Shared Utility Services Study
for
City of Franklin and Southampton County

Preliminary Engineering Report

(TG Project No. 35998)

September 2015

Prepared for:

City of Franklin & Southampton County, Virginia

Prepared by:

TIMMONS GROUP

Timmons Group
1001 Boulders Parkway - Suite 300
Richmond, VA 23225
Phone: 804-200-6500
Joseph C. Hines, PE, MBA

COMMONWEALTH OF VIRGINIA
JOSEPH C. HINES
Lic. No. 030351
9/30/15
PROFESSIONAL ENGINEER

In association with:

DAVENPORT & COMPANY
SINCE 1863

And

McGUIREWOODS CONSULTING

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McGUIREWOODS

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Executive Summary

Timmons Group, McGuireWoods Consulting, LLC, McGuireWoods LLP and Davenport & Company LLC were hired by the City of Franklin and Southampton County to evaluate each locality's respective utility systems and organizational structure in the context of the following scenarios and make a comprehensive recommendation on which scenario is most advantageous. The scenarios considered were:

1. Non-Shared Services (Status Quo)
2. Shared or Contracted Services
3. Regionalized Scenario (i.e. a Regional Utility Authority)

Preliminary Asset Valuation

As part of the evaluation, Timmons Group developed a Preliminary Asset Valuation of the existing assets based upon field visits and existing information on the systems provided by the City of Franklin and Southampton County. Utilizing a modified Depreciated Replacement Cost Method (DRCM), the Preliminary Asset Valuations yielded the following results:

Description	Franklin Prelim Asset Valuation	Southampton Prelim Asset Valuation	Combined Asset Valuation
Total System Value	$34,482,000	$57,044,000	$91,526,000
Current Debt on System	$3,052,000	$34,541,000	$37,593,000
Net Equity in System	**$31,430,000**	**$22,503,000**	**$53,933,000**

Based upon the Preliminary Asset Valuation, it appears that there is an approximate $8.93 million difference in equity between the Franklin and Southampton systems. It's also important to note that should the City and County perform a consolidation of the utilities, a formal asset valuation by an independent firm will need to be completed.

Scenarios Considered

Non-Shared Services (Status Quo)

The major considerations that needed to be taken into account for the Non-Shared Services (Status Quo) included the impacts to the Courtland WRF and the potential impacts to the Franklin WWTP. It was concluded that the impacts to the Courtland WRF would be minimal as the plant is operating in an acceptable flow range for the current treatment process.

Unfortunately, the Franklin WWTP is currently located within the 10-yr floodplain as defined by FEMA, and has experienced two significant flood events, one in 1999 and one in 2006, which caused the plant to go down for several days after each event. Based upon current DEQ Sewage Collection and Treatment (SCAT) regulations, a new wastewater treatment plant needs to be constructed such that vital mechanical and electrical equipment is located above the 100-yr

floodplain and all components of the plant shall be constructed above the 25-yr floodplain such that the plant will remain fully operational. If the Franklin WWTP were to be constructed today in its current location, it would not meet current regulations.

Eventually the City of Franklin will need to relocate and rebuild the Franklin WWTP within the City limits. It is anticipated this would need to be a 3 MGD Tertiary WWTP and associated infrastructure to relocate the plant above the 25-yr and 100-yr flood plain respectively, and would cost the City approximately $54,797,000 in 2015 construction costs.

Shared or Contracted Services

Our team evaluated the potential interconnectivity of the systems such that the City of Franklin could off-load a portion of the sewer flow to the Courtland WRF. We considered three basic alternatives, with some minor variations, which included:

1. Replace Cypress Avenue Pump Station (500,000 GPD Capacity), construct force main to Courtland WRF, relocate and rebuild the Franklin WWTP to 2.0 MGD with tertiary treatment
2. Install a pump station at Franklin WWTP, construct a force main to Courtland WRF and relocate and rebuild the Franklin WWTP to 2.0 MGD with tertiary treatment
3. Install a pump station at Franklin WWTP, construct a force main to Courtland WRF, expand the Courtland WRF to 2.5 MGD and eventually shut down Franklin WWTP

3A. Install a pump station at Franklin WWTP, construct a force main to Courtland WRF, expand the Courtland WRF to 3.125 MGD and eventually shut down Franklin WWTP

It's important to note, that these alternatives need to consider the possibility of flood mitigation should the City of Franklin WWTP be flooded again. A potential flood mitigation plan would need to be approved by VDEQ and other appropriate regulatory authorities.

As part of this analysis and in the spirit of the 1996 Revenue Sharing Agreement between Franklin and Southampton, it was concluded that City of Franklin would need to pay for the improvements necessary to connect the Franklin system to the Southampton Courtland WRF and the City's "pro-rata" share of the cost for the Courtland WRF to buy treatment capacity from the County.

Below is a summary table of the costs for each of the relevant alternatives listed above and considered in the financial analysis with the capital costs per gallon:

Alternative	**1**	**2**	**3**	**3A**
Total Capital Costs	$52,644,000	$62,202,000	$42,922,000	$45,873,000
Overall System Capacity	3,250,000	3,250,000	2,500,000	3,125,000
Franklin Owned Capacity	***2,500,000***	***2,500,000***	***1,750,000***	***2,000,000***
Southampton Owned Capacity	***750,000***	***750,000***	***750,000***	***1,125,000***
$ per Gal	$16.20	$19.14	$17.17	$14.68

The combined Operations & Maintenance (O&M) budgets for the City of Franklin and Southampton County based upon the FY14 Budgets is $3.66 million. Based upon a review of the FTE's and operational costs, it is anticipated the total financial impact to the overall budgets would be negligible for the purposes of the financial analysis. Below is a table summarizing these impacts:

Financial Impact	**Alternative 1 & 2**	**Alternative 3 & 3A**
Pumping Costs (Franklin to Courtland)	$45,000 to $50,000	$75,000 to $80,000
Treatment & Personnel Savings	Equivalent	$80,000 to 100,000
Total Cost Increases	$45,000 to $50,000	Equivalent
Financial Impact to O&M	***1.4% Increase (Negligible)***	***Negligible***

Regionalized Scenario (i.e. Regional Utility Authority)

Our team evaluated the potential interconnectivity of the systems such that the City of Franklin and Southampton County could combine treatment capacities of the Courtland WRF and the Franklin WWTP. Very similar to the Contracted or Shared Services scenario, we considered three basic alternatives, with some minor variations, which included:

1. Replace Cypress Avenue Pump Station (500,000 GPD Capacity), construct force main to Courtland WRF, relocate and rebuild the Franklin WWTP to 2.0 MGD with tertiary treatment
2. Install a pump station at Franklin WWTP, construct a force main to Courtland WRF and relocate and rebuild the Franklin WWTP to 2.0 MGD with tertiary treatment

2A. Install a pump station at Franklin WWTP, construct a force main to Courtland WRF, modify the Courtland WRF to handle Franklin flow from a potential flood event.

3. Install a pump station at Franklin WWTP, construct a force main to Courtland WRF, expand the Courtland WRF to 2.5 MGD and eventually shut down Franklin WWTP

3A. Install a pump station at Franklin WWTP, construct a force main to Courtland WRF, expand the Courtland WRF to 3.125 MGD and eventually shut down Franklin WWTP

It's important to note, that these alternatives need to consider the possibility of flood mitigation should the City of Franklin WWTP be flooded again. A potential flood mitigation plan would need to be approved by VDEQ and other appropriate regulatory authorities.

In analyzing the alternatives listed above, we developed Alternative 2A, which was considered a "hybrid" alternative. This alternative would potentially allow for modifications to the Courtland WRF such that the facility could handle potential flow from the Franklin WWTP should another flood event occur until such time as the Franklin WWTP could be placed back in service after a flood event. This alternative would need further study and would ultimately require approval by VDEQ and other regulatory authorities.

As part of this evaluation, we had to consider the preliminary asset valuations and existing debt on the system should Franklin and Southampton combine their systems into a Regional Utility

Authority. Based upon the preliminary asset valuations, there appears to be a $8.93 million inequity in favor of the City of Franklin.

Below is a summary table of the costs for each of the relevant alternatives listed above and considered in the financial analysis with the capital costs per gallon:

Alternative	**1**	**2**	**2A ***	**3**	**3A**
Total Capital Costs	$44,424,000	$53,982,000	$20,000,000	$34,702,000	$43,818,000
Overall System Capacity	3,250,000	3,250,000	3,250,000	2,500,000	3,125,000
$ per Gal	$13.67	$16.61	$6.15	$13.88	$14.02

The combined Operations & Maintenance (O&M) budgets for the City of Franklin and Southampton County based upon the FY2014 Budgets is $3.66 million. Based upon a review of the FTE's and operational costs, it is anticipated the total financial impact to the overall budgets would be negligible for the purposes of the financial analysis. Below is a table summarizing these impacts:

Financial Impact	**Alternative 1, 2 & 2A**	**Alternative 3 & 3A**
Pumping Costs (Franklin to Courtland)	$45,000 to $50,000	$75,000 to $80,000
Treatment & Personnel Savings	Equivalent	$80,000 to 100,000
Total Cost Increases	$45,000 to $50,000	Equivalent
Financial Impact to O&M	***1.4% Increase (Negligible)***	***Negligible***

Financial Analysis

<u>Financial Analysis – By Davenport & Company</u>

Davenport created a multi-year Utility Enterprise Pro-Forma Model (the "Model"). The Model was initially created for the City's utility system and a separate model for the County's utility system. These would serve as status quo scenarios. Combining these models we were able to create Shared/Contracted Services scenarios. Finally by fully combining the models we were able to create scenarios as a Regional Authority.

The Models integrate operating and capital budgets including revenue sources, operation and maintenance expense, capital requirements, reserve funds, investments, and debt into a cohesive multi-year analysis for the various scenarios. The Models show the resulting projections of debt service coverage, fund balance, and required rate increases under various scenarios.

Following are the summary tables and rates and how they apply across the alternatives considered with the potential impacts to user rates:

	Do Nothing (Status Quo)	Contracted or Shared Services	
		Alt 3 (2.5MGD)	Alt 3A (3.125 MGD)
Capital Expenditures			
Franklin	$54,797,000	$42,922,000	$45,873,000
Southampton	$0	($8,220,000)	($2,055,000)
Monthly Bill (5,000 gl/m)			
Franklin Now=$63	Yr1=$126	Yr1=$110	Yr1=$114
Southampton Now=$72	$72	$72	$72
% Increase in Rates			
Franklin *	99%	74%	80%
Southampton	0%	0%	0%

* Water rates and Sewer rates are increased by the percentage shown separately then added together to get a combined monthly bill.

	Regional Authority		
	Alt 2A (hybrid) (3.25 MGD)	Alt 3 (2.5 MGD)	Alt 3A (3.125 MGD)
Capital Expenditures			
Authority*	$20,000,000	$34,702,000	$43,818,000
Monthly Bill (5,000 gl/m)			
Franklin Now=$63	Yr1=$103	Yr1=$116	Yr1=$124
Southampton Now=$72	Yr1=$117	Yr1=$132	Yr2=140
% Increase in Rates	63%	83%	96%

* Assumes all existing and new debt is paid by users of the system except for $8.93 million of existing debt which is assumed to be supported by Southampton County due to asset inequity between the two systems.

Potential Funding Options

Should the County and City consolidate into a Regional Utility Authority, they would most likely receive more favorable funding consideration from various funding agencies. Given that the current Franklin WWTP is located within the 10-yr floodplain and has experienced significant flood events (1999 and 2006), it is also possible that other potential funding sources could become available to the localities to help pay for mitigation of the plant being relocated out of the current floodplain such that it does not present a problem for the public health, safety and welfare and/or an environmental hazard.

Following is a list of potential funding sources that we believe the Authority should further explore moving forward:

- DHCD Community Improvement Grant Programs
- State Clean Water Revolving Loan Fund
- Water Quality Improvement Fund by DEQ (WQIF)
- US Economic Development Administration (EDA)
- VDEM's Hazard Mitigation Grant Program (HMGP)
- USDA Rural Development (RD)
- US Environmental Protection Agency (EPA)
- Virginia Resources Authority (VRA)
- Congressional earmarks where appropriate

Obviously, no competitive grant or loan program comes with any guarantee of award. Some trends that we have observed with funding agencies that we believe need to be taken into consideration include the following:

- Grants have reduced funding pools and are getting more competitive
- Low interest loans are becoming more prevalent
- Previous disaster relief pools are difficult to access if significant time has lapsed since the disaster

As such, we further evaluated the potential rate impacts for any additional monies that could be contributed to the Regional Authority for capital improvements via grants to help pay for the overall project. These grants would essentially represent a "buy-down" of the potential capital expenditures for the Regional Authority. Below is a table outlining the varying amounts of capital to be borrowed, dependent upon grant funding, with the potential impacts to rates:

	Regional Authority - Amount Financed			
Capital Expenditures				
Amount Financed by Authority*	$10,000,000	$20,000,000	$30,000,000	$34,702,000
Monthly Bill (5,000 gl/m)				
Franklin Now=$63	Yr1=$94	Yr1=$103	Yr1=$112	Yr1=$116
Southampton Now=$72	Yr1=$107	Yr1=$117	Yr1=$127	Yr1=$132
% Increase in Rates	49%	63%	77%	83%

* Assumes all existing and new debt is paid by users of the system except for $8.93 million of existing debt which is assumed to be supported by Southampton County due to asset inequity between the two systems.

Current User Rates & Funding Considerations

Most funding agencies have a minimum requirement for "affordability" for consumers based upon 3.0% of the Median Household Income (MHI) for the annual water & sewer bills for the average customer. Below is a table identifying the MHI for Franklin and Southampton with the current rates compared to the 3.0% MHI for affordability:

Locality	2014 MHI	Current W&S Rates (5,000 gal per month)	Most Recent Rate Increase	3.0% x MHI Divided by 12 Months
Franklin	$33,447	$63.33	2008	$83.62
Southampton	$46,703	$72.00	2014	$116.76

As can be seen from the table, both Franklin and Southampton will need to consider raising user rates in order to be eligible for some potential grant funding sources. It's important to note that some funding agencies will consider a "blended" rate based upon the most recent census tract data, therefore, it will be important to perform a detailed rate study in order to better understand at which rate the City or County would need to establish to be eligible for funding.

It's also important to note that the City of Franklin has not had a rate increase since 2008, whereas Southampton County has consistently been raising rates with their most recent increase in 2014.

Per the Virginia DHCD Community Development Block Grant 2015 Program Design (pp. 16-17), following are the guidelines for a project to be considered regional:

> *"Regional infrastructure projects must document:*
> - *A significant need to be addressed through services within each locality's borders for the benefit of its residents, including investment by each locality,*
> - ***Equity in rates charged to users who are directly benefited by the CDBG investment,***
> - *Assurances that system improvements will be adequately maintained, and*
> - *Consolidation of two or more existing utility systems into a single operating entity, such as a Regional Service Authority, or creation of a new operating entity that serves the region with at least 51% of CDBG expenditures devoted to new service or a significant upgrade in service."*

As such, if a Regional Authority is formed, Franklin and Southampton will eventually need to "equalize" rates between the user bases to qualify for a CDBG grant, and possibly other funding sources, under a new legal entity.

Governance and Organization

Potential Organizational Structures – By McGuire Woods Consulting

While the Non-Shared Services and Shared or Contracted Services involved both localities maintaining their independence as utility systems, the Regionalized Scenario required the team to evaluate multiple different legal structures that were available under State Code of Virginia. These alternatives considered were:

a. Public Service Authority
b. Special Service District
c. Community Development Authority
d. Joint Powers Agreement

The Governance working group overwhelmingly chose the Public Service Authority as the most appropriate legal structure with the governing board having either 6 or 8 members and being evenly split among Franklin and Southampton. Furthermore it was concluded that the Board should be autonomous with minimal influence from the Franklin City Council or Southampton Board of Supervisors, with the exception of board appointment powers.

Legal Review – By McGuireWoods LLP

The legal review was to determine if there were any "showstoppers" or "fatal flaws" in developing a Shared Utility or consolidating all or a portion of these facilities to another organizational structure. Based upon McGuireWoods LLP legal review, there appear to be no impediments to the City of Franklin and Southampton to consolidating their utility systems into a Regional Utility Authority.

Another item that was taken into consideration is the 1996 Revenue Sharing Agreement between Southampton County and the City of Franklin. It was concluded through that the Agreement should not present an impossible impediment to creation of a joint authority, but that the City and County would need to receive advice from their own legal counsel to avoid any actual or perceived conflict of interest.

Conclusions, Recommendations & Implementation Plan

Conclusions

Based upon our study, following are the conclusions that have been drawn and issues that ultimately need to be resolved:

1. How to consolidate the utility systems in an equitable manner.
2. How to equalize rates between Southampton County user base and City of Franklin user base such that a Regional Utility Authority can receive favorable funding.
3. Development of a flood mitigation plan for the Franklin WWTP that meets DEQ and other regulatory agency approvals in case another flood event occurs.
4. Ultimate sizing of potential flow equalization basin at Courtland WRF and determining the maximum pass through capacity to allow Courtland to handle a flood event from Franklin.
5. Potential siting for a new Franklin WWTP.

Recommendations and Implementation Plan

1. Set up a Public Service Authority (PSA) in accordance with the Virginia Water and Waste Authorities Act, per Virginia Code § 58.1-5100, with a balanced board (ideally 6 members) with an even number of representatives from the City and County.

2. Complete a Formal Asset Valuation by an independent third party entity that has not worked for either the City or the County.

3. Develop a financial framework for an equitable consolidation of utility systems / assets.

4. Perform a detailed engineering evaluation of the Courtland WRF to determine maximum hydraulic and process capacity and ultimate size of a flow equalization basin to handle potential flow from the Franklin WWTP during a flood event. Evaluate potential process modifications that could increase flow capacity for a period long enough for the Franklin WWTP to be brought back up after a flood event as well as developing a detailed cost estimate for these modifications.

5. Perform a siting study and detailed engineering evaluation for the potential relocation of the Franklin WWTP. Siting study will include researching property owner and parcel information, determining appropriate setbacks and developing a schematic concept layout of up to a 3 MGD WWTP with similar process units (Schreiber®) as well as a developing a detailed cost estimate.

6. Meet and work with DEQ and other appropriate regulatory agencies to develop a flood mitigation plan for the Franklin WWTP should another flood occur. Plan would ultimately be approved by DEQ and other appropriate regulatory agencies.

7. Frame up the flooding issue and history with the Franklin WWTP to build a business and environmental case for grant funding to mitigate for a flood and/or relocation of the facility. Meet with appropriate funding agencies to determine if/where we can get grant monies for capital improvements and/or relocation of Franklin WWTP.

Schedule for Implementation

Following is the proposed schedule for implementation:

1. Public roll-out & Citizen Input Period (3-4 months)	Oct ’15 to Jan ‘16
2. Legal set up for Public Service Authority(4-6 months)	Jan ’16 to June ‘16
3. Formal Asset Valuation (3-4 months)	Jan ‘16 to Apr ‘16
4. Complete Additional Engineering Studies (4-6 months)	Jan ‘16 to June ‘16
5. Develop framework for Equitable Consolidation	Ongoing between localities
6. Meet with potential funding agencies	Oct ’15 to ongoing
7. Meet with DEQ & other regulatory agencies	Oct ’15 to ongoing
8. Apply for DHCD Grants	March ‘16
9. Apply to other Funding Agencies	Ongoing

Recommended Budgets Moving Forward

Following is the proposed budget moving forward

1. Authority Set-up Legal Fees:	$ 30,000
2. Formal Asset Valuation:	$ 25,000
3. Additional Engineering Studies:	$ 70,000
4. Meetings with DEQ, Regulatory Agencies and Funding Agencies:	$ 30,000
Total Recommended Budget:	**$155,000**

Acknowledgments

We would like to thank the City of Franklin and Southampton County for the opportunity to perform this very important and potentially historic study. It has been a pleasure working with the Management Team and subsequent Work Groups to perform this study and appreciate everyone's input into the process. We look forward to working with the City and County to take next steps in implementing the recommendations in this report.

Management Team members include:

City of Franklin:

- Benny Burgess (City Council),
- David Crear (Citizen Representative),
- Tom Jones (Citizen Representative),
- Randy Martin (City Manager),
- Russ Pace (Director of Public Works),
- Donnie Cagle (WWTP Manager),
- Donald Goodwin (Community Development Director)
- Beth Lewis, AICP (Community Development Deputy Director)

Southampton County:

- Bruce Phillips (Board of Supervisors),
- Randolph Cook (Citizen Representative),
- Nick Kitchen (Citizen Representative),
- Michael Johnson (County Administrator),
- Julien Johnson (Director of Public Works), and
- Dennis Beale (Lead Operator Courtland WRF).

Other Team members:

- Amanda Jarratt (President and CEO), representative of Franklin-Southampton Economic Development, Inc. and
- Whitney Katchmark, PE (Principal Water Resources Planner), representative from Hampton Roads Planning District Commission

Consultant Project Team

The Consultant Project Team was comprised of the following individuals who provided significant input for this Study and subsequent Report:

Davenport & Company LLC:	Courtney E. Rogers, Senior Vice President
McGuireWoods Consulting LLC:	L. Preston Bryant, Jr., Senior Vice President
McGuireWoods LLP (Legal):	Dale G. Mullen, Partner
Timmons Group:	Joseph C. Hines, PE, MBA, Principal in Charge
	David J. Saunders, PE, DBIA, Principal
	Neal A. Rogers, Jr., PE, Senior Project Manager

Please note that this Shared Utility Services Study and Preliminary Engineering Report was developed and prepared utilizing standard professional care and practice and was based upon the available information provided to the team as well as best professional judgment of the team. Should any discrepancies be discovered after the publication of this report, please notify the team accordingly such that we can make the appropriate adjustments.

1. Project Background and Understanding

1.1 Location

The project location is the City of Franklin and Southampton County (including Boykins, Newsoms, Courtland, Branchville, and Drewryville Communities), and all public utility systems owned by the City of Franklin and Southampton County, Virginia.

1.2 Project Background

On November 26, 2012, the Board of Supervisors of Southampton County and Franklin City Council both adopted a Memorandum of Understanding (MOU) establishing a shared commitment to explore, evaluate and implement shared service opportunities that will improve services, enhance efficiency and save money. On January 28, 2013 the Board of Supervisors and City Council authorized submittal of a joint letter of interest to the Virginia Department of Housing and Community Development (VDHCD) for a planning grant to evaluate the feasibility of interconnecting and sharing utility services.

Southampton County and the City of Franklin, Virginia have received a commitment for a CDBG (Community Development Block Grant) Planning Grant from the Virginia Department of Housing and Community Development to assess the feasibility, costs and benefits of sharing water & sewer resources and services. This study and report are intended to assist the County and City in determining whether, and to what degree, shared utility services will improve efficiency, reduce costs, and/or enhance economic competitiveness.

The Timmons Group Team (Timmons Group, Davenport & Company, LLC, McGuireWoods Consulting, LLC and McGuireWoods law firm) was selected to conduct this assessment. The scope of work encompasses four (4) separate but related tasks,

Task 1 -Engineering & Preliminary Engineering Report,

Task 2 - Financial Analysis and Utility Rate Studies,

Task 3 - Governance and Organization, and

Task 4 – Implementation Plan.

Presented in this report are a detailed inventory and preliminary asset valuation of the utilities' assets and evaluation of the alternative scenarios:

1. Non-Shared Services (Status Quo or "do nothing"),
2. Shared or Contracted Services, and
3. Regionalized Scenario

1.3 Investigative Considerations

The City of Franklin has a water distribution system which serves the City as well as areas of Isle of Wight County and adjacent areas of Southampton County, including the Country Club Road and Cypress Manor subdivision, the Camp Parkway corridor (Riverdale Elementary School and High Street UMC), and the Rt. 58/671 interchange (former Converting Innovation Center).

Southampton County owns and operates six (6) water distribution systems which include the Town of Newsoms, the Towns of Boykins and Branchville, Edgehill subdivision, Village of Drewyville, the Southampton Business Park, and the Turner Tract Industrial Park.

The City of Franklin operates a sewer collection system which consists of a series of gravity sewers and pump stations, which serves the City as well as areas of Isle of Wight County and adjacent areas of Southampton County including the Edgehill subdivision and the Rt. 58/671 interchange. The City owns and operates one (1) Wastewater Treatment Plant that is permitted for 2.0 MGD and has average daily flows of 1.3 MGD. The Wastewater Treatment Plant is located in the 100-year flood plain and was adversely impacted by flood events in 1999 and 2006.

Southampton County operates three (3) sewer collection systems, all of which consist of series of gravity sewers and pump stations. The first and largest county system serves the Town of Courtland and its environs. The service area currently consists of roughly 1,400 connections, mostly residential, but with the potential for substantial growth. This system currently extends to within one mile or less of the City of Franklin's sewer collection system. The Courtland system is served by a 1.25 MGD plant which has the ability to expand to 3.75 MGD. Currently, average daily flows are less than 0.25 MGD.

The second county system serves the Town(s) of Newsoms, Boykins and Branchville as well as the unincorporated areas in-between. This system is served by a 0.59 MGD plant, 0.25 MGD of which is allocated to Narricot Industries and the balance of 0.34 MGD is allocated to mostly residential connections.

The third county system serves the Edgehill subdivision which includes 89 residential connections. All wastewater flows by gravity to a pump station where it is pumped to the City of Franklin's collection system for treatment.

1.4 Franklin-Southampton Economic Development, Inc.

Both the City of Franklin and Southampton County recognized that a combined economic development effort was essential to the long-term success of the localities, and therefore formed the Franklin-Southampton Economic Development, Inc. (FSEDI). As such, both localities support and have representatives on the Board of FSEDI.

FSEDI is currently run by Amanda Jarratt, President and CEO. Amanda and her staff appear to do an excellent job with balancing service to existing businesses and with recruitment of new businesses.

The mission and goals of FSEDI as stated on their website include:

Mission

Diversify the economy, creating high quality jobs, and provide a future for the families and youth of Franklin and Southampton.

Goals

- Market the community's assets to diversify the economy, attract new businesses with capital investment and opportunities for job creation.
- Provide technical and business assistance to existing firms so they will expand their current business with new capital investments and jobs.
- Develop programs that will enhance the community's ability to foster small business growth and further develop a business climate for entrepreneurs to effectively create quality local jobs.
- Create an atmosphere to foster tourism development that will take advantage of the community's existing natural and historic assets, and business opportunities for new destination oriented attractions for outside investors.

The FSEDI is currently part of the Hampton Roads Economic Development Alliance (HREDA) which pro-actively markets the region. Recent successes towards bringing new industry to the area include Enviva, a manufacturer of wood pellets for wood burning stoves, and Hampton Farms, a manufacturer of peanut butter.

1.5 Community Engagement / Management Team

The City of Franklin and Southampton County are committed to engaging their citizens, business leaders, and experts in an open and interactive and meaningful evaluation of the costs and benefits with respect to combining their utility assets and services. They have assembled a Management Team of professionals, business people, economic development professionals, utility and public officials with backgrounds that complement each other to ensure adequate community engagement.

For the City, the Management Team members are:

- Benny Burgess (City Council),
- David Crear (Citizen Representative),
- Tom Jones (Citizen Representative),
- Randy Martin (City Manager),
- Russ Pace (Director of Public Works),
- Donnie Cagle (WWTP Manager),
- Donald Goodwin (Community Development Director)
- Beth Lewis, AICP (Community Development Deputy Director)

The members associated with Southampton County are:

- Bruce Phillips (Board of Supervisors),
- Randolph Cook (Citizen Representative),
- Nick Kitchen (Citizen Representative),
- Michael Johnson (County Administrator),
- Julien Johnson (Director of Public Works), and

- Dennis Beale (Lead Operator Courtland WRF).

Other Management Team members include:

- Amanda Jarratt (President and CEO), representative of Franklin-Southampton Economic Development, Inc. and
- Whitney Katchmark, PE (Principal Water Resources Planner), representative from Hampton Roads Planning District Commission.

The Management Team was further broken down into working groups to assist with this study. These working groups included the following:

Engineering Work Group

- Dennis Beale
- Donnie Cagle
- David Crear
- Julien Johnson
- Tom Jones
- Russ Pace

Financial Work Group

- Donald Goodwin
- Mike Johnson
- Nick Kitchen
- Lynette Lowe
- Randy Martin

Governance / Organizational Work Group

- Bruce Phillips
- Randolph Cook
- Michael Johnson
- Benny Burgess
- Beth Lewis
- Randy Martin
- Amanda Jarratt
- Whitney Katchmark

1.6 Acknowledgments

We would like to acknowledge and thank the Management Team and Work Groups for their participation in this process as their input was invaluable to us completing this project. We would also like to acknowledge and thank the City of Franklin staff and Southampton County staff for their assistance in assembling information for all aspects of the project and the respective utility staff for assisting with the site visits and evaluation of the facilities.

2. Engineering Analysis & Preliminary Engineering Report (Task 1)

2.1 Information and Data Collection (Subtask 1A)

The objective of this effort is to collect and inventory information and data in order to develop a Preliminary Asset Valuation and perform the necessary evaluation under the alternative scenarios. Efforts to that end included the following activities:

- Gathering of existing data and historical records and documents.
- Preparation of requests for information needed to perform assessments of these utilities.
- Workshops with City and County Staff to review the existing information and data requests.
- Review and analysis of the existing historical and current information.
- Due diligence site visits to each of the water and wastewater facilities.
- Preparation of an inventory of existing facilities.
- Preliminary Asset Valuation for each of the existing facilities.

The resulting Preliminary Asset Valuations represent the presumed baseline value for each utility's assets. Baseline revenues and operation and maintenance expenses were derived from analyses of recent budget data (FY08 to FY14) obtained from the City and County. Timmons Group performed due diligence visits to each of the City and County facilities for first hand observation of the condition of these facilities.

2.2 Historical Document Review

Historical documents related to previous studies of the City and County facilities were obtained. These were either documents provided by the City or County or documents that Timmons Group had prepared under previous contracts with Southampton County. A considerable amount of time was spent reviewing these documents and extracting specific information relative to this effort. These documents included:

- *Sanitary Sewer and Water System Impact Assessment, City of Franklin Virginia*, Prism Contractors and Engineers, Inc., Yorktown, VA, Kimley Horn and Associates, Inc., Richmond, Virginia April, 2006.

- *Southampton and Franklin County Wastewater Treatment Plant Evaluations, Prepared for the Hampton Roads Sanitation District*, CH2M Hill, Burlington, Connecticut, July 2007.

- *Courtland Wastewater Treatment Plant Replacement Facility, Preliminary Engineering Report, Prepared for Southampton County, Virginia*, Timmons Group, Inc., February 2008.

- *Southampton County Water and Sewer Facilities Evaluation and Feasibility Study*, Prepared for Sussex Service Authority and Southampton.

- *Feasibility of Acquisition of Four (4) Private Water Systems*, Prepared for Southampton County Virginia Public Utilities, Timmons Group, Richmond Va. 2004.

- *City of Franklin, Virginia Water and Sewer Rate Study*, Prism Contractors and Engineers, Inc., Yorktown, Virginia 2013

These documents provided some good information relative to the Utilities and the scope of this study. However, some of the studies are dated and the information obtained required follow-up investigations.

Data from the City of Franklin's Geographic Information System (GIS) and documentation prepared by Timmons Group for projects completed for Southampton Public Utilities were compiled and examined. Much of the major asset inventory was derived from these documents.

2.3 Field Visits and Infrastructure Evaluation (Subtask 1B)

Timmons Group performed field visits to evaluate the existing condition of the infrastructure. Utility Department Staff for the City of Franklin and Southampton County were engaged directly in a workshop format. Prior to the workshops Timmons Group prepared and submitted to the City and County Staff lists of additional data and informational needs. The purpose of the workshops was to engage the City and County Water and Wastewater Managers and Operators and to identify their concerns and expectations. Data and information gleaned from previous reports were revisited and updated. Current issues with respect to these utilities were identified and also discussed among the group. Some of these issues were selected for further investigation. Timmons Group met with the City Staff on October 3, 2014 and the County Staff on October 7, 2014.

Timmons Group also visited and observed the above ground water and wastewater facilities for each Utility. The purpose of the visits was to ground truth (or verify) the data and information on which the asset valuations are based and to document the existing conditions of these facilities. The due diligence site visits to the City of Franklin facilities took place on October 1, 2014. The due diligence site visits to the Southampton County facilities took place over a three day period, October 7 through October 9, 2014.

A total of sixty two (62) facilities were visited as part of this effort.

The reports can be found ***Appendix A – Field Visit Reports and Summaries.***

2.4 Asset Inventory

Timmons Group prepared an inventory of the existing water and wastewater facilities owned and operated in Southampton County and City of Franklin, Virginia. This inventory includes facilities in the City of Franklin, and Towns of Courtland, Boykins, Branchville, Newsoms, Drewryville and the unincorporated areas of Southampton County. Included in the inventory are the following assets:

System Assets*	City of Franklin	Southampton County	Combined Assets
Water Wells	4	15	**19**
Water Storage Tanks	3	5	**8**
Water Booster Pump Stations	2	2	**4**
Water Distribution Lines (LF)	302,132	83,333	**385,465**
Wastewater Treatment Facilities	1	2	**3**
Wastewater Pump Stations	15	25	**40**
Gravity Sewer (LF)	258,383	107,157	**365,540**
Sewer Force Main (LF)	35,047	129,900	**164,947**

* Developed from GIS and system information provided by the County and City

2.5 Historic Operation & Maintenance (O&M) Budget Analysis

Timmons Group compiled and reviewed the operation & maintenance (O&M) budgets and actual expenses from FY08 to FY14 as well as baseline water & sewer revenues from the respective localities. These budgets were then combined and utilized to determine any potential savings or costs associated with the consolidation of the systems.

