



PHYSICAL DEVELOPMENT COMMITTEE
City Council Committee

Tuesday, June 10, 2025 | 3:00 PM
2nd Floor Training Room- City Hall
900 Church Street
Lynchburg, VA 24504

AGENDA

- I. Welcome** *Councilmember Jacqueline Timmer, Chair*
 - I.1. A Minute for Planning - Community Development
- II. Information Items**
 - II.2. Campbell County Utilities and Service Authority Water Contract
 - II.3. Public Sidewalks Presentation
- III. General Business**
- IV. Roll Call**
- V. Next Regular Meeting**

AGENDA ITEM SUMMARY

MEETING DATE

June 10, 2025

PRESENTED BY

Timothy Mitchell, Director of Water Resources

AGENDA ITEM # II.2

Campbell County Utilities and Service Authority Water Contract

RECOMMENDATION

Provide notice of intent to renew the contract, reserving the right to renegotiate certain aspects prior to contract expiration.

SUMMARY

The current water contract between the City of Lynchburg and Campbell County Utilities and Service Authority (CCUSA) expires on June 30, 2027. By contract, the City must notify CCUSA in writing by June 30, 2025, of our intent to renew or terminate the contract. Failure to notify will result in an automatic 10-year renewal under the current terms beginning July 1, 2027. Staff will provide an overview of the current contract and a previous Contract Supplement that is still in effect, along with recommendations for the contract extension.

PRIOR ACTION(S)

None

FISCAL IMPACT

Current contract provides approximately \$600,000 in annual revenues to the Water Fund.

CONTACT(S)

Timothy Mitchell, Director of Water Resources

ATTACHMENT(S)

1. CCUSA Water Purchase Contract 7-1-07
2. CCUSA Water Contract Supplement
3. 6-10-25 CCUSA Presentation

REVIEWED BY



Timothy Mitchell, Director of Water Resources

Date: May 30, 2025



Gregory Patrick, Deputy City Manager

Date: June 06, 2025



Alicia Finney, Clerk of Council

Date: June 06, 2025

WATER PURCHASE CONTRACT

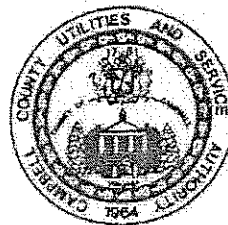
between

The City of Lynchburg

and

**Campbell County Utilities
and Service Authority**

Effective: July 1, 2007



WATER PURCHASE CONTRACT
between
City of Lynchburg and Campbell County Utilities and Service Authority

THIS CONTRACT, made this 6th day of August, 2007, by and between the Campbell County Utilities and Service Authority, hereinafter referred to as the "Authority", and the City of Lynchburg, a municipal corporation of the Commonwealth of Virginia, hereinafter referred to as the "City";

WITNESSETH

That for and in consideration of the mutual benefits resulting from the undertakings of the parties to this contract and the covenants and agreements contained herein, the Authority and the City covenant and agree, each with the other as follows:

I. GENERAL

- A. That the previous contract which governed the sale and purchase of water between the two parties has expired and both parties desire to enter into a new contract.
- B. That it is in the mutual interest of the parties to cooperate as the City has the ability to treat and produce more water than is currently consumed by its customers, since the Authority currently lacks such facilities to treat and produce water for its customers, and that by jointly using the existing facilities of the City more fully both parties will recognize lower costs that will limit rate increases to their respective customers.
- C. Therefore, the City agrees to sell water to the Authority for resale to Authority customers. Nothing in this agreement shall limit the Authority from expanding its current service area to other parts of Campbell County and using City water to supply service for such expansions provided such capacity is available. The Authority expects that its requirements for water will increase and the city is willing to supply water to meet the Authority's increasing demands as long as the City determines that it is in a position to do so. The Authority and the City further agree that for the duration of this contract, there will be no reduction in the amount the Authority can purchase, except for conditions noted in Section VII. F. below.
- D. Unless approved by the City, the Authority will not resell any water purchased from the City to other localities. It shall be understood that an exception to this provision will be allowed in the event of emergencies.

II. TERM and RENEWAL

A. This contract will be in force and effect for twenty years from July 1, 2007 through June 30, 2027.

B. At the end of year eighteen, June 30, 2025, each party will notify the other of its intention to terminate the contract at the end of year twenty, June 30, 2027, or to renew the contract as provided for in Section C immediately below.

C. After year twenty, the contract will automatically be renewed in ten year increments unless the parties have provided written notice of their intention to the other party to terminate the contract two years prior to the end of the ten year renewal period. Under this provision, the first notification of intent to terminate the contract after the twentieth year will be June 30, 2035.

D. The methodology described in Section V for determining the price of water sold by the City to the Authority shall apply to all water sold after July 1, 2007.

III. SERVICES PROVIDED

A. The quality and pressure of water delivered to the Authority under this contract shall be the same as that furnished City customers in the areas from the main or mains from which the water is taken by the Authority at the metering point or points at the time of delivery and shall meet the requirements of the Virginia Department of Health and/or other State or Federal agencies which have jurisdiction over public water supplies.

B. Existing delivery points (with the exception of individual meters) will be at the locations specified in Exhibit B – Master Meter Locations. Future delivery points may be established as mutually agreed upon. The costs for constructing additional master meter facilities or other facilities requested by the Authority shall be the responsibility of the Authority and the costs for additional or revised facilities requested by the City shall be the responsibility of the City. Costs for any backflow prevention devices shall be the responsibility of the Authority.

C. The Authority shall be responsible for the provision of additional pumping and storage facilities to its system to meet the demands within its service area. Notwithstanding this, the Authority and the City may agree to modify City facilities to provide enhanced service within the Authority's service area. Cost sharing for these improvements shall be provided by the system-wide sharing of Capital Improvement Expenditures as defined in the methodology described in Section V. When available, the City may provide additional storage for the Authority.

D. Upon request by the Authority, the City may annually designate a portion of its pumping and storage capacity to satisfy regulatory requirements, provided such capacity is available in the City's system.

IV. CONNECTIONS and METERING

A. The City will install and maintain master meters at each major delivery point. The Authority and the City agree that it is in the best interest of both parties that the number of individual service connections from City lines that serve homes in Campbell County be kept to a minimum and that all delivery points be served by master meters wherever practical. Nonetheless, individual service connections may be made to City transmission lines to serve Campbell County residents according to provisions established in paragraph B below.

B. Individual service connections may be made for County residents whose property abuts the right of way or easement containing a City transmission main located wholly in the County when there is no respective Authority line that is practically available for connection by the County residents. The connection and installation of the meter shall be done by City crews. The customers served by these connections shall be billed as Authority customers. The Authority shall charge these customers an availability fee and connection charge that is at least equal to the City's charges to its customers. The Authority shall remit to the City that portion of the availability fee and connection charges as is equal to the City's comparable charges.

In circumstances where the property is divided by the City/County boundary the following guidelines apply:

- The jurisdiction in which the meter box is located is responsible for billing and collecting the connection, availability, deposits, administrative, and normal user charges. The customer is considered their customer.
- The entity that owns and operates the water main or transmission main which is being connected to shall make the tap and receive the connection and availability charges. It is the responsibility of the billing entity to charge and remit the appropriate fees to the entity that owns the line or main being tapped. These fees are equal to the standard fees charged by the locality that owns the mains to its respective customers.
- Annually each party shall provide the other with updated fee structures.

C. To determine consumption totals for the Authority, all master meters and individual service meters for City customers that are fed by Authority lines will be read monthly by the City and all service meters connected directly to City mains for Authority customers will be read by the Authority monthly. Each party shall provide the other with an itemized listing of the meters read and the reading for each meter. Each party shall have the right to read meters simultaneously for the purpose of verifying the accuracy of the readings. Total monthly consumption for the Authority shall be the sum of the measured

flows through the City installed master meters and individual meters which serve County residents directly from City lines minus the sum of the consumption recorded from City meters served by Authority lines and any water used for line flushing or fire fighting purposes on the City lines served by the Authority.

D. Approved backflow prevention devices shall be provided at all new master meter locations installed after the date of this contract to prevent water from leaving the Authority's lines and entering the City's lines. The Authority shall maintain a cross connection control and backflow prevention program that meets all the requirements of the Virginia Department of Health, the International Plumbing Code, and the Uniform Building Code, and shall provide copies of this program to the City. Installation, maintenance, and testing of any backflow prevention devices shall be at the expense of the Authority. It is also recognized that these are connections between potable water systems and that there may be a desire to construct connection points such that in the event of an emergency water could be back fed from the Authority's system to the City's system. These situations will be addressed on an individual basis.

E. The City or the Authority at its respective expense shall have the right to test and verify the accuracy of all master and service meters. If the accuracy of a tested meter is less than 95%, adjustments shall be made to cover the usage for the most recent 90 day period.

F. The measurement basis for the City meters shall be in hundred cubic feet (hcf).

V. WATER RATES AND CHARGES

A. Water rates and charges shall be determined based on the methodology described in Exhibit A – Water Utility Cost of Service Study – Final Rate study Report, prepared by Black & Veatch Corporation, dated June 2006. The study details the methodology based on fiscal year 2007. The methodology is based on the "Utility Basis" as recommended by the American Water Works Association (AWWA), refer to the Executive Brief of the Study.

VI. BILLING and PAYMENTS

A. Annually, prior to the start of each fiscal year the City will establish a provisional billing rate. This provisional rate is calculated using the Water Utility Operating Fund budgeted costs less the deductions Section V. B, the applicable rate of return percentages and estimates of system wide water consumption.

B. The City will bill the Authority each month for the total monthly consumption as determined according to the provisions of Section IV using the provisional rate established in Section VI. A above.

C. At the end of each fiscal year the actual costs incurred in accordance with Section V. above will be derived from the City's audited financial statements and schedules and the system wide water consumption will be derived from data in the City's utility billing system. From this data, utilizing the same methodology, an actual rate for the previous year shall be calculated. This rate shall be applied to the entire consumption of the prior year and the difference in actual charges and provisional charges calculated. It is understood by the Authority and the City that these adjustments may result in either subtractions from or additions to the subsequent year's calculation of water charges to the Authority.

D. Amounts billed to the Authority will be paid within 45 days of the invoice date. Bills unpaid beyond 45 days will be subject to the same penalties as imposed upon other City customers. The Authority must notify the City in writing within 15 days of receipt of any bill for which there are questions. No penalties will be paid on any disputed charges ultimately settled in favor of the Authority.

VII. OTHER ITEMS

A. Title to water facilities in Campbell County constructed or provided by the Authority, or subsequently acquired by the Authority shall vest and remain vested in the Authority in fee simple. Title to water facilities in Campbell County constructed or provided by the City or subsequently acquired by the City shall vest and remain vested in the City in fee simple. Title to all master meter vaults shall vest and remain vested in the City in fee simple. Title to all separate backflow protection devices shall vest and remain vested in the Authority in fee simple.

B. Other than for circumstances described in Section IV. B above, the City will not sell water to customers in Campbell County except as may be given by written permission of the Authority. In a like manner, the Authority shall not sell water to customers within the City except as may be given written permission by the City.

C. The City shall have the right, with written permission of Campbell County (said permission shall not be reasonably withheld) and permission of such other regulatory agencies as may have jurisdiction, to extend its water mains and lines within Campbell County to connect sections or parts of the City's water distribution system. The Authority will have the right to connect to these mains and lines for service of its customers as provided for in Section IV. All costs associated with such extensions and providing maintenance to these City lines shall be the responsibility of the City. The City shall comply with the standards, rules and regulations of all agencies having jurisdiction in this matter.

D. The City and the Authority may agree to construct jointly owned facilities outside the City in the Authority's service area for the purpose of the City providing water service to

areas outside the Authority's service area not presently served by the Authority's water system. Any such agreement shall contain terms and conditions mutually agreeable to the City and the Authority. Capital costs for the construction as well as operation and maintenance costs for such facilities shall be shared on a mutually agreed basis, any water utilized or resold by the City in these jointly owned facilities shall be deducted from the Authority's metered consumption at the point of delivery. Such costs shall be clearly delineated in and mutually agreed upon in a separate supplemental written contract to this contract, it being understood and agreed that both parties to this contract shall have the right to use such jointly owned facilities beyond the expiration date of this contract.

E. Periodically, but at least annually, the City will provide the Authority with copies of its water capital improvements program, operating budget, and other relevant planning documents. At least annually, the Authority will provide the City with estimates of future water demands for each water delivery point and the City will provide the Authority with estimates of its ability to supply these demands.

F. The City reserves the right to restrict Authority water usage during drought conditions or other emergencies. Restrictions placed on water sold to the Authority shall be equivalent to those restrictions placed upon other City categories of customers.

G. While this contract is in force, the Authority agrees that it will not sell water purchased from the City to its residential customers at an amount that is less than its costs of purchasing water from the City.

H. The *First Supplement to Water Purchase Contract*, dated May 30th, 2002 is hereby incorporated into this contract by reference. All terms and conditions described therein shall remain in effect with the exception of the methodology for determining "Water Rates and Charges" which shall be modified to the methodology described herein.

H. The City and the Authority agree to participate in a committee comprised of the Utility Directors or their representatives of the City of Lynchburg, Amherst County Service Authority, Bedford County Public Service Authority, and Campbell County Utilities and Service Authority. The purpose of the committee is to evaluate the feasibility, benefits, and drawbacks of forming a regional water and wastewater authority. The committee shall be self directed and shall have the option of utilizing outside resources as they deem appropriate. Should the committee determine that a regional authority is feasible and beneficial participation by any utility in the authority shall be completely voluntary.

VIII. REPRESENTATIONS

A. The making, execution, and delivery of this contract have been induced by no representations, statements, warranties, or agreements other than those herein expressed.

This contract embodies the entire understanding of the parties hereto, and except for the attached appendix, there are no further or other agreements or understandings, written or oral, in effect between the parties related to the subject matter hereof, and this contract supersedes all previous agreements that may have existed between the parties hereto with respect to the subject of equal formality signed by the parties hereto or by their duly authorized officers or representatives.

B. Modifications, additions, amendments, and or alterations to any of the provisions of this contract shall be in writing and signed by duly authorized representatives of the parties hereto.

C. This contract shall be governed in its entirety by the laws of the Commonwealth of Virginia.

D. In the event of any occurrence rendering the Authority or City incapable of performing under this contract, any successor of the Authority or City whether the result of legal process, assignment, or otherwise shall succeed to the rights of its predecessor hereunder.

THE CAMPBELL COUNTY UTILITIES AND SERVICE AUTHORITY

BY: William B. Sanford

ATTEST: Michael Kamron

THE CITY OF LYNCHBURG, a Municipal Corporation

BY: Kimball Zepher

ATTEST: D. Wade Campbell

Exhibit A

Water Utility
Cost of Service Study

Final Rate Study Report

Prepared by:

Black & Veatch Corporation
Enterprise Management Solutions
June, 2006

City of Lynchburg, Virginia



Water Utility Cost of Service Study

FINAL RATE STUDY REPORT

Black & Veatch Corporation
Enterprise Management Solutions
June 2006



BLACK & VEATCH
building a world of difference™

ENERGY WATER INFORMATION GOVERNMENT

CITY OF LYNCHBURG, VIRGINIA

Water Utility Cost of Service Study

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CITY OF LYNCHBURG, VIRGINIA

Water Utility Cost of Service Study

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EXECUTIVE BRIEF

Executive Brief

Water sales contracts between the City of Lynchburg and the water authorities of Amherst County, Bedford County, and Campbell County expired in July 2005. By mutual agreement these contracts were extended for an additional year to provide time for a study of the costs to provide water service to the counties by an outside consultant. Black & Veatch Corporation was selected to perform the study using a universally accepted methodology for developing the “costs of service” as recommended by the American Water Works Association (AWWA).

