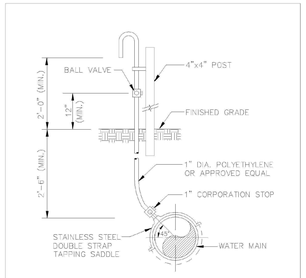
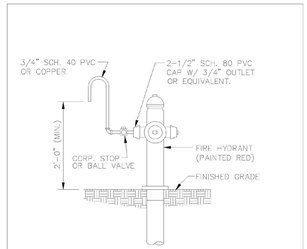


SAMPLE POINT (MAIN)

ALL D.I.P. TO BE PAINTED BLUE ON TOP HALF OF PIPE.

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	SAMPLE POINT (MAIN)
S.S.	04-2005		DATE: MAY 2022
		SCALE: N.T.S.	DWG. NO. 100-1



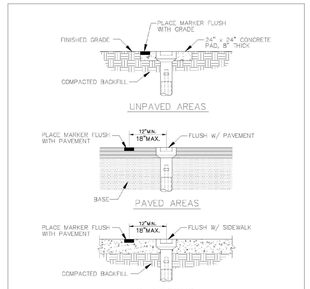
SAMPLE POINT (HYDRANT)

ALL POMPANO BEACH HYDRANTS SHALL BE PAINTED RED.

ALL D.I.P. TO BE PAINTED BLUE ON TOP HALF OF PIPE.

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	SAMPLE POINT (HYDRANT)
S.S.	04-2005		DATE: MAY 2022
		SCALE: N.T.S.	DWG. NO. 101-1



VALVE BOX SETTINGS

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	VALVE BOX SETTINGS
	04-2005		DATE: MAY 2022
		SCALE: N.T.S.	DWG. NO. 102-1

GENERAL WATER SYSTEM NOTES

1. ALL APPLICABLE PERMITS MUST BE OBTAINED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. ALL APPLICABLE FEES AND CHARGES MUST BE PAID PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. THE LOCATION OF EXISTING UTILITIES AS SHOWN ON APPROVED PLANS ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. APPROVAL OF DEVELOPMENT PLANS BY THE CITY IN NO WAY IMPLIES VERIFICATION OF THE ACCURACY OF THOSE PLANS OR FEATURES DEPICTED THEREON. ANY DISCREPANCY IN, OR VARIATION FROM, THE APPROVED PLANS IS TO BE BROUGHT TO THE ATTENTION OF THE UTILITY ENGINEER AND THE ENGINEER OF RECORD.
4. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF THE CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES AND IMPROVEMENTS FROM DAMAGE, DISRUPTION OF SERVICE, OR DESTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
5. THE CONTRACTOR SHALL INFORM THE BCWWS ENGINEERING DEPARTMENT AND THE ENGINEER OF RECORD AT LEAST 48 HOURS IN ADVANCE OF COMMENCING CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING LOCATIONS OF ALL UTILITIES, AND NOTIFICATION OF SUNSHINE ONE CALL (1-800-432-4770), 48 HOURS IN ADVANCE OF CONSTRUCTION.
7. THE CONTRACTOR SHALL INFORM THE ENGINEER OF RECORD AND THE BCWWS ENGINEERING DEPARTMENT IN WRITING A MINIMUM OF 48 HOURS IN ADVANCE OF THE FOLLOWING:
