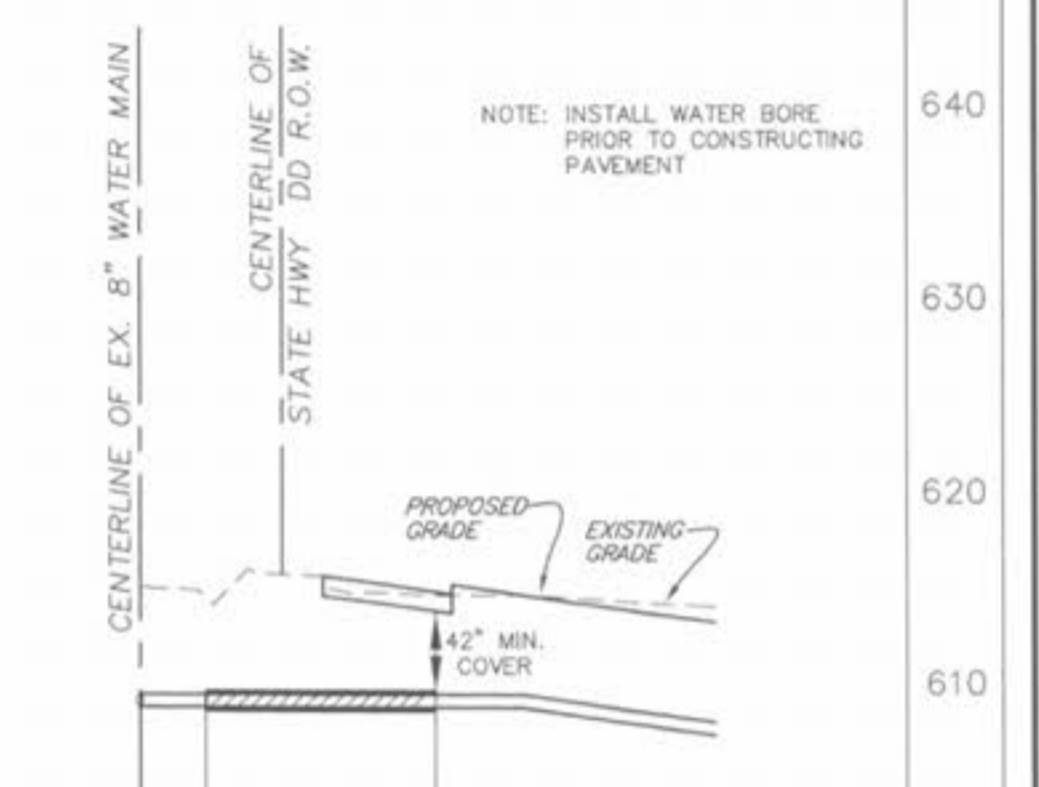


**GENERAL NOTES**

- All water lines shall be laid at least 10 feet horizontally from any sanitary sewer or manhole. An 18" vertical clearance from outside of pipe to outside of pipe shall be maintained wherever water lines must cross sanitary sewers or laterals. The water line shall be laid at such an elevation that the bottom of the water line is above the top of the drain or sewer. A full length of water pipe shall be centered over the sewer line to be crossed so that the joints will be equally distant from the sewer and as remote therefrom as possible. This vertical separation shall be maintained for that portion of the water line located within 10 feet horizontally, of any sewer or drain it crosses.
- All PVC water pipe shall conform to ASTM D2241, SDR 21 Standard specification for P.V.C. Pressure Pipe, 200 P.S.I. working pressure for water, with approved joint.
- All water mains, valves, fittings, hydrants, and related items are to be installed in accordance with the current St. Charles County, Missouri Public Water Supply District No. 2 guidelines and specifications.
- All water hydrants and valves shall be ductile iron and installed in accordance with plans and details. All ductile iron pipe for water mains shall conform to A.W.W.A. Specifications C-151. The ductile iron fittings shall conform to A.W.W.A. Specification CD-153. All rubber gasket joints for water ductile iron pressure pipe and fittings shall conform to A.W.W.A. Specification C-111.
- No flushing hydrants or water meters shall be located in driveways, sidewalks or other hard surface areas.

