

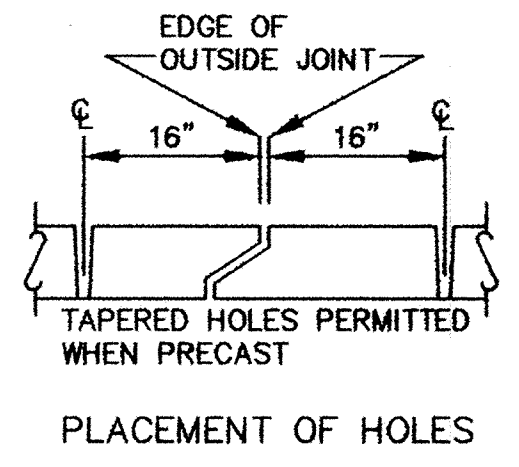
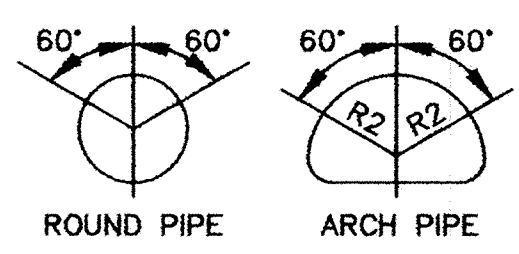
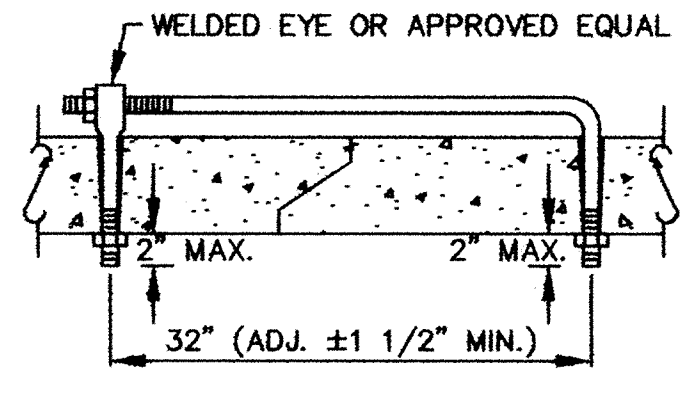
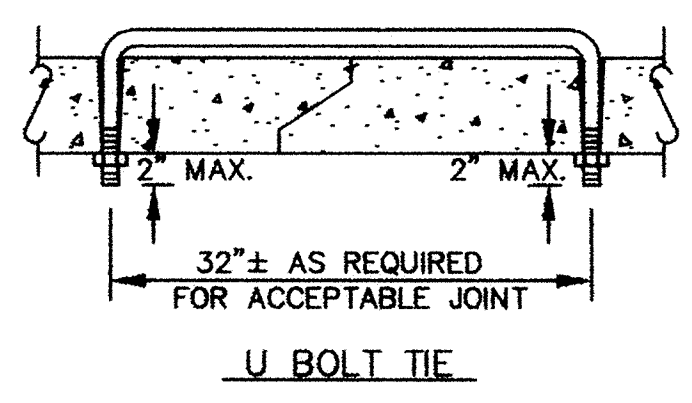
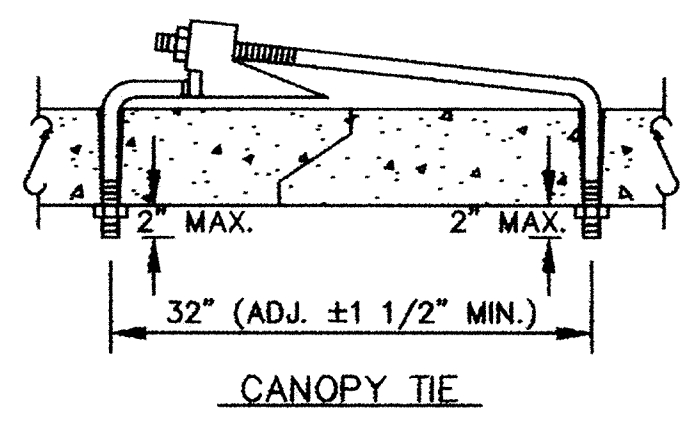
SAUCO PRODUCTS • NEW UPEL, MINNESOTA  
 MEMBER BY PART NUMBER 8532

