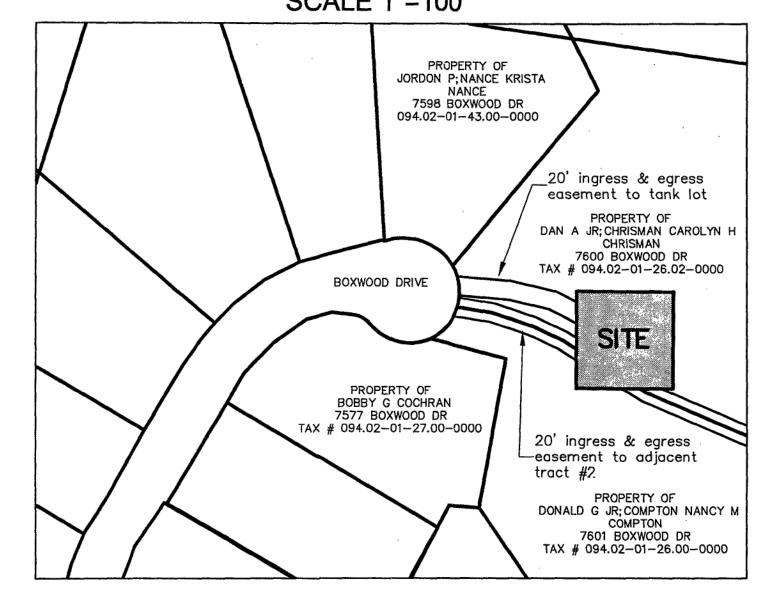
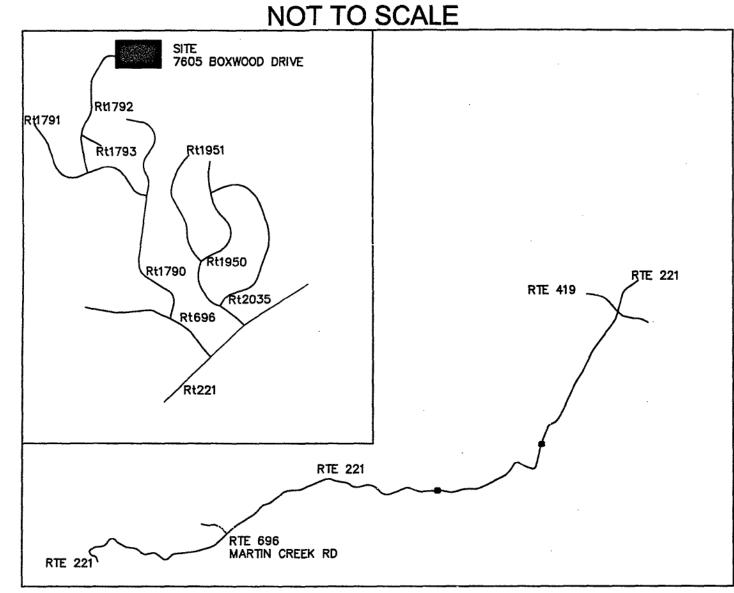
CARRIAGE HILLS WATER STORAGE TANK

SITE MAP SCALE 1"=100"



VICINITY MAP



GENERAL NOTES:

