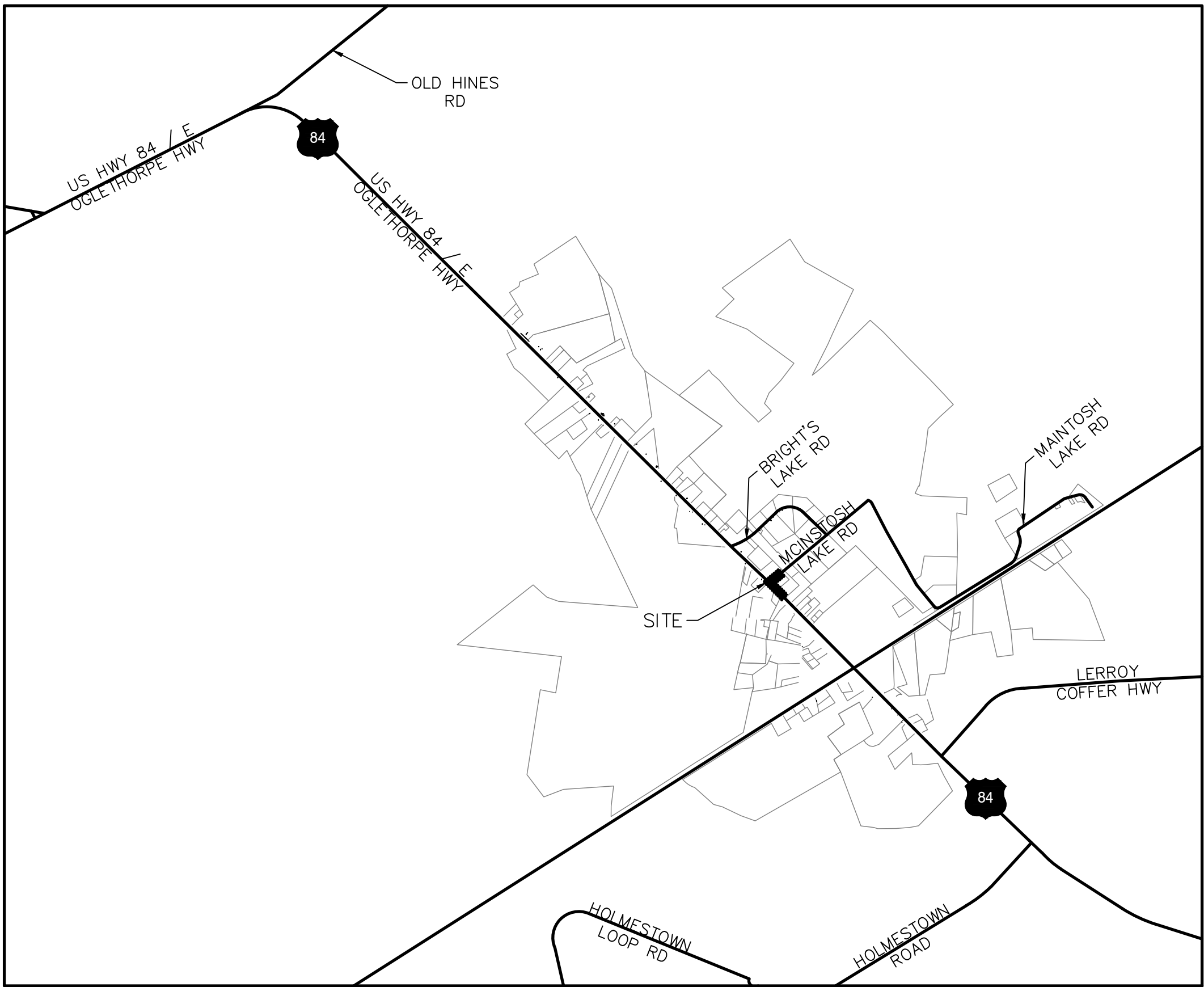


MCINTOSH LAKE ROAD STATE ROUTE 38 (U.S. HIGHWAY 84) INTERSECTION IMPROVEMENTS LIBERTY COUNTY BOARD OF COMMISSIONERS

OWNER
**LIBERTY COUNTY BOARD OF
COMISSIONERS**
112 N. MAIN STREET
HINESVILLE, GEORGIA
(912)-368-5664
24-HOUR CONTACT
TRENT R. LONG
(912)-368-5664
TRLONG@TRLONGENG.COM

Sheet List Table	
Sheet Number	Sheet Title
C1.1	TITLE SHEET
C2.1	EXISTING CONDITIONS
C3.1	STAKING SHEET
C3.2	PAVING DETAIL
C4.1	GRADING & DRAINAGE PLAN
C4.2	GRADING & DRAINAGE PLAN
C4.3	DRAINAGE PROFILE
C6.1	INITIAL ES&PC PLAN
C6.2	INTERMEDIATE ES&PC PLAN
C6.3	FINAL ES&PC PLAN
C6.4	ES&PC NARRATIVE
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C7.1	ES&PC DETAILS
C7.2	ES&PC DETAILS
C7.3	ES&PC DETAILS
C7.4	GDOT DETAILS
C7.5	GDOT DETAILS
C7.6	GDOT DETAILS
C7.7	GDOT DETAILS
C7.8	GDOT DETAILS
C7.9	GDOT DETAILS
C7.10	GDOT DETAILS



VICINITY MAP N.T.S.

LOCATION: N31° 49' 56.35", W81° 31' 53.48"
(31.832319, -81.531522)
DISTURBED ACREAGE: 0.83 AC.
TOTAL SITE ACREAGE: 0.83 AC.

STATE ROUTE LANE CLOSURES ARE
ALLOWED ONLY BETWEEN
7:00 PM AND 5:00 AM

ENGINEER
T. R. LONG ENGINEERING, P.C.
114 NORTH COMMERCE STREET
HINESVILLE, GEORGIA 31313
(912) 368-5664

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	Co	
STORM OUTLET PROTECTION	St	
SILT FENCE	Sd1	
MULCHING	Ds1	
TEMPORARY GRASSING	Ds2	
PERMANENT GRASSING	Ds3	
FIRE HYDRANT	Hy	
SEWER MANHOLE	Sm	
WATER VALVE	Wv	
DRAINAGE FLOW	DF	
WATER METER	Wm	
BENCHMARK	Bm	
WELL	Wl	
GUY POLE	Gp	
IRON PIN	IP	
TELEPHONE PEDESTAL	TP	
POWER POLE	PP	

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MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

SHEET NAME:
TITLE SHEET

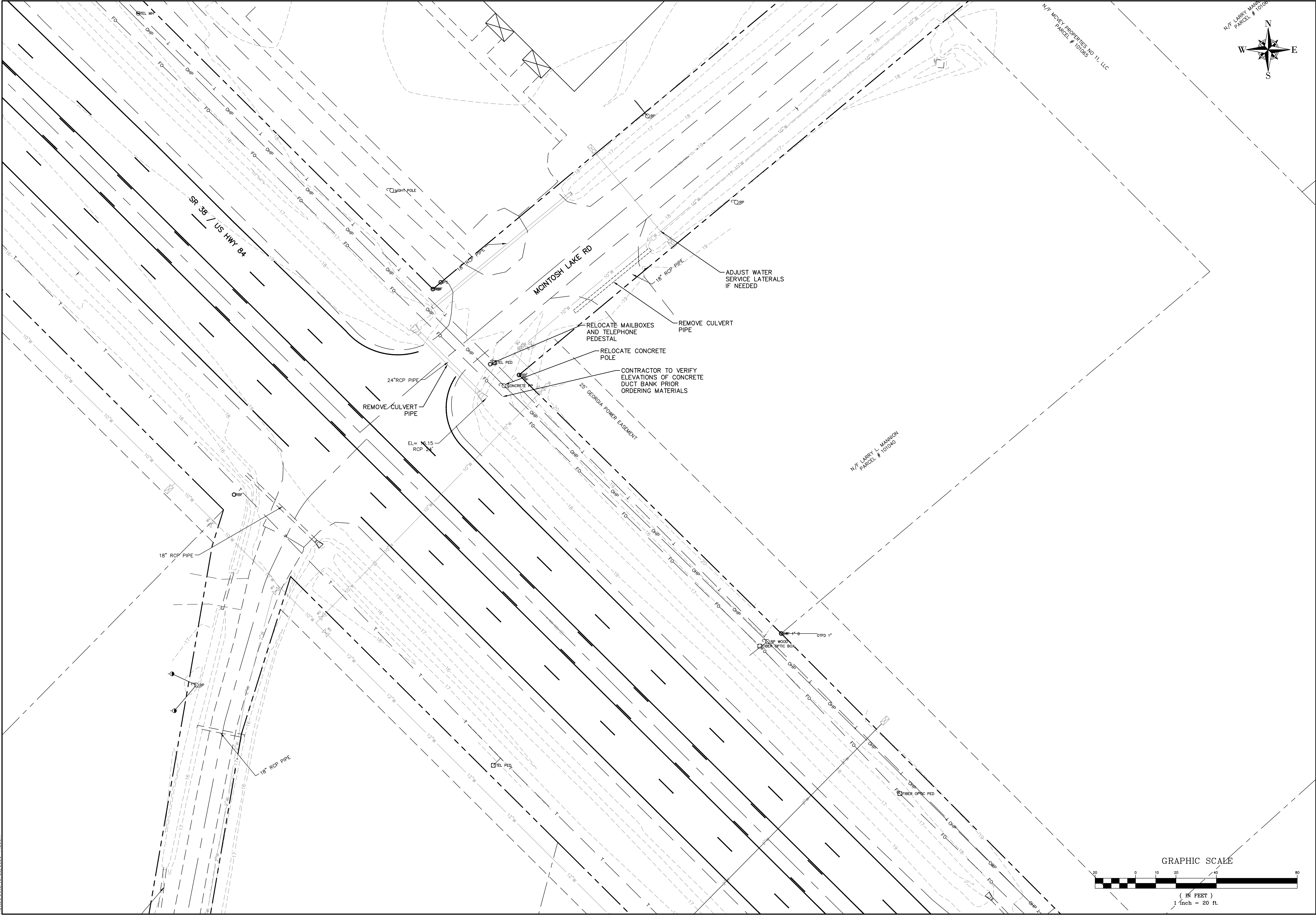
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2.	01/02/2026	GDOT #2
3.	07/17/2026	MOD
4.		
5.		
6.		
7.		
8.		
9.		
10.		

INITIAL DATE: 8/11/2025
DRAWN BY: JEL
CHECKED BY: TRL
PROJECT #: 2024-246

SHEET NUMBER:
C1.1

Drawing File: C:\active projects\2024-246 h - mcintosh lake rd & hwy 84\900-drawings\DWG\CONST\2024-246 EX.dwg
Plotted Date: Jul 20, 2026 - 7:28am



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MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

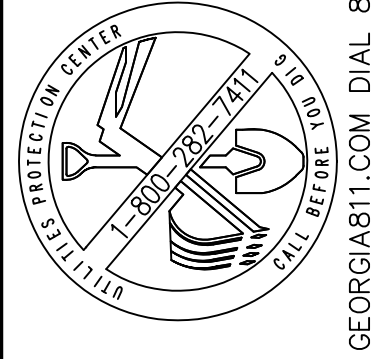
SHEET NAME:
EXISTING
CONDITIONS &
DEMOLITION

REVISIONS:

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2.	01/02/2026	GDOT #2
3.	07/17/2026	MOD
4.		
5.		
6.		
7.		
8.		
9.		
10.		

INITIAL DATE: 8/11/2025
DRAWN BY: JEL
CHECKED BY: TRL
PROJECT #: 2024-246

SHEET NUMBER:
C2.1



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MCINTOSH LAKE ROAD STATE ROUTE 38 (U.S. HIGHWAY 84) INTERSECTION IMPROVEMENTS

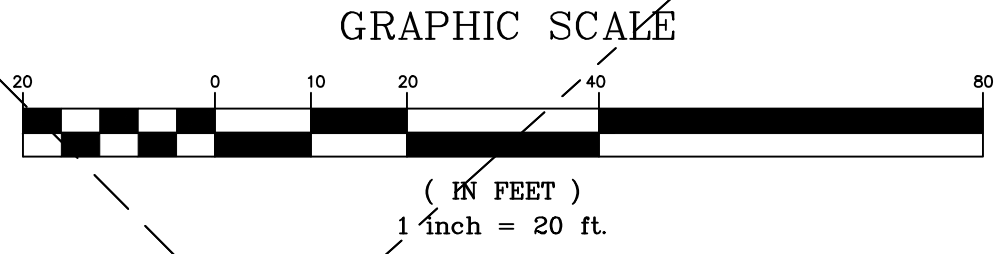
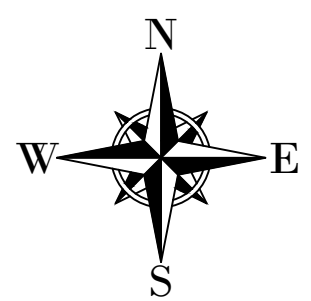
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STAKING SHEET

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3.	07/17/2026 MOD
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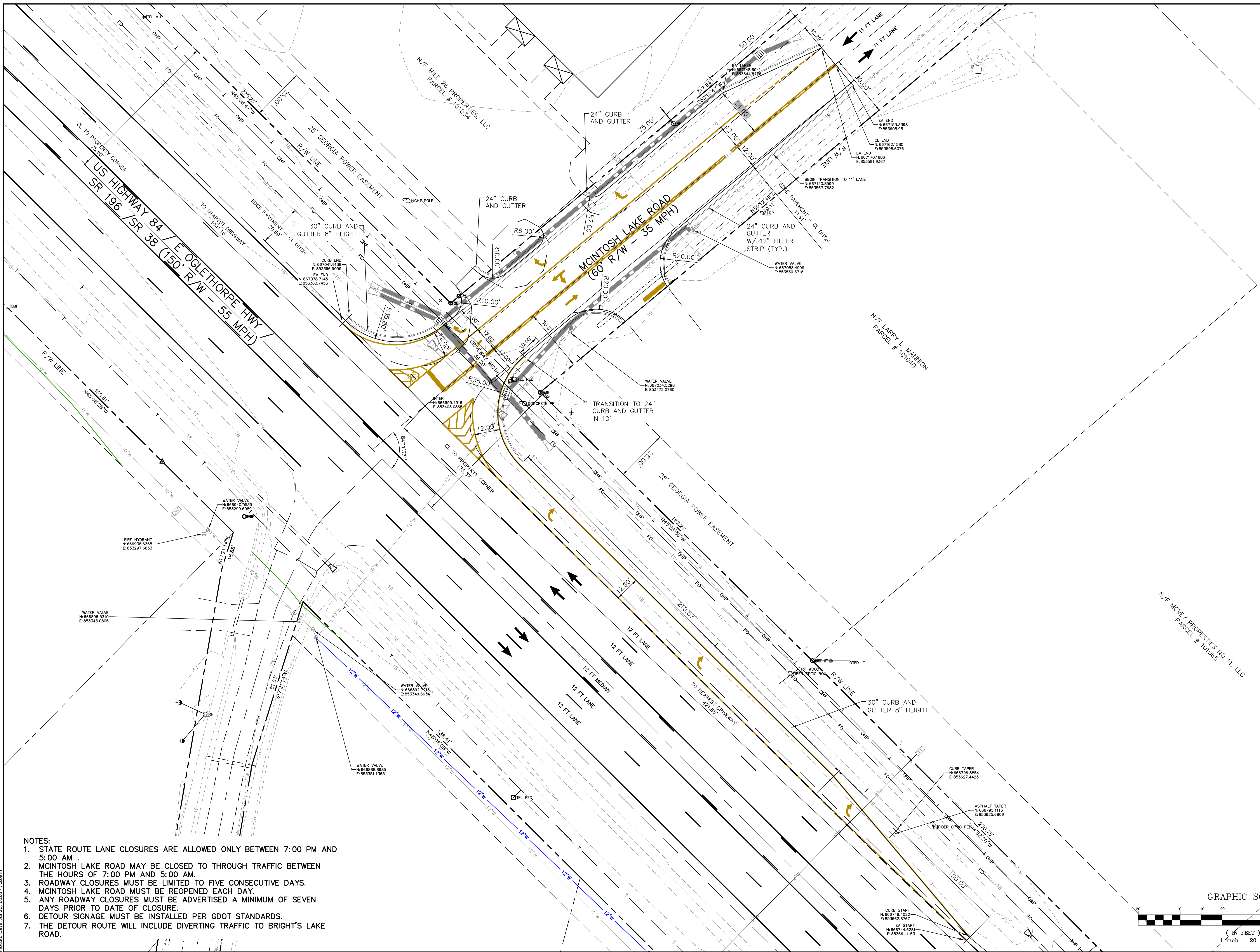
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DRAWN BY: JEL
CHECKED BY: TRL
PROJECT #: 2024-246

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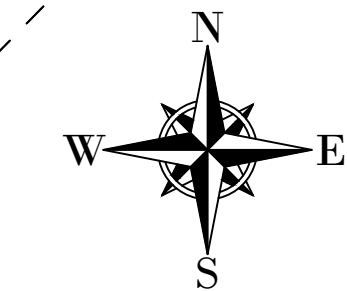
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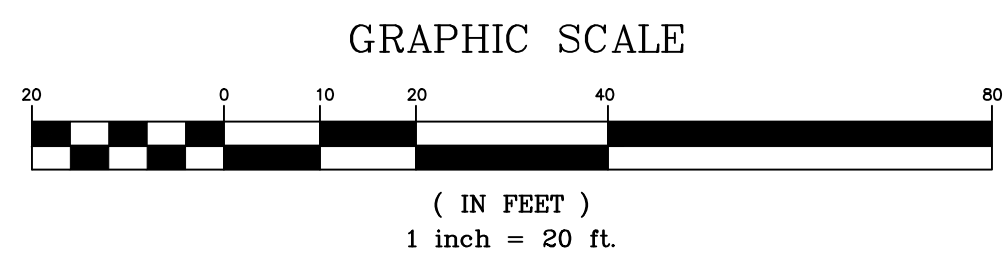
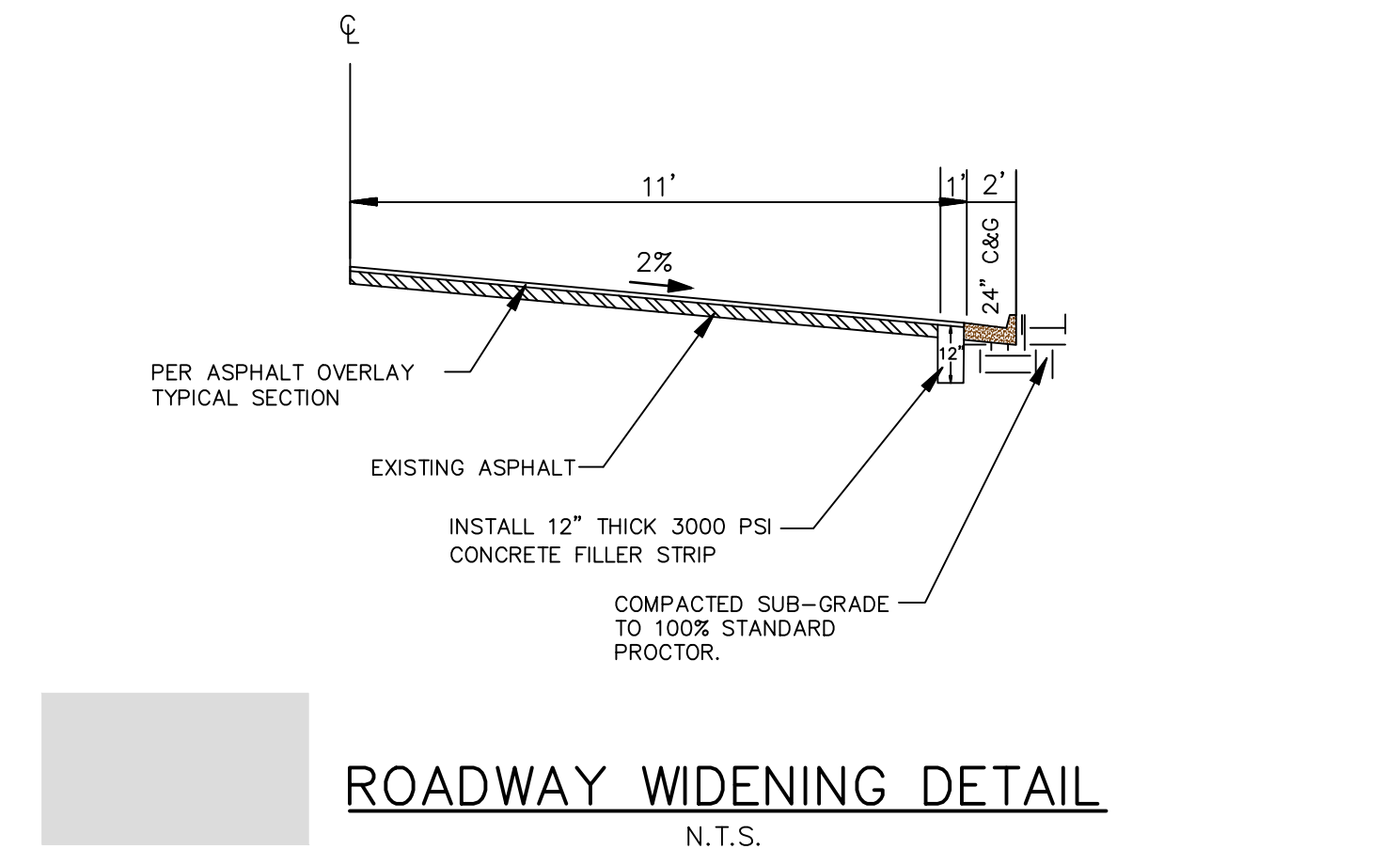
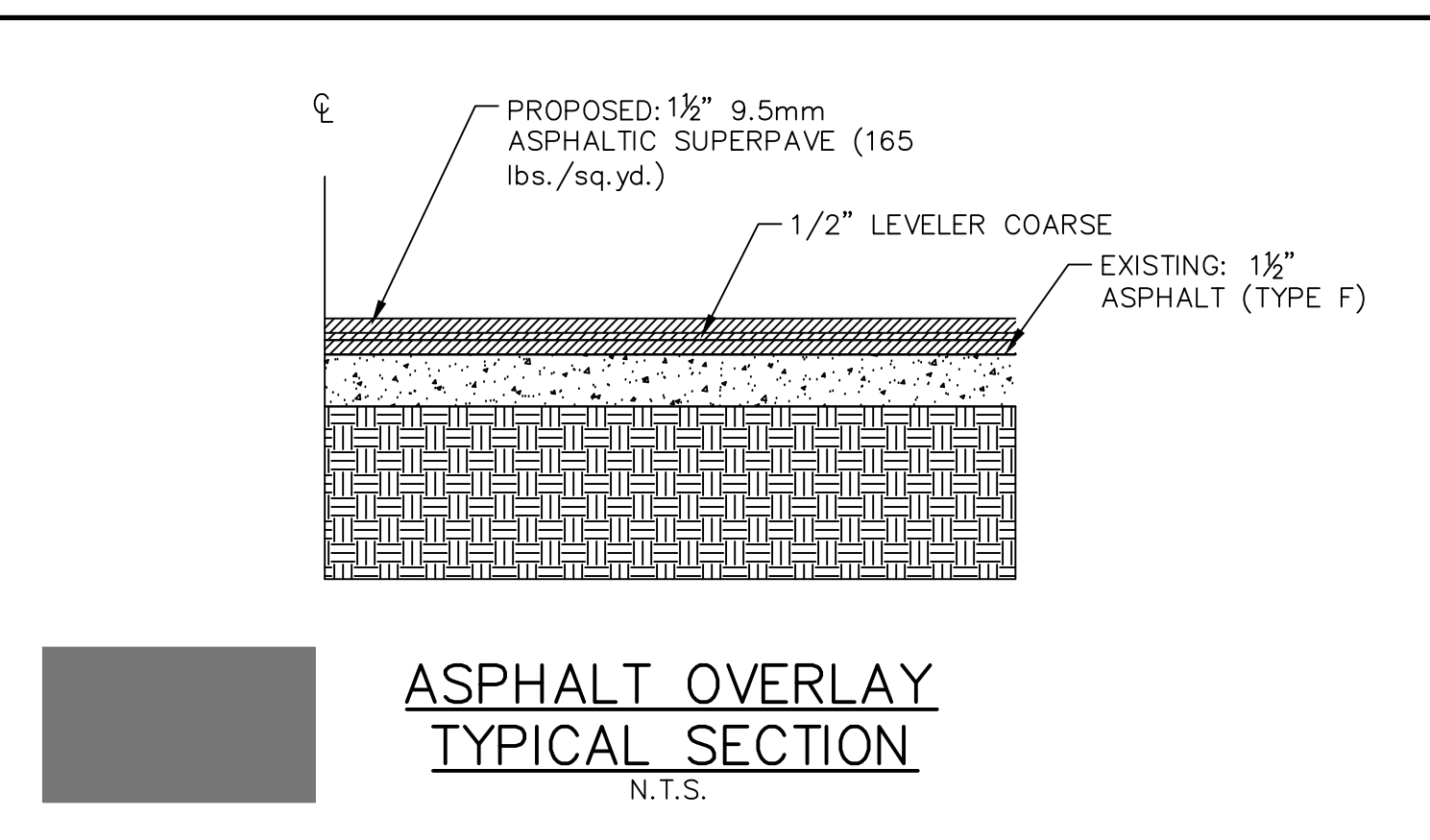
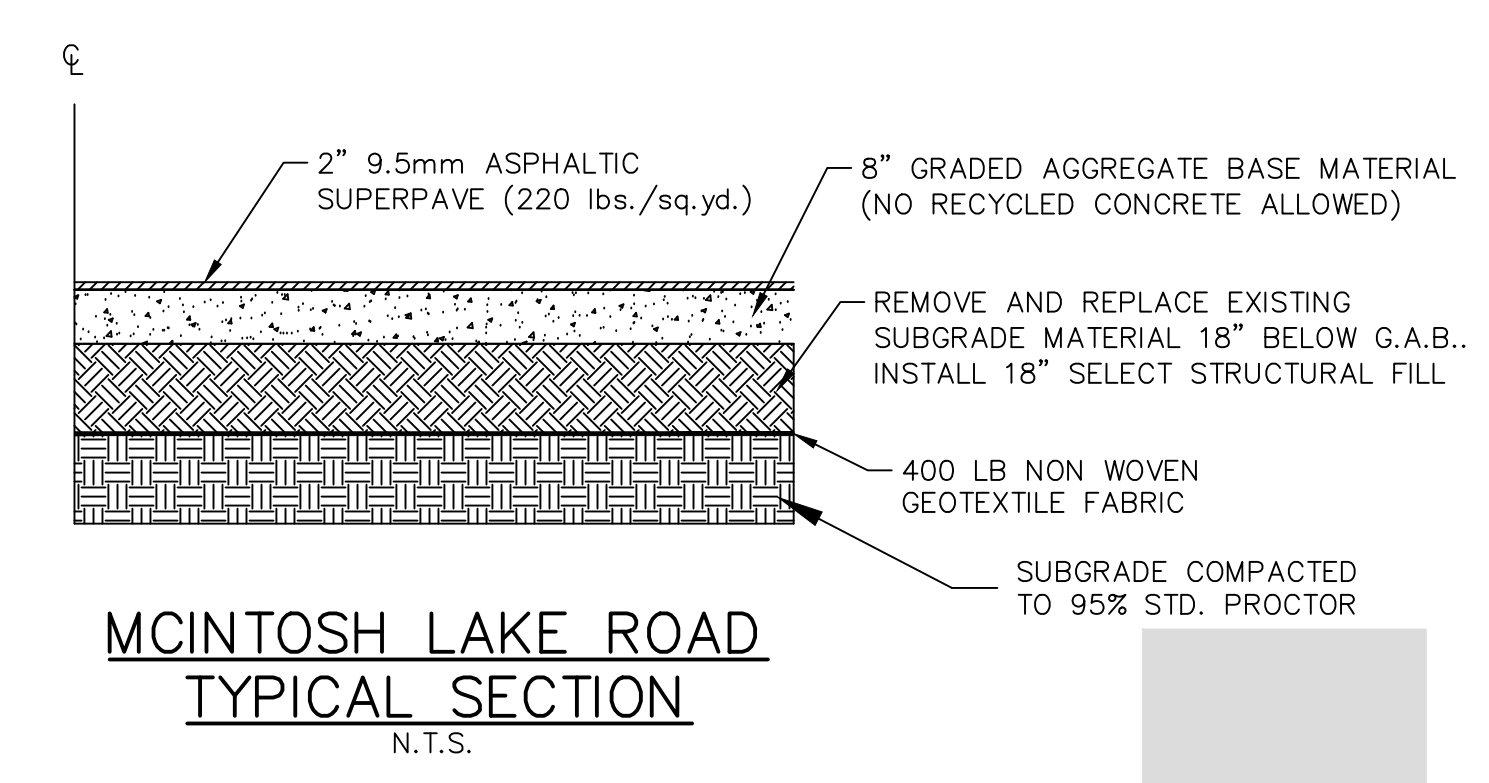
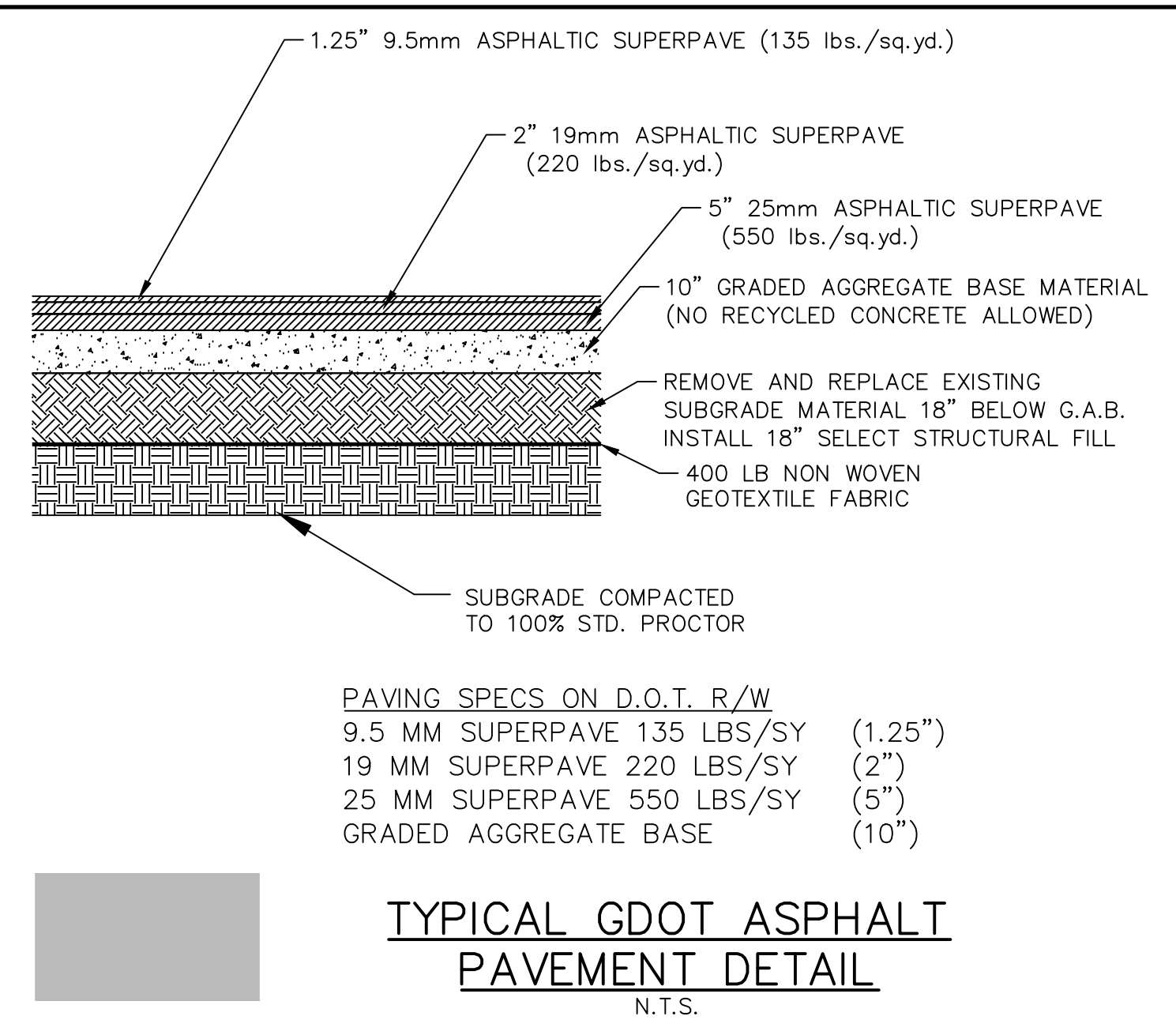
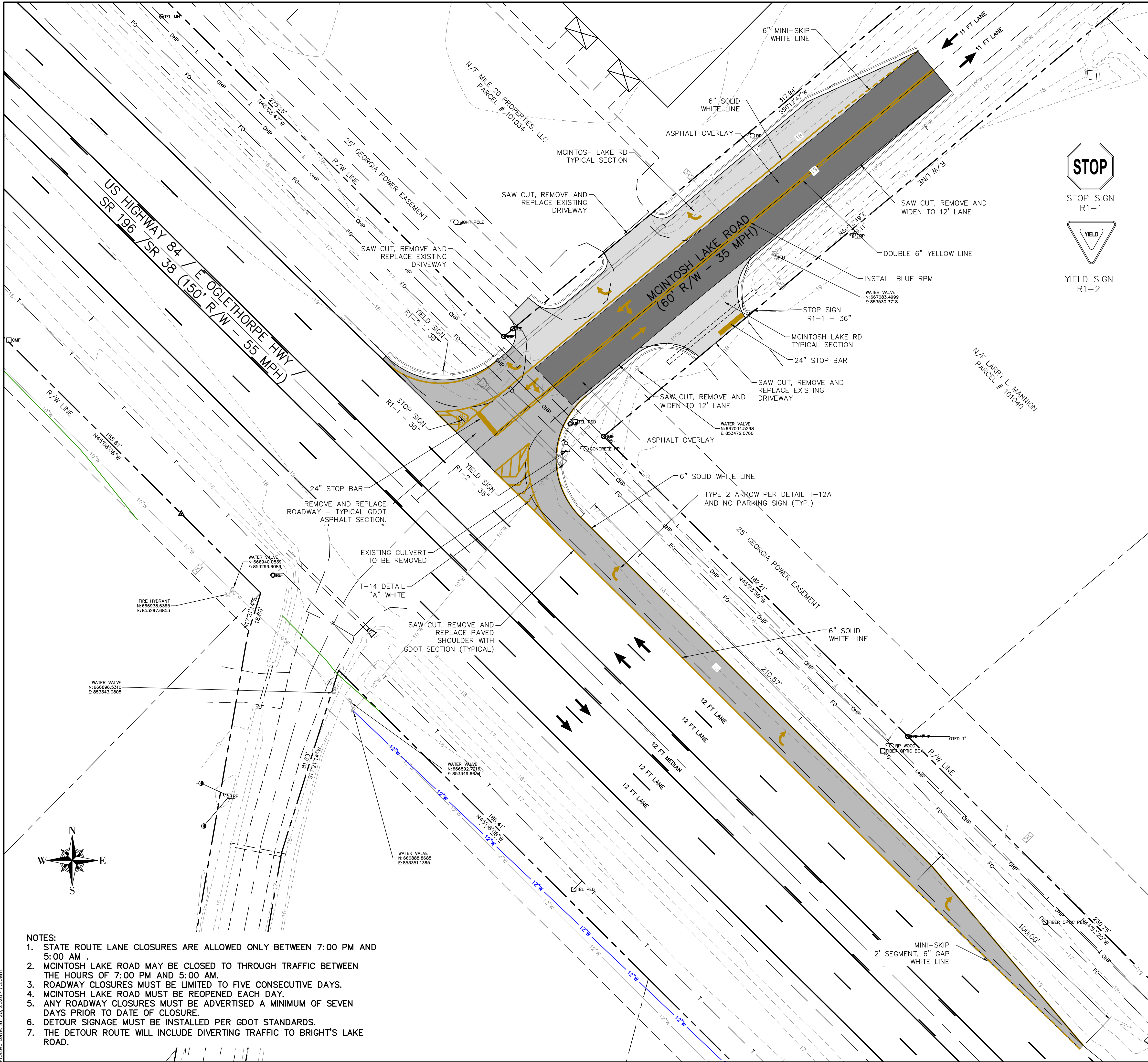
- NOTES:
1. STATE ROUTE LANE CLOSURES ARE ALLOWED ONLY BETWEEN 7:00 PM AND 5:00 AM.
 2. MCINTOSH LAKE ROAD MAY BE CLOSED TO THROUGH TRAFFIC BETWEEN THE HOURS OF 7:00 PM AND 5:00 AM.
 3. ROADWAY CLOSURES MUST BE LIMITED TO FIVE CONSECUTIVE DAYS.
 4. MCINTOSH LAKE ROAD MUST BE REOPENED EACH DAY.
 5. ANY ROADWAY CLOSURES MUST BE ADVISED A MINIMUM OF SEVEN DAYS PRIOR TO DATE OF CLOSURE.
 6. DETOUR SIGNAGE MUST BE INSTALLED PER GDOT STANDARDS.
 7. THE DETOUR ROUTE WILL INCLUDE DIVERTING TRAFFIC TO BRIGHT'S LAKE ROAD.



Drawing File: C:\active projects\2024-246-h - mcintosh lake rd & hwy 84\900-drawings\DWG\CONST\2024-246 STAK.dwg
Plotted Date: Jul 20, 2026 - 7:28am



- NOTES:
1. STATE ROUTE LANE CLOSURES ARE ALLOWED ONLY BETWEEN 7:00 PM AND 5:00 AM .
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MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

SHEET NAME:
PAVING DETAIL

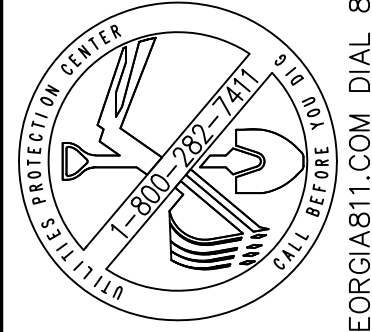
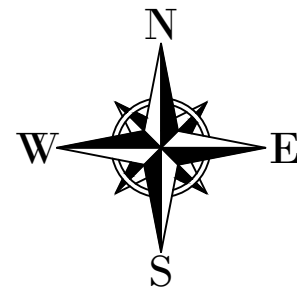
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2.	01/02/2026	GDOT #2
3.	07/17/2026	MOD
4.		
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INITIAL DATE: 8/11/2025
DRAWN BY: JEL
CHECKED BY: TRL
PROJECT #: 2024-246

SHEET NUMBER:
C3.2

CONTINUE ON SHEET C4.2



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MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

SHEET NAME:
GRADING &
DRAINAGE PLAN

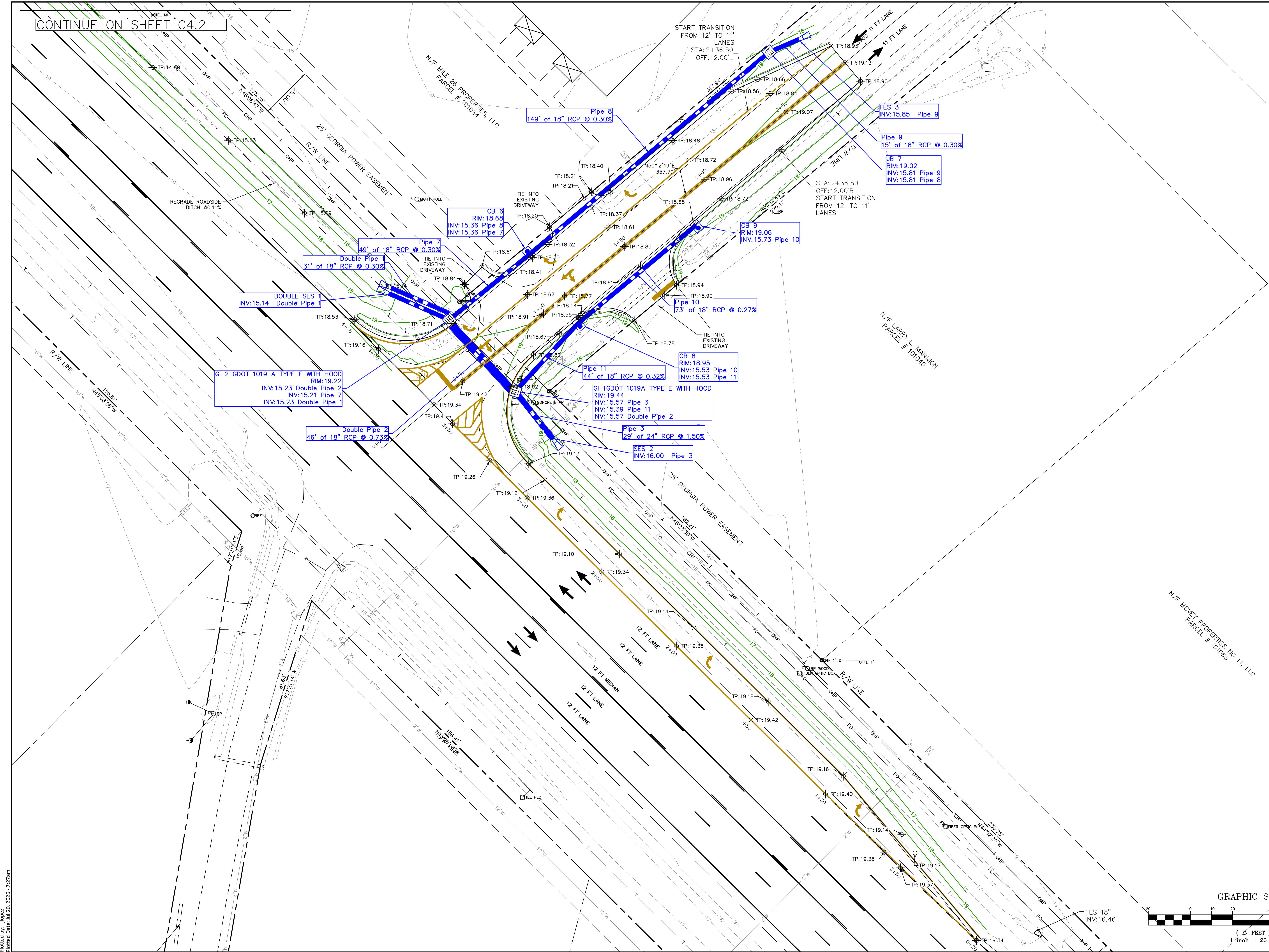
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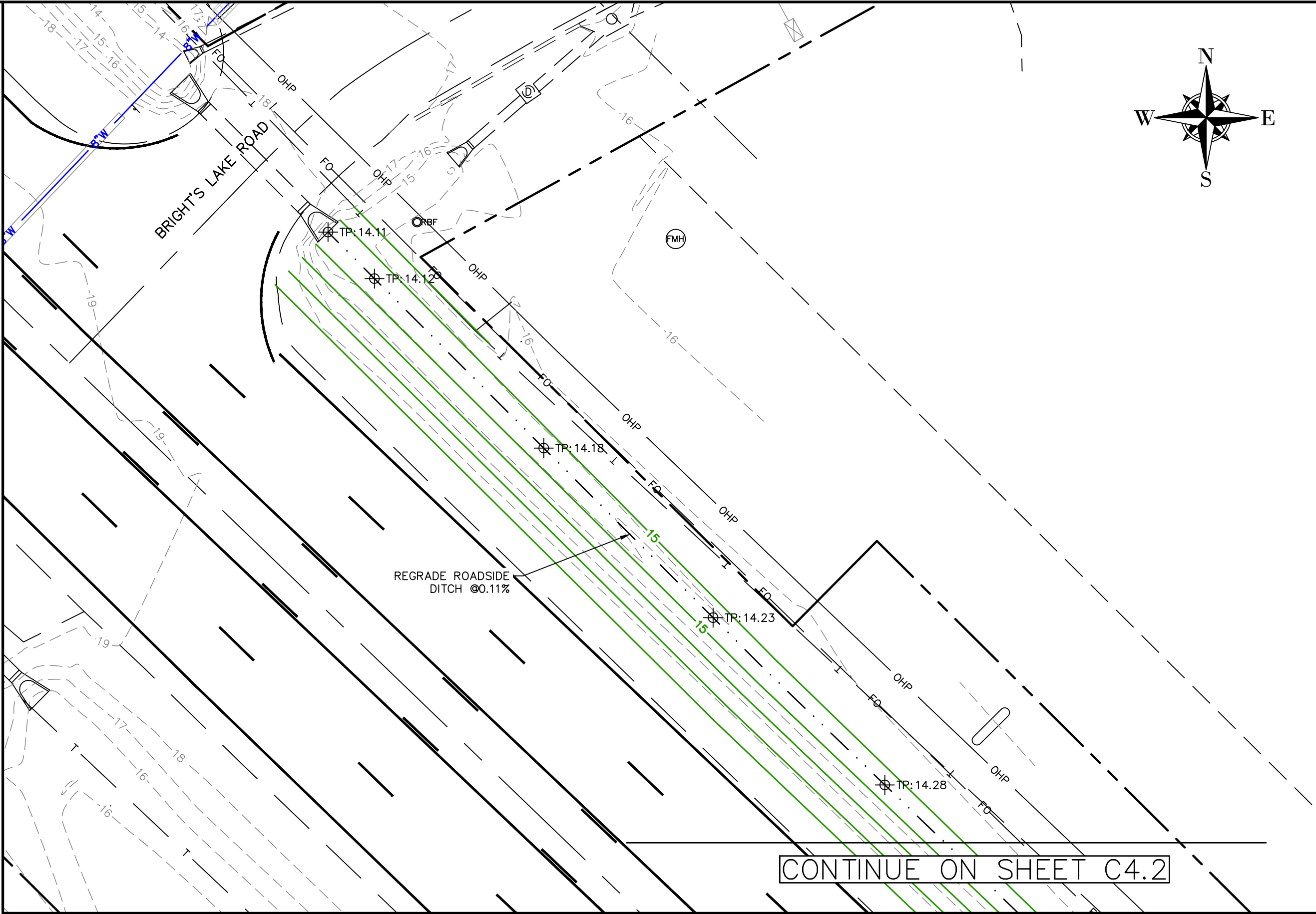
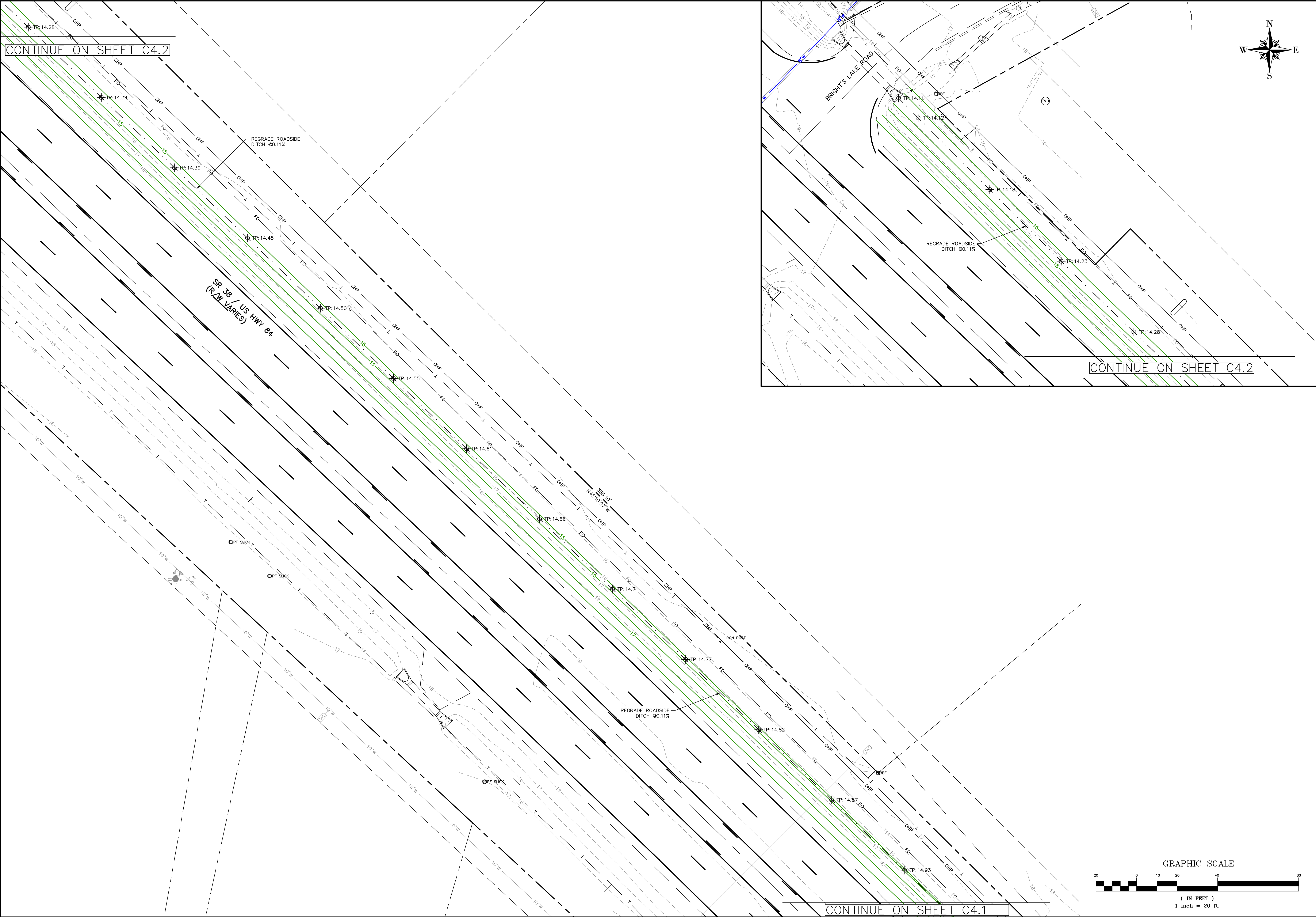
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DRAWN BY: JEL
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PROJECT #: 2024-246

