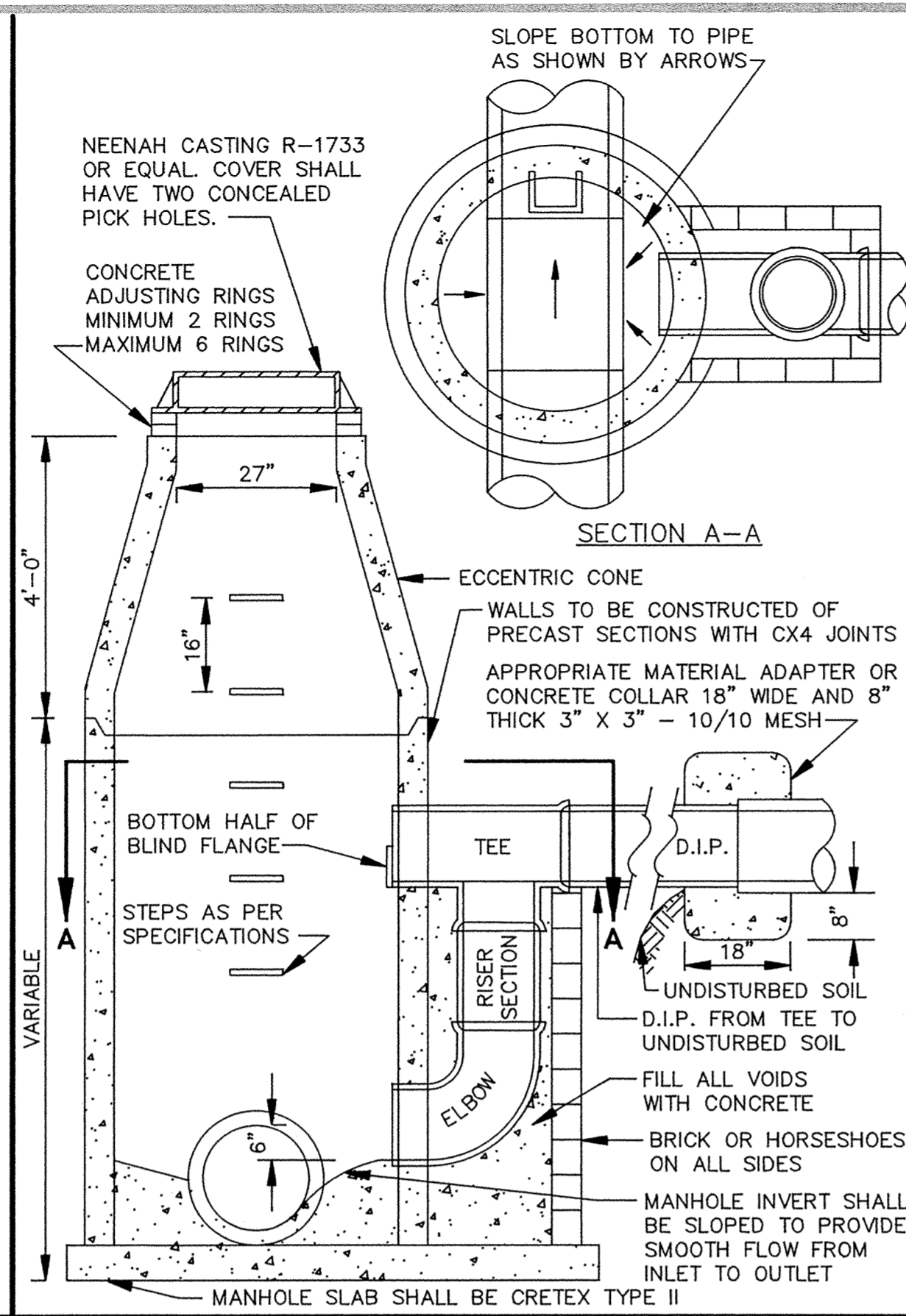