Following are the City of Franklin and Southampton County FY14 overall O&M Budgets:

Locality	FY14 O&M Budget
City of Franklin	$2.08 million
Southampton County	$1.58 million
Total Combined Budgets	***$3.66 million***

These budgets are included in ***Appendix B – Historic Operation & Maintenance Budgets.***

2.6 Economic Development Considerations

While every locality tries to be competitive from an economic development perspective, it's important to note that most prospects look regionally and do not care about locality boundaries. In order to better understand and frame up how an economic development prospect works, it's best to look at a real world example and how that scenario played out in a very short time frame.

One such example was Project Casper, or Acme Smoked Fish Company, which pursued a site in both Franklin and Southampton. Following is an outline of the investment, jobs and timeline for this project:

Investment: $27 million
Jobs: 104
Timeline: Less than 2-1/2 months from initial contact of FSEDI until decision made
Initial Contact – Early June

Initial RFP Response – June 15
1st Site Visit – June 19
Shortlist of sites – June 25
2nd Site Visit – July 8
NY Negotiation Session – Aug 6-7
Decision – August 12

As was experienced during the Project Casper (Acme Smoked Fish) pursuit, both Franklin and Southampton had sites that were competitive in the selection process. Southampton had a proposed site in the Agri-Business Park and Franklin had a proposed site in the Pretlow Business Park.

One of the major issues associated with this particular project was the ability of the locality / site to handle an industrial strength wastewater stream from this proposed fish processing facility. It became very apparent during the site selection process that the Pretlow Business Park site was the preferred site from an exposure, access and site development perspective, but Southampton County had the more sophisticated and recently constructed wastewater treatment facility at the Courtland WRF (a 5 stage Bardenpho Process completed in 2010). As such the Franklin-Southampton Economic Development Incorporation (FSEDI) found itself in a dilemma as to which site to choose to put forward and subsequently choose the "winner" site among the two.

There is no doubt, had the localities been working within the context of a regional utility authority, they could have significantly increased their negotiating position with the prospect.

The company ultimately decided to negotiate with the City of Franklin due to the site being located in a New Market Tax Credit District. In the end, the cost of pretreatment required at the Franklin site made the development costs considerably more expensive than the North Carolina site under consideration leading to a decision for North Carolina. If the City and County were a part of a regional utility system the issue of wastewater would not have been an issue and the City could have potentially won the deal.

More recently with Project Tomahawk run by Scott Kupperman, of Kupperman Location Solutions, (the consultant that located Green Mountain Coffee in Windsor, VA) it was stated that the Southampton Business Park property would not have been considered for the project were it not for the existence of the new waste water treatment facility. The Franklin industrial property was not considered for this project.

Virginia Port Authority Growth

Based upon the Virginia Port Authority's 2040 Master Plan developed in 2013, the Port is currently at 3.5 million TEU terminal capacity and will be expanded to 9.6 million TEU terminal capacity by 2040. A significant portion of this traffic will need to utilize Rte 58 to access I-85 and I-95, and Franklin and Southampton will be in a great position to capitalize on this opportunity.

Given this potential for growth along this corridor and based upon previous prospects potential water & sewer needs, it was determined that the City and County should plan for approximately 1.0 MGD of water and wastewater capacity to serve future economic development clients.

3. Existing Water and Wastewater Facilities

3.1 Water Supply Facilities

Southampton County and the City of Franklin obtain potable water from groundwater wells that fall within Virginia Department of Environmental Quality's (VDEQ) Water Management Area of concern with respect to subsidence and possible saltwater intrusion. Current permits allow for adequate withdrawals to support some growth.

The City of Franklin is currently in the application phase of their groundwater withdrawal permit renewal process. The City of Franklin expressed concern that the VDEQ may be considering reducing their allotted supply as part of their policy to tighten regulation of groundwater within the Virginia Coastal Plain.

Future development within the County is expected to occur primarily with the Courtland Planning area shown on the County's Future Land Use Map. Based upon reviews of previous studies, it is anticipated that the City and County will need approximately 1.0 MGD water and sewer availability from an economic development perspective.

3.1.1 Existing Water Withdrawal Permits

Currently the City of Franklin and Southampton County are in the Eastern Virginia Groundwater Management Area (GWMA). The Ground Water Management Act of 1992 designated eastern Virginia (east of Interstate-95 and south of the Mattaponi and York Rivers) as a ground water management area.

In a ground water management area, withdrawals over 300,000 gallons per month (or approximately 10,000 gallons per day) require a ground water withdrawal permit. The Virginia Department of Environmental Quality (DEQ) issues the ground water withdrawal permits.

The Ground Water Withdrawal Regulations require a technical evaluation of each withdrawal application. According to DEQ's 2004 Withdrawals Simulations report, "permits can only be issued if this assessment demonstrates that the proposed withdrawal in combination with all existing lawful withdrawals will not lower water levels, in any confined aquifer that the withdrawal impacts, below a point that represents 80% of the distance between the historical pre-pumping water levels in the aquifer and the top of the aquifer."

DEQ uses the USGS RASA groundwater model developed in 1990 to evaluate withdrawal applications and determine if the 80% criterion will be violated by additional withdrawals.

Recent actions by the VDEQ suggest that the State is in the process of re-evaluating current withdrawals from these confined aquifers and reducing permitted withdrawals based on current need with limited allowance for growth. Further, these confined aquifers are known to contain naturally occurring levels of fluoride.

Below is a graphic showing the basic subsurface aquifers:

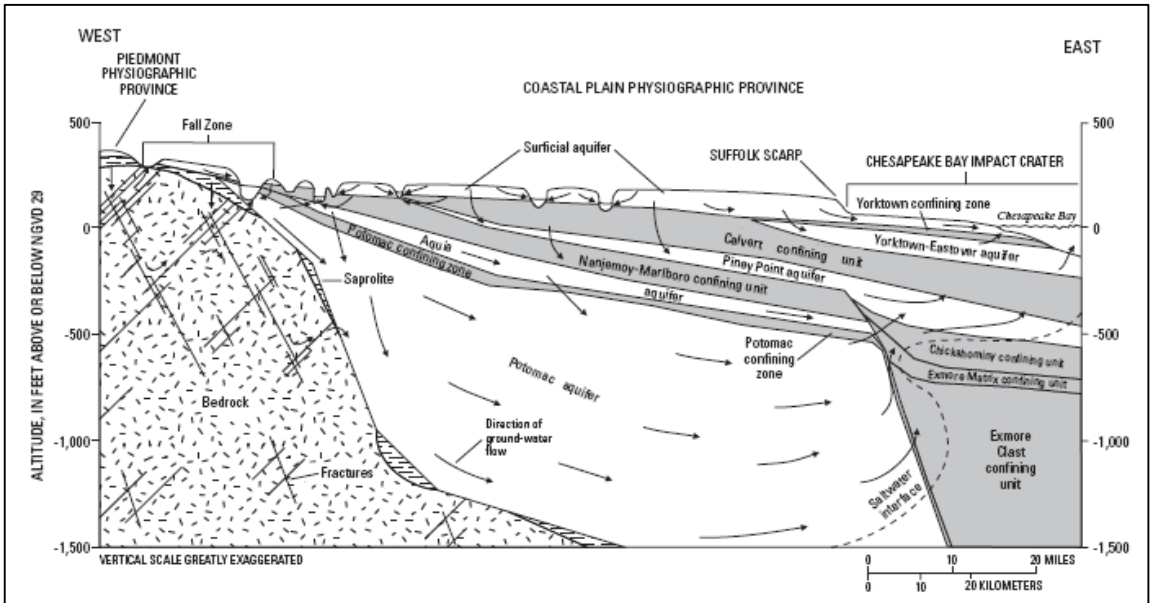


Figure 2. Generalized hydrogeologic section and directions of ground-water flow in the Virginia Coastal Plain (altitude relative to National Geodetic Vertical Datum of 1929).

With better modeling procedures in place, DEQ has been tightly managing the GWMA in recent years and has been limiting withdrawal from the aquifers based upon historical usage and projected demands that can be justified with historic demands from similar type facilities. As such, both the City and the County have experienced reduction in withdrawal permit capacities. We expect this trend to continue into the future.

In previous meetings with DEQ, they have demonstrated a willingness to work with localities and economic development prospects to allow for an increase in water withdrawal should a prospect or particular industry need the water. However, to date we have no specific examples of where this has occurred.

3.1.2 Franklin Water Withdrawal Permit

The City of Franklin currently has the entire City water system interconnected and operates multiple wells under one permit. The City of Franklin's current DEQ permit number GW0042900 is for 1,051,200,000 gallons per year, or 2.6 MGD, withdrawal capacity and expired on August 31, 2011.

DEQ Permit No.	Location / Service Area	Permitted Withdrawal (Gal/yr)	Permitted Withdrawal (MGD)	Issue Date	Expiration Date
GW0042900	City of Franklin	1,051,200	2.6	9/1/2001	8/31/2011

On May 8, 2012 the City submitted an application to DEQ requesting 569,729,230 gallons per year, or 1.56 MGD, withdrawal capacity. At the time of this report, there does not appear to be a new permit issued.

3.1.3 Southampton Water Withdrawal Permits

Currently Southampton County has multiple wells that serve six different service areas and an individual well for the County Administration Building as well as an individual well for the Fairgrounds, and therefore multiple permits, which are listed below.

DEQ Permit No.	Location / Service Area	Permitted Withdrawal (Gal/yr)	Permitted Withdrawal (GPD)	Issue Date	Expiration Date
GW0033801	Agri-Business Park	28,160,000	77,151	4/1/2013	3/31/2023
GW0039501	Branchville-Boykins	54,000,000	147,945	12/1/2011	11/30/2021
GW0039601	Drewryville	5,900,000	16,164	6/1/2012	5/31/2022
GW0039701	Edgehill	8,600,000	23,562	8/1/2011	7/31/2021
GW0043201	Newsoms	23,100,000	63,288	9/1/2013	8/31/2023
GW0056300	Turner Tract	27,500,000	75,342	9/1/2013	8/31/2023

All of the wells with the exception of the Turner Tract well are utilizing the Potomac Aquifer, which appears to be showing signs of being stressed. The Turner Tract is utilizing the Virginia Beach Aquifer.

3.1.4 Water Storage and Distribution

Southampton County Public Utilities and the City of Franklin are expected to continue with efforts to maintain and rehabilitate their water storage and distribution systems. These systems differ in that the County has a number of smaller facilities with pneumatic storage tanks. The County operates four large elevated storage tanks and one ground water storage tank. The City operates an interconnected system with three large elevated storage tanks.

3.1.4.1 Southampton County Water Storage and Distribution

The County has four (4) large elevated water storage tanks, Boykins-Branchville, Newsoms, Turner Tract, and the Agri-business Park. These four tanks are not interconnected. The Turner Tract elevated tank was recently constructed in 2013 and is in excellent condition. The Boykins-Branchville elevated tank was constructed in 1996 and is in good condition. The Newsoms tank was constructed in 1969 and is in fair condition. The Agri-Business Park elevated tank was constructed in 1996 and is in fair condition. The Newsoms and Agri-Business Park tanks require inspection and painting.

Other County tanks include one (1) ground storage tank at the Branchville Wells 1 and 2 site and seven (7) pneumatic tanks, Bryant Avenue, Commerce St, Drewryville, Edgehill, Fairgrounds, Newsoms, and Newsoms Town Hall. These tanks are in fair condition with some having been

recently painted. The ground storage tank at the Branchville Wells 1 and 2 site, along with the pneumatic tanks at Bryant Avenue and Drewryville, appear to require inspection and painting.

Below is a table outlining Southampton County water storage facilities:

Southampton Water System	Type of Storage	Capacity (gallons)
Agri-Business Park	Elevated	150,000
Boykins-Branchville	Elevated	300,000
Boykins-Branchville	Ground	100,000
Turner Tract	Elevated	500,000
Newsoms	Elevated	200,000
Newsoms	Hydropneumatic	10,000
Newsoms	Hydropneumatic	8,000
Edgehill	Hydropneumatic	8,000
Drewryville	Hydropneumatic	2,000
Southampton County Offices	Hydropneumatic	525
Agri-Center (Fairgrounds)	Hydropneumatic	5,000

Branchville-Boykins, Newsoms and Drewryville represent significant issues with respect to the County's water distributions systems. The Boykins, Newsoms and Drewryville systems were installed in 1929, 1955 and 1972, respectively, and is expected to be typical of a rural water system. The Edgehill subdivision and water system were constructed in 1970. The condition of this water distribution system is unknown. Both the Turner Tract and Agri-business Center systems are relatively new and expected to be in good condition.

3.1.4.2 City of Franklin Water Storage and Distribution

The City operates three (3) large elevated storage tanks, Pretlow, Hunterdale, and College Drive. Each of these tanks is in good to very good condition based on observations from the ground and other information obtained from the City. The City's water distribution system was originally installed in the early 1900s and is expected to be typical of an older potable water distribution system. The City does include line item appropriations for well maintenance, water line rehabilitation, and water tank painting in addition to a general maintenance and repair line item.

Below is a table outlining the City of Franklin water storage facilities:

Franklin Water System	Type of Storage	Capacity (gallons)
Pretlow	Elevated	500,000
Hunterdale	Elevated	500,000
College Drive	Elevated	300,000

The City also has potential fire flow issues along specific segments of their water distribution system previously identified by Prism and Kimley-Horn in a 2006 impact assessment report.

3.1.5 Wastewater Collection and Conveyance

The County operates and maintains the sanitary systems in Courtland, Branchville, Boykins, and Newsoms. The County operates, but does not own, smaller pump stations: and Charlie's Edge Trailer Park. The County also operates and maintains Capron Elementary School's Wastewater Treatment Plant and Camp 20 (Southampton County Jail Farm). Pump stations range in age from 1970 to 2012.

The City operates and maintains the wastewater collection and conveyance systems with the City's borders but receives flows from residential areas outside of the City's borders inside of Southampton County and Isle of Wight Counties. These systems range in age and condition. Inflow and infiltration is significant within both the City's and County's systems.

3.1.5.1 Southampton County Wastewater Collection and Conveyance

The Boykins sanitary sewer was originally constructed in 1939. The Branchville, Boykins and Newsoms systems are interconnected through a series of pump stations that ultimately discharge to the Boykins WWTF. This system was recently upgraded around 1996, including replacement of the pump stations along this circuit. Most of these stations are Gorman-Rupp suction lift stations mounted to the pre-existing wet wells that were installed back in the early 1970's. This system is subject to significant I&I and several of these pump stations are situated in low lying areas and are vulnerable to flooding, especially during tropical rain events.

The Courtland system was originally constructed in the 1980s. It includes a combination of wet/dry submersibles (can stations) and packaged pre-cast submersibles. The collection system does not appear to be subject to significant I&I problems, but the pump stations are older and nearing the end of their life cycle.

3.1.5.2 City of Franklin Wastewater Collection and Conveyance

Franklin became a town in 1876 and a city in 1961. A significant amount of the infrastructure in Franklin is significantly older, especially in the downtown area. There are newer areas like the Woodlands (1980's), Riverwood Estates (2007), Vaughans Lane (1997) and Trail Road (1997); all north of downtown. With the age of the systems, the City is subject to high inflow and infiltration (I&I). The largest areas of concern for I&I are the older downtown portions of the City and the flows from Southampton's Edgehill pump station. Efforts to address I&I should continue going forward.

Using observed flow and a peak hour factor (PHF) of 4 for average daily flow (ADF) and 2 for peak daily flow (PDF), there are some pump stations that appear to not have adequate capacity. The PHF and PDF noted above are from the *10 States Standards*. The pump stations that might have inadequate capacity are: Cypress Avenue, Oak Street, Riverwood Estates, and River Road Farms (N. High Street). During visual inspection, some of these pump stations had signs of overflows. We recommend the City perform further study of these pump stations to determine if they are beyond capacity.

3.2 Wastewater Treatment Facilities

3.2.1 Southampton Courtland Water Reclamation Facility (Courtland WRF)

The Southampton Courtland Water Reclamation Facility (Courtland WRF) is a 1.25 MGD Advanced Wastewater Treatment Facility (5-Stage Bardenpho Process) with the ability to expand to 3.75 MGD. The Courtland WRF was completed and put into operation in 2010. The current rolling annual average daily flow being treated by the facility is 0.18 MGD.

The facility's current permit authorizes a discharge of 0.99 MGD with up to 2.5 MGD being permitted, depending on meeting specific conditions related to the operation of the plant. The Courtland WRF is operating in full compliance with their Virginia National Pollutant Elimination System (NPDES) Permit. Effluent quality discharged from this facility is very good in terms of biochemical oxygen demand (BOD), total suspended solids (TSS), and Ammonia Nitrogen (NH_4).

The table below summarizes the Courtland WRF's permit, capacity, and current discharge.

Southampton Courtland WRF	
	MGD
Permit Limit	0.99
Capacity	1.25
Current Discharge	0.18

3.2.2 Southampton Boykins Wastewater Treatment Plant (Boykins WWTP)

The Boykins Wastewater Treatment Plant (Boykins WWTP) is a conventional activated sludge aerated lagoon facility. It is currently permitted to treat and discharge 0.59 MGD. The current annual average daily flow being treated at the facility is 0.29 MGD. The plant was constructed in its present form and capacity in 1995, with upgrades performed in 2012.

The table below summarizes the Boykins WWTP's permit, capacity, and current discharge.

Boykins WWTP	
	MGD
Permit Limit	0.59
Capacity	0.59
Current Discharge	0.29
Narricot Industries Allocation	0.25

Improvements to the facility were recently completed in 2012. These included conversion of the aeration systems from positive displacement blowers and course bubble diffusers to surface aeration and mixing in both reactor lagoons and both digesters.

Narricot Industries currently has 0.25 MGD allocated for their usage. According to the Southampton County Public Utilities Department, Narricot discharges approximately 0.070 MGD to the plant on a daily basis.

3.2.3 City of Franklin Wastewater Treatment Plant (Franklin WWTP)

The City of Franklin owns and operates a 2.0 MGD conventional activated sludge wastewater treatment process. The treatment plant consists of a screw type influent screen and compactor, a vortex grit removal unit, an internal screw pump lift station, parallel Schreiber™ oxidation ditches, parallel circular clarifiers, a RAS/WAS pumping station, an aerobic digester, a biosolids dewatering centrifuge, and an ultraviolet light disinfection unit. Treated effluent is discharged to the Blackwater River.

The Franklin WWTP is permitted to treat and discharge 2.0 MGD. The current rolling annual average daily flow being treated by the facility is 1.49 MGD. The WWTP was initially placed into service in 1948. It has been maintained and up-graded through the years with a significant upgrade completed in 1987 and a significant rebuild with equipment upgrades following the 2006 flood.

The table below summarizes the City's permit, capacity, and current discharge.

Franklin WWTP	
	MGD
Permit Limit	2
Capacity	2
Current Discharge	1.49

Reported monthly average flows have exceeded 2.0 MGD in the past, in particular November 2012 (2.3 MGD), August 2012 (3.2 MGD), and February 2010 (2.3 MGD). The City has been aggressively addressing inflow and infiltration (I&I) by smoke testing and subsequent slip lining of sewers. In 2010 17,900 L.F. was lined in the Cypress Avenue area. In 2014, 15,181 L.F. of 8 inch and 3,396 L.F. of 10 inch was lined in the Oak Street and Harrison Street Pump Station area.

Based upon the reported monthly average flows for 2013 and through August of 2014, the City's efforts to address I&I appear to have had a positive benefit with respect to mitigating flows through the wastewater treatment plant.

Based on the DMR data reported, the discharge from the facility appears to be in compliance with the other parameters limited by the permit, BOD, TSS, Total Phosphorus, and E-coli.

Also note that the City is contractually obligated to provide .333 MGD of its treatment plant capacity to Isle of Wight County. Based on the City's billing records and revenue summaries, flows from Isle of Wight County appear to range between 0.072 and .202 MGD. The average flow from Isle of Wight for the period July 2012 through June 2013 was 0.106 MGD (Based on billing records for 2012 – 2013).

3.3 Franklin WWTP and Floodplain Issues

Currently the City of Franklin has a 2.0 MGD WWTP that is located within the 10-yr floodplain of the Blackwater River (see ***Appendix C – Floodplains near Franklin WWTP***) The City of Franklin has experienced two significant flood events in the past, 1999 and 2006. Each one of these floods caused the Franklin WWTP to be shut down until such time as the plant could be recovered and rehabilitated to become operational again.

Following is a summary of the flood events:

1999 Flood – The 1999 flood due to Hurricane Floyd reached a crest of 25.11 on September 18, 1999 according to the flood data on the NOAA website for the Blackwater River near Franklin. According to staff, the water level at the WWTP was approximately 9-10 ft above the lab floor, which would equate to EL22 to EL23. Furthermore, according to staff, the plant was down for 21 days following the 1999 flood event and to their best recollection (they did not have exact numbers) required approximately $1.8 million in repair costs to get the plant up and operational again.

2006 Flood – The 2006 flood reached a crest of 21.61 on October 10, 2006 according to the flood data on the NOAA website for the Blackwater River near Franklin. According to staff, the water level at the WWTP was approximately 4 ft above the lab floor, which would equate to EL17. Furthermore, according to staff, the plant was down for 5 days following the 2006 flood event and to their best recollection (they did not have exact numbers) required approximately $900,000 in repair costs to get the plant up and operational again. Staff noted that the significant difference in downtime and costs were the fact that a majority of the staff from 1999 flood event were involved with the plant recovery and rehabilitation following the 2006 flood event and therefore were more efficient with the repairs.

NOAA website:
http://water.weather.gov/ahps2/hydrograph.php?wfo=akq&gage=FKNV2

The probability of encountering another flood-event at the Franklin WWTP needs to be taken into consideration as well as the potential impacts should another flood event occur.

The FEMA floodplain elevations are established to determine the statistical probability of a flood event in any given year. For example, a facility located within the 10-yr floodplain elevation has a 1 in 10 chance, or 10% probability, that a flood will occur in any given year. Below is a table identifying the statistical probably for these occurrences:

Flood Event	Chance in any given year	Statistical Probability
10-yr	1 in 10	10%
25-yr	1 in 25	4%
50-yr	1 in 50	2%
100-yr	1 in 100	1%

Currently the City of Franklin carries a flood insurance policy for the WWTP. Following is a summary of the flood insurance premiums that have been paid by the City in recent years:

Fiscal Year	Payment
FY11	$73,664
FY12	$74,920
FY13	$74,960
FY14	$42,543
FY15 (Budget)	$43,243

In order to address building a new WWTP vs. rehabilitating the existing WWTP after another potential flood, the following regulations / design standards need to be taken into consideration:

a. From the current Virginia Sewage Collection and Treatment (SCAT) Regulations, Article 3, Sewage Treatment Works, Section 9VAC25-790-450, Treatment works design:

B. Location. A sewage treatment works site shall be located as far as practicable from any existing built up commercial or residential area, which will probably develop within the design life of the treatment works. ***The treatment works site shall be (i) protected by a buffer zone, (ii) located to avoid flooding, (iii) provided with year round access, and (iv) provided with ample area for any future expansions.*** *The minimum distance between the locations of effluent discharges from separate treatment works on the same watershed shall be 500 feet.*

D. Flooding. All mechanical and electrical equipment that could be damaged or inactivated by contact with or submergence in water (motors, control equipment, blowers, switchgear, bearings, etc.) shall be physically located above the 100 year level or otherwise protected against the 100 year flood/wave action damage. All components of the treatment works shall be located above or protected against the 25 year flood/wave action level and remain fully operational. ***Consideration should be given to designing the treatment works in such a way as to facilitate the removal of vital components during more extreme flood events.***

b. From the "10 States Standards" Recommended Standards for Wastewater Facilities, 2004 Edition, which is one of the industry standards for designing wastewater facilities, please note the following from Chapter 50, Wastewater Treatment Facilities:

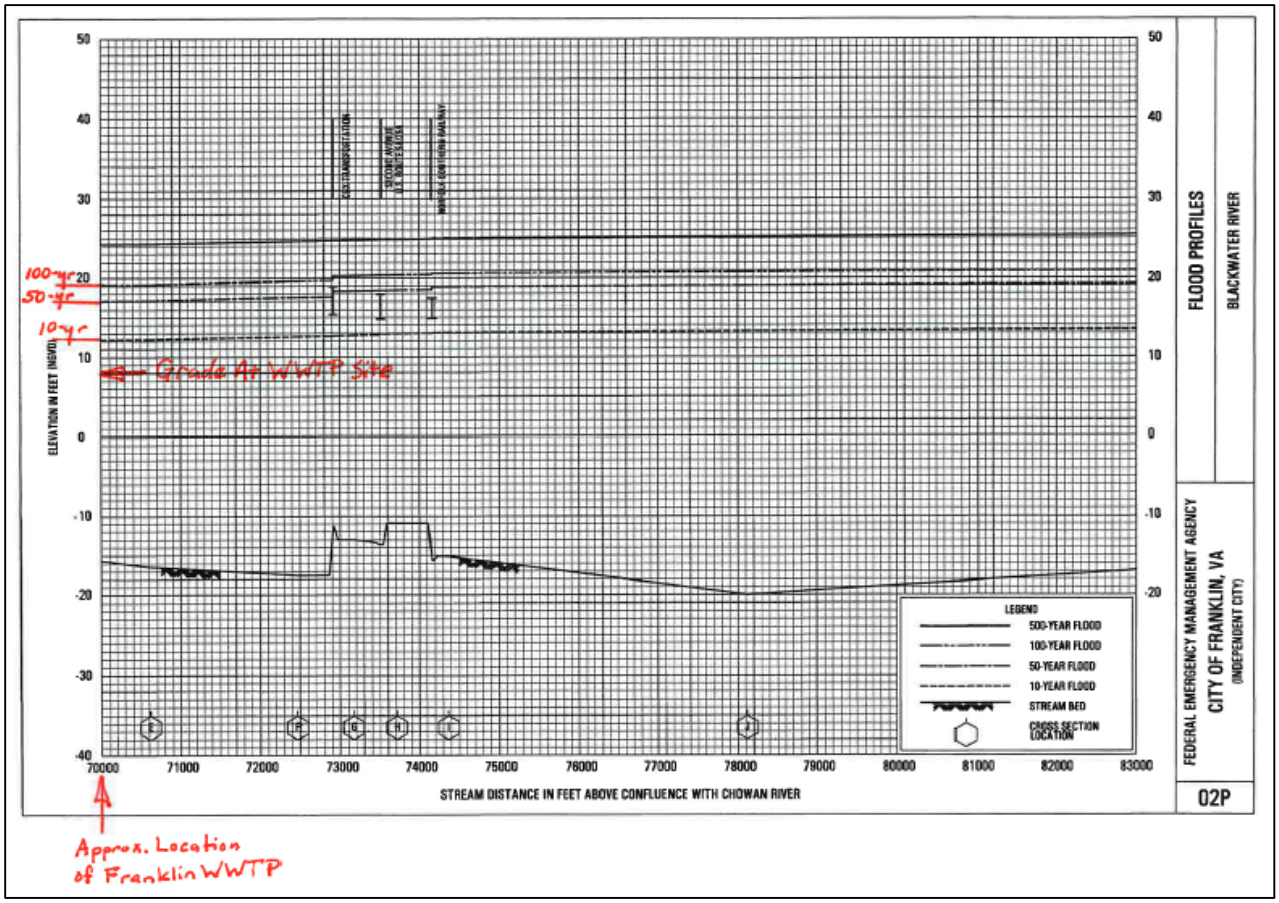
51.2 Flood Protection

The treatment plant structures, electrical, and mechanical equipment shall be protected from physical damage by the one hundred (100) year flood. Treatment plants should remain fully operational and accessible during the twenty-five (25) year flood. ***This requirement applies to new construction and to existing facilities undergoing major modification.*** *Flood plain regulations of state, province, and federal agencies shall be considered.*

While we don't have an official 25-yr floodplain listed in the FEMA report, we have estimated that to be EL15. This would need to be verified with data from the FEMA flood model prior to any modifications taking place at the Franklin WWTP. For frame of reference, below are the floodplain elevations at the WWTP based upon the "Flood Insurance Study City of Franklin Virginia", Figure 14, by FEMA dated September 4, 2002:

<u>Franklin WWTP:</u>

10-yr Floodplain:	EL12
25-yr Floodplain:	EL15 (estimated)
50-yr Floodplain:	EL17
100-yr Floodplain:	EL19
General Site Elevations:	EL8 to EL10



From 2002 FEMA Floodplain Study

Following is a table identifying the approximate elevations of various facilities at the Franklin WWTP based upon the R. Kenneth Weeks plans dated June 1983.

Location	Elevation
Main Building Lower Floor Locker Room	3.5
Main Building Lower Floor Headworks Room	3.17
Main Building Upper Floor Lab	13
Main Building Upper Generator	13
Main Building Mezzanine at Influent Pump Station Hatches	6
Grade at Main Building	9.5
Top of Slab at Main Building	10
Top of Wall and Schreiber Units	14.3
Top of Digester Wall	27.5
Digester Building Lower Level	7.5
Digester Building Upper Level	15.4
Belt Press Building Floor	12
Old CCC Now Effluent Channel Top of Wall	13.5
New Blower Building	14.7

3.4 Considerations for siting a new WWTP within the City Limits

For the purposes of this report, we would recommend the City perform a siting study for a WWTP with up to a 3.0 MGD capacity, utilizing a Schreiber® process layout similar to the City's current WWTP, with a minimum required 600 ft buffer from any open air tanks.

A concept for the facility should include:

1. A new wastewater pump station at the site of the existing facility and new forcemain to the proposed site.
2. A new headworks building with two (2) possibly three (3) channels and mechanical bar screens and pista grit units. These units should be fully enclosed limiting the buffer to 100 feet from developed or developable areas.
3. A new flow splitter box.
4. Three (3) 140 ft. diameter Schrieber® units.
5. Return Activated (RAS) and Nitrogen Rich Recycle (NRCY) pump stations. These units should be enclosed in a new building
6. A new Waste Activated Sludge (WAS) pump station enclosed with the RAS pumps.
7. Clarifiers would be internal to the Schrieber® units.
8. A new 65 ft. diameter digester.
9. A new sludge dewatering building with centrifuge(s).
10. A new filter and UV building to house cloth disc filters and UV units with multiple channels.

Utilizing the Schreiber® process for a relocated WWTP provides several advantages:

1. The circular configuration with clarifiers internal to the unit provides an efficient foot print minimizing the potential footprint for a new facility.
2. The City of Franklin operators are familiar with the process and would have minimal issues during the plant start-up and continued operation.
3. The Schreiber process is a widely used and proven process that produces a high quality effluent, and should be able to meet the potential effluent limits that could be required by DEQ.

3.5 Consideration and Development of a Flood Mitigation Plan

Because the Franklin WWTP is located in a floodplain and has a 10% statistical probability of flooding in any given year, under any of the proposed scenarios, the City must consider the implications of another flood event from a regulatory, environmental and a public health, safety and welfare perspective.

Accordingly, we believe it is necessary and prudent to proactively mitigate the risks associated with future flood events. However, it does take significant time and effort as well as significant capital investment to potentially relocate a facility outside of the current floodplain. As such, we are recommending that the City and/or the potential Regional Utility Authority meet with DEQ and other potential regulatory agencies to determine if a viable plan can be developed for when the next flood event were to occur to minimize damage (i.e. a Flood Mitigation Plan) to the Franklin WWTP and the environment as well as the public health, safety and welfare.

Normally a potential flood in this area would have a lead up time to that particular event (i.e. either you know a hurricane is coming or there has been significant rainfall in the watershed) to allow for some time to implement flow diversion and/or flood mitigation measures. In our review of the alternatives, we believe at the minimum the City should consider installing a pump station to send flow towards the Courtland WRF until such time as the flood event has passed and the WWTP can be brought back up and put back online, provided that the Courtland WRF could handle such a peak flow for a short duration. This alternative would require further study and approval by DEQ and other regulatory agencies, which is beyond the current scope of this project.

3.6 Potential Expansion of the Courtland WRF

The Courtland WRF is currently located above the 100-yr floodplain (100-yr floodplain is approximately EL 22 at the site) and has the ability to be expanded up to 3.75 MGD on the current footprint with the ability to be expanded further if need be by acquiring additional properties.

It's important to note that the Courtland WRF did not flood during the 1999 or 2006 flood events experienced by the Franklin WWTP.

3.7 Operation and Maintenance (O&M) Considerations

In order to address the feasibility of combining these utilities, Operation and Maintenance (O&M) requirements going forward must be taken into consideration. Both utilities are very efficient in the application of their respective resources but must account for increased O&M funding going forward. Instead of detailing specific future O&M expenditures recent O&M expenses for the period FY08 to FY14 were examined.