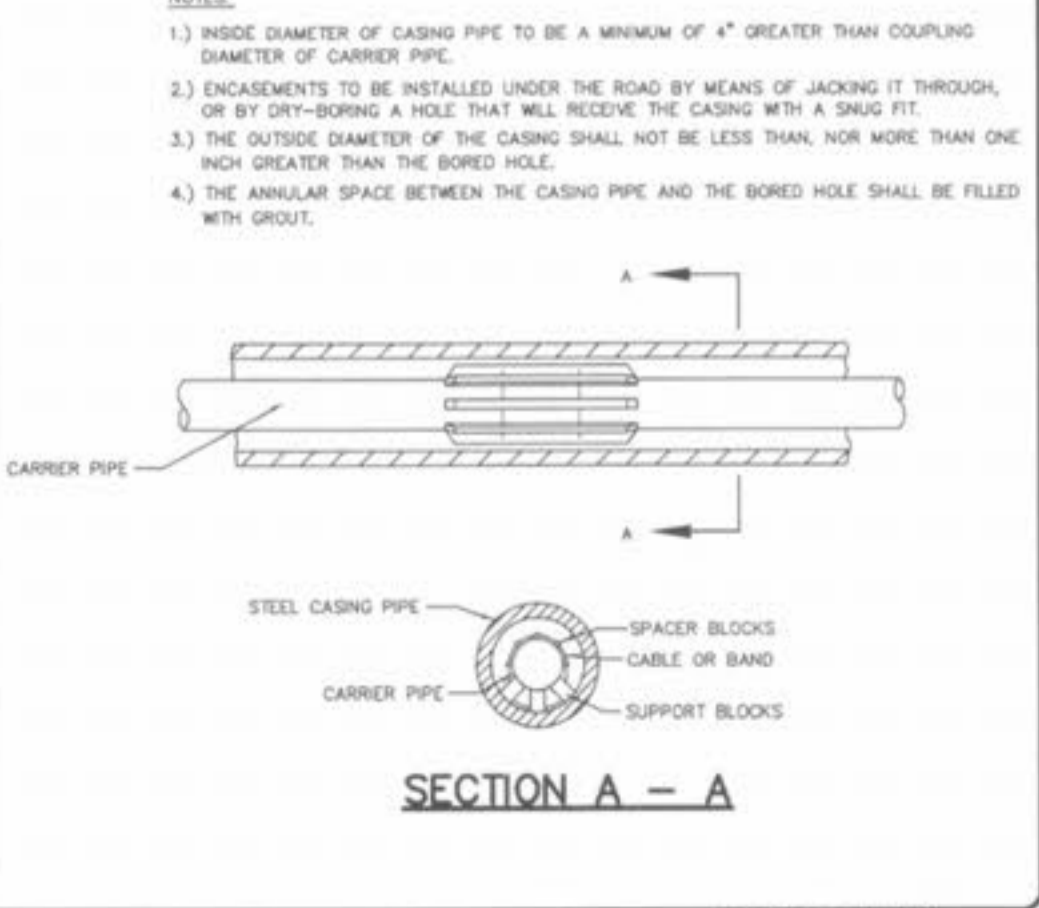
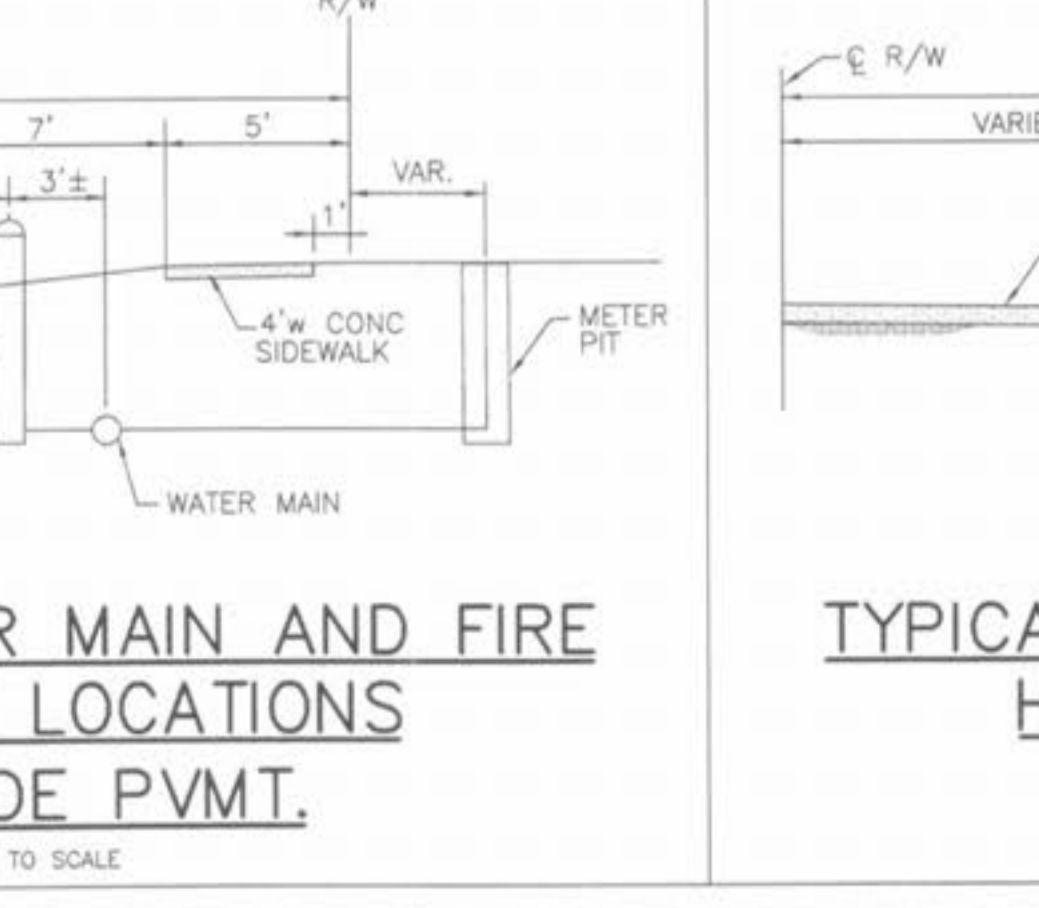
