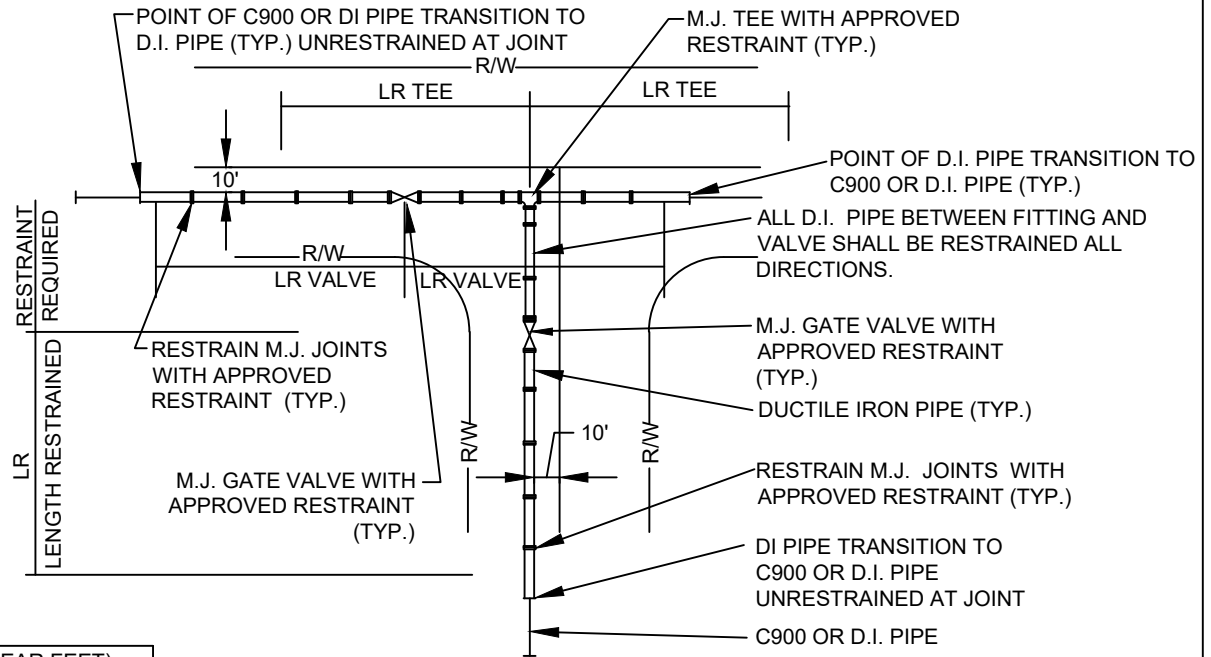


IRON RETAINING GLAND M.J. RESTRAINT			
NOMINAL PIPE SIZE	WEDGES QUANTITY	BOLTS QUANTITY	PRESS RATING
6"	3	6	350
8"	4	6	350
12"	8	8	350

8" SIZE SHOWN 6" AND 12" SIMILAR  
IRON RETAINING GLAND M.J.  
RESTRAINT



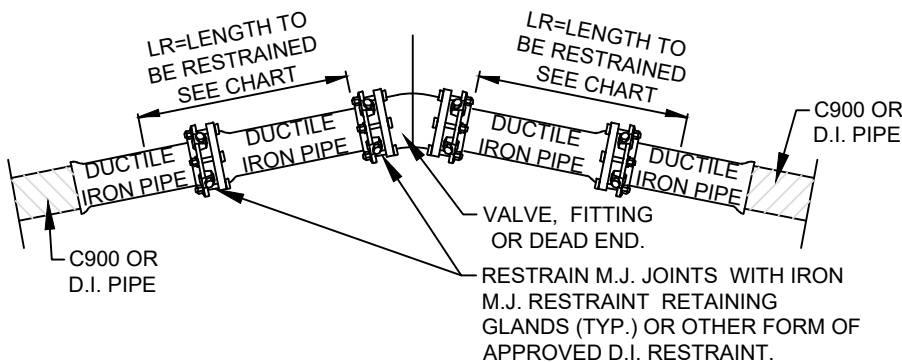
RESTRAINED JOINT DETAIL FOR TYPICAL TEE INTERSECTION  
4-WAY INTERSECTION SIMILARLY RESTRAINED

LR (MIN. LENGTH OF RESTRAINT EACH DIRECTION OF THRUST IN LINEAR FEET)  
Based on 200 psig pressure, Safety Factor of 2.0:1, BARE DI PIPE AND ML Soil, 3.5' cover  
Chart does not apply to pipes wrapped in polyethylene wrap

PIPE SIZE	VALVES DEAD ENDS TEES	90° ELBOWS	45° ELBOW & CROSSES	22-1/2° ELBOWS	REDUCER
6"	55'	31'	13'	7'	8"x2" 67'
8"	72'	40'	17'	8'	8"x6" 30'
12"	102'	57'	24'	12'	12"x8" 54'

NOTES:

- THRUST RESTRAINT SHALL BE INSTALLED ON DUCTILE IRON WATER DISTRIBUTION LINES 6" THRU 12" DIAMETER IN THE MANNER SHOWN. SEE FAYPWC STANDARD THRUST BLOCK DETAIL W.17 FOR PVC RESTRAINT.
- IRON RETAINING GLAND M.J. RESTRAINT OR OTHER FORMS OF IRON RESTRAINT SHALL NOT BE USED ON PVC PIPE.
- PIPE GREATER THAN 12 INCH DIAMETER SHALL REQUIRE RESTRAINED JOINT PIPE FOR THE PROPER LENGTH.
- COMPACT FITTINGS ARE ACCEPTABLE FOR USE WITH IRON RETAINING GLAND M.J.
- RESTRAINT AND OTHER FORMS OF D.I. RESTRAINT.
- THE MINIMUM LENGTH OF RESTRAINT INDICATED SHALL REQUIRE ALL JOINTS WITHIN THE LR DISTANCE TO BE RESTRAINED.
- RESTRAINT SYSTEM SHALL BE INSPECTED AND APPROVED BY FAYPWC PRIOR TO BACKFILLING.
- RESTRAINT SYSTEMS MAY VARY BASED UPON THE ENGINEERS' DESIGN AS SHOWN ON THE PLAN AND PROFILE SHEETS.
- GRIPPER RING AND FIELD LOK GASKETS ARE AN ACCEPTABLE METHOD OF RESTRAINT ON DUCTILE IRON PIPE ONLY.



ALTERNATE  
RESTRAINT DETAIL  
(DUCTILE IRON PIPE ONLY)  
N.T.S.

FAYETTEVILLE  
PUBLIC WORKS COMMISSION  
FAYETTEVILLE, N.C.



NO.	DATE	REVISION
1	11/16/07	REVISED TABLE, ADDED NOTE 8

SHEET NO. 1 OF 1	DWG. NO. <b>W.18</b>	DWG. BY: FAYPWC
	DATE: JAN. 01, 2025	APPROVED BY: K.A.H.

WATER RESOURCES  
ENGINEERING DEPARTMENT