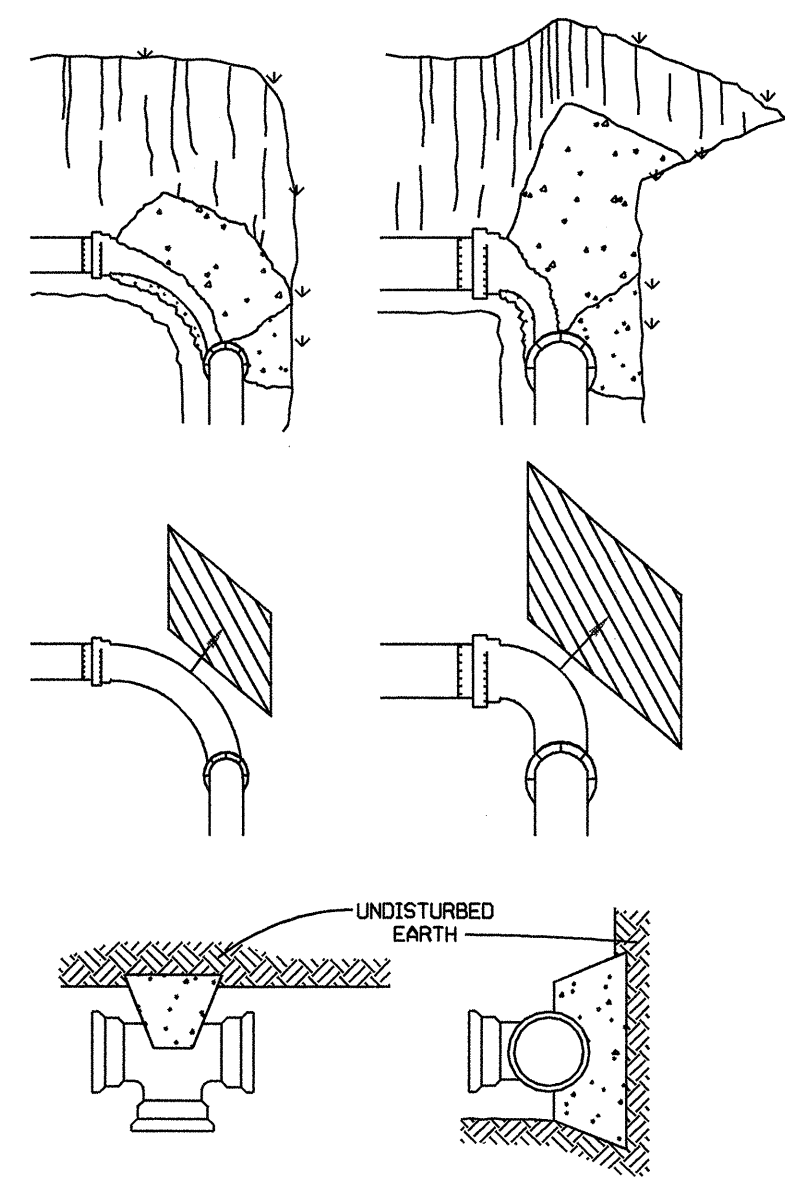


UTILITY CONSTRUCTION

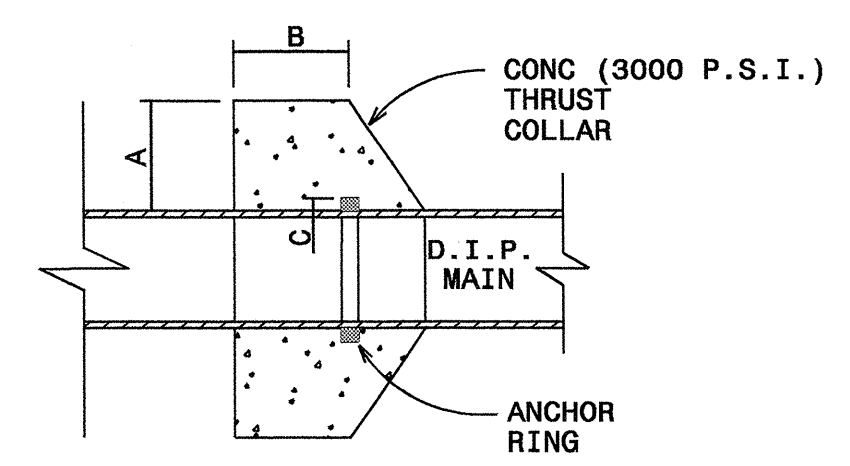
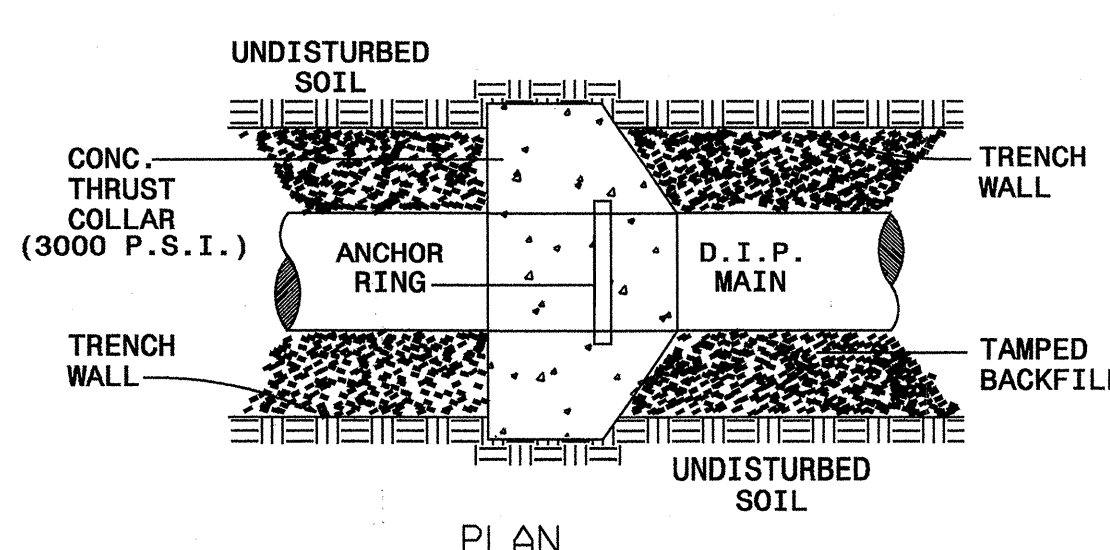


MINIMUM CONCRETE BLOCKING (C.Y.) *					
NOM. PIPE DIA. IN.	TEES & DEAD ENDS	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
4	1/3	1/3	1/3	1/3	1/3
6	1/3	1/3	1/3	1/3	1/3
8	1/3	1/2	1/3	1/3	1/3
10	2/3	3/4	1/2	1/3	1/3
12	3/4	1.0	2/3	1/3	1/3
14	1.0	1-1/2	3/4	1/2	1/3
16	1-1/3	2.0	1.0	1/2	1/3
18	1-2/3	2-1/3	1-1/3	2/3	1/3
20	2.0	3.0	1-2/3	3/4	1/2
24	3.0	4-1/3	2-1/3	1-1/3	2/3

* CONCRETE SHALL BE 3000 P.S.I. MIX.

NOTE:
NO CONCRETE SHALL COVER BOLTS OR GLANDS.

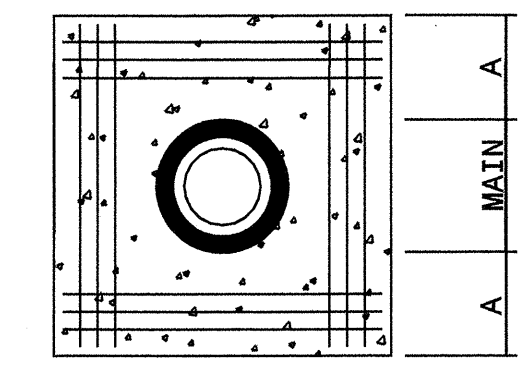
STANDARD REACTION BLOCKING



PLAN

SECTION

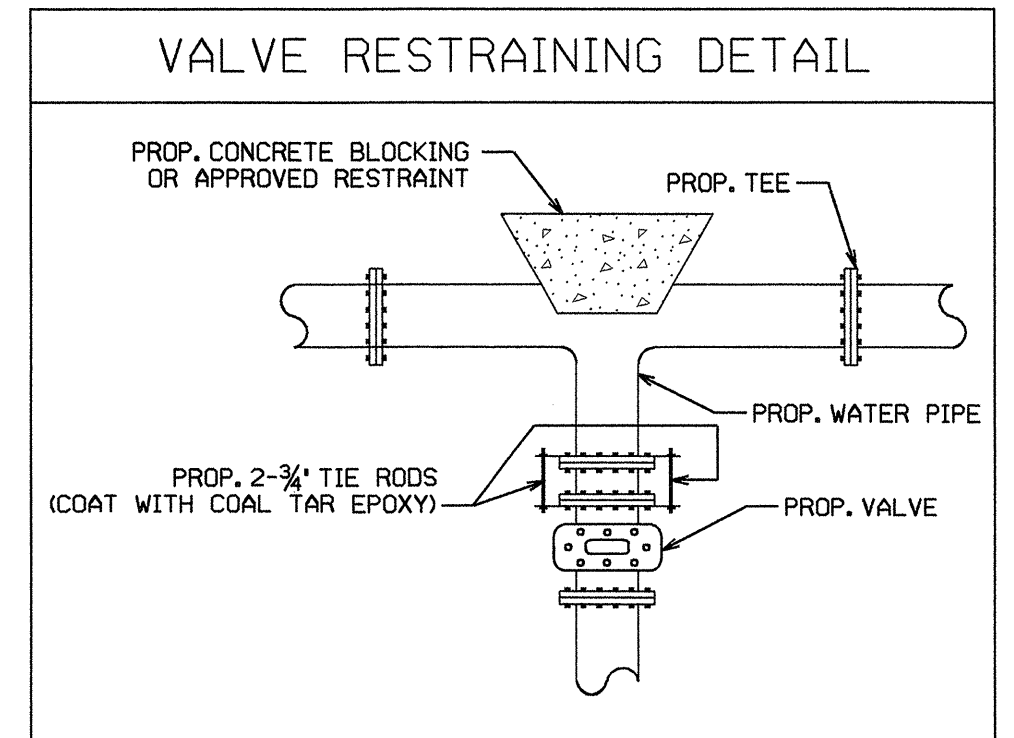
SCHEDULE				
PIPE DIAMETER	CONCRETE THRUST COLLAR		ANCHOR RING	RINGS REQUIRED
	A	B		
6", 8", 12"	1'-0"	1'-0"	2"	ONE
16"	1'-4"	1'-0"	2"	ONE
20"	1'-4"	1'-0"	3"	ONE
24"	1'-4"	1'-0"	3"	TWO
30"	1'-4"	1'-2"	4"	TWO
36"	1'-4"	1'-4"	4"	TWO



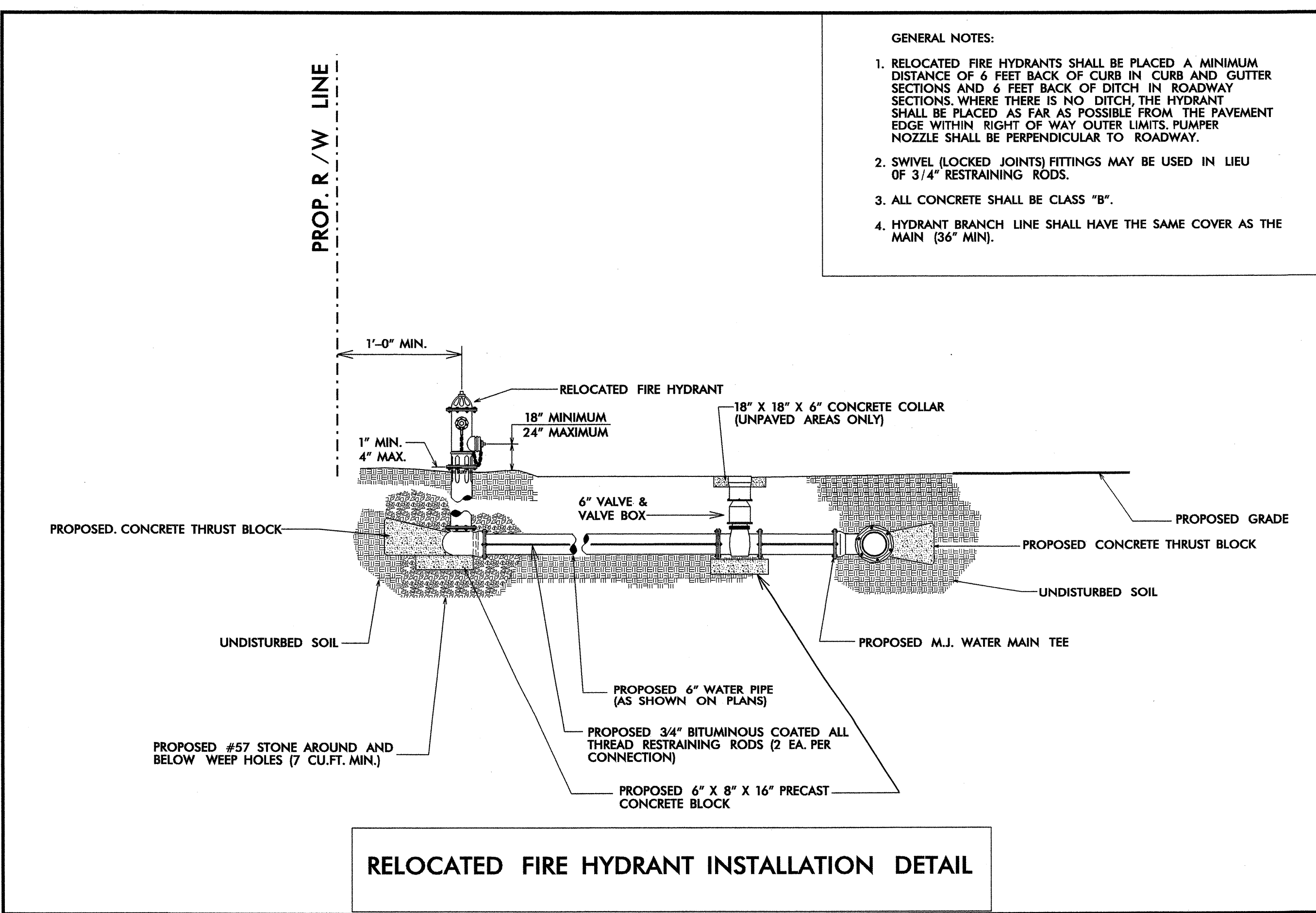
REINFORCING

NOTE:
6" TO 16" MAINS = 12-NO. 7 BARS
20" TO 36" MAINS = 12-NO. 8 BARS
BARS PLACED AS SHOWN

STANDARD THRUST COLLAR INSTALLATION

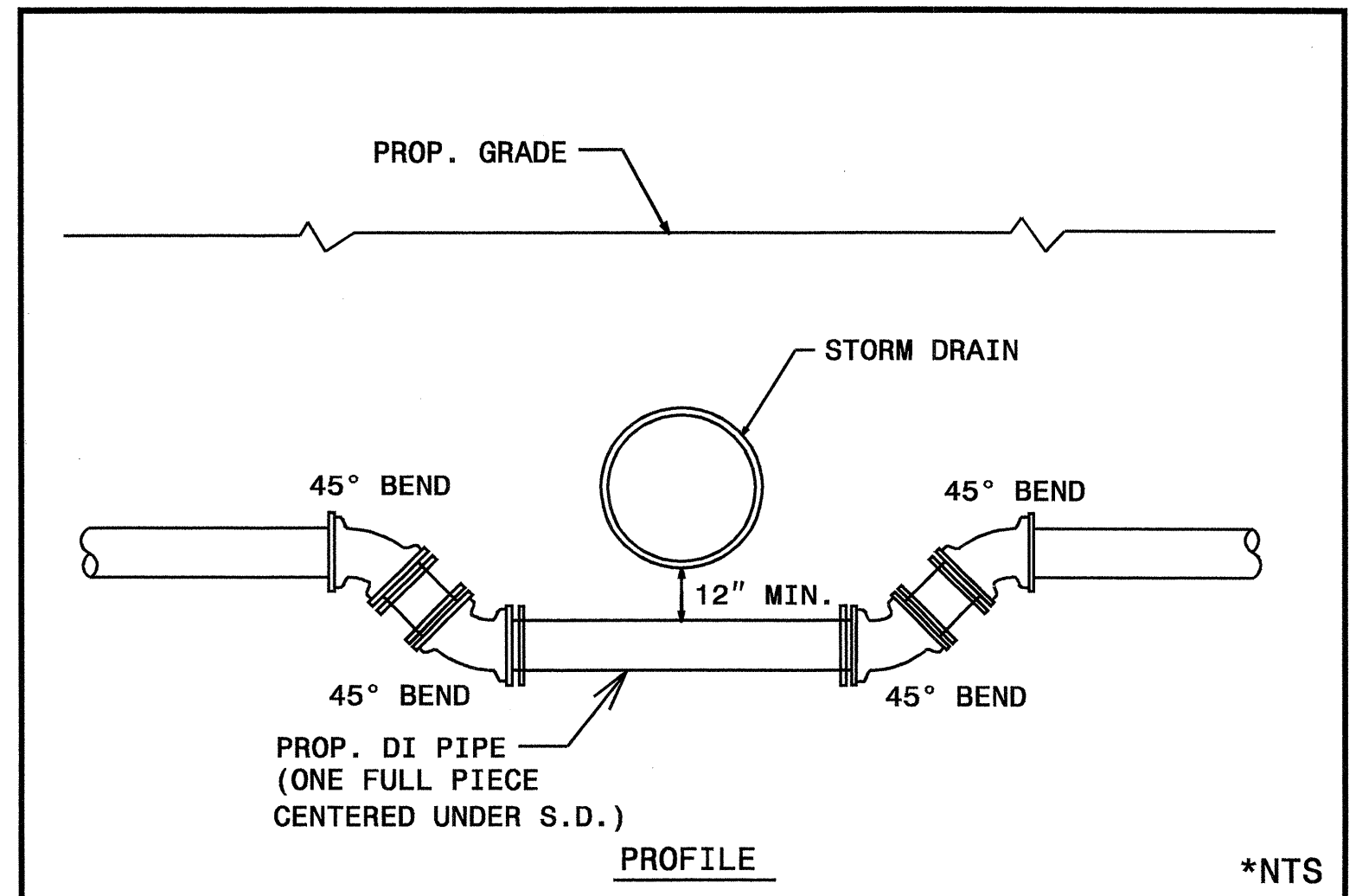


VALVE RESTRAINING DETAIL

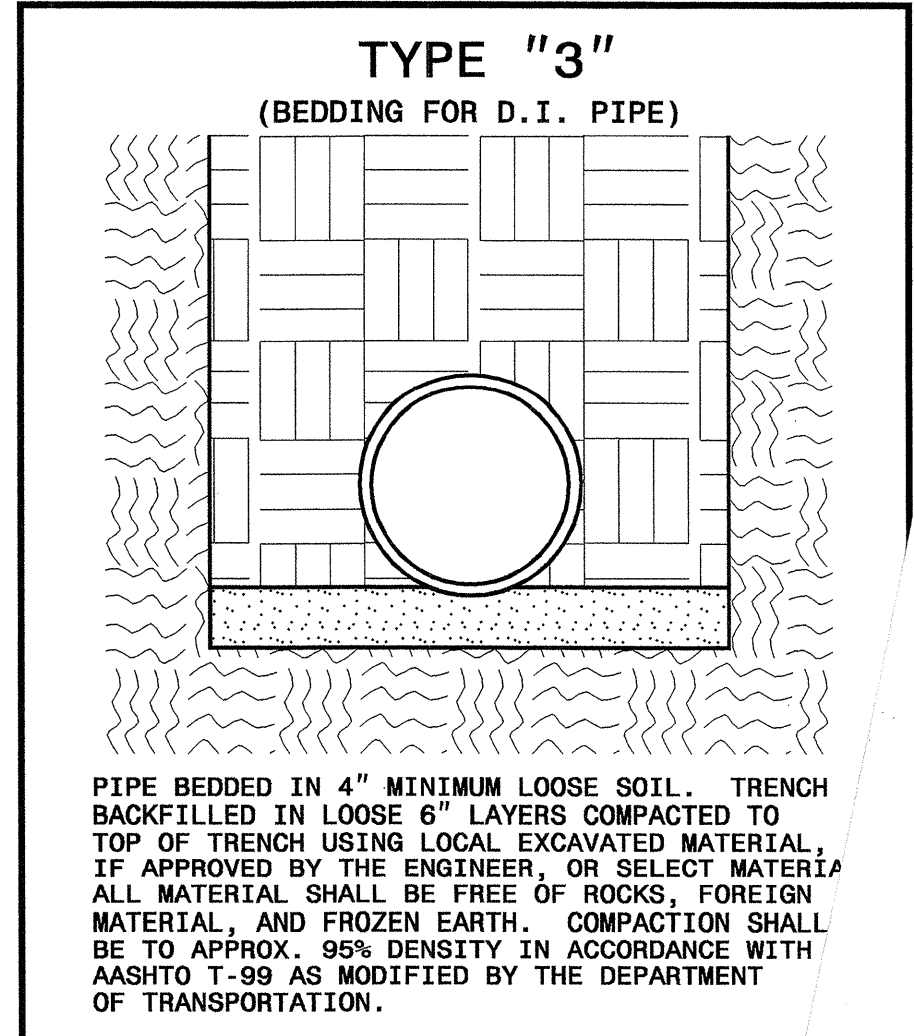


- GENERAL NOTES:
- RELOCATED FIRE HYDRANTS SHALL BE PLACED A MINIMUM DISTANCE OF 6 FEET BACK OF CURB AND GUTTER SECTIONS AND 6 FEET BACK OF DITCH IN ROADWAY SECTIONS. WHERE THERE IS NO DITCH, THE HYDRANT SHALL BE PLACED AS FAR AS POSSIBLE FROM THE PAVEMENT EDGE WITHIN RIGHT OF WAY OUTER LIMITS. PUMPER NOZZLE SHALL BE PERPENDICULAR TO ROADWAY.
 - SWIVEL (LOCKED JOINTS) FITTINGS MAY BE USED IN LIEU OF 3/4" RESTRAINING RODS.
 - ALL CONCRETE SHALL BE CLASS "B".
 - HYDRANT BRANCH LINE SHALL HAVE THE SAME COVER AS THE MAIN (36" MIN).

RELOCATED FIRE HYDRANT INSTALLATION DETAIL



PROP. WATER LINE RELOCATION AT STORM DRAINAGE



PIPE BEDDED IN 4" MINIMUM LOOSE SOIL. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL. IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROX. 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.