RECLAIMED WATER STANDARD DETAILS INDEX

DATE MODIFIED

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CITY OF HOLLY HILL, FLORIDA STANDARD CONSTRUCTION DETAILS

RECLAIMED WATER DETAILS

DATE 02/2020

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INDEX

RECLAIMED WATER DESIGN NOTES

- 1. 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. ALL RECLAIMED WATER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES (3.0 FEET) AND A MAXIMUM DEPTH OF 48 INCHES (4.0 FEET) FROM FINAL GRADE EXCEPT AT LOCATIONS OF UTILITY CROSSINGS OR WITH SPECIAL APPROVAL WHEN IT IS DETERMINED TO BE IN THE BEST INTEREST OF THE CITY.
- 2. RECLAIMED WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACINGS OF 1,000 FEET.
- 3. AT ALL RECLAIMED WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL BRANCHES EXCEPT ONE.
- 4. 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
- 5. MAXIMUM OBTAINABLE SEPARATION OF PUBLIC RECLAIMED WATER MAINS, STORMWATER MAINS, AND SANITARY SEWER MAINS SHALL BE MAINTAINED. A MINIMUM HORIZONTAL SEPARATION OF FIVE (5) FEET (CENTER TO CENTER) OR THREE (3) FEET (OUTSIDE TO OUTSIDE) SHALL BE MAINTAINED BETWEEN RECLAIMED WATER MAINS AND SEWAGE MAINS. WHERE RECLAIMED WATER AND SANITARY SEWAGE MAINS CROSS WITH LESS THAN EIGHTEEN (18) INCHES VERTICAL CLEARANCE, THE SANITARY SEWAGE MAIN SHALL BE TWENTY (20) FEET OF EITHER CONCRETE ENCASED PVC PIPE OR ENCASED IN A WATERTIGHT CARRIER PIPE, CENTERED ON THE POINT OF CROSSING.
- 6. A 75 FEET SETBACK DISTANCE SHALL BE PROVIDED FROM PUBLIC ACCESS REUSE WETTED AREAS TO ANY PUBLIC AND ANY PRIVATE POTABLE WATER SUPPLY WELLS.
- 7. LOW TRAJECTORY NOZZLES ARE REQUIRED WITHIN 100 FEET OF PUBLIC EATING, DRINKING OR BATHING FACILITIES.
- 8. FOR CONSTRUCTION PURPOSES, THE PLANS SHALL DIMENSION THE PROPOSED LOCATIONS OF ALL RECLAIMED WATER MAINS MEASURED FROM THE BACK OF CURB (OR EDGE OF PAVEMENT IF NO CURB EXISTS).
- 9. ALL H.D.P.E. PIPE RECLAIMED WATER MAINS SHALL BE S.D.R.11 UNLESS SPECIFICALLY NOTED OTHERWISE. THE HDPE PIPE SHALL BE SIZED TO MATCH THE EXTERNAL DIAMETER OF THE PVC OR DIP PIPE TO WHICH IT IS ATTACHED.
- 10. LANDSCAPE PLANS SHALL CLEARLY DEPICT THE DESIGN LOCATION OF PLANTINGS RELATIVE TO THE LOCATION OF PUBLIC UTILITIES AND STORMWATER INFRASTRUCTURE IN ORDER TO EVALUATE POTENTIAL CONFLICTS.
- 11. LARGE COMMERCIAL WATER AND RECLAIMED WATER METERS GREATER THAN 2" TAKE A MINIMUM OF 6 WEEKS FOR DELIVERY AFTER FEES ARE PAID TO THE CITY. IN ADDITION ALL METERS AND VAULTS 2" AND GREATER SHALL BE INSTALLED BY THE OWNER/ DEVELOPER/ CONTRACTOR. THE FEE COLLECTED BY THE CITY IS FOR MATERIALS ONLY. ALL METERS 1-1/2" AND LESS, SHALL BE INSTALLED BY THE CITY.
- 12. THE CITY REQUIRES DOUBLE SERVICE INSTALLATIONS WHEREVER FEASIBLE. WHEN DESIGN CONFLICTS EXIST, SINGLE SERVICES MAY BE ALLOWED. THIS MAY APPLY AT STORMWATER INLETS, FIRE HYDRANTS, FPL TRANSFORMERS, ETC. AND OTHER LOCATIONS DEEMED APPROPRIATE BY THE CITY.
- 13. RECLAIMED WATER SHALL ONLY BE PROVIDED TO COMMERCIAL PROPERTIES WITH 2" METER OR LARGER.



