

### BENDS AND TEES

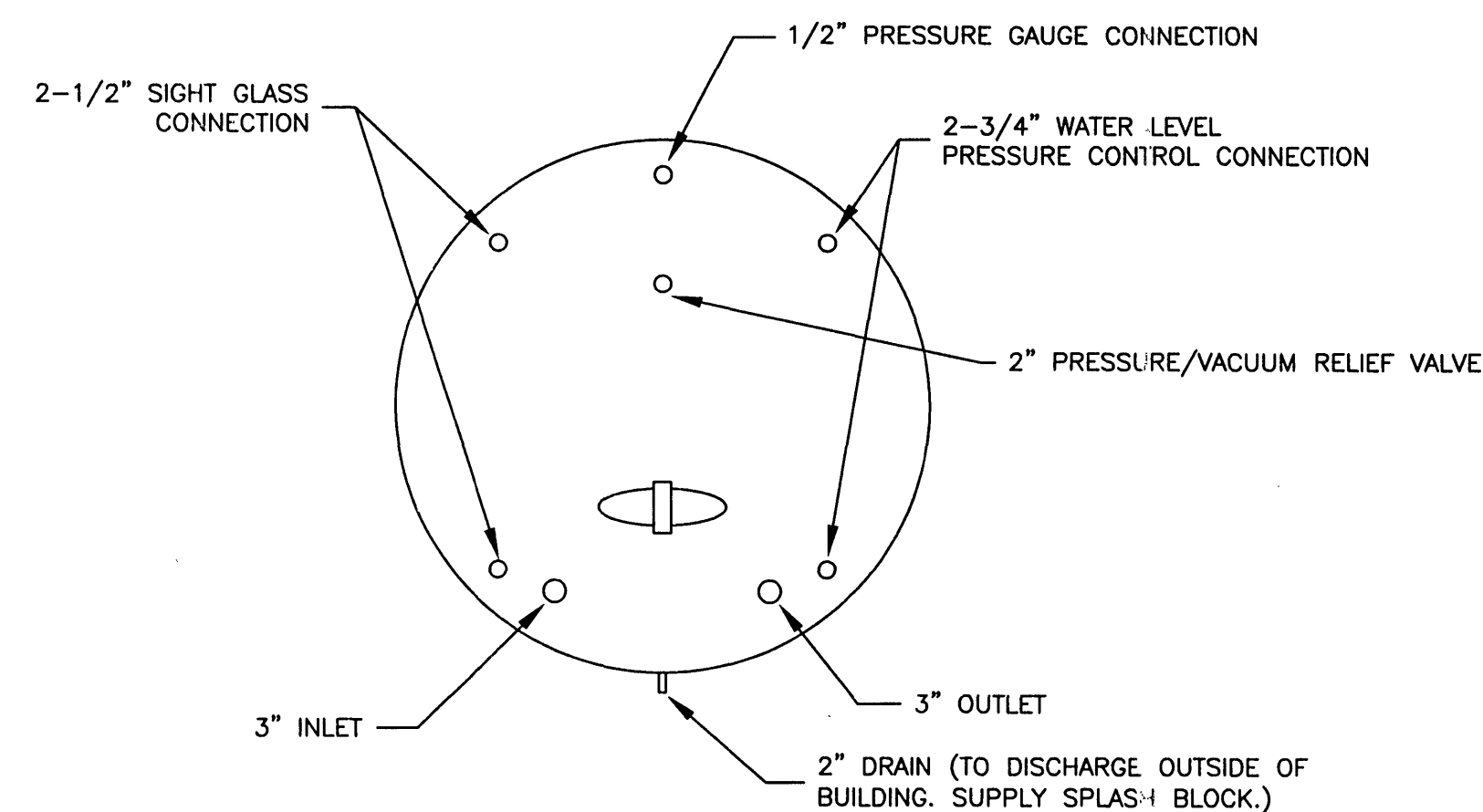
### SECTION OF VERTICAL BEND

- NOTES:
- FOR VERT. BEND DOWN IN EXCESS OF 11 1/4" BEND, ANCHORAGE SHALL BE DESIGNED BY ENGINEER.
  - FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND.
  - GLANDS & BOLTS SHALL BE PROTECTED FROM CONC. BY PLASTIC SHEETING WHEN POURING THRU BLOCKS.
  - ALL THRU BLOCK & SUPPORT CONC. SHALL BE 3000 PSI READY MIX CONC.
  - THRU BLOCKS WITH "B" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4' OF COVER.

