW/SOFT SHOULDER" WARNING SIGNS AT THE PROJECT TERMINI, AT INTERVALS NOT TO EXCEED ONE MILE AND IMMEDIATELY PAST EACH CROSSROAD.
- (b) WHERE THE CONTRACTOR IS NOT RESPONSIBLE FOR SHOULDER CONSTRUCTION THE DEPARTMENT WILL FURNISH THESE SIGNS FOR THE CONTRACTOR TO PICK-UP, TRANSPORT AND ERECT. THE DEPARTMENT WILL LATER REMOVE AND RETAIN THE SIGNS.
- HIGHWAY WORK ZONE SIGNS (HWZ-2 AND HWZ-3) SHALL BE INSTALLED ON THE TRAVEL WAY AND THE INTERSECTING ROADWAY AS REQUIRED IN SECTION 150.

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

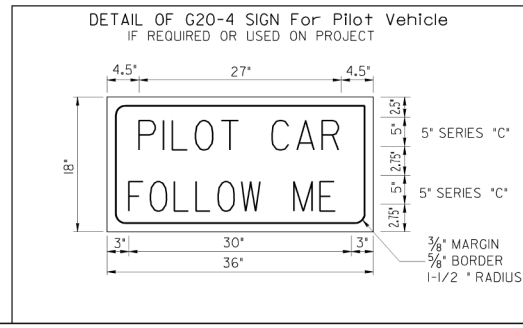


NOTE: FOR SURFACE TREATMENT AND CHIP SEAL PROJECTS TEMPORARY POST MOUNTED "LOOSE GRAVEL" SIGNS (W 8-7) W/W 13-1 (35 M.P.H.) SHALL BE INSTALLED ± 500' IN ADVANCE OF THE BEGINNING OF THE PROJECT AND AT ± 1 MILE INTERVALS THROUGHOUT THE PROJECT, AND ALSO ± 500' BEYOND THE END OF THE NEW SURFACING. THESE SIGNS SHALL BE REQUIRED TO REMAIN IN PLACE UNTIL ORDERED REMOVED BY THE ENGINEER OR WHEN THE PROJECT IS ACCEPTED, WHICHEVER OCCURS FIRST.

NOTE: THE SIGN LOCATION SPACINGS MAY BE VARIED FROM THE DIMENSIONS SHOWN DUE TO INTERSECTING ROADS, DRIVEWAYS OR PERMANENT SIGNS.

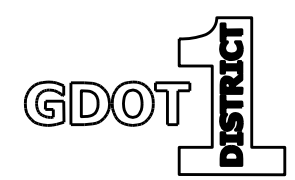
IF FLAGGER WITH STOP/SLOW PADDLE POSITION CHANGES, THE TAPER, W20-7a SIGNS (& CONES) WILL BE MOVED TO FIT THE NEW POSITION.

\*WHEN TEMPORARY OPERATING SPEEDS ARE LESS THAN THE POSTED SPEED LIMIT, THE ADVISORY SPEED PLATES (W13-1) SHALL BE USED IN 10 M.P.H. INCREMENTS, UNTIL THE SPEED IS REDUCED TO THE TEMPORARY OPERATING SPEED. TEMPORARY OPERATING SPEED SHALL BE 35 M.P.H. UNLESS OTHERWISE DETERMINED BY THE ENGINEER.



- STANDARD LEGEND
- STRIPED DRUM
  - PERMANENT TYPE POST MOUNTED SIGN (7' MOUNT HEIGHT)
  - ⊕ TEMPORARY POST MOUNTED SIGN - (7' MOUNT HEIGHT)
  - Ⓚ PORTABLE MOUNTED SIGN - MINIMUM HEIGHT OF 1 FT. ABOVE THE EDGE OF PAVEMENT; INSTALLED AS PER NCHRP 350 TESTING REQUIREMENTS.
  - ▨ WORK AREA
  - ▲ TRAFFIC CONE - 28" MIN. - DAYTIME USE ONLY
  - ⊠ FLAGGER WITH STOP-SLOW PADDLE

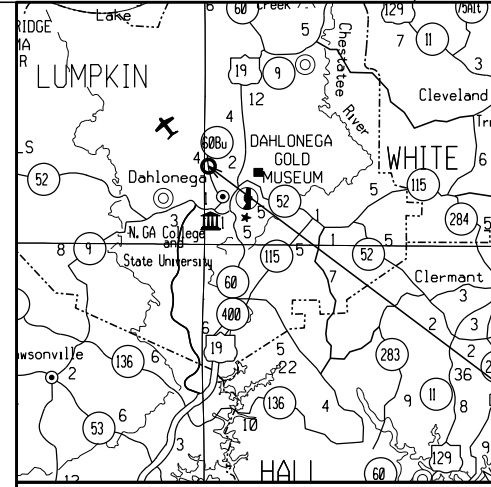
REMOVED FLAGS AND REV. GENERAL NOTES, REV. SIGN		DATE	DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
GLO	BY	DATE	STANDARD TRAFFIC CONTROL DETAIL FOR LANE CLOSURE ON TWO-LANE HIGHWAY	
			NO SCALE REV. & REDR. JULY, 1999	
	DES. (SUBMITTED)		NUMBER 9102	
	DRW. (STATE ROAD & AIRPORT DESIGN ENGINEER)			
	TRA. (APPROVED)			
	CHK. (CHIEF ENGINEER)			



REVISION DATES		GEORGIA STANDARDS	
		US 19 BUS/SR 60 BUS @ OAK GROVE RD LUMPKIN COUNTY	
CHECKED:	DATE:	DRAWING No.	
BACKCHECKED:	DATE:	41-0026	
CORRECTED:	DATE:		
VERIFIED:	DATE:		

# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

## RIGHT OF WAY OF PROPOSED US 19 BUS/SR 60 BUS AT OAK GROVE RD ROUNDAABOUT LUMPKIN COUNTY



PROJECT LOCATION

### LOCATION SKETCH

NOTE: THE CO-ORDINATES LISTED ARE WEST ZONE  
GRID CO-ORDINATES BASED ON THE GA. STATE PLANE  
CO-ORDINATE SYSTEM OF 1984.  
HORIZONTAL DATUM : NAD 83/94 HARN  
VERTICAL DATUM : NAVD 1988

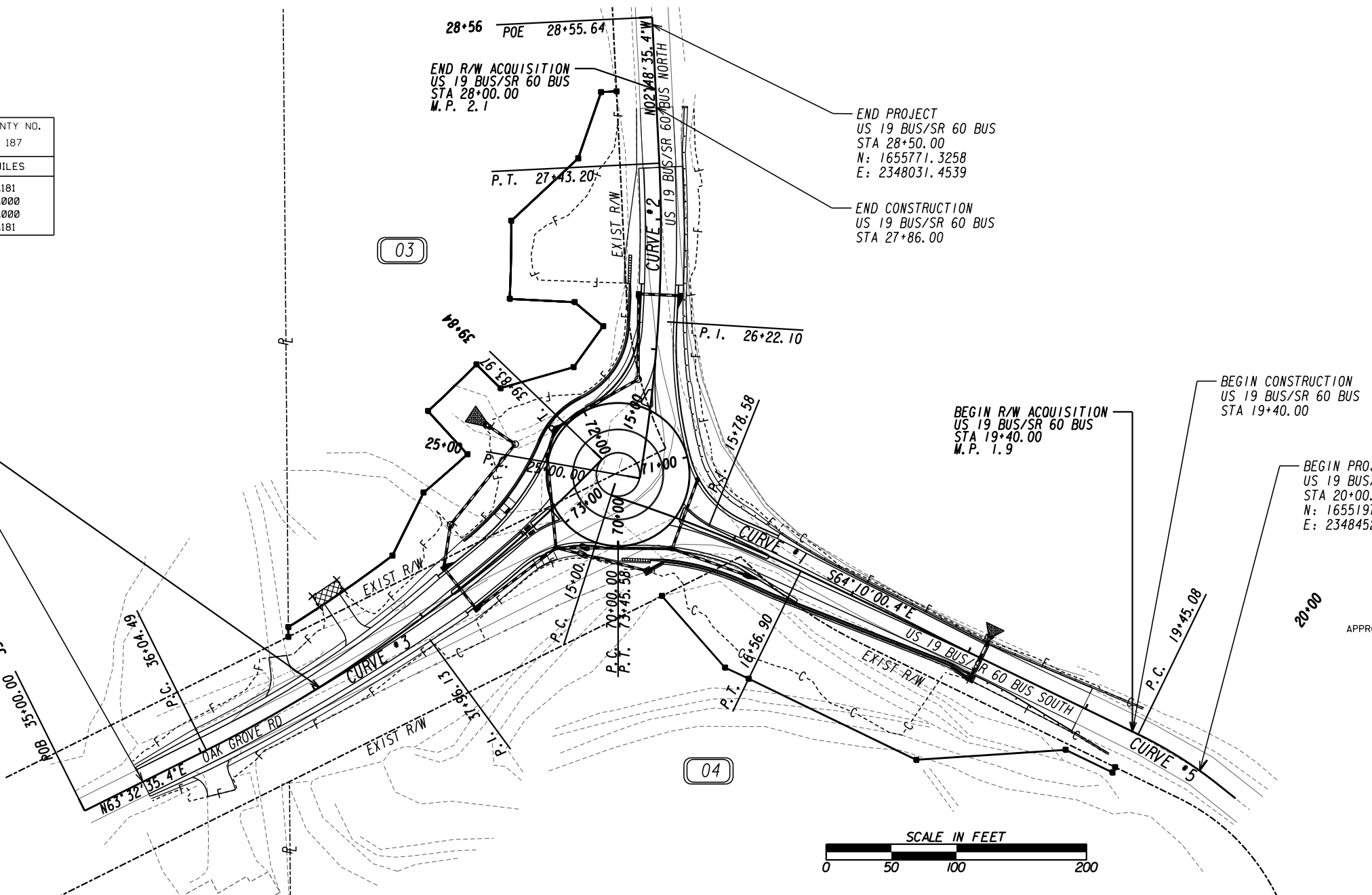
STATE FUNDED  
FEDERAL ROUTE No.: US 19 BUS  
STATE ROUTE No.: SR 60 BUS



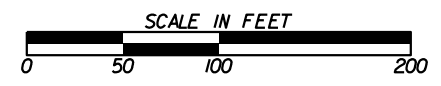
STATE OR COUNTY LINE	----	
CITY LIMIT LINE	----	
LAND LOT LINE	----	
PROPERTY LINE	----	
SURVEY OR BASE LINE	----	
RIGHT OF WAY LINE	EXISTING	----
	REQUIRED	----
	LIMIT OF ACCESS	----
	R/W & LIMIT OF ACCESS	----
	R/W MARKERS	----
FENCE	----	
RAILROAD	----	
POWER LINE	----	
TELEPHONE LINE	----	
POWER POLES	----	
TELEPHONE OR TELEGRAPH POLES	----	

LENGTH OF RIGHT OF WAY PROJECT	COUNTY NO.	187
	MILES	
NET LENGTH OF RIGHT OF WAY		0.181
NET LENGTH OF BRIDGES		0.000
NET LENGTH OF EXCEPTIONS		0.000
GROSS LENGTH OF RIGHT OF WAY		0.181

THIS PROJECT IS LOCATED 100% IN LUMPKIN COUNTY  
AND CONGRESSIONAL DISTRICT 09.



P. I. NUMBER: N/A  
LUMPKIN COUNTY  
LAND LOT 852, 853  
LAND DISTICT 12  
GMD 837



PLANS PREPARED BY  
AUSTIN GRAY, P.E.

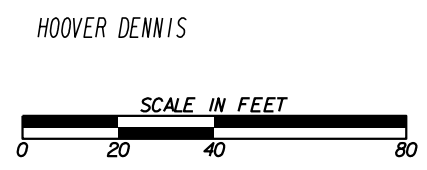
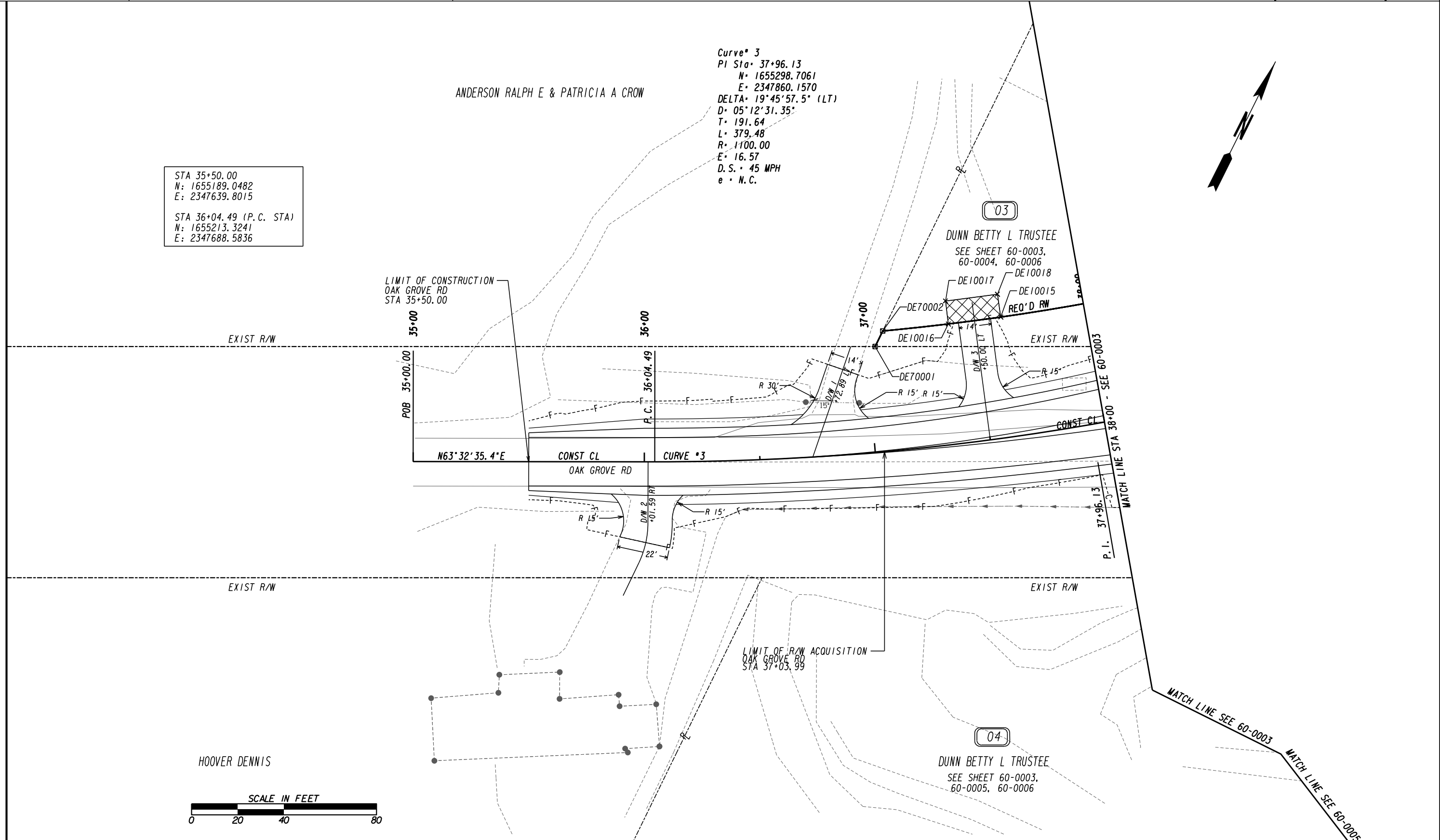
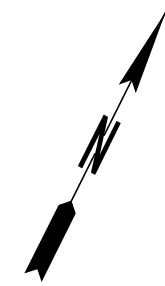
UNDER THE SUPERVISION OF  
JUSTIN LOTT, P.E.  
GDOT DISTRICT I DESIGN

APPROVED:	TROY D. BYERS STATE RIGHT OF WAY ADMINISTRATOR	DATE
LOCATION AND DESIGN APPROVAL DATE:		
PLANS COMPLETED DATE:	09/21/2020	
REVISIONS:	10/27/20: SHEETS 1,2,3,5,6 01/27/21: SHEETS 1,2,6	
DRAWING No.	60-0001	

STA 35+50.00  
N: 1655189.0482  
E: 2347639.8015

STA 36+04.49 (P.C. STA)  
N: 1655213.3241  
E: 2347688.5836

Curve # 3  
PI Sta 37+96.13  
N = 1655298.7061  
E = 2347860.1570  
DELTA = 19° 45' 57.5" (LT)  
D = 05° 12' 31.35"  
T = 191.64  
L = 379.48  
R = 1100.00  
E = 16.57  
D.S. = 45 MPH  
e = N.C.



PROPERTY AND EXISTING R/W LINE	-----e-----
REQUIRED R/W LINE	-----f-----
CONSTRUCTION LIMITS	-----g-----
EASEMENT FOR CONSTR	-----h-----
& MAINTENANCE OF SLOPES	-----i-----
EASEMENT FOR CONSTR OF SLOPES	-----j-----
EASEMENT FOR CONSTR OF DRIVES	-----k-----

BEGIN LIMIT OF ACCESS.....BLA	-----l-----
END LIMIT OF ACCESS.....ELA	-----m-----
EXISTING LIMIT OF ACCESS	-----n-----
REQ'D LIMIT OF ACCESS	-----o-----
EXISTING LIMIT OF ACCESS & R/W	-----p-----
REQ'D LIMIT OF ACCESS & R/W	-----q-----
ORANGE BARRIER FENCE	-----r-----
ESA - ENV. SENSITIVE AREA	-----s-----

DATE	REVISIONS	DATE	REVISIONS
10/27/20	REM DWEST PAR 1, ADDED DWESMT PAR 3		
01/27/21	REM DWEST PAR 2		

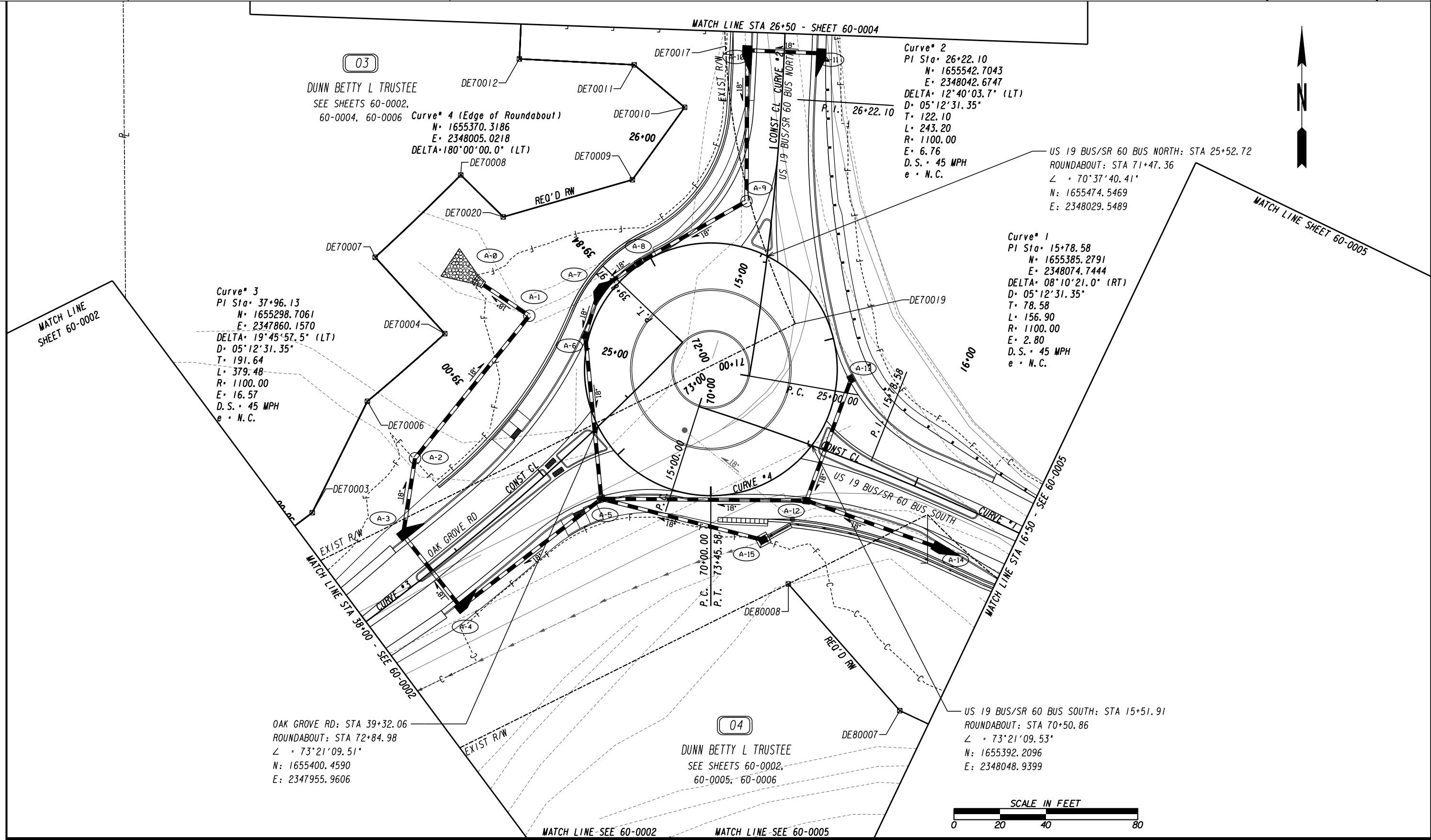
DATE	REVISIONS	DATE	REVISIONS

STATE OF GEORGIA  
DEPARTMENT OF TRANSPORTATION

**RIGHT OF WAY MAP**

PROJECT NO: N/A  
COUNTY: LUMPKIN  
LAND LOT NO: 852, 853  
LAND DISTRICT: 12  
GMD 837  
DATE 9/21/20 SHEET 2 OF 6

DRAWING No.  
**60-0002**



**Curve 1**  
PI Sta: 15+78.58  
N: 1655385.2791  
E: 2348074.7444  
DELTA: 08°10'21.0" (RT)  
D: 05°12'31.35"  
T: 78.58  
L: 156.90  
R: 1100.00  
E: 2.80  
D.S.: 45 MPH  
e: N.C.

**Curve 2**  
PI Sta: 26+22.10  
N: 1655542.7043  
E: 2348042.6747  
DELTA: 12°40'03.7" (LT)  
D: 05°12'31.35"  
T: 122.10  
L: 243.20  
R: 1100.00  
E: 6.76  
D.S.: 45 MPH  
e: N.C.

**Curve 3**  
PI Sta: 37+96.13  
N: 1655298.7061  
E: 2347860.1570  
DELTA: 19°45'57.5" (LT)  
D: 05°12'31.35"  
T: 191.64  
L: 379.48  
R: 1100.00  
E: 16.57  
D.S.: 45 MPH  
e: N.C.

**Curve 4 (Edge of Roundabout)**  
N: 1655370.3186  
E: 2348005.0218  
DELTA: 180°00'00.0" (LT)

US 19 BUS/SR 60 BUS NORTH: STA 25+52.72  
ROUNDBOUT: STA 71+47.36  
∠ = 70°37'40.41"  
N: 1655474.5469  
E: 2348029.5489

OAK GROVE RD: STA 39+32.06  
ROUNDBOUT: STA 72+84.98  
∠ = 73°21'09.51"  
N: 1655400.4590  
E: 2347955.9606



PROPERTY AND EXISTING R/W LINE	-----e-----
REQUIRED R/W LINE	-----
CONSTRUCTION LIMITS	-----C-----
EASEMENT FOR CONSTR	-----F-----
& MAINTENANCE OF SLOPES	[Hatched Box]
EASEMENT FOR CONSTR OF SLOPES	[Hatched Box]
EASEMENT FOR CONSTR OF DRIVES	[Hatched Box]

BEGIN LIMIT OF ACCESS.....BLA	-----o-----
END LIMIT OF ACCESS.....ELA	-----o-----
EXISTING LIMIT OF ACCESS	-----o-----
REQ'D LIMIT OF ACCESS	-----o-----
EXISTING LIMIT OF ACCESS & R/W	-----o-----
REQ'D LIMIT OF ACCESS & R/W	-----o-----
ORANGE BARRIER FENCE	-----o-----
ESA - ENV. SENSITIVE AREA	-----o-----

DATE	REVISIONS	DATE	REVISIONS
10/27/20	REV REQD R/W PAR 3, REV MATCHLINE 26+50		

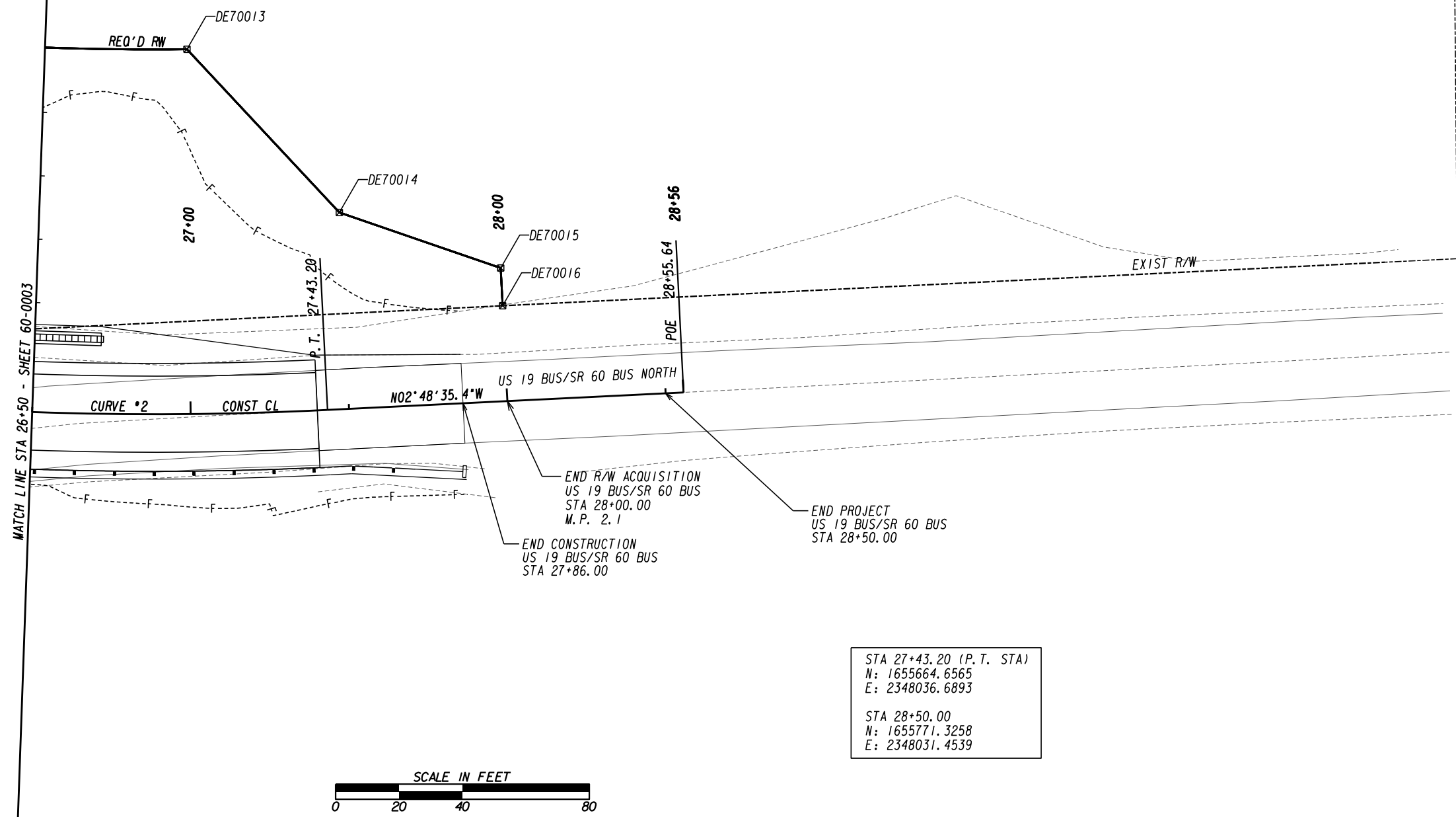
STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION	
<b>RIGHT OF WAY MAP</b>	
PROJECT NO: N/A	COUNTY: LUMPKIN
LAND LOT NO: 852	LAND DISTRICT: 12
GMD: 837	DATE: 9/21/20
SHEET 3 OF 6	

DRAWING No.  
**60-0003**

Curve\* 2  
 PI Sta\* 26+22.10  
 N\* 1655542.7043  
 E\* 2348042.6747  
 DELTA\* 12°40'03.7" (LT)  
 D\* 05'12'31.35"  
 T\* 122.10  
 L\* 243.20  
 R\* 1100.00  
 E\* 6.76  
 D.S.\* 45 MPH  
 e \* N.C.

