The regular meeting of the Washington County Service Authority Board of Commissioners was called to order by the Chairman at 7:02 PM.

ROLL CALL

Commissioners Present:
Mr. Joe Chase, Chairman
Mr. D.L. Stout, Vice Chairman
Mr. Prince Coleman
Mr. Devere Hutchinson
Mr. Dwain Miller
Mr. Frank Stephon, IV

Commissioners Absent:
Mr. Kenneth Taylor

Staff Present:
Robbie Cornett, General Manager
Kimberly Harold, Controller
Amanda Paukovitz, Administrative Assistant
Doug Canody, Engineering Services Manager
April Herbert, Staff Engineer
Mark Osborne, Technical Manager

Consultants Present:
Bobby Lane, PE, The Lane Group, Inc.
Kevin Heath, PE, Adams-Heath Engineering
Randall Hancock, PE, Draper Aden Assoc.
Bill Aden, PE, Draper Aden Assoc.
Jay Lester, PE, Draper Aden Assoc.
Larado Robinson, PE, Draper Aden Assoc.

Also Present:
Mr. Mark Lawson, General Counsel
WCSA Employees

3. Approval of the Agenda

Mr. Cornett had no additions or corrections to the agenda. Mr. Coleman made the motion to approve the Agenda. Mr. Coleman's motion was seconded by Mr. Stout and was approved by a 6-0-0-1 vote of the Board.

4. Public Query & Comment

George Price of 24113 Rich Valley Rd.

Mr. Price expressed a few reasons for approaching the Board. He first mentioned that there are three residences on Hillandale Road, right off Maiden Creek Road, in proximity of the Rich Valley Road/Maiden Creek Road Project, that would like to be included in the project area. The residences belong to Pat Henderson (25614 Hillandale Road), Chad Andis (25448 Hillandale Road) and Drew Asbury (Note: the former two residents were present to approach the Board with Mr. Price. The latter was unable to attend, as he is currently out of town for work). Mr. Price referenced a handmade map to locate the area. The three homes on Hillandale span 3,700 feet of road. Their addition would complete a loop of homes that are already being served on Hillandale Road with homes within the current project area on Maiden Creek Road. Mr. Price explained that these residents are hoping the project can be extended to include their homes on Hillandale Road with leftover grant funds from the project. Mr. Price has spoken with the engineer in charge of the project from VDH (the funding agency) for their perspective. The engineer expressed to him that the very slim possibility of extending this project exists, though VDH is not typically in the business of extending project areas. Mr. Price asked the Board to continue to hold out hope for these residents and proceed forward in asking VDH in Richmond to extend the project area. Per VDH's advising, the residents are currently awaiting water samples from each of the three homes; the engineer told Mr. Price this was one of the first needed steps. VDH expressed that to be considered for inclusion, the residents must be able to prove that their homes have poor water quality, poor water

quantity or both. Mr. Price explained that they wanted to present this information to the Board and hopefully come back next month with the abovementioned water samples in hand. Mr. Price proceeded to reference the Rich Valley Road/Litchfield Road Project. He had Terry Phillips and Glen Wise of 24527 Rich Valley Road approach the Board. Mr. Price is here because his dad had been the Project Champion to carry around the petition in December 2007. He reiterated that the end of June 2008 marked the deadline for user agreements for this project. Mr. Wise has since purchased property at 11243 Bethany Lane (which is located about 1/10 of a mile off Rich Valley Road), in addition to his Rich Valley Road residence. In June 2008, Mr. Wise was able to purchase a $1,600 connection for his Rich Valley Road Property, but not for Bethany Lane; he did not own the latter property until October 2009, and it was previously part of an estate. Mr. Price approached the Board to see if they would consider the purchase of another $1,600 connection, opposed to Mr. Wise paying $3,280, since he has already invested in the project. There is already another home on Bethany Lane that is being served. Including Mr. Wise's property would not involve a new line out, but an additional connection within the project area. Mr. Chase asked if they had already spoken with anyone at WCSA. Ms. Phillips explained that she had called to speak to someone at WCSA, who expressed that they would have to appear before the Board and state their case. Mr. Chase thanked Mr. Price and his neighbors for their comments.

5. Approval of the Consent Agenda

- Minutes: N/A
- Routine Reports for September 2010.
- Financial Statement for September 2010.
- Check Register and General Manager Financial Report for September 2010.

Mr. Miller made a motion to approve the Consent Agenda with no additions or corrections. Mr. Miller's motion was seconded by Mr. Coleman and was approved by a 6-0-0-1 vote of the Board.

6. Engineer's Report and Update

Mr. Bobby Lane of The Lane Group, Inc. reported on the following projects:

- **Interim Water Treatment Plant Expansion (4.6 to 6.6 MGD)**

Work is currently 23% complete. The contractor was hoping to place Sedimentation Basin #1 back online today. The project continues to move on without any serious issues.

- **New Raw Water Intake, Raw Waterline and Drinking Water Treatment Plant Expansion (6.6 MGD to 12 MGD)**

At the September meeting, the Board concurred with The Lane Group's recommendation to award the three contracts. In the last 30 days, they have been working with contractors on the contract documents. They have received packages from the Raw Waterline Contractor and the Water Treatment Plant Contractor; these documents were given to Mr. Lawson this evening for his review. They hope for a package from the Raw Water Intake Contractor shortly. Their goal is to close the RD loan and go to work no later than December 15.

- **Galvanized Line Replacement Project, Phase 1**

They received bids on October 12. At a recessed meeting on October 14, the

Authority [Board] concurred with recommendations to award the project and move forward. They have forwarded packages to RD; they expect concurrence back from them shortly to prepare the contract documents for loan closing before January 1.

- **Mill Creek Water Treatment Plant**

They held a successful joint meeting between WCSA and the Town of Chilhowie on October 14 to discuss the Mill Creek Study. They presented study updates, advised those present where the project stands and opened the floor for questions; efforts are currently being made to finalize the PER and come up with an alternative very shortly.

- **Reedy Creek Road Water Improvements**

VDH approved the advertisement of Finding of No Significant Impact, which will be advertised this week for public review. The project will be advertised for construction bids on January 9, 2011.

- **WCSA Administration Building**

Bid opening was within the project's budget. Contract documents have been submitted by the contractor; they have gone to Legal Counsel for review. Mr. Lawson has made some comments back concerning what needs to be changed.

- **Western Washington County Sewer Study**

They are beginning to examine the feasibility of transferring more wastewater flow to BVU and prioritizing areas of Western Washington County for sewer service. There will be a meeting on Thursday, October 28 with WCSA Staff to review the project's efforts.

Mr. Kevin Heath of Adams-Heath Engineering reported on the following projects:

- **Whites Mill Road Improvements**

Have received contracts, bonds and insurance certificates back from the three respective contractors; they are being finalized for presentation to RD. Mr. Lawson says two [contracts] are fine and one still needs some tweaking. Once these items are complete, they can be forwarded to RD for approval.

- **Orchard Hill Road Improvements**

Construction has been completed. They have pressure tested the line and bacteriological logs were completed last week. They will schedule the final inspection with VDH this week.

Mr. Randall Hancock of Draper Aden Associates (DAA) reported on the following projects:

- **Route 58 Water Storage Tank**

Work on Contract 1 (grading to the site) is about 35% complete. They are looking for a schedule by November 15 to have the tank site ready so Contract 2 can start construction. If the weather allows, they want to put the floor in the tank before year end. They have overcome hurdles of erosion sediment control.

- **Exit 13 Sewer Project, Phase 1**

DAA continues to work with WCSA Staff on easements. A public meeting was held on-site two Saturdays ago. There were 62 residents in attendance; 15-20 easements were signed in response. They have spoken with many individuals, and more people have agreed to sign easements once they receive additional information. Property owners are being contacted so they can proceed with archaeological surveys. DAA continues to work with Staff to finish the project. They have a meeting with Staff and Legal Counsel tomorrow morning.

- **Route 58 Corridor**

Presentation is to be made later tonight.

7. Water & Wastewater Construction Projects Report and Update

Mr. Canody referenced the Engineering Report behind Tab #5 in the Board Books. He noted the following small changes and project updates:

- **Chestnut Mountain Road**

At the last meeting, he expressed their plans to request that VDH provide the project's shortfall of about $100,000. WCSA asked for ≈$99,000. VDH provided $98,981; an amount $16 short of what WCSA asked for. They plan to proceed forward with preparing the Notice of Award for the project and hope to be under construction in the next month to 45 days. They will not plan to issue the Notice of Award to the contractors until they receive the letter back from the Commissioner of Health. The letter will put in writing the verbal agreement that was made; the letter should be received in the next day or so.

- **Rich Valley Road/ Maiden Creek Road and Rich Valley Road/ Litchfield Road Projects**

Construction is proceeding and loan closing activities are under way. In regards to extending the project, the environmental review did not include the potential additions [addressed by Mr. Price during Public Query & Comment]. If the project is reopened, the environmental review will need to be redone. Mr. Canody explained this does not mean the addition cannot be done; it would have to be extended. This is to be explored by VDH (the funding agency). The other alternative is to fund the addition as a separate $1,500 project. Mr. Canody will check with VDH about extending the project's scope.

- **Sutherland**

WCSA met with First Tennessee [Development District], who concurred with WCSA's proposal. They anticipated submitting the project for review by TDEC and VDH, as well as TDOT and VDOT; they have not made these submissions yet. They anticipate doing so by the end of the week. Dealing with two states and overlapping regulatory agencies has brought about challenges.

