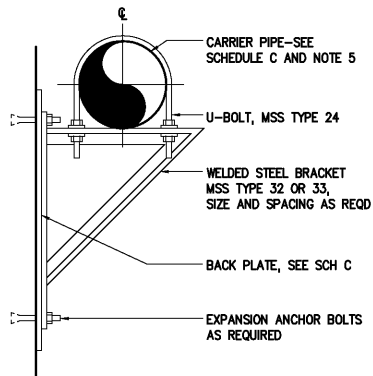


BASE ELBOW (TEE)

1509400

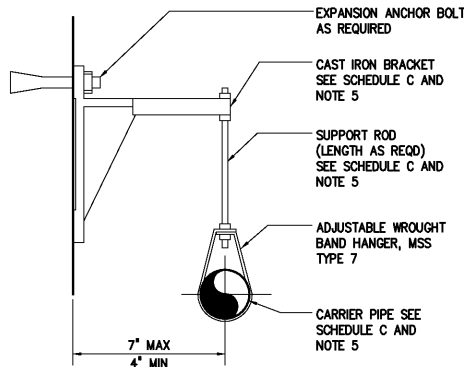
SCHEDULE A					
BASE ELBOW (TEE) (DIM IN INCHES)					
PIPE SIZE	A	B	C	D	DIA x LG
3	1 1/2	5	4 7/8	1/2 x 5	
4	2	6	5 1/2	5/8 x 5	
5-6	2 1/2	7	VARIES	5/8 x 5	
8-10	4	9	VARIES	5/8 x 5	
12-16	6	11	VARIES	3/4 x 6	
18-24	8	13 1/2	VARIES	3/4 x 6	
30	10	16	23	7/8 x 7	
36	12	19	26	7/8 x 7	
SCHEDULE B					
ADJUSTABLE SADDLE (DIM IN INCHES)					
PIPE SIZE	A	B	C	D	DIA x LG
3	2 1/2	7	1 1/2	5/8 x 5	
4-12	3	7 1/2	2 1/2	5/8 x 5	
14-16	4	9	3	5/8 x 5	
18-20	6	11	3 1/2	3/4 x 6	
24-36	6	11	4	3/4 x 6	

SCHEDULE C								
SUPPORT RODS AND BRACKET SPACING (FOR STANDARD WEIGHT PIPE)								
PIPE SIZE (INCHES)	BACK PLATE (INCHES)	MINIMUM ROD # (INCHES)		MAX SPAN IN FEET (SEE NOTE 8)				
		PROCESS PIPING	STEEL AIR PIPING	COPPER	PLASTIC	STEEL	DIP (SEE NOTE 7)	
UP TO 1	SEE NOTE 4	3/8	3/8	5	5	6	-	
1 1/4-2	"	3/8	3/8	8	5	10	-	
2 1/2-3 1/2	"	3/8	3/8	8	5	12	6	
4-5	"	1/2	3/8	-	5	14	8	
6	"	5/8	3/8	-	5	15	9	
8-12	"	3/4	1/2	-	5	15	9	
14-16	"	7/8	1/2	-	5	15	9	
18	"	1	1/2	-	5	18	10	
20-24	"	1 1/4	5/8	-	5	18	10	



PIPE SUPPORT BRACKET

1509404

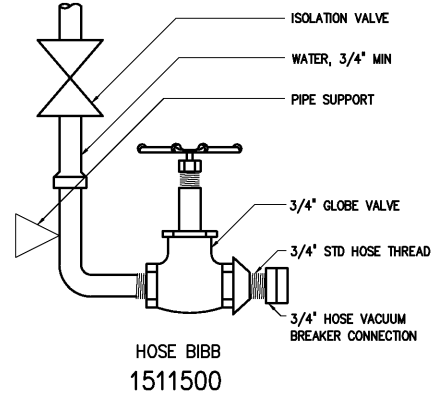
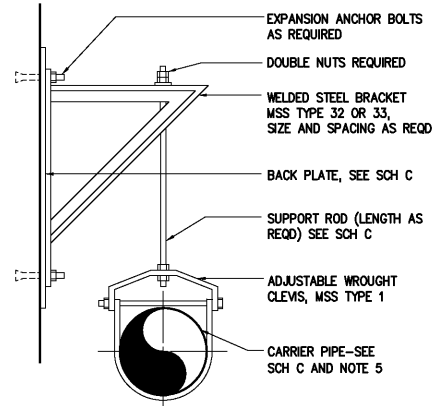


