

	T V C TVIIIV.	LLIVE	,,,,,		- (1-1)	TO BL							
FITTING TYPE		4"	6"	8"	10"	12"			12"	20"	2//"	30"	36'
90° HORIZ BEND		20	27	35	42								113
		8	12	15	18								47
		4	6	7	9								23
		2	3	4	5								12
	UPPER BEND	52	74	96	115								34
90° VERT. OFFSET	LOWER BEND	52	74	96	115								34
	UPPER BEND	22	31	40	48	49 57 62 67 74 85 99 1 20 24 26 28 31 35 41 4 10 12 13 14 15 17 20 2 5 6 7 7 8 9 10 3 136 159 175 193 212 247 295 3 57 66 73 80 88 103 123 1 48 55 58 62 66 73 81 8 27 32 35 39 43 50 59 6 23 26 28 30 32 35 39 4 14 16 18 19 21 25 30 3 12 13 14 15 16 18 20 2 123 175 193 <td< td=""><td>14</td></td<>	14						
90° HORIZ. BEND 45° HORIZ. BEND 22.5° HORIZ. BEND 11.25° HORIZ. BEND 90° VERT. OFFSET 45° VERT. OFFSET 11.25° VERT. OFFSE PLUG/IN-LIN TEE (BRANCH RESTRAINT)	LOWER BEND	22	29	37	42								88
	UPPER BEND	11	15	20	23								69
90° HORIZ. BEND 45° HORIZ. BEND 11.25° HORIZ. BEND 90° VERT. OFFSET 45° VERT. OFFSET 11.25° VERT. OFFSE PLUG/IN-LIN TEE (BRANCH RESTRAINT) REDUCER (LARGER	LOWER BEND	11	14	18	21								43
	UPPER BEND	6	8	10	12								34
11.25° VERT. OFFSET	LOWER BEND	6	7	9	10	12					_		21
PLUG/IN-LINE		52	74	96	115	136				212			34
•	4"X ø	18	50	79	101	124	148			205		291	33
	6"X ø	1	39	70	94	118	143	162	181	201	238	289	33
	8"X ø	1	27	61	87	113	138	157	178	198	236	287	33
	10"X ø	1	15	51	80	106	133	153	174	194	233	284	33
	12"X ø	1	2	42	72	100	127	148	169	191	230	282	33
TEE (BRANCH	14"X ø	1	1	33	65	94	122	144	166	187	227	280	33
90° HORIZ. BEND 45° HORIZ. BEND 22.5° HORIZ. BEND 11.25° HORIZ. BEND 90° VERT. OFFSET 45° VERT. OFFSET 11.25° VERT. OFFSET PLUG/IN-LINE TEE (BRANCH RESTRAINT) REDUCER (LARGER	16"X ø	1	1	21	55	86	115	138	160	183	223	277	32
	18"X ø	1	1	10	46	78	109	132	156	178	219	274	32
	20"X ø	1	1	1	37	71	102	127	151	174	216	271	32
	24"X ø	1	1	1	18	55	88	115	140	164	208	265	31
	30"X ø	1	1	1	1	29	66	95	123	149	196	256	31
	36"X ø	1	1	1	1	1	41	74	105	133	182	245	30
	6"X ø	38	-	-	-	-	-		-	-	-	99	-
	8"X ø	69	41	-	-	-	-	-	-	-	-	-	-
	10"X ø	94	71	39	-	-			-	-	1-	-	-
•	12"X ø	118	99	72	40	1	1	1	ı	-	-	1	•
	14"X ø	143	126	103	75	41	ı	ı	ı	-	-	-	ı
	16"X ø	162	147	128	104	75	40	-	-	-	-	-	-
	18"X ø	181	169	152	131	105	74	40	ı	-	-	-	ı
	20"X ø	201	190	175	156	133	106	75	40	-	-	-	-
	24"X ø	238	229	217	201	182	160	135	106	74	-	-	-
	30"X ø	289	282	272	260	245	228	208	186	161	104	-	-
	36"X ø	337	331	323	314	302	288	272	254	234	187	104	-

POLYWRAPPED DUCTILE IRON - MIN. LENGTH OF PIPE (FT) TO BE RESTRAINED

4" | 6" | 8" | 10" | 12" | 14" | 16" | 18" | 20" | 24" | 30" | 36" 22 | 31 | 40 | 47 | 55 | 62 | 69 | 76 | 83 | 95 | 111 | 126 |