A goal in any study of this type is to use a methodology that will fairly allocate the utility’s costs of treated water production to a particular customer based upon the degree to which that customer uses the utility’s facilities in terms of annual usage and peak rates of demand. Numerous meetings were held between the consultant and the utility managers to review the processes used during the study and to ensure consensus that this goal was being fairly met.

The rate study process contained the following steps:

1. Develop the projected revenue and revenue requirements for the operation of the City’s water system. Three specific objectives had to be met:
 - a. Provide adequate revenues for self-sufficient funding of the City’s water enterprise fund.
 - b. Maintain sufficient debt service coverage.
 - c. Provide sufficient year-end operating funds.
2. Allocate these costs to the appropriate functional cost center of the utility (treatment, transmission, distribution, etc.); and then to the different customer classes based upon how they used these facilities. In this analysis the following proposed methodology, consisting of industry accepted methods recommended by AWWA, was employed:
 - a. Revenue requirements were calculated on a “Utility Basis,” including O&M expense, depreciation, and return on rate base.
 - b. The costs were allocated using the “Commodity Demand” methodology. This methodology allocates costs in proportion to the average usage and peak usage patterns of each customer class.
 - c. All allocations were “System Based.” The utility managers agreed that it was more practical to allocate costs for the entire system to all customer classes rather than identifying discrete portions of the City’s water system that serve each specific customer class. This approach provides better overall long-term rate stability for the region.

- d. A system weighted rate of return on the value of the assets used in producing water was calculated reflecting the cost of debt and a standard rate of return on the City's equity (ownership) in its water system. The equity return factor was based upon 30-year treasury bond yields.
 - e. An outside city rate of return was calculated for the Counties that was 1.415 times the system weighted rate of return. This was calculated by adding 2.00% to the system weighted rate of return calculated in d. above.
3. Using this proposed methodology the following rates were proposed for the fiscal year 2006-07.

Customer Class	Current Rates FY 2005-06	Proposed Rates FY 2006-07
	\$/Ccf	\$/Ccf
City ¹	1.82	1.87
Amherst County ²	1.88	1.69
Bedford County ²	1.79	1.77
Campbell County ²	1.88	1.77

- Notes: ¹ Represents average cost per Ccf. Includes meter charge revenue.
² Provisional rates subject to change based on actual costs and operating data.
- Ccf = 100 cubic feet

Additional important findings identified in the study:

1. The City's water system is underutilized. Selling water to the Counties lowers the average costs the City must charge its customers. The study analysis indicated that the City's average water rate to its customers was lowered approximately 20% by using the excess treatment capacity to produce and sell water to the Counties.
2. Using water regionally helps defray future investments by the counties in water supply and treatment facilities.
3. Using water regionally spreads future repair and replacement capital investments in the City's system over a larger customer base.
4. The current rate methodology produces similar results in comparison with the proposed methodology.
5. The utility managers were unanimous in their support and recommendation of the proposed methodology.

1.0 REPORT SUMMARY

1.0 Report Summary

1.1 Study Approach

To best meet the City of Lynchburg’s Water Rate Study objectives, the following three step approach was used in performing the study.

Objective	Rate Study Process
Determine revenue requirements and the total cost of service.	<p style="text-align: center;"><i>Development of Revenues, Revenue Requirements and Financial Planning</i></p> <p>Project customers, volumes, and revenues under existing rates. Project water utility revenue requirements and conduct financial planning to ensure all utility operating and capital costs are adequately met for the planning period while minimizing the need for utility revenue increases.</p>
Allocate costs of service to functional cost components and to the customer classes.	<p style="text-align: center;"><i>Cost of Service Analyses</i></p> <p>Allocate the projected costs of providing utility service to customer classes under an industry accepted methodology. Assess the extent to which the costs of providing utility service are equitably recovered under existing rates.</p>
Design of rates and charges and methodology that is equitable to the City and Counties.	<p style="text-align: center;"><i>Design of Rates and Charges</i></p> <p>Develop a schedule of rates and charges to:</p> <ul style="list-style-type: none"> (a) Ensure all utility operating and capital costs are adequately met for the planning period, and (b) equitably recover costs of providing utility service for each customer class.

To allow for input and direction from the City and its outside city wholesale customers, the project scope included several meetings to conduct a rate policy workshop and to review draft and final study results. A workgroup, consisting of the director or manager from each party’s water utility, participated in these meetings throughout the development of this rate study to ensure that each party’s objectives were represented and addressed.

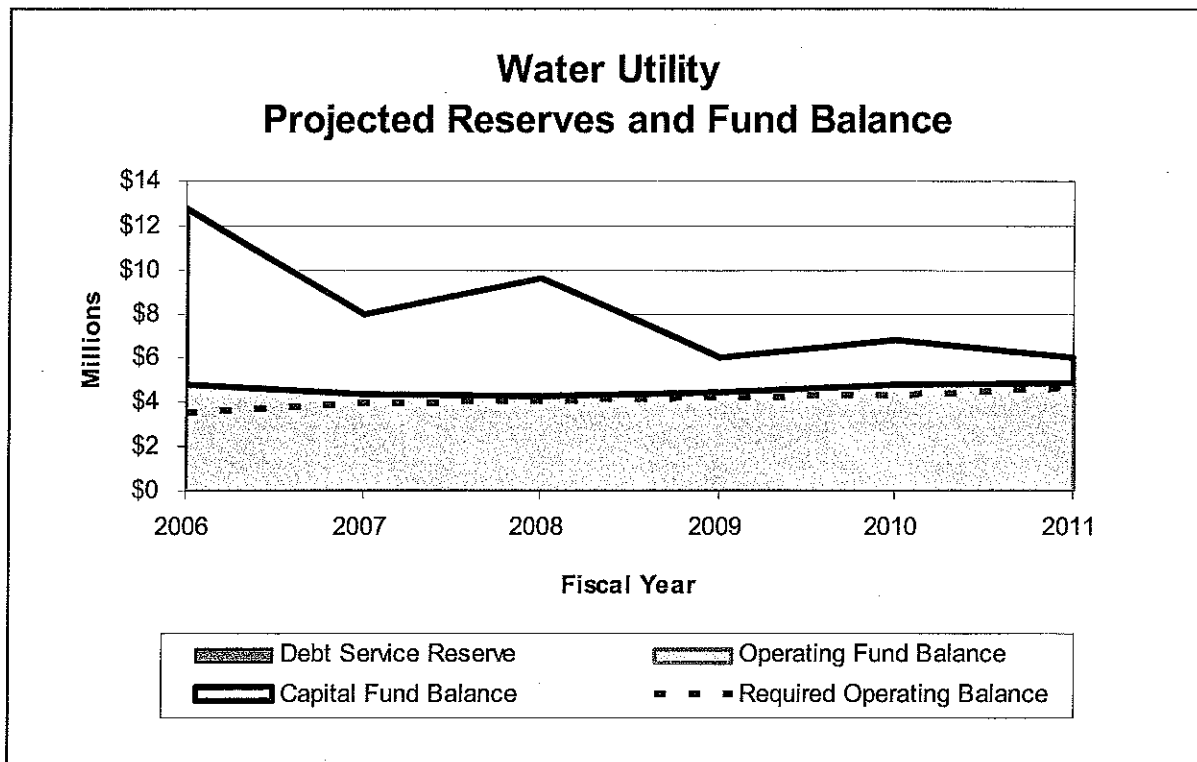
1.2 Financial Planning

The first objective in this utility rate study is developing a financial plan based on projections of annual utility revenues and revenue requirements for the planning period.

Based on the City's current budget plan, the proposed water financial plan is summarized in Table 1-1. This financial plan provides the basis for the subsequent cost of service and rate design evaluations.

Figure 1-1 presents the projected annual reserves and fund balances for the Water Utility as developed in Table 1-1. Fund Balance represents the total of all sources of available funds including the end of year System Operations balance (Table 1-1, Line 26), end of year Construction Fund balance (Table 1-1, Line 46), and the Debt Service Reserve balance (Table 1-1, Line 47).

Figure 1- 1



The above graph of the Water Utility projected annual reserves and fund balances illustrates that the proposed water service revenue increases presented in Lines 2a through 2e of Table 1-1, proposed bond issues in FY 2006 and FY 2008, and the use of available fund balances provide sufficient funding for the projected revenue requirements for the study period. The higher construction fund balances in FY 2006 and FY 2008 result from the proposed bond issues.

The proposed financial plan meets three important financial criteria identified by City staff as financial planning objectives:

1. Provides adequate annual revenues to ensure the self-sufficient funding of the City's Water Utility enterprise fund.
2. Maintain a debt service coverage ratio of 1.2 times throughout the planning period.
3. Maintain adequate year end available operating funds greater than 40% of the annual total O&M expense plus debt service.

1.3 Cost of Service Analysis

To achieve equity in the recovery of costs from various utility customers, the basic premise in the establishment of rate schedules is to reflect the costs of providing service to the extent practicable. By use of cost of service principles in rate making, a utility places itself in a defensible position by being able to demonstrate: (1) its rates have not been set in an arbitrary manner, and (2) one class of user is not required to subsidize another class.

Industry accepted cost of service methodologies and related issues were reviewed and evaluated during a rate policy workshop. Cost of service methodologies considered during the study, included the industry accepted methods as recognized by the American Water Works Association (AWWA) and others including the marginal-incremental methodology. Based on the discussions and subsequent evaluations it was decided to develop the cost of service analysis based on the following cost allocation methodology:

- **Utility Basis of Revenue Requirements.** To address the issues associated with providing water service to outside-city customers and provide wholesale customer rate stability, it was decided to develop the revenue requirements on a utility basis. The utility basis approach to cost of service includes the revenue requirement elements of O&M expense, depreciation, and return on rate base. Return on rate base is derived by the application of an appropriate percentage rate of return on rate base usually consisting of the value of facilities used or useful in providing service. Use of the utility basis in establishing cost and rates for outside-city customers provides a greater degree of rate stability by providing for the recovery of capital related costs, in the form of depreciation and return on rate base, on a basis which is related to the value of the service facilities. In addition, the utility basis, through the return on rate base, provides a means by which the utility may be reimbursed for the proprietary risks, responsibilities and other costs incurred in providing service to outside-city non-owner customers.
- **Commodity-Demand Cost Allocation Methodology.** Based on the level of water service provided and the availability of metered demand data, the commodity-demand methodology was selected as the basis for the cost of service analysis. The commodity-demand cost

allocation method is an industry accepted methodology recognized by AWWA and is utilized by other water utilities in the state of Virginia.

- **System Based Allocations.** To simplify the cost allocation process, provide regional rate stability, and ensure that all customer's are treated the same it was decided that cost allocations reflect the system basis. System based cost allocations provide a simple basis for cost allocations which reflect each customer's service requirements and ensure the recovery of total system costs.
- **Rate of Return Basis.** To reflect the City Water Utility's cost of capital funding, the rate of return on rate base is established as a weighted average of the debt and equity portions of rate base. The proposed rate of return on the debt portion of rate base reflects the FY 2007 embedded interest cost of Water Utility outstanding debt. The proposed rate of return on the equity portion of rate base reflects the recent average interest rate of the 30 year treasury bonds.
- **Outside-City Rate of Return Factor.** Various outside-city rate of return factors were reviewed and evaluated based on reasonableness and industry practices. Costs of service were developed reflecting the various levels of rates of returns. The study workgroup reviewed the evaluation results and selected an outside-city rate of return on rate base factor of 1.415 times the weighted average rate of return on rate base, equivalent to the weighted average rate of return on rate base plus 2.00 percent. The outside-city rate of return factor represents a premium for risks involved in providing service to outside-city customers.

A cost of service analysis based on the proposed financial plan presented in Table 1-1 and selected cost of service allocation methodology for assigning operating and capital costs to functional components and to customer classes has been prepared. Based on the cost of service analyses, the allocation of Fiscal Year 2007 (test year) costs result in the distribution of costs as summarized in Table 1-2. For comparison purposes, Table 1-2 includes revenue under existing rates, and the indicated revenue increase.

1.4 Rate Design

The financial planning, cost of service, and rate design studies culminate in the development of a schedule of rates designed to meet the three study objectives previously outlined.

The schedule of current water utility rates is presented on Table 1-3. For comparison purposes, the calculated average Retail customer cost is presented in Table 1-3.

A schedule of proposed water utility rates is presented in Table 1-4. The proposed rates based on the financial plan presented in Table 1-1 and the results of the costs of service analysis illustrated in

Table 1-2. For the purposes of this study, calculated Retail customer average costs are presented in Table 1-4 to illustrate the overall impact on City Retail customers. The City can subsequently design specific rates for detailed customer classes included as Retail customers in this study.

A comparison of allocated costs of service and revenues under existing and proposed rates is presented in Table 1-5. As illustrated by the comparison presented in Table 1-5, existing rates provided reasonable results. The proposed rates reflect an adjustment to the current rate methodology to be more consistent with industry practice and reflect cost of service based on each customer's level of service requirements including the maximum month demands.

1.5 Other Project Findings

Based on the evaluations and discussions throughout the study, the following other miscellaneous project findings were realized:

- **System Capacity Utilization.** The current City Water System's capacity is under utilized. Consistent with other utilities in similar circumstances, the City's Water Utility is faced with higher levels of fixed costs associated with under utilized facilities. As such, the potential to provide additional water sales to its outside-city customers provides benefit to the City's Water Utility by lowering the average unit cost associated with these fixed costs.
- **Regional Infrastructure Investment.** The outside-city customers are faced with potential capital infrastructure needs to meet growing water demands. Outside-City customers benefit from the use of the City Water System's available capacity by deferring or eliminating the need for capital investments to develop or enhance their own water supply and treatment facilities.

1.6 Conclusions

Based on the study analyses, evaluations, findings, and input from the project workgroup, we are providing the following list of recommendations:

- **Regional Solution.** We recommend the continued use of the City Water Utility's available capacity to provide service to its outside-city customers to realize the potential economies of scale benefit of providing additional water sales.
- **Cost of Service Rates.** We recommend that the City implement cost of service based rates reflecting the following cost allocation methodology:
 - **Utility Basis of Revenue Requirements.** Addresses issues associated with providing water service to outside-city customers and provides wholesale customer rate stability.