PIPE SUPPORT BRACKET

1509406

PIPE SUPPORT BRACKET

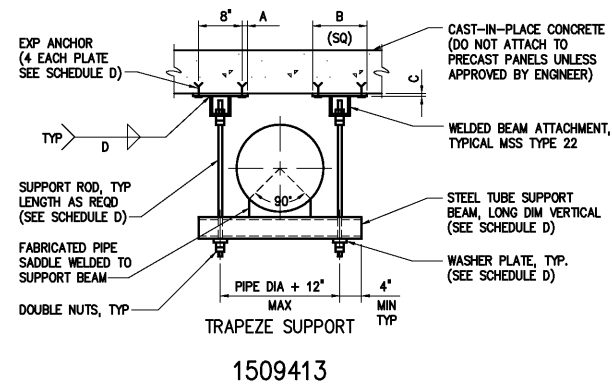
1509407



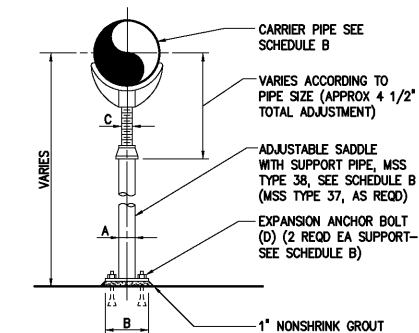
NOTES:

- 1 MSS REFERS TO THE MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY, STANDARD PRACTICE SP-58 AND SP-69.
- 2 PIPE WALL SUPPORT AND PIPE SUPPORT RACK SHALL BE ASSEMBLED WITH CHANNEL FRAMES AND ACCESSORIES AS MANUFACTURED BY UNISTRUT CORP, OR VERSABAR CORP, OR EQUAL.
- 3 FABRICATED PIPE SUPPORT MAY BE USED AS SHOWN IN PIPE SUPPORT RACK DETAIL, OR TO SUPPORT PIPE FROM THE FLOOR.
- 4 BACK PLATES SHALL BE DESIGNED BY THE CONTRACTOR ACCORDING TO WALL TYPES AND THE WEIGHTS INVOLVED. BACK PLATE TO BE SUPPLIED BY BRACKET MANUFACTURER.
- 5 PIPE HANGERS, SUPPORTS AND BRACKETS ARE SHOWN HERE IN VARIOUS COMBINATIONS AS GENERAL DETAILS. THE CONTRACTOR SHALL DESIGN THE SUPPORT SYSTEM BASED ON ACTUAL WEIGHTS AND CONDITIONS AS SPECIFIED OR AS SHOWN ON THE CONTRACT DRAWINGS.
- 6 ALL INSULATED PIPES SHALL USE A SHIELD (MSS TYPE 40) WITH THE APPLICABLE PIPE SUPPORT.
- 7 MINIMUM OF ONE HANGER PER PIPE SECTION, CLOSE TO JOINT, ON THE BARREL ALSO AT CHANGE IN DIRECTION AND BRANCH CONNECTIONS.
- 8 RODS AND SPACING ARE BASED ON STANDARD WEIGHT MATERIALS ACCORDING TO MSS SP-69. AND ARE FOR REFERENCE ONLY. THE CONTR SHALL SPACE HIS HANGERS BASED ON ACTUAL CONDITIONS.

SCHEDULE D									
TRAPEZE SUPPORT (DIM. IN INCHES)									
PIPE SIZE	STEEL TUBE SUPPORT BEAM VERT. x HOR.	MINIMUM ROD # (INCHES)		WASHER PLATE	BASE PLATE				MAX. SUPPORT SPACING IN FEET (SEE NOTE 8)
		PROCESS PIPING	STEEL AIR PIPING		A	B	C	D	
12-14	4x4x3/8	1/2	1/2	4x4x1/4	1	10	3/8	3/16	1/2 x 4
16-24	4x4x3/8	3/4	5/8	4x4x3/8	1	10	1/2	3/16	5/8 x 5
30-36	6x4x3/8	1	3/4	4x4x1/2	2	12	1/2	1/4	3/4 x 6
42	6x4x3/8	1 1/4	3/4	5x5x1/2	2	12	3/4	1/4	7/8 x 6
48	8x4x3/8	1 1/2	1	5x5x3/4	2	12	1	1/4	1 x 7