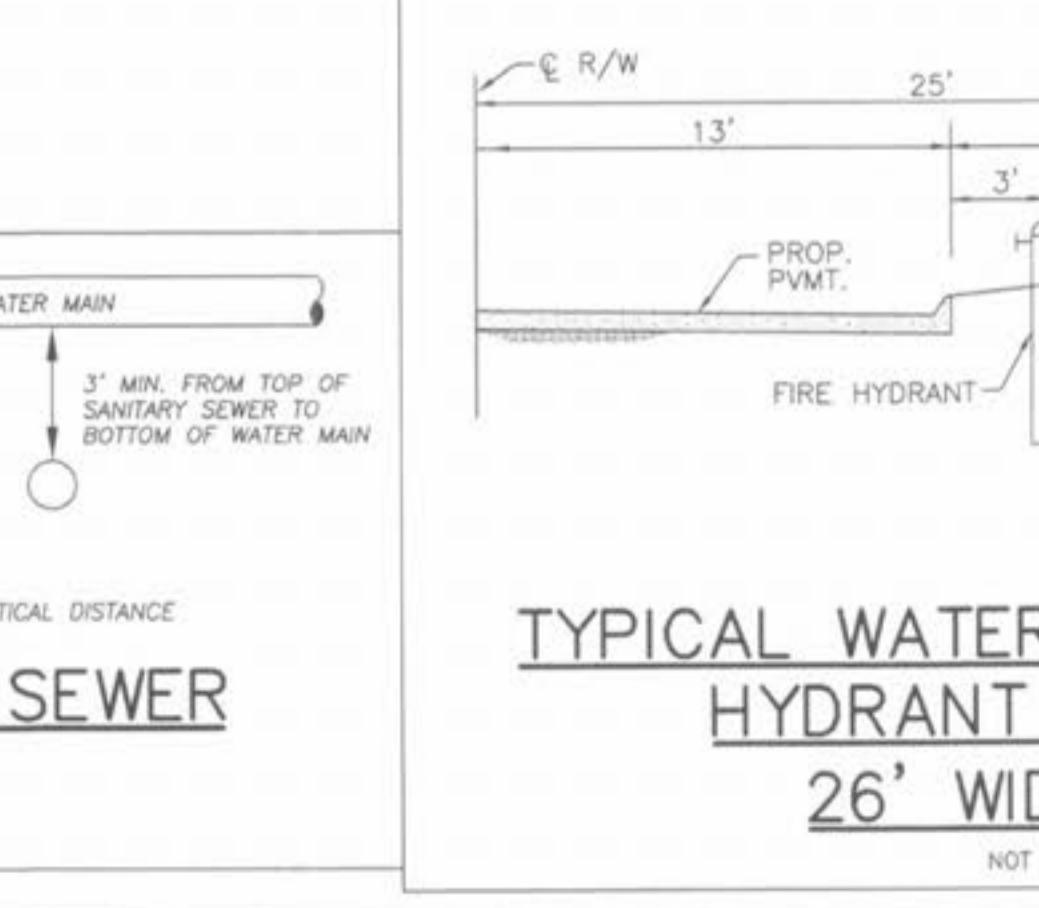
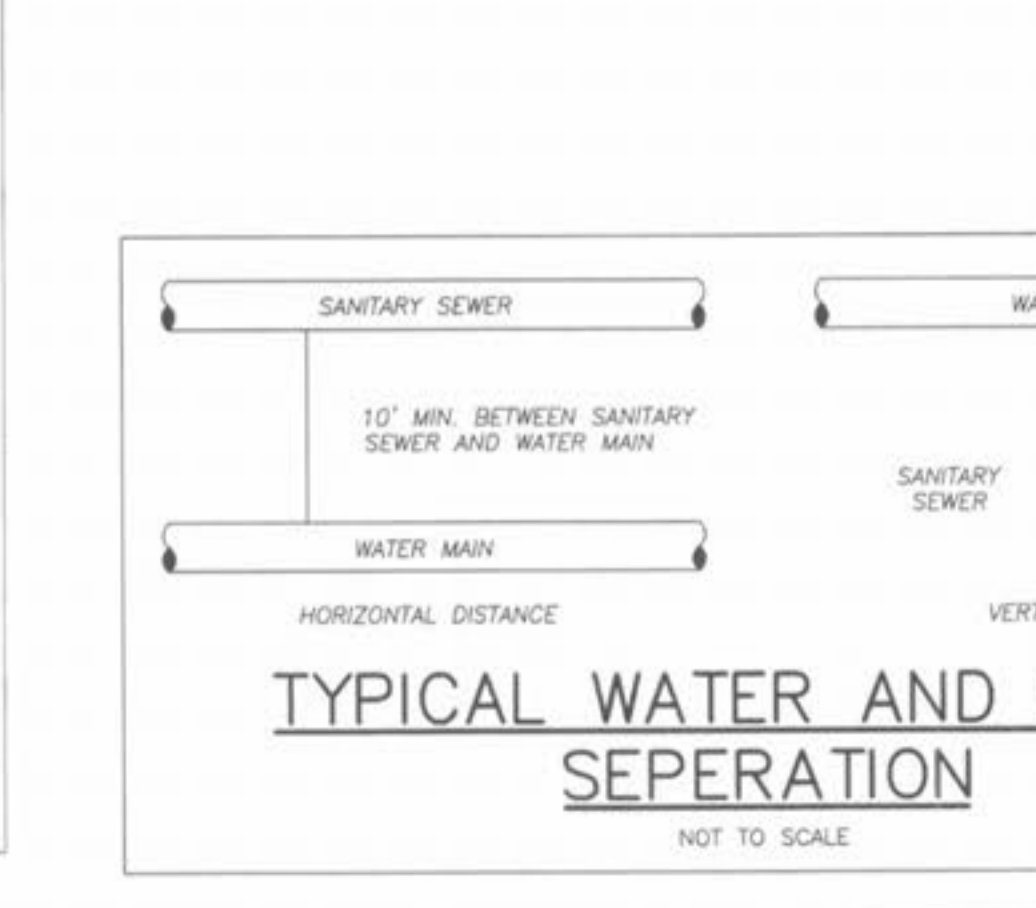
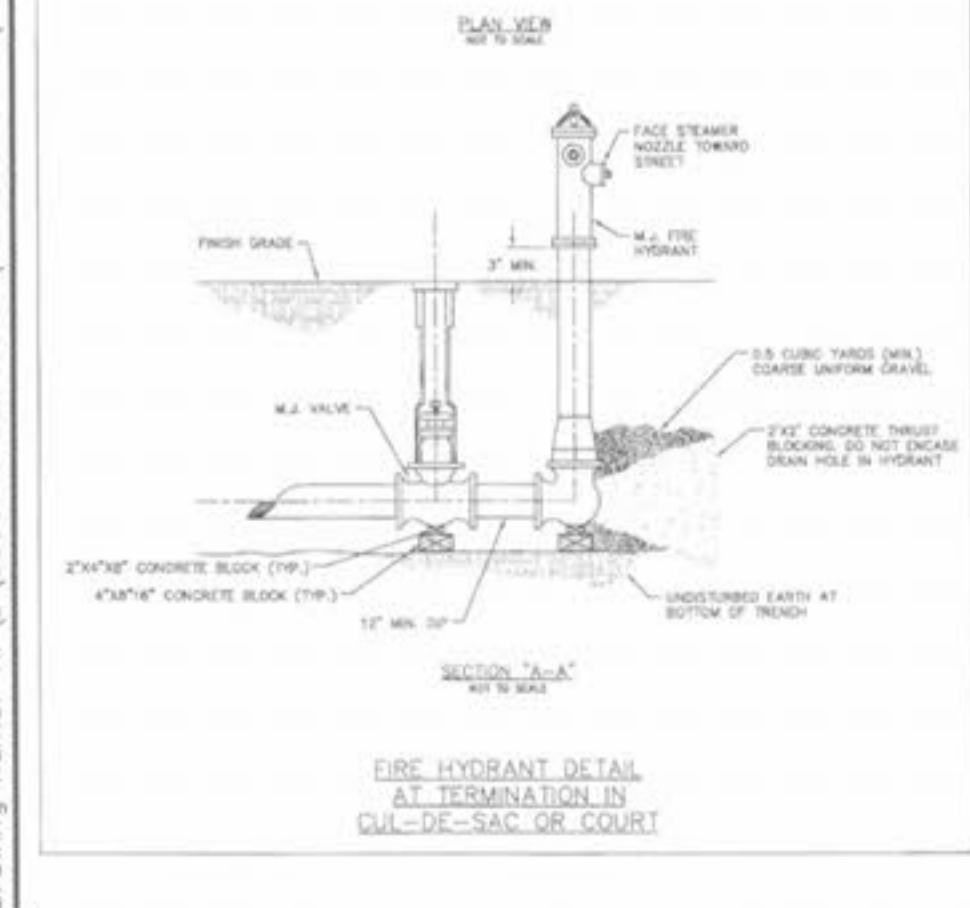