   - WET CONNECTION
   - PRESSURE TEST
   - FILLING/FLUSHING
   - CHLORINATION
   - BACTERIOLOGICAL SAMPLES
8. A PRE-CONSTRUCTION MEETING IS TO BE HELD PRIOR TO CONSTRUCTION & SHALL BE ATTENDED BY THE CONTRACTOR, RECORD ENGINEER, BCWWS AND OTHER INTERESTED PARTIES PRIOR TO ISSUANCE OF A CONSTRUCTION PERMIT.
9. THE ENGINEER OF RECORD AND UTILITY INSPECTOR SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ALL ACTIVITIES THAT REQUIRE THEIR INSPECTION.
10. CONSTRUCTION SHALL BE CARRIED OUT IN STRICT COMPLIANCE WITH THE STANDARDS ACCEPTED BY BC WWS.
11. THE CONTRACTOR SHALL MAINTAIN A CURRENT APPROVED SET OF CONSTRUCTION PLANS ON SITE. THE PLANS ARE TO BE MADE AVAILABLE TO THE UTILITY INSPECTOR UPON REQUEST.
12. THE RECORD ENGINEER WILL CARRY OUT INSPECTIONS OF WORK. THE UTILITY INSPECTORS WILL INFORM THE CONTRACTOR WHEN TO BACKFILL THE WORK AND WILL WITNESS PRESSURE, BACTERIOLOGICAL, AND INFILTRATION/EXFILTRATION TESTS AS REQUIRED PER THE BCWWS.
13. THE FOLLOWING DOCUMENTS ARE TO BE ON FILE AT BC WATER & WASTEWATER SERVICES PRIOR TO THE CONNECTION OF THE FIRST WATER METER:
    A. CERTIFIED "AS-BUILT" PLANS APPROVED BY THE BC WWS.
    B. LETTERS OF ACCEPTANCE FROM:
       BROWARD COUNTY PUBLIC HEALTH UNIT
       DEPARTMENT OF NATURAL RESOURCE PROTECTION
    C. CERTIFICATION BY ENGINEER OF RECORD
    D. DEDICATION OF ALL UTILITY EASEMENTS THAT ARE SHOWN ON THE APPROVED PLANS.
    E. AS-BUILT MYLAR AND/OR SIGNED AND SEALED COPIES OF AS-BUILTS CERTIFIED BY A PROFESSIONAL ENGINEER OR A LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA. AS REQUESTED BY BCWWS.
    F. FINAL INSPECTION VERIFICATION BY THE BCWWS.
15. NO DEVIATION FROM THE APPROVED PLANS SHALL BE PERMITTED WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD AND THE BCWWS.
16. ALL DENSITY TESTS SHALL BE TAKEN BY A CERTIFIED TESTING LABORATORY. TESTS SHALL BE CONDUCTED UNDER THE DIRECTION OF THE ENGINEER OF RECORD AND THE BCWWS INSPECTOR.