- 1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE LATEST EDITION OF THE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS OF THE WESTERN VIRGINIA WATER AUTHORITY (AUTHORITY) AVAILABLE AT WWW.WESTERNVAWATER.ORG OR BY CONTACTING THE AUTHORITY AT 540-853-5700. THE PROJECT SHALL ALSO COMPLY WITH THE GOVERNING JURISDICTION'S STANDARDS AND OTHER AGENCY STANDARDS (E.G. VDOT, DEQ, DCR, VDH, ETC.) WHERE APPLICABLE.
- 2. PRIOR TO CONSTRUCTION IN THE RIGHT-OF-WAY, ALL APPLICABLE PERMIT(S) FROM THE GOVERNING JURISDICTION AND/OR AGENCY MUST BE OBTAINED AND A COPY KEPT ON THE
- FOR PROJECTS REQUIRING TRAFFIC CONTROL IN THE CITY OF ROANOKE, NOTIFY MANAGER OF TRANSPORTATION, MARK JAMISON, AT 540-853-5471 AT LEAST TWO WEEKS IN ADVANCE OF REQUIRING TRAFFIC CONTROL. FOR A LANE CLOSURE PERMIT IN THE CITY OF ROANOKE, CONTACT THE TRAFFIC ENGINEER, HONG LIU, AT 540-853-2686. IN ROANOKE OR FRANKLIN COUNTIES, TRAFFIC CONTROL REQUIREMENTS SHALL BE DETERMINED ONCE THE LAND USE PERMIT HAS BEEN ISSUED. PLEASE CONTACT THE LOCAL VDOT OFFICE. TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE MOST RECENT MUTCD MANUAL AND THE VDOT WORK AREA PROTECTION MANUAL UNLESS OTHERWISE SPECIFIED BY THE CITY.
- 4. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY'S ENGINEERING COORDINATOR, MARK SINK, AT 540-537-3460 AT LEAST THREE (3) DAYS PRIOR TO CONSTRUCTION.
- 5. A PRE-CONSTRUCTION CONFERENCE SHALL BE SCHEDULED AT LEAST ONE (1) DAY PRIOR
- 6. THE CONTRACTOR SHALL HAVE A VALID MISS UTILITY TICKET PRIOR TO EXCAVATION. CONTACT MISS UTILITY AT 1-800-552-7001.
- 7. ALL EXISTING UTILITIES MAY NOT BE SHOWN OR MAY NOT BE SHOWN IN THEIR EXACT LOCATION. CONTRACTOR SHALL LOCATE ALL UTILITIES AND DETERMINE ALL INVERTS PRIOR TO CONSTRUCTION TO ALLOW FOR ADJUSTMENTS DUE TO CONFLICTS WITH OTHER UTILITIES. THE CONTRACTOR SHALL COMPLY WITH THE VIRGINIA STATE WATER WORKS REGULATIONS, SECTION 12VAC5-590-1150, AND THE VIRGINIA STATE SEWAGE COLLECTION AND TREATMENT REGULATIONS WHERE LINES CROSS.
- 8. AN APPROVED SET OF PLANS AND PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
- 9. CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED IN ACCORDANCE WITH THE VIRGINIA LITTER CONTROL ACT.
- 10. PRIOR TO COMMENCING WORK, THE CONTRACTOR'S CERTIFIED RESPONSIBLE LAND DISTURBER SHALL OBTAIN AN EROSION AND SEDIMENT CONTROL PERMIT FOR THE PROJECT FROM THE LOCAL GOVERNING JURISDICTION AND DEQ (IF REQUIRED). ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND SHALL BE INSTALLED
- 11. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING ALL VEHICLES AND EQUIPMENT PRIOR TO ENTERING PUBLIC STREETS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE STREETS ARE KEPT IN A CLEAN, MUD- AND DUST-FREE CONDITION AT ALL TIMES.
- 12. FIELD CHANGES SHALL BE APPROVED BY THE AUTHORITY'S ENGINEERING DIVISION PRIOR
- 13. THE CONTRACTOR SHALL MAKE PROVISIONS TO PROVIDE ACCESS TO ALL PROPERTIES DURING CONSTRUCTION AND SHALL MAINTAIN SAFE ACCESSIBILITY TO FIRE HYDRANTS AT
- 14. THE CONTRACTOR SHALL NOT EXCAVATE MORE TRENCH LENGTH THAN CAN BE RESTORED WITHIN THE SAME WORK DAY. ALL TRENCHES SHALL BE BACKFILLED OR PLATED AT THE END OF EACH WORK DAY OR WHEN THE CONTRACTOR IS NOT ON SITE.
- 15. THE CONTRACTOR SHALL SUPPLY THE AUTHORITY WITH CORRECT AS-BUILT PLANS BEFORE SUBSTANTIAL COMPLETION WILL BE GRANTED.

TANK DEMOLITION NOTES:

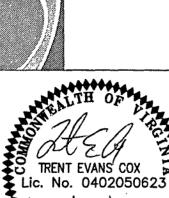
- EXISTING WATER STORAGE TANK SHALL BE DEMOLSHED AND REMOVED FROM THE SITE. CONTRACTOR MAY USE THEIR OWN PREFERRED METHOD AND SHALL COORDINATE WITH OWNER AS NECESSARY. REMOVAL SHALL INCLUDE THE EXISTING WATER TANK, BUILDING, ASSOCIATED PIPING ABOVE GROUND AND ANY UNDERGROUND PIPE AS NECESSARY, ALONG WITH THE EXISTING TANK FOUNDATION (APPROX. 2 FEET IN DEPTH). EXISTING TANK SITE SHALL BE REGRADED AFTER REMOVAL IN ACCORDANCE WITH THE PROPOSED GRADING PLAN SHOWN.
- 2. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY IN FOLLOWING ALL REQUIREMENTS AND REGULATIONS OF ANY STATE AND/OR FEDERAL AGENCY IN REMOVING A WATER STORAGE TANK CONTAINING LEAD BASED PAINT. IN NO WAY SHALL THE OWNER BE HELD RESPONSIBLE FOR IMPROPER HANDLING AN)/OR DISPOSAL OF THE LEAD BASED PAINT OR ANY MATERIALS ASSOCIATED WITH OR IN CONTACT WITH THE LEAD.