03

DUNN BETTY L TRUSTEE  
 SEE SHEETS 60-0002,  
 60-0003, 60-0006



STA 27+43.20 (P.T. STA)  
 N: 1655664.6565  
 E: 2348036.6893  
  
 STA 28+50.00  
 N: 1655771.3258  
 E: 2348031.4539

PROPERTY AND EXISTING R/W LINE	---
REQUIRED R/W LINE	---
CONSTRUCTION LIMITS	---
EASEMENT FOR CONSTR	---
& MAINTENANCE OF SLOPES	---
EASEMENT FOR CONSTR OF SLOPES	---
EASEMENT FOR CONSTR OF DRIVES	---

BEGIN LIMIT OF ACCESS.....BLA	---
END LIMIT OF ACCESS.....ELA	---
EXISTING LIMIT OF ACCESS	---
REQ'D LIMIT OF ACCESS	---
EXISTING LIMIT OF ACCESS & R/W	---
REQ'D LIMIT OF ACCESS & R/W	---
ORANGE BARRIER FENCE	---
ESA - ENV. SENSITIVE AREA	---

DATE	REVISIONS	DATE	REVISIONS

STATE OF GEORGIA  
 DEPARTMENT OF TRANSPORTATION  
**RIGHT OF WAY MAP**

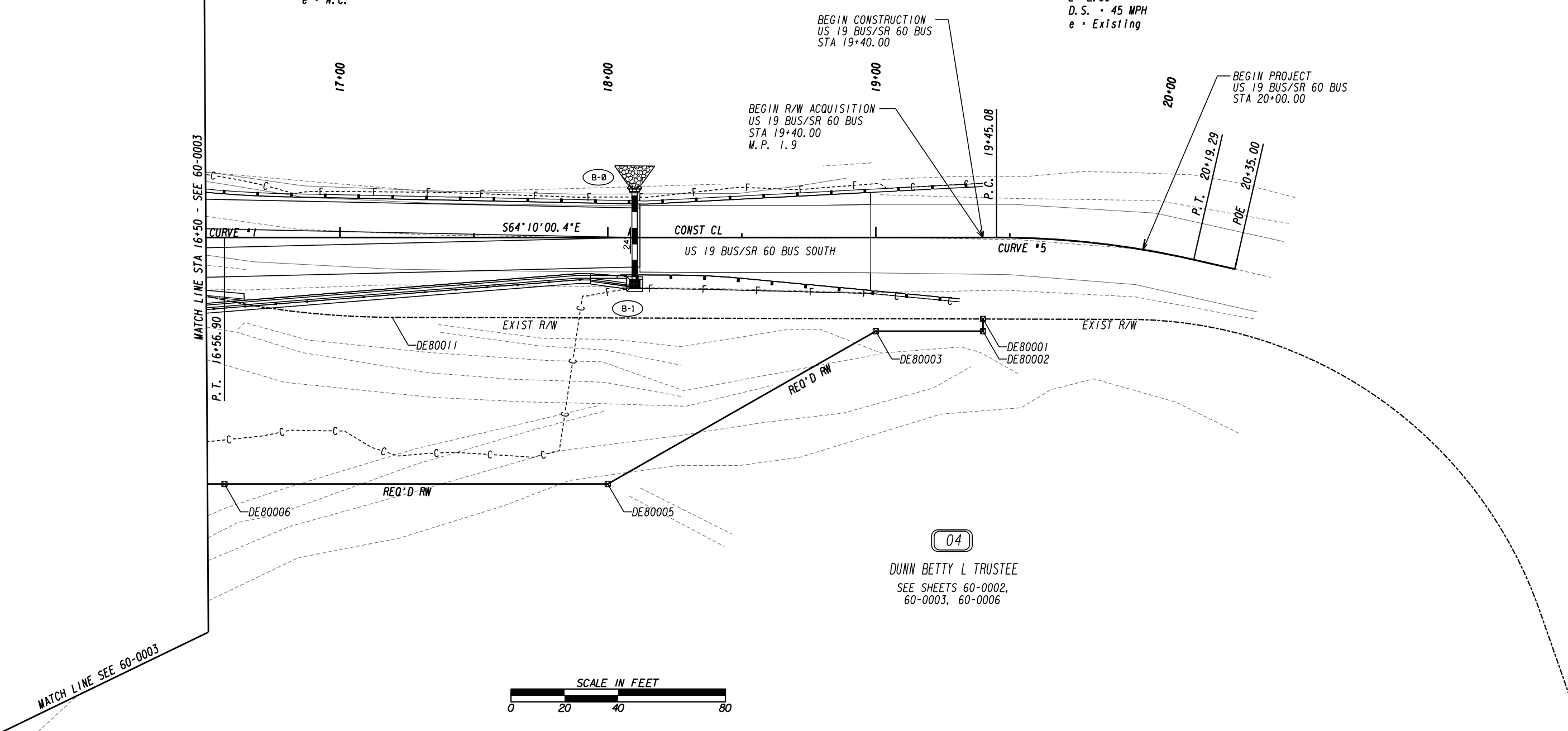
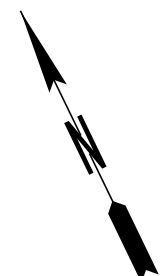
PROJECT NO: N/A  
 COUNTY: LUMPKIN  
 LAND LOT NO: 852  
 LAND DISTRICT: 12  
 GMD 837  
 DATE 9/21/20 SHEET 4 OF 6

DRAWING No.  
**60-0004**

Curve # 1  
PI Sta 15+78.58  
N: 1655385.2791  
E: 2348074.7444  
DELTA: 08°10'21.0" (RT)  
D: 05°12'31.35"  
T: 78.58  
L: 156.90  
R: 1100.00  
E: 2.80  
D.S.: 45 MPH  
e: N.C.

STA 16+56.90 (P.T. STA)  
N: 1655351.0361  
E: 2348145.4750  
  
STA 19+40.00  
N: 1655227.6748  
E: 2348400.2830

Curve # 5  
PI Sta 19+82.34  
N: 1655209.2255  
E: 2348438.3907  
DELTA: 12°52'17.5" (RT)  
D: 17°20'44.25"  
T: 37.26  
L: 74.21  
R: 330.32  
E: 2.09  
D.S.: 45 MPH  
e: Existing



PROPERTY AND EXISTING R/W LINE	-----e-----
REQUIRED R/W LINE	-----f-----
CONSTRUCTION LIMITS	-----c-----
EASEMENT FOR CONSTR & MAINTENANCE OF SLOPES	-----h-----
EASEMENT FOR CONSTR OF SLOPES	-----i-----
EASEMENT FOR CONSTR OF DRIVES	-----j-----

BEGIN LIMIT OF ACCESS.....BLA	-----k-----
END LIMIT OF ACCESS.....ELA	-----l-----
EXISTING LIMIT OF ACCESS	-----m-----
REQ'D LIMIT OF ACCESS	-----n-----
EXISTING LIMIT OF ACCESS & R/W	-----o-----
REQ'D LIMIT OF ACCESS & R/W	-----p-----
ORANGE BARRIER FENCE	-----q-----
ESA - ENV. SENSITIVE AREA	-----r-----

DATE	REVISIONS	DATE	REVISIONS
10/27/20	REV REQD RW PAR 4		

DATE	REVISIONS

STATE OF GEORGIA  
DEPARTMENT OF TRANSPORTATION  
**RIGHT OF WAY MAP**

PROJECT NO: N/A  
COUNTY: LUMPKIN  
LAND LOT NO: 852  
LAND DISTRICT: 12  
GMD 837  
DATE 9/21/20 SHEET 5 OF 6

DRAWING No.  
**60-0005**

SEE SHEET 60-0002

PNT	OFFSET/ DIST	STATION/ BEARING	ALIGNMENT
DE10015	52.00 L	37+62.00	OAK GROVE RD
ARC LENGTH = 22.87			
CHORD BEAR = S 55°57'50.1" W			
LNTH CHORD = 22.87			
RADIUS = 1048.00			
DEGREE = 5°28'01.8"			
DE10016	52.00 L	37+38.00	OAK GROVE RD
DE10017	62.00 L	37+38.00	OAK GROVE RD
DE10018	62.00 L	37+62.00	OAK GROVE RD
DE10015	52.00 L	37+62.00	OAK GROVE RD

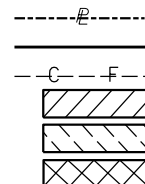
SEE SHEET 60-0002, 60-0003, 60-0004

PNT	OFFSET/ DIST	STATION/ BEARING	ALIGNMENT
DE70019	16.15 R	25+25.52	SR 60 BUS NORTH
ARC LENGTH = 324.31			
CHORD BEAR = S 63°29'31.0" W			
DE70001	45.62 L	37+03.99	OAK GROVE RD
LNTH CHORD = 7.46			
RADIUS = 1048.00			
DEGREE = 5°28'01.8"			
DE70002	52.00 L	37+08.05	OAK GROVE RD
ARC LENGTH = 97.13			
CHORD BEAR = N 55°29'38.0" E			
LNTH CHORD = 97.10			
RADIUS = 1048.00			
DEGREE = 5°28'01.8"			
DE70003	52.00 L	38+10.00	OAK GROVE RD
LNTH CHORD = 54.12			
RADIUS = 1048.00			
DEGREE = 5°28'01.8"			
DE70006	75.00 L	38+62.00	OAK GROVE RD
ARC LENGTH = 44.73			
CHORD BEAR = N 48°52'48.3" E			
LNTH CHORD = 44.72			
RADIUS = 1025.00			
DEGREE = 5°35'23.4"			
DE70004	75.00 L	39+10.00	OAK GROVE RD
LNTH CHORD = 45.00			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70007	120.00 L	39+10.00	OAK GROVE RD
ARC LENGTH = 51.67			
CHORD BEAR = N 46°07'10.3" E			
LNTH CHORD = 51.67			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70008	120.00 L	39+68.00	OAK GROVE RD
LNTH CHORD = 26.00			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70020	94.00 L	39+68.00	OAK GROVE RD
LNTH CHORD = 58.48			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70009	62.00 L	25+80.00	SR 60 BUS NORTH
LNTH CHORD = 38.88			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70010	42.00 L	26+15.00	SR 60 BUS NORTH
LNTH CHORD = 28.67			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70011	65.00 L	26+33.00	SR 60 BUS NORTH
LNTH CHORD = 50.00			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70012	115.00 L	26+33.00	SR 60 BUS NORTH
LNTH CHORD = 115.00			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70013	115.00 L	27+00.00	SR 60 BUS NORTH
LNTH CHORD = 70.41			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70014	62.00 L	27+50.00	SR 60 BUS NORTH
LNTH CHORD = 53.85			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70015	42.00 L	28+00.00	SR 60 BUS NORTH
LNTH CHORD = 11.90			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70016	30.10 L	28+00.00	SR 60 BUS NORTH
LNTH CHORD = 154.14			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70017	25.69 L	26+43.39	SR 60 BUS NORTH
LNTH CHORD = 25.69			
RADIUS = 980.00			
DEGREE = 5°50'47.4"			
DE70019	16.15 R	25+25.52	SR 60 BUS NORTH
ARC LENGTH = 125.34			
CHORD BEAR = S 14°08'53.9" E			
LNTH CHORD = 124.52			
RADIUS = 316.51			
DEGREE = 18°06'08.5"			
REQ'D R/W = 30234.05 SF			
REQ'D R/W = 0.694 ACRES			
REMAINDER = +/- 3.2 ACRES			

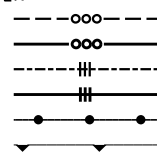
SEE SHEET 60-0002, 60-0003, 60-0005

PNT	OFFSET/ DIST	STATION/ BEARING	ALIGNMENT
DE80001	30.42 R	19+40.00	SR 60 BUS SOUTH
LNTH CHORD = 4.58			
RADIUS = 1008.00			
DEGREE = 5°41'02.8"			
DE80002	35.00 R	19+40.00	SR 60 BUS SOUTH
LNTH CHORD = 40.00			
RADIUS = 1008.00			
DEGREE = 5°41'02.8"			
DE80003	35.00 R	19+00.00	SR 60 BUS SOUTH
LNTH CHORD = 115.10			
RADIUS = 1008.00			
DEGREE = 5°41'02.8"			
DE80005	92.00 R	18+00.00	SR 60 BUS SOUTH
LNTH CHORD = 143.10			
RADIUS = 1008.00			
DEGREE = 5°41'02.8"			
DE80006	92.00 R	16+56.90	SR 60 BUS SOUTH
LNTH CHORD = 20.07			
RADIUS = 1008.00			
DEGREE = 5°41'02.8"			
DE80007	92.00 R	16+35.00	SR 60 BUS SOUTH
LNTH CHORD = 73.42			
RADIUS = 1008.00			
DEGREE = 5°41'02.8"			
DE80008	60.00 R	15+64.00	SR 60 BUS SOUTH
LNTH CHORD = 67.66			
RADIUS = 1008.00			
DEGREE = 5°41'02.8"			
DE80009	9.15 R	16+10.10	SR 60 BUS SOUTH
LNTH CHORD = 111.31			
RADIUS = 1008.00			
DEGREE = 5°41'02.8"			
DE80011	29.81 R	17+19.48	SR 60 BUS SOUTH
LNTH CHORD = 220.52			
RADIUS = 1008.00			
DEGREE = 5°41'02.8"			
DE80001	30.42 R	19+40.00	SR 60 BUS SOUTH
REQ'D R/W = 17332.46 SF			
REQ'D R/W = 0.398 ACRES			
REMAINDER = +/- 10 ACRES			

PROPERTY AND EXISTING R/W LINE  
 REQUIRED R/W LINE  
 CONSTRUCTION LIMITS  
 EASEMENT FOR CONSTR  
 & MAINTENANCE OF SLOPES  
 EASEMENT FOR CONSTR OF SLOPES  
 EASEMENT FOR CONSTR OF DRIVES



BEGIN LIMIT OF ACCESS.....BLA  
 END LIMIT OF ACCESS.....ELA  
 EXISTING LIMIT OF ACCESS  
 REQ'D LIMIT OF ACCESS  
 EXISTING LIMIT OF ACCESS & R/W  
 REQ'D LIMIT OF ACCESS & R/W  
 ORANGE BARRIER FENCE  
 ESA - ENV. SENSITIVE AREA



DATE	REVISIONS	DATE	REVISIONS
10/27/20	REM PAR 1 DWESMT, ADDED PAR 3 DWESMT, REV REQ'D R/W PARS 3 & 4		
01/27/21	REM PAR 2 DWESMT		

STATE OF GEORGIA  
 DEPARTMENT OF TRANSPORTATION  
**RIGHT OF WAY MAP**  
 PROJECT NO: N/A  
 COUNTY: LUMPKIN  
 LAND LOT NO: 852, 853  
 LAND DISTRICT: 12  
 GMD 837  
 DATE 9/21/20 SHEET 6 OF 6

DRAWING No.  
**60-0006**

# SITE DEVELOPMENT PLANS FOR: US 19 BUS/SR 60 BUS AT OAK GROVE ROAD ROUNDBABOUT

LAND LOTS 853,898  
12TH DISTRICT  
CITY OF DAHLONEGA  
LUMPKIN COUNTY, GA

TOTAL AREA: 3.56 ACRES  
DISTURBED AREA: 3.28 ACRES

DES PROJECT NO.: 2020-158

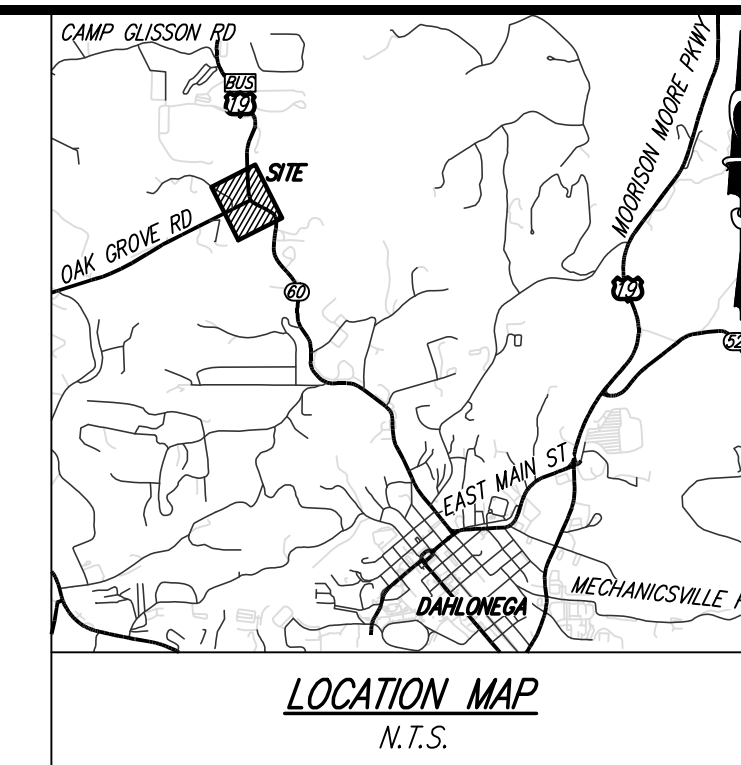
OWNER/DEVELOPER  
LUMPKIN COUNTY  
  
24-HOUR CONTACT  
LARRY REITER, P.E.  
LUMPKIN CO.  
PLANNING & PUBLIC WORKS  
OFFICE: (706) 864-3122  
MOBILE: (706) 344-7961  
larry.reiter@lumpkincounty.gov

PREPARED BY:

**DES**  
**DAVIS**  
ENGINEERING & SURVEYING  
133 PROMINENCE COURT  
SUITE 210  
DAWSONVILLE, GA 30534  
PHONE: (706) 265-1234  
DAVISENGINEERS.COM



IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.



SHEET INDEX	
1	COVER SHEET
2	EXISTING CONDITIONS/DEMO PLAN
3	UTILITY PLAN
4-6	ES&PC PLANS
7	ES&PC NOTES
8	ES&PC DETAILS
9	WATER & SEWER DETAILS

REVISION	DATE	DESCRIPTION
1	1/7/21	INITIAL PLAN SET
2	3/12/21	UPDATED UTILITIES & EC QUANTITIES
3	3/31/21	REVISE WATER/SEWER PLACEMENT

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THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.  
THE LOCATION OF ALL UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND WERE OBTAINED FROM OBSERVATIONS AT THE SITE AND/OR FROM INFORMATION PROVIDED BY THE PROPERTY OR UTILITY OWNERS.  
DAVIS ENGINEERING & SURVEYING, LLC DOES NOT GUARANTEE THAT THE LOCATIONS SHOWN ARE EXACT AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATIONS OF ALL EXISTING UTILITIES, TO NOTIFY UTILITY OWNERS PRIOR TO CONSTRUCTION, AND TO COORDINATE THE RELOCATION OF ALL THE UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE DRAWINGS.



**PROJECT DESCRIPTION:**  
 THE PROPOSED INTERSECTION IMPROVEMENT INCLUDES CONSTRUCTION OF A GDOT ROUNDABOUT WITH STORMWATER MANAGEMENT, UTILITY RELOCATION, AND EROSION CONTROL BMPs.

TOTAL AREA= 3.56 ACRES  
 DISTURBED AREA= 3.28 ACRES

BOUNDARY INFORMATION FROM GDOT.

UTILITIES SHOWN HEREON ARE FROM EXISTING STRUCTURES AND ABOVE GROUND MARKS FOUND. DAVIS ENGINEERING AND SURVEYING, LLC IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES.

CONTOUR INTERVAL = 2'

PROJECT BENCHMARK:  
 TBM USED IS POINT OF PROJECT BEGINNING ALONG C/A OF OAK GROVE ROAD  
 ELEV: 1348.0 (APPROX.) E:2347595.04, N:1655166.77

NO PORTION OF THIS SITE IS LOCATED WITHIN THE 100-YEAR FLOOD PRONE AREA AS PER FLOOD INSURANCE RATE MAP NO. 13187C0161D, DATED 04/04/2018.

**GENERAL NOTES:**

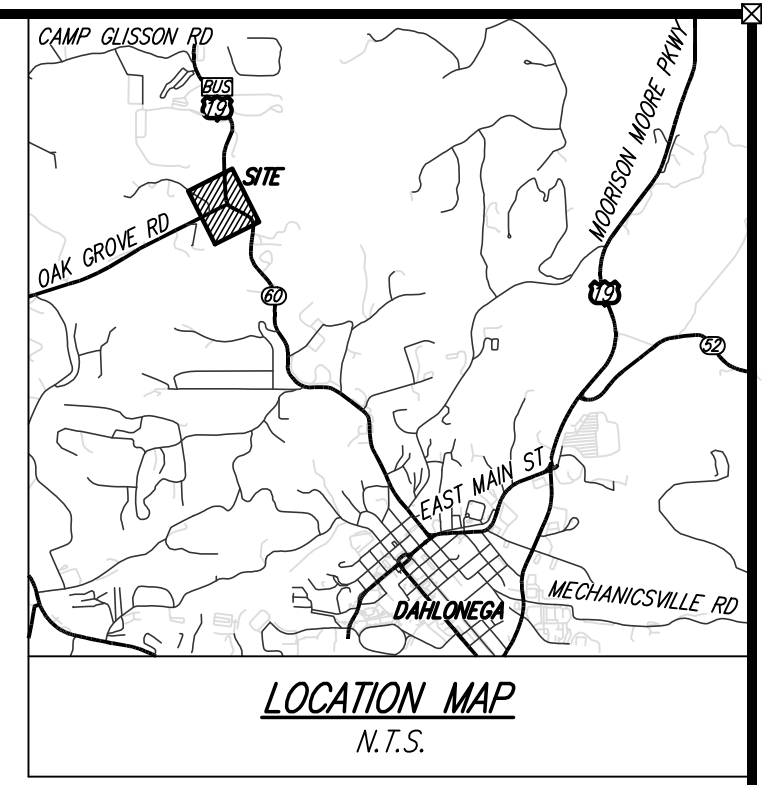
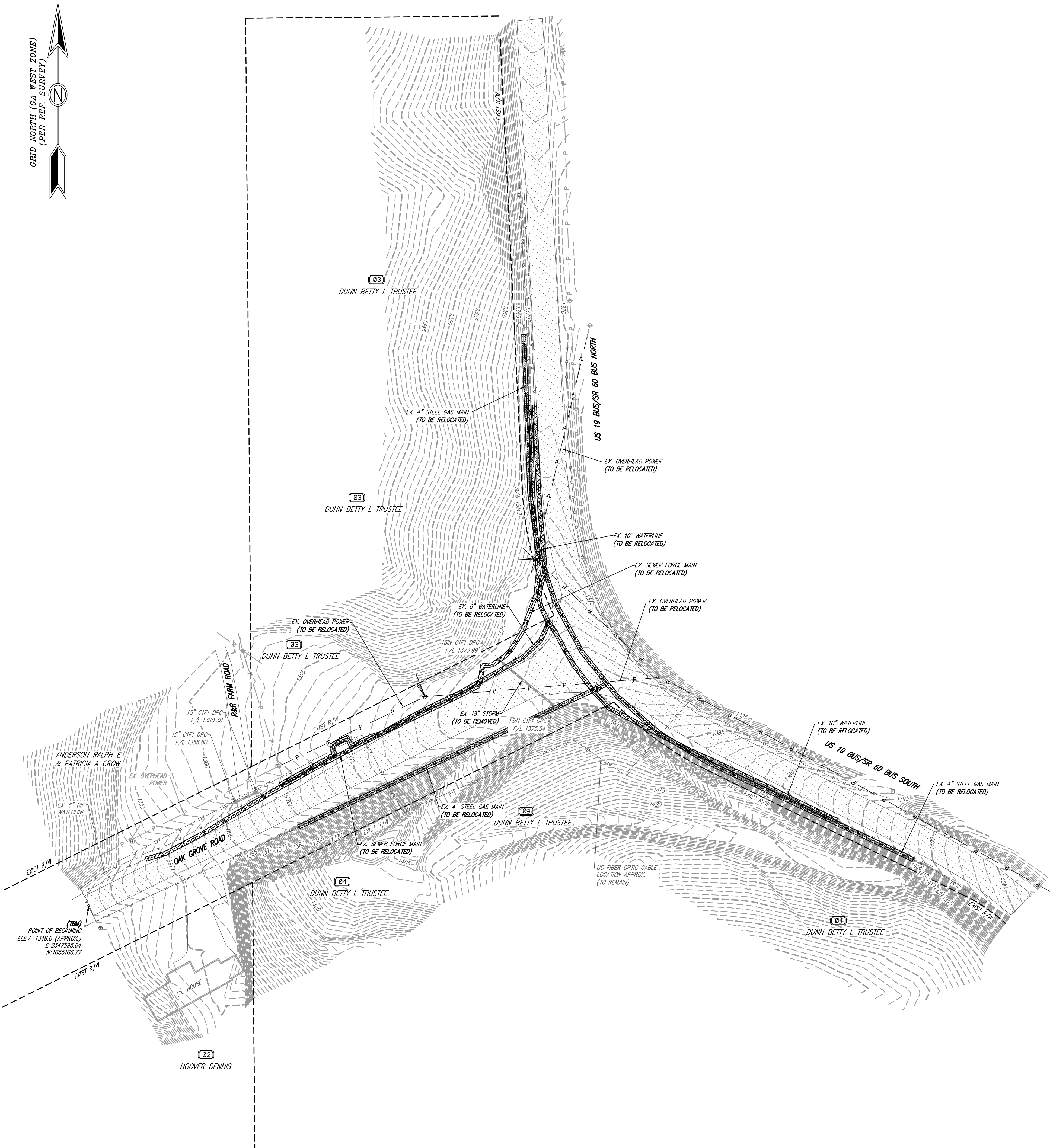
- ALL CONSTRUCTION WORK, MATERIALS, AND IMPROVEMENTS AT THIS SITE SHALL CONFORM WITH GDOT, LUMPKIN COUNTY, & CITY OF DAHLONEGA, GEORGIA REQUIREMENTS.
- ALL STRUCTURES WILL BE REQUIRED TO CONFORM TO THE STANDARD BUILDING CODES HORIZONTAL SEPARATION STANDARDS. APPROVAL OF THIS PERMIT WILL NOT JUSTIFY ANY DEVIATION IN HORIZONTAL SEPARATION STANDARDS AS ADOPTED AND AMENDED BY THE GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS.
- CONTRACTORS SHALL CONDUCT ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) AND ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS.
- ALL CONSTRUCTION STAKING ON THIS SITE SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A GEORGIA REGISTERED LAND SURVEYOR.
- MATTERS OF RECORD NOT SHOWN HEREON ARE EXCEPTED.
- THE UTILITIES AND STRUCTURES AS SHOWN ON THIS PLAN WERE FOUND PER ABOVE GROUND EXAMINATION OF THIS SITE, BASED ON VISIBLE INDICATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXACT LOCATIONS AND ELEVATIONS OF ALL UNDERGROUND UTILITIES AND OTHER STRUCTURES BEFORE THE START OF CONSTRUCTION ON THIS PROJECT.
- IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT ALL UTILITIES ARE AS NOTED IN THE PLANS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER AS SOON AS POSSIBLE.
- TOILET FACILITIES SHALL BE MADE AVAILABLE TO CONSTRUCTION WORKERS WITHIN 300' OF SITE.
- NO MATERIAL CAN BE BURIED ONSITE WITHOUT THE APPROVAL OF THE OWNER AND GEOTECHNICAL ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL DEBRIS AS ACCEPTABLE TO THE OWNER.
- CONTRACTOR IS TO REMOVE ALL ROCK, TOPSOIL, AND UNSUITABLE MATERIALS.
- MAXIMUM CUT OR FILL SLOPES SHALL BE 2 HORIZONTAL: 1 VERTICAL.
- THIS SITE DOES NOT CONTAIN WETLANDS.
- THIS SITE DOES NOT HAVE STATE WATERS REQUIRING UNDISTURBED BUFFERS.
- EXISTING FEATURES SHOWN BY DASHED LINES OR SHADED. PROPOSED FEATURES SHOWN BY SOLID OR BOLD LINES.
- CONTRACTOR RESPONSIBLE FOR PROTECTING ADJACENT AREAS AND SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE TO A CONDITION EQUAL TO OR GREATER THAN THE ORIGINAL CONDITION.
- ALL SIGNAGE AND STRIPING TO BE PROVIDED BY CONTRACTOR ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND OTHER GOVERNING MUNICIPAL STANDARDS AND SPECIFICATIONS, LATEST EDITIONS.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS ON THESE DRAWINGS WITH ALL COORDINATING DOCUMENTS AND NOTIFY ENGINEER OF ANY DISCREPANCIES. IF DISCREPANCIES ARE FOUND DURING CONSTRUCTION, THE CONTRACTOR IS TO STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER.
- ALL EXISTING MANHOLE COVERS, METER BOXES, AND OTHER UTILITY APPURTENANCES LOCATED WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED SO THAT THEIR TOP SURFACES WILL BE FLUSH WITH FINISHED GRADE.
- ALL TEMPORARY STRIPING AND SIGNAGE NECESSARY TO MAINTAIN SAFE VEHICULAR AND PEDESTRIAN TRAFFIC FLOW DURING CONSTRUCTION SHALL BE FURNISHED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR.
- MUTCD SIGNAGE AND CERTIFIED FLAGGERS SHALL BE EMPLOYED DURING ANY ROAD CLOSURE OR TRAFFIC DISRUPTION.

**WATER NOTES:**

- ALL WATER CONSTRUCTION SHALL COMPLY WITH LUMPKIN COUNTY & CITY OF DAHLONEGA STANDARDS.
- ALL MATERIALS, INCLUDING BUT NOT LIMITED TO FITTINGS, SHALL BE INSPECTED BY THE LUMPKIN COUNTY & CITY OF DAHLONEGA UTILITY INSPECTOR PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MARKED-UP SET OF CONSTRUCTION DRAWINGS THAT INCLUDE ALL ASBUILT CONDITIONS. ASBUILT OR RECORDED DRAWINGS WILL BE REQUIRED PRIOR TO FINAL APPROVAL.
- FIRE HYDRANT SHALL BE SUPPLIED BY NOT LESS THAN AN 8" NOMINAL MAIN.
- THE FOLLOWING REQUIRE INSPECTION PRIOR TO BACK FILLING: WET TAPS, TEES, BENDS, FIRE HYDRANT TEES, AND INSTALLATION OF 57 STONE AT FIRE HYDRANTS.
- COMPACTION: WHERE WATER LINES, SERVICE LINES ARE INSTALLED UNDER A ROAD, STREET, OR DRIVEWAY, SUFFICIENT COMPACTION IS REQUIRED (PER GEOTECHNICAL REPORT).
- ALL PVC WATER LINES MUST HAVE A TRACER LOCATE WIRE.
- WATER MAIN DEPTHS: 2 INCH THROUGH 8 INCH LINES SHALL BE AT A DEPTH NO LESS THAN 3- FEET FROM THE GRADE TO THE TOP OF THE PIPE.
- DEVELOPERS AND CONTRACTORS SHALL PROVIDE 24-HOURS NOTICE TO THE INSPECTOR PRIOR TO FLUSHING, CHLORINATING, OR PERFORMING A PRESSURE TEST ON THE WATER SYSTEM.
- ALL WATER MAINS TO BE AWWA CLASS 52 DUCTILE IRON PIPE.