3.7.1 Southampton County Staffing and O&M Considerations

Southampton County Public Utilities currently has a staff of the following individuals:

a. 3 Administrative Personnel,
b. 10 Operators, and
c. 5 Maintenance Technicians.

Southampton County utilizes full time operators to operate and maintain the facilities in the Courtland and Boykins service area. Part time contract employees are utilized to operate and maintain the pump stations and well facilities in the Boykins, Branchville, Drewryville and Newsoms service areas. Southampton should consider adding full time staff to operate and maintain the remote facilities in these service areas. Further, Southampton does not compile the information related to these operations into an integrated asset management program and does not utilize a SCADA system for real-time monitoring and data collection. Not collecting the operation data electronically, real-time, results in a loss or lack of utility in the data collected. This places SCPU at a disadvantage with respect to the future operation and maintenance of the systems.

The wells, well pumps and storage tanks range in age from the 1970s to as recently upgraded in 2011. Most of the equipment is being well maintained and is in fair to excellent condition. Some of the water storage tanks are in need of rehabilitation. The water distribution systems in Drewryville, Boykins, Branchville and Newsoms are older. Well pumps and controls for the water system vary in condition and may require some rehabilitation and/or replacement in the future. The Townships of Courtland, Capron, and Ivor own and operate their own water systems and were not considered as part of this assessment.

The Southampton Courtland Water Reclamation Facility (Courtland WRF) is relatively new (2010) and is in excellent condition. The Boykins Wastewater Treatment Facility is older (1995) and was recently rehabilitated (2011). The sewage collection systems in the Boykins, Branchville and Newsoms service areas are older and subject to I&I. Operators currently use the storage capacity in the collection system to manage these higher flows. The sanitary pumping stations range in age from 1979 to recently upgraded in 2011. Based on data provided by Southampton, it appears that pump stations are being replaced on a 25 year cycle.

Once flows to the Courtland WRF reach 1.0 MGD two 8-hour shifts of operators will be required. Currently the Courtland WRF runs one shift and the City two shifts to operate their respective treatment facilities.

3.7.2 City of Franklin Staffing and O&M Considerations

The City of Franklin Public Works currently has a staff of the following individuals:

a. 4 Administrative Personnel,
b. 5 Operators,
c. 4 Mechanics,
d. 2 Meter Technicians and
e. 6 Maintenance Technicians.

All of the staff listed above are involved in the water/wastewater operations of the City.

The wells, well pumps and storage tanks range in age from the 1970s, to recently upgraded in 2012. Most of the equipment is being well maintained and is in good to excellent condition.

The City of Franklin Wastewater Treatment Plant (Franklin WWTP) was initially placed into service in 1948. It has been maintained and up-graded through the years with a significant upgrade completed in 1987 and a significant rebuild with equipment upgrades following the 2006 flood. The Franklin WWTP is in good physical and operating condition. The facility is situated below the 10-year flood plain adjacent to the Blackwater River. In prior years, the facility was subject to significant inflow and infiltration (I&I), but the I&I appears to have been substantially reduced as a result of the City's program of sewer line rehabilitation.

Should the County and City continue under the current Status Quo scenario, it is anticipated that the O&M budgets will essentially remain the same with some annual variation due to potential fluctuations in the system needs.

When the City of Franklin will need to relocate and rebuild a new WWTP, it is anticipated they will have a slight increase in their annual O&M budget, however, their current budget of approximately $738,000 per year for the WWTP is consistent with other similar size localities and facilities throughout Virginia.

Below is a table outlining the annual budget of similar size WWTP's:

Treatment Plant	**Treatment Capacity (MGD)**	**FY14 Annual O&M Budget**
Franklin WWTP	**2**	***$737,546***
Emporia WWTP	1.5	$722,634
Buena Vista WWTP	2.25	$723,058
South Hill WWTP	3	$779,130
Franklin WWTP	2	$737,546
Maple Ave WWTP (Halifax)	4	$794,971
Farmville WWTP	2.4	$761,783
Average	***2.5***	***$753,187***

4. Preliminary Asset Valuation (Subtask 1C)

If the utilities were to potentially be merged, a formal asset valuation would need to be completed. For the purposes of this study, we have performed a Preliminary Asset Valuation of the major assets under consideration. The original construction costs for most of these assets are not considered practical to obtain. These assets were observed in the field and reasonable estimates of costs to replace the facilities were estimated.

4.1 Methodology

Timmons Group used a modified Depreciated Replacement Cost Method (DRCM) for determining the current value of each Utilities' assets. Replacement costs were determined using bid documents from recent similar projects, vendor quotes and other available data. It was not practical to seek and obtain the original costs of these facilities along with the costs of improvements over the years in order to account for the depreciated assets at year 2015. Nor is it reasonable not to account for the age and condition of these assets. The replacement cost at year 2015 was calculated and was then reduced by the percentage of the service life used in order to determine the Depreciated Replacement Cost. This results in the Preliminary Asset Valuation.

The replacement cost at year 2015 was then reduced by the percentage of the service life used in order to determine the Depreciated Replacement Cost. In other words if the cost to replace the asset is $100,000 and the existing asset was placed into service in 2008 and considering an asset life of 20 years, the replacement cost was then divided by 1+ 35%, [100,000/(1 +(7 yrs./20 yrs.))] in order to account for the depreciated value of the asset. For the purposes of this effort structures such as buildings, wet wells, tanks, pipes etc. were assigned a 50 year service life. Mechanical components such as pumps, motors and electrical panels were assigned a service life of 20 years. In some cases an average of 30 years was assigned for the for the combined structural and mechanical component service life. The results of these valuations serve as the baseline value for each utility and are included as a separate line item in the spreadsheet comparisons of alternatives.

4.2 Preliminary Asset Valuations & Net Equity in the Systems

The estimated current value of the City of Franklin's and Southampton County's assets is shown in the table below. The assets are broken down by Water Facilities, Water Distribution Systems, Wastewater Collection, Wastewater Pumping Systems, and Wastewater Treatment.

Once the baseline valuations were determined, we needed to determine the "net equity" in each system. This was accomplished by subtracting the current debt on the system from the Preliminary Asset Valuation. Below is the basic calculation for determining net equity:

Net Equity = Preliminary Asset Valuation – Current Debt on System

The detailed summary used to complete these asset valuations can be found in ***Appendix D – Preliminary Asset Valuations.***

Below is a summary table for these Preliminary Asset Valuations:

Facilities Description	**Southampton Prelim Asset Valuation**	**Franklin Prelim Asset Valuation**	**Combined Asset Values**
Water Facilities (wells & storage)	$5,137,000	$2,065,000	$7,202,000
Water Distribution Systems	$6,337,000	$4,414,000	$10,751,000
Wastewater Collection	$15,779,000	$16,806,000	$32,585,000
Wastewater Pumping Systems	$3,559,000	$3,252,000	$6,811,000
Wastewater Treatment Facilities *	$26,232,000	$7,945,000	$34,177,000
Total System Value	***$57,044,000***	***$34,482,000***	***$91,526,000***
Current Debt on System	$34,541,000	$3,052,000	$37,593,000
Net Equity in System	***$22,503,000***	***$31,430,000***	***$53,933,000***

* Franklin WWTP was discounted 50% because of location in the 10-yr Floodplain

5. Engineering Analysis of the Three (3) Proposed Scenarios (Subtask 1D)

The purpose of this assessment is to examine the feasibility of alternatives to the management and operation of the City of Franklin and Southampton County Public Utilities going forward. The alternatives considered include: continued operation as independent utilities *(Non-Shared or "Status Quo" Scenario)*; a contractual relationship that would redistribute specific key resources that would benefit both utilities to the greatest extent possible short of merging both utilities into a regional utility (*Shared or Contracted Services Scenario)*; and the alternative to merge both utilities into a regional utility authority (*Regionalized Scenario*). This report focuses on the engineering and direct operational, maintenance and capital cost aspects of these alternatives.

For each alternative operation and maintenance; water supply; water storage and distribution; wastewater collection and conveyance; and wastewater treatment concerns are addressed. Specific projects required to implement each of the alternatives are defined and a schematic layout of the locations and interconnectivity of these new and or modified facilities are shown in ***Appendix E – Alternative Layouts.*** Engineer's Opinion of Probable Costs for these projects are presented in 2015 dollars ($) and have been included in ***Appendix F – Engineer's Opinion of Probable Costs for Alternatives Analysis.***

5.1 General Considerations for Alternatives Analysis

In order to perform a comprehensive study the alternatives, we developed a list of general considerations based upon conversations with City and County staff, which are included below:

1. The Courtland WRF has significant capacity available to treat wastewater from the City of Franklin.
2. Offloading a portion of the City of Franklin sewer system directly to the Courtland WRF, such as certain service areas on the northern end of the City.
3. Evaluating potential improvements to the Franklin WWTP in order to make it less susceptible to flooding and/or relocating it out of the floodplain.

5.2 Scenario 1 - Non-Shared (or "Status Quo")

The major considerations that needed to be taken into account for the Non-Shared Services (Status Quo) included the impacts to the Courtland WRF and the potential impacts to the Franklin WWTP. It was concluded that the impacts to the Courtland WRF would be minimal as the plant is operating in an acceptable flow range for the current treatment process.

Unfortunately, the Franklin WWTP is currently located within the 10-yr floodplain as defined by FEMA, and has experienced two significant flood events, one in 1999 and one in 2006, which caused the plant to shut down for several days after each event. Based upon current DEQ Sewage Collection and Treatment (SCAT) regulations, a new wastewater treatment plant needs to be constructed such that vital mechanical and electrical equipment is located above the 100-yr floodplain and all components of the plant shall be constructed above the 25-yr floodplain such

that the plant will remain fully operational. ***If the Franklin WWTP were to be constructed today in its current location, it would not meet current VDEQ regulations.***

Eventually the City of Franklin would need to relocate and rebuild the Franklin WWTP within the City limits. The anticipated build-out for the City of Franklin system is 2.4 MGD based upon previous studies, therefore, when the City relocates the current WWTP, they will need to construct a 3.0 MGD Tertiary Treatment WWTP to meet ultimate capacity.

Costs for constructing a 3.0 MGD Tertiary Treatment WWTP and relocating it out of the 100-yr floodplain are approximately $54,797,000 in 2015 dollars. Since the WWTP is currently being operated in an efficient manner by the City staff, the anticipated remaining service life can be several years, provided there is not another flood event.

In terms of planning for this expansion, we have assumed a 2.5% annual escalation in construction costs to determine the potential costs in 5 and 10 years, respectively. Forecasting beyond a 10-yr period is not considered reasonable given the potential change in permit requirements and/or regulations.

Year of Construction	Capital Costs (2.5% annual esc)
2015	$54,797,000
2020	$61,998,000
2025	$70,145,000

A summary of the costs are provided in ***Appendix H – Non Shared Services (Status Quo) Alternative.***

5.2.1 Potential Impacts to Southampton Courtland WRF

Currently the Courtland WRF is operating at approximately 0.18 MGD ADF and has a design capacity of 1.25 MGD, with two separate 0.625 MGD flow trains. At the current ADF, that represents approximately 29% (0.18 MGD / 0.625 MGD) of the flow capacity for one train.

Given that the plant is operating at this flow rate, naturally the facility will have certain fixed costs that will drive up the costs per 1,000 gallon to treat the wastewater.

The current permit allows for only 1 shift of workers up to 0.99 MGD flowrate. As such, we anticipate minimal impact to the Courtland WRF if it keeps operating under its current conditions.

5.2.2 Franklin WWTP Infiltration & Inflow Issues (i.e. Wet Weather Flow)

The Franklin WWTP has peaked out at 6 MGD during past rain events. The City is proactively addressing the I&I through their system maintenance efforts and has brought the average daily flows down on the plant due to these efforts.

Non-Governmental Organizations (NGO's) such as the Blackwater Nottoway Riverkeeper® Program, Jeff Turner, keep a close eye on the outfall, especially during rain events.

5.2.3 Potential Impacts to Water Permits

Currently the City of Franklin has 1.0 MGD allocated for Southampton County under its expired permit. As noted previously in this report, the City has submitted a permit renewal for 1.56 MGD, which appears to have removed the potential allocation for Southampton County. Given the VDEQ's current disposition towards groundwater permits, we expect no additional impacts to the water withdrawal permits.

5.2.4 Potential Impacts (or Opportunity Costs) to Economic Development

While every locality tries to be competitive from an economic development perspective, it's important to note that most prospects look regionally and do not care about locality boundaries. In order to best understand and frame up how an economic development prospect works, it's best to look at a real world example and how that scenario played out in a very short time frame.

One such example was Project Casper, or Acme Smoked Fish Company, which pursued a site in both Franklin and Southampton. Following is an outline of the investment, jobs and timeline for this project:

Investment:	$27 million
Jobs:	104
Timeline:	Less than 2-1/2 months from initial contact of FSEDI until decision made
	Initial Contact – Early June
	Initial RFP Response – June 15
	1st Site Visit – June 19
	Shortlist of sites – June 25
	2nd Site Visit – July 8
	NY Negotiation Session – Aug 6-7
	Decision – August 12

As was experienced during the Project Casper (Acme Smoked Fish) pursuit, both Franklin and Southampton had sites that were competitive in the selection process. Southampton had a proposed site in the Agri-Business Park and Franklin had a proposed site in the Pretlow Business Park.

One of the major issues associated with this particular project was the ability of the locality / site to handle an industrial strength wastewater stream from this proposed fish processing facility. It became very apparent during the site selection process that the Pretlow Business Park site was the preferred site from an exposure, access and site development perspective, but Southampton County had the more sophisticated and recently constructed wastewater treatment facility at the Courtland WRF (a 5 stage Bardenpho Process completed in 2010). As such the Franklin-Southampton Economic Development Incorporation (FSEDI) found itself in a dilemma as to which site to choose to put forward and subsequently choose the "winner" site among the two.

There is no doubt, had the localities been working within the context of a regional utility authority, they could have significantly increased their negotiating position with the prospect.

The company ultimately decided to negotiate with the City of Franklin due to the site being located in a New Market Tax Credit District. In the end, the cost of pretreatment required at the Franklin site made the development costs considerably more expensive than the North Carolina site under consideration leading to a decision for North Carolina. If the City and County were a part of a regional utility system the issue of wastewater would not have been an issue and the City could have potentially won the deal.

Most recently with Project Tomahawk run by Scott Kupperman of Kupperman Location Solutions, (the consultant that located Green Mountain Coffee in Windsor, VA) it was stated that the Southampton Business Park property would not have been considered for the project were it not for the existence of the new waste water treatment facility. The Franklin industrial property was not considered for this project.

Above are two recent examples of where the two localities, with separate and independent utility systems, found themselves in competitive environment that a regionalized scenario would eliminate altogether.

Development of Cypress Cove

Timmons Group developed a concept master plan for Cypress Cove that could accommodate up to 10 million SF of warehouse and distribution space (See ***Appendix G – Cypress Cove, Pretlow & Turner Sites***). Currently where Cypress Cove is located, it would be much easier for the property to be served by the City of Franklin than for Southampton County to extend utilities to the site. Each option would be costly for either locality. Since Cypress Cove is located within the County and not within the City, and the City has minimal water & sewer capacity available, the City is not incentived to provide service to this site.

As such, based upon the examples cited above, we believe that the opportunity costs are very significant for both the City and County under the Non-Shared Services (Status Quo) scenario.

5.3 Scenario 2 - Shared or Contracted Services

As part of the Shared or Contracted Services scenario, we were to evaluate, frame up and summarize the potential opportunities and issues associated with replacing the current structure with one in which the localities either contract with one another for water & sewer services, or one in which they form a shared services department and share the costs thereof.

As such, under this scenario the construction and operation of additional facilities and infrastructure will redistribute the water supply and wastewater treatment capacities to the benefit of both parties. Furthermore, the City and County can share their resources to the extent their utility's capacity can provide service and support future build-out of the City's and County's designated growth areas.

Our team evaluated the potential interconnectivity of the systems such that the City of Franklin could off-load a portion of the sewer flow to the Courtland WRF. We considered three basic alternatives, with some slight variations in the Alternatives Analysis.

These basic alternatives include:

1. Replace Cypress Avenue Pump Station (500,000 GPD Capacity), construct force main to Courtland WRF, relocate and rebuild the Franklin WWTP to 2.0 MGD with tertiary treatment
2. Install a pump station at the Franklin WWTP, construct a force main to Courtland WRF and relocate and rebuild the Franklin WWTP to 2.0 MGD and tertiary treatment
3. Install a pump station at the Franklin WWTP, construct a force main to Courtland WRF, expand the Courtland WRF and eventually shut down Franklin WWTP

It's important to note, that these alternatives need to consider the possibility of flood mitigation should the City of Franklin WWTP be flooded again and have significant down time. We would need to meet with VDEQ and other regulatory agencies to determine whether or not a flood mitigation plan is a feasible alternative.

5.3.1 Potential Impacts to Long-Term Capital Improvements

Under this scenario, the City of Franklin would send sewer to and pay for treatment at the Courtland WRF. Under this scenario, it was assumed that the City would need to pay for 100% of the pump station and pipelines to the Courtland WRF and their pro-rata share of the desired capacity of the Courtland WRF from Southampton County in the form of a "Facility / Capacity" fee (this would be consistent with the 1996 Revenue Sharing Agreement in reverse). In addition, it is anticipated the County could tie-in the Turner Tract and Edgehill systems to the City of Franklin water system, if desired.

Based upon the information provided by Southampton County, the costs for the County to construct the Courtland WRF was approximately $20.55 million in 2010. The real costs of the facility divided by the rated capacity of 1.25 MGD, provides a cost basis for the City to purchase capacity from Southampton County.

Based upon the information presented, the costs for "buy-in" by the City of Franklin would be:

Facility / Capacity Fee: $20.55 million / 1.25 MGD = $16.44 per gallon

For example, if Franklin were to purchase 500,000 GPD capacity from Southampton, that would equate to $8.22 million (500,000 GPD x $16.44 per gallon).

Alternatives Analysis

As noted above, we developed three base alternatives under this scenario, with slight variations as listed below:

Alternative 1 – City of Franklin would off-load the wastewater from the northern end of the City that currently flows to the Cypress Ave Pump Station. The current ADF is approximately 260,000 GPD and the anticipated build-out of this area is approximately 500,000 GPD. This would allow the City to reduce the flow at the WWTP, however, it would not address potential flood mitigation at the Franklin WWTP.

Potential Improvements paid for by Franklin:

a. Rebuild / Upgrade Cypress Avenue Pump Station at 500,000 GPD ADF
b. Construct a 10" force main to the Courtland WRF
c. Relocate and Rebuild the Franklin WWTP at 2.0 MGD
d. Pay a Facility / Capacity Fee to Southampton County for 500,000 GPD capacity at Courtland WRF
e. Pay for a 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City

Potential improvements paid for by Southampton:

a. Interconnect Turner Tract to CIC with a 12" water line ***(DEFERRED TO LATER DATE)***
b. Interconnect Edgehill to Franklin with a 12" water line ***(DEFERRED TO LATER DATE)***

Alternative 2 – This alternative assumes the City of Franklin will build a 2.4 MGD ADF pump station at the Franklin WWTP and send flow over to the Courtland WRF for treatment.

Potential Improvements paid for by Franklin:

a. Construct a 2.4 MGD ADF (Max build-out) Pump Station at Franklin WWTP to send flow to Courtland WFT
b. Construct a 24" force main to the Courtland WRF
c. Relocate and Rebuild the Franklin WWTP at 2.0 MGD
d. Facility / Capacity Fee to Southampton County for 500,000 GPD capacity at Courtland WRF
e. 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City

Potential improvements paid for by Southampton:

a. Interconnect Turner Tract to CIC with a 12" water line ***(DEFERRED TO LATER DATE)***
b. Interconnect Edgehill to Franklin with a 12" water line ***(DEFERRED TO LATER DATE)***

Alternative 2A (Hybrid Alternative) – This alternative assumes the City of Franklin will build a 2.4 MGD ADF pump station at the Franklin WWTP and send flow over to the Courtland WRF for treatment. *This alternative would defer the costs for relocating and rebuilding the 2.0 MGD Franklin WWTP until a later date, but would require potential improvements to the Courtland WRF to allow for flood mitigation if that is determined feasible.*

Potential Improvements paid for by Franklin:

a. Construct a 2.4 MGD ADF Pump Station at Franklin WWTP
b. Construct a 24″ force main to the Courtland WRF
c. Relocate and Rebuild the Franklin WWTP at 2.0 MGD ***(DEFERRED TO LATER DATE)***
d. Facility / Capacity Fee to Southampton County for 500,000 GPD capacity at Courtland WRF
e. Pay to modify Courtland WRF as needed to handle the potential flow during another flood event
f. 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City

Potential improvements paid for by Southampton:

a. Interconnect Turner Tract to CIC with a 12″ water line ***(DEFERRED TO LATER DATE)***
b. Interconnect Edgehill to Franklin with a 12″ water line ***(DEFERRED TO LATER DATE)***

Alternative 3, 3A and 3B – These alternatives would include the City of Franklin building a 2.4 MGD pump station and force main at the Franklin WWTP and sending flow over to the Courtland WRF. These alternatives assume a full expansion of Courtland WRF to handle Franklin's flow and eventual shut-down of the Franklin WWTP.

Alternative 3

Potential Improvements paid for by Franklin:

a. Construct a 2.4 MGD ADF Pump Station at Franklin WWTP
b. Construct a 24″ force main to the Courtland WRF
c. Eventually Shut Down the Franklin WWTP
d. Expand Courtland WRF from 1.25 MGD to 2.5 MGD ADF
e. Facility / Capacity Fee to Southampton County for 750,000 GPD capacity at Courtland WRF
f. 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City

Potential improvements paid for by Southampton:

a. Interconnect Turner Tract to CIC with a 12″ water line ***(DEFERRED TO LATER DATE)***
b. Interconnect Edgehill to Franklin with a 12″ water line ***(DEFERRED TO LATER DATE)***

Alternative 3A

Potential Improvements paid for by Franklin:

a. Construct a 2.4 MGD ADF Pump Station at Franklin WWTP
b. Construct a 24″ force main to the Courtland WRF
c. Eventually Shut Down the Franklin WWTP
d. Expand Courtland WRF from 1.25 MGD to 3.125 MGD (construct a 1.25 and 0.625 MGD flow train)

e. Facility / Capacity Fee to Southampton County for 125,000 GPD capacity at Courtland WRF
f. 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City

Potential improvements paid for by Southampton:
a. Interconnect Turner Tract to CIC with a 12" water line ***(DEFERRED TO LATER DATE)***
b. Interconnect Edgehill to Franklin with a 12" water line ***(DEFERRED TO LATER DATE)***

Alternative 3B
Potential Improvements paid for by Franklin:
a. Construct a 2.4 MGD ADF Pump Station at Franklin WWTP
b. Construct a 24" force main to the Courtland WRF
c. Eventually Shut Down the Franklin WWTP
d. Expand Courtland WRF from 1.25 MGD to 3.75 MGD (construct two additional 1.25 MGD flow trains)
e. 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City

Potential improvements paid for by Southampton:
a. Interconnect Turner Tract to CIC with a 12" water line ***(DEFERRED TO LATER DATE)***
b. Interconnect Edgehill to Franklin with a 12" water line ***(DEFERRED TO LATER DATE)***

Following is a summary table showing the comparative costs and subsequent capacity owned by each locality and the total cost per gallon of capital improvements.

Alternative	**1**	**2**	**2A***	**3**	**3A**	**3B**
Total Capital Costs	$52,644,000	$62,202,000	$28,220,000	$42,922,000	$45,873,000	$51,614,000
Overall System Capacity	3,250,000	3,250,000	3,250,000	2,500,000	3,125,000	3,750,000
Franklin Owned Capacity	***2,500,000***	***2,500,000***	***2,500,000***	***1,750,000***	***2,000,000***	***2,500,000***
Southampton Owned Capacity	***750,000***	***750,000***	***750,000***	***750,000***	***1,125,000***	***1,250,000***
$ per Gal	$16.20	$19.14	$8.68	$17.17	$14.68	$13.76

* Alternative 2A assumes approximately $4 million in upgrade / retrofit costs for Courtland WRF to handle potential flood mitigation. This alternative will need to be studied further to confirm DEQ will accept this approach and the potential costs associated with this alternative.

5.3.2 Evaluation of Full Time Equivalents (FTE's) & Potential O&M Savings

Under the Shared or Contracted Services, both the City and County could remain responsible for the operation and maintenance of their respective facilities, or they could be combined into one department. Either way, it is anticipated the O&M budgets would remain the same for the overall system maintenance. The O&M items that would possibly change are:

a. Pumping costs from Franklin to Courtland
b. Potential treatment costs
c. Potential savings associated with consolidation of treatment facilities

Contracted or Shared Services O&M Implications:

A review of the O&M implications for Alternative 1 & 2

a. Utilizing the City of Franklin's power rates, we estimated approximately $45,000 to $50,000 annual pumping costs from the Franklin pump stations to Courtland WRF (assuming approximately 500,000 GPD is diverted to Courtland WRF)
b. Estimate equalization of treatment costs between the treatment plants (i.e. any treatment costs one locality offsets at one plant, such as power, chemicals & labor, will be absorbed at the other plant
c. Estimated additional costs
    i. $50,000 / $3.66 million combined O&M budget = 1.4% increase
    ii. This additional costs were considered negligible for the financial modeling

A review of the O&M Implications for Alternative 3 includes the following considerations:

a. Currently the Courtland WRF operates 1 shift up to 0.99 MGD
b. If we transfer all wastewater flow from Franklin WWTP, then Courtland WRF would need to increase shifts, therefore anticipate Franklin WWTP staff could be transferred to Courtland WRF
c. Utilizing the City of Franklin's power rates, we estimated approximately $75,000 to $80,000 in annual pumping costs to transfer wastewater from Franklin WWTP pump station to Courtland WRF (assuming 100% of the flow, or approximately 1.5 MGD is diverted to Courtland WRF)
d. Estimated $80,000 to $100,000 annual savings due to efficiencies of consolidation of treatment facilities
e. Costs essentially offset each other, therefore, we considered the O&M savings negligible for the purpose of the financial modeling

The combined Operations & Maintenance (O&M) budgets for the City of Franklin and Southampton County based upon the FY2014 Budgets is $3.66 million. Below is a table summarizing the impacts noted above:

Financial Impact	**Alternative 1, 2 & 2A**	**Alternative 3, 3A & 3B**
Pumping Costs (Franklin to Courtland)	$45,000 to $50,000	$75,000 to $80,000
Treatment & Personnel Savings	Equivalent	$80,000 to 100,000
Total Cost Increases	$45,000 to $50,000	Equivalent
Impact to Financial Analysis	***1.4% Increase (Negligible)***	***Negligible***

Based upon our review of the FTE's and operational costs, it is anticipated the total financial impact to the overall budgets would be considered negligible for the purposes of the financial analysis.

5.3.3 Potential Impacts (or Opportunity Costs) to Economic Development Opportunities

It is anticipated under a Shared Services Agreement that the County and City would still be in a pseudo competitive environment, however, they would be in a better position to leverage the utility assets to their advantage. Under this scenario, each respective locality would need to determine a way to fund necessary infrastructure improvements to accommodate a prospect and would need to determine how to allocate potential water and wastewater capacity.

While this scenario is more desirable than the Non-Shared Services (Status Quo), it is still not ideal from an economic development perspective. As such, we believe there will still be significant opportunity costs to economic development prospects who will still view the City and County as separate entities when it comes to negotiating a deal.

5.4 Scenario 3 – Regionalized Scenario

Under this scenario the resources and assets of both utilities would be combined into a single Regional Utility Authority (RUA). The RUA Scenario provides greater opportunities and flexibility in operating, maintaining and improving these systems. The regional utility would be responsible for all issues related to the funding, staffing, operating, maintaining and improving these systems as one system under an independent RUA.

Our team evaluated the potential interconnectivity of the systems such that the City of Franklin and Southampton County could combine treatment capacities of the Courtland WRF and the Franklin WWTP. Very similar to the Contracted or Shared Services scenario, we considered three basic alternatives, with slight variations, which included:

1. Replace Cypress Avenue Pump Station (500,000 GPD Capacity), construct force main to Courtland WRF, relocate and rebuild the Franklin WWTP to 2.0 MGD and tertiary treatment
2. Install a pump station at the Franklin WWTP, construct a force main to Courtland WRF and relocate and rebuild the Franklin WWTP to 2.0 MGD and tertiary treatment
3. Install a pump station at the Franklin WWTP, construct a force main to Courtland WRF, expand the Courtland WRF and eventually shut down Franklin WWTP

It's important to note, that these alternatives need to consider the possibility of flood mitigation should the City of Franklin WWTP be flooded again and have significant down time. Furthermore, we would need to meet with DEQ to determine whether or not this is a feasible alternative.

5.4.1 Potential Capital Improvements & Potential Phasing Plan

Under a Regional Utility Authority, the City of Franklin and Southampton County would combine all water and sewer utilities into one system. The alternatives were developed to interconnect and combine the Southampton and Franklin systems in a logical and consistent manner. This system would include the same basic alternatives listed above, however, the Regional Utility Authority would be responsible for the funding / financing of the improvements under each scenario.

As part of this evaluation, we took into consideration the Preliminary Asset Valuations and existing debt on each system should Franklin and Southampton combine their systems equitably into a Regional Utility Authority. Based upon the Preliminary Asset Valuations, there appears to be an approximate $8.93 million inequity in favor of the City of Franklin. This scenario would not require the City of Franklin to pay Southampton County for a "pro-rata" share of the Courtland WRF since the localities would be equitably consolidating the systems.

The alternatives considered are listed below:

Alternative 1 – City of Franklin would off-load the wastewater from the northern end of the City that currently flows to the Cypress Ave Pump Station. The current ADF is approximately 260,000 GPD and the anticipated build-out of this area is approximately 500,000 GPD. This would allow

the City to reduce the flow at the WWTP, however, it would not address potential flood mitigation at the Franklin WWTP.

Potential Improvements paid for by the Authority:

a. Rebuild / Upgrade Cypress Avenue Pump Station at 500,000 GPD ADF
b. Construct a 10" force main to the Courtland WRF
c. Relocate and Rebuild the Franklin WWTP at 2.0 MGD
d. Pay for a 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City
e. Interconnect Turner Tract to CIC with a 12" water line ***(DEFERRED TO LATER DATE)***
f. Interconnect Edgehill to Franklin with a 12" water line ***(DEFERRED TO LATER DATE)***

Alternative 2 – This alternative assumes the City of Franklin will build a 2.4 MGD ADF pump station at the Franklin WWTP and send flow over to the Courtland WRF for treatment.

Potential Improvements paid for by the Authority:

a. Construct a 2.4 MGD ADF Pump Station at Franklin WWTP to send flow to Courtland WRF
b. Construct a 24" force main to the Courtland WRF
c. Relocate and Rebuild the Franklin WWTP at 2.0 MGD
d. Pay for a 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City
e. Interconnect Turner Tract to CIC with a 12" water line ***(DEFERRED TO LATER DATE)***
f. Interconnect Edgehill to Franklin with a 12" water line ***(DEFERRED TO LATER DATE)***

Alternative 2A (Hybrid Alternative) – This alternative assumes the City of Franklin will build a 2.4 MGD ADF pump station at the Franklin WWTP and send flow over to the Courtland WRF for treatment. It also assumes that the Courtland WRF could be retrofitted to handle the necessary flow from the Franklin WWTP during a potential flood event until such time as the Franklin WWTP could be brought back on-line, provided that DEQ will approve this approach.

This alternative would defer the costs for relocating and rebuilding the 2.0 MGD Franklin WWTP until a later date or after the next flood event in Franklin.

Potential Improvements paid for by the Authority:

a. Construct a 2.4 MGD ADF Pump Station at Franklin WWTP
b. Construct a 24" force main to the Courtland WRF
c. Upgrade / Retrofit Courtland WRF to handle potential peak flow from the Franklin WWTP during another flood event until Franklin WWTP can be brought back online (if DEQ approves of this approach)
d. Relocate and Rebuild the Franklin WWTP at 2.0 MGD ***(DEFERRED TO LATER DATE)***
e. 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City
c. Interconnect Turner Tract to CIC with a 12" water line ***(DEFERRED TO LATER DATE)***
d. Interconnect Edgehill to Franklin with a 12" water line ***(DEFERRED TO LATER DATE)***

Alternative 3, 3A and 3B – These alternatives would include the City of Franklin building a 2.4 MGD pump station and force main at the Franklin WWTP and sending flow over to the

Courtland WRF. These alternatives assume a full expansion of Courtland WRF to handle Franklin's flow and eventual shut-down of the Franklin WWTP.