- **Professional Services Procurement**

WCSA's strategy for procurement is being developed and another 16 projects were advertised yesterday for engineering services.

Mr. Canody offered to answer any questions the Board may have.

8. General Manager's Report & Update

Mr. Cornett referenced his General Manager's report at the Board's stations. He reported on the following noteworthy WCSA performance & accomplishments from all departments during September:

Water Production

- Produced little more than 199 million gallons of drinking water.

Distribution

- Coordinated the outside purchase of little more than 23 million gallons of water, bringing the total to about 7.1 million gallons distributed per day.

Meter Department

- 172 customers were telephoned following unusually high usage.
- 853 customers were notified that their water was to be turned off for nonpayment.
- 170 meters were lifted for nonpayment.

Customer Service

- Little more than $11,000 was abated for 74 customer water leaks.
- More than $4,000 was written off as bad debt more than three years old.
- 12 water taps and 1 wastewater taps were applied for.
- Handled 168 reconnections/ transfer of service requests in September.

- Late charges were added to 4,659 accounts.

Maintenance

- Repaired 37 leaks and 7 major breaks.
- Constructed 14 water taps & 1 wastewater tap.
- Responded to 32 after hour call-outs.

Wastewater

- Treated little more than 9 million gallons of wastewater in the last month.

Accounting

- Through the Debt Setoff Collection, 21 claims were submitted and matched for little more than $10,000. (Note: There has not been much change, due to the time of year.)

Administrative Items

- Mr. Cornett would like to recognize the Maintenance Department for clearing our property behind the Administration Building. This area looks much better now and we hope to keep it looking nice in the future.
- WCSA has and continues to provide support to the Board of Supervisors for a series of Public Information Meetings which they have scheduled. Some meetings, like the Monroe District's, resulted in no questions or comments of WCSA; others have resulted in questions regarding the replacement of our commissioners or dissolution of WCSA. WCSA Staff has responded to the four meetings that have taken place thus far out of the ten scheduled.
- Mr. Cornett referenced a chart at the Board's stations regarding the nonresidential connection fees that are *pending* or *paid* in our water and/or sewer systems for the current fiscal year. Recent activities show that prospective customers continue to show interest in becoming a part of Washington County's service area.

9. Consideration of a Cross Connection Control and Backflow Prevention Program for WCSA

Mr. Canody referenced copies of the proposed policy at the Board's stations. He noted that the Virginia Department of Health's Waterworks Regulations require that WCSA maintain an active and aggressive backflow prevention and cross connection control program. The purpose of this requirement is to protect public health. Mr. Canody provided the following questions and answers:

- What is backflow prevention and cross connection control? It is a means to prevent water, which may have been contaminated on the customers' side of the meter (after it has been purchased from WCSA), from back-flowing into WCSA's Distribution System and affecting the quality of water that is served to other WCSA customers. Water always flows from an area of high pressure to an area of low pressure. Backflow is what WCSA wants to prevent; it is done through cross connection control. Backflow prevention can be accomplished by a number of approved devices or methods, depending upon the degree of hazard for the premises. This is defined as cross connection control.
- How can water be contaminated on the customer's side of the meter? On residential connections, there are two main culprits: the use of an unapproved secondary source (that is connected to plumbing while customers are connected to the WCSA System) and the other is through a water hose connection (that may be submerged in a bucket where the water is being used to dilute a substance, such as Roundup®). On the industrial and commercial connections, main concerns are fire line connections to buildings, boilers treated with anti-

scale chemicals and connections where 1) water is used in a process, or 2) hoses are left submerged in drums or in sinks that may contain harmful process or lab chemicals; every situation can be and usually is different. Each example must be handled on a case-by-case basis. Basically, the two mechanisms in which backflow can occur is 1) through backsiphonage, or 2) through backpressure created on the customer's side of the meter that overcomes the pressure on the WCSA water line. Again, water always flows from an area of high pressure to low pressure.

- What is backsiphonage? Backsiphonage can be caused when there is a sudden drop in pressure on the WCSA side of the meter. This may be due to a line break or an excessive fire flow demand. If this drop in pressure goes below the pressure on the customers' side of the meter, water can flow back from the customer's plumbing into the WCSA Distribution System.
- What is back pressure? Backpressure can occur when water is pressurized on the customer's side of the meter to a level higher than the pressure in the WCSA Distribution System. Backflow occurs if there is no device to prevent the backflow of water into the WCSA system. An example of this is a fire department connection on the outside of a building to which a fire department pumper truck may connect to pressurize a sprinkler system inside the building. As the water hauled in a pumper truck is not normally considered to be of drinkable quality, a device is needed to prevent backflow from the pressurized sprinkler system. This may be pressurized to a point higher than the pressure in the distribution system by the fire truck. Once again, water will always flow from an area of high pressure to low pressure.

Mr. Canody explained that the proposed program in front of the Board calls for a more rigorous approach to backflow prevention and cross-connection control than has been practiced by WCSA in the past. It recognizes: the importance of recordkeeping and inspection, emphasizes a concentration on the higher risk types of connections, recognizes past successes and keeps those policies in place, recognizes areas where WCSA efforts have not been as effective as we would have liked and changes those procedures. The proposed program prescribes penalties for non-compliance on the part of WCSA customers and proposes that a single person be put in charge to coordinate WCSA efforts in this regard. It proposes a position be established that will be named Cross Connection Control Director (CCCD). This new position will sharpen the focus of WCSA's efforts so that we may more effectively protect public health and WCSA's infrastructure.

He expressed that WCSA does have an existing cross connection control program, which was written more than 11 years ago. Staff has discovered in this period of time that certain parts of the existing program work and others do not. For example, all of our residential customers were asked a few years ago to submit completed questionnaires that identified potential cross connections. WCSA did not get the response (<30%) we felt we needed. In the new program, Mr. Canody notes that WCSA calls for educating the public instead and

providing them with a contact, the CCCD, to whom they will hopefully direct questions. This will occur instead of submitting a questionnaire that perhaps is not understood. In the past 10 years, Mr. Canody has noticed during the screening of connection applications, especially commercial and industrial connections (generally with a fire department connection), that WCSA has been making a concerted effort to identify high risk types of connections, have insured proper backflow prevention devices and utilized proper methodologies. This aspect of WCSA's efforts has worked and will, upon adoption of this program, continue to be under the supervision of the CCCD. Mr. Canody explained that a few summers ago, with the assistance of an intern, WCSA performed a comprehensive survey of all commercial and industrial customers. The survey identified which connections had fire department connections for their sprinkler systems. As a result, WCSA has developed a very good initial database of high risk connections classified as commercial or industrial. Also, more recently, as WCSA has extended lines to previously unserved residences, we have made a good effort to inform new customers that it is absolutely crucial to have a private water source connected to their home plumbing simultaneously with the WCSA water supply. WCSA requires all new service connections to complete a copy of the customer survey form at the time they complete their new service application. In many cases, Mr. Canody noted that WCSA has met with new customers and explained the reason for the requirement. They have given technical advice as to how customers could continue to use their old water source legally for purposes, such as irrigation, washing cars, etc., so long as it is not connected to the same plumbing as the WCSA System. The technical advice is to disconnect one's old water source from the house plumbing. Mr. Canody explained that in moving forward, the new program proposes to send reminders to those who have backflow prevention devices to have the devices tested at least once a year and to send the test results to the CCCD, who will track them. He noted that the program which was passed out is basically the same as the program which was included in the Board Books; it has been tweaked with respect to the technical aspects of the program. Mr. Canody reiterated that the proposed program has been thoroughly reviewed by the WCSA Staff. April Helbert did most of the work on this project, rewriting Health Department examples to be more pertinent to WCSA and the way it operates. Also, the program has been reviewed by WCSA's [Middle Fork Drinking Water Plant's Chief Operator], Don Cole, who has received the most recent training in cross connection control and backflow prevention; he actually assists the backflow prevention experts when WCSA is selected to host training. The proposed program has been reviewed by the Virginia Department of Health and our attorneys, Elliot, Lawson and Minor. He expressed that WCSA is confident that the comments of all those who reviewed the document have been adequately addressed. With the Board's adoption of the program, WCSA proposes to submit it to the Virginia Department of Health for formal approval. VDH has one of the state experts of Cross Connection Control on

staff here in Abingdon at their Regional Office as the Regional Director. He noted that WCSA has asked for the review and comments of the new County Engineer/Building Official, David Kidd, whose cooperation will be instrumental in making the program a success. Mr. Kidd is a relatively new addition to the County Government Staff. Mr. Kidd has not provided any comments yet; Mr. Canody suspects this is because he is overwhelmed at present with his new duties. Consequently, there may be some additional changes that WCSA will need to make subsequent to his review and comments. While we do not expect these to significantly change the document in front of you, Mr. Canody expressed that if they do, he will come back to the Board with a revised plan for their consideration.

Mr. Canody offered, with the able assistance of Mrs. Helbert, to address any questions the Board may have. Mr. Chase asked if this is a mandated policy. Mr. Canody clarified that an up-to-date program has been a requirement by the Waterworks Regulation since 1974. They have been urging WCSA to step up its efforts because, compared to other waterworks in the state, we are not where we should be. This policy is not a voluntary program; the purpose is to protect public health. WCSA Staff has taken the old policy and drafted the new policy to prevent some of these issues.