CITY OF HOLLY HILL, FLORIDA STANDARD CONSTRUCTION DETAILS

RECLAIMED WATER DESIGN NOTES

DATE 02/2020

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RECLAIMED WATER CONSTRUCTION NOTES (1 OF 2)

- THE CITY'S PUBLIC WORKS DEPARTMENT SHALL BE GIVEN A MINIMUM OF 2 BUSINESS DAYS ADVANCE NOTICE (NOT INCLUDING HOLIDAYS OR WEEKENDS) PRIOR TO BEGINNING ANY RECLAIMED WATER SYSTEM CONSTRUCTION.
- 2. DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER 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. ALL RECLAIMED WATER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES (3.0 FEET) AND A MAXIMUM DEPTH OF 48 INCHES (4.0 FEET) FROM FINAL GRADE EXCEPT AT LOCATIONS OF UTILITY CROSSINGS OR WITH SPECIAL APPROVAL WHEN IT IS DETERMINED TO BE IN THE BEST INTEREST OF THE CITY.
- 4. TRENCHES SHALL BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE CITY WITH A MINIMUM COMPACTION OF 98% IN PAVED AREAS AND A MINIMUM COMPACTION OF 95 % IN UNPAVED AREAS ACCORDANCE WITH AASHTO T-180.
- 5. 3" METALLIZED PIPE LOCATION TAPE SHALL BE LOCATED BETWEEN 15" AND 24" BELOW FINISHED GRADE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES. MARKER TAPE SHALL BE PROVIDED ON ALL DIP PIPE ALSO.
- 6. ALL RECLAIMED WATER SERVICE ENDINGS SHALL BE MARKED WITH A 2" X 4" LUMBER (PRESSURE TREATED) EXTENDING 4 FEET ABOVE GRADE, WITH WATER SERVICES SECURED 12" MAXIMUM ABOVE THE GROUND AND ANY "U" BRANCHES FOR DOUBLE SERVICES SHALL BE 12" ABOVE GROUND LEVEL. ALL SERVICES SHALL BE LOCKED.
- 7. ALL RECLAIMED WATER VALVES SHALL BE ADJUSTED TO FINISH GRADE AND THE CAPS SHALL BE PAINTED PANTONE 522C TO MAKE THEM PLAINLY DISTINGUISHABLE.
- 8. 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.
- 9. ALL RECLAIMED WATER MAINS SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON PRESSURE CLASS 350 OR CONCRETE ENCASEMENT MAY BE USED AS APPROVED BY THE CITY.
- 10. THE CONTRACTOR SHALL NOTIFY THE CITY'S DESIGNATED INSPECTOR PRIOR TO ATTEMPTING TO CLEAR ANY RECLAIMED WATER MAIN FOR USE. THE INSPECTOR SHALL COORDINATE WITH CITY PERSONNEL AT THE RECLAIMED WATER PLANT 2 BUSINESS DAYS PRIOR TO BEGINNING ANY FULL DIAMETER FLUSH OF MAINS. THE CONTRACTOR WILL CONDUCT A STANDARD WATER PRESSURE TEST, 150 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA POTABLE WATER STANDARDS. THE RECLAIMED LINES WILL THEN BE DISINFECTED WITH CHLORINE, FLUSHED CLEAR AGAIN, WITH A MINIMUM OF 1 POSITIVE CHLORINE RESIDUAL TEST RESULT PROVIDED TO THE CITY.
- 11. ALL RECLAIMED WATER MAINS SHALL USE A THRUST RESTRAINED JOINT METHOD IN COMPLIANCE WITH THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA GUIDELINES IN THE EVENT THAT PVC FITTINGS ARE SPECIFIED, THE RESTRAINED JOINT SHALL BE MODIFIED IN ACCORDANCE WITH THE RECOMMENDED ADDITIONAL RESTRAINED LENGTH REQUIRED FOR PIPE WRAPPED WITH POLYETHYLENE. IN NO INSTANCE SHALL THRUST BLOCKS BE PERMITTED.
- 12. MEGALUGS, BOLTLESS RESTRAINED JOINTS, OR GRIPPER GASKETS SHALL BE USED ON ALL RESTRAINED JOINT INSTALLATIONS. MINIMUM DEPTH OF BURY ON PIPES NOT MEETING REQUIRED COVER REQUIREMENTS SHALL FOLLOW THE MOST RECENT DIPRA THRUST JOINT RESTRAINT DESIGN GUIDELINES.



