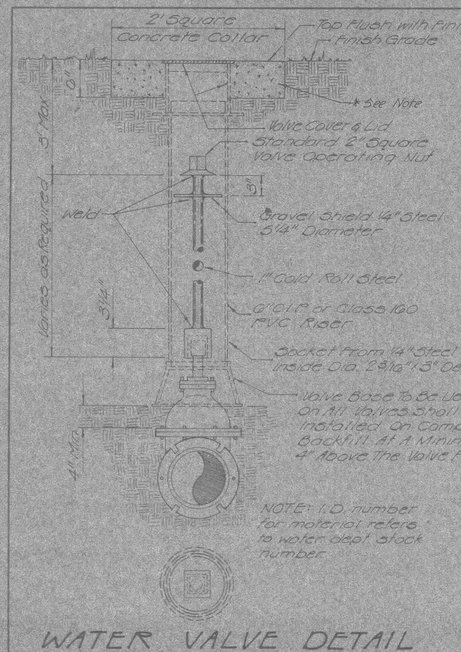
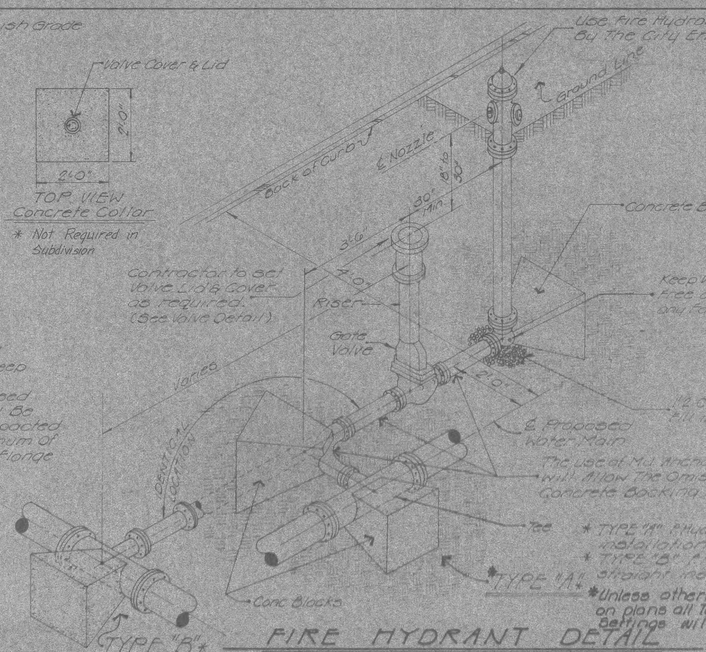
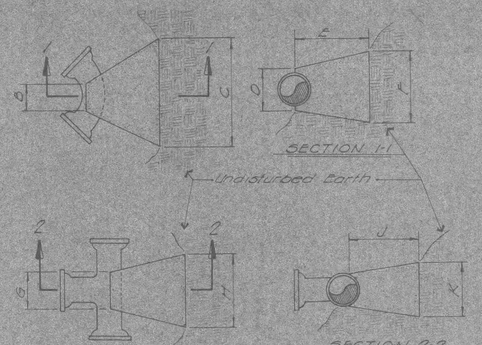


WATER VALVE DETAIL

TOP VIEW
Concrete Collar
* Not Required in Subdivision



FIRE HYDRANT DETAIL



BENDS	B	C	O	E	F
6" 11 1/4°	6"	18"	12"	24"	10"
6" 22 1/2°	6"	19"	12"	24"	12"
6" 45°	6"	20"	12"	24"	14"
6" 90°	6"	30"	12"	24"	27"
8" 11 1/4°	8"	20"	12"	24"	10"
8" 22 1/2°	8"	22"	12"	24"	11"
8" 45°	8"	30"	12"	24"	23"
8" 90°	8"	38"	12"	24"	39"
12" 11 1/4°	8"	30"	12"	24"	15"
12" 22 1/2°	8"	35"	12"	24"	25"
12" 45°	8"	40"	12"	24"	40"
12" 90°	8"	60"	12"	24"	62"

NOTES:
1. 4" & 6" FITTINGS EQUIVALENT TO 6" FITTINGS
2. TAPERING SLEEVES TO HAVE BACKING BLOCKS SAME SIZE AS REQUIRED FOR TEES.

