

PUBLIC WORKS & UTILITIES ENGINEERING & DESIGN STANDARDS

RECLAIMED WATER SYSTEM CONSTRUCTION GENERAL NOTES

1. THE CITY'S PUBLIC WORKS DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY RECLAIMED WATER SYSTEM CONSTRUCTION.
2. DE-WATERING SHALL BE PROVIDED TO KEEP GROUND WATER ELEVATION A MINIMUM OF 6 INCHES BELOW RECLAIMED WATER MAIN BEING LAID.
3. ALL RECLAIMED WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
4. TRENCHES SHALL BE BACK FILLED WITH MATERIAL ACCEPTED TO THE CITY, WITH A MINIMUM COMPACTION OF 98% (AASHTO T-180) IN PAVED AREAS AND 95% (AASHTO T-180) IN UNPAVED AREAS.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 2 FEET VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET.
6. PIPE WARNING TAPE SHALL BE LOCATED 18 INCHES BELOW FINISH GRADE FOR ALL PIPES. PIPE IDENTIFICATION TAPE SHALL BE PROVIDED ON ALL PIPES.
7. ALL SINGLE RESIDENTIAL WATER SERVICES SHALL BE MINIMUM 1" POLYETHYLENE TUBING. POLYBUTYLENE SHALL NOT BE ALLOWED. TUBING COLOR SHALL BE PURPLE.
8. ALL WATER SERVICE ENDINGS SHALL BE SECURED BY WIRE TO 2"x4" STAKES, APPROXIMATELY 2' ABOVE GRADE, WITH "Y" BRANCHES AT THE GROUND LEVEL, OR MAY BE PLACED IN RECLAIMED WATER METER BOXES AS SUPPLIED BY THE CITY AT THE TIME OF FINAL SUB-DIVISION INSPECTION.
9. RECLAIMED WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACING OF 1,000 FEET.
10. AT ALL WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LEGS, PROVIDED ADEQUATE DOWNSTREAM VALVING EXISTS.
11. APPROVED WATER VALVE TYPES ARE THE FOLLOWING:
 - A. BRASS BALL-TYPE VALVE FOR VALVES LESS THAN 2" DIAMETER.
 - B. STANDARD GATE VALVES 2" TO 12" DIAMETER, RESILIENT SEAT GATE VALVES (AWWA C-509)
 - C. BUTTERFLY VALVES GREATER THAN 12" DIAMETER (AWWA C-504)
 - D. TAPPING VALVES WITH MECHANICAL TAPPING SLEEVE FOR SIZE ON SIZE STAINLESS STEEL OR EPOXY COATED SLEEVE WITH STAINLESS STEEL BOLTS AND NUTS FOR OTHERS.



CITY OF ALTAMONTE SPRINGS
950 CALABRIA DRIVE
ALTAMONTE SPRINGS, FLORIDA 32714

RECLAIMED WATER - GENERAL NOTES

RW001-1A

ISSUED 2015

REVISED 03/31/2015 BY DJB

PUBLIC WORKS & UTILITIES ENGINEERING & DESIGN STANDARDS

RECLAIMED WATER SYSTEM CONSTRUCTION GENERAL NOTES

12. ALL RECLAIMED WATER VALVES SHALL BE ADJUSTED TO FINISH GRADE AND THE CAPS SHALL BE PAINTED PURPLE TO MAKE THEM PLAINLY DISTINGUISHABLE.
13. AS STANDARD PRACTICE, RECLAIMED WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF THE CURB ON THE OPPOSITE SIDE OF THE POTABLE WATER LINES OR AS APPROVED BY THE CITY.
14. ALL RECLAIMED WATER MAINS SHALL HAVE A MINIMUM COVER OF 30 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON PRESSURE CLASS RATING OR CONCRETE ENCASEMENT MAY BE USED AS APPROVED BY THE CITY.
15. ALL RECLAIMED WATER MAINS TO BE CLEARED FOR SERVICE SHALL BE FLUSHED, DISINFECTED, PRESSURE TESTED, AND OTHERWISE TESTED IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.
16. RECLAIMED WATER MAINS SHALL BE PVC AWWA CLASS C-900, MINIMUM CL-150 (DR-18) DUCTILE PIPE PRESSURE CLASS RATING, STANDARD CEMENT LINED, UNLESS OTHERWISE APPROVED BY THE CITY.
17. UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO INSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION OR THE CITY PUBLIC WORKS AND "AS-BUILTS" ARE PROVIDED TO THE CITY, PRIOR TO ANY USE OF THIS SYSTEM.
18. ALL RECLAIMED WATER MAINS AND SERVICE LINES SHALL BE READILY DISTINGUISHABLE BY THEIR PANTENE PURPLE COLOR OR TAPE MARKINGS.
19. ALL RECLAIMED WATER SERVICES SHALL BE MARKED ALONG THE OUTSIDE EDGE OF CURB WITH UPSIDE-DOWN "RW" OR BY METAL TABS SET INTO PAVEMENT. VALVES FOR RECLAIMED WATER SHALL BE MARKED BY A "V" SET INTO THE PAVEMENT.
20. RECLAIM WATER SERVICES SHOULD BE DOUBLE 1-1/2" SERVICES LOCATED AT SIDE LOT LINES, ALTERNATING WITH POTABLE WATER SERVICE LOCATIONS. IN INSTANCES WHERE RECLAIMED WATER SERVICES NEED TO BE OFFSET, 1" SERVICES SHALL BE SPECIFIED. THESE SERVICES MAY BE OFFSET FROM THE LOT LINE A MAXIMUM DISTANCE OF 5.0 FEET.
21. ALL RECLAIMED WATER HOSE CONNECTIONS, HAND-OPERATED CONNECTIONS AND OUTLETS SHALL BE CONTAINED IN UNDERGROUND SERVICES VAULTS AND SHALL BE APPROPRIATELY TAGGED OR LABELED TO WARN THE PUBLIC AND EMPLOYEES THAT THE WATER IS NOT INTENDED FOR DRINKING. ALL PIPING SHALL BE COLOR-CODED, OR OTHERWISE MARKED, TO DIFFERENTIATE RECLAIMED WATER FROM POTABLE OR OTHER WATER.
22. PRIOR TO TAKING ANY RECLAIMED WATER LINES OUT OF SERVICE, THE CONTRACTOR SHALL NOTIFY THE CITY AND AFFECTED CUSTOMERS, IN WRITING, 48-HOURS PRIOR TO SHUTDOWN.