PRESSURE = 200 psi  
BEARING = 2000 psf  
FACTOR OF SAFETY = 1.5

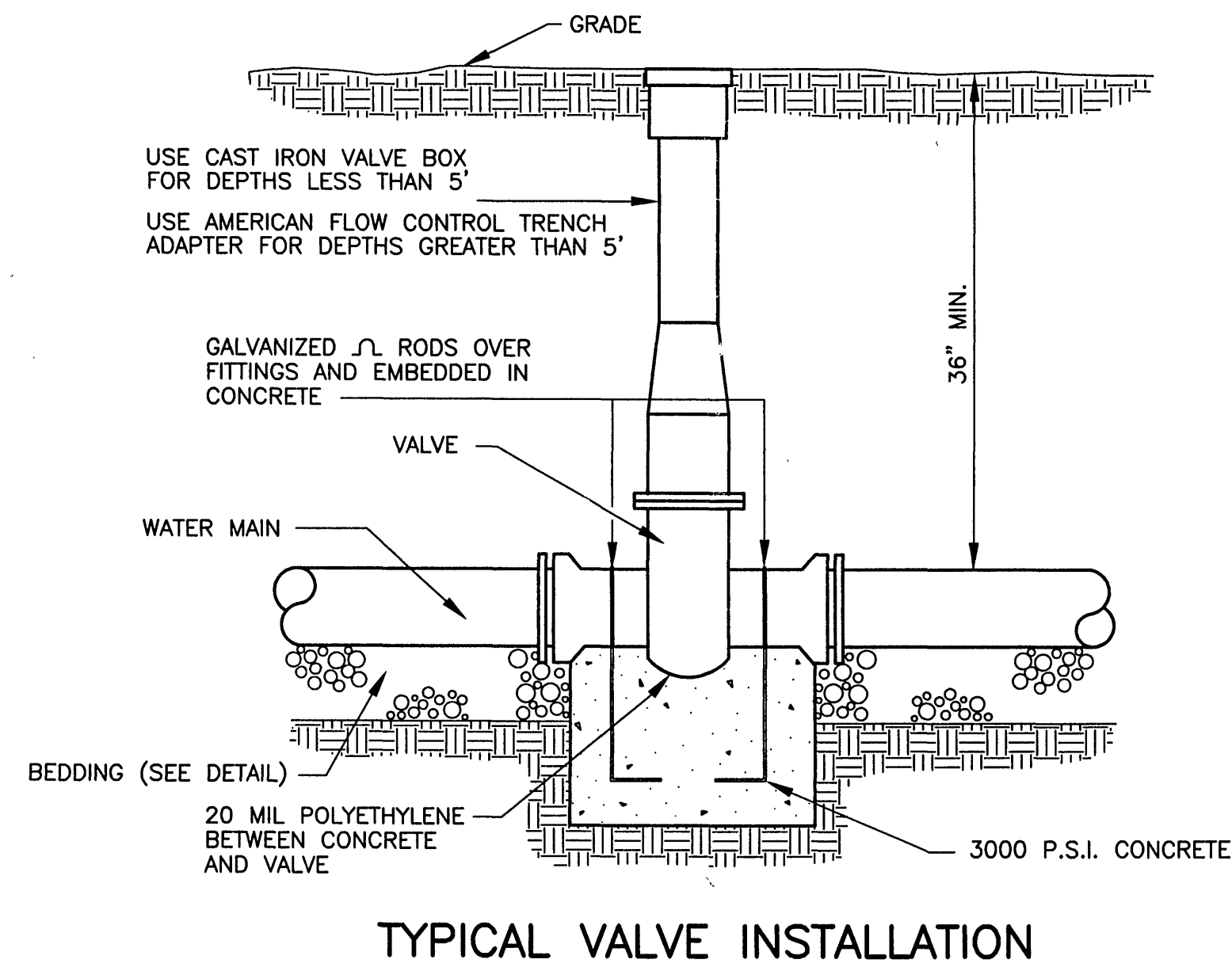
PIPE SIZE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	TEE	PLUG
4"	8"	12"	8"	8"	6"	6"
6"	18"	12"	8"	10"	8"	8"
8"	18"	13"	10"	10"	8"	8"
10"	20"	16"	12"	14"	8"	12"
12"	20"	16"	12"	14"	8"	12"
16"	26"	20"	16"	18"	11"	13"
24"	82"	42"	62"	30"	44"	22"
30"	185"	42"	100"	42"	52"	42"