- Commodity-Demand Cost Allocation Methodology. Consistent with the level of water service provided and the availability of metered demand data.
 - System Based Allocations. Simplifies the cost allocation process, provides regional rate stability, and ensures reasonable equity within customer classes.
 - Weighted Average Rate of Return on Rate Base. Consistent with utility industry practice and reflects the City Water Utility's costs of capital funding.
 - Outside-City Rate of Return Factor of 1.415 times Weighted Average Rate of Return on Rate Base. Consistent with utility industry practice and reflects a reasonable premium for risks involved in providing service to outside-city customers.
- Contract Duration. Based on recent experience, due to the duration and effort required to establish a contract basis including the cost allocation methodology, we recommend a ten year term for the wholesale service contract agreements.

TABLE 1-1
WATER UTILITY
PROJECTED FLOW OF FUNDS

Line No.	Description	Fiscal Year Ending June 30					
		2006	2007	2008	2009	2010	2011
		\$	\$	\$	\$	\$	\$
SYSTEM OPERATIONS							
1	Revenues Under FY 2006 Rates	8,532,000	8,676,000	8,770,000	8,864,000	8,957,000	9,050,000
2	Projected Revenue Increases Implemented:						
2 a	1.59% Implemented July 1, 2006		138,000	139,000	141,000	142,000	144,000
2 b	6.80% Implemented July 1, 2007			606,000	612,000	619,000	625,000
2 c	5.33% Implemented July 1, 2008				513,000	518,000	523,000
2 d	3.60% Implemented July 1, 2009					368,000	372,000
2 e	3.63% Implemented July 1, 2010						389,000
3	Total Water Revenues	8,532,000	8,814,000	9,515,000	10,130,000	10,604,000	11,103,000
4	Bad Debt Expense	(60,000)	(60,000)	(60,000)	(60,000)	(60,000)	(60,000)
5	Net Water Revenues	8,472,000	8,754,000	9,455,000	10,070,000	10,544,000	11,043,000
6	Other Operating Revenue	1,333,000	1,384,000	1,397,000	1,425,000	1,455,000	1,485,000
7	Interest Income	160,000	156,000	147,000	139,000	148,000	150,000
8	Availability Fees	105,000	105,000	105,000	105,000	105,000	105,000
9	Total Revenue	10,070,000	10,379,000	11,104,000	11,739,000	12,252,000	12,783,000
10	Operation and Maintenance Expense	(6,270,000)	(6,706,000)	(6,993,000)	(7,287,000)	(7,597,000)	(7,925,000)
11	Net Revenue	3,800,000	3,673,000	4,111,000	4,452,000	4,655,000	4,858,000
Revenue Bond Debt Service							
12 a	Outstanding Bonds	0	0	0	0	0	0
12 b	Proposed Future Bonds	0	0	0	0	0	0
12	Total Revenue Bond Debt Service	0	0	0	0	0	0
13	Recurring Minor Improvements (Capital Outlay)	(20,000)	(20,000)	(21,000)	(21,000)	(22,000)	(22,000)
Deposits (to)/from Reserve Funds							
14	Deposits (to)/from Debt Service Reserve Fund	0	0	0	0	0	0
15	Total Deposits (to)/from Reserves	0	0	0	0	0	0
16	Beginning of Year Available Balances ¹	4,643,000	4,854,000	4,359,000	4,267,000	4,426,000	4,854,000
17	Total Available Funds	8,423,000	8,507,000	8,449,000	8,698,000	9,059,000	9,690,000
Transfers to City							
18	Outstanding VRLF Loan Payments	0	0	0	0	0	0
19	Proposed Future VRLF Loan Payments	0	0	0	0	0	0
20	BAN Payments	0	(500,000)	(500,000)	0	0	0
21	Outstanding G.O. Bond Payments	(2,507,000)	(2,621,000)	(2,569,000)	(2,309,000)	(2,242,000)	(2,141,000)
22	Proposed Future G.O. Bond Payments	0	0	0	(850,000)	(850,000)	(1,532,000)
23	Other Transfers ²	(112,000)	(77,000)	(163,000)	(163,000)	(163,000)	(163,000)
24	Total Transfers to City	(2,619,000)	(3,198,000)	(3,232,000)	(3,322,000)	(3,255,000)	(3,838,000)
25	Transfer to Construction Fund ³	(950,000)	(950,000)	(950,000)	(950,000)	(950,000)	(950,000)
26	End of Year Available Balance (Excluding Reserves)	4,854,000	4,359,000	4,267,000	4,426,000	4,854,000	4,904,000
CONSTRUCTION FUND							
27	Beginning of Year Balance	1,764,000	7,939,000	3,629,000	5,385,000	1,617,000	1,989,000
28	Grant and VRLF Receipts	0	0	0	0	0	0
29	Projected BAN Issue	10,000,000	0	0	0	0	0
30	Less: Issuance Costs	(200,000)	0	0	0	0	0
31	Less: Defeasance BANS	0	0	0	0	0	0
32	Net Revenue Bond Proceeds	9,800,000	0	0	0	0	0
33	Projected Revenue Bond Issue	0	0	0	0	0	0
34	Less: Issuance Costs	0	0	0	0	0	0
35	Less: Debt Service Reserve Fund	0	0	0	0	0	0
36	Less: Defeasance BANS	0	0	0	0	0	0
37	Net Revenue Bond Proceeds	0	0	0	0	0	0
38	Projected G.O. Bond Issue	0	0	17,000,000	0	1,500,000	0
39	Less: Issuance Costs	0	0	(255,000)	0	(23,000)	0
40	Less: Defeasance BANS	0	0	(10,000,000)	0	0	0
41	Net G.O. Bond Proceeds	0	0	6,745,000	0	1,477,000	0
42	Transfers from System Operations	950,000	950,000	950,000	950,000	950,000	950,000
43	Interest Income	68,000	174,000	85,000	106,000	47,000	51,000
44	Total Available Funds	12,582,000	9,063,000	11,409,000	6,441,000	4,091,000	2,990,000
45	Capital Improvement Program	(4,643,000)	(5,434,000)	(6,024,000)	(4,824,000)	(2,102,000)	(1,883,000)
46	End of Year Balance	7,939,000	3,629,000	5,385,000	1,617,000	1,989,000	1,107,000
CUMULATIVE RESERVE BALANCES							
47	Debt Service Reserve Fund (to/from Line 14)	0	0	0	0	0	0
DEBT RATIOS							
48	Senior Debt Service Coverage	NA	NA	NA	NA	NA	NA
49	Total Debt Service Coverage Test ⁴	1.52	1.18	1.34	1.41	1.51	1.32
50	Revenue Covenant Coverage Test	1.44	1.14	1.26	1.33	1.42	1.26
51	Operations Fund Ratio ⁵	54.80%	44.00%	42.07%	42.04%	45.07%	41.99%

Notes: ¹ Beginning of Year Available Balance based on City's 1/11/2006 water fund capital financing plan (FN-3.14a).

² Other Transfers to City includes transfers to the General Fund and Fleet.

³ Includes project costs charged to operations.

⁴ Although only required to generate 1.0x debt service, a 1.20x coverage should be maintained.

⁵ The City is required to maintain an operating fund balance equal to 40% of the operating budget and debt service.

Table 1-2
Water Utility
Cost of Service Analysis Summary
Test Year 2007

Line No.	Classes of Service	(1) Cost of Service \$	(2) Existing Rates \$	(3) Indicated Revenue Increase
1	Retail	6,869,000	6,675,000	2.91%
2	Amherst County	127,000	141,000	-9.93%
3	Bedford County	1,378,000	1,392,000	-1.01%
4	Campbell County	442,000	470,000	-5.96%
5	Total ¹	8,816,000	8,678,000	1.59%

Notes: ¹ Variances in Total Costs presented in Table 1-1 are due to rounding.

Table 1-3
 Water Utility
 Existing Rates & Charges
 Fiscal Year 2006

Line No.	Customer Class	Rates \$/Ccf
1	Retail ¹	1.82
2	Amherst County ²	1.88
3	Bedford County ²	1.79
4	Campbell County ²	1.88

Notes: ¹ Represents average cost per Ccf. Includes meter charge revenue.
² Provisional rates subject to change based on actual costs and operating data.

Ccf = 100 cubic feet

Table 1-4

Water Utility
 Proposed Cost of Service Rates & Charges
 Fiscal Year 2007

Line No.	Customer Class	Rates \$/Ccf
1	Retail ¹	1.87
2	Amherst County ²	1.69
3	Bedford County ²	1.77
4	Campbell County ²	1.77

Notes: ¹ Represents average cost per Ccf.

² Provisional rates subject to change based on actual costs and operating data.

Ccf = 100 cubic feet

Table 1-5
Water Utility
Comparison of Costs of Service with Revenues Under Existing and Calculated Rates
Test Year 2007

Line No.	Classes of Service	(1)	(2)		(4)	(5)
		Cost of Service	Revenue		Cost of Service Recovery	
			Existing Rates	Calculated Rates	Existing Rates	Calculated Rates
		\$	\$	\$		
1	Retail	6,869,000	6,675,000	6,869,000	97.2%	100.0%
2	Amherst County	127,000	141,000	127,000	111.0%	100.0%
3	Bedford County	1,378,000	1,392,000	1,376,000	101.0%	99.9%
4	Campbell County	442,000	470,000	443,000	106.3%	100.2%
5	Total ¹	8,816,000	8,678,000	8,815,000	98.4%	100.0%

Notes: ¹ Variances in Total Costs presented in Table 1-1 are due to rounding.

2.0 INTRODUCTION

2.0 Introduction

2.1 Background

The City of Lynchburg's Water Utility System provides water service to residents and businesses within the City of Lynchburg and portions of Amherst, Bedford, and Campbell counties. The primary source of raw water supply is the Pedlar Reservoir, supplemented by the James River when the system water demand is greater. The City meets the Water Utility System demands with water treated from its College Hill Water Treatment Plant (WTP), located in the City, and at the Abert WTP, located in Bedford County. The provision of water service to the counties is made under existing contractual agreements. Utilities undertook this study to review the City's recovery of the water operations and capital costs from the counties and to develop a basis for new long-term agreements with each county.

2.2 Purpose

This report examines the future financial requirements of the City's Water Utility System. The report presents (1) for financing future water system improvements and funding the ongoing revenue requirements [i.e., operation and maintenance (O&M) expense, debt service, and revenue financed system renewals and replacements of each utility], (2) an analysis of the cost of providing services, (3) the development of a recommended cost of service based rate methodology applicable to wholesale service with schedules of rates for each county that are commensurate with the costs of providing water service, and (4) recommendations for wording of a long-term rate agreement.

2.3 Scope

The financial plans presented in this report cover a six-year study period consisting of the fiscal years ending June 30, 2006 (FY 2006) through June 30, 2011 (FY 2011). Report projections are based on the City's historical financial records, budgets, operating reports, and capital improvement program (CIP). Rate design principles used in this report are described in the American Water Works Association (AWWA), *Manual of Water Supply Practices; Principles of Water Rates, Fees, and Charges, M1*.

The following scope of studies is addressed in the report:

- ▶ Projection of future system operating revenues and revenue requirements.
- ▶ Analysis of future annual revenue needs.
- ▶ Development of CIP financing plans.
- ▶ Development of a cost of service based cost allocation methodology

- ▶ Design of a wholesale rate schedule for fiscal year 2007.

Chapters 3, 4, and 5 of this report develop the Water Utility's financial plan, costs of service, and wholesale service rates, respectively.

3.0 WATER UTILITY FINANCIAL PLAN

3.0 Water Utility Financial Plan

3.1 Overview

A six-year financial plan, beginning with the budget year ending June 30, 2006 (FY 2006) and ending with FY 2011, has been developed for the Water Utility. This and other supporting tables are presented at the end of this chapter. The plan for the Water Utility is summarized in Table 3-1.

The System Operations cash flow analysis (Table 3-1, Lines 1 through 26) shows projected water service and other revenues (Table 3-1, Lines 1 through 9) being used to pay the ongoing utility revenue requirements consisting of operation and maintenance (O&M) expense, debt service, normal annual renewals and replacements, and deposits in various reserves and funds in Lines 10 through 25. Table 3-1 also indicates future water revenue increase requirements in Lines 2a through 2c. The Construction Fund cash flow analysis (Table 3-1, Lines 27 through 46) summarizes funding sources required to finance identified capital improvement program projects. A detailed schedule of capital improvements is shown in Table 3-6.

The cash flow analysis also includes projections of reserve fund balances and debt service coverage. The projected fund balances for the Water Fund Debt Service Reserve is presented on Line 47 of Table 3-1. Annual total debt service coverage is presented on Line 49 of Table 3-1.

Annualized water service revenue increases indicated from the financial plan analysis are as follows:

Fiscal Year	Annual Revenue Increase
2007	1.59%
2008	6.80%
2009	5.33%
2010	3.60%
2011	3.63%

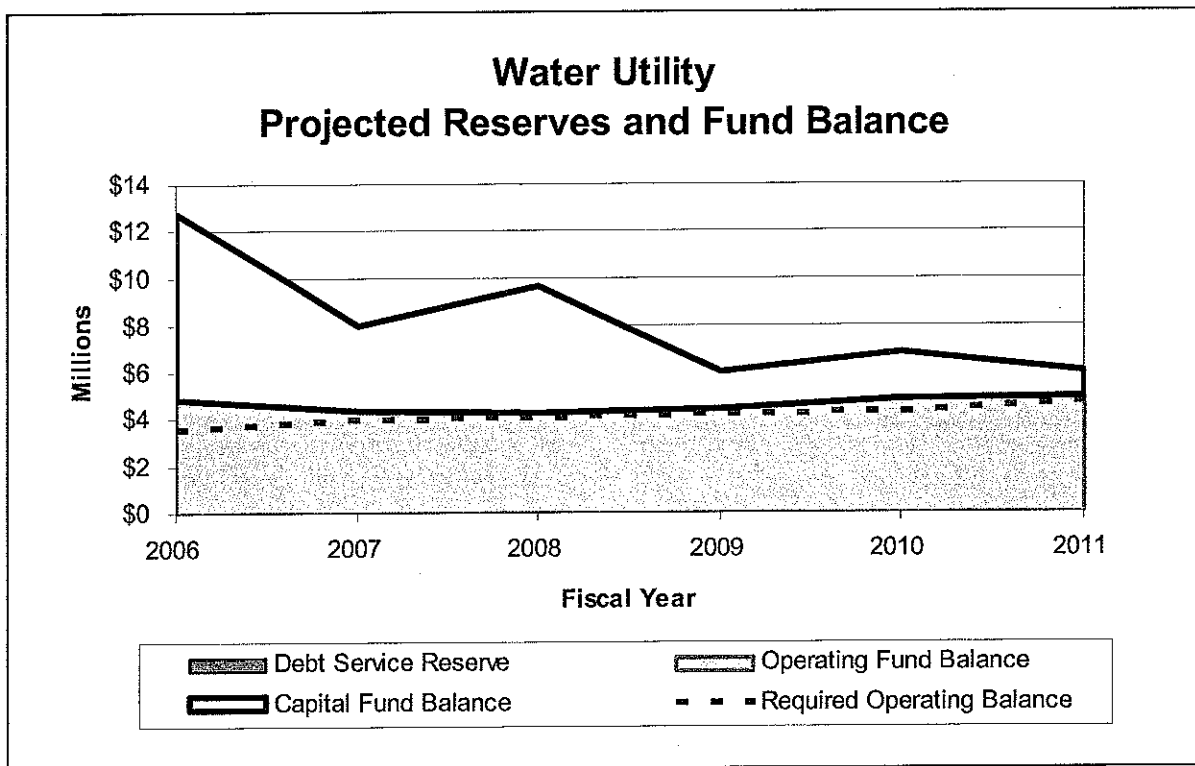
The need for these future revenue increases is driven by a number of factors including, but not necessarily limited to, the following requirements:

- ▶ Increasing O&M expenses which are expected to escalate due to inflation, system growth, and changes in operations.