CITY OF HOLLY HILL, FLORIDA STANDARD CONSTRUCTION DETAILS

RECLAIMED WATER CONSTRUCTION NOTES

DATE 02/2020

DETAIL NUMBER

RW-2.1

RECLAIMED WATER CONSTRUCTION NOTES (2 OF 2)

- 12. 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 CITY'S PUBLIC WORKS DEPARTMENT AND "AS-BUILTS" ARE PROVIDED TO THE CITY, PRIOR TO ANY USE OF THIS SYSTEM.
- 13. ALL RECLAIMED WATER MAINS AND SERVICE LINES SHALL BE READILY DISTINGUISHABLE BY THEIR PANTONE 522C COLOR OR TAPE MARKINGS. DUCTILE IRON PIPE SHALL BE WRAPPED WITH PURPLE POLYETHYLENE.
- 14. ALL RECLAIMED WATER SERVICES SHALL BE MARKED ALONG THE OUTSIDE EDGE OF CURB WITH AN "_I_" OR BY METAL TABS SET INTO PAVEMENT. VALVES AND BLOW-OFFS FOR RECLAIMED WATER MAINS SHALL BE MARKED BY AN "X" SET INTO THE PAVEMENT. REVERSE TAPPING VALVE SHALL BE MARKED WITH AN "X ↑ " SAW CUT INTO THE CURB OR PAVEMENT WITH THE ARROW POINTING TO THE DIRECTION OF PRESSURE MAIN RUN.
- 15. MAXIMUM OBTAINABLE SEPARATION OF PUBLIC RECLAIMED WATER MAINS, STORMWATER MAINS, AND SANITARY SEWER MAINS SHALL BE MAINTAINED. A MINIMUM HORIZONTAL SEPARATION OF FIVE (5) FEET (CENTER TO CENTER) OR THREE (3) FEET (OUTSIDE TO OUTSIDE) SHALL BE MAINTAINED BETWEEN RECLAIMED WATER MAINS AND SEWAGE MAINS WHERE RECLAIMED WATER AND SANITARY SEWAGE MAINS CROSS WITH LESS THAN EIGHTEEN (18) INCHES VERTICAL CLEARANCE, THE SANITARY SEWAGE MAIN SHALL BE TWENTY (20) FEET OF EITHER CONCRETE ENCASED PVC PIPE OR ENCASED IN A WATERTIGHT CARRIER PIPE, CENTERED ON THE POINT OF CROSSING.
- 16. ALL TAPPING OF MAINS SHALL BE PERFORMED BY THE CONTRACTOR AND WITNESSED BY THE CITY AND BILLED IN ACCORDANCE WITH THE ADOPTED FEE RESOLUTION. SCHEDULING OF THESE CONNECTIONS SHALL REQUIRE A MINIMUM 2 BUSINESS DAYS NOTIFICATION (MEASURED ON NORMAL WORK DAYS) DIRECTED TO THE CITY'S DESIGNATED SITE INSPECTOR WHO SHALL COORDINATE THE WORK DIRECTLY WITH THE PUBLIC WORKS DEPARTMENT. SUBSEQUENTLY, THE CONNECTION SHALL BE SCHEDULED TO COMMENCE BETWEEN 7:00 A.M. AND NOON ON THE APPROPRIATE DAY.
- 17. WITH RESPECT TO TIE-IN CONNECTIONS, THE CITY RESERVES THE RIGHT TO REQUIRE CONNECTIONS TO BE PERFORMED DURING PERIODS OF LOW FLOW IN ORDER TO MINIMIZE SERVICE DISRUPTION TO EXISTING CUSTOMERS.
- 18. ALL WORK PERFORMED UPON RECLAIMED WATER FACILITIES OWNED OR PROPOSED TO BE OWNED BY THE CITY SHALL BE CONSTRUCTED BY AN UNDERGROUND UTILITY OR GENERAL CONTRACTOR LICENSED IN THE STATE OF FLORIDA AND REGISTERED WITH THE CITY.
- 19. FOR CONSTRUCTION PURPOSES, THE PLANS SHALL DIMENSION THE PROPOSED LOCATIONS OF ALL RECLAIMED WATER MAINS MEASURED FROM THE BACK OF CURB (OR EDGE OF PAVEMENT IF NO CURB EXISTS).
- 20. ALL H.D.P.E. PIPE RECLAIMED WATER MAINS SHALL BE S.D.R.11 UNLESS SPECIFICALLY NOTED OTHERWISE. THE HDPE PIPE SHALL BE SIZED TO MATCH THE EXTERNAL DIAMETER OF THE PVC OR DIP PIPE TO WHICH IT IS ATTACHED.
- 21. ALL P.V.C. PIPE SHALL BE STORED IN SUCH A WAY AS TO PREVENT WARPING, DEFLECTION, OR ANY DEFORMATION.
- 22. RECLAIMED WATER HYDRANTS MAY BE REQUIRED BY THE CITY. ALL RECLAIMED HYDRANTS SHALL BE PAINTED PANTONE 522C.
- 23. NO USED, RE-USED, RUSTED, SECOND HAND, OR ANY MATERIAL THAT IS NOT NEW SHALL BE USED IN ANY UTILITY IMPROVEMENT PROJECTS WITHIN THE CITIES SERVICE AREA.
- 24. IN AREAS WHERE RECLAIMED WATER IS AVAILABLE, RECLAIMED WATER WILL BE UTILIZED IN THE PRESSURE TESTING OF NEW RECLAIMED WATER LINES.
- 25. RECLAIMED WATER MAINS SHALL BE PVC AWWA CLASS C-900 OR C-905, CL 150 (COLOR PANTONE 522C TYPICAL) OR DIP PRESSURE CLASS 350, STANDARD CEMENT LINED..



