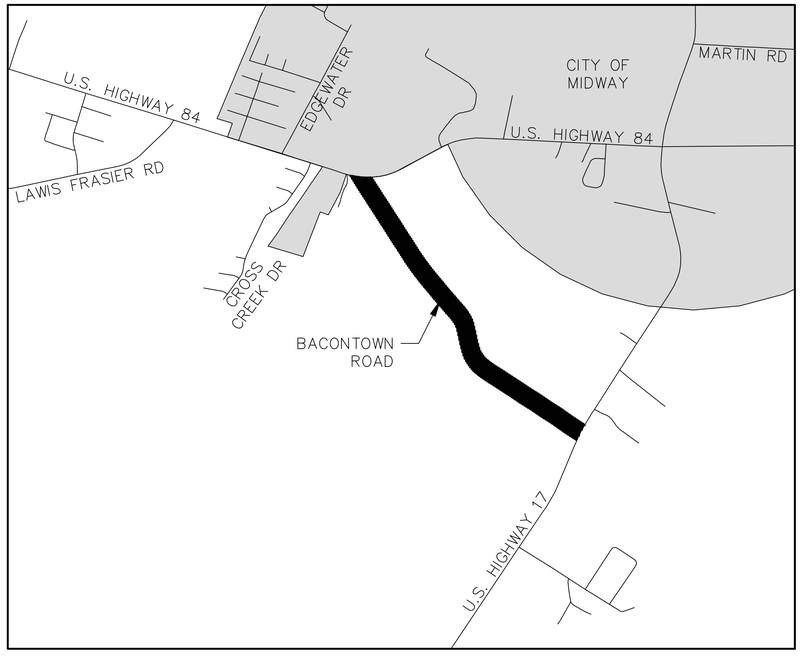
ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD LIBERTY COUNTY BOARD OF COMMISSIONERS

OWNER
LIBERTY COUNTY
BOARD OF COMMISSIONERS
112 NORTH MAIN STREET, SUITE 201
HINESVILLE, GEORGIA, 31313
(912) 876-2164

24-HOUR CONTACT
TRENT LONG
(912) 368-5664
TRLONG@TRLONGENG.COM

SHEET LIST TABLE	
SHEET NO.	SHEET TITLE
C1.1	TITLE SHEET
C1.2	SHEET INDEX
C1.3	PAVEMENT SECTION AND NOTES
C2.1	ROADWAY PLAN SHEET
C2.2	ROADWAY PLAN SHEET
C2.3	ROADWAY PLAN SHEET
C2.4	ROADWAY PLAN SHEET
C2.5	ROADWAY PLAN SHEET
C2.6	ROADWAY PLAN SHEET
C2.7	STORM PROFILE & DETAILS
C3.1	EROSION CONTROL GRASSING DETAILS
GDOT DETAIL T-19	RUMBLE STRIPS
GDOT DETAIL 1019A	PRECAST DROP INLETS



VICINITY MAP N.T.S.

START LOCATION: N31° 47' 53.45", W81° 27' 07.06"
END LOCATION: N31° 47' 03.42", W81° 26' 17.34".

DRAWING LEGEND

DESCRIPTION	PROPOSED	EXISTING
RIGHT OF WAY	R/W	R/W
EDGE OF PAVEMENT		
DITCH CENTERLINE		
SANITARY SEWER	8"S	
WATER LINE	10"W	10"W
FORCE MAIN	FM	FM
UNDERGROUND GAS LINE	8"G	8"G
CONTOURS	81	81
STORM DRAINAGE PIPE		
ELEVATION	FG: 78.15	X 81.90
SILT FENCE NON-SENSITIVE	Sd1-NS	
SILT FENCE SENSITIVE	Sd1-S	
INLET PROTECTION	Sd2-P	
CHECK DAM- HAY BALE	Cd-Hb	
CHECK DAM - RIP RAP	Cd-Rp	
CONSTRUCTION EXIT	Cx	
STORM OUTLET PROTECTION	St	
SILT FENCE		
MULCHING	Ds1	
TEMPORARY GRASSING	Ds2	
PERMANENT GRASSING	Ds3	
FIRE HYDRANT		
SEWER MANHOLE		
WATER VALVE		
DRAINAGE FLOW		
WATER METER		
BENCHMARK		
WELL		
GUY POLE		
IRON PIN	SET I.P.S	FOUND I.P.F
TELEPHONE PEDESTAL		
POWER POLE		
PROPOSED ASPHALT OVERLAY		
PROPOSED ASPHALT OVERLAY WITH FULL DEPTH RECLAIMATION		

GEORGIA REGISTERED PROFESSIONAL ENGINEER TRENT R. LONG

GSWCC# 0000002134

HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664

STATESBORO:
302 S Zetterower Avenue
Statesboro, Georgia 30458
(912) 335-1046

TRLONG ENGINEERING, P.C.
www.trlongeng.com

ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD
LIBERTY COUNTY BOARD OF COMMISSIONERS

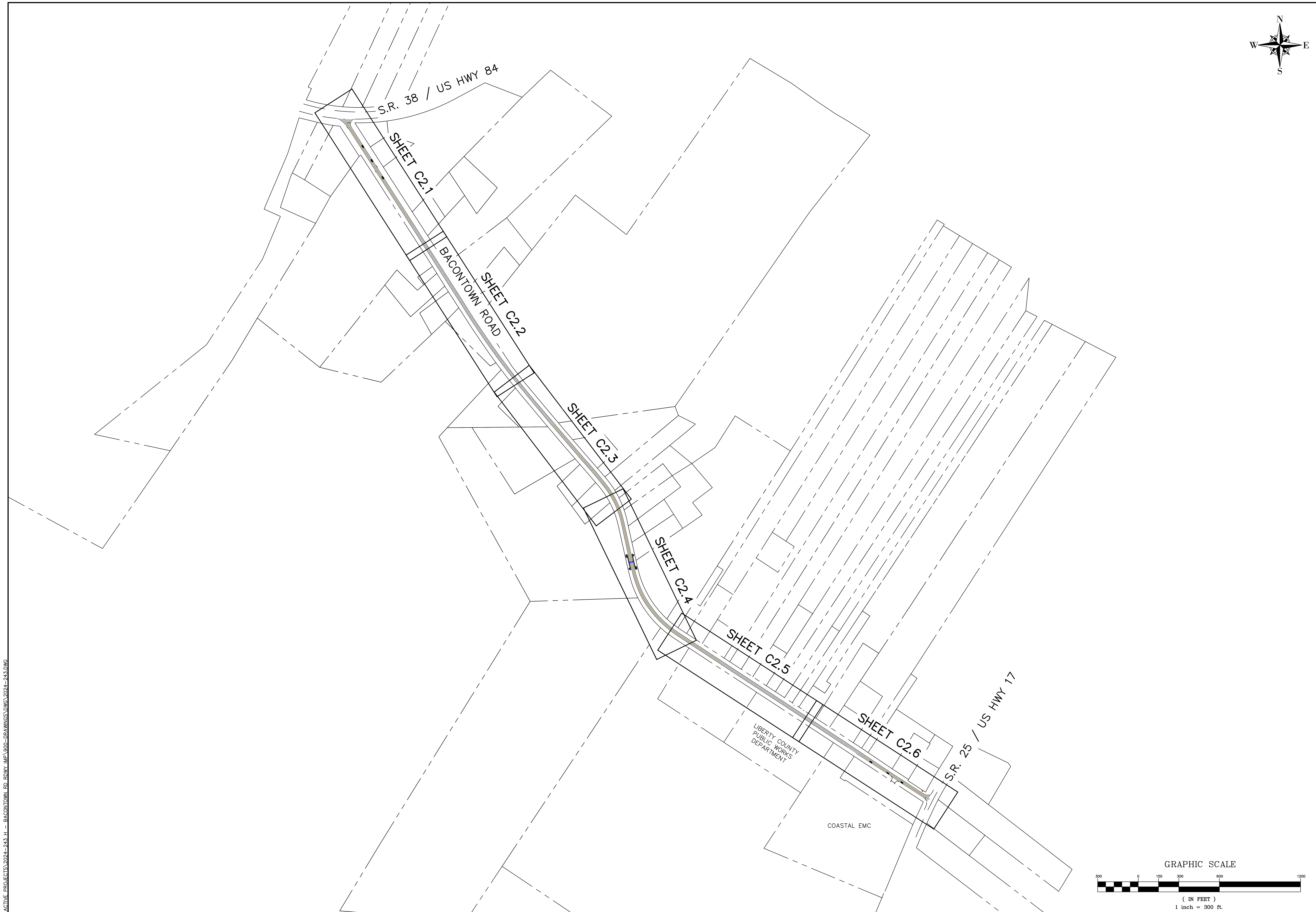
SHEET NAME:
TITLE SHEET

REVISIONS:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 03/14/2025
DRAWN BY: TRL
CHECKED BY: TRL
PROJECT #: 2024-243

SHEET NUMBER:
C1.1

G:\ACTIVE PROJECTS\2024-243 H - BACONTOWN RD ROWY IMP\900-DRAWINGS\DWG\2024-243.DWG



GEORGIA811.COM DIAL 811

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS CONTAINED WITHIN THIS SET OF DOCUMENTS AND SHALL REPORT ANY DISCREPANCIES TO T. R. LONG ENGINEERING, P.C. FOR IMMEDIATE RESOLUTION.

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. 27744 TRENT R. LONG

GSWCC# 0000002134

HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664

STATESBORO:
302 S Zetterower Avenue
Statesboro, Georgia 30458
(912) 335-1046

TR LONG ENGINEERING, P.C.
www.trlongeng.com

ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD LIBERTY COUNTY BOARD OF COMMISSIONERS

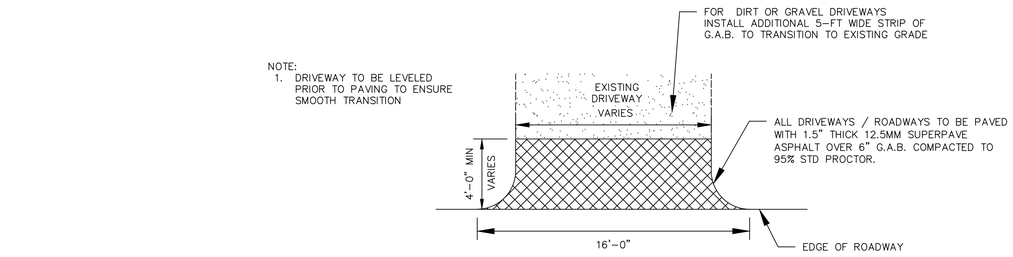
SHEET NAME:
SHEET INDEX

REVISIONS:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 03/14/2025
DRAWN BY: TRL
CHECKED BY: TRL
PROJECT #: 2024-243

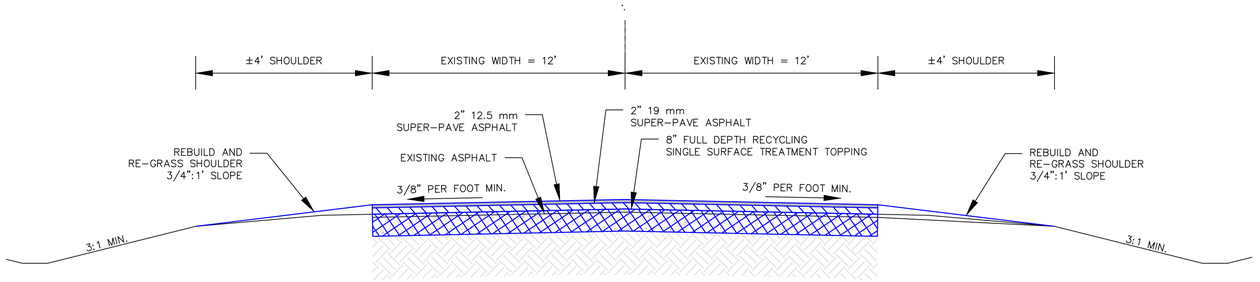
SHEET NUMBER:
C1.2

G:\ACTIVE PROJECTS\2024-243 H - BACONTOWN RD RDWY IMP\900-DRAWINGS\DWG\2024-243.DWG



DRIVEWAY DETAIL
N.T.S.

NOTE:
RUMBLE STRIPS SHALL BE CONSTRUCTED OF ASPHALT.



ROADWAY CROSS SECTION DETAIL
N.T.S.

