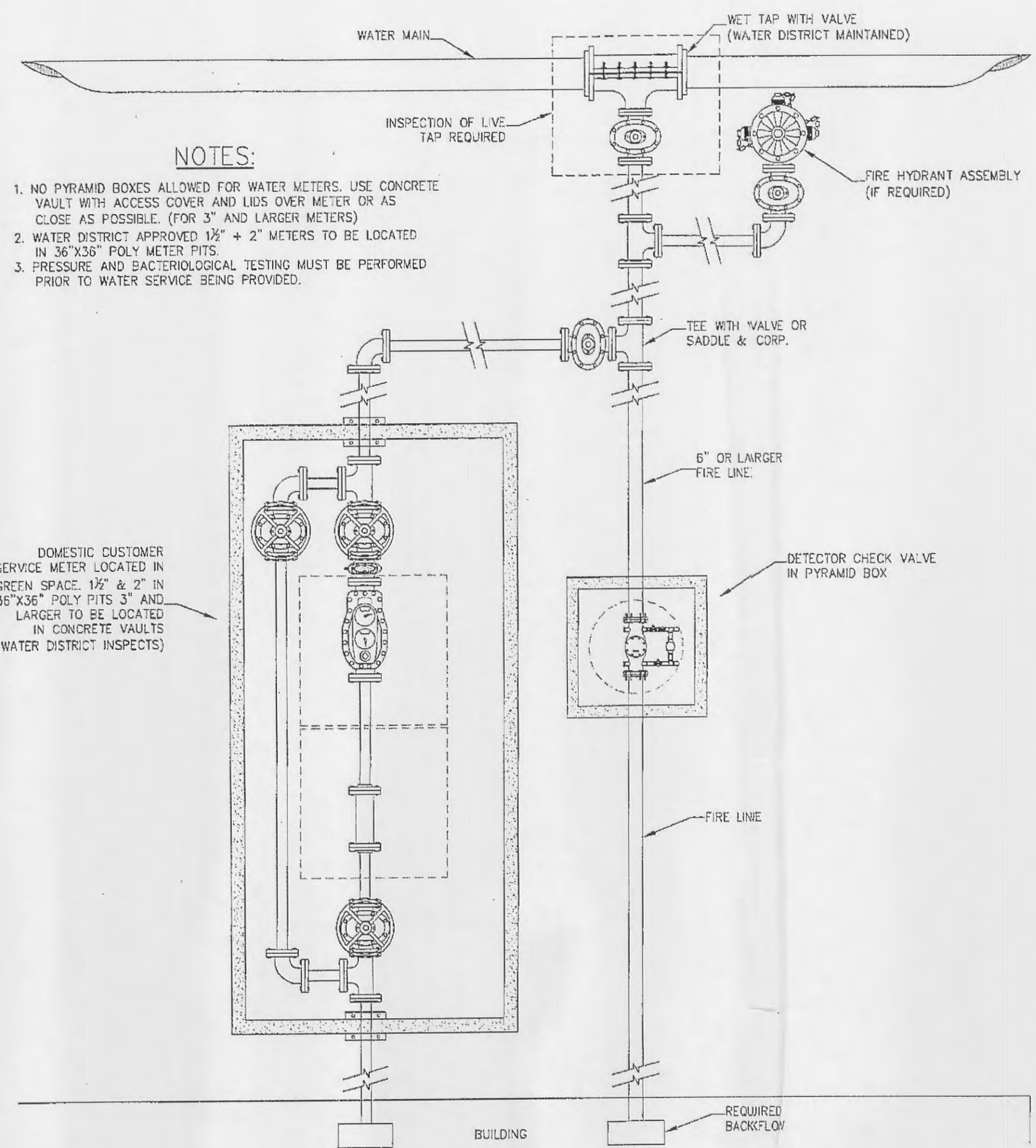


WATER LINE NOTES

- ALL MATERIALS AND METHODS OF CONSTRUCTION FOR WATER MAINS TO MEET REQUIREMENTS OF THE ST. CHARLES COUNTY PUBLIC WATER SUPPLY DISTRICT NO. 2 "WATER DISTRIBUTION SYSTEM SPECIFICATIONS".
- WATER MAINS SHALL BE POLY VINYL CHLORIDE (PVC) CLASS 200, SDR 21 PIPE CONFORMING TO A.S.T.M. SPECIFICATION D2241. THE PIPE SHALL BE PRESSURE RATED FOR A HYDROSTATIC WORKING PRESSURE OF 200 PSI AT 73.4 DEGREES F AND SHALL MEET ALL APPLICABLE REQUIREMENTS AS SET FORTH UNDER COMMERCIAL STANDARD (CS) 256-63.
- DUCTILE IRON PIPE MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL THE REQUIREMENTS OF U.S.A. STANDARD A2151 (A.W.W.A. C-151-65). THE PIPE SHALL BE FURNISHED WITH MECHANICAL, PUSH ON, OR FLANGE JOINTS AS REQUIRED. THE INTERIOR SURFACE OF PIPE SHALL BE COATED WITH A CEMENT-MORTAR LINING IN ACCORDANCE WITH U.S.A. STANDARD A 21.4 (A.W.W.A. C 104). AFTER DRYING, THE CEMENT LINING SHALL BE SEAL COATED WITH SIMILAR A.W.W.A. APPROVED BITUMINOUS VARNISH. ALL FITTINGS AND BENDS SHALL BE CONSTRUCTED OF CAST OR DUCTILE IRON.
- WATER MAIN TRACER TAPE TO BE INSTALLED WITH ALL WATER MAIN AND SHALL CONSIST OF THREE INCH WIDE TAPE MADE OF BONDED LAYER PLASTIC WITH A METALLIC FOIL CORE. TAPE SHALL BE "TERRA TAPE D" AS MANUFACTURED BY THE GRIFFOLYN COMPANY OF HOUSTON, TEXAS, OR APPROVED EQUAL.
- WATER MAIN LOCATOR WIRE SHALL BE INSTALLED WITH ALL WATER MAIN, FITTINGS, AND VALVE INSTALLATION AND SHALL CONSIST OF A STANDARD ELECTRIC SERVICE WIRE, A SINGLE NO. 12 U.L. APPROVED COPPER WIRE OF THE SOLID OR STRAND TYPE WITH INSULATION FOR 600 VOLTS.
