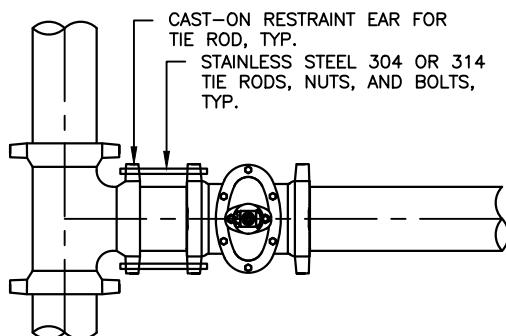
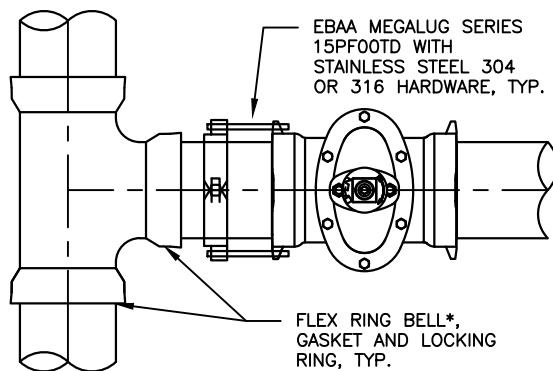


**POSITIVE RESTRAINT REQUIRED IN ADDITION TO RESTRAINT GASKET**

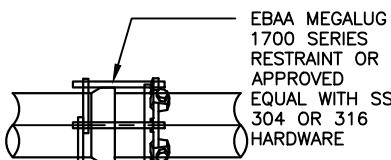
SCENARIO	DESCRIPTION	RESTRAINT REQUIRED
A	TYTON JOINT BELL TEE BRANCH TO TYTON JOINT BELL GATE VALVE WITH CAST-ON EARS	INSTALL STAINLESS STEEL TYPE 304 OR 316 $\frac{3}{8}$ " TIE RODS, NUTS, BOLTS AND WASHERS IN PRECAST EARS THROUGH FITTING AND VALVE
B.1	FLEX RING* BELL TEE BRANCH TO 12-INCH TYTON JOINT GATE VALVE WITH CAST-ON EARS	INSTALL EBAA 15PFOOTD 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 15PFOOTD 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.

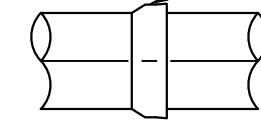


**B.1 SCENARIO B.1**  
— N.T.S.

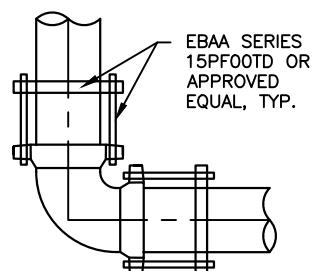


**C SCENARIO C**  
— N.T.S.

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



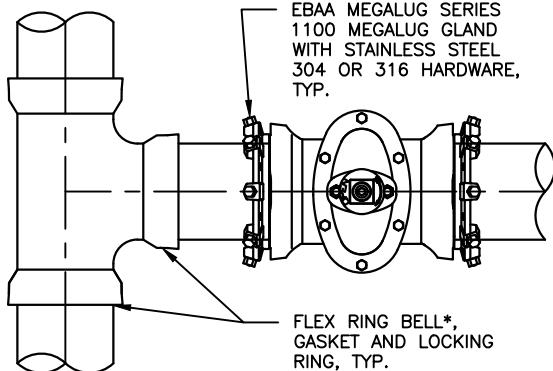
**D SCENARIO D**  
N.T.S.



**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.



**B.2 SCENARIO B.2**  
— 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