NOTE:

1. SINCE THE LAND USE IS PRIMARILY RESIDENTIAL, ALL WORK WILL BE COMPLETED DURING DAYLIGHT HOURS. THE COUNTY DOES NOT DESIRE TO CONDUCT NIGHT TIME OPERATIONS IN THIS AREA.
2. IT IS PREFERRED THAT ALL ROAD CLOSURES BE COMPLETED PRIOR TO AUGUST 4, 2025.
3. BACONTOWN ROAD CAN BE CLOSED TO THRU TRAFFIC FOR UP TO 14 CALENDAR DAYS.
4. CONTRACTOR SHALL MAKE THE ROADWAY ACCESSIBLE TO RESIDENTS, THE PUBLIC WORKS DEPARTMENT AND EMERGENCY VEHICLES DURING CLOSURES.
5. ALL ROAD CLOSURES MUST BE ADVERTISED FOR 7-DAYS PRIOR TO CLOSURE.
6. CONTRACTOR SHALL PROVIDE VARIABLE MESSAGE BOARDS FOR EACH DIRECTION OF TRAVEL ALONG U.S. HIGHWAY 84 AND U.S. HIGHWAY 17 (4 EACH) FOR TWO WEEKS PRIOR TO CLOSURE AND DURING CLOSURE.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACEMENT, MAINTENANCE AND INSPECTION OF ALL TRAFFIC CONTROL DEVICES. SEE INSTRUCTIONS TO BIDDERS.
8. USE SECTION 402 HOT MIX RECYCLED ASPHALTIC CONCRETE OF THE PUBLICATION ENTITLED STANDARD SPECIFICATIONS CONSTRUCTION OF TRANSPORTATION SYSTEMS MOST RECENT VERSION FOR ASPHALT CONSTRUCTION.
9. ALL STRIPING TO BE REPLACED WITH THERMOPLASTIC PAINT MEETING GEORGIA D.O.T. STANDARD SPECIFICATIONS.
10. EXTEND STRIPING TO U.S. HIGHWAY 84.
11. ALL WORK SHALL COMPLY WITH THE GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES, MOST CURRENT EDITION.
12. 6" WHITE STRIPING SHALL BE 4" FROM EDGE OF NEW PAVEMENT.
13. THE COST FOR TACK SHOULD BE INCLUDED IN THE ASPHALT PRICE.
14. THE FULL DEPTH RECLAMATION SHOULD FOLLOW SECTION 315 CEMENT STABILIZED RECLAIMED BASE CONSTRUCTION OF THE PUBLICATION ENTITLED STANDARD SPECIFICATIONS CONSTRUCTION OF TRANSPORTATION SYSTEMS MOST RECIENT VERSION. HOWEVER, THE COSTS FOR PORTLAND CEMENT SHALL BE INCLUDED IN THE UNIT PRICE FOR THE FULL DEPTH RECLAMATION.
15. THE CONTRACTOR SHALL INCLUDE COMPACTION TEST OF THE CEMENTOUS BASE MATERIAL TO INSURE THAT THE MINIMUM COMPRESSIVE STRENGTH IS MEET PRIOR TO PLACEMENT OF THE ASPHALT SURFACE. THERE SHWLL BE ONE TEST FOR EVERY 600 L.F. OF ROADWAY CENTERLINE. THE COST OF TESTING SHALL BE INCLUDED IN THE UNIT PRICE FOR FULL DEPTH RECLAMATION.

HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664

STATESBORO:
302 S Zetterower Avenue
Statesboro, Georgia 30458
(912) 335-1046

TRLONG ENGINEERING, P.C.
www.trlongeng.com

ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD LIBERTY COUNTY BOARD OF COMMISSIONERS

SHEET NAME:
PAVEMENT SECTION AND NOTES

REVISIONS:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 03/14/2025
DRAWN BY: TRL
CHECKED BY: TRL
PROJECT #: 2024-243

SHEET NUMBER:
C1.3

WHITAKER LAB & ENGINEERING
2500 Tremont Road • Savannah, Georgia 31405
912.234.0696 • www.whitakerlab.net

February 27, 2025

Liberty County Board of Commissioners
112 North Main Street
Hinesville, GA 31313

Care of: T. R. Long Engineering, P.C.
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664 (Office)
Mr. Trent R Long, PE
TRLong@trlongeng.com

Referencing: Existing Pavement Evaluation Services
Bacontown Road (approximately 6700 LF roadway)
Midway, Liberty County, GA
Whitaker Report No.: 02-27-25-5

Dear Mr. Long:

This evaluation was performed in an effort to identify the existing pavement section and underlying subgrade soil conditions for determination if the approximately 6,700 linear foot of Bacontown Road is suitable for full depth reclamation.

In accordance with our proposal dated January 6, 2025, Whitaker performed the following field services for identification of the existing pavement section and underlying subgrade soil conditions:

1. Whitaker performed an asphalt core approximately every 950 linear feet of roadway along an approximate 6,700 linear feet of Bacontown Road in Liberty County, GA. In all, seven (7) cores were performed.
2. Hand auger borings, incorporating dynamic cone penetration (DCP) testing at one-foot intervals, were performed at each core location extending to depths reaching 3 feet below the bottom of the existing pavement section.
3. The top 12 inches of asphalt, base, and underlying soil were collected to determine suitably for full depth reclamation.

Findings:

- Existing asphalt pavement section consisted of approximately 2.75 to 3.5 inches of asphalt. The entire pavement section consisted of asphalt only, no base material was encountered below the asphalt.
- The subgrade soils immediately below the asphalt predominately consisted of very stiff sand clays extending to a depth of 3 ½ to 8 inches below the bottom of the pavement section elevation.
- Below the very stiff sand clays , firm to very firm sands were predominately encountered and extended to the termination depth of the DCP auger borings at 3 feet below the bottom of the existing pavement section elevations.
- Groundwater was not encountered (at the time of boring) within the auger borings performed for this evaluation.

Assessment:

After review of the roadway condition, pavement section materials/thickness and subgrade type/relative density, it was determined that the existing pavement section and underlying subgrade soil conditions are favorable to utilize full depth reclamation (FDR) to improve the roadway.

Due to relatively consistent conditions encountered, only one mix design was determined necessary.

Cores were delivered to CMS in Locust Grove, GA for the performance of the FDR mix design. The top 8 inches of each DCP location were combined into one sample, pulverized and thoroughly mixed together. The FDR mix design was performed on the composite sample. We have attached CMS's FDR mix design report to this letter for your reference and review.

Recommendations:

Based upon field data collected from coring locations and FDR mix design performed by CMS, Whitaker recommends utilizing a cement percentage that will yield a laboratory average compressive strength of 400+ psi to ensure 300+ psi unconfined compressive strength is achieved in the field on the 8-inch-thick FDR base:

1. Thoroughly pulverize and mix for a full 8-inch depth. Pulverization shall be performed so that 100% of the material passes the #4 sieve. Please note that the pulverization and mixing will be critical for successful FDR base.

2. Utilize ±6% Portland cement content for a full 8-inch depth (±46 lbs per square yard).
3. The moisture content of the mixed FDR material (with cement added) shall approximate 8.0% moisture ±1% during final compaction efforts.
4. After mixing and compacting in-place, FDR shall have an in-place dry unit weight of at least 126 pcf based upon ASTM D698 (standard proctor).

FDR-cement stabilized mix shall meet the GDOT standard specification Section 315. This standard specification is attached to this report.

Structural layer coefficient is 0.22 per inch for FDR-cement stabilized layers. The structural layer coefficient for new asphalt is generally taken as 0.44 per inch. Asphalt thickness residing above the 8-inch FDR layer shall be determined by the desired structural number for the roadway.

Based upon the provided traffic count of 2,100 cars per day and near surface subgrade soils encountered within the auger borings, Whitaker recommends a structural number of 3.5 be utilized for the planned new pavement section. Based upon 8 inches of FDR-cement stabilized base at 0.22 per inch, asphalt pavement thickness of 4 inches should provide a structural number of 3.5.

Asphalt shall be placed in two layers and shall consist of 2" of 12.5 mm Superpave overlay on 2" of 19 mm Superpave or 2" of 12.5 mm Superpave overlay on 2" of 12.5 mm Superpave. Asphalt placement shall meet all GDOT specifications.

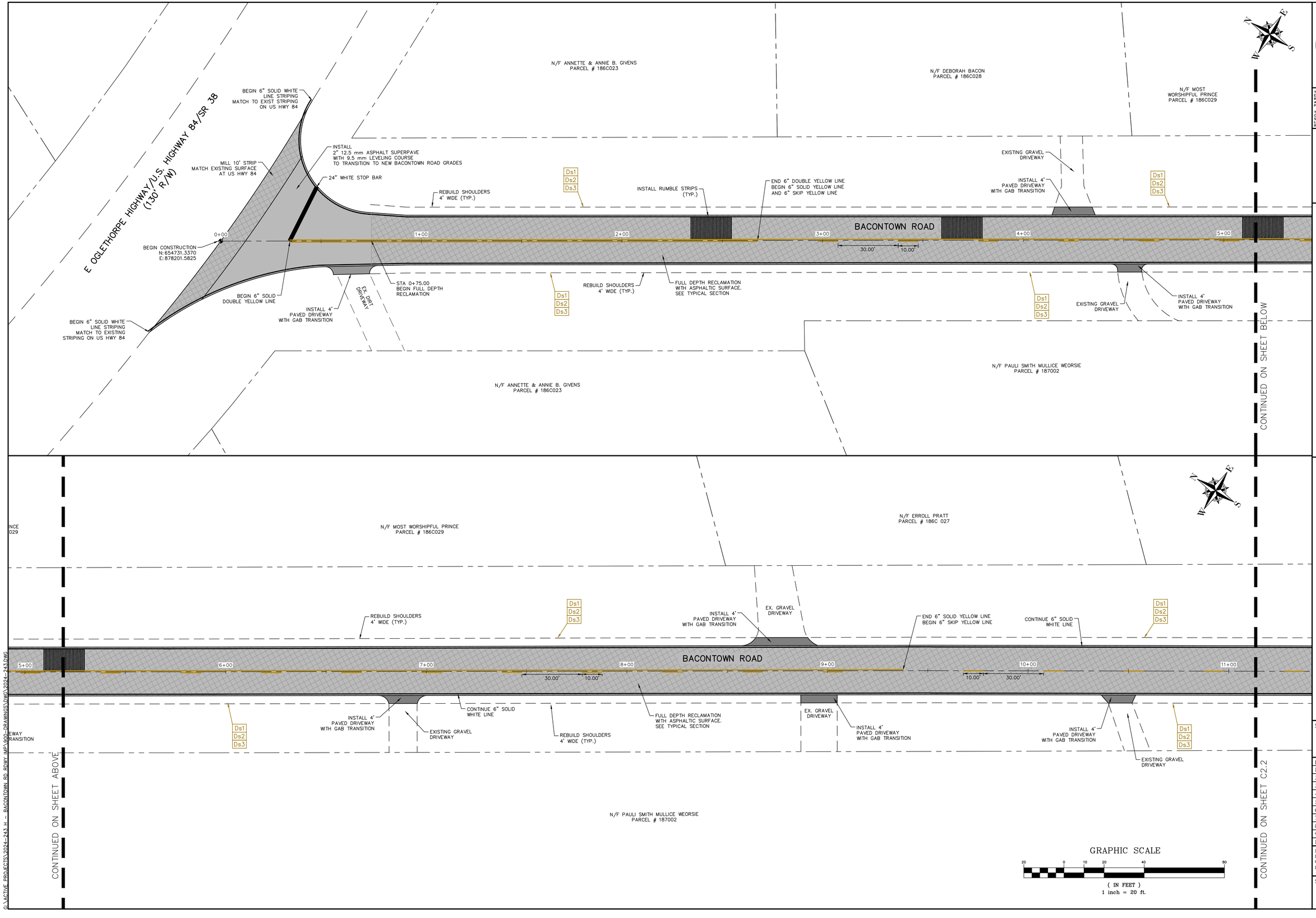
We appreciate the opportunity to be of service on this project. Should you have any questions or require additional information, please do not hesitate to call the office.

Respectfully submitted,
WHITAKER LABORATORY, INC.

Jason H. Follo, P.E.
V.P. & Chief Engineer
GA #31031

Blake L. Jones, P.E.
Project Engineer
GA #44657

G:\ACTIVE PROJECTS\2024-243 H - BACONTOWN RD ROW\IMP\900-DRAWINGS\DWG\2024-243.DWG



HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664

STATESBORO:
302 S Zetterower Avenue
Statesboro, Georgia 30458
(912) 335-1046

T.R. LONG ENGINEERING, P.C.

www.trlongeng.com

ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD LIBERTY COUNTY BOARD OF COMMISSIONERS

SHEET NAME:
ROADWAY PLAN SHEET

REVISIONS:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 03/14/2025
DRAWN BY: TRL
CHECKED BY: TRL
PROJECT #: 2024-243

SHEET NUMBER:
C2.1

G:\ACTIVE PROJECTS\2024-243 H - BACONTOWN RD ROW\ IMPV\300-DRAWINGS\DWG\2024-243.DWG

GEORGIA811.COM DIAL 811

GSWCC# 0000002134

HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664

STATESBORO:
302 S Zetterower Avenue
Statesboro, Georgia 30458
(912) 335-1046

TRLONG ENGINEERING, P.C.
www.trlongeng.com

ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD LIBERTY COUNTY BOARD OF COMMISSIONERS

SHEET NAME:
ROADWAY PLAN SHEET

REVISIONS:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 03/14/2025
DRAWN BY: TRL
CHECKED BY: TRL
PROJECT #: 2024-243

SHEET NUMBER:
C2.2

G:\ACTIVE PROJECTS\2024-243 H - BACONTOWN RD RDWY IMPV\900-DRAWINGS\DWG\2024-243.DWG

CONTINUED ON SHEET C2.2

N/F JOHN F. MARTIN & ETAL
PARCEL # 187011

N/F TRINITY CHURCH
PARCEL # 187014

Ds1
Ds2
Ds3

REBUILD SHOULDERS
4' WIDE (TYP.)

FULL DEPTH RECLAMATION
WITH ASPHALTIC SURFACE.
SEE TYPICAL SECTION

EXIST
DIRT

INST
PAV
WITH

BACONTOWN ROAD

23+00 24+00 25+00 26+00 27+00 28+00 29+00

10.00' 30.00'

CONTINUE 6" SOLID
WHITE LINE

CONTINUE 6" SKIP
YELLOW LINE

END 6" SKIP YELLOW LINE
BEGIN 6" SOLID YELLOW LINE
& 6" SKIP YELLOW LINE

WITH

N/F JOHN F. MARTIN & ETAL
PARCEL # 187011

N/F GARY L. FLOWERS
PARCEL# 187013

CONTINUED ON SHEET BELOW

/F TRINITY CHURCH
PARCEL # 187014

N/F RANDOLPH JONES, JR.
PARCEL # 187015

N/F COREY L. MCMILLIAN
PARCEL # 187016

N/F JAMES BROCKINGTON, JR.
& HAZEL S. BROCKINGTON
PARCEL # 187B004

N/F GLORIA ANN BACON
PARCEL#187B 005

EXISTING
DIRT DRIVEWAY

INSTALL 4'
PAVED DRIVEWAY
WITH GAB TRANSITION

INSTALL 4'
PAVED DRIVEWAY
WITH GAB TRANSITION

EX. GRAVEL
DRIVEWAY

Ds1
Ds2
Ds3

INSTALL 4'
PAVED DRIVEWAY
WITH GAB TRANSITION

CONTINUE 6"
SKIP YELLOW LINE

EX. GRAVEL
DRIVEWAY

REBUILD SHOULDERS
4' WIDE (TYP.)