Alternative 3

Potential Improvements paid for by the Authority:

a. Construct a 2.4 MGD ADF Pump Station at Franklin WWTP
b. Construct a 24″ force main to the Courtland WRF
c. Eventually Shut Down the Franklin WWTP
d. Expand Courtland WRF from 1.25 MGD to 2.5 MGD ADF
e. 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City
f. Interconnect Turner Tract to CIC with a 12″ water line ***(DEFERRED TO LATER DATE)***
g. Interconnect Edgehill to Franklin with a 12″ water line ***(DEFERRED TO LATER DATE)***

Alternative 3A

Potential Improvements paid for by the Authority:

a. Construct a 2.0 MGD ADF Pump Station at Franklin WWTP
b. Construct a 24″ force main to the Courtland WRF
c. Eventually Shut Down the Franklin WWTP
d. Expand Courtland WRF from 1.25 MGD to 3.125 MGD (construct a 1.25 and 0.625 MGD flow train)
e. 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City
f. Interconnect Turner Tract to CIC with a 12″ water line ***(DEFERRED TO LATER DATE)***
g. Interconnect Edgehill to Franklin with a 12″ water line ***(DEFERRED TO LATER DATE)***

Alternative 3B

Potential Improvements paid for by the Authority:

a. Construct a 2.4 MGD ADF Pump Station at Franklin WWTP
b. Construct a 24″ force main to the Courtland WRF
c. Eventually Shut Down the Franklin WWTP
d. 3 MG flow equalization basin at Courtland WRF to handle wet weather flow from City
e. Interconnect Turner Tract to CIC with a 12″ water line ***(DEFERRED TO LATER DATE)***
f. Interconnect Edgehill to Franklin with a 12″ water line ***(DEFERRED TO LATER DATE)***

Following is a summary table showing the comparative costs and subsequent capacity owned by each locality and the total cost per gallon of capital improvements.

Below is a summary table of the costs for each of the Alternatives listed above:

Alternative	1	2	2A *	3	3A	3B
Total Capital Costs	$44,424,000	$53,982,000	$20,000,000	$34,702,000	$43,818,000	$51,614,000
Overall System Capacity	3,250,000	3,250,000	3,250,000	2,500,000	3,125,000	3,750,000
$ per Gal	$13.67	$16.61	$6.15	$13.88	$14.02	$13.76

* Alternative 2A assumes approximately $4 million in upgrade / retrofit costs for Courtland WRF to handle potential flood mitigation. This alternative will need to be studied further to confirm DEQ will accept this approach and the potential costs associated with this alternative.

5.4.2 Evaluation of Full Time Equivalents (FTE's) and O&M Savings

Under the Regional Utility Authority scenario, the City and County would consolidate the current O&M budgets under one legal entity. As such, it is anticipated the O&M budgets would remain the same for the overall system maintenance. The O&M items that would possibly change are:

a. Pumping costs from Franklin to Courtland
b. Potential treatment costs
c. Potential savings associated with consolidation of treatment facilities

Regional Utility Authority O&M Implications:

A review of the O&M implications for Alternative 1 & 2

a. Utilizing the City of Franklin's power rates, we estimated approximately $45,000 to $50,000 annual pumping costs from the Franklin pump stations to Courtland WRF (assuming approximately 500,000 GPD is diverted to the Courtland WRF)
b. Estimate equalization of treatment costs between the treatment plants (i.e. any treatment costs one locality offsets at one plant, such as power, chemicals & labor, will be absorbed at the other plant
c. Estimated additional costs
    iii. $50,000 / $3.66 million combined O&M budget = 1.4% increase
    iv. This additional costs were considered negligible for the financial modeling

A review of the O&M Implications for Alternative 3 includes the following considerations:

a. Currently the Courtland WRF operates 1 shift up to 0.99 MGD
b. If we transfer all wastewater flow from Franklin WWTP, then Courtland WRF would need to increase shifts, therefore, anticipate Franklin WWTP staff could be transferred to Courtland WRF
c. Utilizing the City of Franklin's power rates, we estimated approximately $75,000 to $80,000 in annual pumping costs to transfer wastewater from Franklin WWTP to Courtland WRF (assuming 100% of the flow, or approximately 1.5 MGD is diverted to Courtland WRF)
d. Estimated $80,000 to $100,000 annual savings due to efficiencies of consolidation of systems
e. Costs essentially offset each other, therefore, we considered the O&M savings negligible for the purpose of the financial modeling

The combined Operations & Maintenance (O&M) budgets for the City of Franklin and Southampton County based upon the FY2014 Budgets is $3.66 million. Below is a table summarizing the impacts noted above:

Financial Impact	Alternative 1, 2 & 2A	Alternative 3 & 3A
Pumping Costs (Franklin to Courtland)	$45,000 to $50,000	$75,000 to $80,000
Treatment & Personnel Savings	Equivalent	$80,000 to 100,000
Total Cost Increases	$45,000 to $50,000	Equivalent
Impact to Financial Analysis	***1.4% Increase (Negligible)***	***Negligible***

Based upon our review of the FTE's and operational costs, it is anticipated the total financial impact to the overall budgets would be considered negligible for the purposes of the financial analysis.

5.4.3 Potential Impacts to transference of Existing Water & Wastewater Permits

Based upon the Legal Review provided by McGuireWoods and summarized in Section 7.3, it is anticipated that these permits will all need to be transferred to the new legal entity that would own and operate the system to prevent conflicting obligations.

5.4.4 Potential Governance Implications & Structure of Proposed Legal Entity

The potential organizational structures were evaluated and vetted with the Organizational Work Group by McGuireWoods Consulting and summarized in Section 7.1 of this report. Based upon the overwhelming consensus of the Work Group, it was determined that a Public Service Authority was the most appropriate legal entity, with a balanced board (6 members) with equal representation between the City of Franklin and Southampton County.

5.4.5 Potential Financial Implications

Potential financial implications associated with the consolidation of the utilities were evaluated by Davenport & Company and summarized in Section 6 of this report. Based upon the Legal Review by McGuireWoods LLP and summarized in Section 7.3, the creation of an authority (or any means of joint resource development) would require that existing or outstanding financial obligations be restructured or retired. As such, it is anticipated that the debt would be restructured in the Authority name once an equitable consolidation of the assets has been made.

5.4.6 Conveyance of Assets (and valuation) under One Single Legal Entity

Based upon the Legal Review by McGuireWoods LLP and summarized in Section 7.3, no impediments to a Shared Utility or consolidating all or a portion of these facilities to another organizational structure have been identified.

In order for the conveyance of assets, it is a recommendation of this report to have a formal asset valuation performed by an independent third party prior to an equitable consolidation of assets into one single legal entity.

5.4.7 Impact of 1996 Revenue Sharing Agreement

Based upon the Legal Review by McGuireWoods LLP and summarize in Section 7.3, the Agreement should not present an impossible impediment to creation of a joint authority but the City and the County will need to receive the advice of their own counsel to avoid any actual or perceived conflict of interest. It is recommended that legal counsel for the City and the County meet with prospective authority counsel to discuss the approach selected and a path forward.

6. Financial Analysis & Utility Rate Studies (Task 2)

6.1 Financial Analysis – By Davenport & Company

Davenport created a multi-year Utility Enterprise Pro-Forma Model (the "Model"). The Model was initially created for the City's utility system and a separate model for the County's utility system. These would serve as status quo scenarios. Combining these models we were able to create Shared/Contracted Services scenarios. Finally by fully combining the models we were able to create scenarios as a Regional Authority.

The Models integrate operating and capital budgets including revenue sources, operation and maintenance expense, capital requirements, reserve funds, investments, and debt into a cohesive multi-year analysis for the various scenarios. The Models show the resulting projections of debt service coverage, fund balance, and required rate increases under various scenarios. The Models can be found in ***Appendix K – Financial Models.***

Following are the summary tables and rates and how they apply across the alternatives considered with the potential impacts to user rates:

		Contracted or Shared Services	
	Do Nothing (Status Quo)	**Alt 3 (2.5MGD)**	**Alt 3A (3.125 MGD)**
Capital Expenditures			
Franklin	$54,797,000	$42,922,000	$45,873,000
Southampton	$0	($8,220,000)	($2,055,000)
Monthly Bill (5,000 gl/m)			
Franklin Now=$63	Yr1=$126	Yr1=$110	Yr1=$114
Southampton Now=$72	$72	$72	$72
% Increase in Rates			
Franklin *	99%	74%	80%
Southampton	0%	0%	0%

* Water rates and Sewer rates are increased by the percentage shown separately then added together to get a combined monthly bill.

	Regional Authority	
	Alt 2A (hybrid) (3.25 MGD)	**Alt 3 (2.5 MGD)**
Capital Expenditures		
Authority*	$20,000,000	$34,702,000
Monthly Bill (5,000 gl/m)		
Franklin Now=$63	Yr1=$103	Yr1=$116
Southampton Now=$72	Yr1=$117	Yr1=$132
% Increase in Rates	63%	83%

* Assumes all existing and new debt is paid by users of the system except for $8.93 million of existing debt which is assumed to be supported by Southampton County due to asset inequity between the two systems.

6.2 Potential Funding Options

Should the County and City consolidate into a Regional Utility Authority, they could possibly receive more favorable funding consideration from various funding agencies. Given that the current Franklin WWTP is located within the 10-yr floodplain and has experienced significant flood events (1999 and 2006), it is also possible that other potential funding sources could become available to the localities to help pay for mitigation of the plant being relocated out of the current floodplain such that it does not present a problem for the public health, safety and welfare and/or an environmental hazard.

Following is a list of potential funding sources that we believe the potential Regional Authority should further explore moving forward (see ***Appendix L – Potential Funding Sources*** for funding cycles):

- DHCD Community Improvement Grant Programs
- State Clean Water Revolving Loan Fund
- Water Quality Improvement Fund by DEQ (WQIF)
- US Economic Development Administration (EDA)
- VDEM's Hazard Mitigation Grant Program (HMGP)
- USDA Rural Development (RD)
- US Environmental Protection Agency (EPA)
- Virginia Resources Authority (VRA)
- Congressional earmarks where appropriate

Obviously, no competitive grant or loan program comes with any guarantee of award. Some trends that we have observed with funding agencies that we believe need to be taken into consideration include the following:

- Grants have reduced funding pools and are getting more competitive

- Low interest loans are becoming more prevalent
- Previous disaster relief pools are difficult to access if significant time has lapsed since the disaster

As such, we further evaluated the potential rate impacts for any additional monies that could be contributed to the Regional Authority for capital improvements via grants to help pay for the overall project. These grants would essentially represent a "buy-down" of the potential capital expenditures for the Regional Authority. Below is a table outlining the varying amounts of capital to be borrowed (dependent upon funding) with the potential impacts to rates:

	Regional Authority - Amount Financed			
Capital Expenditures				
Amount Financed by Authority*	$10,000,000	$20,000,000	$30,000,000	$34,702,000
Monthly Bill (5,000 gl/m)				
Franklin Now=$63	Yr1=$94	Yr1=$103	Yr1=$112	Yr1=$116
Southampton Now=$72	Yr1=$107	Yr1=$117	Yr1=$127	Yr1=$132
% Increase in Rates	49%	63%	77%	83%

* Assumes all existing and new debt is paid by users of the system except for $8.93 million of existing debt which is assumed to be supported by Southampton County due to asset inequity between the two systems.

6.3 Current User Rates & Funding Considerations

Most funding agencies have a minimum requirement for "affordability" for consumers based upon 3.0% of the Median Household Income (MHI) for the annual water & sewer bills for the average customer. Below is a table identifying the MHI for Franklin and Southampton with the current rates compared to the 3.0% MHI for affordability:

Locality	2014 MHI	Current W&S Rates (5,000 gal per month)	Most Recent Rate Increase	3.0% x MHI Divided by 12 Months
Franklin	$33,447	$63.33	2008	$83.62
Southampton	$46,703	$72.00	2014	$116.76

As can be seen from the table, both Franklin and Southampton will need to consider raising user rates in order to be eligible for some potential grant funding sources. It's important to note that some funding agencies will consider a "blended" rate based upon the most recent census tract data, therefore, it will be important to perform a detailed rate study in order to better understand at which rate the City or County would need to establish to be eligible for funding.

It's also important to note that the City of Franklin has not had a rate increase since 2008, whereas Southampton County has consistently been raising rates with their most recent increase in 2014.

Per the Virginia DHCD Community Development Block Grant 2015 Program Design (pp. 16-17), following are the guidelines for a project to be considered regional:

> *"Regional infrastructure projects must document:*
> - *A significant need to be addressed through services within each locality's borders for the benefit of its residents, including investment by each locality,*
> - ***Equity in rates charged to users who are directly benefited by the CDBG investment,***
> - *Assurances that system improvements will be adequately maintained, and*
> - *Consolidation of two or more existing utility systems into a single operating entity, such as a Regional Service Authority, or creation of a new operating entity that serves the region with at least 51% of CDBG expenditures devoted to new service or a significant upgrade in service."*

As such, if a Regional Authority is formed, Franklin and Southampton will eventually need to "equalize" rates between the user bases to qualify for a CDBG grant, and possibly other funding sources, under a new legal entity.

7. Governance and Organization

7.1 Potential Organizational Structures (Subtask 3A) – By McGuireWoods Consulting

To be effective, the governance structure for the Shared Utility will have to achieve the right balance between accountability and independence.

The Shared Utility must have some measure of oversight from the localities to guard against ill-advised financial decisions that may adversely affect the credit of the localities and the rates charged to customers. The localities also will want assurances that the Shared Utility will remain responsive to local land-use policies and economic development initiatives. For example, a locality will want some confidence that there are procedures by which service can be extended to serve an important new commercial or industrial prospect the locality is trying to attract. At the same time, the Shared Utility should have some measure of independence from the localities so that rates can be set, debt issued, and personnel policies instituted quickly and efficiently.

As a general rule, there appear to be a handful of potential organizational and governance structures that could be implemented that are currently allowed by the Code of Virginia, which we will consider under this evaluation. These potential organizations include:

- Special Service District
- Public Service Authority under the "Virginia Water and Waste Authorities Act"
- Community Development Authority (CDA)
- Joint Powers Agreement

Our team reviewed the pertinent provisions of the Virginia Constitution and the existing legal structures (of the Southampton Utilities and the City of Franklin Utilities) under Virginia law to determine the available options for structuring both the Shared Utility and its governing body. To the extent the existing facilities' legal structures are found to be inadequate to produce the desired balance between accountability and independence, our team will suggest local legislative changes which may be based on organizational structures in other Virginia localities. We also will review and evaluate options for debt issuance and rate-setting provisions, eminent domain authorization, mandatory connection requirements, and procurement procedures.

Governance and Organization Workgroup

It was determined early in process to establish a Governance and Organization Workgroup, which would be comprised of Southampton County and City of Franklin representatives as well as of other representatives knowledgeable of the community and the subject matter.

Purpose

The purpose of the workgroup would be to determine the legal governing structure that would be most equitable and responsible to County and City citizens and ratepayers should a shared utility be deemed in the best interest of both jurisdictions.

Composition

The workgroup was comprised of the following:

a.	Bruce Phillips, Board of Supervisors	Southampton County
b.	Michael Johnson, County Administrator	Southampton County
c.	Randolph Cook, citizen representative	Southampton County
d.	Benny Burgess, City Council	City of Franklin
e.	Randy Martin, City Manager	City of Franklin
f.	Beth Lewis, Community Development	City of Franklin
g.	Amanda Jarratt, CEO	Franklin-Southampton Economic Development, Inc.
h.	Whitney Katchmark, Water Resources	Hampton Roads Planning District Commission

Deliberations

The workgroup's facilitators had numerous one-on-one calls with various workgroup members in preparation for joint workgroup conference calls. The workgroup had two in-depth conference calls – September 22, 2014, and October 2, 2014 – that lasted 1-2 hours each. And the workgroup facilitators had numerous one-on-one follow-up calls after conference calls.

Central Question Guiding the Workgroup

The workgroup gained consensus on a central question to guide its deliberations:

a. "If it is determined to be more efficient and cost-effective for a County-City shared utility to provide water and wastewater services, what is the most responsible and equitable governance structure?"

Workgroup Discussions

The workgroup throughout its deliberations held the interests of the County and City's citizens and ratepayers to be most important. All insisted that a governance structure would have to equitable and fair, that all County and City citizens and ratepayers would have to be fairly represented, that the handling of public debt is very important, and that a shared utility's governing body be autonomous and without overt political interference that could undermine its effectiveness.

The workgroup also recognized a few basic facts:

a. The City has a broader base of ratepayers than the County

b. The County has a new, state-of-the-art wastewater facility, which is a significant investment and asset – thus, County citizens should fully understand the benefits to the County should it partner with the City

c. The City has older water and wastewater treatment facilities whose capacity and technological limits will require costly upgrades in the future

d. Both the County and City will face future expense for environmental compliance

e. The County and City have a long history of economic development collaboration, and a shared utility could benefit both the County and City – and the region – in terms of economic development

f. The County and City could transfer its current public debt associated with its water and wastewater facilities to a shared utility if that share utility is legally organized to accept it; transferring such debt to another body would provide greater debt capacity for the County and City for other public infrastructure

A Review of Potential Shared Utility Organizational Structures

Southampton County and City of Franklin representatives deliberated extensively on the various organizational structures allowed by the Code of Virginia that would support the purpose of a shared utility.

The workgroup considered the following legal organization structures:

a. Public Service Authority
b. Special Service District
c. Community Development Authority
d. Joint Powers Agreement

As the workgroup contemplated each of the possible legal organizational structures, it considered how each would further its goals for equitable treatment of County and City citizens and ratepayers, how public debt could be handled, how mutually beneficial economic development could be fostered, and how an equitable governance board could be assembled and exercise its powers and responsibilities.

The following is a general overview of each possible legal organizational structure.

Public Service Authority

A Public Service Authority (PSA) can be established under the Virginia Water and Waste Authorities Act, per Virginia Code § 58.1-5100.

A PSA can be created by one or more localities. There are currently some 70 PSA in Virginia established per the Virginia Water and Waste Authorities Act. Some are water-only authorities, some are wastewater-only authorities, and some are water-wastewater authorities. Also, some have responsibilities for collecting and treating stormwater.

A PSA can carry out all responsibilities per the Act – construct, improve, equip, maintain, and operate water and wastewater systems; issue debt; set rates and collect fees; acquire

property and structures; hire staff to construct, operate, and maintain the system; and enter into contracts related to the system's operations.

Special Service District

A Special Service District can be established per Virginia Code § 15.2-2400.

A Special Service District can be created, by ordinance, by one locality or by two or more localities by concurrent ordinances.

Special Service Districts are generally created when a locality or one more localities must provide more complete or timelier services than might be afforded under usual local government structures.

A Special Service District's governing board is authorized to contract with any person or entity to provide government services to construct, operate, and maintain any facilities necessary to carry out its governmental services. In addition to water and wastewater services, a Special Service District also can include heat, power, and gas systems and services.

A Special Service District's governing powers are set forth in the ordinance or concurrent ordinances, as may be the case, passed by the local government(s).

A significant governing power afforded to a Special Service District is the ability to require owners and tenants of property in the service district to connect to a utility system. It also has the power to acquire property through purchase or eminent domain.

A Special Service District is financed by the levy of an annual tax on property within the district. Those taxes can only be spent on the governmental services it is charged to provide. Notable, a Special Service District is not allowed to issue tax-exempt debt (bonds).

Last, Virginia law offers no express authority to a Special Service District to fix, charge, and collect rates for use of systems in a service district. This limitation could lead to unintended consequences where a party that uses a significant portion of the services is charged the same tax as someone who uses little or no services.

Community Development Authority

A Community Development Authority (CDA) can be established under the Virginia Water and Waste Authorities Act, per Virginia Code § 58.1-5100.

CDAs are similar to PSAs under the Act. However, CDAs differ from PSAs in some important ways, such as CDAs' ability to own and maintain gas and electric lines.

Like PSAs, CDAs can construct, improve, equip, maintain, and operate water and wastewater systems; issue debt; set rates and collect fees; acquire property and structures;

hire staff to construct, operate, and maintain the system; and enter into contracts related to the system's operations.

CDAs can only be established per a petition of 51% of the owners in the land area or assessed value of land within proposed CDA boundaries. The petition is then considered by locality or localities and approved by ordinance or concurrent ordinances, as may be the case.

In addition to issuing bonds (like all authorities can), a CDA has the ability to levy a special tax on properties with the CDA boundaries, which is instrumental to financing capital infrastructure. Being able to issue debt and levy a special tax makes CDAs especially powerful infrastructure financing organizations.

A CDA, once formed, also may make an annual request to the locality to levy a special tax on property within the CDA boundaries not to exceed $0.25 per $100 of assessed value. The revenue generated by this special tax may be used only for the purposes for which the CDA was created.

Generally speaking, CDAs are established in Virginia to facilitate certain commercial developments.

Joint Powers Agreement

A Joint Powers Agreement (JPA) can be established per Virginia Code § 15.2-1300.

A JPA can be established by any two or more political subdivisions. The participating political subdivisions must approve per resolution an agreement before it can be executed, while the affected local governments must approve a JPA by ordinance.

A JPA must spell out its duration, purpose, manner of financing the joint undertaking; how the undertaking's budget will be established and maintained; how the purpose of the JPA is to be accomplished (method or plan); how property will be acquired, held or disposed; and how the JPA will be terminated, among other things.

In terms of governance, a JPA must have provisions for an administrator or a joint board responsible for administering the undertaking. Such administrator's or joint board's powers, responsibilities, term, handling of liability, etc., must be spelled out.

A JPA's is typically established per annual appropriations from the political subdivisions or localities responsible for its creation.

Generally speaking, JPAs in Virginia have been most commonly used in the aggregation of joint power purchases from electric generation providers or in the joint operation of regional airports.

It has not been discovered where any JPA has been used to construct, operate, maintain, and finance a shared services utility.

A Review of Potential Shared Utility Governance Structures / Board Composition

The workgroup deliberated extensively on how a shared County-City utility's governing board might be organized and appointed, and how it would carry out its responsibilities.

The workgroup set forth a few basic tenets:

- The board appointments must be equitable so that County and City citizens and ratepayers are fairly represented

- The board should be autonomous – i.e., that aside from the Southampton County Board of Supervisors and the Franklin City Council appointing the shared utility's board, the County Board of Supervisors and the Franklin City Council should not have significant, ongoing oversight responsibilities, and that the shared utility board should have responsibility for determining and collecting rates and fees

- It is recognized that the County and City may have to subsidize the shared utility's operations (whether early "seed funding" or ongoing subsidies)

- Assuming a legal structure allowing the shared utility to issue tax-exempt debt, the shared utility's board should have responsibility for issuing such debt, and that the shared utility's board cannot itself obligate the County or City to issue debt

A Review of Other Shared Utilities' Organizational and Governance Structures in Virginia

The workgroup reviewed extensively other established shared utilities in Virginia, noting their governing structures.

It was widely recognized by the workgroup that the Code of Virginia allows great flexibility for one or more localities to create a shared utility and organize its governing board. Many different models exist. Should Southampton County and the City of Franklin decide to create a shared utility, the County's and City's leaders will have a great deal of flexibility to create a shared utility board that reflects the community's desires.

The following is a summary of how a few existing shared utilities are organized. It is important to note that each of the below is organized as a Public Service Authority under the Virginia Water and Waste Authorities Act.

- **Appomattox River Water Authority**
    - Colonial Heights, Petersburg; Chesterfield, Dinwiddie, Prince George
        - 5 board members
        - All professional staff (no elected officials or citizen members)
            - 5 local govt chief administrative officers
            - 1 Authority executive director serves as ex-officio
        - 4-year terms

        - Serve via appointment by locality governing bodies

- **New River Valley Regional Water Authority**
    - Blacksburg, Christiansburg; Montgomery; Virginia Tech
        - 5 board members
        - All professional staff (no elected officials or citizen members)
            - 3 local govt administrators/engineers (one from each locality); 2 from Va. Tech
        - 4-year terms
        - Serve via appointment by locality governing bodies; Va. Tech Board of Visitors appoints 2 members

- **Coeburn-Norton-Wise Regional Wastewater Authority**
    - Town of Coeburn, City of Norton, Town of Wise
        - 9 board members
        - A mix of professional staff and citizen members
        - 3 from each locality
        - 4-year terms
        - Serve via appointment by each locality's governing body

- **Floyd-Floyd County Public Service Authority**
    - Town of Floyd and Floyd County
        - 7 board members
        - 2 from County BOS, 1 or 2 County citizens, 3 or 4 from the Town Council
        - 4-year terms
        - Serve via County BOS and Town Council appointment

- **Frederick-Winchester Service Authority**
    - Frederick County, City of Winchester
        - 9 board members
        - A mix of professional staff, elected officials, and citizen members
        - 3 from County, 5 from City, 1 at-large
        - 3-year terms
        - Serve via appointment by each locality's governing body

- **Harrisonburg-Rockingham Regional Sewer Authority**
    - City of Harrisonburg, Rockingham County, Town of Bridgewater, Town of Dayton, Town of Mount Crawford
        - 8 board members
        - A mix of Chief Administrative Officers and citizen members
        - 4 from City of Harrisonburg, 1 from Rockingham County, 1 from Bridgewater, 1 from Dayton, 1 from Mount Crawford
        - 4-year terms
        - Serve via appointment from each locality's governing body

- **Peppers Ferry Regional Wastewater Treatment Authority**

- Pulaski County, Montgomery County, City of Radford, Town of Dublin, Town of Pulaski, Pulaski County Sewerage Authority, Pulaski County PSA, Montgomery County PSA
    - 8 board members
    - A mix of professional staff, elected officials, and citizen members
    - 1 from each of the member jurisdictions
    - 4-year terms
    - Serve via appointment from each member jurisdiction's governing body

- **Rivanna Water and Sewer Authority**
    - City of Charlottesville, Albemarle County
        - 7 board members
        - Mix of professional staff and elected members
        - Charlottesville: City Manager, Director of Public Works, City Council Member
        - Albemarle: County Manager; Executive Director, Albemarle County Service Authority; Albemarle County Board of Supervisors Member
        - One appointed jointly by Charlottesville City Council and Albemarle County Board of Supervisors
        - Each serves a term concurrent with his or her office; joint appointment serves so long as the two jurisdictions agree on appointment

- **Rapidan Service Authority**
    - Greene County, Orange County, Madison County
        - 6 board members
        - 2 from each member jurisdiction
        - Jurisdictions can appoint a mix of elected and citizen members
        - 4-year terms
        - Serve via appointment from each locality's governing body

7.2 Recommendations

<u>Recommendation #1</u>

- Organize as a Public Service Authority

The Governance and Organization Workgroup achieved consensus that, should creation of a shared utility be deemed in the interests of the County and City, a Public Service Authority (PSA) is the legal governance structure that would best allow the mutually agreed purposes for the shared utility to be achieved.

It was generally agreed that a PSA is the best governance structure for the following reasons:

- PSAs are commonly used by local governments to own, operate, and manage a shared utility
- A PSA can carry out all responsibilities envisioned for a shared utility
- A PSA can issue tax-exempt debt (revenue bonds)
- Should rates and collected fees be insufficient to meet debt service, then the County and City would be able to appropriate annually the difference to meet debt obligations

Why Other Governance Options Were Ruled Out

In explaining why a Public Service Authority was chosen as the most appropriate governance structure to meet the purpose of a County-City shared utility, it also is important to note why other options were deemed not suitable for County-City shared utility.

- Special Service District
    - A Special Service District is not a commonly used organizational structure among Virginia political subdivisions to own, operate, and manage a public utility, whether such consists of one or more localities
    - A Special Service District is financed by the levy of an annual tax on property within the district – a financing structure deemed unnecessarily burdensome when better options exist
    - Does not allow tax-exempt bonds to be issued – thus the future capital costs for water and wastewater would remain a burden on the County and City, which would limit each jurisdiction's ability to use debt capacity for other worthy capital projects to benefit taxpayers
- Community Development Authority
    - A CDA is not a commonly used organizational structure among Virginia political subdivisions to own, operate, and manage a public utility – indeed, it was not found where a CDA was used anywhere in Virginia to organize a public utility
    - CDAs are most commonly used for commercial and residential developments
    - Organizing a CDA is cumbersome, relying on an unnecessary citizen petition process for its establishment
    - The possibility of a CDA requiring an annual special tax levy from the County and City on property within a CDA was found to be problematic

- Joint Powers Agreement
    - A Joint Powers Agreement is not a commonly used organizational structure among Virginia political subdivisions to own, operate, and manage a public utility – indeed, it was not found where a JPA was used anywhere in Virginia to organize a public utility
    - A JPA is generally unnecessarily burdensome to use for the purpose of organizing, financing, managing, and operating a public utility

Recommendation #2

- Governing Board should consist of an even number of County and City representatives – ideally, 6 total members

The workgroup generally agreed that, based on its review of many other existing shared utilities' governing boards, a County-City shared utility's governing board should consist of 5-8 members. In the workgroup's opinion, 5-8 members seemed to be a logical, workable size – not so large to be cumbersome – whose membership could adequately and equitably represent the interests of the County and City.

Moreover, the working group believed strongly that that given the County and City's long history of collaboration, the County and City should have an equal number of representatives on the shared utility's governing board.

Thus, the working group believed that a governing board consisting of 3 County representatives and 3 City representatives – for an obvious total of 6 members – would be an ideal size.

Further, the workgroup felt that a mix of elected, citizen, and ex-officio professional staff would be appropriate – i.e., an elected official from the County and City, a unelected but professionally qualified citizen from the County and City, and the chief administrative officer from the County and City would comprise the shared utility's board membership.

7.3 Legal Review (Subtask 3B) – By McGuireWoods LLP

The basic objective of the legal review is to insure there are no "showstoppers" or "fatal flaws" in developing a Shared Utility and consolidating all or a portion of these facilities to another organizational structure. Based upon McGuireWoods LLP legal review, there appear to be no impediments to the City of Franklin and Southampton County to consolidating their utility systems into a Regional Utility Authority.

Establishment of a joint authority is specifically provided for by Virginia Code. The statute authorizing creation provides that

> A. The governing body of a locality may by ordinance or resolution, or the governing bodies of two or more localities may by concurrent ordinances or

> resolutions or by agreement, create a water authority, a sewer authority, a sewage disposal authority, a stormwater control authority, a refuse collection and disposal authority, or any combination or parts thereof . . . The authority shall be a public body politic and corporate and a political subdivision of the Commonwealth. The ordinance, resolution or agreement creating the authority shall not be adopted or approved until a public hearing has been held on the question of its adoption or approval, and after approval at a referendum if one has been ordered pursuant to this chapter.
>
> Va. Code Ann. § 15.2-5102

No impediments to a Shared Utility or consolidating all or a portion of these facilities to another organizational structure have been identified. In this instance, the creation of an authority (or any means of joint resource development) requires that existing permits (withdrawal, VPDES, etc.) be transferred, existing or outstanding financial obligations be restructured or retired, and previously existing agreements be addressed to prevent conflicting obligations.

Effect of 1996 Revenue Sharing Agreement and Need for Advice of Counsel

Specifically, in 1996, the City of Franklin and Southampton County entered into a revenue sharing agreement ("Agreement" – see ***Appendix M – 1996 Revenue Sharing Agreement)*** that provided, among other things, for

1. Sharing of local tax revenue with the City, by the County;
2. City and County provision of services in certain areas;
3. Ownership of water and sewer lines;
4. Records of meter readings;
5. Ownership of waste; and,
6. Improvements to City water and sewer facilities.

The Agreement also provided for County immunity from annexation and waiver by the City of ". . . any and all of its rights and power to seek the annexation of any County territory located within the Designated Area in perpetuity." The Agreement should not present an impossible impediment to creation of a joint authority but the City and the County will need to receive the advice of their own counsel to avoid any actual or perceived conflict of interest. It is recommended that legal counsel for the City and the County meet with prospective authority counsel to discuss the approach selected and a path forward.

Once the terms of an amended Agreement, or a document are resolved, the City and the County will need to develop the appropriate ". . . ordinance, agreement or resolution creating an authority [that] shall include articles of incorporation which shall set forth:"

1. The name of the authority and address of its principal office.
2. The name of each participating locality and the names, addresses and terms of office of the first members of the board of the authority.
3. The purposes for which the authority is being created and, to the extent that the governing body of the locality determines to be practicable, preliminary estimates of

capital costs, proposals for any specific projects to be undertaken by the authority, and preliminary estimates of initial rates for services of such projects as certified by responsible engineers.

4. The number of board members who shall exercise the powers of the authority and the number from each participating locality.

Va. Code Ann. § 15.2-5103

Legal Process to set up a Public Service Authority

Should Southampton and Franklin make the ultimate decision to consolidate systems into a Public Service Authority, following is an outline of the legal process and steps necessary to form an authority:

Action	Timeline
Determination that the localities desire formation of a City of Franklin/ Southampton County Water/ Wastewater Authority ("Authority")	Case specific
Development of comprehensive service agreement, concurrent ordinances, or joint resolutions	Case specific
Advertisement period; thirty (30) days	Thirty (30) days
Approval of comprehensive service agreement, concurrent ordinances, or joint resolutions	Meeting following public notice
File the Authority's Articles of Incorporation with the State Corporation Commission ("SCC")	After approval of comprehensive service agreement, concurrent ordinances, or joint resolutions

Va. Code Ann. § 15.2-5102

The governing bodies of two or more localities may by concurrent ordinances or resolutions or by agreement, create a water authority, a sewer authority, a sewage disposal authority, a stormwater control authority, a refuse collection and disposal authority, or any combination or parts thereof.

The name of the authority shall contain the word "authority."

The ordinance, resolution or agreement creating the authority shall not be adopted or approved until a public hearing has been held on the question of its adoption or approval, and after approval at a referendum if one has been ordered pursuant to this chapter.

Va. Code Ann. § 15.2-5103

The ordinance, agreement or resolution creating an authority shall include articles of incorporation which shall set forth:

1. Name of the authority and address of its principal office.

2. The name of each participating locality and the names, addresses and terms of office of the first members of the board of the authority.

