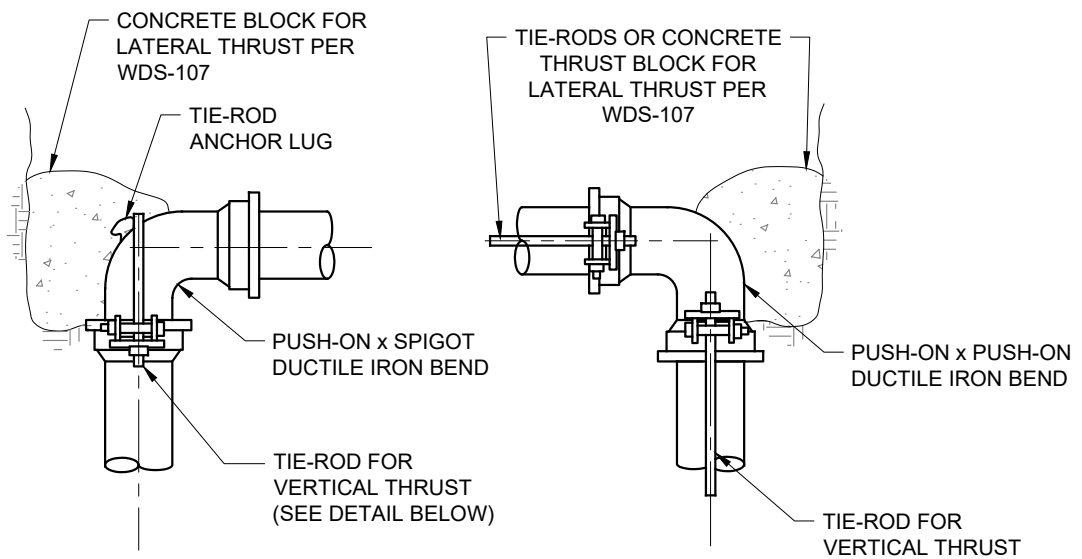
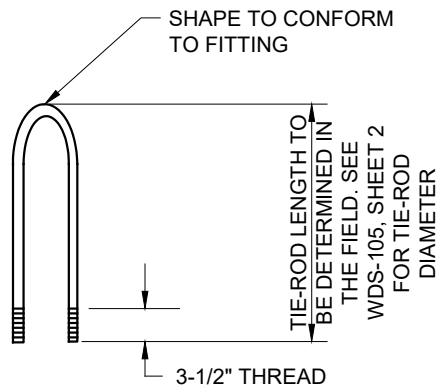


TIE-ROD THROUGH GATE VALVE



TIE-ROD AT 90° VERTICAL BEND



TIE-ROD DETAIL

TIE-ROD AND CLAMP INSTALLATION

WDS - 105



Long Beach Water
Exceptional Water • Exceptional Service

RECOMMENDED

Robert Johnson

DIRECTOR OF ENGINEERING

APPROVED

Debra Paul

DEPUTY GENERAL MANAGER / CHIEF ENGINEER

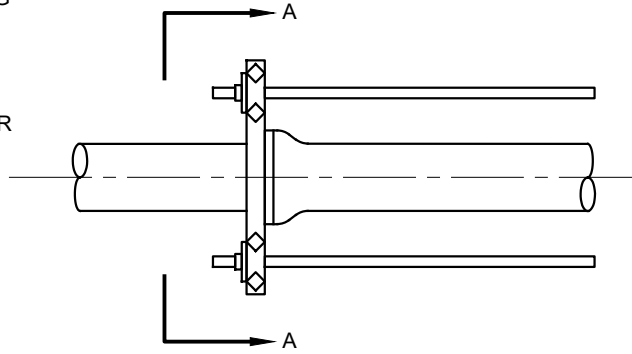
DATE: 02-2020

SCALE: N.T.S.

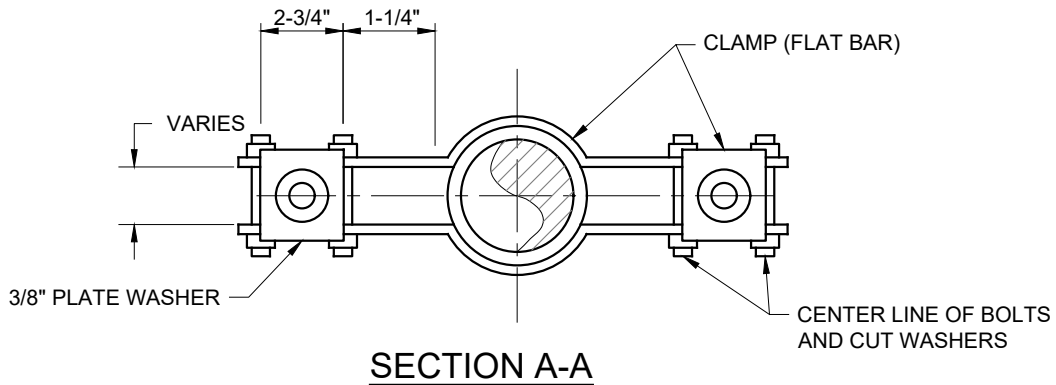
SHEET 1 OF 2

PIPE OR FITTING SIZE
 CLAMP TYPE:
 P=PIPE, B=BELL
 MANUFACTURER OF PRODUCT
 4X-US

MARKING



CLAMP ON PIPE



CLAMP SCHEDULE						
PIPE SIZE (INCHES)	FLAT BAR (INCHES)	BOLT DIAMETER (INCHES)	MARKING	WASHERS		TIE-ROD DIAMETER (INCHES)
				3/8 INCH PLATE	CUT (INCHES)	
4	2-1/2 x 3/8	5/8	4P-US	4 x 2-1/2	1-3/8 x 9/16	3/4
4	2-1/2 x 3/8	5/8	4B-US	4 x 2-1/2	1-3/8 x 9/16	3/4
6	2-1/2 x 3/8	5/8	6P-US	4 x 2-1/2	1-3/8 x 9/16	3/4
6	2-1/2 x 3/8	5/8	6B-US	4 x 2-1/2	1-3/8 x 9/16	3/4
8	2-1/2 x 3/8	5/8	8P-US	4 x 2-1/2	1-3/8 x 9/16	3/4
8	2-1/2 x 3/8	5/8	8B-US	4 x 2-1/2	1-3/8 x 9/16	3/4
12	3 x 1/2	5/8	12P-US	4-1/2 x 3-1/2	1-3/8 x 9/16	1
12	3 x 1/2	5/8	12B-US	4-1/2 x 2-1/2	1-3/8 x 9/16	1

NOTES:

1. DESIGN BASED ON 188 PSI PRESSURE.
2. CLAMPS SHALL BE FABRICATED IN ACCORDANCE WITH WDS-104 FOR DI PIPE AND FITTINGS.
3. SEE WDS-107 FOR CONSTRUCTION OF ANCHOR AND THRUST BLOCKS.
4. APPLIES TO US PIPE PRODUCTS ONLY.

TIE-ROD AND CLAMP INSTALLATION

WDS - 105



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SHEET 2 OF 2