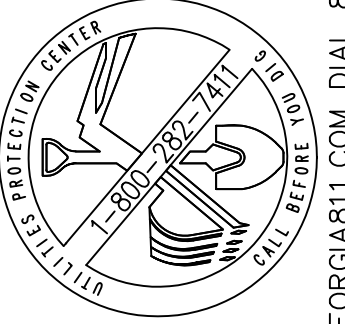
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C4.1

Drawing File: C:\active projects\2024-246 h - mcintosh lake rd & hwy 84\900-drawings\DWG\CONST\2024-246 GRA.DWG
Plotted Date: Jul 20, 2026 - 7:27am







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MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

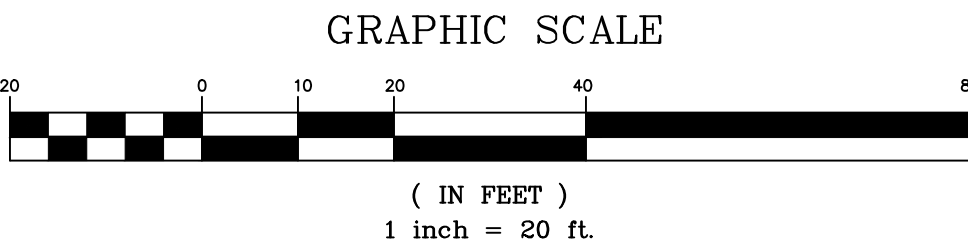
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GRADING &
DRAINAGE PLAN

REVISIONS:

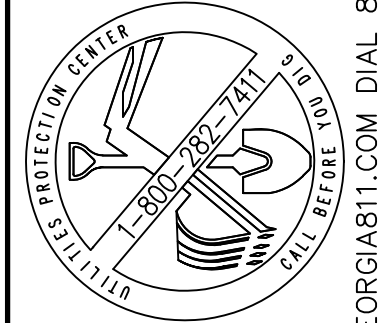
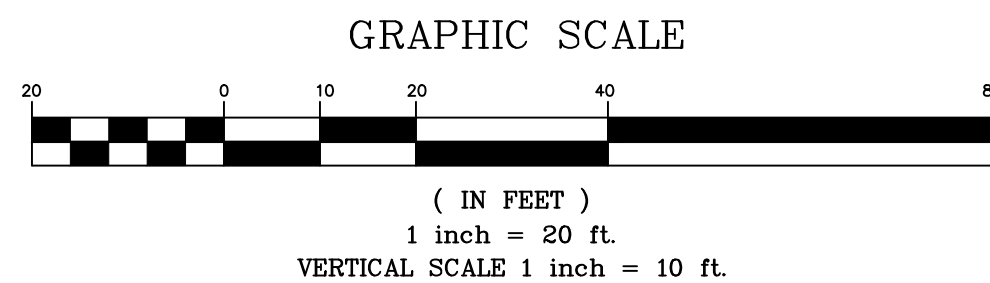
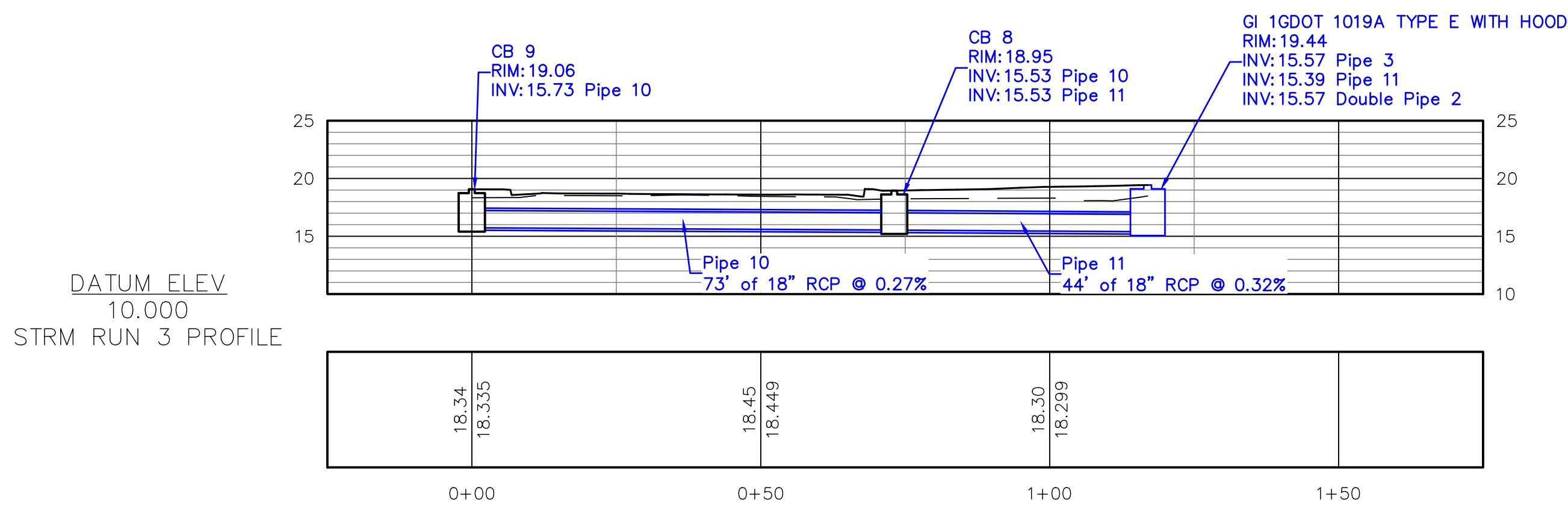
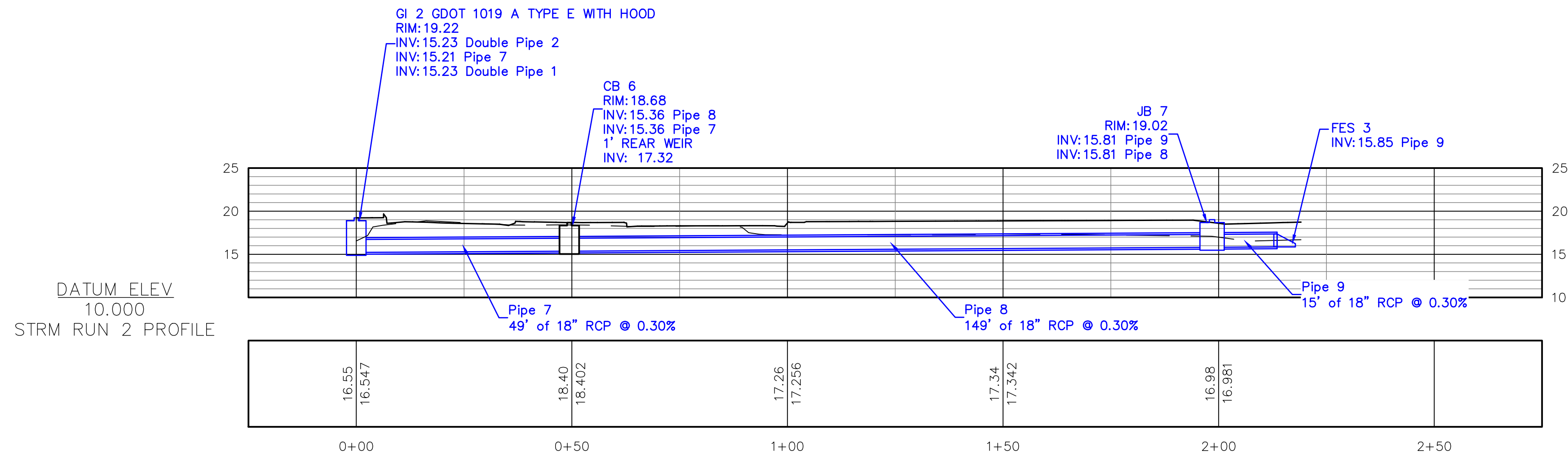
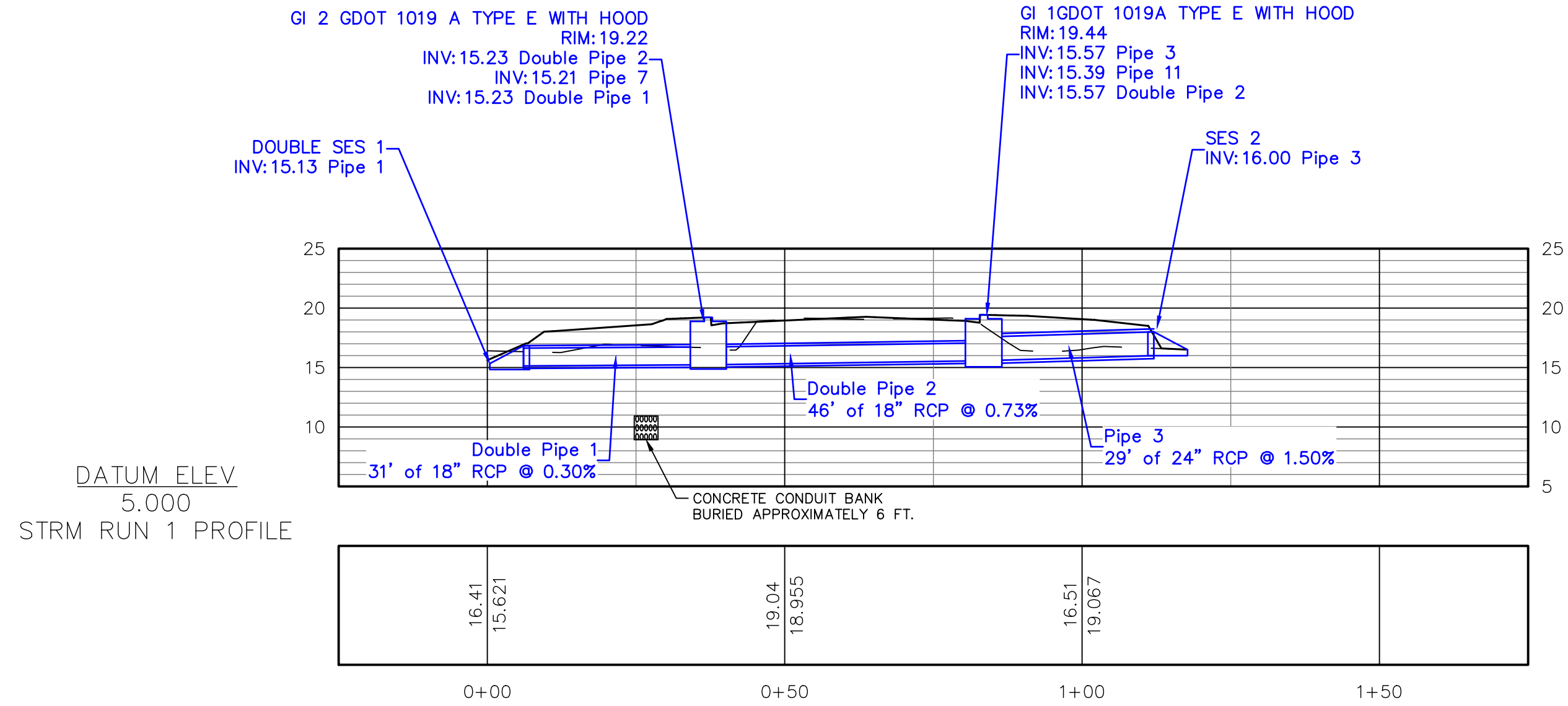
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INITIAL DATE: 8/11/2025
DRAWN BY: JEL
CHECKED BY: TRL
PROJECT #: 2024-246

SHEET NUMBER:
C4.2



Drawing File: C:\active projects\2024-246 h - mcintosh lake rd & hwy 84\900-drawings\DWG\CONST\2024-246 GRA.DRA.dwg
Plotted Date: Jul 20, 2026 - 7:27am



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MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

SHEET NAME:
DRAINAGE PROFILE

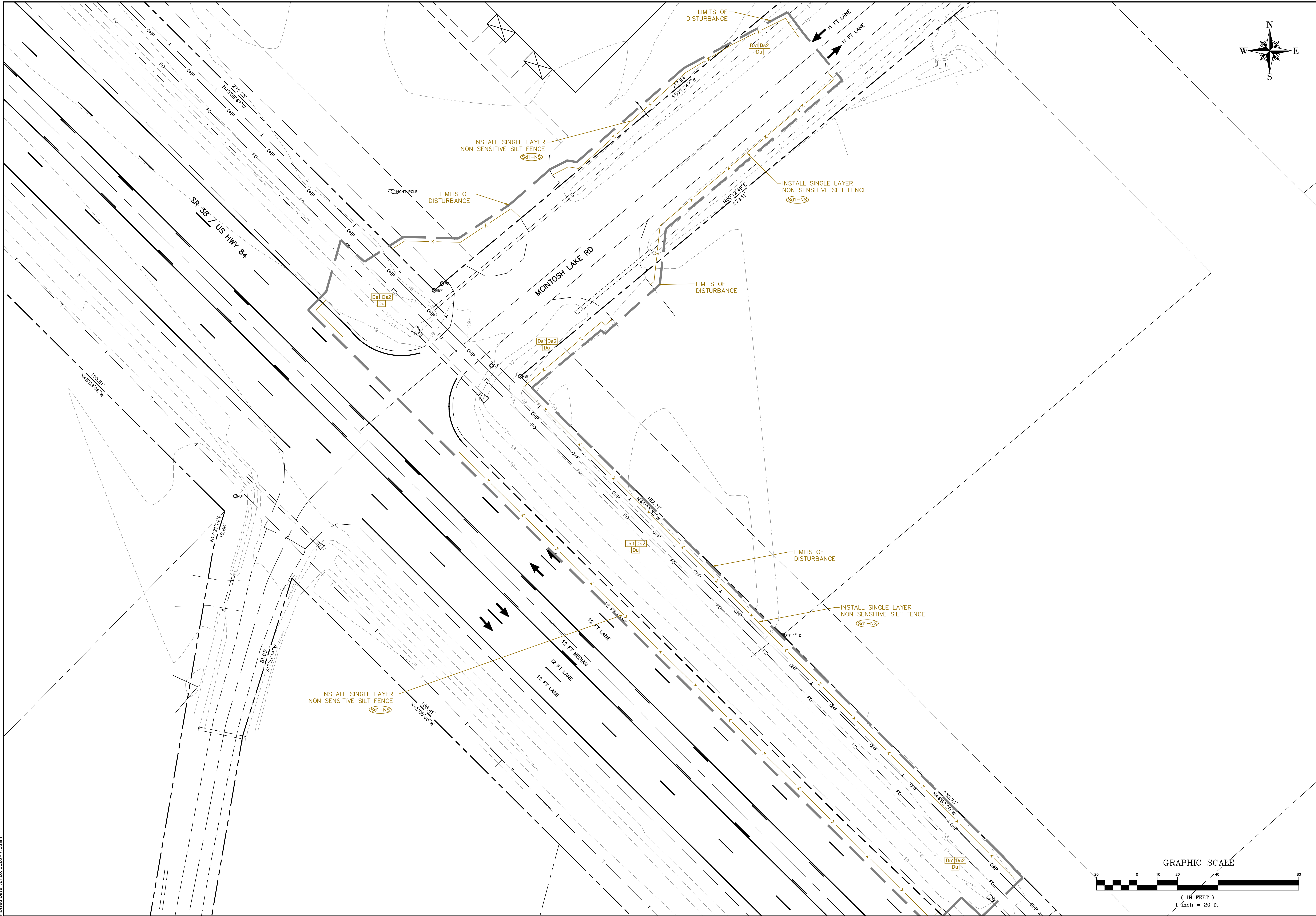
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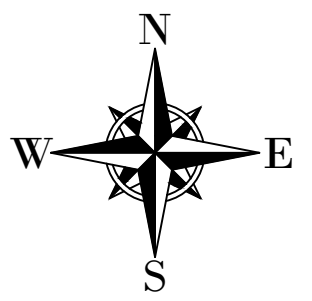
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DRAWN BY: JEL
CHECKED BY: TRJ
PROJECT #: 2024-246

SHEET NUMBER:

C4.3

Drawing File: C:\active projects\2024-246 h - mcintosh lake rd & hwy 84\900-drawings\DWG\CONST\2024-246 ES&PC.dwg
Plotted Date: Jul 20, 2026 - 7:28am





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MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

SHEET NAME:
INITIAL ES&PC PLAN

REVISIONS:
1. 08/28/2025 GDOT #1
2. 01/02/2026 GDOT #2
3. 07/17/2026 MOD
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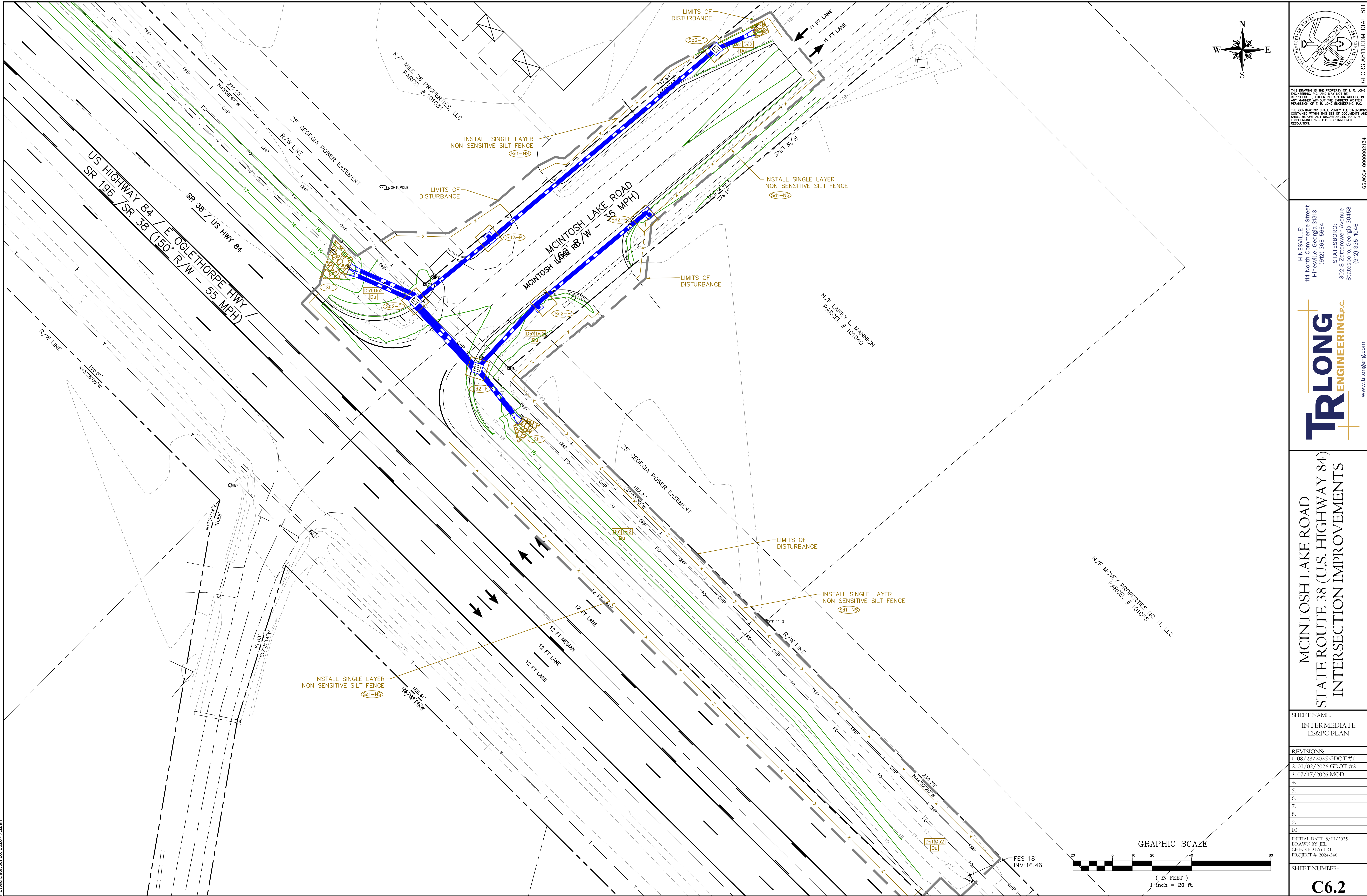
INITIAL DATE: 8/11/2025
DRAWN BY: JEL
CHECKED BY: TRL
PROJECT #: 2024-246

SHEET NUMBER:
C6.1

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

Drawing File: C:\active projects\2024-246 h - mcintosh lake rd & hwy 84\900-drawings\DWG\CONST\2024-246 ES&PC.dwg
Plotted Date: Jul 20, 2026 - 7:28am



MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

SHEET NAME:
INTERMEDIATE
ES&PC PLAN

REVISIONS:	
1.	08/28/2025 GDOT #1
2.	01/02/2026 GDOT #2
3.	07/17/2026 MOD
4.	
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INITIAL DATE: 8/11/2025
DRAWN BY: JEL
CHECKED BY: TRL
PROJECT #: 2024-246

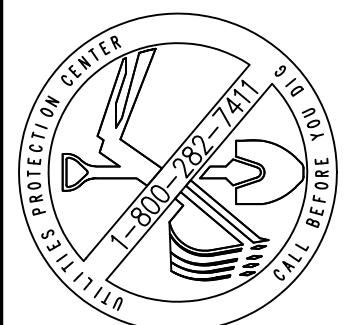
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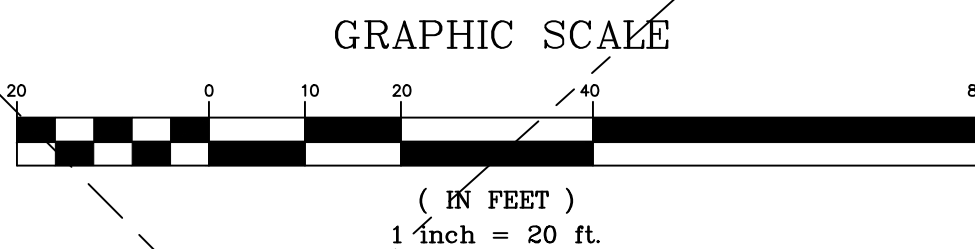
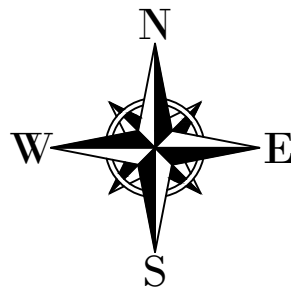
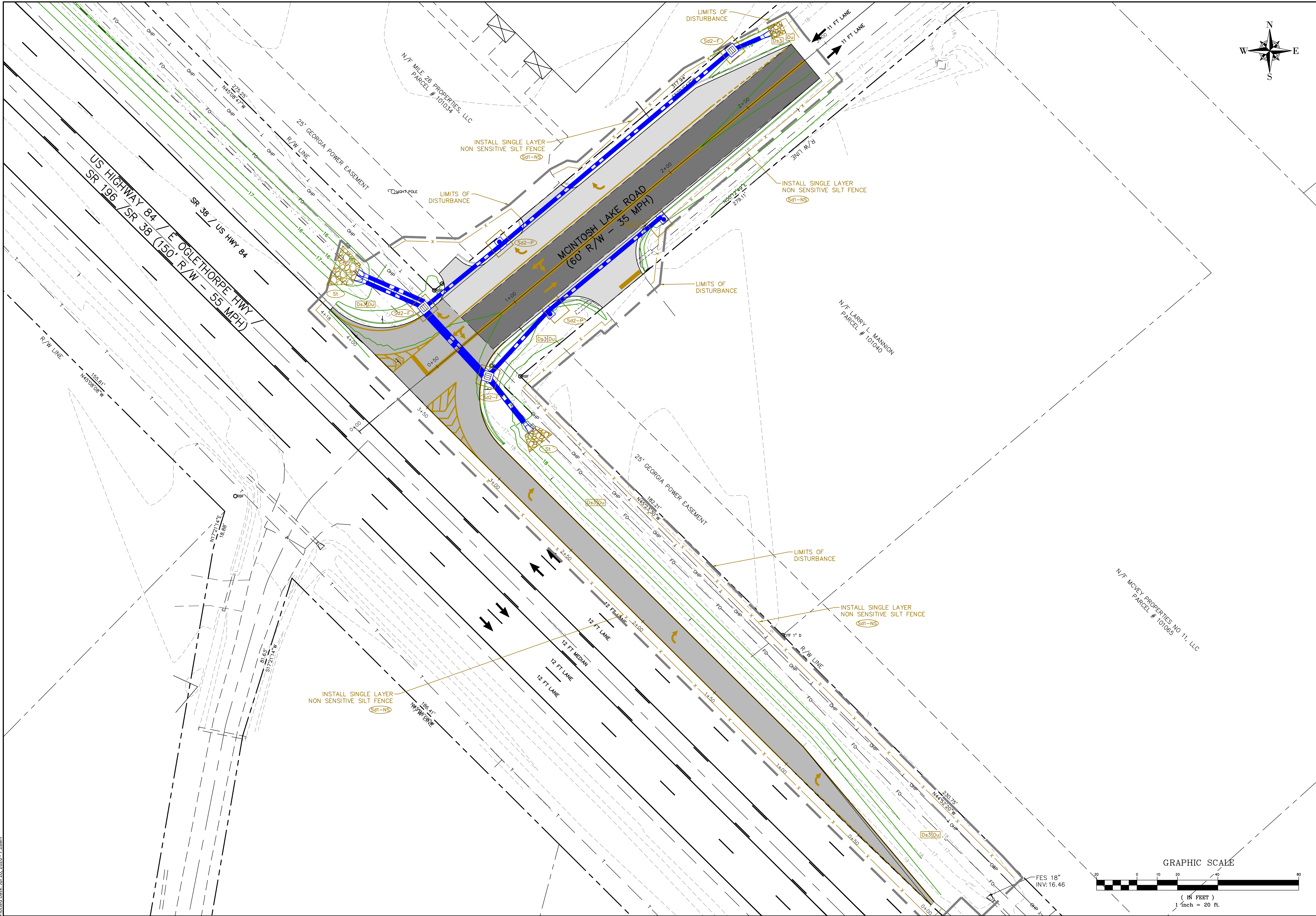


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Plotted Date: Jul 20, 2026 - 7:28am



MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

SHEET NAME:
FINAL ES&PC PLAN

REVISIONS:	
1.	08/28/2025 GDOT #1
2.	01/02/2026 GDOT #2
3.	07/17/2026 MOD
4.	
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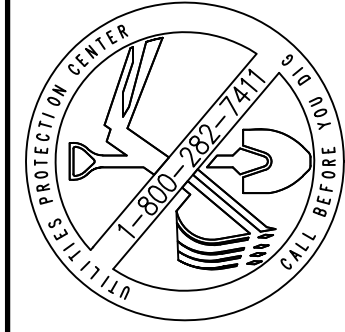
INITIAL DATE: 8/11/2025
DRAWN BY: JEL
CHECKED BY: TRL
PROJECT #: 2024-246

SHEET NUMBER:

C6.3

TRLONG
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Plotted Date: Jul 20, 2026 - 7:28am

PROJECT INFORMATION

PROJECT TITLE:

MCINTOSH LAKE ROAD

OWNER:

LIBERTY COUNTY BOARD OF COMISSIONERS

24 HOUR CONTACT:

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LIBERTY COUNTY
112 N. MAIN STREET
HINESVILLE, GA 31313
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EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
STAND ALONE CONSTRUCTION PROJECTS

SWDC: COASTAL GEORGIA
PROJECT NAME:MCINTOSH LAKE ROAD STATE ROUTE 38 (U.S. HIGHWAY 84) ADDRESS: MCINTOSH LAKE RD & US HWY 84 CITY/COUNTY: LIBERTY COUNTY DATE ON PLANS: 8/11/2025
NAME & EMAIL OF PERSON FILLING OUT CHECKLIST: TRENT LONG, trlong@trlongeng.com

EROSION, SEDIMENT, & POLLUTION CONTROL PLAN CHECKLIST

1. REQUIREMENT: 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.

RESPONSE: THE 2025 EROSION, SEDIMENT AND POLLUTION CONTROL PLAN CHECKLIST FOR INFRASTRUCTURE WAS USED FOR THIS PROJECT.

2. REQUIREMENT: LEVEL II CERTIFICATION NUMBER ISSUED BY THE COMMISSION, SIGNATURE AND SEAL OF THE CERTIFIED DESIGN PROFESSIONAL.

RESPONSE: THE LEVEL II CERTIFICATION NUMBER ISSUED BY THE COMMISSION, SIGNATURE AND SEAL OF THE CERTIFIED DESIGN PROFESSIONAL, AFTER COMPLETION OF A GSWCC APPROVED COURSE, IS FOUND ON THE UPPER RIGHT HAND SIDE OF ALL SHEETS.

3. REQUIREMENT: THE NAME AND PHONE NUMBER OF THE 24-HOUR LOCAL CONTACT RESPONSIBLE FOR EROSION, SEDIMENTATION AND POLLUTION CONTROLS.

RESPONSE: THE NAME AND PHONE NUMBER OF THE 24-HOUR LOCAL CONTACT IS SHOWN IN THE ABOVE "PROJECT INFORMATION" SECTION.

4. REQUIREMENT: PROVIDE THE NAME, ADDRESS, EMAIL ADDRESS AND PHONE NUMBER OF THE PRIMARY PERMITTEE.

RESPONSE: THE NAME, ADDRESS AND PHONE NUMBER OF THE PRIMARY PERMITTEE IS SHOWN ABOVE ON THE "PROJECT INFORMATION" SECTION.

5. REQUIREMENT: NOTE TOTAL AND DISTURBED ACREAGE OF THE PROJECT OR PHASE UNDER CONSTRUCTION.

RESPONSE: THE TOTAL ACREAGE OF THE SITE IS 0.83 AND THE DISTURBED ACREAGE IS 0.83

6. REQUIREMENT: PROVIDE THE GPS LOCATIONS OF THE BEGINNING AND END OF THE INFRASTRUCTURE PROJECT. GIVE THE LATITUDE AND LONGITUDE IN DECIMAL DEGREES.

RESPONSE: THE GPS LOCATIONS OF THE BEGINNING OF THE PROJECT IS N31.831613", W81.530710" AND END OF THE PROJECT IS N31.832762", W81.530925".

7. REQUIREMENT: INITIAL DATE OF THE PLAN AND THE DATES OF ANY REVISIONS MADE TO THE PLAN INCLUDING THE ENTITY WHO REQUESTED THE REVISIONS.

RESPONSE: THE INITIAL DATE AND ANY REVISIONS ARE ON THE BOTTOM RIGHT SIDE OF ALL SHEETS

8. REQUIREMENT: DESCRIPTION OF THE NATURE OF CONSTRUCTION ACTIVITY AND EXISTING SITE CONDITIONS.

RESPONSE: THE PROJECT CONSIST OF THE WIDENING FOR A TURN LANE ON MCINTOSH LAKE RD AND THE ADDITION OF A DECELERATION LANE ON US HWY 84. THE PROJECT ALSO CONSIST OF THE INSTALLATION OF STORMWATER STRUCTURES AND PIPES. THE SITE IS CURRENTLY PAVED WITH A GRASSED ROADSIDE DITCH ALONG US HWY 84.

9. REQUIREMENT: PROVIDE VICINITY MAP SHOWING SITE'S RELATION TO SURROUNDING AREAS. INCLUDE DESIGNATION OF SPECIFIC PHASE, IF NECESSARY.

RESPONSE: A VICINITY MAP IS SHOWN ON THE TITLE SHEET OF THESE PLANS.

10. REQUIREMENT: IDENTIFY THE PROJECT RECEIVING WATERS AND DESCRIBE ALL SENSITIVE ADJACENT AREAS INCLUDING STREAMS, LAKES, RESIDENTIAL AREAS, WETLANDS, MARSHLANDS, ETC. WHICH MAY BE AFFECTED.

RESPONSE: THE SITE CURRENTLY DRAINS TO DRAINAGE DITCHES LOCATED IN THE RIGHT OF WAY OF US HWY 84. THESE DITCHES ULTIMATELY DISCHARGES TO THE PEACOCK CREEK. THE PROPOSED SITE'S DRAINAGE PATTERN WILL REMAIN THE SAME AND WILL CONTINUE TO DISCHARGE STORMWATER TO PEACOCK CREEK.

11. REQUIREMENT: 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.

RESPONSE: PLEASE SEE THE DESIGN PROFESSIONAL'S CERTIFICATION SECTION ON THIS SHEET.

12. REQUIREMENT: DESIGN PROFESSIONAL'S CERTIFICATION STATEMENT AND SIGNATURE THAT THE PERMITTEE'S ES&PC PLAN PROVIDES REPRESENTATIVE SAMPLING AS STATED ON PART IV.D.6.c(3) PAGE 37 OF THE PERMIT AS APPLICABLE.

RESPONSE: PLEASE SEE THE DESIGN PROFESSIONAL'S 7 DAY VISIT CERTIFICATION ON SECTION ON THIS SHEET.

13. REQUIREMENT: DESIGN PROFESSIONAL'S CERTIFICATION STATEMENT AND SIGNATURE THAT THE PERMITTEE'S ES&PC PLAN PROVIDES REPRESENTATIVE SAMPLING AS STATED ON PART IV.D.6.c(3) PAGE 37 OF THE PERMIT AS APPLICABLE.

RESPONSE: PLEASE SEE THE DESIGN PROFESSIONAL'S 7 DAY VISIT CERTIFICATION ON SECTION ON THIS SHEET.

14. REQUIREMENT: CLEARLY NOTE THE STATEMENT THAT "THE DESIGN PROFESSIONAL, WHO PREPARED THE ES&PC PLAN IS TO INSPECT AND CERTIFY THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS WITHIN 7 DAYS AFTER INSTALLATION."

RESPONSE: PLEASE SEE THE DESIGN PROFESSIONAL'S 7 DAY VISIT CERTIFICATION ON SECTION ON THIS SHEET.

15. REQUIREMENT: 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 WRESTED 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."

RESPONSE: NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITH 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

16. REQUIREMENT: PROVIDE A DESCRIPTION OF ANY BUFFER ENCROACHMENTS AND INDICATE WHETHER A BUFFER VARIANCE IS REQUIRED.

RESPONSE: THIS PROJECT SHOULD NOT ENCRACH ON ANY BUFFERS.

17. REQUIREMENT: 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."

RESPONSE: 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.

18. REQUIREMENT: CLEARLY NOTE THE STATEMENT THE "WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT."

RESPONSE: WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

19. REQUIREMENT: CLEARLY NOTE THE 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."

RESPONSE: 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.

20. REQUIREMENT: 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."

RESPONSE: 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.

21. REQUIREMENT: CLEARLY NOTE THE STATEMENT "ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING."

RESPONSE: ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING. SEE MULCHING AND VEGETATIVE PLAN REQUIREMENTS ON DETAIL SHEETS.

22. REQUIREMENT: 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 AN BIOTA IMPAIRED STREAM SEGMENT MUST COMPLY WITH PART III, C. OF THE PERMIT. INCLUDE THE COMPLETED APPENDIX 1 OF THIS CHECKLIST WITH AT LEAST 4 OF THE CHOSEN BMPS THAT WILL BE USED FOR THOSE AREAS OF THE SITE WHICH DISCHARGE TO THE IMPAIRED STREAM SEGMENT.

RESPONSE: NO CONSTRUCTION ACTIVITY WILL DISCHARGE IN STORM WATER INTO AN IMPAIRED STREAM OR 1 LINEAR MILE UPSTREAM OF AND WITHIN THE SAME WATER SHED AS, ANY PORTION OF AN BIOTA IMPAIRED STREAM SEGMENT. THE SITE IS NOT LOCATED WITHIN ONE MILE OF AN IMPAIRED STREAM.

23. REQUIREMENT: 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 NOI, THE ES&PC PLAN MUST ADDRESS ANY SITE SPECIFIC CONDITIONS OR REQUIREMENTS INCLUDED IN THE TMDL IMPLEMENTATION PLAN.

RESPONSE: NO TMDL IMPLEMENTATION PLAN IS NEEDED FOR THIS SITE.

24. REQUIREMENT: BMPS FOR CONCRETE WASHDOWN OF TOOLS, CONCRETE MIXER CHUTES, HOPPERS AND THE REAR OF THE VEHICLES. INCLUDE STATEMENT THAT WASHOUT OF THE DRUM AT THE CONSTRUCTION SITE IS PROHIBITED.

RESPONSE: A CONCRETE WASHOUT AREA HAS BEEN ILLUSTRATED ON EACH EROSION CONTROL SHEET. NO CONCRETE TRUCKS WILL BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON-SITE.

25. REQUIREMENT: PROVIDE BMPS FOR THE REMEDIATION OF ALL PETROLEUM SPILLS AND LEAKS.

RESPONSE:

- CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS AND TARS WILL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ON-SITE VEHICLE AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS WILL BE LOCATED AWAY FROM STATE WATER, 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.LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL 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 THE MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST 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 WITHIN 24 HOURS AT 1-800-424-8802.
- FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-424-8802.
- FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD WILL BE CONTACTED WITHIN 24 HOURS.
- FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES 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 COUNTERMEASURES PLAN PREPARED BY THAT LICENSED PROFESSIONAL.