CITY OF ALTAMONTE SPRINGS
950 CALABRIA DRIVE
ALTAMONTE SPRINGS, FLORIDA 32714

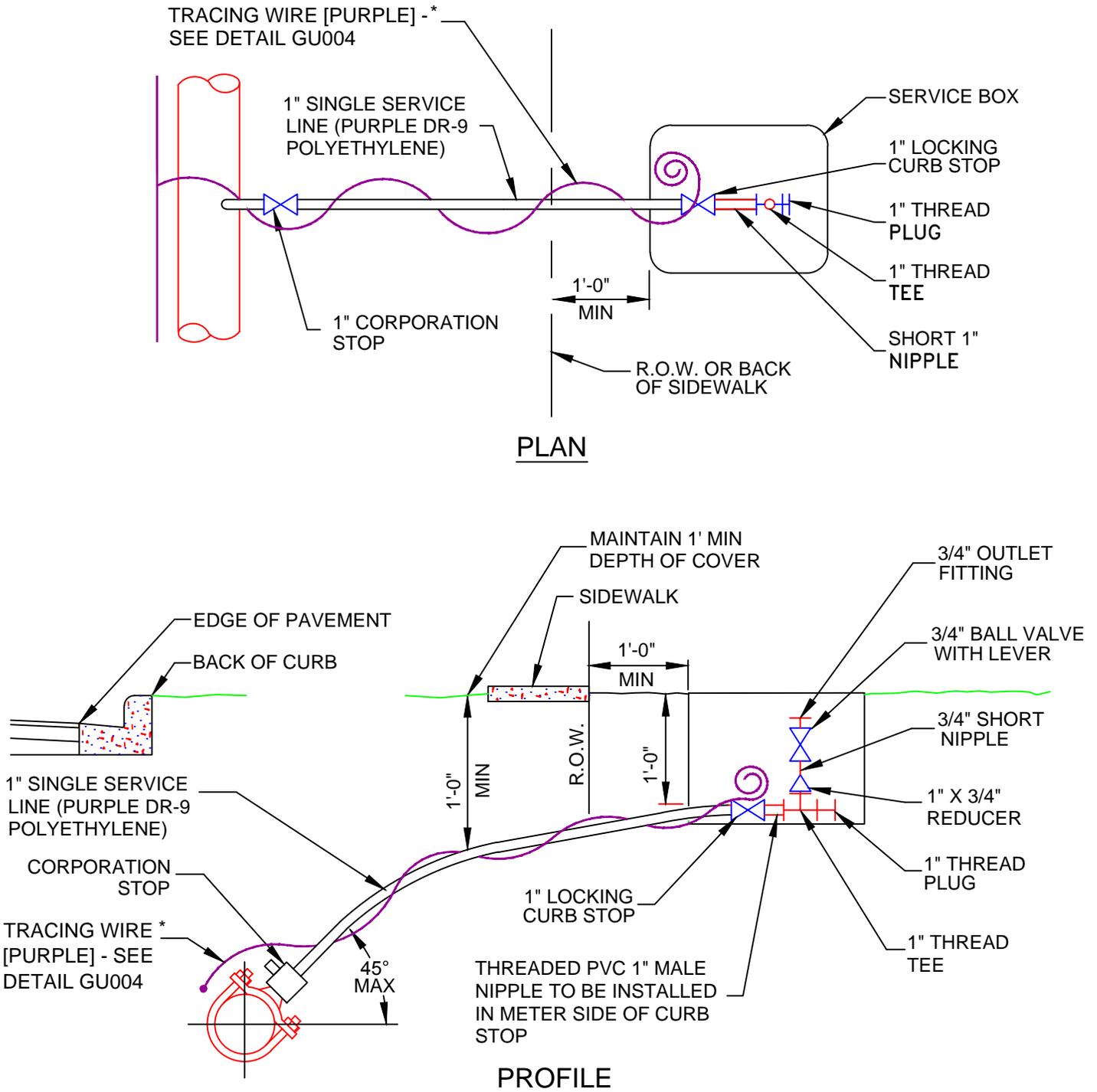
RECLAIMED WATER - GENERAL NOTES

RW001-1B

ISSUED 2015

REVISED 03/31/2015 BY DJB

PUBLIC WORKS & UTILITIES ENGINEERING & DESIGN STANDARDS



NOTES:

1. SERVICE BOX FURNISHED BY THE CITY OF ALTAMONTE SPRINGS
2. ALL PVC FITTINGS TO BE SCHEDULE 80.
3. 3" MIN BETWEEN TEE AND 3/4" BALL VALVE IN VALVE BOX.

* COIL EXCESS TRACING WIRE IN BOX (MIN. 12")



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950 CALABRIA DRIVE
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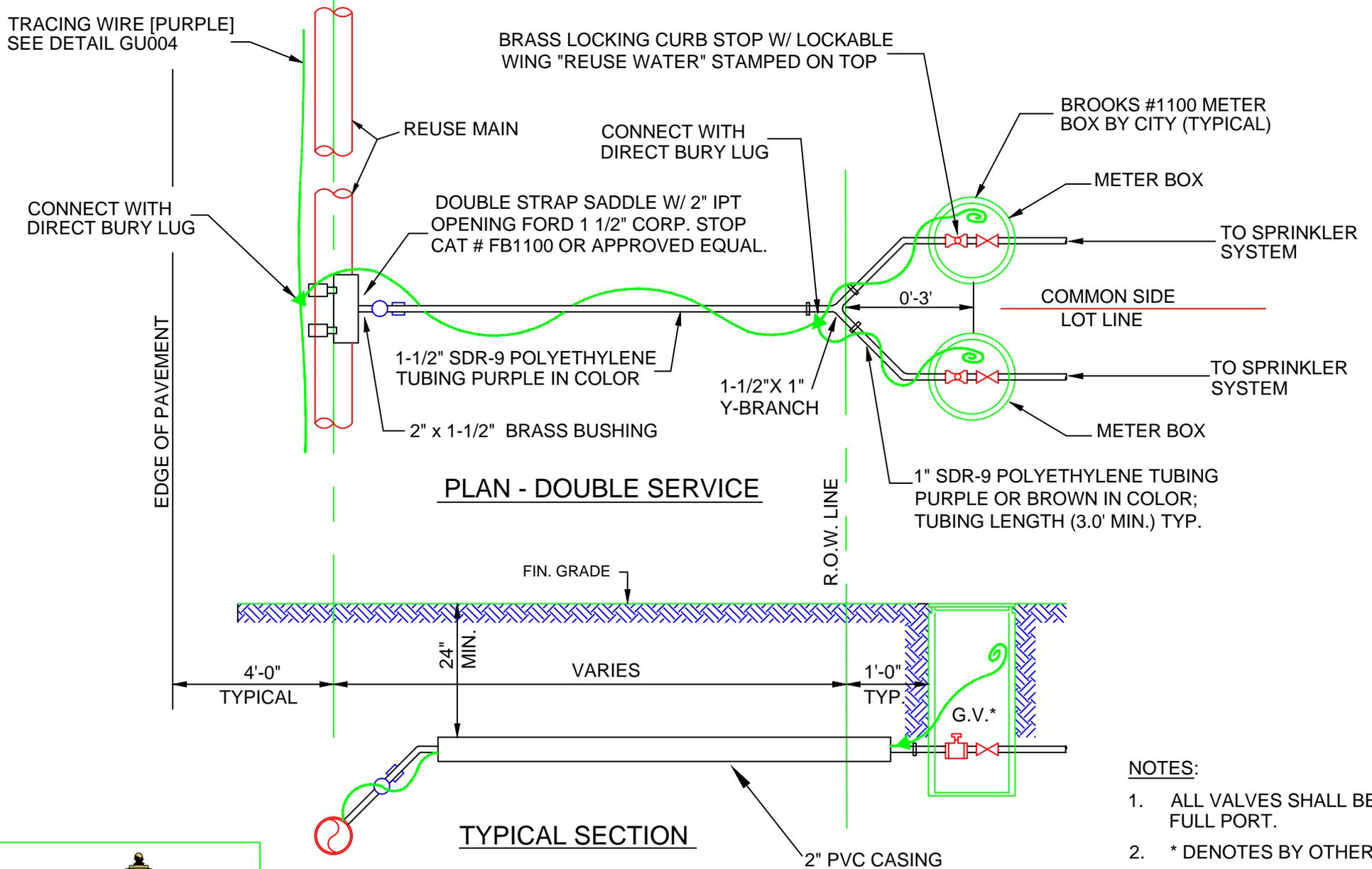
RECLAIMED WATER - SINGLE SERVICE CONNECTION