**SANITARY SEWER NOTES:**

- ALL SEWER CONSTRUCTION SHALL COMPLY WITH LUMPKIN COUNTY & CITY OF DAHLONEGA STANDARDS.
- DUCTILE IRON PIPE IS REQUIRED:
  - FOR LINES WITH LESS THAN 4 FEET OF COVER.
  - WHEN A SEWER LINE CROSSES A STORM SEWER WITH LESS THAN 2 FEET OF COVER.
  - WHEN THE LINE PASSES LATERALLY WITHIN 1-FOOT OF A STORM SEWER.
  - WHEN THE LINE IS AT A DEPTH OF 16- FEET OR GREATER.
  - IN SWAMPY OR UNSTABLE SOIL CONDITIONS WHERE BEDDING IS DIFFICULT TO ESTABLISH.
  - WHEN THE SEWER SLOPE IS GREATER THAN 20%.
- ALL CONNECTIONS MADE TO AN EXISTING MANHOLE MUST BE MADE BY CORING THE MANHOLE AND INSTALLING A RUBBER BOOT.
- ALL CLEAN OUTS IN TRAFFIC BEARING AREAS SHALL BE USF 7635 OR EQUAL.
- CONTRACTOR TO VERIFY INVERTS AT SEWER TIE-IN LOCATIONS.



OWNER/DEVELOPER  
 LUMPKIN COUNTY

24-HOUR CONTACT  
 LARRY REITER, P.E.  
 LUMPKIN CO.  
 PLANNING & PUBLIC WORKS  
 OFFICE: (706) 864-3122  
 MOBILE: (706) 344-7961  
 larry.reiter@lumpkincounty.gov



IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

LEGEND	
-O- UTILITY POLE	OCS OUTLET CONTROL STRUCTURE
IPF IRON PIN FOUND	UG UNDERGROUND
W/F NOW OR FORMERLY	RCP REINFORCED CONCRETE PIPE
RB REBAR	CMP CORRUGATED METAL PIPE
L.L. LAND LOT	CPP CORRUGATED PLASTIC PIPE
L.L.L. LAND LOT LINE	HOPE HIGH DENSITY POLYETHYLENE
N.T.S. NOT TO SCALE	SSMH SANITARY SEWER MANHOLE
B.S.L. BUILDING SETBACK LINE	SS C/O SANITARY SEWER CLEANOUT
TBM TEMPORARY BENCH MARK	FH FIRE HYDRANT
PB PLAT BOOK	WM WATER METER
PG PAGE	WV WATER VALVE
R/W RIGHT OF WAY	GV GATE VALVE
C&G CURB AND GUTTER	DDC DOUBLE DETECTOR CHECK
BC BACK OF CURB	BFP BACK FLOW PREVENTER
FC FACE OF CURB	DIP DUCTILE IRON PIPE
CONC. CONCRETE	PVC POLYVINYL CHLORIDE
EX. EXISTING	INV INVERT
PROP. PROPOSED	TW TOP OF WALL
FFE FINISHED FLOOR	BW BOTTOM OF WALL
ELEV. ELEVATION	S.S.E. SANITARY SEWER EASEMENT
MIN. MINIMUM	D/E DRAINAGE EASEMENT
LF LINEAR FEET	□ FENCE
SF SF SQUARE FEET	⊗ SKI FENCE
TYP. TYPICAL	⊕ POWER
GI GRATE INLET	W WATER
HGI HOODED GRATE INLET	SS SANITARY SEWER
PI PEDESTAL INLET	— BUILDING SETBACK LINE
JB JUNCTION BOX	

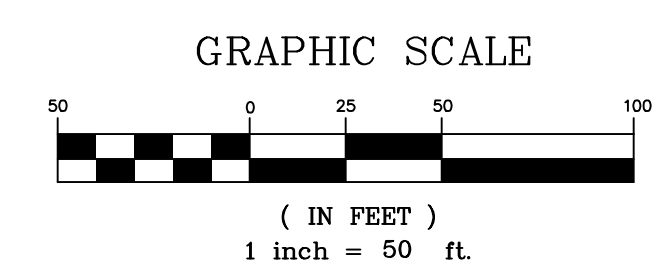
**DES DAVIS**  
 ENGINEERING & SURVEYING  
 133 PROMINENCE COURT  
 SUITE 210  
 DAWSONVILLE, GA 30534  
 PHONE: (706) 265-1234  
 DAVISENGINEERS.COM

REGISTERED PROFESSIONAL ENGINEER  
 Jason K. Davis  
 No. 034135  
 N.T.S.  
 3/31/21

REVISION	DATE	DESCRIPTION
1	1/7/21	INITIAL PLAN SET
2	3/12/21	UPDATED UTILITIES & EC QUANTITIES
3	3/31/21	REVISE WATER/SEWER PLACEMENT

EXISTING CONDITIONS/DEMO PLAN  
 OAK GROVE ROAD ROUNDABOUT  
 LAND LOTS 853, 898  
 12TH DISTRICT  
 LUMPKIN COUNTY, GA

DRAWN BY: GRJ  
 CHECKED BY: JKD  
 LAND LOT: 853,898  
 DISTRICT: 12TH  
 SECTION: -  
 CITY: DAHLONEGA  
 COUNTY: LUMPKIN  
 DATE: 1/7/21



SHEET NO.  
 2 OF 9  
 PROJECT NO.  
 2020-158

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**PROJECT DESCRIPTION:**  
THE PROPOSED INTERSECTION IMPROVEMENT INCLUDES CONSTRUCTION OF A GDOT ROUNDABOUT WITH STORMWATER MANAGEMENT, UTILITY RELOCATION, AND EROSION CONTROL BMPs.

TOTAL AREA= 3.56 ACRES  
DISTURBED AREA= 3.28 ACRES

BOUNDARY INFORMATION FROM GDOT.

UTILITIES SHOWN HEREON ARE FROM EXISTING STRUCTURES AND ABOVE GROUND MARKS FOUND. DAVIS ENGINEERING AND SURVEYING, LLC IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES.

CONTOUR INTERVAL = 2'

**PROJECT BENCHMARK:**  
TBM USED IS POINT OF PROJECT BEGINNING ALONG C/L OF OAK GROVE ROAD  
ELEV: 1348.0 (APPROX.) E:2347595.04, N:1655166.77

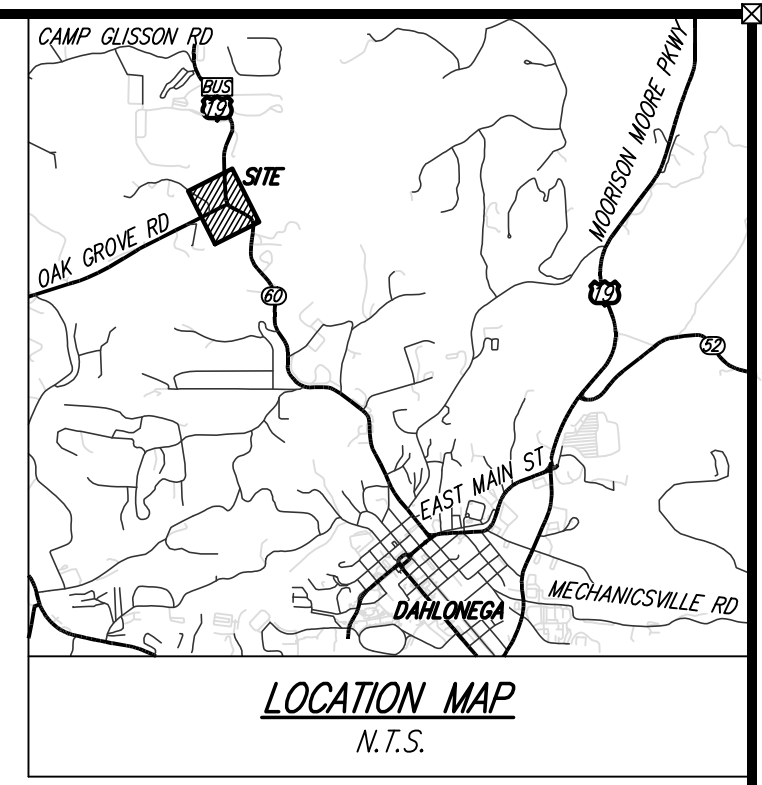
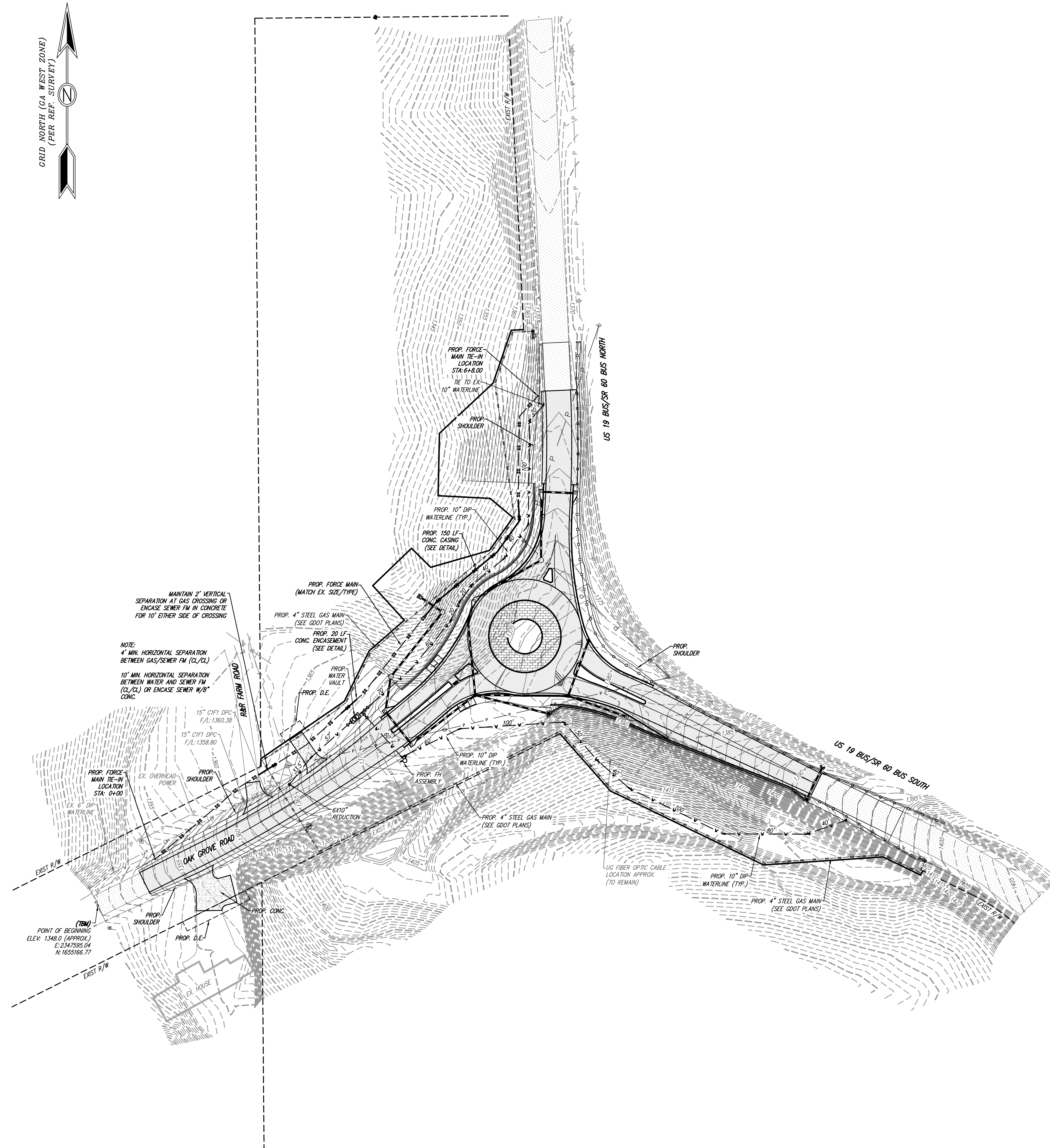
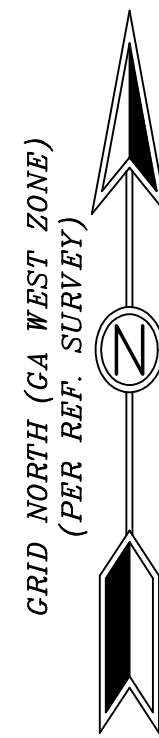
NO PORTION OF THIS SITE IS LOCATED WITHIN THE 100-YEAR FLOOD PRONE AREA AS PER FLOOD INSURANCE RATE MAP NO. 13187C0161D, DATED 04/04/2018.

**GENERAL NOTES:**

- 1) ALL CONSTRUCTION WORK, MATERIALS, AND IMPROVEMENTS AT THIS SITE SHALL CONFORM WITH GDOT, LUMPKIN COUNTY, & CITY OF DAHLONEGA, GEORGIA REQUIREMENTS.
- 2) ALL STRUCTURES WILL BE REQUIRED TO CONFORM TO THE STANDARD BUILDING CODE'S HORIZONTAL SEPARATION STANDARDS. APPROVAL OF THIS PERMIT WILL NOT JUSTIFY ANY DEVIATION IN HORIZONTAL SEPARATION STANDARDS AS ADOPTED AND AMENDED BY THE GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS.
- 3) CONTRACTORS SHALL CONDUCT ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) AND ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS.
- 4) ALL CONSTRUCTION STAKING ON THIS SITE SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A GEORGIA REGISTERED LAND SURVEYOR.
- 5) MATTERS OF RECORD NOT SHOWN HEREON ARE EXCEPTED.
- 6) THE UTILITIES AND STRUCTURES AS SHOWN ON THIS PLAN WERE FOUND PER ABOVE GROUND EXAMINATION OF THIS SITE, BASED ON VISIBLE INDICATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXACT LOCATIONS AND ELEVATIONS OF ALL UNDERGROUND UTILITIES AND OTHER STRUCTURES BEFORE THE START OF CONSTRUCTION ON THIS PROJECT.
- 7) IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT ALL UTILITIES ARE AS NOTED IN THE PLANS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER AS SOON AS POSSIBLE.
- 8) TOILET FACILITIES SHALL BE MADE AVAILABLE TO CONSTRUCTION WORKERS WITHIN 300' OF SITE.
- 9) NO MATERIAL CAN BE BURIED ONSITE WITHOUT THE APPROVAL OF THE OWNER AND GEOTECHNICAL ENGINEER.
- 10) CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL DEBRIS AS ACCEPTABLE TO THE OWNER.
- 11) CONTRACTOR IS TO REMOVE ALL ROCK, TOPSOIL, AND UNSUITABLE MATERIALS.
- 12) MAXIMUM CUT OR FILL SLOPES SHALL BE 2 HORIZONTAL: 1 VERTICAL.
- 13) THIS SITE **DOES NOT** CONTAIN WETLANDS.
- 14) THIS SITE **DOES NOT** HAVE STATE WATERS REQUIRING UNDISTURBED BUFFERS.
- 15) EXISTING FEATURES SHOWN BY DASHED LINES OR SHADED. PROPOSED FEATURES SHOWN BY SOLID OR BOLD LINES.
- 16) CONTRACTOR RESPONSIBLE FOR PROTECTING ADJACENT AREAS AND SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE TO A CONDITION EQUAL TO OR GREATER THAN THE ORIGINAL CONDITION.
- 17) ALL SIGNAGE AND STRIPING TO BE PROVIDED BY CONTRACTOR ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND OTHER GOVERNING MUNICIPAL STANDARDS AND SPECIFICATIONS, LATEST EDITIONS.
- 18) PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS ON THESE DRAWINGS WITH ALL COORDINATING DOCUMENTS AND NOTIFY ENGINEER OF ANY DISCREPANCIES. IF DISCREPANCIES ARE FOUND DURING CONSTRUCTION, THE CONTRACTOR IS TO STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER.
- 19) ALL EXISTING MANHOLE COVERS, METER BOXES, AND OTHER UTILITY APPURTENANCES LOCATED WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED SO THAT THEIR TOP SURFACES WILL BE FLUSH WITH FINISHED GRADE.
- 20) ALL TEMPORARY STRIPING AND SIGNAGE NECESSARY TO MAINTAIN SAFE VEHICULAR AND PEDESTRIAN TRAFFIC FLOW DURING CONSTRUCTION SHALL BE FURNISHED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR.
- 21) MUTCD SIGNAGE AND CERTIFIED FLAGGERS SHALL BE EMPLOYED DURING ANY ROAD CLOSURE OR TRAFFIC DISRUPTION.

- WATER NOTES:**
1. ALL WATER CONSTRUCTION SHALL COMPLY WITH CITY OF DAHLONEGA STANDARDS.
  2. ALL MATERIALS, INCLUDING BUT NOT LIMITED TO FITTINGS, SHALL BE INSPECTED BY THE CITY OF DAHLONEGA UTILITY INSPECTOR PRIOR TO INSTALLATION.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MARKED-UP SET OF CONSTRUCTION DRAWINGS THAT INCLUDE ALL ASBUILT CONDITIONS. ASBUILT OR RECORDED DRAWINGS WILL BE REQUIRED PRIOR TO FINAL APPROVAL.
  4. THE FOLLOWING REQUIRE INSPECTION PRIOR TO BACK FILLING: WET TAPS, TEES, BENDS, FIRE HYDRANT TEES, AND INSTALLATION OF 57 STONE AT FIRE HYDRANTS.
  5. COMPACTION: WHERE WATER LINES, SERVICE LINES ARE INSTALLED UNDER A ROAD, STREET, OR DRIVEWAY, SUFFICIENT COMPACTION IS REQUIRED (PER GEOTECHNICAL REPORT).
  6. ALL PVC WATER LINES MUST HAVE A TRACER LOCATE WIRE.
  7. WATER MAIN DEPTHS: 2 INCH THROUGH 8 INCH LINES SHALL BE AT A DEPTH NO LESS THAN 3- FEET FROM THE GRADE TO THE TOP OF THE PIPE.
  8. DEVELOPERS AND CONTRACTORS SHALL PROVIDE 24-HOURS NOTICE TO THE INSPECTOR PRIOR TO FLUSHING, CHLORINATING, OR PERFORMING A PRESSURE TEST ON THE WATER SYSTEM.
  9. ALL WATER MAINS TO BE AWWA CLASS 52 DUCTILE IRON PIPE.

- SANITARY SEWER NOTES:**
1. ALL SEWER CONSTRUCTION SHALL COMPLY WITH CITY OF DAHLONEGA STANDARDS.



OWNER/DEVELOPER  
LUMPKIN COUNTY

24-HOUR CONTACT  
LARRY REITER, P.E.  
LUMPKIN CO.  
PLANNING & PUBLIC WORKS  
OFFICE: (706) 864-3122  
MOBILE: (706) 344-7961  
larry.reiter@lumpkincounty.gov



IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

LEGEND			
-O-	UTILITY POLE	OCS	OUTLET CONTROL STRUCTURE
IPF	IRON PIN FOUND	UG	UNDERGROUND
W/F	HOW OR FORMERLY	RCP	REINFORCED CONCRETE PIPE
RB	REBAR	CMP	CORRUGATED METAL PIPE
L.L.	LAND LOT	CPP	CORRUGATED PLASTIC PIPE
L.L.L	LAND LOT LINE	HOPE	HIGH DENSITY POLYETHYLENE
N.T.S.	NOT TO SCALE	SSMH	SANITARY SEWER MANHOLE
B.S.L	BUILDING SETBACK LINE	SS C/O	SANITARY SEWER CLEANOUT
TBM	TEMPORARY BENCH MARK	FH	FIRE HYDRANT
P/E	PLAT BOOK	WM	WATER METER
PG	PAGE	WV	WATER VALVE
R/W	RIGHT OF WAY	GV	GATE VALVE
C&G	CURB AND GUTTER	DDC	DOUBLE DETECTOR CHECK
BC	BACK OF CURB	BFP	BACK FLOW PREVENTER
FC	FACE OF CURB	DIP	DUCTILE IRON PIPE
CONC.	CONCRETE	PVC	POLYVINYL CHLORIDE
EX	EXISTING	INV	INVERT
PROP.	PROPOSED	TW	TOP OF WALL
FINISHED FLOOR		BW	BOTTOM OF WALL
ELEV.	ELEVATION	S.S.E.	SANITARY SEWER EASEMENT
MIN.	MINIMUM	D.E.	DRAINAGE EASEMENT
LF	LINEAR FEET		
SF	SF SQUARE FEET		
TYP.	TYPICAL		
GI	GRATE INLET		
HGI	HOODED GRATE INLET		
PI	PEDESTAL INLET		
JB	JUNCTION BOX		

**DES DAVIS**  
ENGINEERING & SURVEYING  
133 PROMINENCE COURT  
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DAWSONVILLE, GA 30534  
PHONE: (706) 265-1234  
DAVISENGINEERS.COM

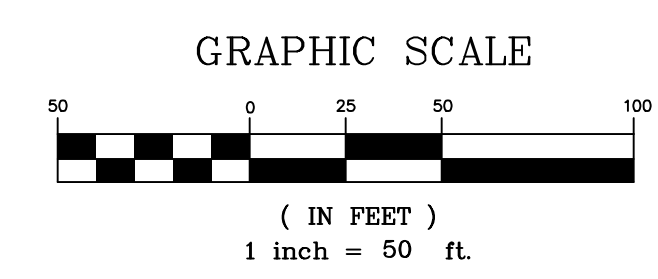
REGISTERED PROFESSIONAL ENGINEER  
No. 034135  
JASON K. DAVIS  
3/31/21

REVISION	DATE	DESCRIPTION
1	1/7/21	INITIAL PLAN SET
2	3/12/21	UPDATED UTILITIES & EC QUANTITIES
3	3/31/21	REVISE WATER/SEWER PLACEMENT

UTILITY PLAN  
OAK GROVE ROAD ROUNDABOUT  
LAND LOTS 853, 898  
12TH DISTRICT  
LUMPKIN COUNTY, GA

DRAWN BY:	GRJ
CHECKED BY:	JKD
LAND LOT:	853,898
DISTRICT:	12TH
SECTION:	-
CITY:	DAHLONEGA
COUNTY:	LUMPKIN
DATE:	1/7/21

SHEET NO.  
**3** OF 9  
PROJECT NO.  
2020-158



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**PROJECT DESCRIPTION:**  
THE PROPOSED INTERSECTION IMPROVEMENT INCLUDES CONSTRUCTION OF A GDOT ROUNDABOUT WITH STORMWATER MANAGEMENT, UTILITY RELOCATION, AND EROSION CONTROL BMPs.

TOTAL AREA= 3.56 ACRES  
DISTURBED AREA= 3.28 ACRES

BOUNDARY INFORMATION FROM GDOT.

UTILITIES SHOWN HEREON ARE FROM EXISTING STRUCTURES AND ABOVE GROUND MARKS FOUND. DAVIS ENGINEERING AND SURVEYING, LLC IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES.

CONTOUR INTERVAL = 2'

PROJECT BENCHMARK:  
TBM USED IS POINT OF PROJECT BEGINNING ALONG C/L OF OAK GROVE ROAD  
ELEV: 1348.0 (APPROX.) E: 2347993.04, N: 1655166.77

NO PORTION OF THIS SITE IS LOCATED WITHIN THE 100-YEAR FLOOD PRONE AREA AS PER FLOOD INSURANCE RATE MAP NO. 13187C001610, DATED 04/04/2018.

**GENERAL NOTES:**

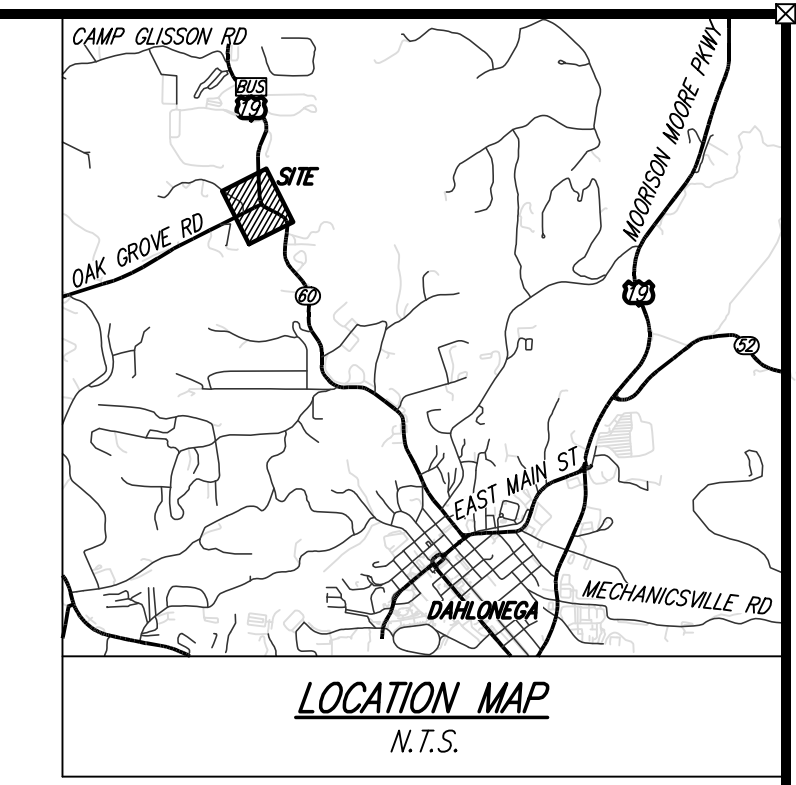
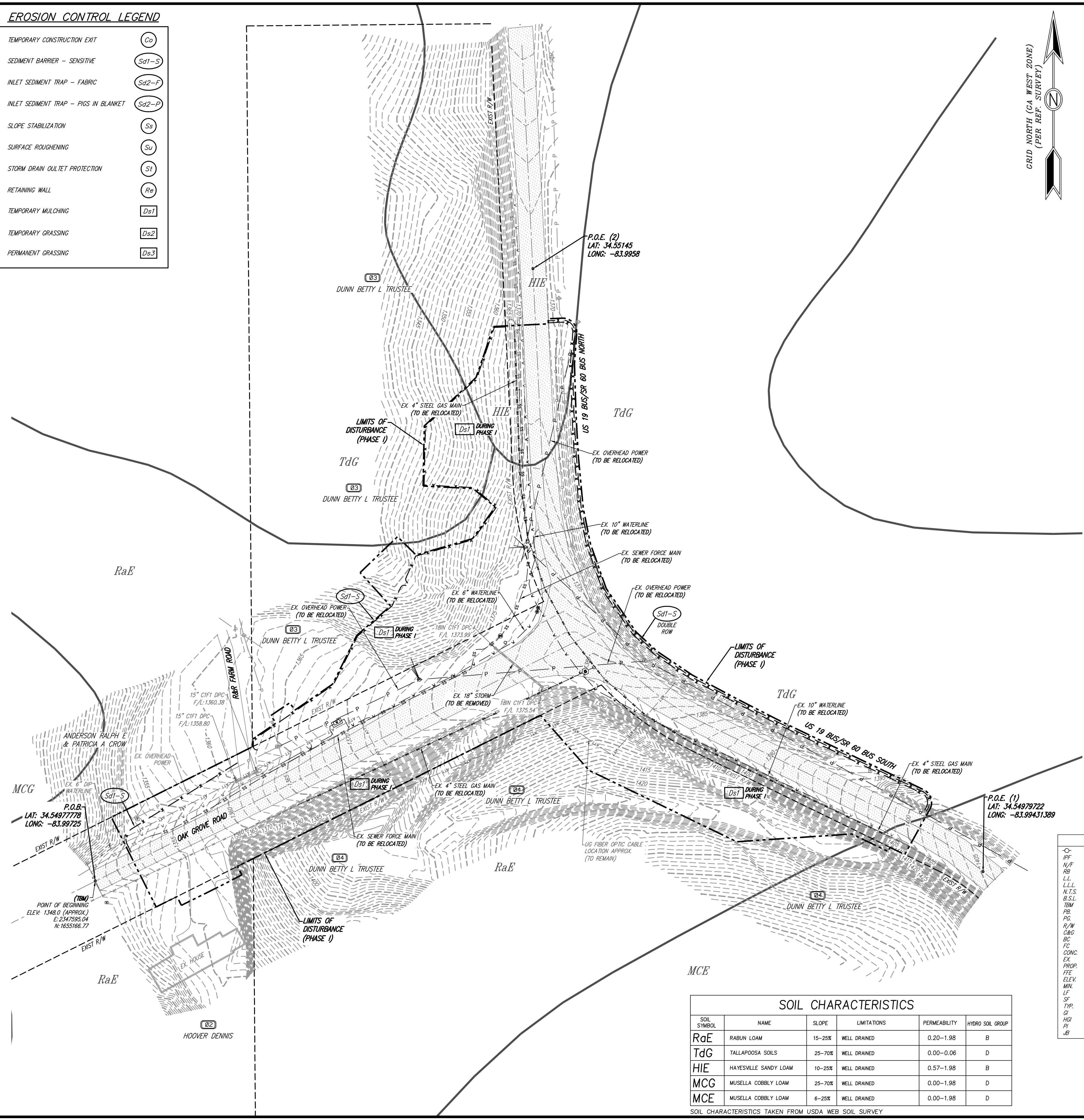
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- ALL STRUCTURES WILL BE REQUIRED TO CONFORM TO THE STANDARD BUILDING CODES HORIZONTAL SEPARATION STANDARDS. APPROVAL OF THIS PERMIT WILL NOT JUSTIFY ANY DEVIATION IN HORIZONTAL SEPARATION STANDARDS AS ADOPTED AND AMENDED BY THE GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS.
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- CONTRACTOR RESPONSIBLE FOR PROTECTING ADJACENT AREAS AND SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE TO A CONDITION EQUAL TO OR GREATER THAN THE ORIGINAL CONDITION.
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- ALL TEMPORARY STRIPING AND SIGNAGE NECESSARY TO MAINTAIN SAFE VEHICULAR AND PEDESTRIAN TRAFFIC FLOW DURING CONSTRUCTION SHALL BE FURNISHED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR.
- MUTCD SIGNAGE AND CERTIFIED FLAGGERS SHALL BE EMPLOYED DURING ANY ROAD CLOSURE OR TRAFFIC DISRUPTION.