BEGIN 6" SOLID DOUBLE
YELLOW LINE

EX. GRAVEL
DRIVEWAY

INSTALL 4'
PAVED DRIVEWAY
WITH GAB TRANSITION

EXISTING
DIRT DRIVEWAY

INSTALL 4'
PAVED DRIVEWAY
WITH GAB TRANSITION

BACONTOWN ROAD

29+00 30+00 31+00 32+00 33+00 34+00

30.00' 10.00'

INSTALL 4'
PAVED DRIVEWAY
WITH GAB TRANSITION

EXISTING
DIRT DRIVEWAY

REBUILD SHOULDERS
4' WIDE (TYP.)

FULL DEPTH RECLAMATION
WITH ASPHALTIC SURFACE.
SEE TYPICAL SECTION

Ds1
Ds2
Ds3

CONTINUE 6" SOLID
WHITE LINE

EX. GRAVEL
DRIVEWAY

INSTALL 4'
PAVED DRIVEWAY
WITH GAB TRANSITION

EX. GRAVEL
DRIVEWAY

INSTALL 4'
PAVED DRIVEWAY
WITH GAB TRANSITION

CONTINUED ON SHEET ABOVE

N/F GARY L. FLOWERS
PARCEL # 187013

N/F MARY E. HODGES
PARCEL # 187019

N/F OTIS MCIVER, JR. & PAULINE MCIVER
PARCEL # 187017

N/F JOHN D. & WILLA D. LEWIS
PARCEL # 187018

CONTINUED ON SHEET C2.4

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

GSWCC# 00000021345

HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664

STATESBORO:
302 S Zetterower Avenue
Statesboro, Georgia 30458
(912) 335-1046

TRLONG ENGINEERING, P.C.
www.trlongeng.com

ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD LIBERTY COUNTY BOARD OF COMMISSIONERS

SHEET NAME:
ROADWAY PLAN SHEET

REVISIONS:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 03/14/2025
DRAWN BY: TRL
CHECKED BY: TRL
PROJECT #: 2024-243

SHEET NUMBER:
C2.3

G:\ACTIVE PROJECTS\2024-243 H - BACONTOWN RD ROWY IMP\300-DRAWINGS\DWG\2024-243.DWG

N/F GLORIA ANN BACON
PARCEL#187B 005

N/F WILLIAM N. BACON
PARCEL # 187B006

N/F JAMES STRODDER
PARCEL#187D 001

N/F ANNIE LEE STRODDER
PARCEL # 187D002

N/F JIMMY L. STRODDER
PARCEL # 187D003

N/F ANN S. STAFFORD
PARCEL # 187D005

EXISTING DIRT DRIVEWAY

INSTALL 4' PAVED DRIVEWAY WITH GAB TRANSITION

EXISTING DIRT DRIVEWAY

INSTALL 4' PAVED DRIVEWAY WITH GAB TRANSITION

Ds1
Ds2
Ds3

REBUILD SHOULDERS 4' WIDE (TYP.)

INSTALL 4' PAVED DRIVEWAY WITH GAB TRANSITION

EX. GRAVEL DRIVEWAY

REMOVE EXISTING DOUBLE 24" RCP DRAINAGE PIPE
INSTALL DOUBLE 30" RCP
40 L.F. EACH AT 1.00%
WITH FLARED ENDS
LOWER INV. = 9.00
UPPER INV. = 9.40
BACKFILL TRENCH WITH STRUCTURAL FILL
COMPACTED TO 95% STD. PROCTOR
PROVIDE LABORATORY TEST
(INCLUDE IN PRICE FOR PIPE.)

INSTALL 110 L.F. OF GUARD RAIL.
GUARD RAIL TO BE 6-FT
FROM EDGE OF ASPHALT

CONTINUE 6" SOLID WHITE LINE

34+00
35+00
36+00
37+00
38+00
39+00
40+00

BACONTOWN ROAD

CONTINUE 6" SOLID WHITE LINE

REBUILD SHOULDERS 4' WIDE (TYP.)

CONTINUE 6" SOLID DOUBLE YELLOW LINE

14.89

INSTALL 110 L.F. OF GUARD RAIL.
GUARD RAIL TO BE 6-FT
FROM EDGE OF ASPHALT

CONTINUED ON SHEET C2.3

CONTINUED ON SHEET BELOW

D. LEWIS
018

N/F MARY E. HODGES
PARCEL # 187019

N/F ANN S. STAFFORD
PARCEL # 187D005

L 110 L.F. OF GUARD RAIL
RAIL TO BE 6-FT
DGE OF ASPHALT

N/F ANN S. STAFFORD
PARCEL # 187D005

N/F ELLIS J. MINESS
PARCEL # 187B008

N/F WILLIE GUS MCIVER
PARCEL # 187D006

EXISTING DIRT DRIVEWAY

INSTALL 4' PAVED DRIVEWAY WITH GAB TRANSITION

EX. DIRT DRIVEWAY

EXISTING DIRT DRIVEWAY

INSTALL 4' PAVED DRIVEWAY WITH GAB TRANSITION

EX. DIRT DRIVEWAY

INSTALL 4' PAVED DRIVEWAY WITH GAB TRANSITION

Ds1
Ds2
Ds3

REBUILD SHOULDERS 4' WIDE (TYP.)

BEGIN 6" SOLID YELLOW LINE

BEGIN 6" SKIP YELLOW LINE

40+00
41+00
42+00
43+00
44+00
45+00
46+00

BACONTOWN ROAD

CONTINUE 6" SOLID WHITE LINE

EX. GRAVEL DRIVEWAY

INSTALL 4' PAVED DRIVEWAY WITH GAB TRANSITION

CONTINUE 6" SOLID DOUBLE YELLOW LINE

Ds1
Ds2
Ds3

REBUILD SHOULDERS 4' WIDE (TYP.)

N/F MARY E. HODGES
PARCEL # 187019

N/F CYNTHIA MILLS & ETAL
PARCEL # 187020

N/F COASTAL ELECTRIC
MEMBERSHIP CORPORATION
PARCEL # 188001

CONTINUED ON SHEET ABOVE

CONTINUED ON SHEET C2.5

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

811 GEORGIA811.COM DIAL 811

GEORGIA REGISTERED PROFESSIONAL ENGINEER TRENT R. LONG GSNWC# 0000002134

HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664

STATESBORO:
302 S Zetterower Avenue
Statesboro, Georgia 30458
(912) 335-1046

TRLONG ENGINEERING, P.C.
www.trlongeng.com

ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD
LIBERTY COUNTY BOARD OF COMMISSIONERS

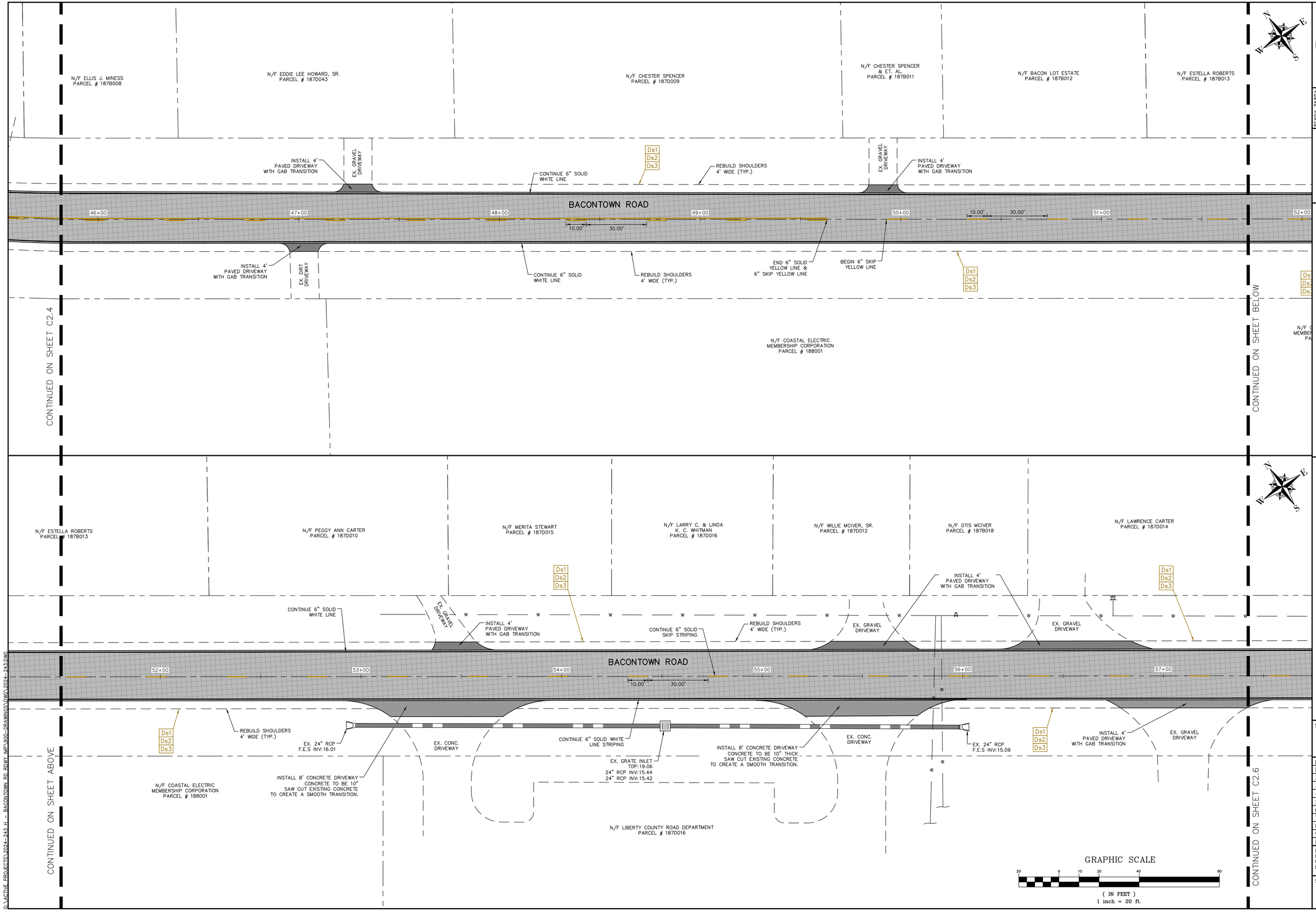
SHEET NAME:
ROADWAY PLAN SHEET

REVISIONS:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 03/14/2025
DRAWN BY: TRL
CHECKED BY: TRL
PROJECT #: 2024-243

SHEET NUMBER:
C2.4

G:\ACTIVE PROJECTS\2024-243 H - BACONTOWN RD ROWY IMP\900-DRAWINGS\DWG\2024-243.DWG



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664

STATESBORO:
302 S Zetterower Avenue
Statesboro, Georgia 30458
(912) 335-1046

TRLONG ENGINEERING, P.C.

www.trlongeng.com

ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD LIBERTY COUNTY BOARD OF COMMISSIONERS

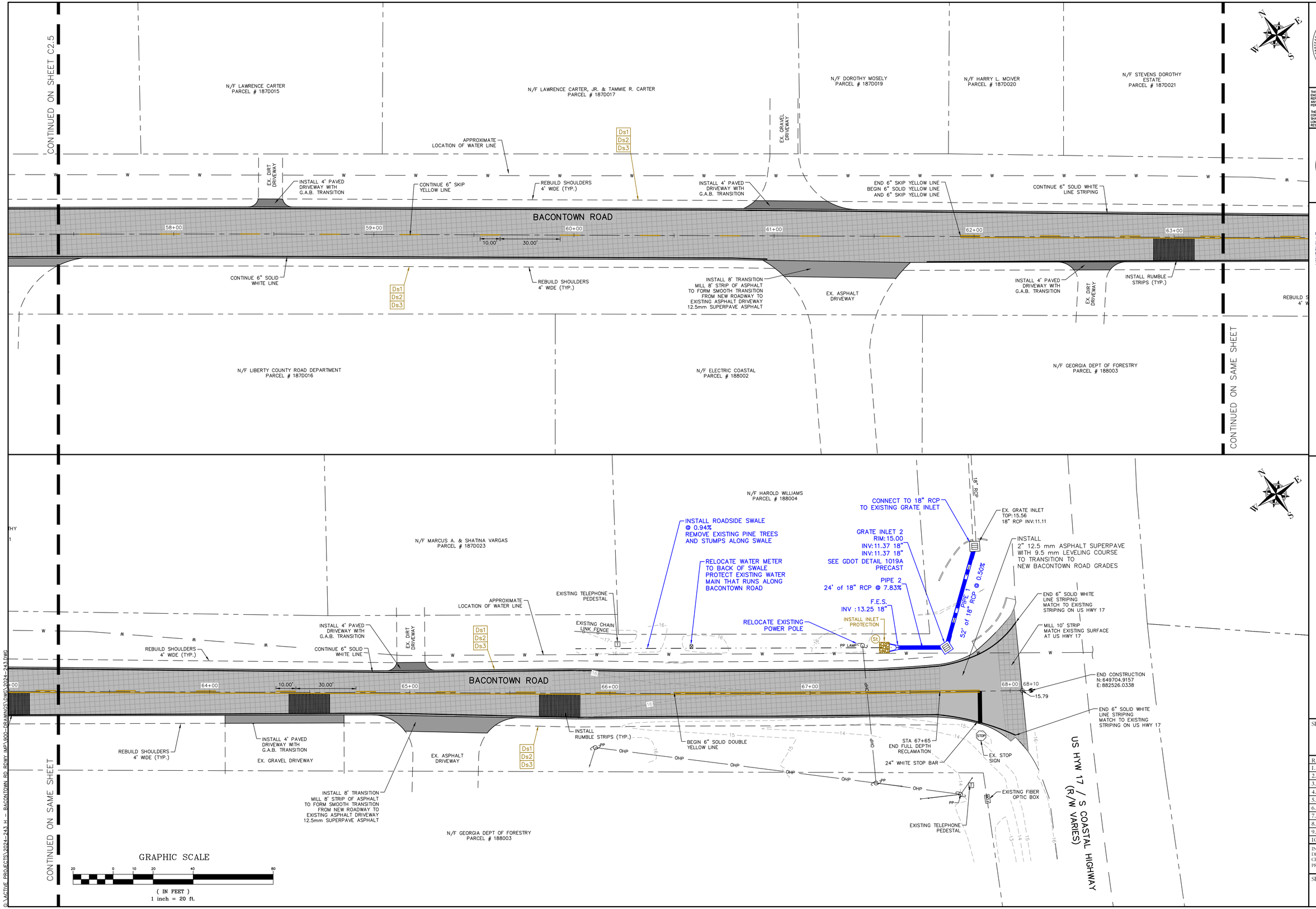
SHEET NAME:
ROADWAY PLAN SHEET

REVISIONS:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 03/14/2025
DRAWN BY: TRL
CHECKED BY: TRL
PROJECT #: 2024-243