RW002-2

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CITY OF ALTAMONTE SPRINGS
950 CALABRIA DRIVE
ALTAMONTE SPRINGS, FLORIDA 32714

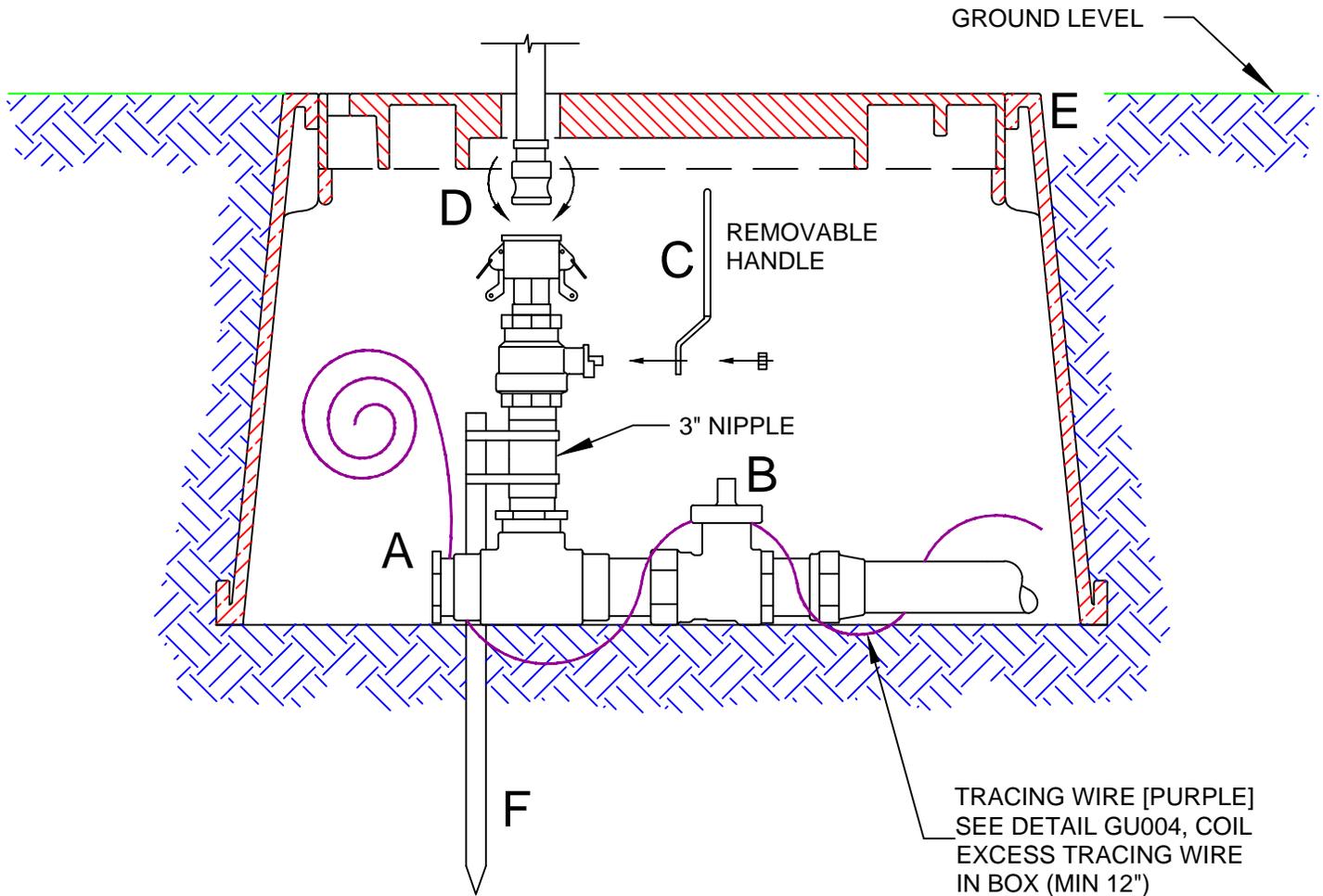
RECLAIMED WATER - DOUBLE SERVICE CONNECTION

RW003-2

ISSUED 2015

REVISED 03/31/2015 BY DJB

PUBLIC WORKS & UTILITIES ENGINEERING & DESIGN STANDARDS



- A CONNECTION TO UNDERGROUND IRRIGATION SYSTEM
- B LOCKABLE CURB STOP
- C CONTROL HANDLE - TURNS SYSTEM PRESSURE ON AND OFF (ATTACH HANDLE WHEN REQUIRED FOR USE ONLY)
- D QUICK DISCONNECT DEVICE (PROVIDED BY CITY) FITS MODIFIED 5/8" OR 3/4" GARDEN HOSE (DETACH WHEN NOT IN USE)
- E SERVICE CONNECTION IS CONTAINED IN A BOX LABELED "RECLAIMED WATER". BOX LID IS LEVEL WITH THE GROUND
- F SUPPORT STAKE WITH NYLON TIE WRAPS MUST BE INSTALLED TO PROVIDE SUPPORT TO VERTICAL ALIGNMENT OF SERVICE CONNECTION