### THRU BLOCK CONSTRUCTION

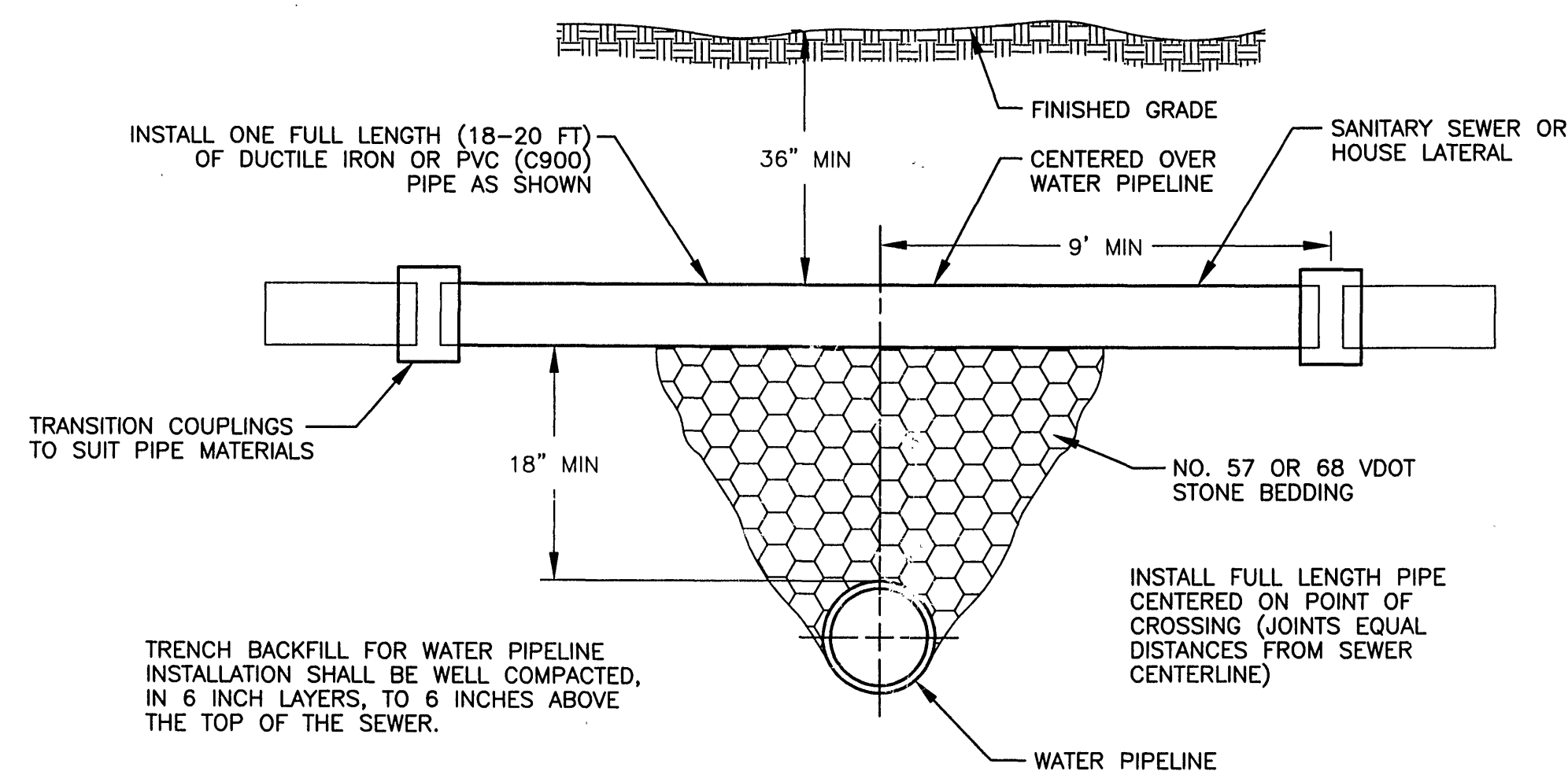


### PRESSURE TANK DETAILS