- ▶ Cash funding of capital improvement program expenditures.
- ▶ Management's targeted ending annual balances.

Figure 3-1 presents the projected annual reserves and fund balances for the Water Utility as developed in Table 3-1. Fund Balance represents the total of all sources of available funds including the end of year System Operations balance (Table 3-1, Line 26), end of year Construction Fund balance (Table 3-1, Line 46), and the Debt Service Reserve balance (Table 3-1, Line 47).

Figure 3- 1



The above graph of the Water Utility projected annual reserves and fund balances illustrates that the proposed water service revenue increases presented in Lines 2a through 2e of Table 3-1, proposed bond issues in FY 2006 and FY 2008, and the use of available fund balances provide sufficient funding for the projected revenue requirements for the study period. The higher construction fund balances in FY 2006 and FY 2008 result from the proposed bond issues.

3.2 System Operations

To provide for the continued operation of the Water Utility on a sound financial basis, annual revenues must be sufficient to meet annual revenue requirements, provide for adequate operating reserves, and produce adequate net revenues to meet debt service coverage requirements. Table 3-1 summarizes the Water Utility estimated future revenues and revenue requirements, reserve levels, and indicated annual water service revenue increases that are necessary to meet these needs.

3.2.1 Beginning Fund Balance

System Operations' beginning balance includes available carryover monies from previous years' operations. This balance provides working capital to meet current and unforeseen operating expenditures if necessary. As shown in Table 3-1, Line 16, the FY 2006 System Operations' beginning balance is estimated to total \$4,643,000 based on audited FY 2005 information.

3.2.2 Revenues

Operating revenues consist of water service revenue, miscellaneous operating revenue, availability fees, and interest income. Total revenue levels, with proposed annual increases, are projected to rise from \$10,070,000 in FY 2006 to \$12,783,000 in FY 2011 (Table 3-1, Line 9).

3.2.2.1 Water Service Revenue. Table 3-1, Line 1, shows projected water service revenue under existing rates. Existing rate revenue is expected to increase from \$8,532,000 in FY 2006 to \$9,050,000 in FY 2011. These revenue projections reflect the addition of approximately 150 active accounts to the system each year and projected outside city wholesale sales volumes. The Water Fund receives revenue from service and commodity charges. The revenue generated from Availability Fees, as shown in Line 8 of Table 3-1, is projected based on the number of new accounts. For additional details, projected Water Utility average active accounts, billable volume by customer class, and service revenue under existing rates are shown in Tables 3-2, 3-3, and 3-4, respectively. Additional water service revenues (Table 3-1, Lines 2a through 2e) needed to meet projected revenue requirements are discussed later in this chapter.

3.2.2.2 Bad Debt Expense. Table 3-1, Line 4, shows projected bad debt expense. Water Utility bad debt expense is estimated as \$60,000 for the study period. Bad Debt Expense projections are based on the FY 2007 Budget.

3.2.2.3 Other Operating Revenue. Other Operating Revenue, shown in Table 3-1, Line 6, is projected to increase from \$1,333,000 in FY 2006 to \$1,485,000 in FY 2011. Projected Water Fund miscellaneous revenue consists of general fund fire protection, water connections, cut-on/late charges, delinquent account charges, private fire protection, water plus cost, fire hydrant fees, and other miscellaneous revenue.

3.2.2.4 Interest Income. Table 3-1, Line 7, shows projected annual interest income average \$150,000 annually during the period FY 2006 to FY 2011. Interest income is calculated based on average annual operating fund balances and a 3.0 percent annual interest rate.

3.2.3 Revenue Requirements

Revenue requirements include O&M expense, debt service, recurring capital, and transfers to or from the Reserve Funds and the Construction Fund.

3.2.3.1 Operation and Maintenance Expense. Projected O&M expense shown in Table 3-1, Line 10, consists of the costs for personnel, materials, supplies, and contractual services incurred to treat and distribute filtered water on a routine basis. Future O&M expense is expected to increase from \$6,270,000 in FY 2006 to \$7,925,000 in FY 2011. The FY 2006 O&M reflects the anticipated FY 2006 actual expenses. The FY 2007 O&M reflects the FY 2007 budget expenses. The level of projected O&M expense for the period FY 2008 to FY 2011 is based on the FY 2007 budget request, assumed inflation and growth factors based on historical experience and input from Utilities' staff. A detailed schedule of projected O&M expenses is shown in Table 3-5.

3.2.3.2 Debt Service. Debt service (principal and interest) on existing Water Utility debt is shown on Line 1 of Table 3-7 and is summarized on Lines 12a, 18, and 21 in Table 3-1. There is no existing Revenue Bond or Virginia Revolving Loan Fund (VRLF) debt service (Table 3-1, Lines 12a and 18). Existing General Obligation Bond debt service payments (Table 3-1, Line 21) average \$2,398,000 annually during the period FY 2006 to FY 2011.

Debt service on proposed bond issues needed to finance scheduled capital improvements is shown on Lines 12b (Revenue Bonds), 19 (VRLF Loans), 20 (Bond Anticipation Notes), and 22 (GO Bonds) in Table 3-1. Annual debt service on proposed bonds is projected to increase from \$500,000 in FY 2007 to \$1,532,000 in FY 2011. Proposed bond funding for the planning period includes \$10.0 million Bond Anticipation Notes (BANs) in FY 2006, \$17.0 million GO Bonds in FY 2008, and \$1.5 million GO Bonds in FY 2010. The BANs debt service is calculated using a planning level 5.0 percent interest rate and a two year term. The GO bond debt service is calculated using a planning level 5.0 percent interest rate, two year deferral of principal payments, 30-year repayment term, and level principal payments.

3.2.3.3 Recurring Minor Improvements. Projected Recurring Minor Improvements expense shown in Table 3-1, Line 13, consists of capitalized budgeted O&M expenses for repairs and furniture, fixtures, and equipment. Future Recurring Minor Improvements expense is expected to increase from \$20,000 in FY 2006 to \$22,000 in FY 2011. The FY 2006 expense reflects the anticipated FY 2006 actual expenses. The FY 2007 expense reflects the FY 2007 budget expenses. The level of projected expenses for the period FY 2008 to FY 2011 is based on the FY 2007 budget request, assumed inflation and growth factors based on historical experience, and input from Utilities' staff.

3.2.3.4 Debt Service Reserve Fund Transfer. Bond indentures for revenue bond issues typically require the maintenance of a debt service reserve to provide additional security to bond holders. Since there are no outstanding revenue bonds, there is not a requirement for the Debt Service Reserve (as shown in Line 47 of Table 3-1) and Transfers to and from the Debt Service Reserve Fund (as shown in Line 14 of Table 3-1).

3.2.3.5 Other Transfers. Table 3-1, Line 23, shows anticipated transfers of cash to the City’s Fleet Fund for the purchase of vehicles for the Water Fund. The transfers average \$140,000 annually during the period FY 2006 to FY 2011.

3.2.3.6 Construction Fund Transfer. Table 3-1, Line 25, shows anticipated transfers of cash from System Operations to the Construction Fund to cash finance major capital improvements. Transfers, totaling \$5,700,000 are projected for the study period.

3.2.4 Additional User Charge Revenue Required

Sound financial operating practices require a utility to collect revenues which are sufficient to cover revenue requirements, provide adequate reserves, and meet bond coverage requirements. The cash flow analysis presented in Table 3-1 indicates that current water service revenues are below levels needed to support sound financial operations during the study period. Consequently, annual water service revenue increases are necessary for the Water Utility to maintain good financial standing and support capital improvement program financing requirements. Annual revenue increases, as indicated from the financial plan analysis, are presented below:

Fiscal Year	Annual Revenue Increase
2007	1.59%
2008	6.80%
2009	5.33%
2010	3.60%
2011	3.63%

Annual revenue increases are assumed to be effective July 1. Revenue increases are needed to:

- ▶ Pay for increasing O&M expenses which are expected to escalate due to inflation, system growth, and changes in operations.
- ▶ Meet targeted annual year end balances as determined by management and bond covenant requirements.

Line 49 of Table 3-1 presents the annual total debt service coverage. Revenue from all sources is included in the test. For G.O. debt, nominal coverage is 1.00 times debt service. Total debt coverage for the study period averages 1.38.

Line 51 of Table 3-1 presents the ratio of the Water Fund Operations Fund Balance and the total O&M expenses plus debt service. The City's Management requires a minimum Water Fund Operations Fund balance equal to 40% of the annual total O&M expense plus debt service. The projected Water Fund Operations Fund Ratio averages 43% during the study period.

3.3 Construction Fund

A capital improvement financing plan is an integral part of a complete utility financial plan for the City to comprehensively evaluate all service requirements. Lines 27 to 46 of Table 3-1 summarize the capital improvement financing plan for the Water Utility. Over the six year study period, a beginning balance of \$1,764,000, net bond proceeds of \$18,022,000, transfers from System Operations of \$5,700,000, and interest income of \$531,000 (all totaling \$26,017,000) are needed to finance \$24,910,000 in capital improvements and provide \$1,107,000 in carry-over funds for the subsequent year's CIP needs.

3.3.1 Sources of Funds

Funds available to finance the capital improvement needs of the Water Utility include funds currently on hand, transfers from System Operations, loan and bond proceeds, grants, and interest income.

3.3.1.1 Beginning Fund Balance. The Water Utility Construction Fund beginning balance includes available carryover monies from the previous years. This balance is projected to be available to supplement other funding sources during the study period to meet scheduled capital improvement expenditures. As shown in Table 3-1, Line 27, the FY 2006 total beginning balance is estimated to total \$1,764,000.

3.3.1.2 System Operations Fund Transfer. Table 3-1, Line 42 shows anticipated transfers of cash from System Operations to the Construction Fund to help cash finance a portion of major capital improvement projects. Total transfers amount to \$5,700,000 during the study period.

3.3.1.3 Grants and Loan Proceeds. Table 3-1, Line 28 shows anticipated receipts of grants and VRLF Loan proceeds to provide funding for capital projects. No grants or VRLF Loans are anticipated during the study period.

3.3.1.4 Bond Proceeds. Projected annual BANs, Revenue Bond, and General Obligation Bond funding are shown in Table 3-1, Lines 29, 33, and 38. Proceeds from the issuance of additional bonds amount to \$18,022,000 during the study period.

3.3.1.5 Interest Income. Table 3-1, Line 43 shows projected interest income averaging \$89,000 annually over the study period. Interest income is calculated based on average annual fund balances and a 3.0 percent annual interest rate. Approximately \$531,000 in interest income is anticipated to be available during the study period.

3.3.2 Uses of Funds

Available capital improvement funds are used to finance capital improvements, required proposed bond debt service reserve fund deposits, and debt issuance expenses.

3.3.2.1 Capital Improvements. Table 3-1, Line 45, summarizes the Water Utility's projected capital improvement expenditures. Improvement costs over the six-year study period total \$24,910,000. A detailed schedule of capital improvement projects and projected costs is shown in Table 3-6.

3.3.2.2 Debt Issuance Expense. Costs associated with securing debt financing include underwriter, bond attorney, and consultant fees. Debt issuance expenses are shown in Table 3-1, Lines 30, 34, and 39, totaling \$478,000 during the study period.

3.3.2.3 Proposed Bonds Debt Service Reserve Fund Deposit. For each new revenue bond issue, the Water Utility must usually transfer funds to the bond reserve to maintain the reserve requirement. Since no revenue bonds are proposed during the study period, there is not a requirement for Transfers to the Debt Service Reserve Fund (as shown in Line 35 of Table 3-1).

TABLE 3-1
WATER UTILITY
PROJECTED FLOW OF FUNDS

Line No.	Description	Fiscal Year Ending June 30					
		2006	2007	2008	2009	2010	2011
		\$	\$	\$	\$	\$	\$
SYSTEM OPERATIONS							
1	Revenues Under FY 2006 Rates	8,532,000	8,676,000	8,770,000	8,864,000	8,957,000	9,050,000
2	Projected Revenue Increases Implemented:						
2 a	1.59% Implemented July 1, 2006		138,000	139,000	141,000	142,000	144,000
2 b	6.80% Implemented July 1, 2007			606,000	612,000	619,000	625,000
2 c	5.33% Implemented July 1, 2008				513,000	518,000	523,000
2 d	3.60% Implemented July 1, 2009					368,000	372,000
2 e	3.63% Implemented July 1, 2010						389,000
3	Total Water Revenues	8,532,000	8,814,000	9,515,000	10,130,000	10,804,000	11,103,000
4	Bad Debt Expense	(60,000)	(60,000)	(60,000)	(60,000)	(60,000)	(60,000)
5	Net Water Revenues	8,472,000	8,754,000	9,455,000	10,070,000	10,544,000	11,043,000
6	Other Operating Revenue	1,333,000	1,364,000	1,397,000	1,425,000	1,455,000	1,485,000
7	Interest Income	160,000	156,000	147,000	139,000	148,000	150,000
8	Availability Fees	105,000	105,000	105,000	105,000	105,000	105,000
9	Total Revenue	10,070,000	10,379,000	11,104,000	11,739,000	12,252,000	12,783,000
10	Operation and Maintenance Expense	(6,270,000)	(6,706,000)	(6,993,000)	(7,287,000)	(7,597,000)	(7,925,000)
11	Net Revenue	3,800,000	3,673,000	4,111,000	4,452,000	4,655,000	4,858,000
Revenue Bond Debt Service							
12 a	Outstanding Bonds	0	0	0	0	0	0
12 b	Proposed Future Bonds	0	0	0	0	0	0
12	Total Revenue Bond Debt Service	0	0	0	0	0	0
13	Recurring Minor Improvements (Capital Outlay)	(20,000)	(20,000)	(21,000)	(21,000)	(22,000)	(22,000)
Deposits (to)/from Reserve Funds							
14	Deposits (to)/from Debt Service Reserve Fund	0	0	0	0	0	0
15	Total Deposits (to)/from Reserves	0	0	0	0	0	0
16	Beginning of Year Available Balances ¹	4,643,000	4,854,000	4,359,000	4,267,000	4,426,000	4,854,000
17	Total Available Funds	8,423,000	8,507,000	8,449,000	8,698,000	9,059,000	9,690,000
Transfers to City							
18	Outstanding VRLF Loan Payments	0	0	0	0	0	0
19	Proposed Future VRLF Loan Payments	0	0	0	0	0	0
20	BAN Payments	0	(500,000)	(500,000)	0	0	0
21	Outstanding G.O. Bond Payments	(2,507,000)	(2,621,000)	(2,569,000)	(2,309,000)	(2,242,000)	(2,141,000)
22	Proposed Future G.O. Bond Payments	0	0	0	(850,000)	(850,000)	(1,532,000)
23	Other Transfers ²	(112,000)	(77,000)	(163,000)	(163,000)	(163,000)	(163,000)
24	Total Transfers to City	(2,619,000)	(3,198,000)	(3,232,000)	(3,322,000)	(3,255,000)	(3,836,000)
25	Transfer to Construction Fund ³	(950,000)	(950,000)	(950,000)	(950,000)	(950,000)	(950,000)
26	End of Year Available Balance (Excluding Reserves)	4,854,000	4,359,000	4,267,000	4,426,000	4,854,000	4,804,000
CONSTRUCTION FUND							
27	Beginning of Year Balance	1,764,000	7,939,000	3,629,000	5,385,000	1,617,000	1,989,000
28	Grant and VRLF Receipts	0	0	0	0	0	0
29	Projected BAN Issue	10,000,000	0	0	0	0	0
30	Less: Issuance Costs	(200,000)	0	0	0	0	0
31	Less: Defeasement BANs	0	0	0	0	0	0
32	Net Revenue Bond Proceeds	9,800,000	0	0	0	0	0
33	Projected Revenue Bond Issue	0	0	0	0	0	0
34	Less: Issuance Costs	0	0	0	0	0	0
35	Less: Debt Service Reserve Fund	0	0	0	0	0	0
36	Less: Defeasement BANs	0	0	0	0	0	0
37	Net Revenue Bond Proceeds	0	0	0	0	0	0
38	Projected G.O. Bond Issue	0	0	17,000,000	0	1,500,000	0
39	Less: Issuance Costs	0	0	(255,000)	0	(23,000)	0
40	Less: Defeasement BANs	0	0	(10,000,000)	0	0	0
41	Net G.O. Bond Proceeds	0	0	6,745,000	0	1,477,000	0
42	Transfers from System Operations	950,000	950,000	950,000	950,000	950,000	950,000
43	Interest Income	68,000	174,000	85,000	106,000	47,000	51,000
44	Total Available Funds	12,582,000	9,063,000	11,409,000	6,441,000	4,091,000	2,990,000
45	Capital Improvement Program	(4,643,000)	(5,434,000)	(6,024,000)	(4,824,000)	(2,102,000)	(1,883,000)
46	End of Year Balance	7,939,000	3,629,000	5,385,000	1,617,000	1,989,000	1,107,000
CUMULATIVE RESERVE BALANCES							
47	Debt Service Reserve Fund (to/from Line 14)	0	0	0	0	0	0
DEBT RATIOS							
48	Senior Debt Service Coverage	NA	NA	NA	NA	NA	NA
49	Total Debt Service Coverage Test ⁴	1.52	1.18	1.34	1.41	1.51	1.32
50	Revenue Covenant Coverage Test	1.44	1.14	1.26	1.33	1.42	1.26
51	Operations Fund Ratio ⁵	54.80%	44.00%	42.07%	42.04%	45.07%	41.99%