9 | 13 | 17 | 20 | 23 | 26 | 29 | 32 | 35 | 40 | 46 | 53

5 | 7 | 8 | 10 | 11 | 13 | 14 | 15 | 17 | 19 | 23 | 26

3 | 3 | 4 | 5 | 6 | 7 | 7 | 8 | 9 | 10 | 11 | 13

77 | 109 | 143 | 171 | 201 | 228 | 257 | 284 | 311 | 363 | 435 | 503

27 74 116 150 183 214 244 273 301 355 428 498 2 57 103 139 175 206 238 267 296 350 425 495 1 40 90 129 166 199 232 261 291 346 422 493 1 22 76 118 157 191 225 255 286 342 419 490 1 | 3 | 62 | 106 | 147 | 183 | 218 | 249 | 280 | 338 | 415 | 487 1 | 1 | 46 | 94 | 137 | 174 | 210 | 243 | 274 | 333 | 411 | 484 1 | 1 | 31 | 82 | 127 | 166 | 203 | 236 | 269 | 328 | 408 | 481 | 1 | 1 | 14 | 68 | 116 | 156 | 194 | 229 | 262 | 323 | 403 | 478 1 | 1 | 1 | 55 | 105 | 147 | 186 | 222 | 256 | 317 | 399 | 474 1 1 1 27 81 127 169 206 242 306 391 467 1 | 1 | 1 | 42 | 94 | 140 | 181 | 220 | 288 | 376 | 456 |

|UPPER BEND | 77 | 109 | 143 | 171 | 201 | 228 | 257 | 284 | 311 | 363 | 435 | 503 | LOWER BEND 77 109 143 171 201 228 257 284 311 363 435 503 UPPER BEND | 32 | 45 | 59 | 71 | 83 | 95 | 107 | 118 | 129 | 151 | 180 | 209 |

RESTRAIN LENGTHS DETAIL

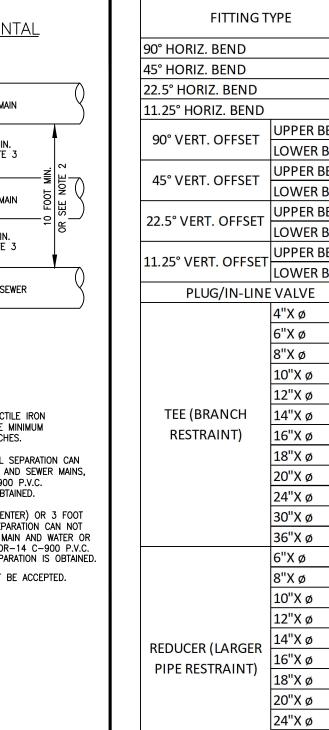
(SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 7.1.2)

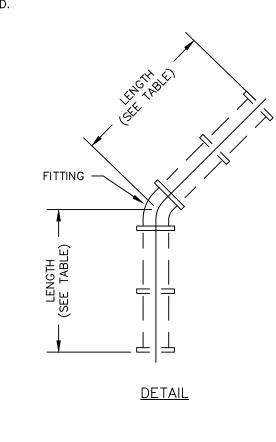
1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS: TEST PRESSURE-150 PSI SOIL TYPE-SM TRENCH TYPE-4 SAFETY FACTOR- 1.5 MINIMUM PIPE LENGTH ALONG TEE RUN-5'

DEPTH OF BURY-3' VERTICAL OFFSET-1 ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.

3. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF FITTINGS. 4. RESTRAINED JOINTS SHALL EXTEND ONE JOINT BEYOND MIN. LENGTH

REQUIRED.