CITY OF ALTAMONTE SPRINGS
950 CALABRIA DRIVE
ALTAMONTE SPRINGS, FLORIDA 32714

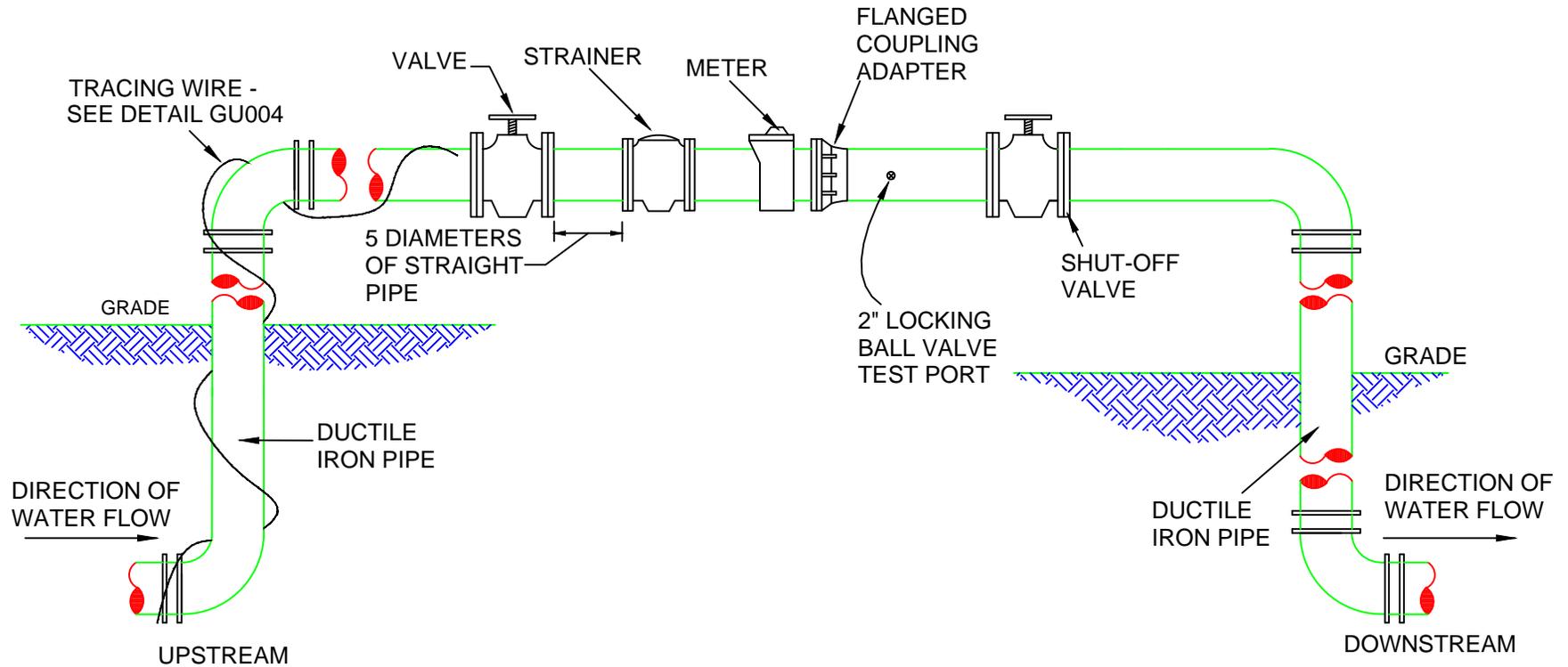
RECLAIMED WATER - SERVICE CONNECTION BOX

RW004-2

ISSUED 2015

REVISED 03/31/2015 BY DJB

PUBLIC WORKS & UTILITIES ENGINEERING & DESIGN STANDARDS



NOTES:

1. IRRIGATION METERS TO BE APPROVED TURBINE METERS.
2. METERS UP TO AND INCLUDING 2" TO BE PURCHASED FROM THE CITY. LARGER THAN 2" TO BE APPROVED BY CITY ENGINEER & PURCHASED BY OWNER.
3. METERS TO BE INSTALLED ABOVE GROUND.