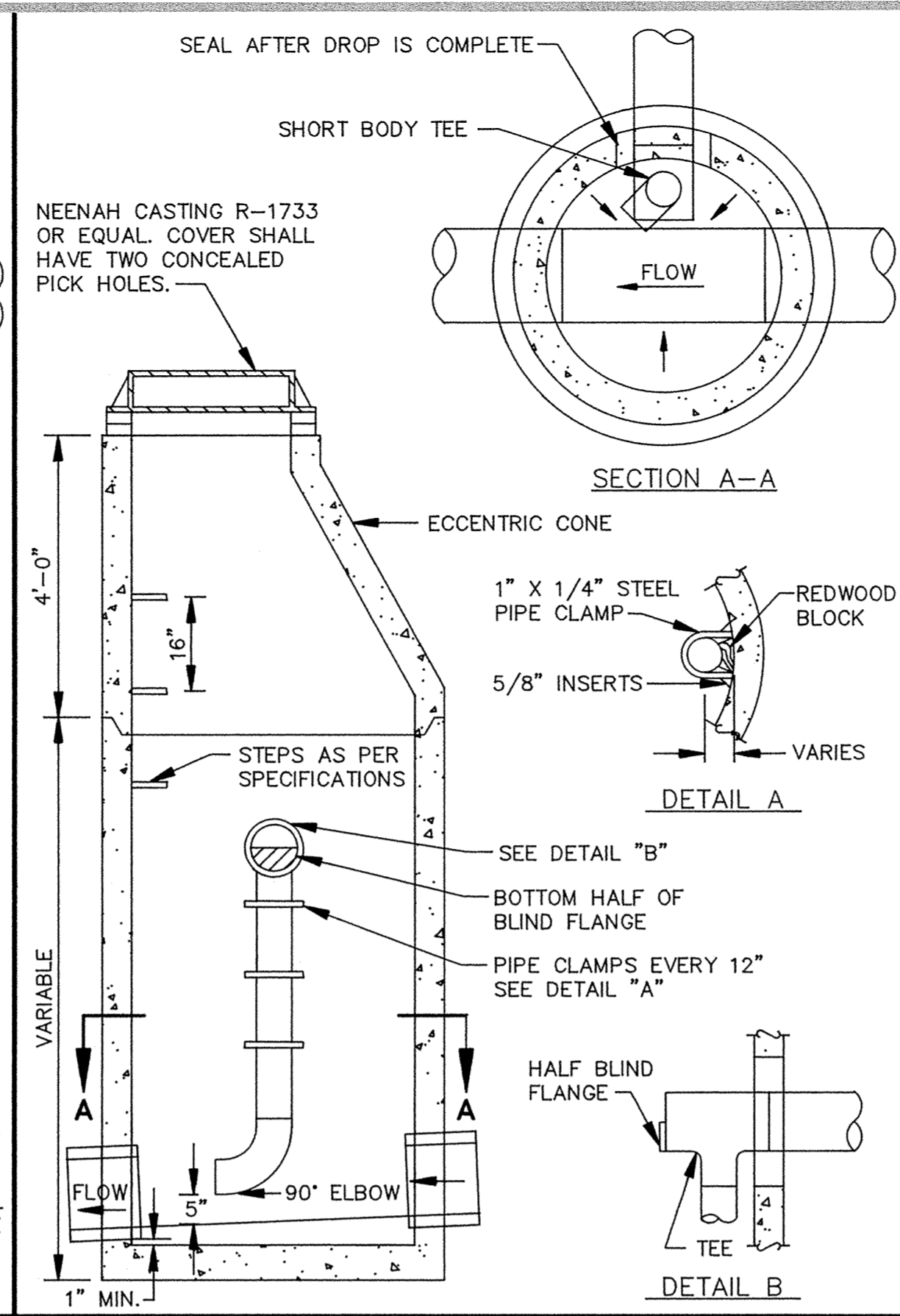