SHEET NUMBER:
C2.5

G:\ACTIVE PROJECTS\2024-243 H - BACONTOWN RD ROWY IMPV\900-DRAWINGS\DWG\2024-243.DWG



GEORGIA811.COM DIAL 811

GSWCC# 00000021134

HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664

STATESBORO:
302 S Zetterower Avenue
Statesboro, Georgia 30458
(912) 335-1046

TRLONG ENGINEERING, P.C.
www.trlongeng.com

ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD LIBERTY COUNTY BOARD OF COMMISSIONERS

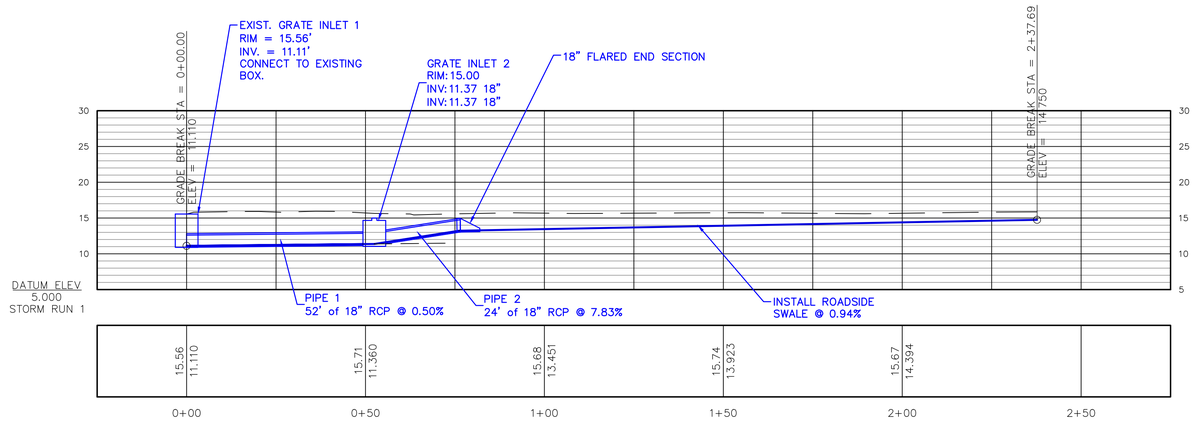
SHEET NAME:
ROADWAY PLAN SHEET

REVISIONS:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 03/14/2025
DRAWN BY: TRL
CHECKED BY: TRL
PROJECT #: 2024-243

SHEET NUMBER:
C2.6

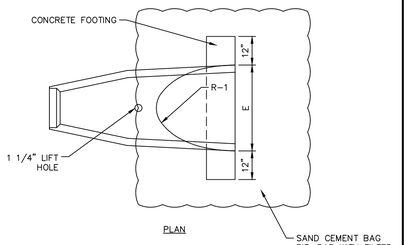
G:\ACTIVE PROJECTS\2024-243 H - BACONTOWN RD RDWY IMP\900-DRAWINGS\DWG\2024-243.DWG

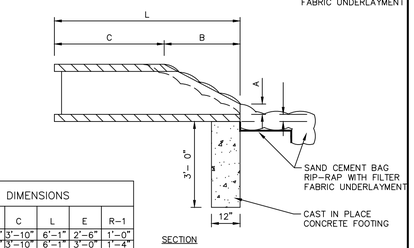


GRAPHIC SCALE

20 0 10 20 40 80

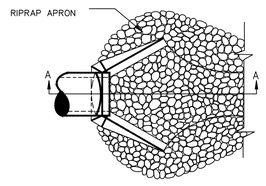
(IN FEET)
HORIZONTAL SCALE: 1 inch = 20 ft.
VERTICAL SCALE: 1 inch = 10 ft.

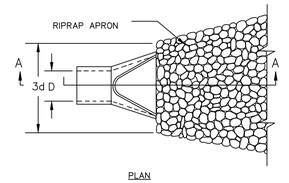


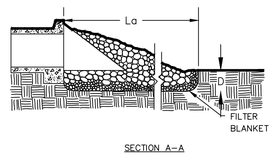


FLARE DIMENSIONS						
PIPE DIA.	A	B	C	L	E	R-1
15"	6"	2'-3"	3'-10"	6'-1"	2'-6"	1'-0"
18"	9"	2'-3"	3'-10"	6'-1"	3'-0"	1'-4"
24"	10"	3'-8"	2'-6"	6'-2"	4'-0"	1'-5"
30"	12"	4'-6"	1'-8"	6'-2"	5'-0"	1'-6"
36"	18"	5'-3"	2'-11"	8'-2"	6'-0"	2'-0"
42"	21"	5'-3"	2'-11"	8'-2"	6'-6"	2'-4"
REINFORCEMENT CONFORMS TO ASTM A1064						

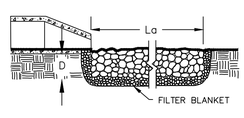
LIBERTY COUNTY, GEORGIA 100 Main Street, Suite 1320 Hinesville, Georgia 31313 (912) 876-2164 www.libertycountyga.com	STANDARD CONSTRUCTION DETAILS FLARED END SECTION	DETAIL NUMBER D12
	APPROVED: COUNTY ENGINEER	
	DATE: OCTOBER 2019 SCALE: N.T.S	







PIPE OUTLET TO WELL DEFINED CHANNEL



PIPE OUTLET TO FLAT AREA NO WELL DEFINED CHANNEL

NOTES:
1. La IS THE LENGTH OF THE REPRAP APRON.
2. D = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 6".
3. IN A WELL-DEFINED CHANNEL, EXTEND TO APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAIL WATER DEPTH OR TO THE TOP OF THE BANK (WHICHEVER IS LESS).
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND THE SOIL FOUNDATION

RIPRAP OUTLET PROTECTION (St)
NOT TO SCALE

GSWCC# 00000021345

HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664

STATESBORO:
302 S Zetterower Avenue
Statesboro, Georgia 30458
(912) 335-1046

TRLONG ENGINEERING, P.C.
www.trlongeng.com

ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD LIBERTY COUNTY BOARD OF COMMISSIONERS

SHEET NAME:
STORM PROFILE & DETAILS

REVISIONS:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 03/14/2025
DRAWN BY: TRL
CHECKED BY: TRL
PROJECT #: 2024-243

SHEET NUMBER:
C2.7

G:\ACTIVE PROJECTS\2024-243 H - BACONTOWN RD ROW\ IMP\900-DRAWINGS\DWG\2024-243.DWG

DS1
DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)

DEFINITION
APPLYING PLANT RESIDUES OR OTHER SUITABLE MATERIALS, PRODUCED ON THE SITE IF POSSIBLE, TO THE SOIL SURFACE.

PURPOSE
1. TO REDUCE RUNOFF EROSION
2. TO CONSERVE MOISTURE
3. TO PREVENT SURFACE COMPACTION OR CRUSTING
4. TO CONTROL UNDESIRABLE VEGETATION
5. TO INCREASE BIOLOGICAL ACTIVITY IN THE SOIL.

REQUIREMENT FOR REGULATORY COMPLIANCE
MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE. MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS, BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, DEPENDING ON THE MATERIAL USED, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE. MAINTENANCE SHALL BE REQUIRED TO MAINTAIN APPROPRIATE DEPTH AND 90% COVER. TEMPORARY VEGETATION MAY BE EMPLOYED INSTEAD OF MULCH IF THE AREA WILL REMAIN UNDISTURBED FOR LESS THAN SIX MONTHS. IF AN AREA WILL REMAIN UNDISTURBED FOR GREATER THAN SIX MONTHS, PERMANENT VEGETATIVE TECHNIQUES SHALL BE EMPLOYED.

SPECIFICATIONS
MULCHING WITHOUT SEEDING
THIS STANDARD APPLIES TO GRADES OR CLEARED AREAS WHERE SEEDINGS MAY NOT HAVE A SUITABLE GROWING SEASON TO PRODUCE AN EROSION RETARDANT COVER, BUT CAN BE STABILIZED WITH A MULCH COVER.

SITE PREPARATION
1. GRADE TO PERMIT THE USE OF EQUIPMENT FOR APPLYING AND ANCHORING MULCH.
2. INSTALL NEEDED EROSION CONTROL MEASURES AS REQUIRED SUCH AS DIKES, DIVERSIONS, BERMS, TERRACES AND SEDIMENT BARRIERS.
3. LOOSEN COMPACT SOIL TO A MINIMUM DEPTH OF 3 INCHES.

MULCHING MATERIALS
SELECT ONE OF THE FOLLOWING MATERIALS AND APPLY AT THE DEPTH INDICATED:
1. DRY STRAW OR HAY SHALL BE APPLIED AT A DEPTH OF 2 TO 4 INCHES PROVIDING COMPLETE SOIL COVERAGE. ONE ADVANTAGE OF THIS MATERIAL IS EASY APPLICATION.
2. WOOD WASTE (CHIPS, SAWDUST OR BARK) SHALL BE APPLIED AT A DEPTH OF 2 TO 3 INCHES. ORGANIC MATERIAL FROM THE CLEARING STAGE OF DEVELOPMENT SHOULD REMAIN ON SITE, BE CHIPPED, AND APPLIED AS MULCH. THIS METHOD OF MULCHING CAN GREATLY REDUCE EROSION CONTROL COSTS.
3. POLYETHYLENE FILM SHALL BE SECURED OVER BANKS OR STOCKPILED SOIL MATERIAL FOR TEMPORARY PROTECTION. THIS MATERIAL CAN BE SALVAGED AND REUSED.

APPLYING MULCH
WHEN MULCH IS USED WITHOUT SEEDING, MULCH SHALL BE APPLIED TO PROVIDE FULL COVERAGE OF THE EXPOSED AREA.
1. DRY STRAW OR HAY MULCH AND WOOD CHIPS SHALL BE APPLIED UNIFORMLY BY HAND OR BY MECHANICAL EQUIPMENT.
2. IF THE AREA WILL EVENTUALLY BE COVERED WITH PERENNIAL VEGETATION, 20–30 POUNDS OF NITROGEN PER ACRE IN ADDITION TO THE NORMAL AMOUNT SHALL BE APPLIED TO OFFSET THE UPTAKE OF NITROGEN CAUSED BY THE DECOMPOSITION OF THE ORGANIC MULCHES.
3. APPLY POLYETHYLENE FILM ON EXPOSED AREAS.

ANCHORING MULCH
1. STRAW OR HAY MULCH CAN BE PRESSED INTO THE SOIL WITH A DISK HARROW WITH THE DISK SET STRAIGHT OR WITH A SPECIAL "PACKER DISK."DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISK SHOULD BE DULL ENOUGH NOT TO CUT THE MULCH BUT TO PRESS IT INTO THE SOIL LEAVING MUCH OF IT IN AN ERECT POSITION. STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION. STRAW OR HAY MULCH SPREAD WITH SPECIAL BLOWER–TYPE EQUIPMENT MAY BE ANCHORED. TACKIFIERS, BINDERS AND HYDRAULIC MULCH WITH TACKIFIERS SPECIFICALLY DESIGNED FOR TACKING STRAW CAN BE SUBSTITUTED FOR EMULSIFIED ASPHALT. PLEASE REFER TO SPECIFICATION TACKIFIERS. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. NETTING OF THE APPROPRIATE SIZE SHALL BE USED TO ANCHOR WOOD WASTE. OPENINGS OF THE NETTING SHALL NOT BE LARGER THAN THE AVERAGE SIZE OF THE WOOD WASTE CHIPS.
3. POLYETHYLENE FILM SHALL BE ANCHOR TRENCHED AT THE TOP AS WELL AS INCREMENTALLY AS NECESSARY.

APPLICATION RATE FOR EACH TYPE OF SOIL ENCOUNTERED ON THE SITE.

MULCHING: MULCHING IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCHING APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED.
1. DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2 1/2 TONS PER ACRE.
2. WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT A RATE OF 500 LBS PER ACRE. DRY STRAW R DRY HAY SHALL BE APPLIED AFTER HYDRAULIC SEEDING.
3. ONE THOUSAND POUNDS OF WOOD CELLULOSE OF WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES GREATER THAN 3/4:1 OR STEEPER.
4. SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE.
5. PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3" FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITIES MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDED AREAS.
6. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCHING IS NOT REQUIRED.

