

ISSUE DATE NOVEMBER 1st, 2011



SECTION 7

RECLAIMED WATER

(Revised 8-29-24)

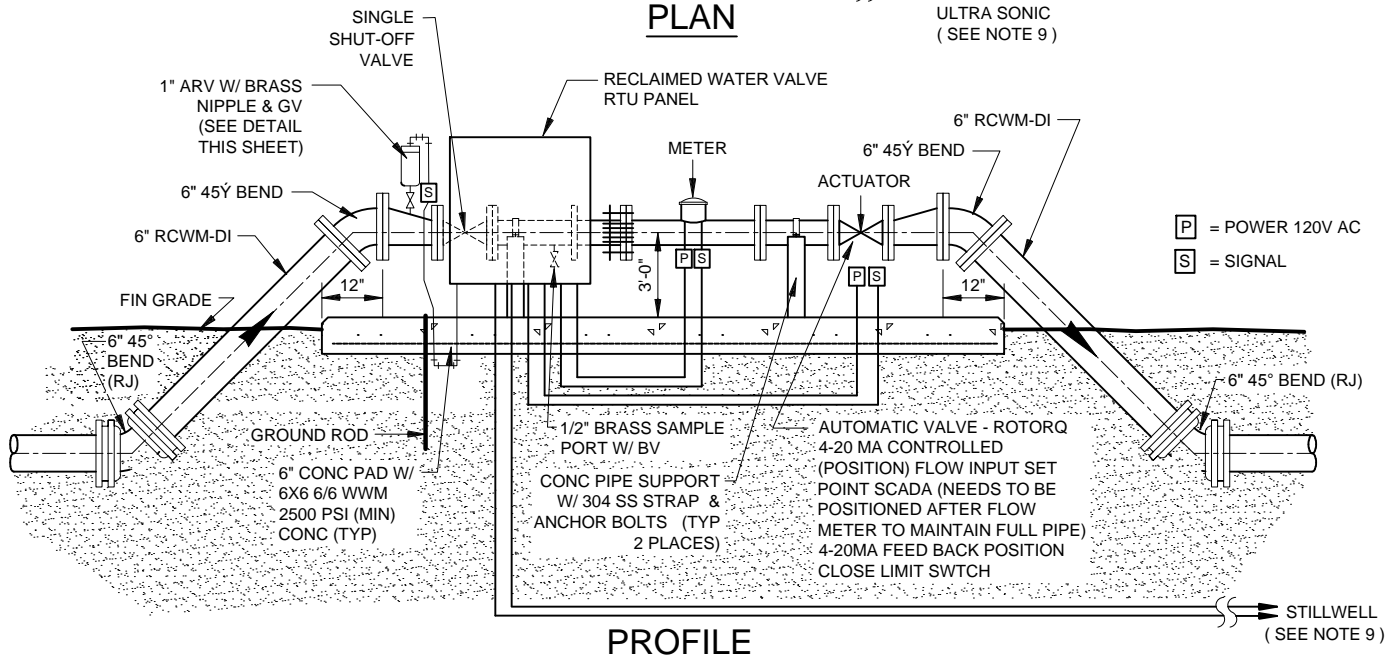
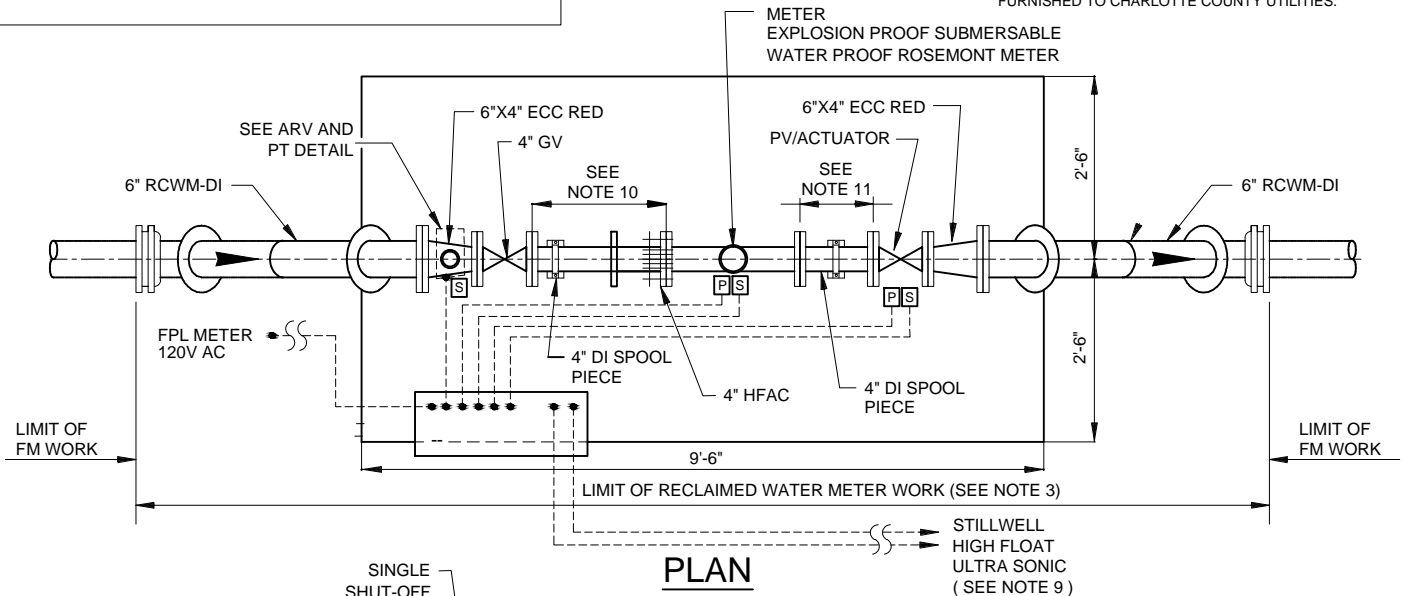
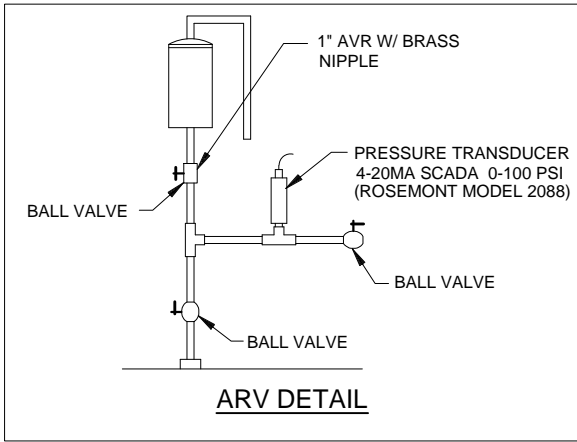
Page List	
Page Number	Page Title
COVER	COVER
RW-01	RECLAIMED WATER METER PAD
RW-02	RECLAIMED POND DELIVERY FACILITY
RW-03	RTU-ANTENNA-DETAIL
RW-04	CONTROL PANEL-DETAIL
RW-05	RECLAIMED WATER SIGN
RW-06	RECLAIMED WATER AUTOMATIC AIR RELEASE-VACUUM RELEASE VALVES
RW-07	RTU CONTROL PANEL
RW-08	RTU CONTROL PANEL TABLE
RW-09	CONTROL SCHEMATIC
RW-10	CONTROL SCHEMATIC
RW-11	CONTROL SCHEMATIC
RW-12	CONTROL SCHEMATIC
RW-13	CONTROL SCHEMATIC
RW-14	DELIVERY STATION NOTES