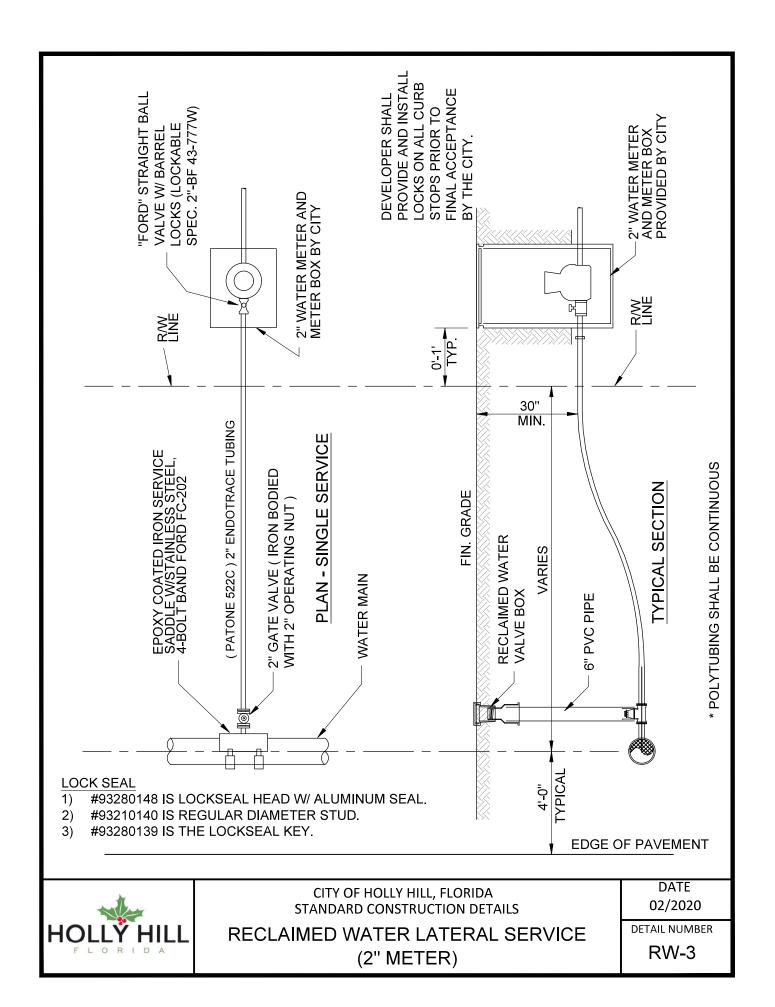
CITY OF HOLLY HILL, FLORIDA STANDARD CONSTRUCTION DETAILS

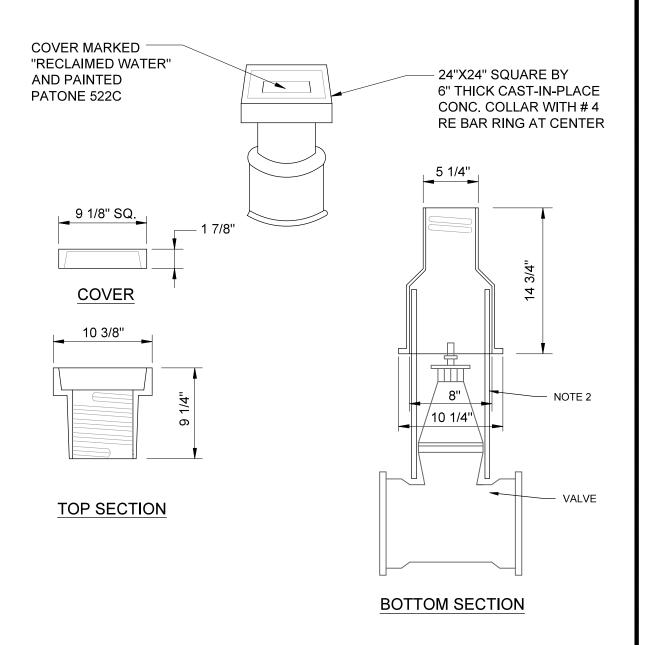
RECLAIMED WATER CONSTRUCTION NOTES

DATE 02/2020

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RW-2.2





NOTE:

- 1. RECLAIMED MAIN VALVE BOX AND COVER SHALL BE ADJUSTABLE SCREW TYPE.
- 2. 6" C-900 PVC SLEEVE.

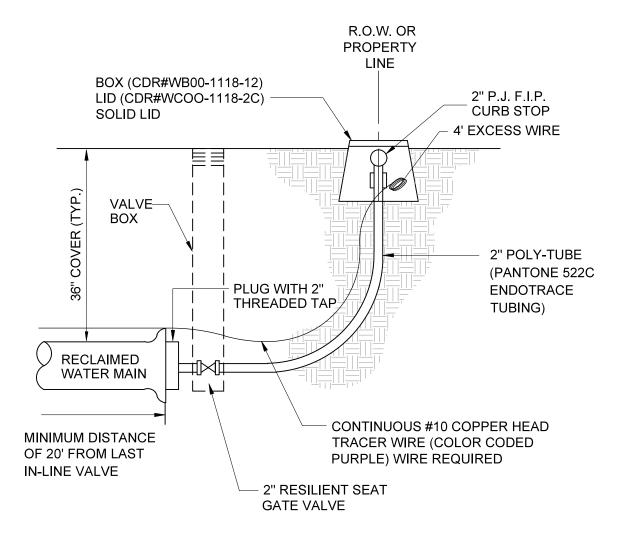


CITY OF HOLLY HILL, FLORIDA STANDARD CONSTRUCTION DETAILS

RECLAIMED WATER VALVE AND BOX

DATE 02/2020

DETAIL NUMBER



NOTES:

- BLOW-OFF BOXES FOR POTABLE AND RECLAIMED WATER WILL BE CDR#WBOO-1118-12 (11"X18"X12") THE LID FOR BOTH POTABLE AND RECLAIMED WATER BLOW-OFF BOXES WILL BE CDR #WCOO-1118-2C. THIS LID IS 11" X 18" AND HAS A CAST IRON READER LID. BOTH THE WATER AND THE RECLAIMED WATER BLOW-OFF BOX COMPONENTS SHALL BE NATURAL GRAY IN COLOR.
- 2. PROVIDE AT LEAST ONE RESTRAINED JOINT IMMEDIATELY UPSTREAM OF BLOW-OFF AS PER LATEST DIPRA RESTRAINED JOINT CALCULATIONS.