- ALL VALVES FOR EXTERIOR USE SHALL BE BURIED GATE VALVES WITH A VALVE BOX AND TWO INCH SQUARE NUT ATTACHMENT FOR MANUAL OPERATION WITH STANDARD VALVE WRENCH. GATE VALVES SHALL BE IRON BODIED WITH BRASS OR BRONZE MOUNTED DOUBLE DISC GATE. GATE VALVES SHALL BE OF THE NON-RISING STEM TYPE, OPENED BY TURNING COUNTER-CLOCKWISE. THE VALVE STEM SHALL HAVE DOUBLE "O" RING SEALS AND TERMINATE AT TOP WITH TWO INCH SQUARE NUT. GATE VALVE CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE LATEST GOVERNING SPECIFICATIONS OF THE A.S.T.M. AND A.W.W.A. ALL GATE VALVES FOR USE SHALL BE "MUELLER" OR APPROVED EQUAL.
- VALVE BOXES FOR USE SHALL BE THE SCREW-TYPE, EXTENSION SLEEVE KIND, OR P.V.C. PIPE. ALL BOXES SHALL BE FITTED WITH A RECESSED COVER HAVING THE WORD "WATER" CAST IN THE TOP.
- FIRE HYDRANTS SHALL BE MUELLER "CENTURION" OR THE AMERICAN DARLING MODEL NO. "B-84-B". HYDRANTS SHALL BE TRAFFIC MODEL TYPE WITH A WORKING PRESSURE OF 150 PSI IN FULL COMPLIANCE WITH A.W.W.A. STANDARD SPECIFICATIONS C-502 OF THE LATEST REVISION. HYDRANTS TO BE THREE-WAY WITH TWO HOSE CONNECTIONS AND ONE PUMPER CONNECTION AND SHALL HAVE 5 1/4" VALVE OPENINGS. HYDRANTS TO BE YELLOW IN COLOR.
- CONCRETE FOR THRUST BLOCKING AT BENDS, TEES, VALVES, HYDRANTS, ETC., SHALL BE 3,500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
- BEFORE WATER MAINS SHALL BE ACCEPTED AND PUT INTO SERVICE THEY SHALL BE TESTED FOR TWO HOURS ON EACH SEGMENT BETWEEN END POINTS AT A TEST PRESSURE OF AT LEAST 50% IN EXCESS OF NORMAL MAXIMUM OPERATING PRESSURE, NOT TO EXCEED 200 PSI. WATER MAINS SHALL BE STERILIZED AND FLUSHED IN ACCORDANCE WITH ST. CHARLES COUNTY PUBLIC WATER SUPPLY DISTRICT NO. 2 "WATER DISTRIBUTION SYSTEM SPECIFICATIONS".
- ALL WATER LINES AND SERVICE LINES SHALL HAVE A MINIMUM OF 42" OF COVERAGE.
- VERTICAL CLEARANCE BETWEEN SEWERS AND WATER MAINS SHALL BE A MINIMUM OF 2' - 0".