CONSTRUCTION DRAWINGS

· · · · · · · · · · · · · · · · · · ·	AND TRACER WIRE TEST STATION		11110
BUTTERFLY VALVE N.T.S. SARASOTA COUNTY BUTTERFLY VALVE N.T.S. GEN. DWG. NO. 6	AND TRACER WIRE TEST STATION N.T.S. SARASOTA COUNTY CONCRETE VALVE PAD, BOX, LID, TAG AND TRACER WIRE TEST STATION GEN. DWG. NO. 1		N.T.S. (ER MAIN CROSSINGS GEN. DWG. NO. 8
WIRE STATION BOX. c. LOCATING WIRES SHALL BE CAPABLE OF DETECTION BY A CABLE LOCATOR AND PASS A FIELD CONDUCTIVITY TEST THAT IS WITNESSED BY THE COUNTY FROM END TO END OF WIRES. d. SPLICES SHALL BE CAPABLE OF COMPLETE SUBMERSION. SPLICES SHALL USE DRYCONN OR EQUIVALENT. e. NO MORE THAN ONE SPLICE BETWEEN VALVES IS ALLOWED.	b. LOCATING WIRES TO TERMINATE 4 INCHES ABOVE CONCRETE VALVE PAD AND FOLDED BACK INSIDE 3-INCH TRACER WIRE STATION BOX. c. LOCATING WIRES SHALL BE CAPABLE OF DETECTION BY A CABLE LOCATOR AND PASS A FIELD CONDUCTIVITY TEST THAT IS WITNESSED BY THE COUNTY FROM END TO END OF WIRES. d. SPLICES SHALL BE CAPABLE OF COMPLETE SUBMERSION. SPLICES SHALL USE DRYCONN OR EQUIVALENT. e. NO MORE THAN ONE SPLICE BETWEEN VALVES IS ALLOWED. COncrete Valve Pad, Box, Lid, Tag	WATER AND SEV	VER MAIN CROSSINGS
NOTES: 1. VALVE BOX RISER SHALL BE SUPPLIED BY VALVE BOX MANUFACTURER. P.V.C. RISER SHALL NOT BE ALLOWED. 2. PROVIDED CONCRETE VALVE PAD PER GEN DWG. NO.1. 3. BUTTERFLY VALVE ON WATER MAINS 16 INCH OR LARGER ONLY WITH SARASOTA COUNTY UTILITIES APPROVAL. 4. BINGHAM & TAYLOR P200NFG FOR NORMAL YARD SERVICE. WHERE VALVE WILL BE IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE P525RD CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD. 5. TRACER WIRE TEST STATION BOX IS NOT REQUIRED IN VALVE BOX PAD IF THE GATE VALVE IS LOCATED WITHIN 200 FEET OF A WATER SERVICE, BLOW-OFF, BACKFLOW PREVENTER OR FIRE HYDRANT THAT HAS A TRACER WIRE BOX. a. ALL NON-METALIC PIPE SHALL REQUIRE AN INSULATED #10 GAUGE COPPER CLAD STEEL CORE LOCATING WIRE (COPPERHEAD OR APPROVED EQUAL). WIRE FOR DIRECTIONAL DRILL APPLICATIONS SHALL BE COPPER CLAD "HARD DRAWN" STEEL CORE WITH A MIN BREAKING STRENTH OF 1000 PSI. b. LOCATING WIRES TO TERMINATE 4 INCHES ABOVE CONCRETE VALVE PAD AND FOLDED BACK INSIDE 3-INCH TRACER	NOTES: 1. "W" OR "S" TO BE IMPRESSED INTO THE NEWLY—POURED CONCRETE CURB. 2. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS DETERMINED IN THE FIELD. 3. ALL VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS, SIDEWALKS OR CURBS. 4. PRECAST CONCRETE PADS & THRUST BLOCKS SHALL NOT BE USED. 5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2—INCHES IN UNPAVED AREAS. 6. BINGHAM & TAYLOR P200NFG FOR NORMAL YARD SERVICE. WHERE VALVE WILL BE IN STREET OR PARKING UNDER VEHICLE TRAFFIC, USE P525RD CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD. 7. TRACER WIRE TEST STATION BOX IS NOT REQUIRED IN VALVE BOX PAD IF THE GATE VALVE IS LOCATED WITHIN 200 FEET OF A WATER SERVICE, BLOW—OFF, BACKFLOW PREVENTER OR FIRE HYDRANT THAT HAS A TRACER WIRE BOX. a. ALL NON—METALIC PIPE SHALL REQUIRE AN INSULATED #10 GAUGE COPPER CLAD STEEL CORE LOCATING WIRE (COPPERHEAD OR APPROVED EQUAL). WIRE FOR DIRECTIONAL DRILL APPLICATIONS SHALL BE COPPER CLAD "HARD DRAWN" STEEL CORE WITH A MIN BREAKING STRENTH OF 1000 PSI.	REUSE MAIN/SEWER MAIN IF THERE IS LESS THAN 18 INCHES OF CLEARANCE BETWEEN THE SEWER MAIN AND EITHER A WATER MAIN OR RECLAIMED MAIN, BOTH MAINS MUST BE DR-14. IF THERE IS GREATER THAN 18 INCHES OF CLEARANCE, THE SEWER MAIN CAN BE DR-18. SEWER MAIN MUST BE A MINIMUM CONTINUOUS LENGTH OF 18 FEET CENTERED AT THE WATER MAIN REGARDLESS OF VERTICAL CLEARANCE.	 IF A 10 FOOT MINIMUM HORIZONTAL SEPARATION CAN NOT BE OBTAINED BETWEEN WATER AND SEWER MAINS, BOTH PIPES SHALL BE DR-14 C-900 P.V.C. UNTIL A 10 FOOT CLEARANCE IS OBTAINED. IF 5 FOOT MINIMUM (CENTER TO CENTER) OR 3 FOOT MINIMUM (OUTSIDE TO OUTSIDE) SEPARATION CAN NOT BE OBTAINED BETWEEN RECLAIMED MAIN AND WATER OR SEWER MAIN, ALL PIPE SHALL BE DR-14 C-900 P.V.C. UNTIL THE 5 FOOT OR 3 FOOT SEPARATION IS OBTAINED. CONCRETE ENCASEMENT SHALL NOT BE ACCEPTED.
6" COMPACTED SHELL BASE	#10 (AWG) COPPERHEAD TRACER WIRE (SEE NOTES 6&7) PROFILE ADJUSTABLE SCREW TYPE VALVE BOX (CAST IRON)	CONDITION "A": WATER MAIN CROSSING OVER RECLAIMED MAIN/SEWER MAIN MINIMUM VERTICAL SEPARATION SHALL BE 18 INCHES OR BOTH MAINS MUST BE DUCTILE IRON PIPE OR DR-14 C-900 P.V.C. FOR A MINIMUM CONTINUOUS LENGTH OF 18 FEET CENTERED AT THE WATER MAIN. CONDITION "B": WATER MAIN CROSSING UNDER	NOTES: 1. WHEN BOTH MAINS ARE EITHER DUCTILE IRON PIPE OR DR-14 C-900 P.V.C., THE MINIMUM VERTICAL CLEARANCE MAY BE 6 INCHES.
WORM GEAR OPERATOR SUITABLE FOR BURIED SERVICE	TRACER WIRE TEST STATION BOX (SEE NOTE 6) CONCRETE PAD POURED IN PLACE PAVED SURFACE		3 FOOT MIN. OR SEE NOTE 3 SANITARY SEWER
OPERATING NUT CAST IRON VALVE BOX INSTALL PLUMB AND CENTERED OVER VALVE OPERATING NUT	12 INCH—— TRACER WIRE TEST STATION BOX (SEE NOTES 6&7) PLAN		OR SEE NOTE 2
#10 (AWG) COPPERHEAD TRACER WIRE (SEE NOTE 5)	24 INCH x 24 INCH x 6 INCH THICK CONCRETE PAD POURED IN PLACE AT EACH VALVE BOX COVER WT12 LBS. VALVE BOX VALVE BOX	SEE CONDITION "A" OR "B" AND NOTE 4	WATER MAIN 3 FOOT MIN. OR SEE NOTE 3 5 FOOT MIN. OR SEE NOTE 3
LETTERING "WATER" OR "SEWER" ON COVER. CONCRETE VALVE PAD REQUIRED AT ALL AREAS CONCRETE VALVE PAD REQUIRED AT ALL AREAS	SIZE OF VALVE TYPE OF VALVE YEAR OF VALVE (CCW OR CW ONLY)	<u>VERTICAL</u>	<u>HORIZONTAL</u>
	/ MOUNTED IN CONC. PAD STAMP AS		