Mr. Miller inquired about commercial customers who do not have backflow prevention devices. Mr. Canody noted that most commercial customers already have these devices. However, this is something the CCCD would need to analyze and bring up to code. Mr. Miller also wondered if new homes will require backflow prevention devices. Mr. Canody assured that they would not; WCSA makes sure new homes are given new systems. For existing homes, old systems are disconnected and replaced with newly connected systems. He noted that old systems are not needed and could be a liability to homeowners. Mr. Hutchinson referenced Mr. Canody's note of a 30% response to the past survey. He inquired of the cost being discussed to rectify noncompliant systems. Mr. Canody believes that 95-99% percent of the time, situations can be corrected with no additional costs. Many times, systems require simple tweaking. Mr. Canody does not believe WCSA will have to install many backflow prevention devices, unless private home owners are doing anything terribly harmful. He referenced an example of customers developing film with chemicals years ago in their bathtubs. However, he believes that for the average customer, there will be no costs required. For commercial and industrial customers, necessary action will depend on many factors. Mr. Canody affirmed that these efforts are not only for WCSA's protection, but for each company's protection as well. Mr. Hutchinson also inquired of water used for irrigation purposes and if these efforts could increase fees for farmers. Mr. Canody explained that WCSA's System Fee is based on usage; charges are adjusted accordingly.

Mr. Chase asked if the CCCD role would be filled by someone currently on WCSA Staff. Mr. Cornett explained that this position targets a new staff member, The CCCD position is featured in the current 2010-2011 Fiscal Year Budget. The plan is to advertise for this position after the policy is approved.

Mr. Chase expressed the Board's appreciation for Mrs. Helbert's efforts. Mr. Canody reiterated that they could not have completed this project without her. Mr. Cornett reiterated the same appreciation and thanked Mr. Canody for his hard work as well. He noted that Don Cole has been patient with [Mr. Cornett] and Mr. Canody to get a policy that allows for a CCCD to do what they need to do, depending on the level of risk. The CCCD will work with customers who are out of compliance in any way we can without any undue hardship, regardless of what type of customer they are. Mr. Stout made the motion to approve the WCSA Cross Connection Control and Backflow Prevention Program (see attached). Mr. Stout's motion was seconded by Mr. Stephon and was approved by a Board vote of 6-0-0-1.

10. Consideration of Fuel Bids

Mrs. Harold referred to the bid tabulation located at the Board's stations. She explained that WCSA received fuel bids on October 15 at 2PM. Bids were received from two bidders: Addington Oil and Buck Oil. Addington Oil was the low bidder on both unleaded fuel ($0.0959 over rack) and diesel fuel ($0.0963 over rack). She noted that as referenced on the bottom of the bid tabulation, both of this year's low bids were lower than last year's prices. Mr. Stephon made the motion to approve the low bids for fuel. Mr. Stephon's motion was seconded by Mr. Coleman and was approved by a 6-0-0-1 vote of the Board.

11. Employee Recognition

Mrs. Paukovitz recognized WCSA Employee Years of Service Awards. She explained that in the past, WCSA has tried to recognize employees each year. However, we have been unable to do so for the last two years. Employees who are being recognized have reached a five year increment milestone, up to and including September 30 of that year. The featured employees will receive a certificate and lapel pin in their honor. Mrs. Paukovitz presented the following WCSA Employee Years of Service Awards for 2008, 2009 and 2010:

2008

- Donald Holmes, Part-Time Senior Operator WTP: 45 Years of (Full and Part-Time) Service.
- Marvin Taylor, Part-Time Chief Operator WTP: 20 Years of (Full and Part-Time) Service.
- Homer Baldwin, Crew Chief: 15 Years of Service.
- Alan Dillon, Senior Operator WTP: 15 Years of Service.
- Harley Garland, Crew Chief: 15 Years of Service.
- Don Cole, Chief Operator Middle Fork WTP: 10 Years of Service.
- Danny Nunley, Crew Worker: 5 Years of Service.

2009

- Clyde Belcher, Meter Manager: 30 Years of Service.
- Larry Sullins (currently retired), Crew Chief: 30 Years of Service.
- George Thomas, Utility Coordinator: 30 Years of Service.
- C. Raymond Bailey, Equipment Operator: 20 Years of Service.
- Randall Baker, Meter Technician: 20 Years of Service.
- Robert Cornett, General Manager: 20 Years of Service.
- Melissa Elswick, Operator WTP: 15 Years of Service.
- Richard Malcolm, Chief Operator Mill Creek WTP: 15 Years of Service.
- Joseph Malone, Mechanic: 15 Years of Service.
- J. Anthony McFarlane, Operator WWTP: 15 Years of Service.

- Larry Thomas, Equipment Operator: 15 Years of Service.
- Angela Burke, Customer Service Representative: 10 Years of Service.
- Douglas Canody, Engineering Services Manager: 10 Years of Service.
- Nancy White, Customer Service Representative: 10 Years of Service.
- Steven Carter, Electrician: 5 Years of Service
- Jerry Fields, Operator WTP: 5 Years of Service.

D. Shane Hall, Maintenance Crew: 5 Years of Service.

2010

- W. Craig DeBusk, Senior Operator WTP: 20 Years of Service.
- Tommy Dotson, Wastewater Treatment Manager: 20 Years of Service.
- Karen Miller, Senior Customer Service Representative: 20 Years of Service.
- Gary Thomas, Operator WTP: 20 Years of Service.
- Bobby Gobble, Crew Chief: 15 Years of Service.
- Judy Manning, Customer Service Representative: 15 Years of Service.
- Richard Boyd, Equipment Operator: 10 Years of Service.
- Ronnie Nunley, Crew Chief: 10 Years of Service.
- Douglas Sullins, Operator WTP: 10 Years of Service.
- Floyd Wyatt, Jr., Crew Chief: 10 Years of Service.

Two of the employees being honored were present. The Board honored these Years of Service Awards with applause. Mr. Chase praised the recognized WCSA Employees for their dedication.

12. Route 58 Corridor Water Supply Study Presentation

Mr. Bill Aden of DAA introduced Jay Lester and Larado Robinson, Senior Engineers, who have done the heavy lifting for the Route 58 Corridor Water Supply Study.

Mr. Lester thanked the Board for the opportunity to present the results of DAA's Route 58 Corridor Study. He affirmed that he and Mr. Robinson would try to keep the presentation brief, for the sake of time; they made a 20 minute presentation. Mr. Lester presented the problems and conclusions through maps, graphs, and slides titled: Problem Identification, Dramatic Fluctuations in Pressure, Project Costs, Other Recommended Improvements, and Conclusions. Mr. Robinson's presentation, which was bookended by Mr. Lester's, referenced the solutions and recommendations through maps, graphs, and slides titled: Study Approach, Dramatic Fluctuations in Pressure, Recommendations & Solutions (two locations), and Problems Solved. Mr. Lester offered to answer any questions the Board may have.

Mr. Cornett praised Mr. Lester and Mr. Robinson, as this system is much more complicated than they modestly led on. He noted that WCSA is thankful to have the study complete and to be in a place where the project can be worked into WCSA's Capital Improvements Plan. Mr. Chase thanked DAA for its efforts; he hopes this study can be implemented in the near future.

13. Closed Meeting: Acquisition and Disposition of Property, Investment of Public Funds & Legal Advice

Mr. Stephon read the following Closed Meeting Motion:

Mr. Stout moved that the Board adjourn to Closed Meeting in accordance with the Virginia Freedom of Information Act, Code of Virginia § 2.2-3711 Paragraph (A) (3): Acquisition and Disposition of Property, 2. To Discuss

and Consider the Acquisition of Real Property, Code of Virginia § 2.2-3711 Paragraph (A) (6): Investment of Public Funds, 3. To Discuss Various Inter-municipal and Other Agreements, Code of Virginia § 2.2-3711 Paragraph (A) (7): Legal Advice, 4. To Discuss Potential Litigation, 5. To Discuss Various Inter-municipal and Other Agreements.

In addition to the Board, the presence of Mr. Mark Lawson, WCSA Counsel, and Mr. Robbie Cornett, WCSA General Manager, are requested.

Mr. Stout's motion was seconded by Mr. Miller and was approved by a 6-0-0-1 vote of the Board. The Board adjourned to Closed meeting at 8:26 PM.

Return to Public Session

Upon a motion by Mr. Stephon, a second by Mr. Stout, and a 6-0-0-1 vote by the Commissioners, the Board returned to Public Session at 9:30 PM.

Mr. Stephon read the following:

Certification of Closed Meeting

Whereas, the Washington County Service Authority has convened a Closed Meeting on this date pursuant to an affirmative recorded vote and in accordance with the provisions of the Virginia Freedom of Information Act; And whereas, § 2.2-3712 Paragraph D of the Code of Virginia requires a certification by this Authority that such Closed Meeting was conducted in conformity with Virginia law;

Now, therefore, be it resolved that the Authority hereby certifies that to the best of each member's knowledge, (1) only public business matters lawfully exempted from open meeting requirements by Virginia law were discussed in the Closed Meeting to which this certification resolution applies, and (2) only such public business matters, as were identified in the motion convening the Closed Meeting were heard, discussed or considered by the Authority.

AYE: Mr. Miller, Mr. Hutchinson, Mr. Stephon, Mr. Chase, Mr. Coleman and Mr. Stout.