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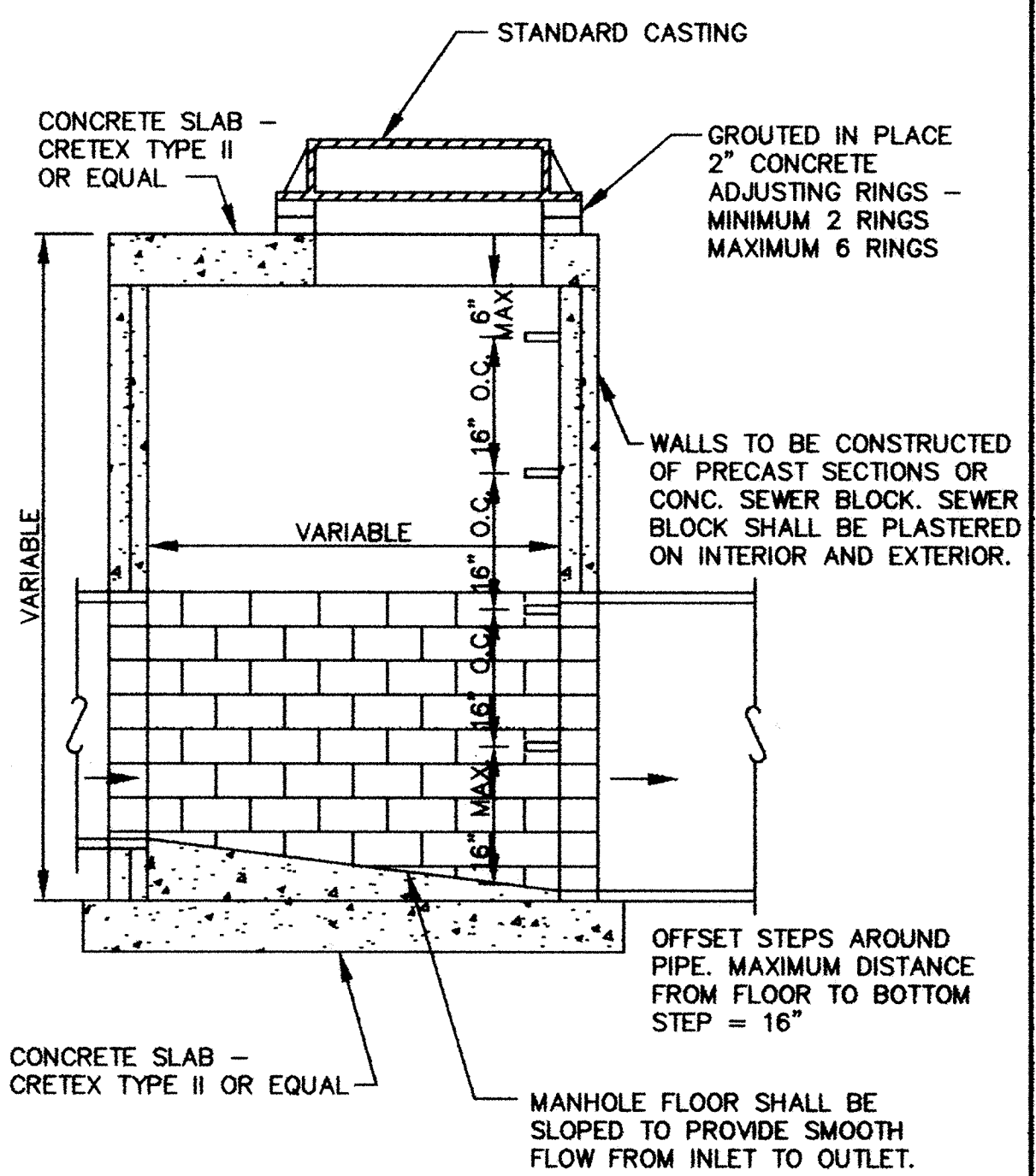
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PIPE SIZE	THREAD DIAMETER
12	5/8" ROLLED THREADS (SEE NOTE 4)
15	
18	
21	
24	
27	3/4" CUT OR ROLLED
30	
33	
36	
42	
48	1" CUT OR ROLLED
54	
60	
66	
72	
78	CUT OR ROLLED
84	
90	
96	
102	
108	
120	
132	