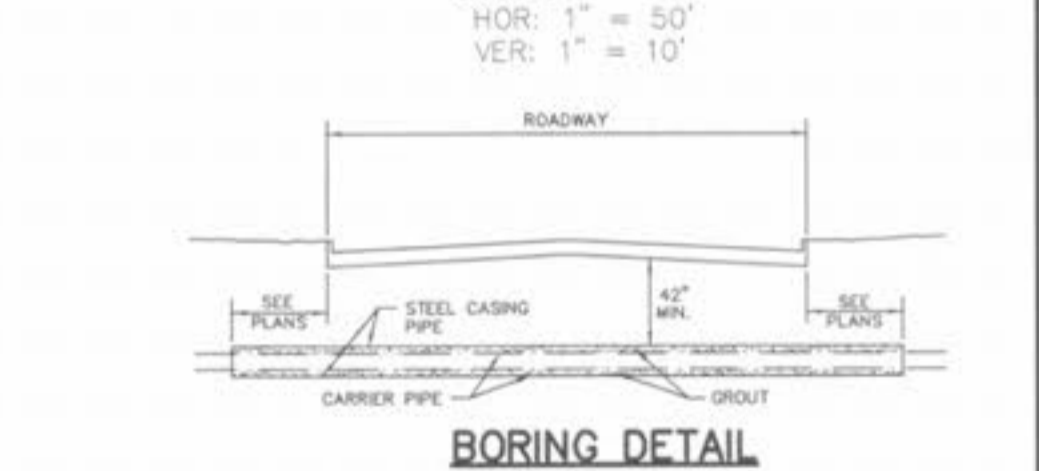
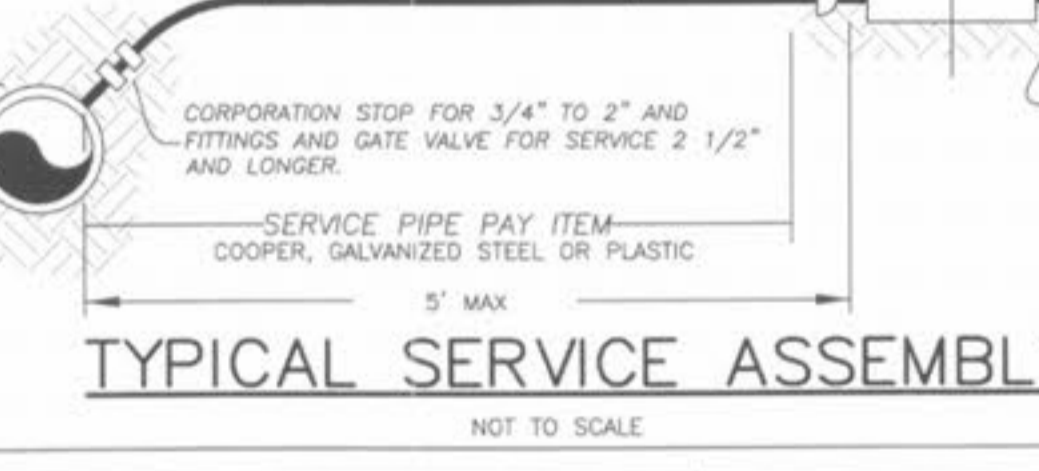