26. REQUIREMENT: 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.

RESPONSE:

- DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)
 - USED TO PROVIDE A PROTECTIVE COVER FOR EXPOSED AREAS INCLUDING CUTS, FILLS, DAMS, AND OTHER DENUDE AREAS.
 - FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, AT LEAST 70% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION OR EQUIVALENT PERMANENT STABILIZATION MEASURES.
 - PERMANENT VEGETATION SHALL CONSIST OF: PLANTED TREES, SHRUBS, PERENNIAL VINES; A CROP OF PERENNIAL VEGETATION APPROPRIATE FOR THE REGION, SUCH THAT WITHIN THE GROWING SEASON A 70% COVERAGE BY PERENNIAL VEGETATION SHALL BE ACHIEVED
 - USE CONVENTIONAL PLANTING METHODS WHEN POSSIBLE.
 - WHEN MIXED PLANTINGS ARE DONE DURING MARGINAL PLANTING PERIODS, COMPANION CROPS SHALL BE USED.
 - IRRIGATION SHOULD BE USED WHEN THE SOIL IS DRY OR WHEN SUMMER PLANTINGS ARE DONE.
 - LOW MAINTENANCE PLANTS, AS WELL AS NATIVES, SHOULD BE USED TO ENSURE LONG-LASTING EROSION CONTROL.
 - MOWING SHOULD NOT BE PERFORMED DURING QUAIL NESTING SEASON (MAY TO SEPTEMBER).
 - WILDLIFE PLANTINGS SHOULD BE INCLUDED IN CRITICAL AREA PLANTINGS.
 - VERTICAL BANKS SHALL BE SLOPED TO ENABLE PLANT ESTABLISHMENT.
 - AGRICULTURAL LIME IS REQUIRED AT THE RATE OF ONE TO TWO TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE. GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS ALLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED.
 - AGRICULTURAL LIME SHALL BE WITHIN THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE. LIME SPREAD BY CONVENTIONAL EQUIPMENT SHALL BE "GROUND LIMESTONE" AND LIME SPREAD BY HYDRAULIC SEEDING EQUIPMENT SHALL BE "FINELY GROUND LIMESTONE"
 - WHEN HYDRAULIC SEEDING EQUIPMENT IS USED, THE INITIAL FERTILIZER SHALL BE MIXED WITH SEED, INOCULANT (IF NEEDED), AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH AND APPLIED IN A SLURRY. THE INOCULANT, IF NEEDED, SHALL BE MIXED WITH THE SEED PRIOR TO BEING PLACED INTO THE HYDRAULIC SEEDER. THE SLURRY MIXTURE WILL BE AGITATED DURING APPLICATION TO KEEP THE INGREDIENTS THOROUGHLY MIXED. THE MIXTURE WILL BE SPREAD UNIFORMLY OVER THE AREA WITHIN ONE HOUR AFTER BEING PLACED IN THE HYDROSEEDER.
 - WHEN CONVENTIONAL PLANTING IS TO BE DONE, LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY IN ONE OF THE FOLLOWING WAYS: 1. APPLY BEFORE LAND PREPARATION SO THAT IT WILL BE MIXED WITH THE SOIL DURING SEEDBED PREPARATION. 2. MIX WITH THE SOIL USED TO FILL THE HOLES, DISTRIBUTE IN FURROWS. 3. BROADCAST AFTER STEEP SURFACES ARE SCARIFIED, PITTED OR TRENCHED. 4. A FERTILIZER PELLETT SHALL BE PLACED AT ROOT DEPTH IN THE CLOSING HOLE BESIDE EACH PINE TREE SEEDLING.
 - MULCH IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER. 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 HYDRAIC SEEDING EQUIPMENT.
 - MOW SERICEA LESPEDEZZA ONLY AFTER FROST TO ENSURE THAT THE SEEDS ARE MATURE. MOW BETWEEN NOVEMBER AND MARCH. BERMUDAGRASS, BAHIAGRASS AND TALL FESCUE MAY BE MOWED AS DESIRED, MAINTAIN AT LEAST 6 INCHES OF TOP GROWTH UNDER ANY USE AND MANAGEMENT. MODERATE USE OF TOP GROWTH IS BENEFICIAL AFTER ESTABLISHMENT. EXCLUDE TRAFFIC UNTIL THE PLANTS ARE WELL ESTABLISHED. BECAUSE OF THE QUAIL NESTING SEASON, MOWING SHOULD NOT TAKE PLACE BETWEEN MAY AND SEPTEMBER.
 - APPLY ONE TON OF AGRICULTURAL LIME EVERY 4 TO 6 YEARS OR AS INDICATED BY SOIL TESTS. SOIL TESTS CAN BE CONDUCTED TO DETERMINE MORE ACCURATE REQUIREMENTS IF DESIRED.
- VEGETATED WATERWAY OR STORMWATER CONVEYANCE
 - A NATURAL OR CONSTRUCTED CHANNEL THAT IS SHAPED OR GRADED TO REQUIRED DIMENSIONS AND ESTABLISHED IN SUITABLE VEGETATION FOR THE STABLE CONVEYANCE OF RUNOFF WITHOUT CAUSING DAMAGE EITHER BY EROSION OR BY FLOODING.
 - THIS STANDARD APPLIES TO ALL SITES WHERE ADDED CHANNEL CAPACITY AND/OR STABILIZATION IS REQUIRED TO CONTROL EROSION RESULTING FROM CONCENTRATED RUNOFF AND WHERE SUCH CONTROL CAN BE ACHIEVED BY THIS PRACTICE ALONE OR IN COMBINATION WITH OTHERS
 - THE MINIMUM CAPACITY SHALL BE THAT REQUIRED TO CONVEY THE PEAK RUNOFF EXPECTED FROM A 25-YEAR, 24-HOUR STORM OR THE STORM SPECIFIED IN THE GSWCC EROSION AND SEDIMENT CONTROL MANUAL.
 - CONSTRUCTION SPECIFICATIONS
 - ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE WATERWAY.
 - THE WATERWAY OR OUTLET SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN. IT WILL BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW. IF THE CHANNEL MUST HAVE EROSION PROTECTION OTHER THAN VEGETATION, THE LINING SHALL NOT COMPROMISE THE CAPACITY OF THE EMERGENCY SPILLWAY, I.E. THE CHANNEL SHALL BE OVER-EXCAVATED SO THAT THE LINING WILL BE FLUSH WITH THE SLOPE SURFACE
 - FILLS SHALL BE COMPACTED AS NEEDED TO PREVENT UNEQUAL SETTLEMENT THAT WOULD CAUSE DAMAGE IN THE COMPLETED WATERWAY.
 - ALL EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR DISPOSED OF SO THAT IT WILL NOT INTERFERE WITH WATERWAY FUNCTIONING.
 - STABILIZATION: APPLICABLE VEGETATIVE STANDARDS SHALL BE FOLLOWED FOR TIME OF SEEDING, SPRIGGING OR SODDING, LIMING AND FERTILIZING, AND SITE AND SEEDBED PREPARATION. EROSION CONTROL BLANKETS OR MATTING OR SOD SHALL BE USED TO AID IN THE ESTABLISHMENT OF VEGETATION. INSTALLATION METHODS SHOULD FOLLOW MANUFACTURER RECOMMENDATIONS.
 - MULCHING SHALL BE A REQUIREMENT FOR ALL SEEDED OR SPRIGGED CHANNELS. TEMPORARY PROTECTION DURING ESTABLISHMENT SHOULD BE PROVIDED WHEN CONDITIONS PERMIT THROUGH TEMPORARY DIVERSIONS OR OTHER MEANS TO DISPOSE OF WATER.

27. DESCRIPTION OF PRACTICES TO PROVIDE COVER FOR BUILDING MATERIALS AND BUILDING PRODUCTS ON SITE.

RESPONSE: PLASTIC SHEETING OR TEMPORARY ROOFS TO BE UTILIZED TO COVER BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTE, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER MATERIALS IN ORDER TO MINIMIZE EXPOSURE TO PRECIPITATION AND TO STORMWATER.

28. REQUIREMENT: DESCRIPTION OF THE PRACTICES THAT WILL BE USED TO REDUCE THE POLLUTANTS IN STORM WATER DISCHARGES.

RESPONSE:

- 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 VEHICLE AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS WILL BE LOCATED AWAY FROM STATE WATER, 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.
 - POINTS/FINISHES/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 TRUCK WASHING - A CONCRETE WASHOUT AREA HAS BEEN DETAILED FOR THIS 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 THE 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 DISPOSED OF ONSITE. ALL SUCH MATERIAL WILL BE DISPOSED OF IN PROPER WASTE DISPOSAL PROCEDURES
 - PRIOR TO THE LAND DISTURBING CONSTRUCTION, THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE AREA SITE DEVELOPMENT INSPECTOR.
 - OTHER PRACTICES
 - THE CONTRACTOR SHALL OBSERVE THE PROJECT SEQUENCE SHOWN ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN CAREFUL SCHEDULING AND PERFORMANCE TO INSURE THAT LAND STRIPPED OF ITS NATURAL COVER IS EXPOSED ONLY IN SMALL QUANTITIES.
 - A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE AT ALL TIMES.
- THE FOLLOWING INITIAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY.
 - THE CONSTRUCTION EXIT, CONSISTING OF A MINIMUM PAD SIZE OF 20 FEET BY 50 FEET WITH A MINIMUM OF 6" THICK STONE, SHALL BE PLACED AS SHOWN ON THE PLAN. THE STONE SIZE SHOULD CONSIST OF COURSE AGGREGATE BETWEEN 1-1/2" & 3-1/2" IN DIAMETER AND OVERLAD ON A GEOTEXTILE UNDERLINER. THE GEOTEXTILE UNDERLINER SHALL MEET THE REQUIREMENTS OF AASHTO M288-86, SECTION 7.3 SEPARATION REQUIREMENTS.
 - IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCE/EXITS, ALL PERIMETER EROSION CONTROL AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED AS SHOWN ON THE INITIAL PHASE EROSION CONTROL PLAN.
 - SILT FENCE SHOULD BE INSTALLED AT THE PERIMETER OF THE DISTURBED AREA AS SHOWN ON THE PLAN. THE SILT FENCE SHOULD BE PLACED IN ACCORDANCE WITH THE MANUAL FOR EROSION CONTROL IN GEORGIA. THE SILT FENCE SHOULD BE KEPT ERECT AT ALL TIMES AND REPAIRED WHEN REQUESTED BY THE SITE INSPECTOR OR THE PROJECT DESIGN PROFESSIONAL OF RECORD. SILT SHOULD BE REMOVED WHEN ACCUMULATION REACHES 1/2 HEIGHT OF THE BARRIER. THE PERIMETER SILT FENCE SHOULD BE INSPECTED DAILY FOR ANY FAILURES. ANY FAILURES OF SAI FENCING SHOULD BE REPAIRED IMMEDIATELY.
- AFTER INSTALLATION OF INITIAL EROSION CONTROL MEASURES THE SITE CONTRACTOR SHALL SCHEDULE AN INSPECTION BY THE PROJECT DESIGN PROFESSIONAL. NO OTHER CONSTRUCTION ACTIVITIES SHALL OCCUR UNTIL THE PROJECT DESIGN PROFESSIONAL APPROVES THE INSTALLATION OF SAID EROSION CONTROL MEASURES. IF UNFORESEEN CONDITIONS EXIST IN THE FIELD THAT WARRANT ADDITIONAL EROSION CONTROL MEASURES, THE CONTRACTOR MUST CONSTRUCT ANY ADDITIONAL EROSION CONTROL DEVICES DEEMED NECESSARY BY THE SITE INSPECTION.
- AFTER APPROVAL OF THE INITIAL EROSION CONTROL INSTALLATION, THE CONTRACTOR MAY PROCEED WITH CLEARING AND GRUBBING ACTIVITIES. AS CLEARING PERMITS, THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SEDIMENT PONDS AND DIVERSION DIKES AS SHOWN ON THE INITIAL PHASE PLAN TO CONTROL EROSION AND STORM WATER RUN OFF.
- NO BURN OR BURY PITS SHALL BE PERMITTED ON THE CONSTRUCTION SITE WITHOUT WRITTEN PERMISSION BY THE OWNER AND/OR THE ENGINEER OF RECORD.
- ADDITIONAL SILT BARRIERS MUST BE PLACED AS SHOWN ON THE PLAN AS ACCESS IS OBTAINED DURING CLEARING. NO GRADING SHALL TAKE PLACE UNTIL SILT BARRIER INSTALLATION AND SEDIMENT PONDS ARE CONSTRUCTED AS SHOWN ON THE INITIAL PHASE EROSION CONTROL PLAN.
- MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 7 DAYS OF LAND DISTURBANCE.
- ALL DISTURBED AREAS LEFT MULCHED AFTER 30 DAYS SHALL BE STABILIZED WITH TEMPORARY VEGETATION.
- SEDIMENT AND EROSION CONTROL MEASURES SHOULD BE CHECKED AFTER EACH RAIN EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE. ADDITIONAL DEVICES MUST BE INSTALLED IF NEW CHANNELS HAVE DEVELOPED.
- THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACK OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 1-3" OF STONE, AS CONDITIONS DEMAND. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED IMMEDIATELY.
- CONTRACTOR SHALL INSPECT CONTROL MEASURES AT THE END OF EACH WORKING DAY TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
- 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 AS DIRECTED BY THE ON-SITE INSPECTOR OR THE CIVIL ENGINEER.FAILURE TO INSTALL, OPERATE, OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB UNTIL SUCH MEASURES ARE CORRECTED BACK TO THE APPROVED EROSION CONTROL PLANS.
- THE FOLLOWING EROSION CONTROL MEASURES SHALL BE IMPLEMENTED DURING THE PRELIMINARY GRADING PHASE OF CONSTRUCTION:
 - INLET SEDIMENT TRAPS WILL BE INSTALLED AROUND ALL NEW INLETS.
 - EROSION CONTROL DEVICES SHALL BE INSTALLED IMMEDIATELY AFTER GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM THAT SHOWN ON THE APPROVED PLANS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE PROPOSED DRAINAGE PATTERNS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION. ANY DIFFICULTY IN CONTROLLING EROSION DURING ANY PHASE OF CONSTRUCTION SHALL BE REPORTED TO THE DESIGN PROFESSIONAL IMMEDIATELY.
 - STORM DRAIN OUTLET PROTECTION SHALL BE PLACED AT ALL OUTLET HEADWALLS AS SOON AS THE HEADWALL IS CONSTRUCTED. SEE SEPARATE DETAILS FOR ADDITIONAL INFORMATION.
 - ALL DRAINAGE SWALES SHALL BE APPLIED WITH VEGETATIVE COVER AS SOON AS FINAL GRADE IS ACHIEVED.
 - MULCH OR TEMPORARY GRASSING SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 7 DAYS OF LAND DISTURBANCE.
 - SEDIMENT AND EROSION CONTROL MEASURES SHOULD BE CHECKED AFTER EACH RAIN EVENT. EACH DEVICE IS TO BE MAINTAINED OR REPLACED IF SEDIMENT ACCUMULATION HAS REACHED ONE HALF THE CAPACITY OF THE DEVICE. ADDITIONAL DEVICES MUST BE INSTALLED IF NEW CHANNELS HAVE DEVELOPED.
 - INSTALL TEMPORARY SEDIMENT TRAP.

29. REQUIREMENT: DESCRIPTION AND CHART OR TIMELINE OF THE INTENDED SEQUENCE OF MAJOR ACTIVITIES WHICH DISTURB SOILS FOR THE MAJOR PORTION OF THE SITE (I.E. INITIAL PERIMETER AND SEDIMENT STORAGE BMPS, CLEARING AND GRUBBING ACTIVITIES, EXCAVATION ACTIVITIES, UTILITY ACTIVITIES, GRADING, INFRASTRUCTURE, TEMPORARY AND FINAL STABILIZATION).

RESPONSE:

INFRASTRUCTURE	2026					
	1	2	3	4	5	6
INSTALLATION OF CONSTRUCTION EXIT, PERIMETER SILT FENCE, TEMPORARY SEDIMENT BASIN & TREE PROTECTION						
CLEARING & GRUBBING						
PRELIMINARY GRADING						
BUILDING						
INSTALL GRADING PHASE EROSION MEASURES						
INSTALLATION OF UTILITY LINES (S.S./WATER/STORM)						
FINE GRADING						
PAVEMENT						
FINAL LANDSCAPING						
REMOVE TEMPORARY EROSION MEASURES AND TREE PROTECTION FENCING						
MAINTENANCE OF EROSION BMPS						

DESIGN PROFESSIONAL'S CERTIFICATION:

"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 SUPERVISION."

"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 GEORGIA 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 STORMWATER 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. GAR100002."

I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

Trent R. Long 000002134
GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #

DESIGN PROFESSIONAL 7-DAY VISIT CERTIFICATION

THE DESIGN PROFESSIONAL, WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS WITHIN 7 DAYS AFTER INSTALLATION

DATE OF INSPECTION

I CERTIFY THE SITE WAS IN COMPLIANCE WITH ES&PC PLAN ON THE DATE OF INSPECTION.

GSWCC LEVEL II DESIGN PROFESSIONAL CERTIFICATION #

INSPECTION REVEALED THE FOLLOWING DISCREPANCIES FROM THE ES&PC PLAN:

THESE DEFICIENCIES MUST BE ADDRESSED IMMEDIATELY AND A RE-INSPECTION SCHEDULED. WORK SHALL NOT PROCEED ON THE SITE UNTIL DESIGN PROFESSIONAL CERTIFICATION IS OBTAINED.

PROFESSIONAL SEAL

THIS DRAWING IS THE PROPERTY OF T. R. LONG ENGINEERING, P.C. AND MAY NOT BE REPRODUCED, COPIED, OR PART BE LOANED, IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF T. R. LONG ENGINEERING, P.C.

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.

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0000002134

MCINTOSH LAKE ROAD

STATE ROUTE 38 (U.S. HIGHWAY 84)

INTERSECTION IMPROVEMENTS

SHEET NAME:
ES&PC NARRATIVE

REVISIONS:
1. 08/28/2025 GDOT #1
2. 01/02/2026 GDOT #2
3. 07/17/2026 MOD

4.
5.
6.
7.
8.
9.
10

INITIAL DATE: 8/11/2025
DRAWN BY: JEL
CHECKED BY: TKL
PROJECT #: 2024-246

SHEET NUMBER:
C6.4

Drawing File: C:\active projects\2024-246 h - mcintosh lake rd & hwy 84\900-drawings\DWG\CONST\2024-246 ESPC.dwg
Plotted Date: Jul 20, 2026 - 7:28am

EROSION, SEDIMENT, & POLLUTION CONTROL PLAN CHECKLIST (CONTINUED)

30. REQUIREMENT: PROVIDE COMPLETE REQUIREMENTS OF INSPECTIONS AND RECORD KEEPING BY THE PRIMARY PERMITTEE.*
RESPONSE:
• 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 AND (b) ALL LOCATIONS AT THE PRIMARY PERMITTEE'S SITE WHERE VEHICLES ENTER OR EXIT THE SITE FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
• MEASURE AND RECORD RAINFALL WITHIN DISTURBED AREAS OF THE SITE THAT HAVE NOT MET FINAL STABILIZATION ONCE EVERY 24 HOURS EXCEPT ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY AND NON-WORKING FEDERAL HOLIDAY. THE DATA COLLECTED FOR THE PURPOSE OF COMPLIANCE WITH THIS PERMIT SHALL BE REPRESENTATIVE OF THE MONITORED ACTIVITY. MEASUREMENT OF RAINFALL MAY BE SUSPENDED IF ALL AREAS OF THE SITE HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION.
• 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; (b) AREAS USED BY THE PRIMARY PERMITTEE FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION; 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 OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION, THE PERMITTEE MUST COMPLY WITH PART IV.D.4.a.(4). THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
• CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECTED AT LEAST ONCE PER MONTH DURING THE TERM OF THIS PERMIT (I.E., UNTIL A NOTICE OF TERMINATION HAS BEEN SUBMITTED) THE AREAS OF THE SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING TARGET PERENNIALS APPROPRIATE FOR THE REGION. THESE AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIALS 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).
• 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.
• A REPORT OF EACH INSPECTION THAT INCLUDES THE NAME(S) OF CERTIFIED PERSONNEL MAKING EACH INSPECTION, THE DATE(S) OF EACH INSPECTION, CONSTRUCTION PHASE (I.E., INITIAL, INTERMEDIATE OR FINAL), 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.(5) 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 BE READILY AVAILABLE BY END OF THE SECOND BUSINESS DAY AND/OR WORKING DAY AND SHALL IDENTIFY ALL INCIDENTS OF BEST MANAGEMENT PRACTICES THAT HAVE BEEN PROPERLY INSTALLED AND/OR MAINTAINED AS DESCRIBED IN THE PLAN, WHERE THE REPORT DOES NOT IDENTIFY ANY INCIDENTS, THE INSPECTION REPORT SHALL CONTAIN A CERTIFICATION THAT THE BEST MANAGEMENT PRACTICES ARE IN COMPLIANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G.2. OF THIS PERMIT

31. REQUIREMENT: PROVIDE COMPLETE REQUIREMENTS OF SAMPLING FREQUENCY AND REPORTING OF SAMPLING RESULTS.*
RESPONSE: SAMPLING IS NOT REQUIRED AS DISTURBED ACREAGE IS LESS THAN 1 ACRE.

32. REQUIREMENT: PROVIDE COMPLETE DETAILS FOR RETENTION OF RECORDS AS PER PART IV.F. OF THE PERMIT.*
RESPONSE: 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 SAMPLING 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.(2) OF THIS PERMIT.
2. COPIES OF ALL NOTICES OF INTENT, NOTICES OF TERMINATION, INSPECTION REPORTS, SAMPLING REPORTS (INCLUDING ALL CALIBRATION AND MAINTENANCE RECORDS AND ALL ORIGINAL STRIP CHART RECORDINGS FOR CONTINUOUS MONITORING INSTRUMENTATION) OR OTHER REPORTS REQUESTED BY THE EPD, 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 ALTERNATIVE 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. REQUIREMENT: DESCRIPTION OF ANALYTICAL METHODS TO BE USED TO COLLECT AND ANALYZE THE SAMPLES FROM EACH LOCATION.*
RESPONSE: SAMPLING IS NOT REQUIRED.

34. REQUIREMENT: APPENDIX B RATIONALE FOR NTU VALUES AT ALL OUTFALL SAMPLING POINTS WHERE APPLICABLE.*
RESPONSE: SAMPLING IS NOT REQUIRED.

35. REQUIREMENT: DELINEATE ALL SAMPLING LOCATIONS ON ALL PHASES OF THE PLAN, PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES INTO WHICH STORM WATER IS DISCHARGED.
RESPONSE: SAMPLING NOT REQUIRED

36. REQUIREMENT: 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 WASH 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.*
RESPONSE: SEE ITEM 28 FOR A DESCRIPTION OF ALL INITIAL AND INTERMEDIATE BMPs AND ITEM 26 FOR A DESCRIPTION OF ALL FINAL BMPs. PLEASE SEE THE EROSION CONTROL PLAN TO SEE WHERE THESE BMPs ARE TO BE IMPLEMENTED.

37. REQUIREMENT: GRAPHIC SCALE AND NORTH ARROW.
RESPONSE: THE CORRECT GRAPHIC SCALE AND NORTH ARROW ARE SHOWN ON ALL SHEETS WHERE APPLICABLE.

38. REQUIREMENT: EXISTING AND PROPOSED CONTOUR LINES WITH CONTOUR LINES DRAWN AT AN INTERVAL, IN ACCORDANCE WITH THE FOLLOWING:

EXISTING CONTOURS	USGS 1" = 200' TOPOGRAPHICAL SHEETS
PROPOSED CONTOURS	1" = 400' CENTERLINE PROFILE

RESPONSE: CONTOURS ARE SHOWN IN 1' INTERVALS.

39. REQUIREMENT: 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 GASPD OR THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION). PLEASE REFER TO THE ALTERNATIVE BMP GUIDANCE DOCUMENT FOUND AT WWW.GASWCC.GEORGIA.GOV.
RESPONSE: NO ALTERNATIVE BMPs WILL BE USED.

40. REQUIREMENT: 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.*
RESPONSE: NO ALTERNATIVE BMPs WILL BE USED.

41. REQUIREMENT: DELINEATION OF THE APPLICABLE 25-FOOT OR 50-FOOT UNDISTURBED BUFFERS ADJACENT TO STATE WATERS AND ANY ADDITIONAL BUFFERS AS REQUIRED BY THE LOCAL ISSUING AUTHORITY. CLEARLY NOTE AND DELINEATE ALL AREAS OF IMPACT.
RESPONSE: THERE ARE NO 25-FOOT OR 50-FOOT UNDISTURBED BUFFERS REQUIRED FOR THE SITE. THERE ARE NO STATE WATERS ADJACENT TO THE SITE AND NO ADDITIONAL BUFFERS ARE REQUIRED BY THE LOCAL ISSUING AUTHORITY.

42. REQUIREMENT: DELINEATION OF ALL STATE WATERS AND WETLANDS LOCATED ON OR WITHIN 200 FEET OF THE PROJECT SITE.
RESPONSE: THERE ARE NO ON-SITE WETLANDS AND STATE WATERS LOCATED ON AND WITHIN 200' OF THE SITE.

43. REQUIREMENT: DELINEATION AND ACREAGE OF CONTRIBUTING DRAINAGE BASINS ON THE PROJECT SITE.
RESPONSE: ALL DRAINAGE BASIN INFORMATION IS SHOWN IN THE HYDROLOGY STUDY PROVIDED WITH THESE PLANS.

44. REQUIREMENT: DELINEATE ON-SITE DRAINAGE AND OFF-SITE WATERSHEDS USING USGS 1"=2000' TOPOGRAPHICAL SHEETS.
RESPONSE: A HYDROLOGY REPORT INCLUDING A DRAINAGE NARRATIVE, DRAINAGE CALCULATIONS AND DELINEATION OF PRE AND POST DEVELOPED CONDITIONS IS PROVIDED WITH THESE PLANS ALONG WITH THE USGS TOPOGRAPHICAL SHEET.

45. REQUIREMENT: ESTIMATE OF THE RUNOFF COEFFICIENT OR PEAK DISCHARGE FLOW OF THE SITE PRIOR TO AND AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED.
RESPONSE: THE PRE-DEVELOPMENT RUNOFF COEFFICIENT IS 73. THE POST-DEVELOPMENT RUNOFF COEFFICIENT IS 73.

46. REQUIREMENT: STORM-DRAIN PIPE AND WEIR VELOCITIES WITH APPROPRIATE OUTLET PROTECTION TO ACCOMMODATE DISCHARGES WITHOUT EROSION. IDENTIFY/DELINEATE ALL STORM WATER DISCHARGE POINTS.
RESPONSE: THE STORM-DRAIN PIPE AND WEIR VELOCITIES ARE SHOWN ON THE EROSION CONTROL PLAN AS WELL AS APPROPRIATE OUTLET PROTECTION FOR EACH.

47. REQUIREMENT: SOIL SERIES FOR THE PROJECT SITE AND THEIR DELINEATION
RESPONSE: THE SOIL SERIES IS SHOWN ON THE INITIAL EROSION CONTROL PLAN.

48. REQUIREMENT: THE LIMITS OF DISTURBANCE FOR EACH PHASE OF CONSTRUCTION.
RESPONSE: THE LIMITS OF DISTURBANCE ARE SHOWN ON EACH EROSIONS CONTROL SHEET.

49. REQUIREMENT: PROVIDE A MINIMUM OF 67 CUBIC YARDS OF SEDIMENT STORAGE PER ACRE DRAINED USING A TEMPORARY SEDIMENT BASIN, RETROFITTED 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 INCLUDED FOR STRUCTURAL BMPs AND ALL CALCULATIONS USED BY THE STORAGE DESIGN PROFESSIONAL TO OBTAIN THE REQUIRED SEDIMENT 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 INFEASIBLE. IF OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SURFACE ARE NOT FEASIBLE, A WRITTEN JUSTIFICATION EXPLAINING THIS DECISION MUST BE INCLUDED IN THE PLAN.
RESPONSE: THE REQUIRED SEDIMENT STORAGE IS (0.83 ACRES)(67CY/ACRE) = 55.61CY. THE PROVIDED SEDIMENT STORAGE IS 178.4 CY. THE SEDIMENT WILL BE CAPTURED AND STORED IN THE ROADSIDE DITCHES USING TEMPORARY DITCH SEDIMENT TRAPS BECAUSE THE NARROW RIGHT OF WAY DOES NOT ALLOW FOR MORE CONVENTIONAL STORAGE. A TYPICAL DITCH SLOPE OF 0.25% WILL YIELD APPROXIMATELY 79.2 CY OF SEDIMENT STORAGE. (AREA OF TRAPEZOID = ((A+B)/2)*H) & (AVERAGE END AREA METHOD V=L*((A+4*H+2B)/3)) A TYPICAL DITCH OVER-EXCAVATION (H = 1' W = 1') WILL YIELD AN ADDITIONAL 10 CY OF SEDIMENT STORAGE. THEREFORE EACH TEMPORARY DITCH SEDIMENT TRAP WILL PRODUCE APPROXIMATELY 89.2 CY OF SEDIMENT STORAGE.

50. REQUIREMENT: 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.
RESPONSE: THE BMPs SHOWN AND DESCRIBED IN THIS PANS ARE CONSISTENT AND NO LESS STRINGENT THAN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA CALLS FOR.

51. REQUIREMENT: PROVIDE DETAILED DRAWINGS FOR ALL STRUCTURAL PRACTICES. SPECIFICATIONS MUST, AT A MINIMUM, MEET THE GUIDELINES SET FORTH IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.
RESPONSE: DETAILED DRAWINGS ARE PROVED ON THE SHEETS LABELED "DETAILS" IN THIS PLAN.

52. REQUIREMENT: 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.
RESPONSE: PLEASE SEE THE DETAILS SHEET FOR THE VEGETATIVE PLAN.
OTHER EROSION CONTROL NOTES

1. SHADED AREAS SHOWN ON GRADING PHASE EROSION CONTROL PLANS REPRESENT CRITICAL WORK ZONES. AT THE END OF EACH WORK DAY ALL SLOPES 2:1 OR STEEPER AND HIGHER THAN 5 FEET SHALL RECEIVE SURFACE ROUGHENING, POLYMERS, AND EROSION CONTROL MATTING. ADDITIONALLY, ALL FILL SLOPES SHALL RECEIVE A DIVERSION DIKE AND TEMPORARY DOWN DRAINS ALONG THE TOP OF THE SLOPE PREVENTING IMMEDIATE SPILLING OVER THE FACE AND DOWN THE SLOPE. THE TEMPORARY DOWN DRAINS SHALL BE CONSTRUCTED WITH PERFORATED STAND PIPES AT THE TOP OF THE SLOPE AND RECONSTRUCTED EACH DAY AS THE SLOPE INCREASES IN HEIGHT.

2. THIS PLAN HAS BEEN PREPARED TO MEET THE REQUIREMENTS UNDER THE STATE OF GEORGIA, DEPARTMENT OF NATURAL RESOURCES, ENVIRONMENTAL PROTECTION DIVISION (EPD), GENERAL PERMIT NO. GAR 100002-INFRASTRUCTURE DEVELOPMENT FOR AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES), STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FOR INFRASTRUCTURE.
AUTHORIZED DISCHARGES:
• ALL DISCHARGES OF STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY THAT WILL RESULT IN LAND DISTURBANCE EQUAL TO OR GREATER THAN ONE ACRE. PART I.C.1.4.C
• ALL DISCHARGES COVERED BY THIS PERMIT SHALL BE COMPOSED ENTIRELY OF STORMWATER EXCEPT AS PROVIDED IN PART I.C.2 AND PART III.A.2 OF THE PERMIT. PART III.A.1
• AUTHORIZED MIXED STORMWATER DISCHARGES: PART I.C.2
a. THE INDUSTRIAL SOURCE OR ACTIVITY OTHER THAN CONSTRUCTION IS LOCATED ON THE SAME SITE AS THE CONSTRUCTION ACTIVITY AND IS AN INTEGRAL PART OF THE CONSTRUCTION ACTIVITY.
b. THE STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES ARE OCCURRING ARE IN COMPLIANCE WITH THE TERMS OF THIS PERMIT.
c. STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE AREAS OF THE SITE WHERE INDUSTRIAL ACTIVITY OTHER THAN CONSTRUCTION ARE COVERED BY A DIFFERENT NPDES GENERAL PERMIT OR INDIVIDUAL PERMIT AUTHORIZING SUCH DISCHARGES AND THE DISCHARGES ARE IN COMPLIANCE WITH A DIFFERENT NPDES PERMIT.
• AUTHORIZED NON-STORMWATER DISCHARGES: PART III.A.2
a. FIRE FIGHTING ACTIVITIES
b. FIRE HYDRANT FLUSHING
c. POTABLE WATER SOURCES INCLUDING WATER LINE FLUSHING
d. IRRIGATION DRAINAGE
e. AIR CONDITIONING CONDENSATE
f. SPRINGS
g. UNCONTAMINATED GROUND WATER
h. FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS OR POLLUTANTS

LIMITATIONS ON COVERAGE: PART I.C.3:
• THE FOLLOWING STORMWATER DISCHARGES FROM CONSTRUCTION SITES ARE NOT AUTHORIZED BY THIS PERMIT:
I. STORMWATER DISCHARGES ASSOCIATED WITH AN INDUSTRIAL ACTIVITY THAT ORIGINATES FROM THE SITE AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED AND THE SITE HAS UNDERGONE FINAL STABILIZATION.
J. DISCHARGES THAT ARE MIXED WITH SOURCES OF NON-STORMWATER OTHER THAN DISCHARGES WHICH ARE IDENTIFIED IN PART III.A.2 OF THIS PERMIT AND WHICH ARE IN COMPLIANCE WITH PART IV.D.6 (NON-STORMWATER DISCHARGES) OF THIS PERMIT.
K. STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY THAT ARE SUBJECT TO AN EXISTING NPDES INDIVIDUAL OR GENERAL PERMIT. SUCH DISCHARGES MAY BE AUTHORIZED UNDER THIS PERMIT AFTER AN EXISTING PERMIT EXPIRES PROVIDED THE EXISTING PERMIT DID NOT ESTABLISH NUMERIC LIMITATIONS FOR SUCH DISCHARGES.
L. STORMWATER DISCHARGES FROM CONSTRUCTION SITES THAT THE DIRECTOR (EPD) HAS DETERMINED TO BE OR MAY REASONABLY BE EXPECTED TO BE CONTRIBUTING TO A VIOLATION OF A WATER QUALITY STANDARD.
M. WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTING QUANTITY ESTABLISHED UNDER EITHER GEORGIA'S OIL OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C.G.A. §§12-14-2, ET SEQ.) 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24-HOUR PERIOD, THE PERMITTEE IS REQUIRED TO NOTIFY THE FOLLOWING AGENCIES IN ACCORDANCE WITH THE REGULATIONS AS SOON AS HE HAS KNOWLEDGE OF THE DISCHARGE: EPD AT (404) 656-4863 OR (800) 241-4113, OR THE NATIONAL RESPONSE CENTER (NRC) AT (800) 424-8802. PART III.B.1
N. THIS PERMIT DOES NOT AUTHORIZE THE DISCHARGE OF HAZARDOUS SUBSTANCES OR OIL RESULTING FROM AN ON-SITE SPILL. PART III.B.2

WATER QUALITY COMPLIANCE: PART I.C.4:
• ALL DISCHARGES AUTHORIZED BY THIS PERMIT SHALL NOT CAUSE VIOLATIONS OF GEORGIA'S IN-STREAM WATER QUALITY STANDARDS AS PROVIDED BY THE RULES AND REGULATIONS FOR WATER QUALITY CONTROL, CHAPTER 391-3-6-03.

3. CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 1.5 - 3.5 INCH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES OR SITE ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

4. RETROFIT STRUCTURES SHALL BE KEPT CLEAR OF TRASH AND DEBRIS. THIS WILL REQUIRE CONTINUOUS MONITORING AND MAINTENANCE, WHICH INCLUDES SEDIMENT REMOVAL WHEN ONE-THIRD OF THE SEDIMENT STORAGE CAPACITY HAS BEEN LOST.

5. SEDIMENT SHALL BE REMOVED FROM SILT FENCES ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY SIX MONTHS).

6. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE HEIGHT OF THE TRAP. SEDIMENT SHALL BE REMOVED FROM CURB INLET PROTECTION IMMEDIATELY. FOR EXCAVATED INLET SEDIMENT TRAPS, SEDIMENT SHALL BE REMOVED WHEN ONE-HALF OF THE SEDIMENT STORAGE CAPACITY HAS BEEN LOST TO SEDIMENT ACCUMULATION.

7. SEDIMENT SHALL NOT BE WASHED INTO THE INLET. IT SHALL BE REMOVED FROM THE SEDIMENT TRAP AND DISPOSED OF AND STABILIZED SO THAT IT WILL NOT ENTER THE INLET, AGAIN.

8. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, ALL MATERIALS AND ANY SEDIMENT SHALL BE REMOVED, AND EITHER SALVAGED OR DISPOSED OF PROPERLY. THE DISTURBED AREA SHALL BE BROUGHT TO PROPER GRADE, THEN SMOOTHED AND COMPACTED. APPROPRIATELY STABILIZE ALL DISTURBED AREAS AROUND THE INLET.

9. REPAIR ALL DAMAGES CAUSED TO TEMPORARY SEDIMENT BASINS BY SOIL EROSION OR CONSTRUCTION EQUIPMENT AT OR BEFORE THE END OF EACH WORKING DAY. SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES THE SPECIFIED DISTANCE BELOW THE TOP OF THE RISER. SEDIMENT SHALL NOT ENTER ADJACENT STREAMS OR DRAINAGEWAYS DURING SEDIMENT REMOVAL OR DISPOSAL. THE SEDIMENT SHALL NOT BE DEPOSITED DOWNSTREAM FROM THE EMBANKMENT, ADJACENT TO A STREAM OR FLOODPLAIN.

10. INSPECT RIPRAP OUTLET STRUCTURES AFTER HEAVY RAINS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY MAKE ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE.

11. ROUGHENED AREAS SHALL BE SEEDED AND MULCHED AS SOON AS POSSIBLE TO OBTAIN OPTIMUM SEED GERMINATION AND SEEDING GROWTH.

12. 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.

13. PERMANENT VEGETATION SHALL BE APPLIED IMMEDIATELY TO ROUGH GRADED AREAS THAT WILL BE UNDISTURBED FOR LONGER THAN SIX MONTHS. THIS PRACTICE OR SODDING SHALL BE APPLIED IMMEDIATELY TO ALL AREAS AT FINAL GRADE. FINAL STABILIZATION MEANS THAT ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND THAT FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, AT LEAST 70% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION OR EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS THE USE OR RIP RAP, GABIANS, PERMANENT MULCHES, OR GEOTEXTILES) HAVE BEEN EMPLOYED. PERMANENT VEGETATION SHALL CONSIST OF: PLANTED TREES, SHRUBS, PERENNIAL VINES; A CROP OF PERENNIAL VEGETATION APPROPRIATE FOR THE REGION, SUCH THAT WITHIN THE GROWING SEASON A 70% COVERAGE BY PERENNIAL VEGETATION SHALL BE ACHIEVED. FINAL STABILIZATION APPLIES TO EACH PHASE OF CONSTRUCTION. UNTIL THIS STANDARD IS SATISFIED AND PERMANENT CONTROL MEASURES AND FACILITIES ARE OPERATIONAL, INTERIM STABILIZATION MEASURES AND TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL NOT BE REMOVED.

14. THE CONTRACTOR WILL OBTAIN COPIES OF ANY AND ALL LOCAL AND STATE REGULATIONS THAT ARE APPLICABLE TO STORM WATER MANAGEMENT, EROSION CONTROL, AND POLLUTION MINIMIZATION AT THIS JOB SITE AND WILL COMPLY FULLY WITH SUCH REGULATIONS. THE CONTRACTOR WILL SUBMIT WRITTEN EVIDENCE OF SUCH COMPLIANCE IF REQUESTED BY THE OWNER OR ANY AGENT OF A REGULATORY BODY. THE CONTRACTOR WILL COMPLY WITH ALL CONDITIONS OF ANY AND ALL LOCAL, STATE, AND FEDERAL AGENCIES THAT HAVE GOVERNING AUTHORITY, INCLUDING THE CONDITIONS RELATED TO MAINTAINING THE ESPC AND EVIDENCE OF COMPLIANCE WITH THE ESPC AT THE JOB SITE AND ALLOWING REGULATORY PERSONNEL ACCESS TO THE JOB SITE AND TO RECORDS IN ORDER TO DETERMINE COMPLIANCE.

15. EACH SECONDARY PERMITTEE WILL BE PROVIDED WITH A COPY OF THE EROSION CONTROL PLANS OR PORTIONS OF THE PLAN APPLICABLE TO THEIR SITE AND EACH SECONDARY PERMITTEE SHALL SIGN THE PLAN OR PORTION OF THE PLAN APPLICABLE TO THEIR SITE.

16. AFTER CONSTRUCTION, EROSION AND SEDIMENTATION WILL BE MANAGED BY STABILIZED LOT CONSISTING OF PAVED DRIVEWAY, GRASSING, LANDSCAPING AND HOME SITE.

17. MINIMIZING WIND EROSION AND CONTROLLING DUST WILL BE ACCOMPLISHED BY ONE OR MORE OF THE FOLLOWING METHODS:
a. COVERING 30% OR MORE OF THE SOIL SURFACE WITH NON-ERODIBLE MATERIAL.
b. ROUGHENING THE SOIL TO PRODUCE RIDGES PERPENDICULAR TO THE PREVAILING WIND.
c. FREQUENT WATERING OF EXCAVATION AND FILL AREAS
d. PROVIDING GRAVEL OR PAVING AT ENTRANCE / EXIT DRIVES

18. ALL NON-STORM WATER DISCHARGES WILL BE ROUTED THROUGH ON-SITE BMPs AND THE STORM WATER MANAGEMENT SYSTEM WHERE POSSIBLE. THESE DISCHARGES INCLUDE FLUSHING OF WATER AND FIRE LINES, IRRIGATION WATER, GROUND WATER, DEWATERING OF PITS OR DEPRESSIONS WITHIN THE CONSTRUCTION SITE AND RINSE OFF WATER OF NON-TOXIC MATERIALS.

19. NO WASTE WILL BE DISPOSED OF INTO STORM WATER INLETS OR WATERS OF THE STATE.

20. ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED A MINIMUM OF ONCE PER WEEK OR MORE OFTEN IF NECESSARY AND TRASH WILL BE HAULED AS REQUIRED BY LOCAL REGULATIONS. NO CONSTRUCTION WASTE WILL BE BURIED ON-SITE.

21. ALL PERSONNEL WILL BE INSTRUCTED ON PROPER PROCEDURES FOR WASTE DISPOSAL. A NOTICE STATING THESE PRACTICES WILL BE POSTED AT THE JOBSITE AND THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

22. ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL, STATE, AND/OR FEDERAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS. THE JOB SITE SUPERINTENDENT, WHO WILL ALSO BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED, WILL INSTRUCT SITE PERSONNEL IN THESE PRACTICES. MATERIAL SAFETY DATA SHEETS (MSDS'S) FOR EACH SUBSTANCE WITH HAZARDOUS PROPERTIES THAT IS USED ON THE JOB SITE WILL BE OBTAINED AND USED FOR THE PROPER MANAGEMENT OF POTENTIAL WASTES THAT MAY RESULT FROM THESE PRODUCTS. AN MSDS WILL BE POSTED IN THE IMMEDIATE AREA WHERE SUCH PRODUCT IS STORED AND/OR USED AND ANOTHER COPY OF EACH MSDS WILL BE MAINTAINED IN THE ESPC FILE AT THE JOB SITE CONSTRUCTION TRAILER OFFICE. EACH EMPLOYEE WHO MUST HANDLE A SUBSTANCE WITH HAZARDOUS PROPERTIES WILL BE INSTRUCTED ON THE USE OF MSDS SHEETS AND THE SPECIFIC INFORMATION IN THE APPLICABLE MSDS FOR THE PRODUCT HE/SHE IS USING, PARTICULARLY REGARDING SPILL CONTROL TECHNIQUES.

23. THE CONTRACTOR WILL IMPLEMENT THE SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN FOUND WITHIN THIS ESPC AND WILL TRAIN ALL PERSONNEL IN THE PROPER CLEANUP AND HANDLING OF SPILLED MATERIALS. NO SPILLED HAZARDOUS MATERIALS OR HAZARDOUS WASTES WILL BE ALLOWED TO COME IN CONTACT WITH STORM WATER DISCHARGES. IF SUCH CONTACT OCCURS, THE STORM WATER DISCHARGE WILL BE CONTAINED ON-SITE UNTIL APPROPRIATE MEASURES IN COMPLIANCE WITH STATE AND FEDERAL REGULATIONS ARE TAKEN TO DISPOSE OF SUCH CONTAMINATED STORM WATER. IT SHALL BE THE RESPONSIBILITY OF THE JOB SITE SUPERINTENDENT TO PROPERLY TRAIN ALL PERSONNEL IN THE USE OF THE SPCC PLAN.

24. A MINIMUM OF ONE PORTABLE SANITARY UNIT WILL BE PROVIDED FOR EVERY TEN (10) WORKERS ON THE SITE. ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONE TIME PER WEEK BY A LICENSED PORTABLE FACILITY PROVIDER IN COMPLETE COMPLIANCE WITH LOCAL AND STATE REGULATIONS.

25. ALL SANITARY WASTE UNITS WILL BE LOCATED IN AN AREA WHERE THE LIKELIHOOD OF THE UNIT CONTRIBUTING TO STORM WATER DISCHARGE IS NEGLIGIBLE. ADDITIONAL CONTAINMENT BMP'S MUST BE IMPLEMENTED, SUCH AS GRAVEL BAGS OR SPECIALLY DESIGNED PLASTIC SKID CONTAINERS AROUND THE BASE, TO PREVENT WASTES FROM CONTRIBUTING TO STORM WATER DISCHARGES. THE LOCATION OF SANITARY WASTE UNITS MUST BE IDENTIFIED ON THE EROSION CONTROL PLAN, BY THE CONTRACTOR ONCE THE LOCATIONS HAVE BEEN DETERMINED.

26. SANITARY SEWER WILL BE PROVIDED BY MUNICIPAL AUTHORITY/SEPTIC SYSTEM AT THE COMPLETION OF THIS PROJECT.

27. A STABILIZED CONSTRUCTION EXIT HAS BEEN PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENT. THE PAVED STREET ADJACENT TO THE SITE EXIT WILL BE INSPECTED DAILY FOR TRACKING OF MUD, DIRT, OR ROCK. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH TARPULIN.

