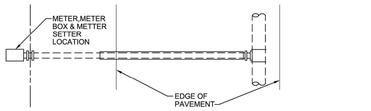
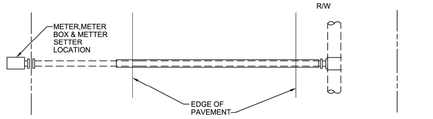
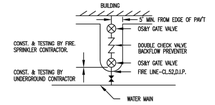
DATE: 1/15/2021 6:44:22 PM
THIS LINE SHOULD MEASURE ONE HALF INCH ON A HALF SCALE PRINT.
FILE: R:\Projects\1942 Higgins Boca West CC\CAD\Plans\1942-C8.2-POTABLE WATER & SANITARY SEWER DETAILS.dwg Tuesday, January 12, 2021 10:58:31 AM



WATER CASING LOCATION MAIN UNDER PAVEMENT

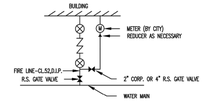


WATER CASING LOCATION MAIN OUT SIDE PAVEMENT



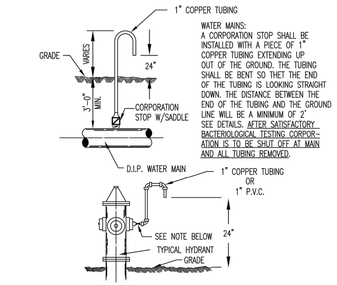
TYPICAL FIRE LINE

NOTE: ALL FIRE LINES TO CONFORM TO ENVIRONMENTAL CONTROL REGULATION RULE NUMBER TWO, AND BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS, D.C.V. TO BE U.L. LISTED & APPROVED FOR FIRE SERVICE, WATTS 709 SERIES OR APPOVED EQUAL.



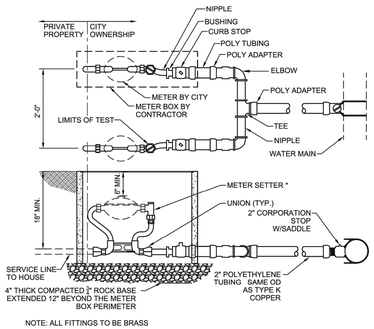
FIRE LINE / DOMESTIC
1", 1"1/2", 2" METER ONLY

FIRE LINES



NOTE:
1. SAMPLE POINTS COMING FROM HYDRANTS TO INCLUDE A SMALL VALVE WITH A REMOVABLE HANDLE.
2. LABEL AND NUMBER ALL SAMPLE POINTS PER PLAN SHEETS.

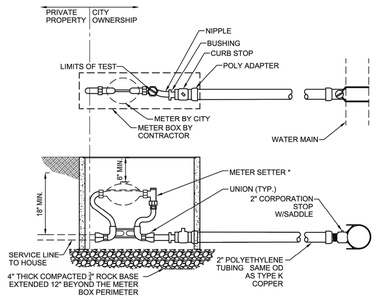
SAMPLING POINT DETAILS



NOTE: ALL FITTINGS TO BE BRASS

* WHERE REQUIRED BY CITY CODE A REPLACEABLE DUAL CHECK VALVE SHALL BE INCLUDED WITH METER SETTER.

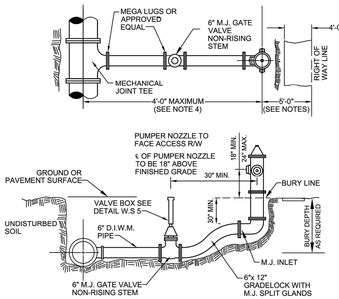
DOUBLE WATER SERVICE LINE FOR 1" OR 1-1/2" METER (RESIDENTIAL ONLY)



NOTE: ALL FITTINGS TO BE BRASS

* WHERE REQUIRED BY CITY CODE A REPLACEABLE DUAL CHECK VALVE SHALL BE INCLUDED WITH METER SETTER.