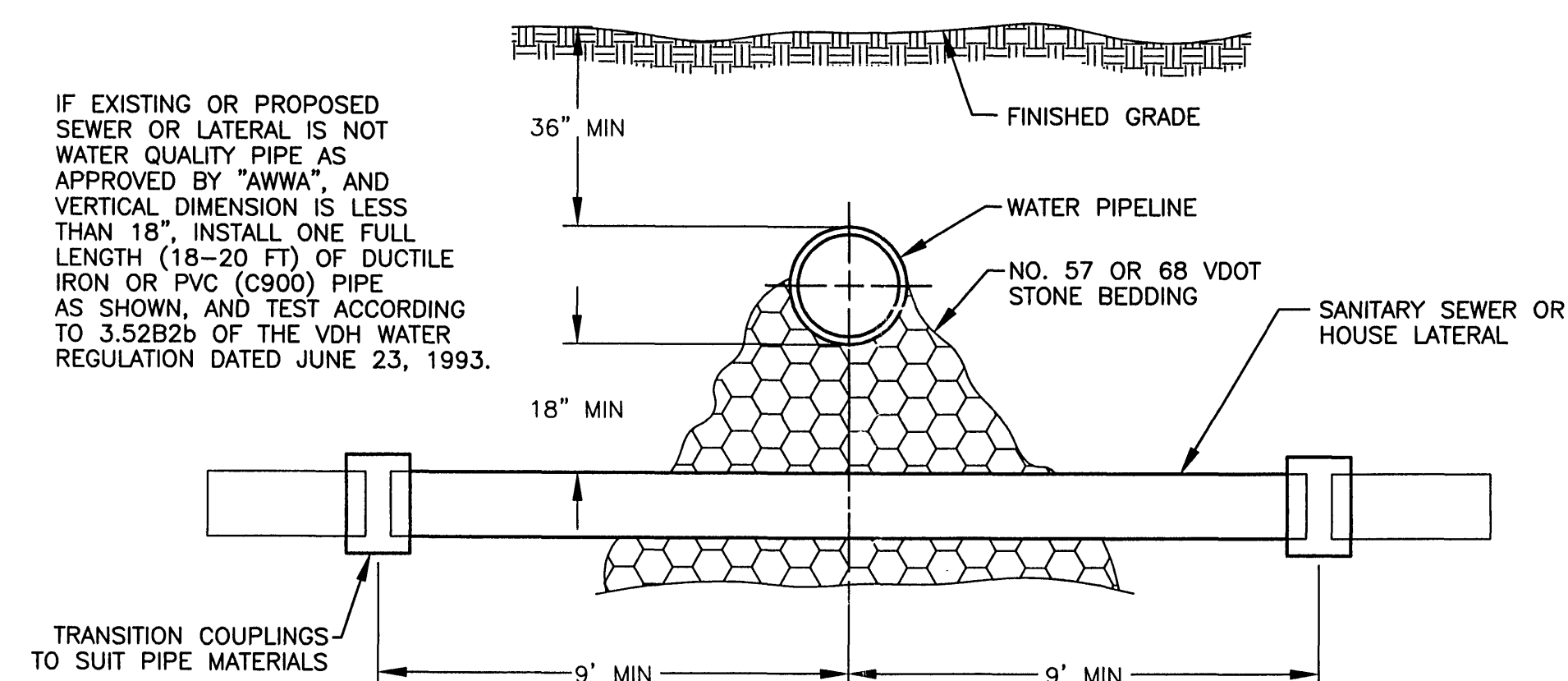
\* CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF PRESSURE TANK CONNECTIONS