28. THE FOLLOWING MATERIALS ARE EXPECTED ON-SITE DURING CONSTRUCTION: CONCRETE PRODUCTS, ASPHALT, PETROLEUM BASED FUELS AND LUBRICANTS FOR EQUIPMENT, TAR, METAL BUILDING MATERIALS, LUMBER, SHEET ROCK, FLOOR COVERINGS, ELECTRICAL WIRE AND FIXTURES, PAINTS/STAINS/FINISHING TREATMENTS, PAINTS, PAINT SOLVENTS, ADDITIVES FOR SOIL STABILIZATION, CLEANING SOLVENTS, PESTICIDES, FERTILIZERS, HERBICIDES, CRUSHED STONE, PLASTIC AND METAL PIPES.

29. PRACTICES SUCH AS GOOD HOUSEKEEPING, PROPER HANDLING OF HAZARDOUS PRODUCTS AND PROPER SPILL CONTROL PRACTICES WILL BE FOLLOWED TO REDUCE THE RISK OF SPILLS AND SPILLS FROM DISCHARGING INTO STORM WATER RUNOFF.

30. QUANTITIES OF PRODUCTS STORED ON-SITE WILL BE LIMITED TO THE AMOUNT NEEDED FOR THE JOB.

31. PRODUCTS AND MATERIALS WILL BE STORED IN A NEAT, ORDERLY MANNER IN APPROPRIATE CONTAINERS PROTECTED FROM RAINFALL, WHERE POSSIBLE.

32. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH MANUFACTURER LABELS LEGIBLE AND VISIBLE.

33. PRODUCT MIXING, DISPOSAL AND DISPOSAL OF PRODUCT CONTAINERS WILL BE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

34. THE CONTRACTOR WILL INSPECT SUCH MATERIALS TO ENSURE PROPER USE, STORAGE AND DISPOSAL.

EROSION, SEDIMENT, & POLLUTION CONTROL PLAN CHECKLIST (CONTINUED)

30. REQUIREMENT: PROVIDE COMPLETE REQUIREMENTS OF INSPECTIONS AND RECORD KEEPING BY THE PRIMARY PERMITTEE.*
RESPONSE:
• 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 AND (b) ALL LOCATIONS AT THE PRIMARY PERMITTEE'S SITE WHERE VEHICLES ENTER OR EXIT THE SITE FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
• MEASURE AND RECORD RAINFALL WITHIN DISTURBED AREAS OF THE SITE THAT HAVE NOT MET FINAL STABILIZATION ONCE EVERY 24 HOURS EXCEPT ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY AND NON-WORKING FEDERAL HOLIDAY. THE DATA COLLECTED FOR THE PURPOSE OF COMPLIANCE WITH THIS PERMIT SHALL BE REPRESENTATIVE OF THE MONITORED ACTIVITY. MEASUREMENT OF RAINFALL MAY BE SUSPENDED IF ALL AREAS OF THE SITE HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION.
• 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; (b) AREAS USED BY THE PRIMARY PERMITTEE FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION; 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 OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION, THE PERMITTEE MUST COMPLY WITH PART IV.D.4.a.(4). THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.
• CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECTED AT LEAST ONCE PER MONTH DURING THE TERM OF THIS PERMIT (I.E., UNTIL A NOTICE OF TERMINATION HAS BEEN SUBMITTED) THE AREAS OF THE SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING TARGET PERENNIALS APPROPRIATE FOR THE REGION. THESE AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIALS 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).
• 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.
• A REPORT OF EACH INSPECTION THAT INCLUDES THE NAME(S) OF CERTIFIED PERSONNEL MAKING EACH INSPECTION, THE DATE(S) OF EACH INSPECTION, CONSTRUCTION PHASE (I.E., INITIAL, INTERMEDIATE OR FINAL), 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.(5) 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 BE READILY AVAILABLE BY END OF THE SECOND BUSINESS DAY AND/OR WORKING DAY AND SHALL IDENTIFY ALL INCIDENTS OF BEST MANAGEMENT PRACTICES THAT HAVE BEEN PROPERLY INSTALLED AND/OR MAINTAINED AS DESCRIBED IN THE PLAN, WHERE THE REPORT DOES NOT IDENTIFY ANY INCIDENTS, THE INSPECTION REPORT SHALL CONTAIN A CERTIFICATION THAT THE BEST MANAGEMENT PRACTICES ARE IN COMPLIANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G.2. OF THIS PERMIT

31. REQUIREMENT: PROVIDE COMPLETE REQUIREMENTS OF SAMPLING FREQUENCY AND REPORTING OF SAMPLING RESULTS.*
RESPONSE: SAMPLING IS NOT REQUIRED AS DISTURBED ACREAGE IS LESS THAN 1 ACRE.

32. REQUIREMENT: PROVIDE COMPLETE DETAILS FOR RETENTION OF RECORDS AS PER PART IV.F. OF THE PERMIT.*
RESPONSE: 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 SAMPLING 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.(2) OF THIS PERMIT.
2. COPIES OF ALL NOTICES OF INTENT, NOTICES OF TERMINATION, INSPECTION REPORTS, SAMPLING REPORTS (INCLUDING ALL CALIBRATION AND MAINTENANCE RECORDS AND ALL ORIGINAL STRIP CHART RECORDINGS FOR CONTINUOUS MONITORING INSTRUMENTATION) OR OTHER REPORTS REQUESTED BY THE EPD, 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 ALTERNATIVE 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. REQUIREMENT: DESCRIPTION OF ANALYTICAL METHODS TO BE USED TO COLLECT AND ANALYZE THE SAMPLES FROM EACH LOCATION.*
RESPONSE: SAMPLING IS NOT REQUIRED.

34. REQUIREMENT: APPENDIX B RATIONALE FOR NTU VALUES AT ALL OUTFALL SAMPLING POINTS WHERE APPLICABLE.*
RESPONSE: SAMPLING IS NOT REQUIRED.

35. REQUIREMENT: DELINEATE ALL SAMPLING LOCATIONS ON ALL PHASES OF THE PLAN, PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES INTO WHICH STORM WATER IS DISCHARGED.
RESPONSE: SAMPLING NOT REQUIRED

36. REQUIREMENT: 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 WASH 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.*
RESPONSE: SEE ITEM 28 FOR A DESCRIPTION OF ALL INITIAL AND INTERMEDIATE BMPs AND ITEM 26 FOR A DESCRIPTION OF ALL FINAL BMPs. PLEASE SEE THE EROSION CONTROL PLAN TO SEE WHERE THESE BMPs ARE TO BE IMPLEMENTED.

37. REQUIREMENT: GRAPHIC SCALE AND NORTH ARROW.
RESPONSE: THE CORRECT GRAPHIC SCALE AND NORTH ARROW ARE SHOWN ON ALL SHEETS WHERE APPLICABLE.

38. REQUIREMENT: EXISTING AND PROPOSED CONTOUR LINES WITH CONTOUR LINES DRAWN AT AN INTERVAL, IN ACCORDANCE WITH THE FOLLOWING:

EXISTING CONTOURS	USGS 1" = 200' TOPOGRAPHICAL SHEETS
PROPOSED CONTOURS	1" = 400' CENTERLINE PROFILE

RESPONSE: CONTOURS ARE SHOWN IN 1' INTERVALS.

39. REQUIREMENT: 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 GASPD OR THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION). PLEASE REFER TO THE ALTERNATIVE BMP GUIDANCE DOCUMENT FOUND AT WWW.GASWCC.GEORGIA.GOV.
RESPONSE: NO ALTERNATIVE BMPs WILL BE USED.

40. REQUIREMENT: 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.*
RESPONSE: NO ALTERNATIVE BMPs WILL BE USED.

41. REQUIREMENT: DELINEATION OF THE APPLICABLE 25-FOOT OR 50-FOOT UNDISTURBED BUFFERS ADJACENT TO STATE WATERS AND ANY ADDITIONAL BUFFERS AS REQUIRED BY THE LOCAL ISSUING AUTHORITY. CLEARLY NOTE AND DELINEATE ALL AREAS OF IMPACT.
RESPONSE: THERE ARE NO 25-FOOT OR 50-FOOT UNDISTURBED BUFFERS REQUIRED FOR THE SITE. THERE ARE NO STATE WATERS ADJACENT TO THE SITE AND NO ADDITIONAL BUFFERS ARE REQUIRED BY THE LOCAL ISSUING AUTHORITY.

42. REQUIREMENT: DELINEATION OF ALL STATE WATERS AND WETLANDS LOCATED ON OR WITHIN 200 FEET OF THE PROJECT SITE.
RESPONSE: THERE ARE NO ON-SITE WETLANDS AND STATE WATERS LOCATED ON AND WITHIN 200' OF THE SITE.

43. REQUIREMENT: DELINEATION AND ACREAGE OF CONTRIBUTING DRAINAGE BASINS ON THE PROJECT SITE.
RESPONSE: ALL DRAINAGE BASIN INFORMATION IS SHOWN IN THE HYDROLOGY STUDY PROVIDED WITH THESE PLANS.

44. REQUIREMENT: DELINEATE ON-SITE DRAINAGE AND OFF-SITE WATERSHEDS USING USGS 1"=2000' TOPOGRAPHICAL SHEETS.
RESPONSE: A HYDROLOGY REPORT INCLUDING A DRAINAGE NARRATIVE, DRAINAGE CALCULATIONS AND DELINEATION OF PRE AND POST DEVELOPED CONDITIONS IS PROVIDED WITH THESE PLANS ALONG WITH THE USGS TOPOGRAPHICAL SHEET.

45. REQUIREMENT: ESTIMATE OF THE RUNOFF COEFFICIENT OR PEAK DISCHARGE FLOW OF THE SITE PRIOR TO AND AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED.
RESPONSE: THE PRE-DEVELOPMENT RUNOFF COEFFICIENT IS 73. THE POST-DEVELOPMENT RUNOFF COEFFICIENT IS 73.

46. REQUIREMENT: STORM-DRAIN PIPE AND WEIR VELOCITIES WITH APPROPRIATE OUTLET PROTECTION TO ACCOMMODATE DISCHARGES WITHOUT EROSION. IDENTIFY/DELINEATE ALL STORM WATER DISCHARGE POINTS.
RESPONSE: THE STORM-DRAIN PIPE AND WEIR VELOCITIES ARE SHOWN ON THE EROSION CONTROL PLAN AS WELL AS APP

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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 SEEDDED 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 SEEDDED AREAS.
 6. WHEN USING TEMPORARY EROSION CONTROL BLANKETS OR BLOCK SOD, MULCHING IS NOT REQUIRED.

MULCHING
NOT TO SCALE

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.

- PURPOSE:
1. TO REDUCE RUNOFF AND SEDIMENT DAMAGE OF DOWN STREAM RESOURCES
 2. TO PROTECT THE SOIL SURFACE FROM EROSION
 3. TO IMPROVE WILDLIFE HABITAT
 4. TO IMPROVE AESTHETICS
 5. 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 DISTURBANCE. 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-SEEDDED 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, CULTIVATOR SEEDER, OR HYDRAULIC SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). DRILL OR CULTIVATOR SEEDER 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 SEEDDED 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
NOT TO SCALE

Ds2

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
TEMPORARY METHODS
- MULCHES – SEE 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 TERRITACK 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.

- 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 ERODIVE SOIL MATERIAL. SEE STANDARD TP-TOPSOILING.
 - STONE – COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. SEE STANDARD CR-CONSTRUCTION ROAD STABILIZATION.

MAINTENANCE
PROHIBIT TRAFFIC ON SURFACE AFTER SPRAYING. SUPPLEMENT SURFACE COVERING AS NEEDED.

DUST CONTROL
NOT TO SCALE

Du

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
RYE GRASS	0.9 LBS.	40 LBS.	8/15 – 4/1
ANNUAL LESPEDEZA	0.9 LBS.	40 LBS.	1/15 – 8/15
WEeping LOVEGRASS	0.1 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 CONDITONS MAY REQUIRE HEAVIER SEEDING RATES.
- ** SEEDING DATES MAY NEED TO BE ALTERED TO FIT TEMPERATURE VARIATIONS AND CONDITIONS.

TABLE 6–5.1 FERTILIZER REQUIREMENTS

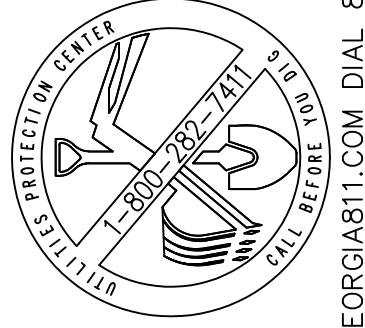
TYPE OF SPECIES	YEAR	ANALYSIS FOR EQUIVALENT N–P–K	RATE	N TOP DRESSING RATE
1. COOL SEASON GRASSES	FIRST SECOND MAINTENANCE	6–12–12 6–12–12 10–10–10	1500 LBS./AC. 1000 LBS./AC. 400 LBS./AC.	50–100 LBS./AC. 1/2/ 30
2. COOL SEASON GRASSES AND LEGUMES	FIRST SECOND MAINTENANCE	6–12–12 0–10–10 0–10–10	1500 LBS./AC. 1000 LBS./AC. 400 LBS./AC.	0–50 LBS./AC. 1/ – –
3. GROUND COVERS	FIRST SECOND MAINTENANCE	10–10–10 0–10–10 10–10–10	1300 LBS./AC. 1300 LBS./AC. 1100 LBS./AC.	– – –
4. PINE SEEDLINGS				
5. SHRUB LESPEDEZA	FIRST MAINTENANCE	20–10–6 0–10–10	700 LBS./AC. 700 LBS./AC.4/	– –
6. TEMPORARY COVER CROPS SEEDDED ALONE	FIRST	10/10/2010	500 LBS./AC.	30 LB./ACRE/ 5/
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.

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 SEEDDED 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.



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THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS OF THE SITE AND SHALL REPORT ANY DISCREPANCIES TO T. R. LONG ENGINEERING, P.C. FOR IMMEDIATE RESOLUTION.

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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
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 SEEDDED AREAS SHALL ACHIEVE 75% SOIL COVER. SELECT THE MULCHING MATERIALS 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 ¾:1 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 SEEDDED 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 ACTIATED 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.

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.

1. 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 GROUND.
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
NOT TO SCALE

Ds3

MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

SHEET NAME:
ES&PC DETAILS

REVISIONS:
1. 08/28/2025 GDOT #1
2. 01/02/2026 GDOT #2
3. 07/17/2026 MOD

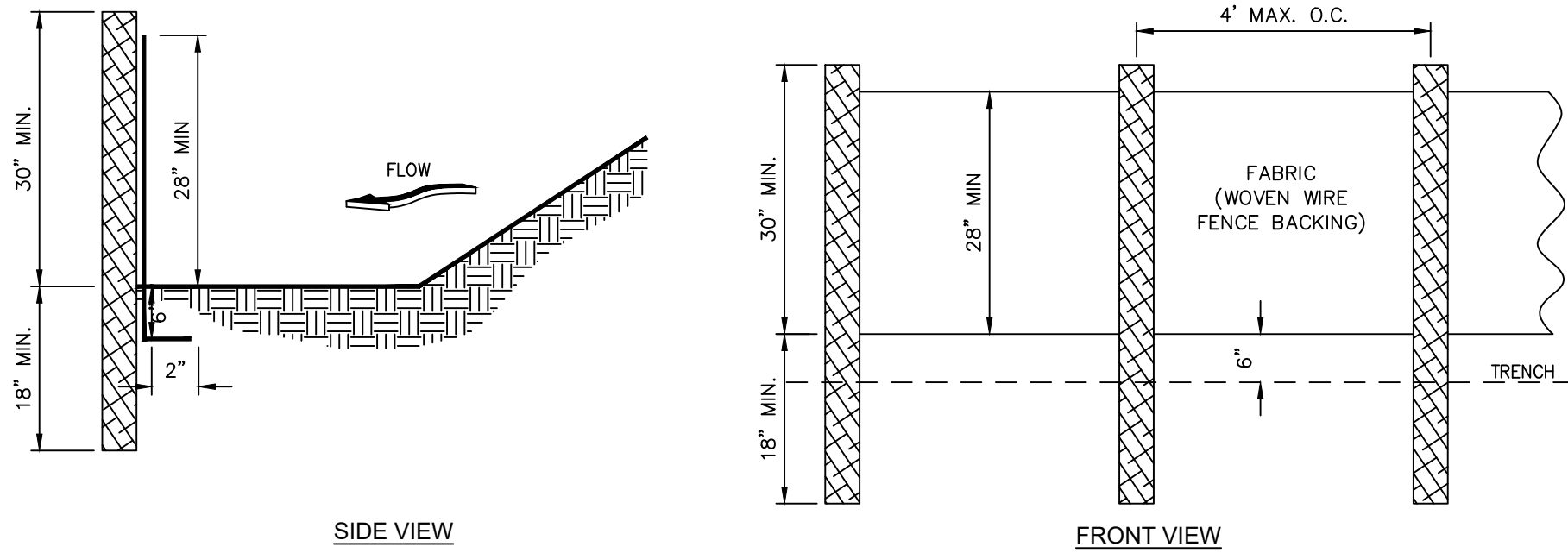
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INITIAL DATE: 8/11/2025
DRAWN BY: JEL
CHECKED BY: TKL
PROJECT #: 2024-246

SHEET NUMBER:

C7.1

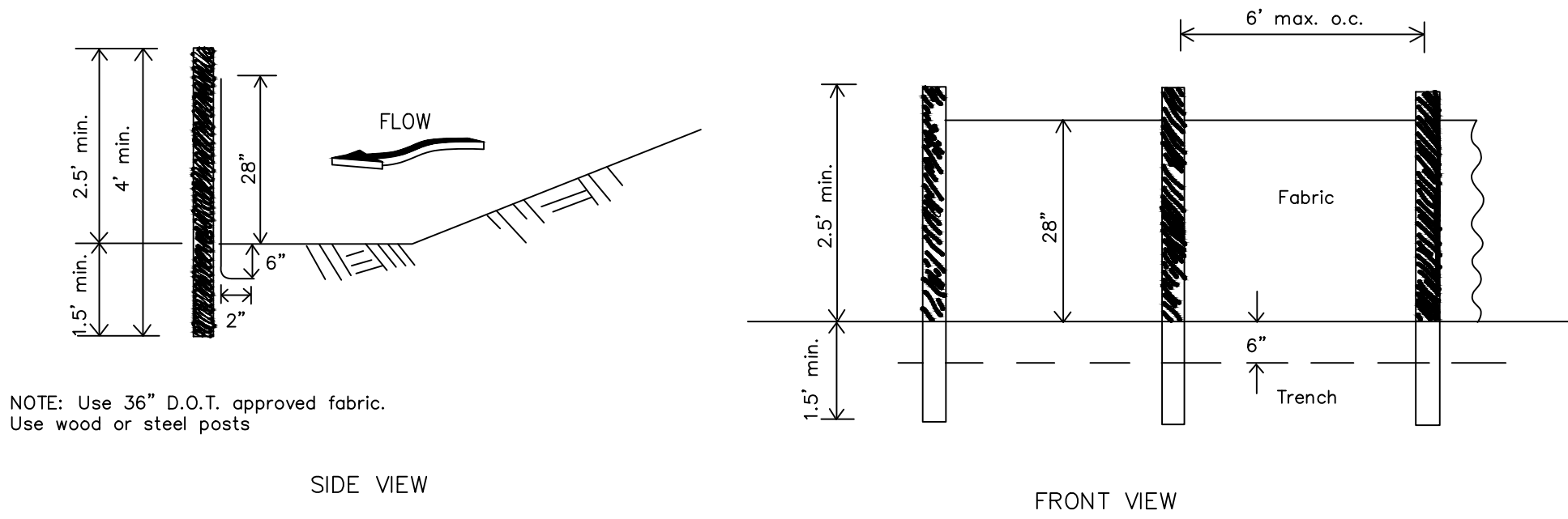
Drawing File: C:\active projects\2024-246 h - mcintosh lake rd & hwy 84\900-drawings\DWG\CONST\2024-246 DET.dwg
Plotted Date: Jul 20, 2026 - 7:28am



- NOTES:
- USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
 - HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

SILT FENCE – TYPE S
Sensitive – Type C
NOT TO SCALE

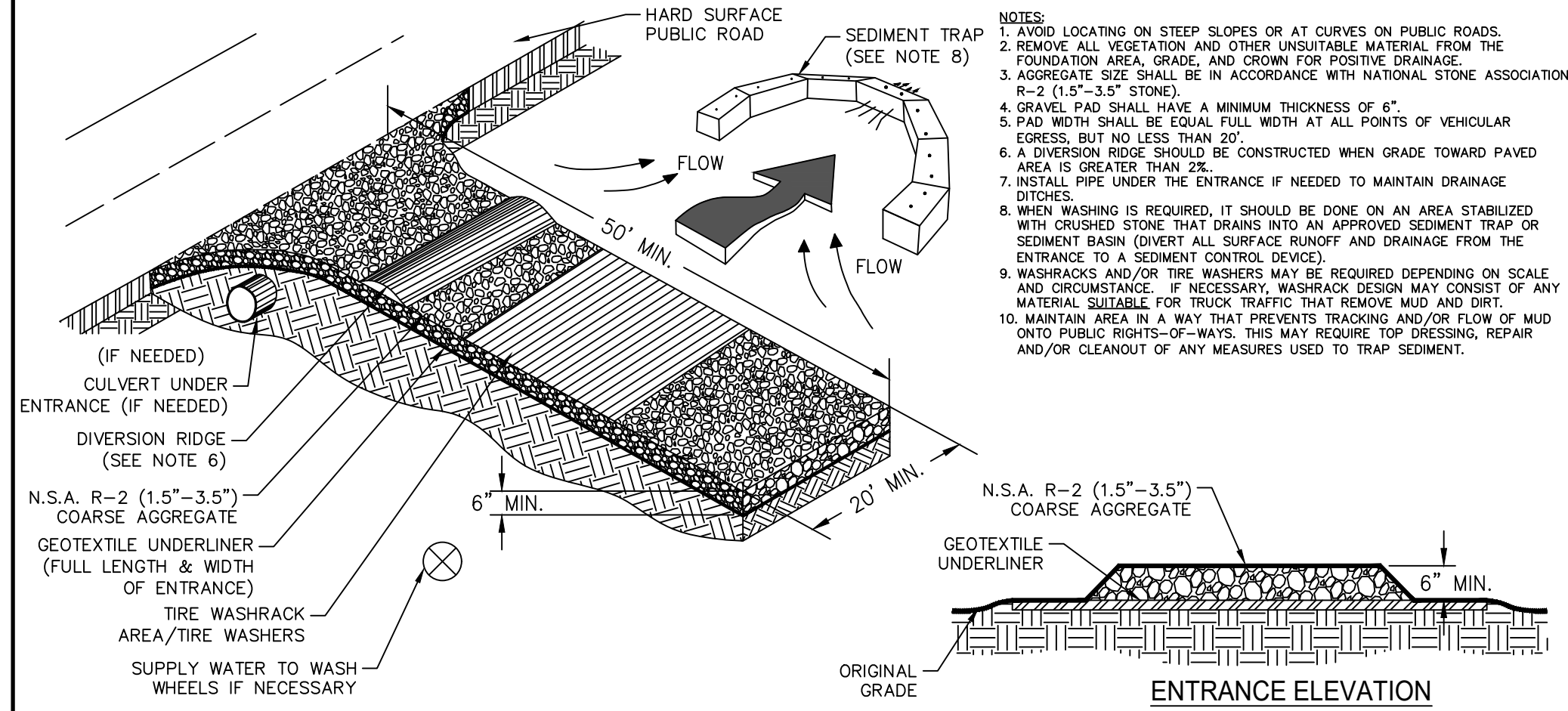
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NOTE: Use 36" D.O.T. approved fabric.
Use wood or steel posts

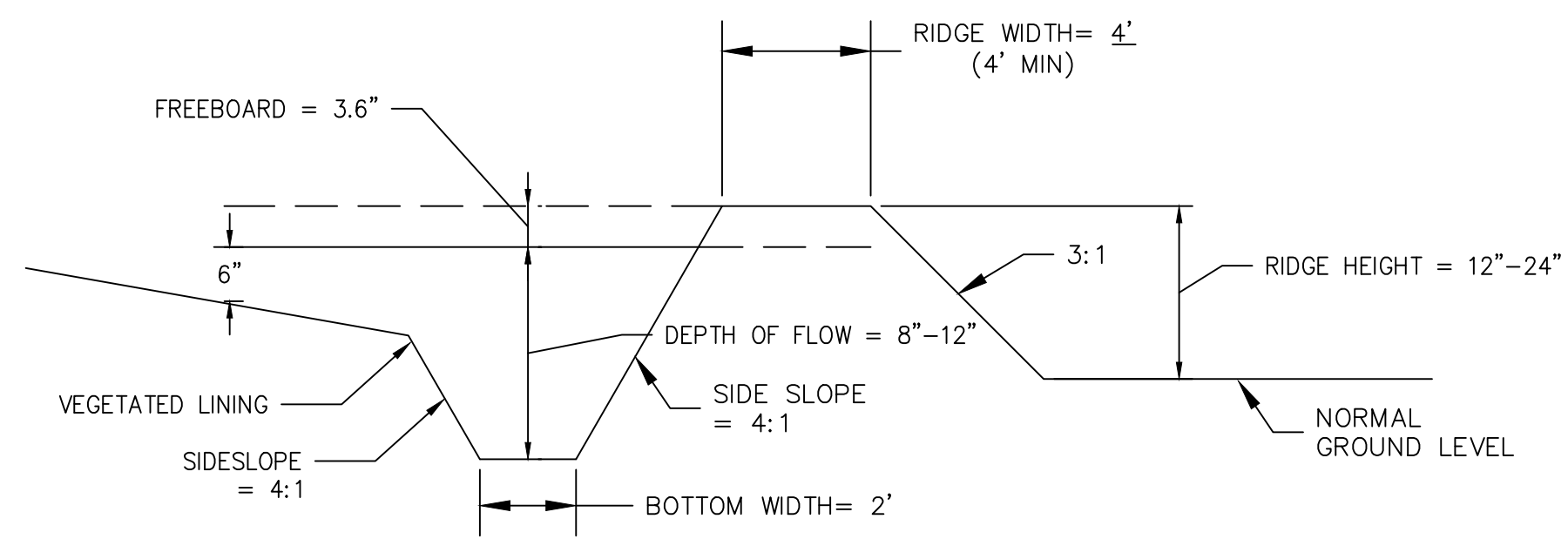
SILT FENCE – TYPE NS
Non-Sensitive – Type A
NOT TO SCALE

Sd1-NS



TEMPORARY CONSTRUCTION EXIT
NOT TO SCALE

Co

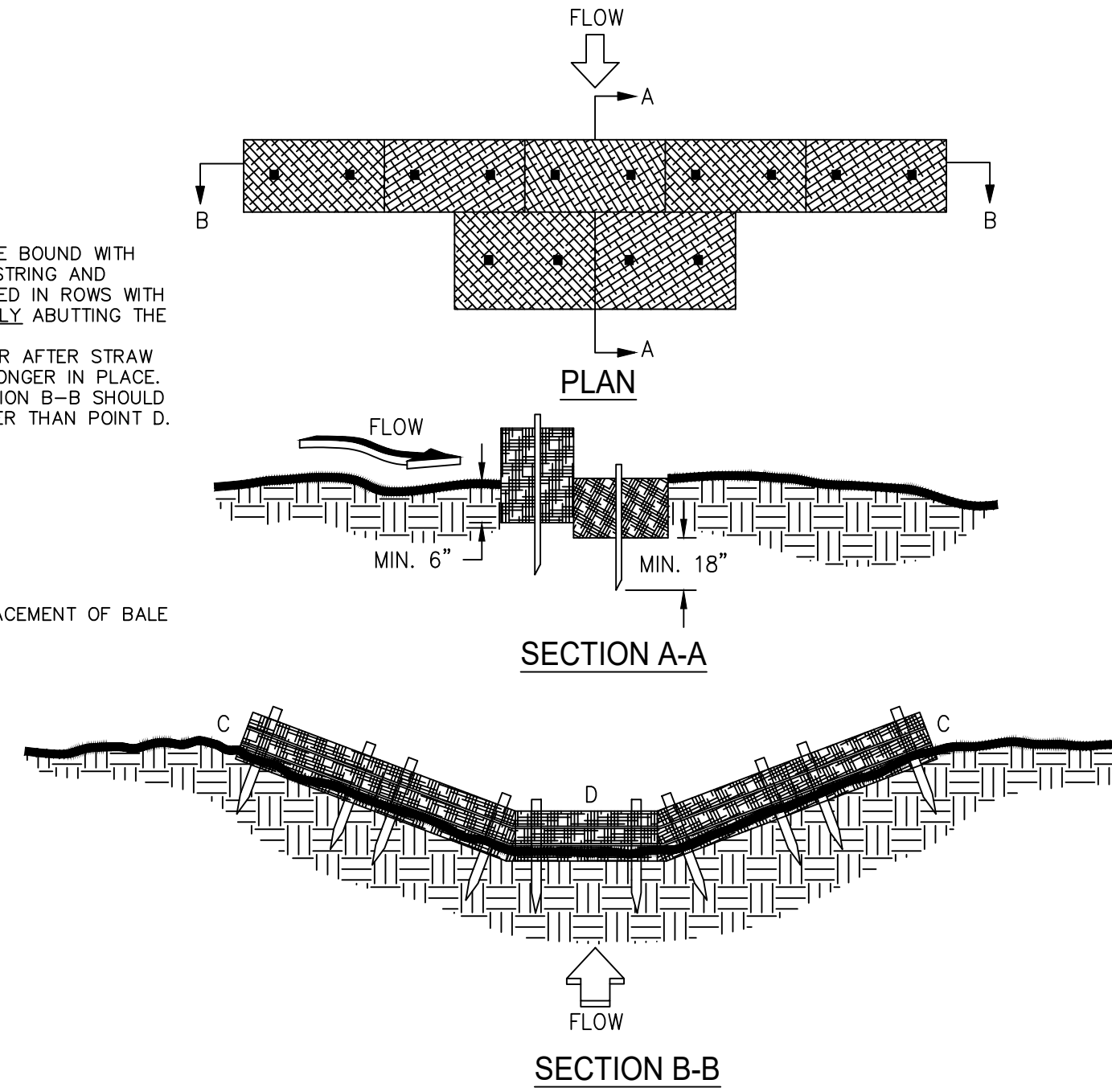


DIVERSION DITCH
NOT TO SCALE

Di

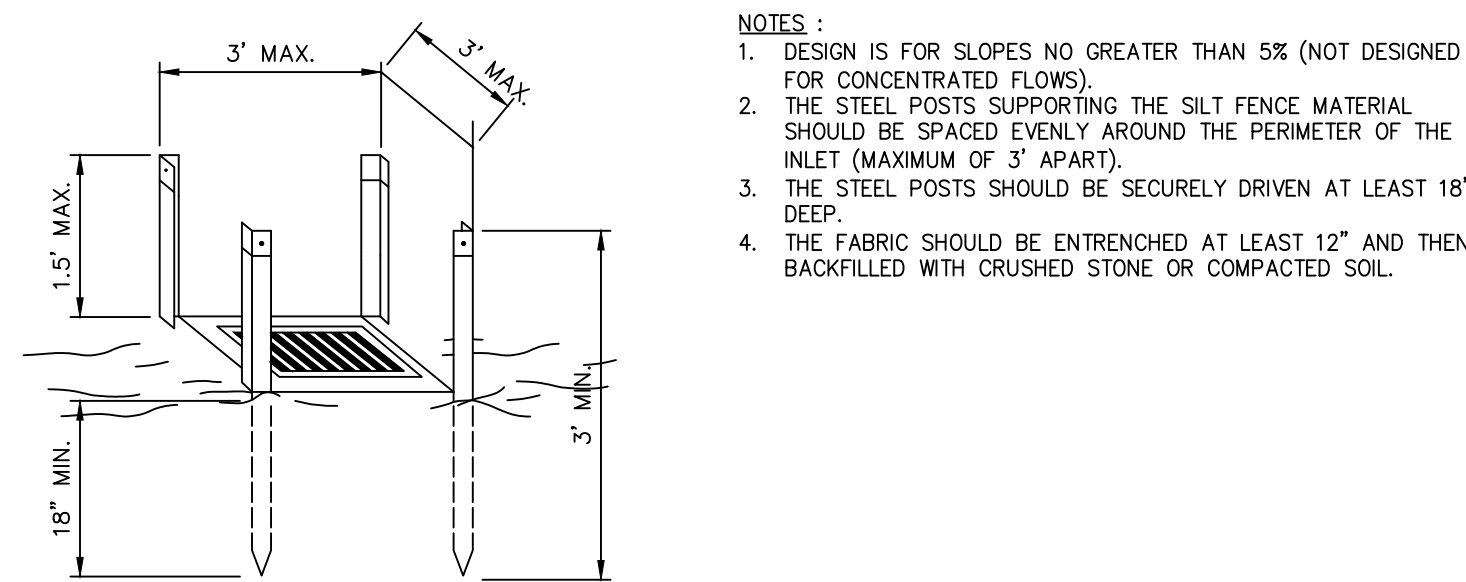
- NOTES:
- BALES SHOULD BE BOUND WITH WIRE OR NYLON STRING AND SHOULD BE PLACED IN ROWS WITH BALE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
 - REMOVE #4 REBAR AFTER STRAW BALES ARE NO LONGER IN PLACE.
 - POINT C OF SECTION B-B SHOULD ALWAYS BE HIGHER THAN POINT D.

SEE DETAIL FOR PLACEMENT OF BALE

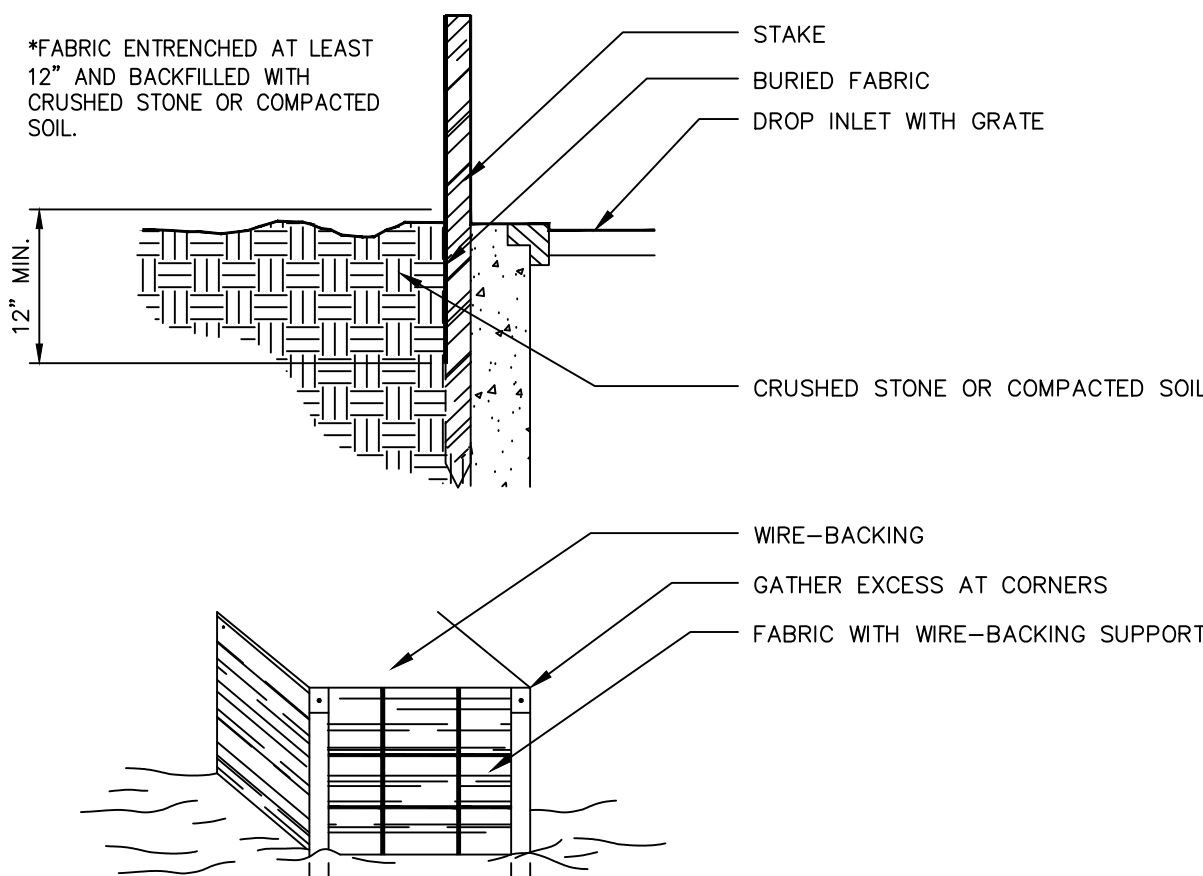


HAY BALE CHECK DAM
NOT TO SCALE

Cd-Hb

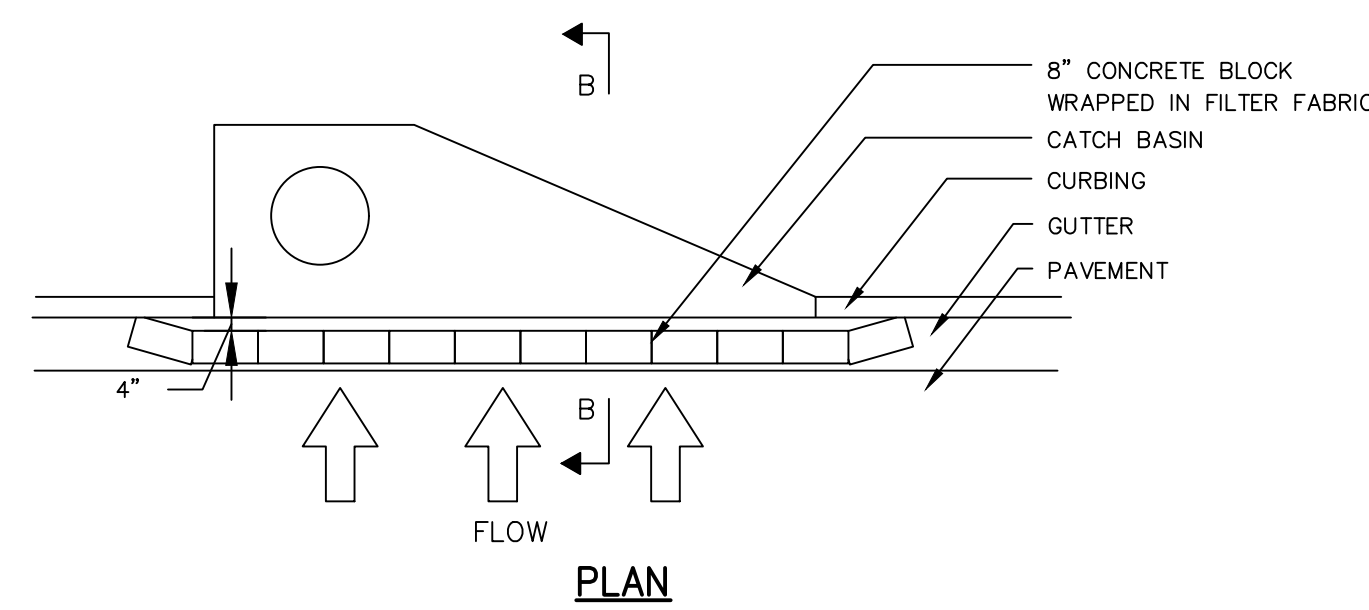


- NOTES:
- DESIGN IS FOR SLOPES NO GREATER THAN 5% (NOT DESIGNED FOR CONCENTRATED FLOWS).
 - THE STEEL POSTS SUPPORTING THE SILT FENCE MATERIAL SHOULD BE SPACED EVENLY AROUND THE PERIMETER OF THE INLET (MAXIMUM OF 3' APART).
 - THE STEEL POSTS SHOULD BE SECURELY DRIVEN AT LEAST 18" DEEP.
 - THE FABRIC SHOULD BE ENTRENCHED AT LEAST 12" AND THEN BACKFILLED WITH CRUSHED STONE OR COMPACTED SOIL.

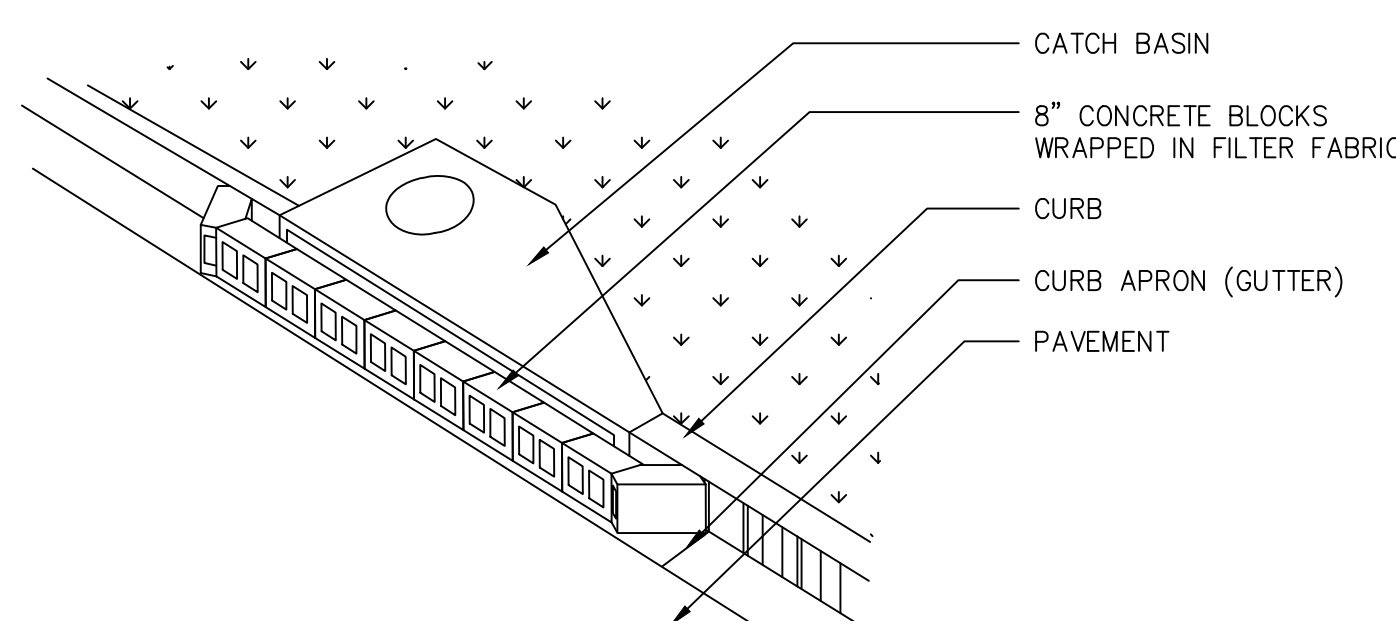


FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION
NOT TO SCALE

Sd2-F

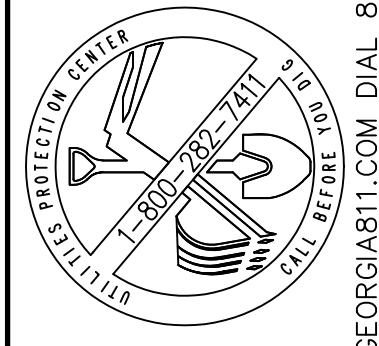


- NOTES:
- INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
 - WRAP 8" CONCRETE BLOCKS IN FILTER FABRIC AND SPAN ACROSS CATCH BASIN INLET.
 - FACE OPENINGS IN BLOCKS OUTWARD.
 - LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
 - INSTALL OUTLET PROTECTION BELOW STORM DRAIN OUTLETS.



PIGS IN BLANKET
NOT TO SCALE

Sd2-P



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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.

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MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

SHEET NAME:
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REVISIONS:

1.	08/28/2025	GDOT #1
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INITIAL DATE: 8/11/2025
DRAWN BY: JEL
CHECKED BY: TRL
PROJECT #: 2024-246

SHEET NUMBER:

C7.2

CONCRETE WASHOUT AREA
PURPOSE – PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORM WATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFFSITE, OR PERFORMING ONSITE WASHOUT IN A DESIGNATED AREA TO PREVENT POLLUTANTS FROM ENTERING SURFACE WATERS OR GROUNDWATER.

CONDITIONS OF USE – CONCRETE WASHOUT AREA BEST MANAGEMENT PRACTICES ARE IMPLEMENTED ON CONSTRUCTION PROJECTS WHERE:

- CONCRETE IS USED AS A CONSTRUCTION MATERIAL
- IT IS NOT POSSIBLE TO DISPOSE OF ALL CONCRETE WASTEWATER AND WASHOUT OFFSITE (READY MIX PLANT, ETC.).
- CONCRETE TRUCKS, PUMPER, OR OTHER CONCRETE COATED EQUIPMENT ARE WASHED ONSITE.