14. Late Items

Mr. Cornett referenced a handout with Late Items for the Board's consideration:

• ***Late Item #1: Consideration of a Resolution Commending Gerald Cole***

Mr. Cornett noted that ordinarily, after a Board member has completed their appointed term, the Board has generally adopted a resolution commending them for that service. A resolution following the classic design and incorporating Mr. Cole's specifics would read as follows:

WHEREAS, Gerald Cole, esteemed citizen of Washington County, Virginia, served with dedication and diligence as a Commissioner of the Washington County Service Authority from February 1994 to August 2010; and

WHEREAS, Commissioner Cole represented the customers of the Service Authority in the Wilson [Magisterial] District of Washington County in a worthwhile and capable manner; and

WHEREAS, Commissioner Cole contributed to the expressed purpose and goals of the Service Authority by serving in the finest tradition as commissioner,

NOW THEREFORE, BE IT RESOLVED that the Board of Commissioners of said Washington County Service Authority, duly assembled to conduct business on this 25th day of October, 2010, does hereby unanimously adopt this RESOLUTION OF COMMENDATION, in full recognition of, and in gratitude for, the above enumerated services and contributions, and wish Mr. Cole well in all future endeavors.

Mr. Stephon made the motion to approve the abovementioned resolution for

Gerald Cole's commendation. Mr. Stephon's motion was seconded by Mr. Coleman and was approved by a Board vote of 6-0-0-1.

- ***Late Item #2: Consideration of a Resolution Condemning Ingress and Egress Rights Across Bobby and Carol Gray***

Mr. Cornett referenced the handout's backside for the Board's consideration. Mr. Stout made the motion to approve the abovementioned resolution (see attached). Mr. Stout's motion was seconded by Mr. Hutchinson and was approved by a Board vote of 5-0-1-1 [1: Mr. Stephon abstained].

15. <u>Adjourn</u> or Recess

Mr. Stephon made the motion to adjourn the meeting. Mr. Stephon's motion was seconded by Mr. Stout and was approved by a 6-0-0-1 vote of the Board. The meeting was adjourned at 9:34 PM.

Joe Chase

Mr. Joe Chase, Chairman

Amanda Paukovitz

Amanda Paukovitz, Assistant Secretary

Washington County Service Authority (WCSA)

Program
of
Cross Connection Control
and
Backflow Prevention

I. WCSA Board of Commissioners' Cross Connection Program Provisions

Adopted: Monday, October 25, 2010

II. Administration

The General Manager shall administer and enforce this program under the supervision of the WCSA Board of Commissioners. The Cross Connection Control Director, under the supervision of the General Manager or his designee, shall be responsible for the implementation of this program.

III. Definitions

air gap separation – the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying pure water to a tank, plumbing fixture, or other device and the rim of the receptacle.

atmospheric pressure – the pressure exerted by the weight of the atmosphere (14.7 psi at sea level). As the elevation above sea level increases, the atmospheric pressure decreases.

atmospheric (non-pressure) vacuum breaker – a mechanical device consisting of a float check valve and an air inlet port designed to prevent backsiphonage.

auxiliary water system – any water system on or available to the premises other than the waterworks. These auxiliary waters may include water from a source such as wells, lakes, or streams; or process fluids; or used water. They may be polluted or contaminated or objectionable, or constitute an unapproved water source or system over which the water purveyor does not have control.

backflow – the flow of water or other liquids, mixtures, or substances into the distribution piping of a waterworks from any source or sources other than its intended source.

backflow-prevention device (backflow preventer) – any approved device, method, or type of construction intended to prevent backflow into a waterworks.

back pressure (superior pressure) – a condition in which the pressure in a nonpotable system is greater than the pressure in the potable distribution system. Back pressure will cause nonpotable liquids to flow into the distribution system through unprotected cross connections.

backsiphonage – reversed flow of liquid caused by a partial vacuum in the potable distribution system.

containment – to confine potential contamination within the facility where it arises by installing a backflow-prevention device at the meter or curbstop.

contamination – the introduction into water of any substance that degrades the quality of the water, making it unfit for its intended use. Any objectionable or hazardous physical, chemical, biological, or radiological substance or matter in water.

cross connection – any connection or structural arrangement, direct or indirect, to the waterworks whereby backflow can occur.

cross connection control – the use of devices, methods, and procedures to prevent contamination of a potable water system through cross connections.

customer – any user of the system.

degree of hazard – the level of health hazard, as derived from an evaluation of the potential risk to health and the adverse effect upon the waterworks. Generally, a low degree of hazard is one that does not affect health, but may be aesthetically objectionable. A high degree of hazard is one that could cause serious illness or death.

distribution system – all piping, fittings, and fixtures whose purpose is to provide treated water to service connections.

double gate-double check valve assembly – an approved assembly composed of two single independently acting check valves including tightly closing shutoff valves located at each end of the assembly and petcocks and test gauges for testing the watertightness of each check valve.

isolation (policy) – to confine a potential source of contamination to the nonpotable system being served.

negative pressure – pressure that is less than atmospheric; negative pressure in a pipe can induce a partial vacuum that can siphon nonpotable liquids into the potable distribution system.

nonpotable – any liquid that is not considered safe for human consumption.

nontoxic – not poisonous; a substance that will not cause illness or discomfort if consumed.

owner – any person owning any property.

person – any individual, firm, partnership, corporation, association, society, or group.

physical disconnection – removal of pipes, fittings, or fixtures that connect a potable water supply to a nonpotable system or one of questionable quality.

plumbing – any arrangement of pipes, fittings, fixtures, and devices for the purpose of moving liquids for one point to another, generally within a single structure.

pollution – the presence of any foreign substance (chemical, physical, radiological, or biological) in water that tends to degrade its quality so as to constitute an unnecessary risk or impair the usefulness of the water.

potable water – water fit for human consumption and domestic use which is sanitary and normally free of minerals, organic substances, and toxic agents in excess of reasonable amounts for domestic usage in the area served and normally adequate in quantity and quality for the minimum health requirements of the persons served

premises – any building or group of buildings, or, any tract, lot, or parcel of land upon which buildings are to be constructed which is, or may be served by WCSA.

pressure – the weight (or air, water, etc.) exerted on a surface, generally expressed as pounds per square inch (psi).

pressure vacuum breaker – a device consisting of one or two independently operating, spring-loaded check valves and an independently operating, spring-loaded air-inlet valve designed to prevent backsiphonage.

reduced-pressure-principle or reduced-pressure-zone device (RP or RPZ) – a device containing a minimum of two independently acting check valves together with an automatically operated pressure differential relief valve located between the two check valves. During normal flow and at the cessation of normal flow, the pressure between these two checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharging to the atmosphere, shall operate to maintain the pressure between the check valves at less than the supply pressure. The unit shall include tightly closing shut-off valves located at each end of the device, and each device shall be fitted with properly located test cocks. These devices shall be of the approved type.

refusal of service – a formal policy adopted by a governing board to enable a utility to refuse or discontinue service where a known hazard exists and corrective measures are not undertaken.

relief valve – a device designed to release air from a pipeline, or introduce air into a line if the internal pressure drops below atmospheric pressure.

service connection – the termination of the service line from the waterworks(WCSA's ownership ends with and includes the meter on potable water lines and other points of demarcation on fire service lines as deemed appropriate by the Cross Connection Control Director).

service line – a customer-owned and maintained line, connecting a customer's point-of-use with WCSA facilities, typically the water meter or saver element.

tenant – the occupant or inhabitant of the building being supplied potable water by WCSA; user who does not own the premises.

toxic – poisonous; a substance capable of causing injury or death.

user – any person who connects to and/or makes use of the Waterworks and/or Sanitary Sewerage Facilities.

residential – refers to a location used as a residence or by residents; also refers to apartments and churches (excluding churches which operate day schools on a routine continuing basis).

commercial – refers to non-residential users.

industrial – refers to users with categorical wastewater discharge, or who are located in or served through an industrial park.

vacuum – a condition induced by negative (subatmospheric) pressure that causes backsiphonage to occur.

WCSA – Washington County Service Authority – water supplier (purveyor).

IV. Purpose

Purpose of this Program is to abate or control actual or potential cross connections and protect public health and WCSAs distribution system. This Program provides for establishment and enforcement of a program of cross connection control and backflow prevention in accordance with the Commonwealth of Virginia, State Board of Health, *Waterworks Regulations* 2003, or as amended. The Program is directed at:

A. Service line containment when necessary:
Abate or control actual or potential cross connections and protect the public health by installation of an appropriate backflow prevention assembly or by installation of a backflow elimination method at the service connection if necessary. This option would be implemented only if necessary to consistently protect the public health if it cannot be reliably demonstrated that appropriate point-of-use protection on the customer's side of the meter is and will continue to be implemented.

B. Voluntary isolation in lieu of containment:
The alternative of point-of-use isolation protection in lieu of service line containment shall be evaluated at each connection where a possible cross connection or backflow problem is a potential issue.

C. Public Education and Assistance
Provide a cross connection awareness public education program and provide public assistance where requested.

D. Customer/Owner Awareness
In those situations where point-of-use protection is not a reliable method to prevent cross connections or effect backflow prevention, WCSA will advise the Building Official and the premises owner/tenant that service line containment does not provide health protection from cross connections for those obtaining water beyond the cross connection control device (on the premises of the service connection). Point-of-use isolation may be a better, and less costly, alternative for the customer, as they could be held legally and financially responsible for any backflow event occurring beyond the cross connection control device.

V. Authority

Commonwealth of Virginia, Department of Health, *Waterworks Regulations*, Part II, Article 3: Cross Connection Control and Backflow Prevention in Waterworks. This article requires, as a condition for the issuance and continued use of the waterworks operation permit, that WCSA establish and enforce a program of Cross Connection Control and Backflow Prevention.