3. The purposes for which the authority is being created and, to the extent that the governing body of the locality determines to be practicable, preliminary estimates of capital costs, proposals for any specific projects to be undertaken by the authority, and preliminary estimates of initial rates for services of such projects as certified by responsible engineers.

4. If there is more than one participating locality, the number of board members who shall exercise the powers of the authority and the number from each participating locality.

Va. Code Ann. § 15.2-5104

The governing body of each participating locality shall cause to be advertised at least one time in a newspaper of general circulation in such locality a copy of the ordinance, agreement or resolution creating an authority, or a descriptive summary of the ordinance, agreement or resolution and a reference to the place within the locality where a copy of the ordinance, agreement or resolution can be obtained, and notice of the day, not less than thirty days after publication of the advertisement, on which a public hearing will be held on the ordinance, agreement or resolution.

Va. Code Ann. § 15.2-5105

If at the hearing, in the judgment of the governing body of the participating locality, substantial opposition is heard, the governing body may at its discretion petition the circuit court to order a referendum on the question of adopting or approving the ordinance, agreement or resolution.

Va. Code Ann. § 15.2-5107

After adoption or approval of an ordinance, resolution or agreement creating an authority, the governing bodies of the participating localities shall file with the State Corporation Commission the authority's articles of incorporation.

7.4 Economic Development (Subtask 3C) – by McGuireWoods Consulting and Timmons Group

While there are many factors that influence corporate decisions about where to locate facilities – workforce, logistics, incentives – the availability of sufficient water and wastewater capacity is a necessity.

Under a Shared Utility framework, the consolidated entity would need to demonstrate that it is flexible enough to meet corporate requirements for water and wastewater capacity in a timely and cost-effective manner. Many localities now use the ability to add water and wastewater capacity as an “incentive” itself – covering the cost out of general or other special funds. Maintaining the ability to quickly respond to corporate inquiries and develop capacity where needed is essential to maintaining economic competitiveness.

Key questions to be addressed include:

- **How and with what ability will the Shared Utility have to interface with local, regional, and state economic developers and corporate decision-makers?**

  It is important – and, indeed common – for a Shared Utility to be involved in key discussions with economic development professional, whether at the local, regional, or state level. Often, major economic development prospects are first learned of or actually generated by State economic development officials. In those cases, the State works directly with local governments to develop the prospect. As water and wastewater capacity and treatment are often key considerations, the utility department or a shared utility are central to the discussions.

  A County-City shared utility would likely be comprised of a professional staff whose members are very familiar with working with economic development officials and private-sector developers. In this case, a shared utility staff would likely limit its role to providing information on existing capacity, construction of new capacity, possible financing of new capacity, system operations, rates and fees, response to repairs or service interruptions, and daily communications.

- **What will be the decision process for quickly responding to the needs for additional conveyance and treatment capacity?**

  Established Protocols for Information Sharing

  Many shared utilities (public service authorities) have established protocols for interacting with economic development officials or directly with developers. And almost always shared utilities have already-prepared information on the questions and matters most of interest to economic development officials and developers – capacity, rates and fees, financing of additional capacity, etc.

  Staying Abreast of Comprehensive Plans
  A County-City shared utility's governing board and professional staff will work closely with the County and City officials, and the board and staff will have a common understanding of each jurisdiction's Comprehensive Plan for residential, commercial, industrial, institutional, agricultural, transportation, conservation and recreation, and other such development. Such Comprehensive Plans must be reviewed every five years, and the shared utility should play a role in those periodic reviews.

  Development Review Process

  A shared utility will establish a development review process that governs how proposed additional connections and modifications to infrastructure will be implemented – whether for the County or City or for private developers. Such a development review process will

include early consultation, preliminary plan review, technical review, and regulatory and standards compliance.

Contractual Arrangements for New Capacity Construction

The shared utility will plan to align its service extensions with a locality's Comprehensive Plan. If such plans have been generally discussed, understood, and agreed, then there should be a timely response to implement them in the event of an economic development prospect.

Additionally, the shared utility should have in place various financing agreements with the County and City. Such may include the following:

- Interest Participation Agreement – An IPA is a contract between the shared utility and the County and City, whereby the locality provides financial assistance to the shared utility for the construction of a new line to serve a new project or area. Such agreements can be negotiated with a single locality or multiple localities. In the case of an IPA, a locality or localities will make payments to the shared utility.

- Lease/Purchase Agreements – An LPA is a contract between the shared utility and one or more localities for the construction of interceptor lines. An LPA would be used (instead of an IPA) when a locality or localities constructs the line. Such a locality-led project may at times be necessary when a line construction for various reasons may not be practical or financially prudent for the shared utility. In the case lf LPAs, the shared utility will make payment to the locality or localities.

Both IPAs and LPAs are commonly used between shared utilities and localities. They are designed to be mutually beneficial and to advance economic development projects. These are but two examples of such agreements that may be struck.

- **How will costs of adding capacity be covered?**

  Most economic development deals usually come laden with potential incentives dependent upon the jobs and investment created. Utility extensions and system improvements, including adding capacity to a system, are eligible to be paid for by these deal closing funds. Funding programs such as the Commonwealth Opportunity Fund (COF) and the US Economic Development Administration can be used to pay for these improvements. Furthermore, water & sewer rates could also help pay for adding capacity or making system improvements.

  As such, we anticipate that utility improvements, especially at the time an economic development deal becomes imminent, would be able to receive favorable funding consideration from these potential funding agencies.

- **How does a Shared Utility play a neutral role in developing such capacity – not being in a position of seeming to favor one locality over another?**

Typically, utilities play a "just-the-facts" role in economic development matters. This is especially true in the case of shared utilities. That is, a shared utility staff is a professional one, concerned with the efficient treatment and distribution of water and the efficient collection and treatment of wastewater.

When it comes to working with State or local economic development officials, or with economic developers directly (though in coordination with a local government), shared utilities (often public service authorities) provide established, objective information on existing capacity, construction of new capacity, possible financing of new capacity, system operations, rates and fees, response to repairs or service interruptions, and daily communications.

Many shared utilities (public service authorities) have established protocols for interacting with economic development officials or directly with developers. And almost always shared utilities have already-prepared information on the questions and matters most of interest to economic development officials and developers – capacity, rates and fees, financing of additional capacity, etc.

7.5 Internal and External Stakeholders Outreach (Subtask 3D)

It will be important for the shared utility to effectively manage relationships through the transition of consolidating utilities. These will include internal and external stakeholders in Southampton County and the City of Franklin, principally including residential, commercial, and industrial ratepayers, as well as economic development officials (local and state). Coordination between the two localities will need to be considered also as a consolidation takes place.

Central issues are those items that directly affect ratepayers, such as customer service (billing, service calls) and emergency response. Ratepayers will want to be comfortable that a new shared utility will deliver the same, if not improved, services for the rates which they made need to pay.

An effective outreach program will require a handful of key items that need to be considered:

1. A clear and concise message to the stakeholders about what is involved with the transition
2. Providing a comfort level that the transition will ensure the same service as previously provided, if not better service
3. Availability of staff and officials to answer questions about the transition
4. Consistent billing methodology from the County and City that will eventually merge into one system (transition over time)
5. Sending a clear message to state and local economic development officials this transition will only provide better service for the potential prospects

If a new organization can effectively implement this communication and outreach program, we envision minimal issues with the transition to a regional organization.

8. Conclusions, Recommendations & Implementation Plan (Task 4)

8.1 Conclusions

Based upon our study, following are the conclusions that have been drawn and issues that ultimately need to be resolved:

1. How to consolidate utilities in an equitable manner
2. How to equalize rates between Southampton County user base and City of Franklin user base such that a Regional Utility Authority can receive favorable funding
3. Development of a flood mitigation plan for the Franklin WWTP that meets DEQ and other regulatory agency approvals in case another flood event occurs
4. Ultimate sizing of potential flow equalization basin at Courtland WRF and determining the maximum pass through capacity to allow Courtland to handle a flood event from Franklin
5. Potential siting for a new Franklin WWTP

8.2 Recommendations and Implementation Plan

1. Set up a Public Service Authority (PSA) in accordance with the Virginia Water and Waste Authorities Act, per Virginia Code § 58.1-5100, with a balanced board (ideally 6 members) with an even number of representatives from the City and County.

2. Complete a Formal Asset Valuation by an independent third party entity that has not worked for either the City or the County.

3. Develop a financial framework for an equitable consolidation of utility systems / assets.

4. Perform a detailed engineering evaluation of the Courtland WRF to determine maximum hydraulic and process capacity and ultimate size of a flow equalization basin to handle potential flow from the Franklin WWTP during a flood event. Evaluate potential process modifications that could increase flow capacity for a period long enough for the Franklin WWTP to be brought back up after a flood event as well as developing a detailed cost estimate for these modifications.

5. Perform a siting study and detailed engineering evaluation for the potential relocation of the Franklin WWTP. Siting study will include researching property owner and parcel information, determining appropriate setbacks and developing a schematic concept layout of up to a 3 MGD WWTP with similar process units (Schreiber®) as well as a developing a detailed cost estimate.

6. Meet and work with DEQ and other appropriate regulatory agencies to develop a flood mitigation plan for the Franklin WWTP should another flood occur. Plan would ultimately be approved by DEQ and other appropriate regulatory agencies.

7. Frame up the flooding issue and history with the Franklin WWTP to build a business and environmental case for grant funding to mitigate for a flood and/or relocation of the facility. Meet with appropriate funding agencies to determine if/where we can get grant monies for capital improvements and/or relocation of Franklin WWTP.

8.3 Schedule for Implementation

Following is the proposed schedule for implementation:

1. Public roll-out & Citizen Input Period (3-4 months)	Oct '15 to Jan '16
2. Legal set up for Public Service Authority(4-6 months)	Jan '16 to June '16
3. Formal Asset Valuation (3-4 months)	Jan '16 to Apr '16
4. Complete Additional Engineering Studies (4-6 months)	Jan '16 to June '16
5. Develop framework for Equitable Consolidation	Ongoing between localities
6. Meet with potential funding agencies	Oct '15 to ongoing
7. Meet with DEQ & other regulatory agencies	Oct '15 to ongoing
8. Apply for DHCD Grants	March '16
9. Apply to other Funding Agencies	Ongoing

8.4 Recommended Budgets

Following is the recommended budget moving forward:

1. Authority Set-up Legal Fees:	$ 30,000
2. Formal Asset Valuation:	$ 25,000
3. Additional Engineering Studies:	$ 70,000
4. Meetings with DEQ, Regulatory Agencies and Funding Agencies:	$ 30,000
Total Recommended Budget:	**$155,000**

Appendices

A – Field Visit Reports & Summaries

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

SITE VISIT SUMMARY

PROJECT:	City of Franklin/Southampton County Combined Utility Study	
SUBJECT:	Due Diligence Facility Site Visits, Southampton County Public Utilities	
DATE:	October 14, 2014	
ATTENDEES:	Southampton	Timmons Group
	Julien Johnson	Neal Rogers
	Bob Croak	
	Jeanne Harness	

The purpose of these site visits was to perform due diligence observations of the Southampton County Virginia Public Utilities water supply/storage, wastewater transmission and wastewater treatment facilities. These observations shall serve as a basis for development of alternative(s) to combine and or share water and wastewater resources between the City of Franklin and Southampton County, Virginia.

These site visits took place from October 7 through October 9, 2014.

October 7, 2014

Arrived at the Public Utilities Building at 10:30 hrs.

Met with Julien Johnson, Bob Croak and Jeanne Harness and discussed the project in general as well as the list of data needs that Timmons had provided to the County on October 3, 2014.

Reviewed the documents being compiled as requested in the list of data needs as they were produced.

Examined some of the record drawings for the utility that are being stored at the Public Utilities Main Office and compared these to the exhibits being prepared as part of this study.

October 8, 2014

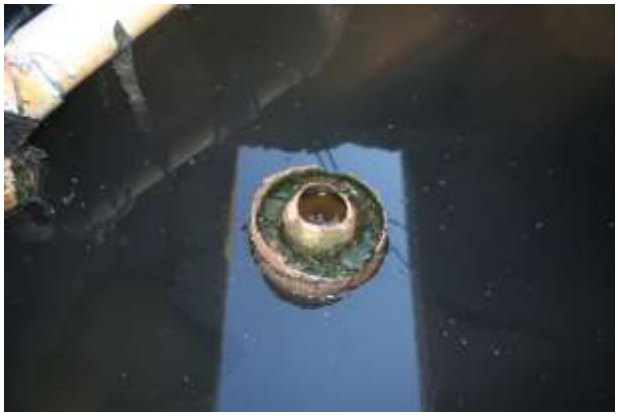
Met Julien Johnson and Bob Croak at 06:45 hrs and discussed the plan to commence the field work.

Bob Croak and I then set out to visit the Southampton facilities in the southern part of the County.

Capron Elementary School WWTP – This is a small plant that serves the school only. Southampton County does not own the facility but they do operate the plant. The plant consists

of a septic tank, clarifier, sand filter, chlorine contact/dechlorination chamber. The facility had no flow at the time of the visit. The facility appears to be in poor condition.

Capron Elem. WWTP 1 Septic Tank & Clarifier



Capron Elementary WWTP 2 Clarifier

Capron Elementary WWTP 3 Trickling Sand Filter

Capron Elementary WWTP 4 Chlorine Chamber

The Town of Capron does not have sewer but has their own water system. Southampton Public Utilities has no involvement in this water system.

Camp 20 Well and Pump Station – Camp 20 is a prison working camp owned by the Southampton County Sherriff's Department. The site includes a well, well house and sanitary sewage pump station. Both are owned by Southampton County Sherriff's Department. Southampton County provides operations assistance when needed. Wastewater from the pump station is discharged to the State Prison WWTF.

Drewryville Water System – The Town of Drewryville has two potable water wells and water distribution system. This system is owned and operated by Southampton County Public Utilities. The system was installed in 1972 as part of a grant program. The water distribution system consists of thin wall pipe and is very fragile.

Camp 20 Well and PS 1 Well House

Camp 20 Well and PS 2 Pump Station

Drewryville Well Site Well House and Generator

Drewryville Well Site Well House and Hydropneumatic Tank

Drewryville Well Site Old Well

Drewryville Well Site Water Distribution Valves

Drewryville Well Site

Drewryville Well Site Fuel Tank for Generator

The water distribution system is pressurized by compressed air and the pneumatic tank. There is an old surplus tank on the site that is proposed to be installed at the site.

Branchville Pump Station # 1 –The sewer system for Branchville was originally installed in the 1970s. The pump stations were upgraded in the 1990s. This is a Gorman Rupp duplex suction lift pump station installed in the 1990s. The pump station is in fair condition. According to the SHCPU Staff the Branchville sewer system is subject significant inflow and infiltration throughout the system.

Branchville Pump Station 1

Branchville Pump Station 1

Branchville Pump Station 1

Branchville Pump Station 1

Branchville Pump Station 2 – This is a Gorman Rupp duplex suction lift pump station installed in the 1990s. All of the Branchville Pump Stations were upgraded at the same time in the 1990s in response to Virginia DEQ enforcement actions.

Branchville Pump Station 2

Branchville Pump Station 2

This pump station is located in a flood plain and is protected by a concrete flood wall. According to SHCPU Staff, before the wall was installed, the unit was flooded. No repairs were made in response to the flood. This pump station is in poor to fair condition due to concerns for past flooding of the system.

Branchville Pump Station 2

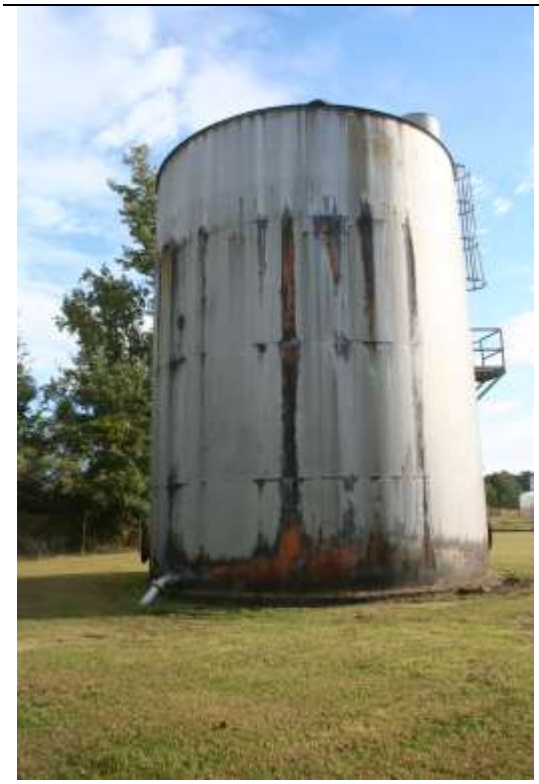
Branchville Pump Station 2

Branchville Well – These wells were originally installed in 1970. The well was re-worked in the 1990s. The well pump is original but the booster pumps were replaced about 1 year ago.

Branchville Well 1

Branchville Well Ground Storage Tank

Branchville Well 2



Branchville Well Ground Storage Tank

Branchville Well Booster Pumps

Branchville Well -Well Pump Controls

Service piping currently in uses has been recently painted. The ground storage tank needs to be inspected and painted. The well pump controls and building are showing some signs of deterioration. The booster pumps pump from the ground storage tank to the Boykins Branchville Elevated Water Storage Tank. Overall the facility is in poor to fair condition.

Branchville Pump Station 3 –This is a Gorman Rupp duplex suction lift pump station. The pump station is a relay station and picks up sewage along Pitman Rd. The station is just off of the road right of way in a low forested area. Flooding may be a concern. The station was installed in the 1990s. Overall the pump station is in good condition.

Branchville Pump Station 3

Branchville Pump Station 3

Branchville Pump Station 3

Branchville Pump Station 3

Boykins Branchville Elevated Water Storage Tank - This tank was originally constructed in the 1990s. This tank is filled from wells in Boykins and Branchville. An in-line pressure transducer and telephone communication system signal the wells when to pump to the tank. The tank has been recently inspected and painted and is in good condition. The controls are in fair condition. The vault for the in-line sensors is in poor to fair condition due to the mud and moisture present.

Boykins Branchville Elevated Tank

Boykins Branchville Elevated Tank

Boykins Branchville Elevated Tank Control Panel

Boykins Branchville Elevated Tank Communications

Boykins Branchville Elevated Tank Pressure Gauge

Boykins Branchville Elevated Tank Control Panel

Route 35 Pump Station Boykins- This pump station was originally a wet dry submersible pump station in a can, installed in the 1970s. It has since been converted to a simple submersible pump station. New pumps and controls were added three years ago. The pump station runs only a single pump in order to hold back I&I during wet conditions. The pump controls and a spare pump are located in a concrete and brick building. This pump station is in fair condition.

Route 35 Pump Station Controls Building

Route 35 Pump Station Control Panel

Route 35 Pump Station Electrical Panels

Route 35 Pump Station Spare Pump

Boykins Wastewater Treatment Facility – This plant was originally constructed in 1995. This is an activated sludge process consisting of a headworks, two aerated lagoons with baffles separating the reactors from the settling compartments and effluent weirs, a RAS/WAS Pump Station, two (2) aerated lagoon digesters, a sludge transfer pump station, a belt filter press and a chlorine disinfection chamber. The headworks includes a mechanical comminutor and a manual bypass bar screen. The facility is permitted to treat 0.59 MG. Current flows are approximately less than 0.250 MGD. According to the SHCPU Staff about 0.070 MGD of the treated flow is from a significant industrial user, Narricot Industries LP (NI). NI manufactures dyed fabrics.

At the time of the inspection the activated sludge appeared dark gray to black, evident of a recent plant upset. According to the plant operators they have difficulty maintaining a healthy biomass. Slug discharges from NI are a suspected cause for the plant upsets.

The water in the settling compartments of the lagoons was a cloudy brown and did not appear to be functioning properly as a result of the poor condition of the biomass in the reactor. According

to the SHCPU staff, sludge washout over the effluent weirs is occurring although the effluent over the clarifier weirs appeared to be relatively clear. However there was evidence of sludge washout in the chlorine contact chamber.

Only one train of the plant was in operation. According to SHCPU Staff, they are trying to reseed the plant with seed from the Courtland Plant and using only one train. While the plant upset may be a contributing cause to sludge washout, inflow and infiltration is also a suspected primary cause.

The plant was originally constructed with positive displacement blowers and course bubble diffusers. These have been replaced with surface aerators and mixers. According to the plant operator his ability to control the process is limited due to the design of the lagoon and aeration/mixing process. If the aerators are turned off or down, sludge quickly accumulates on the bottom of the lagoon.

The construction of repairs to the plant were recently completed. These included replacement of the aeration and mixing systems, installation of variable frequency drives for enhanced process operational control, evacuation of the stagnant sludge volume, repair of the clarifier equipment, and replacement of the lagoon liner.

The plant structures and equipment are in relatively good condition.

Boykins WWTP Aerated Lagoon

Boykins WWTP Baffled Settling Compartment

Boykins WWTP RAS/WAS Pump Station

Boykins WWTP RAS/WAS Pump Station

Boykins WWTP Sludge Transfer Pump

Boykins WWTP Chlorine Disinfection Chamber

Boykins WWTP Treated Effluent

Boykins WWTP Parshall Flume

Boykins WWTP Gravity Belt Thickener and Filter Press

Boykins WWTP Gravity Belt Thickener and Filter Press

Boykins WWTP Sludge Conveyor

Boykins WWTP Emergency Generator

Boykins WWTP View from the Headworks

Boykins WWTP Comminutor

Bryant Avenue Well Boykins – This well was installed back in the 1960s. The facility includes a CMU Well House, submersible vertical turbine pump, control panel, chlorine pump injection, and a hydropneumatic tank. The well pump was replaced in 2011. This facility is in good condition.

Bryant Avenue Well Boykins Well House

Bryant Avenue Well Boykins Hydropneumatic Tank

Bryant Avenue Well Boykins Control & Elec. Cabinet

Bryant Avenue Well Boykins Chlorine Disinfection

Bryant Avenue Well Boykins Wellhead

Bryant Avenue Well Boykins Chlorine Pump

Bryant Avenue Pump Station Boykins – This pump station was originally constructed in 1965. It was rehabilitated in 1996. The station was severely affected by Hurricane Floyd in 1999. As a result the station was rehabilitated and an elevated emergency generator was installed. This a major pump station with al flows to the Boykins WWTP flowing through this station. It includes a headworks, brick and concrete pump house, horizontal pedestal centrifugal pumps, and an emergency autodialer. The station is located in a low lying area with wet areas surrounding.

Bryant Avenue Pump Station Pump House

Bryant Avenue Pump Station Pedistal Pumps

Bryant Avenue Pump Station Headworks

Bryant Avenue Pump Station

Bryant Avenue Pump Station

Bryant Avenue Pump Station Control Panel

Bryant Avenue Pump Station Autodialer

Bryant Avenue Pump Station Pump Motors

Commerce Street Well –This well was originally constructed in 1929. The original elevated storage tank has been demolished and removed. The system is now New pumps were installed in 2011.

Commerce Street Well Original Well House

Commerce Street Well Welllhead

Commerce Street Well Pneumatic Tank

Commerce Street Well Controls

Commerce Street Well Chlorine Disinfection

Commerce Street Well Sump

Newsomes Pump Station 5 – This is a duplex suction lift pump station (pump in a box). It was installed in 1995. The pump station is in fair condition. Very high water levels were evident in the wetwell possibly due to pump failure or I&I.

Newsomes PS 5

Newsomes PS 5

Newsomes PS 5

Newsomes PS 5

Newsomes PS 6 - This is a duplex suction lift pump station (pump in a box). It was installed in 1995. The pump station is in fair condition. Very high water levels were evident in the wetwell possibly due to pump failure or I&I.

Newsomes Pump Station 6

Newsomes Pump Station 6

The pump station is situated in a low lying drainage area and is subject to flooding. The station was flooded in 1999 during hurricane Floyd. Subsequently, the station flooded again as a result of I&I and the floodwall. A relief window was then cut into the flood wall.

Newsomes Pump Station 6

Newsomes Pump Station 6

Newsomes Town Hall Well- This well includes a well pump, well house, pneumatic tank and controls. The tanks and well head have been recently painted. The controls are in good conditions. The well house is in fair condition.

Newsomes Town Hall Well

Newsomes Town Hall Well

Newsomes Town Hall Well

Newsomes Town Hall Well

Newsomes Pump Station 7 – This is a minor pump station that was installed to support development along Thompson Rd. This development did not go forward and as a result this station supports only two or three residences.

Newsomes Pump Station 7

Newsomes Pump Station 7

Turner Tract Well and Elevated Water Tank –These wells and tank were constructed to support commercial/industrial development of the Turner Tract Site. Currently there is only one tenant of that industrial park. Construction of this facility was completed in 2014. This site includes two wells, elevated storage tanks, well house, and chlorine disinfection building.

Turner Tract Pump Station –This is a duplex suction lift pump (pump in a box). Construction of this station was recently completed in 2014. It serves the Turner Tract Industrial Park. There is only one tenant currently in the park, Enviva. Enviva makes wood pellets for wood burning stoves. The pump station receives only domestic flows. Currently the sewage, 5,000 gallons per

week is truck hauled from the station to the Courtland WWTF. This station includes an emergency generator.

Turner Tract Pump Station

Turner Tract Pump Station

Turner Tract Pump Station

Turner Tract Pump Station

Union Camp Pump Station –This pump station was installed in 1997 and serves the Converting Innovative Center. This station had been owned by International Paper and was responsible for making specialty paper. It is currently vacant but is being converted into a peanut butter factory. It is a duplex submersible pump station and is in good condition.

Union Camp Pump Station

Union Camp Pump Station

Union Camp Pump Station

Union Camp Pump Station

Water to and treatment of the sewage from this station is provided by Franklin City. The County owns the facility.

Franklin Fairgrounds Well – This well includes a well house, well, well pump, controls, and a pneumatic tank.

Franklin Fairgrounds Well

Franklin Fairgrounds Well

Franklin Fairgrounds Well

Franklin Fairgrounds Well

Edgehill Pump Station – This pump station was originally installed in the 1970s and serves the Edgehill PS. This pump station experiences high inflow and infiltration. The pumps were replaced with a duplex suction lift station in a box, 1990s vintage. The pump station is owned by SHCPU and discharges to Franklin City WWTP.

Edgehill PS

Edgehill PS

Edgehill PS

Edgehill PS

Edgehill Well – This well was installed in the 1970s to serve the Edghill Subdivition. A second well was later installed. This well facility includes a well house, two wells, controls, a hydropneumatic tank and an emergency generator.

Edgehill Well

Edgehill Well

Edgehill Well

Edgehill Well

Agribusiness Park Pump Station and Well – These were installed in 1997 to serve this business .location. The park is about 30% to 40% developed.

Agribusiness Park Well

Agribusiness Park Well

Agribusiness Park Well

Agribusiness Park Well

Agribusiness Park Well

Agribusiness Park Well

Agribusiness Park Well

Agribusiness Park Pump Station

Agribusiness Park Pump Station

Agribusiness Park Pump Station

Courtland Pump Station 1- This pump station was installed in the 1980s. It is a minor pump station serving the county school bus garage and a few businesses at the north end of the system. The pump station is poor to fair condition. There is an emergency generator but it is does not work. According to the SHCPU staff there is not enough flow to justify maintaining a generator at this site since if ther is no power the County employees will not be present.

Courtland PS 1

Courtland PS 1

Courtland PS 1

Courtland PS 1

Courtland Pump Station 8 Steven Woods –This pump station was installed in the 1980s along with all of the pump stations in Courtland. It services the Steven Woods apartments. This is a basic packaged duplex submersible pump station.

Courtland Pump Station 8, Steven Woods

Courtland Pump Station 8, Steven Woods

Courtland Pump Station 8, Steven Woods

Courtland Pump Station 8, Steven Woods

Courtland Pump Station 2 Florence and High Street – This is a precast duplex submersible pump station installed in the 1980s. The pump station is in fair condition but is showing signs of age.

Courtland Pump Station 2 Florence at High

Courtland Pump Station 2 Florence at High

Courtland Pump Station 3 Hancock – This is an elevated duplex submersible pump station. It is located just across the bridge on the west side of the river from Courtland. The pump Station is elevated above the 25 year flood plain. The pump station is in fair condition. It was installed in the 1980s.

Courtland Pump Station 3 Hancock

Courtland Pump Station 3 Hancock

Courtland Pump Station 3 Hancock

Courtland Pump Station 3 Hancock

Courtland Pump Station 4 Courthouse – This is a wet dry duplex submersible pump station installed in the 1980s. The pump station is located behind the Courthouse along the banks of the Nottoway River. The pump station is vulnerable to flooding. In 1999 during Hurricane Floyd, it was sandbagged to prevent flooding.

Courtland Pump Station 4 Courthouse

Courtland Pump Station 4 Courthouse

Courtland Pump Station 9 Shands – This is a wet dry duplex submersible pump station installed in the 1980s. It services the Shands Subdivision.

Courtland Pump Station 9 Shands 1

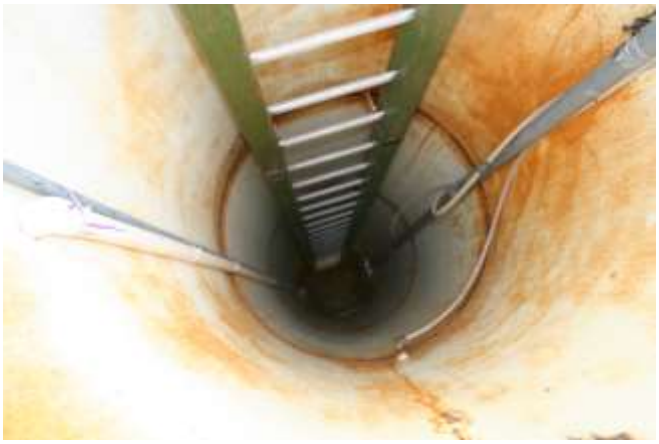
Courtland Pump Station 9 Shands

Courtland Pump Station 9 Shands 2

Courtland Pump Station 9 Shands

Courtland Pump Station 10 Pinos –This is a wet dry submersible pump station in a can.

Courtland Pump Station 10 Pinos 1



Courtland Pump Station 10 Pinos

Courtland Pump Station 10 Pinos

Courtland Pump Station 10 Pinos

Courtland Pump Station 6 Lee Grant – The original pump station was installed in the 1980s. It was a wet dry submersible pump station in a can. It was upgraded in the late 1990s to a duplex suction lift pump station, pumps in a box. This pump station includes sophisticated electronics which have experienced unresolved bugs to hinders the operation of the pump station. As a result the operators have installed a portable gas powered transfer pump for reliability.

Courtland Pump Station 6 Lee Grant 1

Courtland Pump Station 6 Lee Grant

Courtland Pump Station 6 Lee Grant

Courtland Pump Station 6 Lee Grant

Courtland Pump Station 7 EMC – This is a duplex submersible packaged pump station installed in the 1980s.

Courtland Pump Station 7 EMC

Courtland Pump Station 7 EMC

Courtland Pump Station 7 EMC

Courtland Pump Station 7 EMC

New Market Pump Station – Also referred to as the interceptor pump station. It is a major pump station constructed in 2013/2014. Currently the only flow through this pump station is the 5000 gallons truck-hauled from the Turner tract Pump Station.

New Market Pump Station

New Market Pump Station

New Market Pump Station

New Market Pump Station

New Market Pump Station

New Market Pump Station

Courtland Pump Station 12 Charlie's Edge – This is a minor pump station that serves a mobile home park.

Courtland Pump Station 12 Charlie's Edge

Courtland Pump Station 12 Charlie's Edge

Courtland Pump Station 12 Charlie's Edge

Courtland Wastewater Treatment Facility – This is a biological nutrient removal activated sludge treatment facility. It was recently constructed in 2008.

Courtland WWTF

Courtland WWTF

Courtland WWTF

Courtland WWTF

Courtland WWTF

Courtland WWTF

Courtland WWTF

Courtland WWTF

Courtland WWTF

Courtland WWTF

Courtland WWTF

Courtland WWTF

Courtland WWTF

Courtland WWTF

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

MEETING SUMMARY

PROJECT:	City of Franklin/Southampton County Utility Study	
SUBJECT:	City of Franklin Site Visit to Pump Stations and Water Wells/Tanks	
DATE:	October 3, 2014	
ATTENDEES:	City of Franklin	Timmons Group
	Russ Pace	Neal Rogers
	Steve Watson	Adrienne LaRue

Engineers from Timmons Group performed due diligence site visits at each of the City of Franklin's pump stations, water wells and water storage tanks on October 3, 2014. The following is a summary of these site visits.

- Russ Pace, Director of Public Works, and Steve Watson , Utility Superintendent for the City of Franklin, Virginia participated in these due diligence site visits.
- Representing Timmons Group were Neal Rogers, Senior Project Manager, and Adrienne LaRue, Project Engineer I.
- The City of Franklin compiled the information and data from the data needs list provided to them during the previous introductory meeting on October 1st. This information was reviewed briefly at the Public Works office prior to the site visits. This information included
    - A Map with relative age of sewers and pipe that's been lined in the last 4-5 years
    - Status of the recommended system upgrades from the Kimley-Horn 2006 Report
    - Operating Budget 2010-2013
    - Current NPDES Permits
    - Current Organization Chart
    - Pump station SCADA data user name/password for Strison Wireless
    - DMR's 2010-2014
    - Approximate number of water and sewer connections
    - Water Permits
    - Water MORs 2010-2013
    - Recent sewer correspondence with VDEQ

  - Recent correspondence with VDOH
  - Water/wastewater billings 2013
  - Asset inventory
  - Current CIP
  - Water and sewer rates.