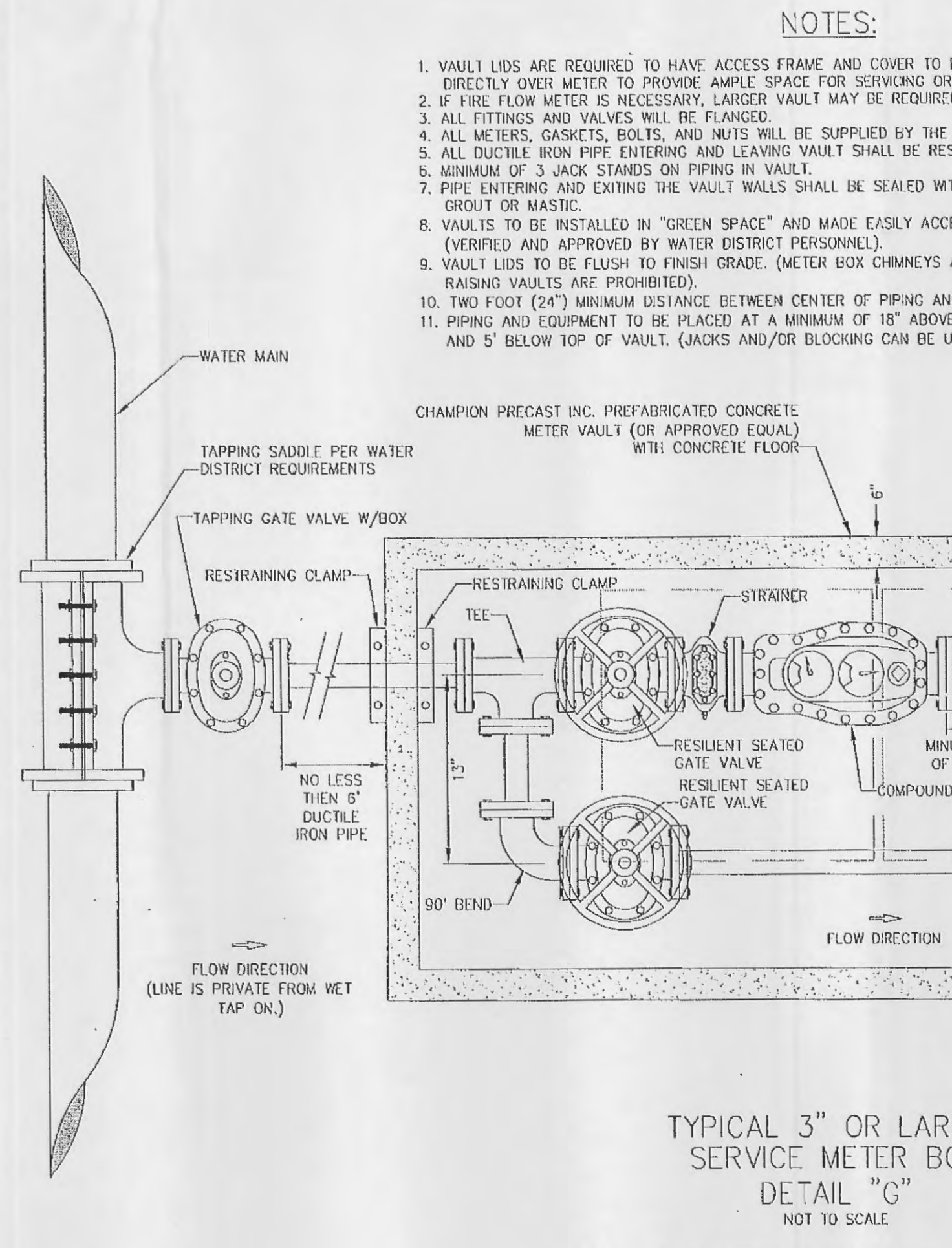


NOTES:
 1. NO PYRAMID BOXES ALLOWED FOR WATER METERS. USE CONCRETE VAULT WITH ACCESS COVER AND LIDS OVER METER OR AS CLOSE AS POSSIBLE (FOR 3" AND LARGER METERS)
 2. WATER DISTRICT APPROVED 1 1/2" x 2" METERS TO BE LOCATED IN 36"x36" POLY METER PITS.