SINGLE WATER SERVICE LINE FOR 1" OR 1-1/2" METER (RESIDENTIAL ONLY)



1. HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
2. ALL ABOVE GRADE PORTIONS OF THE HYDRANT SHALL BE PAINTED SILVER..
3. HYDRANT IS TO BE LOCATED PER NFPA 1141-8.1.4, LATEST EDITION.
4. IF THE SIDEWALK WIDTH IS GREATER THAN 4' IN 50' WIDE RIGHT-OF-WAY, THEN THE HYDRANT MUST BE INSTALLED IN A SPECIAL EASEMENT IN BACK OF THE SIDEWALK.
5. CLEARANCES OF SEVEN AND ONE HALF FEET (7'-6") IN FRONT OF AND TO THE SIDES OF THE HYDRANT, WITH A FOUR FEET (4') CLEARANCE TO THE REAR OF THE HYDRANT ARE REQUIRED.
6. BURIED HYDRANT HARDWARE (NUTS & BOLTS) SHALL BE STAINLESS STEEL (TYPE 304 OR BETTER).
7. NO CONNECTION (TEE OR TAP) IS ALLOWED BETWEEN THE HYDRANT CONTROL VALVE AND THE HYDRANT.

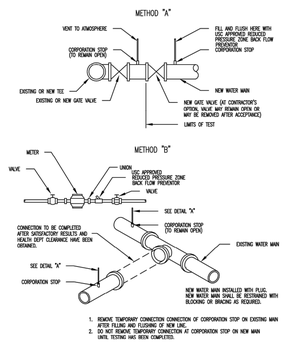
TYPICAL FIRE HYDRANT INSTALLATION

MIN. LENGTH OF PIPE (FEET) TO BE RESTRAINED
(SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE		PIPE SIZE 200psi									
		4"	6"	8"	10"	12"	16"	20"	24"	30"	36"	42"	48"
90° HORIZ. BEND		14	20	25	30	35	45	54	62	98	112	124	135
45° HORIZ. BEND		6	8	11	13	15	19	22	26	41	46	51	56
22.5° HORIZ. BEND		3	4	5	6	7	9	11	13	19	22	25	27
11.25° HORIZ. BEND		1	2	3	3	4	4	5	6	10	11	12	13
90° VERT. OFFSET	UPPER BEND	29	41	53	64	74	95	115	134	214	246	276	304
	LOWER BEND	7	10	13	16	19	25	30	35	57	66	74	83
45° VERT. OFFSET	UPPER BEND	12	19	24	29	34	39	48	56	89	102	114	126
	LOWER BEND	3	4	6	7	8	10	12	15	23	27	31	34
22.5° VERT. OFFSET	UPPER BEND	6	9	12	14	17	19	23	27	43	49	55	60
	LOWER BEND	1	2	4	4	4	5	6	7	11	13	16	16
11.25° VERT. OFFSET	UPPER BEND	3	4	6	7	8	9	11	13	21	24	27	30
	LOWER BEND	1	1	1	2	2	2	3	3	6	6	7	8
PLUG (DEAD END)		32	45	59	73	83	107	129	151	214	246	276	304
IN-LINE VALVE		32	45	45	45	45	55	65	80	110	125	140	155
TEE (BRANCH RESTRAINT)	4"X Ø	23	–	–	–	–	–	–	–	–	–	–	–
	6"X Ø	21	35	–	–	–	–	–	–	–	–	–	–
	8"X Ø	18	34	47	–	–	–	–	–	–	–	–	–
	10"X Ø	16	32	46	58	–	–	–	–	–	–	–	–
	12"X Ø	13	30	44	57	68	–	–	–	–	–	–	–
	16"X Ø	7	26	41	55	67	90	–	–	–	–	–	–
	20"X Ø	1	21	38	52	65	88	109	–	–	–	–	–
	24"X Ø	1	16	34	49	62	86	108	129	–	–	–	–
	30"X Ø	1	8	28	44	58	83	106	127	208	–	–	–
	36"X Ø	1	1	22	39	54	80	103	124	206	240	–	–
	42"X Ø	1	1	15	33	49	77	100	122	205	239	270	–
	48"X Ø	1	1	7	27	44	73	97	120	203	238	269	298
REDUCER (LARGER RESTRAINT)	6"X Ø	23	–	–	–	–	–	–	–	–	–	–	–
	8"X Ø	38	25	–	–	–	–	–	–	–	–	–	–
	10"X Ø	57	43	24	–	–	–	–	–	–	–	–	–
	12"X Ø	72	60	44	41	–	–	–	–	–	–	–	–
	16"X Ø	99	90	78	75	45	–	–	–	–	–	–	–
	20"X Ø	123	116	107	105	81	45	–	–	–	–	–	–
	24"X Ø	146	140	132	131	111	82	45	–	–	–	–	–
200psi	30"X Ø	209	204	197	188	177	153	116	75	–	–	–	–
	36"X Ø	243	238	233	226	217	196	168	135	74	–	–	–
	42"X Ø	273	270	265	259	252	234	211	183	133	72	–	–
	48"X Ø	301	298	294	289	283	268	249	226	183	131	71	–