TEES	G	H	J	K
6"x6"x6"	12"	24"	24"	18"
8"x8"x6"	12"	24"	24"	18"
8"x8"x8"	12"	24"	24"	24"
12"x12"x6"	12"	24"	24"	18"
12"x12"x8"	12"	24"	24"	24"
12"x12"x12"	12"	30"	24"	30"

CUBIC FEET OF CONCRETE REQUIRED				
BEND	11 1/4°	22 1/2°	45°	90°
6"	1.7	2.4	3.3	5.5
8"	2.1	3.1	5.0	8.5
12"	3.7	5.9	9.7	17.5

TEE x	E	F	J	PLUG
6"	40	—	—	40
8"	40	60	—	60
12"	40	85	105	105

BACKING BLOCKS

GENERAL NOTES:

1. All construction shall be done in accordance with the standards set forth by the City and installation shall be done under the supervision of the City Engineer.
2. Water Main Pipe to be Class 200 P.V.C.
3. All fittings shall be mechanical joint, cast iron.
4. All fire hydrants shall have 5-1/4" valve opening, pump nozzle and 2 hose nozzles with 6" inlet connection, as specified by City Engineer.
5. Bids for fire hydrants shall include 6" valve and box.
6. Water and sewer main crossings shall conform to the Missouri Clean Water Commission Standards.
7. Trench backfill shall be granular material through street crossings. All trench backfill to be compacted to 95% maximum density.
8. Testing, sterilization and flushing shall be performed to the satisfaction of the City Engineer.
9. All house service connections are to be done in a manner prescribed by the City Engineer.
10. The price for the construction items shall include the cost for labor and materials for installation.
11. All bends, tees and hydrants shall be blocked with concrete per the detail.

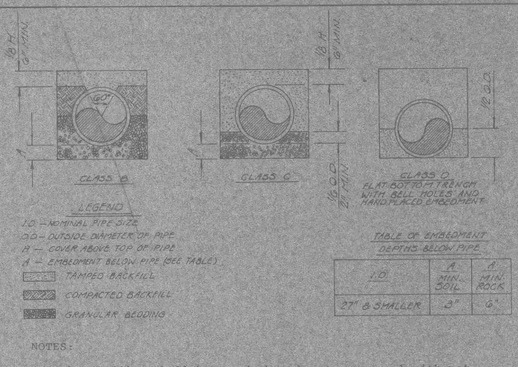


TABLE OF EMBEDMENT DEPTHS BELOW PIPE

I.D.	A MIN. SOIL	A MIN. ROCK
27" & SMALLER	4"	6"

NOTES:

Granular Bedding shall be crushed rock or pea gravel with not less than 95% passing 1/2" (95% passing 3/4" for 30" and larger pipe) and not less than 95% retained on a #4. to be placed in not more than 6" layers and compacted by slicing with a shovel or vibrating.

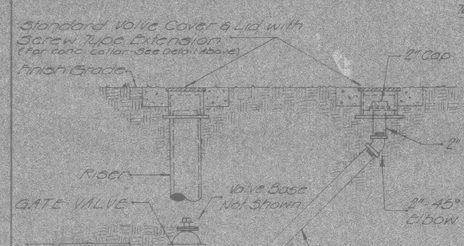
Compacted Backfill shall be finely divided job excavated material free from debris, organic material and stones, placed in uniform layers not more than 6" thick, compacted to 95% maximum density as determined by A.S.T.M. D698, or graded aggregate. Granular backfill material may be substituted for all or part of compacted backfill.