 3. PRESSURE AND BACTERIOLOGICAL TESTING MUST BE PERFORMED PRIOR TO WATER SERVICE BEING PROVIDED.

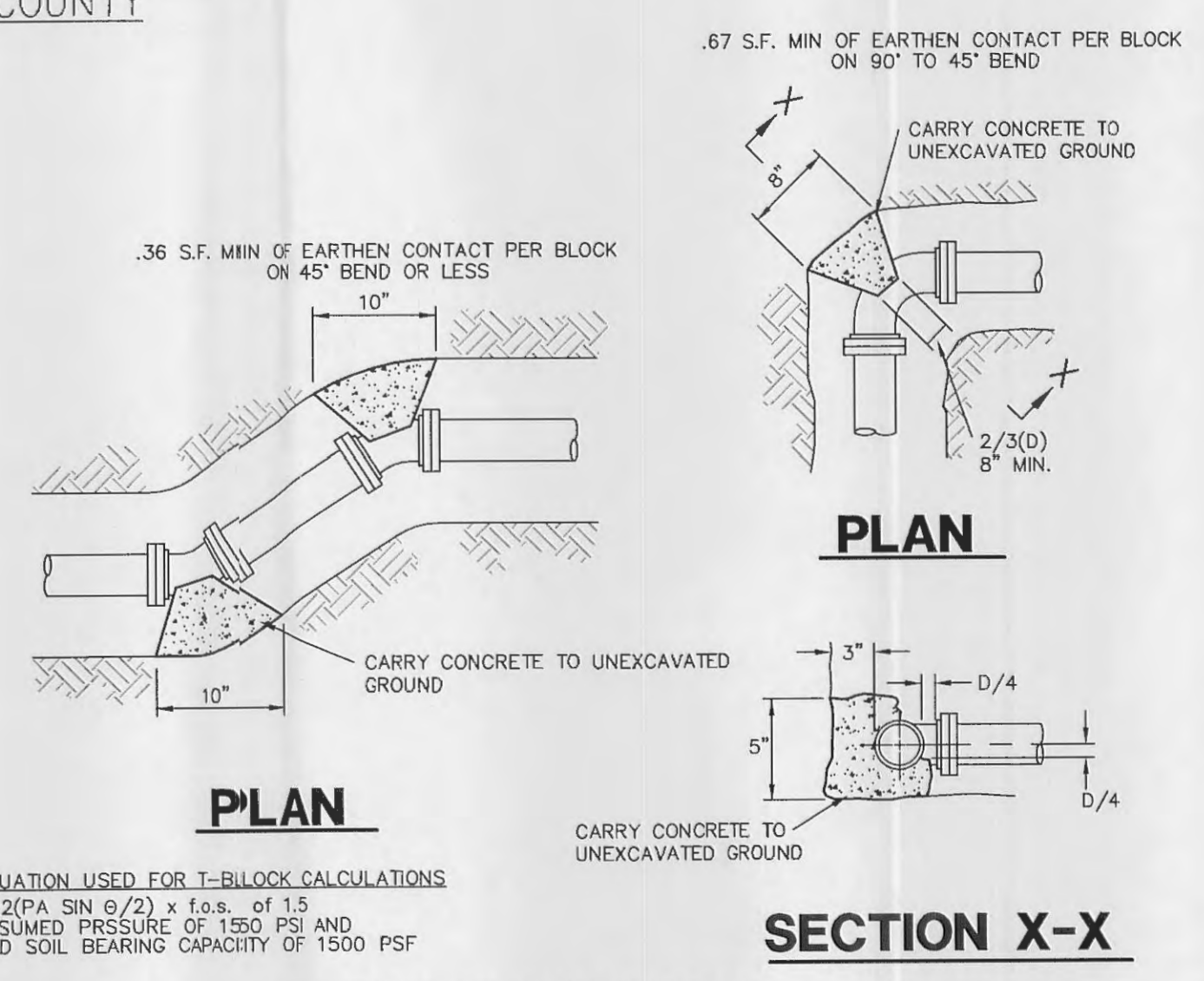
DOMESTIC CUSTOMER SERVICE METER LOCATED IN GREEN SPACE 1 1/2" x 2" IN 36"x36" POLY PITS 3" AND LARGER TO BE LOCATED IN CONCRETE VAULTS (WATER DISTRICT INSPECTS)