SHEET INDEX

- COVER
- SITE PLAN & TANK PLANS
- TANK DETAILS

2014 WVWA DESIGN AND CONSTRUCTION STANDARDS 4.1 WATER STORAGE FACILITIES

- A. WATER STORAGE FACILITIES SHALL BE DESIGNED AND CONSTRUCTED TO MEET THE REQUIREMENTS OF ANSI/AWWA D100 FOR "WELDED CARBON STEEL TANKS" OR ANSI/AWWA D103 FOR "FACTORY COATED BOLTED STEEL TANKS" FOR WATER STORAGE, LATEST EDITION. EXCEPT AS SPECIFIED OTHERWISE. PRECAST CONCRETE WATER STORAGE RESERVOIRS MAY BE REQUIRED BY THE PARTICIPATING UTILITY UNDER SPECIFIC CONDITIONS THAT REQUIRE BELOW GROUND RESERVOIRS. AN NSF APPROVED MIXING SYSTEM SHALL BE INSTALLED IN ALL TANKS.
- B. STEEL STANDPIPE, RESERVOIRS AND ACCESSORIES.
- 1. SUPPLEMENTAL INFORMATION TO BOTH ANSI/AWWA D100 AND ANSI/AWWA D103 a. EARTHQUAKE DESIGN: SEISMIC ZONE 2 USING FIXED PERCENTAGE METHOD OF 5%.
- b. ELECTRIC POWER: DEVELOPER/CONTRACTOR'S OBLIGATION. c. COMPRESSED AIR: DEVELOPER/CONTRACTOR'S OBLIGATION
- d. CONCRETE WORK: COMPLY WITH ALL REQUIREMENTS OF ACI 30 a. CORROSION ALLOWANCES: 1/16-INCH FOR PARTS IN CONTACT WITH WATER
- b. SUBMIT WRITTEN REPORT CERTIFYING WORK INSPECTED AS SET FORTH IN ANSI/AWWA D100, SEC. 11.2.1. MILL AND SHOP
- c. SUBMIT DETAILS OF ALL WELDED JOINTS REFERENCEC ON DESIGN DRAWINGS IN ACCORDANCE WITH ANSI/AWWA D100, SEC. 1.3.
- d. MILL SCALE: COMPLETELY REMOVE BY BLAST CLEANING OR PICKLING. (SSPC-SP10 OR SSPC-SP8) e. BUTT-JOINT WELDS SUBJECT TO SECONDARY STRESS WHERE THICKNESS IS GREATER THAN THREE-EIGHTS INCH (3/8") SHALL
- HAVE COMPLETE JOINT PENETRATION WELDS. f. RADIOGRAPHIC TESTS SHALL BE REQUIRED AND FILM SHALL BECOME PROPERTY OF THE PARTICIPATING UTILITY.
- i) SURFACE PREPARATION AND COATING SYSTEMS SPECIFICATIONS WILL BE PROVIDED BY THE PARTICIPATING UTILITY AT
- THE TIME OF PLAN PREPARATION. ii) FIRST ANNIVERSARY INSPECTION IN COMPLIANCE WITH ANSI/AWWA D102 WILL BE REQUIRED.
- iii) PAINT COLOR SHALL BE AS SELECTED BY THE PARTICIPATING UTILITY FROM THE MANUFACTURER'S AVAILABLE COLORS.
- 3. SUPPLEMENTAL INFORMATION TO ANSI/AWWA D103.
- a. TANK BOTTOM: CONCRETE SLAB AND STEEL BASE SETTING RING IS REQUIRED. b. FULL FIVE (5) YEAR MANUFACTURERS WARRANTY ON FACTORY COATING IS REQUIRED.
- 4. THE FOLLOWING ACCESSORIES, IN ADDITION TO THOSE REQUIRED BY EITHER ANSI/AWWA D100 OR ANSI/AWWA D103, SHALL BE a. EXTERIOR SAFETY CAGE, REST PLATFORM AND ROOF LADDER, HANDRAILS TO ACCESSORIES IN CONFORMANCE WITH OSHA. A
- FALL PREVENTION SYSTEM, WHICH COMPLIES WITH APPLICABLE OSHA REGULATIONS, IS ACCEPTABLE AS A SUBSTITUTE FOR THE CAGE AND REST PLATFORM. ALL TANKS WITH LADDERS SHALL INCLUDE A CLIMBING DETERRENT DEVICE TO PREVENT UNAUTHORIZED CLIMBING OF LADDER. THIS DEVICE MUST BE REVIEWED AND APPROVED BY THE PARTICIPATING UTILITY PRIOR
- b. OVERFLOW TO GROUND, 1,000 GPM MINIMUM, LOCATED NEAR ROOF OPENING. PROVIDE COARSE SCREEN AND CONCRETE SPLASH PAD AND EROSION-PROTECTED CHANNEL FROM OVERFLOW TO DRAINAGE SYSTEM OR NATURAL CHANNEL. c. SCREEN VENT AGAINST INSECTS, PROVIDE SPECIAL VENT TO INSURE FAIL-SAFE OPERATION IN EVENT INSECT SCREENS FROST