- 15 Pump Stations and 3 Water Well/Tank Site were visited. Most sites were in good condition, with a couple being in fair condition.
- Mr. Rogers explained that his goal was to complete the Preliminary Engineering Report Component of the Study by the end of October. Mr. Rogers also advised that the City Staff will be provided the opportunity to review preliminary drafts and provide feedback prior to publication of the Preliminary Engineering Report.

Other site visit information, including photographs, is contained in "*City of Franklin Wastewater Facilities, Report of Due Diligence Site Visits*" and "*City of Franklin Water Facilities, Report of Due Diligence Site Visits*," Timmons Group, October 2014. See attachments.

Attachment (1)

Attachment (2)

Report of Due Diligence Facility Site Visits

October 2014

Overview

Neal Rogers and Adrienne LaRue with Timmons Group visited each of the City of Franklin's water and wastewater facilities on October 3, 2014. Neal and Adrienne were accompanied by City of Franklin's Department of Public Works Staff (COFPWS), Russ Pace and Steve Watson. These due diligence facility site visits were completed as part of the Southampton County/City of Franklin Combined Utilities Study.

According to COFPWS, all pump stations are inspected on an average of 3 times a week by COFPWS operators. The pumps in pump stations with confined entry are observed on an average of once a week.

All pump stations have Strison Wireless SCADA systems.

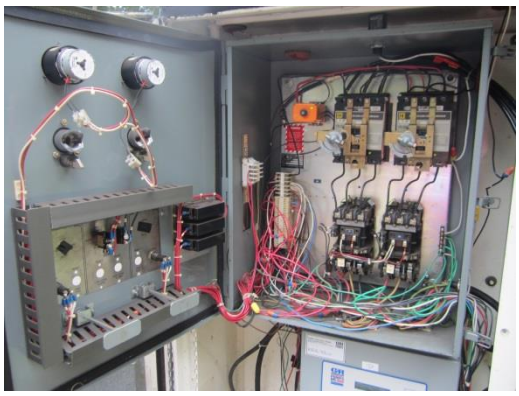
Most sites do not have emergency generators.. COFPWS rely on a portable gas powered by-pass pump in the event of a power outage. According to COFPWS, they can reach any site within the City within 15 to 30 minutes of a power outage.

1 – River Road Farms/N. High Street Pump Station

This is a wet dry submersible pump station in a can.

This station contains Fairbank Morse pumps (400 gpm @ 25' head) and are powered by- 5 HP motors. Access to the pumps requires confined space entry so the pumps were not physically observed. The picture below shows the view looking down into the drywell.

The original pump station controls are all in very good condition. The controls can be seen in the picture below.



The pumps were replaced in the 2002 – 2004 timeframe (most likely 2002). This pump station services the River Road service area and receives flows from Edgehill and Riverwood Subdivisions. According to the operators, this pump station is subjected to significant inflow and infiltration from the Edgehill Subdivision.

2 – Woodland #1 Pump Station

Woodland #1 is a wet dry submersible pump station. Access to the pumps requires confined space entry so they were not physically observed (see picture below). The pump station is located in a home owner's yard and the controls are a good distance off from the entrance. See the picture below.

The pumps and controls were replaced in 2006. This pump station is subjected to significant I&I. The wet well was not observed. According to the City staff, they can reach this station with a mobile pump within 15 minutes of a power outage. The controls are in good condition, as seen in the picture below.

3 – Woodland #2 Pump Station

This is a minor submersible pump station installed by the developer of the subdivision around 1987 – 1988. The layout of Woodland #2 causes the operators some trouble. This pump station is located in the middle of a cul-de-sac (see picture below).

A new cabinet and controls were installed in 1995. The wet well is in fair condition and appears to be coated. See the pictures below for the controls and wet well.

4 – Cypress Avenue Pump Station

This is a major pump station consisting of a headworks, wet well, duplex suction lift pumps, and controls housed in a concrete and brick structure. The structure is required to match the building next door. The picture below shows the pump station building.

The pumps and controls were replaced in 2003. The pumps and controls are in good condition. The building and wet well are in fair condition. The pictures below show the pumps and wet well.

5 – Rawlsdale Road Pump Station

Rawlsdale is a skid mounted Gorman-Rupp Suction Lift Pump Station installed in 2008. The pumps and controls are contained within a plastic enclosure (pump in a box). Pictures of the pumps, wet well and pump station are below.

This pump station is in very good condition.

6 – Clay Street Pump Station

This is a skid mounted Gorman-Rupp Suction Lift Pump Station installed in 2008. The pumps and controls are contained within a plastic enclosure (pump in a box). The wet well is 6' in diameter. The pumps, controls, enclosure and wet well are in very good condition. These can be seen in the pictures below.

The valves in the valve pit are in poor condition. One of the discharge lines was remove and capped in the valve vault. In its place a direct connect for a mobile transfer pump was installed. The pictures below show the valves and the valve box.

7 – Bailey Drive Pump Station

This is a Gorman Rupp skid mounted duplex suction lift pump station installed in 2009. The wetwell is 6' in diameter. The pump station overall is in very good condition. This pump station experiences significant I&I from an unknown location. At this point, the operators have been unable to locate the source of the I&I. The pictures below show the pump station and wet well.

8 – Armory Drive Pump Station

Armory Drive pump station is a Gorman Rupp duplex suction lift pump station installed in 2008. The pumps and controls are enclosed in a split face block building with a metal roof to match the adjacent business. The building can be seen in the picture below.

This station serves the commercial areas along Armory drive. This pump station is subject to significant I&I. The pumps, controls and wet well can be seen in the pictures below. This pump station is in very good condition.

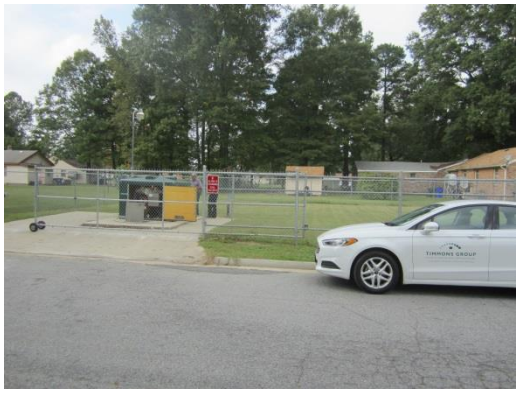
9 – Commerce Park Pump Station

Commerce Park is a Gorman Rupp skid mounted duplex suction lift pump station installed in 2007. The pump station can be seen in the picture below.

The wet well was built between 1987 and 1988. Pictures of the pumps, controls, and wet well can be seen below. The pump station overall is in very good condition. This pump station experiences significant I&I.

10 – Harrison Street Pump Station

Harrison Street is a Gorman Rupp skid mounted duplex suction lift pump station installed in 2009. The pump station is behind a fence. See the picture below.



Pictures of the pumps and wet well are shown below. The pump station overall is in very good condition.

11 – Oak Street Pump Station

This is a major pump station. It is a duplex Gorman Rupp suction lift pump station. The pumps and controls are housed in a brick and concrete building (see picture below).

The wet well is a large concrete vault with a headworks. The pumps and controls are 2007 vintage. Pumps and wet well are shown in the pictures below. The pumps, controls and building are in fair condition. The wet well appears to be in fair condition although evidence of severe hydraulic overloading was apparent.

Oak Street pump station has an erosion concern with respect to the creek that runs by it. See the pictures below. The operators are trying to develop a stormwater project to extend the stormwater pipe that goes under the street and backfill the eroded area.

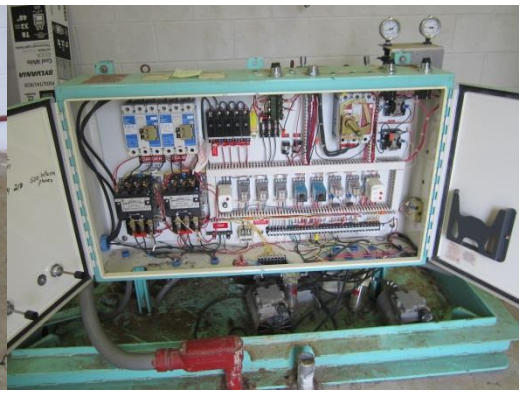
12 – Pretlow Park Pump Station

Pretlow pump station serves the Pretlow Industrial Park which has one vacant building/tenant. The remainder of the site is being used to grow cotton. Very little flow is expected from this pump station. The picture below is of the pump station building. The station is secured by a fence.

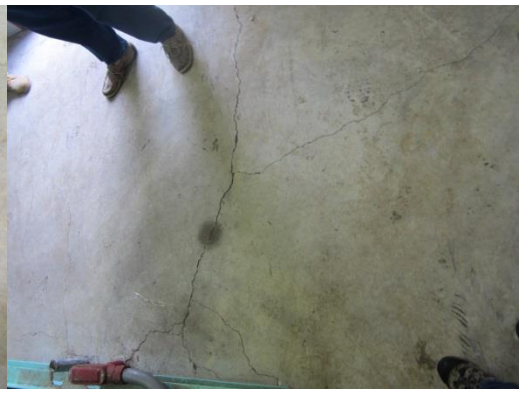
Report of Due Diligence Facility Site Visits

October 2014

Pretlow is a Smith and Lovelace suction lift pump station installed in 1993. These pumps are located inside a concrete and brick building. The pumps (250 gpm @ 43' head) are powered by 15 HP motors. The pictures below show the pumps and controls.



The pictures below show the building foundation that is cracked with differential settlement. This settlement is the result of a groundhog burrow.



According to the operators, this station is vulnerable to lightning. An emergency generator is not on-site. According to the operators they have a mobile transfer pump that can reach the site within 15 minutes of a power outage. The electrical and control systems appear to be relatively new. The wet well is in good condition. See the picture below.

13 – Trail Road Pump Station

This is a Smith and Lovelace suction lift pump station originally installed in 1997. The pump station is enclosed in a concrete and brick building. The picture below shows the structure that houses the pumps and controls.

The motors and controls were replaced recently, approximately 2010. Pavement was recently added to the site. The wet well is 8' in diameter. The pictures below show the pumps and wet well. The pumps, wet well and building are in fair condition. The motors and controls are in very good condition.

14 – Vaughans Lane Pump Station

Vaughan's Lane is a Smith and Lovelace suction lift pump station installed in 1997. The well pumps and motors are enclosed in a concrete and brick structure. See the picture below.

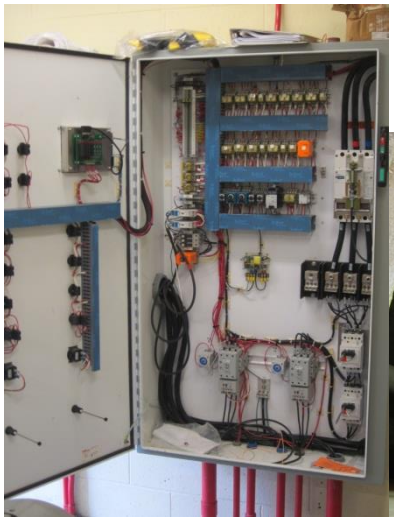
It appears that the motors and controls were replaced in 2010. Pictures of the pumps and wet well are shown below. The building, pumps and wet well are in fair condition. The motor controls are in very good condition.

15 – Riverwood Pump Station

Riverwood pump station was installed around 2007. The pump station building is shown in the picture below.

The pumps are enclosed in a concrete and brick building shown above. This is a Gorman Rupp suction lift pump station. The pumps and motors are shown in the picture below.

The wet well is concrete. Although the wet well is large, according to COFPWS it is shallow and does not have a lot of capacity. The pump station, pumps, controls, and wet well are all in very good condition. The pictures below show the control panel and the wet well. The I&I from Edgehill flows through this pump station.



Overview

David Saunders, Neal Rogers and Adrienne LaRue with Timmons Group visited the City of Franklin's Wastewater Treatment Plant (WWTP) on October 1, 2014. David, Neal and Adrienne were accompanied by City of Franklin's Department of Public Works Staff (COFPWS), Teresa Lewis. This due diligence facility site visit was completed as part of the Southampton County/City of Franklin Combined Utilities Study.

The Plant is located at 501 N Main Street in Franklin, Virginia, on the eastern end of the City.

The picture below shows an overview of Franklin's WWTP. The Plant consists of a headworks, secondary treatment using 2 Schreiber oxidation ditches, disinfection, a sludge handling process including an aerobic digester and a laboratory/office building/SCADA. See the picture below.

Generator

Headworks

Building

Bar Screen & Compactor

Grit Removal

WEMCO Classifier

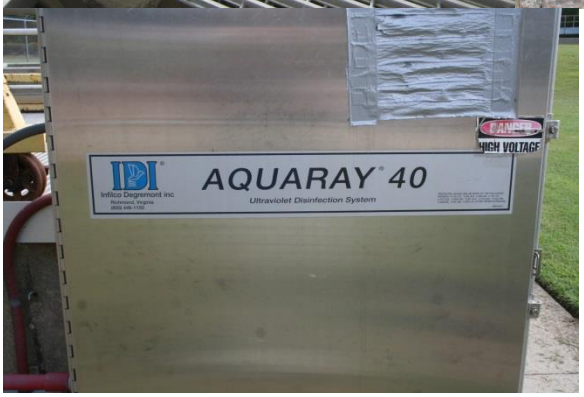
Secondary Treatment

Schreiber Clarifiers

Aeration Blowers

Disinfection

Ultra-Violet



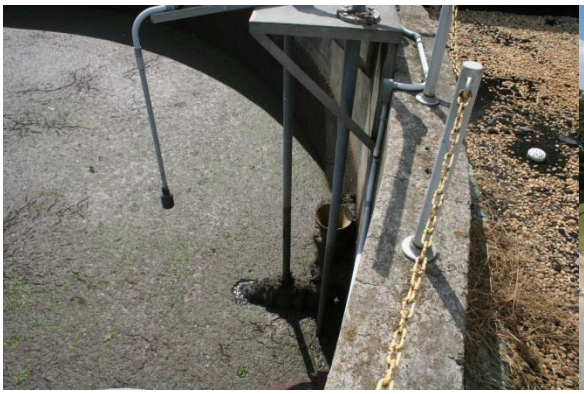
Chlorine Contact

Outfall

Solids Handling

Sludge Pump Station

Aerobic Digester



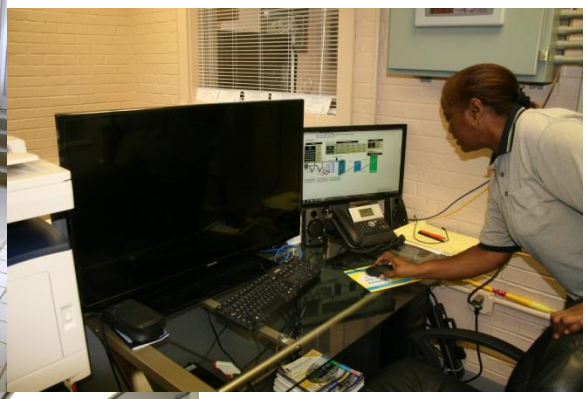
Digester Blowers

Muffin Monster Grinder

Alfa Laval Centrifuge

Storage

SCADA/Laboratory



SAFETY
SHOWER

City of Franklin Water Systems

Report of Due Diligence Facility Site Visits

October 2014

Overview

Neal Rogers and Adrienne LaRue with Timmons Group visited each of the City of Franklin's water and wastewater facilities on October 3, 2014. Neal and Adrienne were accompanied by City of Franklin's Department of Public Works Staff (COFPWS), Russ Pace and Steve Watson. These due diligence facility site visits were completed as part of the Southampton County/City of Franklin Combined Utilities Study.

Pretlow Potable Water Facility

The Pretlow water well and elevated storage tank are located in the northwest quadrant of the Pretlow Industrial Park. Access to the site is provided by Progress Pkwy just off of Pretlow Rd. The vacant sites within the park are being used to grow soybeans and cotton. The Pretlow facility consists of one potable water well, an elevated water storage tank and a controls/chlorine disinfection building. The well was drilled in 1993 and the well house was constructed in 1996-1997. The brick building, shown below, houses the well controls and chlorination systems. The vertical turbine well pump (seen on the left in the picture below) has a minor leak from the pump seal, and is rated for 1500 gpm.

The water tank, chlorine tank, and the piping at Pretlow Facility are shown in the pictures below. The chlorine tank contains a 12.5% Sodium Hypochlorite solution for disinfection. No other treatment is required. The elevated water tank was recently inspected and painted inside and out and appears to be in excellent condition.

Report of Due Diligence Facility Site Visits

October 2014

The pictures below are of the valve boxes at the Pretlow Facility .

The well controls, chlorination system, and elevated water tank are overall in excellent condition.

Hunterdale Potable Water Facility

The Hunterdale Facility consists of two (2) potable wells, two (2) controls/chlorine disinfection buildings, an emergency generator and an elevated water storage tank. The two wells are designated as Hunterdale #5 and #7. Well #5 is an auxiliary well. Well #7 was drilled as a result of the City's Downtown Well's past water quality issues related excessive fluoride concentrations. The 3 wells downtown were capped.

Below are photographs of Well #7, the chlorine disinfection system and the emergency generator:

The generator in the picture above is no longer attached to this water system.

Below is Well #5 (Pretlow's backup well):

The tank at Pretlow is due to be painted later this year. The need for the painting can be seen in the picture below.

The well pump motors and generator are in fair condition.

College Drive Emergency Potable Water Facility

College drive serves as an emergency well for City of Franklin. The site consists of a single well, an elevated water tank and a controls/disinfection building. The well is rated for 1350 gallons per minute. The well and pump motor are shown in the picture below.

The College drive well has not been improved/updated since 1999. The site is currently served by three older type transformers. This power service is in the process of being replaced due to the age of the transformers. The picture also shows the controls/disinfection building.

The tank has recently be inspected and painted. The tank has an internal mechanical mixing system. That system was audible and was causing very minor vibrations. Pictures of the tank and building and contents of the building are shown below. The tank, well pump, pump house and altitude valve were in fair condition. The well controls appeared to be recent and are in excellent condition.

B – Historic Operation & Maintenance Budgets

Southampton County - Annual O&M Costs

Year	2008 - 2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Water System Maintenance	$ 506,803	$ 513,400	$ 592,998	$ 675,306	$ 590,847	$ 598,030
Sewer System Maintenance	$ 786,453	$ 782,012	$ 1,269,601	$ 1,093,214	$ 982,008	$ 982,960
Total O&M Expense	$ 1,293,256	$ 1,295,412	$ 1,862,599	$ 1,768,520	$ 1,572,855	$ 1,580,990
Year to Year Change in Expense		$ 2,156	$ 567,187	$ (94,079)	$ (195,665)	$ 8,135
Service Related Revenue	$ 1,295,306	$ 1,195,385	$ 1,178,131	$ 1,158,241	$ 1,148,888	$ 1,146,815
Net Revenue	***$ 2,050***	***$ (100,027)***	***$ (684,468)***	***$ (610,279)***	***$ (423,967)***	***$ (434,175)***
Water Revenues	$ 322,132	$ 342,075	$ 348,555	$ 360,985	$ 344,388	$ 342,600
Water Produced 1000 gals		132,388	111,046	105,167	121,093	121,093
Water Production Cost $/1000 gals		***$ 3.88***	***$ 5.34***	***$ 6.42***	***$ 4.88***	***$ 4.94***
Wastewater Revenue	$ 973,174	$ 853,310	$ 829,576	$ 797,256	$ 804,500	$ 804,215
Wastewater Treated MG		158.3	161.4	164.8	173.3	173.3
Wastewater Average MGD		0.43	0.44	0.45	0.47	0.47
Wastewater Cost $/ 1000 gal		***$ 4.94***	***$ 7.87***	***$ 6.63***	***$ 5.67***	***$ 5.67***

City of Franklin - Annual O&M Expenses

Year	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Water System Maintenance	$ 764,812	$ 770,048	$ 648,514	$ 937,306	$ 941,059
Sewer System Maintenace	$ 353,427	$ 447,881	$ 607,199	$ 286,441	$ 398,610
Wastewater Treatment Maintenance	$ 677,154	$ 672,357	$ 724,810	$ 711,014	$ 737,546
Total Operation and Maintenance Expense	$ 1,795,393	$ 1,890,285	$ 1,980,523	$ 1,934,762	$ 2,077,215
Year to Year Change in Expense		$ 94,893	$ 90,237	$ (45,761)	$ 142,454
Service Related Revenue	$ 3,279,496	$ 3,030,547	$ 3,043,329	$ 3,154,656	$ 3,046,520
Net Revenue	***$ 1,484,103***	***$ 1,140,261***	***$ 1,062,806***	***$ 1,219,894***	***$ 969,305***
Water Revenues	$ 1,331,836	$ 1,241,337	$ 1,248,465	$ 1,397,210	$ 1,278,919
Water Produced 1000 gals/ yr		389,365	347,450	343,198	343,198
Water Production Cost $/1000 gals		***$ 1.98***	***$ 1.87***	***$ 2.73***	***$ 2.74***
Wastewater Revenue	$ 1,947,660	$ 1,789,210	$ 1,794,864	$ 1,757,446	$ 1,767,600
Wastewater Treated MG		527.4	599.8	625.3	543.85
Wastewater Average MGD		1.44	1.64	1.71	1.49
Wastewater Cost $/ 1,000 gal		***$ 2.12***	***$ 2.22***	***$ 1.60***	***$ 2.09***

Combined O&M for Franklin & Southampton

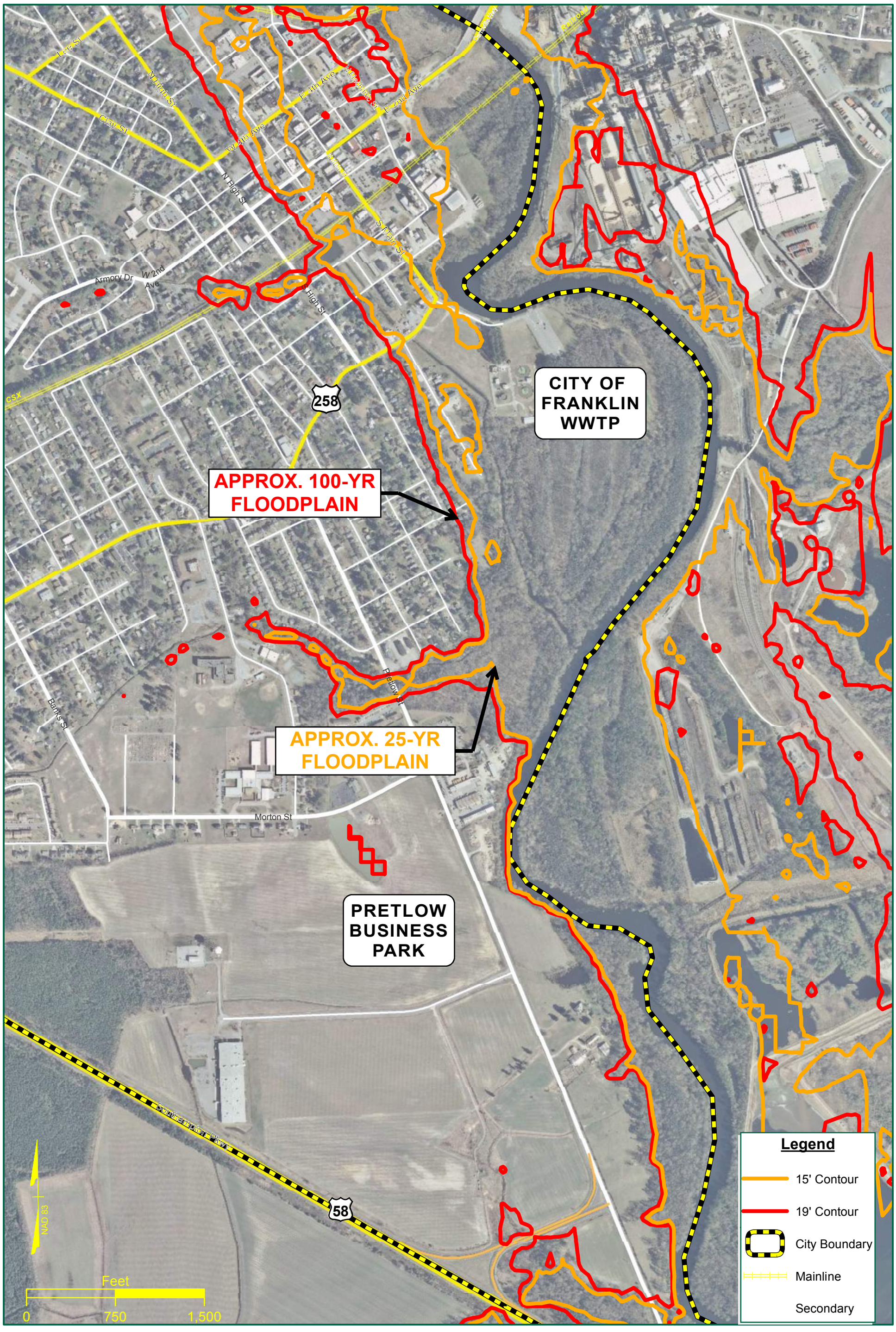
Actual Budgets	Combined Systems No Change to System	Combined Systems Transfer 0.5 MGD To Courtland WRF	Combined Systems Transfer 1.5 MGD Shut Down Franklin (1)
Year	**2013-2014**	**Projected**	**Projected**
Water System O&M Costs	$ 1,539,089	$ 1,539,089	$ 1,539,089
Sewer System & WWTP O&M Costs	$ 2,119,116	$ 1,971,607	$ 1,565,957
Additional Courtland WRF O&M Costs (2)		$ 91,250	$ 410,625
Additional Franklin WWTP PS Elec Costs (3)		$ 45,337	$ 80,000
Total Sewer System O&M Costs	$ 2,119,116	$ 2,108,194	$ 2,056,582
Total Water & Sewer Systems O&M Costs	**$ 3,658,205**	**$ 3,647,283**	**$ 3,595,671**
Water Produced 1000 gals/ yr	464,291	464,291	464,291
Water Production Cost $/1000 gals	***$ 3.31***	***$ 3.31***	***$ 3.31***
Wastewater Treated MG	717.15	717.15	717.15
Wastewater Average MGD	1.96	1.96	1.96
Wastewater Cost $/ 1,000 gal	***$ 2.95***	***$ 2.94***	***$ 2.87***
Water Revenues	$ 1,621,519	$ 1,621,519	$ 1,621,519
Wastewater Revenue	$ 2,571,815	$ 2,571,815	$ 2,571,815
Total Water & Wastewater Revenues	**$ 4,193,335**	**$ 4,193,335**	**$ 4,193,335**
Net Revenue	***$ 535,130***	***$ 546,052***	***$ 597,664***

Increase in Courtland WRF O&M Costs for Add'l Flow up to 0.99 MGD	$0.50 per 1000 gal		Minimal Staffing changes
Increase in Courtland WRF O&M Costs for Flow Greater than 0.99 MGD	$0.75 per 1000 gal		Requires Add'l operators
Increase in Flow (MGD)	0.5	1.5	
Increase in Flow (MG per Yr)	182.5	547.5	
Increase in Courtland WRF Annual O&M Costs	$91,250	$410,625	

(1) Assumes complete shutdown of the Franklin WWTP & some annual O&M costs to maintain facility
(2) Assumes a reasonable increase in Courtland WRF Annual O&M due to additional staffing, power & chemical usage / Transferance of Costs from Franklin
(3) Electrical costs to pump over to Courtland WRF from Franklin WWTP PS based upon Franklin Elec Rates

Assumes 20% reduction in Franklin WWTP Operations
Assumes 75% reduction in Franklin WWTP Operations
Assumes Relative Increase in Annual Courtland WRF Operations

C – Floodplain near Franklin WWTP



Floodplain & Contour Map

CITY OF FRANKLIN

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D – Preliminary Asset Valuations

City of Franklin, Virginia
Preliminary Asset Valuation*
City of Franklin Public Utilities
June 2015

Franklin - Facilities Description	**Preliminary Asset Valuation**
Water Facilities	$2,065,000
Water Distribution Systems	$4,414,000
Wastewater Collection	$16,806,000
Wastewater Pumping Systems	$3,252,000
Wastewater Treatment Facilities	$7,945,000
Franklin - Total System Value	***$34,482,000***
Current Debt on System	$3,052,000
Franklin - Net Equity in System	***$31,430,000***

* Information used to prepare the asset valuation based upon field visits and information provided by City of Franklin staff

City of Franklin Virginia
Sanitary Pumping Station Facilities- Preliminary Asset Valuation
June 2015

Facility Name	Yr. Placed in Svc.	Yr. of Last Upgrade	M&E Service Life Remaining (Yrs.)	Structural Service Life Remaining (Yrs.)	Estimated M&E Replacement Date	Estimated Structural Replacement Date	Current Average Usage (GPD)	Existing Capacity (gpm)	Cost to Replace M&E Components Now	Cost to Replace Structural Components Now	Current Assessed Land Value	Replacement Cost Value as a % of Service Life Remaining
Armory Drive PS		2008	13	43	2027	2057	2,782	200	$62,053	$199,782	$13,092	$225,239
Bailey Drive PS		2009	14	44	2028	2058	6,920	100	$177,123	$110,300	$14,371	$235,421
Clay Street PS		2008	13	43	2027	2057	5,462	100	$177,123	$110,300	$14,371	$224,359
Commerce Park PS		2007	12	42	2026	2056	29,905	100	$177,123	$110,300	$292,900	$491,825
Cypress Avenue PS		2004	9	39	2023	2053	185,513	450	$73,523	$312,746	$11,900	$288,927
Harrison St PS		2009	14	44	2028	2058	28,047	300	$177,123	$129,809	$7,500	$245,718
Oak Street PS		2004	9	39	2023	2053	121,163	400	$59,037	$42,707	$3,000	$62,878
Pretlow PS		1993	0	28	2015	2042	492	250	$73,328	$183,767	$8,500	$111,409
Rawlsdale PS		2008	13	43	2027	2057	3,453	100	$177,123	$110,300	$1,000	$210,988
River Road Farms/N. High Street PS		2002	7	37	2021	2051	67,176	400	$75,970	$244,025	$16,000	$223,168
Riverwood Estates PS	2007		12	42	2026	2056	34,886	252	$73,328	$374,195	$1,500	$359,820
Trail Road PS	1997		2	32	2016	2046	18,951	180	$53,474	$146,906	$19,000	$118,367
Vaughns Lane PS	1997	2010	15	32	2029	2046	14,561	85	$55,828	$163,684	$4,400	$151,029
Woodland I PS		2006	11	41	2025	2055	17,091	206	$83,029	$244,025	$0	$245,767
Woodland II PS	1987	1995	0	22	2015	2036	10,938	28	$52,146	$110,300	$8,122	$56,654
Total Pump Station Assets												**$3,251,569**

City of Franklin Virginia
Water Supply Facilities - Preliminary Asset Valuation
June 2015

Facility Name	Component	Yr. Placed in Svc.	Yr. of Last Upgrade	M&E Service Life Remaining (Yrs.)	Structural Service Life Remaining (Yrs.)	Estimated M&E Replacement Date	Estimated Structural Replacement Date	Current Average Usage (GPD)	Existing Capacity (GPD for system, gal for tanks, gpm for pumps)	Cost to Replace M&E Components Now	Cost to Replace Structural Components Now	Current Assessed Land Value	Replacement Cost Value as a % of Service Life Remaining
Pretlow										**$ 442,744**	**$ 1,804,210**	**$ 5,000**	**$ 1,153,775**
	Elevated Water Tank	1996	2012	18	32	2033	2047	-	500,000	$ -	$ 1,508,212		$ 965,256
	Well #6	1995		0	31	2015	2046	-	1,515	$ 442,744	$ 295,998		$ 183,519
Hunterdale										**$ 791,977**	**$ 2,216,485**	**$ 93,600**	**$ 281,098**
		1967		0	3	2015	2018	-	500,000	$ -	$ 1,508,212		$ 90,493
	Well #5	1967	1985	0	3	2015	2018	40,975	1,100	$ 328,225	$ 342,721		$ 20,563
	Well #7	2003		9	39	2024	2054	622,846	1,500	$ 463,752	$ 365,552		$ 76,442
College Drive										**$ 328,225**	**$ 1,478,969**	**$ 107,500**	**$ 630,199**
	Water Tank	1985	2014	20	21	2035	2036		300,000	$ -	$ 1,262,430		$ 530,221
	Emergency Well #4	1985	2000	6	21	2021	2036			$ 328,225	$ 216,539		$ (7,521)
City of Franklin	**Total**								**2,600,000**	**$ 1,562,946**	**$ 5,499,664**	**$ 206,100**	**$ 2,065,072**

City of Franklin Virginia
Sanitary and Water Piping - Preliminary Asset Valuation
June 2015