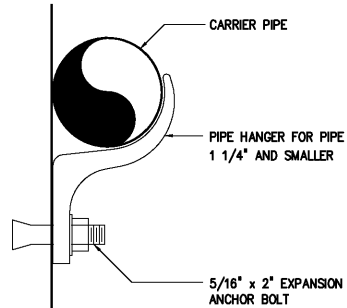


1509413



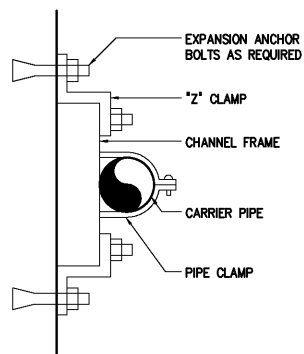
ADJUSTABLE SADDLE

1509405



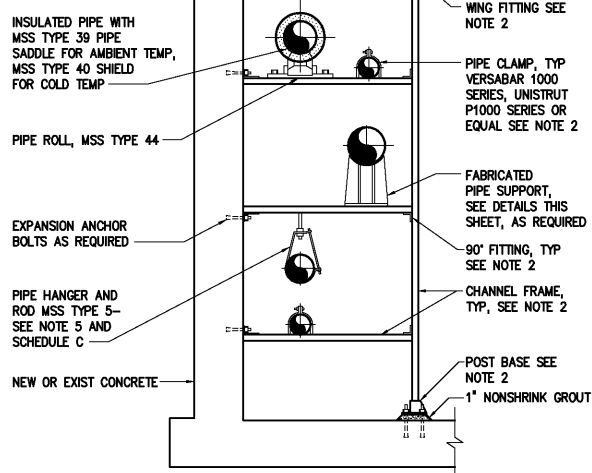
WALL HANGER PIPE SUPPORT

1509403



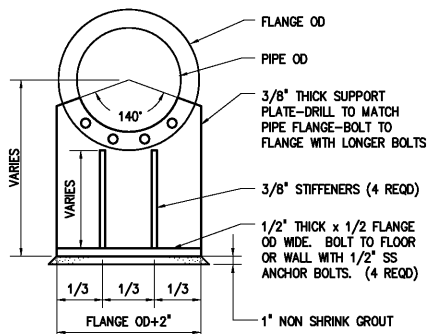
PIPE WALL SUPPORT

1509402



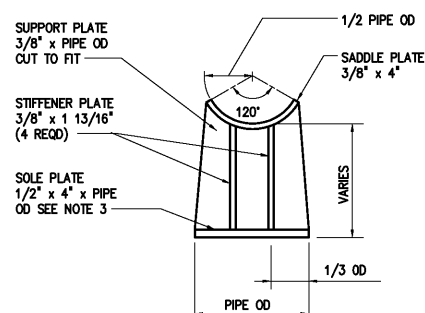
PIPE SUPPORT RACK

1509408



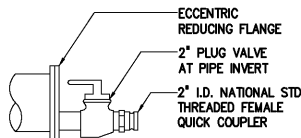
FABRICATED PIPE SUPPORT (AT FLANGE)

1509409



FABRICATED PIPE SUPPORT (AT PIPE)

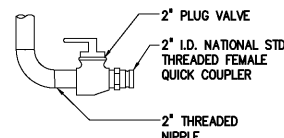
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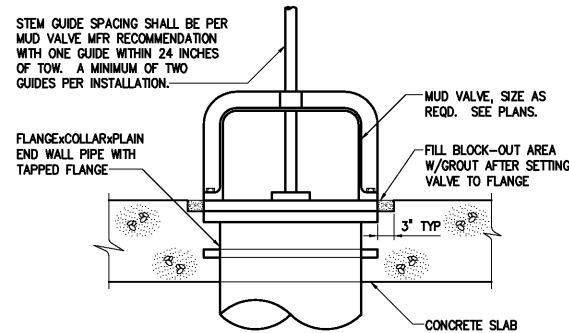
TYPE I

FLUSHING CONNECTIONS

1511501

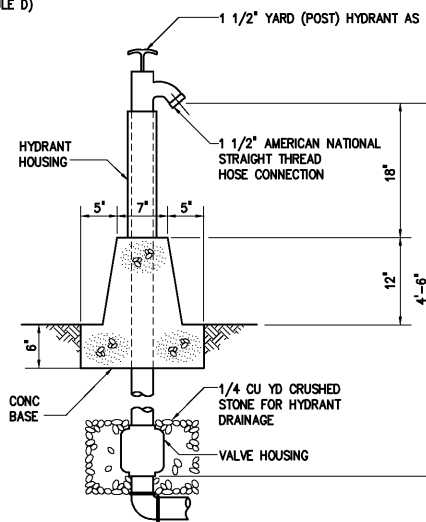


TYPE II



MUD VALVE INSTALLATION

1510401



YARD HYDRANT

1511502R

DESIGNED	H & S
DRAWN	H & S
CHECKED	
PROJ. ENGR.	H & S
APPROVED	
NO.	
1	AS BUILT
2	CONSTRUCTION
3	REGULATORY APPROVAL
4	ISSUED FOR
DATE	
BY	

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Environmental Engineers & Scientists

4011 WestChase Blvd, Raleigh, North Carolina 27607

CITY OF ROANOKE
VIRGINIA

REGIONAL WATER POLLUTION CONTROL PLANT
PROCESS TRAIN IMPROVEMENTS

MISCELLANEOUS STANDARD DETAILS

DATE MARCH 2004

H & S JOB NUMBER 30788B

CONTRACT NUMBER B

DRAWING NUMBER D13