DESIGN AND INSTALLATION SPECIFICATIONS

IMPLEMENTATION – THE FOLLOWING STEPS WILL HELP REDUCE STORMWATER POLLUTION FROM CONCRETE WASTES:
• PERFORM WASHOUT OF CONCRETE TRUCKS OFFSITE OR IN DESIGNATED CONCRETE WASHOUT AREAS ONLY.
• DO NOT WASH OUT CONCRETE TRUCKS ONTO THE GROUND, OR INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
• DO NOT ALLOW EXCESS CONCRETE TO BE DUMPED ONSITE, EXCEPT IN DESIGNATED CONCRETE WASHOUT AREAS.
• CONCRETE WASHOUT AREAS MAY BE PREFABRICATED CONCRETE WASHOUT CONTAINERS, OR SELF-INSTALLED STRUCTURES (ABOVE-GRADE OR BELOW-GRADE).
• PREFABRICATED CONTAINERS ARE MOST RESISTANT TO DAMAGE AND PROTECT AGAINST SPILLS AND LEAKS. COMPANIES MAY OFFER DELIVERY SERVICE AND PROVIDE REGULAR MAINTENANCE AND DISPOSAL OF SOLID AND LIQUID WASTE.
• IF SELF-INSTALLED CONCRETE WASHOUT AREAS ARE USED, BELOW-GRADE STRUCTURES ARE PREFERRED OVER ABOVE-GRADE STRUCTURES BECAUSE THEY ARE LESS PRONE TO SPILLS AND LEAKS.
• SELF-INSTALLED ABOVE-GRADE STRUCTURES SHOULD ONLY BE USED IF EXCAVATION IS NOT PRACTICAL.

EDUCATION – THE FOLLOWING EDUCATION PRACTICES ARE RECOMMENDED:
• DISCUSS THE CONCRETE MANAGEMENT TECHNIQUES DESCRIBED IN THIS BEST MANAGEMENT PRACTICE WITH THE READY-MIX CONCRETE SUPPLIER BEFORE ANY DELIVERIES ARE MADE.
• EDUCATE EMPLOYEES AND SUBCONTRACTORS ON THE CONCRETE WASTE MANAGEMENT TECHNIQUES DESCRIBED IN THIS SECTION.
• ARRANGE FOR CONTRACTOR'S SUPERINTENDENT OR LEVEL 1A CERTIFIED PERSONNEL TO OVERSEE AND ENFORCE CONCRETE WASTE MANAGEMENT PROCEDURES.
• A SIGN SHOULD BE INSTALLED ADJACENT TO EACH TEMPORARY CONCRETE WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

CONTRACTS – INCORPORATE REQUIREMENTS FOR CONCRETE WASTE MANAGEMENT INTO CONCRETE SUPPLIER AND SUBCONTRACTOR AGREEMENTS.

LOCATION AND PLACEMENT – THE FOLLOWING GUIDELINES SHALL BE USED WHEN LOCATING AND PLACING THE CONCRETE WASH-OUT AREA:
• LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE AREAS SUCH AS STORM DRAINS, OPEN DITCHES, OR WATER BODIES, INCLUDING WETLANDS.
• ALLOW CONVENIENT ACCESS FOR CONCRETE TRUCKS, PREFERABLY NEAR THE AREA WHERE THE CONCRETE IS BEING POURED.
• IF TRUCKS NEED TO LEAVE A PAVED AREA TO ACCESS WASHOUT, PREVENT TRACK-OUT WITH A CONSTRUCTION EXIT.
• THE NUMBER OF FACILITIES YOU INSTALL SHOULD DEPEND ON THE EXPECTED DEMAND FOR STORAGE CAPACITY.
• ON LARGE SITES WITH EXTENSIVE CONCRETE WORK, WASHOUTS SHOULD BE PLACED IN MULTIPLE LOCATIONS FOR EASE OF USE BY CONCRETE TRUCK DRIVERS.

ONSITE TEMPORARY CONCRETE WASHOUT FACILITY, TRANSIT TRUCK WASHOUT PROCEDURES:
• TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE LOCATED A MINIMUM OF 50 FT. FROM SENSITIVE AREAS INCLUDING STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERCOURSES.
• CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
• APPROXIMATELY 7 GALLONS OF WASH WATER ARE USED TO WASH ONE TRUCK CHUTE.
• APPROXIMATELY 50 GALLONS ARE USED TO WASH OUT THE HOPPER OF A CONCRETE PUMP TRUCK
• WASHOUT OF CONCRETE TRUCKS SHALL BE PERFORMED IN DESIGNATED AREAS ONLY.
• CONCRETE WASHOUT FROM CONCRETE PUMPER BINS CAN BE WASHED INTO CONCRETE PUMPER TRUCKS AND DISCHARGED INTO DESIGNATED WASHOUT AREA OR PROPERLY DISPOSED OF OFFSITE.
• ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE SHOULD BE BROKEN UP, REMOVED, AND DISPOSED OF PER APPLICABLE SOLID WASTE REGULATIONS. DISPOSE OF HARDENED CONCRETE ON A REGULAR BASIS.

TEMPORARY ABOVE-GRADE CONCRETE WASHOUT FACILITY
• TEMPORARY CONCRETE WASHOUT FACILITY (TYPE ABOVE GRADE) SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAILS WITH A RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FT., BUT WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
• PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
• LINER SEAMS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
• SOIL BASE SHALL BE PREPARED FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE PLASTIC LINING MATERIAL.

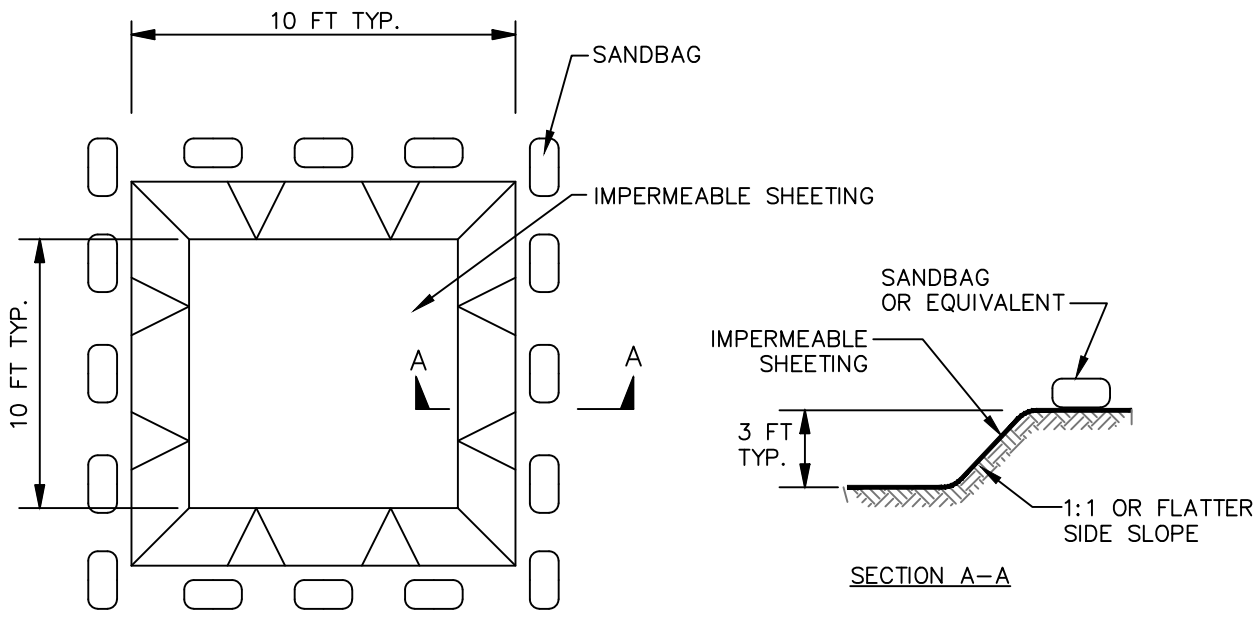
TEMPORARY BELOW-GRADE CONCRETE WASHOUT FACILITY
• TEMPORARY CONCRETE WASHOUT FACILITIES (TYPE BELOW GRADE) SHOULD BE CONSTRUCTED WITH A RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FT. THE QUANTITY AND VOLUME SHOULD BE SUFFICIENT TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.
• PLASTIC LINING MATERIAL SHALL BE A MINIMUM OF 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
• LINER SEAMS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
• SOIL BASE SHALL BE PREPARED FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE PLASTIC LINING MATERIAL.

INSPECTION AND MAINTENANCE
• INSPECT AND VERIFY THAT CONCRETE WASHOUT BMPS ARE IN PLACE PRIOR TO THE COMMENCEMENT OF CONCRETE WORK.
• DURING PERIODS OF CONCRETE WORK, INSPECT DAILY TO VERIFY CONTINUED PERFORMANCE.
• CHECK OVERALL CONDITION AND PERFORMANCE.
• CHECK REMAINING CAPACITY (¾ FULL).
• IF USING SELF-INSTALLED WASHOUT FACILITIES, VERIFY PLASTIC LINERS ARE INTACT AND SIDEWALLS ARE NOT DAMAGED.
• IF USING PREFABRICATED CONTAINERS, CHECK FOR LEAKS.
• WASHOUT FACILITIES SHALL BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF 12 INCHES.
• WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.
• IF THE WASHOUT IS NEARING CAPACITY, VACUUM AND DISPOSE OF THE WASTE MATERIAL IN AN APPROVED MANNER.
• DO NOT DISCHARGE LIQUID OR SLURRY TO WATERWAYS, STORM DRAINS OR DIRECTLY ONTO GROUND.
• DO NOT USE SANITARY SEWER WITHOUT LOCAL APPROVAL.
• PLACE A SECURE, NON-COLLAPSING, NON-WATER COLLECTING COVER OVER THE CONCRETE WASHOUT FACILITY PRIOR TO PREDICTED WET WEATHER TO PREVENT ACCUMULATION AND OVERFLOW OF PRECIPITATION.
• REMOVE AND DISPOSE OF HARDENED CONCRETE AND RETURN THE STRUCTURE TO A FUNCTIONAL CONDITION. CONCRETE MAY BE REUSED ONSITE OR HAULED AWAY FOR DISPOSAL OR RECYCLING.
• WHEN YOU REMOVE MATERIALS FROM THE SELF-INSTALLED CONCRETE WASHOUT, BUILD A NEW STRUCTURE; OR, IF THE PREVIOUS STRUCTURE IS STILL INTACT, INSPECT FOR SIGNS OF WEAKENING OR DAMAGE, AND MAKE ANY NECESSARY REPAIRS. RE-LINE THE STRUCTURE WITH NEW PLASTIC AFTER EACH CLEANING.

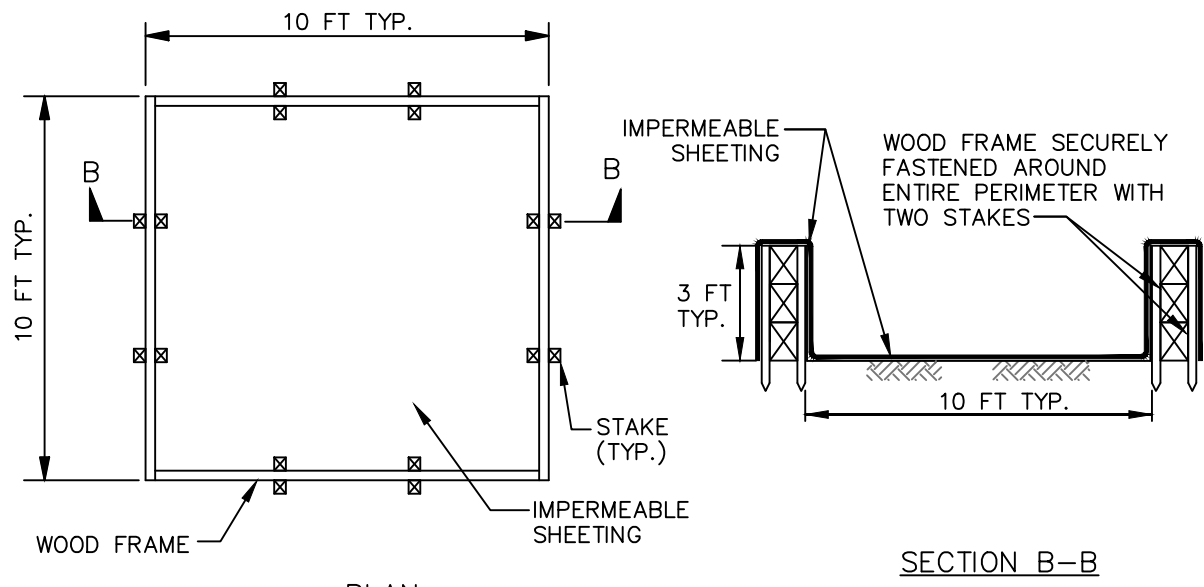
REMOVAL OF TEMPORARY CONCRETE WASHOUT FACILITIES
• WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE, SLURRIES AND LIQUIDS SHALL BE REMOVED AND PROPERLY DISPOSED OF.
• MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
• HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.

CONCRETE WASHDOWN AREA DETAIL
NOT TO SCALE

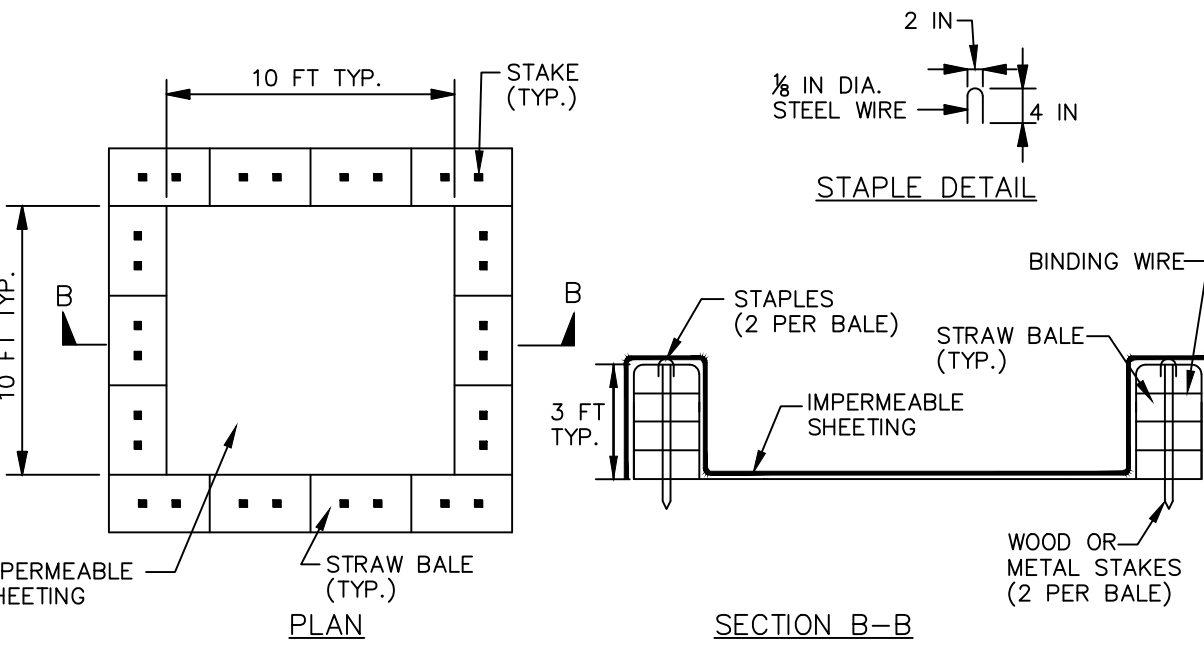
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EXCAVATED WASHOUT STRUCTURE



WASHOUT STRUCTURE WITH WOOD PLANKS

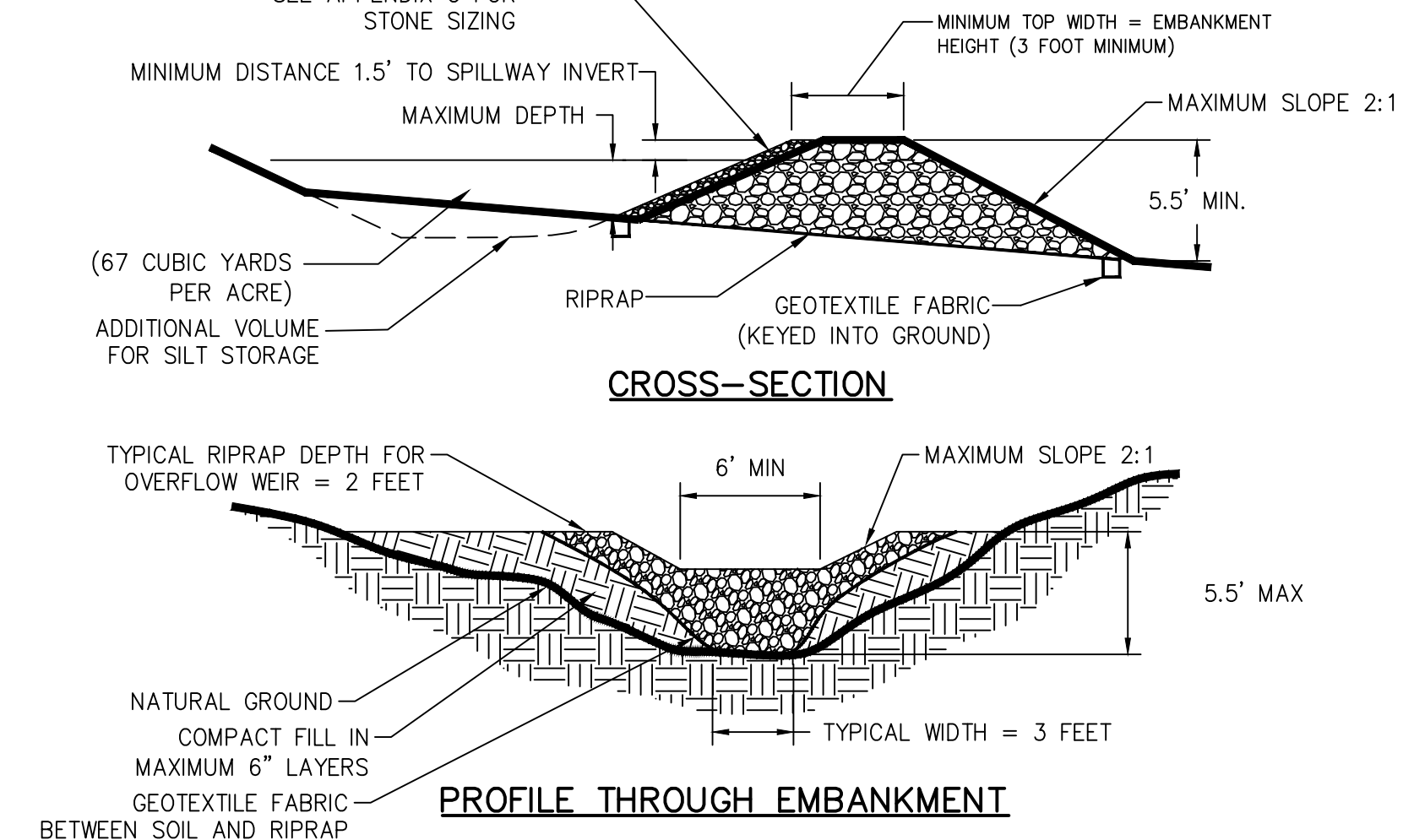
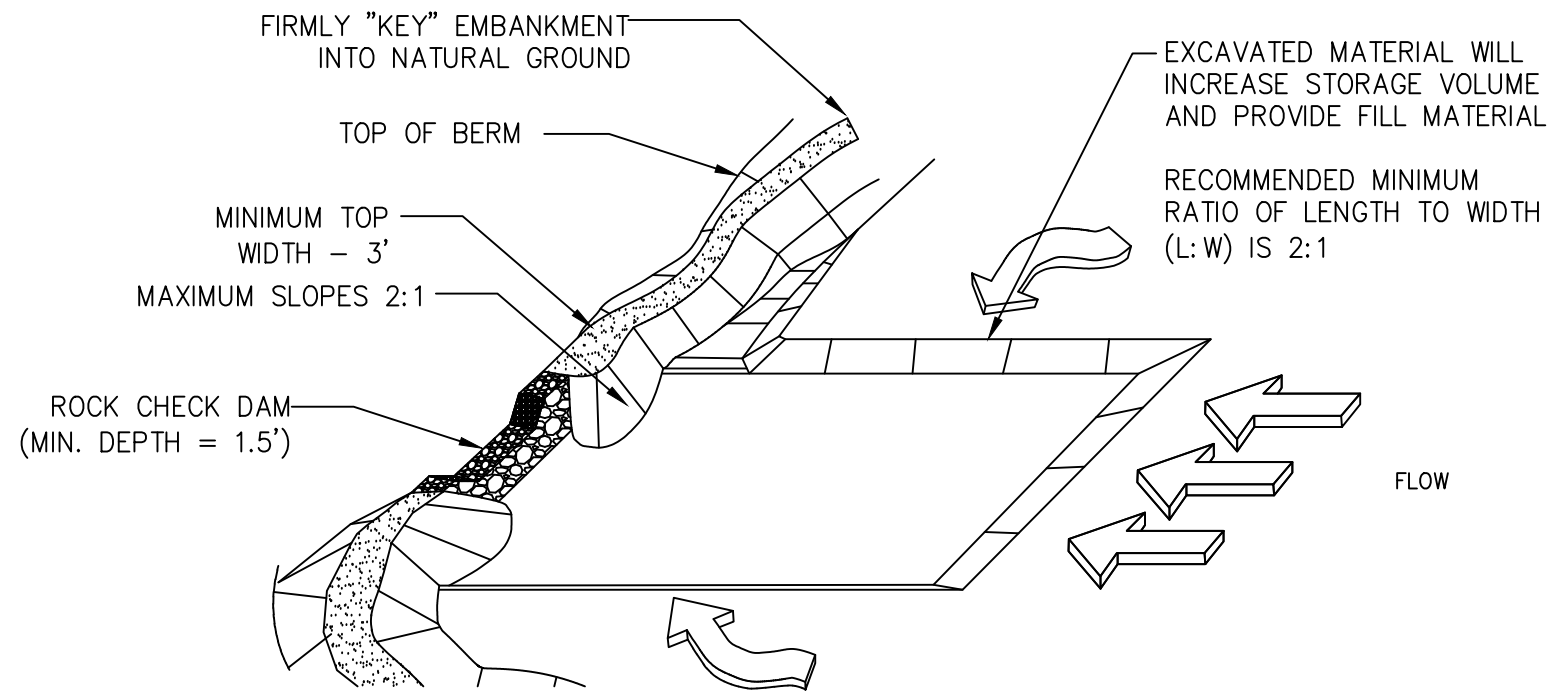


WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS

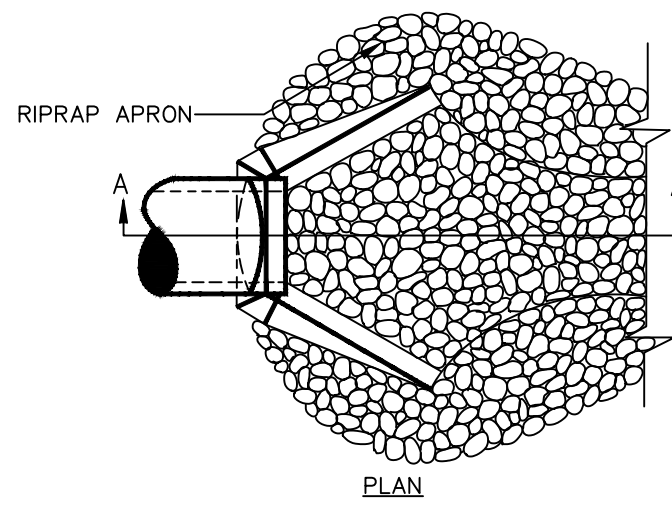
1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

NOTE: WASHOUT OF THE CONCRETE TRUCK DRUM AT THE CONSTRUCTION SITE IS PROHIBITED.

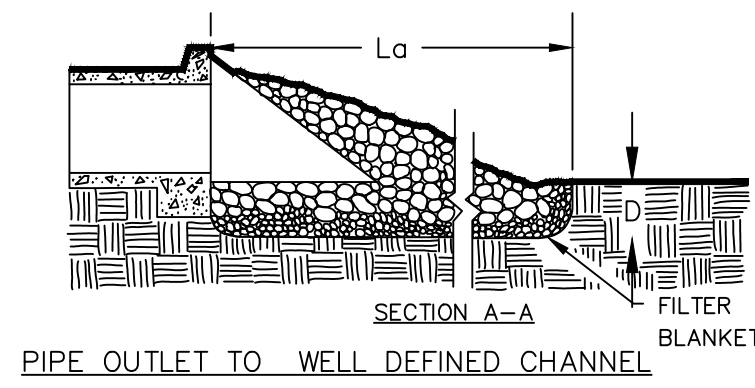


TEMPORARY SEDIMENT TRAP ROCK OUTLET
NOT TO SCALE

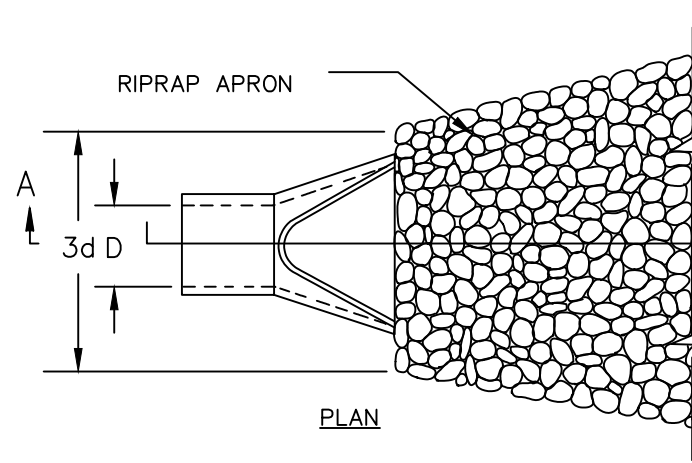
Sd4-C



PIPE OUTLET TO WELL DEFINED CHANNEL

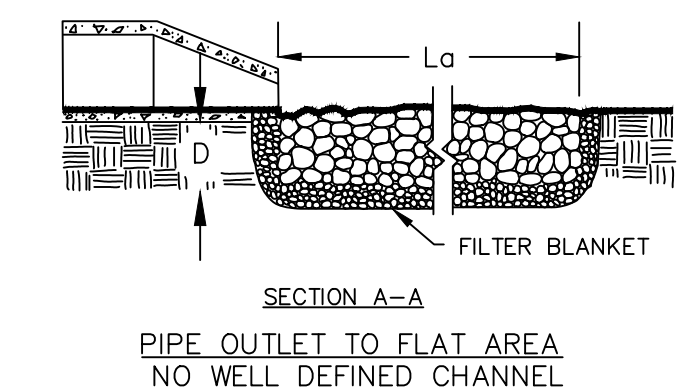


PIPE OUTLET TO WELL DEFINED CHANNEL



PIPE OUTLET TO FLAT AREA

NO WELL DEFINED CHANNEL



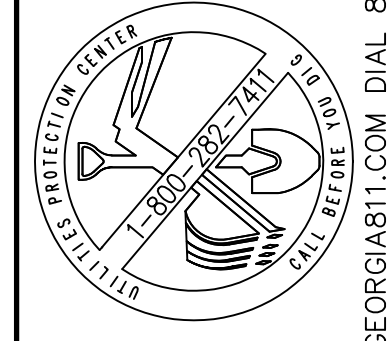
PIPE OUTLET TO FLAT AREA

NO WELL DEFINED CHANNEL

- NOTES:
1. L_a 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
NOT TO SCALE

St



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HINESVILLE:
114 North Commerce Street
Hinesville, Georgia 31033
(912) 365-5664
STATESBORO:
302 S Zettrower Avenue
Statesboro, Georgia 30458
(912) 335-1046



MCINTOSH LAKE ROAD
STATE ROUTE 38 (U.S. HIGHWAY 84)
INTERSECTION IMPROVEMENTS

SHEET NAME:
ES&PC DETAILS

REVISIONS:
1. 08/28/2025 GDOT #1
2. 01/02/2026 GDOT #2
3. 07/17/2026 MOD
4.
5.
6.
7.
8.
9.
10.

INITIAL DATE: 8/11/2025
DRAWN BY: JEL
CHECKED BY: TKL
PROJECT #: 2024-246

SHEET NUMBER:

C7.3

CATCH BASIN (IF CATCH BASIN HAS LONGITUDINAL PIPE OVER 24", SEE DETAILS AT RIGHT)

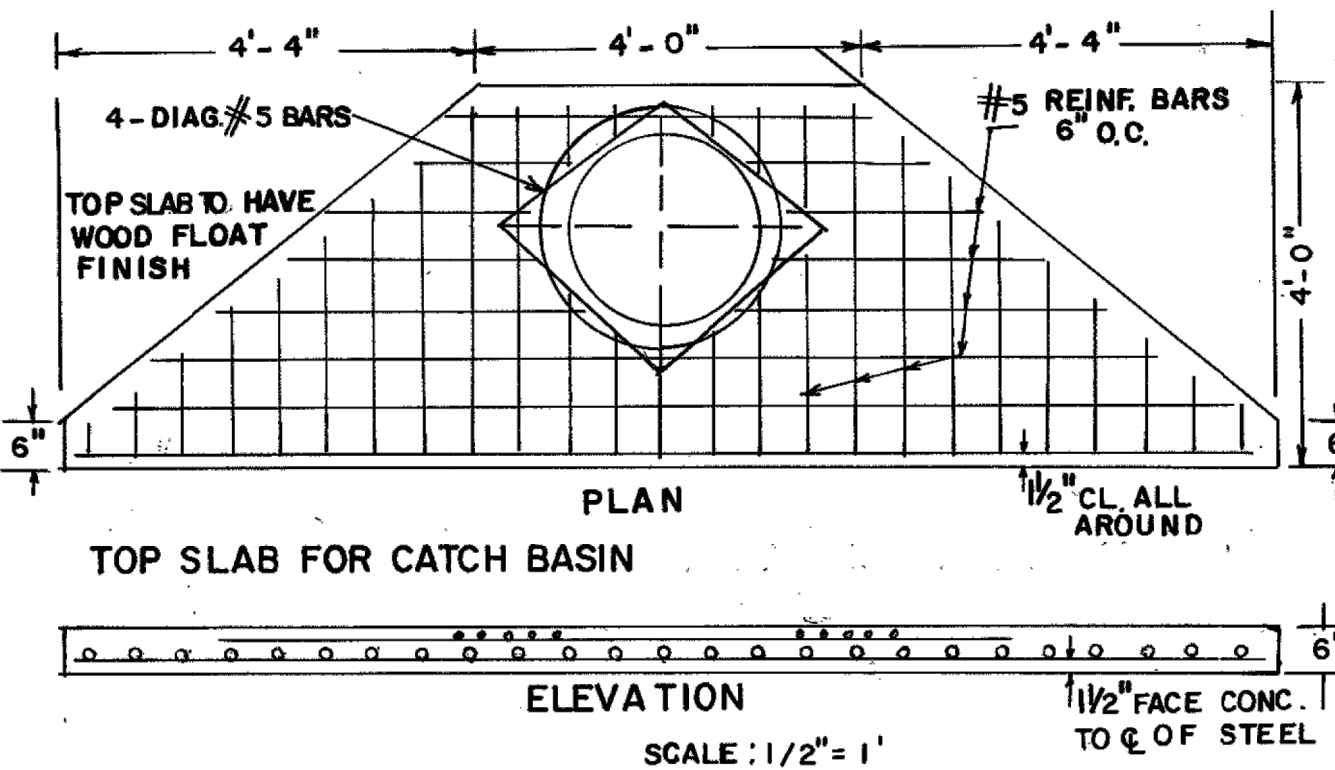
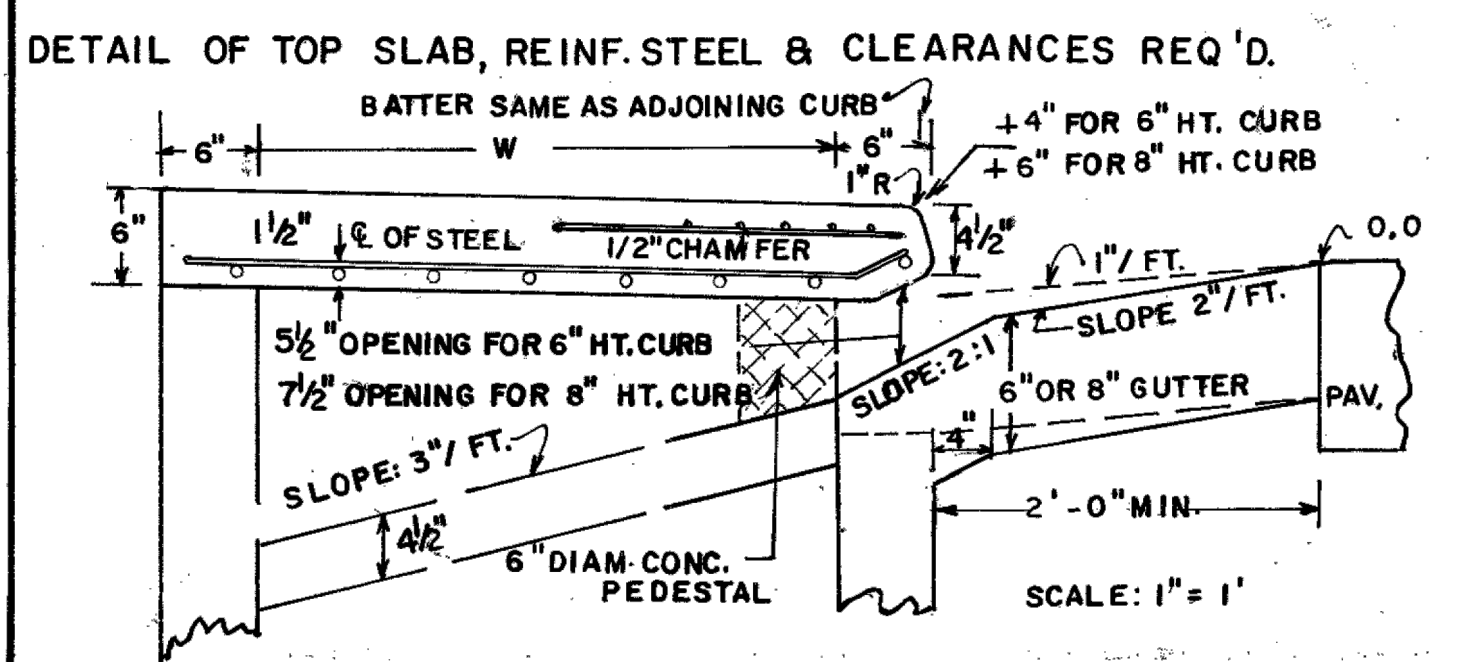
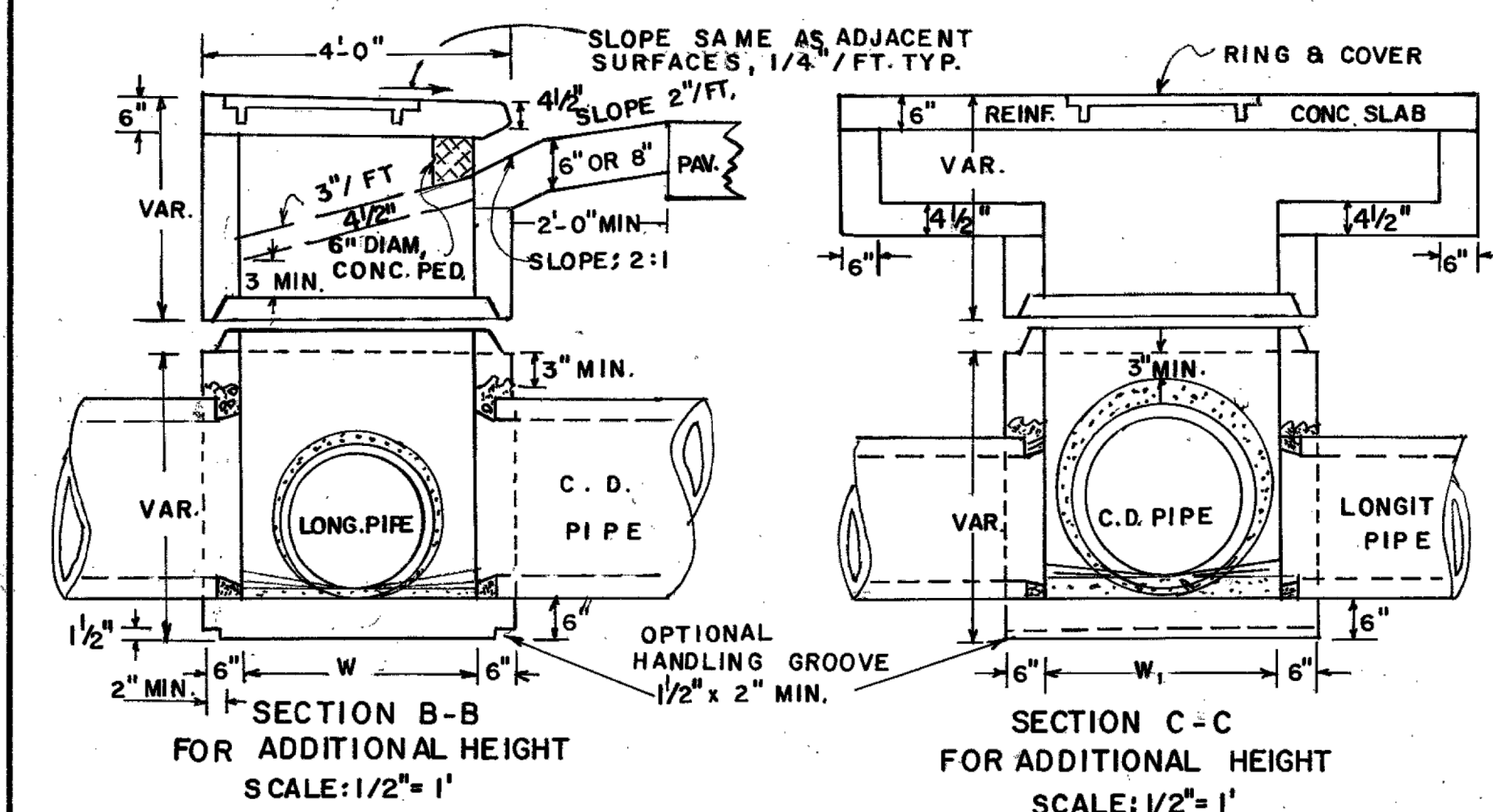
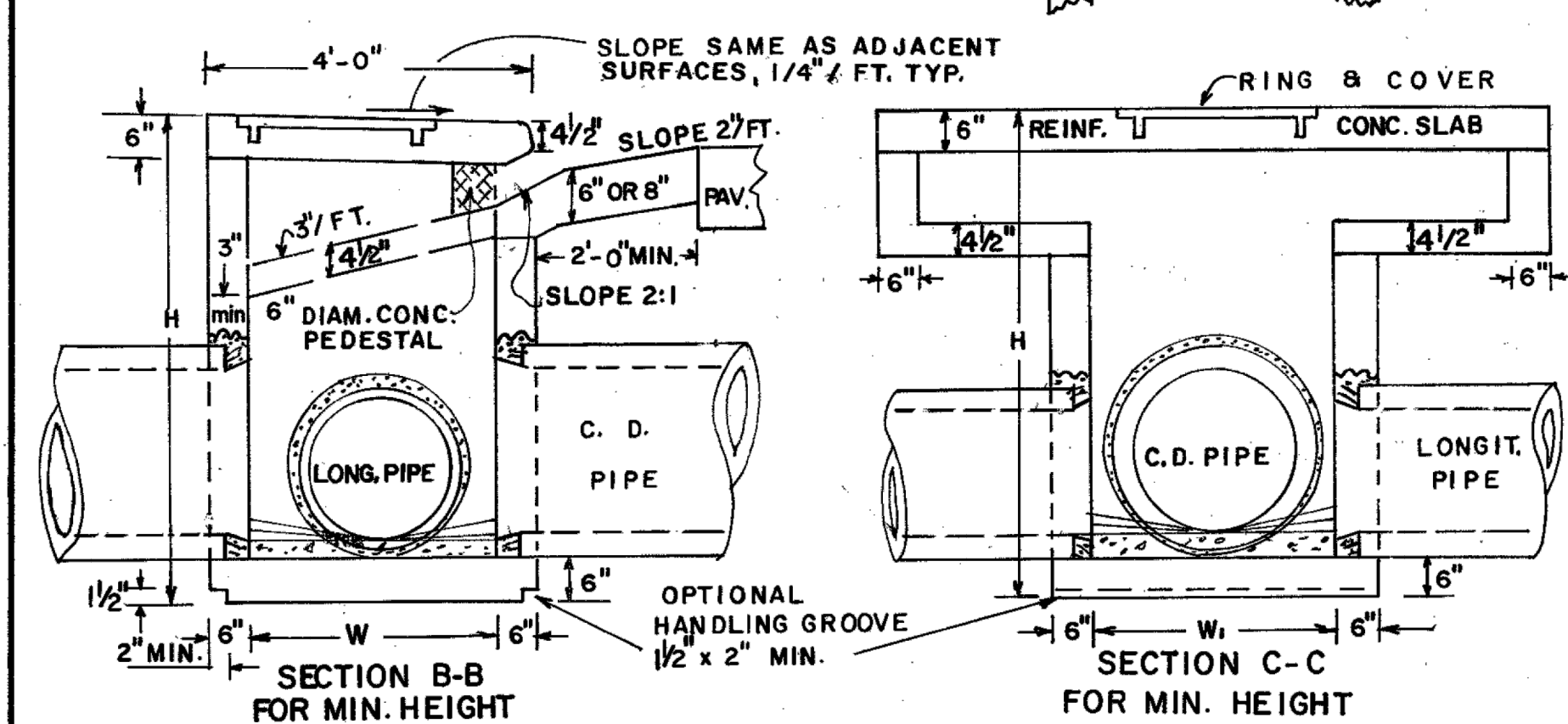
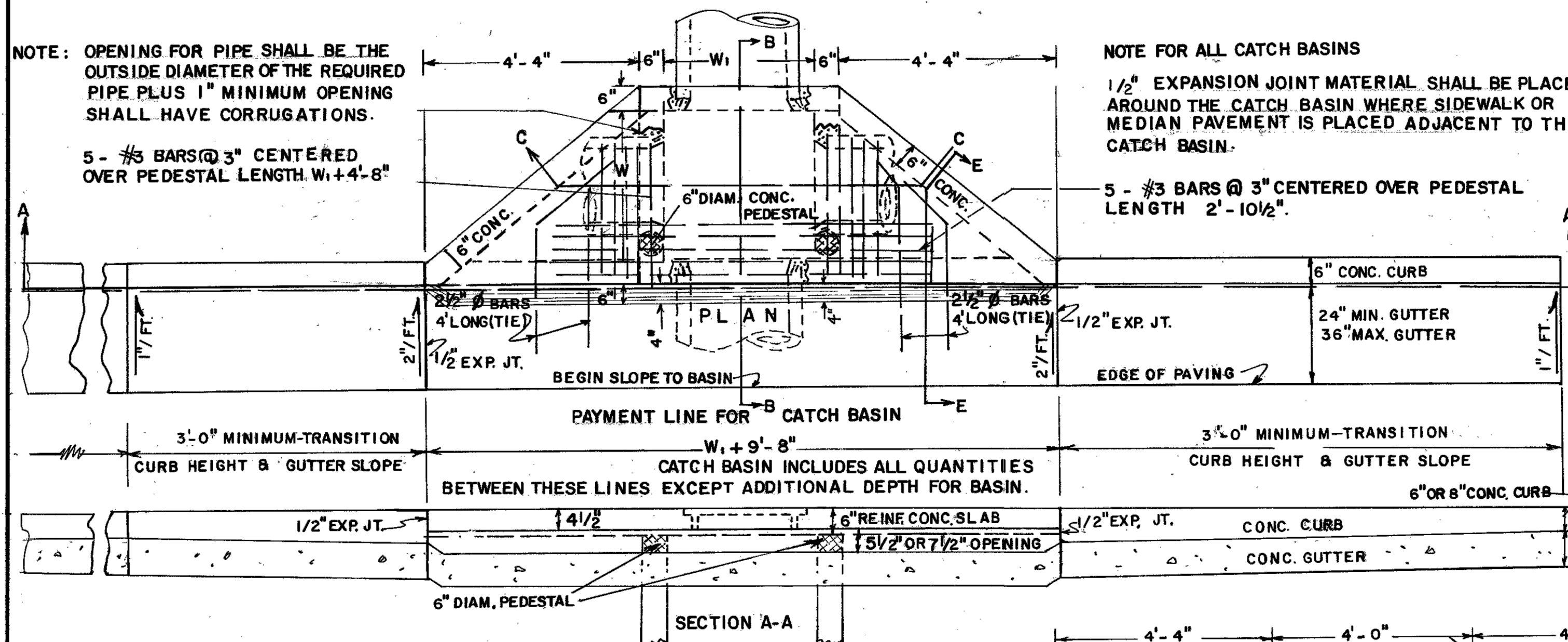
NOTE: OPENING FOR PIPE SHALL BE THE OUTSIDE DIAMETER OF THE REQUIRED PIPE PLUS 1" MINIMUM. OPENING SHALL HAVE CORRUGATIONS.