Description	Amount (LF)	Yr. Placed in Svc.	Yr. of Last Upgrade	Cost to Replace Pipe Now	Replacement Cost Value as a % of Service Life Remaining	Value Including Upgrades
Sanitary System Pipes				**$ 63,266,720**	**$ 10,812,944**	**$ 16,806,489**
Armory Drive		**50% 1986; 50% 1982**	**-**	**$ 315,735**	**$ 126,294**	**$ 126,294**
6" Forcemain	3,007			$ 315,735		
Bailey Drive		**1980's**	**-**	**$ 967,260**	**$ 309,523**	**$ 309,523**
Unkn Gravity	4,108			$ 903,760		
4" Forcemain	635			$ 63,500		
Clay Street		**1996**	**-**	**$ 1,835,685**	**$ 1,174,838**	**$ 1,174,838**
8" Gravity	5,282			$ 1,162,040		
Unkn Gravity	1,939			$ 426,580		
6" Forcemain	2,353			$ 247,065		
Commerce Park		**1980's**	**-**	**$ 762,400**	**$ 243,968**	**$ 243,968**
Gravity PVC, Unkn	2,338			$ 514,360		
Unkn Gravity	22			$ 4,840		
4" Forcemain	2,432			$ 243,200		
Cypress Avenue		**50% 1988; 50% 1955**	**23% 2010**	**$ 8,491,500**	**$ 2,037,960**	**$ 3,795,701**
6" Gravity	1,238			$ 247,600		
8" Gravity	17,850			$ 3,927,000		
10" Gravity	9,959			$ 2,589,340		
Unkn Gravity	1,816			$ 399,520		
8" Forcemain	7,162			$ 1,575,640		
Harrison Street		**1960's**	**35% 2010**	**$ 1,501,410**	**$ -**	**$ 472,944**
6" Gravity	782			$ 156,400		
8" Gravity	3,966			$ 872,520		
Unkn Gravity	1,847			$ 406,340		
6" Forcemain	630			$ 66,150		
Oak Street		**1960's**	**28% 2010**	**$ 8,823,060**	**$ -**	**$ 2,223,411**
6" Gravity	6,754			$ 1,350,800		
8" Gravity	22,055			$ 4,852,100		
10" Gravity	7,424			$ 1,930,240		
Unkn Gravity	2,738			$ 602,360		
Unkn Forcemain	398			$ 87,560		
Pretlow		**1993**	**-**	**$ 1,482,945**	**$ 860,108**	**$ 860,108**
10" Gravity	3,005			$ 781,300		
12" Gravity	260			$ 72,800		
Unkn Gravity	1,302			$ 286,440		
6" Forcemain	3,261			$ 342,405		
Rawlsdale		**1996**	**-**	**$ 371,640**	**$ 237,850**	**$ 237,850**
8" Gravity	1,146			$ 252,120		
Unkn Gravity	26			$ 5,720		
4" Forcemain	1,138			$ 113,800		
River Road Farms/N. High Street		**1968**	**11% 2010**	**$ 2,099,490**	**$ 419,898**	**$ 627,748**

City of Franklin Virginia
Sanitary and Water Piping - Preliminary Asset Valuation
June 2015

8" Gravity	6,910			$	1,520,200			
10" Gravity	1,720			$	447,200			
6" Forcemain	1,258			$	132,090			
Riverwood Estates		**2006**	**-**	**$**	**468,720**	**$**	**93,744**	**$** **93,744**
6" Forcemain	4,464			$	468,720			
Trail Road		**1998**	**-**	**$**	**3,824,660**	**$**	**2,600,769**	**$** **2,600,769**
6" Gravity	409			$	81,800			
8" Gravity	13,608			$	2,993,760			
Unkn Gravity	413			$	90,860			
Unkn Forcemain	2,992			$	658,240			
Vaughans Lane		**1998**	**-**	**$**	**1,189,600**	**$**	**808,928**	**$** **808,928**
8" Gravity	4,080			$	897,600			
4" Forcemain	2,920			$	292,000			
Woodland I		**1960's**	**-**	**$**	**870,035**	**$**	**-**	**$** **-**
6" Gravity	454			$	90,800			
8" Gravity	2,520			$	554,400			
Unkn Gravity	531			$	116,820			
2" Forcemain	1,137			$	108,015			
6" Forcemain	737			$	147,400			
Woodland II		**1971**	**-**	**$**	**671,470**	**$**	**94,006**	**$** **94,006**
8" Gravity	2,312			$	508,640			
2" Forcemain	1,714			$	162,830			
Gravity To WWTP		**50% 1950's; 30% 1960's;**	**5% 2010**	**$**	**29,591,110**	**$**	**1,805,058**	**$** **3,136,658**
6" Gravity	13,754			$	2,750,800			
8" Gravity	59,621			$	13,116,620			
10" Gravity	24,496			$	6,368,960			
12" Gravity	10,749			$	3,009,720			
15" Gravity	1,087			$	336,970			
18" Gravity	1,174			$	399,160			
Unkn Gravity	16,404			$	3,608,880			

Description	Amount (LF)	Yr. Placed in Svc.	Yr. of Last Upgrade	Cost to Replace Pipe Now	Replacement Cost Value as a % of Service Life Remaining	Value Including Upgrades
Water System Pipes				**$ 32,009,643**	**$ 4,414,102**	**$ 4,414,102**
1" Water Line	4,790	10% 2010; 60% 1950; 16% 1960; 4% 1955; 10% 1998	-	$ 443,075	$ 70,892	$ 70,892
2" Water Line	3,133	50% 1960; 1% 2006; 32% 1950; 1% 1972; 15% 1955	-	$ 297,635	$ 2,976	$ 2,976
3" Water Line	117	1950	-	$ 11,408	$ -	$ -
4" Water Line	87,216	50% 1950; 30% 1960; 8% 1988; 6% 1998; 6% 1955	-	$ 8,721,600	$ 690,751	$ 690,751
6" Water Line	114,543	25% 1950; 25% 1960; 15% 1970; 10% 1998; 10% 1968; 5% 1988	-	$ 12,027,015	$ 1,419,188	$ 1,419,188

City of Franklin Virginia
Sanitary and Water Piping - Preliminary Asset Valuation
June 2015

8" Water Line	37,385	35% 1950; 15% 1998; 15% 1960; 15% 1980; 10% 1988; 5% 1955; 5% 1970	-	$	4,112,350	$	838,919	$	838,919
10" Water Line	32,298	40% 1960; 20% 1980; 15% 1950; 15% 1970; 5% 1988; 5% 2007	-	$	3,714,270	$	553,426	$	553,426
12" Water Line	19,079	25% 1988; 35% 1993; 15% 1960; 5% 2007; 20% 1950	-	$	2,289,480	$	837,950	$	837,950
Unkn Water Line	3,571	1950's	-	$	392,810	$	-	$	-

City of Franklin, Virginia
Wastewater Treatment Facility - Preliminary Asset Valuations
June 2015

Upgrade	Yr. Placed in Svc.	Yr. of Last Upgrade	Current Average Usage (MGD)	Existing Capacity (MGD)	Replacement Cost	Replacement Cost Value as a % of Service Life Remaining	Service Life (yrs)
City of Franklin Wastewater Treatment Plant						**$ 7,945,155**	
WWTP (1)	1987		2	2	$ 32,000,000	$ 14,720,000	50
Biosolids Building		2006			$ 149,189	$ 125,319	50
Biosolids Equipment		2006			$ 704,320	$ 422,592	20
Blower Building		2006			$ 264,000	$ 158,400	20
Blowers		2006			$ 131,909	$ 79,145	20
Instrumentation/Controls		2006			$ 321,422	$ 192,853	20
UV System		2006			$ 200,000	$ 120,000	20
Solids Handling Metal Frame		2006			$ 120,000	$ 72,000	20
Subtotal - Value in Current Location w/o Floodplain Discount						$ 15,890,309	
Flood Plain Discount (2)						50%	
Total Value w/ Flood Plain Discount						$ 7,945,155	

Note:
(1) Note replacement costs is if WWTP is located in the exact same location and does NOT take into account relocating out of the floodplain.
If plant is to be relocated and reconstructed, the costs are estimated to be $37,884,000 to relocate a 2 MGD WWTP out of the floodplain.
While the original plant was constructed in 1948, the plant was almost completely rebuilt in 1987, therefore, we are using 1987 as basis for age
(2) Plant is currently located below the 10-yr flood plain and has had 2 significant flood events in 1999 and 2006
Therefore, we applied a discount factor of 50% to the current value of the WWTP (50% chance of a flood in next 5 yrs)

Southampton County, Virginia
Preliminary Asset Valuation *
Southampton County Public Utilities
January 2015

Southampton - Facilities Description	**Preliminary Asset Valuation**
Water Facilities	$5,137,000
Water Distribution Systems	$6,337,000
Wastewater Collection	$15,779,000
Wastewater Pumping Systems	$3,559,000
Wastewater Treatment Facilities	$26,232,000
Southampton - Total System Value	***$57,044,000***
Current Debt on System	$34,541,000
Southampton - Net Equity in System	***$22,503,000***

* Information used to prepare the asset valuation based upon field visits and information provided by Southampton County staff

Southampton County, Virginia
Wastewater Treatment Facility - Preliminary Asset Valuation
June 2015

Upgrade	Yr. Placed in Svc.	Yr. of Last Upgrade	Current Average Usage (MGD)	Existing Capacity (MGD)	Replacement Cost	Replacement Cost Value as a % of Service Life Remaining	Service Life (yrs)
Southampton County (Courtland) Regional Reclamation Facility						**$ 19,053,323**	
WWTP	2010		0.18	1.25	$ 20,550,000	$ 18,906,000	50
Septage Receiving Station	2010				$ 160,134	$ 147,323	50
No Upgrades-New Facility							
Boykins Wastewater Treatment Facility						**$ 7,179,120**	
WWTP	1996		0.29	0.59	$ 10,620,000	$ 6,796,800	50
New Liner		2012			$ 190,400	$ 171,360	20
Surface Aerator/Mixers (Secondary Treatmet)		2012			$ 214,400	$ 192,960	20
Curtain Wall and Rake Arms		2012			$ 20,000	$ 18,000	20
Surface Aerators in Digesters		2012			$ 33,400	$ 30,060	20
Total for Courtland & Boykins Facilities						***$ 26,232,443***	

Southampton County Virginia Public Utilities
Water Supply Facilities - Preliminary Asset Valuation
June 2015

Facility Name	Component	Yr. Placed in Svc.	Yr. of Last Upgrade	M&E Service Life Remaining (Yrs.)	Structural Service Life Remaining (Yrs.)	Estimated M&E Replacement Date	Estimated Structural Replacement Date	Current Average Usage (GPD)	Existing Capacity (GPD for system, gal for tanks, gpm for pumps)	Cost to Replace M&E Components Now	Cost to Replace Structural Components Now	Current Assessed Land Value	Replacement Cost Value as a % of Service Life Remaining
Agri-Business									**633,600**	**$ 245,062**	**$ 1,185,010**	**$ 10,000**	**$ 854,178**
	Water Tank	1996	-	2	32	2017	2047		150,000	$ -	$ 865,358		$ 553,829
	Well #1	1996	-	2	32	2017	2047	2,626	220	$ 122,531	$ 269,149		$ 184,508
	Well #2	1996	2006	12	32	2027	2047	2,058	220	$ 122,531	$ 50,502		$ 105,840
Boykins-Branchville									**460,000**	**$ 378,762**	**$ 2,636,182**	**$ 93,600**	**$ 1,440,480**
	Elevated Storage Tank	1996		2	32	2017	2047		300,000	$ -	$ 1,425,094		$ 912,060
	Boykins #1 Well (Commerce)	1973	2011	17	9	2032	2024	40,081	300	$ 139,000	$ 184,096		$ 151,287
	Chlorine Contact Tank	1973		0	9	2015	2024		10,000	$ -	$ 58,700		$ 10,566
	Boykins #2 Well (Bryant)	1967	2011	17	3	2032	2018	7,322	250	$ 101,374	$ 113,113		$ 92,954
	Chlorine Contact Tank	1967		0	3	2015	2018		8,000	$ -	$ 50,798		$ 3,048
	Ground Storage Tank	1975		0	11	2015	2026		100,000	$ -	$ 469,308		$ 103,248
	Branchville #1	1975		0	11	2015	2026	24,284	100	$ 69,194	$ 294,193		$ 64,722
	Branchville #2	1975		0	11	2015	2026	17,605	100	$ 69,194	$ 40,879		$ 8,993
	Booster Pump Stations (2)	1975	2013	19	11	2034	2026		500	$ -	$ -		$ -
Drewryville									**24800**	**$ 73,311**	**$ 240,323**	**$ 107,500**	**$ 193,604**
	Hydropneumatic Pressure Tank	1972		0	8	2015	2023		2,000	$ -	$ 20,319		$ 3,251
	Drewryville Well	1972	2007	13	8	2028	2023	15,776	120	$ 73,311	$ 220,003		$ 82,853
Turner Tract									**224,000**	**$ 100,535**	**$ 1,702,203**	**$ 50,000**	**$ 1,813,667**
	Elevated Storage Tank	2013		19	49	2034	2064		500,000	$ -	$ 1,508,212		$ 1,478,048
	Well #1	2013		19	49	2034	2064	13,414	140	$ 80,178	$ 168,357		$ 241,159
	Well #2	2013		19	49	2034	2064	15,343	140	$ 20,357	$ 25,634		$ 44,460
Newsoms									**192,000**	**$ 169,744**	**$ 1,354,666**	**$ 21,000**	**$ 683,588**
	Elevated Storage Tank	1996		2	32	2017	2047		200,000	$ -	$ 997,375		$ 638,320
	Well #1 (Town Hall)	1955	1997	3	0	2018	2015	16,662	100	$ 69,194	$ 108,906		$ 10,379
	Well #2 (Elevated Tank)	1969		0	5	2015	2020	22,851	246	$ 100,550	$ 138,887		$ 13,889
	Hydropneumatic Tank #1	1955		0	0	2015	2015		10,000	$ -	$ 58,700		$ -
	Hydropneumatic Tank #2	1955		0	0	2015	2015		8,000	$ -	$ 50,798		$ -
Edgehill									**33,200**	**$ 84,743**	**$ 184,889**	**$ 15,000**	**$ 49,905**
	Well #1	1970		0	6	2015	2021	6,339	90	$ 67,135	$ 91,698		$ 11,004
	Well #2	1985		0	21	2015	2036	6,791	100	$ 17,608	$ 42,393		$ 17,805
	Hydropneumatic Tank	1970		0	6	2015	2021		8,000	$ -	$ 50,798		$ 6,096
	Generator	2004		10	40	2025	2055						
Southampton County Offices									**25,920**	**$ 40,138**	**$ 88,470**	**$ 15,000**	**$ 38,002**
	Well #1	1977		0	13	2015	2028		18	$ 40,138	$ 81,426		$ 21,171
	Hydropneumatic Tank	1977		0	13	2015	2028		525	$ -	$ 7,044		$ 1,831
Agri-Center (Fairgrounds)									**100**	**$ 66,090**	**$ 117,265**	**$ 3,700**	**$ 64,035**
	Well #1	1970	2008	14	6	2029	2021		150	$ 66,090	$ 85,657		$ 56,542
	Hydropneumatic Tank	1970		0	6	2015	2021		5,000	$ -	$ 31,608		$ 3,793
Southampton County									**1,593,620**	**$ 697,135**	**$ 4,061,514**	**$ 315,800**	**$ 5,137,458**

Southampton County Virginia Public Utilities
Sanitary Pumping Station Facilities - Preliminary Asset Valuation
June 2015

Facility Name	Yr. Placed in Svc.	Yr. of Last Upgrade	M&E Service Life Remaining (Yrs.)	Structural Service Life Remaining (Yrs.)	Estimated M&E Replacement Date	Estimated Structural Replacement Date	Current Average Usage (GPD)	Existing Capacity (gpm)	Cost to Replace M&E Components Now	Cost to Replace Structural Components Now	Current Assessed Land Value	Replacement Cost Value as a % of Service Life Remaining
Courtland PS #1 School Bus Garage	1980	2014	19	15	2033	2029		30	$94,190	$110,300	$1,500	$124,071
Courtland PS #2 Florence Street	1980	2008	13	15	2027	2029	53,760	125	$93,838	$110,300	$2,000	$96,085
Courtland PS #3 Hancock Peanut	1980	2013	18	15	2032	2029	24,665	125	$97,039	$110,300	$10,367	$130,792
Courtland PS #4 Behind Courthouse	1979		0	14	2015	2028	93,920	350	$271,280	$244,025	$50,000	$118,327
Courtland PS #5 End Shands Drive	1980	2012	17	15	2031	2029	121,900	400	$251,809	$244,025	$5,000	$292,245
Courtland PS #6 Lee-Grant Street	1980	2011	16	15	2030	2029	152,330	450	$149,310	$103,995	$8,000	$158,646
Courtland PS #7 EMC	1980	2014	19	15	2033	2029		50	$93,838	$110,300	$1,500	$123,736
Courtland PS #8 Stevens Wood	1980	2008	13	15	2027	2029		50	$53,102	$110,300	$8,170	$75,776
Courtland PS #9 Begin Shands Drive	1980		0	15	2015	2029		350	$116,881	$244,025	$1,000	$74,208
Courtland PS #10 Pinos	1980	2012	17	15	2031	2029	166,670	420	$118,958	$244,025	$0	$174,322
Courtland PS #11 Agribusiness Park	1997		2	32	2016	2046	7,320	250	$103,433	$110,300	$10,000	$90,935
Courtland PS #12 Charlie Edge	1980	2011	16	15	2030	2029		50	$49,965	$110,300	$8,013	$81,075
Courtland Interceptor/ New Market	2010		15	45	2029	2059		1250	$138,943	$1,134,259	$178,000	$1,303,041
Courtland Turner Tract PS	2014		19	49	2033	2063		180	$147,659	$110,300	$12,898	$261,267
Branchville PS# 1- Branchville	1970	1996	1	5	2015	2019		120	$102,939	$110,300	$10,662	$26,839
Branchville PS# 2 - Branchville	1970	1996	1	5	2015	2019		154	$103,433	$110,300	$5,000	$21,202
Branchville PS# 3 - Branchville	1970	1996	1	5	2015	2019		166	$103,433	$110,300	$10,687	$26,888
Branchville PS# 4 - Branchville	1970	1996	1	5	2015	2019		200	$103,433	$110,300	$10,687	$26,888
Route 35 Pump Station - Boykins	1970	2011	16	5	2030	2019		100	$42,847	$140,805	$5,000	$53,358
Bryant Avenue Pump Station - Boykins	1965	1999	4	0	2018	2015		550	$107,041	$318,363	$21,270	$42,678
Newsoms PS# 5 Fullers Mill Rd	1995		0	30	2015	2044		200	$103,433	$110,300	$10,687	$76,867
Newsoms PS# 6 - Main St Newsomes		1995	0	30	2015	2044		178	$102,939	$110,300	$10,662	$76,842
Newsoms PS# 7 - Thomas Rd Newsomes			0	0	2015	2015		100	$44,102	$110,300	$4,000	$4,000
Edgehill Pump Station (To Franklin)	1970	1995	0	5	2015	2019	17,620	180	$100,316	$110,300	$10,531	$21,561
CIC Pump Station (To Franklin)	1997		2	32	2016	2046		60	$53,456	$110,300	$1,000	$76,938
Southampton Total Assets												**$3,558,586**

Southampton County Virginia Public Utilities
Sanitary Pumping Station Facilities - Preliminary Asset Valuation
June 2015

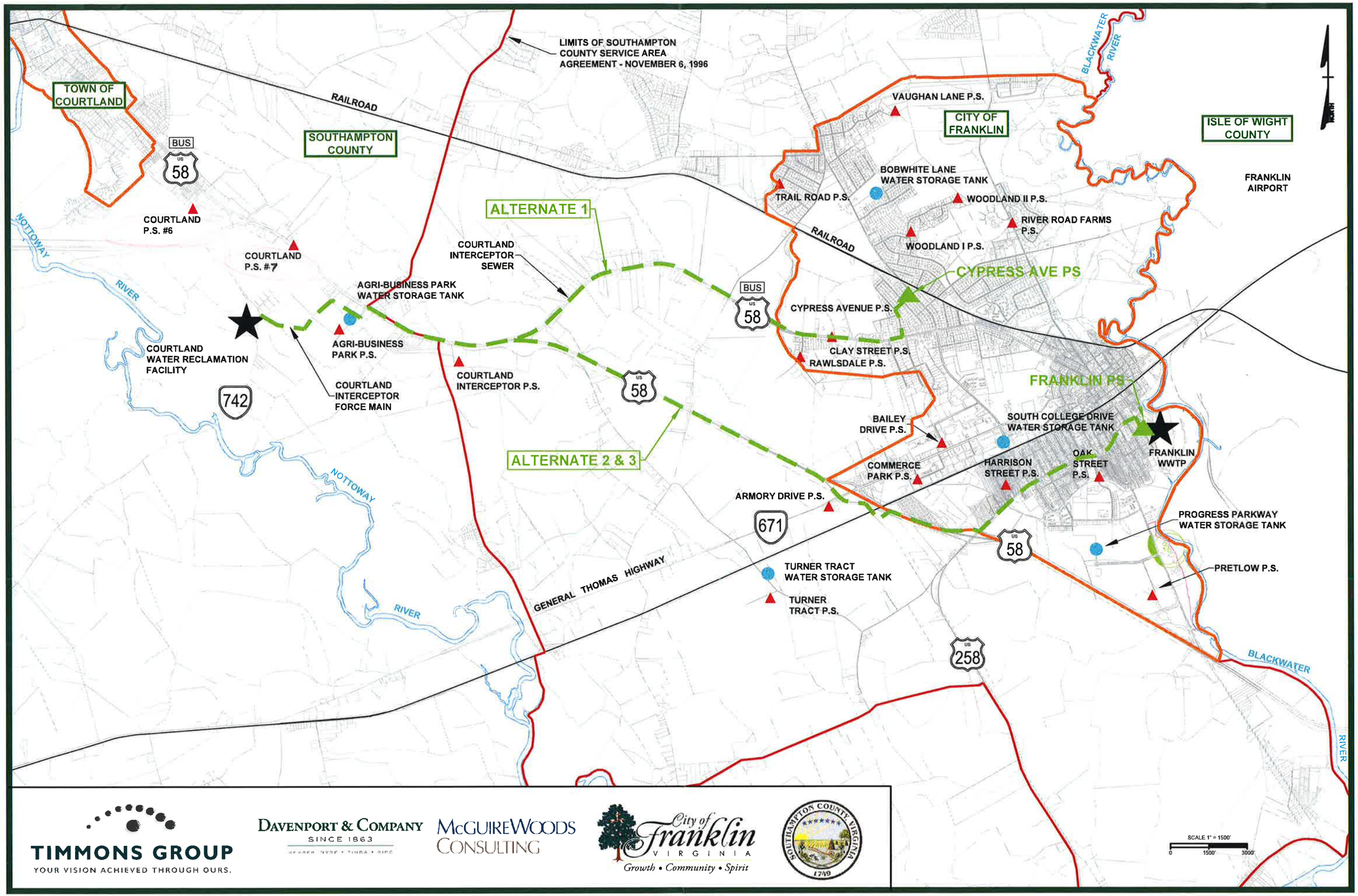
Description	Amount (LF)	Yr. Placed in Svc.	Yr. of Last Upgrade	Cost to Replace Pipe Now	Replacement Cost Value as a % of Service Life Remaining	Value Including Upgrades
Sanitary System Pipes			**-**	**$ 39,302,340**	**$ 15,778,617**	**$ 15,778,617**
Courtland Sanitary System			**-**	**$ 23,087,800**	**$ 11,289,730**	**$ 11,289,730**
PS#1, 8" Gravity	340	1980	-	$ 74,800	$ 23,936	$ 23,936
PS#2, 8" Gravity	11,600	1980	-	$ 2,552,000	$ 816,640	$ 816,640
PS#3, 12" Gravity	10,400	1980	-	$ 2,912,000	$ 931,840	$ 931,840
PS#4, 8" Gravity	10,260	1980	-	$ 2,257,200	$ 722,304	$ 722,304
PS#4, 10" Gravity	860	1980	-	$ 223,600	$ 71,552	$ 71,552
PS#5, 8" Gravity	6,160	1980	-	$ 1,355,200	$ 433,664	$ 433,664
PS#5, 10" Gravity	990	1980	-	$ 257,400	$ 82,368	$ 82,368
PS#6, 8" Gravity	1,550	1980	-	$ 341,000	$ 109,120	$ 109,120
PS#6, 10" Gravity	730	1980	-	$ 189,800	$ 60,736	$ 60,736
PS#7, 8" Gravity	4,570	1980	-	$ 1,005,400	$ 321,728	$ 321,728
PS#9, 8" Gravity	1,585	1980	-	$ 348,700	$ 111,584	$ 111,584
PS#9, 10" Gravity	2,390	1980	-	$ 621,400	$ 198,848	$ 198,848
PS#10, 10" Gravity	5,580	1980	-	$ 1,450,800	$ 464,256	$ 464,256
Agri-Business, 8" Gravity	2,100	1996	-	$ 462,000	$ 295,680	$ 295,680
New Market, Unkn Gravity	10,220	2010	-	$ 2,248,400	$ 2,068,528	$ 2,068,528
PS#1, Unkn Forcemain	1,150	1980	-	$ 126,500	$ 40,480	$ 40,480
PS#2, Unkn Forcemain	1,570	1980	-	$ 172,700	$ 55,264	$ 55,264
PS#3, Unkn Forcemain	4,370	1980	-	$ 480,700	$ 153,824	$ 153,824
PS#4, Unkn Forcemain	1,750	1980	-	$ 192,500	$ 61,600	$ 61,600
PS#5, Unkn Forcemain	970	1980	-	$ 106,700	$ 34,144	$ 34,144
PS#6, Unkn Forcemain	6,830	1980	-	$ 751,300	$ 240,416	$ 240,416
PS#7, Unkn Forcemain	2,370	1980	-	$ 260,700	$ 83,424	$ 83,424
PS#8, Unkn Forcemain	150	1980	-	$ 16,500	$ 5,280	$ 5,280
PS#9, Unkn Forcemain	1,980	1980	-	$ 217,800	$ 69,696	$ 69,696
PS#10, Unkn Forcemain	1,580	1980	-	$ 173,800	$ 55,616	$ 55,616
PS#11, Unkn Forcemain	4,700	1997	-	$ 517,000	$ 341,220	$ 341,220
PS#12, Unkn Forcemain	720	1980	-	$ 79,200	$ 25,344	$ 25,344
Agri-Business, 8" Force Main	5,210	1997	-	$ 573,100	$ 378,246	$ 378,246
New Market, Unkn Forcemain	9,910	2010	-	$ 1,090,100	$ 1,002,892	$ 1,002,892
Turner Tract, Unkn Forcemain	18,450	2014	-	$ 2,029,500	$ 2,029,500	$ 2,029,500
Boykins Sanitary System			**-**	**$ 16,214,540**	**$ 4,488,887**	**$ 4,488,887**
PS#2, Unkn Gravity	1,940	1970	-	$ 426,800	$ 51,216	$ 51,216
PS#5 Fullers Mill Rd, Unkn Gravity	5,100	1995	-	$ 1,122,000	$ 695,640	$ 695,640
Route 35 PS, 6" Gravity	160	1970	-	$ 32,000	$ 3,840	$ 3,840
Route 35 PS, 8" Gravity	960	1970	-	$ 211,200	$ 25,344	$ 25,344
Route 35 PS, 10" Gravity	1,450	1970	-	$ 377,000	$ 45,240	$ 45,240
Bryant Ave PS, 8" Gravity	20,540	1965	-	$ 4,518,800	$ 90,376	$ 90,376
Bryant Ave PS, 10" Gravity	4,787	1965	-	$ 1,244,620	$ 24,892	$ 24,892

Southampton County Virginia Public Utilities
Sanitary Pumping Station Facilities - Preliminary Asset Valuation
June 2015

To Boykins WWTP, 8" Gravity	1,938	1965	-	$	426,360	$	8,527	$	8,527
To Boykins WWTP, 12" Gravity	947	1965	-	$	265,160	$	5,303	$	5,303
PS#1, Unkn Forcemain	3,020	1970	-	$	332,200	$	39,864	$	39,864
PS#2, Unkn Forcemain	2,870	1970	-	$	315,700	$	37,884	$	37,884
PS#3, Unkn Forcemain	2,310	1970	-	$	254,100	$	30,492	$	30,492
PS#4, Unkn Forcemain	6,100	1970	-	$	671,000	$	80,520	$	80,520
PS#5 Fullers Mill Rd, Unkn Forcemain	11,920	1995	-	$	1,311,200	$	812,944	$	812,944
PS#6 Main Street, Unkn Forcemain	14,370	1995	-	$	1,580,700	$	980,034	$	980,034
Bryant Ave PS, 8" Forcemain	4,400	1965	-	$	484,000	$	9,680	$	9,680
Route 35 PS, 6" Forcemain	2,630	1970	-	$	276,150	$	33,138	$	33,138
WWTP Discharge Line, 10" Forcemain	20,570	1996	-	$	2,365,550	$	1,513,952	$	1,513,952
Water System Pipes				**$**	**9,281,030**	**$**	**6,337,179**	**$**	**6,337,179**
Agri-Business, 8" Water Line	2,200	1996		$	242,000	$	154,880	$	154,880
Agri-Business, Unkn Water Line	1,900	1996		$	209,000	$	133,760	$	133,760
Boykins-Branhville, Unkn Water Line	68,233	1996		$	7,505,630	$	4,803,603	$	4,803,603
Turner Tract, 12" Water Line	10,560	2011		$	1,267,200	$	1,191,168	$	1,191,168
Turner Tract, 16" Water Line	440	2011		$	57,200	$	53,768	$	53,768

Gravity Sewer	107,157
Force Main	129,900
Waterlines	83,333

E – Alternatives Layouts



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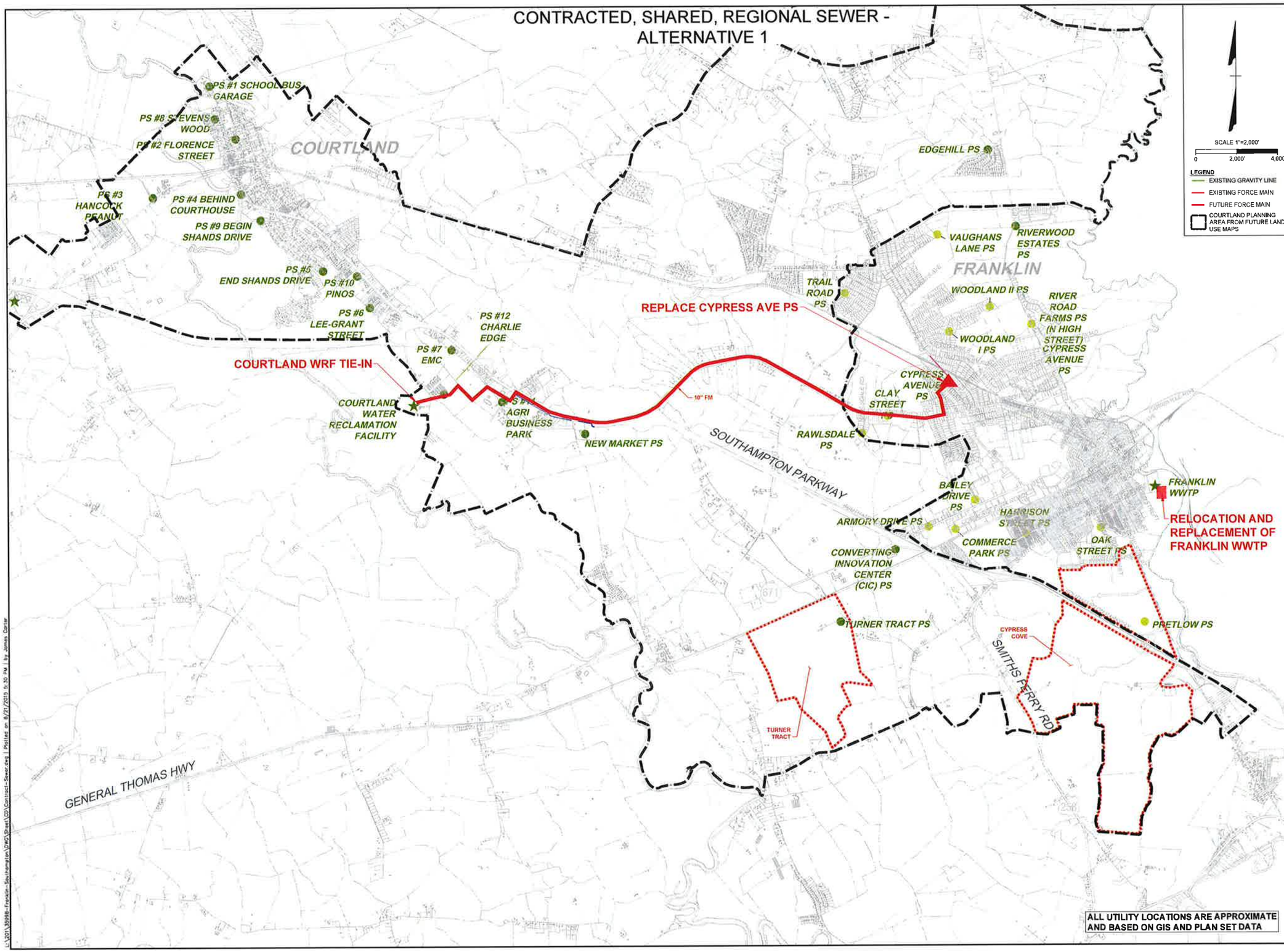