WATER DISTRIBUTION SYSTEM NOTES

1. ALL DUCTILE IRON PIPE MUST BE A MINIMUM CLASS 51. PIPE SIZES SHALL CONFORM TO AWWA C110/A21.10-98. ALL DUCTILE IRON PIPE SHALL BE CONFORM TO THE REQUIREMENTS OF ANSI/AWWA C151/A21.51-02 AND BE CEMENT MORTAR LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-95. LATEST REVISION. ALL DIP WATER REUSE MAINS SHALL BE COLORED PURPLE.
2. ALL POLYVINYL CHLORIDE (PVC) PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA STANDARDS C-900-97. THE PVC PIPE CLASS SHALL BE 235-DR18. THE PIPE SHALL OUTSIDE DIAMETER SHALL CONFORM TO ANSI/AWWA C900 FOR 6" TO 12".
3. ALL WATER MAIN PVC SHALL BE COLORED BLUE PER SECTION 62-555.320 (21)(b)(3), FLORIDA ADMINISTRATIVE CODE.

   ALL PVC WATER REUSE MAINS (IF UTILIZED) SHALL BE COLORED PURPLE.
4. PVC PIPE SHALL HAVE INTEGRAL BELL PUSH ON TYPE JOINTS CONFORMING TO ASTM D3139.
5. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT MEETING ANSI/AWWA C153/A21.53-00 SPECIFICATIONS. FITTINGS MUST BE CEMENT MORTAR LINED AND SEAL COATED PER ANSI/AWWA C104/A21.4-95.
6. GATE VALVES 4" AND LARGER SHALL MEET ANSI/AWWA C509-01 AND C500-02 SPECIFICATIONS, LATEST REVISION, AND SHALL BE IRON BODY BRONZE MOUNTED, RESILIENT SEATED, NON RISING STEM, PARALLEL FIT TYPE, OPENING COUNTERCLOCKWISE, AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 200 P.S.I. VALVES MUST BE MUELLER CO. OR APPROVED EQUAL.
7. FIRE HYDRANTS SHALL BE SAFETY FLANGE CONSTRUCTION, CAST IRON BODY, FULLY BRONZE MOUNTED, SUITABLE FOR WORKING PRESSURE OF 150 P.S.I., AND SHALL MEET THE REQUIREMENTS OF AWWA C502-94 SPECIFICATIONS, LATEST REVISION. FIRE HYDRANTS SHALL BE TRAFFIC BREAKAWAY TYPE - AMERICAN DARLING B84-B OR APPROVED EQUAL.
8. FIRE HYDRANTS SHALL BE INSTALLED WITH THE CENTER OF THE HOSE NOZZLE 18" ABOVE CROWN OF THE ROAD (FINISH GRADE) MINIMUM.
9. ALL METER SERVICE CONNECTIONS SHALL BE BRONZE FROM PLUG VALVE TO PLUG VALVE AND SHALL CONFORM TO AWWA'S SPECIFICATION C700-02.
10. ALL TRENCHING, PIPE LAYING, BACKFILL, PRESSURE TESTING AND DISINFECTING MUST COMPLY WITH BROWARD COUNTY HEALTH DEPARTMENT MINIMUM CONSTRUCTION REQUIREMENTS AND WITH THE CITY OF PLANTATION MINIMUM STANDARDS. ADDITIONALLY, ALL PIPE MUST BE BACKFILLED IN NO GREATER THAN 12" LIFTS AND EACH LIFT TAMPED & DENSITY TESTED, UNLESS OTHERWISE APPROVED BY THE RECORD ENGINEER AND THE AGENCY HAVING JURISDICTION.
11. ALL CONNECTIONS TO EXISTING MAINS SHALL BE MADE UNDER THE DIRECTION OF THE UTILITY DEPARTMENT HAVING JURISDICTION, AND THE RECORD ENGINEER.
12. THE MINIMUM DEPTH OF COVER OVER WATER MAINS SHALL BE 30 INCHES FOR DIP & 36 INCHES FOR PVC.
13. DISINFECTION OF MAINS SHALL COMPLY WITH AWWA 651-05. STANDARD BACTERIOLOGICAL SAMPLING POINTS ARE DESIGNATED ON THE ENGINEERING PLANS.
14. ALL PIPE, FITTINGS, ETC., SHALL BE TESTED UNDER A CONSTANT PRESSURE OF 150 PSI FOR 2 HOURS AND SHALL NOT EXCEED THE ALLOWABLE LEAKAGE AS PER ANSI/AWWA SPECIFICATIONS FOR LATEST REVISION OF C600-05 LEAKAGE FORMULA:

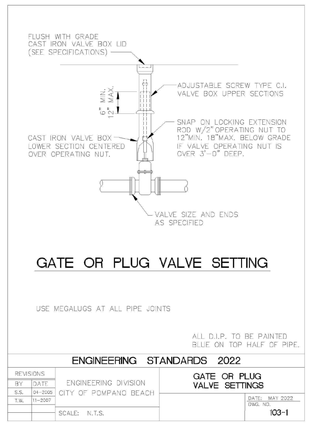
$$L = \frac{S \times D \times (P^{**} 0.5)}{148.000}$$

   IN WHICH: L = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR
   S = LENGTH OF PIPE TESTED - IN FEET
   D = NOMINAL DIAMETER OF MAIN IN INCHES
   P = AVERAGE PRESSURE DURING TEST, IN P.S.I.