Notes: ¹ Beginning of Year Available Balance based on City's 1/11/2006 water fund capital financing plan (FN-3.14a).

² Other Transfers to City includes transfers to the General Fund and Fleet.

³ Includes project costs charged to operations.

⁴ Although only required to generate 1.0x debt service, a 1.20x coverage should be maintained.

⁵ The City is required to maintain an operating fund balance equal to 40% of the operating budget and debt service.

Table 3-2

Water Utility
Projected Active Accounts

Line No.	Classes of Service	2006	2007	2008	2009	2010	2011
1	Retail	20,375	20,525	20,675	20,825	20,975	21,125
2	Amherst County	1	1	1	1	1	1
3	Bedford County	50	50	50	50	50	50
4	Campbell County	7	7	7	7	7	7
5	Total	20,433	20,583	20,733	20,883	21,033	21,183

Table 3-3

Water Utility
Projected Billable Water Volume

Line No.	Classes of Service	2006	2007	2008	2009	2010	2011
		Ccf	Ccf	Ccf	Ccf	Ccf	Ccf
1	Retail	3,645,000	3,668,100	3,668,000	3,668,000	3,667,000	3,667,000
2	Amherst County	70,000	75,000	75,000	75,000	75,000	75,000
3	Bedford County	727,000	777,500	828,000	879,000	929,500	980,000
4	Campbell County	250,000	250,000	250,000	250,000	250,000	250,000
5	Total	4,692,000	4,770,600	4,821,000	4,872,000	4,921,500	4,972,000

Notes: Ccf = hundred cubic feet

Table 3-4

Water Utility
Projected Water Service Revenue Under Existing Rates

Line No.	Classes of Service	2006	2007	2008	2009	2010	2011
		\$	\$	\$	\$	\$	\$
	Retail						
1	Commodity	6,124,000	6,166,000	6,166,000	6,165,000	6,165,000	6,164,000
2	Meter Charges	505,000	509,000	512,000	515,000	519,000	522,000
3	Subtotal	6,629,000	6,675,000	6,678,000	6,680,000	6,684,000	6,686,000
4	Amherst County	132,000	141,000	141,000	141,000	141,000	141,000
5	Bedford County	1,301,000	1,392,000	1,482,000	1,573,000	1,664,000	1,754,000
6	Campbell County	470,000	470,000	470,000	470,000	470,000	470,000
7	Total ¹	8,532,000	8,678,000	8,771,000	8,864,000	8,959,000	9,051,000

Notes: ¹ Differences in totals for each summary are due to rounding adjustments.

Table 3-5

Water Utility
Summary of Projected Operation & Maintenance Expense

Line No.	Budget Cost Center	(1) 2006	(2) 2007	(3) 2008	(4) 2009	(5) 2010	(6) 2011
		\$	\$	\$	\$	\$	\$
1	Utilities Administration	2,214,000	2,277,000	2,363,000	2,453,000	2,548,000	2,648,000
	Water Supply and Treatment						
2	Electricity	242,000	250,000	256,000	263,000	269,000	276,000
3	Chemicals - Water Supply ¹	11,000	15,000	16,000	17,000	17,000	18,000
4	Chemicals - Treatment	231,000	254,000	275,000	289,000	303,000	318,000
5	All Other	1,700,000	1,867,000	1,951,000	2,040,000	2,135,000	2,235,000
6	Water Line Maintenance	1,175,000	1,277,000	1,330,000	1,386,000	1,445,000	1,508,000
7	Meter Reading	472,000	493,000	515,000	538,000	563,000	589,000
8	Other	0	0	0	0	0	0
9	Non-Departmental Employee Benefits	90,000	85,000	94,000	103,000	114,000	125,000
10	Non-Departmental Admin ²	192,000	246,000	250,000	255,000	260,000	265,000
11	Service Implementation, Non-Recurring	3,000	3,000	3,000	3,000	3,000	3,000
12	Total ³	6,330,000	6,767,000	7,053,000	7,347,000	7,657,000	7,985,000

Notes: ¹ Increase in FY 2007 water supply chemicals is the result of price increases in lime.

² FY 2006 includes half a year of salary adjustments. The remaining years include a full year's worth of salary adjustments.

³ Differences in totals for each summary are due to rounding adjustments. Total includes Bad Debt Expense (Table 3-1, Line 4).

Table 3-6
Water Utility
Projected Capital Improvement Program
(Inflated)

Line No.	Description	2006	2007	2008	2009	2010	2011	Funding	Function
1	6300-3460 - Clay Street Reservoir; PN 94028								TW Storage
2	6300-4161 - Wyndhurst Sub PN 99076	14,481						Cash	Dist Mains
3	6300-4162 - CSO 12.5 Project PN 99058	339						Cash	Dist Mains
4	6300-4573 - CSO 12.4 Project PN 99059	1,631						Cash	Dist Mains
5	6300-4574 - CSO 12.3 Project PN 99060	4,618						Cash	Dist Mains
6	6300-4588 - WaterLine Projects PN 01002	3,720						Cash	Dist Mains
7	6300-4603 - Forest Brook Rd Culvert PN 01041	8,713						Cash	Dist Mains
8	6300-4609 - Jefferson Square Phase 2 PN 01045							Cash	Dist Mains
9	6300-4611 - Utilities-VDOT RI 460 PN 01074	18,923		257,500	265,225	273,182		G.O. & Cash	Trans Mains
10	6300-5187 - WTP Improvements/Security							G.O. & Cash	Treatment
11	6300-5171 - Leesville Rd/Clay St Tank Eva PN							Cash	TW Storage
12	6300-5131 - CSO 12.4 PN 99059	999						Cash	Dist Mains
13	6300-5132 - CSO 12.3 PN 99060	122,684						Cash	Dist Mains
14	6300-5138 - CSO 12.2 ACOE Pj PN 01088	106,638	69,412					Cash	Dist Mains
15	6300-5139 - CSO 12.1 ACOE Pj PN 01089	200,000	444,258					Cash	Dist Mains
16	6300-5143 - CSO 18.2 ACOE Pj PN 01093	305,735	193,452					Cash	Dist Mains
17	6300-5155 - Academy of Music System Upgrade PN							G.O. & Cash	Dist Mains
18	6300-5158 - Distribution System Improvements	209,886	500,000	386,250	795,675	819,545	844,132	G.O. & Cash	Dist Mains
19	6300-5159 - Major Distribution System Maint	0						Cash	Dist Mains
20	6300-5160 - Annual Water Petitions/Extensions	350,001	350,000	360,500	371,315	382,454	393,928	Cash	Dist Mains
21	6300-5161 - CSO Water Main Replacement	14,935	400,000	412,000	424,360	437,091	450,204	Cash	Dist Mains
22	6300-5173 - South Vault Valve Replacement PN 02103	11,234						Cash	RW Trans
23	6300-5185 - Building & Roof Replacement							Cash	Dist Mains
24	6300-5186 - Candles Mtn Wtr System PN	83,629						G.O. & Cash	Trans Mains
25	6300-5189 - New Towne Sect 5 Reimb PN 02094	10,735						Cash	Dist Mains
26	6300-5193 - Campus East Waterline PN 03020	49						Cash	Dist Mains
27	6300-5151 - Large Meter Replacements PN 02025	39,924	192,000					Cash	Meters
28	6300-5282 - Abert Raw Water Pump Station Roof PN	5,000						Cash	RW Trans
29	6300-5235 - College Hill 2nd Floor PN	18,516						Cash	Dist Mains
30	6300-5244 - CHWTP Main Shed Reloc PN 4021							G.O. & Cash	Dist Mains
31	6300-5246 - College Hill Site Improvements PN NEW/CIP	152,260	272,864	515,000				G.O. & Cash	Dist Mains
32	6300-5265 - Abert Alternate Disinfection	19,370	575,000					G.O. & Cash	Treatment
33	6300-5247 - Carrol Ave Pum Sta Generator PN NEW	181,085						G.O. & Cash	Treatment
34	6300-5202 - Odd Fellows Writine PN 03013							Cash	TW Pumping
35	6300-5216 - Bethal Park Subdivision PN	(3,209)						Cash	Trans Mains
36	6300-5218 - CSO 8.1 ACOE PN	16,558						Cash	Dist Mains
37	6300-5228 - TheBluffs Subdivision PN 02111	596						Cash	Dist Mains
38	6300-5237 - Primrose Lane PN 03054							Cash	Dist Mains
39	6300-5242 - Cranehill Water Repairs PN							Cash	Dist Mains
40	6300-5249 - Cabell St Writline Rep PN 04008							Cash	Dist Mains
41	6300-5253 - 9th & Commerce Wtr Leak PN 05013	388,813	350,000					G.O. & Cash	Dist Mains
42	6300-5255 - The Parks, Phase II PN T0006							Cash	Dist Mains
43	6300-5257 - New Towne Sec 4 PN 04016	18,700						Cash	Dist Mains
44	6300-5258 - Wateron Sec II PN 04036	14,250						Cash	Dist Mains
45	6300-5262 - Buckingham Drive Culvert Replacement PN	14,867						Cash	Dist Mains
46	6300-5263 - Windsor Hills Drive Culvert PN	38,924						Cash	Dist Mains

Table 3-6

Water Utility
Projected Capital Improvement Program
(Inflated)

Line No.	Description	2006	2007	2008	2009	2010	2011	Funding	Function
		\$	\$	\$	\$	\$	\$		
47	6300-5266 - LU/Wards Rd Waterline Break PN	21,154						Cash	Dist Mains
48	6300-5269 - Twin Oaks Small Main Replint PN 05022	135,621						G.O. & Cash	Dist Mains
49	6300-5272 - CSO 1-D.4 PN	11,000						Cash	Dist Mains
50	6300-5275 - 9th St Riverfront Wtrline Rplc PN 05034	1,485						Cash	Dist Mains
51	6335-4914 - College Hill AltrnDisn PN 00077CIP	1,015,316	1,417,117					G.O. Bonds	Treatment
52	6335-4915 - Abert WtrPlnt PN 02067	20,108						G.O. Bonds	Treatment
53	6335-4918 - CHWTP Filter Renovations	20,200		3,399,000	1,803,530			G.O. Bonds	Treatment
54	6335-4919 - Abert Lagoons							G.O. & Cash	Treatment
55	6335-4916 - Water Tank Rehabilitation	250,000	670,000	694,220	1,163,807	190,134	194,713	G.O. Bonds	TW Storage
56	6335-4917 - MunicipalWtrTank Design PN	792,875						G.O. Bonds	TW Storage
57	7000-5768 - Academy of Music Utility Reloc PN							G.O. Bonds	Dist Mains
58	Total	4,642,663	5,434,103	6,024,470	4,823,912	2,102,407	1,882,976		
Summary by Funding Source									
59	Grants	0	0	0	0	0	0		
60	VRLF	0	0	0	0	0	0		
61	Revenue	0	0	0	0	0	0		
62	G.O. Bonds	2,098,498	2,087,117	4,093,220	2,967,337	190,134	194,713		
63	G.O. & Cash	1,213,203	1,697,864	1,158,750	1,060,900	1,092,727	844,132		
64	Cash	1,330,962	1,649,123	772,500	795,675	819,545	844,132		
65	Total	4,642,663	5,434,103	6,024,470	4,823,912	2,102,407	1,882,976		
Summary by Function									
66	RW Supply	0	0	0	0	0	0		
67	RW Trans	16,234	0	0	0	0	0		
68	Treatment	1,227,254	2,264,980	4,171,500	2,068,755	273,182	0		
69	TW Storage	1,042,875	670,000	694,220	1,163,807	190,134	194,713		
70	TW Pumping	181,085	0	0	0	0	0		
71	Trans Mains	102,551	0	0	0	0	0		
72	Dist Mains	2,032,739	2,307,122	1,158,750	1,591,350	1,639,091	1,688,263		
73	Meters	39,924	192,000	0	0	0	0		
74	General	0	0	0	0	0	0		
75	Total	4,642,663	5,434,103	6,024,470	4,823,912	2,102,407	1,882,976		

Notes: CSO projects include water distribution improvements only.