This cross connection control and backflow prevention program is approved by the State health Commissioner as noted by the affixed approval stamp.

VI. Non-residential Customer Assessments

A. General

The non-residential customer/owner will be advised in writing of the results of the assessment, the assigned degree of hazard, and if any backflow safeguards are required or recommended or if any existing preventative and control measures need attention. These assessments reflect the opinion and advice of WCSA and do not relieve customer/owner of their ultimate responsibility for identifying and preventing backflow incidents by use of the proper devices or precautions. Furthermore, regardless of the results of the assessment, WCSA is not responsible for conditions on the customer/owner's side of the meter, and will accept no liability and no responsibility for damages caused by improper or illegal cross connections resulting in backflow incidents caused by conditions on the customer/owner's side of the meter.

B. Frequency

Once a non-residential customer has been evaluated they will be reminded in writing annually to have any existing backflow devices tested by a certified backflow device tester. These customers will also be required to make the Cross Connection Control Director aware of any changes in their water system or water usages since the previous year. These changes must be documented by customer in writing and sent to the Cross Connection Control Director.

1. WCSA may, at its discretion, schedule more frequent assessments at high hazard facilities.
2. WCSA will make a good faith effort to remind all non-residential customers, in writing, of the required testing of backflow devices, however, it is ultimately the responsibility of the customer to have backflow devices tested annually (or at the more frequent schedule if required by WCSA).

C. Type

Assessments will be conducted by on site interview, questionnaire, and/or survey for non-residential connections.

1. Completion of a questionnaire by all new non-residential customers will be required prior to service being provided. All service applications will be evaluated by the Cross Connection Control Director.
2. An initial on site interview will be conducted with the customer/owner concerning each non-residential connection identified in Section XIII, of this Program.
3. Other new non-residential customers/owners will receive an on-site inspection if warranted but as a minimum will be provided customer education materials and be required to submit a written survey before the building is occupied.
4. Existing non-residential connections will be evaluated on a case-by-case basis in order to determine the extent of inspections or surveys that are warranted.
5. Subsequent inspections will be scheduled by the Cross Connection Control Director dependent upon the level of risk the connection represents and according to compliance history.

D. Assessment By On Site Interviews

1. Available information about the premises to be surveyed will be gathered and reviewed prior to the interview.

2. The reasons for cross connection control and backflow prevention will be explained to the non-residential customer/owner.
3. Interviews will follow a prepared questionnaire used to assess the need for cross connection control by containment.
4. Water uses after it enters the premises will be determined. For large or complex plumbing systems, plumbing plans or schematics may be required by WCSA.
5. During these interviews, each installed device or separation will be inspected for appropriateness, proper installation and operating condition (including review of written test results).
6. Changes made in the plumbing system made since the last inspection will be documented in writing by the customer/owner. This may require revised plumbing system drawings or schematics.
7. Plans for future expansion and possible additional protection requirements will be discussed.
8. An inspection of the premises will be conducted by the Cross Connection Control Director to determine if point-of-use isolation may be installed in lieu of installing a backflow prevention assembly or device at the service connection.
9. The customer/owner should hire an independent expert to evaluate the potential of point-of-use isolation for the protection of their water supply system users.
10. All information will be recorded on the prepared questionnaire. This will include water uses, assessment of degrees of hazard and diagrams. The accuracy of this information must be documented by the customer/owner in writing.
11. The customer/owner may at his discretion elect to have an independent expert inspect the premises and offer recommendations. If these recommendations differ from those of WCSA, WCSA shall be given the opportunity to review and comment on the independent report. If WCSA does not agree with the recommendations of the independent report, WCSA retains the right and duty to require the customer/owner to properly install a containment device or impose other appropriate safeguards (including disconnection of the customer) at the point of connection.

E. Assessment By Mailed Questionnaire
1. The appropriateness, proper installation, and general appearance of each installed assembly, device or elimination method will be evaluated by the customer/owner for those facilities where annual questionnaires are deemed appropriate by WCSA. WCSA or independent qualified evaluators may be requested to provide technical assistance.
2. All questionnaires shall detail in writing all changes made to the plumbing system of the facility since the last questionnaire was completed, the last survey was made or the system began obtaining water from WCSA (whichever is appropriate).
3. The results of the annual questionnaires will be reviewed by the Cross Connection Control Director to gauge the degree of hazard and to assess the facility for new hazards. Based on the response to the questionnaires, cross connection control interviews will be scheduled and appropriate assemblies, devices, or separations will be required providing containment and/or point-of-use isolation where appropriate.

F. Assessment By Telephone Interview
1. For those facilities where telephone interviews will be conducted, the questionnaire used for mailings will be completed by the designated WCSA representative to reaffirm the degree of hazard and to assess the facility for new hazards. The completed questionnaire will be sent to the customer for review of the information and written confirmation of its accuracy.

2. During these interviews, each installed assembly, device, or elimination method will be discussed and evaluated to determine appropriateness, proper installation, and general appearance. Point-of-use isolation protection will be discussed with customer/owner.
3. If the aforementioned cannot be confirmed with certainty in a telephone interview, an on-site interview or other action may be required by WCSA.

G. Refusal or Lack of Response to Assessment Information
No response to a questionnaire or telephone interview will prompt an on-site interview. Refusal of access for interview or provision of pertinent information will prompt the designation of the service as a high hazard premise and the requirement to install a high hazard service line containment assembly or an alternate backflow elimination method such as physical separation if warranted. (See "Enforcement" below).

VII. Residential Customer/Owner Self-Assessments

A. Completion of a questionnaire by all new customers/owners will be required prior to service being provided.

B. In lieu of an annual assessment of residential connections, a continuous public education program will be provided to increase the awareness of cross connections and the public health hazards of backflow. The public education program will be designed to prompt residential customer/owner self-assessments and to contact WCSA with comments, questions or technical assistance.

The public education materials will seek to inform residential customers/owners of what a cross connection is and how a backflow incident may affect the safety of their and their neighbors' water supply. The public information materials will provide the resident the opportunity to ask questions in writing.

C. Public Education
The public education program will be a continuous program targeted at the residential customer/owner.

The cross connection control and backflow prevention public education program will include:

1. a discussion of the conditions that lead to backflow
2. a discussion of residential plumbing hazards having the potential for cross connections and backflow
3. a discussion of the potential health effects of cross connections and backflow
4. public education materials and methods of delivery
5. clubs, organizations, civic organizations, school systems, etc. where public education programs are presented or provided and program content
6. guidance/resources to identify actual or potential cross connections
7. safeguards to control or eliminate the hazards at the point-of-use
8. contact information for assistance
9. sources for additional information

D. Frequency
Contact will be made with residential customers/owners based on the following frequencies, at a minimum:

1. A mass mailing to all residential customers/owners, which includes the information shown above, shall be conducted annually
2. Notes will be added to customers'/owners' bills reminding them to be aware of cross connections and providing contact information for assistance. In addition, WCSA will attempt to notify customers/owners of all upcoming events in which WCSA will be in attendance to answer questions concerning cross connections.

VIII. Inventory

A. An inventory will be maintained by WCSA of all backflow prevention assemblies and devices and backflow elimination methods required. The inventory will also include all backflow prevention assemblies, devices, and backflow elimination methods installed as a result of residential customer self-assessments.

B. Documentation of the presence of pressure sensing devices to shut off or regulate the flow from pumps will be included.

C. Methods documented will include device installation as well as utilization of air gaps and physical separation.

IX. Testing and Inspection

A. Testing and inspection of all backflow prevention assemblies, devices, and backflow elimination methods is the responsibility of the customer/owner and is required to be conducted annually, at the expense of the customer's/owner's water supply system. The Cross Connection Control Director shall make a good faith effort to provide written reminders to those customers/owners to test installed devices and verify the presence of air gaps no less than 30 days prior to the due date. The Cross Connection Control Director may, at his discretion, schedule more frequent testing and inspection at high hazard facilities or facilities with a history of non-compliance. Appeals of accelerated or more stringent requirements shall be made directly to the WCSA General Manager.
   1. Operational testing or work shall be performed by Backflow Prevention Device Workers certified by the Virginia Department of Professional and Occupational Regulation, Virginia Board for Contractors, under the Tradesman Regulations, to test and repair assemblies. Assembly testing procedures shall be those acceptable to the DPOR, Board for Contractors. Assembly test equipment shall conform to the USC Field Test Kit Standard as test equipment is made available.
   2. Until 5 years from the date of adoption of this Program, individuals who have obtained a certificate of completion of a course of instruction of sixteen hours or more recognized by the Tradesman Regulations may have their work accepted.
   3. The customer/owner shall cause all backflow prevention assemblies, devices, or backflow elimination methods required under Section IX, to be maintained in good working order and shall not make or cause to be made any piping or other arrangements or modifications for the purpose of bypassing or defeating assemblies, devices, or backflow elimination methods.

B. Where a continuous public education program is in effect, the operational testing and inspection schedule will include all backflow prevention assemblies, devices, and backflow elimination methods installed as a result of residential assessments.

C. The customer/owner shall provide copies of assembly test results, maintenance records, and overhaul records to the WCSA within 30 days of completion of such testing or work.