   IF THE SECTION UNDER TEST CONTAINS VARIOUS PIPE DIAMETERS, THE ALLOWABLE LEAKAGE WILL BE THE SUM OF THE COMPUTED LEAKAGE FOR EACH SIZE. REPUMPING OF LINE DURING PRESSURE TEST IS NOT ALLOWED.
15. LEAKAGE TEST PRESSURE SHALL NOT VARY MORE THAN 5 P.S.I. MAXIMUM ALLOWABLE LENGTH OF PIPE FOR EACH, TEST SHALL NOT EXCEED 2000 LINEAR FEET.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BACTERIOLOGICAL TESTS. THE CONTRACTOR SHALL NOTIFY THE UTILITY DEPARTMENT AND THE RECORD ENGINEER WHEN TAKING BACTERIOLOGICAL TESTS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DENSITY TESTS FOR UTILITIES BACKFILL, SUBGRADE, AND LIMEROCK BASES. DENSITY TESTS SHALL BE TAKEN AS DIRECTED BY THE CITY ENGINEERING DEPARTMENT AND/OR THE RECORD ENGINEER.
18. THE CONTRACTOR IS RESPONSIBLE TO MAKE ARRANGEMENTS WITH THE ENGINEER OF RECORD AND THE UTILITY HAVING JURISDICTION FOR ALL TESTING.
19. ALL TESTING SHALL BE NOTIFIED TO THE UTILITY DEPARTMENT AND THE ENGINEER OF RECORD 48 HOURS IN ADVANCE.
20. STORM AND SANITARY SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL CLEARANCE OF 18 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM DISTANCE CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN JOINTS ARE EQUIDISTANT FROM THE CROSSING POINT WITH NO LESS THAN 10 FEET BETWEEN ANY TWO JOINTS. THE WATER MAIN SHALL BE DIP. THE SEWER MAIN SHALL BE DIP. WHERE THERE IS NO ALTERNATIVE TO SEWER PIPES CROSSING OVER A WATER MAIN, THE CRITERIA FOR MINIMUM SEPARATION BETWEEN LINES AND JOINTS IN THE ABOVE, SHALL BE REQUIRED AND THE WATER MAIN SHALL BE DIP. AND THE SEWER SHALL BE PVC DIP IRRESPECTIVE OF SEPARATION. DIP IS NOT REQUIRED FOR STORM SEWERS.
21. MAINTAIN SEVEN (7) FEET HORIZONTAL DISTANCE BETWEEN WATER MAIN AND SANITARY OR STORM SEWER AS A MINIMUM.
22. IN ACCORDANCE WITH FLORIDA STATUTE 90-096 FS, KNOWN AS "THE FLORIDA TRENCH SAFETY ACT", CONTRACT BID DOCUMENTS MUST IDENTIFY ALL COSTS & METHODS OF TRENCH EXCAVATIONS EXCEEDING FIVE (5) FEET IN DEPTH.

    THE CONTRACTOR IS RESPONSIBLE THAT ALL SHEETING & SHORING INSTALLED COMPLY WITH OSHA EXCAVATION STANDARDS 29 C.F.R. S1926:650 SUBPART P. THE CONTRACTOR MUST EVALUATE THE GEOTECHNICAL DATA & DESIGN THE TRENCH SAFETY SYSTEM ACCORDINGLY.

    THE CONTRACTOR MUST SUBMIT A LETTER TO THE RECORD ENGINEER ACKNOWLEDGING THAT HE HAS COMPLIED WITH THE FORGOING PRIOR TO CONSTRUCTION.



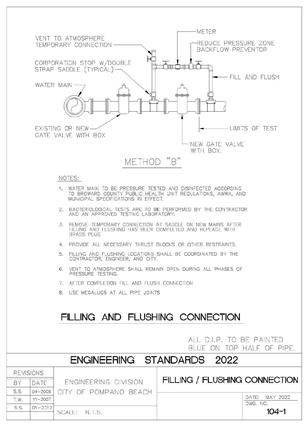
GATE OR PLUG VALVE SETTING

USE MEGALUGS AT ALL PIPE JOINTS

ALL D.I.P. TO BE PAINTED BLUE ON TOP HALF OF PIPE.

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	GATE OR PLUG VALVE SETTINGS
	04-2005		DATE: MAY 2022
	11-2007	SCALE: N.T.S.	DWG. NO. 103-1



METHOD "B"