MULCHING Ds1

DS2

DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

DEFINITION
THE ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS FOR SEASONAL PROTECTION ON DISTURBED OR DENUDED AREAS.

PUPROSE
TO REDUCE RUNOFF AND SEDIMENT DAMAGE OF DOWN STREAM RESOURCES
TO PROTECT THE SOIL SURFACE FROM EROSION
TO IMPROVE WILDLIFE HABITAT
TO IMPROVE AESTHETICS
TO IMPROVE TILTH, INFILTRATION AND AERATION AS WELL AS ORGANIC MATTER FOR PERMANENT PLANTINGS

REQUIREMENT FOR REGULATORY COMPLIANCE
MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTUR– BANCE. TEMPORARY GRASSING, INSTEAD OF MULCH, CAN BE APPLIED TO ROUGH GRADED AREAS THAT WILL BE EXPOSED FOR LESS THAN SIX MONTHS. IF AN AREA IS EXPECTED TO BE UNDISTURBED FOR LONGER THAN SIX MONTHS, PERMANENT PERENNIAL VEGETATION SHALL BE USED. IF OPTIMUM PLANTING CONDITIONS FOR TEMPORARY GRASSING IS LACKING, MULCH CAN BE USED AS A SINGULAR EROSION CONTROL DEVICE FOR UP TO SIX MONTHS BUT IT SHALL BE APPLIED AT THE APPROPRIATE DEPTH, ANCHORED, AND HAVE A CONTINUOUS 90% COVER OR GREATER OF THE SOIL SURFACE.

CONDITIONS
TEMPORARY GRASSING, INSTEAD OF MULCH, CAN BE APPLIED TO ROUGH GRADED AREAS THAT WILL BE EXPOSED FOR LESS THAN SIX MONTHS. TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL AND EFFECTIVE STABILIZATION. MOST TYPES OF TEMPORARY VEGETATION ARE IDEAL TO USE AS COMPANION CROPS UNTIL THE PERMANENT VEGETATION IS ESTABLISHED.

SPECIFICATIONS
GRADING AND SHAPING
EXCESSIVE WATER RUN–OFF SHALL BE REDUCED BY PROPERLY DESIGNED AND INSTALLED EROSION CONTROL PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, SEDIMENT BARRIERS AND OTHERS. NO SHAPING OR GRADING IS REQUIRED IF SLOPES CAN BE STABILIZED BY HAND–SEEDED VEGETATION OR IF HYDRAULIC SEEDING EQUIPMENT IS TO BE USED.

SEEDBED PREPARATION
WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED. WHEN USING CONVENTIONAL OR HANDSEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AND NOT SEALED BY RAINFALL.
WHEN SOIL HAS BEEN SEALED BY RAINFALL OR CONSISTS OF SMOOTH CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED OR OTHERWISE SCARIFIED TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE.

LIME AND FERTILIZER
AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE OF ONE TON PER ACRE. GRADED AREAS REQUIRE LIME APPLICATION. SOILS CAN BE TESTED TO DETERMINE IF FERTILIZER IS NEEDED. ON REASONABLY FERTILE SOILS OR SOIL MATERIAL, FERTILIZER IS NOT REQUIRED. FOR SOILS WITH VERY LOW FERTILITY, 500 TO 700 POUNDS OF 10–10–10 FERTILIZER OR THE EQUIVALENT PER ACRE (12–16 LBS./1,000 SQ. FT.) SHALL BE APPLIED. FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER OR CHISEL.

SEEDING
SELECT A GRASS OR GRASS–LEGUME MIXTURE SUITABLE TO THE AREA AND SEASON OF THE YEAR. SEED SHALL BE APPLIED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIPACKER SEEDERS SHOULD NORMALLY PLACE SEED ONE–QUARTER TO ONE–HALF INCH DEEP. APPROPRIATE DEPTH OF PLANTING IS TEN TIMES THE SEED DIAMETER. SOIL SHOULD BE "RAKED"LIGHTLY TO COVER SEED WITH SOIL IF SEEDED BY HAND.

MULCHING
TEMPORARY VEGETATION CAN, IN MOST CASES, BE ESTABLISHED WITHOUT THE USE OF MULCH. MULCH WITHOUT SEEDING SHOULD BE CONSIDERED FOR SHORT TERM PROTECTION. REFER TO DS1–DISTURBED AREA STABILIZATION (WITH MULCHING ONLY).

IRRIGATION
DURING TIMES OF DROUGHT, WATER SHALL BE APPLIED AT A RATE NOT CAUSING RUNOFF AND EROSION. THE SOIL SHALL BE THOROUGHLY WETTED TO A DEPTH THAT WILL INSURE GERMINATION OF THE SEED. SUBSEQUENT APPLICATIONS SHOULD BE MADE WHEN NEEDED.

GRASSING TEMPORARY Ds2

SEEDING RATES FOR TEMPORARY SEEDING

SPECIES	RATE PER 1,000 SQ. FT	RATE PER ACRE*	PLANTING DATES
RYE	3.9 LBS.	3 BU	9/1 – 3/1
RYEGRASS	0.9 LBS.	40 LBS.	8/15 – 4/1
ANNUAL LESPEDEZA	0.9 LBS.	40 LBS.	1/15 – 9/15
WEEPING LOVEGRASS	0.11 LBS.	4 LBS.	2/15 – 6/15
SUNDANGRASS	1.4 LBS.	60 LBS.	3/1 – 8/1
BROWN MILLET	0.9 LBS.	40 LBS.	4/1 – 7/15
WHEAT	4.1 LBS.	3 BU	9/15 – 2/1

* UNUSUAL SITE CONDTIONS MAY REQUIRE HEAVIER SEEDING RATES.
** SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND CONDITIONS.

DU

DUST CONTROL ON DISTURBED AREAS

DEFINITION
CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITES, ROADS, AND DEMOLITION SITES.

CONDITIONS
THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON AND OFF–SITE DAMAGE MAY OCCUR WITHOUT TREATMENT.

METHOD AND MATERIALS
A. TEMPORARY METHODS

MULCHES. SEE STANDARD DS1–DISTURBED AREA STABILIZATION (WITH MULCHING ONLY). SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT TO BIND MULCH MATERIAL. REFER TO STANDARD TB–TACKIFIERS AND BINDERS. RESINS SUCH AS CURASOL OR TERRATACK SHOULD BE USED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

VEGETATIVE COVER. SEE STANDARD DS2– DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

SPRAY–ON ADHESIVES. THESE ARE USED ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS) KEEP TRAFFIC OFF THESE AREAS. REFER TO STANDARD TB–TACKIFIERS AND BINDERS.

TILLAGE. THIS PRACTICE IS DESIGNED TO ROUGHEN AND BRING CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE WIND EROSION STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL–TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING–TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.

IRRIGATION. THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.

BARRIERS. SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.

CALCIUM CHLORIDE. APPLY AT RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

B. PERMANENT METHODS

PERMANENT VEGETATION. SEE STANDARD DS3–DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION). EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

TOPSOILING. THIS ENTAILS COVERING THE SURFACE WITH LESS EROSIVE SOIL MATERIAL. SEE STANDARD TP–TOPSOILING.

STONE. COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. SEE STANDARD CR–CONSTRUCTION ROAD STABILIZATION.

DUST CONTROL Du

DS3

DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)

DEFINITION
THE PLANTING OF PERENNIAL VEGETATION SUCH AS TREES, SHRUBS, VINES, GRASSES, OR LEGUMES ON EXPOSED AREAS FOR FINAL PERMANENT STABILIZATION. PERMANENT PERENNIAL VEGETATION SHALL BE USED TO ACHIEVE FINAL STABILIZATION.

CONDITIONS
PERMANENT PERENNIAL VEGETATION IS USED TO PROVIDE A PROTECTIVE COVER FOR EXPOSED AREAS INCLUDING CUTS, FILLS, DAMS, AND OTHER DENUDED AREAS.

SPECIFICATIONS
GRADING AND SHAPING
GRADING AND SHAPING MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. VERTICAL BANKS SHALL BE SLOPED TO ENABLE PLANT ESTABLISHMENT.
WHEN CONVENTIONAL SEEDING AND FERTILIZING ARE TO BE DONE, GRADE AND SHAPE WHERE FEASIBLE AND PRACTICAL, SO THAT EQUIPMENT CAN BE USED SAFELY AND EFFICIENTLY DURING SEEDBED PREPARATION, SEEDING, MULCHING AND MAINTENANCE OF THE VEGETATION.
CONCENTRATIONS OF WATER THAT WILL CAUSE EXCESSIVE SOIL EROSION SHALL BE DIVERTED TO A SAFE OUTLET. DIVERSIONS AND OTHER TREATMENT PRACTICES SHALL CONFORM WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS.

SEEDBED PREPARATION
SEEDBED PREPARATION MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. WHEN CONVENTIONAL SEEDING IS TO BE USED, SEEDBED PREPARATION WILL BE DONE AS FOLLOWS:

BROADCAST PLANTINGS
1. TILLAGE AT A MINIMUM, SHALL ADEQUATELY LOOSEN THE SOIL TO A DEPTH OF 4 TO 6 INCHES; ALLEVIATE COMPACTION; INCORPORATE LIME AND FERTILIZER; SMOOTH AND FIRM THE SOIL; ALLOW FOR THE PROPER PLACEMENT OF SEED, SPRIGS, OR PLANTS; AND ALLOW FOR THE ANCHORING OF STRAW OR HAY MULCH IF A DISK IS TO BE USED.
2. TILLAGE MAY BE DONE WITH ANY SUITABLE EQUIPMENT.
3. TILLAGE SHOULD BE DONE ON THE CONTOUR WHERE FEASIBLE.
4. ON SLOPES TOO STEEP FOR THE SAFE OPERATION OF TILLAGE EQUIPMENT, THE SOIL SURFACE SHALL BE PITTED OR TRENCHED ACROSS THE SLOPE WITH APPROPRIATE HAND TOOLS TO PROVIDE TWO PLACES 6 TO 8 INCHES APART IN WHICH SEED MAY LODGE AND GERMINATE. HYDRAULIC SEEDING MAY ALSO BE USED.

INDIVIDUAL PLANTS
1. WHERE INDIVIDUAL PLANTS ARE TO BE SET, THE SOIL SHALL BE PREPARED BY EXCAVATING HOLES, OPENING FURROWS, OR DIBBLE PLANTING.
2. FOR NURSERY STOCK PLANTS, HOLES SHALL BE LARGE ENOUGH TO ACCOMMODATE ROOTS WITHOUT CROWDING.
3. WHERE PINE SEEDLINGS ARE TO BE PLANTED, SUBSOIL UNDER THE ROW 36 INCHES DEEP ON THE CONTOUR FOUR TO SIX MONTHS PRIOR TO PLANTING. SUBSOILING SHOULD BE DONE WHEN THE SOIL IS DRY, PREFERABLY IN AUGUST OR SEPTEMBER.

PLANTING
HYDRAULIC SEEDING
MIX THE SEED (INOCULATED IF NEEDED), FERTILIZER, AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH WITH WATER AND APPLY IN A SLURRY UNIFORMLY OVER THE AREA TO BE TREATED. APPLY WITHIN ONE HOUR AFTER THE MIXTURE IS MADE.

CONVENTIONAL SEEDING
SEEDING WILL BE DONE ON A FRESHLY PREPARED AND FIRMED SEEDBED. FOR BROADCAST PLANTING, USE A CULTIPACKER SEEDER, DRILL, ROTARY SEEDER, OTHER MECHANICAL SEEDER, OR HAND SEEDING TO DISTRIBUTE THE SEED UNIFORMLY OVER THE AREA TO BE TREATED. COVER THE SEED LIGHTLY WITH 1/8 TO ¼ INCH OF SOIL FOR SMALL SEED AND ½ TO 1 INCH FOR LARGE SEED WHEN USING A CULTIPACKER OR OTHER SUITABLE EQUIPMENT.

NO–TILL SEEDING
NO–TILL SEEDING IS PERMISSIBLE INTO ANNUAL COVER CROPS WHEN PLANTING IS DONE FOLLOWING MATURITY OF THE COVER CROP OR IF THE TEMPORARY COVER STAND IS SPARSE ENOUGH TO ALLOW ADEQUATE GROWTH OF THE PERMANENT (PERENNIAL) SPECIES. NO–TILL SEEDING SHALL BE DONE WITH APPROPRIATE NO–TILL SEEDING EQUIPMENT. THE SEED MUST BE UNIFORMLY DISTRIBUTED AND PLANTED AT THE PROPER DEPTH.

INDIVIDUAL PLANTS
SHRUBS, VINES AND SPRIGS MAY BE PLANTED WITH APPROPRIATE PLANTERS OR HAND TOOLS. PINE TREES SHALL BE PLANTED MANUALLY IN THE SUBSOIL FURROW. EACH PLANT SHALL BE SET IN A MANNER THAT WILL AVOID CROWDING THE ROOTS. NURSERY STOCK PLANTS SHALL BE PLANTED AT THE SAME DEPTH OR SLIGHTLY DEEPER THAN THEY GREW AT THE NURSERY. THE TIPS OF VINES AND SPRIGS MUST BE AT OR SLIGHTLY ABOVE THE GROUND SURFACE. WHERE INDIVIDUAL HOLES ARE DUG, FERTILIZER SHALL BE PLACED IN THE BOTTOM OF THE HOLE, TWO INCHES OF SOIL SHALL BE ADDED AND THE PLANT SHALL BE SET IN THE HOLE.