Table 3-7
Water Utility
Summary of Projected Debt Service

Line No.	Description	2005	2006	2007	2008	2009	2010	2011
		\$	\$	\$	\$	\$	\$	\$
1	Existing Debt Service Payments		2,507,000	2,621,000	2,569,000	2,309,000	2,242,000	2,141,000
	Estimated Future Debt Service Payments							
2	Revenue Bonds		0	0	0	0	0	0
3	BANS		0	500,000	10,500,000	0	0	0
4	VRLF		0	0	0	0	0	0
5	GO		0	0	0	850,000	850,000	1,532,000
6	Total ¹		2,507,000	3,121,000	13,069,000	3,159,000	3,092,000	3,673,000
7	Embedded Interest Rate Weighted Average Outstanding Principal		26,369,000	30,677,000	31,958,000	34,446,000	33,574,000	32,706,000
8	Annual Interest Payments		1,173,000	1,423,000	1,505,000	1,642,000	1,607,000	1,579,000
9	Accrual Based Interest		24,000	24,000	24,000	24,000	24,000	15,000
10	Amortization of Original Issue Discount		1,197,000	1,447,000	1,529,000	1,666,000	1,631,000	1,594,000
11	Embedded Interest Rate ²		4.54%	4.72%	4.78%	4.84%	4.86%	4.87%
	Debt Ratio							
12	Outstanding Debt		22,802,000	19,599,000	17,916,000	16,417,000	14,922,000	13,464,000
13	Existing Bonds		0	10,000,000	17,000,000	17,000,000	18,500,000	17,893,000
14	Proposed Bonds		22,802,000	31,279,000	34,916,000	33,417,000	33,422,000	31,357,000
	Subtotal		22,802,000	31,279,000	34,916,000	33,417,000	33,422,000	31,357,000
15	Rate Base		41,352,000	39,644,000	36,366,000	34,865,000	33,423,000	31,997,000
16	Fixed Assets (OCLD)		5,929,000	10,571,000	21,666,000	26,136,000	27,742,000	29,022,000
17	Constructed Plant (OCLD)		47,281,000	50,215,000	53,839,000	61,001,000	61,165,000	61,019,000
18	Debt Ratio		48.23%	54.98%	60.17%	54.78%	54.64%	51.39%
19	Average Debt Ratio		55.47%	58.51%	57.67%	57.41%	54.71%	53.02%
	Weighted Average Rate of Return							
20	Rate of Return on Debt (Embedded Interest Rate)		4.54%	4.72%	4.78%	4.84%	4.86%	4.87%
21	Rate of Return on Equity		5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
22	Weighted Average Rate of Return ³		4.74%	4.84%	4.87%	4.91%	4.92%	4.93%

Notes: ¹ Differences in totals for each summary are due to rounding adjustments.

² Embedded interest rate is equal to line 10 divided by line 7.

³ Total Rate of Return based on weighted average of debt and equity. Rate of Return on Equity based on 30-year U.S. Treasury bonds.

BANS = Bond Anticipation Notes

VRLF = Virginia Revolving Loan Fund

GO = General Obligation

OCLD = Original Cost Less Depreciation

4.0 WATER COST OF SERVICE ANALYSIS

4.0 Water Cost of Service Analysis

A water cost of service analysis identifies the total annual costs of providing water service to all classes of customers and supports the design of general service rates which recovers the total costs from the customers in accordance with their service requirements. A rate analysis typically consists of four steps:

- Step 1:** Select a test year for analysis.
- Step 2:** Determine the total annual cost to be recovered from the general schedule of rates and charges for water utility service.
- Step 3:** Allocate the total costs to functional cost components.
- Step 4:** Distribute functionally allocated costs to customer classes.

4.1 Test Year

A cost of service analysis is made for a test year considered representative of the period for which rates are to be in effect. Fiscal Year (FY) 2007 is selected as the test year for this study to enable a better comparison of results with existing rate practices.

4.2 Total Cost of Service

Two methods are commonly used for determining the total annual cost of providing utility service: (1) the cash basis, and (2) the utility basis. The total cost of service for both methods is the same and is based on the total revenue requirements net of miscellaneous revenue sources.

The cash basis is used by most public utilities which do not provide service outside their corporate limits since it relies on traditional cash-oriented budgeting and is easy to apply and understand. The cash basis approach to cost of service includes the revenue requirement elements of O&M expense, debt service, and normal annual renewals and replacements financed with annual water service revenues.

The utility basis is often used by private utilities and public utilities which provide service outside their corporate limits. The utility basis approach to cost of service includes the revenue requirement elements of O&M expense, depreciation, and return on rate base. Return on rate base is derived by the application of an appropriate percentage rate of return on rate base usually consisting of the value of facilities used or useful in providing service. Use of the utility basis in establishing cost and rates for outside-city customers provides a greater degree of rate stability by providing for the recovery of capital related costs, in the form of depreciation and return on rate base, on a basis which is related to the value of the service facilities. In addition, the utility basis, through the return on rate base, provides a means by which the utility may be reimbursed for the proprietary risks,

responsibilities and other costs incurred in providing service to outside-city non-owner customers.

As shown in Table 4-1 (Line 20) the total test year cost of service to be met from water rates equals \$8,814,000. The cost of service as shown includes Net Operating Costs totaling \$5,246,000 (Line 6), and Net Capital Costs totaling \$3,568,000 (Line 19).

4.3 Allocation to Functional Cost Components

4.3.1 Functional Cost Components

Under AWWA's Commodity-Demand Method, the total cost of service may be classified and assigned to functional cost components including commodity, demand, meters & services, customer billing, and City Only direct allocations. Commodity costs vary directly with the quantity of water used. Demand costs are fixed costs which vary more directly with peak capacity. Meters & services costs vary in proportion to the number and size of the meters in the system and include costs associated with meters and services installation and maintenance. Customer billing costs vary in proportion to the number of customer billings and include costs associated with billing. City Only direct allocations are for costs which are associated with inside-city service, such as costs associated with the distribution system.

The separation of costs into functional components provides a means for distributing such costs to customers on the basis of class responsibility for each particular service component.

4.3.2 Allocation of Net Operating Cost of Service

The allocation of Net Operating cost of service from Table 4-1 (Line 6) is determined by allocating the FY 2007 O&M and Other Sources of Revenue to functional cost components and then netting the allocation of Other Sources of Revenue from the allocation of O&M costs for each functional cost component as shown in Table 4-3, Line 20.

The functional cost component allocation of FY 2007 O&M is developed using a two step process. The first step is to allocate the FY 2007 O&M expenses by budget centers to functional cost centers as shown in Table 4-2. Functional cost centers include raw water supply, raw water transmission, treatment, treated water storage, treated water pumping, transmission mains, distribution mains, meters & services, customer billing, and general & administrative. The second step is to allocate the FY 2007 O&M expenses by functional cost centers to the functional cost components as shown in Table 4-3, Lines 1 through 17.

The allocation of FY 2007 Other Sources of Revenue, as shown on Lines 18 and 19 on Table 4-3, is developed based on a review of the source or basis of the revenue. The miscellaneous revenue associated with the transfer from the sewer fund for general and administrative costs is allocated to the functional cost components based on the distribution of allocated FY 2007 O&M costs. The

remainder of the other revenue is associated with miscellaneous revenue charges related to inside-city service, and is included as a City Only direct allocation.

4.3.3 Allocation of Capital Cost Components

The allocation of capital cost components, consisting of Rate Base, Depreciation, and Other Sources of Revenue, to functional cost components is shown in Table 4-4.

4.3.3.1 Allocation of Rate Base. The allocation of Rate Base to functional cost components is shown on Lines 1 through 10 of Table 4-4. The projected FY 2007 Water Utility Rate Base consists of the original cost less depreciation (OCLD) value of plant in service as of June 30, 2005 depreciated through FY 2007 plus the estimated OCLD value of proposed major capital improvement expenditures through FY 2007. Typically rate base excludes the value of contributed assets. Based on the City's books and records, there are no significant contributions associated with the existing plant in service. The allocation of Rate Base provides the basis for assigning the return on rate base component of the cost of service to the respective customer classes.

4.3.3.2 Allocation of Depreciation. The allocation of Depreciation to functional cost components is shown on Lines 11 through 20 of Table 4-4. The projected FY 2007 Water Utility Depreciation consists of the projected FY 2007 annual depreciation of plant in service as of June 30, 2005 plus the estimated FY 2007 annual depreciation on proposed major capital improvements anticipated to be capitalized through FY 2007. Typically for rate purposes, depreciation expense associated with contributed assets would be excluded. Based on the City's books and records, there are no significant contributions associated with the existing plant in service.

4.3.3.3 Allocation of Other Sources of Revenue. The allocation of Other Sources of Revenue to functional cost components is shown on Line 21 of Table 4-4. The allocation of FY 2007 Other Sources of Revenue is developed based on a review of the source or basis of the revenue. The capital related other revenue is associated with miscellaneous revenue charges related to inside-city service, and is included as a City Only direct allocation.

4.4 Distribution of Costs to Customer Classes

It is not practical or cost-effective to determine the cost of providing water service to each individual customer. Therefore, customers are typically grouped into classes which exhibit similar service requirements to facilitate the distribution of the total cost of service. For the purposes of this study, the Water Utility customer classes include the inside-city Retail customer class, and the outside city customer classes of Amherst County, Bedford County, and Campbell County.

Customer class costs of service are determined by distributing functionally allocated costs according to the service requirements of each class. Customer class service requirements are represented by units of service. A description of customer class units of service and costs of service follows.

4.4.1 Units of Service

Estimated units of service for the customer classifications are summarized in Table 4-5. Service requirements for each class are based on average daily water use projections, estimates of each class' maximum month demand, and billing and metering requirements.

The commodity cost responsibility of each customer class is related to the quantity of water used under average day load conditions. The demand cost responsibility of each customer class varies with the capacity requirements for each class' maximum month demand. Average day usage and capacity factors, representing the estimated relationship between individual class maximum month demand and average day usage, are used to develop capacity requirements for maximum month demands. Meters and services cost responsibility of each customer class is related to the number of equivalent 5/8 inch water meters serving each customer class. Customer billing related cost responsibility of each customer class is related to the annual number of bills.

4.4.2 Unit Costs of Service

The development of unit costs of service for each functional cost component is shown in Table 4-6. Unit costs are key components of defensible rates because they are used to equitably distribute costs to customer classes and design cost of service rates.

As shown on Line 13 of Table 4-1, the annual cost of service beyond the operating costs and depreciation are considered return on rate base. The FY 2007 return on rate base of \$2,356,000, when compared to the total system rate base OCLD value of \$53,838,000, indicates an overall system rate of return on rate base of 4.38 percent.

Water revenues from outside-city customers should provide a reasonable return to Lynchburg citizens for providing water service. For purposes of this study, the outside-city rate of return on rate base of 6.84 percent was established based on a weighted average rate of return of 4.84 percent plus a 2.00 percent premium for risks involved in providing service to outside-city customers. The weighted average rate of return was developed based on a weighted average return analysis of the debt and equity portions of rate base, as shown in Lines 20 through 22 of Table 3-7. The return on the debt portion of rate base reflects the FY 2007 embedded interest cost of Water Utility outstanding debt. The return on the equity portion of rate base reflects the recent average interest rate of the 30 year treasury bonds. To derive the \$2,356,000 total return on rate base, a rate of return on rate base of 3.92% is necessary for inside-city Retail customers.

All customer classes pay the same unit costs for the same service. Differences in levels of costs allocated the classes and potential differences in water rates charged to individual classes are attributable to differences in class service requirements.

4.4.3 Customer Class Costs of Service

Unit costs of service applied to class service requirements for the same functional cost components result in the allocated customer class costs of service as shown in Table 4-7. Total costs of service for each customer class are based on unit costs from Table 4-6 and units of service from Table 4-5.

A comparison of the cost of service for each customer class with revenue under existing rates and the indicated percentage adjustment in the level of revenue for each class required to meet those costs is shown in Table 4-8. As indicated, overall revenues need to be increased by approximately 1.59 percent to recover the total cost of service. Indicated individual customer class water service rate revenue adjustments range from a 9.93 percent decrease for Amherst County and a 2.91 percent increase for Retail.

Table 4-1

Water Utility
Total Cost of Service
Test Year 2007

		TY 2007 Water Utility Revenue Requirements	
Line No.	Description	Cash Basis	Utility Basis
		\$	\$
	OPERATING COSTS		
1	Operation and Maintenance Expense	6,706,000	6,706,000
2	Bad Debt	60,000	60,000
3	Total Operating Costs	<u>6,766,000</u>	<u>6,766,000</u>
	Less: Other Sources of Revenue		
4	Misc Revenue	1,364,000	1,364,000
5	Interest Income	156,000	156,000
6	Net Operating Costs	<u>5,246,000</u>	<u>5,246,000</u>
	CAPITAL COSTS		
7	Debt Service Payments	3,121,000	-
8	Recurring Capital	20,000	-
9	Debt Service Reserve Requirement	0	-
10	Cash Funded Capital	950,000	-
11	Other Transfers	77,000	-
12	Increase in Operating Fund Balance	0	-
13	Return on Rate Base	-	2,356,000
14	Depreciation	-	1,812,000
15	Total Capital Costs	<u>4,168,000</u>	<u>4,168,000</u>
	Less: Other Sources of Revenue		
16	Transfer from Debt Service Reserve	0	0
17	Availability Fees	105,000	105,000
18	Decrease in Operating Fund Balance	495,000	495,000
19	Net Capital Costs	<u>3,568,000</u>	<u>3,568,000</u>
20	Net Revenue Requirements	8,814,000	8,814,000
21	Revenue Under Existing Rates	8,676,000	8,676,000
22	Percent Increase in Revenues Needed	1.59%	1.59%

Notes: - Minor variances between Table 4-1 and Table 3-1 are due to rounding.

Table 4-3

Water Utility
Allocation of Operation & Maintenance Expense
Test Year 2007

Line No.	Functional Cost Center	Allocation of O&M to Functional Cost Components						Allocation Basis Notes
		(1) Total O&M	(2) Commodity	(3) Demand	(4) City Only	(5) Meters & Services	(6) Customer Billing	
		\$	\$	\$	\$	\$	\$	
1	Raw Water Supply	0	0	0	0	0	0 Commodity	
2	Electricity	15,000	15,000	0	0	0	0 Commodity	
3	Chemicals	43,000	43,000	0	0	0	0 Commodity	
4	All Other	5,000	5,000	0	0	0	0 Commodity	
5	Raw Water Transmission	0	0	0	0	0	0 Commodity	
6	Electricity	109,000	0	109,000	0	0	0 Commodity	
7	Chemicals	0	0	0	0	0	0 Demand	
8	All Other	245,000	245,000	0	0	0	0 Commodity	
9	Electricity	254,000	254,000	0	0	0	0 Commodity	
10	All Other	1,716,000	0	1,716,000	0	0	0 Demand	
11	Treated Water Storage	191,000	0	191,000	0	0	0 Demand	
12	Treated Water Pumping	64,000	0	64,000	0	0	0 Demand	
13	Transmission Mains	383,000	0	383,000	0	0	0 Demand	
14	Distribution Mains	618,000	0	618,000	0	0	0 Demand	
15	Meters & Services	81,000	0	0	81,000	0	0 City Only	
16	Customer Billing	493,000	0	0	0	493,000	0 Meters & Services	
17	General & Administrative	2,551,000	30,000	1,699,000	426,000	56,000	Customer Billing	
	Total ¹	6,768,000	592,000	4,162,000	1,044,000	137,000	Subtotal of Allocations excluding Electricity and Chemicals	
18	Less Other Sources of Revenue							
19	Allocable to All Customer Classes ²	(611,000)	(7,000)	(407,000)	(102,000)	(13,000)	Subtotal of Allocations excluding Electricity and Chemicals	
20	Allocable to City ³	(908,000)	-	0	(908,000)	-	City Only	
	Allocation of Net Operating Costs	5,249,000	585,000	3,755,000	34,000	124,000	751,000	

Notes: ¹ Total includes Allowance for Bad Debt.
² Minor variance between Allocation of Net Operating Costs (Line 20) and Net Operating Costs from Table 4-1, Line 6 is due to rounding.
³ Miscellaneous Revenue associated with Retail Customers only.



