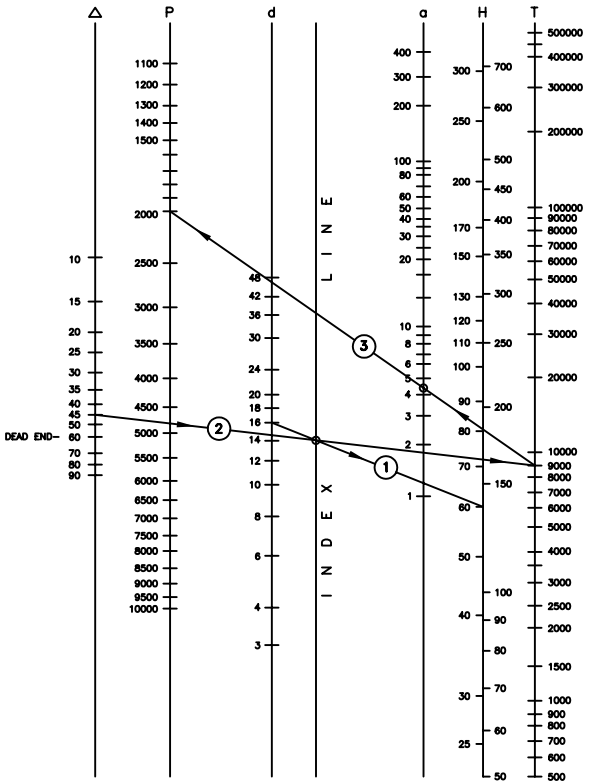


PROCEDURE FOR CALCULATING REQUIRED AREA OF THRUST BLOCK

LEGEND

H – HYDRAULIC HEAD/WATER PRESSURE, FT.
d – DIAMETER OF PIPE, IN.
Δ – PIPE BEND, DEGREE
T – TOTAL RADIAL THRUST, LBS.
P – SOIL BEARING PRESSURE, PSI
a – AREA OF THRUST BLOCK, SQ. FT. (LxW)

STEP (1)

CONSTRUCT LINE FROM "DIAMETER OF PIPE" (d) TO "WATER PRESSURE/HYDRAULIC HEAD (H) TO ESTABLISH POINT ON "INDEX LINE".

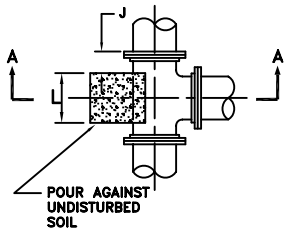
STEP (2)

CONSTRUCT LINE FROM "PIPE BEND" (Δ) THROUGH ESTABLISHED POINT ON "INDEX LINE" TO INTERSECT "TOTAL RADIAL THRUST" (T) LINE.

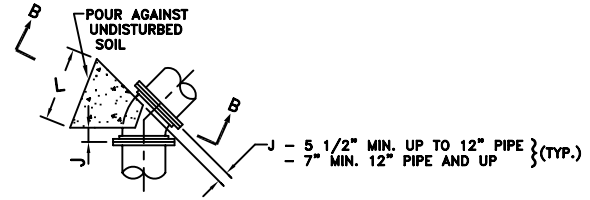
STEP (3)

CONSTRUCT LINE FROM POINT ON "TOTAL RADIAL THRUST" (T) LINE TO KNOWN POINT ON "SOIL BEARING PRESSURE" (P) LINE WHICH DETERMINES REQUIRED "AREA OF THRUST BLOCK" (a).

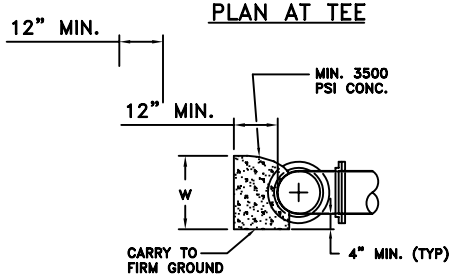
EXAMPLE: GIVEN (A) 16" DIAMETER PIPE – 45° ELBOW
(B) WATER PRESSURE 60 PSI
(C) SOIL BEARING PRESSURE 2000 PSI
(1) LINE d–H–INDEX POINT
(2) LINE Δ – INDEX POINT–T (9000 LBS)
(3) LINE T–P–a
REQUIRED THRUST BLOCK BEARING AREA = 4.5 S.F.



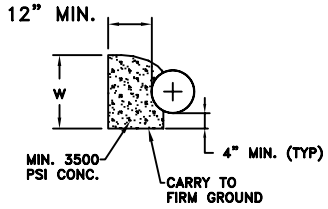
PLAN AT TEE



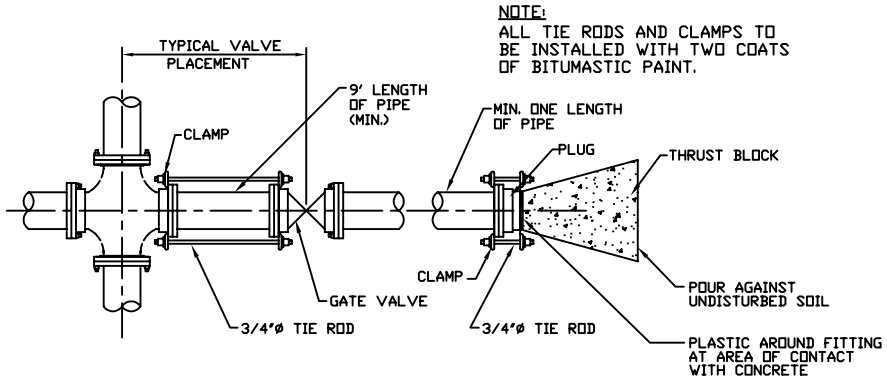
PLAN AT BEND



SECTION A–A



SECTION B–B



TYPICAL STUB FOR FUTURE CONNECTION

NOTES:

1. NOMOGRAPH DOES NOT APPLY FOR VERTICAL DOWN BENDS.
2. INTERNAL WATER PRESSURE TO BE 150 PSI
3. SOIL BEARING PRESSURE TO BE 2000 PSI
4. ALL FITTINGS SHALL BE WRAPPED IN VISQUENE AT THRUST BLOCKS

BY	DATE	REVISIONS

TOWNSHIP OF FLORENCE
WATER & SEWER DEPARTMENT

THRUST BLOCK DETAIL

DATE : 6/05
DWN BY :

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