_			
NDUM REVISION		9/03/2020	DAL
	NDUM REVISION	NDUM REVISION	NDUM REVISION 9/03/2020

DATE BY

REVISIONS

Kimley» Horn

1777 MAIN STREET, SUITE 200, SARASOTA, FL 34236 PHONE: 941-379-7600 WWW.KIMLEY-HORN.COM CA 00000696

KHA PROJECT	
DATE 9/3/2020	
SCALE	
ESIGNED BY JWW	

CHECKED BY AMM

SARASOTA COUNTY

DRAWN BY

Sarasota County PEACE RIVER INTERCONNECT AND POTABLE WATER TRANSMISSION MAIN

LICENSED PROFESSIONAL					
ASHLEY M. MIELE, P.E.					
fl license number 66476					

139 | 105 | 57 | -

238 | 217 | 188 | 153 | 109 | 59 |

267 | 248 | 223 | 192 | 154 | 109 | 58

296 | 280 | 257 | 229 | 195 | 155 | 110 | 58 |

350 | 337 | 318 | 296 | 268 | 235 | 198 | 156 | 109 | 425 | 415 | 400 | 383 | 361 | 336 | 306 | 274 | 237 | 152 |

495 487 475 461 443 423 399 373 343 275 152

CONSTRUCTION DETAILS

SHEET NUMBER

76