Table 4-4

Water Utility
Allocation of Net Capital Cost of Service
Test Year 2007

Line No.	Functional Cost Centers	(1) Total Plant Investment \$	(2) Commodity \$	(3) Demand \$	(4) City Only \$	(5) Meters & Services \$	(6) Customer Billing \$	Allocation Basis Notes
UTILITY BASIS								
Allocation of Rate Base								
1	Raw Water Supply	319,000	319,000	0	0	0	0	Commodity
2	Raw Water Transmission	817,000	0	817,000	0	0	0	Demand
3	Treatment	12,877,000	0	12,877,000	0	0	0	Demand
4	Treated Water Storage	5,928,000	0	5,928,000	0	0	0	Demand
5	Treated Water Pumping	1,972,000	0	1,972,000	0	0	0	Demand
6	Transmission Mains	11,858,000	0	11,858,000	0	0	0	Demand
7	Distribution Mains	17,285,000	0	0	15,557,000	1,728,000	0	90.0% City, 10.0% Meters
8	Meters	2,503,000	0	0	0	2,503,000	0	100.0% Meters
9	General Plant	279,000	2,000	174,000	81,000	22,000	0	Subtotal of Allocated System Plant
10	Total	53,838,000	321,000	33,626,000	15,638,000	4,253,000	0	
Allocation of Depreciation								
11	Raw Water Supply	40,000	40,000	0	0	0	0	Commodity
12	Raw Water Transmission	51,000	0	51,000	0	0	0	Demand
13	Treatment	516,000	0	516,000	0	0	0	Demand
14	Treated Water Storage	132,000	0	132,000	0	0	0	Demand
15	Treated Water Pumping	112,000	0	112,000	0	0	0	Demand
16	Transmission Mains	412,000	0	412,000	0	0	0	Demand
17	Distribution Mains	424,000	0	0	382,000	42,000	0	90.0% City, 10.0% Meters
18	Meters	96,000	0	0	0	96,000	0	100.0% Meters
19	General Plant	29,000	1,000	20,000	6,000	2,000	0	Subtotal of Allocated System Plant
20	Total	1,812,000	41,000	1,243,000	388,000	140,000	0	
21	Other Sources of Revenue ¹	(600,000)	-	0	(600,000)	-	-	City Only

Notes: ¹ Other Sources of Revenue associated with Retail Customers only.



Table 4-5

Water Utility
Estimated Units of Service
Test Year 2007

Line No.	Customer Class	(1) Annual Use Ccf	(2) Average Daily Use Ccf/day (1)/365	Maximum Month		(5) Equiv. Meters & Services Eq. M & S	(6) Bills
				(3) Capacity Factor %	(4) Total Capacity ¹ Ccf/day (2) * (3)		
1	Retail	3,668,100	10,049	130%	13,065	23,893	122,688
2	Annerst County	75,000	205	135%	277	21	12
3	Bedford County	777,500	2,130	140%	2,982	387	600
4	Campbell County	250,000	685	140%	959	144	84
5	Total	4,770,600	13,069	132%	17,283	24,445	123,384

Notes: ¹ Maximum Month Capacity is calculated as the Average Daily Use (Column 2) times the Maximum Month Capacity Factor (Column 3).

Ccf = 100 cubic feet

Eq. M & S = Equivalent Meters and Services

Table 4-6

Water Utility
Development of Unit Costs of Service
Test Year 2007

Line No.	Description	Total ¹ \$	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
										Base Ccf
Number of Units										
1	City		3,668,100	13,065	1	23,893	122,688	Table 4-5, Line 1		
2	Counties		1,102,500	4,218	1	552	696	Table 4-5, Σ Lines 2 - 4		
3	Total		4,770,600	17,283	1	24,445	123,384	Table 4-5, Line 5		
Costs of Service										
Net Operating Expense										
4	Total (\$)	5,249,000	585,000	3,755,000	34,000	124,000	751,000	Table 4-3, Line 20		
5	Unit Cost (\$/unit)	0.1226	0.1226	217.2655	34,000	5.0726	6.0867	Line 4 ÷ Line 3		
Depreciation Expense										
6	Total (\$)	1,812,000	41,000	1,243,000	388,000	140,000	0	Table 4-4, Line 20		
7	Unit Cost (\$/unit)	0.0086	0.0086	71.9204	388,000	5.7272	0.0000	Line 6 ÷ Line 3		
Return on Rate Base										
8	Total (\$)	2,356,000	15,000	1,558,000	613,000	170,000	0	Line 19		
9	Unit Cost - City (\$/unit)	0.0026	0.0026	76.2632	612,972	6.8197	0.0000	Line 17 x Line 26		
10	Unit Cost - Counties (\$/unit)	0.0046	0.0046	133.1420	1,070,139	11.9060	0.0000	Line 17 x Line 23		
Other Sources of Revenue										
11	Total (\$)	(600,000)	-	0	(600,000)	-	-	Table 4-4, Line 21		
12	Unit Cost (\$/unit)	0.0000	0.0000	0.0000	(600,000)	0.0000	0.0000	Line 11 ÷ Line 3		
Rate Base and Rate of Return										
Rate Base										
16	Total (\$)	53,838,000	321,000	33,626,000	15,638,000	4,253,000	0	Table 4-4, Line 10		
17	Unit Cost (\$/unit)	0.0673	0.0673	1,945.6113	15,638,000	173.9833	0.0000	Line 16 ÷ Line 3		
Counties										
18	Total (\$)	53,838,000	321,000	33,626,000	15,638,000	4,253,000	0	Line 16		
19	Rate Base (\$)	2,356,000	15,000	1,558,000	613,000	170,000	0	Line 18 x Line 20		
20	Rate of Return	4.38%						Line 19 ÷ Line 18		
City										
21	Rate Base (\$)	8,376,000	74,000	8,206,000	0	96,000	0	Line 2 x Line 17		
22	Return on Rate Base (\$)	574,000	5,000	562,000	0	7,000	0	Line 21 x Line 23		
23	Rate of Return	6.85%						Table 3-7, Line 22 ÷ 2%		
24	Rate Base (\$)	45,462,000	247,000	25,420,000	15,638,000	4,157,000	0	Line 18 minus Line 21		
25	Return on Rate Base (\$)	1,782,000	10,000	996,000	613,000	163,000	0	Line 19 minus Line 22		
26	Rate of Return	3.92%						Line 25 ÷ Line 24		

Notes: ¹ Variances in Total Costs presented in Table 4-1 are due to rounding.

Ccf = 100 cubic feet

Eq. M & S = Equivalent Meters and Services

Σ - sum of



Table 4-7

Water Utility
Distribution of Costs to Customer Classes
Test Year 2007

Line No.	Classes of Service	(1) Commodity Ccf	(2) Demand Ccf/day	(3) City Only Lump Sum	(4) Meters & Services Eq. M & S	(5) Customer Billing Bills	(6) Total ¹ \$	(7) Source
1	City Unit Costs of Service (\$)	0.1339	365.4491	434,972	17,6195	6,0867		Table 4-6, Line 14
	Retail							
2	Units of Service	3,668,100	13,065	1	23,893	122,688		Table 4-5, Line 1
3	Allocated Cost of Service (\$)	491,000	4,775,000	435,000	421,000	747,000	6,869,000	Line 1 x Line 2
4	Counties Unit Costs of Service (\$)	0.1358	422.3279	892,139	22.7058	6.0867		Table 4-6, Line 15
	Wholesale - Outside City							
	ACO Amherst County							
5	Units of Service	75,000	277	NA	21	12		Table 4-5, Line 2
6	Allocated Cost of Service (\$)	10,000	117,000	0	0	0	127,000	Line 4 x Line 5
	BCO Bedford County							
7	Units of Service	777,500	2,982	NA	387	600		Table 4-5, Line 3
8	Allocated Cost of Service (\$)	106,000	1,259,000	0	9,000	4,000	1,378,000	Line 4 x Line 7
	CCO Campbell County							
9	Units of Service	250,000	959	NA	144	84		Table 4-5, Line 4
10	Allocated Cost of Service (\$)	34,000	404,000	0	3,000	1,000	442,000	Line 4 x Line 9
11	Total ¹	641,000	6,555,000	435,000	433,000	752,000	8,816,000	Σ Lines 3, 6, 8 & 10

Notes: ¹ Minor variances between Table 4-7 and Table 4-6 are due to rounding.

Ccf = 100 cubic feet
Eq. M & S = Equivalent Meters and Services
Σ - sum of

Table 4-8

Water Utility
 Comparison of Costs of Service with Revenues Under Existing Rates
 Test Year 2007

Line No.	Classes of Service	(1) Cost of Service \$	(2) Existing Rates \$	(3) Indicated Revenue Increase
1	Retail	6,869,000	6,675,000	2.91%
2	Amherst County	127,000	141,000	-9.93%
3	Bedford County	1,378,000	1,392,000	-1.01%
4	Campbell County	442,000	470,000	-5.96%
5	Total ¹	8,816,000	8,678,000	1.59%

Notes: ¹ Variances in Total Costs presented in Table 4-1 are due to rounding.

5.0 WATER RATE DESIGN

5.0 Water Rate Design

A principal consideration in designing rate schedules is to establish rates to customers which are reasonably commensurate with the cost of providing water service. Theoretically, the only method of assessing entirely equitable rates for water service would be the determination of each individual customer's bill based upon the customer's particular service requirements. Since this is impractical for the thousands of accounts served by the utility, schedules of rates are normally designed to meet average conditions for groups (or classes) of customers having similar service requirements. Practicality also dictates the use of a rate schedule which is simple to apply, reasonably recovers costs from all classes, and is subject to as few misinterpretations as possible.

5.1 Existing Water Rates

The schedule of existing rates for Fiscal Year (FY) 2006 is shown in Table 5-1. Existing FY 2006 Water Utility service rates for Inside-City Retail customers consist of a meter service charge and a commodity charge applicable to all water usage. For comparison purposes, the calculated average Retail customer cost is presented in Table 5-1. Existing (FY 2006) Water Utility service rates for Outside-City customer classes, including Amherst County, Bedford County, and Campbell County, consist of a commodity charge applicable to all water usage.

5.2 FY 2007 Calculated Water Rates

FY 2007 calculated Water Utility rates are shown in Table 5-2. In accordance with the Scope text on page 2-1, the calculated Outside-City rates have been developed to reflect the cost allocation and rate design principles in AWWA's manual M1. The calculated rates are designed to meet the water revenue increase of approximately 1.59 percent, assuming rates are implemented on July 1, 2006. The cost allocations described in previous chapters of this report provide the basis for designing the calculated water rates. The allocations provide the unit costs of service used in the rate design process and a basis for determining whether calculated rates will reasonably recover costs from customer classes as well as provide the total level of revenue required.

5.2.1 Inside-City Rates

For the purposes of this study, calculated Inside-City customer average costs are presented in Table 5-2 to illustrate the overall impact on Inside-City customers. The City can subsequently design specific rates for detailed customer classes included as Retail customers in this study.

5.2.2 Outside-City Rates

The calculated Water Utility Outside-City rates include a commodity charge applicable for all water usage. The calculated Outside-City commodity charges are designed to recover cost of service

based on estimated metered water sales. The calculated Outside-City FY 2007 commodity charges are shown in Table 5-2.

5.2.3 Revenue Comparison

A comparison of total annual costs of service with revenues under calculated rates is shown in Table 5-3. As indicated, the calculated rates result in reasonable cost recovery of the annual cost of service (Column 5).

Table 5-1

Water Utility
Existing Rates & Charges
Fiscal Year 2006

Line No.	Customer Class	Rates \$/Ccf
1	Retail ¹	1.82
2	Amherst County ²	1.88
3	Bedford County ²	1.79
4	Campbell County ²	1.88

- Notes: ¹ Represents average cost per Ccf. Includes meter charge revenue.
² Provisional rates subject to change based on actual costs and operating data.

Ccf = 100 cubic feet

Table 5-2

Water Utility
 Calculated Cost of Service Rates & Charges
 Fiscal Year 2007

Line No.	Customer Class	Rates \$/Ccf
1	Retail ¹	1.87
2	Amherst County ²	1.69
3	Bedford County ²	1.77
4	Campbell County ²	1.77

Notes: ¹ Represents average cost per Ccf.

² Provisional rates subject to change based on actual costs and operating data.

Ccf = 100 cubic feet

Table 5-3
 Water Utility
 Comparison of Costs of Service with Revenues Under Existing and Calculated Rates
 Test Year 2007

Line No.	Classes of Service	(1)	(2)		(3)	(4)		(5)
		Cost of Service ¹	Revenue		Calculated Rates	Cost of Service Recovery		Calculated Rates
			Existing Rates	Existing Rates		Existing Rates	Existing Rates	
		\$	\$	\$				
1	Retail	6,869,000	6,675,000	6,869,000		97.2%		100.0%
2	Amherst County	127,000	141,000	127,000		111.0%		100.0%
3	Bedford County	1,378,000	1,392,000	1,376,000		101.0%		99.9%
4	Campbell County	442,000	470,000	443,000		106.3%		100.2%
5	Total ²	8,816,000	8,678,000	8,815,000		98.4%		100.0%

Notes: ¹ Cost of service by customer class from Table 4-7, Column 6.

² Variances in Total Costs presented in Table 4-1 are due to rounding.

Exhibit B

Master Meter Locations

Meter Number	Location Description	Meter Size
17556687L	CANDLERS MT RD-GUARD RAIL	6
17556687R	CANDLERS MOUNTAN RD-GUARD RAIL	2
1280160	TBRLAKE & WOODS RD	10
1102960	SHELL STA-WARDS RD	6
29606890	LEESVILLE-GREENVIEW	3
70106922	460 EAST	10

FIRST SUPPLEMENT TO WATER PURCHASE CONTRACT

THIS FIRST SUPPLEMENT TO WATER PURCHASE CONTRACT, made and dated this 30th day of May, 2002, by and between the Campbell County Utilities and Service Authority, hereinafter "Authority", the City of Lynchburg, Virginia, hereinafter "City" and the County of Campbell, Virginia, hereinafter "County".

