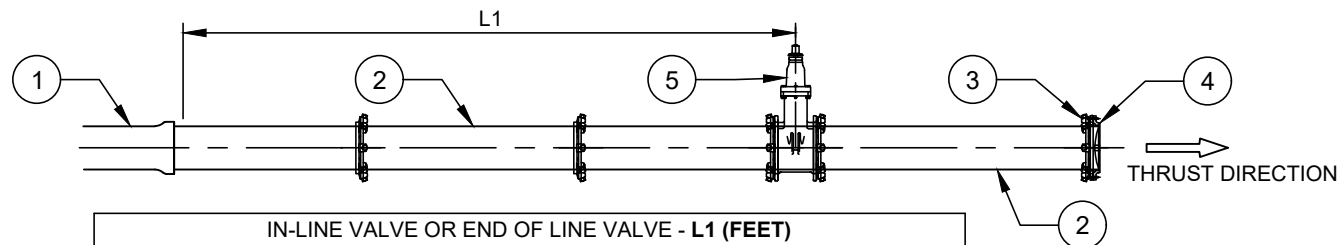


DEAD END, PLUG, OR CAP - L1 (FEET)							
DIAMETER (INCHES)	6"	8"	10"	12"	16"	20"	24"
DIP	169	219	264	239	308	373	361
POLYWRAPPED DIP OR PVC	242	312	377	342	440	532	516

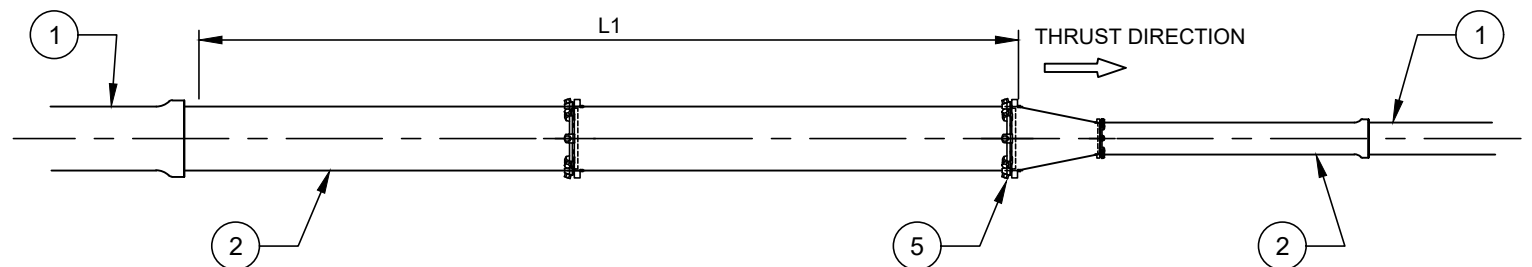


IN-LINE VALVE OR END OF LINE VALVE - L1 (FEET)							
DIAMETER (INCHES)	6"	8"	10"	12"	16"	20"	24"
DIP	169	219	264	239	308	373	361
POLYWRAPPED DIP OR PVC	242	312	377	342	440	532	516

**FOR IN-LINE VALVE, PROVIDE RJ FOR A DISTANCE OF L1 ON EACH SIDE OF VALVE.**

**REDUCER - L1 (FEET)**

	LARGE END DIAMETER	SMALL END DIAMETER						
		6"	8"	10"	12"	16"	20"	24"
DIP	6"							
	8"	92						
	10"	162	88					
	12"	174	127	70				
	16"	259	225	183	131			
	20"	335	307	274	234	131		
	24"		317	294	266	197	108	
POLYWRAPPED DIP OR PVC	LARGE END DIAMETER	SMALL END DIAMETER						
		6"	8"	10"	12"	16"	20"	24"
	6"							
	8"	131						
	10"	231	126					
	12"	249	181	100				
	16"	371	321	261	187			
	20"	478	439	392	334	187		
	24"		452	420	381	281	154	



**NO. DESCRIPTION:**

1. SLIP JOINT PIPE.
2. RESTRAINED JOINT PIPE.
3. RESTRAINED JOINT.
4. RESTRAINED MJ CAP WITH BLOW-OFF.
5. GATE VALVE (MJ X MJ) RESTRAINED.

**DESIGN BASIS:**

DIPRA "THRUST RESTRAINT DESIGN FOR DIP"  
 LAYING CONDITION: TYPE 2  
 SOIL DESIGNATION: SILT 1  
 DEPTH OF COVER: 3' MINIMUM (SEE NOTE c)  
 DESIGN PRESSURE: 200 PSI  
 SAFETY FACTOR: 2.0

**NOTES:**

- 12" AND SMALLER DIP MAY BE SLIP JOINT PIPE WITH GRIP RESTRAINT GASKETS.
- 16" AND LARGER DIP SHALL BE FACTORY RESTRAINT JOINT PIPE AND FITTINGS.
- DEPTH OF COVER FOR 12", 16" AND 20" PIPE IS 4' AND FOR 24" PIPE IS 5'.
- DESIGN ENGINEER CAN SUBMIT ALTERNATIVE DESIGN BASIS FOR RESTRAINED JOINT LENGTH CALCULATIONS FOR OWNER REVIEW.