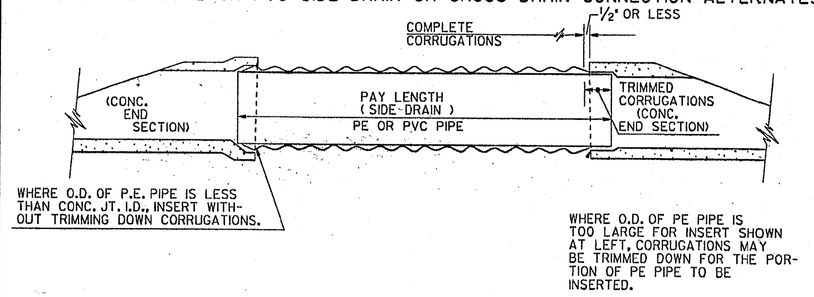
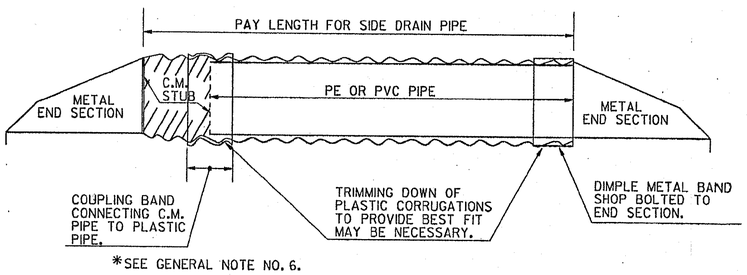
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	BRZLB-77(34)&(38)	30	113

CONCRETE TO PE OR PVC SIDE DRAIN OR CROSS DRAIN CONNECTION ALTERNATES

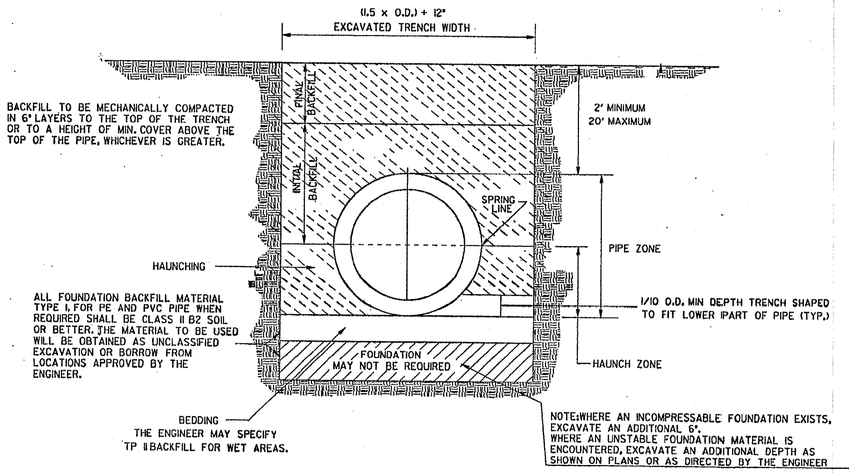


* METAL TO PE OR PVC SIDE DRAIN CONNECTION ALTERNATES



*SEE GENERAL NOTE NO. 6.

PE AND PVC PIPE CULVERT TRENCH INSTALLATIONS



MULTIPLE PIPE SPACING: A CLEAR SPACE EQUAL TO TWO TIMES THE INSIDE DIAMETER, OR 6 FT., WHICHEVER IS LESSER SHALL BE REQUIRED BETWEEN MULTIPLE LINES OF PE OR PVC PIPE.

NOTE:
FOR PLASTIC SIDE DRAIN CONNECTIONS TO SAFETY END SECTIONS, SEE THE SMOOTH TAPERED SLEEVE CONNECTOR DETAILS (SEE SEPARATE SHEET FOR SAFETY SLOPE END SECTIONS FOR SIDE DRAIN PIPES.)

NOTE:
CONCRETE SECTIONS MUST HAVE GROOVE OR BELL TYPE JOINT TO ACCOMMODATE PE OR PVC PIPE CONNECTIONS

PE OR PVC PIPE SHALL BE INSERTED INTO FULL DEPTH OF JOINT IN CONCRETE SECTION AND VOID FILLED WITH BITUMINOUS PLASTIC CEMENT OR PRE-FORMED PLASTIC GASKET. (SEC.848)

PE Corrugated Pipes (AASHTO M 294)

Nominal Size (In.)	Min. I. D. (In.)	Max. O. D. (In.)	Min. A (In. 2/ft)	Min. C (In.)	Min. I (In. 4/In)
12	11.8	14.7	1.50	0.35	0.024
15	14.8	18.0	1.91	0.45	0.053
18	17.7	21.5	2.34	0.50	0.062
24	23.6	28.7	3.14	0.65	0.116
30	29.5	36.4	3.92	0.75	0.163
36	35.5	42.5	4.50	0.90	0.222

Profile Wall PVC Pipes (AASHTO M 304)