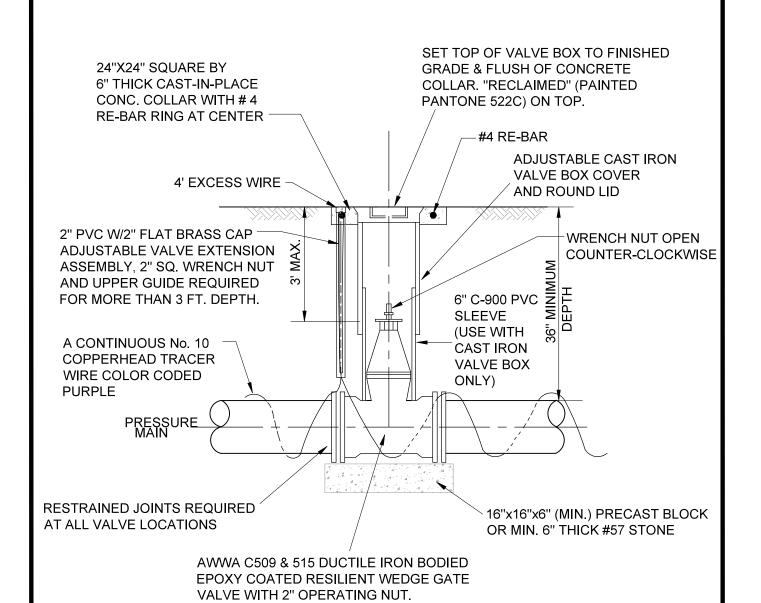


CITY OF HOLLY HILL, FLORIDA STANDARD CONSTRUCTION DETAILS

RECLAIMED WATER
BLOW-OFF

DATE 02/2020

DETAIL NUMBER



NOTES:

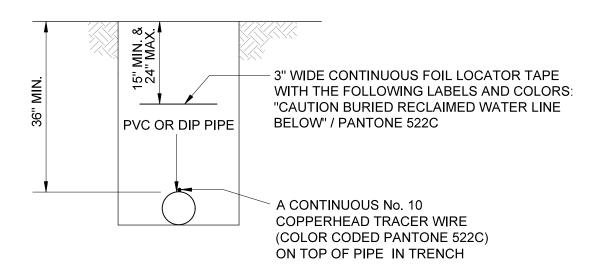
- 1. BOLT VALVES TO TEE OR CROSS WHEREVER AND WHENEVER APPLICABLE.
- 2. A CONTINUOUS TRACER WIRE TO BE COLOR CODED "PURPLE" FOR RECLAIMED WATER, LAID ON TOP IN TRENCH.
- 3. GATE VALVE WEDGE SHALL BE COMPLETELY ENCAPSULATED WITH EPDM RUBBER.
- 4. ALL EXTERIOR BOLTS, NUTS, WASHERS AND HARDWARE SHALL BE MINIMUM OF 316 STAINLESS STEEL GRADE.



CITY OF HOLLY HILL, FLORIDA STANDARD CONSTRUCTION DETAILS

VALVE AND VALVE BOX (4" - 16" VALVE SIZES) DATE 02/2020

DETAIL NUMBER



"TERRA TAPE D" OR SIMILAR

NOTES:

- A CONTINUOUS No. 10 COPPERHEAD TRACER WIRE TO BE INSTALLED WITH ALL NON-METALLIC PIPE. WIRE SHALL BE BROUGHT UP TO GRADE AT ALL VALVES OUTSIDE P.V.C. SLEEVE, (SEE DETAIL PW-5).
- ALL TRACER WIRES SHALL BE INTERCONNECTED WITH WATER PROOF WIRE NUT CAP OR WITH SIMILAR WATER PROOF SPLICE KIT AT ANY SPLICE AND WHERE SERVICES CONNECT TO MAINS.
- 3. A SUCCESSFUL CONTINUITY TEST SHALL BE CONDUCTED AND WITNESSED BY A CITY INSPECTOR AT THE COMPLETION OF TRACER WIRE INSTALLATION.

