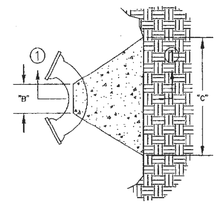
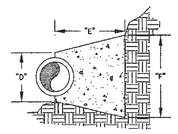
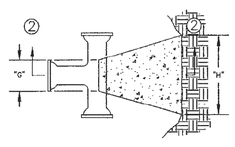
BENDS	"B"	"C"	"D"	"E"	"F"
6"–11 1/4°	8"	15"	12"	24"	10"
6"–22 1/2°	8"	19"	12"	24"	13"
6"–45°	8"	30"	12"	24"	15"
6"–90°	8"	30"	12"	24"	28"
8"–11 1/4°	8"	20"	12"	24"	10"
8"–22 1/2°	8"	23"	12"	24"	15"
8"–45°	8"	31"	12"	24"	24"
8"–90°	8"	38"	12"	24"	36"
12"–11 1/4°	8"	30"	12"	24"	15"
12"–22 1/2°	8"	35"	12"	24"	23"
12"–45°	8"	40"	12"	24"	40"
12"–90°	8"	60"	12"	24"	52"
16"–11 1/4°	TL	28"	20"	24"	28"
16"–22 1/2°	TL	39"	20"	24"	39"
16"–45°	TL	55"	20"	24"	55"
16"–90°	TL	91"	20"	24"	60"
20"–11 1/4°	TL	34"	24"	26"	28"
20"–22 1/2°	TL	48"	24"	26"	39"
20"–45°	TL	74"	24"	26"	55"
20"–90°	TL	136"	24"	26"	60"
24"–11 1/4°	TL	40"	28"	28"	40"
24"–22 1/2°	TL	56"	28"	28"	56"
24"–45°	TL	101"	28"	28"	60"
24"–90°	TL	186"	28"	28"	60"
30"–11 1/4°	TL	49"	34"	30"	49"
30"–22 1/2°	TL	79"	34"	30"	60"
30"–45°	TL	154"	34"	30"	60"
30"–90°	TL	285"	34"	30"	60"

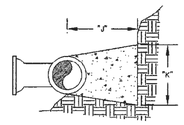




SECTION 1–1

TEES	"G"	"H"	"J"	"K"
6"X6"X6"	12"	24"	24"	18"
8"X8"X6"	12"	24"	24"	18"
8"X8"X8"	12"	27"	24"	27"
12"X12"X6"	12"	24"	24"	18"
12"X12"X8"	12"	27"	27"	27"
12"X12"X12"	12"	36"	24"	38"
24"X24"X16"	16"	53"	28"	53"





SECTION 2–2

NOTES:
1. 2"& 4" FITTINGS EQUIVALENT TO 6" FITTINGS.
2. TAPPING SLEEVES TO HAVE BACKING BLOCKS SAME SIZE AS REQUIRED FOR TEES.
3. "TL" = TOTAL LENGTH OF FITTING MINUS CLEARANCE FOR BELLS.

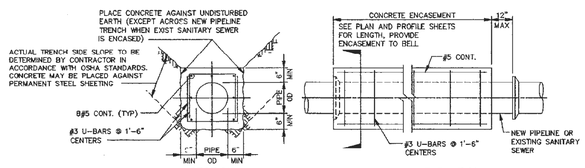
INTERNAL WATER PRESSURE 6" through 12"=200 psi
INTERNAL WATER PRESSURE 16" through 30"=210 psi
BEARING PRESSURE OF SOIL=2000 psi

BACKING BLOCKS

NOT TO SCALE

CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

BACKING BLOCK DETAILS AND LOCATIONS



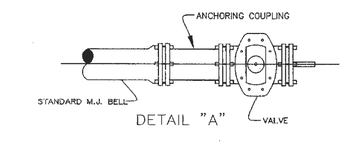
NOTES:
1. AT LOCATIONS WHERE THE TRANSMISSION MAIN CROSSES AN EXIST SANITARY SEWER, SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. WHEN THE PIPELINE IS PROTECTED WITH POLYETHYLENE TUBE ENCASEMENT, THE CONCRETE ENCASEMENT IS TO COVER THE POLYETHYLENE ENCASEMENT.