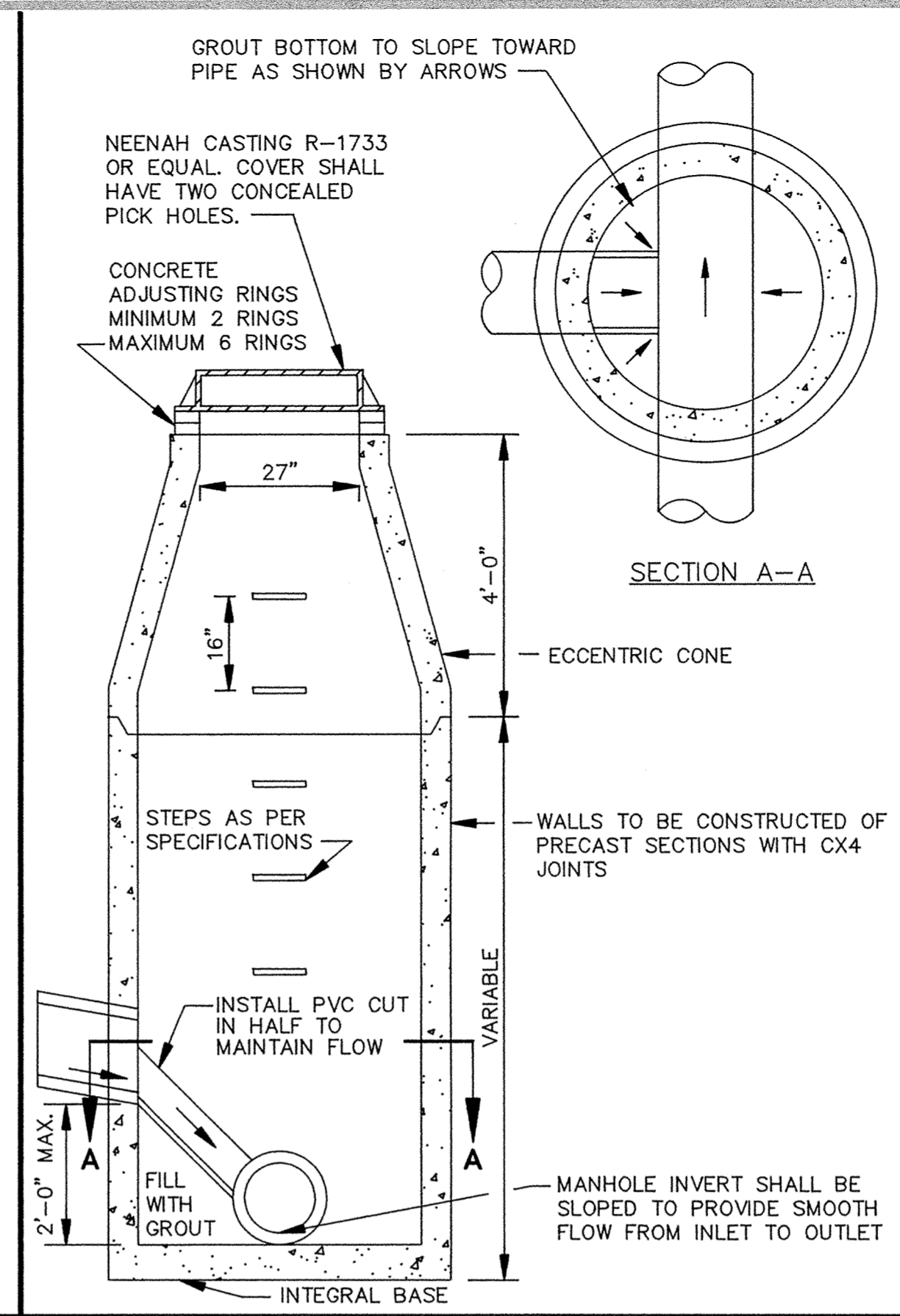
STANDARD AIR RELIEF MANHOLE