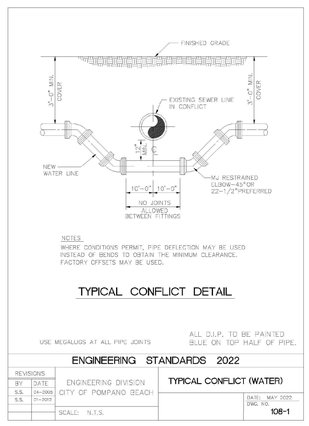
NOTES:
1. WATER MAIN TO BE PRESSURE TESTED AND DISINFECTED ACCORDING TO BROWARD COUNTY PUBLIC HEALTH UNIT REGULATIONS, AWWA, AND MUNICIPAL SPECIFICATIONS IN EFFECT.
2. BACTERIOLOGICAL TESTS ARE TO BE PERFORMED BY THE CONTRACTOR AND AN APPROVED TESTING LABORATORY.
3. REMOVE TEMPORARY CONNECTION AT SADDLE ON NEW MAINS AFTER FILLING AND FLUSHING HAS BEEN COMPLETED AND REPLACE WITH BRASS PLUG.
4. PROVIDE ALL NECESSARY THRUST BLOCKS OR OTHER RESTRAINTS.
5. FILLING AND FLUSHING LOCATIONS SHALL BE COORDINATED BY THE CONTRACTOR, ENGINEER, AND CITY.
6. VENT TO ATMOSPHERE SHALL REMAIN OPEN DURING ALL PHASES OF PRESSURE TESTING.
7. AFTER COMPLETION FILL AND FLUSH CONNECTION
8. USE MEGALUGS AT ALL PIPE JOINTS

FILLING AND FLUSHING CONNECTION

ALL D.I.P. TO BE PAINTED BLUE ON TOP HALF OF PIPE.

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	FILLING / FLUSHING CONNECTION
	04-2005		DATE: MAY 2022
	11-2007	SCALE: N.T.S.	DWG. NO. 104-1
S.S.	01-2017		



NOTES:
WHERE CONDITIONS PERMIT, PIPE DEFLECTION MAY BE USED INSTEAD OF BENDS TO OBTAIN THE MINIMUM CLEARANCE. FACTORY OFFSETS MAY BE USED.

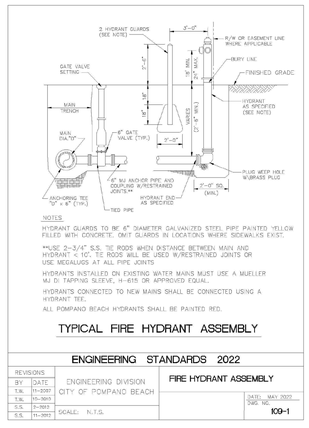
TYPICAL CONFLICT DETAIL

USE MEGALUGS AT ALL PIPE JOINTS

ALL D.I.P. TO BE PAINTED BLUE ON TOP HALF OF PIPE.

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPICAL CONFLICT (WATER)
S.S.	04-2005		DATE: MAY 2005
S.S.	01-2007	SCALE: N.T.S.	DWG. NO. 108-1



NOTES
HYDRANT GUARDS TO BE 6" DIAMETER GALVANIZED STEEL PIPE PAINTED YELLOW FILLED WITH CONCRETE. OMIT GUARDS IN LOCATIONS WHERE SIDEWALKS EXIST.

**USE 2-3/4" S.S. TIE RODS WHEN DISTANCE BETWEEN MAIN AND HYDRANT < 10'. TIE RODS WILL BE USED W/RESTRAINED JOINTS OR USE MEGALUGS AT ALL PIPE JOINTS

HYDRANTS INSTALLED ON EXISTING WATER MAINS MUST USE A MUELLER MJ D. TAPPING SLEEVE, H-615 OR APPROVED EQUAL.

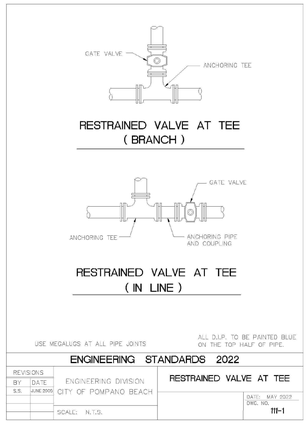
HYDRANTS CONNECTED TO NEW MAINS SHALL BE CONNECTED USING A HYDRANT TEE.

ALL POMPANO BEACH HYDRANTS SHALL BE PAINTED RED.