CITY OF ALTAMONTE SPRINGS
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RECLAIMED WATER - MASTER METER ASSEMBLY

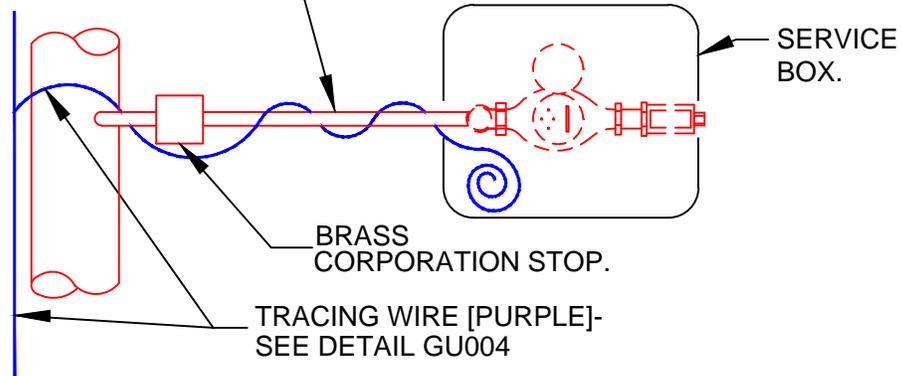
RW005-3

ISSUED 2015

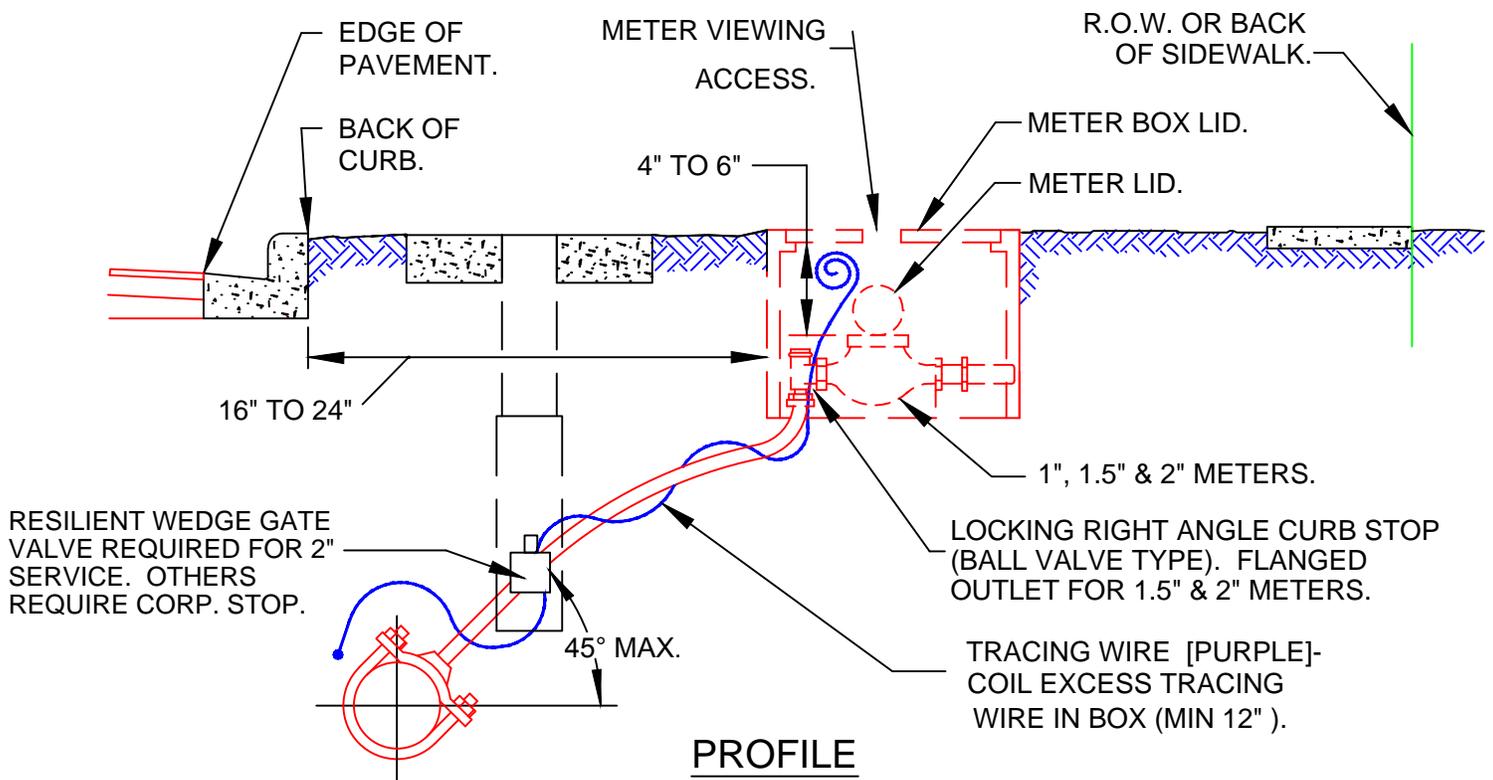
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PUBLIC WORKS & UTILITIES ENGINEERING & DESIGN STANDARDS

SERVICE LINE PURPLE
(DR-9 POLYETHYLENE).



PLAN



PROFILE

NOTES:

1. SERVICE BOX FURNISHED BY CITY OF ALTAMONTE SPRINGS.
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3. SERVICE LINES SHALL NOT BE LESS THAN METER SIZE.