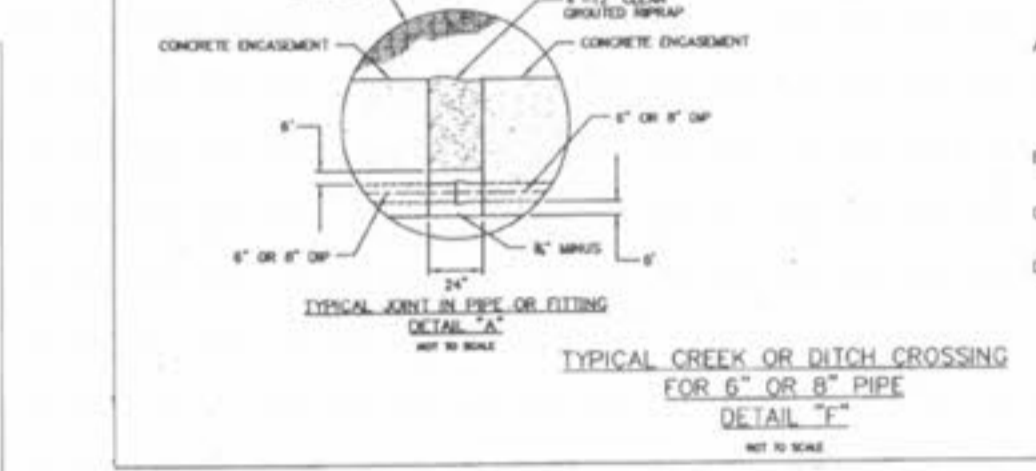
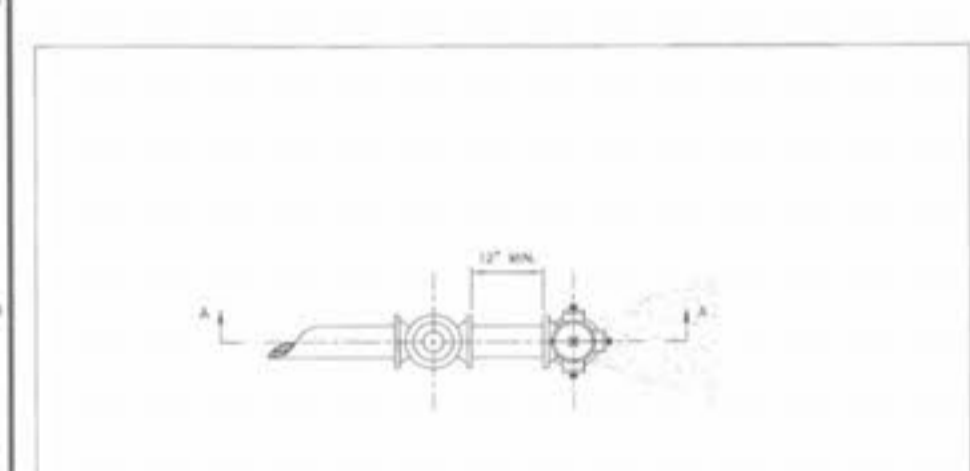
