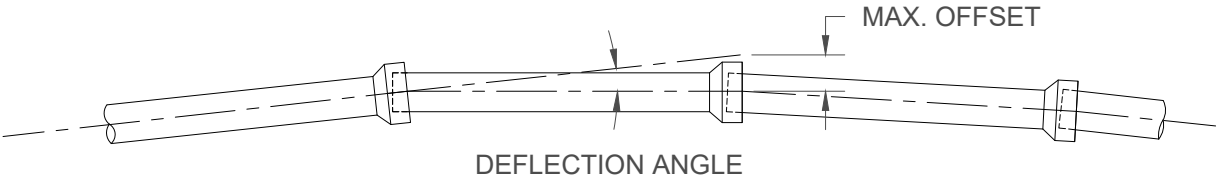


120 - Pipe Joint Deflection and Bolt Usage.dwg March 17, 2026 - 1:21pm

TABLE 120-1 MAXIMUM PERMISSIBLE JOINT DEFLECTIONS				
NOMINAL PIPE SIZE (IN.)	PUSH-ON JOINT (18 FT. JOINTS)		MECHANICAL JOINT (18 FT. JOINTS)	
	DEFLECTION ANGLE (DEG.)	MAX. OFFSET (IN.)	DEFLECTION ANGLE (DEG.)	MAX. OFFSET (IN.)
3	5	19	8	31
4	5	19	8	31
6	5	19	7	27
8	5	19	5	20
10	5	19	5	20
12	5	19	5	20
14	3	11	3.5	13.5
16	3	11	3.5	13.5
20	3	11	3	11
24	3	11	2	9
30	3	11	---	---
36	3	11	---	---
42	3	11	---	---
48	3	---	---	---



DUCTILE IRON PIPE DEFLECTION DETAIL
NTS

- NOTES:**
- 1. WHEN A PIPE IS DEFLECTED, THE PIPE SHALL FIRST BE ASSEMBLED IN A STRAIGHT LINE, BOTH HORIZONTALLY AND VERTICALLY BEFORE THE DEFLECTION IS MADE.
 - 2. FOR MECHANICAL JOINT PIPE, THE BOLTS SHALL BE PARTIALLY TIGHTENED BEFORE THE LENGTH OF PIPE IS DEFLECTED. ANY SUPPORTED PIPE, SHALL BE SO SUPPORTED THAT THERE IS ZERO DEFLECTION EXCEPT WHERE EITHER A HORIZONTAL OR VERTICAL CURVE ON A BRIDGE OR OTHER STRUCTURE IS INVOLVED.
 - 3. THRUST RESTRAINTS MAY BE REQUIRED ON THE DEFLECTED JOINTS.

TABLE 120-2 MECHANICAL JOINT BOLT USAGE CHART						
NOMINAL PIPE DIAMETER (IN.)	BELL DEPTH (IN.)	BOLTS				APPROX. JOINT ACCESSORY WEIGHT (LBS.)
		DIAMETER (IN.)	LENGTH (IN.)	NUMBER PER JOINT	REC. TORQUE (FT.-LBS.)	
4	2.5	0.75	3.5	4	75-90	10
6	2.5	0.75	3.5	6	75-90	16
8	2.5	0.75	4	6	75-90	25
10	2.5	0.75	4	8	75-90	30
12	2.5	0.75	4	8	75-90	40
14	3.5	0.75	4.5	10	75-90	45
16	3.5	0.75	4.5	12	75-90	55
18	3.5	0.75	4.5	12	75-90	65
20	3.5	0.75	4.5	14	75-90	85
24	3.5	0.75	5	16	75-90	105
30	4	1	6	20	100-120	220
36	4	1	6	24	100-120	285
42	4	1.25	6.5	28	120-150	400
48	4	1.25	6.5	32	120-150	475

FULTON COUNTY STANDARD DETAIL 120
PIPE JOINT DEFLECTION AND BOLT USAGE

DATE	REVISIONS	DATE	REVISIONS

DGS/DRN/CHKD: MB/EB/ML
APPROVED: TM
DATE: 02-18-2026



FULTON COUNTY PUBLIC WORKS
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404-612-7400 FAX: 404-224-0498

DRAWING NO.

120