D. Copies of updated plumbing diagrams or verbal descriptions of changes in plumbing made during the previous year, test results, maintenance records, and overhaul records will be reviewed for completeness and accuracy and a determination as to pass or fail made. The Cross Connection Control Director will notify the customer/owner within 10 working days of receipt of such testing or work and its acceptability or notice of inspection by WCSA. Should any significant changes in the consumer's plumbing system be found (as may be evidenced by a change in water usage patterns) an on-site inspection will be conducted or ordered by the Cross connection Control Director. Should any additional Cross Connection protection requirements result, the customer/owner will be informed of these changes in writing.

X. Backflow Events

In the event of the backflow of pollution or contamination into the waterworks, upon consultation with the Cross Connection Control Director and other WCSA staff as he may deem necessary, the General Manager will promptly take or cause corrective action to confine and eliminate the pollution or contamination. The General Manager will report to the appropriate Commonwealth of Virginia, Department of Health, Office of Drinking Water, Field Office in the most expeditious manner (usually by telephone) when backflow occurs and will submit a written report by the 10th day of the month following the month during which backflow occurred. The report will address the incident, its causes, effects, and preventative or control measures required or taken.

XI. Enforcement

The Cross Connection Control Director, in consultation with the General Manager and other WCSA technical staff (as he deems necessary) will take positive action to ensure that the waterworks is adequately protected from cross connections and backflow at all times. Appropriate preventive and control measures will be universally required and installed.

If a required assembly, device, or elimination method is not installed, tested, and maintained in accordance with the applicable sections of the Program; or if a required assembly, device, or elimination method has been removed or bypassed; or if unprotected cross connections exist on the premises and the General Manager has determined that there is inadequate backflow prevention at the service connection, the General Manager shall have the obligation and authority to discontinue or refuse the water service to any customer until the deficiencies have been corrected or eliminated to the satisfaction of the Cross Connection Control Director in consultation with the General Manager.

A. Cross connections that in the opinion of the Cross Connection Control Director or General Manager pose an imminent threat to the health and safety of WCSA customers will necessarily be dealt with swiftly and decisively by WCSA. WCSA reserves the right to immediately and without notice to the customer/owner suspend domestic and/or fire protection water service in such a circumstance and to take any necessary action deemed appropriate on its own system to mitigate the threat. The offending customer/owner shall bear all costs for insuring the waterworks may be operated in a manner to insure the health, safety and welfare of the all of the waterworks' customers and will be held liable for costs associated with such actions and remediation.

1. It is the sole responsibility of the customer/owner to notify the Local and State Fire Marshall as well as other authorities (insurance company, etc.) of the suspension of the water system.

B. WCSA's ownership and regulatory authority ends with and includes the meter on potable water lines and other point(s) of demarcation on fire service lines as deemed appropriate by the Cross Connection Control Director. Therefore, in so as far as WCSA is concerned, the conditions of the water supply and the plumbing system on the customer's/owner's side of the meter is strictly and ultimately the responsibility of the customer/owner of those premises. While these conditions may be governed by other laws, regulations, codes, or agreements, WCSA's initial provision and continuance of the water supply service is contingent upon the customer's/owner's proper maintenance of the condition of the plumbing system. To facilitate proper and timely execution of its responsibilities for the protection the water supply infrastructure, WCSA requires the following:
   1. The right of inspection of any plumbing system served by WCSA infrastructure, with prior written notice from the WCSA General Manager to the customer/owner in a reasonable time period for the purposes of investigating possible cross connections or failure of cross connection control devices,
   2. The right to refuse or discontinue service to any connection for which access to the premises is denied by the customer/owner or otherwise prevented due to actions or conditions controlled by the customer/owner.
   3. Notification of the local building official.

C. A written report of enforcement action activities (emergency) and recommendations for action (non-emergency) shall be submitted monthly to the General Manager by the Cross Connection Control Director.

XII. Consumer Notification

A. The Cross Connection Control Director will notify the customer/owner in writing as to the:
   1. recommended location of any assembly, device, or backflow elimination method;
   2. type of assembly, device, or backflow elimination method, including applicable University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USC), American Society of Sanitary Engineering (ASSE), and American Water Works Association (AWWA) approvals, listings, or standards;
   3. installation requirements;
   4. and the deadline for completing the installation, (normally 15 days but sooner should it be authorized by the General Manager should the situation dictate a more immediate response to protect the integrity of the WCSA water system).

B. If the customer/owner fails to install any required assembly, device, or backflow elimination method within the deadline or fails to complete testing, inspecting or overhauling as required, a Notice of Violation will be prepared and will include a schedule of compliance. Appeals to the requirements of this schedule shall be made in writing to the WCSA General Manager within 15 days.

C. In situations that pose an imminent threat to the health and safety of WCSA customers, the General Manager may terminate water service immediately.

XIII. Prevention and Elimination Measures for Containment – Where Required

A. A backflow prevention assembly or backflow elimination method shall be installed where any of the following conditions exist. The type of assembly or method required shall depend on the degree of hazard determined according to Table 1, Determination of Degree of Hazard.
   1. Premises on which any substance is handled in such a manner as to create an actual or potential hazard to the waterworks (this shall include premises having auxiliary water systems or having sources or systems containing process fluids or waters which are no longer under the control of the WCSA).
   2. Premises having internal cross connections that, in the judgment of the WCSA may not be easily correctable or having intricate plumbing arrangements that make it impracticable to determine whether or not cross connections exist.
   3. Premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make an assessment of all cross connection hazards having the potential for impairing the quality of the water as delivered.
   4. Premises having a repeated history of cross connections being established or reestablished.
   5. Premises having fire protection systems, lawn sprinkler systems, or irrigation systems that do not protect the WCSA distribution system through the use of approved backflow prevention methodologies that reliably and consistently protect the WCSA water supply system.
   6. Premises having frostproof yard hydrants, drinking fountains or other appurtenances or plumbing fixtures with below-grade weep holes subject to contamination.
   7. Other premises having conditions specified by the WCSA where cause can be shown that a potential cross connection hazard not enumerated above exists and is not mitigated.

B. Premises having booster pumps or fire pumps connected directly to the waterworks or indirectly through a service connection shall have the pumps equipped with a pressure sensing device to shut off or regulate the flow from the pumps when the pressure at any service connection in the distribution system drops below the minimum working pressure required of 20 psi. In no case shall the pressure sensing device be set lower than 10 psi gauge.

C. Of special consideration for the requirement of containment devices shall include the following types of facilities:
   1. Hospitals, mortuaries, clinics, veterinary establishments, nursing homes, dental offices and medical buildings;
   2. Laboratories;
   3. Piers, docks, waterfront facilities;
   4. Sewage treatment plants, sewage pumping stations, or storm water pumping stations;
   5. Food and beverage processing plants;
   6. Chemical plants, dyeing plants and pharmaceutical plants;
   7. Metal plating industries;
   8. Petroleum or natural gas processing or storage plants;
   9. Radioactive materials processing plants or nuclear reactors;
   10. Car washes and laundries;
   11. Water loading stations;

12. Lawn care companies and their vehicles with storage or mixing tanks;
13. Slaughter houses and poultry processing plants;
14. Farms where the water is used for other than household purposes;
15. Commercial greenhouses and nurseries;
16. Health clubs with swimming pools, therapeutic baths, hot tubs or saunas;
17. Paper and paper products plants and printing plants;
18. Pesticide or exterminating companies and their vehicles with storage or mixing tanks;
19. Schools or colleges with laboratory facilities;
20. High-rise buildings (4 or more stories);
21. Multi-use commercial, office, or warehouse facilities;
22. High density, multi-use residential complexes served through a master meter.
23. Others specified by the WCSA when reasonable cause can be shown for a potential backflow or cross connection hazard.

D. Where lawn sprinkler systems, irrigation systems or fire protection systems are connected directly to the waterworks with a separate service connection, a backflow prevention assembly or backflow elimination method shall be installed.

E. All temporary or emergency service connections shall be protected where in the judgment of the WCSA a health, pollutional, or system hazard to the waterworks exists or may exist for a potential backflow or cross connection hazard.

XIV. Type of Protection Required

A. The type of protection required shall depend on the degree of hazard, which exists or may exist. The degree of hazard, either high, moderate, or low, is based on the nature of the contaminant; the potential health hazard; the method of backflow (either by backpressure or by backsiphonage); and the potential effect on waterworks structures, equipment, and appurtenances used in the storage, collection, purification, treatment, and distribution of pure water. Table 1 shall be used as a guide to determine the degree of hazard for any situation.

B. Backflow elimination methods, which include the air gap, physical disconnection, and discontinuance or refusal of service, give the highest degree of protection and shall be used whenever practical to do so in high hazard situations subject to backpressure.
   1. The minimum air gap shall be twice the effective opening of a potable water outlet unless the outlet is a distance less than three times the effective opening away from a wall or similar vertical surface, in which case the minimum air gap shall be three times the effective opening of the outlet. In no case shall the minimum air gap be less than one inch.
   2. Physical disconnection and discontinuance or refusal of service eliminates any connection, direct or indirect, between a waterworks and a nonpotable or questionable quality system.

C. Backflow prevention assemblies for containment shall be the reduced pressure principle backflow prevention assembly (RP or RPZ), the double gate-double check valve assembly (DG-DC), the pressure vacuum breaker assembly (PVB), or the atmospheric vacuum breaker (AVB).

D. An air gap, physical disconnection, RPZ, or discontinuance or refusal of service will protect against backpressure and backsiphonage.

E. A RPZ shall be used in high hazard situations subject to backpressure where it is impractical to eliminate the cross connection by an air gap or physical disconnection.