TYPICAL FIRE HYDRANT ASSEMBLY

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	FIRE HYDRANT ASSEMBLY
T.N.	11-2007		DATE: MAY 2022
T.N.	10-2010	SCALE: N.T.S.	DWG. NO. 109-1
S.S.	7-2017		
S.S.	11-2017		



RESTRAINED VALVE AT TEE (BRANCH)

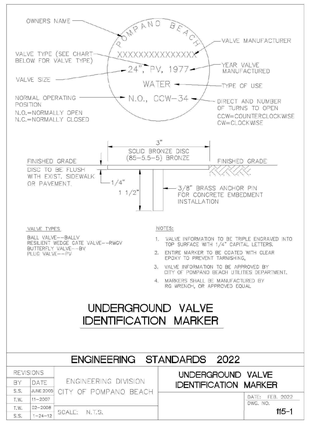
RESTRAINED VALVE AT TEE (IN LINE)

USE MEGALUGS AT ALL PIPE JOINTS

ALL D.I.P. TO BE PAINTED BLUE ON THE TOP HALF OF PIPE.

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	RESTRAINED VALVE AT TEE
S.S.	JUNE 2005		DATE: MAY 2005
		SCALE: N.T.S.	DWG. NO. 111-1

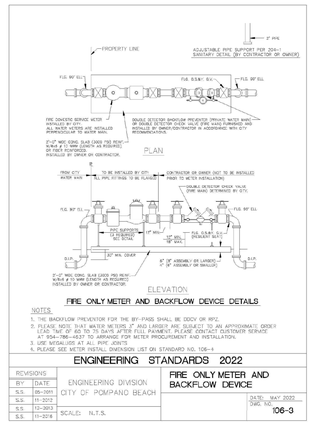


1. VALVE INFORMATION TO BE TRIPLE ENGRAVED INTO TOP SURFACE WITH 1/4" CAPITAL LETTERS.
2. ENTIRE MARKER TO BE COATED WITH CLEAR EPOXY TO PREVENT TARNISHING.
3. VALVE INFORMATION TO BE APPROVED BY CITY OF POMPANO BEACH UTILITIES DEPARTMENT.
4. MARKERS SHALL BE MANUFACTURED BY RS WESCO, OR APPROVED EQUAL

UNDERGROUND VALVE IDENTIFICATION MARKER

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	UNDERGROUND VALVE IDENTIFICATION MARKER
S.S.	JUNE 2005		DATE: FEB. 2007
T.N.	11-2007	SCALE: N.T.S.	DWG. NO. 115-1
T.N.	12-2008		
S.S.	1-24-17		



FIRE ONLY METER AND BACKFLOW DEVICE DETAILS

NOTES
1. THE BACKFLOW PREVENTOR FOR THE BY-PASS SHALL BE DCDV OR RPZ.
2. PLEASE NOTE THAT WATER METERS 3" AND LARGER ARE SUBJECT TO AN APPROXIMATE LEAD TIME OF 60 TO 75 DAYS AFTER FULL PAYMENT. PLEASE CONTACT CUSTOMER SERVICE AT 954-786-4457 TO ARRANGE FOR METER PROCUREMENT AND INSTALLATION.
3. USE MEGALUGS AT ALL PIPE JOINTS
4. PLEASE SEE METER INSTALL DIMENSION LIST ON STANDARD NO. 106-4

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	FIRE ONLY METER AND BACKFLOW DEVICE
S.S.	11-2012		DATE: MAY 2022
T.N.	12-2012	SCALE: N.T.S.	DWG. NO. 106-3
S.S.	11-2016		

Sunshine811

Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.

Check positive response codes before you dig!

Howard E Jablon

Digitally signed by Howard E Jablon
Date: 2025.04.01 09:44:57 -04'00'

HOWARD JABLON — LICENSED — No. 47214 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY HOWARD E JABLON ON THE DATE NOTED ABOVE USING A SHA AUTHENTICATION CODE.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SHA AUTHENTICATION CODE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

SCALE: NA
DRAWN BY: HEJ
CHECKED BY: TJ
APPROVED BY: HEJ

REVISIONS DATE	COMMENTS	REVISIONS DATE	COMMENTS
?	?	-	-

AJ HYDRO ENGINEERING, INC.
5932 NW 73RD COURT
PARKLAND, FL 33067
TEL (954) 347-3397
AJHYDRO@BELLSOUTH.NET

PROJECT:

COASTAL WASTE & RECYCLING 18

TITLE:

WATER DISTRIBUTION SYSTEM STANDARD DETAILS #2

SEAL:

DRC

HOWARD JABLON, PE #47214

DATE: 03/15/25

DRAWING NO. 23-0300

SHEET NO. 23 OF 5

25-1200003

05/07/2025