

THRUST RESTRAINT DETAILS

RESULTANT THRUST AT FITTINGS, POUNDS
FOR TEST WATER PRESSURE OF 150 PSI

SIZE	TEE OR IN.	90-DEG BEND	45-DEG BEND	22.5-DEG BEND	11.25-DEG BEND
4	2,715	3,839	2,078	1,059	533
6	5,609	7,932	4,293	2,189	1,100
8	9,650	13,646	7,385	3,765	1,892
10	14,516	20,528	11,109	5,664	2,846
12	20,528	29,030	15,711	8,010	4,025
16	35,669	50,442	27,299	13,917	6,992
20	54,966	77,733	42,069	21,447	10,775
24	78,419	110,901	60,020	30,597	15,374
30	120,638	170,607	92,331	47,070	23,649
36	172,814	244,397	132,266	67,428	33,878
42	233,292	329,925	178,554	91,026	45,734
48	304,025	429,956	232,691	118,625	59,600
54	384,108	543,210	293,984	149,871	75,299

MINIMUM AREA FOR THRUST BEARING, SQ. FT.
FOR TEST WATER PRESSURE OF 150 PSI

SIZE	TEE OR IN.	90-DEG BEND	45-DEG BEND	22.5-DEG BEND	11.25-DEG BEND
4	1.4	1.9	1.0	1.0	1.0
6	2.8	4.0	2.1	1.1	1.0
8	4.8	6.8	3.7	1.9	1.0
10	7.3	10.3	5.6	2.8	1.4
12	1.03	14.5	7.9	4.0	2.0
16	17.8	25.2	13.6	7.0	3.5
20	27.5	38.9	21.0	10.7	5.4
24	39.2	55.5	30.0	15.3	7.7
30	60.3	85.3	46.2	23.5	11.8
36	86.4	122.2	66.1	33.7	16.9
42	116.6	165.0	89.3	45.5	22.9
48	152.0	215.0	116.3	59.3	29.8
54	192.1	271.6	147.0	74.9	37.6

THE ABOVE AREAS ARE BASED UPON A SOIL BEARING CAPAC-
ITY OF 2000 PSF. IF ACTUAL SOIL BEARING STRENGTH IS
LESS THAN 2000 PSF, THE THRUST BEARING AREA SHALL BE
INCREASED BASED ON THE ACTUAL SOIL BEARING STRENGTH.

CEDAR RAPIDS METROPOLITAN AREA
STANDARD DETAILS FOR PUBLIC IMPROVEMENTS

THRUST RESTRAINT
DETAILS - SHEET 4 OF 4

NO.

2500-021

PROJECT NO: HX0789

DRAWN BY: BGA
APPROVED BY: GMH
DATE: 10/10/2012

NO.	REVISION	DESCRIPTION

APPROVED	DATE

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City of Holy Cross Subdivision No.3
Dubuque County, Iowa

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CEDAR RAPIDS METROPOLITAN AREA
STANDARD DETAILS FOR PUBLIC IMPROVEMENTS

HYDRANT SET DETAIL PERPENDICULAR
TO WATER MAIN - SHEET 1 OF 2

NO.

2500-042

SHEET NO.
B.11
of
B.17

NOTE: SEE SPECIAL PROVISION SECTION 02500
- STANDARD SPECIFICATIONS