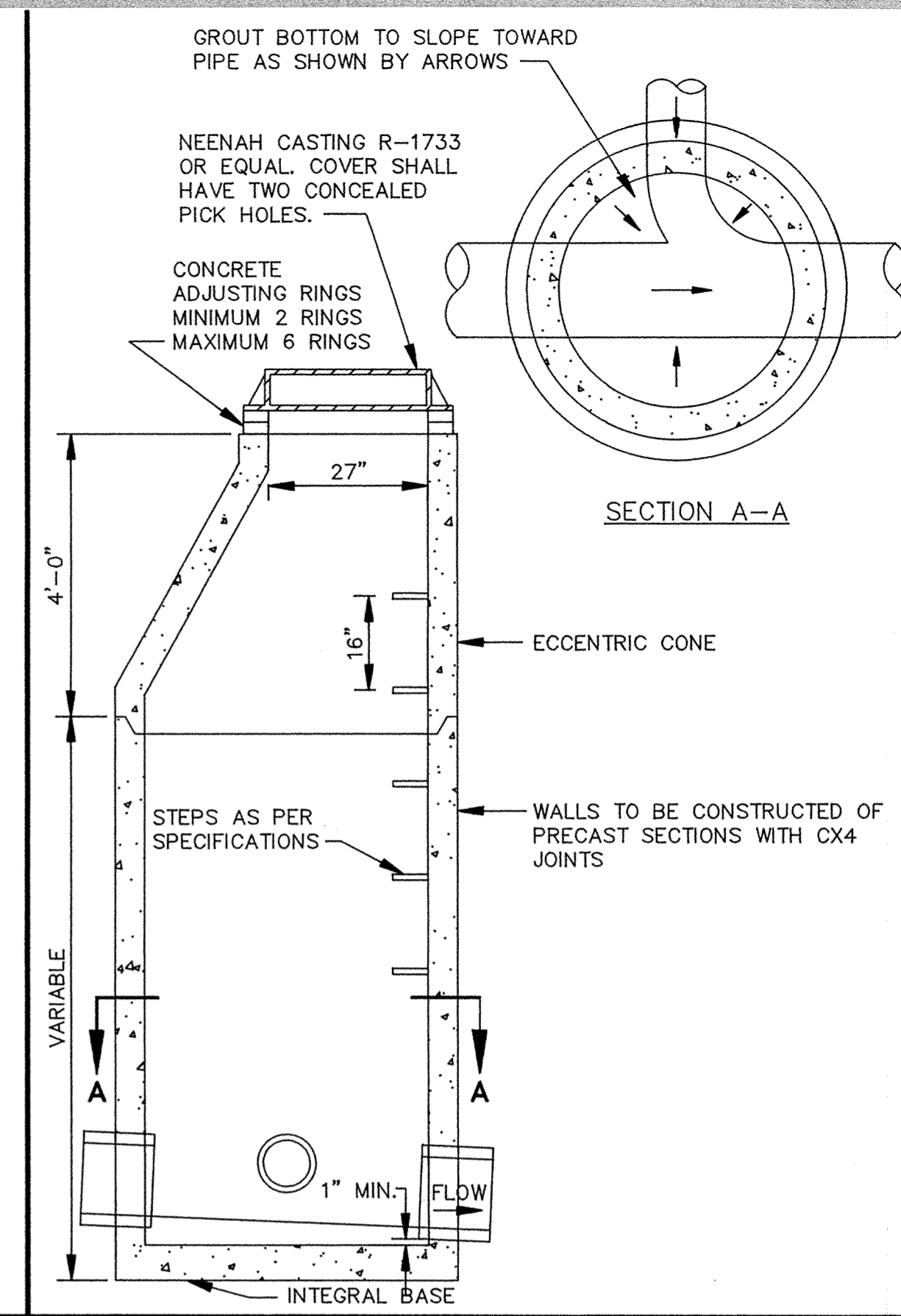
OUTSIDE DROP MANHOLE



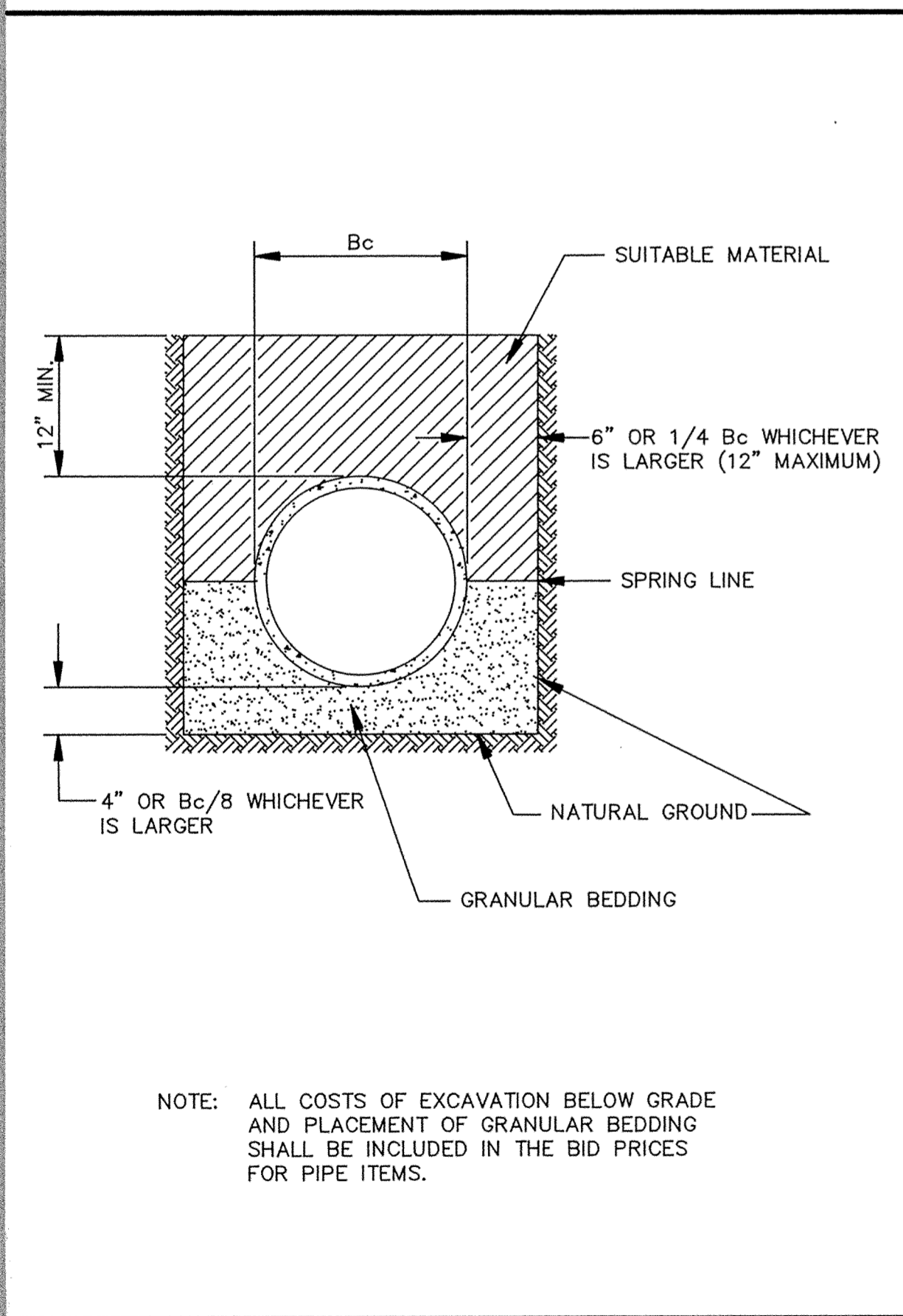
INSIDE DROP MANHOLE



INSIDE DROP MANHOLE (TWO FEET OR LESS)