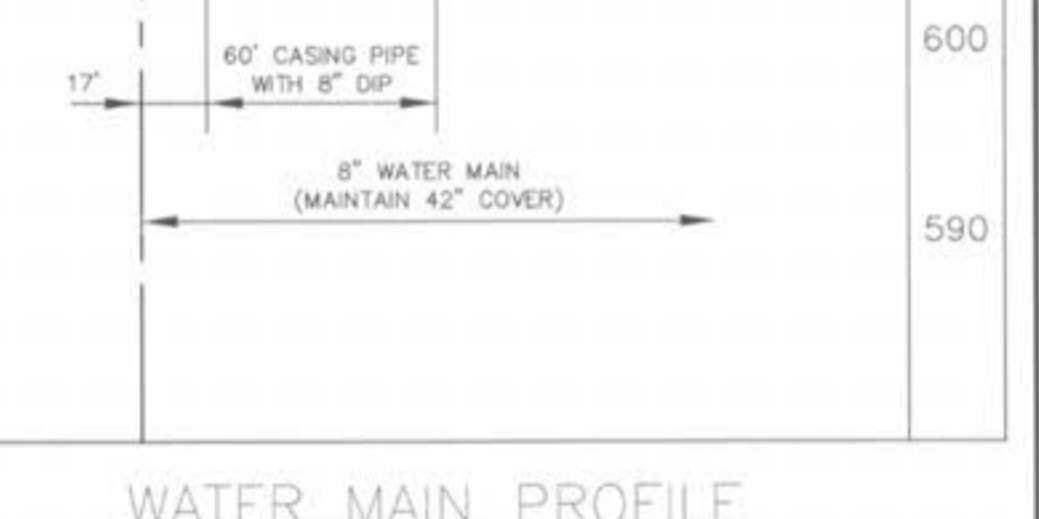
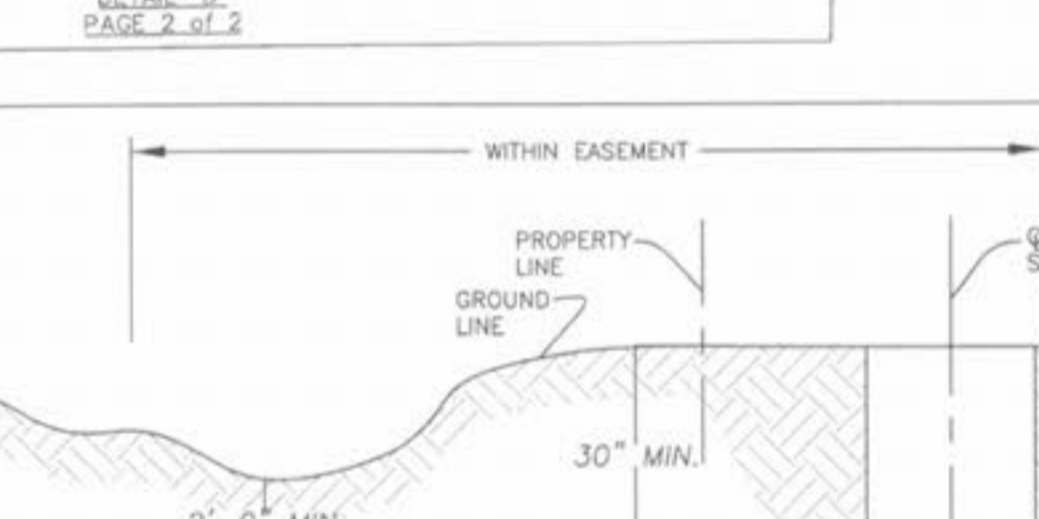
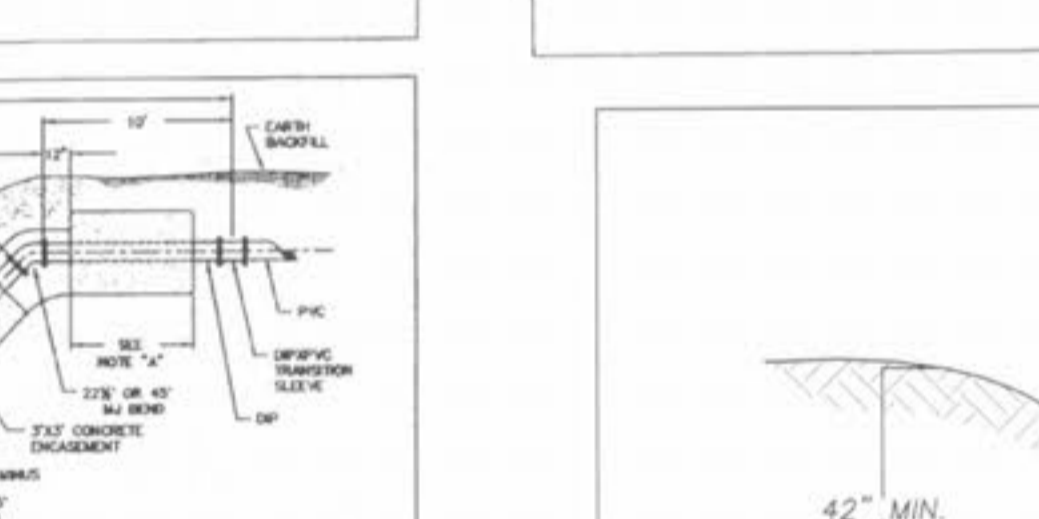
