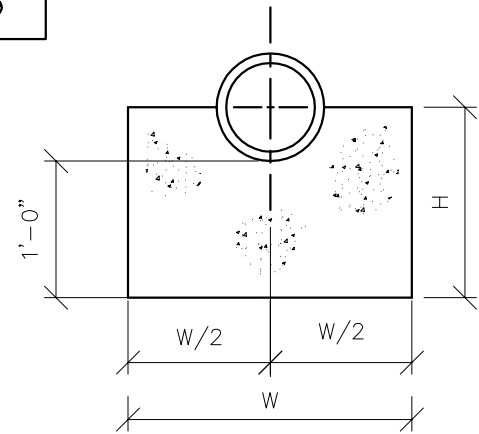
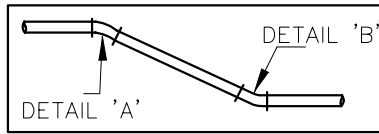


ELEVATION



SECTION B-B

SIZE OF PIPE (INCHES)	DEGREE OF BEND	AREA (SQUARE INCHES)	THRUST FORCE (POUNDS)	MINIMUM BEARING AREA (SQUARE FF)	L (INCHES)	H (INCHES)	W (INCHES)
8	22.5	64.3	3,691.0	3.7	20	16	28
12	22.5	136.8	7,852.7	7.9	36	18	32
16	22.5	237.7	13,644.6	13.6	42	20	48
24	22.5	522.7	30,004.3	30.0	60	24	72
8	45	64.3	6,820.0	6.8	32	16	32
12	45	136.8	14,509.8	14.5	42	18	50
16	45	237.7	25,211.9	25.2	48	20	66
24	45	522.7	55,440.7	55.4	84	24	96

NOTE:

THE DESIGN ENGINEER IS RESPONSIBLE FOR ENSURING THAT THE THRUST BLOCKS ARE CORRECTLY SIZED FOR EACH APPLICATION. CALCULATIONS FOR THRUST BLOCK TH SUPPORT VERTICAL BEND UPWARD ARE BASED ON EQUATIONS AND CONSTANTS TAKEN FROM AMERICAN WATER WORKS ASSOCIATION DUCTILE-IRON PIPE AND FITTINGS (AWWA M41):

1. D.W.S.D. TEST PRESSURE USED IS 150 POUNDS/SQUARE INCH.
2. SAFETY FACTOR IS 1.5
3. WEIGHT OF CONCRETE IS 150 POUNDS/CUBIC FOOT.
4. SOIL BEARING STRENGTH IS 1000 POUNDS/SQUARE FEET (BASED ON SOFT CLAY).

THE CALCULATIONS ABOVE ARE FOR A CONSERVATIVE CONDITION. THE SIZE OF THE THRUST BLOCK CAN BE REDUCED AS THE BEARING CAPACITY OF THE SOIL INCREASES.

DETAIL "B"

C					
B					
A					
	DESCRIPTION	DRW	CKD	APP	DATE
REVISIONS					
DRAWN BY: S.D.A.					
CHECKED BY: S.D.A.					
APPROVED:					

**THRUST BLOCK,
VERTICAL BEND
(AWWA SIZING)**

SCALE: NONE

CITY OF DETROIT
WATER AND SEWERAGE
DEPARTMENT
ENGINEERING
DIVISION

SHEET 2 OF 2

DWG No. 02620-25