

THRUST BLOCK CALCULATIONS:

WATER PRESSURE = 250 PSI

PIPE SIZE = 8"

ALLOWABLE SOIL BEARING CAPACITY = 2,000 PSF

CALCULATE THRUST AT DEAD - END, 90° BEND, AND 45° BEND

THRUST @ TEE & DEAD-END = PRESSURE x AREA
 $= (250 \text{ #/in}^2) (3.14/4) (64 \text{ in}^2)$
 $= 12,560 \text{ #}$

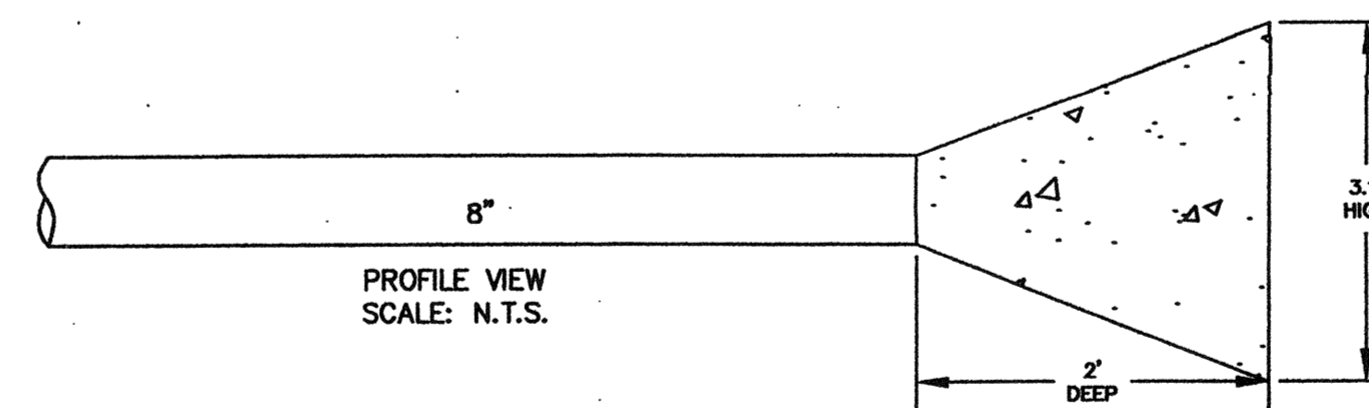
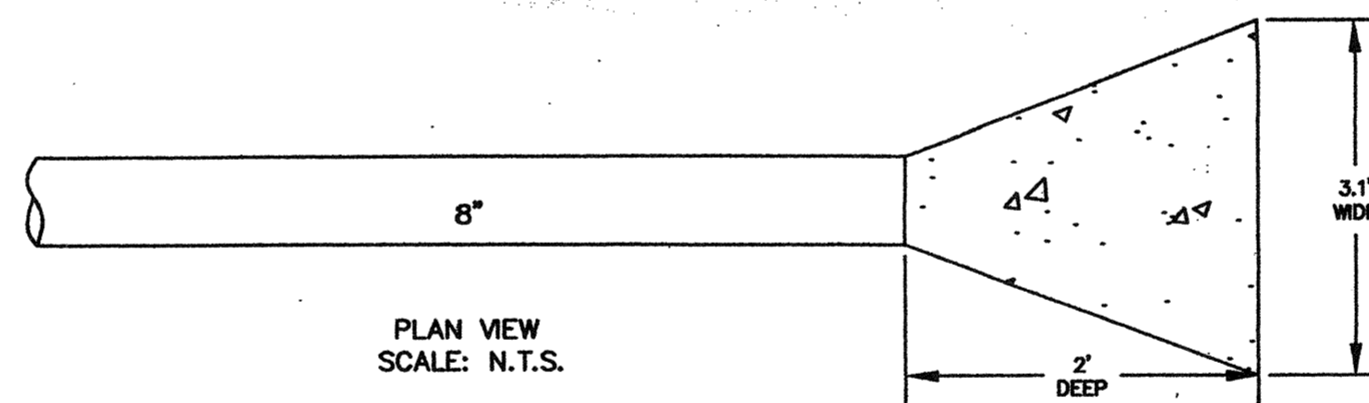
THRUST @ 90° = $2PA \sin(A/2)$
 $= 2 (250) (3.14/4) (64) \sin(90/2)$
 $= 17,763 \text{ #}$