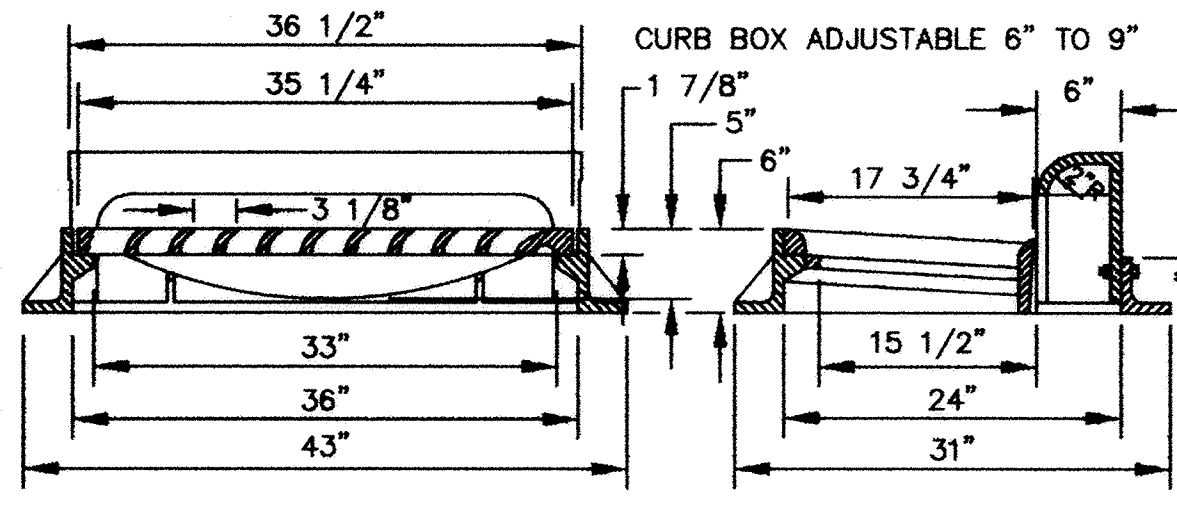
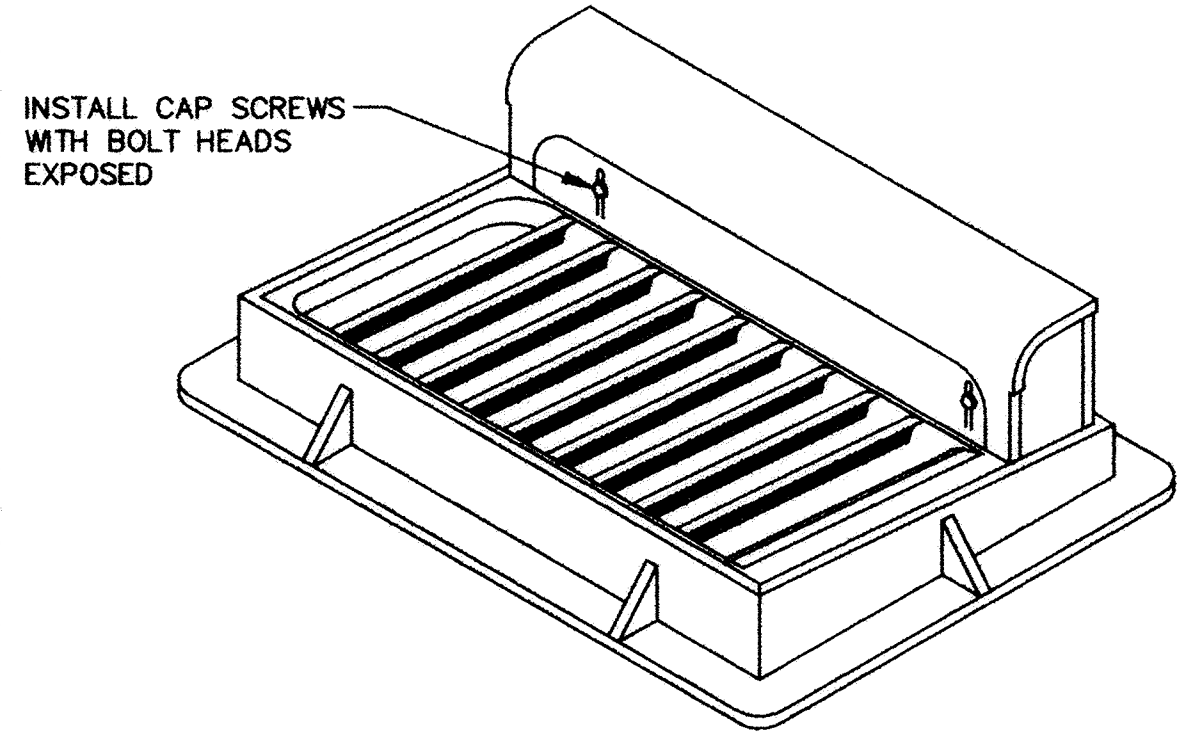
- NOTE:
- HOLES SHALL BE CAST-IN OR DRILLED 16" FROM OUTSIDE EDGE OF JOINT.
  - NUTS AND WASHERS ARE NOT REQUIRED ON INSIDE OF PIPE WITH 27" DIAMETER OR LESS.
  - TIES ARE NOT REQUIRED FOR BELL PIPE 24" AND SMALLER. ON OTHER SIZES, TIE MAY BE INSERTED FROM INSIDE.
  - CUT THREADS MAY BE USED IF WASHER AND NUT ARE USED.
  - PIPE SIZES LISTED ARE INSIDE DIAMETER OF ROUND PIPE OR EQUIVALENT DIAMETER OF PIPE ARCH.