MULCHING
MULCH IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIAL FROM THE FOLLOWING AND APPLY AS INDICATED:

1. DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2 ½ TONS PER ACRE.
2. WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. DRY STRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED ABOVE) AFTER HYDRAULIC SEEDING.
3. ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES ¾1 OR STEEPER.
4. SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE.
5. PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDED AREAS.
6. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCH IS NOT REQUIRED.
7. BITUMINOUS TREATED ROVING MAY BE APPLIED ON PLANTED AREAS ON SLOPES, IN DITCHES OR DRY WATERWAYS TO PREVENT EROSION. BITUMINOUS TREATED ROVING SHALL BE APPLIED WITHIN 24 HOURS AFTER AN AREA HAS BEEN PLANTED. APPLICATION RATES AND MATERIALS MUST MEET GEORGIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.

WOOD CELLULOSE AND WOOD PULP FIBERS SHALL NOT CONTAIN GERMINATION OR GROWTH INHIBITING FACTORS. THEY SHALL BE EVENLY DISPERSED WHEN AGITATED IN WATER. THE FIBERS SHALL CONTAIN A DYE TO ALLOW VISUAL METERING AND AID IN UNIFORM APPLICATION DURING SEEDING.

APPLYING MULCH
STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY WITHIN 24 HOURS AFTER SEEDING AND/OR PLANTING THE MULCH MAY BE SPREAD BY BLOWER–TYPE SPREADING EQUIPMENT, OTHER SPREADING EQUIPMENT OR BY HAND. MULCH SHALL BE APPLIED TO COVER 75% OF THE SOIL SURFACE.
WOOD CELLULOSE OR WOOD FIBER MULCH SHALL BE APPLIED UNIFORMLY WITH HYDRAULIC SEEDING EQUIPMENT.

ANCHORING MULCH
ANCHOR STRAW OR HAY MULCH IMMEDIATELY AFTER APPLICATION BY ONE OF THE FOLLOWING METHODS:
1. EMULSIFIED ASPHALT CAN BE (A) SPRAYED UNIFORMLY ONTO THE MULCH AS IT IS EJECTED FROM THE BLOWER MACHINE OR (B) SPRAYED ON THE MULCH IMMEDIATELY FOLLOWING MULCH APPLICATION WHEN STRAW OR HAY IS SPREAD BY METHODS OTHER THAN SPECIAL BLOWER EQUIPMENT.

THE COMBINATION F ASPHALT EMULSION AND WATER SHALL CONSIST OF A HOMOGENEOUS MIXTURE SATISFACTORY FOR SPRAYING. THE MIXTURE SHALL CONSIST OF 100 GALLONS OF GRADE SS–1H OR CSS–1H EMULSIFIED ASPHALT AND 100 GALLONS OF WATER PER TON OF MULCH.
CARE SHALL BE TAKEN AT ALL TIMES TO PROTECT STATE WATERS, THE PUBLIC, ADJACENT PROPERTY, PAVEMENTS, CURBS, SIDEWALKS, AND ALL OTHER STRUCTURES FROM ASPHALT DISCOLORATION.

2. HAY AND STRAW MULCH SHALL BE PRESSED INTO THE SOIL IMMEDIATELY AFTER THE MULCH IS SPREAD. A SPECIAL "PACKER DISK"OR DISK HARROW WITH THE DISKS SET STRAIGHT MAY BE USED. THE DISKS MAY BE SMOOTH OR SERRATED AND SHOULD BE 20 INCHES OR MORE IN DIAMETER AND 8 TO 12 INCHES APART. THE EDGES OF THE DISKS SHALL BE DULL ENOUGH TO PRESS THE MULCH INTO THE GROUND WITHOUT CUTTING IT, LEAVING MUCH OF IT IN AN ERECT POSITION. MULCH SHALL NOT BE PLOWED INTO THE SOIL.
3. SYNTHETIC TACKIFIERS OR BINDERS APPROVED BY GDOT SHALL BE APPLIED IN CONJUNCTION WITH OR IMMEDIATELY AFTER THE MULCH IS SPREAD. SYNTHETIC TACKIFIERS SHALL BE MIXED AND APPLIED ACCORDING TO MANUFACTURER'S SPECIFICATIONS. REFER TO TB–TACKIFIERS AND BINDERS.
4. RYE OR WHEAT CAN BE INCLUDED WITH FALL AND WINTER PLANTINGS TO STABILIZE THE MULCH. THEY SHALL BE APPLIED AT A RATE OF ONE–QUARTER TO ONE HALF BUSHEL PER ACRE.
5. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS. THESE MATERIALS SHALL BE INSTALLED AND ANCHORED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

IRRIGATION
IRRIGATION SHALL BE APPLIED AT A RATE THAT WILL NOT CAUSE RUNOFF.

GRASSING PERMANENT Ds3

TABLE 6–5.1 FERTILIZER REQUIREMENTS

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N–P–K	RATE	N TOP DRESSING RATE
1.COOL SEASON GRASSES	FIRST SECOND MAINTENANCE	6–12–12 6–12–12 10–10–10	1500 LBS./AC. 1000 LBS./ AC. 400 LBS. / AC.	T50–100 LBS./AC1/2/ – 30
2.COOL SEASON GRASSES AND LEGUMES	FIRST SECOND MAINTENANCE	6–12–12 0–10–10 0–10–10	1500 LBS./AC. 1000 LBS./ AC. 400 LBS. / AC.	50 LBS./AC.1/
3. GROUND COVERS	FIRST SECOND MAINTENANCE	10–10–10 10–10–10 10–10–10	1300 LBS./AC. 1300 LBS./ AC. 1100 LBS. / AC.	
4. PINE SEEDLINGS	FIRST	20–10–6	ONE 21–GRAM PELLET PER SEEDING	
5. SHRUB LESPEDEZA	FIRST MAINTENANCE	0–10–10 0–10–10	700 LBS./AC. 700 LBS./AC.	
6. TEMPORARY COVER CROPS SEEDED ALONE	FIRST	10/10/210	500 LBS./ AC.	30 LBS./AC.2/6/
7. WARM SEASON GRASSES	FIRST SECOND MAINTENANCE	6–12–12 6–12–12 10–10–10	1500 LBS./AC. 1000 LBS./ AC. 400 LBS. / AC.	50–100 LBS./AC. 2/6/ 50 –100 LBS./AC.2/ 30 LBS. /AC.
8 .WARM SEASON GRASSES AND LEGUMES	FIRST SECOND MAINTENANCE	6–12–12 0–10–10 0–10–10	1500 LBS./AC. 1000 LBS./ AC. 400 LBS. / AC.	50 LBS./AC./6/

1/ APPLY IN SPRING FOLLOWING SEEDING.
2/ APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.
3/ APPLY IN 3 SPLIT APPLICATIONS.
4/ APPLY WHEN PLANTS ARE PRUNED.
5/ APPLY TO GRASS SPECIES ONLY.
6/ APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.

Month	Temporary Cover Ds2	Rate per Acre Seeded Alone	Rate per Acre Added To Mix	Permanent Cover Ds3	Rate per Acre Seeded Alone	Rate per Acre Added To Mix
January	Rye grass Rye	40 lbs. 3 bu.	–– .5 bu.	Unhulled Bermuda Sericea Lespedeza (1)	10 lbs. 75 lbs.	6 lbs. ––
February	Annual Lespedeza Rye grass Rye	40 lbs. 40 lbs. 3 bu.	10 lbs. –– .5 bu.	Unhulled Bermuda Sericea Lespedeza (1)	10 lbs. 75 lbs.	6 lbs. ––
March	Weeping Lovegrass Annual Lespedeza	4 lbs. 40 lbs.	2 lbs. 10 lbs.	Pensacola Bahia Hulled Bermuda Sericea Lespedeza (2)	60 lbs. 10 lbs. 60 lbs.	30 lbs. 6 lbs. ––
April	Weeping Lovegrass Sudan Grass	4 lbs. 60 lbs. 40 lbs.	2 lbs. –– 10 lbs.	Pensacola Bahia Weeping Lovegrass Hulled Bermuda Sericea Lespedeza (2)	60 lbs. 6 lbs. 10 lbs. 60 lbs.	30 lbs. 6 lbs. 6 lbs. ––
May	Weeping Lovegrass Sudan Grass	4 lbs. 60 lbs. 40 lbs.	2 lbs. –– 10 lbs.	Pensacola Bahia Weeping Lovegrass Hulled Bermuda Sericea Lespedeza (2)	60 lbs. 6 lbs. 10 lbs. 60 lbs.	30 lbs. 6 lbs. 6 lbs. ––
June	Pearl Millet Sudan Grass	50 lbs. 60 lbs. 40 lbs.	–– –– 10 lbs.	Pensacola Bahia Hulled Bermuda	60 lbs. 10 lbs.	30 lbs. 6 lbs.
July	Pearl Millet Sudan Grass	50 lbs. 60 lbs. 40 lbs.	–– –– 10 lbs.	Pensacola Bahia	60 lbs.	30 lbs.
August	Pearl Millet Rye	50 lbs. 3 bu.	–– .5 bu.	Pensacola Bahia	60 lbs.	30 lbs.
September	Rye grass Oats Wheat	40 lbs. 4 bu. 3 bu.	–– 1 bu. .5 bu.	Sericea Lespedeza (1)	75 lbs.	––
October	Rye grass Oats Wheat Rye Barley	40 lbs. 4 bu. 3 bu. 3 bu. 3 bu.	–– 1 bu. .5 bu. .5 bu. .5 bu.	Sericea Lespedeza (1)	75 lbs.	––
November	Rye grass Oats Wheat Rye Barley	40 lbs. 4 bu. 3 bu. 3 bu. 3 bu.	–– 1 bu. .5 bu. .5 bu. .5 bu.	Sericea Lespedeza (1) Unhulled Bermuda	75 lbs. 10 lbs.	–– 6 lbs.
December	Rye grass Oats Wheat Rye Barley	40 lbs. 4 bu. 3 bu. 3 bu. 3 bu.	–– 1 bu. .5 bu. .5 bu. .5 bu.	Sericea Lespedeza (1) Unhulled Bermuda	75 lbs. 10 lbs.	–– 6 lbs.

FERTILIZER:

YEAR	ANALYSIS N–P–K	RATE	N TOP DRESSING RATE
FIRST	6–12–12	1500 LBS/AC	50–100 LBS.AC
SECOND	6–12–12	800 LBS/AC	50–100 LBS/AC
MAINTENANCE	10–10–10	400 LBS/AC	30 LBS/AC

FOR BEST RESULTS TAKE AT LEAST ONE SAMPLE OF SOIL TO THE COUNTY EXTENSION AGENT FOR ANALYSIS TO DETERMINE THE BEST FERTILIZER

1. DRY STRAW OR DRY HAY OF GOOD QUALITY AND FREE OF WEED SEEDS CAN BE USED. DRY STRAW SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. DRY HAY SHALL BE APPLIED AT A RATE OF 2 1/2 TONS PER ACRE.
2. WOOD CELLULOSE MULCH OR WOOD PULP FIBER SHALL BE USED WITH HYDRAULIC SEEDING. IT SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE. DRYSTRAW OR DRY HAY SHALL BE APPLIED (AT THE RATE INDICATED ABOVE) AFTER HYDRAULIC SEEDING.
3. ONE THOUSAND POUNDS OF WOOD CELLULOSE OR WOOD PULP FIBER, WHICH INCLUDES A TACKIFIER, SHALL BE USED WITH HYDRAULIC SEEDING ON SLOPES 3/4:1 OR STEEPER.
4. SERICEA LESPEDEZA HAY CONTAINING MATURE SEED SHALL BE APPLIED AT A RATE OF THREE TONS PER ACRE.
5. PINE STRAW OR PINE BARK SHALL BE APPLIED AT A THICKNESS OF 3 INCHES FOR BEDDING PURPOSES. OTHER SUITABLE MATERIALS IN SUFFICIENT QUANTITY MAY BE USED WHERE ORNAMENTALS OR OTHER GROUND COVERS ARE PLANTED. THIS IS NOT APPROPRIATE FOR SEEDED AREAS. 6. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCH IS NOT REQUIRED

AGRICULTURAL LIME IS REQUIRED UNLESS SOIL TESTS INDICATE OTHERWISE. APPLY AGRICULTURAL LIME AT A RATE OF ONE TON PER ACRE. GRADED AREAS REQUIRE LIME APPLICATION. SOILS CAN BE TESTED TO DETERMINE IF FERTILIZER IS NEEDED. ON REASONABLY FERTILE SOILS OR SOIL MATERIAL, FERTILIZER IS NOT REQUIRED. FOR SOILS WITH VERY LOW FERTILITY, 500 TO 700 POUNDS OF 10–10–10 FERTILIZER OR THE EQUIVALENT PER ACRE (12–16 LBS./1,000 SQ. FT.) SHALL BE APPLIED. FERTILIZER SHOULD BE APPLIED BEFORE LAND PREPARATION AND INCORPORATED WITH A DISK, RIPPER OR CHISEL.

GEORGIA811.COM DIAL 811

UTILITIES PROTECTION CENTER 1–800–282–7411 CALL BEFORE YOU DIG

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS CONTAINED WITHIN THIS SET OF DOCUMENTS AND SHALL REPORT ANY DISCREPANCIES TO T. R. LONG ENGINEERING, P.C. FOR IMMEDIATE RESOLUTION.