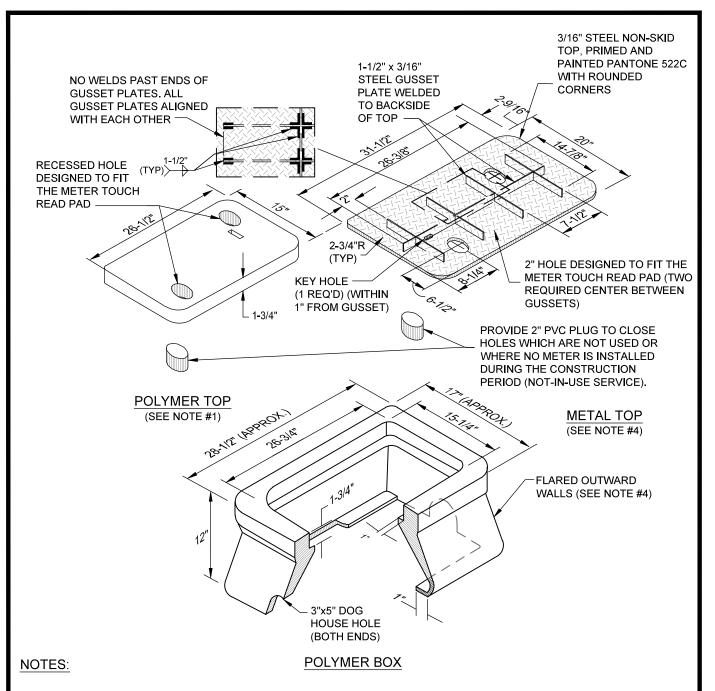


CITY OF HOLLY HILL, FLORIDA STANDARD CONSTRUCTION DETAILS

LOCATOR TAPE / TRACER WIRE INSTALLATION FOR RECLAIMED WATER, PIPELINES

DATE 02/2020

DETAIL NUMBER



- 1. THE STANDARD BOX (FLARED OUTWARD WALLS) & TOP (2 HOLE) SHALL BE MADE OF POLYMER CONCRETE. (SIMILAR TO OLD BROOKS SERIES 65). BOX WALLS SHALL BE FIBERGLASS. BOX, INCLUDING THE INSIDE LIP, AND TOP SHALL MEET A-8 (ASTM C857) LOAD RATING.
- 2. ALL SIZES SHOWN ARE IN INCHES AND ARE APPROXIMATE SIZES.
- 3. POLYMER BOX APPROXIMATE WEIGHT 50lbs. POLYMER TOP APPROXIMATE WEIGHT 50lbs. SEE CONSTRUCTION DETAIL W-4A FOR MANUFACTURING DETAIL FOR TWO HOLE COVER.
- 4. UNLESS APPROVED OTHERWISE IN WRITING BY CITY, ALL METER BOXES SHALL BE LOCATED IN NON-TRAFFIC AREAS (NOT IN THE ROADWAY, DRIVEWAYS OR SIDEWALKS).
- 5. METAL TOPS MAY BE UTILIZED IF SPECIFICALLY APPROVED BY CITY.

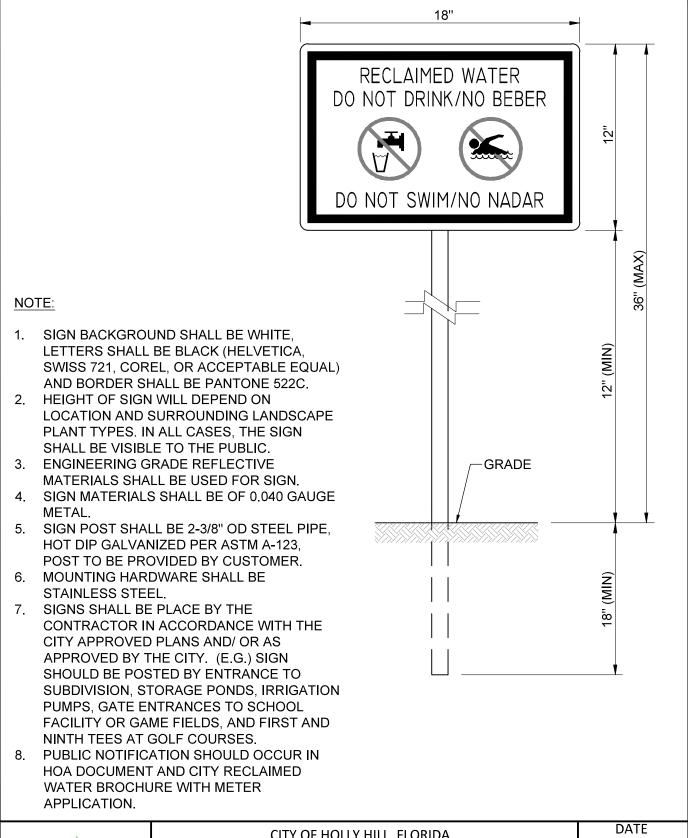


CITY OF HOLLY HILL, FLORIDA STANDARD CONSTRUCTION DETAILS

RECLAIMED WATER 2" SERVICE METER BOX

DATE 02/2020

DETAIL NUMBER





CITY OF HOLLY HILL, FLORIDA STANDARD CONSTRUCTION DETAILS

RECLAIMED WATER WARNING SIGN

02/2020

DETAIL NUMBER