Nominal Size (In.)	Min. I. D. (In.)	Max. O. D. (In.)	Min. A (In. 2/ft)	Min. C (In.)	Cell Class 12454C	Cell Class 12364C
12	11.7	13.6	1.20	0.15	0.004	0.003
15	14.3	16.5	1.30	0.17	0.006	0.005
18	17.5	20.0	1.60	0.18	0.009	0.008
21	20.6	23.0	1.80	0.21	0.012	0.011
24	23.4	26.0	1.95	0.23	0.016	0.015
30	29.4	32.8	2.30	0.27	0.024	0.020
36	35.3	39.5	2.60	0.31	0.035	0.031

Mechanical Properties for PE Design

Initial Minimum Tensile Strength (psi)	Initial Minimum Mod. of Elast. (psi)	50 - Year Minimum Tensile Strength (psi)	50 - Year Minimum Mod. of Elast. (psi)
3,000	110,000	900	22,000

Minimum cell class, ASTM D 3350, 335420C
Allowable long-term strain = 5%

Minimum Properties for PVC Design

Initial Minimum Tensile Strength (psi)	Initial Minimum Mod. of Elast. (psi)	50 - Year Minimum Tensile Strength (psi)	50 - Year Minimum Mod. of Elast. (psi)
7,000	400,000	3,700	140,000

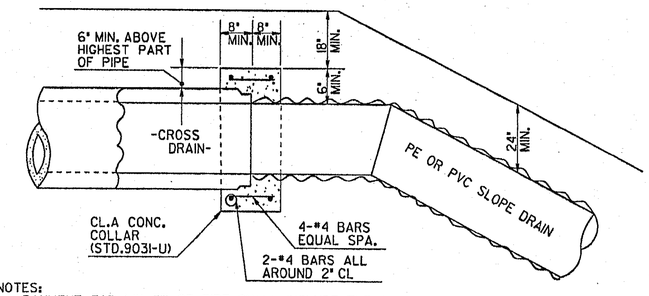
Minimum cell class, ASTM D 1784, 12454C
Allowable long-term strain = 5%

OR

Initial Minimum Tensile Strength (psi)	Initial Minimum Mod. of Elast. (psi)	50 - Year Minimum Tensile Strength (psi)	50 - Year Minimum Mod. of Elast. (psi)
6,000	440,000	2,600	158,400

Minimum cell class, ASTM D 1784, 12364C
Allowable long-term strain = 3.5%

CROSS DRAIN TO PE OR PVC SLOPE DRAIN CONNECTION



NOTES:
PAYMENT FOR LIN. FT. OF PIPE SHALL INCLUDE THE CONCRETE COLLAR. CONCRETE COLLARS ARE ALSO PERMITTED FOR SIDE DRAIN CONNECTIONS. CONNECTIONS SHOWN AT LEFT FOR SIDE DRAIN ARE NOT PERMITTED FOR SLOPE DRAIN CONNECTIONS.

GENERAL NOTES:

1. SPECIFICATIONS: GEORGIA STANDARD, CURRENT EDITION & SUPPLEMENTS THERETO.
2. THE MINIMUM COVER SHALL BE 24" FOR SIDE DRAINS AND 24" FOR SLOPE DRAIN PIPE.
3. THE MAXIMUM HEIGHT OF FILL SHALL BE 20 FEET.
4. THE INSIDE DIAMETER SHALL BE 12", 15", 18", 24", 30", OR 36".
5. MINIMUM PIPE STIFFNESS SHALL BE IN ACCORDANCE WITH AASHTO M 294, TYPE "S" FOR PE PIPE AND AASHTO M 304 FOR PVC PIPE
6. METAL FLARED END SECTIONS PER STD. 1120 ARE PERMITTED ONLY WHERE THE PLANS LIST PLAIN CORRUGATED STEEL PIPE AS AN ALLOWABLE ALTERNATE FOR THE CULVERT.

SPECIAL NOTE:

PE AND PVC PIPE ARE ALLOWABLE ONLY FOR THE FOLLOWING CONDITIONS:

A. BOTH PE AND PVC PIPE MAY BE USED AS AN ALTERNATE TO LONGITUDINAL PIPE UNDER ALLOWABLE FILL SHOWN AND FOR NON-INTERSTATE, NON-MEDIAN, AND NON-TRAFFIC BEARING APPLICATIONS.

B. PE PIPE MAY BE USED AS AN ALTERNATE TO PERFORATED UNDERDRAIN PIPE.

C. PE AND PVC PIPE MAY BE USED AS AN ALTERNATE FOR CROSS DRAINS WHEN THE ADT IS LESS THAN 250.

D. PE AND PVC PIPE ARE ALLOWABLE IN ALL SIDE DRAIN AND SLOPE DRAIN APPLICATIONS.

BY	DATE	REVISION
GJP	10-21-98	REVISED AND REDRAWN
RMU	5-5-94	GEN. REVISION
RMU	4-20-93	ADD PAY LENGTH

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD

CORRUGATED SMOOTH LINED POLYETHYLENE PIPE (PE) AND POLY VINLY CHORIDE PIPE (PVC)

NO SCALE — APRIL 1996

DES. ____ DRW. ____ TRA. ____ CHK. ____
(SUBMITTED) James A. Lennil — STATE ROAD & AIRPORT DESIGN ENGR.
(APPROVED) Paul L. Liddy — CHIEF ENGINEER

NUMBER 1030P

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