- d. REMOVABLE SILT STOP. e. SEPARATE DRAIN LINE TO DRAINAGE SYSTEM OR NATURAL CHANNEL WITH EROSION PROTECTION.
- f. SCADA SHALL MATCH THE EXISTING SYSTEM OF THE PARTICIPATING UTILITY OR AS SPECIFIED BY THE PARTICIPATING UTILITY.
- AFTER ALL PAINTING AND COATING SCHEDULES HAVE BEEN COMPLETED AND THE SPECIFIED DRYING TIMES HAVE ELAPSED. THE DEVELOPER/CONTRACTOR SHALL PROCEED TO DISINFECT THE INTERIOR SURFACES OF THE STANDPIPE STRUCTURE UTILIZING ONE OF THE FOLLOWING DISINFECTION METHODS:
- a. TANK SHALL BE FILLED TO OVERFLOW LEVEL WITH POTABLE WATER TO WHICH ENOUGH CHLORINE HAS BEEN ADDED TO PRODUCE AN INITIAL CHLORINE CONCENTRATION OF 50 MG/L IN THE FULL TANK. THE FULL TANK SHOULD STAND FOR 24 HOURS; HOWEVER, IN NO CASE, SHALL IT STAND LESS THAN 6 HOURS. AT THE END OF THE HOLDING PERIOD, THE HIGHLY CHLORINATED WATER SHALL BE DRAINED TO WASTE, THE TANK REFILLED WITH POTABLE WATER AND TESTED FOR BACTERIOLOGICAL
- b. ALL INTERIOR SURFACES OF THE TANK SHALL HAVE APPLIED TO THEM A STRONG CHLORINE SOLUTION CONTAINING AT LEAST 200 MG/L OF FREE AVAILABLE CHLORINE. THE CHLORINE SOLUTION SHALL BE APPLIED WITH EITHER SPRAY EQUIPMENT OR BRUSHES. ANY EQUIPMENT USED TO APPLY THE CHLORINE SOLUTION SHALL EITHER BE NEW OR PREVIOUSLY USED ONLY FOR DISINFECTION PURPOSES. STRONG CHLORINE SOLUTION SHALL REMAIN IN CONTACT WITH TANK SURFACES FOR AT LEAST 30 MINUTES. TANK SHALL THEN BE FILLED WITH POTABLE WATER TO OVERFLOW LEVEL AND TESTED FOR BACTERIOLOGICAL
- c. POTABLE WATER CONTAINING A FREE CHLORINE RESIDUAL 50 MG/L SHALL BE PLACED IN THE TANK TO SUCH A DEPTH THAT WHEN THE TANK IS FILLED, THE RESULTING CHLORINE CONCENTRATION IN THE WATER WILL BE AT LEAST 2 MG/L. THE WATER CONTAINING 50 MG/L OF CHLORINE SHALL STAND IN THE TANK FOR 24 HOURS. THE TANK SHALL THEN BE FILLED WITH POTABLE WATER AND ALLOWED TO STAND FOR 24 HOURS. AT THE END OF THE SECOND 24-HOUR PERIOD, THE CHLORINE RESIDUAL SHALL BE AT LEAST 2 MG/L. AFTER BACTERIOLOGICAL ANALYSIS OF THE WATER FOR QUALITY, THE TANK MAY BE PLACED IN SERVICE WITHOUT DRAINING THE WATER USED TO DISINFECT IT.
- 2. TWO CONSECUTIVE BACTERIOLOGICAL SAMPLES COLLECTED AT 24-HOUR INTERVALS SHALL BE OBTAINED FROM THE STANDPIPE STRUCTURE BEFORE THE TANK IS PLACED INTO SERVICE. THE BACTERIOLOGICAL TEST FORM SHALL BE MARKED "CONSTRUCTION SAMPLE". ANALYSIS OF THE SAMPLES SHALL BE PERFORMED BY A LABORATORY CERTIFIED BY THE DIVISION OF CONSOLIDATED LABORATORY SERVICES (DCLS). IF CONTAMINATION IS INDICATED IN THE BACTERIOLOGICAL SAMPLES, THE DISINFECTION PROCEDURE SHALL BE REPEATED AT THE DEVELOPER/CONTRACTOR'S EXPENSE.



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As-Built 10/01/2015

Sheet 1 of 3

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Designed: TEC Drawn: AAS Checked: TEC

Approved:

Project: