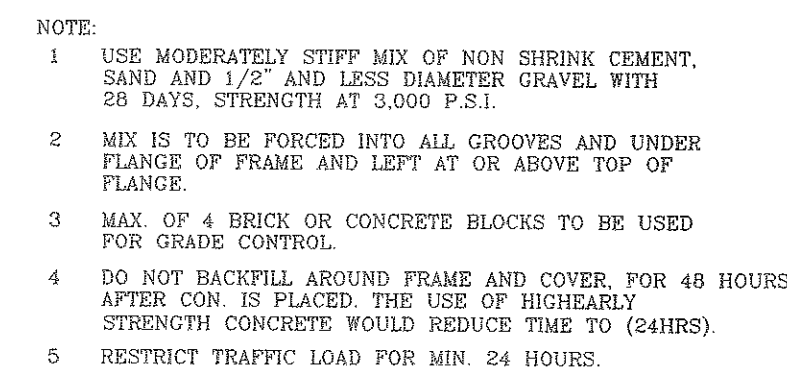
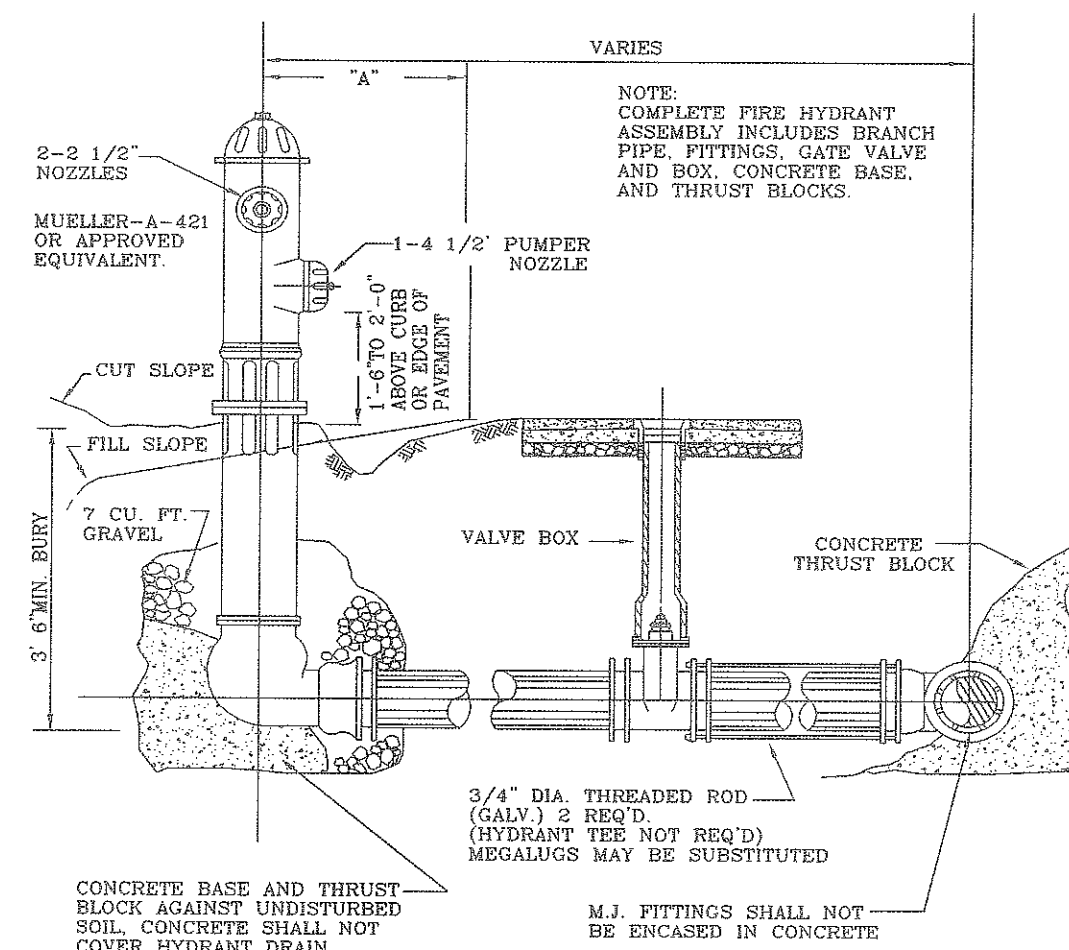


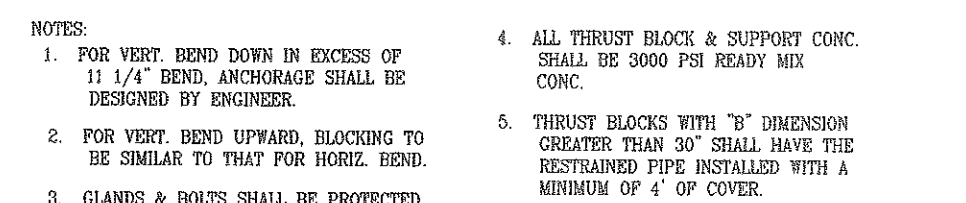
FLUSH TYPE BLOW OFF



INSTALLATION OF ALL FRAMES AND COVERS

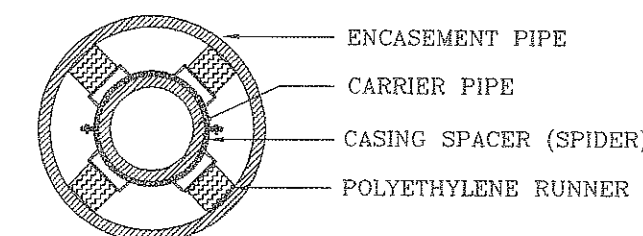
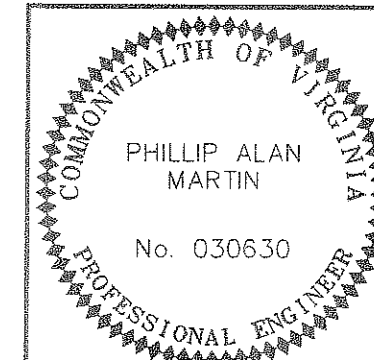


FIRE HYDRANT ASSEMBLY



FACTORS OF SAFETY =													
PIPE SIZE		90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
A	B	A	B	A	B	A	B	A	B	A	B	A	B
4"	8"	12"	8"	8"	6"	6"	6"	11"	9"	10"	6"		
6"	8"	12"	8"	8"	6"	6"	6"	11"	9"	10"	12"	18"	24"
8"	12"	18"	10"	10"	8"	8"	8"	11"	11"	12"	12"	18"	24"
10"	20"	16"	12"	14"	8"	8"	8"	12"	14"	16"	16"	30"	36"
12"	20"	16"	12"	14"	8"	8"	8"	12"	14"	16"	16"	30"	36"
16"	26"	20"	16"	18"	11"	13"	11"	13"	18"	20"	20"	36"	42"
24"	82"	42"	62"	30"	44"	22"	22"	16"	82"	42"	82"	42"	42"
30"	185"	42"	100"	42"	52"	42"	42"	30"	185"	42"	185"	42"	42"

THRUST BLOCK CONSTRUCTION



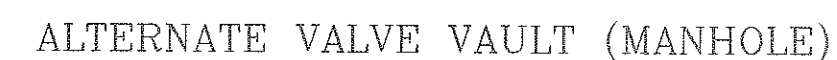
ALTERNATE PIPE SUPPORT IN CASING PIPE:

18" LONG TREATED HMBER SKIDS OF APPROPRIATE WIDTH SO THAT BELLS OR FLANGES DO NOT REST ON CASING WITH MORE THAN 3/4" FREE PLAY. SKIDS TO BE PLACED AT 4'-0" O.C. AND SECURED WITH 2"x 1/4" GALV. STEEL STRAPS OR 1" S.S. BANDS. SOAP-BASED LUBRICANT MAY BE USED FOR SLIDING OF SKID WITH DUCTILE IRON PIPE AND FLAX-BASED LUBRICANT MAY BE USED FOR SLIDING OF SKID WITH PVC PIPE.

NOTE: A 1" DRAIN WILL BE REQUIRED ON THE LOWER END OF THE CASING
IF THE CASING ENDS ARE SEALED WITH MORTAR AND BRICK.

PIPE SUPPORT IN CASING PIPE

NOTE:
TO BE USED WHEN STANDARD VAULT CONSTRUCTION EXCEEDS MAXIMUM VERTICAL HEIGHT OF 4'.



REVISION	DATE	DESCRIPTION
DESIGNED BY: PM	PHASE 2 LOCH HAVEN ROAD WATER EXTENSION CATAWBA MAGISTERIAL DISTRICT ROANOKE COUNTY, VIRGINIA	
DRAWN BY: JAK	SHEET NO. 21 OF 22	
CHECKED BY:		
SCALE: NONE	ROANOKE VIRGINIA, CHARTERED 1882	
DATE: 14 MARCH 2000	ROANOKE COUNTY, VIRGINIA UTILITY DEPARTMENT	