### TYPICAL VALVE INSTALLATION

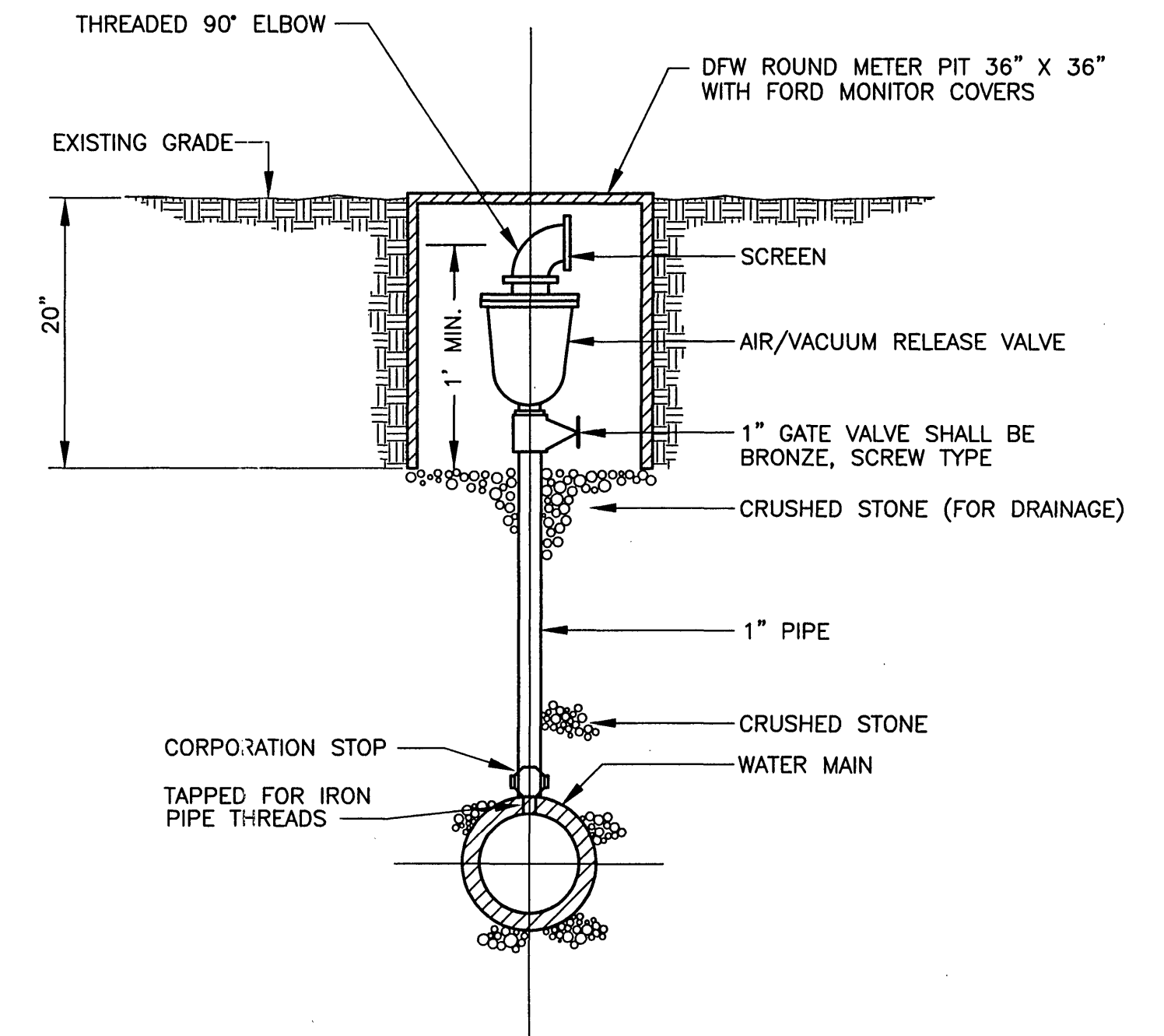


### WATER PIPELINE CROSSING BELOW SEWER OR LATERAL

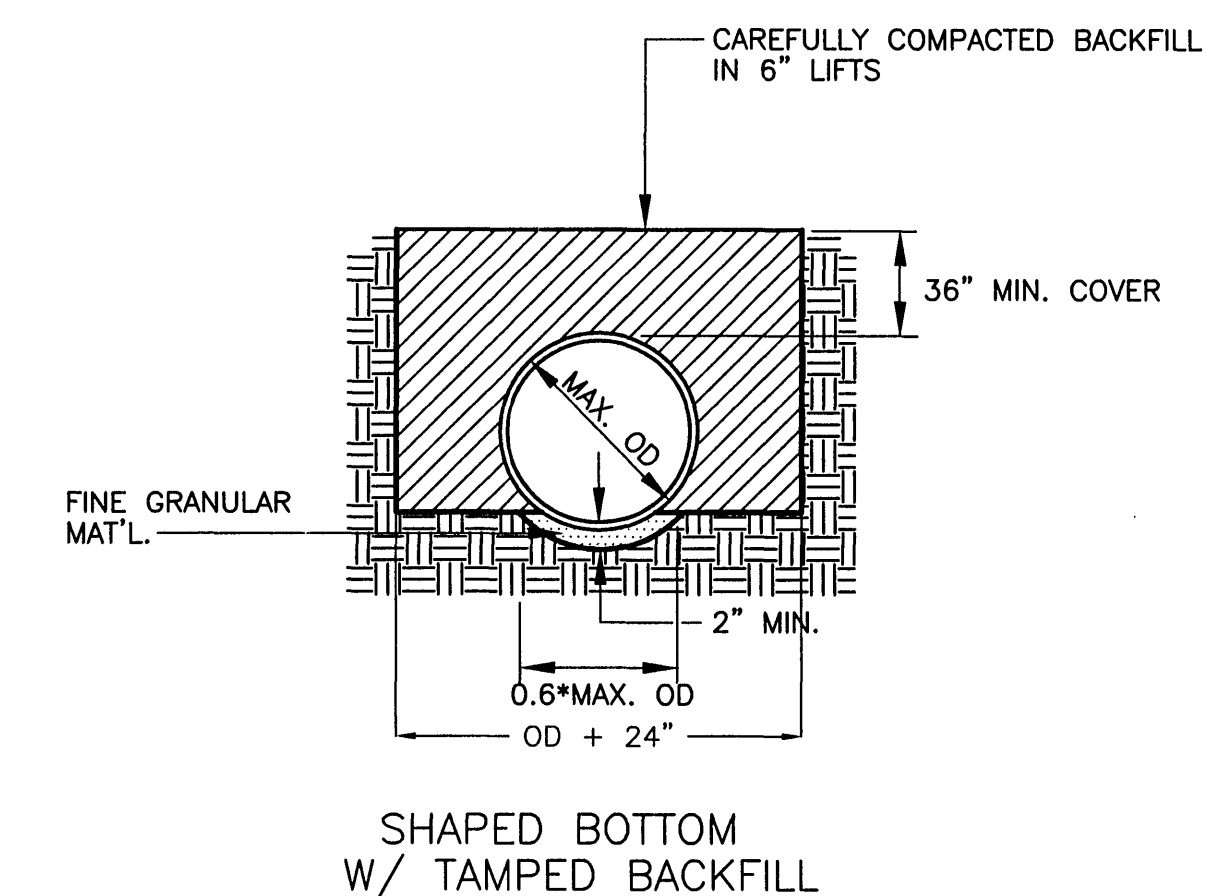


### WATER PIPELINE CROSSING ABOVE SEWER OR LATERAL

NOT TO SCALE

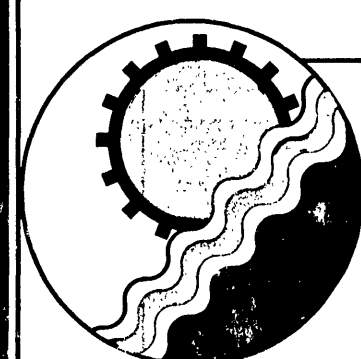


### AUTOMATIC AIR/VACUUM RELEASE VALVE



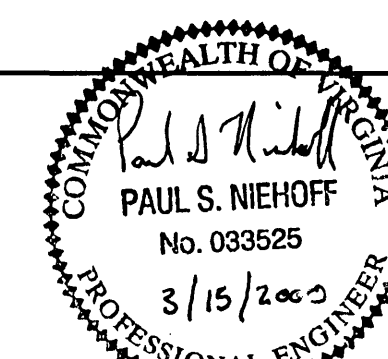
- NOTES:
- WHERE THE TRENCH BOTTOM IS IN ROCK, IT SHALL BE EXCAVATED TO A MINIMUM OF 8" BELOW THE BOTTOM OF THE PIPE AND BACKFILLED WITH SUITABLE BEDDING MATERIAL.
  - WHERE PIPE FOUNDATIONS ARE YIELDING, PIPE SHALL BE BEDDED ON A MINIMUM OF 8" SUITABLE BEDDING MATERIAL.
  - SHAPE TRENCH BOTTOM FOR PIPE BARREL, JOINTS, AND FITTINGS TO PROVIDE CONTINUOUS SUPPORT AND NO POINT LOADING OF PIPE, JOINTS, AND FITTINGS.
  - FOR PIPE LESS THAN 12" DIA., TRENCH WIDTH MAY BE 36"
  - ALL WATER LINE SHALL HAVE DETECTION TAPE APPROXIMATELY 18" ABOVE PIPE.
  - PIPE BEDDING SHALL BE CONTINUOUS AND UNIFORM.

### BEDDING DETAIL - WATER



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Drawn PSN  
Designed PSN  
Checked JST  
Approved JST

**LAKWOOD FOREST  
WATER SYSTEM UPGRADE  
WATER SYSTEM DETAILS**

SCALE: NONE  
MARCH 2000  
PROJECT: 99033  
**5 of 5**