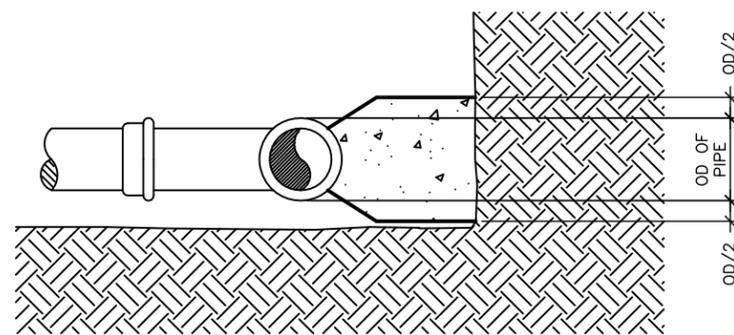


PLAN

MIN. THRUST BLOCK AREA (SQUARE FEET)			
PIPE DIA	PLUG TEE	90° BEND	45° BEND
4"	2	2	2
6"	4	5	3
8"	6	8	5
10"	9	13	7
12"	13	18	10
14"	18	25	14
16"	23	32	18



SECTION A-A

DRAWING DEVELOPED FOR ML-3/ML-4 PROJECTS. FOR ML-1/ML-2, ADDITIONAL REQUIREMENTS AND QA REVIEWS ARE REQUIRED. (REMOVE THIS NOTE WHEN INSERTED INTO A DRAWING PACKAGE).

NO	DATE	CLASS REV	DC	DESCRIPTION	DWN	DSGN	CHKD	SUB	APP
2	1-28-14	U		GENERAL REVISION	KT	MS	JG	RT	TO
1	8-23-02	U		GENERAL REVISION AND DWG. NO. WAS ST3663.	RP	EH	MS	EH	TO

**THRUST BLOCK DETAIL**  
 X  
 C-XXXX SCALE: NONE

**NOTES FOR DESIGNER:**

(DO NOT INCLUDE ON CONSTRUCTION DRAWINGS)

- WHEN EDITING DETAIL TO SUIT PROJECT, ADD JOB SPECIFIC REQUIREMENTS AND DELETE ONLY THOSE PORTIONS THAT DO NOT APPLY. TO SEEK A VARIANCE FROM APPLICABLE REQUIREMENTS, CONTACT THE ESM CIVIL POC.
- SIZE OF CONCRETE DETERMINED BY SIZE OF PIPE. CONCRETE SHALL COVER AREA OF PIPE AS SHOWN AND SHALL REST AGAINST UNDISTURBED BANK OF TRENCH.
- BEARING AREAS ARE FOR UNDISTURBED MATERIAL. INCREASE BEARING AREA FOR COMPACTED FILL MATERIAL BY A FACTOR OF 1.5.
- CONCRETE  $f'_c=3000$  PSI @ 28 DAYS.
- TABLE BASED ON NFPA 24, 8.6, 225 PSI PRESSURE AND 2000 PSF SOIL BEARING.
- SAND BEDDING NOT SHOWN FOR CLARITY.

**ENGINEERING STANDARDS PROGRAM**

ENGINEERING STANDARDS MANUAL		DRAWN	R.PEARSON
THRUST BLOCK DETAIL		DESIGN	E.HOTH
TA-XX BLDG XXX		CHECKED	M.SMITHOUR
SUBMITTED DISCIPLINE POC: EDWARD HOTH		DATE	6-28-99

APPROVED FOR RELEASE  
 STANDARDS MANAGER: TOBIN ORUCH

Los Alamos NATIONAL LABORATORY  
 PO Box 1663  
 Los Alamos, New Mexico 87545

D.C.: UNCLASSIFIED REVIEWER: LARRY BAYS BASIS: BASIS DATE: PROJECT ID DRAWING NO ESR NO.: CHAPTER3ST-G30GEN-2 ESR # REV 2