5 - #3 BARS @ 3" CENTERED OVER PEDESTAL LENGTH $W_1 + 4'-8"$

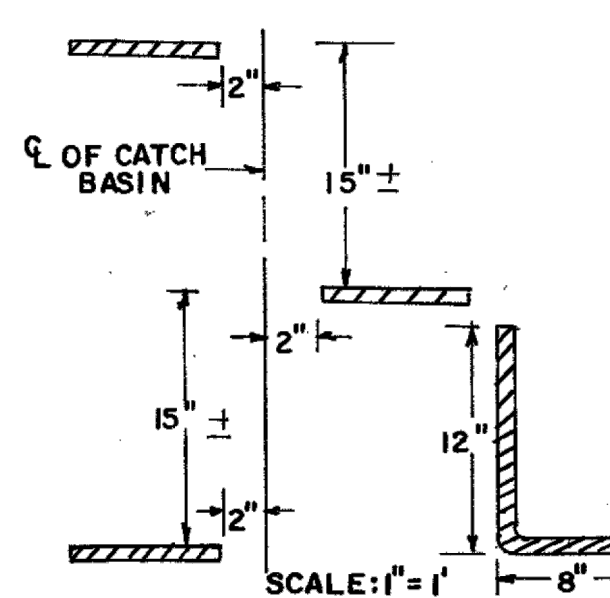
NOTE FOR ALL CATCH BASINS

1/2" EXPANSION JOINT MATERIAL SHALL BE PLACED AROUND THE CATCH BASIN WHERE SIDEWALK OR MEDIAN PAVEMENT IS PLACED ADJACENT TO THE CATCH BASIN.

5 - #3 BARS @ 3" CENTERED OVER PEDESTAL LENGTH $2'-10\frac{1}{2}"$



DETAIL AND ARRANGEMENT OF LADDER BARS



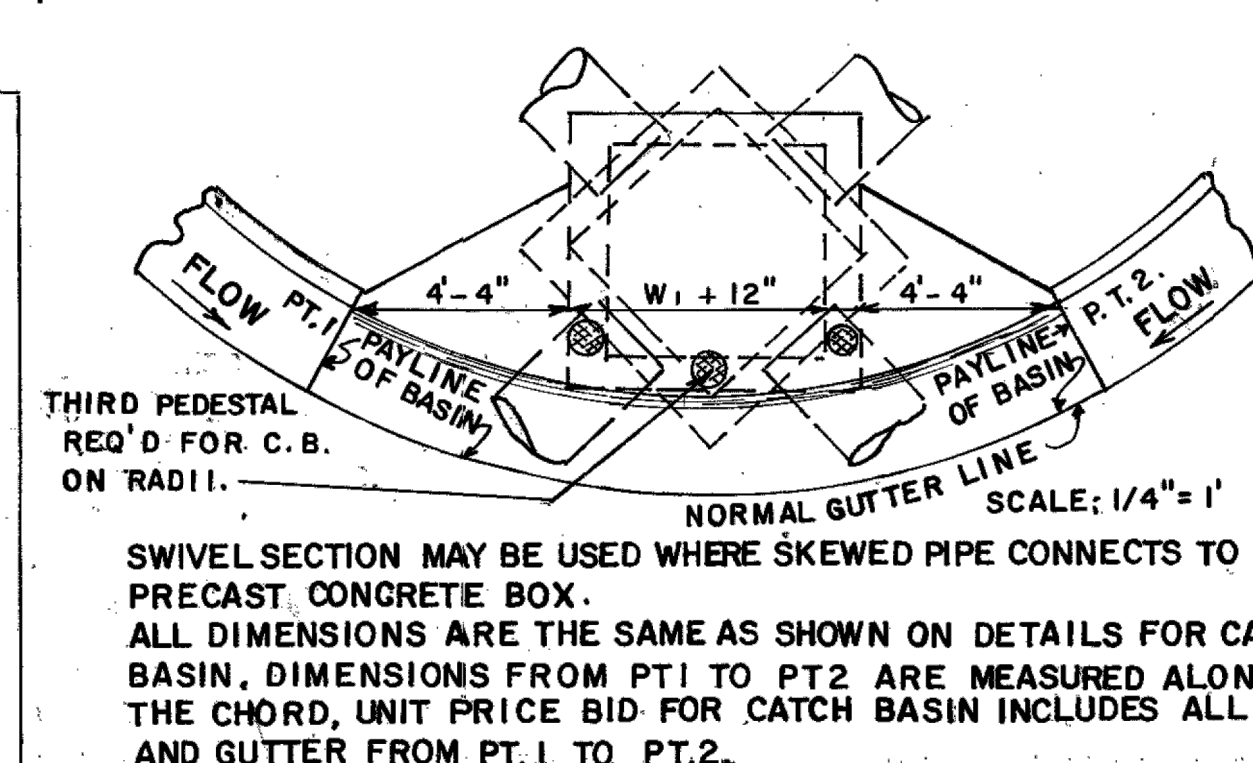
NOTE: NUMBER AND LOCATION OF LADDER BARS IN CATCH BASIN TO BE AS DIRECTED BY THE ENGINEER. M.H. STEPS LISTED IN GA. D.O.T. LABORATORY'S QUALIFIED PRODUCTS LIST MAY BE SUBSTITUTED.

METHOD OF CONNECTING PIPE (WHERE CONC. PIPE HAS TO BE CUT)

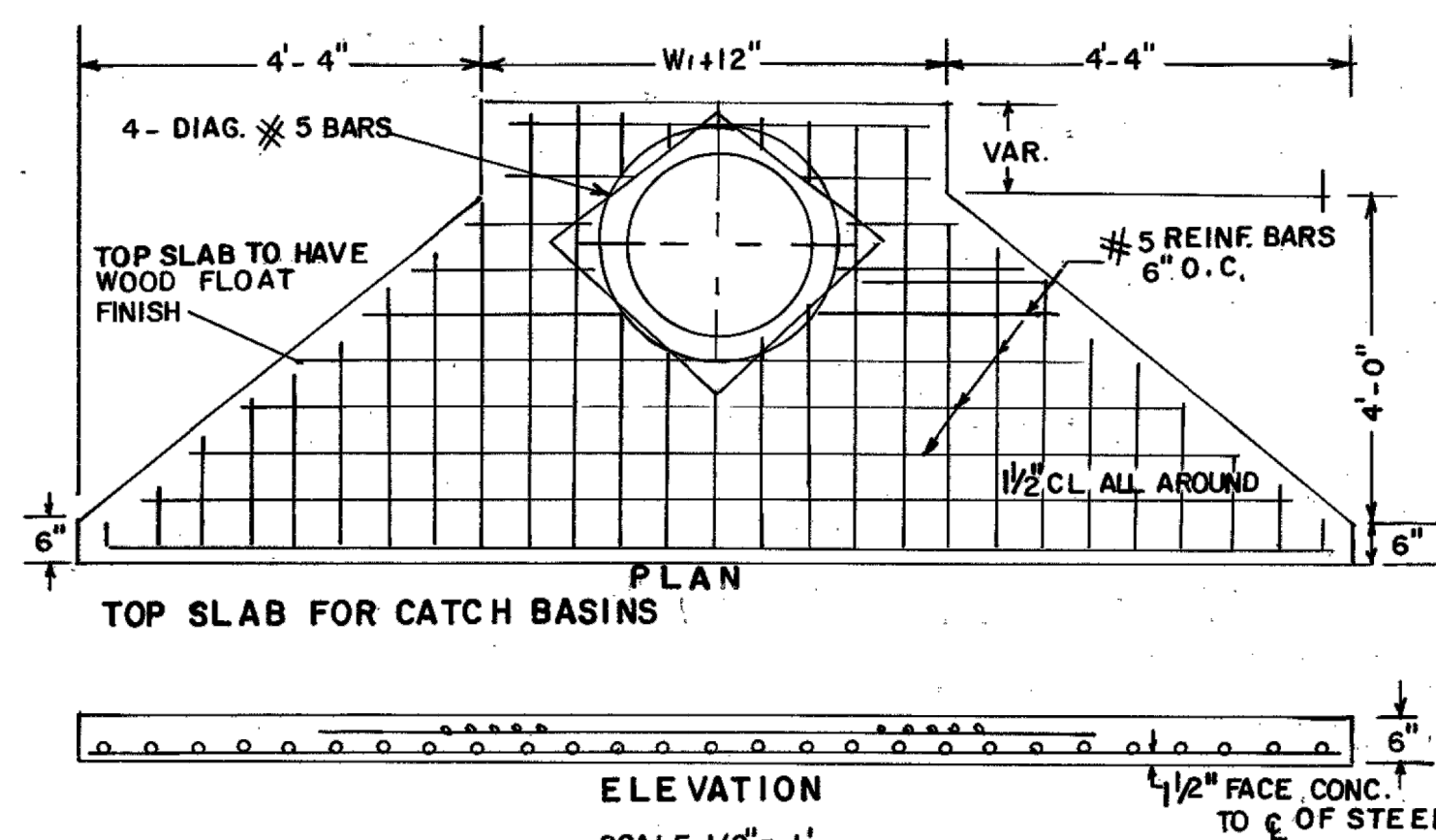
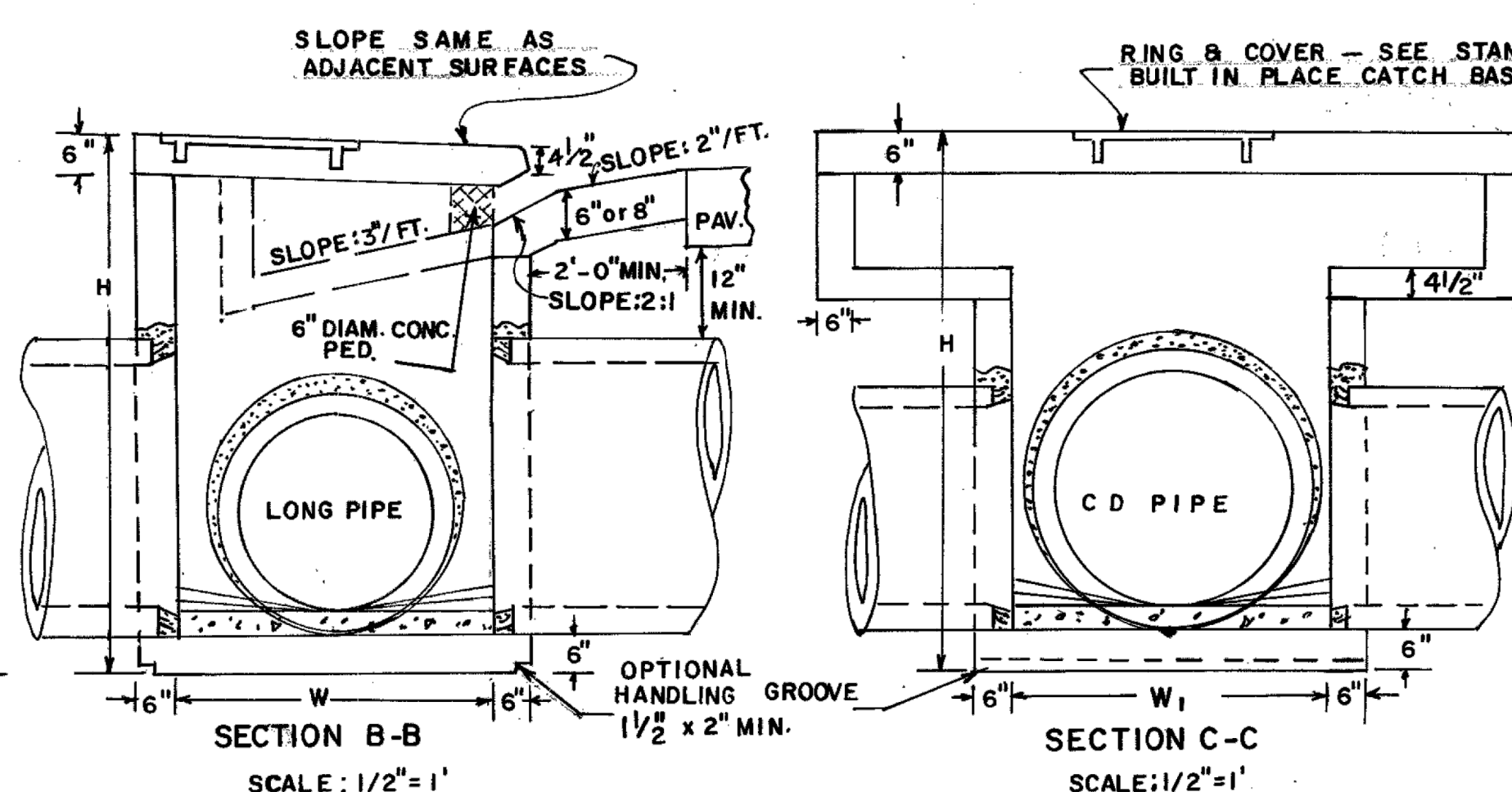
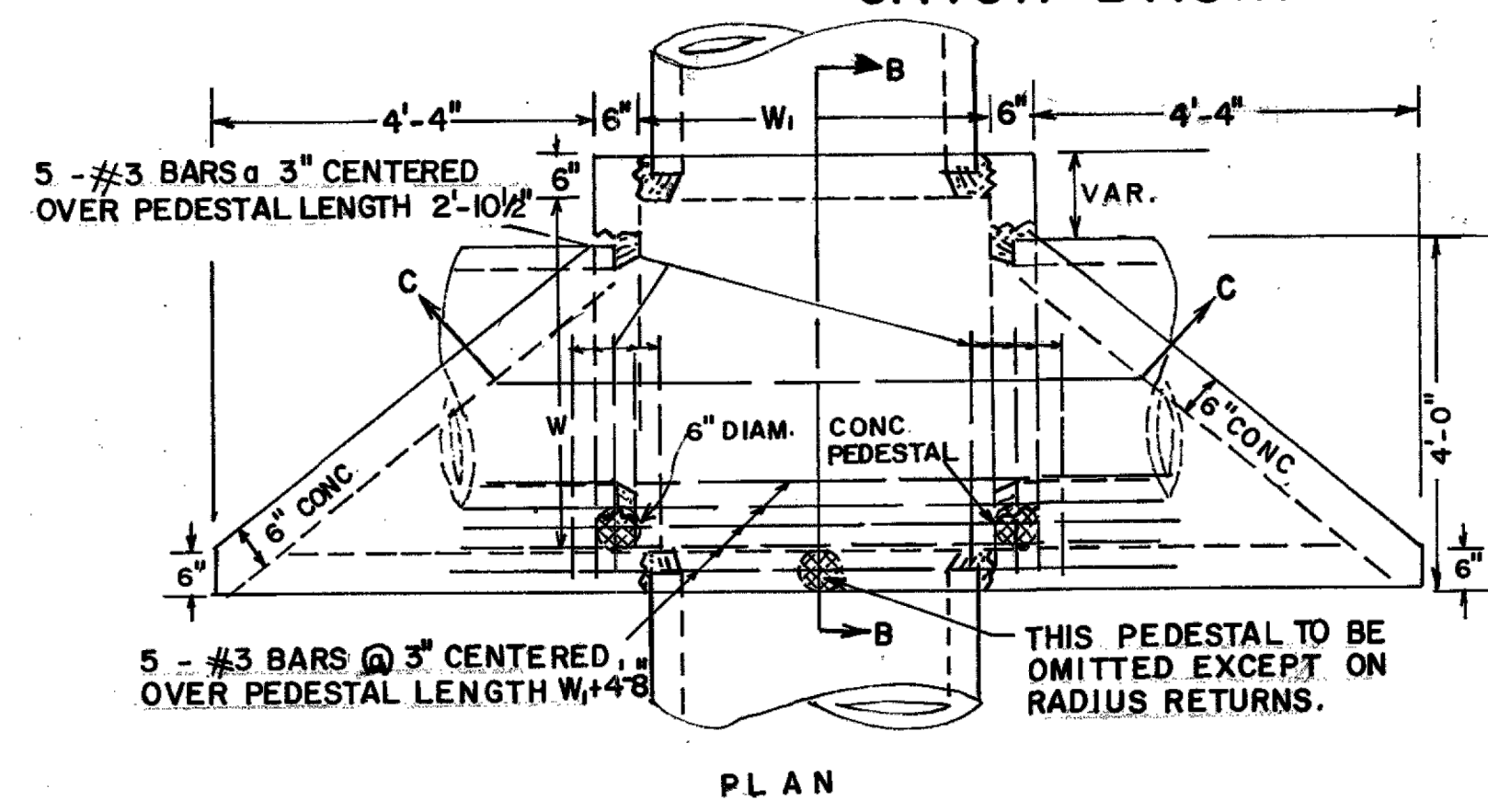
STEP 1: CUT CONCRETE PIPE LEAVING APPROXIMATELY 3" OF REINFORCING MESH EXPOSED

STEP 2: POSITION PIPE APPROXIMATELY 3" INTO OPENING OF WALL.

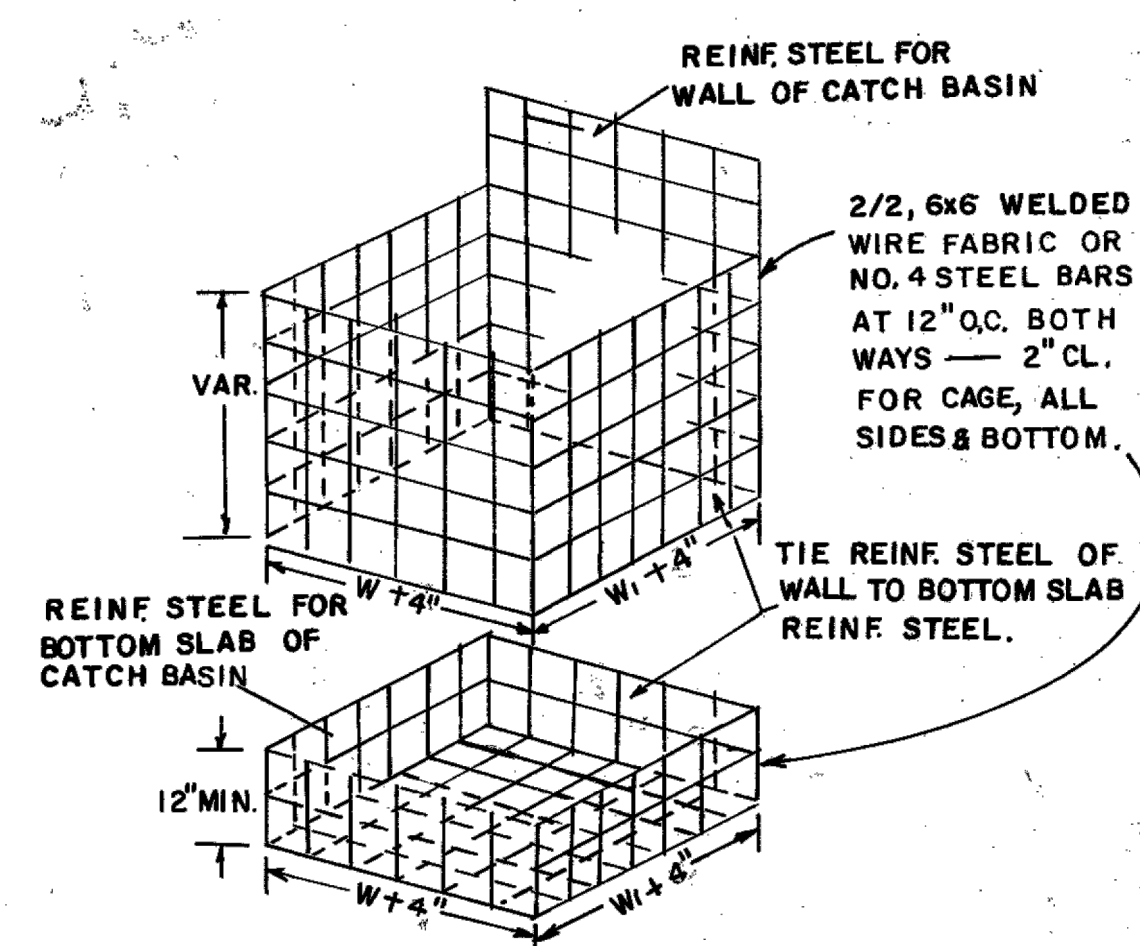
STEP 3: POSITION CONICAL CONE INSIDE OF PIPE AND SEAL WITH GROUT. (1/2" MIN. THICKNESS OF GROUT). REMOVE CORE WHEN SET AND RUB GROUT TO SEAL JOINTS.



CATCH BASIN (TYPICAL FOR CATCH BASIN WITH LONGITUDINAL PIPE OVER 24")



REINFORCING - ISOMETRIC VIEW



NOTE: REINFORCING SHOWN ABOVE IS REQUIRED FOR BOX SHAPED BASIN. REINFORCING FOR CIRCULAR PRECAST ALTERNATE SHALL BE ACCORDING TO STD. 1040.

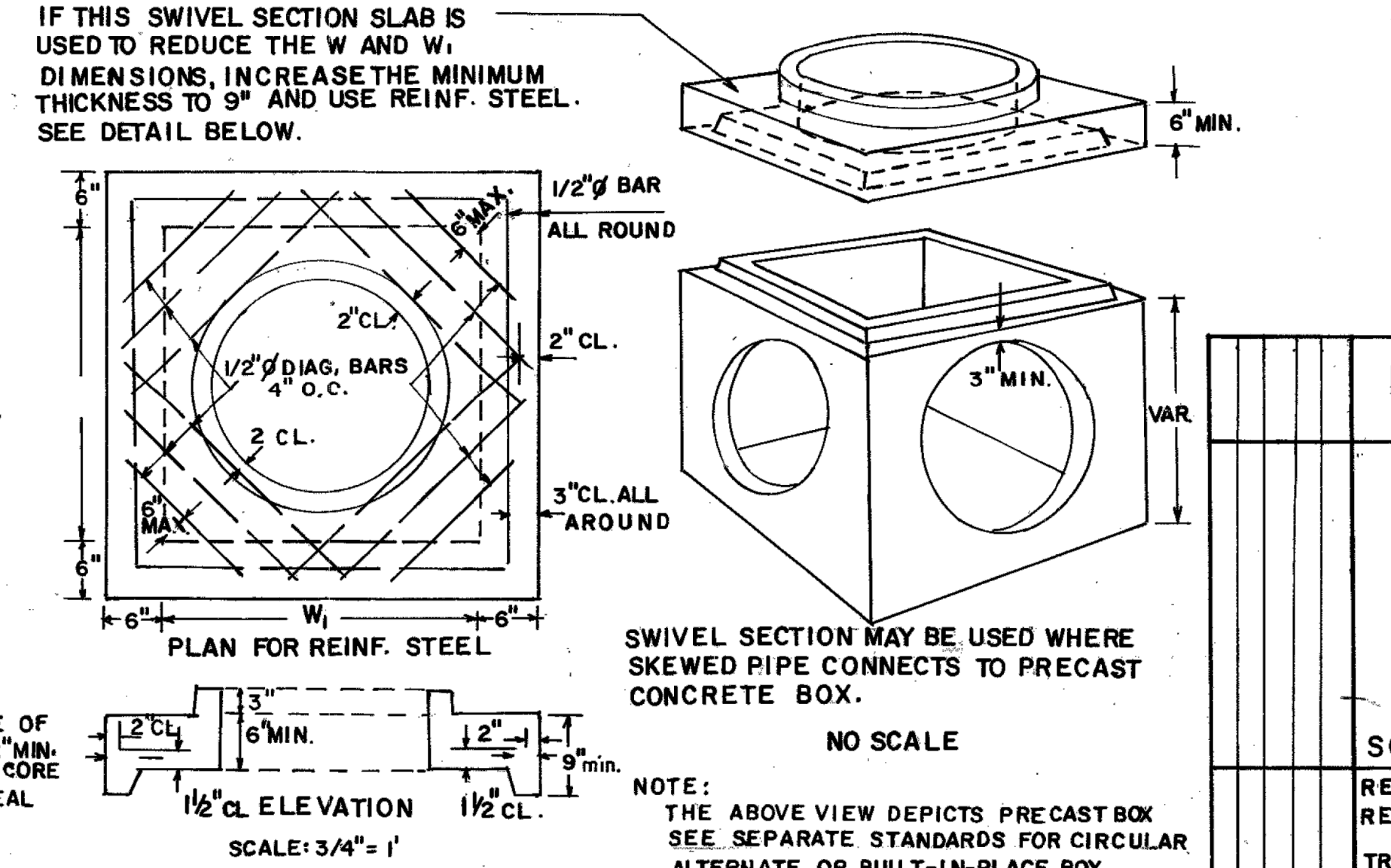
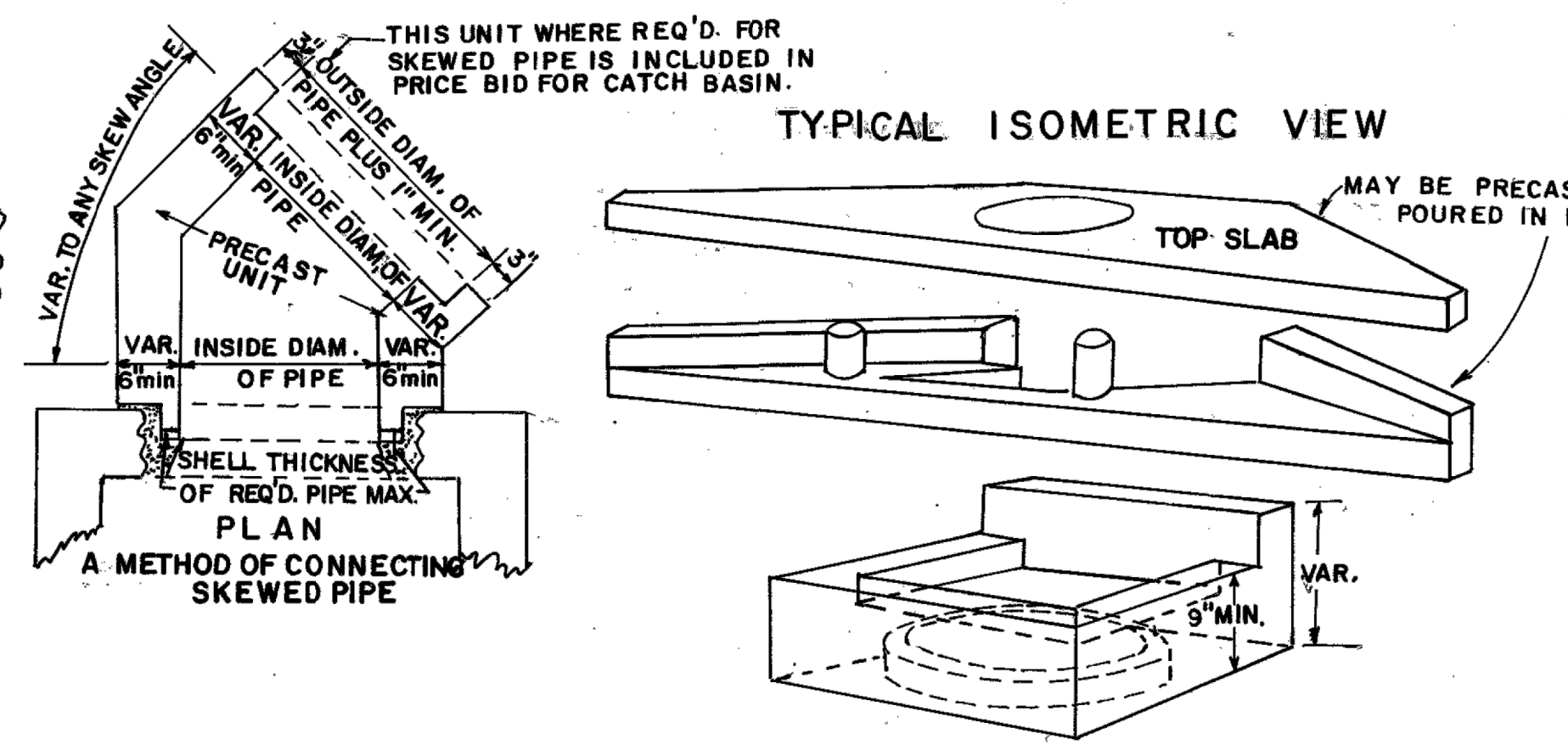
ALL JOINTS BETWEEN PRECAST RISERS OR BETWEEN PRECAST BASE AND RISER WILL BE KEYS. KEYS JOINTS SHOWN ARE TYPICAL AND MAY BE VARIED.

DIMENSIONS FOR CATCH BASINS		
PIPE SIZE	NORMAL W or W ₁	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 & W₁ 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

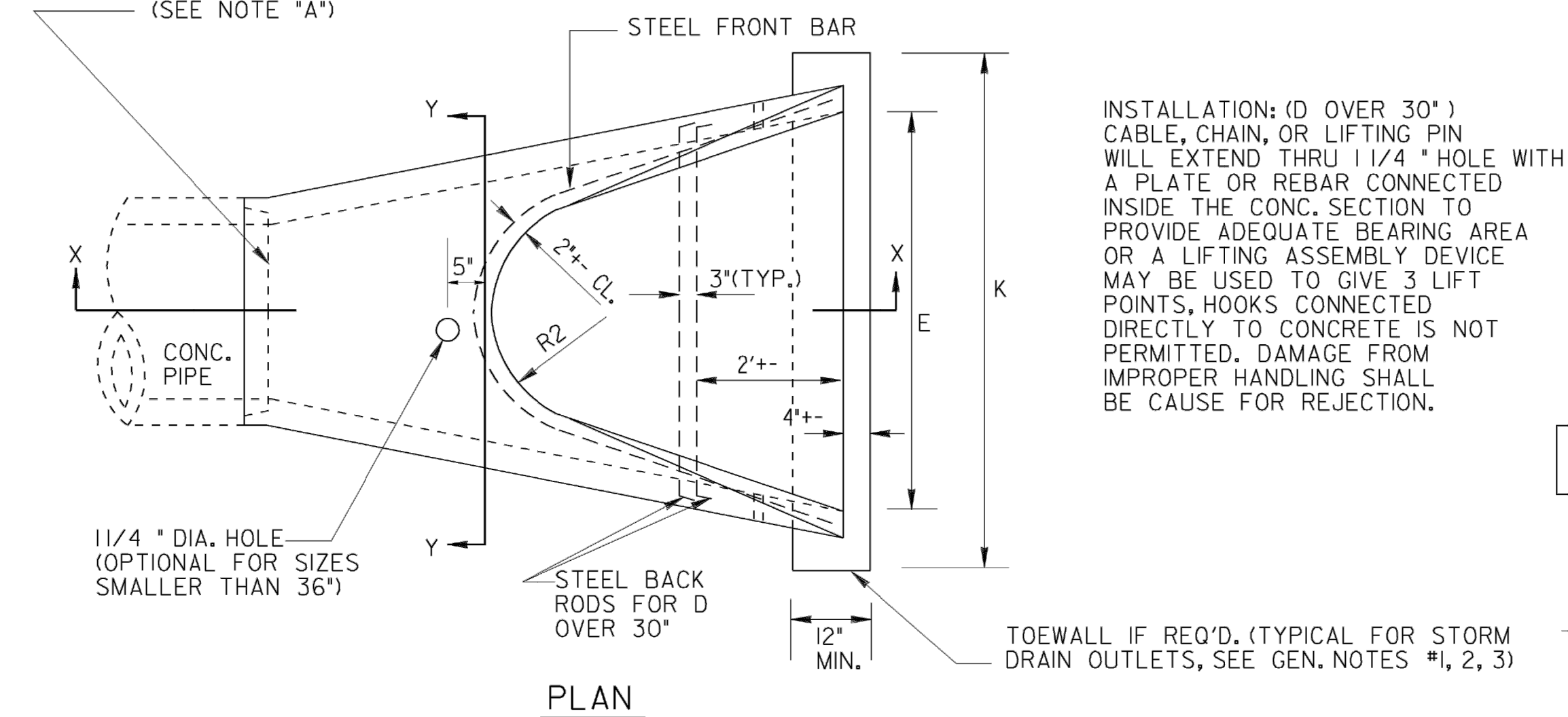
REV. & REDR., SEPT. 1982

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

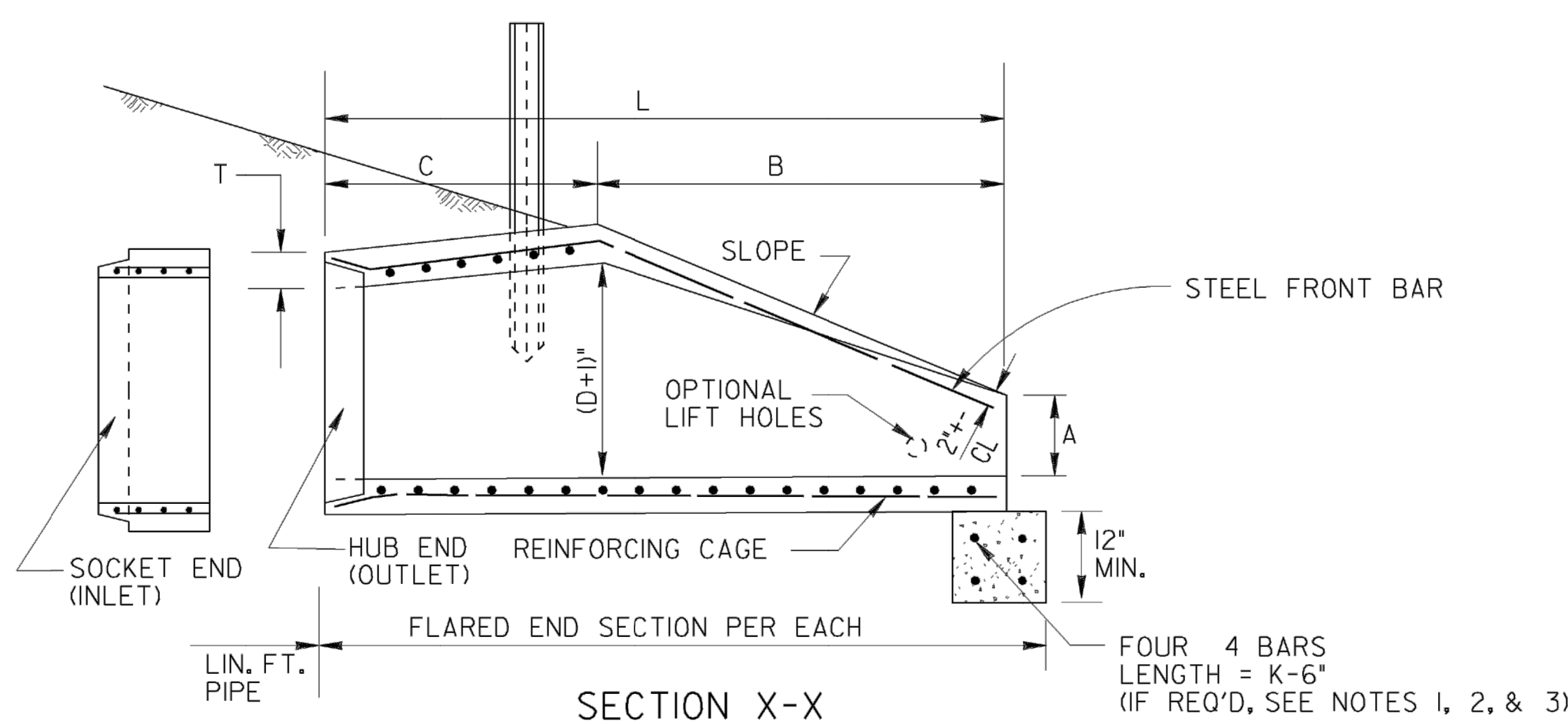
NUMBER 1034D PRECAST

END SECTION TO PIPE JOINT SHOWN AS TYPICAL:
HUB END ON OUTLET END SECTIONS;
SOCKET END ON INLET END SECTIONS
(SEE NOTE "A")

CONCRETE FLARED END SECTION



NOTE: DO NOT CUT CONCRETE PIPE. USE FULL LENGTH SECTIONS ONLY.
WARP SLOPE TO CONFORM WITH PIPE LENGTH AND END SECTION.



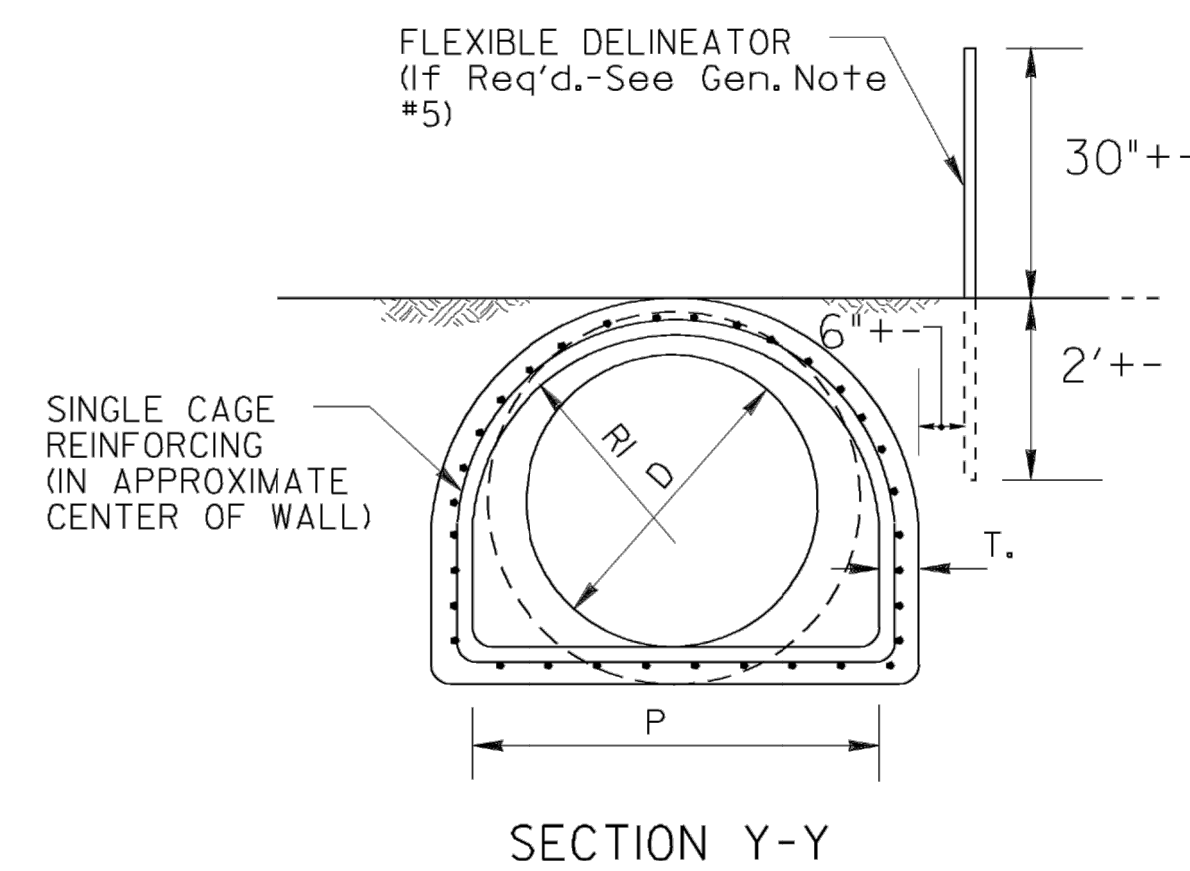
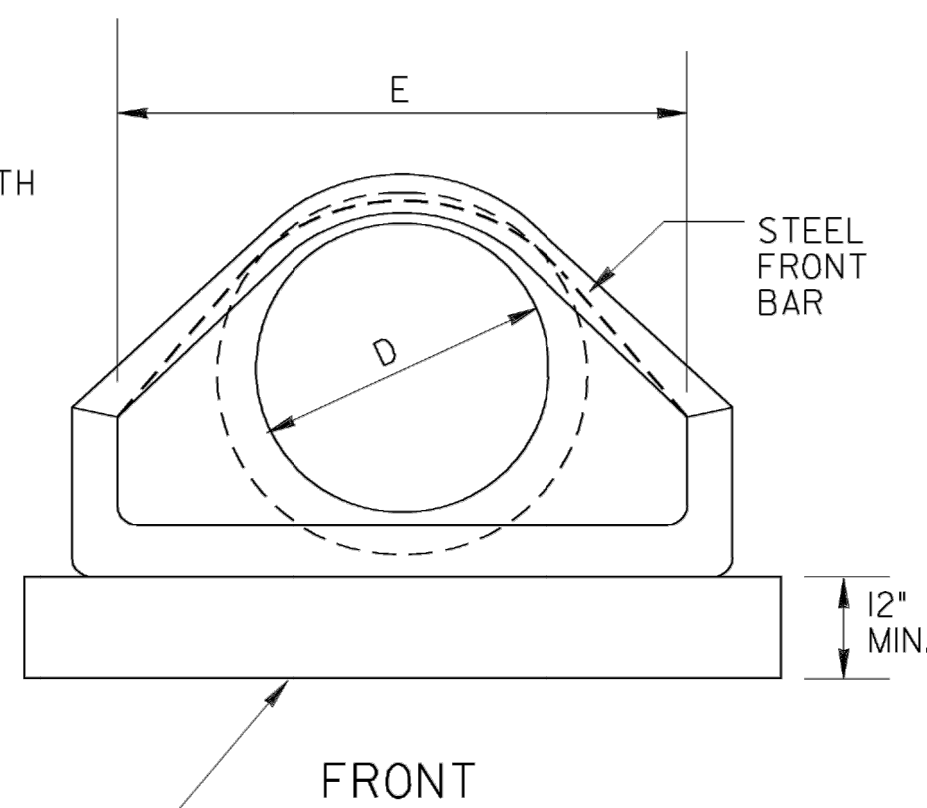
NOTE "A":
CONTRACTOR WILL INFORM PRODUCER IF CONCRETE FLARED END SECTION IS FOR
INLET OR FOR OUTLET END. SOCKET (TONGUE OR SPIGOT) END IS REQUIRED FOR INLETS.
HUB (GROOVE OR BELL) END IS REQUIRED FOR OUTLETS. SOCKET TO SOCKET OR HUB TO
HUB JOINT WILL NOT BE ACCEPTED UNLESS A REINFORCED CONCRETE COLLAR IS
BUILT AROUND THE JOINT WITH NO PAYMENT BEING MADE FOR THE COLLAR.
FLARED END SECTIONS SHALL BE JOINTED TO PIPE WITH ALL SPACE IN THE JOINT FILLED WITH EITHER BITUMINOUS
PLASTIC CEMENT OR PREFORMED PLASTIC GASKET (SEC. 848).