CITY OF ALTAMONTE SPRINGS
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**RECLAIMED WATER
COMMERCIAL - SINGLE
SERVICE CONNECTION**

RW006-1

ISSUED 2015

REVISED 03/31/2015 BY DJB

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- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 2 FEET VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET.
- PIPE WARNING TAPE SHALL BE LOCATED 18 INCHES BELOW FINISH GRADE FOR ALL PIPES. PIPE IDENTIFICATION TAPE SHALL BE PROVIDED ON ALL PIPES.
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- ALL WATER SERVICE ENDINGS SHALL BE SECURED BY WIRE TO 2"x4" STAKES, APPROXIMATELY 2' ABOVE GRADE, WITH "Y" BRANCHES AT THE GROUND LEVEL, OR MAY BE PLACED IN RECLAIMED WATER METER BOXES AS SUPPLIED BY THE CITY AT THE TIME OF FINAL SUB-DIVISION INSPECTION.
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RECLAIMED WATER - GENERAL NOTES

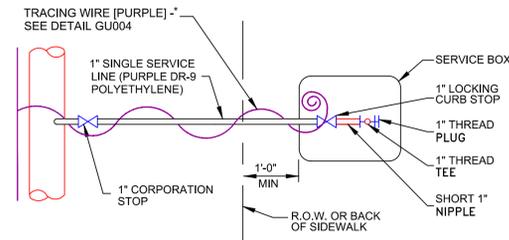
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RECLAIMED WATER SYSTEM CONSTRUCTION GENERAL NOTES

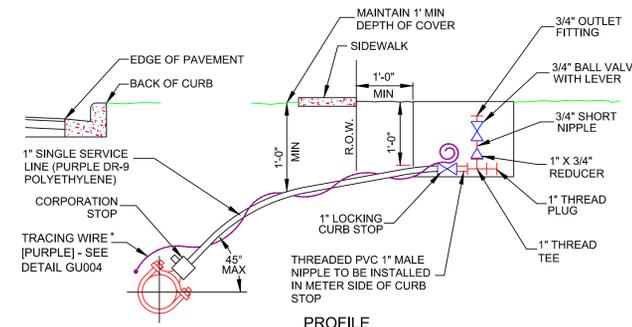
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- PRIOR TO TAKING ANY RECLAIMED WATER LINES OUT OF SERVICE, THE CONTRACTOR SHALL NOTIFY THE CITY AND AFFECTED CUSTOMERS, IN WRITING, 48-HOURS PRIOR TO SHUTDOWN.

RECLAIMED WATER - GENERAL NOTES

RW001-1B



PLAN

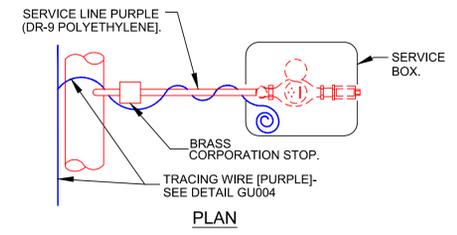


PROFILE

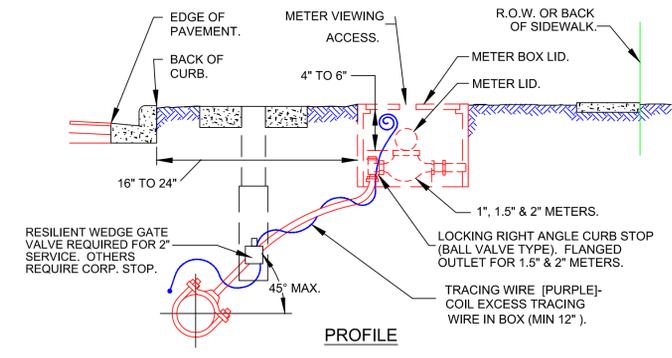
- NOTES:**
- SERVICE BOX FURNISHED BY THE CITY OF ALTAMONTE SPRINGS
 - ALL PVC FITTINGS TO BE SCHEDULE 80.
 - 3" MIN BETWEEN TEE AND 3/4" BALL VALVE IN VALVE BOX.