Tamped Backfill shall be finely divided job excavated material free from debris, organic material and stones, hand placed in uniform layers not more than 6" thick and tamped around conduit pipe. Granular backfill material may be substituted for all or part of tamped backfill.

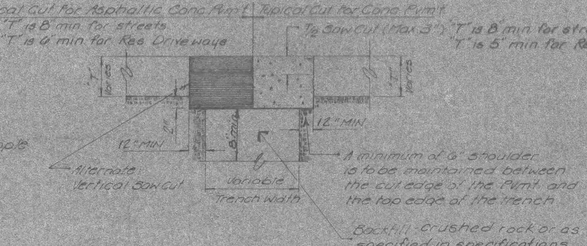
Trench Backfill shall be as required in the "Laying and Backfill" Section of the Detailed Specifications.

Embedment: Embedment shall be class D unless otherwise specified or shown on plans.

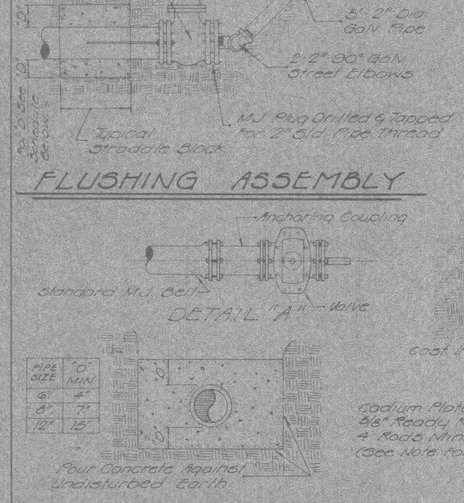
WATER MAIN EMBEDMENT



FLUSHING ASSEMBLY

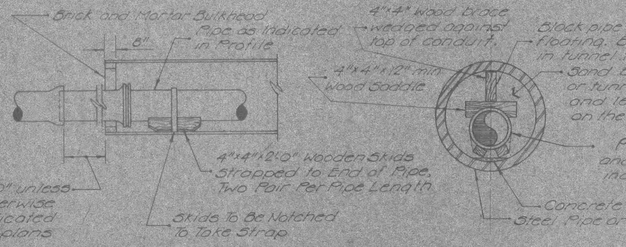


PAVEMENT REPAIR DETAIL

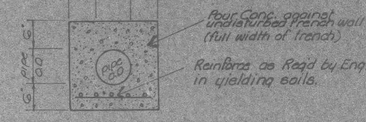


PIPE SIZE	"O" MIN
6"	4"
8"	7"
12"	15"

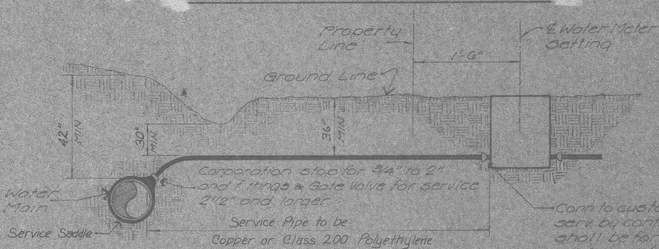
STRADDLE BLOCK DETAIL



TUNNEL LINER DETAIL



CONCRETE ENCASEMENT



TYPICAL SERVICE ASSEMBLY

GBA
GEORGE BUTLER ASSOCIATES
CONSULTING ENGINEERS ARCHITECTS
LANDSCAPE ARCHITECTS PLANNERS
Suite 200 / 225 S. Main St. / Ofallon, Missouri 63366

ROYAL OAKS PHASE 3C
WATER MAIN
CONSTRUCTION DETAILS

WATER MAIN DETAILS

JOB NO.	7391
DATE	APRIL, 1995
SCALE	AS NOTED
SHEET NO.	8 9

DESIGNED BY: STD. DRAWN BY: STD. CHECKED BY: STD.

Revisions RH 8-10-87 - General