**EROSION & SEDIMENT CONTROL NOTES:**

- EROSION AND SEDIMENT SHALL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENTATION CONTROLS AND PRACTICES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTION BY OWNER, ENGINEER, OR INSPECTOR.
- THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.
- MAINTENANCE OF ALL SOIL EROSION & SEDIMENTATION CONTROL MEASURES & PRACTICES WHETHER TEMPORARY OR PERMANENT SHALL BE AT ALL TIMES AT THE RESPONSIBILITY OF THE PROPERTY OWNER.
- APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL BY LUMPKIN COUNTY/CITY OF DAHLONEGA OF ANY LAND DISTURBING ACTIVITIES WITHIN WETLAND AREAS. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CONTACT THE APPROPRIATE REGULATORY AGENCY FOR APPROVAL OF ANY WETLAND AREA DISTURBANCE.
- ALL DISTURBED AREAS TO BE GRASSED. GRASSING TO BEGIN WITHIN 7 DAYS AFTER THE COMPLETION OF ANY LAND DISTURBANCE ACTIVITY, OR IF ACTIVITY IS DISCONTINUED FOR A PERIOD OF 7 DAYS OR LONGER.
- MAINTENANCE REQUIRED FOR EROSION CONTROL DEVICES. CLEAN OUT BEFORE ONE-HALF FULL.
- PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION EXIT SHALL BE CONSTRUCTED AT EACH POINT OF ENTRY TO OR EXIT FROM THE SITE. ALL ENTRANCES TO THE SITE WHICH ARE NOT PROTECTED SHALL BE BARRICADED.
- IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION. CALL LUMPKIN COUNTY & CITY OF DAHLONEGA FOR AN INSPECTION PRIOR TO PERFORMING ANY OTHER WORK.
- THE LOCATION OF EROSION CONTROL DEVICES SHALL BE ADJUSTED AS CONSTRUCTION PROGRESSES IN ORDER TO MAINTAIN A FUNCTIONING EROSION CONTROL SYSTEM.
- EROSION CONTROL DEVICES SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND AT LEAST DAILY DURING PROLONGED PERIODS OF CONTINUOUS RAINFALLS.
- EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT COVER IS ESTABLISHED AND THEN REMOVED SO THAT DRAINAGE FROM THE SITE IS NOT IMPEDED.
- ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND ANY DEFICIENCIES NOTED WILL BE CORRECTED BY THE END OF EACH DAY.

**EROSION CONTROL LEGEND**

TEMPORARY CONSTRUCTION EXIT	(Co)
SEDIMENT BARRIER - SENSITIVE	(Sd1-S)
INLET SEDIMENT TRAP - FABRIC	(Sd2-F)
INLET SEDIMENT TRAP - PIGS IN BLANKET	(Sd2-P)
SLOPE STABILIZATION	(Ss)
SURFACE ROUGHENING	(Su)
STORM DRAIN OUTLET PROTECTION	(St)
RETAINING WALL	(Re)
TEMPORARY MULCHING	(Ds1)
TEMPORARY GRASSING	(Ds2)
PERMANENT GRASSING	(Ds3)



OWNER/DEVELOPER  
LUMPKIN COUNTY

24-HOUR CONTACT  
LARRY REITER, P.E.  
LUMPKIN CO.  
PLANNING & PUBLIC WORKS  
OFFICE: (706) 864-3122  
MOBILE: (706) 344-7961  
larry.reiter@lumpkincounty.gov



IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

**NPDES CERTIFICATIONS:**  
I CERTIFY THAT THE PERMITEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED. PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GA000003.

I CERTIFY THAT A QUALIFIED PERSON FROM DAVIS ENGINEERING & SURVEYING, LLC, EITHER THE PLAN PREPARER OR THE DESIGNER, HAS VISITED THE SUBJECT SITE PRIOR TO THE CREATION OF THIS PLAN.

Jason K. Davis  
JASON K. DAVIS, P.E. GSWCC CERTIFICATION  
REG. GA. 034135 NO. 0000059573

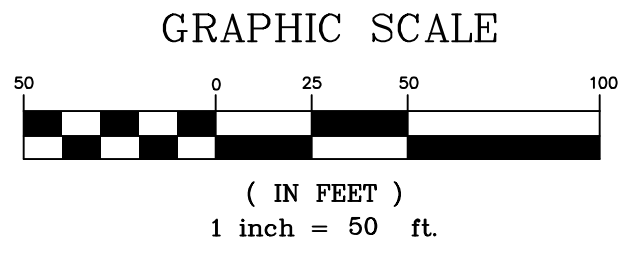
**LEGEND**

○	UTILITY POLE	□	OUTLET CONTROL STRUCTURE
●	IRON PIN FOUND	□	UNDERGROUND
○	NOW OR FORMERLY	□	REINFORCED CONCRETE PIPE
○	HEAD	□	CORROIDATED METAL PIPE
○	LAND LOT	□	CORROIDATED PLASTIC PIPE
○	LAND LOT LINE	□	HDPPE
○	NOT TO SCALE	□	HIGH DENSITY POLYETHYLENE
○	NOT TO SCALE	□	SANITARY SEWER MANHOLE
○	NOT TO SCALE	□	SANITARY SEWER CLEANOUT
○	NOT TO SCALE	□	SS G/O
○	NOT TO SCALE	□	FIRE HYDRANT
○	NOT TO SCALE	□	WATER METER
○	NOT TO SCALE	□	WATER VALVE
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○	NOT TO SCALE	□	BACK FLOW PREVENTER
○	NOT TO SCALE	□	DUCTILE IRON PIPE
○	NOT TO SCALE	□	POLYVINYL CHLORIDE
○	NOT TO SCALE	□	CONCRETE
○	NOT TO SCALE	□	INVERT
○	NOT TO SCALE	□	TOP OF MALL
○	NOT TO SCALE	□	BOTTOM OF MALL
○	NOT TO SCALE	□	SANITARY SEWER EASEMENT
○	NOT TO SCALE	□	DRAINAGE EASEMENT
○	NOT TO SCALE	□	TENDE
○	NOT TO SCALE	□	SILT FENCE
○	NOT TO SCALE	□	TYPICAL
○	NOT TO SCALE	□	WATER
○	NOT TO SCALE	□	SANITARY SEWER
○	NOT TO SCALE	□	BUILDING SETBACK LINE

**SOIL CHARACTERISTICS**

SOIL SYMBOL	NAME	SLOPE	LIMITATIONS	PERMEABILITY	HYDRO SOIL GROUP
RaE	RABUN LOAM	15-25%	WELL DRAINED	0.20-1.98	B
TdG	TALLAPOOSA SOILS	25-70%	WELL DRAINED	0.00-0.06	D
HIE	HAYESVILLE SANDY LOAM	10-25%	WELL DRAINED	0.57-1.98	B
MCG	MUSSELLA COBBLY LOAM	25-70%	WELL DRAINED	0.00-1.98	D
MCE	MUSSELLA COBBLY LOAM	6-25%	WELL DRAINED	0.00-1.98	D

SOIL CHARACTERISTICS TAKEN FROM USDA WEB SOIL SURVEY



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**DES DAVIS**  
ENGINEERING & SURVEYING  
133 PROMINENCE COURT  
SUITE 210  
DAWSONVILLE, GA 30534  
PHONE: (706) 265-1234  
DAVISENGINEERS.COM

REGISTERED PROFESSIONAL ENGINEER  
No. 034135  
JASON K. DAVIS  
3/31/21

REVISION	DATE	DESCRIPTION
1	1/7/21	INITIAL PLAN SET
2	3/12/21	UPDATED UTILITIES & EC QUANTITIES
3	3/31/21	REVISE WATER/SEWER PLACEMENT

**ES & PC PLAN PHASE I**  
OAK GROVE ROAD ROUNDABOUT  
LAND LOTS 853, 898  
12TH DISTRICT  
LUMPKIN COUNTY, GA

DRAWN BY: GRJ  
CHECKED BY: JKD  
LAND LOT: 853,898  
DISTRICT: 12TH  
SECTION: -  
CITY: DAHLONEGA  
COUNTY: LUMPKIN  
DATE: 1/7/21

SHEET NO.  
4 OF 9  
PROJECT NO.  
2020-158

**PROJECT DESCRIPTION:**  
THE PROPOSED INTERSECTION IMPROVEMENT INCLUDES CONSTRUCTION OF A GDOT ROUNDABOUT WITH STORMWATER MANAGEMENT, UTILITY RELOCATION, AND EROSION CONTROL BMPs.

TOTAL AREA= 3.56 ACRES  
DISTURBED AREA= 3.28 ACRES

BOUNDARY INFORMATION FROM GDOT.

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CONTOUR INTERVAL = 2'

**PROJECT BENCHMARK:**  
TBM USED IS POINT OF PROJECT BEGINNING ALONG C/L OF OAK GROVE ROAD  
ELEV: 1348.0 (APPROX.) E: 2347593.04, N: 1655166.77

NO PORTION OF THIS SITE IS LOCATED WITHIN THE 100-YEAR FLOOD PRONE AREA AS PER FLOOD INSURANCE RATE MAP NO. 13187C01610, DATED 04/04/2018.

**GENERAL NOTES:**

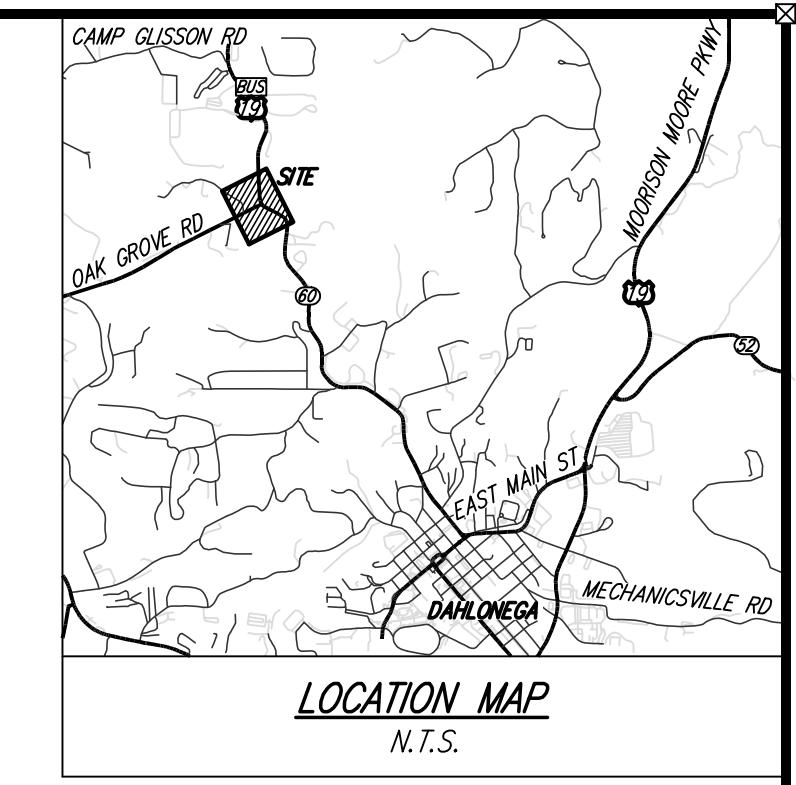
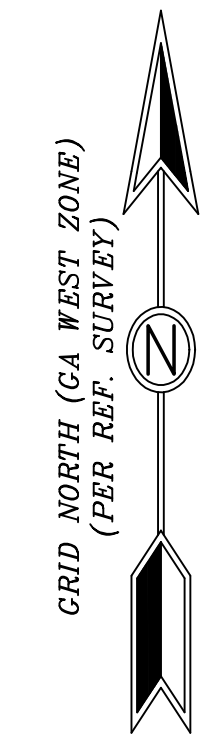
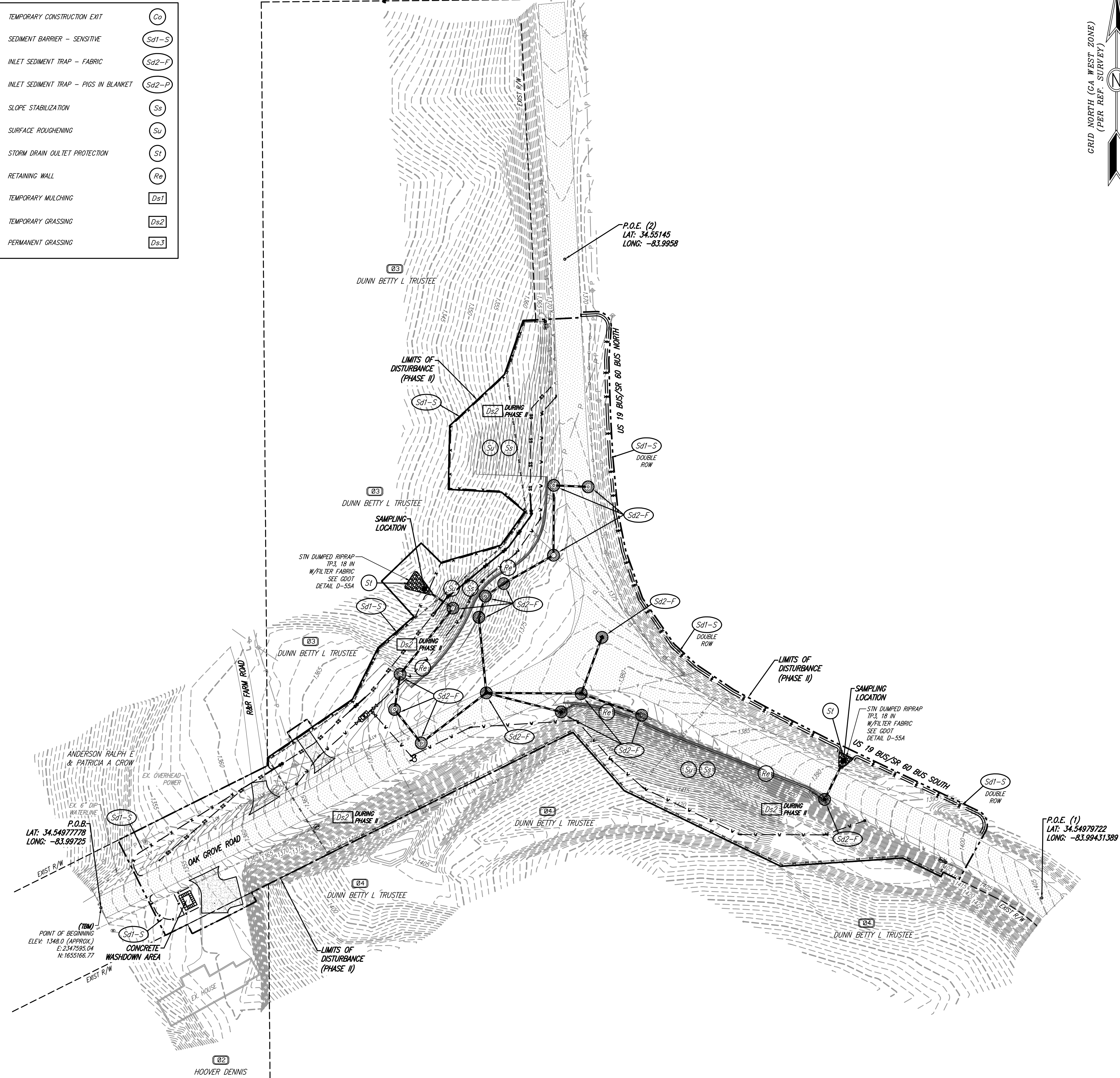
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- MAXIMUM CUT OR FILL SLOPES SHALL BE 2 HORIZONTAL: 1 VERTICAL.
- THIS SITE DOES NOT CONTAIN WETLANDS.
- THIS SITE DOES NOT HAVE STATE WATERS REQUIRING UNDISTURBED BUFFERS. EXISTING FEATURES SHOWN BY DASHED LINES OR SHADED. PROPOSED FEATURES SHOWN BY SOLID OR BOLD LINES.
- CONTRACTOR RESPONSIBLE FOR PROTECTING ADJACENT AREAS AND SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE TO A CONDITION EQUAL TO OR GREATER THAN THE ORIGINAL CONDITION.
- ALL SIGNAGE AND STRIPING TO BE PROVIDED BY CONTRACTOR ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND OTHER GOVERNING MUNICIPAL STANDARDS AND SPECIFICATIONS, LATEST EDITIONS. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS ON THESE DRAWINGS WITH ALL COORDINATING DOCUMENTS AND NOTIFY ENGINEER OF ANY DISCREPANCIES. IF DISCREPANCIES ARE FOUND DURING CONSTRUCTION, THE CONTRACTOR IS TO STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER.
- ALL EXISTING MANHOLE COVERS, METER BOXES, AND OTHER UTILITY APPURTENANCES LOCATED WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED SO THAT THEIR TOP SURFACES WILL BE FLUSH WITH FINISHED GRADE.
- ALL TEMPORARY STRIPING AND SIGNAGE NECESSARY TO MAINTAIN SAFE VEHICULAR AND PEDESTRIAN TRAFFIC FLOW DURING CONSTRUCTION SHALL BE FURNISHED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR.
- MUTCD SIGNAGE AND CERTIFIED FLAGGERS SHALL BE EMPLOYED DURING ANY ROAD CLOSURE OR TRAFFIC DISRUPTION.

**EROSION & SEDIMENT CONTROL NOTES:**

- EROSION AND SEDIMENT SHALL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENTATION CONTROLS AND PRACTICES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTION BY OWNER, ENGINEER, OR INSPECTOR.
- THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.
- MAINTENANCE OF ALL SOIL EROSION & SEDIMENTATION CONTROL MEASURES & PRACTICES WHETHER TEMPORARY OR PERMANENT SHALL BE AT ALL TIMES AT THE RESPONSIBILITY OF THE PROPERTY OWNER.
- APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL BY LUMPKIN COUNTY/CITY OF DAHLONEGA OF ANY LAND DISTURBING ACTIVITIES WITHIN WETLAND AREAS. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CONTACT THE APPROPRIATE REGULATORY AGENCY FOR APPROVAL OF ANY WETLAND AREA DISTURBANCE.
- ALL DISTURBED AREAS TO BE GRASSED. GRASSING TO BEGIN WITHIN 7 DAYS AFTER THE COMPLETION OF ANY LAND DISTURBANCE ACTIVITY, OR IF ACTIVITY IS DISCONTINUED FOR A PERIOD OF 7 DAYS OR LONGER.
- MAINTENANCE REQUIRED FOR EROSION CONTROL DEVICES. CLEAN OUT BEFORE ONE-HALF FULL.
- PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION EXIT SHALL BE CONSTRUCTED AT EACH POINT OF ENTRY TO OR EXIT FROM THE SITE. ALL ENTRANCES TO THE SITE WHICH ARE NOT PROTECTED SHALL BE BARRICADED.
- IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION. CALL LUMPKIN COUNTY & CITY OF DAHLONEGA FOR AN INSPECTION PRIOR TO PERFORMING ANY OTHER WORK.
- THE LOCATION OF EROSION CONTROL DEVICES SHALL BE ADJUSTED AS CONSTRUCTION PROGRESSES IN ORDER TO MAINTAIN A FUNCTIONING EROSION CONTROL SYSTEM.
- EROSION CONTROL DEVICES SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND AT LEAST DAILY DURING PROLONGED PERIODS OF CONTINUOUS RAINFALLS.
- EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT COVER IS ESTABLISHED AND THEN REMOVED SO THAT DRAINAGE FROM THE SITE IS NOT IMPEDED.
- ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND ANY DEFICIENCIES NOTED WILL BE CORRECTED BY THE END OF EACH DAY.

**EROSION CONTROL LEGEND**

TEMPORARY CONSTRUCTION EXIT	(Co)
SEDIMENT BARRIER - SENSITIVE	(Sd1-S)
INLET SEDIMENT TRAP - FABRIC	(Sd2-F)
INLET SEDIMENT TRAP - PIGS IN BLANKET	(Sd2-P)
SLOPE STABILIZATION	(Ss)
SURFACE ROUGHENING	(Su)
STORM DRAIN OUTLET PROTECTION	(St)
RETAINING WALL	(Re)
TEMPORARY MULCHING	(Ds1)
TEMPORARY GRASSING	(Ds2)
PERMANENT GRASSING	(Ds3)



OWNER/DEVELOPER  
LUMPKIN COUNTY

24-HOUR CONTACT  
LARRY REITER, P.E.  
LUMPKIN CO.  
PLANNING & PUBLIC WORKS  
OFFICE: (706) 864-3122  
MOBILE: (706) 344-7961  
larry.reiter@lumpkincounty.gov

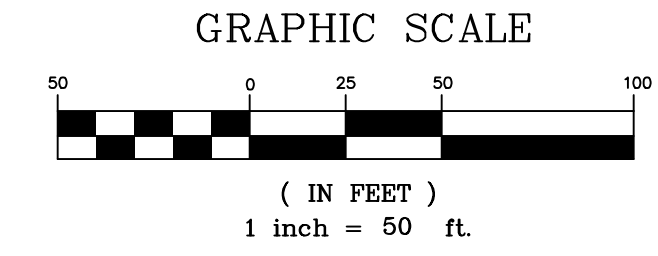


IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

**NPDES CERTIFICATIONS:**  
I CERTIFY THAT THE PERMITEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GA0100003.  
I CERTIFY THAT A QUALIFIED PERSON FROM DAVIS ENGINEERING & SURVEYING, LLC, EITHER THE PLAN PREPARER OR THE DESIGNER, HAS VISITED THE SUBJECT SITE PRIOR TO THE CREATION OF THIS PLAN.

Jason K. Davis  
JASON K. DAVIS, P.E. GSWCC CERTIFICATION NO. 0000059573  
REG. GA. 034135

LEGEND			
○	UTILITY POLE	UCS	OUTLET CONTROL STRUCTURE
IPF	IRON PIN FOUND	UG	UNDERGROUND
IN/F	NOW OR FORMERLY	RCP	REINFORCED CONCRETE PIPE
HB	HEADBAR	CMF	CORRUGATED METAL PIPE
LL	LAND LOT	CPP	CORRUGATED PLASTIC PIPE
LL.L	LAND LOT LINE	HDPE	HIGH DENSITY POLYETHYLENE
N.T.S.	NOT TO SCALE	SSMH	SANITARY SEWER MANHOLE
E.S.L.	EXISTING SETBACK LINE	SS G/O	SANITARY SEWER CLEANOUT
TBM	TEMPORARY BENCH MARK	FH	FIRE HYDRANT
FB	PLAY BOOK	WM	WATER METER
FB	FACE	WV	WATER VALVE
R/W	RIGHT OF WAY	GV	GATE VALVE
C&G	CURB AND GUTTER	DDC	DOUBLE DETECTOR CHECK
BC	BACK OF CURB	BFP	BACK FLOW PREVENTER
FC	FACE OF CURB	DBP	DOUBLE BROW PIPE
CONC.	CONCRETE	PVC	POLYVINYL CHLORIDE
EX	EXISTING	INV	INVERT
PRDP	PROPOSED	TW	TOP OF WALL
FTE	FINISHED FLOOR	BW	BOTTOM OF WALL
ELEV.	ELEVATION	S.S.E.	SANITARY SEWER EASEMENT
MIN	MINIMUM	D.E.	DRAINAGE EASEMENT
LF	LINEAR FEET	—	TENDE
SF	SF SQUARE FEET	—	SILT FENCE
TRP	TYPICAL	—	POWER
W	WATER	—	WATER
SS	SANITARY SEWER	—	SANITARY SEWER
PI	PEDESTAL INLET	—	BUILDING SETBACK LINE
JB	JUNCTION BOX		



**DES DAVIS**  
ENGINEERING & SURVEYING  
133 PROMINENCE COURT  
SUITE 210  
DAWSONVILLE, GA 30534  
PHONE: (706) 265-1234  
DAVISENGINEERS.COM

REGISTERED PROFESSIONAL ENGINEER  
No. 034135  
JASON K. DAVIS  
3/31/21

REVISION	DATE	DESCRIPTION
1	1/7/21	INITIAL PLAN SET
2	3/12/21	UPDATED UTILITIES & EC QUANTITIES
3	3/31/21	REVISE WATER/SEWER PLACEMENT

**ES & PC PLAN PHASE II**  
OAK GROVE ROAD ROUNDABOUT  
LAND LOTS 853, 898  
12TH DISTRICT  
LUMPKIN COUNTY, GA

DRAWN BY: GRJ  
CHECKED BY: JKD  
LAND LOT: 853,898  
DISTRICT: 12TH  
SECTION: —  
CITY: DAHLONEGA  
COUNTY: LUMPKIN  
DATE: 1/7/21

SHEET NO.  
5 OF 9  
PROJECT NO.  
2020-158

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**PROJECT DESCRIPTION:**  
THE PROPOSED INTERSECTION IMPROVEMENT INCLUDES CONSTRUCTION OF A GDOT ROUNDABOUT WITH STORMWATER MANAGEMENT, UTILITY RELOCATION, AND EROSION CONTROL BMPs.

TOTAL AREA= 3.56 ACRES  
DISTURBED AREA= 3.28 ACRES

BOUNDARY INFORMATION FROM GDOT.

UTILITIES SHOWN HEREON ARE FROM EXISTING STRUCTURES AND ABOVE GROUND MARKS FOUND. DAVIS ENGINEERING AND SURVEYING, LLC IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES.

CONTOUR INTERVAL = 2'

PROJECT BENCHMARK:  
TBM USED IS POINT OF PROJECT BEGINNING ALONG C/L OF OAK GROVE ROAD  
ELEV: 1348.0 (APPROX.) E: 2347593.04, N: 1655166.77

NO PORTION OF THIS SITE IS LOCATED WITHIN THE 100-YEAR FLOOD PRONE AREA AS PER FLOOD INSURANCE RATE MAP NO. 13187C01610, DATED 04/04/2018.

**GENERAL NOTES:**

- ALL CONSTRUCTION WORK, MATERIALS, AND IMPROVEMENTS AT THIS SITE SHALL CONFORM WITH GDOT, LUMPKIN COUNTY, & CITY OF DAHLONEGA, GEORGIA REQUIREMENTS.
- ALL STRUCTURES WILL BE REQUIRED TO CONFORM TO THE STANDARD BUILDING CODES HORIZONTAL SEPARATION STANDARDS. APPROVAL OF THIS PERMIT WILL NOT JUSTIFY ANY DEVIATION IN HORIZONTAL SEPARATION STANDARDS AS ADOPTED AND AMENDED BY THE GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS.
- CONTRACTORS SHALL CONDUCT ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) AND ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS.
- ALL CONSTRUCTION STAKING ON THIS SITE SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A GEORGIA REGISTERED LAND SURVEYOR.
- MATTERS OF RECORD NOT SHOWN HEREON ARE EXCEPTED.
- THE UTILITIES AND STRUCTURES AS SHOWN ON THIS PLAN WERE FOUND PER ABOVE GROUND EXAMINATION OF THIS SITE, BASED ON VISIBLE INDICATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXACT LOCATIONS AND ELEVATIONS OF ALL UNDERGROUND UTILITIES AND OTHER STRUCTURES BEFORE THE START OF CONSTRUCTION ON THIS PROJECT.
- IT SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT ALL UTILITIES ARE AS NOTED IN THE PLANS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER AS SOON AS POSSIBLE.
- TOILET FACILITIES SHALL BE MADE AVAILABLE TO CONSTRUCTION WORKERS WITHIN 300' OF SITE.
- NO MATERIAL CAN BE BURIED ONSITE WITHOUT THE APPROVAL OF THE OWNER AND GEOTECHNICAL ENGINEER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL DEBRIS AS ACCEPTABLE TO THE OWNER.
- CONTRACTOR IS TO REMOVE ALL ROCK, TOPSOIL, AND UNSUITABLE MATERIALS.
- MAXIMUM CUT OR FILL SLOPES SHALL BE 2 HORIZONTAL: 1 VERTICAL.
- THIS SITE DOES NOT CONTAIN WETLANDS.
- THIS SITE DOES NOT HAVE STATE WATERS REQUIRING UNDISTURBED BUFFERS.
- EXISTING FEATURES SHOWN BY DASHED LINES OR SHADED. PROPOSED FEATURES SHOWN BY SOLID OR BOLD LINES.
- CONTRACTOR RESPONSIBLE FOR PROTECTING ADJACENT AREAS AND SHALL BE RESPONSIBLE TO REPAIR ANY DAMAGE TO A CONDITION EQUAL TO OR GREATER THAN THE ORIGINAL CONDITION.
- ALL SIGNAGE AND STRIPING TO BE PROVIDED BY CONTRACTOR ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND OTHER GOVERNING MUNICIPAL STANDARDS AND SPECIFICATIONS, LATEST EDITIONS.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS ON THESE DRAWINGS WITH ALL COORDINATING DOCUMENTS AND NOTIFY ENGINEER OF ANY DISCREPANCIES. IF DISCREPANCIES ARE FOUND DURING CONSTRUCTION, THE CONTRACTOR IS TO STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER.
- ALL EXISTING MANHOLE COVERS, METER BOXES, AND OTHER UTILITY APPURTENANCES LOCATED WITHIN THE LIMITS OF WORK SHALL BE ADJUSTED SO THAT THEIR TOP SURFACES WILL BE FLUSH WITH FINISHED GRADE.
- ALL TEMPORARY STRIPING AND SIGNAGE NECESSARY TO MAINTAIN SAFE VEHICULAR AND PEDESTRIAN TRAFFIC FLOW DURING CONSTRUCTION SHALL BE FURNISHED, INSTALLED, AND MAINTAINED BY THE CONTRACTOR.
- MUTCD SIGNAGE AND CERTIFIED FLAGGERS SHALL BE EMPLOYED DURING ANY ROAD CLOSURE OR TRAFFIC DISRUPTION.