WALL THICKNESS (T) IS SHOWN AS NOMINAL AND MAY BE INCREASED AT PRODUCER'S OPTION FOR DESIRED JOINT
DESIGN OR TO ALLOW A FLAT OUTSIDE BOTTOM ON THE FLARE, WITH INSIDE DIMENSIONS OF FLARE RETAINED AS SHOWN.
T = PIPE WALL THICKNESS (0.0833D + 1" ± TYPICAL)

DIMENSIONS AND REINFORCING FOR CONCRETE FLARED END SECTIONS (+/- 1" TOLERANCE)												OUTLET TOEWALL (IF REQ'D)	
PIPE DIA	FRONT BAR	BACK RODS	SLOPE +/-	A	B	C •	L •	E	P	R1	R2	K= E + 2'	CU.YDS. CONC.
12"	1-#3 x 5' 4"	NOT REQ'D.	2.2%	4"	2'0"	4' 1"	6'1"	2'0"	1'8"	10"	9"	4'-0"	.148
15"	1-#3 x 6' 0"	NOT REQ'D.	2.2%	6"	2'3"	3'10"	6'1"	2'6"	2'0"	1'0"	11"	4'-6"	.167
18"	1-#3 x 7' 2"	NOT REQ'D.	2.2%	9"	2'3"	3'10"	6'1"	3'0"	2'5"	1'4"	1'0"	5'-0"	.185
24"	1-#3 x 9' 10"	NOT REQ'D.	2.4%	10"	3'8"	2' 6"	6'2"	4'0"	2'9"	1'5"	1'2"	6'-0"	.222
30"	1-#4 x 11' 8"	NOT REQ'D.	2.4%	12"	4'6"	1' 8"	6'2"	5'0"	3'1"	1'6"	1'3"	7'-0"	.259
36"	1-#4 x 13' 10"	2-#4 x 6'3"	2.4%	15"	5'3"	2'11"	8'2"	6'0"	4'0"	2'0"	1'8"	8'-0"	.296
42"	1-#4 x 13' 10"	2-#4 x 7'4"	2.4%	21"	5'3"	2'11"	8'2"	6'6"	4'6"	2'4"	1'10"	8'-6"	.315

NOTE: SPECIFIED REINFORCING IS MINIMAL AND MAY BE INCREASED AT PRODUCER'S OPTION TO
AID CASTING & HANDLING. ALTERNATE REINFORCEMENT PERMITTED IF APPROVED.

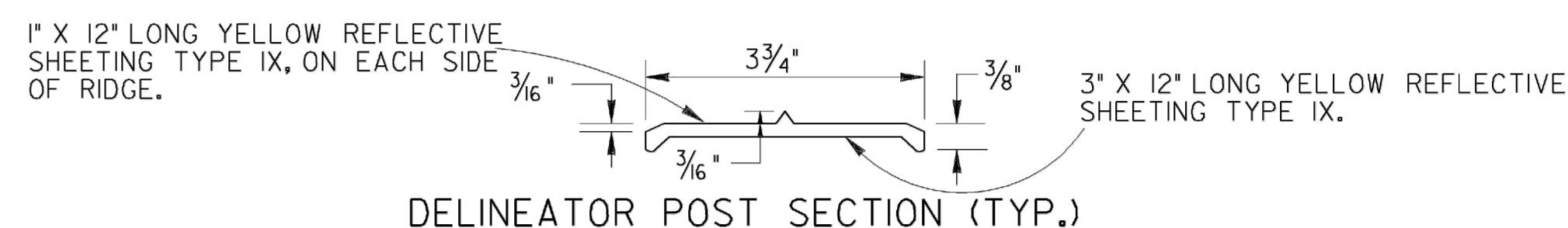
* NOTE: "C" AND "L" DIMENSION MAY BE MEASURED TO EITHER END OF JOINT
CONNECTION AT PIPE.



SPECIAL NOTE:
FLARED END SECTIONS ARE NORMALLY LIMITED TO
USE OUTSIDE THE CLEAR ZONE OR BEHIND BARRIER AND
WHERE HYDRAULICS PERMIT. SEE OTHER STANDARDS OR
DETAILS FOR TAPERED HEADWALLS, SAFETY SLOPE END
SECTIONS OR OTHER PIPE END STRUCTURES.

GENERAL NOTES :

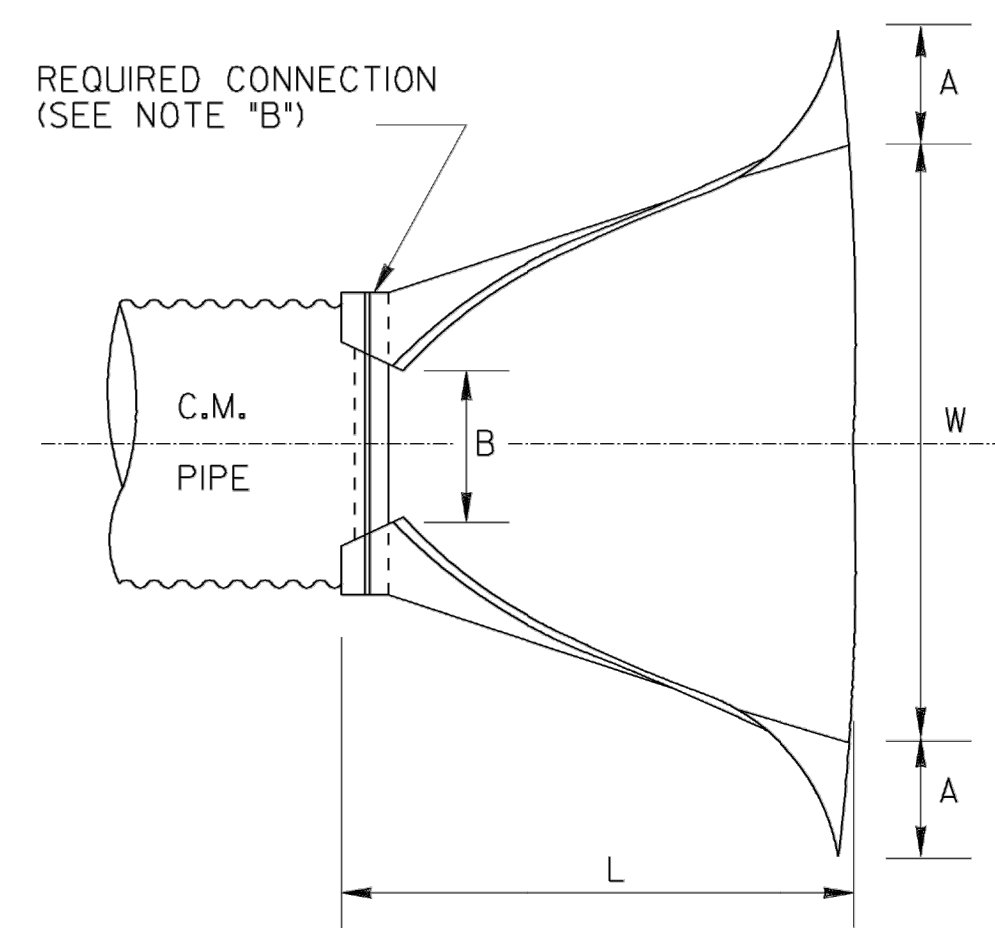
- TOEWALLS ARE REQ'D. FOR OUTLETS OF CONC. STORM DRAINS, EXCEPT WHERE DITCH PAVING OR OTHER EROSION PROTECTION
IS PROVIDED OR WHERE THE OUTLET VELOCITY IS LESS THAN 8 FT/SEC. TOEWALLS ARE NOT REQUIRED FOR SIDE DRAINS,
SLOPE DRAINS OR INLETS OF STORM DRAINS THIS CRITERIA MAY BE VARIED WHERE SPECIFIED BY THE DESIGNER OR THE ENGINEER.
- TOEWALLS WILL BE PAID FOR AS CU. YDS. OF CLASS "A" OR "B" CONCRETE. CONTRACTOR MAY ELECT TO CONSTRUCT TOE WALL WITH
SAND CEMENT BAG RIPRAP OR STONE RIPRAP TO SAME MINIMUM DIMENSIONS WITH NO ADDITIONAL PAYMENT.
- PRECAST TOEWALLS SHALL BE CL. "A" CONCRETE; CAST-IN-PLACE TOEWALLS MAY BE CL. "A" OR "B" CONCRETE AND MAY BE TRENCH FORMED. WHERE PLANS ITEMIZE ONE
CLASS OF CONCRETE AND CONTRACTOR ELECTS TO USE OTHER CLASS, NO ADDITIONAL PAYMENT IS MADE. NO PAYMENT IS MADE FOR STEEL IN TOEWALL.
- CENTERLINE OF FLARED END SECTION WILL ALIGN WITH CENTERLINE OF PIPE, IF PIPE IS SKEWED, THE EMBANKMENT SLOPE WILL BE
WARPED TO CONFORM WITH END SECTION.
- FLEXIBLE DELINEATORS SHALL BE REQUIRED AT CROSS DRAIN FLARED END SECTIONS, BOTH INLET AND OUTLET. PAY-
MENT FOR FLARED END SECTION WILL INCLUDE DELINEATORS, SEE DETAIL AND NOTES BELOW. DELINEATORS NOT REQ'D.
FOR SIDE DRAIN, SLOPE DRAIN, OR LONG PIPE.



NOTE:
DELINEATOR POST SHALL CONFORM TO SEC. 911 FOR FLEXIBLE DELINEATOR POST EXCEPT REFLECTIVE SHEETING IS NOT REQUIRED
AND LENGTH IS 4'-6" FROM TOP TO BOTTOM POINT. ALTERNATES PERMITTED IF APPROVED BY D.O.T. LABORATORY.

SPECIAL NOTE :
PIPE SIZES (D) ARE "NOMINAL-MINIMUM" INSIDE DIAMETERS IN ACCORDANCE WITH GEORGIA
STANDARD FOR PIPE CULVERTS. "D" DIMENSION FOR FLARED END SECTION SHALL EQUAL THE
"D" DIMENSION FOR CONNECTING PIPE CULVERT.

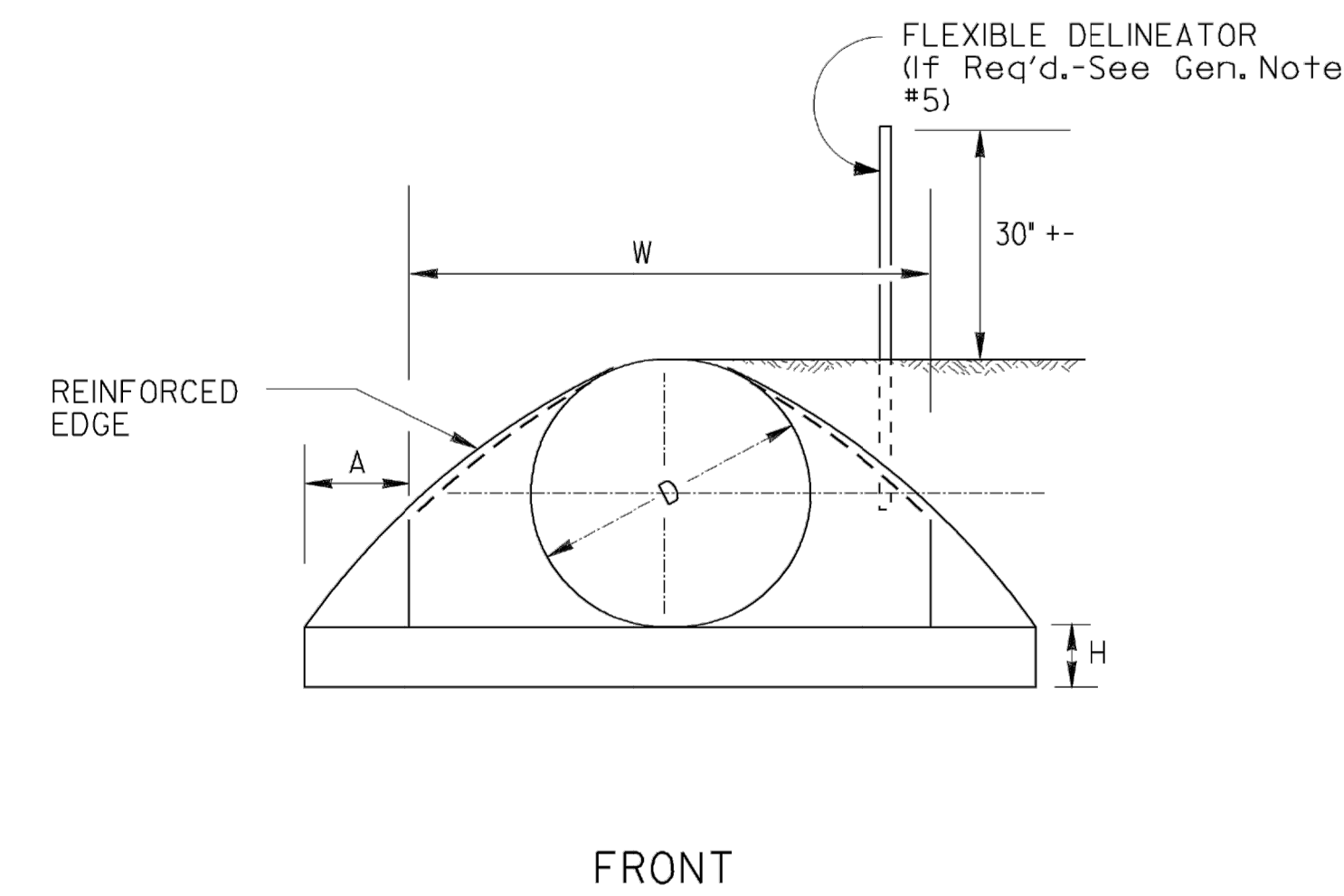
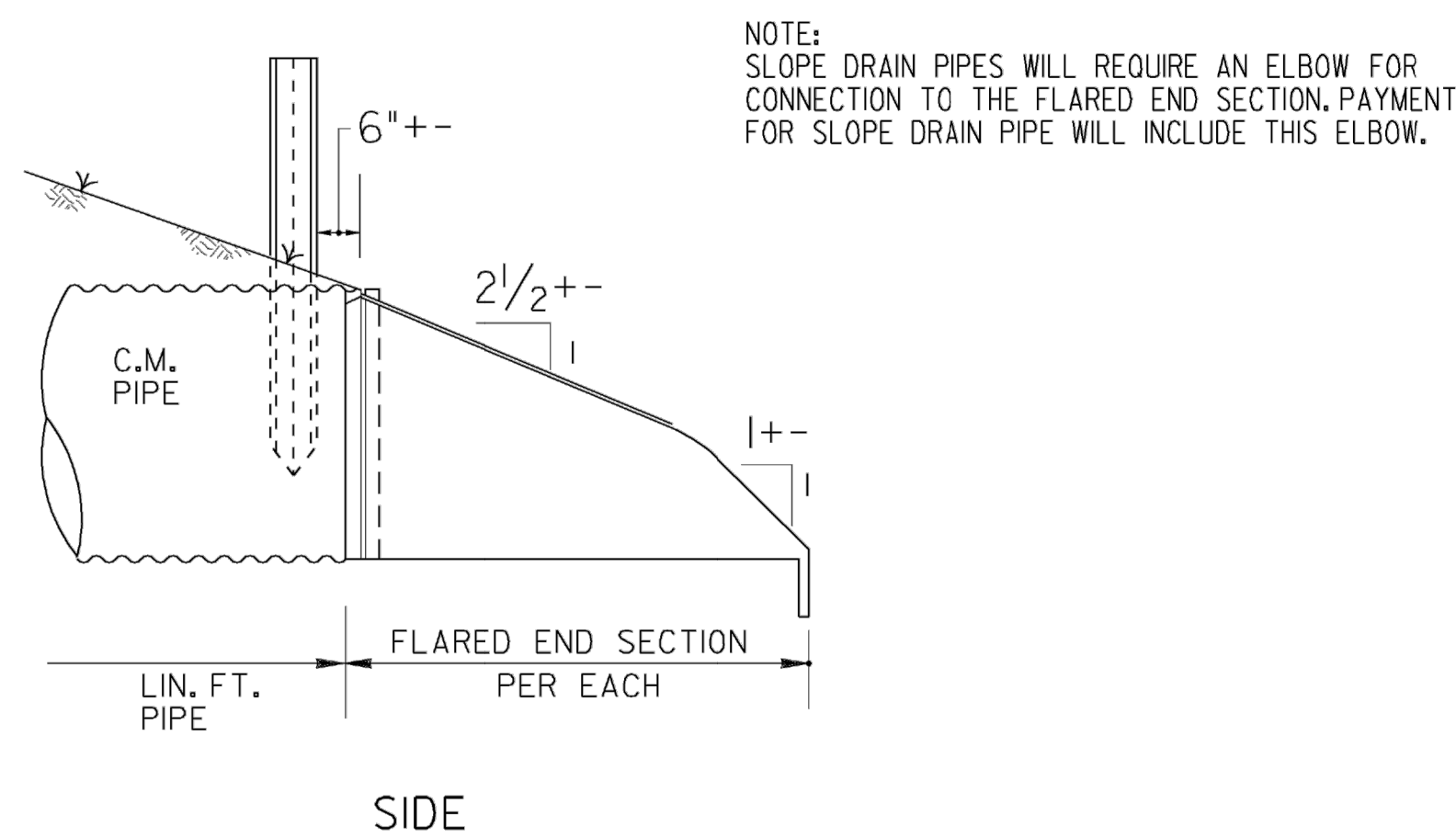
METAL FLARED END SECTION (USE ONLY WITH COR. METAL PIPE)



NOTE: GALVANIZED STEEL FLARED END SECTIONS ARE TO BE USED
ONLY WITH CORRUGATED STEEL PIPE AND ALUMINUM FLARED
END SECTIONS ARE TO BE USED ONLY WITH CORRUGATED
ALUMINUM PIPE UNLESS OTHERWISE APPROVED BY D.O.T.
OFFICE OF MATERIALS AND TESTS.

FLARED END SECTION DIMENSIONS							
PIPE SIZE "D"	THICKNESS		A	B	H	L	W
	GALV. STEEL	ALUM.	A= 0.4D ± 1"	B=0.5 D ± 1"	H=0.25D ± 1" (MIN. 6")	L=1.67D ± 1/2"	W=2.0D ± 2"
12"	.064"	.060"	5"	6"	6"	1' 8"	2' 0"
15"	.064"	.060"	6"	7"	6"	2' 3"	2' 6"
18"	.064"	.060"	7"	9"	6"	2' 6"	3' 0"
24"	.064"	.060"	9"	1' 0"	6"	3' 4"	4' 0"
30"	.079"	.105"	1' 0"	1' 3"	7"	4' 2"	5' 0"
36"	.079"	.105"	1' 2"	1' 6"	9"	5' 0"	6' 0"
42"	.109"	.164"	1' 5"	1' 9"	10"	5' 10"	7' 0"

NOTE: WHERE METAL FLARED END SECTIONS ARE USED WITH MULTIPLE PIPE LINES, THE STANDARD SPACING
BETWEEN PIPES (S=D OR 3 FT.) MAY HAVE TO BE INCREASED (S=L.75 D TYPICAL). TO PREVENT OVER-
LAP OF END SECTION WINGTIPS. SEE ALSO STD. 1030D.



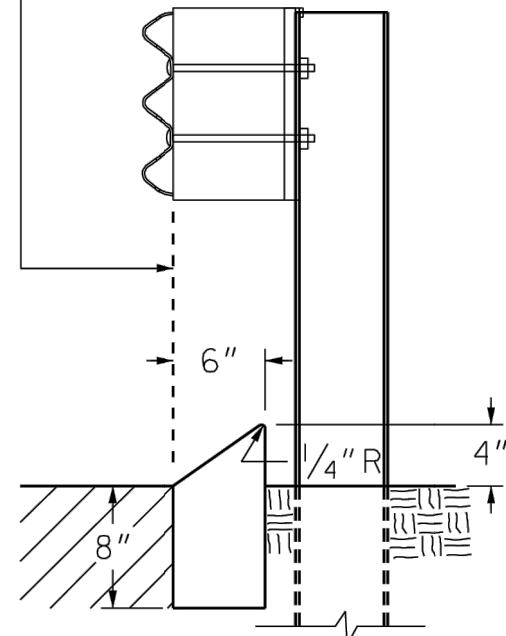
NOTE "B":
THE CONNECTION BETWEEN METAL FLARED END SECTION AND C.M. PIPE WILL BE ONE OF THE
FOLLOWING:

- A STRAP BAND OR THREADED ROD PROVIDED BY THE MANUFACTURER WILL LOCK END SECTION
ONTO PIPE. A CORRUGATION AT THE PIPE AND WILL BE NON-SPIRALED (PERPENDICULAR
TO CL OF PIPE)
- A DIMPLE BAND COLLAR WILL BE SHOP BOLTED TO END SECTION. PIPE WILL BE INSERTED
INTO BAND COLLAR TO MEET THE END SECTION.
- A STUB PIPE WILL BE RIVETED TO THE END SECTION AND THE MAIN PIPE CONNECTED TO
THE STUB WITH A NORMAL CONNECTING BAND.
- OTHER TYPE CONNECTION IF RECOMMENDED BY MANUFACTURER AND APPROVED BY THE
D.O.T.

		6-9-06	DATE	DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
		REV. REFLECTIVE SHEETING	REVISION	STANDARD FLARED END SECTIONS FOR PIPES	
		NO SCALE		REV. & REDR. SEPT., 1999	
		DES. _____	(SUBMITTED) <i>B. A. H.</i>	NUMBER 1120	
		REV. _____	STATE ROAD & AIRPORT DESIGN ENGINEER		
		CHK. _____	(APPROVED) <i>D. L. H.</i> CHIEF ENGINEER		

RAISED EDGE WITH CONCRETE GUTTER

FACE OF CURB MUST ALIGN WITH BACK EDGE OF GUARDRAIL AND THE FACE OF THE OFFSET BLOCK.



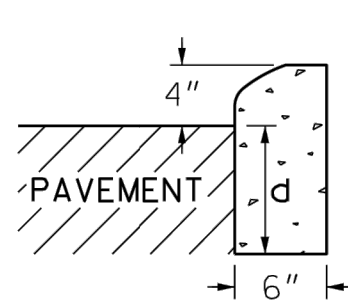
TYPE 8

TYPE 8 HEADER CURB IS USED IN CONJUNCTION WITH GUARDRAIL CONNECTIONS TO CONCRETE BARRIER AS NOTED ON GA. STD. 4382.

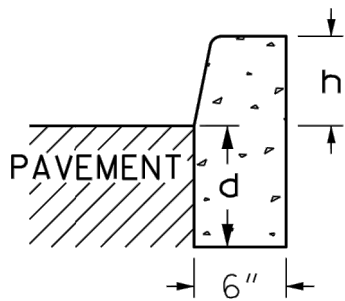
RAISED EDGE TO BE CONSTRUCTED WITH SAME CONCRETE MIX AS THE GUTTER AND SHALL BE FORMED MONOLITHIC WITH GUTTER. JOINTS IN RAISED EDGE SHALL MATCH THOSE IN THE GUTTER.

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.

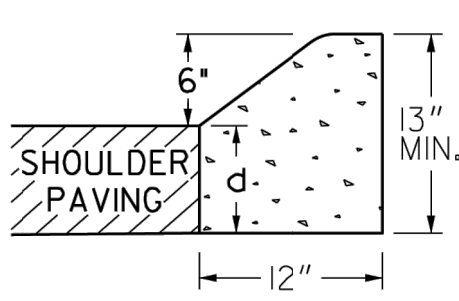
THE DIMENSION d MAY BE INCREASED AT CONTRACTOR'S OPTION SO BOTTOM OF HEADER CURB WILL ALIGN WITH BOTTOM OF PAVEMENT TYPICAL SECTION.



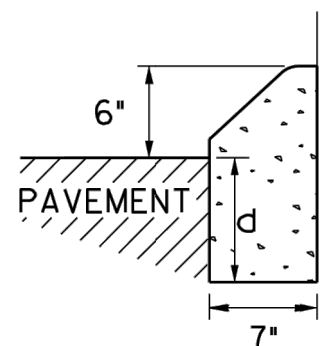
TYPE 1



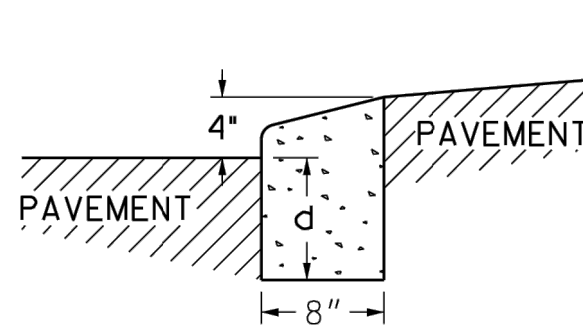
TYPE 2, 3 OR 4



TYPE 6



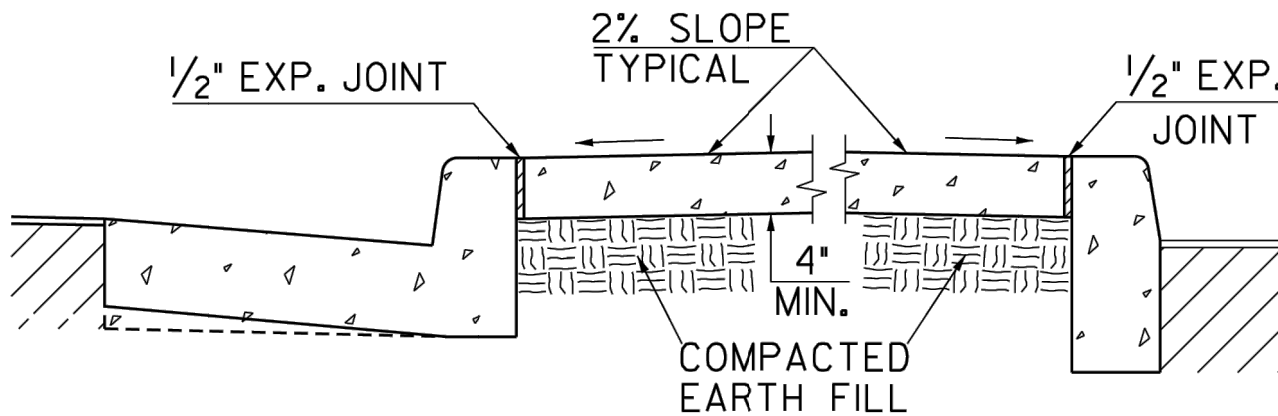
TYPE 7



TYPE 9
TRUCK APRON
IN ROUNDABOUTS

CONCRETE MEDIAN (Between Curbs)

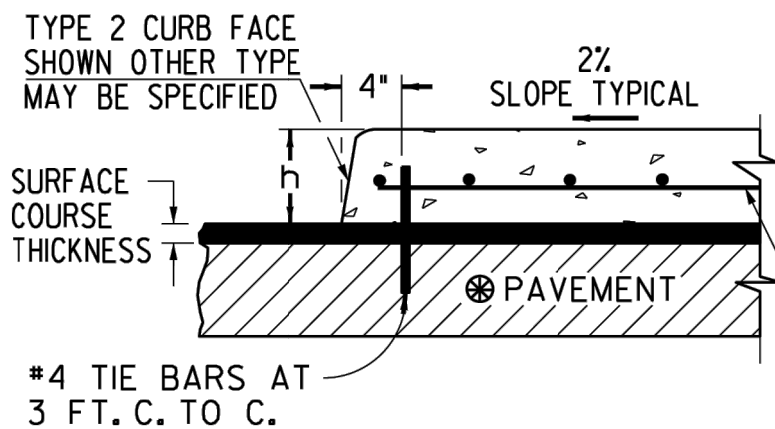
NOTE: CURB TYPES SHOWN ARE TYPICAL. OTHER TYPES MAY BE SPECIFIED.



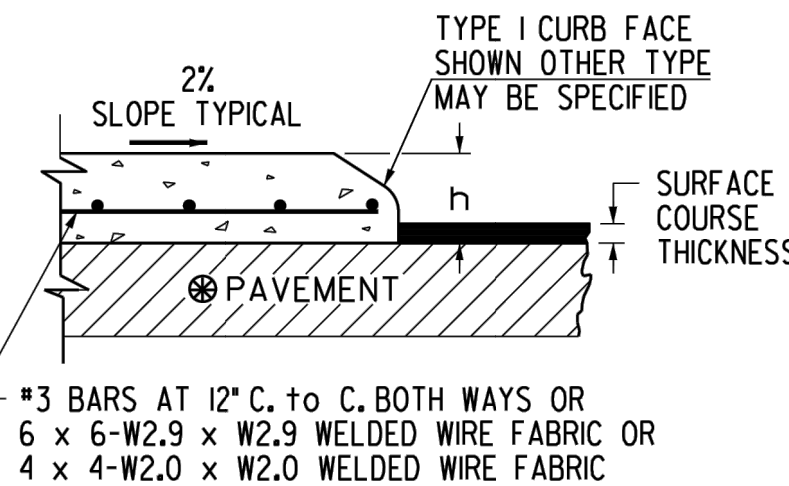
NOTE: WIDTH OF CONCRETE MEDIAN WILL BE AS SHOWN IN PLANS

CONCRETE MEDIANS (Integral)

-WITH TIE BARS-

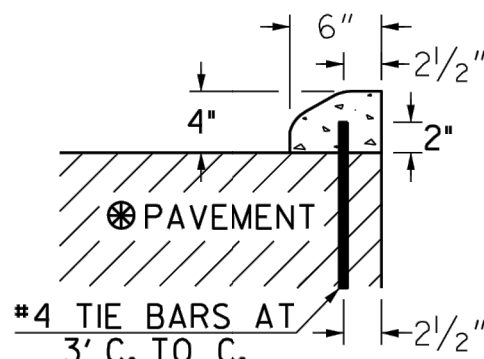


-WITHOUT TIE BARS-

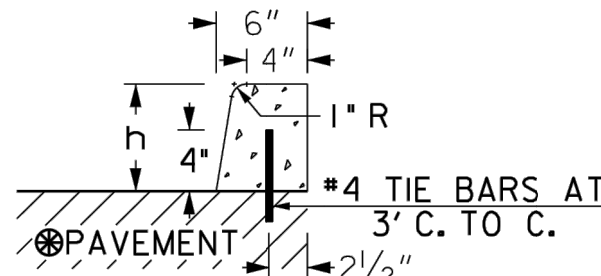


NOTE: IF FINAL SURFACE COURSE IS PRESENT OR MUST BE INSTALLED BEFORE THE CONCRETE MEDIAN CAN BE INSTALLED, THEN DOWELED IN CONCRETE MEDIAN IS REQUIRED.

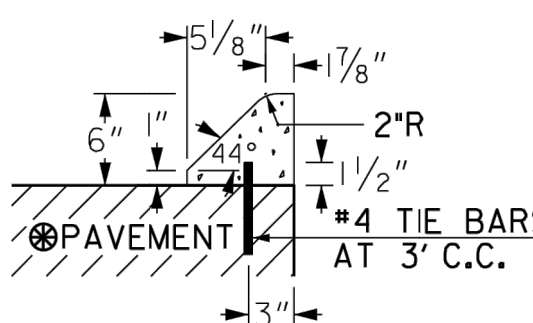
CONCRETE DOWELED INTEGRAL CURBS



TYPE 1



TYPE 2, 3 OR 4



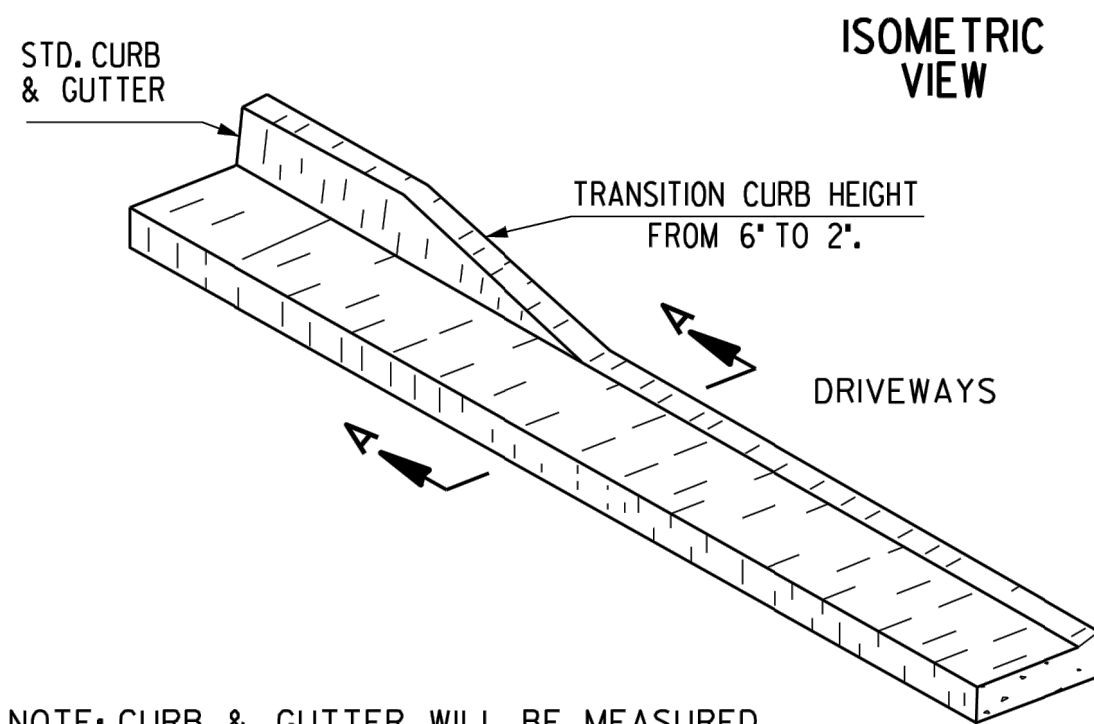
TYPE 7

- NOTES:
1. CONCRETE CURB CAN BE INSTALLED AFTER INITIAL SET AS LONG AS TIE BARS ARE DRILLED INTO UNDERLYING CONCRETE PAVEMENT.
 2. CONCRETE CURB CAN BE INSTALLED BEFORE INITIAL SET WITH DOWELS THAT ARE DRIVEN INTO UNDERLYING CONCRETE PAVEMENT.
 3. JOINTS IN CURB AND CONCRETE MEDIAN WILL MATCH THOSE IN THE CONCRETE PAVEMENT.
 4. ALL TYPES OF CONCRETE CURB CAN BE PLACED ON ASPHALT PAVEMENTS WHERE TIE BARS MAY BE EITHER DRIVEN OR DRILLED INTO THE UNDERLYING PAVEMENT. CONTRACTION JOINTS SHALL BE CONSTRUCTED IN CURB OR CONCRETE MEDIAN AT 20 FT. SPACING.

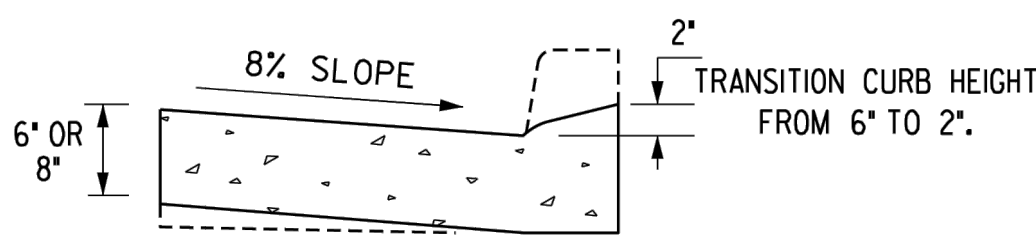
MINIMUM TIE BAR LENGTHS (FOR CONC. DOWELED CURBS OR CONC. MEDIAN)		
CURB TYPE	P.C. CONC. PAV.	ASPHALT PAV.
1	6"	8"
2, 3 or 4	8"	12"
7	6"	8"
9	6"	8"

NOTE: TIE BARS FOR DOWELED CURBS MAY BE UNCOATED PLAIN OR DEFORMED BILLET-STEEL BARS (GRADE 40) AS USED FOR CONCRETE REINFORCEMENT. (AASHTO M-31)

DETAILS OF RECESSED CURB FOR DRIVEWAYS



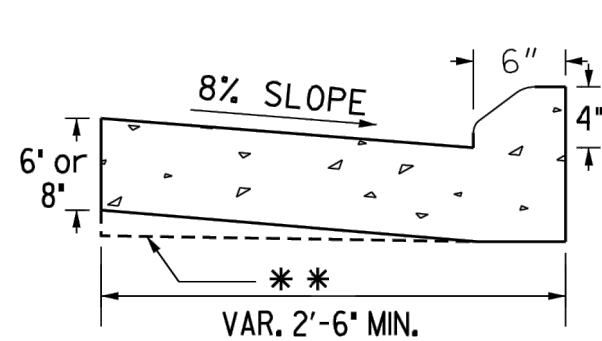
NOTE: CURB & GUTTER WILL BE MEASURED FOR PAYMENT THRU THE DRIVE



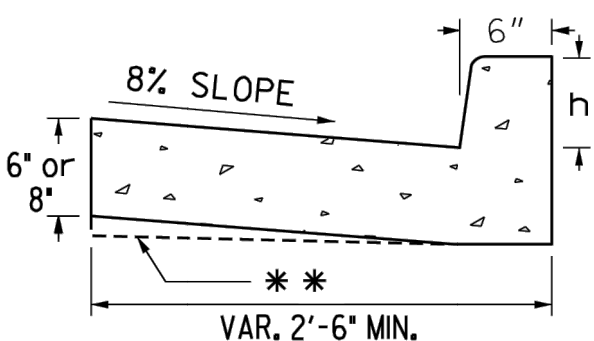
SECTIONAL VIEW
SECTION A-A

(SEE SEPARATE CONSTRUCTION DETAILS FOR DRIVEWAYS)

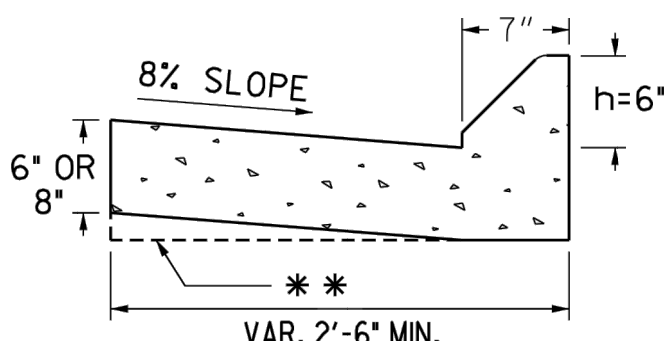
CONCRETE CURB & GUTTER



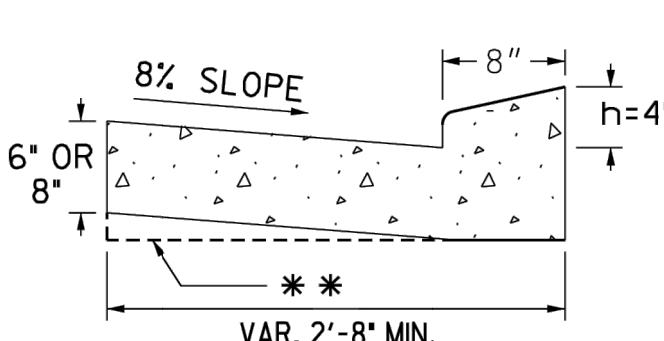
TYPE 1



TYPE 2, 3 OR 4



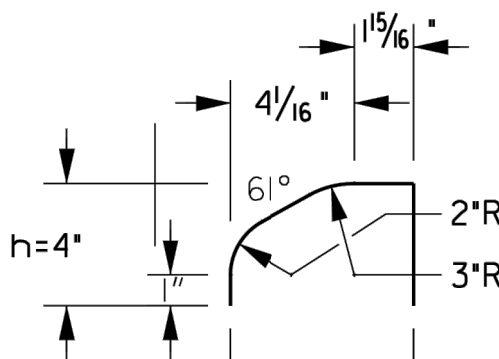
TYPE 7



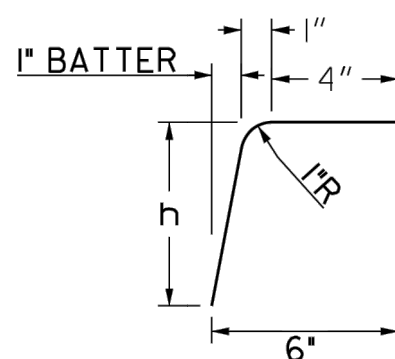
TYPE 9

** AT CONTRACTOR'S OPTION THE GUTTER THICKNESS MAY BE INCREASED AT EDGE OF PAVEMENT TO MAKE BOTTOM OF GUTTER PARALLEL WITH PAVING OF BASE COURSE, BUT THE GUTTER THICKNESS MUST NOT BE LESS THAN THE SPECIFIED 6" OR 8" AT ANY POINT.