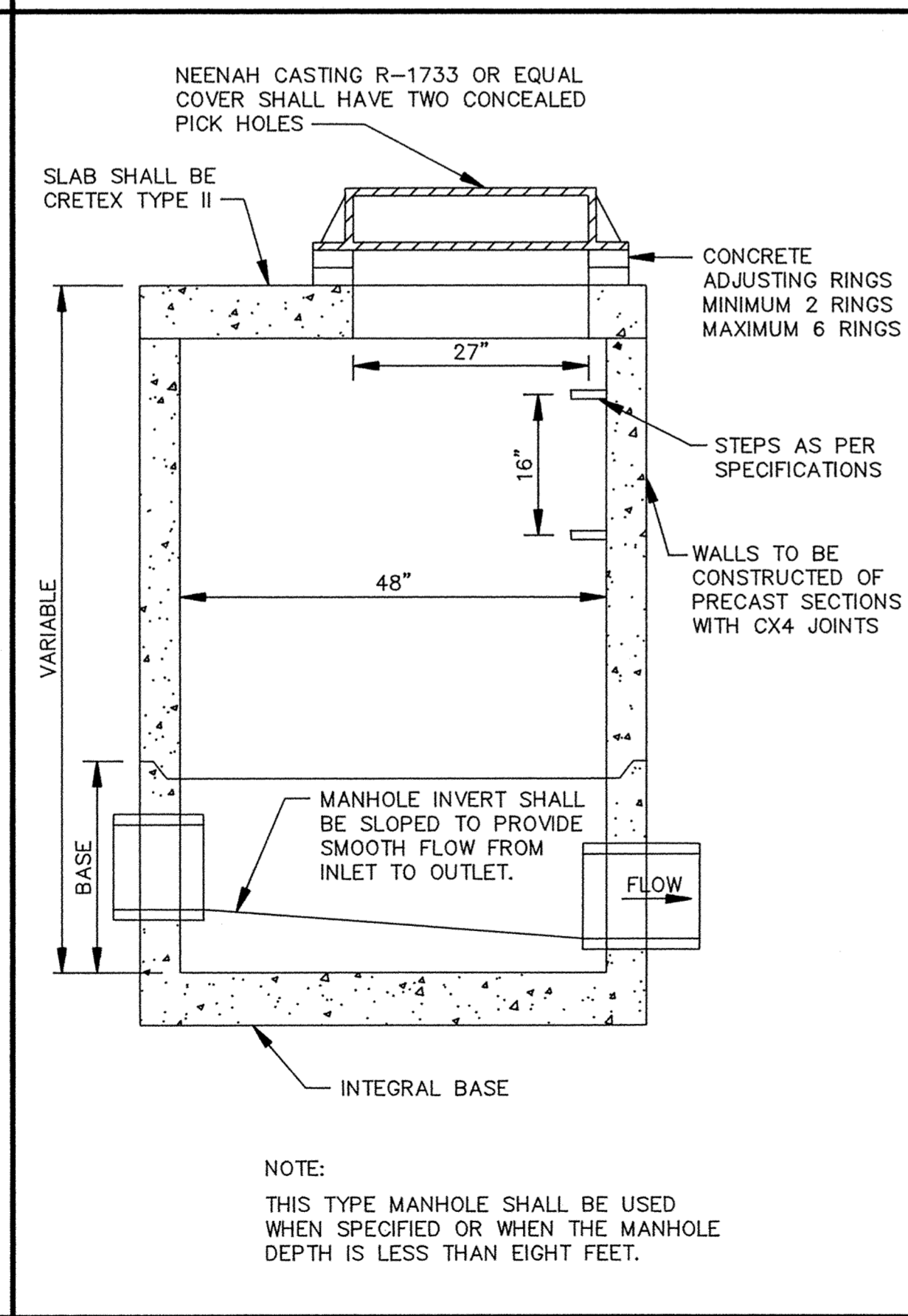


STANDARD MANHOLE



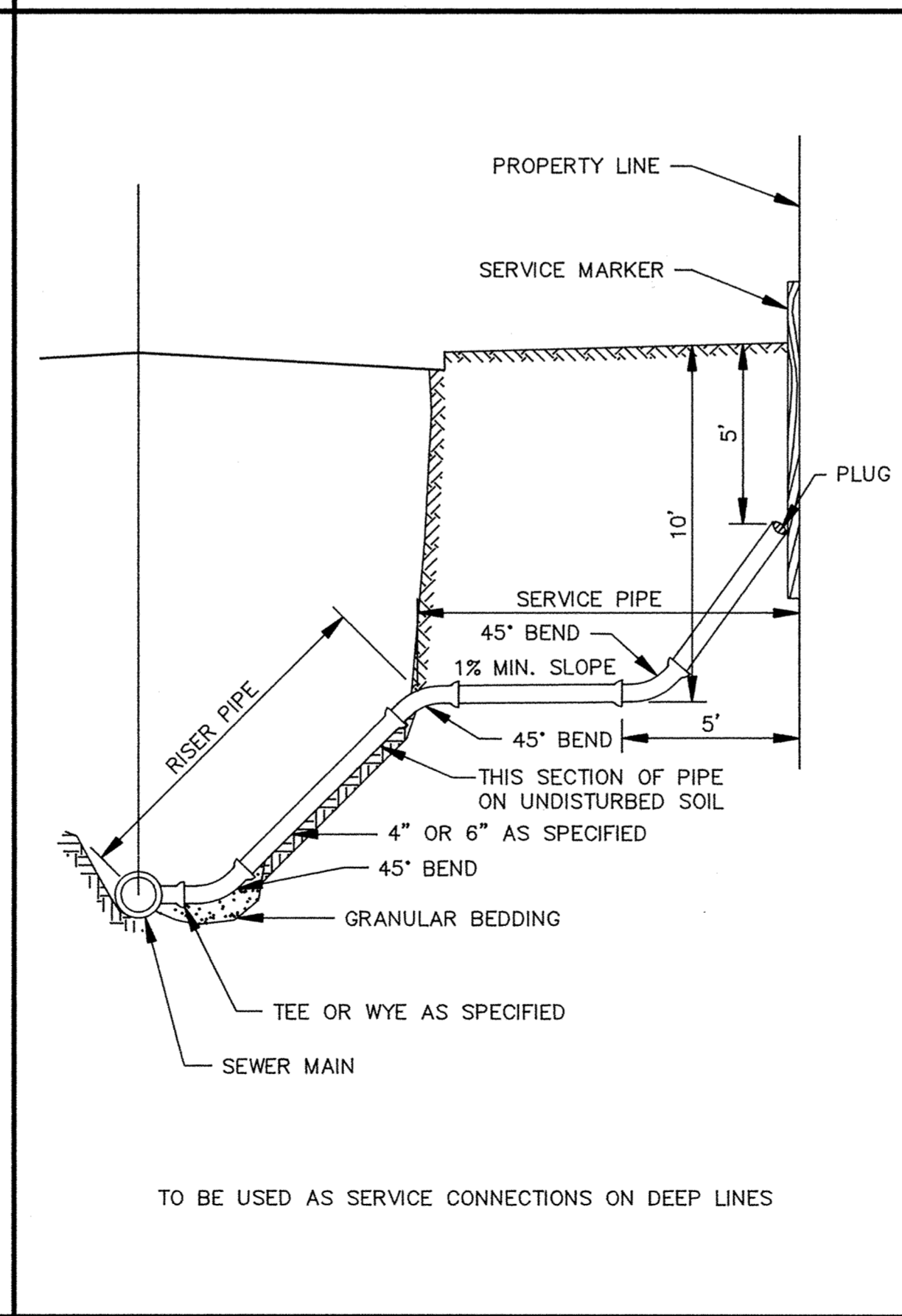
NOTE: ALL COSTS OF EXCAVATION BELOW GRADE AND PLACEMENT OF GRANULAR BEDDING SHALL BE INCLUDED IN THE BID PRICES FOR PIPE ITEMS.