THRUST @ 45° = $2PA \sin(A/2)$
 $= 2 (250) (3.14/4) (64) \sin(45/2)$
 $= 9,613 \text{ #}$

FIND BEARING AREA OF THRUST BLOCK:

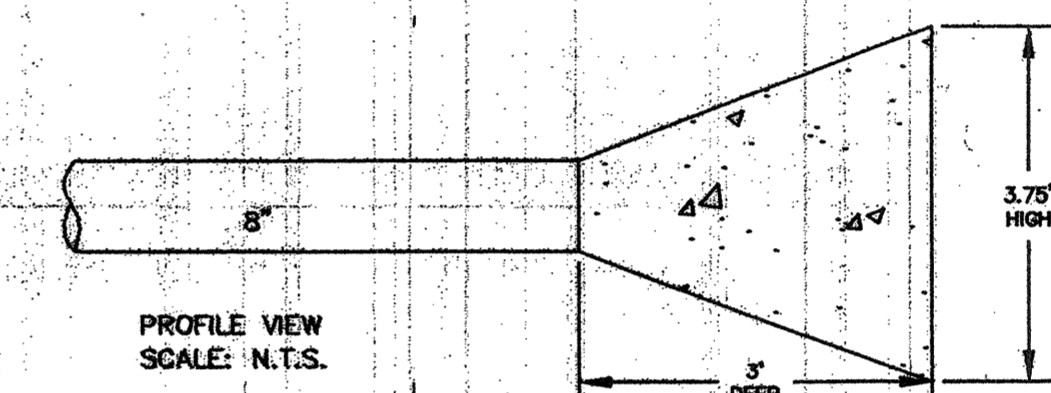
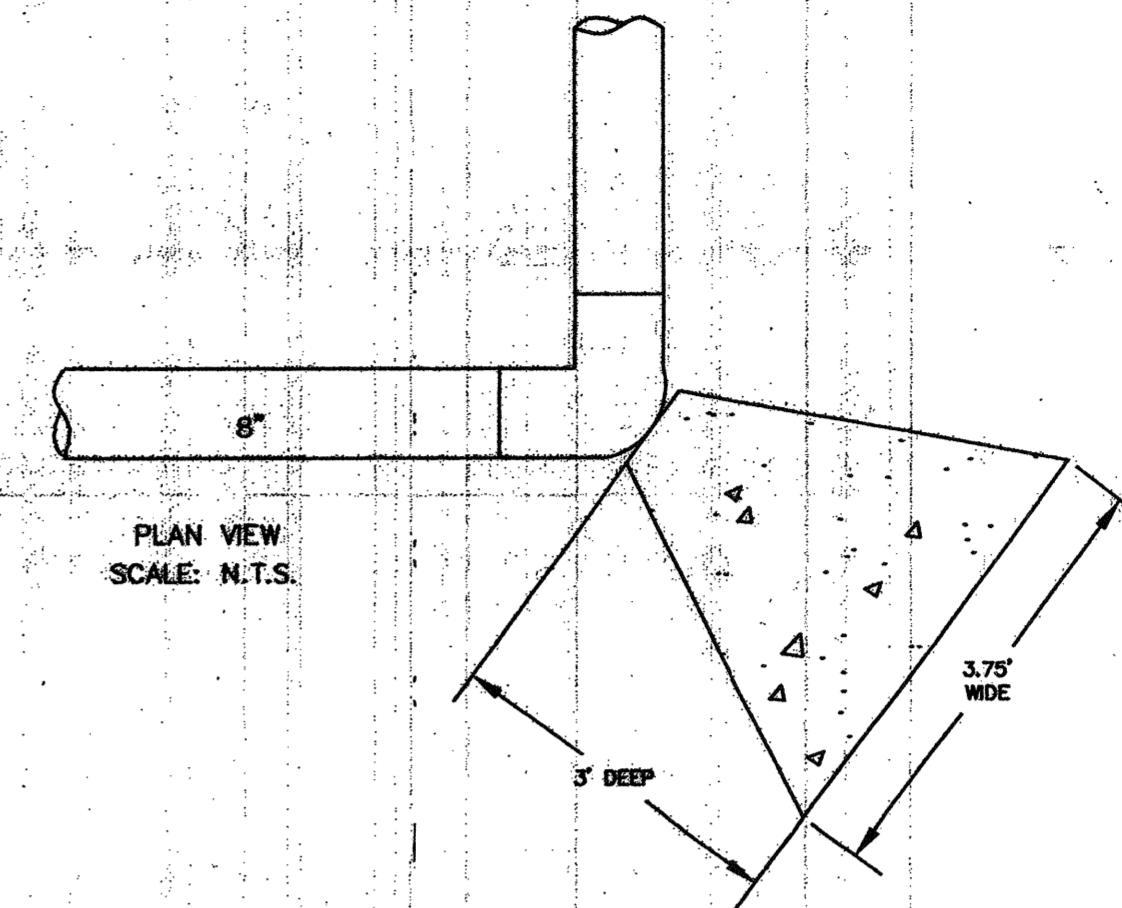
AREA = $\frac{T \times S.F. (\text{SAFETY FACTOR})}{\text{SOIL BEARING CAPACITY}}$
 $= \frac{12,560 \times 1.5}{2000}$
 $= 9.42 \text{ SQUARE FEET}$