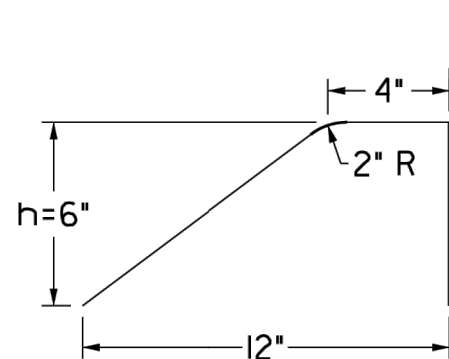
CURB FACE DESIGN



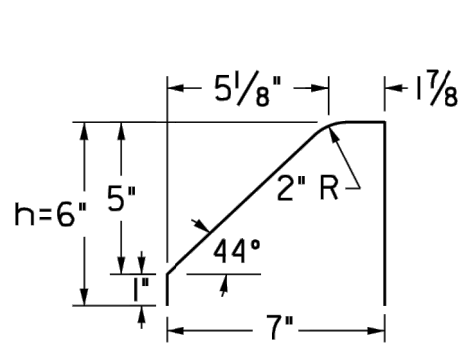
TYPE 1



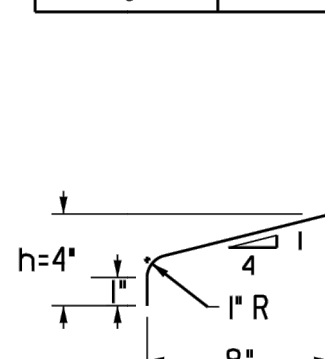
TYPE 2, 3 OR 4



TYPE 6



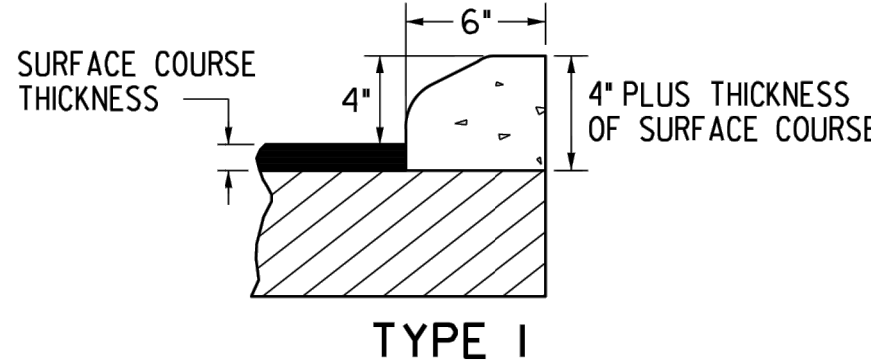
TYPE 7



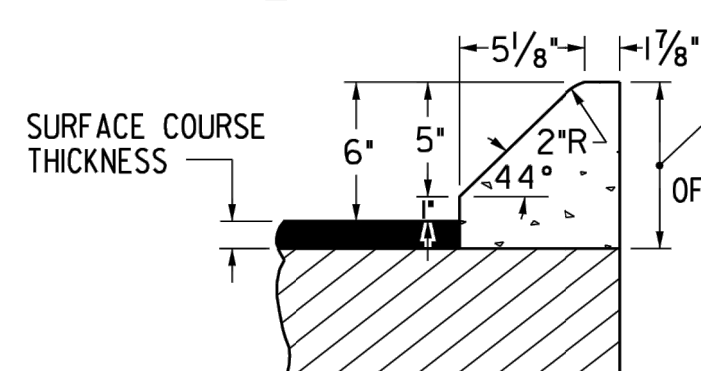
TYPE 9

TYPE	h
1	4"
2	6"
3	8"
4	10"
6	6"
7	6"
9	4"

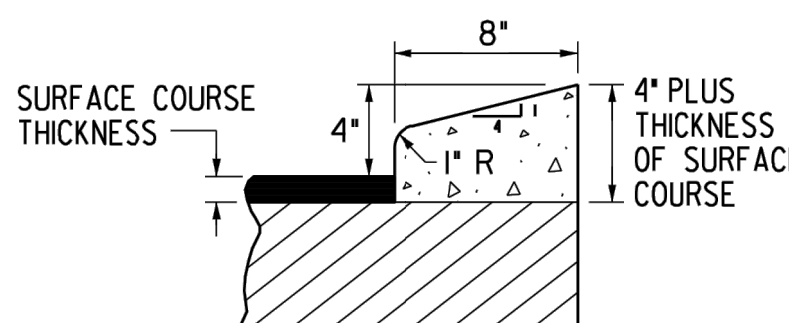
CONCRETE INTEGRAL CURB



TYPE 1



TYPE 7



TYPE 9

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD
CONCRETE CURB & GUTTER
CONCRETE CURBS, CONCRETE MEDIANS

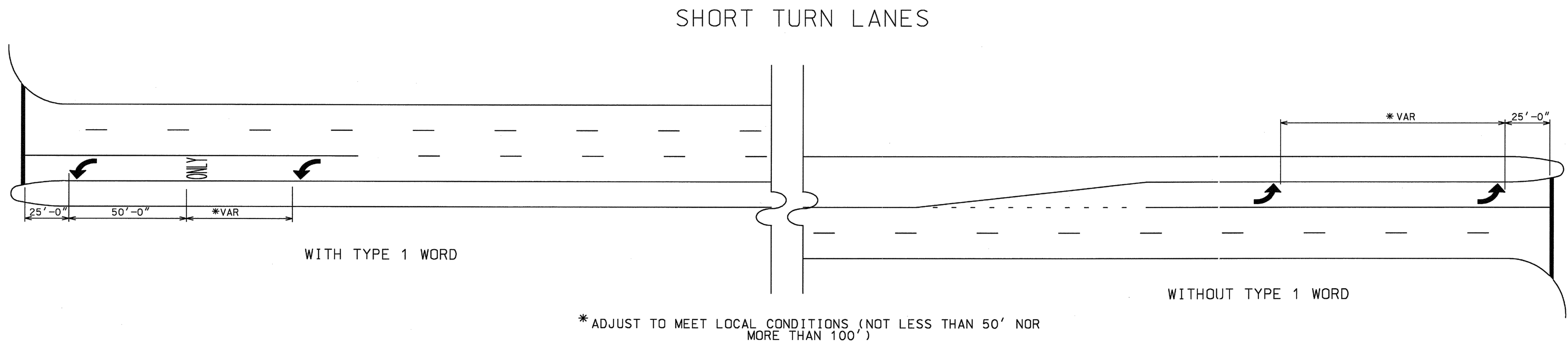
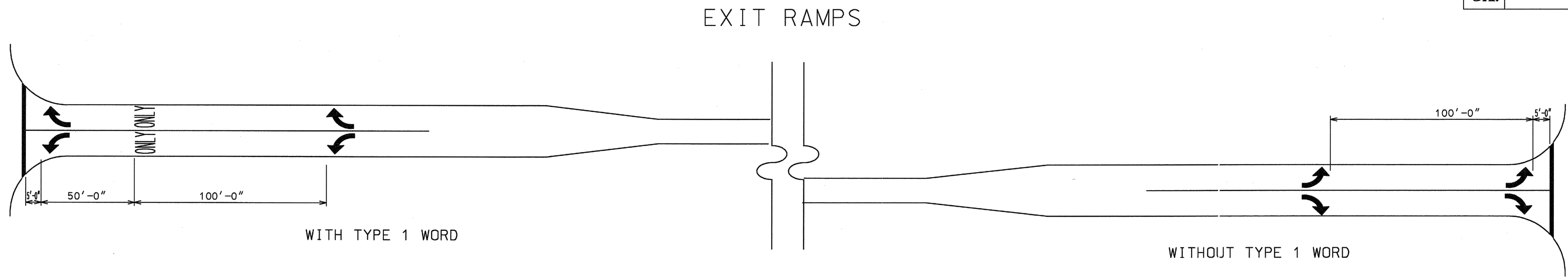
NOT TO SCALE

OCT. 2011

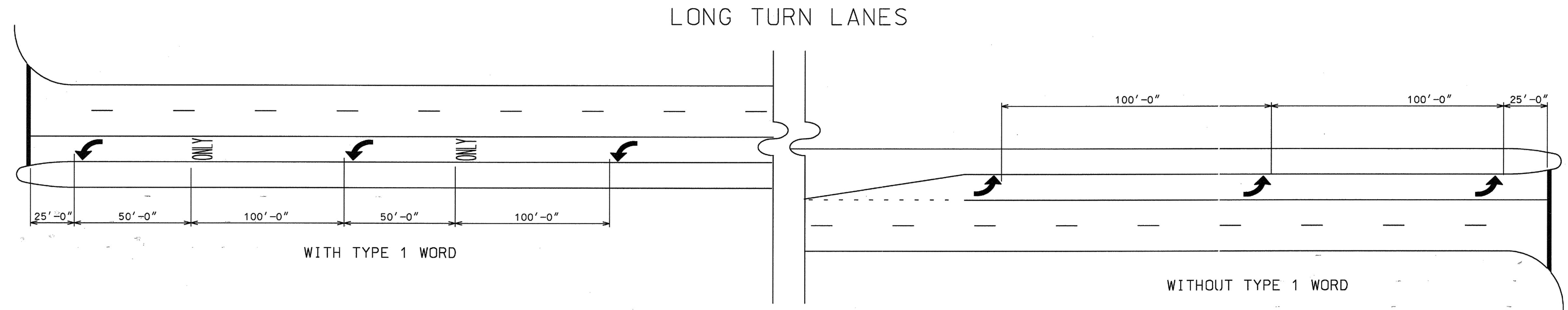
DES. _____ (SUBMITTED) *[Signature]*
STATE DESIGN POLICY ENGINEER
TRA. _____ (APPROVED) *[Signature]*
CHIEF ENGINEER

NUMBER
9032B

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



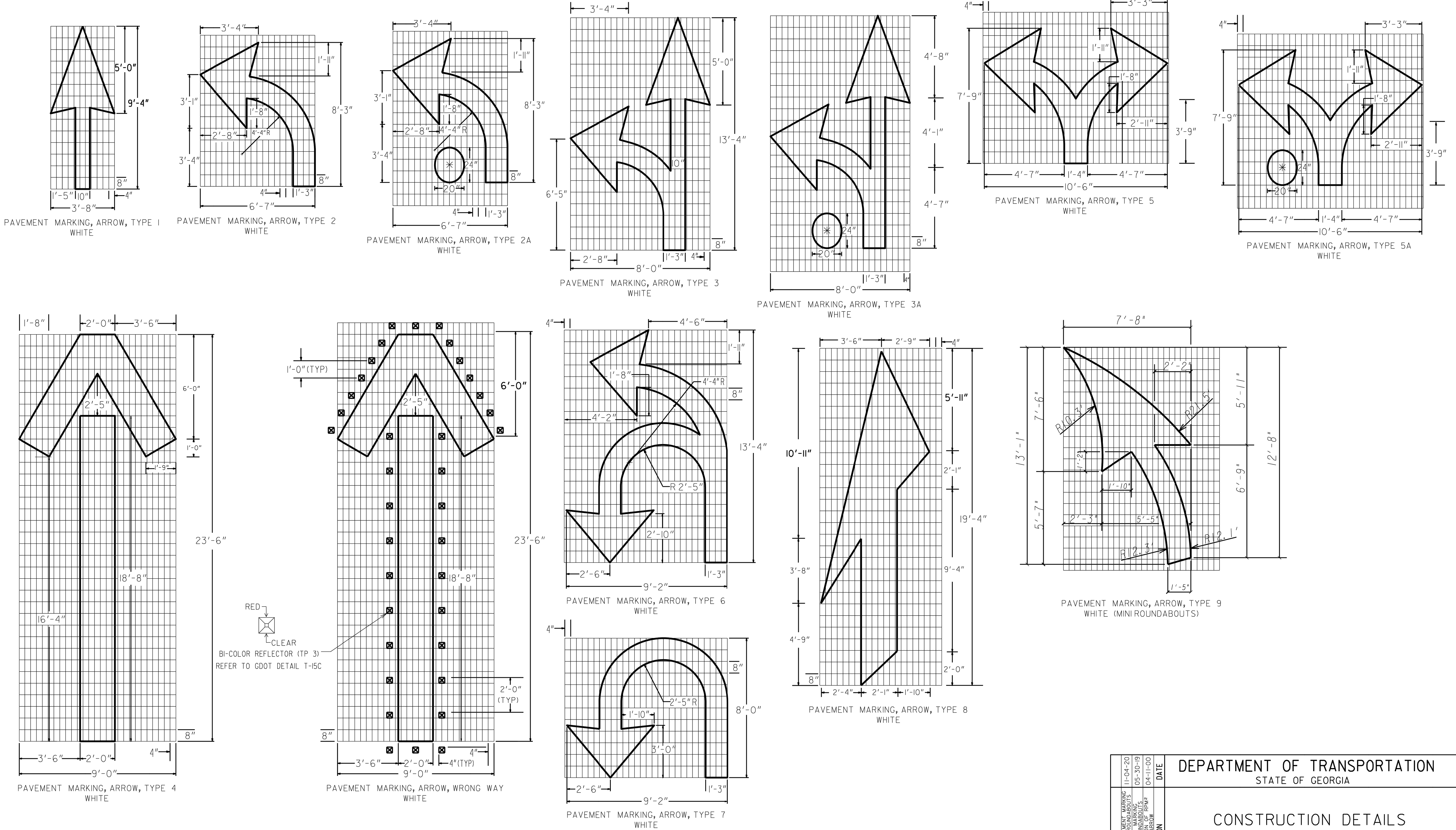
* ADJUST TO MEET LOCAL CONDITIONS (NOT LESS THAN 50' NOR MORE THAN 100')



- GENERAL NOTES:
- SPACING OF TYPE 2 ARROW IS REPRESENTATIVE OF SPACING FOR TYPE 1, TYPE 3, TYPE 4, & TYPE 5 ARROWS.
 - ALL TURNING LANES SHALL HAVE A MINIMUM OF 2 ARROWS.
 - GROUND MOUNTED OR OVERHEAD SIGNING SHALL BE SUPPLEMENTED BY TYPE 1 WORD.

DATE	REVISIONS	GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE OF TRAFFIC SAFETY & DESIGN
		DETAILS OF PAVEMENT MARKING ARROW LOCATION
		NO SCALE JANUARY 2000

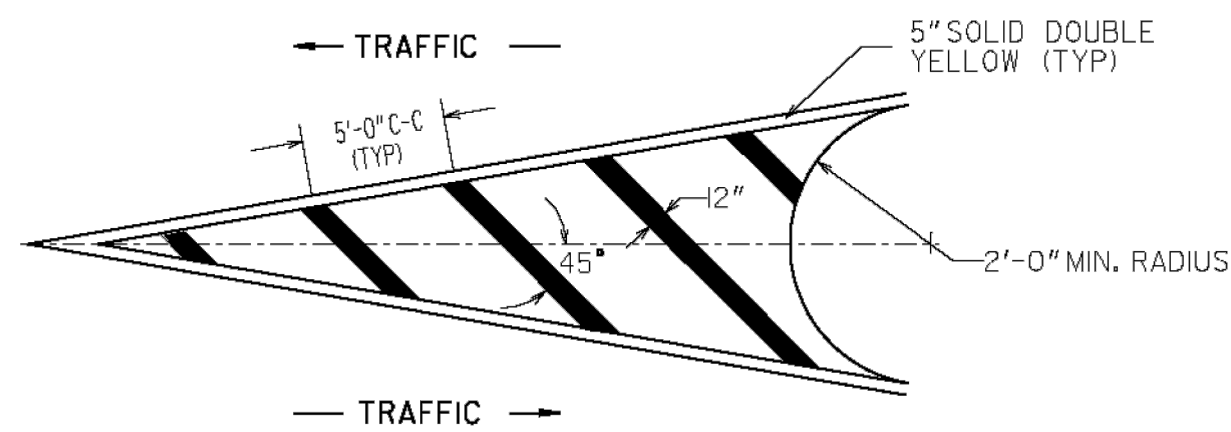
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			



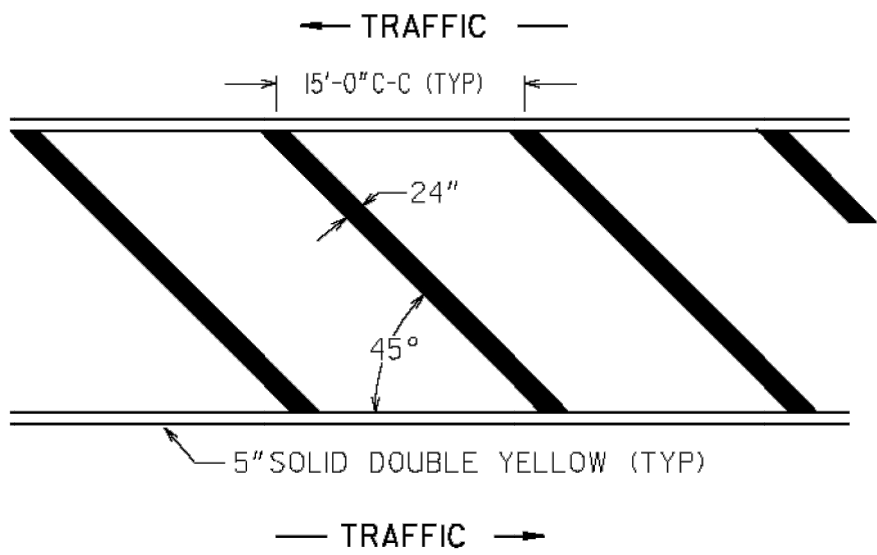
NOTES
1. PAVEMENT MARKING ARROWS WITH A DOT (2A, 3A, 5A) SHALL BE USED ALONG MULTI-LANE ROUNDABOUT APPROACHES ALONG THE INSIDE LANE ONLY

ADDED TP 3 PAVEMENT MARKING REFLECTORS TO ALL ARROWS FOR ROUNDABOUTS ON WIDENING PROJECTS		11-04-20	DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
ACP	ACP	05-30-19	CONSTRUCTION DETAILS PAVEMENT MARKINGS - ARROWS	
ACP	ACP	04-11-00		
BY	DESIGNED	DATE	NO SCALE	NUMBER
	DRAWN			T-12B
	TRACED			
	CHECKED			

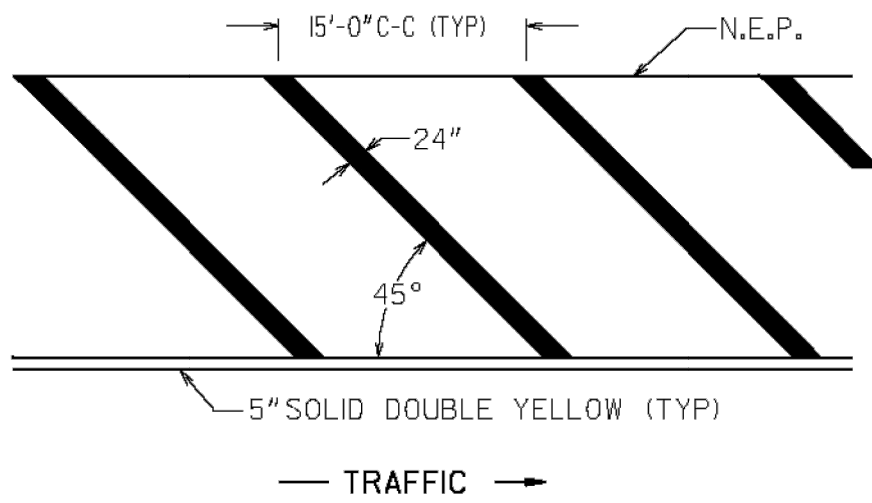
DETAIL "A"(YELLOW)



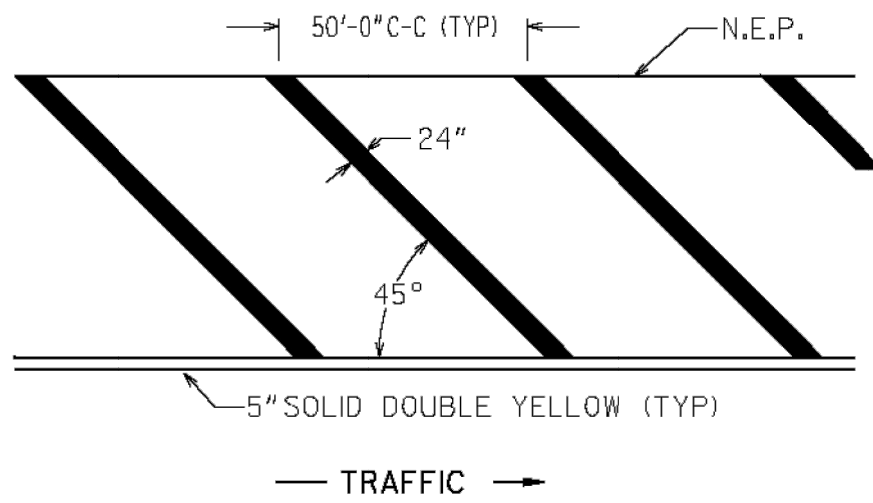
DETAIL "B"(YELLOW)



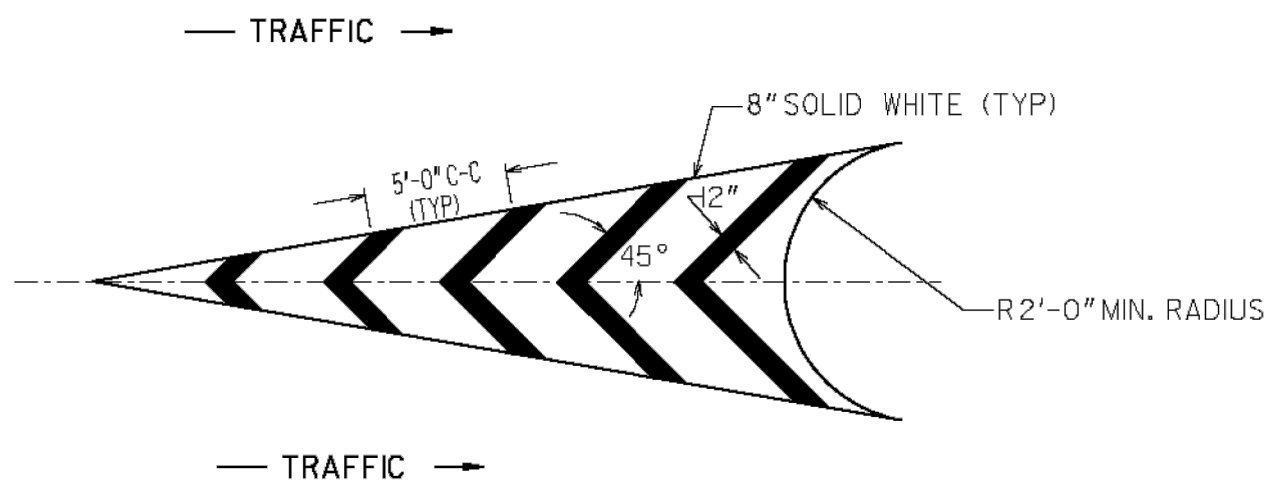
DETAIL "C"(YELLOW)



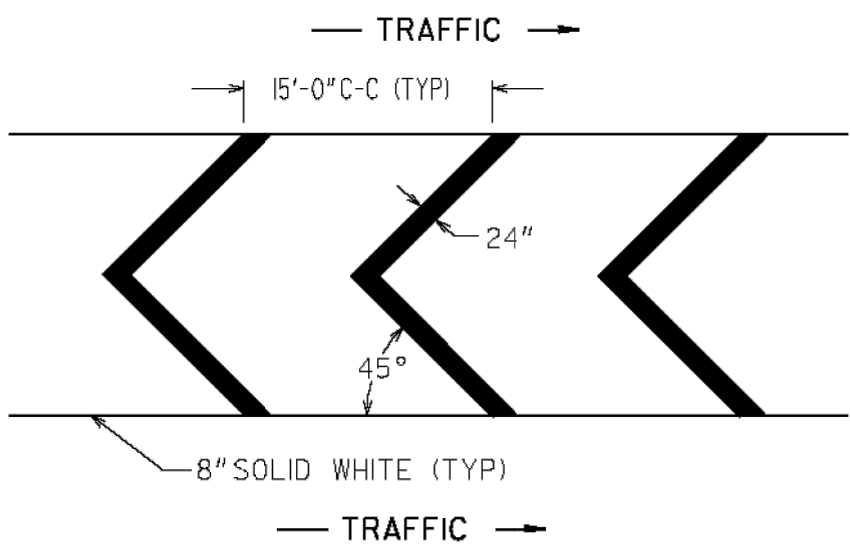
DETAIL "D"(YELLOW)



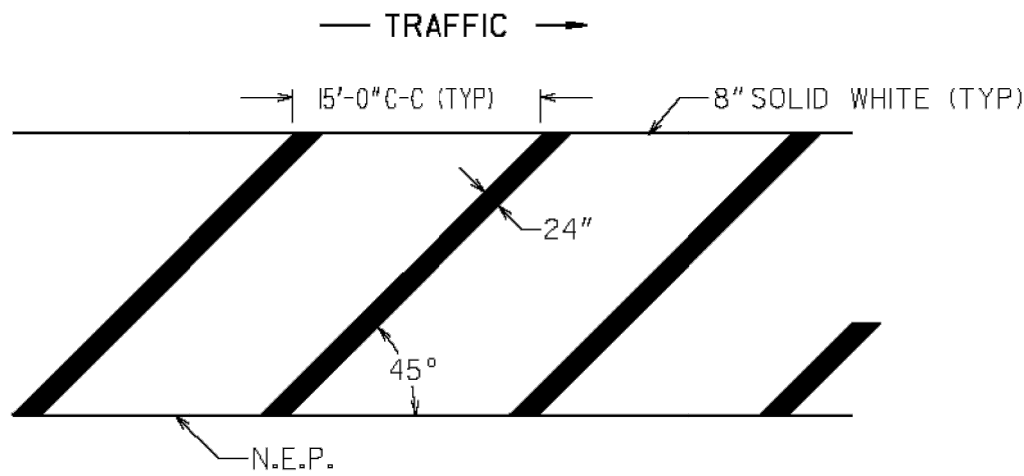
DETAIL "A"(WHITE)



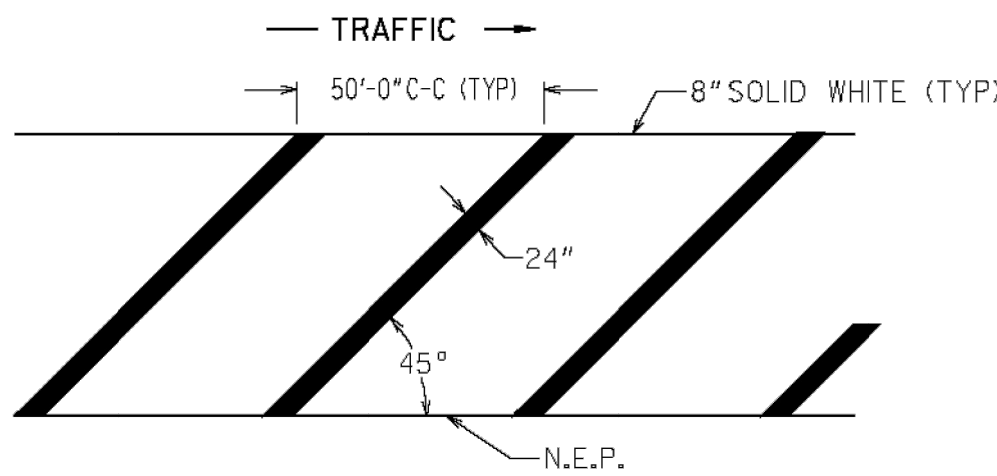
DETAIL "B"(WHITE)



DETAIL "C"(WHITE)



DETAIL "D"(WHITE)



- 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

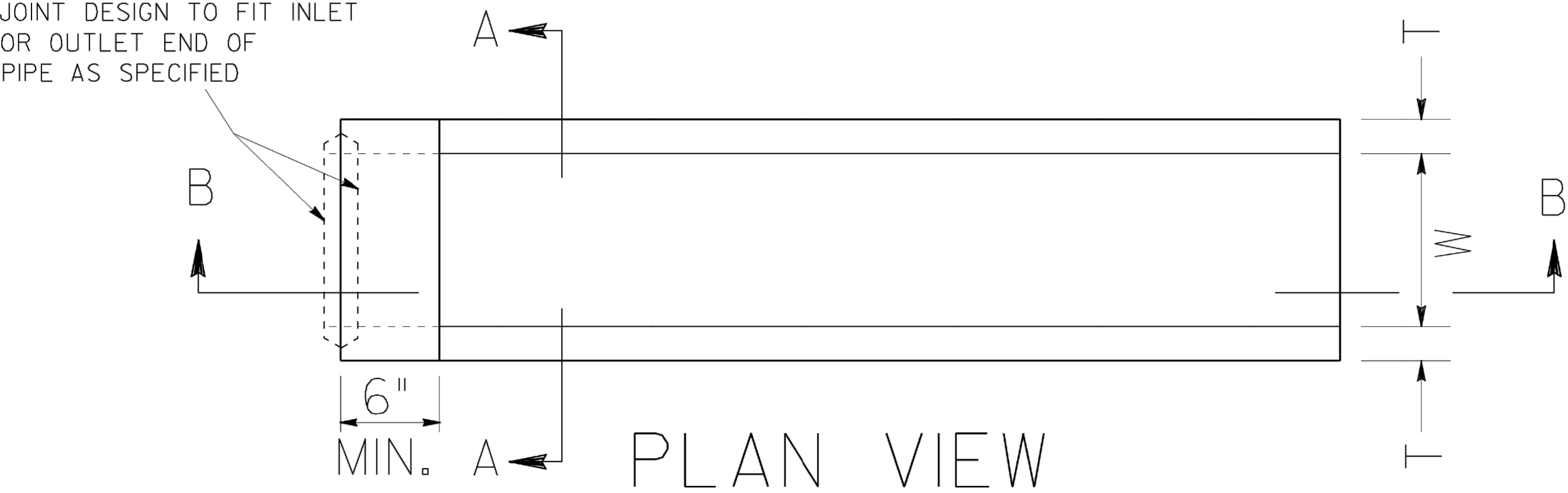
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE: TRAFFIC OPERATIONS
SIGNING AND MARKING PLANS

DETAIL OF PAVEMENT MARKING
HATCHING

JANUARY 2000

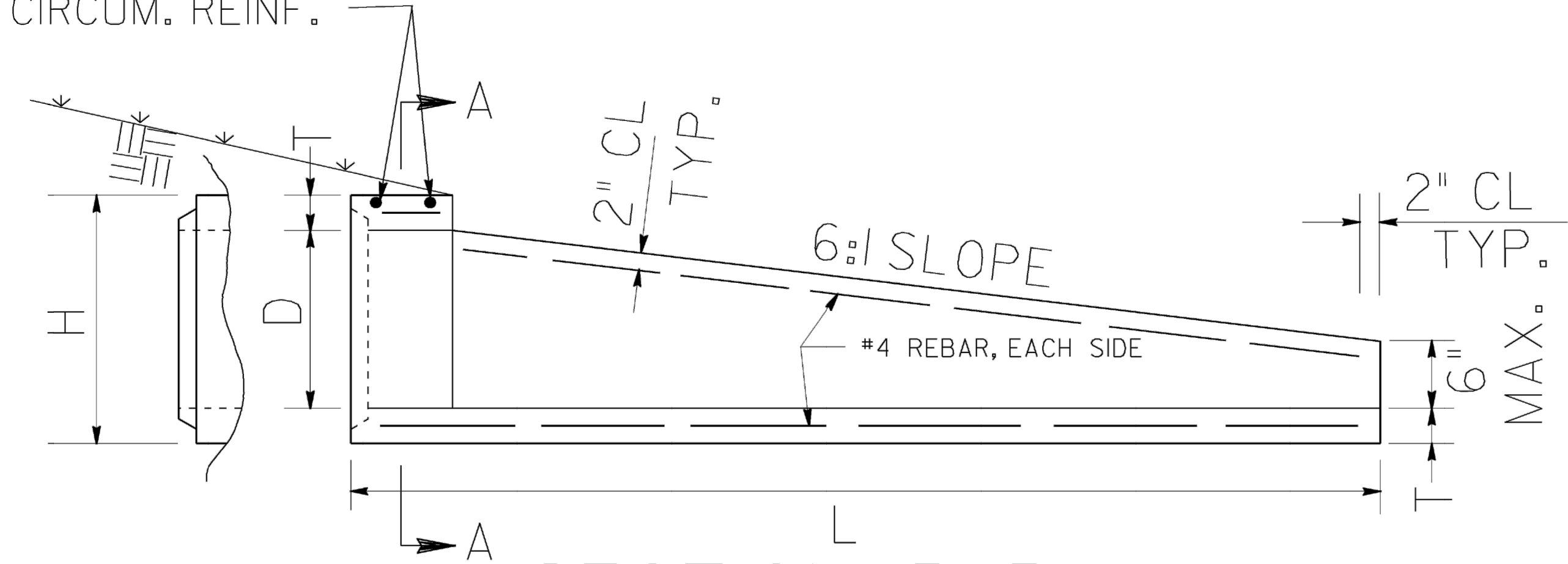
NUMBER
T-14

JOINT DESIGN TO FIT INLET
OR OUTLET END OF
PIPE AS SPECIFIED



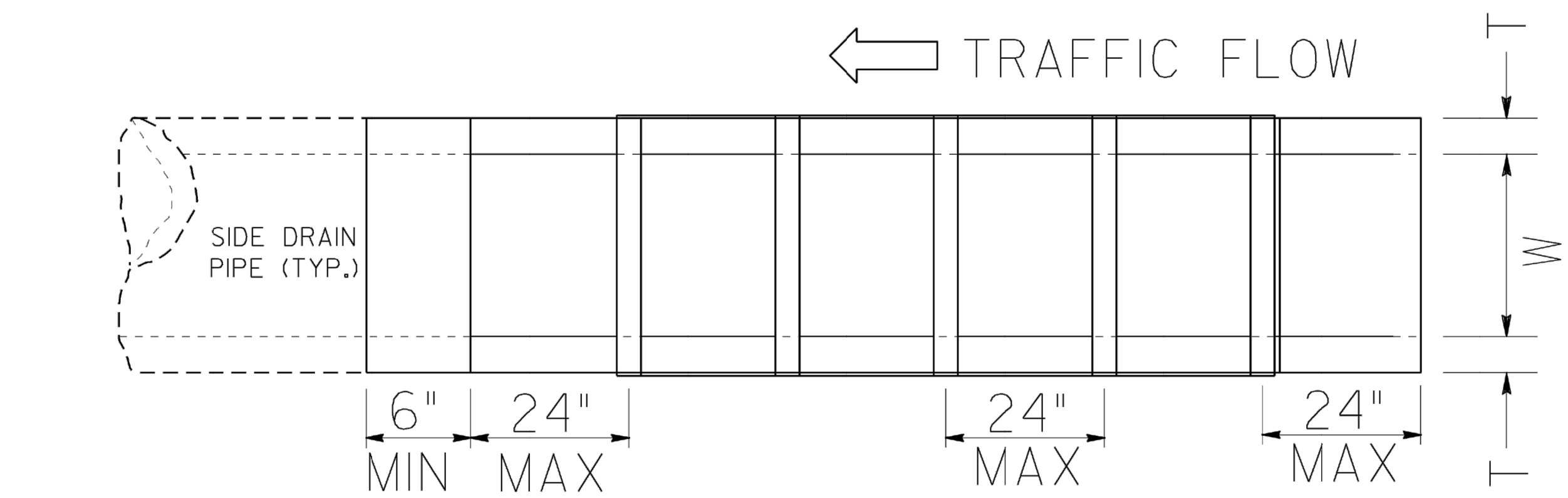
PLAN VIEW

MIN. 2 LINES OF
CIRCUM. REINF. (BAR GRATE NOT SHOWN)

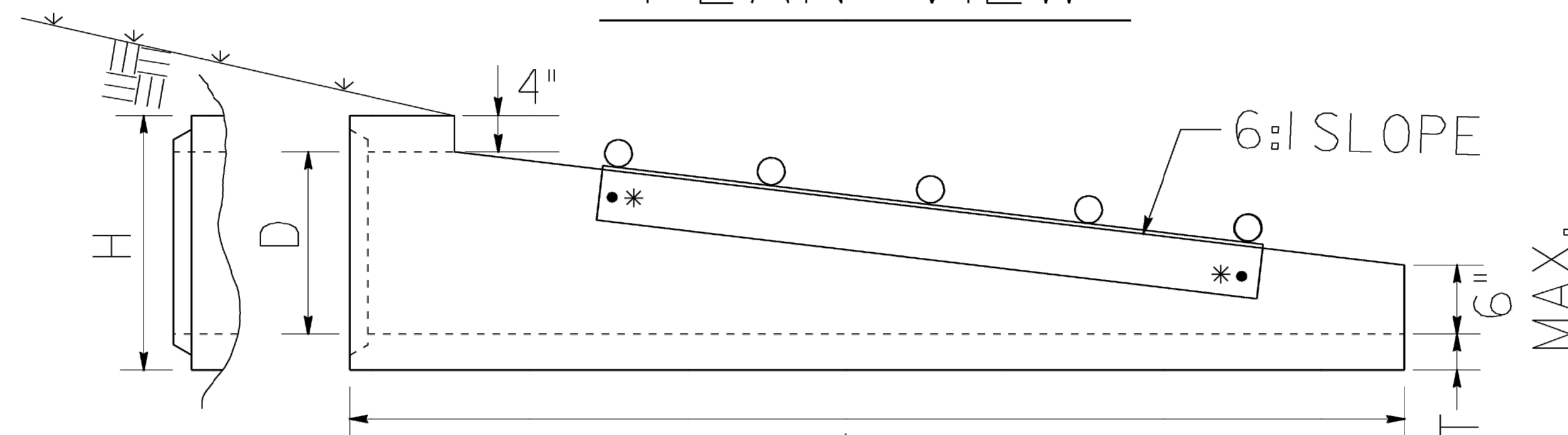


SECTION B-B

TRAFFIC FLOW



PLAN VIEW

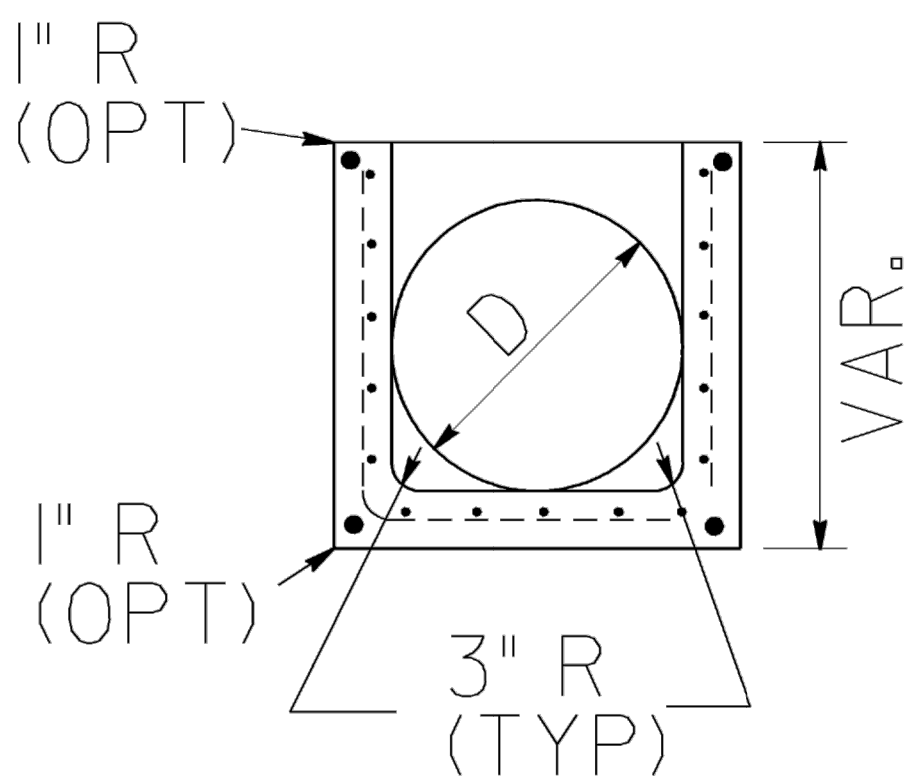


SIDE VIEW

* 5/8" GALV. HEX HEAD
BOLT, WASHER & NUT
(FOUR) CONNECTIONS

ALTERNATE 3

PIPE DIA	T (MIN)	D	H	L
15"	3"	15"	21"	4'-6"
18"	3"	18"	24"	6'-0"
24"	3"	24"	30"	9'-0"
30"	4"	30"	38"	12'-6"
36"	4"	36"	44"	15'-6"
42"	4"	42"	50"	18'-6"
48"	5"	48"	58"	22'-0"



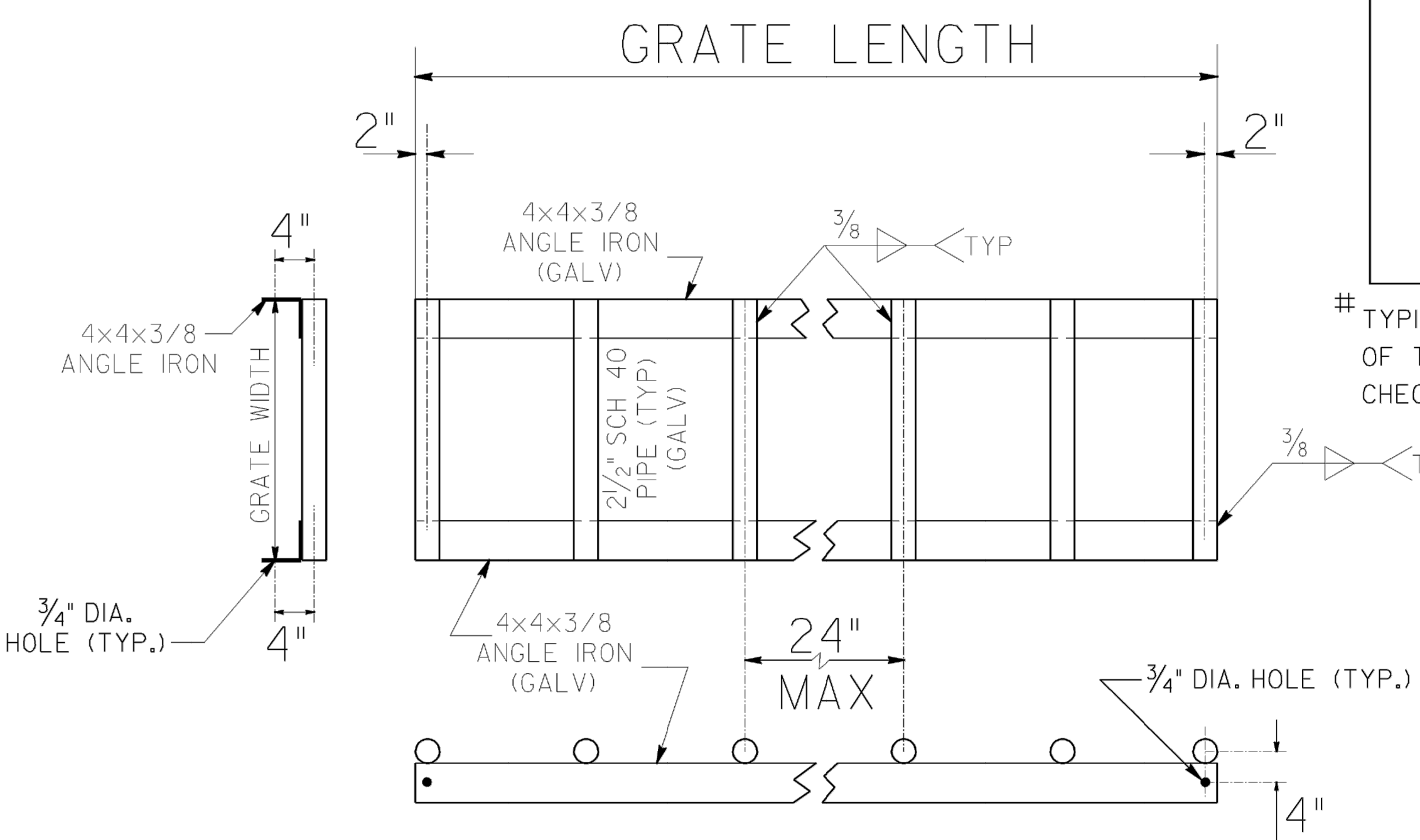
SECTION A-A

GENERAL NOTES:

1. CONCRETE STRENGTH SHALL BE 4000 PSI MINIMUM
2. REINFORCING SHALL BE PER AASHTO M170, CLASS II REINFORCED CONCRETE PIPE, PLUS ONE #4 BAR TOP AND BOTTOM, EACH SIDE.
3. WALLS MAY HAVE 1/4" TAPER. WALL THICKNESSES SHOWN ARE THE MINIMUM.
4. LIFT HOLES MAY BE PROVIDED IN THE SIDE WALLS FOR HANDLING.
5. END SECTION JOINT WILL BE A MATCHED FIT TO THE ADJOINING PIPE JOINT AT ALL INLET AND OUTLET ENDS. NON-FITTING JOINTS WILL REQUIRE A BUILT-IN-PLACE REINFORCED COLLAR CONNECTION WITH NO ADDITIONAL PAYMENT.
6. ALL END SECTIONS FOR PIPES WITH "D" OVER 24" ON SINGLE LINES WILL HAVE GALV. SAFETY BARS, SPACED NOT MORE THAN 24" ON CENTERS, AND INSTALLED PERPENDICULAR TO THE MAINLINE TRAFFIC FLOW. ALL END SECTIONS FOR MULTIPLE LINE PIPES WILL HAVE GRATES.
7. TYPICAL USE OF SAFETY END SECTIONS IS AT THE ENDS OF PIPES UNDER DRIVEWAYS OR SIDEROADS WHERE THE PIPE CULVERT IS PARALLEL TO THE MAINLINE AND FALLS INSIDE THE MAINLINE CLEAR ZONE WIDTH.

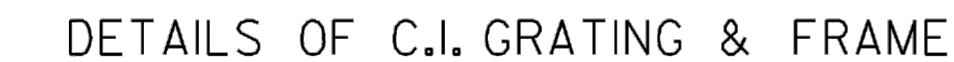
D	(MIN) GRATE LENGTH	GRATE WIDTH (TYP) #
15"	2'-4"	1'-9 5/8"
18"	2'-4"	2'-0 5/8"
24"	6'-4"	2'-6 5/8"
30"	8'-6"	3'-2 5/8"
36"	12'-4"	3'-8 5/8"
42"	14'-6"	4'-2 5/8"
48"	18'-4"	4'-10 5/8"

TYPICAL GRATE WIDTHS SHOWN ARE MEASURED FROM INSIDE TO INSIDE OF THE 3/8" THICK ANGLE IRON. GRATE FIT WITH END SECTION SHALL BE CHECKED BEFORE DELIVERY.



GALVANIZED SAFETY
GRATE DETAIL

1-28-05	DATE	DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA
REVISION	3	STANDARD SAFETY END SECTION (CONCRETE) (FOR SIDE DRAIN PIPE-OR FOR STORM DRAIN PIPE PARALLEL TO MAINLINE) ALTERNATE 3
NO SCALE		OCT., 2000
DESIGNED DRAWN TRACED CHECKED	BY BY BY BY	(SUBMITTED) <i>B. J. Smith</i> STATE ROAD & AIRPORT DESIGN ENGINEER (APPROVED) <i>D. J. Smith</i> CHIEF ENGINEER
NUMBER 1122 SHEET 3 OF 3		



DETAIL OF* HOOD (MOUNTABLE)
(use with Tp 7 Curb)

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

CONSTRUCTION ALTERNATES

TYPE "A" OR "B"

NOTE: CONCRETE WALLS
BOTH WAYS BUT

NOTE: CONCRETE WALLS WILL BE REINFORCED WITH #4 BARS 12" O.C. BOTH WAYS, BUT WHERE H IS OVER 9 FT., AND PIPE IS OVER 30" I.D., THE HORIZONTAL STEEL, WHICH IS MORE THAN 9 FT. DEEP WILL BE INCREASED TO 6" SPACINGS. 6" CONC. BOTTOM SLABS WILL BE REINFORCED WITH #4 BARS 12" O.C. BOTH WAYS.

NOTE: FOR PRECAST ALTERNATES, SEE STD. 1019-A PRECAST AND/OR STD. 1040 PRECAST AND BUILT-IN-PLACE COMPONENTS MAY BE USED IN COMBINATIONS WHICH PROVIDE PROPER FITS AND STRUCTURAL ADEQUACY.

5. BRICK MASONRY WITH CLASS "A" CONC. TOP PORTION IS SHOWN AS STANDARD CONSTRUCTION WITH ALTERNATES PERMITTED AS SHOWN, BOTTOM SLAB MAY BE 8" MIN. NON-REINFORCED CONCRETE, 8" BRICK OR 6" MIN. REINFORCED CONCRETE, SEE APPLICABLE STANDARDS FOR ALTERNATE PRECAST CONSTRUCTION.

				DATE		DEPARTMENT OF TRANSPORTATION	
						STATE OF GEORGIA	
				REVISION		STANDARD DROP INLETS (BUILT-IN-PLACE)	
				SCALE AS SHOWN		REV. & REDR. AUG., 1999	
		BY		DES. _____ (SUBMITTED) <i>James A. Kneel</i> REV. _____ STATE ROAD & AIRPORT DESIGN ENGR. TRA. _____ CHK. _____ (APPROVED) <i>Carol L. Finkbe</i> CHIEF ENGINEER			
				NUMBER 1019A			