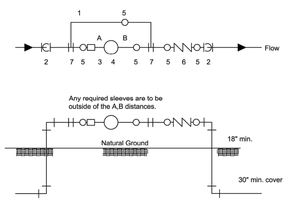
NOTES:
1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
SOIL TYPE-SAND — TEST PRESSURE-150 PSI/200 PSI — DEPTH OF BURY-3'
TRENCH TYPE-3 — SAFETY FACTOR- 1.5 — VERTICAL OFFSET-3'
MINIMUM PIPE LENGTH ALONG TEE RUN-5'
2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF VALVES AND FITTINGS.
5. MULTIPLY PIPE LENGTH BY 1.4 FOR POLYETHYLENE ENCASED PIPE.
6. RESTRAINED PIPE LENGTHS EQUAL TO AN "IN-LINE VALVE" CONDITION ARE REQUIRED AT EACH END OF A TRANSITION FROM HDPE PIPE TO OTHER PIPE MATERIALS.

MECHANICAL THRUST RESTRAINT MINIMUM PIPE LENGTHS



1. REMOVE TEMPORARY CONNECTION CONNECTION OF CORPORATION STOP ON EXISTING MAIN AFTER FILLING AND FLUSHING OF NEW LINE.
2. DO NOT REMOVE TEMPORARY CONNECTION AT CORPORATION STOP ON NEW MAIN UNTIL TESTING HAS BEEN COMPLETED.

FILLING AND FLUSHING CONNECTION



** USE 4" TURBO 1000 METER WITH INTEGRAL STRAINER

POTABLE WATER ABOVE GROUND METER INSTALLATION

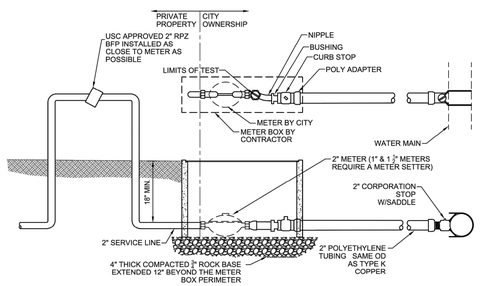
1. ABOVEGROUND BYPASS
2. UPPER AND LOWER 90 ELB.
3. STRAINER
4. METER
5. OSY VALVES
6. REDUCED PRESSURE BACKFLOW ALL BELOW GRADE PIPE/FITTINGS TO BE M.J./R.J. ABOVE FLGD X FLGD.
7. TEE

METER, STRAINER, BY PASS AND BACKFLOW ARE TO BE VERTICALLY SUPPORTED (NOT SHOWN)

A,B DIMENSIONS ARE IN INCHES. THE NUMBER OF PIPE DIAMETERS UPSTREAM FROM THE METER AND DOWNSTREAM FROM THE METER CAN BE CALCULATED BY MAINTAINING MANUFACTURES RECOMMENDATIONS BASED ON METER SIZE.

NOTE:IF TEST TEE IS INSTALLED AFTER THE METER. CONTRACTOR MUST MAINTAIN A MINIMUM OF TWO PIPE DIAMETERS DOWNSTREAM FROM THE METER.

Meter Size	Size of spool piece between OSY valve & meter flange	
	A	B
4"	**	8"
6"	30"	12"
8"	40"	16"



NOTE: ALL FITTINGS TO BE BRASS

SINGLE WATER SERVICE LINE FOR 1", 1-1/2", & 2" METER (NON RESIDENTIAL)

Always call 811 two full business days before you dig

Sunshine811.com

REV. No.	DATE	DESCRIPTION

SEAL
FL P.E. No. 38799
JONATHAN T. RICKETTS

3450 Northlake Boulevard - Suite 200
Palm Beach Gardens, Florida 33403
Phone: (561) 630-8700
Toll Free: (877) 630-8777
Fax: (561) 625-2770
FL Certificate of Authorization: 6173
NC Certificate of Authorization: C-2761

JTR Jonathan T. Ricketts, Inc.
Consulting Engineers • Construction Managers

LAT 26°22'31.03"N
LON 80° 9'27.71"W
BOCA RATON

SITE II
BOCA WEST RECREATIONAL PUD
FLORIDA

POTABLE WATER & SANITARY SEWER DETAILS

PROJ. NO.: 1942
DRAWN BY: RC
SHEET:
C8.2