USE 2' x 3.1' x 3.1' THRUST BLOCK FOR 8" TEE & DEAD-END



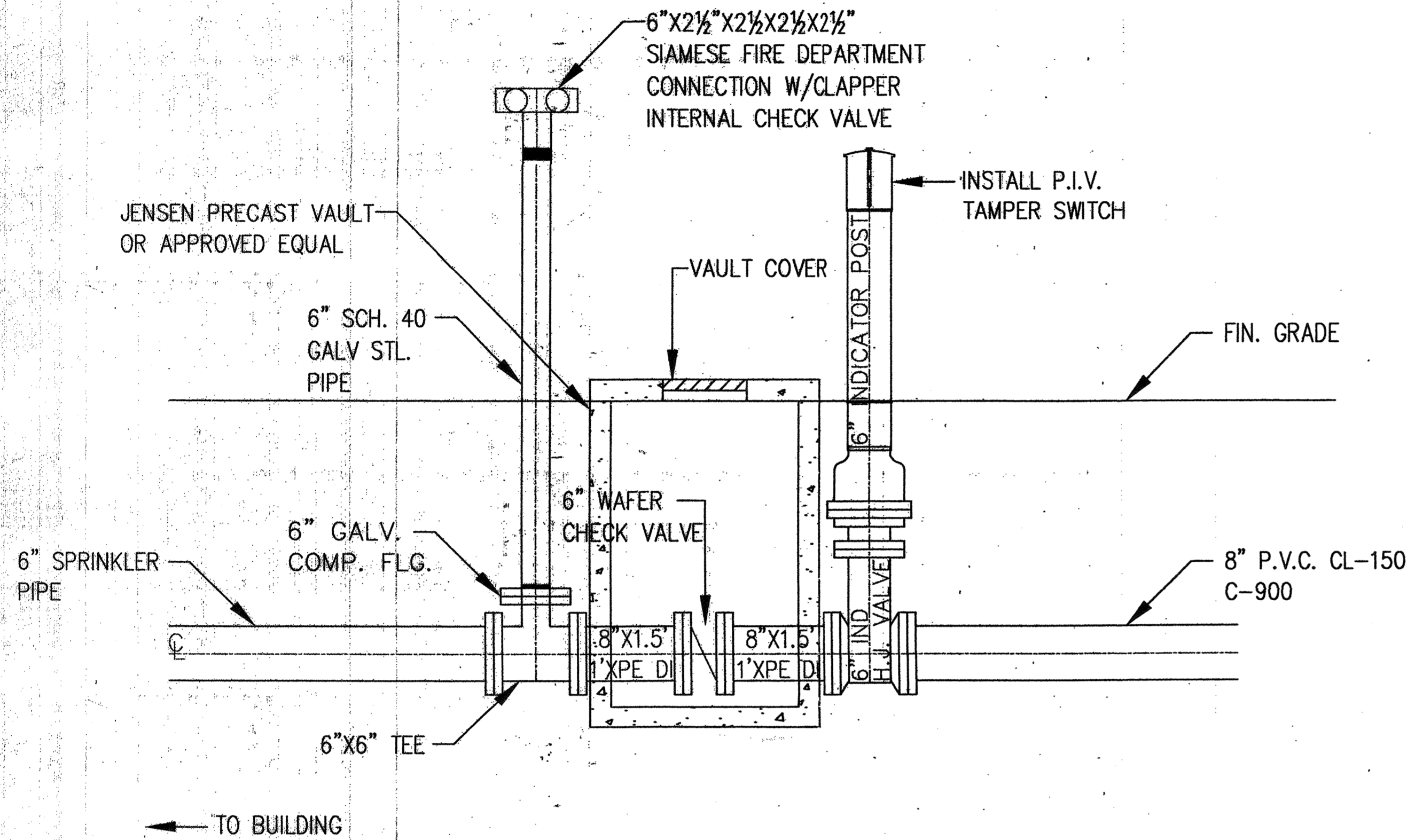
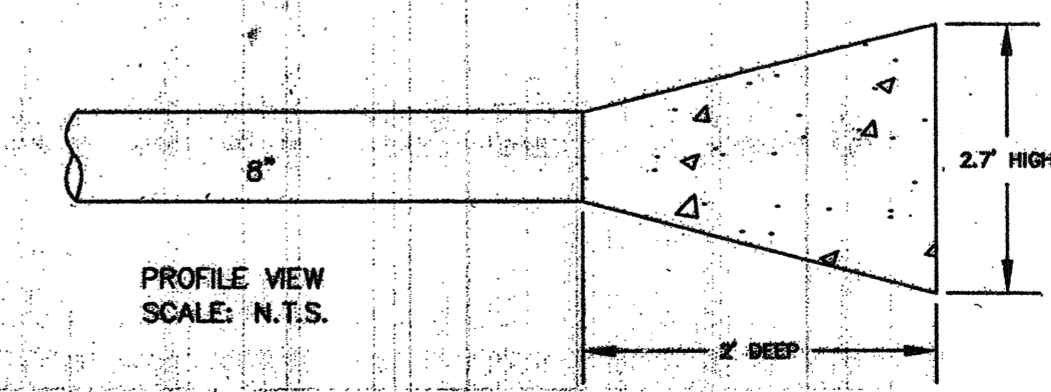