PLAN VIEW
 NOT TO SCALE

TYPICAL COMMERCIAL SERVICE CONNECTION WITH FIRE PROTECTION DETAIL "H"
 PUBLIC WATER SUPPLY DISTRICT #2 OF SAINT CHARLES COUNTY



PUBLIC WATER SUPPLY DISTRICT #2 OF SAINT CHARLES COUNTY



CITY OF O'FALLON, MISSOURI PLANNING AND ENGINEERING DEPT. FILE NO. 3105.02
 APPROVED BY PLANNING & ZONING COMMISSION ON 03/26/2006

A = CONTACT BEARING AREA OF BLOCK WITH EARTH IN SQUARE FEET

PIPE DIA. IN.	PLUG	45° WYE	TLE CONNECTION	UP TO 22.5°	UP TO 45°	UP TO 90°
	A (SQ. FT.)	A (SQ.FT.)	A (SQ.FT.)	A (SQ.FT.)	A (SQ.FT.)	A (SQ.FT.)
4" and smaller	0.5	1.4	2.6	1.8	2.2	2.0
6"	1.5	3.0	6.0	4.0	4.5	4.5
8"	2.5	5.0	9.5	6.5	9.5	8.0
10"	4.1	8.0	13.0	9.5	12.5	12.5
12"	5.5	11.5	19.0	13.5	16.0	18.0
16"	9.0	18.0	33.0	23.0	27.0	32.0
20"	14.0	28.0	51.0	36.0	42.0	50.5

- NOTES:
 1. BEARING AREAS ARE BASED ON UNDISTURBED SOIL WITH A BEARING CAPACITY OF 1,000 POUNDS PER SQUARE FOOT. FOR A LESSER SOIL BEARING CAPACITY THESE AREAS SHALL BE INCREASED ACCORDINGLY.
 2. ALL CONCRETE THRUST BLOCKS SHALL BE 3000 P.S.I. CONCRETE.
 3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.
 4. NO LIDS SHALL BE COVERED WITH CONCRETE.
 5. JOINTS THAT LOCATED AGAINST THRUST BLOCKS ARE TO BE WRAPPED IN A CLOTH MATERIAL.
 6. APPROVED MECHANICAL JOINT RESTRAINTS ARE REQUIRED AT ALL VERTICAL BENDS AND MAY BE USED IN LIEU OF THRUST BLOCKS AT HORIZONTAL BENDS AT THE OPTION OF THE ENGINEER, AT NO ADDITIONAL COST TO THE OWNER.

DERO

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SELECT DESIRED MOUNT
 FOOT MOUNT
 IN GROUND MOUNT
 SELECT DESIRED UNIT

2H - 4 BIKES
 4H - 8 BIKES
 3H - 6 BIKES
 5H - 10 BIKES

NOTES:
 1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 2. DO NOT SCALE DRAWINGS.
 3. CONTRACTOR'S NOTE: FOR PRODUCT AND PURCHASING INFORMATION VISIT www.PROJECTmarketsite.com
 REFERENCE NUMBER 118-003

DERO ROLLING RACK
 2H, 3H, 4H AND 5H

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BIKE RACK DETAIL
 SCALE = N.T.S.

05/03/06 REVISED PER CITY COMMENTS
 04/25/06 REVISED PER CITY, SEWER DISTRICT AND CLIENT COMMENTS
 03/22/06 REVISED PER CITY AND CLIENT COMMENTS

APC LAB FACILITY
 UTILITY DETAILS

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DRAWN BY: A.C.D. DATE: 01/23/06 CHECKED BY: D.P.B. DATE: 01/23/06 JOB NUMBER: 205-3635.1 SHEET: C11 of C12