RECLAIMED WATER - SINGLE SERVICE CONNECTION

RW002-2



PLAN

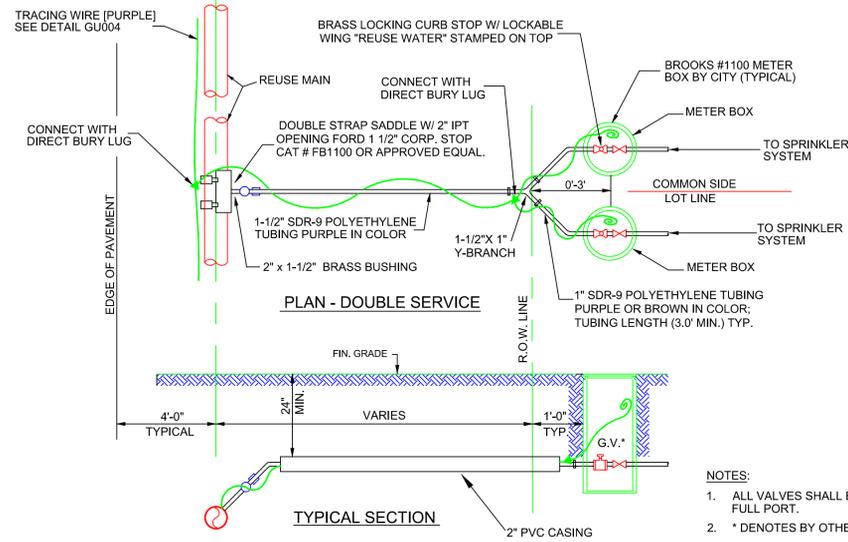


PROFILE

- NOTES:**
- SERVICE BOX FURNISHED BY CITY OF ALTAMONTE SPRINGS.
 - METER SHALL BE INSTALLED BETWEEN SIDEWALK AND CURB AND IN NO CASE SHALL IT BE INSTALLED IN SIDEWALK OR OTHER PAVED AREAS.
 - SERVICE LINES SHALL NOT BE LESS THAN METER SIZE.

RECLAIMED WATER COMMERCIAL - SINGLE SERVICE CONNECTION

RW006-1



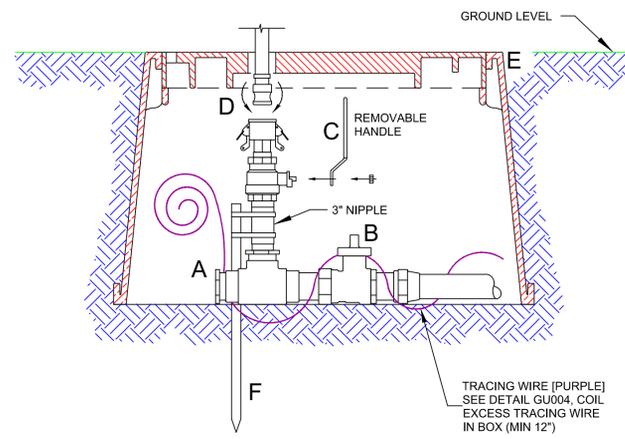
PLAN - DOUBLE SERVICE

TYPICAL SECTION

- NOTES:**
- ALL VALVES SHALL BE FULL PORT.
 - * DENOTES BY OTHERS.

RECLAIMED WATER - DOUBLE SERVICE CONNECTION

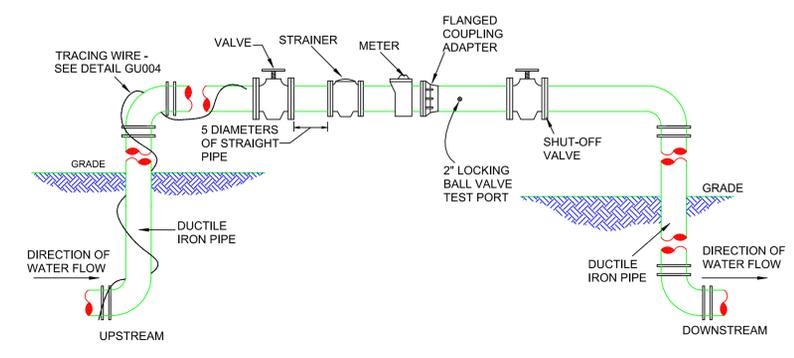
RW003-2



- A** CONNECTION TO UNDERGROUND IRRIGATION SYSTEM
B LOCKABLE CURB STOP
C CONTROL HANDLE - TURNS SYSTEM PRESSURE ON AND OFF (ATTACH HANDLE WHEN REQUIRED FOR USE ONLY)
D QUICK DISCONNECT DEVICE (PROVIDED BY CITY) FITS MODIFIED 5/8" OR 3/4" GARDEN HOSE (DETACH WHEN NOT IN USE)
E SERVICE CONNECTION IS CONTAINED IN A BOX LABELED "RECLAIMED WATER". BOX LID IS LEVEL WITH THE GROUND
F SUPPORT STAKE WITH NYLON TIE WRAPS MUST BE INSTALLED TO PROVIDE SUPPORT TO VERTICAL ALIGNMENT OF SERVICE CONNECTION

RECLAIMED WATER - SERVICE CONNECTION BOX

RW004-2



- NOTES:**
- IRRIGATION METERS TO BE APPROVED TURBINE METERS.
 - METERS UP TO AND INCLUDING 2" TO BE PURCHASED FROM THE CITY. LARGER THAN 2" TO BE APPROVED BY CITY ENGINEER & PURCHASED BY OWNER.
 - METERS TO BE INSTALLED ABOVE GROUND.

RECLAIMED WATER - MASTER METER ASSEMBLY

RW005-3

PUBLIC WORKS & UTILITIES ENGINEERING AND DESIGN STANDARDS ISSUED 2015 REVISED 03/31/2015 BY:DJB	CITY OF ALTAMONTE SPRINGS 225 NEWBURYPORT AVE ALTAMONTE SPRINGS, FLORIDA 32701 RW901-1 RECLAIMED WATER DETAILS - CITY PROJECTS	DATE:
		SCALE: N.T.S.
1		SHEET 1 OF 1