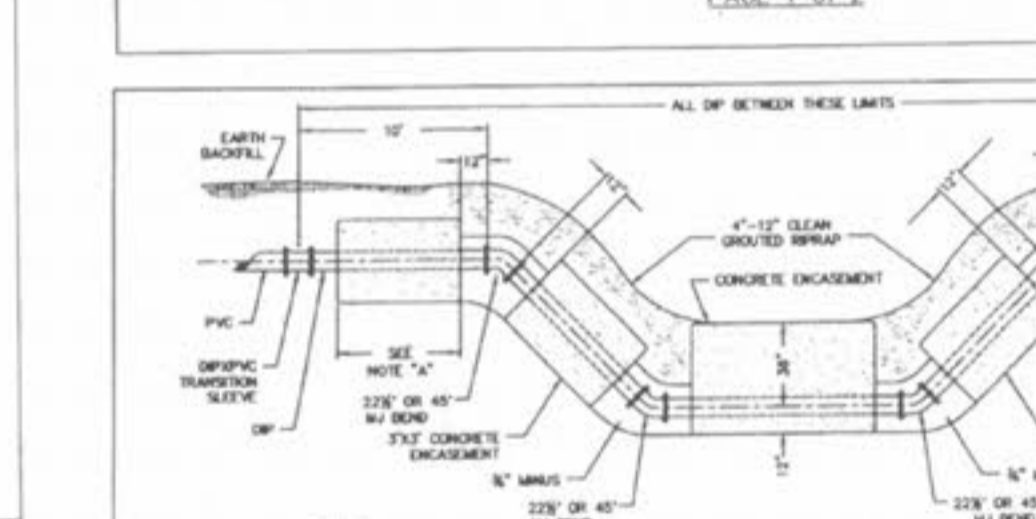
**PIPE SIZE DEGREE BEND DOWN BENDS UP BENDS**