F. PVBs and AVBs will not protect against backpressure, but will protect against backsiphonage. PVBs and AVBs may be used in low, moderate or high hazard situations subject to backsiphonage only.

G. A DG-DC will protect against backpressure and backsiphonage but it shall not be used in high hazard situations.

H. Barometric loops are not acceptable.

I. Interchangeable connections or changeover devices are not acceptable.

J. Backflow prevention assemblies shall conform to the latest available American Water Works Association (AWWA) standards; shall hold current University of Southern California Foundation for Cross connection Control and Hydraulic Research (USC) approval; and shall be listed by the American Society of Sanitary Engineers (ASSE).

K. Backflow prevention assemblies shall be installed, maintained, and repaired in accordance with the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USC) and the manufacturer's instructions. Orientation of the assembly shall be as approved by the USC.

L. For the purpose of application of point-of-use isolation protection in lieu of service line containment, assemblies or devices, or backflow elimination methods shall be as specified by WCSA where reasonable assurance can be shown that the assembly, device, or method will protect the waterworks. As a minimum, devices used in point-of-use isolation shall be listed by the American Society of Sanitary Engineering (ASSE) and comply with the Uniform Statewide Building Code. Assemblies used in point-of-use isolation shall be in compliance with Section XIV K. and L. See Table 2, Assembly and Device Application.

M. Backflow prevention devices or assemblies with openings, outlets, or vents that are designed to operate or open during backflow prevention shall not be installed in areas subject to flooding or in pits and shall be installed in a free atmosphere.

N. Backflow prevention devices or assemblies shall not be subjected to operating conditions of working pressure, backpressure, temperature, or flow rate which exceed the test conditions of the performance evaluation standard under which the device is listed (ASSE) or the assembly is approved (USC).

XV. Locating Prevention and Elimination Measures for Containment

A. The location of service line containment assemblies or backflow elimination methods will be determined by property survey, where necessary.
   1. Typically backflow prevention assemblies or backflow elimination methods are installed at the service connection to the consumer's water supply or inside the building.
      a. If installed inside the building or downstream of the service connection, the installation location must be prior to any unprotected takeoffs. In addition, the customer/owner must:

i. provide WCSA access to inspect the backflow prevention assembly or elimination method immediately upon request,
ii. certify in writing annually to WCSA that no additional connections have been made between the backflow prevention assembly or elimination method and the water main,
iii. test the backflow prevention assembly at least annually (unless more frequent testing is required by the Cross Connection Control Director).

2. Containment measures serving public buildings or other facilities may be located on public property upon receiving the necessary approvals, easements, or permissions from the property owner.
3. Where the assembly or backflow elimination method will be located within the jurisdiction of the Local Building Official, it must be located prior to any unprotected takeoffs. The Local Building Official will be advised prior to installation.

B. Point-of-Use Isolation In Lieu of Service Connection Containment:
Where, in the judgment of the Cross Connection Control Director, all actual or potential cross connections can be easily abated or controlled at each point-of-use and where the consumer's water supply system is not intricate or complex, point-of-use isolation protection by application of appropriate backflow prevention assemblies or devices or backflow elimination methods may be applied in lieu of installing a backflow prevention assembly or backflow elimination method at the service connection. Table 2, Assembly and Device Application, shall be used as a guide to determine the appropriate backflow assembly or device where point-of-use isolation protection is being applied in lieu of service line containment. Point-of-use isolation protection by application of appropriate backflow prevention assemblies, devices, or elimination methods may be used if the following conditions are met:

1. The method of protection provided shall be, in the judgment of the Cross Connection Control Director, the method which best provides protection; and
2. The customer/owner grants access for inspections and makes a request in writing for point-of-use isolation protection; and
3. The Local Building Official concurs or does not object.

Assemblies, devices, or elimination methods installed under this section will be selected from Table 2 – Assembly and Device Application.

Point-of-use isolation protection applied in lieu of service line containment will be in accordance with the Memorandum of Agreement between the Department of Housing and Community Development and the Department of Health. See attachments.

XVI. Pressure Sensing Devices

Hydraulic analysis will be used to determine the set point of required pressure sensing devices used to shut off or regulate the flow from pumps connected directly or indirectly to the distribution system. The device shall be set at the service connection pressure which corresponds to the minimum working pressure required at the critical node in the affected distribution system subsystem. See *Waterworks Regulations* § 12 VAC 5-590-690C for minimum working pressure requirements. In no case shall the pressure sensing device be set lower than would provide 20 psi (gage pressure) at the customer's meter.

XVII. Approved Backflow Safeguards

The Cross Connection Control Director will ensure that backflow prevention assemblies installed under this Program hold current approval by the USC. The customer/ owner will be notified of any USC Special Notice which may affect the status of an installed assembly.

XVIII. Temporary or Emergency Connections and Water Loading Stations

Requests for temporary or emergency service connections and temporary or permanent water loading stations will be directed to the Waterworks Distribution System Supervisor for approval. The Waterworks Distribution System Supervisor shall make the Cross Connection Control Director aware of the request and ask for input.

The Waterworks Distribution System Supervisor will perform periodic inspections of these facilities.

XIX. Coordination

A. The Cross Connection Control Director will send through the Local Building Official all new plans for service connections to serve fire service connections, lawn sprinkler systems, or irrigation systems. In addition, the Cross Connection Control Director will copy the Local Building Official on all backflow prevention recommendations.

B. The WCSA General Manager will ensure communication between the Cross Connection Control Director and the Local Building Official of cross connection control requirements at new premises, premises where usage has changed, premises where booster or fire pumps are used, and all others where plumbing modifications occur. In instances of conflict between the directives of the Building Official and the WCSA the most restrictive will generally apply unless the General Manager in consultation with the Building Official and his supervisors decides otherwise.

C. Required assemblies shall be tested and inspected and required elimination methods shall be inspected by the Cross Connection Control Director prior to service being provided.

D. A follow-up inspection of newly required assemblies will be performed by the Cross Connection Control Director within 30 days of occupancy.

XX. Premises With Individual Water Supplies

A. Premises with individual water supplies requesting a new service connection or reconnection to the waterworks will not be allowed to leave the individual water supply interconnected with the plumbing system served by the WCSA waterworks. A physical disconnection between the individual private water supply and all plumbing systems served by the WCSA water supply shall be maintained at all times.

B. Premises with individual water supplies, i.e., an auxiliary water system, may, upon approval of the Waterworks Distribution System Supervisor, maintain the water supply on the premises if the auxiliary water system is physically disconnected from all plumbing systems served by the WCSA. Maintenance of the physical disconnection and access for inspection of this physical disconnection upon demand by WCSA must be provided for. Failure to allow WCSA officials to inspect and confirm the permanent physical disconnection shall be deemed as evidence of a high hazard cross connection which will result in the immediate suspension of water service by WCSA.

C. Subsequent inspection frequency will be determined on a case-by-case basis by the Cross Connection Control Director. Inspections and assessments will be conducted to verify the maintenance of the physical disconnection.

XXI. Records

A. Records of inspections of backflow prevention assemblies or devices or backflow elimination methods; test results of backflow prevention assemblies; assessments of consumer's water supply systems; and backflow incidence reports, for both residential and non-residential customers will be maintained by the Cross Connection Control Director for ten years. Continuous public education program records will be maintained by the Cross Connection Control Director for ten years.

B. An up-to-date listing of all customers will be maintained by the Cross Connection Control Director. The list will contain:
1. owner of premises
2. tenant
3. name of premises
4. service address
5. phone number
6. contact person
7. number of service connections
8. size of service connection
9. annual assessment type: (on site interview) (mailed questionnaire) (telephone interview) (mailed public education materials)
10. assessment frequency
11. assigned degree of hazard

C. Continuous public education program records will be maintained by the Cross Control Director for ten years. The records will contain:
1. owner and address of residence
2. occupant if different from owner
3. telephone number
4. brief explanation of the program
5. brief explanation of causes of backflow and preventative and control measures
6. brief explanation of residential plumbing hazards having the potential for cross connections and backflow
7. brief explanation of the potential health effects of cross connections and backflow
8. public education materials
9. methods of Delivery
10. other educational activities
11. guidance and resources to identify actual or potential cross connections
12. existing cross connection control safeguards
13. who to contact for further information
14. who to contact if contamination is ever suspected
15. sources for additional information
16. documentation of all public contacts including assistance provided

D. An up-to-date listing of consumer's water supply system owners who have cross connection control safeguards installed will be maintained by the Cross Connection Control Director. The list will contain:

1. owner of premises
2. tenant
3. name of premises
4. service address
5. phone number
6. contact person
7. substance of concern
8. assigned degree of hazard
9. location of cross connection preventative and control measures
10. type of prevention or elimination measures: (service line containment) (point-of-use isolation)
11. type of protection: (USC assembly) (ASSE device) (pressure sensing device) (air gap) (physical disconnection)
12. manufacturer
13. model number
14. serial number
15. size
16. ASSE number
17. testing and inspection frequency: (annually) (semi annually) (quarterly)
18. pressure sensing device pressure set point and basis for this set point
19. access documentation: (on file) (denied) (not necessary)

E. An up-to-date listing of consumer's water supply system owners who have an auxiliary water system available to the premises. In addition to the applicable records noted above, the water usage records will be reviewed to determine if the auxiliary water system is being used.