MECHANICAL / ELECTRICAL EQUIPMENT SCHEDULE

NOTES:

1. ALL AUXILLARY EQUIPMENT AND POWER SUPPLIES SHALL BE SUPPLIED BY THE CONTRACTOR TO MAKE ALL OF THE FOLLOWING FULLY FUNCTIONAL AS INTENDED.
2. ALL BOLTS AND NUTS TO BE STAINLESS STEEL.
3. START-UP SHALL INCLUDE EQUIPMENT FACTORY REPRESENTATIVES TO REVIEW INSTALLATION, MAKE ADJUSTMENTS IN OPERATING PARAMETERS, AND INSTRUCT OWNER'S PERSONNEL IN THE OPERATIONS AND MAINTENANCE OF THE EQUIPMENT.
4. ALL EQUIPMENT THAT IS EXPOSED TO THE WEATHER SHALL BE IN NEMA 4X HOUSING.
5. ALL EXPOSED PIPE, FITTINGS, VALVES AND NON-GALVANIZED FERROUS METALS TO BE PAINTED IN ACCORDANCE WITH SECTION 00990, SURFACE PREPARATION, PAINTING AND COATINGS.

6. ALL PIPING INCLUDING 45° BENDS (RJ) SHALL BE DUCTILE IRON.
7. THE LOCATION OF THE RCWM METER PAD TO BE DETERMINED BY OWNER.
8. RECLAIMED WATER METER PAD IS PART OF THE DELIVERY FACILITIES. (SEE POND DELIVERY FACILITY DETAIL.)
9. FOR DIRECT FEED DELETE STILLWELL AND HIGH FLOAT ULTRASONIC REQUIREMENT AND ASSOCIATED WIRING TO CONTROL PANEL
10. MINIMUM LENGTH OF THE PIPE PER MANUFACTURER'S RECOMMENDATIONS.
11. MINIMUM LENGTH OF THE PIPE PER MANUFACTURER'S RECOMMENDATIONS.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLATION TESTING, CALIBRATING, AND OTHERWISE MAKING OPERATIONAL ALL DEVICES AND EQUIPMENT SHOWN ON THESE DRAWINGS. ALL FINAL DRAWINGS AND SOFTWARE, PROGRAMMING SOFTWARE, AND SPECIAL CABLES SHALL BE FURNISHED TO CHARLOTTE COUNTY UTILITIES.



DATE: 11/01/2011

DRAWN BY: DJS

APPROVED BY: BRB

RECLAIMED WATER METER PAD

CHARLOTTE COUNTY UTILITIES

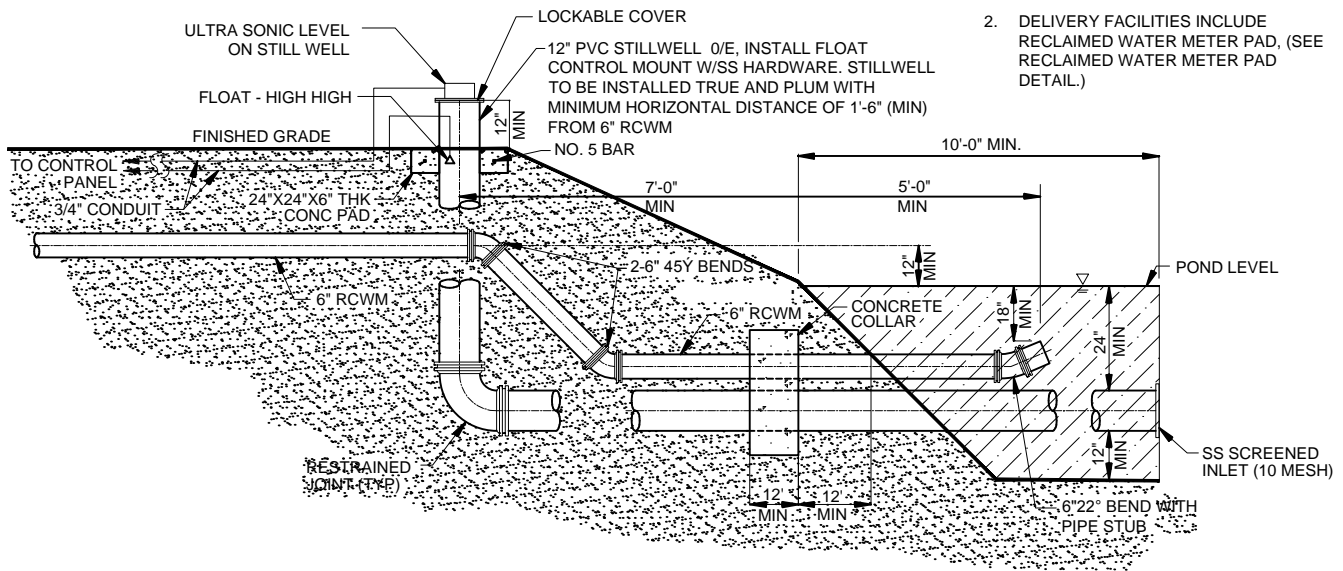
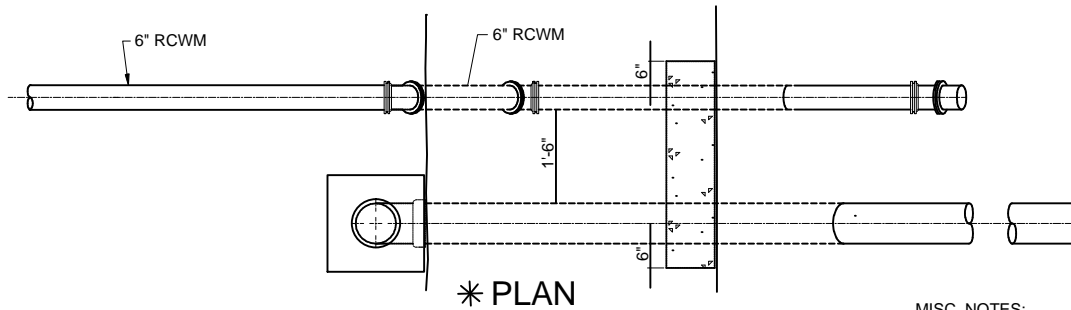
PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN CCU APPROVAL.

RW-01 (Revised 8-29-24)

ID: RW-01-RWMP.dwg

EQUIPMENT:

1. ELECTROMAGNETIC FLOW METER - FLANGED, UNIDIRECTIONAL, LOCAL GPM AND TOTALIZER DISPLAY IN CONTROL CABINET, 4-20Ma ANALOG OUTPUT FOR FLOW. BADGER, ROSEMOUNT MAGNETO FLOW MAG METER SUBMERSIBLE.
2. PLUG VALVE 4-INCH NON-LUBRICATED, ECCENTRIC TYPE, FLANGED, CAST IRON BODY, BUNA-N RESILIENT SEATING SURFACE. PRATT, DEZURIK, M&H, OR EQUAL. EQUAL TO PRATT BALLCENTRIC PLUG VALVE.
3. VALVE ACTUATOR - ELECTRIC GEAR DRIVEN OPERATOR SUITABLE FOR OPERATION OF A 1/4 TURN PLUG VALVE, 110V, SINGLE PHASE POWER SUPPLY, POSITION MODULATED 4-20mA INPUT CONTROL, CLOSED POSITION LIMIT SWITCH, LOCAL FLOW SETPOINT TO BE HOUSED IN CONTROL CABINET, 4-20mA OUTPUT TO SCADA OF VALVE POSITION.
- * 4. AUTOMATIC AIR RELEASE-VALVE-FLOAT BALL STYLE, 1-INCH, CAST IRON BODY, BUNA-N SEAT RING, STAINLESS STEEL FITTED. GA, VAL-MATIC, OR EQUAL
- * 5. HIGH-HIGH LEVEL FLOAT - EQUAL TO ROTO FLOAT TYPE S LIQUID LEVEL SENSOR WITH FORM C CONTACTS (1 NC AND 1 NO). OVERRIDE CONTROL CLOSES VALVE.
6. ULTRA SONIC LEVEL SENSOR AUTO CLOSE LEVEL CLOSES VALVE AUTO OPEN LEVEL OPENS VALVE (LOCAL CONTROL).
7. PID OR PLC CONTROL FOR VALVE POSITION UPS (BATTERY) LARGE ENOUGH TO CLOSE VALVE IN POWER FAILURE.
8. INSTALL FLOW METER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



MISC. NOTES:

1. POND DELIVERY FACILITY RECLAIMED WATER MAIN SHALL BE D.I.P.
2. DELIVERY FACILITIES INCLUDE RECLAIMED WATER METER PAD, (SEE RECLAIMED WATER METER PAD DETAIL.)

* OMIT FOR DIRECT FEED

DATE: 11/01/2011

DRAWN BY: DJS

APPROVED BY: BRB

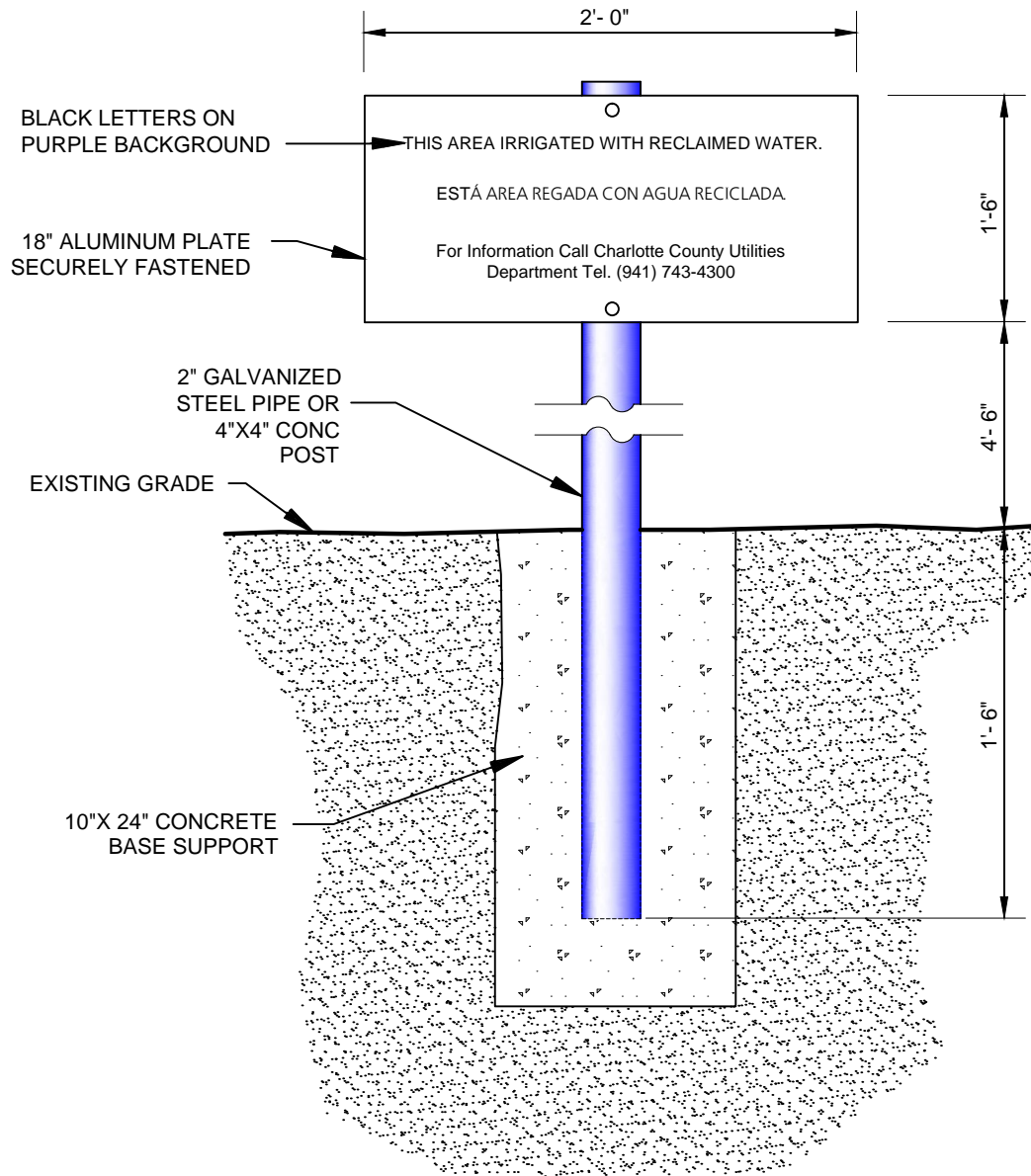
RECLAIMED POND DELIVERY FACILITY CHARLOTTE COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN CCU APPROVAL.

RW-02

ID: RW-02-PDF.dwg

NOTE:
 THE SIGN(S) WILL BE PROVIDED
 AND INSTALLED BY
 CHARLOTTE COUNTY UTILITIES



DATE: 11/01/2011

DRAWN BY: DJS

APPROVED BY: BRB

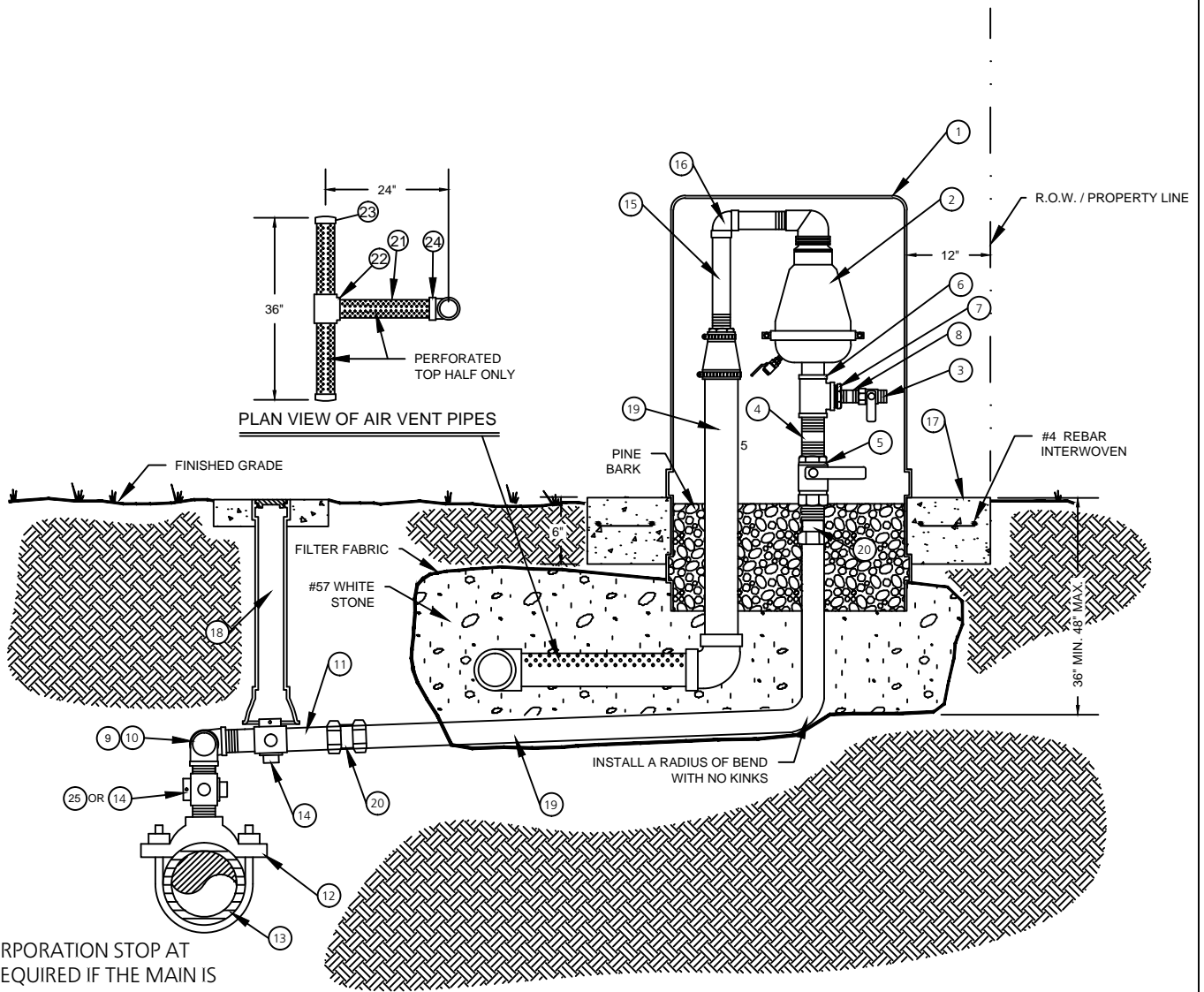
RECLAIMED WATER SIGN

CHARLOTTE COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL
 PURPOSES ONLY.
 NO MODIFICATIONS WITHOUT
 WRITTEN CCU APPROVAL.

RW-05

ID: RW-05-RWS.dwg



ITEM # 25 CORPORATION STOP AT MAIN ONLY REQUIRED IF THE MAIN IS HOT TAPPED

MATERIALS		
ITEM	QUANTITY	DESCRIPTION
1	1	ENCLOSURE (PURPLE IN COLOR)
2	1	AUTOMATIC COMBINATION AIR RELEASE/VACUUM RELEASE VALVE
3	1	1" CURB STOP - BRASS
4	1	2" x 4" NIPPLE - BRASS
5	1	2" BALL VALVE - BRASS
6	1	2" TEE - BRASS
7	1	2" X 1" REDUCER - BRASS
8	1	1" SHORT NIPPLE - BRASS
9	4	2" x 90° ELBOW - BRASS
10	2	2" SHORT NIPPLE - BRASS
11	2	2" PIPE - PVC SCH 80, LENGTH AS REQUIRED
12	1	DOUBLE STRAP TAPPING SADDLE EPOXY OR NYLON COATED WITH S.S. STRAPS

13	1	4" & LARGER PIPE, D.I., PVC (DR-18), HDPE
14	1	2" GATE VALVE
15	2	1-1/2" PIPE - PVC SCH 80, LENGTH AS REQUIRED
16	1	1-1/2" x 90° ELBOW - PVC SCH 80
17	1	REINFORCED CONCRETE MONOLITHIC COLLAR AROUND ENCLOSURE
18	1	VALVE BOX
19	1	2" POLY TUBING
20	2	2" COMPRESSION FITTING
21	1	3" PIPE, PVC, LENGTH AS SHOWN, PERFORATED TOP HALF ONLY
22	1	3" TEE, PVC
23	1	3" CAP PVC
24	1	3" X 90° ELBOW, PVC
25	1	2" CORP STOP - BRASS

DATE: 11/01/2011

DRAWN BY: DEC

APPROVED BY: TGD

RECLAIMED WATER AUTOMATIC COMBINATION AIR RELEASE/VACUUM RELEASE VALVE

CHARLOTTE COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN CCU APPROVAL.

RW-06

ID: RW-06-ARV-OS.dwg

**RE-USE WATER DELIVERY
STATION CONTROLS NOTES:**

THE RE-USE WATER DELIVERY STATION IS DESIGNED TO AUTOMATICALLY SUPPLY RE-USE WATER. THE SYSTEM OPERATES AS FOLLOWS:

1. THE RE-USE WATER SYSTEM IS ALWAYS MAINTAINED BY ONE OR MORE OF THE WATER RECLAMATION FACILITY (WRF) SUPPLY OR JOCKEY PUMPS. (CHARLOTTE COUNTY UTILITIES DOES NOT GUARANTEE PRESSURE OR FLOW RATE.)
2. RE-USE WATER FLOWS AT A RATE GOVERNED BY AN AUTOMATIC ACTUATOR. THE FLOW RATE DEPENDS ON THE SETPOINT LOCAL DISPLAY OR THROUGH THE SCADA.

THE PROCESS IS MONITORED IN REAL TIME THROUGH SCADA. THE SCADA SYSTEM IS USED TO MONITOR/CONTROL THE DELIVERY STATION OPERATIONS. THE REAL TIME COMMUNICATIONS SYSTEM CONNECTS TO A SCADA SYSTEM AT THE EASTPORT OR WESTPORT WRF.

THE SCADA SYSTEM ALLOWS THE SYSTEM OPERATORS TO VIEW IN REAL TIME THE FOLLOWING PARAMETERS:

SYSTEM DELIVERY PRESSURE,
THE RE-USE WATER FLOW RATE,
THE FEED VALVE POSITION,
AND ANY ALARM CONDITIONS.

THE OPERATORS CAN SET THE DESIRED FLOW USING THE SCADA SYSTEM OR THE LOCAL DISPLAY. THE FEED VALVE WILL MODULATE TO MAINTAIN CORRECT FLOW (+/- 10GPM). THE VALVE WILL NOT HUNT.

AN UNINTERRUPTIBLE POWER SUPPLY (UPS) IS SUPPLIED TO PROVIDE TRANSIENT VOLTAGE SUPPRESSION AND WILL ALLOW THE SYSTEM TO OPERATE FOR A BRIEF PERIOD OF TIME IF NORMAL AC POWER IS LOST.

THE PLC WILL AUTOMATICALLY CLOSE THE ISOLATION VALVE UPON LOSS OF LOCAL AC POWER AND AN ALARM WILL BE SENT TO THE SCADA RTU. THE CONTROLS ARE HOUSED IN A LOCKED STAINLESS STEEL ENCLOSURE (NEMA 4X).

**NOTES ON 120 V AC FEED TO
RE-USE WATER DELIVERY
STATION:**

1. OBTAIN 120 V AC, 20 AMP CIRCUIT FROM NEARBY 120 V AC SOURCE. DO NOT PROVIDE NEW SERVICE UNLESS NO OTHER SOURCE OF POWER IS AVAILABLE. SEE PROJECT CIVIL PLANS FOR LOCATION OF POWER SOURCE. PROVIDE DIRECT BURIAL, TYPE UF FEEDER TO RE-USE WATER DELIVERY STATION PER DIRECTIONS ON THIS SHEET. IN MOST CASES, POWER WILL BE OBTAINED FROM LOCAL PUMP HOUSE.
2. IF NECESSARY, PROVIDE A NEW SERVICE WITH METER AND SMALL 240 120 V AC DISTRIBUTION PANEL. USE ALL-IN ONE PANEL: SQUARE D TYPE SC1624U100S OR EQUIVALENT WITH 100 AMP MAIN BREAKER AND 20 AMP FEEDER BREAKER TO THE RTU AND CONTROLS.
3. COORDINATE WITH CHARLOTTE COUNTY UTILITIES AND LOCAL ELECTRIC UTILITY AS NECESSARY. THE LOCATION AND PHYSICAL ARRANGEMENT OF NEW SERVICE IF ANY, WILL DEPEND ON BEST PHYSICAL ARRANGEMENT AND IS TO BE DETERMINED IN THE FIELD ON A CASE BY CASE BASIS.

GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE NATIONAL ELECTRIC CODE (N.E.C.) LATEST EDITION. CONTRACTOR TO OBTAIN ALL PERMITS AND ARRANGE FOR ALL INSPECTIONS WITH AUTHORITIES HAVING JURISDICTION.
2. CONDUITS, RACEWAYS AND CABLES SHALL BE PROPERLY AND SECURELY ATTACHED TO STRUCTURAL COMPONENTS AS REQUIRED BY THE N.E.C. ALL FASTENERS AND HARDWARE SHALL BE APPROVED FOR THE INSTALLATION AND ALL CONDITIONS ENCOUNTERED. CONDUIT ENDS MUST BE SEALED WITH FOAM OR EQUAL, IN A MANNER THAT IS EASILY REMOVED FOR FUTURE NEEDS.
3. EACH OUTLET OR JUNCTION IN ANY OF THE WIRING SYSTEMS SHALL BE MADE IN AN APPROVED JUNCTION BOX. SUCH BOX SHALL BE SUITABLE FOR THE SIZE AND NUMBER OF CONDUCTORS AND DEVICES TO BE INSTALLED, AS WELL AS ANY ADVERSE CONDITIONS ENCOUNTERED. ALL SPLICES SHALL BE MADE WITH APPROVED, MECHANICAL CONNECTORS.
4. THE CONTRACTOR SHALL PROVIDE ALL INFORMATION ABOUT EQUIPMENT WHICH IS BEING FURNISHED FOR COORDINATION PURPOSES. THE CONTRACTOR SHALL PROVIDE ALL INSTALLATION DETAILS AND SUPPORT COMPONENTS, SO THAT THESE MAY BE BUILT INTO THE CONSTRUCTION IN A TIMELY MANNER.
5. ALL RACEWAYS SHALL BE PROVIDED WITH CONTINUOUS EQUIPMENT GROUNDING CONDUCTOR. EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL ELECTRICAL RACEWAYS AND SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLATION TESTING, CALIBRATING, AND OTHERWISE MAKING OPERATIONAL ALL DEVICES AND EQUIPMENT SHOWN ON THESE DRAWINGS. ALL FINAL DRAWINGS AND SOFTWARE, PROGRAMMING SOFTWARE, AND SPECIAL CABLES SHALL BE FURNISHED TO CHARLOTTE COUNTY UTILITIES.
7. IT IS THE INTENT OF DRAWINGS AND SPECIFICATION TO OBTAIN A COMPLETE AND SATISFACTORY INSTALLATION. AN ATTEMPT HAS BEEN MADE TO SEPERATE AND DEFINE THE WORK OF THE CONTRACTOR. DRAWINGS ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION OF THE PROJECT AND THE WORK OF OTHER TRADES WILL PERMIT. THE DRAWINGS UTILIZE SYMBOLS AND SCHEMATIC DIAGRAMS TO INDICATE VARIOUS ITEMS OF WORK. THEREFORE, NO INTERPRETATION WILL BE MADE FROM THE LIMITATION OF SYMBOLS AND DIAGRAMS THAT ANY ELEMENTS NECESSARY TO THE COMPLETE INSTALLATION ARE EXCLUDED. THE ENGINEER SHOULD BE NOTIFIED OF DISCREPANCIES, OMMISIONS, CONFLICS, OR INTERFERENCES WHICH MAY OCCUR BETWEEN VARIOUS DRAWINGS AND SPECIFICATIONS. IF SUCH NOTIFICATION IS NOT RECIEVED, THE INSTALLING CONTRACTOR(S) SHALL BE RESPONSIBLE FOR THEIR INTERPRETATIONS.
8. ALL CONDUITS TO BE SCHEDULE 80 PVC, EXCEPT WHERE EXPOSED TO HAZARDOUS CONDITIONS IN WHICH CASE IT SHALL BE RIGID GALVANIZED STEEL.
9. FUSE 4-20 MA LOOP POWERED CIRCUIT WITH 0.032 AMP FUSES.
10. GROUND INSTRUMENT CABLE SHIELDS AT ONE END ONLY.
11. BURY DIRECT BURIAL FEEDER TYPE UF 24" BELOW GRADE. PROVIDE PLASTIC WARNING TAPE 12" ABOVE FEEDER IN TRENCH.

Z:\Auto_Cad_R14\DETAILS\2012_Details\07.RECLAIMED_WATER\RW-14-DSN-PF.dwg

DATE: 11/01/2011	DELIVERY STATION NOTES (RECLAIMED WATER-POND FED)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN CCU APPROVAL.
DRAWN BY: DJS		RW-14 (Revised 8-29-24)
APPROVED BY: BRB	CHARLOTTE COUNTY UTILITIES	ID: RW-14-DSN-PF.dwg