WHEREAS, The Authority and City entered into a Water Purchase Contract dated July 27, 1995 ("Contract"); and,

WHEREAS, the Contract provides, among other things, for the sale by the City of potable water to the Authority for resale to the Authority's customers within specified areas of Campbell County and to other portions of Campbell County provided the City has available capacity for such expansion; and,

WHEREAS, the Authority desires to expand its water system to serve the Route 460 East/Mt. Athos Service Area of Campbell County as defined in Exhibit A, hereto attached and by reference made a part hereof, (the "Route 460 East / Mt. Athos Service Area"); and

WHEREAS, the parties desire to supplement the terms of the Contract as set forth herein.

NOW, THEREFORE WITNESS, that for and in consideration of the premises set forth herein the parties agree as follows:

1. The City will provide up to 1.136 million gallons of water per day (the "Supplemental Water") for use by the Authority in supplying potable water service to the Authority's customers in the Route 460 East/ Mt. Athos Service Area. The water being supplied under this Supplemental Agreement is for the primary purpose of meeting the growth and future development needs of existing businesses in the Route 460 East/Mt. Athos Service Area. In addition to supplying water to meet the needs of existing businesses in the Route 460 East/Mt. Athos Area, approximately 86,000 gallons of water per day is being supplied to the Authority for its own uses. This Supplemental Water is in addition to any water supplied pursuant to Section I.C. of the Contract.
2. The parties acknowledge that Lynchburg Foundry Company, d/b/a Internet Archer Creek Foundry ("Internet") was an original planned participant in the project as outlined in the "Feasibility Study for Water Service Along Route 460 Corridor from City of Lynchburg to Town of Appomattox", as prepared by Wiley & Wilson, Lynchburg, Virginia, dated January 16, 1998 (the "Wiley & Wilson Feasibility Study"). The parties agree that if Internet decides it would like to purchase water from the Authority or other industrial development occurs within the Route 460/Mt. Athos Service Area that the sale of additional water to the Authority by the City will be negotiated in good faith.

3. The City and the Authority shall construct the mains required to furnish the Supplemental Water to the Route 460 East/ Mt. Athos Service Area along with the potential future capacity specified in the Wiley & Wilson Feasibility Study in accordance with the Wiley & Wilson Feasibility Study. Subject to any act of God, strikes, lockouts, acts of public enemies, wars, terrorists attacks, blockades, insurrection, riots, epidemics, landslides, lightning, earthquakes, fires, storms, floods, washouts, droughts, arrests, and restraints of rules and peoples, civil disturbances, explosions, breakage or accident to machinery or lines of pipe, the binding order of any court or governmental authority which had been resisted in good faith by all reasonable legal means, and any other cause, whether of the kind herein enumerated or otherwise, not reasonably within the control of the party claiming suspension and which by the exercise of due diligence such party is unable to prevent or overcome, the Authority and City agree that the improvements necessary to provide service to the Route 460 East/ Mt. Athos Service Area shall be operational by June 30, 2003. The date that such improvements are fully operational shall referred to as the "Service Date."

4. It is the City's intent to provide potable water capacity to the Route 460 East/ Mt. Athos Service Area subject to the same terms and conditions set forth in the Contract and this Supplement to Water Purchase Contract for a minimum of 25 years. Consequently, for a period of 25 years following the Service Date, as defined above, the City agrees that it will not terminate the Contract under Section II.B. or C of the Contract unless the City, in its reasonable discretion and acting in good faith, determines that the water being sold under this Supplemental Agreement is necessary to meet the needs of the City, its citizens, businesses or industries and the City, in its reasonable discretion and acting in good faith, determines that there is no other reasonable alternative for supplying the City's water needs. The Authority and City agree that rates charged by the City are subject to good faith renegotiation at the specified Contract renewal dates.

5. Effective on the Service Date, the Authority agrees to purchase water from the City based on one of the following:
 - a. Except as set forth in paragraphs 5.b, 5.c., and 5.d. below, each month the City will bill and the Authority will pay for the water actually consumed in a month as metered at the City/County boundary line on Route 460 East.
 - b. In the event that BWX Technologies Inc. ("BWXT") in any month fails to consume an average of 500,000 gallons per day but pays for 500,000 gallons per day as provided by its agreement with the Authority, then the Authority will pay the City the greater of the water actually consumed or 500,000 gallons per day multiplied by the number of days in the month.
 - c. In the event that BWXT in any month fails to both consume and pay for a minimum of 500,000 gallons multiplied by the number of days in the month, the Authority will pay the City the sum of i) the Monthly Debt Service, as defined below, plus ii) the amount of water actually consumed in that month. In the event that the Authority later recovers from BWXT

the minimum payment specified under the agreement with BWXT, the Authority shall pay the City the amount that otherwise would have been due the City under paragraphs 5.a. and 5.b. above less sums previously paid under this paragraph.

- d. Notwithstanding anything in this Supplement or the Contract to the contrary, in the event that the City restricts the amount of water that the Authority may purchase pursuant to Section VIII.B. of the Contract or reduces the amount of water that the Authority may purchase pursuant to paragraph 6 below, and under such restrictions or reductions the City provides the Authority with less than the minimum amount of water specified in paragraph 1, above, then the Authority shall pay for the greater of i) the water actually consumed or ii) the amount of water made available to the Authority for consumption under the restrictions at the billing rates calculated pursuant to the terms of the Contract.

For purposes of this paragraph 5, Monthly Debt Service shall mean the actual payments made by the City in a calendar year for the debt incurred by the City related to the construction of the Route 460 water line as specified in the Wiley & Wilson Feasibility Study by the number of months in which payments are made during said calendar year.

6. As provided in paragraph 1. above, the primary purpose of the City selling water to the Authority under this Supplemental Agreement is to meet the growth and future development needs of existing businesses in the Route 460 East/Mt. Athos Service Area. The existing businesses that are expected to use the bulk of the water supplied under this Supplemental Agreement are BWX Technologies (an estimated average of a minimum of 500,000 gallons of water per day and a maximum of 1,000,000 gallons of water per day) and Framatome (an estimated average of 50,000 gallons of water per day). In the event either of these businesses decides it does not wish to purchase water from the Authority, the City shall have the right to reduce the amount of water being sold to the Authority under this Supplemental Agreement by the amount of water being sold to the Authority for such business's use. Further, the Authority and the County agree that none of the water supplied under this Supplemental Agreement can be sold to a new retail/commercial facility or complex containing 50,000 square feet or more of retail/commercial floor space in the Route 460 East/Mt. Athos Service Area without the prior written consent of the Lynchburg City Council. Notwithstanding anything herein to the contrary, the County does not need to obtain the City's approval to authorize the development or construction of any retail/commercial establishment to which potable water is provided by the Authority or the County by a source of supply other than water purchased from the City.
7. The Authority, City and County agree that upon completion of the water project to serve the Route 460 East/Mt. Athos Service Area, that discussions will be initiated on the feasibility and associated requirements for the City providing

potable water capacity for the development of the Route 460 East corridor, including retail/commercial revenue producing facilities, as more completely described in the Wiley & Wilson Feasibility Study, which discussions shall include the possibility of revenue sharing between the City and the County.

- 8. The City chooses not to participate in construction of joint facilities within Campbell County at this time, reserving the right to negotiate joint use capacity at a later date, all pursuant to Section VIII.D. of the Contract. Should the City desire to purchase capacity for future sales to other political subdivisions, a separate implementation agreement outlining terms, including capacity rights and cost sharing, shall be negotiated.
- 9. Except as modified herein, all others terms of the Contract shall be applicable to the Route 460 East/Mt. Athos Service Area, including the "Water Charges" as set forth in Section V. of the Contract, which charges are valid until renegotiated pursuant to the terms of the Contract.

CAMPBELL COUNTY UTILITIES AND SERVICE AUTHORITY

BY: Wanda Ballone
Chairman

ATTEST:

James W. Lee
Secretary

CITY OF LYNCHBURG, VIRGINIA

Bonnie Soreck, Deputy City Manager
for City Manager

ATTEST:

Catherine W. Kost
Clerk of Council

COUNTY OF CAMPBELL, VIRGINIA

[Signature]
County Administrator

ATTEST:

Catherine H. Moore
Deputy Clerk

CCUSA WATER CONTRACT

June 10, 2025



OVERVIEW

Current water contract between the City of Lynchburg expires in 2027 must notify CCUSA by June 30, 2025

- Review of current contract
- Review of contract supplement
- Recommendations

CURRENT CONTRACT OVERVIEW

WATER PURCHASE CONTRACT

between

The City of Lynchburg

and

**Campbell County Utilities
and Service Authority**

Effective: July 1, 2007



- Term: July 1, 2007 through June 30, 2027
- Notification to terminate or renew by June 30, 2025
- Contract renews automatically in ten year increments if notice of intent to terminate is not provided
- Contract methodology: Cost of Service Study – Utility Basis, American Water Works Association
- Current provisional rate = \$2.50 per hcf, CCUSA customer rate = \$4.95 per hcf, Lynchburg customer rate = \$3.29 per hcf
- \$600,000 in annual revenue

MAY 30, 2002 FIRST SUPPLEMENT

- Current Contract incorporates May 30, 2002 First Supplement to Water Contract by reference
- City to provide up to 1.136 mgd to Mt Athos service area
- Sale of additional water negotiated in good faith
- 500,000 gpd minimum purchase through 2027
- Water can not be sold to new retail or commercial space greater than 50,000 s.f. without Council approval
- Allows for possibility of revenue sharing
- Allows for negotiation of capacity for future sales to other political subdivisions



FIRST SUPPLEMENT TO WATER PURCHASE CONTRACT

THIS FIRST SUPPLEMENT TO WATER PURCHASE CONTRACT, made and dated this 30th day of May, 2002, by and between the Campbell County Utilities and Service Authority, hereinafter "Authority", the City of Lynchburg, Virginia, hereinafter "City" and the County of Campbell, Virginia, hereinafter "County".

WHEREAS, The Authority and City entered into a Water Purchase Contract dated July 27, 1995 ("Contract"); and,

WHEREAS, the Contract provides, among other things, for the sale by the City of potable water to the Authority for resale to the Authority's customers within specified areas of Campbell County and to other portions of Campbell County provided the City has available capacity for such expansion; and,

WHEREAS, the Authority desires to expand its water system to serve the Route 460 East/Mt. Athos Service Area of Campbell County as defined in Exhibit A, hereto attached and by reference made a part hereof, (the "Route 460 East / Mt. Athos Service Area"); and

WHEREAS, the parties desire to supplement the terms of the Contract as set forth herein.

NOW, THEREFORE WITNESS, that for and in consideration of the premises set forth herein the parties agree as follows:

1. The City will provide up to 1.136 million gallons of water per day (the "Supplemental Water") for use by the Authority in supplying potable water service to the Authority's customers in the Route 460 East/ Mt. Athos Service Area. The water being supplied under this Supplemental Agreement is for the primary purpose of meeting the growth and future development needs of existing businesses in the Route 460 East/Mt. Athos Service Area. In addition to supplying water to meet the needs of existing businesses in the Route 460 East/Mt. Athos Area, approximately 86,000 gallons of water per day is being supplied to the Authority for its own uses. This Supplemental Water is in addition to any water supplied pursuant to Section I.C. of the Contract.
2. The parties acknowledge that Lynchburg Foundry Company, d/b/a Internet Archer Creek Foundry ("Internet") was an original planned participant in the project as outlined in the "Feasibility Study for Water Service Along Route 460 Corridor from City of Lynchburg to Town of Appomattox", as prepared by Wiley & Wilson, Lynchburg, Virginia, dated January 16, 1998 (the "Wiley & Wilson Feasibility Study"). The parties agree that if Internet decides it would like to purchase water from the Authority or other industrial development occurs within the Route 460/Mt. Athos Service Area that the sale of additional water to the Authority by the City will be negotiated in good faith.

RECOMMENDATIONS

- Provide notification of intent to renew.
- Reserve right to renegotiate certain contractual aspects prior to contract expiration.
- City Council Meeting – June 24, 2025



PUBLIC SIDEWALKS PRESENTATION

June 10, 2025

PHYSICAL DEVELOPMENT COMMITTEE



PURPOSE & ACTION

Purpose:

To explain the various methods for installation of public sidewalks throughout the City.

Why:

Request from PDC Chair Timmer.

HOW ARE SIDEWALKS ADDED?

- **Specific sidewalk projects funded through City, VDOT/Federal grants**
 - City projects
 - Highway Safety Improvement Program (HSIP)
 - Transportation Alternatives Program (TAP)
 - Safe Routes To Schools (SRTS)
- **Ancillary to City construction projects**
 - Bridge projects
 - Road reconstruction
 - Signal projects

HOW ARE SIDEWALKS ADDED?

- **New street subdivisions**
 - City Code requires all new streets being constructed to have sidewalks
- **Technical Review Committee (TRC) projects**
 - City Code requires new private development to install along street frontage
- **Property owners requesting or petitioning for sidewalks**
 - City Code allows for a 50/50 cost share with City contingent upon available funding

SIDEWALK FACTS

- **City width requirements varies between 5' to 8'**
 - Depends on street classifications and conditions/restrictions
 - Must meet Public Right Of Way (PROWAG) guidelines – Subset of Americans with Disabilities Act (ADA)
- **Cost of sidewalk - \$110 - \$175 per linear foot (city contract)**
 - Cost includes concrete & installation only
 - Does not include design, walls, handrails, ADA ramps or traffic control

RECENT PROJECTS – STAND ALONE

- **Kemper Street – HSIP**
- **Jefferson Ridge Parkway – HSIP**
- **Old Forest Road (Linkhorne to Wal-Mart) - City – Gen. Streets**
- **Wards Road – City – CIP**
- **CVCC Campus Drive – City – CIP**
- **Linkhorne Elem, Bass Elem, Dearington Elem areas - SRTS**

RECENT PROJECTS – CITY PROJECTS

- **Lakeside Drive Bridge**
- **Link Road Bridge**
- **Indian Hill Road Bridge**
- **Kemper Street Bridge**
- **Fenwick Signal**
- **Liberty Mountain Drive**
- **John Capron Road**

RECENT PROJECTS – SUBDIVISIONS

- **Blackwater Run**
- **Locust Thicket**
- **Grove Hill**
- **Creekside**
- **Bennetts Grove**
- **Independence Court**
- **Craftsman Way**

RECENT PRIVATE DEVELOPMENTS

- **Rosedale**
- **Bausch & Lomb**
- **Eleven 25**
- **Frito-Lay**
- **Framatome**
- **West Edge**
- **Centra Health**
- **Liberty University**

UPCOMING PROJECTS

- **Nationwide Drive - HSIP**
- **Old Forest Road – Kings Drive to RR - HSIP**
- **Link Road @ Boonsboro – Revenue Sharing**
- **Wards Ferry @ Atlanta – Revenue Sharing**
- **CVCC Roundabout – SMART SCALE**
- **Candlers Mountain Interchange – SMART SCALE**
- **John Lynch Bridge – City Funds**
- **Millrace Drive Phases 1 & 2 – TAP**
- **Florida Avenue – Revenue Sharing**
- **Wadsworth Street – City Funds**
- **Bedford Avenue Bridge**
- **Hollins Mill Bridge**

RECENT REQUESTS FOR SIDEWALKS

- Leesville Road
- Timberlake Road
- Boonsboro Road
- Langhorne Road
- Link Road
- Wards Ferry Road



Questions?

Existing Sidewalks