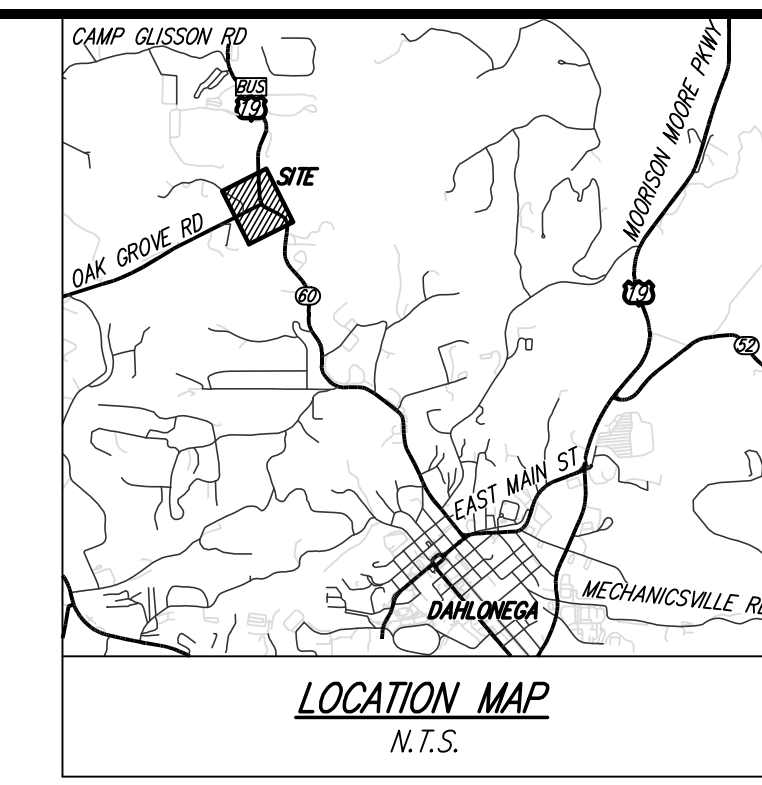
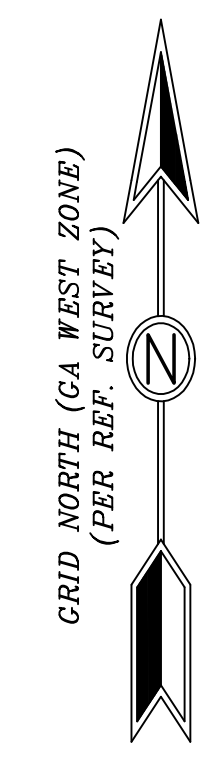
**EROSION & SEDIMENT CONTROL NOTES:**

- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENTATION CONTROLS AND PRACTICES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTION BY OWNER, ENGINEER, OR INSPECTOR.
- THE INSTALLATION OF EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.
- MAINTENANCE OF ALL SOIL EROSION & SEDIMENTATION CONTROL MEASURES & PRACTICES WHETHER TEMPORARY OR PERMANENT SHALL BE AT ALL TIMES AT THE RESPONSIBILITY OF THE PROPERTY OWNER.
- APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL BY LUMPKIN COUNTY/CITY OF DAHLONEGA OF ANY LAND DISTURBING ACTIVITIES WITHIN WETLAND AREAS. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CONTACT THE APPROPRIATE REGULATORY AGENCY FOR APPROVAL OF ANY WETLAND AREA DISTURBANCE.
- ALL DISTURBED AREAS TO BE GRASSED. GRASSING TO BEGIN WITHIN 7 DAYS AFTER THE COMPLETION OF ANY LAND DISTURBANCE ACTIVITY, OR IF ACTIVITY IS DISCONTINUED FOR A PERIOD OF 7 DAYS OR LONGER.
- MAINTENANCE REQUIRED FOR EROSION CONTROL DEVICES. CLEAN OUT BEFORE ONE-HALF FULL.
- PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION EXIT SHALL BE CONSTRUCTED AT EACH POINT OF ENTRY TO OR EXIT FROM THE SITE. ALL ENTRANCES TO THE SITE WHICH ARE NOT PROTECTED SHALL BE BARRICADED.
- IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION EXITS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION. CALL LUMPKIN COUNTY & CITY OF DAHLONEGA FOR AN INSPECTION PRIOR TO PERFORMING ANY OTHER WORK.
- THE LOCATION OF EROSION CONTROL DEVICES SHALL BE ADJUSTED AS CONSTRUCTION PROGRESSES IN ORDER TO MAINTAIN A FUNCTIONING EROSION CONTROL SYSTEM.
- EROSION CONTROL DEVICES SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND AT LEAST DAILY DURING PROLONGED PERIODS OF CONTINUOUS RAINFALLS.
- EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT COVER IS ESTABLISHED AND THEN REMOVED SO THAT DRAINAGE FROM THE SITE IS NOT IMPEDED.
- ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND ANY DEFICIENCIES NOTED WILL BE CORRECTED BY THE END OF EACH DAY.

**EROSION CONTROL LEGEND**

TEMPORARY CONSTRUCTION EXIT	(Co)
SEDIMENT BARRIER - SENSITIVE	(Sd1-S)
INLET SEDIMENT TRAP - FABRIC	(Sd2-F)
INLET SEDIMENT TRAP - PIGS IN BLANKET	(Sd2-P)
SLOPE STABILIZATION	(Ss)
SURFACE ROUGHENING	(Su)
STORM DRAIN OUTLET PROTECTION	(St)
RETAINING WALL	(Re)
TEMPORARY MULCHING	(Ds1)
TEMPORARY GRASSING	(Ds2)
PERMANENT GRASSING	(Ds3)

ALL EROSION CONTROL BMPs TO BE REMOVED ONCE SITE IS FULLY STABILIZED



OWNER/DEVELOPER  
LUMPKIN COUNTY

24-HOUR CONTACT  
LARRY REITER, P.E.  
LUMPKIN CO.  
PLANNING & PUBLIC WORKS  
OFFICE: (706) 864-3122  
MOBILE: (706) 344-7961  
larry.reiter@lumpkincounty.gov



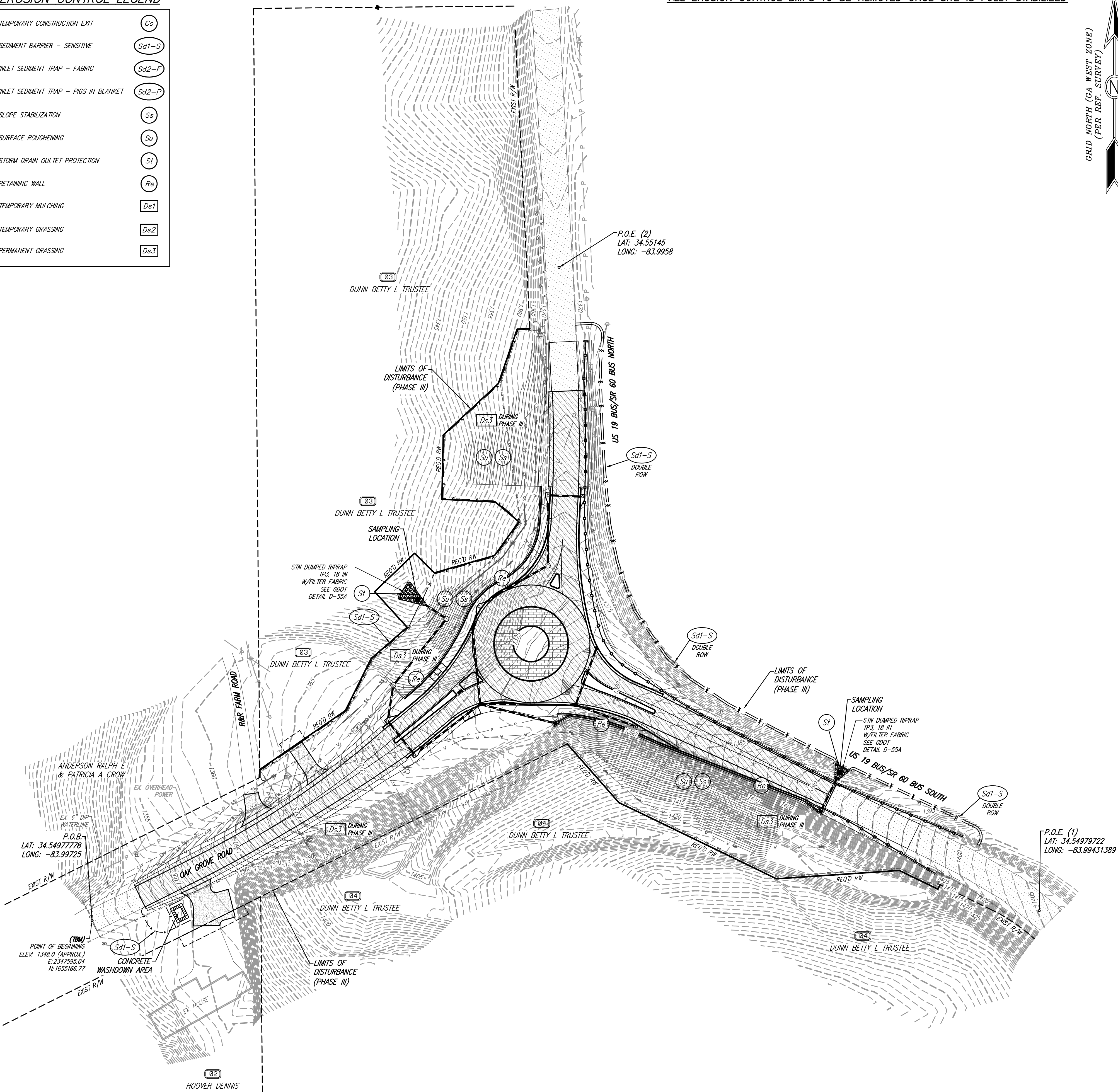
IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

**NPDES CERTIFICATIONS:**

I CERTIFY THAT THE PERMITEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GART00003.

I CERTIFY THAT A QUALIFIED PERSON FROM DAVIS ENGINEERING & SURVEYING, LLC, EITHER THE PLAN PREPARER OR THE DESIGNER, HAS VISITED THE SUBJECT SITE PRIOR TO THE CREATION OF THIS PLAN.

*Jason K. Davis*  
JASON K. DAVIS, P.E. GSWCC CERTIFICATION  
REG. GA. 034135 NO. 0000059573



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**DES DAVIS**  
ENGINEERING & SURVEYING  
133 PROMINENCE COURT  
SUITE 210  
DAWSONVILLE, GA 30534  
PHONE: (706) 265-1234  
DAVISENGINEERS.COM

REGISTERED PROFESSIONAL ENGINEER  
*Jason K. Davis*  
JASON K. DAVIS  
3/31/21

REVISION	DATE	DESCRIPTION
1	1/7/21	INITIAL PLAN SET
2	3/12/21	UPDATED UTILITIES & EC QUANTITIES
3	3/31/21	REUSE WATER/SEWER PLACEMENT

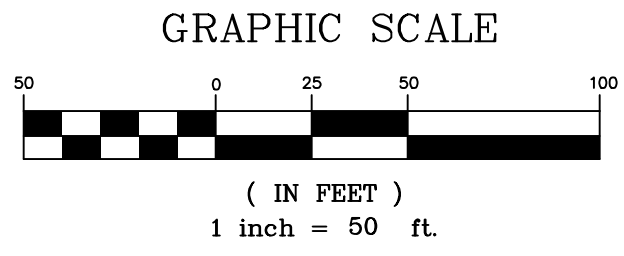
**ES & PC PLAN PHASE III**  
OAK GROVE ROAD ROUNDABOUT  
LAND LOTS 853, 898  
12TH DISTRICT  
LUMPKIN COUNTY, GA

DRAWN BY: GRJ  
CHECKED BY: JKD  
LAND LOT: 853,898  
DISTRICT: 12TH  
SECTION: -  
CITY: DAHLONEGA  
COUNTY: LUMPKIN  
DATE: 1/7/21

SHEET NO.  
**6 OF 9**  
PROJECT NO.  
**2020-158**

**LEGEND**

○	UTILITY POLE	□	OUTLET CONTROL STRUCTURE
IPF	IRON PIN FOUND	UG	UNDERGROUND
IV/F	NOW OR FORMERLY	RCP	REINFORCED CONCRETE PIPE
RB	REBAR	CMP	CORRUGATED METAL PIPE
L.L.	LAND LOT	CPP	CORRUGATED PLASTIC PIPE
L.L.L.	LAND LOT LINE	HDPE	HIGH DENSITY POLYETHYLENE
N.T.S.	NOT TO SCALE	SMH	SANITARY SEWER MANHOLE
E.S.L.	BUILDING SETBACK LINE	SS G/O	SANITARY SEWER CLEANOUT
TBM	TEMPORARY BENCH MARK	FH	FIRE HYDRANT
FB	PLAY BOOK	WM	WATER METER
FR	FACE	WV	WATER VALVE
R/W	RIGHT OF WAY	GV	GATE VALVE
C&G	CURB AND GUTTER	DDC	DOUBLE DETECTOR CHECK
BC	BACK OF CURB	BFP	BACK FLOW PREVENTER
CONC.	CONCRETE	DBP	DUCTILE IRON PIPE
EX.	EXISTING	PVC	POLYVINYL CHLORIDE
PROP.	PROPOSED	INV	INVERT
ELEV.	ELEVATION	TW	TOP OF WALL
MIN.	MINIMUM	BW	BOTTOM OF WALL
FT	LINEAR FEET	S.S.E.	SANITARY SEWER EASEMENT
SF	SF SQUARE FEET	D.E.	DRAINAGE EASEMENT
TYR	TYPICAL	—	TENDE
W	WATER	—	SILT FENCE
WS	WATER	—	POWER
WHD	WATER	—	WATER
PI	PEDESTAL INLET	—	SS
JB	JUNCTION BOX	—	SANITARY SEWER
		—	BUILDING SETBACK LINE



- SEE ES&PC DETAILS SHEET.
- SEE ES&PC PLAN SHEETS.
- 24-HOUR CONTACT: LARRY REITER (706) 344-7961
- PRIMARY PERMITTEE: LUMPKIN COUNTY GOVERNMENT C/O LARRY REITER  
ADDRESS: 25 SHORT STREET, SUITE 10, DAHLONEGA, GA 30533  
EMAIL: larry.reiter@lumpkincounty.gov  
PHONE: (706) 864-3122
- THE PROPOSED PROJECT IS LOCATED ON 3.56 ACRES AND WILL CONSIST OF A DISTURBED AREA OF 3.28 ACRES.
- CONSTRUCTION COORDINATES:  
P.O.B.: LAF. 34.5497778, LONG: -83.99725  
P.O.E. (1) LAF. 34.5497922, LONG: -83.99431389  
P.O.E. (2) LAF. 34.55145, LONG: -83.9958
- SEE ES&PC SHEETS 6-8
- THE PROPOSED INTERSECTION IMPROVEMENT INCLUDES CONSTRUCTION OF A GDOT ROUNDABOUT WITH STORMWATER MANAGEMENT, UTILITY RELOCATION, AND EROSION CONTROL BMPs.
- SEE SHEETS 6-8.
- THE INITIAL RECEIVING WATER(S) FOR THIS PROJECT IS YAHOOA CREEK LOCATED APPROX. 210' TO THE NORTHEAST OF THE SITE. THERE WILL BE NO ADVERSE IMPACT TO DOWNSTREAM PROPERTIES BY THE POST-DEVELOPMENT RUNOFF FROM THE SITE.
- I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY DIRECT SUPERVISION.

*Jason K Davis* 3/31/2021  
P.E. 34135; GSWCC CERTIFICATION #59573 DATE

I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THAT THE DESIGNATED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR 10002.

*Jason K Davis* 3/31/2021  
P.E. 34135; GSWCC CERTIFICATION #59573 DATE

I CERTIFY THAT THE PERMITTEE'S ES&PC PLAN PROVIDES FOR REPRESENTATIVE SAMPLING AS STATED ON PART IV.D.6.C.(3) PAGE 37 OF THE PERMIT AS APPLICABLE.

*Jason K Davis* 3/31/2021  
P.E. 34135; GSWCC CERTIFICATION #59573 DATE

THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERMITTEE CONTROL BMPs WITHIN 7 DAYS AFTER INSTALLATION IN ACCORDANCE WITH PART IV.A.5 OF THIS PERMIT.  
NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS. THIS SITE DOES NOT HAVE STATE WATERS REQUIRING AN UNDISTURBED BUFFER. THIS SITE DOES NOT CONTAIN WETLANDS.  
THERE ARE NO BUFFER ENCROACHMENTS FOR THIS SITE.  
ANY AMENDMENTS OR REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPs WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.  
WASTE MATERIALS SHALL NOT BE DISCHARGED INTO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY SECTION 404 PERMITS.  
THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND-DISTURBING ACTIVITIES.  
EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION CONTROL AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.  
THIS PROJECT DOES NOT DISCHARGE WITHIN 1 MILE MILE UPSTREAM OF AND WITHIN THE SAME WATERSHED OF A BIOTIC IMPAIRED STREAM SEGMENT.  
TMDL IMPLEMENTATION PLAN NOT APPLICABLE.  
CONCRETE WASHDOWN AREA SHOWN ON ES&PC SHEETS. WASHOUT OF THE DRUM AT THE CONSTRUCTION SITE IS PROHIBITED.  
SOIL CLEANUP AND CONTROL PRACTICES:  
LOCAL, STATE AND MANUFACTURERS RECOMMENDED METHODS FOR SOIL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES WILL BE MADE AVAILABLE TO SITE PERSONNEL. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THIS MATERIAL STORAGE AREA. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, GAITERS, SAND, SANDWICH AND PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS.  
SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS WILL BE REPORTED AS REQUIRED BY LOCAL, STATE, AND FEDERAL REGULATIONS. FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN, IF MORE THAN 1320 GALLONS OF PETROLEUM IS STORED ON SITE (THIS INCLUDES CAPACITIES OF EQUIPMENT) OR IF ANY ONE PIECE OF EQUIPMENT HAS A CAPACITY GREATER THAN 660 GALLONS. THE CONTRACTOR WILL NEED A SPILL PREVENTION CONTAINMENT AND COUNTER-MEASURES PLAN PREPARED BY THAT LICENSED ENGINEER.  
APPROPRIATE CONTROLS AND MEASURES WILL BE IMPLEMENTED ON THE CONSTRUCTION SITE TO CONTROL POLLUTANTS IN STORM WATER AFTER CONSTRUCTION OPERATIONS HAVE BEEN COMPLETED. A DENSE AND WOOLY VEGETATIVE COVER WILL BE ESTABLISHED OVER THE CONTRIBUTING PERVIOUS DRAINAGE AREA AS WELL AS INFILTRATION OF THE FIRST 1" OF RAINFALL OVER THE IMPERVIOUS AREAS.  
AT A MINIMUM, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE PLASTIC SHEETING TO COVER BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE, AND OTHER MATERIALS TO MINIMIZE EXPOSURE TO PRECIPITATION AND TO STORMWATER.  
PRODUCT SPECIFIC PRACTICES:  
• PETROLEUM BASED PRODUCTS - CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS, AND TARS WILL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ON-SITE VEHICLES AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE WILL BE LOCATED AWAY FROM STATE WATERS, NATURAL DRAINS, AND STORM WATER DRAINAGE INLETS. IN ADDITION, TEMPORARY FUELING TANKS SHALL HAVE A SECONDARY CONTAINMENT LINER TO PREVENT/MINIMIZE SITE CONTAMINATION. DISCHARGE OF OILS, FUELS, AND LUBRICANTS IS PROHIBITED. PROPER DISPOSAL METHODS WILL INCLUDE COLLECTION IN A SUITABLE CONTAINER AND DISPOSAL AS REQUIRED BY LOCAL AND STATE REGULATIONS.  
• PAINTS/PAINSHES/SOLVENTS - ALL PRODUCTS WILL BE STORED IN TIGHTLY SEALED ORIGINAL CONTAINERS WHEN NOT IN USE. EXCESS PRODUCT WILL NOT BE DISCHARGED TO THE STORM WATER COLLECTION SYSTEM. EXCESS PRODUCT, MATERIALS USED WITH THESE PRODUCTS, AND PRODUCT CONTAINERS WILL BE DISPOSED OF ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.  
• CONCRETE MIX WASHING - NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON-SITE.  
• FERTILIZER/HERBICIDES - THESE PRODUCTS WILL BE APPLIED AT RATES THAT DO NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS OR ABOVE THE GUIDELINES SET FORTH IN THE CROP ESTABLISHMENT OR IN THE GSWCC MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. ANY STORAGE OF THESE MATERIALS WILL BE UNDER ROOF IN SEALED CONTAINERS.  
• BUILDING MATERIALS - NO BUILDING OR CONSTRUCTION MATERIALS WILL BE BURIED OR COVERED ON-SITE. ALL SUCH MATERIALS WILL BE DISPOSED OF IN PROPER WASTE DISPOSAL PROCEDURES.

CONSTRUCTION SCHEDULE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
CLEARING & GRUBBING																		
EROSION CONTROL INSTALLATION																		
EARTHWORK (CUT & FILL)																		
GRASSING (LIMIT EXPOSURE TO 7 DAYS)																		
STORM PIPE INSTALLATION																		
PAVING																		
FINAL GRADING																		
FINAL STABILIZATION																		

OWNER MAY MODIFY SCHEDULE WITH APPROVAL FROM LUMPKIN COUNTY & CITY OF DAHLONEGA

30. INSPECTIONS  
A. PERMITTEE REQUIREMENTS:  
(1). EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKEN PLACE AT A PRIMARY PERMITTEE'S SITE, CERTIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITTEE SHALL INSPECT: (A) ALL AREAS AT THE PRIMARY PERMITTEE'S SITE WHERE PETROLEUM PRODUCTS ARE STORED, USED, OR HANDLED FOR SPILLS AND LEAKS FROM VEHICLES AND EQUIPMENT; (B) ALL LOCATIONS AT THE PRIMARY PERMITTEE'S SITE WHERE VEHICLES ENTER OR EXIT THE SITE FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING; AND (C) MEASURE RAINFALL ONCE EACH 24 HOUR PERIOD AT THE SITE. THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.

(2). CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT THE FOLLOWING AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES RAINFALL OR GREATER (UNLESS SUCH STORM ENDS AFTER 5:00 PM ON ANY FRIDAY OR ON ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY OR ANY NON-WORKING FEDERAL HOLIDAY IN WHICH CASE THE INSPECTION SHALL BE COMPLETED BY THE END OF THE NEXT BUSINESS DAY AND/OR WORKING DAY, WHICHEVER OCCURS FIRST): (A) DISTURBED AREAS OF THE PRIMARY PERMITTEE'S CONSTRUCTION SITE THAT HAVE NOT UNDERGONE FINAL STABILIZATION; (B) AREAS USED BY THE PRIMARY PERMITTEE FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION THAT HAVE NOT UNDERGONE FINAL STABILIZATION; AND (C) STRUCTURAL CONTROL MEASURES, EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN APPLICABLE TO THE PRIMARY PERMITTEE'S SITE SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S). FOR AREAS OF A SITE THAT HAVE UNDERGONE FINAL STABILIZATION, THE PERMITTEE MUST COMPLY WITH PART IV.D.4.A.(3). THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.

(3). CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT AT LEAST ONCE PER MONTH DURING THE TERM OF THIS PERMIT (I.E., UNTIL A NOTICE OF TERMINATION IS RECEIVED BY EPD) THE AREAS OF THE SITE THAT HAVE UNDERGONE FINAL STABILIZATION. THESE AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM AND THE RECEIVING WATER(S). EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S).

(4). BASED ON THE RESULTS OF EACH INSPECTION, THE SITE DESCRIPTION AND THE POLLUTION PREVENTION AND CONTROL MEASURES IDENTIFIED IN THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, THE PLAN SHALL BE REVISED AS APPROPRIATE NOT LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. IMPLEMENTATION OF SUCH CHANGES SHALL BE MADE AS SOON AS PRACTICAL BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION.

(5). A REPORT OF EACH INSPECTION THAT INCLUDES THE NAME(S) OF PERSONNEL MAKING EACH INSPECTION, THE DATE(S) OF EACH INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PART IV.D.4.A.(4). OF THE PERMIT SHALL BE MADE AND RETAINED AT THE SITE OR BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION UNTIL THE ENTIRE SITE OR THAT PORTION OF A CONSTRUCTION PROJECT THAT HAS BEEN PHASED HAS UNDERGONE FINAL STABILIZATION AND A NOTICE OF TERMINATION IS SUBMITTED TO EPD. SUCH REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE. WHERE THE REPORT DOES NOT IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE CONSTRUCTION SITE IS IN COMPLIANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN AND THIS PERMIT. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G. OF THIS PERMIT.

31. SAMPLING FREQUENCY:  
(1). THE PRIMARY PERMITTEE MUST SAMPLE IN ACCORDANCE WITH THE PLAN AT LEAST ONCE FOR EACH RAINFALL EVENT DESCRIBED BELOW. FOR A QUALIFYING EVENT, SAMPLES MUST BE TAKEN WITHIN FORTY-FIVE (45) MINUTES OF: (A) THE ACCUMULATION OF THE MINIMUM AMOUNT OF RAINFALL FOR THE QUALIFYING EVENT, IF THE STORM WATER DISCHARGE TO A MONITORED RECEIVING WATER OR FROM A MONITORED OUTFALL HAS BEGUN AT OR PRIOR TO THE ACCUMULATION, OR (B) THE BEGINNING OF ANY STORM WATER DISCHARGE TO A MONITORED RECEIVING WATER OR FROM A MONITORED OUTFALL, IF THE DISCHARGE BEGINS AFTER THE ACCUMULATION OF THE MINIMUM AMOUNT OF RAINFALL FOR THE QUALIFYING EVENT.  
(2). HOWEVER, WHERE MANUAL AND AUTOMATIC SAMPLING ARE IMPOSSIBLE (AS DEFINED IN THIS PERMIT), OR ARE BEYOND THE PERMITTEE'S CONTROL, THE PERMITTEE SHALL TAKE SAMPLES AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN TWELVE (12) HOURS AFTER THE BEGINNING OF THE STORM WATER DISCHARGE.  
(3). SAMPLING BY THE PERMITTEE SHALL OCCUR FOR THE FOLLOWING EVENTS: (A). FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING STREAM, THE FIRST RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH AND ALLOWS FOR MONITORING DURING NORMAL BUSINESS HOURS\* (MONDAY THRU FRIDAY, 8:00 AM TO 5:00 PM AND SATURDAY 8:00 AM TO 5:00 PM, EXCLUDING ALL NON-WORKING FEDERAL HOLIDAYS, WHEN CONSTRUCTION ACTIVITY IS BEING CONDUCTED BY THE PRIMARY PERMITTEE) THAT OCCURS AFTER ALL CLEARING AND GRUBBING OPERATIONS HAVE BEEN COMPLETED IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE SAMPLING LOCATION, WHICHEVER COMES FIRST; (B). EXISTING CONSTRUCTION ACTIVITIES, I.E., THOSE THAT ARE OCCURRING ON OR BEFORE THE EFFECTIVE DATE OF THIS PERMIT, THAT HAVE MET THE SAMPLING REQUIRED BY (A) ABOVE SHALL SAMPLE IN ACCORDANCE WITH (B). THOSE EXISTING CONSTRUCTION ACTIVITIES THAT HAVE MET THE SAMPLING REQUIRED BY (B) ABOVE SHALL NOT BE REQUIRED TO CONDUCT ADDITIONAL SAMPLING OTHER THAN AS REQUIRED BY (C) ABOVE.

\*NOTE THAT THE PERMITTEE MAY CHOOSE TO MEET THE REQUIREMENTS OF (A) AND (B) ABOVE BY COLLECTING TURBIDITY SAMPLES FROM ANY RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH AND ALLOWS FOR MONITORING AT ANY TIME OF THE DAY OR WEEK.