F. Questionnaires will be maintained by the Cross Connection Control Director for 10 years. The questionnaire will contain:
   1. owner and address of residence
   2. occupant if different from owner
   3. telephone number
   4. brief explanation of the program
   5. brief explanation of causes of backflow and preventative and control measures
   6. some likely cross connections:
      a. a garden hose with its outlet submerged
      b. kitchen sink spray hose with its spray head submerged
      c. hand-held shower massager with its head submerged
      d. garden hose used as an aspirator to spray soap or garden chemicals
      e. spring, hot-tub, cistern, or swimming pool connected to the house plumbing system
      f. water softeners improperly connected

7. specific questions which will include but not be limited to:
    a. individual wells, springs or cisterns on the property
    b. pressure booster pumps
    c. water storage tanks
    d. water treatment systems
    e. outside hose bibs used in conjunction with:
        i. chemical sprayers
        ii. jet spray washers
        iii. swimming pools, hot tubs, saunas, etc.
        iv. lawn sprinkler or irrigation systems
    f. photographic developing
    g. utility sinks with hoses extending below sink rim
    h. animal watering troughs
8. existing cross connection control safeguards:
    a. working properly
    b. leaking, noisy
    c. any modifications or repairs made
    d. date of last test
    e. any problems with hot water tank relief valve or faucet washers not lasting very long
9. also included with the questionnaire should be:
    a. educational material
    b. who to contact for further information
    c. who to contact if contamination is ever suspected
    d. a deadline to respond to the questionnaire

G. Assessment reports shall be maintained by the Cross Connection Control Director for 10 years. The report will contain:
    1. inventory information as noted above
    2. completed questionnaire
    3. assessment report of:
        a. degree of hazard
        b. appropriateness of assembly, device, or backflow elimination method
        c. installation acceptable
        d. general condition of assembly, device, or backflow elimination method
        e. repair/replacement recommendations
        f. new/additional assembly, device, or backflow elimination method recommendations
        g. any indication of thermal expansion problems

H. Testing reports shall be maintained by the Cross Connection Control Director for 10 years. Testing reports will contain:
    1. inventory information as noted above
    2. line pressure
    3. results of testing
    4. test method used
    5. date, signature, and certification number of the Backflow Prevention Device Worker
    6. If repairs were made, the test report will contain:
        a. which parts replaced
        b. replacement parts used
        c. probable cause of test failure
        d. preventative measures taken

XXII. Assembly, Device, and Separation Selection Guidelines

Selection of assembly, device, and backflow eliminations methods shall be in accordance with:

A. Virginia Cross Connection Control Association — Recommended Best Practice

B. International Plumbing Code and its Commentary

C. EPA *Cross connection Control Manual*

D. Virginia *Waterworks Regulations*

E. AWWA M-14 Cross Connection Control Manual

F. University of Southern California, Foundation for Cross Connection Control and Hydraulic Research

XXIII. Examples:

Types of Facilities	Probable Degree of Hazard	Type of Containment Assembly Required
Hospitals, mortuaries, clinics, veterinary establishments, dental offices, nursing homes, and medical buildings	High	Reduced Pressure Principle Device (RPZ); ASSE #1013
Laboratories	High	RPZ; ASSE #1013
Piers, docks, waterfront facilities	High	RPZ; ASSE #1013
Sewage treatment plants, sewage pumping stations, or storm water pumping stations	High	RPZ; ASSE #1013
Food and beverage processing plants	Moderate (Generally)	Double Gate-Double Check Valve Assembly (DG-DC) ASSE #1015
	High (Use of toxics, etc., in processing)	RPZ; ASSE #1013
Chemical plants, dyeing plants and pharmaceutical plants	High	RPZ; ASSE #1013
Metal plating industries	High	RPZ; ASSE #1013
Petroleum processing or storage plants	High	RPZ; ASSE #1013
Radioactive materials processing plants or nuclear reactors	High	RPZ; ASSE #1013
Car washes and laundries	High	RPZ; ASSE #1013
Water loading stations	High	Air Gap Physical Disconnection or RPZ; ASSE #1013

Types of Facilities	Probable Degree of Hazard	Type of Containment Assembly Required
Lawn sprinkler systems, irrigation systems	High	RPZ; ASSE #1013 or Atmospheric Vacuum Breakers (AVB); ASSE #1001 or Pressure Vacuum Breaker (PVB); ASSE #1020, Depending on method of backflow and pressure or flow conditions
Fire service systems	High	RPZ; ASSE #1013
Slaughter houses and poultry processing plants	High	RPZ; ASSE #1013
Farms where the water is used for other than household purposes	High	RPZ; ASSE #1013
Commercial greenhouses and nurseries	High	RPZ; ASSE #1013
Health clubs with swimming pools, therapeutic baths, hot tubs or saunas	High	RPZ; ASSE #1013
Paper and paper products plants and printing plants	High	RPZ; ASSE #1013
Pesticide or exterminating companies and their vehicles with storage or mixing tanks	High	RPZ; ASSE #1013 (at service connection and on vehicles)
Schools or colleges with laboratory facilities	High	RPZ; ASSE #1013
High-rise buildings (4 or more stories)	Moderate (Unless otherwise covered)	DG-DC; ASSE #1015
Multiuse commercial, office, or warehouse facilities	Moderate (Unless otherwise covered)	DG-DC; ASSE #1015
High-density, multi-use residential complexes served through a master meter	Moderate (Unless otherwise covered)	DG-DC; ASSE #1015

All containment assemblies will comply with AWWA Standards, be approved for containment by the USC, and be listed by the ASSE. In high hazard situations subject to backpressure, backflow prevention by an elimination method should be the method of choice, wherever practical.

XXIV. Device Testability/Serviceability

A. Containment or point-of-use isolation assemblies used within the consumer's water supply system that are capable of being tested and repaired in-line include the RPZ, DG-DC, and PVB.

B. Residential Dual Checks without an intermediate atmospheric vent and Boiler Dual Checks with an intermediate atmospheric vent are testable but most of these ASSE listed devices must be removed for testing. Some can be overhauled in-line.

C. Generally, a visual inspection is the only means to inspect most Hose Bibb Vacuum Breakers (HBVBs) since they cannot be removed if installed in accordance with the manufacturer's instructions. Some manufacturers do provide frostproof wall hydrants with HBVBs which can be easily removed for inspection and replacement.

D. Pipe connected AVBs can be inspected by removing the top cover.

E. Air gaps, physical disconnection, and discontinuance or refusal of water service require only a visual inspection.

XXV. Consumer Education Literature

(See Attachment F)

XXVI. Typical Installation Sketches

(See Attachment E)

XXVII. Thermal Expansion

Customers will be advised of the potential for thermal expansion prior to or during installation of a backflow prevention device. Solutions to thermal expansion will be at the discretion of the consumer's water supply system owner and at the expense of the consumer's water supply system owner.

See Attachment P for consumer education literature.

XXVIII. Definitions

As used in this Program, the words and terms shall be as defined in Section III of this Program or in the Commonwealth of Virginia, State Board of Health, *Waterworks Regulations* 2005, or as amended.

XXIX. Attachments

A. Table 1, Determination of Degree of Hazard
B. Table 2, Assembly and Device Application
C. Department of Housing and Community Development Memorandum of Agreement
D. List of certified Backflow Prevention Device Workers
E. Typical Installation sketches
F. Education Literature
G. Questionnaire
H. Report of Assessment Letter
I. Device Testing Due Letter
J. Device Repair Needed Letter
K. Test Form
L. Transmittal of Test Results Letter
M. Device Required Letter
N. Notice of Violation Letter
O. Termination of Service Letter/ Language to be used for phone conversation
P. Thermal Expansion Possible Educational Literature
Q. Verification of Auxiliary Water Supply Physical Disconnection Due Letter

R. Guidance document for communication with Building Official

RESOLUTION OF THE BOARD OF COMMISSIONERS OF WASHINGTON COUNTY SERVICE AUTHORITY

WHEREAS, Washington County Service Authority (WCSA) has developed a plan for expanding the Middle Fork Drinking Water Treatment Plant (the "project") and obtained funding commitments for the project; and

WHEREAS, an easement for ingress and egress over certain property owned by Bobby and Karol Gray (the "landowners") as outlined in the Deeds prepared by General Counsel for WCSA is necessary to complete the construction and operation of the project; WCSA previously engaged in unsuccessful negotiations with the landowners for the acquisition of raw waterline easement as well as ingress and egress easements and previously filed a certificate of take to obtain the raw waterline easements; WCSA has made the landowners a formal written offer for ingress and egress easements, accompanied by the requisite supporting materials; WCSA has been unsuccessful in its attempts to acquire the property from the landowners; WCSA believes that further attempts to acquire the property will be futile; and

WHEREAS, further delay in obtaining the property will unnecessarily delay the project, and other projects of WCSA that are dependent upon the completion of this project;

THEREFORE BE IT RESOLVED, that the Board of Commissioners authorizes Robbie Cornett, General Manager, and Elliott Lawson & Minor. P.C., General Counsel, to proceed in accordance with the condemnation procedures outlined Va. Code Titles 25.1 and 33.1, as applied to WCSA by Va. Code § 15.2-5114, specifically, to cause to be filed in the Circuit Court of Washington County, Virginia, a certificate of take to obtain title to the easements for ingress and egress as currently held by the landowners and to proceed with the requisite condemnation process subsequent to filing such certificate of take.

This Resolution shall take effect this 25th day of October, 2010.

WASHINGTON COUNTY SERVICE AUTHORITY

By: Jae Chase
Chairman

Attest:

Secretary