



## RESTRAINED JOINT – CHECK VALVE / COUPLING ADAPTER

SCALE: NTS

### NOTES:

1. DESIGN SHALL BE PER SPECIFICATIONS.
2. INSTALL TWO (2) SETS OF ANCHOR PLATES, TIE RODS, WASHERS, AND HEX NUTS PER RESTRAINED JOINT, SPACED 180° APART.
3. SIZES AND DESIGN OF ANCHOR LUG ASSEMBLIES AND TIE RODS SHALL BE DETERMINED USING TABLE 1
4. ALL ANCHOR PLATES WILL BE MADE OF HOT DIPPED GALVANIZED STEEL AND SHALL BE SIZED PER TABLE 1.
5. DOUBLE HEX NUTS SHALL BE PROVIDED AS LOCK-NUTS AND SHALL BE FINGER TIGHTENED AGAINST ANCHOR PLATES.
6. ANCHOR PLATES WILL BE MANUFACTURED AND INSTALLED PER DETAILS 4 & 5 AS MANUFACTURED BY TRUMBULL INDUSTRIES, INC. OR EQUAL.
7. ALL TIE RODS (ALL THREAD), HEX NUTS, AND LOCK WASHERS WILL BE MADE OF HOT DIPPED GALVANIZED STEEL AND SHALL BE SIZED PER TABLE 1
8. ANCHOR PLATES WILL BE ATTACHED TO THE NEAREST 150# FLANGE ON BOTH SIDES OF THE ITEM TO BE RESTRAINED.
9. FOR CONCRETE PIPE SUPPORTS THAT ENCLOSE THE PIPE, HOLES WILL BE DRILLED FOR THE TIE RODS TO PASS THROUGH TO THE NEAREST FLANGE. HOLES SHALL BE SUFFICIENT DIAMETER TO ALLOW FOR FREE MOVEMENT OF THE TIE ROD. ONCE THE TIE RODS HAVE BEEN ATTACHED TO THE ANCHOR PLATES, SEAT THE HOLES WITH GROUT.
10. GS = HOT DIPPED GALVANIZED STEEL.
11. CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY BOLTS THAT ARE DAMAGED OR ARE TOO SHORT DURING THE ADDITION OF RESTRAINTS.

**TABLE 1**

RESISTANTS.

TABLE 1										
Pipe Size	Flanges				Anchor Plate		Tie Rods			
	Bolt Holes			Bolt Diameter						
	Hole Center Line	Qty.	Hole Diameter		Thickness	Material	Hole Diameter	Rod Diameter	Qty.	Material
4"	7.5"	8	3/4"	5/8"	1/2"	GS	3/4"	5/8"	2	GS
6"	9.5"	8	7/8"	3/4"	1/2"	GS	3/4"	5/8"	2	GS
8"	11.75"	8	7/8"	3/4"	1/2"	GS	3/4"	5/8"	2	GS
10"	14.25"	12	1"	7/8"	3/4"	GS	7/8"	3/4"	2	GS
12"	17"	12	1"	7/8"	3/4"	GS	7/8"	3/4"	2	GS
14"	18.75"	12	1-1/8"	1"	3/4"	GS	7/8"	3/4"	2	GS
16"	21.25"	16	1-1/8"	1"	1"	GS	1-1/8"	1"	2	GS
18"	22.75"	16	1-1/4"	1-1/8"	1"	GS	1-1/8"	1"	2	GS
20"	25"	20	1-1/4"	1-1/8"	1"	GS	1-1/8"	1"	2	GS
24"	29.5"	20	1-3/8"	1-1/4"	1-1/8"	GS	1-1/4"	1-1/8"	2	GS



## MECHANICAL DETAILS

APPROVED BY: *Shandagiri*  
DESIGN MANAGER

EFF. DATE: 12-22-2020      REF. NO. 90