REPORTING:  
1. THE APPLICABLE PERMITTEES ARE REQUIRED TO SUBMIT A SUMMARY OF THE MONITORING RESULTS TO THE EPD AT THE ADDRESS SHOWN IN PART II.C. BY THE FIFTEENTH DAY OF THE MONTH FOLLOWING THE REPORTING PERIOD. REPORTING PERIODS ARE MONTHS DURING WHICH SAMPLES ARE TAKEN IN ACCORDANCE WITH THIS PERMIT. SAMPLING RESULTS SHALL BE IN A CLEARLY LEGIBLE FORMAT UPON WRITTEN NOTIFICATION, EPD MAY REQUIRE THE APPLICABLE PERMITTEE TO SUBMIT THE SAMPLING RESULTS ON A MORE FREQUENT BASIS. SAMPLING AND ANALYSIS OF ANY STORM WATER DISCHARGE(S) OR THE RECEIVING WATER(S) BEYOND THE MINIMUM FREQUENCY STATED IN THIS PERMIT MUST BE REPORTED IN A SIMILAR MANNER TO THE EPD. THE SAME REPORTS MUST BE SIGNED IN ACCORDANCE WITH PART V.G. SAMPLING REPORTS MUST BE SUBMITTED TO EPD UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI.

2. ALL WRITTEN CORRESPONDENCE REQUIRED BY THIS PERMIT SHALL BE SUBMITTED BY RETURN RECEIPT CERTIFIED MAIL (OR SIMILAR SERVICE) TO THE APPROPRIATE DISTRICT OFFICE OF THE EPD ACCORDING TO THE SCHEDULE IN APPENDIX A OF THIS PERMIT. THE PERMITTEE SHALL RETAIN A COPY OF THE PROOF OF SUBMITTAL AT THE CONSTRUCTION SITE OR THE PROOF OF SUBMITTAL SHALL BE READILY AVAILABLE AT A DESIGNATED LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI.

3. ALL MONITORING RESULTS SHALL INCLUDE THE FOLLOWING INFORMATION:  
A. THE DATE, EXACT PLACE, AND TIME OF SAMPLING OR MEASUREMENTS;  
B. THE NAME(S) OF THE INDIVIDUAL(S) WHO PERFORMED THE SAMPLING AND MEASUREMENTS;  
C. THE DATE(S) ANALYSES WERE PERFORMED;  
D. THE TIME(S) ANALYSES WERE INITIATED;  
E. THE NAME(S) OF THE INDIVIDUAL(S) WHO PERFORMED THE ANALYSES;  
F. REFERENCES AND WRITTEN PROCEDURES, WHEN AVAILABLE, FOR THE ANALYTICAL TECHNIQUES OR METHODS USED; AND  
G. THE RESULTS OF SUCH ANALYSES, INCLUDING THE BENCH SHEETS, INSTRUMENT READOUTS, COMPUTER DISKS OR TAPES, ETC., USED TO DETERMINE THESE RESULTS.  
H. RESULTS WHICH EXCEED 1000 NTU SHALL BE REPORTED AS "EXCEEDS 1000 NTU."

32. RETENTION OF RECORDS:  
1. THE PRIMARY PERMITTEE SHALL RETAIN THE FOLLOWING RECORDS AT THE CONSTRUCTION SITE OR THE RECORDS SHALL BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI:  
A. A COPY OF ALL NOTICES OF INTENT SUBMITTED TO EPD;  
B. A COPY OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN REQUIRED BY THIS PERMIT;  
C. THE DESIGN PROFESSIONAL'S REPORT OF THE RESULTS OF THE INSPECTION CONDUCTED IN ACCORDANCE WITH PART IV.A.5. OF THIS PERMIT;  
D. A COPY OF ALL MONITORING INFORMATION, RESULTS, AND REPORTS REQUIRED BY THIS PERMIT;  
E. A COPY OF ALL INSPECTION REPORTS GENERATED IN ACCORDANCE WITH PART IV.D.4.A. OF THIS PERMIT;  
F. A COPY OF ALL VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART III.D.2. OF THIS PERMIT; AND  
G. DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.A.(1)(C) OF THIS PERMIT.  
2. COPIES OF ALL NOTICES OF INTENT, NOTICES OF TERMINATION, REPORTS, PLANS, MONITORING REPORTS, MONITORING INFORMATION, INCLUDING ALL CALIBRATION AND MAINTENANCE RECORDS AND ALL ORIGINAL STRIP CHART RECORDINGS FOR CONTINUOUS MONITORING INSTRUMENTATION, EROSION, SEDIMENTATION AND POLLUTION CONTROL PLANS, RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT AND ALL OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE RETAINED BY THE PERMITTEE WHO EITHER PRODUCED OR USED IT FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE THAT THE NOT IS SUBMITTED IN ACCORDANCE WITH PART VI OF THIS PERMIT. THESE RECORDS MUST BE MAINTAINED AT THE PERMITTEE'S PRIMARY PLACE OF BUSINESS OR AT A DESIGNATED ALTERNATE LOCATION ONCE THE CONSTRUCTION ACTIVITY HAS CEASED AT THE PERMITTED SITE. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE EPD AT ANY TIME UPON WRITTEN NOTIFICATION TO THE PERMITTEE.

33. SAMPLING REQUIREMENTS:  
THIS PERMIT REQUIRES THE MONITORING OF NEPHELOMETRIC TURBIDITY IN RECEIVING WATER(S) OR OUTFALLS IN ACCORDANCE WITH THIS PERMIT. THIS PARAGRAPH SHALL NOT APPLY TO ANY LAND DISTURBANCE ASSOCIATED WITH THE CONSTRUCTION OF SINGLE-FAMILY HOMES WHICH ARE NOT PART OF A SUBDIVISION OR PLANNED COMMON DEVELOPMENT UNLESS FIVE (5) ACRES OR MORE WILL BE DISTURBED. THE FOLLOWING PROCEDURES CONSTITUTE EPD'S GUIDELINES FOR SAMPLING TURBIDITY:  
A. SAMPLING REQUIREMENTS SHALL INCLUDE THE FOLLOWING:  
(1) A USGS TOPOGRAPHIC MAP, A TOPOGRAPHIC MAP OR A DRAWING (REFERRED TO AS A TOPOGRAPHIC MAP) THAT IS A SCALE EQUAL TO OR MORE DETAILED THAN A 1:24000 MAP SHOWING THE LOCATION OF THE SITE OR THE STAND ALONE CONSTRUCTION; (A) THE LOCATION OF ALL PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES AS SHOWN ON A USGS TOPOGRAPHIC MAP AND ALL OTHER PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES LOCATED DURING MANDATORY FIELD VERIFICATION INTO WHICH THE STORM WATER IS DISCHARGED AND (B) THE RECEIVING WATER AND/OR OUTFALL SAMPLING LOCATIONS. WHEN THE PERMITTEE HAS CHOSEN TO USE A USGS TOPOGRAPHIC MAP AND THE RECEIVING WATER(S) IS NOT SHOWN ON THE USGS TOPOGRAPHIC MAP, THE LOCATION OF THE RECEIVING WATER(S) MUST BE HAND-DRAWN ON THE USGS TOPOGRAPHIC MAP FROM WHERE THE STORM WATER(S) ENTERS THE RECEIVING WATER(S) TO THE POINT WHERE THE RECEIVING WATER(S) COMBINES WITH THE FIRST BLUE LINE STREAM SHOWN ON THE USGS TOPOGRAPHIC MAP;  
(2) A WRITTEN NARRATIVE OF SITE SPECIFIC ANALYTICAL METHODS USED TO COLLECT, HANDLE AND ANALYZE THE SAMPLES INCLUDING QUALITY CONTROL/QUALITY ASSURANCE PROCEDURES. THIS NARRATIVE MUST INCLUDE PRECISE SAMPLING METHODOLOGY FOR EACH SAMPLING LOCATION;  
(3) WHEN THE PERMITTEE HAS DETERMINED THAT SOME OR ALL OUTFALLS WILL BE MONITORED, A RATIONALE MUST BE INCLUDED FOR THE NTU LIMIT(S) SELECTED FROM APPENDIX B. THIS RATIONALE MUST INCLUDE THE SIZE OF THE CONSTRUCTION SITE, THE CALCULATION OF THE SIZE OF THE SURFACE WATER DRAINAGE AREA, AND THE TYPE OF RECEIVING WATER(S) (I.E., TROUT STREAM OR SUPPORTING WARM WATER FISHERIES); AND  
(4) ANY ADDITIONAL INFORMATION EPD DETERMINES NECESSARY TO BE PART OF THE PLAN. EPD WILL PROVIDE WRITTEN NOTICE TO THE PERMITTEE OF THE INFORMATION NECESSARY AND THE TIME LINE FOR SUBMITTAL.

B. SAMPLE TYPE. ALL SAMPLING SHALL BE COLLECTED BY "GRAB SAMPLES" AND THE ANALYSIS OF THESE SAMPLES MUST BE CONDUCTED WITH METHODOLOGY AND TEST PROCEDURES ESTABLISHED BY 40 CFR PART 136 (UNLESS OTHER TEST PROCEDURES HAVE BEEN APPROVED); THE GUIDANCE DOCUMENT TITLED "NPDES STORM WATER SAMPLING GUIDANCE DOCUMENT, EPA 833-B-92-001" AND GUIDANCE DOCUMENTS THAT MAY BE PREPARED BY THE EPD.  
(1) SAMPLE CONTAINERS SHOULD BE LABELED PRIOR TO COLLECTING THE SAMPLES.  
(2) SAMPLES SHOULD BE WELL MIXED BEFORE TRANSFERRING TO A SECONDARY CONTAINER.  
(3) LARGE MOUTH, WELL CLEANED AND RINSED GLASS OR PLASTIC JARS SHOULD BE USED FOR COLLECTING SAMPLES. THE JARS SHOULD BE CLEANED THOROUGHLY TO AVOID CONTAMINATION.  
(4) MANUAL, AUTOMATIC OR RISING STAKE SAMPLING MAY BE UTILIZED. SAMPLES REQUIRED BY THIS PERMIT SHOULD BE ANALYZED IMMEDIATELY, BUT IN NO CASE LATER THAN 48 HOURS AFTER COLLECTION. HOWEVER, SAMPLES FROM AUTOMATIC SAMPLERS MUST BE COLLECTED NO LATER THAN THE NEXT BUSINESS DAY AFTER THEIR ACCUMULATION, UNLESS FLOW THROUGH AUTOMATED ANALYSIS IS UTILIZED. DILUTION OF SAMPLES IS NOT REQUIRED. SAMPLES MAY BE ANALYZED DIRECTLY WITH A PROPERLY CALIBRATED TURBIDIMETER. SAMPLES ARE NOT REQUIRED TO BE COOLED.  
(5) SAMPLING AND ANALYSIS OF THE RECEIVING WATER(S) OR OUTFALLS BEYOND THE MINIMUM FREQUENCY STATED IN THIS PERMIT MUST BE REPORTED TO EPD AS SPECIFIED IN PART IV.E.  
C. SAMPLING POINTS:  
(1) FOR CONSTRUCTION ACTIVITIES THE PRIMARY PERMITTEE MUST SAMPLE ALL RECEIVING WATER(S), OR ALL OUTFALL(S), OR A COMBINATION OF RECEIVING WATER(S) AND OUTFALL(S). SAMPLES TAKEN FOR THE PURPOSE OF COMPLIANCE WITH THIS PERMIT SHALL BE REPRESENTATIVE OF THE MONITORED ACTIVITY AND REPRESENTATIVE OF THE WATER QUALITY OF THE RECEIVING WATER(S) AND/OR THE STORM WATER OUTFALLS USING THE FOLLOWING MINIMUM GUIDELINES:  
(A) THE UPSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN IMMEDIATELY UPSTREAM OF THE CONFLUENCE OF THE FIRST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E., THE DISCHARGE FARTHEST UPSTREAM AT THE SITE) BUT DOWNSTREAM OF ANY OTHER STORM WATER DISCHARGE NOT ASSOCIATED WITH THE PERMITTED ACTIVITY. WHERE APPROPRIATE, SEVERAL UPSTREAM SAMPLES FROM ACROSS THE RECEIVING WATER(S) MAY NEED TO BE TAKEN AND THE ARITHMETIC AVERAGE OF THE TURBIDITY OF THESE SAMPLES USED FOR THE UPSTREAM TURBIDITY VALUE.  
(B) THE DOWNSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN DOWNSTREAM OF THE CONFLUENCE OF THE LAST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E. THE DISCHARGE FARTHEST DOWNSTREAM AT THE SITE) BUT UPSTREAM OF ANY OTHER STORM WATER DISCHARGE NOT ASSOCIATED WITH THE PERMITTED ACTIVITY. WHERE APPROPRIATE, SEVERAL DOWNSTREAM SAMPLES FROM ACROSS THE RECEIVING WATER(S) MAY NEED TO BE TAKEN AND THE ARITHMETIC AVERAGE OF THE TURBIDITY OF THESE SAMPLES USED FOR THE DOWNSTREAM TURBIDITY VALUE.  
(C) IDEALLY THE SAMPLES SHOULD BE TAKEN FROM THE HORIZONTAL AND VERTICAL CENTER OF THE RECEIVING WATER(S) OR THE STORM WATER OUTFALL CHANNEL(S).  
(D) CARE SHOULD BE TAKEN TO AVOID STIRRING THE BOTTOM SEDIMENTS IN THE RECEIVING WATER(S) OR IN THE OUTFALL STORM WATER CHANNEL.  
(E) THE SAMPLING CONTAINER SHOULD BE HELD SO THAT THE OPENING FACES UPSTREAM.  
(F) THE SAMPLES SHOULD BE KEPT FREE FROM FLOATING DEBRIS.  
(G) PERMITTEES DO NOT HAVE TO SAMPLE SHEETFLOW THAT FLOWS ONTO UNDISTURBED NATURAL AREAS OR AREAS STABILIZED BY THE PROJECT. FOR PURPOSES OF THIS SECTION, STABILIZED SHALL MEAN, FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES AND AREAS LOCATED OUTSIDE THE WASTE DISPOSAL LIMITS OF A LANDFILL CELL THAT HAS BEEN CERTIFIED BY EPD FOR WASTE DISPOSAL, 100% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION WITH A DENSITY OF 70% OR GREATER, OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OF RIP RAP, GABIONS, PERMANENT MULCHES OR GEOTEXTILES) HAVE BEEN USED. PERMANENT VEGETATION SHALL CONSIST OF: PLANTED TREES, SHRUBS, PERENNIAL WILDS, A CROP OF PERENNIAL VEGETATION APPROPRIATE FOR THE TIME OF YEAR AND REGION, OR A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET CROP PERENNIALS APPROPRIATE FOR THE REGION. FINAL STABILIZATION APPLIES TO EACH PHASE OF CONSTRUCTION.  
(H) ALL SAMPLING PURSUANT TO THIS PERMIT MUST BE DONE IN SUCH A WAY (INCLUDING GENERALLY ACCEPTED SAMPLING METHODS, LOCATIONS, TIMING, AND FREQUENCY) AS TO ACCURATELY REFLECT WHETHER STORM WATER RUNOFF FROM THE CONSTRUCTION SITE IS IN COMPLIANCE WITH THE STANDARD SET FORTH IN PARTS III.D.3. OR III.D.4., WHICHEVER IS APPLICABLE.

APPENDIX B  
NEPHELOMETRIC TURBIDITY UNIT (NTU) TABLES

TROUT STREAMS  
SURFACE WATER DRAINAGE AREA, SQUARE MILES

0-4.99	5-9.99	10-24.99	25-49.99	50-99.99	100-249.99	250-499.99	500+
1.00-10	25	50	75	150	300	500	500
10.01-25	25	50	75	150	200	500	500
25.01-50	25	50	75	150	100	300	500
50.01-100	20	25	25	35	59	75	150
100.01+	20	20	25	25	25	50	60

WATER SURROUNDING WARM WATER FISHERIES  
SURFACE WATER DRAINAGE AREA, SQUARE MILES

0-4.99	5-9.99	10-24.99	25-49.99	50-99.99	100-249.99	250-499.99	500+
1.00-10	100	100	100	100	100	200	200
10.01-25	100	100	100	100	100	200	200
25.01-50	50	50	50	50	50	100	100
50.01-100	50	50	50	50	50	100	100
100.01+	50	50	50	50	50	100	100

- SEE ES&PC SHEETS.
- EROSION AND SEDIMENT CONTROL.  
INITIALLY, PERIMETER TYPE 5 SILT FENCE (Sd1), DISTURBED AREA STABILIZATION (Ds1) AND (Ds2), AND CONSTRUCTION EXITS (Co) WILL BE INSTALLED ALONG WITH TEMPORARY SEDIMENT TRAP AS SHOWN ON THE PHASE I ES&PC PLAN. TEMPORARY SEEDING (Ds2) SHALL TAKE PLACE FOR INTERMEDIATE STABILIZATION WITH SURFACE ROUGHENING (Su), SLOPE STABILIZATION (Ss), RETAINING WALLS (Re), AND INLET SEDIMENT TRAPS (Sd2-F). THE FINAL PHASE WILL INCLUDE STORM DRAIN OUTLET PROTECTION (Sd2-P), SLOPE STABILIZATION (Ss), AND FINAL GRASSING (Ds3).
- SEE ES&PC SHEETS.
- 2 FOOT CONTOURS SHOWN.
- ALTERNATIVE BMPs N/A
- ALTERNATIVE BMPs N/A
- SEE ES&PC SHEETS.
- NO STATE WATERS OR WETLANDS LOCATED WITHIN 200' OF THE LIMITS OF CONSTRUCTION THAT REQUIRE AN UNDISTURBED BUFFER.
- SEE SHEET B FOR DELINEATION AND ACREAGE OF CONTRIBUTING DRAINAGE BASINS.
- SEE SHEET B ON-SITE DRAINAGE AND OFF-SITE WATERSHEDS USING USGS 1" 2000' TOPOGRAPHICAL SHEETS.
- SEE ES&PC SHEETS.
- SEE ES&PC SHEETS FOR STORMWATER DISCHARGE POINTS.

SOIL CHARACTERISTICS

SOIL SYMBOL	NAME	SLOPE	LIMITATIONS	PERMEABILITY	HYDRO SOIL GROUP
RoE	RABUN LOAM	15-25%	WELL DRAINED	0.20-1.98	B
TdG	TALLAPOOSA SOILS	25-70%	WELL DRAINED	0.00-0.06	D
HIE	HAYESVILLE SANDY LOAM	10-25%	WELL DRAINED	0.57-1.98	B
MCG	MUSSELLA COBBLY LOAM	25-70%	WELL DRAINED	0.00-1.98	D
MCE	MUSSELLA COBBLY LOAM	6-25%	WELL DRAINED	0.00-1.98	D

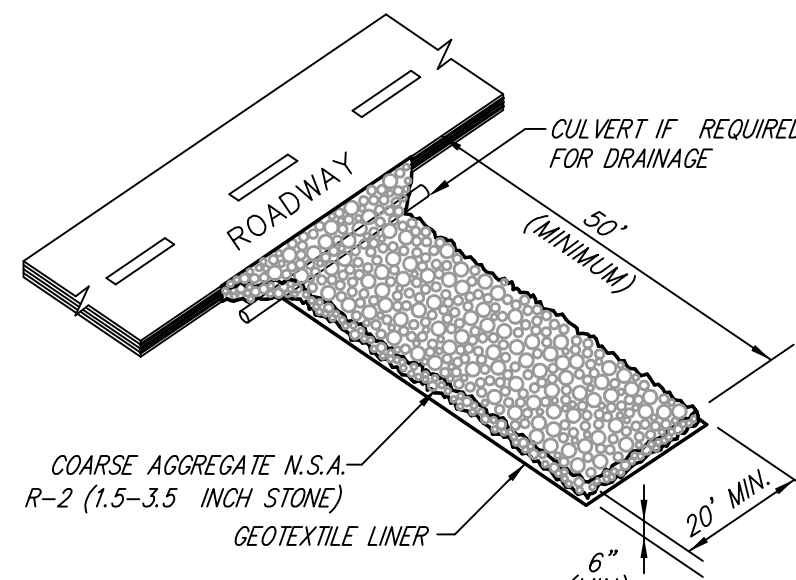
SOIL CHARACTERISTICS TAKEN FROM USDA WEB SOIL SURVEY

- SEE ES&PC SHEETS.
- SEE ES&PC SHEETS.
- SEE ES&PC SHEETS
- SEE ES&PC SHEET SHEET.

EROSION, SEDIMENTATION & POLLUTION CONTROL LEGEND

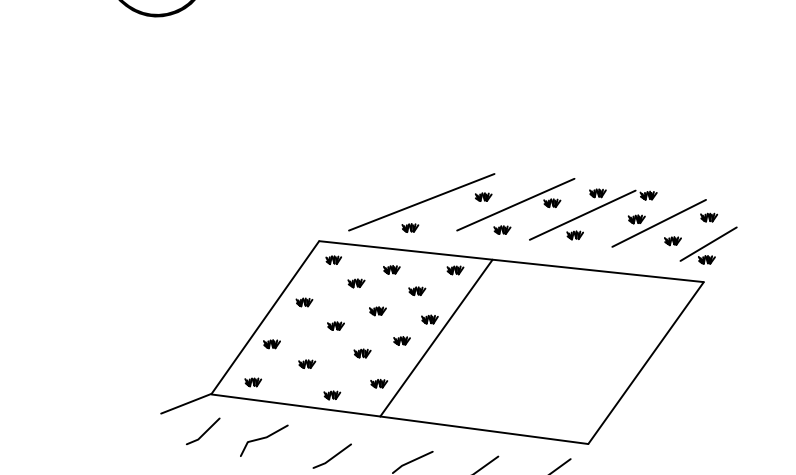
[Bf] BUFFER ZONE	[Dn1] TEMPORARY DOWNDRAIN STRUCTURE
[Cs] COASTAL DUNE STABILIZATION	[Dn2] TEMPORARY DOWNDRAIN STRUCTURE
[Dst1] DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)	[Fr] FILTER RING
[Dsd2] DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)	[Ga] GABION
[Dsd3] DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)	[Gr] GRADE STABILIZATION STRUCTURE
[Dsd4] DISTURBED AREA STABILIZATION (WITH SOBBING SEEDING)	[Lv] LEVEL SPREADER
[Du] DUST CONTROL ON DISTURBED AREAS	[Rd] ROCK FILTER DAM
[Ss] EROSION CONTROL MATTING AND BLANKETS	[Re] RETAINING WALL
[Pm] POLYACRYLAMIDE (PAM)	[Rl] RETROFIT
[Sb] STREAMBANK STABILIZATION (WITH PERMANENT VEGETATION)	[Sd1] SEDIMENT BARRIER
[Tb] TACKIFIERS AND BINDERS	[Sd2] INLET SEDIMENT TRAP
[Ch] CHECK DAM	[Sd2-F] INLET SEDIMENT TRAP
[Cd-H] HAYBALE CHECK DAM	[Sd3] TEMPORARY SEDIMENT BASIN
[Ch] CHANNEL STABILIZATION	[St] TEMPORARY STREAM CROSSING
[Co] CONSTRUCTION EXIT	[Su] STORM DRAIN OUTLET PROTECTION
[Cr] CONSTRUCTION ROAD STABILIZATION	[Su] SURFACE ROUGHENING
[Dc] STREAM DIVERSION CHANNEL	[Tp] TROPILING
[Di] DIVERSION	[Wl] VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL

52. VEGETATIVE PLAN  
CONVENTIONAL SEEDING: (SLOPES DO NOT EXCEED 3:1): GRADE, SHAPE AND SMOOTH WHERE NEEDED TO PROVIDE FOR SAFE EQUIPMENT OPERATION AT SEEDING TIME AND FOR MAINTENANCE PURPOSES. THE LIME AND FERTILIZER IN DRY FORM WILL BE SPREAD UNIFORMLY OVER THE AREA IMMEDIATELY BEFORE SEEDBED PREPARATION. A SEEDBED WILL BE PREPARED BY SCARPING TO A DEPTH OF 1 TO 4 INCHES AS DETERMINED ON SITE. THE SEEDBED MUST BE WELL PULVERIZED, SMOOTHED, AND FIRMED. SEEDING WILL BE DONE WITH A CULTIPACKER-SEEDER, DRILL, ROTARY SEEDER, OR OTHER MECHANICAL OR HAND SEEDER. SEED WILL BE DISTRIBUTED UNIFORMLY OVER A FRESHLY PREPARED SEEDBED AND COVERED LIGHTLY. WITHIN 24 HOURS AFTER SEEDING, STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. MULCH WILL BE SPREAD WITH BLOWER-TYPE MULCH EQUIPMENT OR BY HAND AND ANCHORED IMMEDIATELY AFTER IT IS SP



- NOTES:**
- STONE SIZE: #3 STONE (1.5" - 3.5" DIA.)
  - PAD THICKNESS: 6" MIN.
  - MIN. SIZE 50' x 20'
  - IF NECESSARY INCLUDE WASHING.
  - MAY REQ. PERIODIC TOP DRESSING WITH #3 STONE.
  - MAINTAIN IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC ROADS.
  - A GEOTEXTILE UNDERLINING IS TO BE PROVIDED UNDER THE ENTIRE CONSTRUCTION EXIST.

**TEMPORARY CONSTRUCTION EXIST**  
N.T.S.

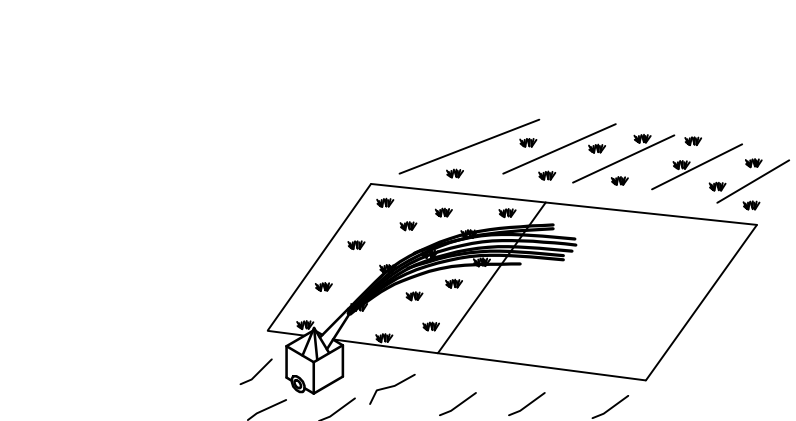


ESTABLISHING TEMPORARY PROTECTION FOR DISTURBED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDING COVER.

**MULCHING APPLICATION REQUIREMENTS**

MATERIAL	RATE	DEPTH
STRAW OR HAY	2 1/2 TON/ACRE	6" - 10"
WOOD WASTE, CHIPS, SAWDUST, BARK	6 TO 9 TON/ACRE	2" - 3"
CUTBACK ASPHALT	PER GEOTECH'S RECOMMENDATIONS	-
POLYETHYLENE FILM	SECURE W/ SOIL ANCHORS, WEIGHTS	-
GEOTEXTILES, JUTE MATTING, NETTING, ETC.	PER MANUFACTURER'S RECOMMENDATIONS	-

**DISTURBED AREA STABILIZATION MULCHING ONLY**  
N.T.S.

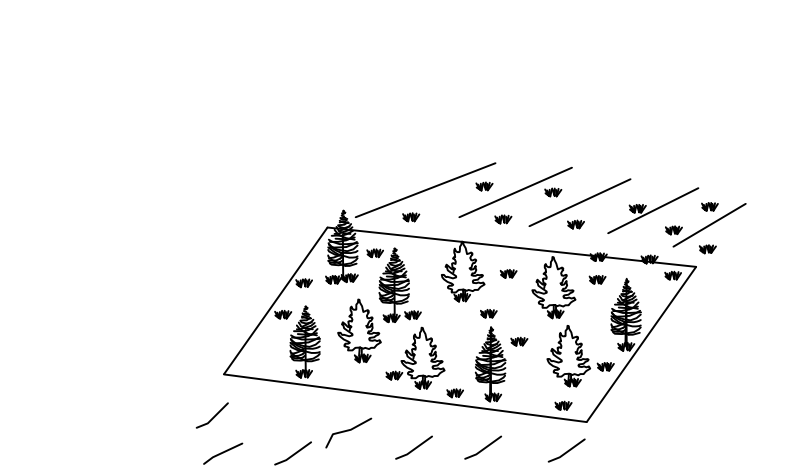


ESTABLISHING A TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS ON DISTURBED AREAS.

**MULCHING APPLICATION REQUIREMENTS**

PLANTING YEAR	FERTILIZER (N-P-K)	RATE (LBS./ACRE)	N TOP DRESSING RATE (LBS./ACRE)
COOL SEASON GRASSES	FIRST	6-12-12	1500
	SECOND MAINTENANCE	8-12-12	1000
COOL SEASON GRASSES & LEGUMES	FIRST	6-12-12	1500
	SECOND MAINTENANCE	8-12-12	1000
TEMPORARY COVER CROPS SEEDING ALONE	FIRST	10-10-10	500
WARM SEASON GRASSES	FIRST	6-12-12	1500
	SECOND MAINTENANCE	8-12-12	1000

**DISTURBED AREA STABILIZATION TEMPORARY SEEDING**  
N.T.S.



PLANTING VEGETATION, SUCH AS TREES, SHRUBS, VINES, GRASSES, OR LEGUMES ON HIGHLY ERODIBLE OR CRITICALLY ERODING AREAS.

**DISTURBED AREA STABILIZATION PERMANENT VEGETATION**  
N.T.S.

**CRITICAL AREA VEGETATIVE PLAN** [Ds1] [Ds2] [Ds3]

GENERAL: THIS VEGETATIVE PLAN WILL BE CARRIED OUT ON ROAD CUT AND FILL SLOPES, SHOULDERS AND OTHER CRITICAL AREAS CREATED BY CONSTRUCTION IN AN AREA IS COMPLETED. PLANTINGS WILL BE MADE TO CONTROL EROSION, TO REDUCE DAMAGES FROM SEDIMENT AND RUNOFF TO DOWNSTREAM AREAS AND TO IMPROVE THE SAFETY AND BEAUTY OF THE DEVELOPMENT AREA.

