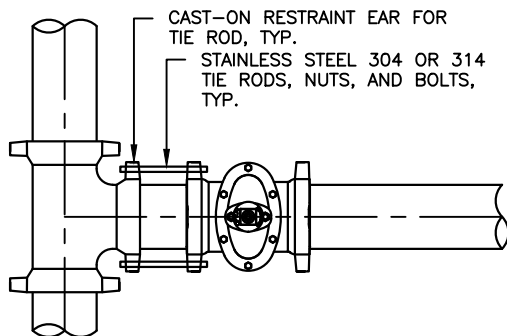
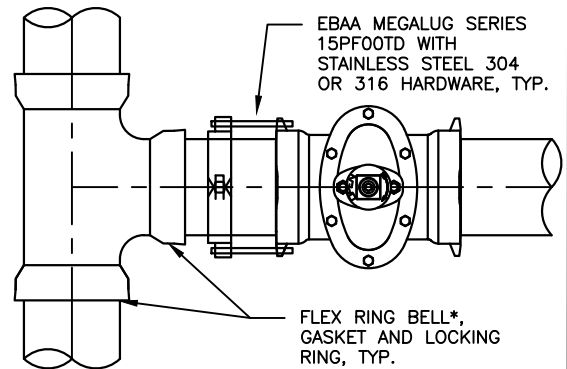


POSITIVE RESTRAINT REQUIRED IN ADDITION TO RESTRAINT GASKET

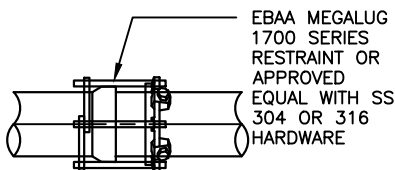
SCENARIO	DESCRIPTION	RESTRAINT REQUIRED
A	TYTON JOINT BELL TEE BRANCH TO TYTON JOINT BELL GATE VALVE WITH CAST-ON EARS	INSTALL STAINLESS STEEL TYPE 304 OR 316 $\frac{3}{4}$ " TIE RODS, NUTS, BOLTS AND WASHERS IN PRECAST EARS THROUGH FITTING AND VALVE
B.1	FLEX RING* BELL TEE BRANCH TO 12-INCH TYTON JOINT GATE VALVE WITH CAST-ON EARS	INSTALL EBAA 15PF00TD PUSH ON JOINT RESTRAINT ON GATE VALVE BELL USING STAINLESS STEEL TYPE 304 OR 316 HARDWARE
B.2	FLEX RING* BELL TEE BRANCH TO 16-INCH MJ GATE VALVE	INSTALL EBAA SERIES 1116 MEGALUG GLAND WITH STAINLESS STEEL 304 OR 316 HARDWARE ON GATE VALVE BELLS
C	PLAIN END PIPE TO TYTON BELL PIPE WITH FIELD LOK GASKET WITHIN 26' OF DEAD END, HYDRANT, OR BLOW-OFF VALVE	INSTALL EBAA SERIES 1700 RESTRAINING KIT OVER BELL AND SPIGOT OF PIPE USING STAINLESS STEEL TYPE 304 OR 316 HARDWARE
D	FLEX-RING* SPIGOT PIPE TO FLEX-RING* BELL PIPE WITHIN 26' OF DEAD END OR BLOW-OFF VALVE	USE FLEX-RING* HARDWARE PER MANUFACTURER INSTALLATION INSTRUCTIONS
E	PLAIN END PIPE TO TYTON BELL FITTING WITH FIELD LOK GASKET WITHIN 26' OF DEAD END, HYDRANT, OR BLOW-OFF VALVE	INSTALL EBAA SERIES 15PF00TD OR APPROVED EQUAL USING STAINLESS STEEL TYPE 304 OR 316 HARDWARE
F	FLEX-RING* SPIGOT PIPE TO FLEX-RING* BELL FITTING WITHIN 26' OF DEAD END OR BLOW-OFF VALVE	USE FLEX RING* HARDWARE PER MANUFACTURER INSTALLATION INSTRUCTIONS.



A SCENARIO A
- N.T.S.

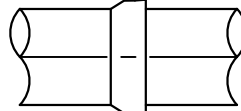


B.1 SCENARIO B.1
- N.T.S.

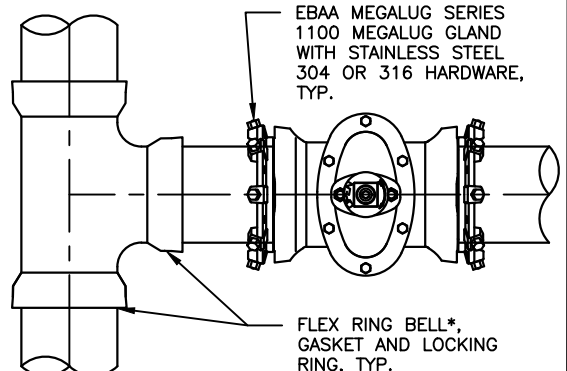


C SCENARIO C
- N.T.S.

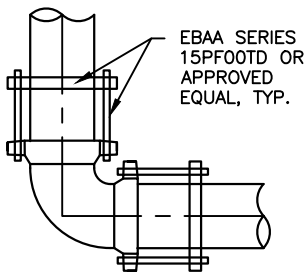
FLEX RING BELL* WITH GASKET AND LOCKING RING. FIELD FLEX RING TYPE INSTALLATIONS ARE PROHIBITED.**



D SCENARIO D
N.T.S.

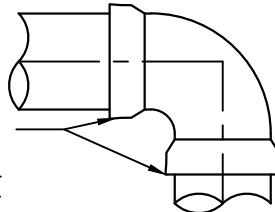


B.2 SCENARIO B.2
- N.T.S.



E SCENARIO E
- N.T.S.

FLEX RING BELL* WITH GASKET AND LOCKING RING. FIELD FLEX RING INSTALLATIONS ARE PROHIBITED**



F SCENARIO F
- N.T.S.

NOTE:
*OR TR-FLEX BELL WITH TYTON GASKET
**TR FLEX GRIPPER RINGS ARE PROHIBITED

SUPERSEDES C-964.1



San Francisco
**Water
Power
Sewer**

Services of the San Francisco Public Utilities Commission

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS
STANDARD PLAN FOR DUCTILE IRON PIPE MAIN
INSTALLATION
POSITIVE PIPE RESTRAINT IN ADDITION TO
RESTRAINT GASKETS

DATE	8/1/2017	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	1	CDD-LP-006	8

W:\ENGINEERING\03 REFERENCE INFORMATION\STANDARD PLANS\CAD\02_DRAWINGS\CDD-LP-006.DWG
ANSI FULL BLEED A (8.50 X 11.00 INCHES)