CLASS B PIPE BEDDING



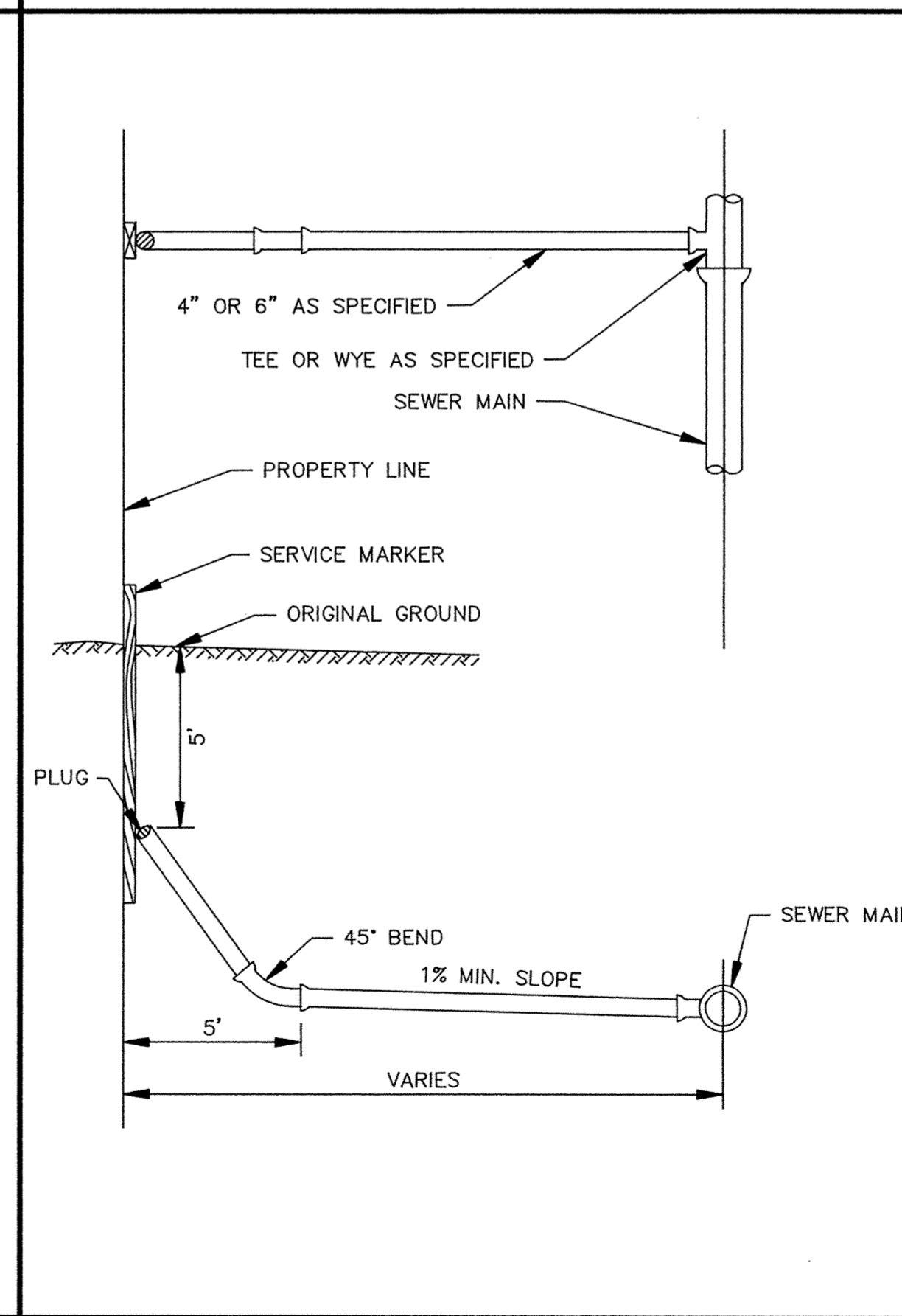
NOTE: THIS TYPE MANHOLE SHALL BE USED WHEN SPECIFIED OR WHEN THE MANHOLE DEPTH IS LESS THAN EIGHT FEET.

SLAB TOP MANHOLE



TO BE USED AS SERVICE CONNECTIONS ON DEEP LINES

SERVICE RISER SECTION



TYPICAL HOUSE SERVICE

RECORD PLAN NOV, 1993

ER168SAN

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
*Maier Stewart & Associates Inc.*  
 DATE 7/7/93 REG. NO. 19130

**MSA** CONSULTING ENGINEERS  
**Maier Stewart & Associates Inc.**  
 9800 SHELARD PARKWAY (612) 546-0432 MINNEAPOLIS, MINNESOTA 55441  
 1959 SLOAN PLACE (612) 774-6021 ST. PAUL, MINNESOTA 55117

DATE	DESCRIPTION	DESIGNED
		CHECKED
		DRAWN MRF
		GRAPHIC SCALE
		HORIZ. 20
		VERT. 5

CITY OF ELK RIVER  
 MEADOWVALE HEIGHTS  
 SANITARY SEWER DETAILS  
 DATE MAY, 1993 SHEET 12 OF 15 SHEETS PROJECT NO. 230-168

DRAWING NUMBER  
 MEADO. 93  
 12  
 DRAWING NUMBER  
 636