SOIL CONDITIONS: DUE TO GRADING AND CONSTRUCTION, THE AREAS TO BE TREATED ARE MAINLY SUBSOIL AND SUBSTRATA. FERTILITY IS LOW AND THE PHYSICAL CHARACTERISTICS OF THE EXPOSED MATERIAL ARE UNFAVORABLE TO ALL BUT THE MOST HARDY PLANTS.

TREATMENT SPECIFICATIONS: CONVENTIONAL SEEDING EQUIPMENT: GRADE, SHAPE AND SMOOTH WHERE NEEDED TO PROVIDE FOR SAFE EQUIPMENT OPERATION AT SEEDING TIME AND FOR MAINTENANCE PURPOSES. THE LIME AND FERTILIZER IN DRY FORM WILL BE SPREAD UNIFORMLY OVER THE AREA IMMEDIATELY BEFORE SEEDING PREPARATION. A SEEDBED WILL BE PREPARED BY SCARIFYING TO A DEPTH OF 1 TO 4 INCHES AS DETERMINED ON SITE. THE SEEDBED MUST BE WELL PULVERIZED, SMOOTHED AND FINED. SEEDING WILL BE DONE WITH CULPACKER-SEEDER, DRILL, ROTARY SEEDER OR OTHER MECHANICAL OR HAND SEEDER. SEED WILL BE DISTRIBUTED UNIFORMLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. MULCH WILL BE SPREAD WITH BLOWER-TYPE MULCH EQUIPMENT OR BY HAND AND ANCHORED IMMEDIATELY AFTER IT IS SPREAD. A DISK HARROW WITH THE DISK SET STRAIGHT OR A SPECIAL PACKER DISK MAY BE USED TO PRESS THE MULCH INTO THE SOIL. THE PER ACRE APPLICATION RATES ARE AS FOLLOWS:

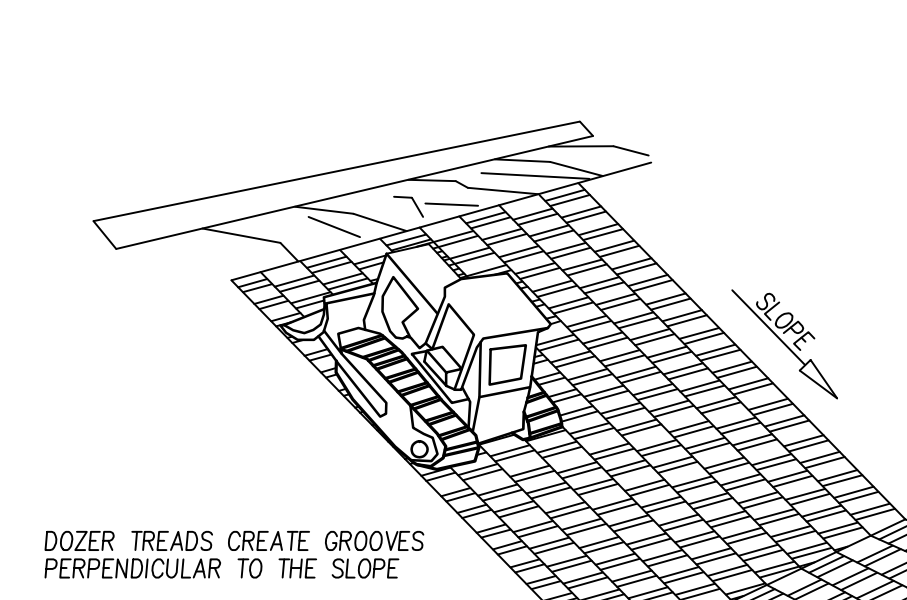
A. SEEDING WITH MULCH: (CONVENTIONAL SEEDING EQUIPMENT ON SLOPES LESS THAN 3:1)

SEED SPECIES	APPLICATION RATE/ACRE	PLANTING DATES
HULLED COMMON BERMOUDAGRASS	10 LBS	3/1 - 6/15
FESCUE	50 LBS	9/1 - 10/31
FESCUE RYE	50 LBS	11/1 - 2/28
HAY MULCH FOR TEMPORARY COVER	5000 LBS	6/15 - 8/3

B. TOPDRESSING: APPLY WHEN PLANTS ARE 2 TO 4 INCHES TALL

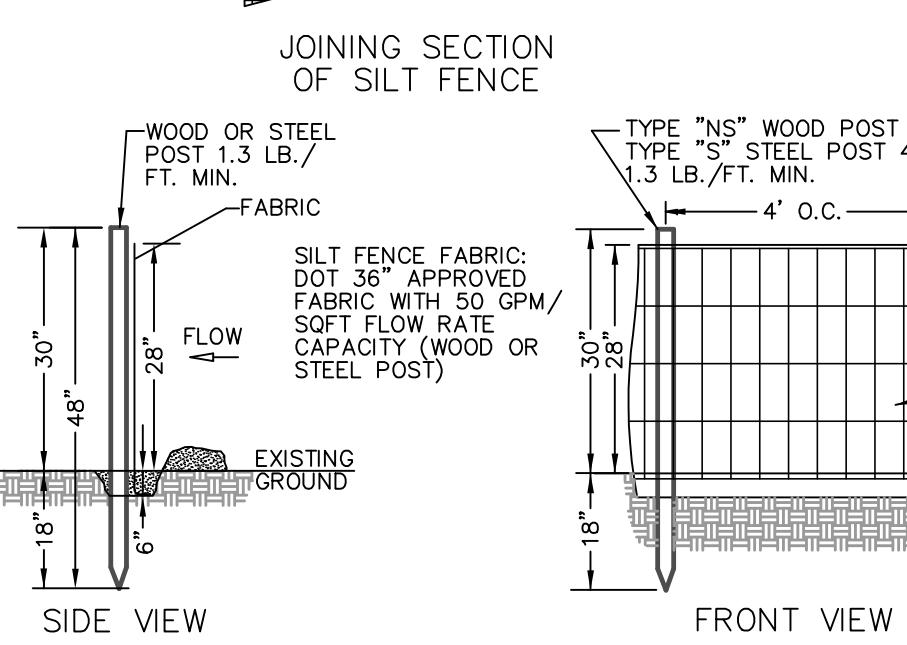
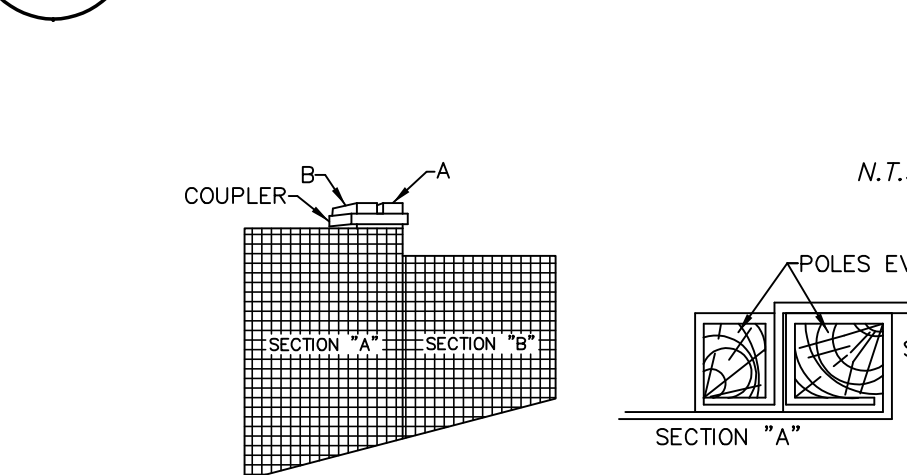
FERTILIZER (AMMONIUM NITRATE 33.5%)	500 LBS/ACRE
FERTILIZER (AMMONIUM NITRATE 33.5%)	500 LBS/ACRE

C. SECOND-YEAR FERTILIZER: (5-10-15 OR EQUIVALENT) 800 LBS/ACRE



DOZER TREADS CREATE GROOVES PERPENDICULAR TO THE SLOPE

**SURFACE ROUGHENING**  
N.T.S.

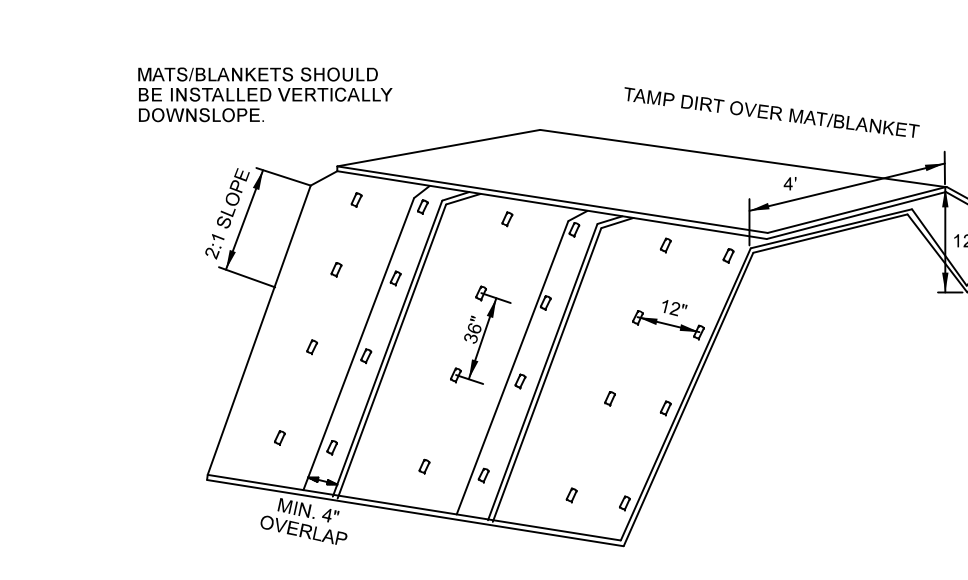


**SEDIMENT BARRIER (TYPE "S" & "NS" SILT FENCE)**  
OR APPROVED EQUAL N.T.S.

**DISTURBED AREA STABILIZATION TEMPORARY SEEDING**  
N.T.S.

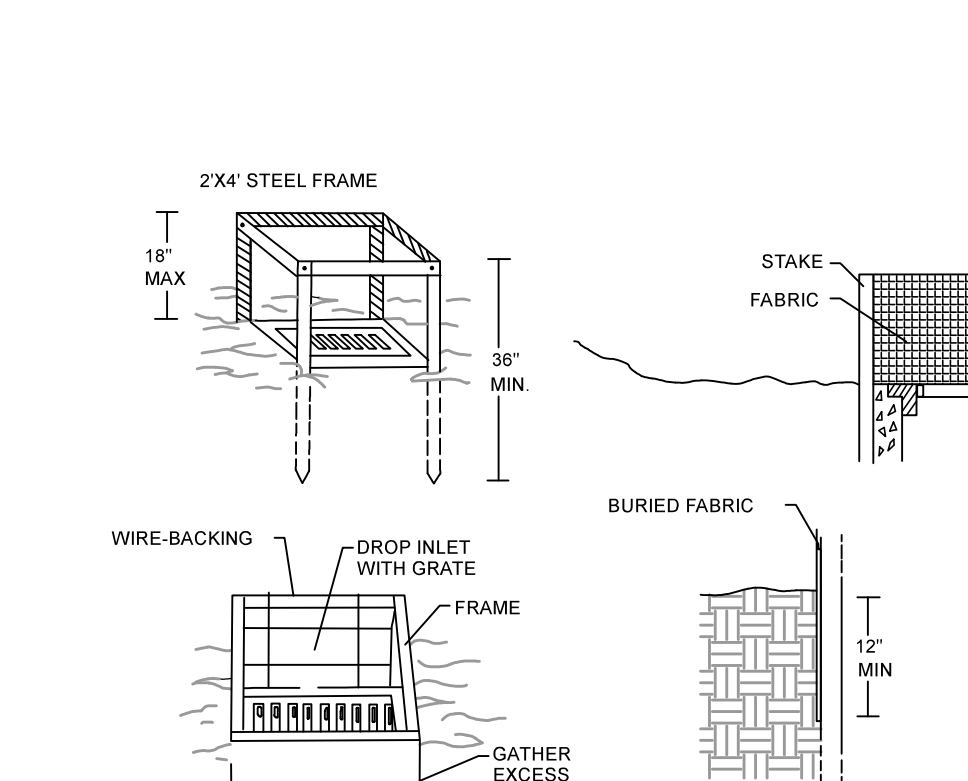


**DISTURBED AREA STABILIZATION PERMANENT VEGETATION**  
N.T.S.

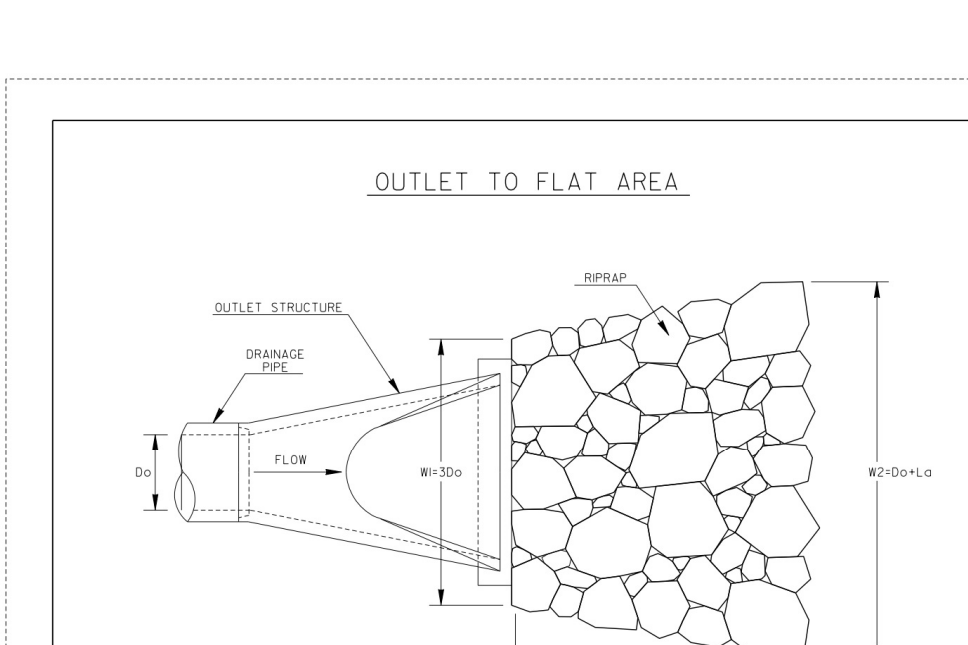


- NOTES:
- SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT
  - LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH
  - INSTALL MATTING ON ALL SLOPES OVER TWENTY FEET (20') IN HEIGHT.

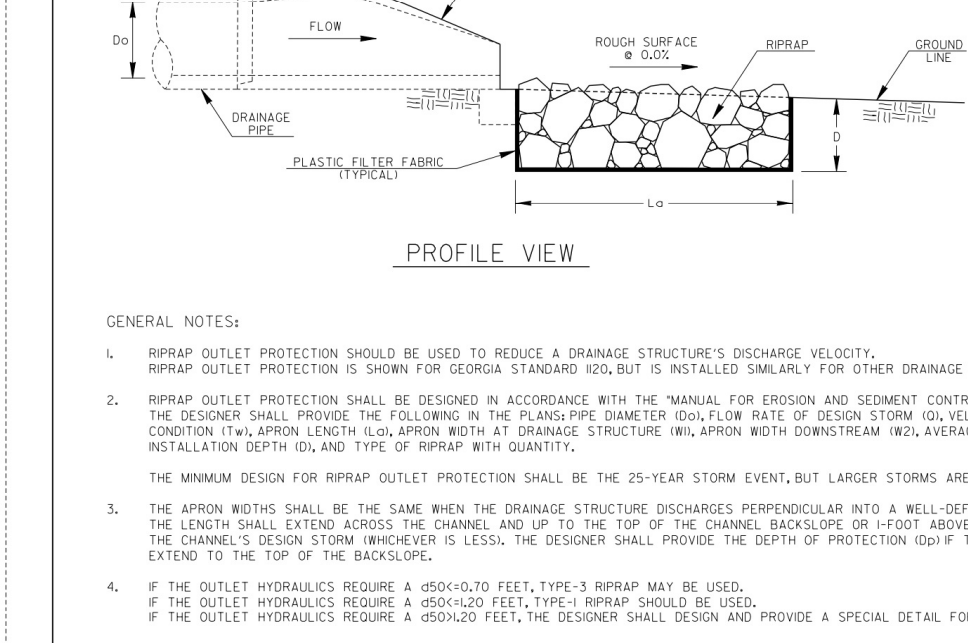
**EROSION CONTROL MATTING AND BLANKETS**  
N.T.S.



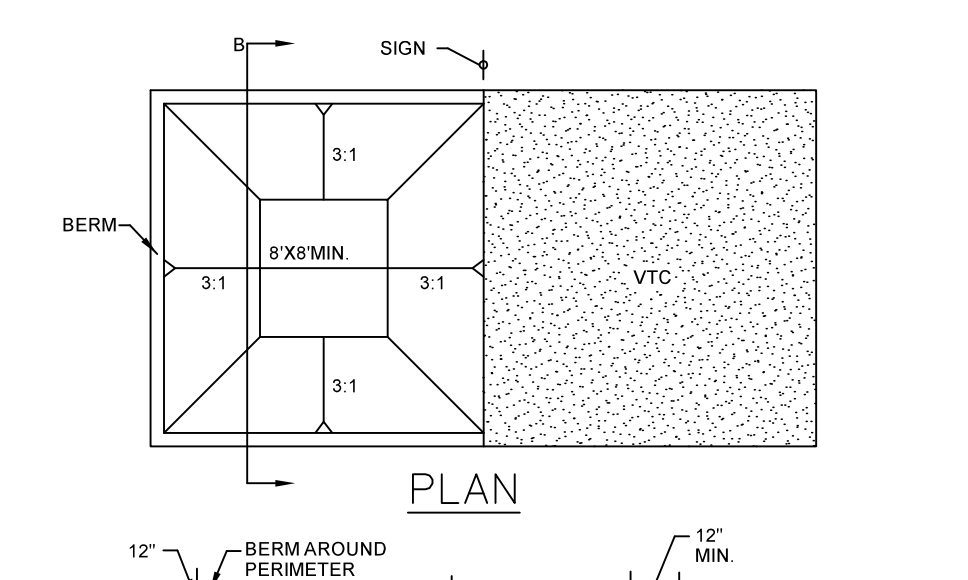
**INLET SEDIMENT TRAP**  
N.T.S.



**SEDIMENT BARRIER (TYPE "S" & "NS" SILT FENCE)**  
OR APPROVED EQUAL N.T.S.



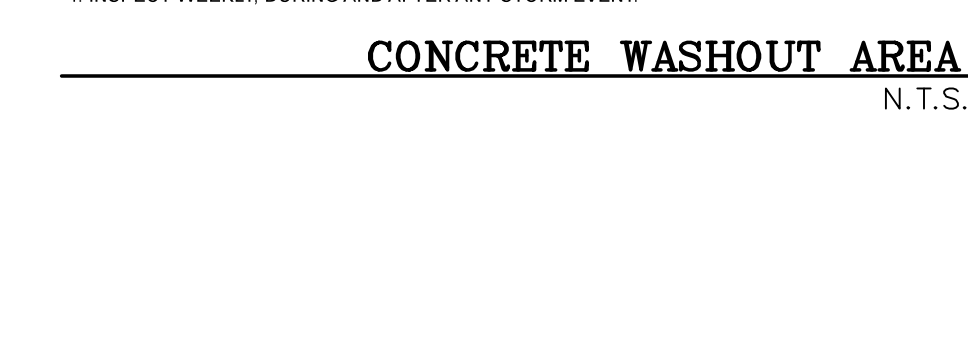
**DISTURBED AREA STABILIZATION PERMANENT VEGETATION**  
N.T.S.



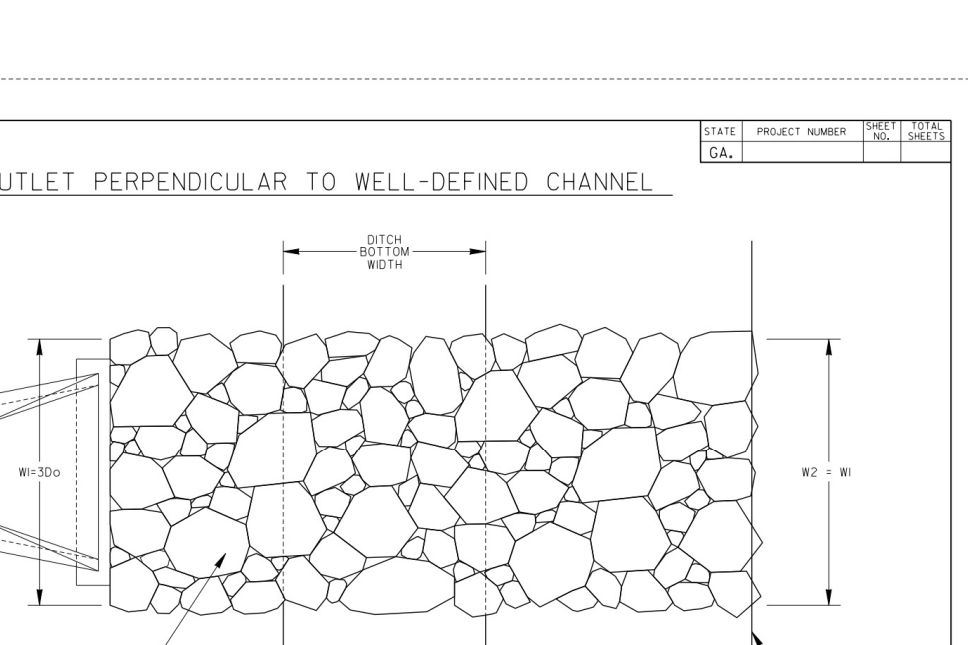
- CONCRETE WASHOUT AREA INSTALLATION NOTES:
- SEE PLAN VIEW FOR LOCATIONS OF WASHOUT AREA
  - THE CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PAVEMENT ON SITE
  - VEHICLE TRACKING CONTROL IS REQUIRED AT THE ACCESS POINT
  - SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMPER TRUCKS
  - EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION
  - DURABLE PORTABLE CONCRETE WASHOUT BASINS OR TUBS MAY BE USED WITH THE APPROVAL OF THE EROSION CONTROL INSPECTOR

**CONCRETE WASHOUT AREA**  
N.T.S.

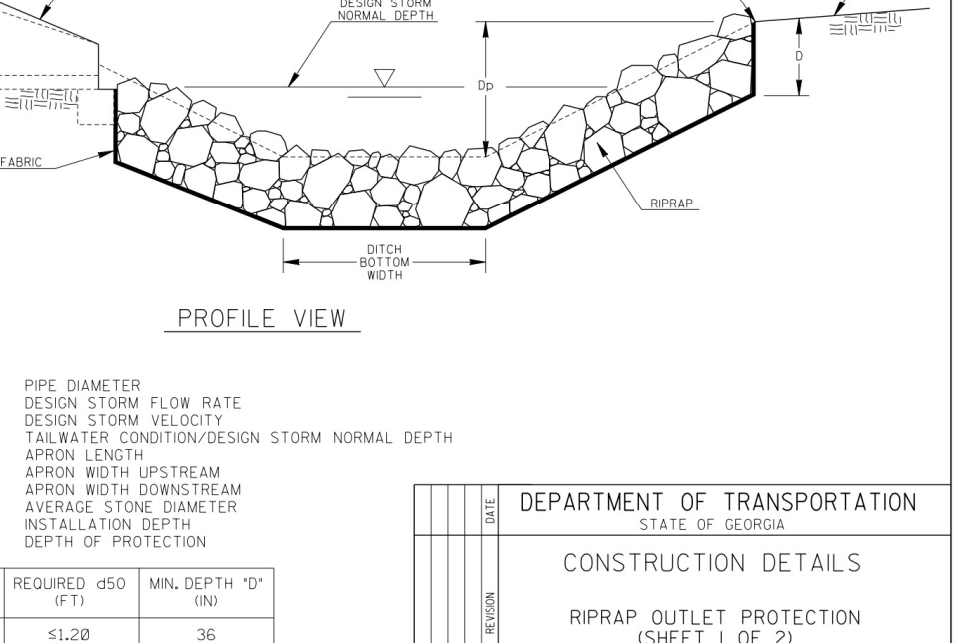
- CONCRETE WASHOUT AREA MAINTENANCE NOTES:
- THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE
  - AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE
  - WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE DRILL SEEDED AND CRIMP MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE COUNTY
  - INSPECT WEEKLY DURING AND AFTER ANY STORM EVENT



**CONCRETE WASHOUT AREA**  
N.T.S.



**SEDIMENT BARRIER (TYPE "S" & "NS" SILT FENCE)**  
OR APPROVED EQUAL N.T.S.

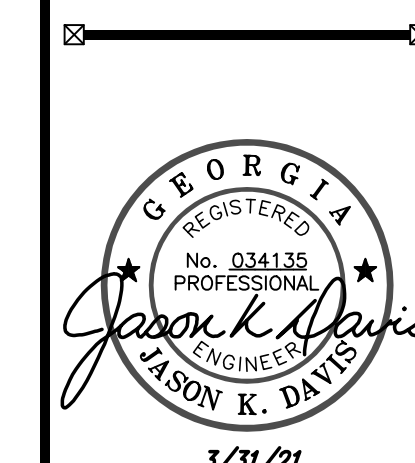


**DISTURBED AREA STABILIZATION PERMANENT VEGETATION**  
N.T.S.

**EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST**

NO.	DESCRIPTION	DATE	REVISION
1	The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted. (The Completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed)	7/1/21	1
2	Level II certification number issued by the Commission, signature and seal of the certified design professional. (Signature, seal and Level II number must be on each sheet pertaining to ES&PC Plan or the Plan will not be reviewed)	7/1/21	1
3	The name and phone number of the 24-hour contact responsible for erosion, sedimentation and pollution controls.	7/1/21	1
4	Provide the name, address, email address, and phone number of primary permittee.	7/1/21	1
5	Note total and disturbed acreages of the project or phase under construction.	7/1/21	1
6	Provide the GPS locations of the beginning and end of the infrastructure project. Give the Latitude and Longitude in decimal degrees.	7/1/21	1
7	Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.	7/1/21	1
8	Descriptions of the nature of construction activity and existing site conditions.	7/1/21	1
9	Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.	7/1/21	1
10	Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, marshlands, etc. which may be affected.	7/1/21	1
11	Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on Part IV page 21 of the permit.	7/1/21	1
12	Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMPs and sampling to meet permit requirements as stated on Part IV page 20 of the permit.	7/1/21	1
13	Design professional certification statement and signature that the permittee's ES&PC Plan provides for representative sampling as stated on Part IV D.6.c.(3) page 37 of the permit as applicable.	7/1/21	1
14	Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements, perimeter control BMPs, and sediment basins within 7 days after installation." in accordance with Part IV A.5 page 26 of the permit.	7/1/21	1
15	Clearly note the statement that "Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of stream vegetation or within 25 feet of the coastal marshland buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits."	7/1/21	1
16	Provide a description of any buffer encroachments and indicate whether a buffer variance is required.	7/1/21	1
17	Clearly note the statement that "Amendments/revisions to the ES&PC Plan which have a significant effect on BMPs with a hydraulic component must be certified by the design professional."	7/1/21	1
18	Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a Section 404 permit."	7/1/21	1
19	Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities."	7/1/21	1
20	Clearly note statement that "Erosion control measures will be maintained at all times. If full implementation of the approved Plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source."	7/1/21	1
21	Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."	7/1/21	1
22	Any construction activity which discharges storm water into an Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of a Block Impaired Stream Segment must comply with Part III, C. of the permit. Include the completed Appendix 1 listing all the BMPs that will be used for those areas of the site which discharge to the Impaired Stream Segment.	7/1/21	1
23	If a TMDL Implementation Plan for sediment has been finalized for the Impaired Stream Segment (identified in item 22 above) at least six months prior to submittal of NOL, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan.	7/1/21	1
24	BMPs for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited.	7/1/21	1
25	Provide BMPs for the remediation of all petroleum spills and leaks.	7/1/21	1
26	Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed.	7/1/21	1
27	Description of practices to provide cover for building materials and building products on site.	7/1/21	1
28	Description of the practices that will be used to reduce the pollutants in storm water discharges.	7/1/21	1
29	Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).	7/1/21	1
30	Provide complete requirements of Inspections and record keeping by the primary permittee.	7/1/21	1
31	Provide complete requirements of Sampling Frequency and Reporting of sampling results.	7/1/21	1
32	Provide complete details for Retention of Records as per Part IV F. of the permit.	7/1/21	1
33	Description of analytical methods to be used to collect and analyze the samples from each location.	7/1/21	1
34	Appendix B rationale for NTU values at all outlet sampling points where applicable.	7/1/21	1
35	Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged also provide a summary chart of the justification and analysis for the representative sampling as applicable.	7/1/21	1
36	A description of appropriate controls and measures that will be implemented at the construction site including: (1) initial sediment storage requirements and perimeter control BMPs, (2) intermediate grading and drainage BMPs, and (3) final BMPs. For construction sites where there will be no mass grading and the initial perimeter control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the Plan may combine all of the BMPs into a single phase.	7/1/21	1
37	Graphic scale and North arrow.	7/1/21	1
38	Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following: Existing Contours USGS 1" = 2000' Topographical Sheets Proposed Contours 1" = 400' Centerline Profile	7/1/21	1
39	Use of alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs as certified by a Design Professional (unless disapproved by GAEPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gawsc.org/georgia.	7/1/21	1
40	Use of alternative BMP for application to the Equivalent BMP List. Please refer to Appendix A-2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition.	7/1/21	1
41	Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to State waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact.	7/1/21	1
42	Delineation of on-site wetlands and all State waters located on and within 200 feet of the project site.	7/1/21	1
43	Delineation and acreage of contributing drainage basins on the project site.	7/1/21	1
44	Delineate on-site drainage and off-site watersheds using USGS 1" = 2000' Topographical sheets.	7/1/21	1
45	An estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.	7/1/21	1
46	Storm drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/delineate all storm water discharge points.	7/1/21	1
47	Soil series for the project site and their delineation.	7/1/21	1
48	The limits of disturbance for each phase of construction.	7/1/21	1
49	Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, re-located detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the Plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual must be included for structural BMPs and all calculations used by the design professional to obtain the required sediment storage when using equivalent controls. When discharging from sediment basins and impoundments, permittees are required to utilize outlet structures that withdraw water from the surface, unless and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.	7/1/21	1
50	Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.	7/1/21	1
51	Provide detailed drawings for all structural practices. Specifications shall include, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.	7/1/21	1
52	Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of year that seeding will take place and for the appropriate geographic region of Georgia.	7/1/21	1

\* If using this checklist for a project that is less than 1 acre and not part of a common development but within 200' of a perennial stream, the \* checklist item would be N/A.