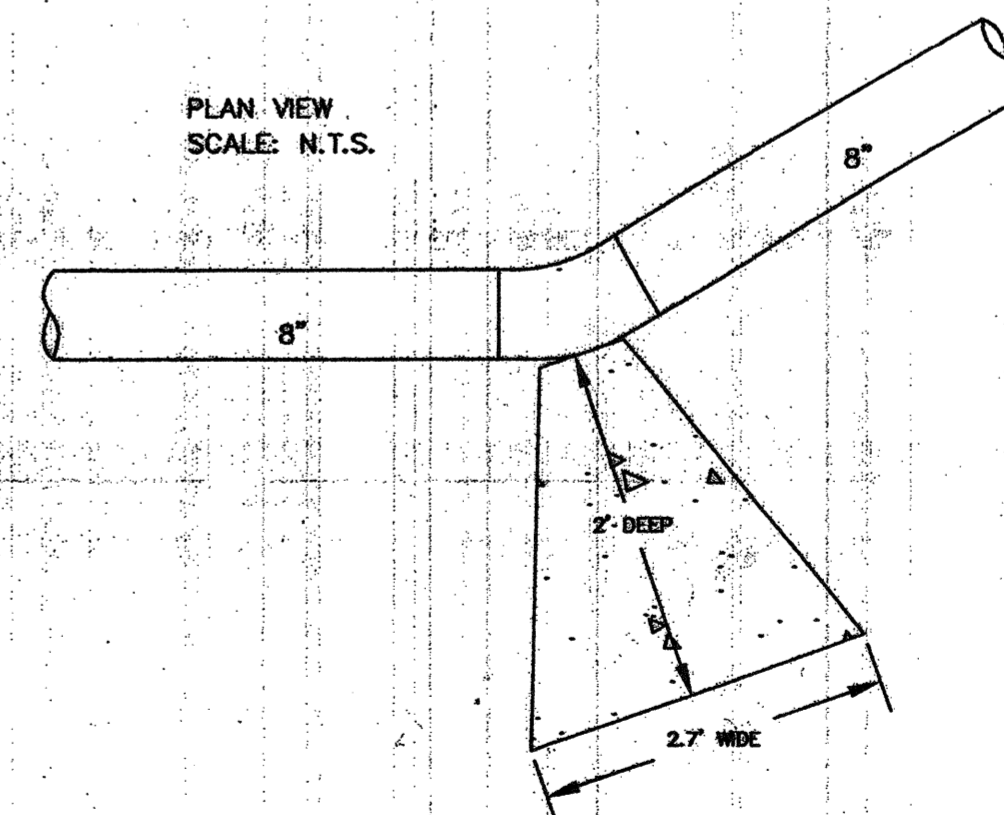
$A = \frac{17,763 \times 1.5}{2,000}$
 $= 13.32 \text{ SF}$