CONCRETE ENCASEMENT

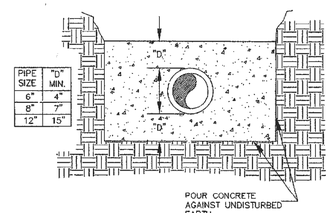
NO SCALE

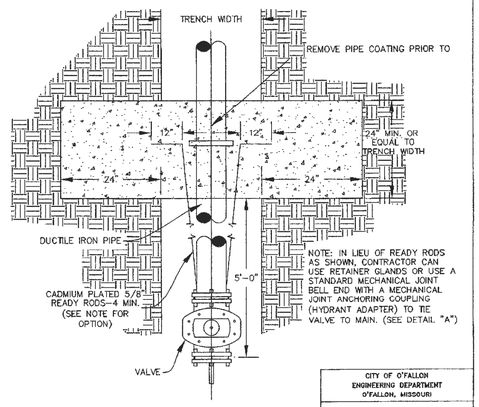
CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

CONCRETE ENCASEMENT DETAILS



PIPE SIZE	"D" MIN.
6"	4"
8"	7"
12"	15"





STRADDLE BLOCK DETAIL

NOT TO SCALE

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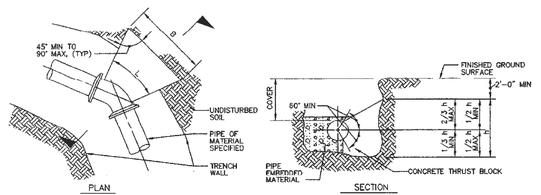
O'FALLON, MISSOURI

STRADDLE BLOCK DETAILS



NOTES:
1. AREA OF BLOCK, A = Bxh. BLOCK AREAS ARE SHOWN ON GENERAL LAYOUT OR TABLE.
2. B = h = "X", EXCEPT WHERE TOP OF BLOCK IS WITHIN 2 FEET FROM GROUND SURFACE, THEN B = A/h.
3. MINIMUM BLOCK DIMENSION (B & h) SHALL BE AT LEAST 0D OF PIPE OR 1 FOOT FOR PIPE OD 12" OR LESS.
4. THE BOTTOM OF THE BLOCK SHALL EXTEND AT LEAST TO THE BOTTOM OF THE TRENCH IN ALL CASES.
5. L=FITTING LENGTH MINUS CLEARANCE FOR BELLS.
6. DETAIL IS SHOWN FOR CAST IRON PIPE; DETAIL IS SIMILAR FOR OTHER TYPES OF PIPE.
7. DIMENSIONS FOR THRUST BLOCKS FOR FIRE HYDRANT ASSEMBLY ARE SHOWN FIRE HYDRANT ASSEMBLY DETAIL.

SIZE	BEND	THRUST AREA	B	H
16"	11 1/2° 22 1/2°	4 SF	2'	2'
16"	45°	8 SF	2.8'	2.8'

CONCRETE THRUST BLOCKING

NOT TO SCALE

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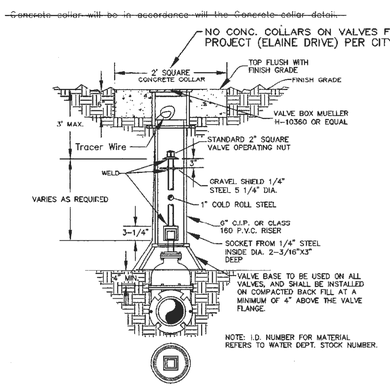
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

CONCRETE THRUST BLOCKING DETAILS

~~Concrete collar will be in accordance with the Concrete collar detail.~~

NO CONC. COLLARS ON VALVES FOR THIS PROJECT (ELAINE DRIVE) PER CITY OF O'FALLON.



NOTE: I.D. NUMBER FOR MATERIAL REFERS TO WATER DEPT. STOCK NUMBER.