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. 27744 TRENT R. LONG

GSWCC# 0000002134

HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31313
(912) 368-5664

STATESBORO:
302 S Zetterower Avenue
Statesboro, Georgia 30458
(912) 335-1046

TRLONG ENGINEERING,P.C.
www.trlongeng.com

ROADWAY IMPROVEMENTS FOR BACONTOWN ROAD LIBERTY COUNTY BOARD OF COMMISSIONERS

SHEET NAME:
EROSION CONTROL GRASSING DETAILS

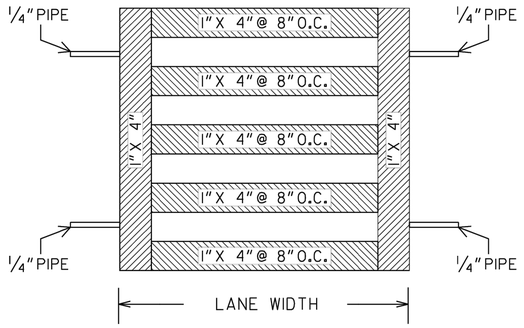
REVISIONS:
1.
2.
3.
4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 03/14/2025
DRAWN BY: TRL
CHECKED BY: TRL
PROJECT #: 2024-243

SHEET NUMBER:
C3.1

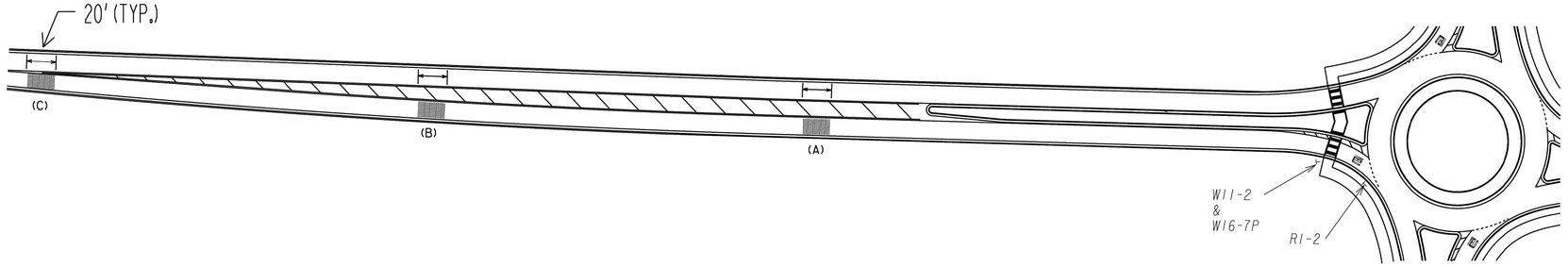
G:\ACTIVE PROJECTS\2024–243 H – BACONTOWN RD RDWY IMP\900–DRAWINGS\DWG\2024–243.DWG

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



RUMBLE STRIP FORM

ROUNDABOUT



GENERAL NOTES

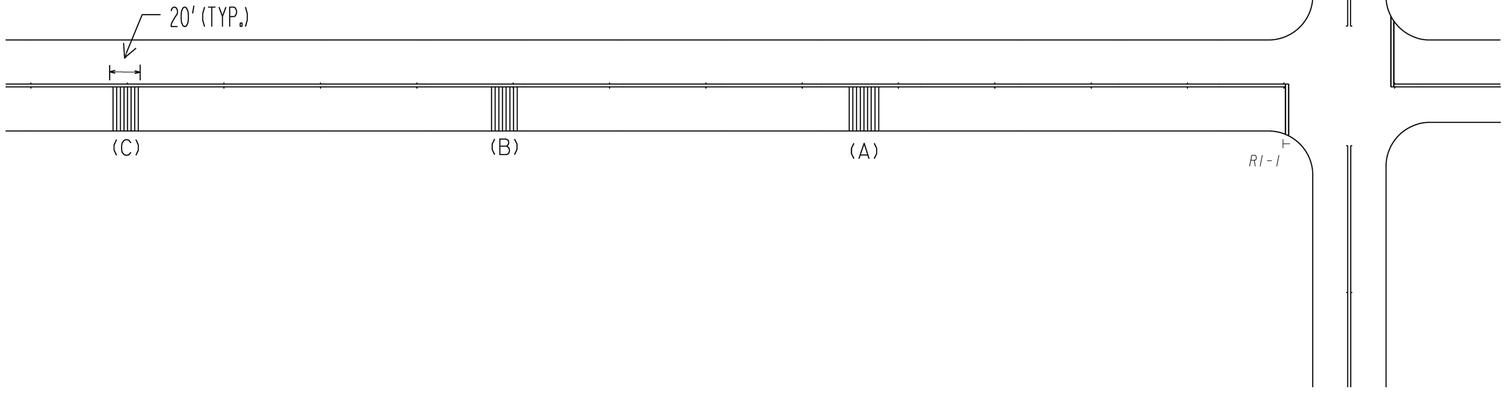
1. FORM SHALL BE FULL WIDTH OF LANE. (NOTE: NOT TO EXCEED CENTER LINE OR EDGE LINE PAVEMENT MARKINGS INCLUDING, IF APPLICABLE, RAISED PAVEMENT MARKERS). FOR MULTILANE APPROACHES, RUMBLE STRIPS SHALL BE PLACED ACROSS BOTH LANES

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		450'	700'
60 MPH	300'	500'	775'
65 MPH		550'	850'

DRAWINGS ARE NOT TO SCALE

BY	REVISION	DATE
ACP	ADJUSTED RUMBLE STRIP SPACING	11-04-20
ACP	ADD ROUNDABOUT DTL.	
	ADJUSTED W3-1a SIGN LOC.	4-08-03
	CHANGED LANE WIDTH OF	
ACP	RUMBLE STRIP, GEN. NOTES	3-31-00
	CHANGED R1-1 SIGN TO 36 IN	

DESIGNED ____
DRAWN ____
TRACED ____
CHECKED ____

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

CONSTRUCTION DETAILS
RUMBLE STRIPS: ROUNDABOUTS AND STOP CONTROLLED INTERSECTIONS

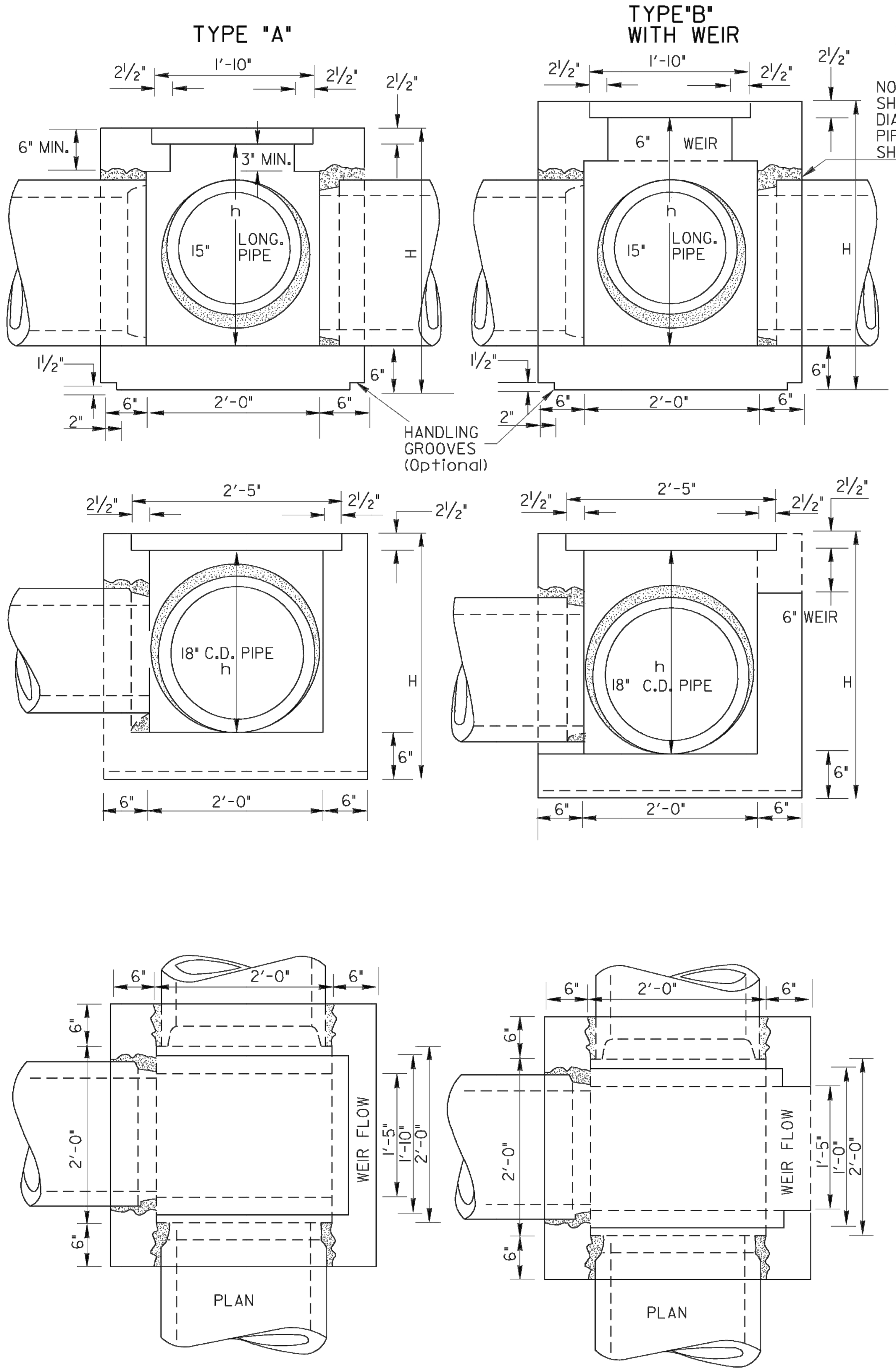
NO SCALE JANUARY 2000

NUMBER
T-19

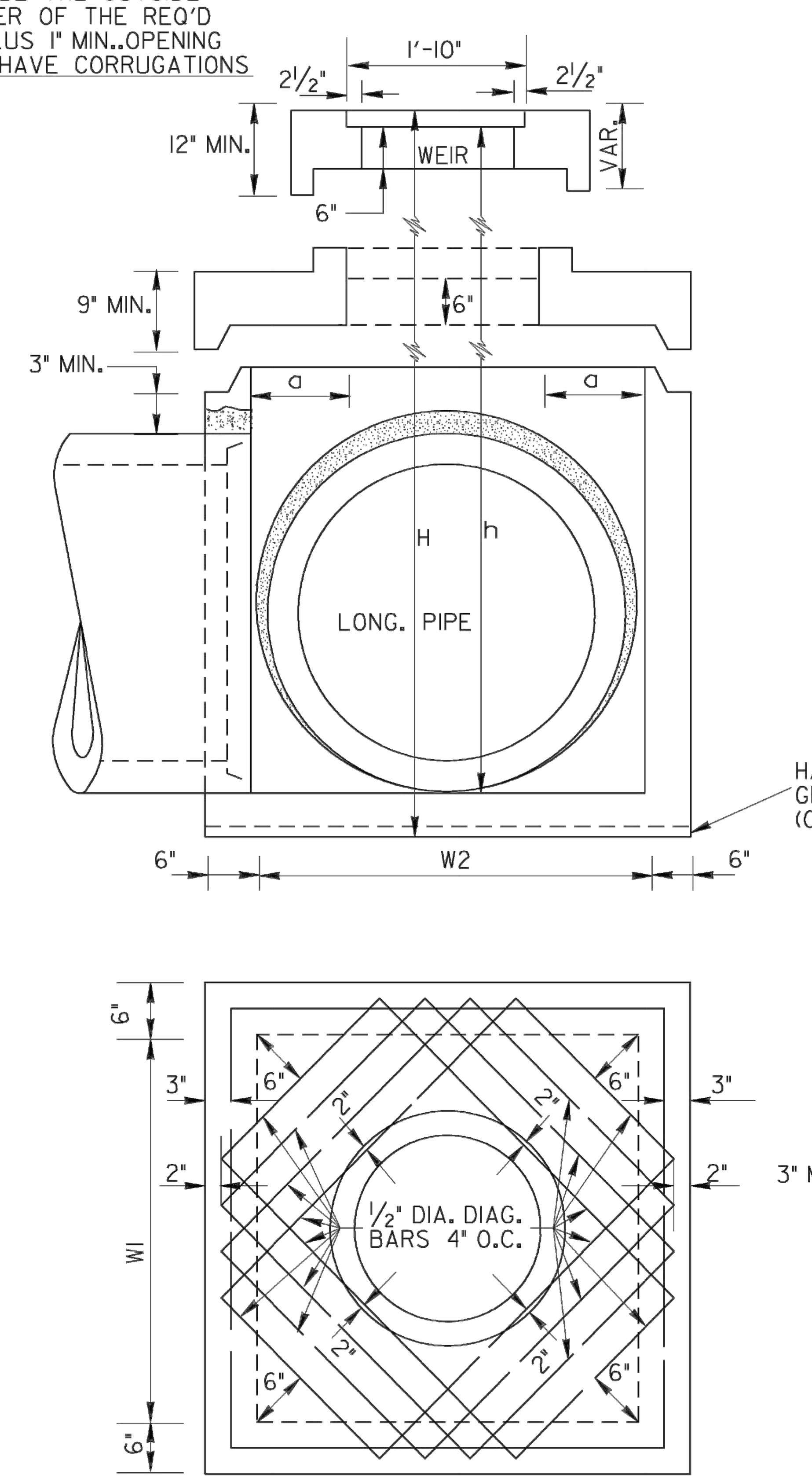
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

NOTE:
SEE STANDARD 1019-A- BRICK DROP INLETS- FOR DETAIL OF GRATING FRAME,HOOD,ETC., WHERE NEEDED.