USE 2' DEEP x 3.75' WIDE x 3.75' HIGH THRUST BLOCK FOR 8" 90° ELBOW



$A = \frac{9,613 \times 1.5}{2,000}$
 $= 7.21 \text{ SF}$

USE 2' DEEP x 2.7' WIDE x 2.7' HIGH THRUST BLOCK FOR 6" 45° ELBOW



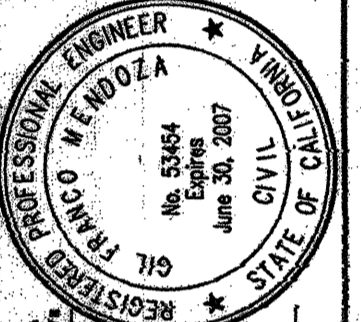
POST INDICATOR VALVE/FIRE DEPT. CONNECTION DETAIL

REVISIONS:

NO.	DATE	DESCRIPTION

ARCHITECT:

WESTERN STATES
 ENGINEERING & CONSTRUCTION, INC.
 133 N. MAIN STREET
 FULLERTON, CA 92630
 PH: 714-766-2000 FAX: 714-714-2002



CIVIL ENGINEER:

RON MARTIN AND ASSOC., INC.
 3000 LINE STREET, STE. #322
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 951-786-0004 FAX 951-786-0005
 E-MAIL: INFO@RWMA-ENG.COM
 2/10/05

PROJECT:

RIVERSIDE COUNTY TRAVEL ZONE
 DEVELOPER:
 RIVERSIDE COUNTY TRAVEL ZONE, LLC
 2500 ORANGE, CA 92669
 PH: (714) 538-9199 FAX: (714) 715-1685

Drawn	DMF
Checked	CFM
Engineer	CFM
File	200501UTP
Date	01/13/05

Job No.
 2005-0200

Sheet No.