WATER VALVE DETAIL

NOT TO SCALE

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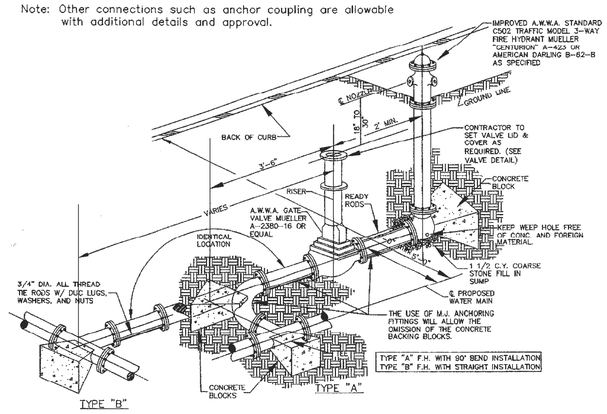
WATER VALVE DETAIL

Note: Other connections such as anchor coupling are allowable with additional details and approval.



PROVIDE TRACER WIRE FROM MAIN TO VALVE

FIRE HYDRANT DETAIL

NOT TO SCALE

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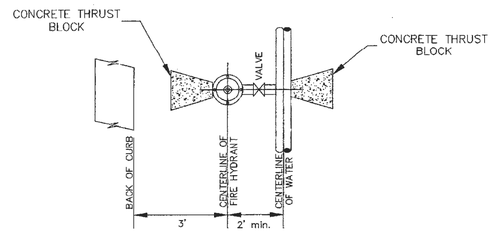
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

FIRE HYDRANT DETAILS



CONFIGURATION

ALL FIRE HYDRANTS SHALL BE 3' OFF BACK OF CURB
ALL WATER MAINS SHALL BE A MIN. OF 5' OFF BACK OF CURB

TYPICAL WATER MAIN AND FIRE HYDRANT LOCATIONS

NOT TO SCALE

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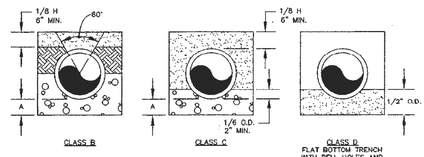
O'FALLON, MISSOURI

WATER MAIN FIRE HYDRANT DETAIL



LEGEND
I.D. – NOMINAL PIPE SIZE
O.D. – OUTSIDE DIAMETER OF PIPE
H – COVER ABOVE TOP OF PIPE
A – EMBEDDED BELOW PIPE (SEE TABLE)
TAMPED BACK FILL
COMPACTED BACK FILL
GRANULAR BEDDING

TABLE OF EMBEDDED DEPTHS BELOW PIPE

I.D.	A MIN. SOIL	A MIN. ROCK
27" & SMALLER	3"	6"

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 BACK FILL 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 BACK FILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF COMPACTED BACK FILL.

TAMPED BACK FILL 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 BACK FILL MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF TAMPED BACK FILL.

TRENCH BACK FILL SHALL BE AS REQUIRED IN THE "LAYING AND BACK FILL" SECTION OF THE DETAILED SPECIFICATIONS.

EMBEDDED THE TYPE OF EMBEDDED TO BE USED SHALL BE AS SPECIFIED IN THE PLANS AND SPECIFICATIONS.

TRACER WIRE REQUIRED ON ALL WATER MAINS

WATER MAIN EMBEDDED

NOT TO SCALE

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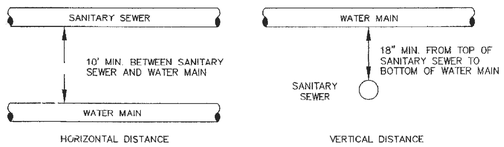
O'FALLON, MISSOURI

WATER MAIN EMBEDDED



TYPICAL WATER AND SEWER SEPARATION

NOT TO SCALE

CITY OF O'FALLON
ENGINEERING DEPARTMENT
O'FALLON, MISSOURI

WATER AND SEWER SEPARATION DETAIL

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

BAX ENGINEERING CO., INC.
221 Point West Blvd.
St. Charles, MO 63301
Phone: 636-928-5552
Fax: 636-928-1716

PREPARED FOR: CITY OF O'FALLON

PROJECT NAME: ELAINE DRIVE IMPROVEMENTS

PROJECT NO.: 10–15142 DATE: 5/20/2014

REFERENCE DETAILS