PIPE SIZE	DEGREE BEND	DOWN BENDS			UP BENDS		
		W	H	L	W	H	L
4"	11 1/4"	18	12	18	12	12	12
	22 1/2"	18	18	24	12	12	12
6"	11 1/4"	24	18	18	12	12	12
	22 1/2"	24	18	24	12	12	12
8"	11 1/4"	24	18	24	12	12	18
	22 1/2"	24	18	42	12	12	24
10"	11 1/4"	30	24	24	18	18	18
	22 1/2"	30	24	42	18	18	24
12"	11 1/4"	30	24	30	18	18	18
	22 1/2"	30	24	54	18	18	30
	45"	30	24	72	18	18	36
	45"	30	24	72	24	18	36



**THRUST BLOCK DIMENSIONS - INCHES**

PIPE DIA.	ALL FTGS.	90 DEGREE BEND		45 DEGREE BEND		22-1/2 BEND		11-1/4 BEND	
		A	B	C	H	C	H	C	H
4	14	4	24	12	25	15	18	12	12
6	18	6	36	18	36	24	30	18	12
8	20	8	36	30	42	30	36	24	18
10	20	10	48	36	48	36	36	24	18
12	24	12	60	36	60	42	42	30	24



**ISSUE REMARKS/DATE**

1	03-07-04	FIRST SUBMITTAL
2	06-15-04	REVISED PER CITY COMMENTS
3	07-20-04	REVISED PER CITY COMMENTS
4	08-04-04	REVISED PER PWS/DZ COMMENTS
5	08-12-04	REVISED PER PWS/DZ COMMENTS
6	08-30-04	REVISED PER PWS/DZ COMMENTS

PREPARED FOR:

**McBride & Son Homes Land Development, Inc.**  
#1 McBride & Son Center Drive  
Chesterfield, Missouri 63005  
(636) 537-2000

THE **STERLING** CO.  
ENGINEERS & SURVEYORS  
5055 NEW BALMGARTNER ROAD  
ST. LOUIS, MISSOURI 63129  
(314)-487-0440 FAX 487-8944  
E-Mail: Sterling@sterling-eng-sur.com

PROJECT: **FOX HAVEN**

SHEET TITLE: **WATER DETAILS**

NO. **03 06 147**  
M.S.D. SHEET  
P# **WD1**  
DIGITAL FILE LOCATION: **6147DW-STERLING-2**  
DATE: **08/24/05**

BASE MAP