BOND BREAKER

BEARING AREA

BEARING AREA

DEAD END

6" MIN.

6" MIN.

UNDISTURBED SOIL

CROSS

6" MIN.

BOND BREAKER

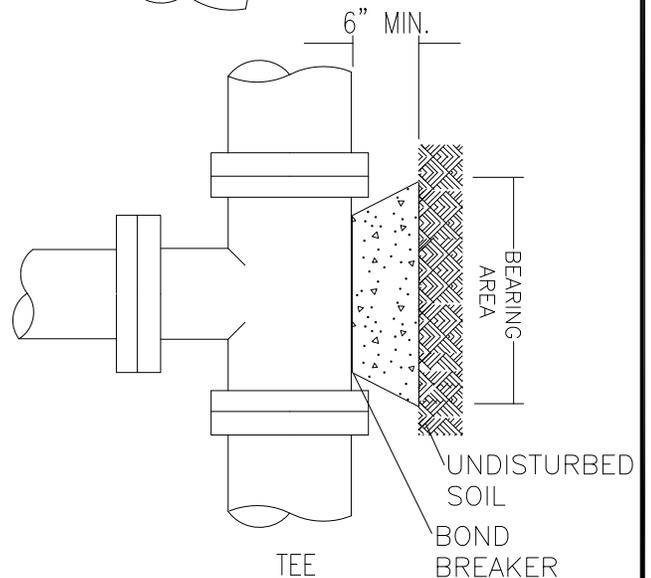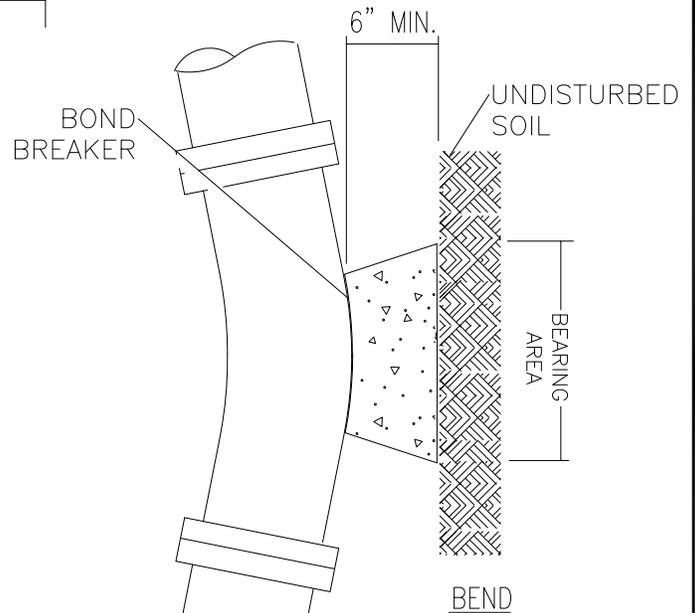UNDISTURBED SOIL

BEARING AREA

BEND

NOTES:

1. BEARING SURFACES SHOWN IN CHART ARE MINIMUM
2. THE CHART IS BASED ON 150 PSI POTENTIAL PIPE PRESSURE PLUS A 1.5 SAFETY FACTOR
3. SOIL BEARING CAPACITY = 1,500 LB/SQ. FT. (ASSUMED)
4. THRUST IS EQUAL TO $[\ S_f\ (2)PA\ SIN\ \theta/2]$ FOR A BEND
5. THRUST IS EQUAL TO $[PA\ S_f\ ]$ FOR A TEE OR DEAD END
6. BEARING AREA IS THRUST DIVIDED BY SOIL BEARING CAPACITY
7. THE DESIGN ENGINEER IS RESPONSIBLE FOR VERIFYING THE ACTUAL SITE CONDITIONS WITH RESPECT TO THE ASSUMPTIONS LISTED ABOVE.

MINIMUM BEARING SURFACE AREA
(IN SQUARE FEET)

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11 1/4 DEG	22 1/2 DEG	45 DEG	90 DEG	
4"	1	1	2	3	2
6"	1	2	4	6	5
8"	2	3	6	11	8
10"	3	5	10	17	12
12"	4	7	13	24	17

NOTES:
1. THESE NUMBERS ARE ROUNDED UP TO THE NEXT WHOLE NUMBER.
2. BLOCK HEIGHT SHOULD BE EQUAL TO OR LESS THAN 1/2 THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCKS, BUT NO LESS THAN THE PIPE DIAMETER. ALSO THE WIDTH MUST BE BETWEEN ONE AND TWO TIMES THE HEIGHT.

6" MIN.

BEARING AREA

UNDISTURBED SOIL

BOND BREAKER

TEE

HORIZONTAL THRUST BLOCK DETAIL
NTS

TOWN OF FREDERICK
STANDARDS & SPECIFICATIONS