DATE	DESCRIPTION
1/7/21	INITIAL PLAN SET
3/12/21	UPDATED UTILITIES & EC QUANTITIES
3/31/21	REVISE WATER/SEWER PLACEMENT

DATE	REVISION
1	1
2	2
3	3

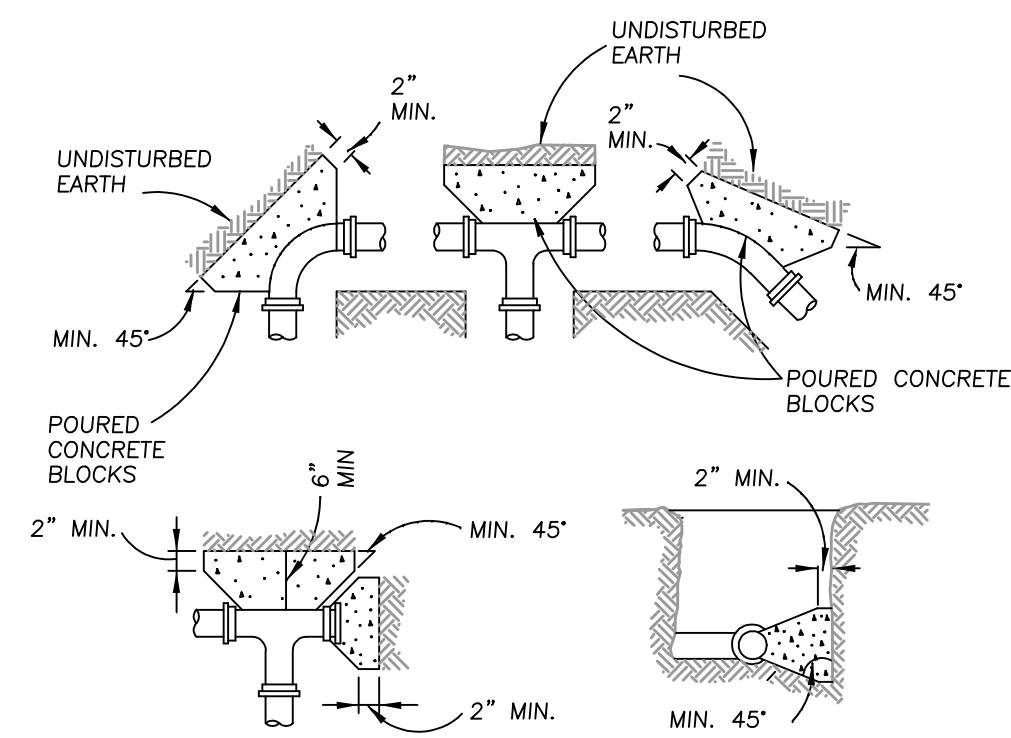
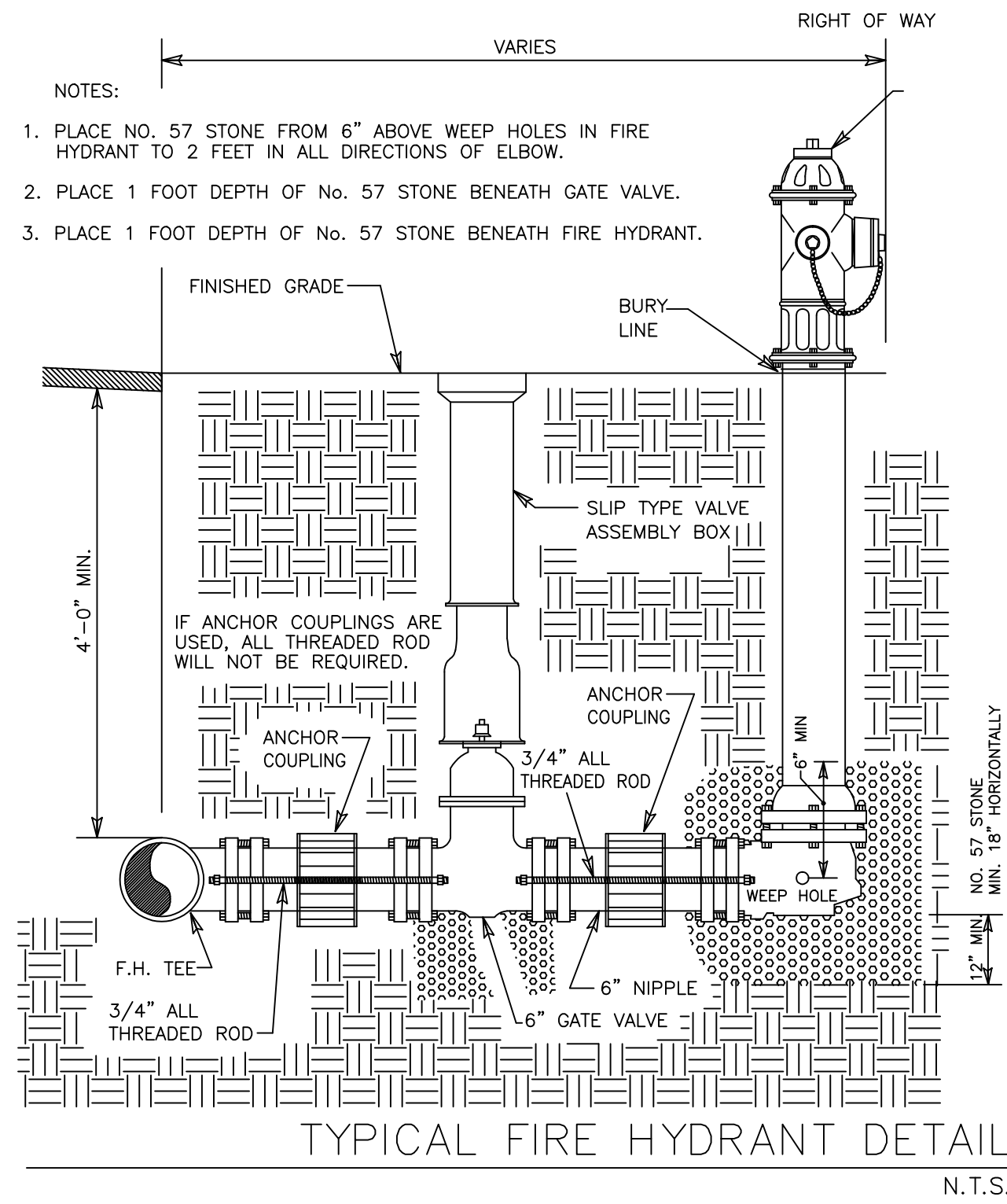
**ES&PC DETAILS**  
OAK GROVE ROAD ROUNDABOUT  
LAND LOTS 853, 898  
12TH DISTRICT  
LUMPKIN COUNTY, GA

DRAWN BY:	GRJ
CHECKED BY:	JKD
LAND LOT:	853,898
DISTRICT:	12TH
SECTION:	-
CITY:	DAHLONGGA
COUNTY:	LUMPKIN
DATE:	1/7/21

SHEET NO.  
8 of 9  
PROJECT NO.  
2020-158

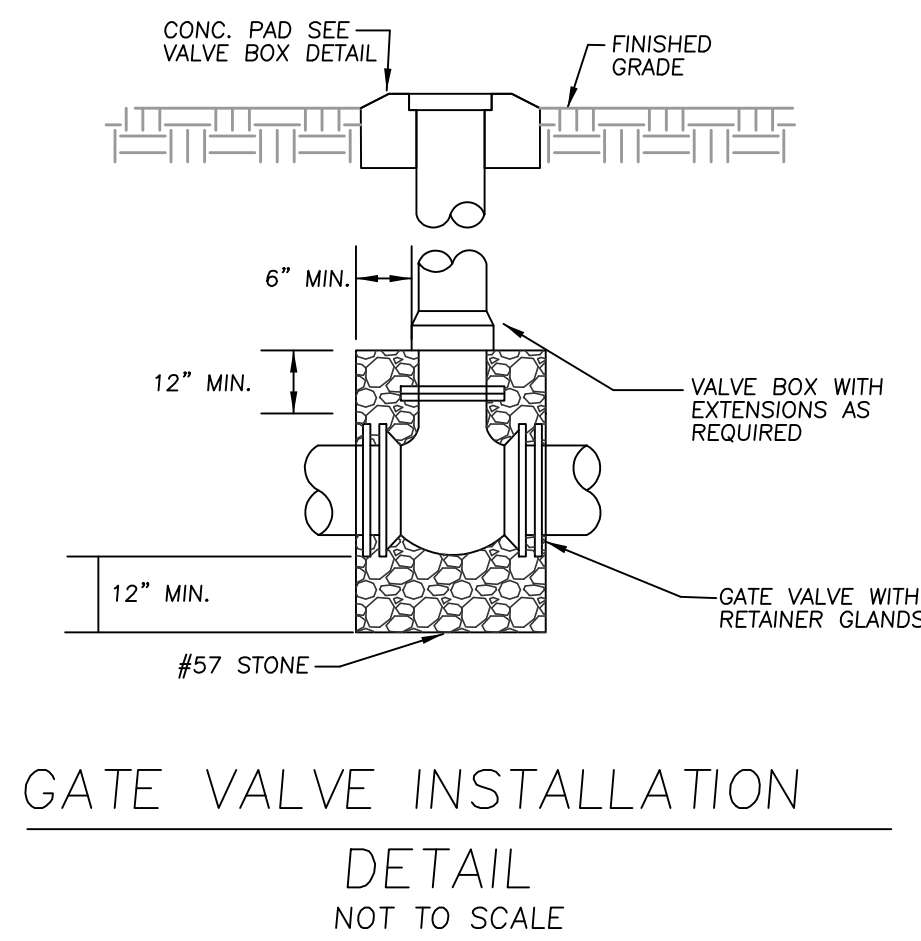
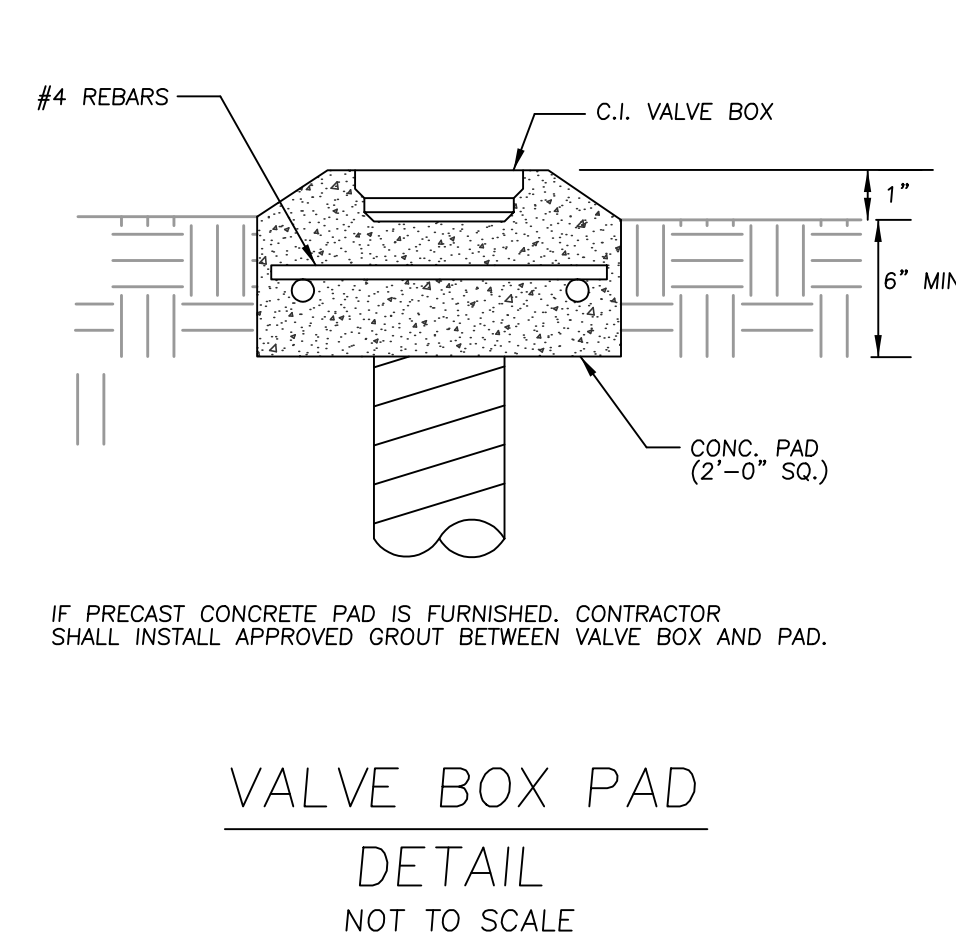
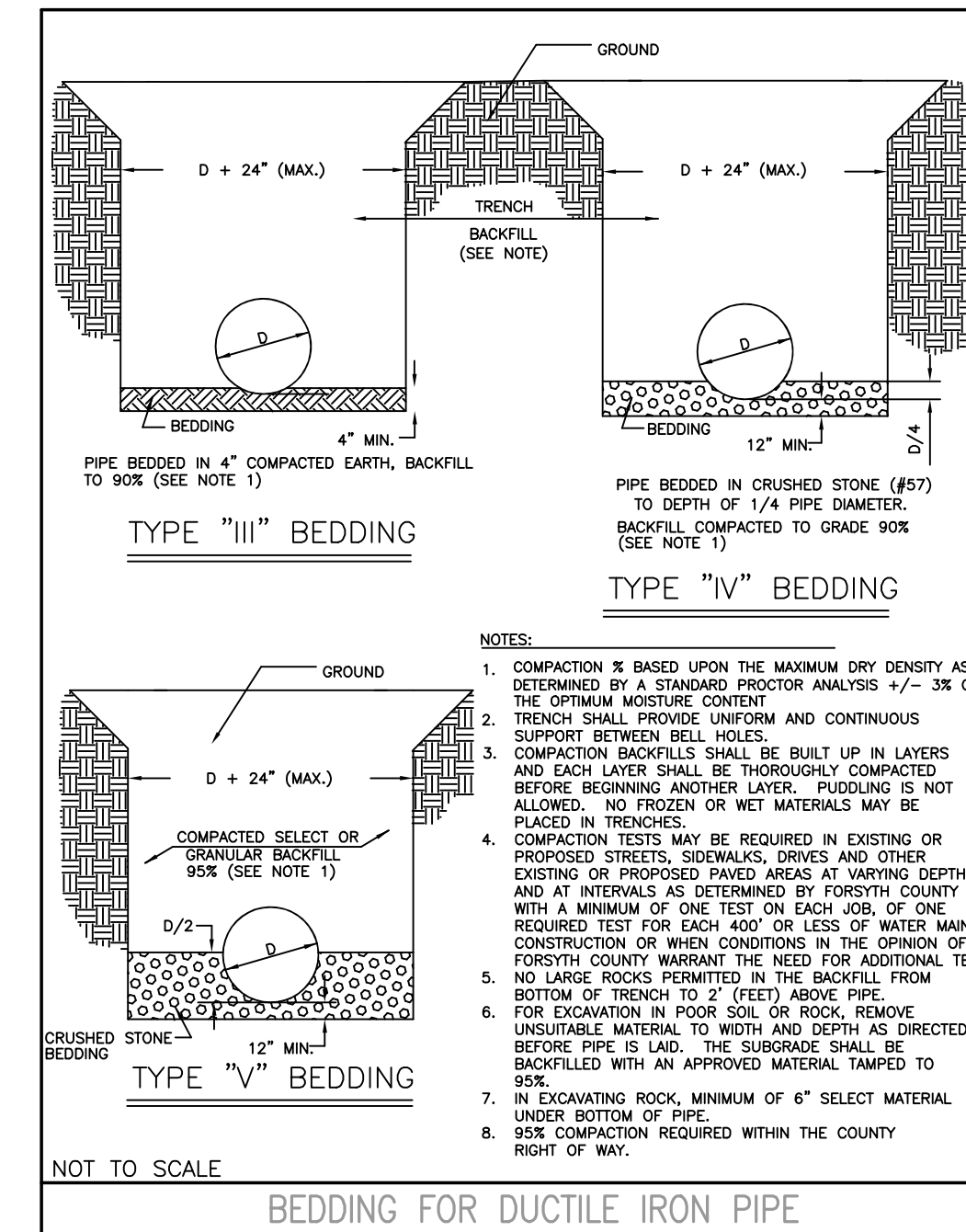
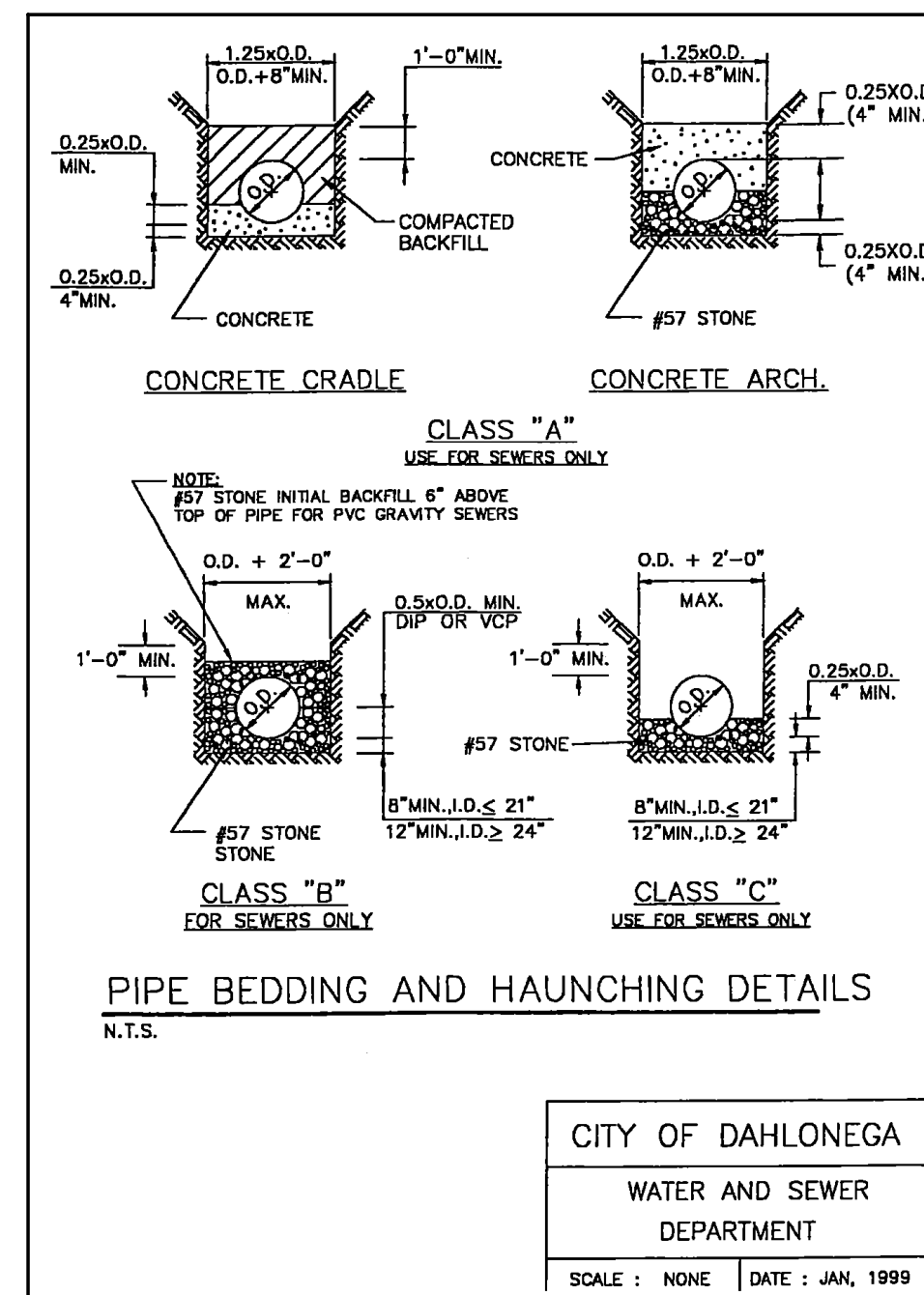
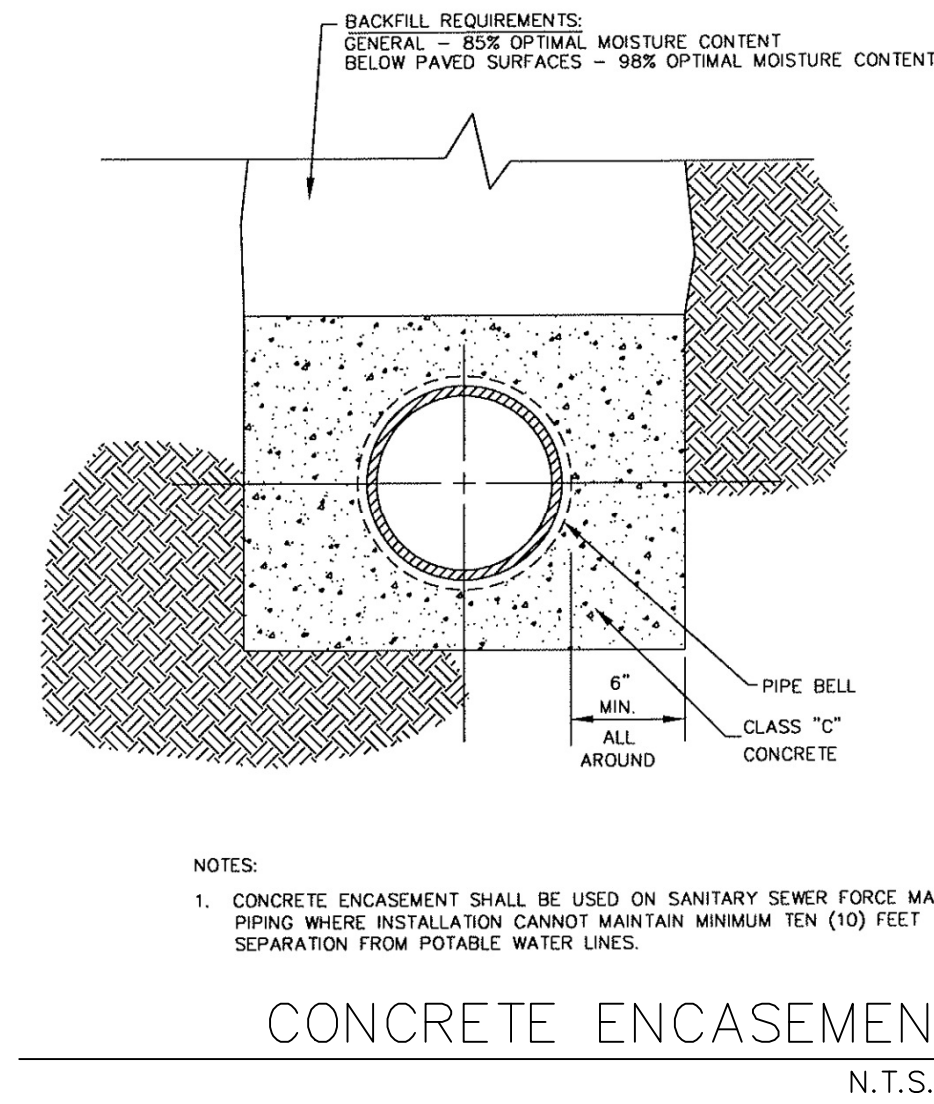
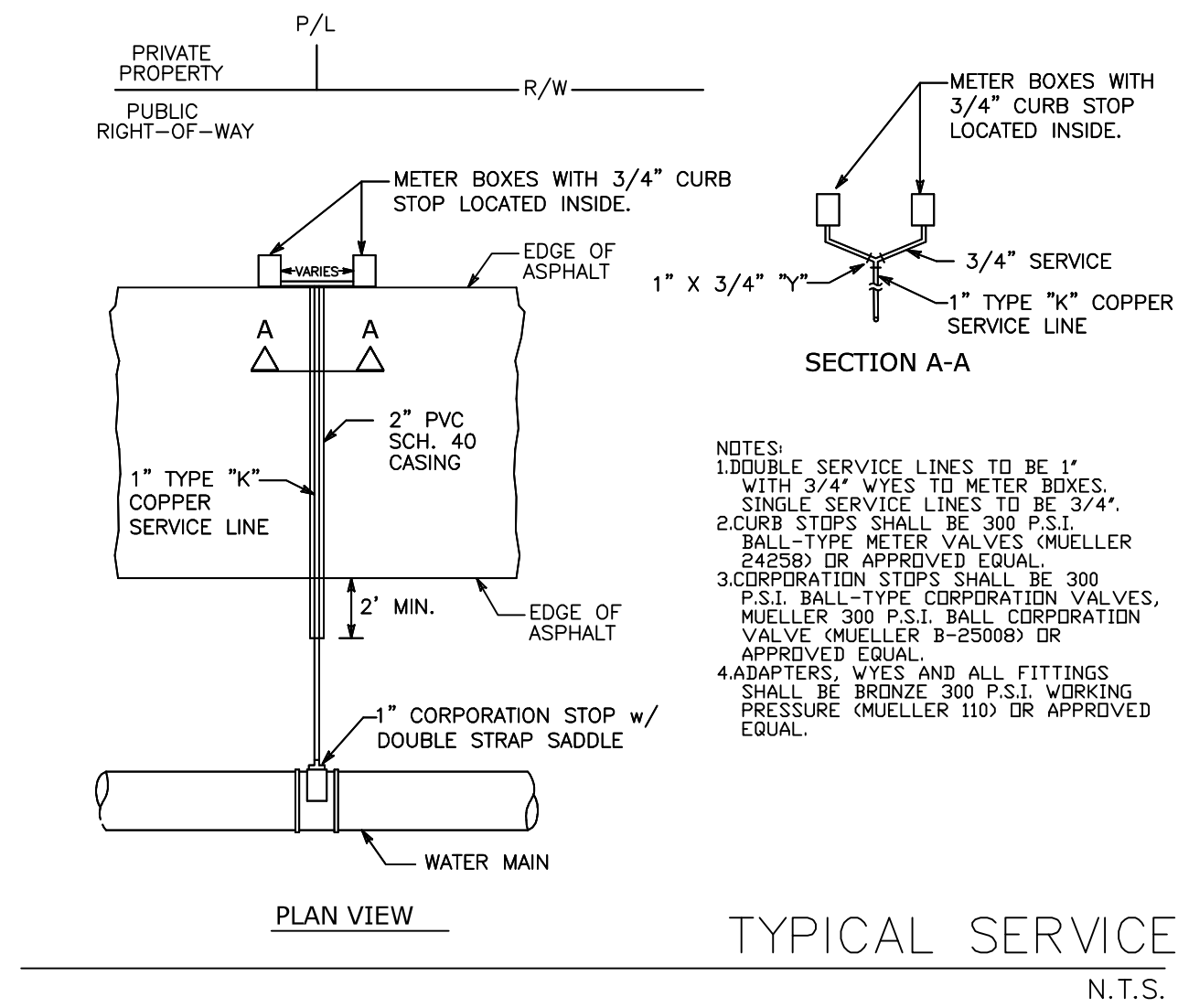
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Effective January 1, 2021



MINIMUM BEARING AREAS IN SQUARE FEET FOR THRUST BLOCKS

PIPE SIZE	TEES	90° BEND	45° BEND	22.5° BEND	VALVELS & PLUGS
2"-4"	1	1	1	1	1
6"	3	4	2	1	3
8"	5	7	4	2	5
10"	9	12	6	3	9
12"	12	16	9	5	12



REVISION	DATE	DESCRIPTION
1	1/7/21	INITIAL PLAN SET
2	3/12/21	UPDATED UTILITIES & EC QUANTITIES
3	3/31/21	REVISE WATER/SEWER PLACEMENT

**WATER & SEWER DETAILS**  
 OAK GROVE ROAD ROUNDABOUT  
 LAND LOTS 853, 898  
 12TH DISTRICT  
 LUMPKIN COUNTY, GA

DRAWN BY:	GRJ
CHECKED BY:	JKD
LAND LOT:	853,898
DISTRICT:	12TH
SECTION:	-
CITY:	DAHLONEGA
COUNTY:	LUMPKIN
DATE:	1/7/21

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