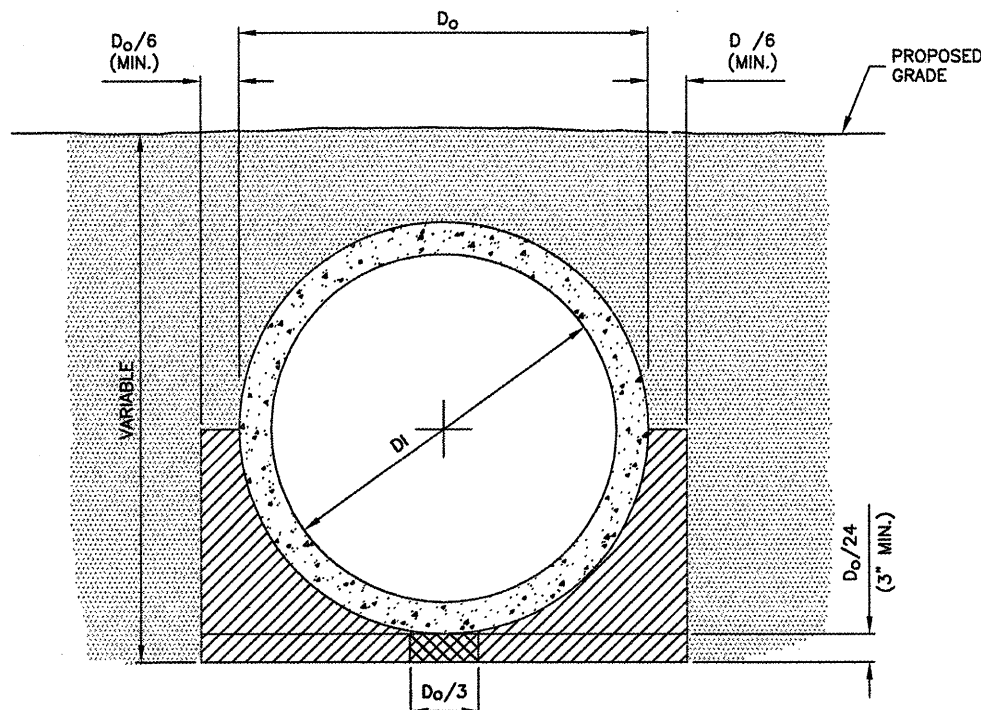
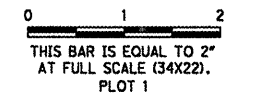
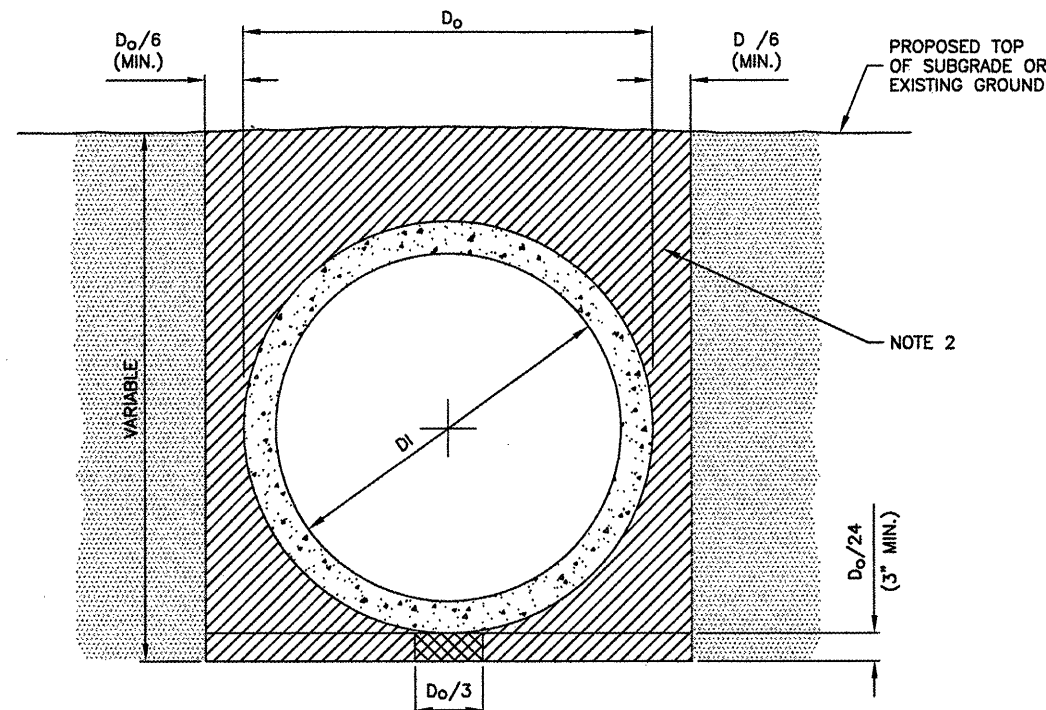


