



PLATE WASHERS												
SIZE OF BAND	DIMENSIONS											
BELL PLAIN	A	B	C	D	E	F	G	H	I	J	K	L
2	3	1 1/2	3/4	1 1/8	1 3/8	2 1/8	7/8	1 1/4	1	5 3/8	4 3/8	4
3	4	2 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	6 3/8	5 3/8	4
4	6	3 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	7 3/8	6 3/8	4
6	8	4 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	8 3/8	7 3/8	4
10	12	6 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	10 3/8	9 3/8	4
14	16	8 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	12 3/8	11 3/8	4
16	18	10 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	14 3/8	13 3/8	4
2	3	1 1/2	3/4	1 1/8	1 3/8	2 1/8	7/8	1 1/4	1	5 3/8	4 3/8	4
3	4	2 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	6 3/8	5 3/8	4
4	6	3 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	7 3/8	6 3/8	4
6	8	4 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	8 3/8	7 3/8	4
10	12	6 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	10 3/8	9 3/8	4
14	16	8 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	12 3/8	11 3/8	4
16	18	10 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	14 3/8	13 3/8	4
2	3	1 1/2	3/4	1 1/8	1 3/8	2 1/8	7/8	1 1/4	1	5 3/8	4 3/8	4
3	4	2 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	6 3/8	5 3/8	4
4	6	3 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	7 3/8	6 3/8	4
6	8	4 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	8 3/8	7 3/8	4
10	12	6 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	10 3/8	9 3/8	4
14	16	8 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	12 3/8	11 3/8	4
16	18	10 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	14 3/8	13 3/8	4
2	3	1 1/2	3/4	1 1/8	1 3/8	2 1/8	7/8	1 1/4	1	5 3/8	4 3/8	4
3	4	2 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	6 3/8	5 3/8	4
4	6	3 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	7 3/8	6 3/8	4
6	8	4 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	8 3/8	7 3/8	4
10	12	6 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	10 3/8	9 3/8	4
14	16	8 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	12 3/8	11 3/8	4
16	18	10 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	14 3/8	13 3/8	4

TIE BOLTS & NUTS												
SIZE OF BAND	DIMENSIONS											
BELL PLAIN	A	B	C	D	E	F	G	H	I	J	K	L
2	3	1 1/2	3/4	1 1/8	1 3/8	2 1/8	7/8	1 1/4	1	5 3/8	4 3/8	4
3	4	2 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	6 3/8	5 3/8	4
4	6	3 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	7 3/8	6 3/8	4
6	8	4 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	8 3/8	7 3/8	4
10	12	6 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	10 3/8	9 3/8	4
14	16	8 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	12 3/8	11 3/8	4
16	18	10 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	14 3/8	13 3/8	4
2	3	1 1/2	3/4	1 1/8	1 3/8	2 1/8	7/8	1 1/4	1	5 3/8	4 3/8	4
3	4	2 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	6 3/8	5 3/8	4
4	6	3 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	7 3/8	6 3/8	4
6	8	4 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	8 3/8	7 3/8	4
10	12	6 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	10 3/8	9 3/8	4
14	16	8 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	12 3/8	11 3/8	4
16	18	10 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	14 3/8	13 3/8	4
2	3	1 1/2	3/4	1 1/8	1 3/8	2 1/8	7/8	1 1/4	1	5 3/8	4 3/8	4
3	4	2 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	6 3/8	5 3/8	4
4	6	3 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	7 3/8	6 3/8	4
6	8	4 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	8 3/8	7 3/8	4
10	12	6 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	10 3/8	9 3/8	4
14	16	8 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	12 3/8	11 3/8	4
16	18	10 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	14 3/8	13 3/8	4

STEEL BANDS												
SIZE OF BAND	DIMENSIONS											
BELL PLAIN	A	B	C	D	E	F	G	H	I	J	K	L
2	3	1 1/2	3/4	1 1/8	1 3/8	2 1/8	7/8	1 1/4	1	5 3/8	4 3/8	4
3	4	2 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	6 3/8	5 3/8	4
4	6	3 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	7 3/8	6 3/8	4
6	8	4 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	8 3/8	7 3/8	4
10	12	6 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	10 3/8	9 3/8	4
14	16	8 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	12 3/8	11 3/8	4
16	18	10 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	14 3/8	13 3/8	4
2	3	1 1/2	3/4	1 1/8	1 3/8	2 1/8	7/8	1 1/4	1	5 3/8	4 3/8	4
3	4	2 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	6 3/8	5 3/8	4
4	6	3 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	7 3/8	6 3/8	4
6	8	4 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	8 3/8	7 3/8	4
10	12	6 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	10 3/8	9 3/8	4
14	16	8 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	12 3/8	11 3/8	4
16	18	10 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	14 3/8	13 3/8	4
2	3	1 1/2	3/4	1 1/8	1 3/8	2 1/8	7/8	1 1/4	1	5 3/8	4 3/8	4
3	4	2 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	6 3/8	5 3/8	4
4	6	3 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	7 3/8	6 3/8	4
6	8	4 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	8 3/8	7 3/8	4
10	12	6 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	10 3/8	9 3/8	4
14	16	8 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	12 3/8	11 3/8	4
16	18	10 1/2	3/4	1 1/8	1 3/8	2 1/8	1	1 1/4	1	14 3/8	13 3/8	4

Note: Bolt holes 1/8" larger than bolts.
Bolt holes to be drilled not punched.

GENERAL NOTES
All dimensions are in inches. Assumptions in design: Allowable tensile strength of Bands and Washers is 15,000 lbs per square inch. Allowable tensile strength of Tie Bolts is 12,000 lbs per square inch. Maximum internal water pressure is 120 pounds per square inch. One half of total load is taken by pipe joint and earth, the balance is taken by the Tie Bolts.

Bolt holes to be drilled not punched.

NOTE:
BOLTS, NUTS, BANDS, AND WASHERS SHALL BE STAINLESS STEEL TYPE 304 OR 316



San Francisco
**Water
Power
Sewer**

Services of the San Francisco Public Utilities Commission

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

MISCELLANEOUS PLAIN & BELL BANDS / PLATE WASHERS & TIE BOLTS

DATE 10/1/2016

REV. 0

DRAWING NO.

SCALE N.T.S.

CDD-LP-302

SHEET

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