CONCRETE PIPE JOINT TIES



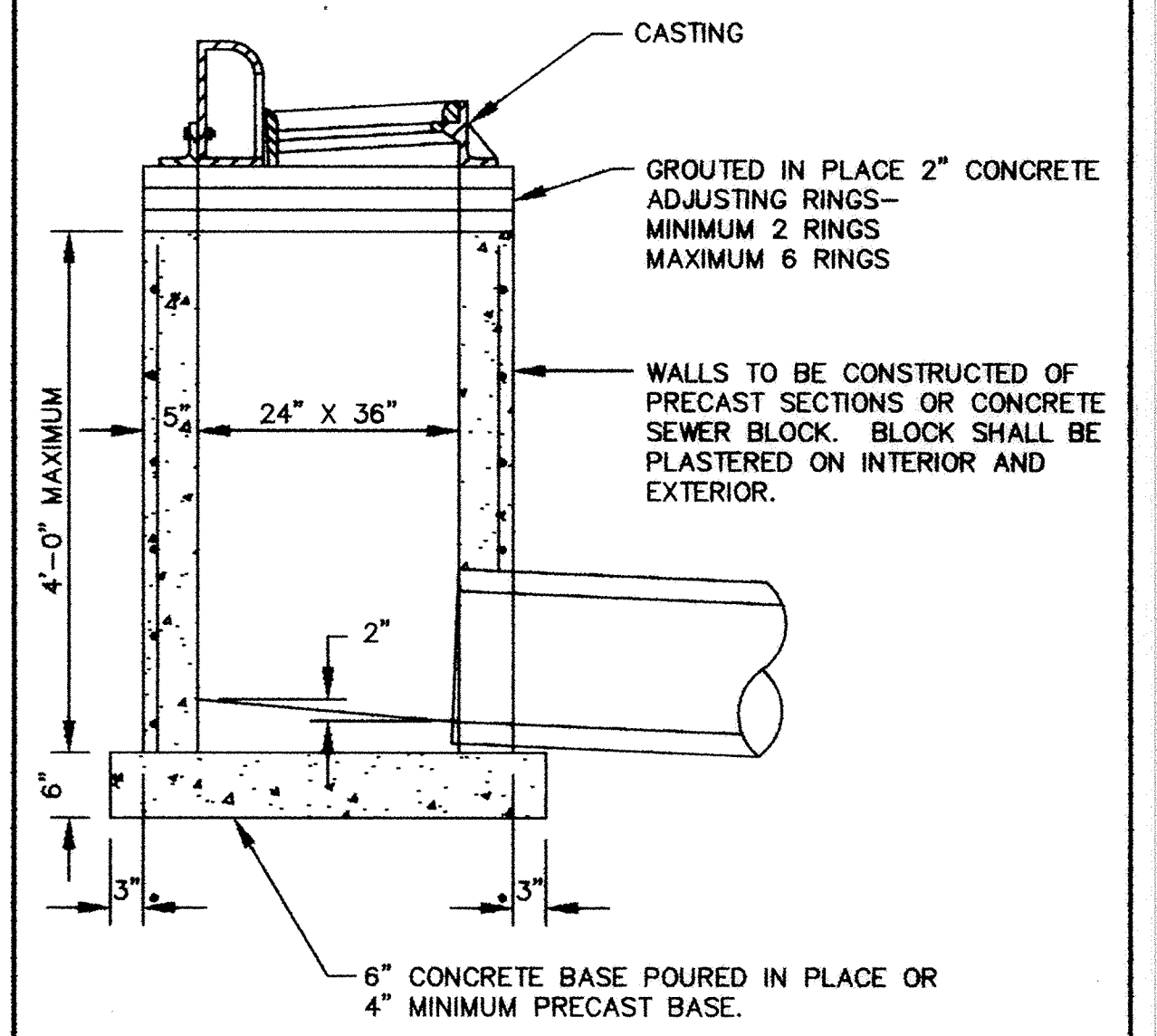
- NOTE:
- THIS TYPE MANHOLE SHALL BE USED WHEN SPECIFIED OR WHEN THE MANHOLE DEPTH IS LESS THAN EIGHT FEET.

SLAB TOP MANHOLE



CASTINGS SHALL BE NEENAH R-3067-V OR EQUAL

STANDARD INLET CASTING



- NOTE:
- REINFORCING SHALL CONSIST OF A SINGLE LINE OF STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.17 SQ. IN. PER FOOT OF HEIGHT.

SHALLOW CATCH BASIN

DESIGNED BY: KJT DRAWN BY: EY  
 APPROVED: TJM JOB NUMBER 815640J  
 CAD DATE: January 15, 2003 11:35:21 a.m.  
 CAD FILE: 815640\MISC\815640-D4.DWG (JLALLEN)

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.  
 SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_  
 PRINTED NAME TERRY J. MAURER LIC. NO. 15318

NO.	DATE	BY	REVISION DESCRIPTION

1326 ENERGY PARK DRIVE  
 ST. PAUL, MINNESOTA 55108  
 (651) 644-4389

**Howard R. Green Company**  
 CONSULTING ENGINEERS

**ZANE AVENUE IMPROVEMENTS**  
 CITY OF ELK RIVER  
 ZANE AVENUE

**STORM SEWER CONSTRUCTION DETAILS**  
 S.P. 7101-56

SHEET NO.  
**18**