NUMBER	BY	DATE



**STANDARD TRENCH INSTALLATION  
NON-PAVED AREA**  
N.T.S.



**STANDARD TRENCH INSTALLATION  
PROPOSED PAVED AREA**  
N.T.S.

**TRENCH INSTALLATION LEGEND**

- DRAINAGE CONDUIT MATERIAL-CONCRETE
- MIDDLE BEDDING LOOSELY PLACED UNCOMPACTED BEDDING
- HAUNCH AND OUTER BEDDING COMPACTION- TO ENGINEER'S SATISFACTION OR 95% STANDARD PROCTOR
- LOWER SIDE AND OVERFILL COMPACTION- SAME AS EMBANKMENT REQUIREMENTS
- $D_o$  PIPE OUTSIDE DIAMETER
- $D_i$  PIPE INSIDE DIAMETER

**TRENCH INSTALLATION NOTES**

1. BEDDING SHOWN IS IN ACCORDANCE WITH "STANDARD EMBANKMENT INSTALLATIONS", STANDARD INSTALLATION & BEDDING FACTORS FOR THE INDIRECT DESIGN METHOD (DESIGN DATA 40), AMERICAN CONCRETE PIPE ASSOCIATION.
2. BACKFILL TO EXTEND 3' BEYOND EDGES OF PROPOSED PAVEMENT.

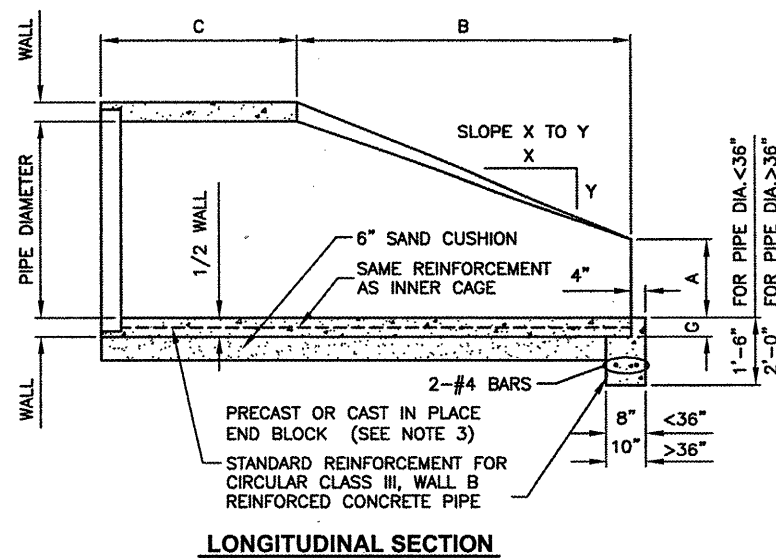
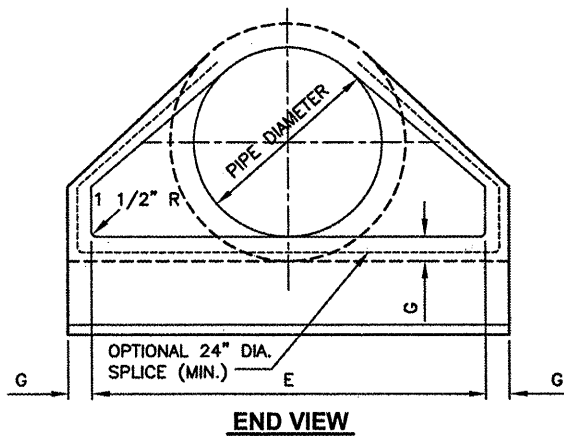
**DIMENSIONS - TABLE 1**