NOTE: OPENING FOR PIPE SHALL BE THE OUTSIDE DIAMETER OF THE REQ'D PIPE PLUS 1" MIN.,OPENING SHALL HAVE CORRUGATIONS

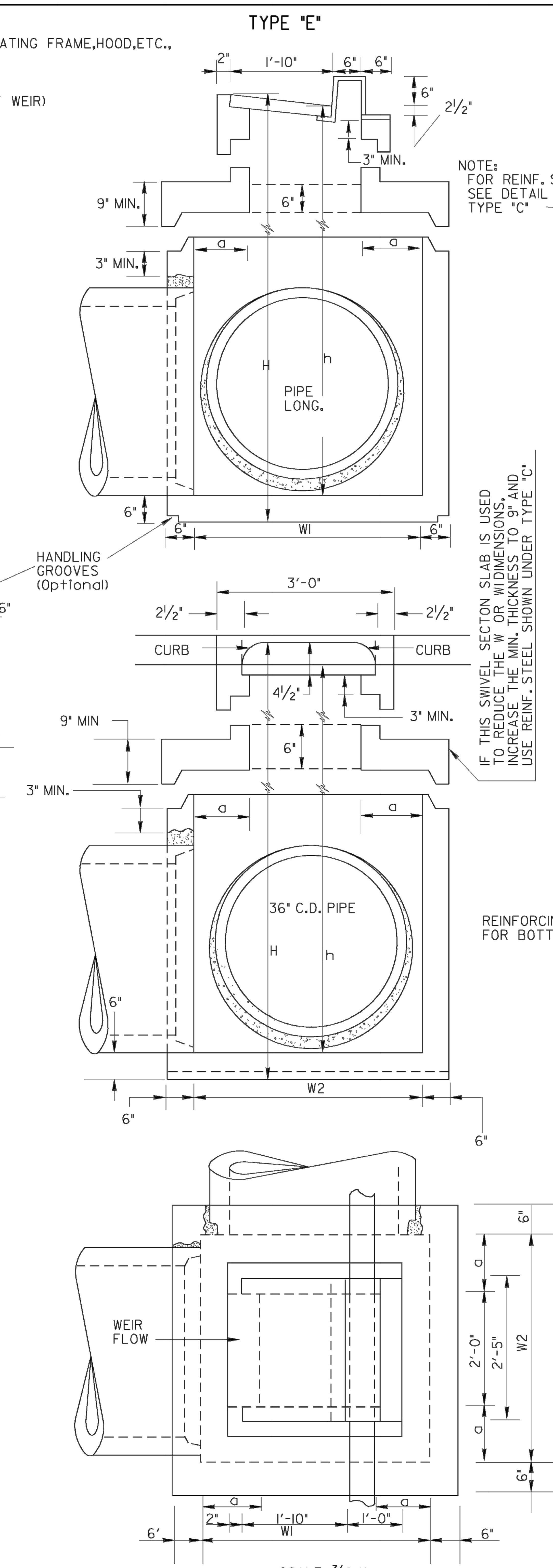


SCALE: 1" =1'

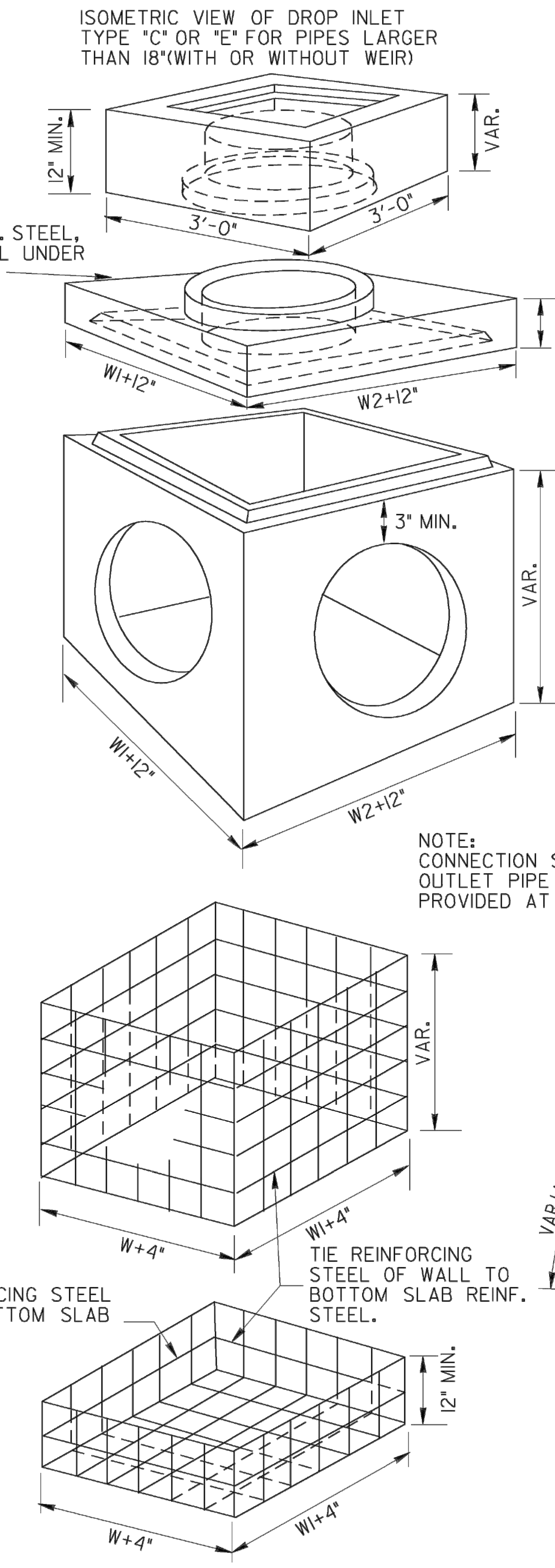


SCALE: 3/4" =1

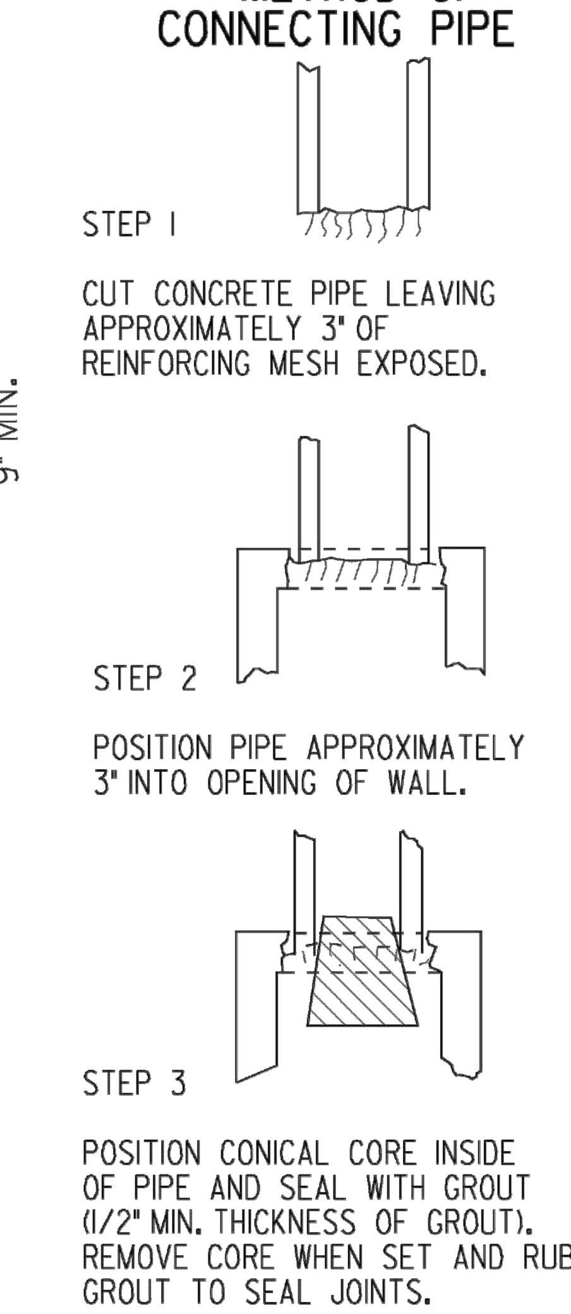
FOR OTHER DETAILS, SEE TYPE "B"



SCALE: 3/4"=1'

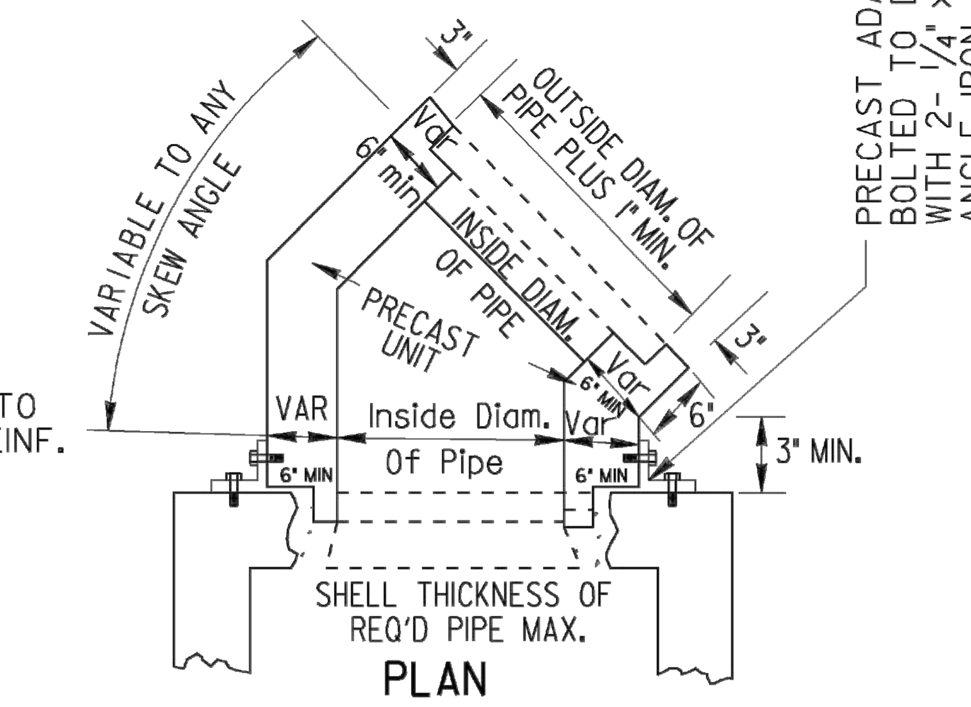


METHOD OF CONNECTING PIPE



NOTE:
CONNECTION SHOWN ABOVE FOR USE WHERE CONCRETE OUTLET PIPE DOES NOT HAVE BELL OR HUB END PROVIDED AT STRUCTURE OUTLET.

ALTERNATE METHOD OF CONNECTION SKEWED PIPE



PLAN

ALTERNATE METHODS OF CONNECTING SKEWED PIPES MAY INCLUDE PIPE ELBOWS OR CIRCULAR PRECAST BASE UNITS. SEE SEPARATE STANDARDS.

NOTE: REINFORCING STEEL SHALL BE No. 4 STEEL BARS AT 12" O.C. BOTH WAYS OR EQUIVALENT WIRE FABRIC REINFORCING.

SPECIAL NOTE:
STANDARD 1019A INLETS ARE FOR USE AT LOW POINTS AND WHERE HYDRAULIC LOW CAPACITY GRATES ARE SUFFICIENT. WHERE HIGHER CAPACITY GRATES ARE NEEDED ON A CONTINUOUS GRADE, STANDARD 1019B IS RECOMMENDED.

DIMENTIONS FOR DROP INLETS

PIPE SIZE	TYPE "A"		TYPE "B"		TYPE "C"				TYPE "E"			
	MIN. h	MIN. H	MIN. h	MIN. H	W1orW2	a	MIN. h	MIN. H	W1orW2	a	MIN. h	MIN. H
15"	2'- 0"	2'-8 1/2"	2'- 7"	3'-3 1/2"	2'- 0"		2'-7"	3'-3 1/2"	2'- 0"		2'-7"	3 - 3 1/2"
18"	2'-3 1/2"	3'- 0"	2'-10"	3'-6 1/2"	2' - 0"		2'-10"	3'-6 1/2"	2'- 0"		2'-10"	3 - 6 1/2"
24"					3' - 0"	0'- 6"	4'- 3 1/2"	5'- 0"	3'- 0"	0'- 6"	4'- 7"	5 - 3 "
30"					3' - 6"	0'- 9"	4'-10 1/2"	5'- 7"	3'- 6"	0'- 9"	5'- 2"	5 - 10"
36"					4' - 0"	1'- 0"	5'- 5 1/2"	6'- 2"	4'- 0"	1'- 0"	5'- 9"	6 - 3 "
42"					4' - 6"	1'- 3"	6'-1/2	6'- 8"	4'- 6"	1'- 3"	6'- 4"	7 - 0 "
48"					5' - 0"	1'- 6"	6'- 7 1/2"	7'- 3"	5'- 0"	1'- 6"	6'- 11"	7 - 7 "
54"					5' - 6"	1'- 9"	7'- 2 1/2"	7'-10"	5'- 6"	1'- 9"	7'- 6"	8 - 2 "
60"					6' - 0"	2'- 0"	7'- 9 1/2"	8'- 5"	6'- 0"	2'- 0"	8'- 1"	8 - 9 "

NOTE:
SEE STANDARD 1019A (BRICK) AND STANDARD 1040 FOR CONSTRUCTION ALTERNATES BRICK MASONRY AND CIRCULAR PRECAST SECTIONS RESPECTIVELY.

DATE

REVISION

BY

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD PRECAST DROP INLETS

SCALE AS SHOWN

AUG. 1999

DESIGNED ____
DRAWN ____
TRACED ____
CHECKED ____

(SUBMITTED) STATE ROAD & AIRPORT DESIGN ENGINEER

(APPROVED) CHIEF ENGINEER

NUMBER
1019A
PRECAST