PIPE DIA.	APPROX WT. (lbs.)	WALL	A	B	C	D	E	G	R	SLOPE
12"	530	2"	4"	2'-0"	4'-0 7/8"	6'-0 7/8"	2'-0"	2"	9"	3:1
15"	740	2 1/4"	6"	2'-3"	3'-10"	6'-1"	2'-6"	2 1/4"	11"	3:1
18"	990	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	2 1/2"	12"	3:1
21"	1280	2 3/4"	9"	2'-11"	3'-2"	6'-1"	3'-6"	2 3/4"	13"	3:1
24"	1520	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3"	14"	3:1
27"	1930	3 1/4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	4'-6"	3 1/4"	14 1/2"	3:1
30"	2190	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3 1/2"	15"	3:1
33"	3200	3 3/4"	1'-1 1/2"	4'-10 1/2"	3'-3 1/4"	8'-1 3/4"	5'-6"	3 3/4"	17 1/2"	3:1
36"	4100	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	4"	20"	3:1
42"	5380	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	4 1/2"	22"	3:1
48"	6550	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	5"	22"	3:1
54"	8240	5 1/2"	2'-3"	5'-5"	2'-11"	8'-4"	7'-6"	5 1/2"	24"	2.4:1
60"	8730	6"	2'-11"	5'-0"	3'-3"	8'-3"	8'-0"	5"	*	2:1
66"	10710	6 1/2"	2'-6"	6'-0"	2'-3"	8'-3"	8'-6"	5 1/2"	*	2:1
72"	12520	7"	3'-0"	6'-6"	1'-9"	8'-3"	9'-0"	6"	*	1.86:1
78"	14770	7 1/2"	3'-0"	7'-6"	1'-9"	9'-3"	9'-6"	6 1/2"	*	1.82:1
84"	18160	8"	3'-0"	7'-6 1/2"	1'-9"	9'-3 1/2"	10'-0"	6 1/2"	*	1.5:1

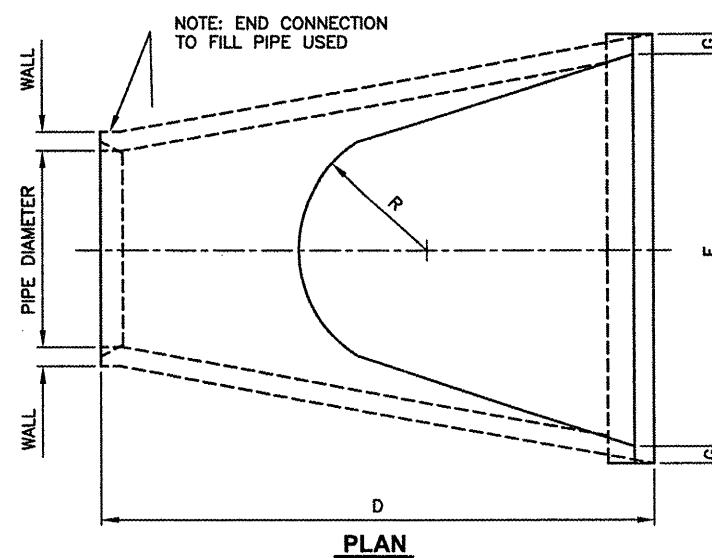
\* RADIUS AS FURNISHED BY MANUFACTURER.

**PRECAST FLARE SECTION NOTES**

1. PRECAST CONCRETE FLARED END SECTIONS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M-170 CLASS III, WALL B REINFORCED CONCRETE PIPE.
2. PRECAST CONCRETE FLARED END SECTION FOR PIPE DIAMETER REQUIRED SHALL BE AS INDICATED ON DETAIL PLAN FOR EACH INDIVIDUAL INSTALLATION.
3. THE END BLOCK SHALL BE PLACED PRIOR TO THE INSTALLATION OF THE FLARED END SECTION. THE END BLOCK SHALL BE BACKFILLED IN ACCORDANCE WITH ITEM 701.



**PRECAST REINFORCED CONCRETE FLARED END SECTION**  
(I.D.O.T. STD. NO. 542301)  
N.T.S.



**CONSTRUCT NEW PERIMETER ROAD AND PERIMETER FENCE - PROJECT 3**

**CMT**  
 CRAWFORD, MURPHY & TILLY, INC.  
 CONSULTING ENGINEERS  
 License No. 184-000613

**PROJECT: PIA-3865  
AIP PROJ: 3-17-0080-XX**

FILE:	DRAINDET_01
DESIGN BY:	TJH/SMS
DRAWN BY:	CMT
CHECKED BY:	CET
APPROVED BY:	CET
DATE:	02-13-2009
JOB No:	07061-04-00

**DRAINAGE DETAILS  
SHEET 1 OF 3**