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TIMMONS GROUP

FRANKLIN-SOUTHAMPTON UTILITIES STUDY

CITY OF FRANKLIN - SOUTHAMPTON COUNTY - VIGINIA

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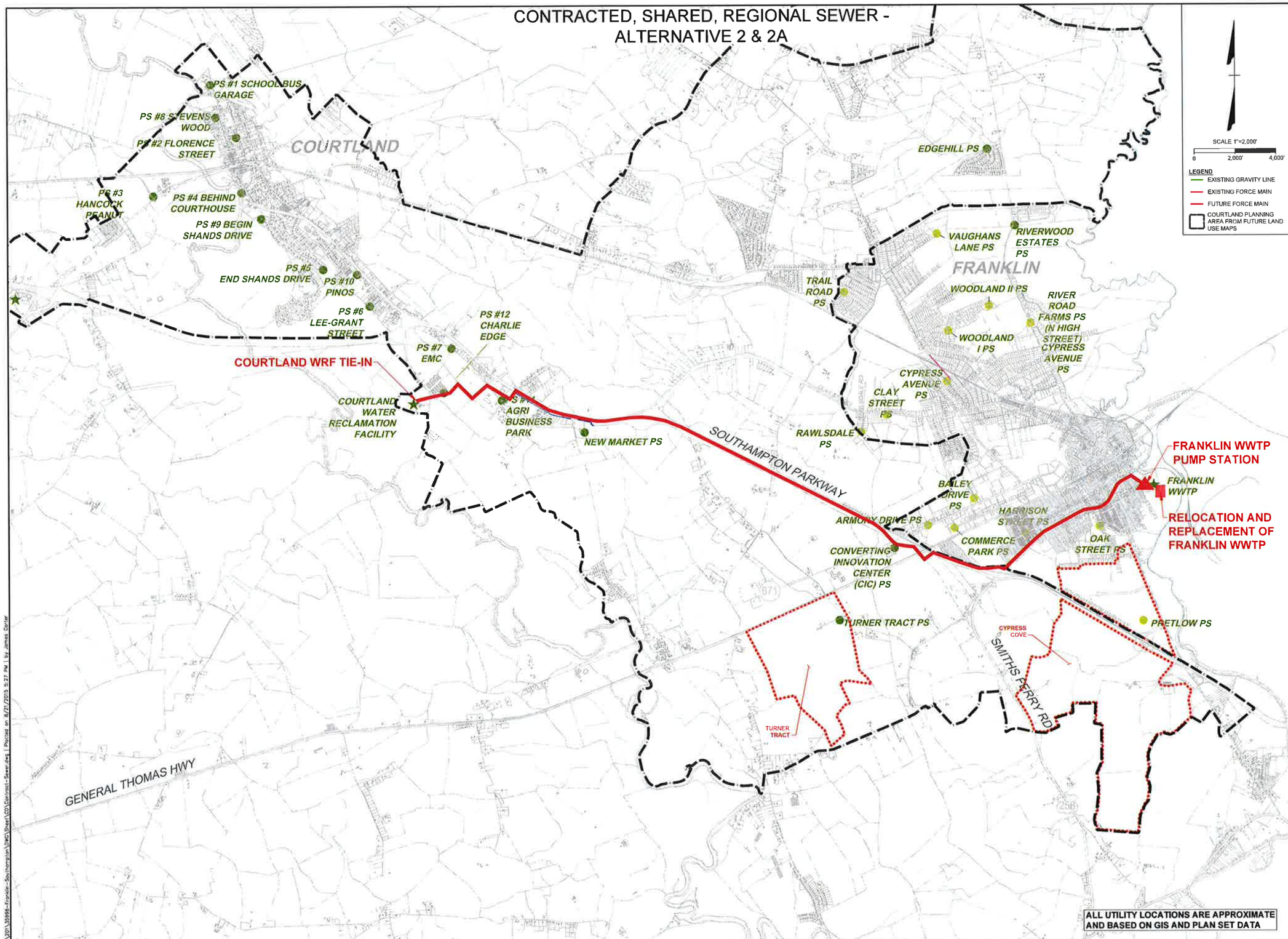

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FRANKLIN-SOUTHAMPTON UTILITIES STUDY

CITY OF FRANKLIN - SOUTHAMPTON COUNTY - VIGINIA

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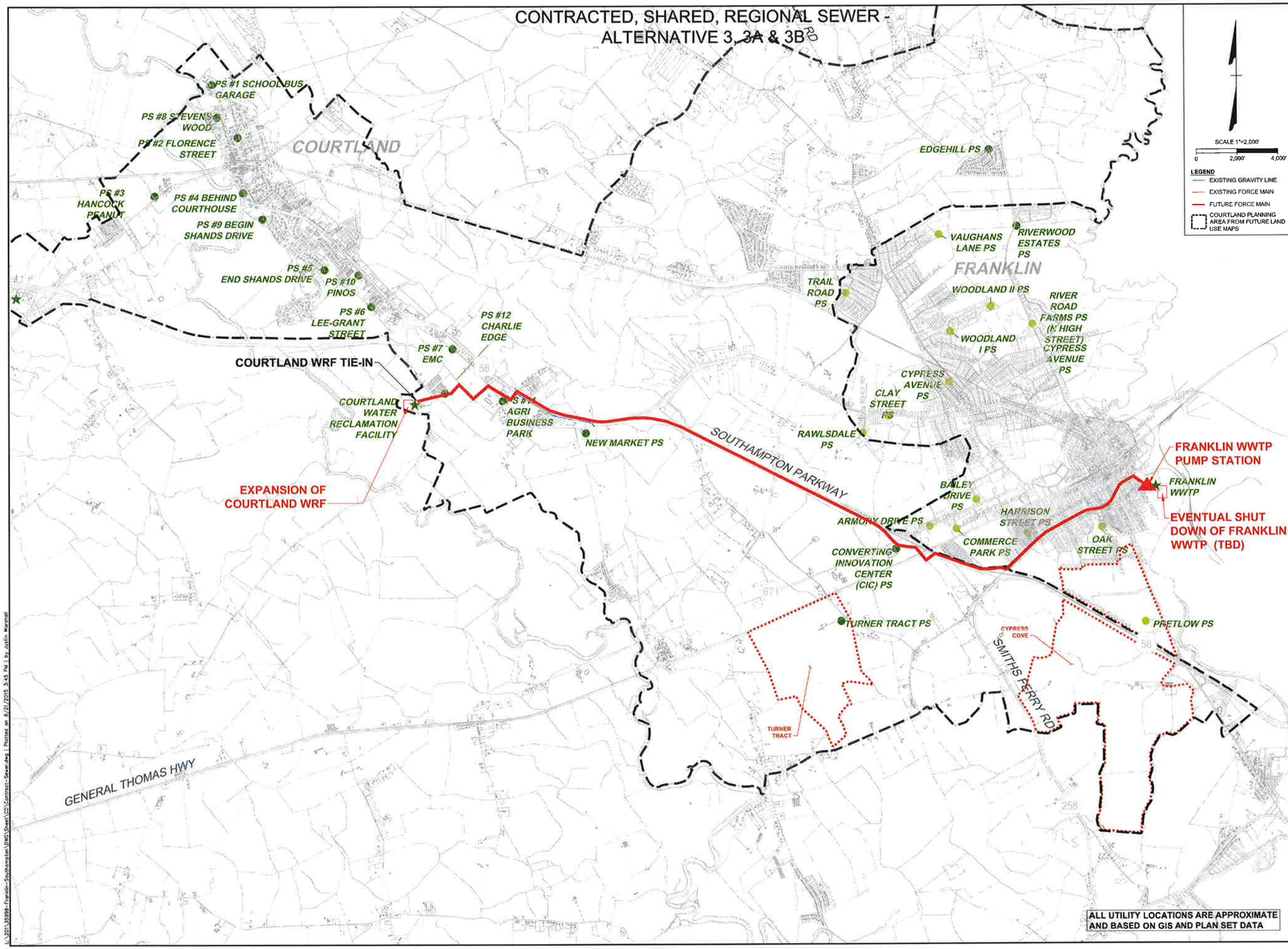

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CITY OF FRANKLIN - SOUTHAMPTON COUNTY - VIGINIA

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F – Engineer's Opinion of Probable Costs for Alternatives Analysis

City of Franklin and Southampton County **June 2015**
Shared Water / Wastewater Utility Assessment
Franklin to Southampton; Water Interconnection (12") Turner Tract to CIC

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	12" Water Main, PVC	10,500	LF	$100	$1,050,000
2	Gate Valves	11	EA	$6,600	$69,300
3	Air Release Valves	3	EA	$6,600	$19,800
4	Connection to Existing Water Main	1	EA	$6,500	$6,500
5	Fire Hydrant	10	EA	$6,000	$60,000
6	Jack and Bore Road Crossing	200	LF	$350	$70,000
7	Master Meter	1	EA	$20,000	$20,000
8	Control Valve	1	EA	$20,000	$20,000
9					
				Sub-total	**$1,315,600**
				Total Probable Construction Cost	**$1,315,600**
Professional Services Prior to Construction					
				Design Engineering 7.5%	$98,670
				Utility Location and Survey 2.5%	$32,890
				Wetland Delineation/ Environmental Assessment / Permitting 2.0%	$26,312
				Legal and Administration 0.0%	$0
				Sub-total	**$157,872**
Professional Services During Construction					
				Construction Administration / Construction Inspection 3.5%	$46,046
				Materials Testing 1.0%	$13,156
				Construction Survey 1.0%	$13,156
				Sub-total	**$72,358**
				Total Probable Project Cost	**$1,546,000**

City of Franklin and Southampton County **June 2015**
Shared Water / Wastewater Utility Assessment
Franklin to Southampton; Water Interconnection (12") Edgehill to Franklin

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	12" Water Main, PVC	3,000	LF	$100	$300,000
2	Gate Valves	3	EA	$6,600	$19,800
3	Air Release Valves	3	EA	$6,600	$19,800
4	Connection to Existing Water Main	1	EA	$6,500	$6,500
5	Fire Hydrant	5	EA	$6,000	$30,000
6	Master Meter	1	EA	$20,000	$20,000
7	Control Valve	1	EA	$20,000	$20,000
8					
				Sub-total	**$416,100**
				Total Probable Construction Cost	**$416,100**
Professional Services Prior to Construction					
				Design Engineering 7.5%	$31,208
				Utility Location and Survey 2.5%	$10,403
				Wetland Delineation/ Environmental Assessment / Permitting 2.0%	$8,322
				Legal and Administration 0.0%	$0
				Sub-total	**$49,932**
Professional Services During Construction					
				Construction Administration / Construction Inspection 3.5%	$14,564
				Materials Testing 1.0%	$4,161
				Construction Survey 1.0%	$4,161
				Sub-total	**$22,886**
				Total Probable Project Cost	**$489,000**

City of Franklin and Southampton County **June 2015**
Shared Water / Wastewater Utility Assessment
Cypress Avenue; Flow Diversion Wastewater Pump Station 500,000 GPD

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	Mobilization	1	LS	$30,000	$30,000
2	Building				
3	Duplex Suction-Lift Pumps	1	LS	$300,000	$300,000
4	Pump Controls				
5	Piping and Valves				
6	Concrete Wet Well	1	LS	$70,000	$70,000
7	SCADA and Instrumentation	1	LS	$40,000	$40,000
8	Electrical Service	1	LS	$60,000	$60,000
9	Electrical & Mechanical	1	LS	$120,000	$120,000
10	Standby Power - Generator	1	LS	$125,000	$125,000
11	Site Work	1	LS	$87,500	$87,500
12	Site Piping and Valves	1	LS	$75,000	$75,000
				Sub-total	**$907,500**
				Total Probable Construction Cost	**$907,500**
Professional Services Prior to Construction					
				Design Engineering 10.0%	$90,750
				Utility Location and Survey 1.0%	$9,075
				Wetland Delineation/ Environmental Assessment / Permitting 0.5%	$4,538
				Easement Acquisition and Easement Plats 1.0%	$9,075
				Legal and Administration 2.0%	$18,150
				Sub-total	**$131,588**
Professional Services During Construction					
				Construction Administration / Construction Inspection 7.0%	$63,525
				Materials Testing 1.0%	$9,075
				Construction Survey 1.0%	$9,075
				Sub-total	**$81,675**
				Total Probable Project Cost	**$1,121,000**

City of Franklin and Southampton County **June 2015**
Shared Water / Wastewater Utility Assessment
Cypress Avenue; Flow Diversion Wastewater Force Main (10") to Courtland WRF

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	10" Force Main, PVC	30,000	LF	$95	$2,850,000
2	Plug Valve	30	EA	$6,000	$180,000
3	Air Release Valve	10	EA	$6,000	$60,000
4	Discharge Connection to Existing Sanitary Sewer	1	EA	$5,000	$5,000
5	Directional Drill Creek Crossing	700	LF	$150	$105,000
6	Jack and Bore Road Crossing	200	LF	$350	$70,000
7	Railroad Crossing	0	LF	$350	$0
				Sub-total	**$3,270,000**
				Total Probable Construction Cost	**$3,270,000**
Professional Services Prior to Construction					
				Design Engineering 7.0%	$228,900
				Utility Location and Survey 3.0%	$98,100
				Wetland Delineation/ Environmental Assessment / Permitting 1.0%	$32,700
				Easement Acquisition and Easement Plats 1.0%	$32,700
				Legal and Administration 2.0%	$65,400
				Sub-total	**$457,800**
Professional Services During Construction					
				Construction Administration / Construction Inspection 3.0%	$98,100
				Materials Testing 1.0%	$32,700
				Construction Survey 2.0%	$65,400
				Sub-total	**$196,200**
				Total Probable Project Cost	**$3,924,000**

City of Franklin and Southampton County
Shared Water / Wastewater Utility Assessment
Franklin WWTP; Relocate & Reconstruct WWTP 3 MGD ADF

June 2015

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	WWTP Construction	3,000,000	Gal	$13.5	$40,500,000
2	Pump Station - 2.4 MGD w/ Peaking Capabilities	1	EA	$3,250,000	$3,250,000
3	20" Force Main	4,700	LF	$150	$705,000
4	Plug Valve	5	EA	$10,500	$52,500
5	Air Release Valve	3	EA	$7,500	$22,500
6	Connection to New WWTP	1	EA	$20,000	$20,000
7					
				Sub-total	**$44,550,000**
				Total Probable Construction Cost	**$44,550,000**
Professional Services Prior to Construction					
				Design Engineering 10.0%	$4,455,000
				Utility Location and Survey 1.0%	$445,500
				Wetland Delineation/ Environmental Assessment / Permitting 0.5%	$222,750
				Easement Acquisition and Easement Plats 0.5%	$222,750
				Legal and Administration 2.0%	$891,000
				Sub-total	**$6,237,000**
Professional Services During Construction					
				Construction Administration / Construction Inspection 7.0%	$3,118,500
				Materials Testing 1.0%	$445,500
				Construction Survey 1.0%	$445,500
				Sub-total	**$4,009,500**
				Total Probable Project Cost	**$54,797,000**

City of Franklin and Southampton County
Shared Water / Wastewater Utility Assessment
Franklin WWTP; Reconstruct WWTP 2 MGD ADF

June 2015

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	WWTP Construction	2,000,000	Gal	$13.50	$27,000,000
2	Pump Station - 2 MGD w/ Peaking Capabilities	1	EA	$3,000,000	$3,000,000
3	20" Force Main	4,700	LF	$150	$705,000
4	Plug Valve	5	EA	$10,500	$52,500
5	Air Release Valve	3	EA	$7,500	$22,500
6	Connection to New WWTP	1	EA	$20,000	$20,000
7					
				Sub-total	**$30,800,000**
				Total Probable Construction Cost	**$30,800,000**
Professional Services Prior to Construction					
				Design Engineering 10.0%	$3,080,000
				Utility Location and Survey 1.0%	$308,000
				Wetland Delineation/ Environmental Assessment / Permitting 0.5%	$154,000
				Easement Acquisition and Easement Plats 0.5%	$154,000
				Legal and Administration 2.0%	$616,000
				Sub-total	**$4,312,000**
Professional Services During Construction					
				Construction Administration / Construction Inspection 7.0%	$2,156,000
				Materials Testing 1.0%	$308,000
				Construction Survey 1.0%	$308,000
				Sub-total	**$2,772,000**
				Total Probable Project Cost	**$37,884,000**

City of Franklin and Southampton County
Shared Water / Wastewater Utility Assessment
Franklin WWTP; Flow Diversion Pump Station 1 MGD ADF

June 2015

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	Mobilization	1	LS	$125,000	$125,000
2	Building	1,200	SF	$250	$300,000
3	Pump	3	EA	$85,000	$255,000
4	Pump Controls	1	LS	$200,000	$200,000
5	Piping and Valves	1	LS	$150,000	$150,000
6	Concrete Wet Well	445	CY	$1,200	$534,000
7	Sheeting and Shoring	1	LS	$300,000	$300,000
8	Dewatering	9	MN	$25,000	$225,000
9	SCADA and Instrumentation	1	LS	$70,000	$70,000
10	Electrical Service	1	LS	$60,000	$60,000
11	Electrical & Mechanical	1	LS	$200,000	$200,000
12	Standby Power - Generator	1	LS	$200,000	$200,000
13	Site Work	1	LS	$100,000	$100,000
14	Site Piping and Valves	1	LS	$125,000	$125,000
				Sub-total	**$2,844,000**
				Total Probable Construction Cost	**$2,844,000**
Professional Services Prior to Construction					
				Design Engineering 10.0%	$284,400
				Utility Location and Survey 1.0%	$28,440
				Wetland Delineation/ Environmental Assessment / Permitting 0.5%	$14,220
				Easement Acquisition and Easement Plats 0.5%	$14,220
				Legal and Administration 2.0%	$56,880
				Sub-total	**$398,160**
Professional Services During Construction					
				Construction Administration / Construction Inspection 7.0%	$199,080
				Materials Testing 1.0%	$28,440
				Construction Survey 1.0%	$28,440
				Sub-total	**$255,960**
				Total Probable Project Cost	**$3,498,000**

City of Franklin and Southampton County
Shared Water / Wastewater Utility Assessment
Courtland WRF; Equalization Basin 3 Million Gallons

June 2015

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	3 Million Gallon Open Top Basin	1	LS	$1,000,000	$1,000,000
2	SCADA and Instrumentation	1	LS	$40,000	$40,000
3	Site Work	1	LS	$100,000	$100,000
4	Site Piping and Valves	1	LS	$75,000	$75,000
5					
				Sub-total	**$1,215,000**
				Total Probable Construction Cost	**$1,215,000**
Professional Services Prior to Construction					
				Design Engineering 10.0%	$121,500
				Utility Location and Survey 1.0%	$12,150
				Wetland Delineation/ Environmental Assessment / Permitting 0.5%	$6,075
				Easement Acquisition and Easement Plats 0.5%	$6,075
				Legal and Administration 2.0%	$24,800
				Sub-total	**$170,600**
Professional Services During Construction					
				Construction Administration / Construction Inspection 7.0%	$85,050
				Materials Testing 1.0%	$12,150
				Construction Survey 1.0%	$12,150
				Sub-total	**$109,350**
				Total Probable Project Cost	**$1,495,000**

City of Franklin and Southampton County **June 2015**
Shared Water / Wastewater Utility Assessment
Franklin WWTP
Flow Diversion Pump Station 1 MGD ADF Expandable to 2.4 MGD ADF

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	Mobilization	1	LS	$150,000	$150,000
2	Building	1,800	SF	$250	$450,000
3	Pump	3	EA	$85,000	$255,000
4	Pump Controls	1	LS	$300,000	$300,000
5	Piping and Valves	1	LS	$200,000	$200,000
6	Concrete Wet Well	600	CY	$1,000	$600,000
7	Sheeting and Shoring	1	LS	$300,000	$300,000
8	Dewatering	10	MN	$25,000	$250,000
9	SCADA and Instrumentation	1	LS	$100,000	$100,000
10	Electrical Service	1	LS	$100,000	$100,000
11	Electrical & Mechanical	1	LS	$300,000	$300,000
12	Standby Power - Generator	1	LS	$300,000	$300,000
13	Site Work	1	LS	$100,000	$100,000
14	Site Piping and Valves	1	LS	$148,000	$148,000
				Sub-total	**$3,553,000**
				Total Probable Construction Cost	**$3,553,000**
Professional Services Prior to Construction					
				Design Engineering 10.0%	$355,300
				Utility Location and Survey 1.0%	$35,530
				Wetland Delineation/ Environmental Assessment / Permitting 0.5%	$17,765
				Easement Acquisition and Easement Plats 0.5%	$17,765
				Legal and Administration 2.0%	$71,060
				Sub-total	**$497,420**
Professional Services During Construction					
				Construction Administration / Construction Inspection 7.0%	$248,710
				Materials Testing 1.0%	$35,530
				Construction Survey 1.0%	$35,530
				Sub-total	**$319,770**
				Total Probable Project Cost	**$4,370,000**

City of Franklin and Southampton County
Shared Water / Wastewater Utility Assessment
Franklin WWTP
Flow Diversion Pump Station 2.4 MGD ADF

June 2015

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	Mobilization	1	LS	$150,000	$150,000
2	Building	1,800	SF	$250	$450,000
3	Pump	5	EA	$85,000	$425,000
4	Pump Controls	1	LS	$300,000	$300,000
5	Piping and Valves	1	LS	$200,000	$200,000
6	Concrete Wet Well	600	CY	$1,000	$600,000
7	Sheeting and Shoring	1	LS	$300,000	$300,000
8	Dewatering	10	MN	$25,000	$250,000
9	SCADA and Instrumentation	1	LS	$100,000	$100,000
10	Electrical Service	1	LS	$100,000	$100,000
11	Electrical & Mechanical	1	LS	$300,000	$300,000
12	Standby Power - Generator	1	LS	$300,000	$300,000
13	Site Work	1	LS	$100,000	$100,000
14	Site Piping and Valves	1	LS	$143,000	$143,000
				Sub-total	**$3,718,000**
				Total Probable Construction Cost	**$3,718,000**
Professional Services Prior to Construction					
				Design Engineering 10.0%	$371,800
				Utility Location and Survey 1.0%	$37,180
				Wetland Delineation/ Environmental Assessment / Permitting 0.5%	$18,590
				Easement Acquisition and Easement Plats 0.5%	$18,590
				Legal and Administration 2.0%	$74,360
				Sub-total	**$520,520**
Professional Services During Construction					
				Construction Administration / Construction Inspection 7.0%	$260,260
				Materials Testing 1.0%	$37,180
				Construction Survey 1.0%	$37,180
				Sub-total	**$334,620**
				Total Probable Project Cost	**$4,573,000**

City of Franklin and Southampton County
Shared Water / Wastewater Utility Assessment
Franklin WWTP; Flow Diversion Force Main 1 MGD ADF (16")

June 2015

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	16" Force Main	42,400	LF	$140	$5,936,000
2	Plug Valve	42	EA	$9,500	$399,000
3	Air Release Valve	16	EA	$7,500	$120,000
4	Discharge Connection to Existing Sanitary Sewer	1	EA	$10,000	$10,000
5	Directional Drill Creek Crossing	400	LF	$175	$70,000
6	Jack and Bore Road Crossing	150	LF	$350	$52,500
7	Railroad Crossing	150	LF	$350	$52,500
				Sub-total	**$6,640,000**
				Total Probable Construction Cost	**$6,640,000**
Professional Services Prior to Construction					
				Design Engineering 7.0%	$464,800
				Utility Location and Survey 3.0%	$199,200
				Wetland Delineation/ Environmental Assessment / Permitting 1.0%	$66,400
				Easement Acquisition and Easement Plats 1.0%	$66,400
				Legal and Administration 2.0%	$133,800
				Sub-total	**$930,600**
Professional Services During Construction					
				Construction Administration / Construction Inspection 3.0%	$199,200
				Materials Testing 1.0%	$66,400
				Construction Survey 2.0%	$132,800
				Sub-total	**$398,400**
				Total Probable Project Cost	**$7,969,000**

City of Franklin and Southampton County
Shared Water / Wastewater Utility Assessment
Franklin WWTP; Flow Diversion Force Main 2 MGD ADF (20")

June 2015

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	20" Force Main	42,400	LF	$160	$6,784,000
2	Plug Valve	43	EA	$11,500	$494,500
3	Air Release Valve	16	EA	$8,500	$136,000
4	Discharge Connection to Existing Sanitary Sewer	1	EA	$20,000	$20,000
5	Directional Drill Creek Crossing	400	LF	$250	$100,000
6	Jack and Bore Road Crossing	150	LF	$450	$67,500
7	Railroad Crossing	150	LF	$450	$67,500
				Sub-total	**$7,669,500**
				Total Probable Construction Cost	**$7,669,500**
Professional Services Prior to Construction					
				Design Engineering 7.0%	$536,865
				Utility Location and Survey 3.0%	$230,085
				Wetland Delineation/ Environmental Assessment / Permitting 1.0%	$76,695
				Easement Acquisition and Easement Plats 1.0%	$76,695
				Legal and Administration 2.0%	$153,390
				Sub-total	**$1,073,730**
Professional Services During Construction					
				Construction Administration / Construction Inspection 3.0%	$230,085
				Materials Testing 1.0%	$76,695
				Construction Survey 2.0%	$153,390
				Sub-total	**$460,170**
				Total Probable Project Cost	**$9,200,000**

City of Franklin and Southampton County
Shared Water / Wastewater Utility Assessment
Franklin WWTP; Flow Diversion Force Main 2.4 MGD ADF (24")

June 2015

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	24" Force Main	42,400	LF	$175	$7,420,000
2	Plug Valve	43	EA	$12,500	$537,500
3	Air Release Valve	15	EA	$9,500	$142,500
4	Discharge Connection to Existing Sanitary Sewer	1	EA	$10,000	$10,000
5	Directiona Drill Creek Crossing	400	LF	$275	$110,000
6	Jack and Bore Road Crossing	150	LF	$475	$71,250
7	Railroad Crossing	150	LF	$475	$71,250
				Sub-total	**$8,362,500**
				Total Probable Construction Cost	**$8,362,500**
Professional Services Prior to Construction					
				Design Engineering 7.0%	$585,375
				Utility Location and Survey 3.0%	$250,875
				Wetland Delineation/ Environmental Assessment / Permitting 1.0%	$83,625
				Easement Acquisition and Easement Plats 1.0%	$83,625
				Legal and Administration 2.0%	$162,250
				Sub-total	**$1,165,750**
Professional Services During Construction					
				Construction Administration / Construction Inspection 3.0%	$250,875
				Materials Testing 1.0%	$83,625
				Construction Survey 2.0%	$167,250
				Sub-total	**$501,750**
				Total Probable Project Cost	**$10,030,000**

City of Franklin and Southampton County
Shared Water / Wastewater Utility Assessment
Courtland WRF; Treatment Capacity Expansion 2.5 MGD

June 2015

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	WWTP Construction	2,500,000	Gal	$11.5	$28,750,000
2	Piping & Site Work Modifications	1	LS	$125,000	$125,000
3					
				Sub-total	**$28,875,000**
				Total Probable Construction Cost	**$28,875,000**
Professional Services Prior to Construction					
				Design Engineering 10.0%	$2,887,500
				Utility Location and Survey 1.0%	$288,750
				Wetland Delineation/ Environmental Assessment / Permitting 0.5%	$144,375
				Easement Acquisition and Easement Plats 0.5%	$144,375
				Legal and Administration 2.0%	$577,500
				Sub-total	**$4,042,500**
Professional Services During Construction					
				Construction Administration / Construction Inspection 7.0%	$2,021,250
				Materials Testing 1.0%	$288,750
				Construction Survey 1.0%	$288,750
				Sub-total	**$2,598,750**
				Total Probable Project Cost	**$35,516,000**

City of Franklin and Southampton County
Shared Water / Wastewater Utility Assessment
Courtland WRF; Treatment Capacity Expansion 1.25 MGD

June 2015

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	WWTP Construction	1,250,000	Gal	$12	$15,000,000
2	Piping & Site Work Modifications	1	LS	$125,000	$125,000
3					
				Sub-total	**$15,125,000**
				Total Probable Construction Cost	**$15,125,000**
Professional Services Prior to Construction					
				Design Engineering 10.0%	$1,512,500
				Utility Location and Survey 1.0%	$151,250
				Wetland Delineation/ Environmental Assessment / Permitting 0.5%	$75,625
				Easement Acquisition and Easement Plats 0.5%	$75,625
				Legal and Administration 2.0%	$302,500
				Sub-total	**$2,117,500**
Professional Services During Construction					
				Construction Administration / Construction Inspection 7.0%	$1,058,750
				Materials Testing 1.0%	$151,250
				Construction Survey 1.0%	$151,250
				Sub-total	**$1,361,250**
				Total Probable Project Cost	**$18,604,000**

City of Franklin and Southampton County
Shared Water / Wastewater Utility Assessment
Courtland WRF; Treatment Capacity Expansion 0.6125 MGD

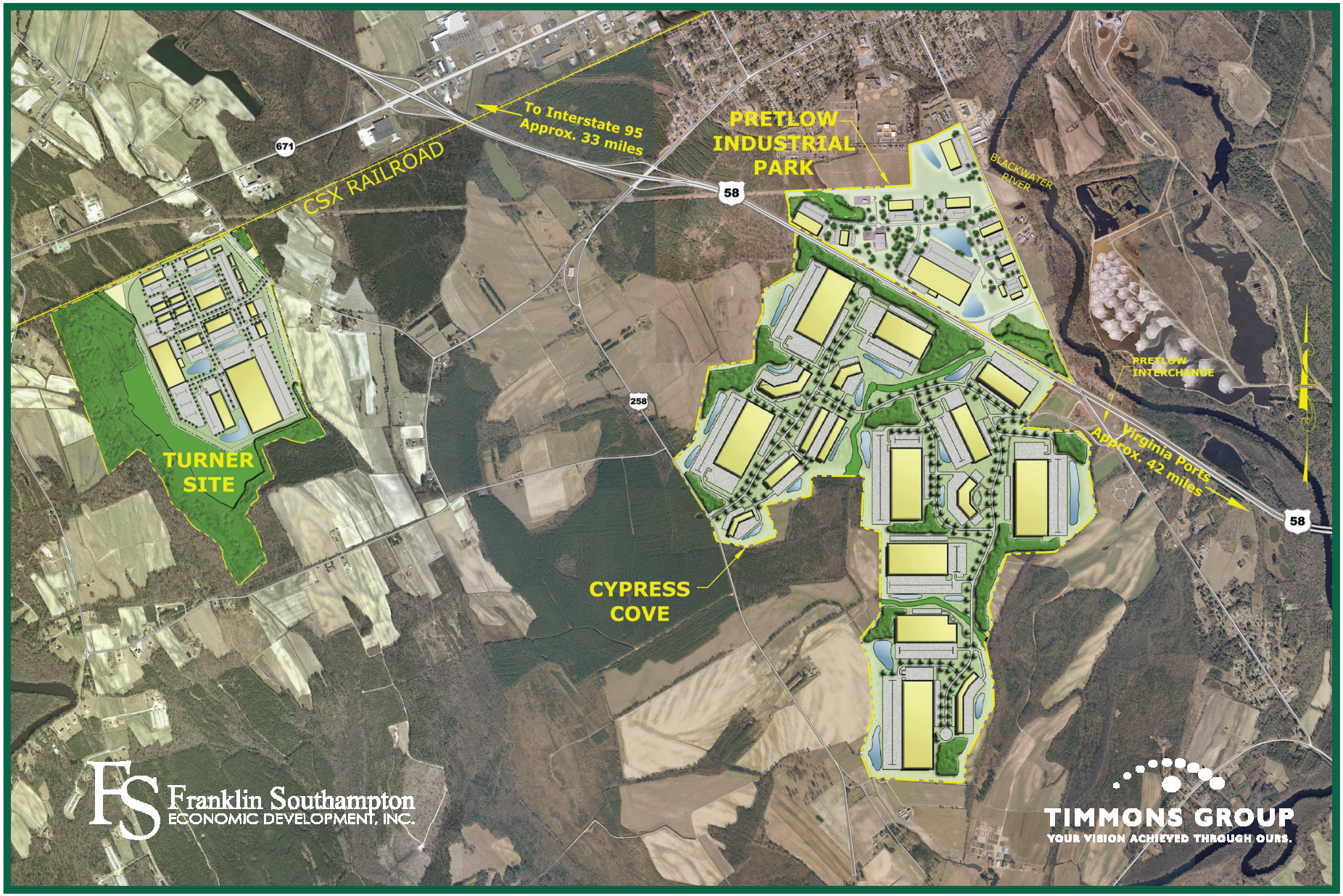
June 2015

Probable Construction Cost					
Item	Description	Quantity	Units	Unit $	Total Cost
1	WWTP Construction	612,500	Gal	$12	$7,350,000
2	Piping & Site Work Modifications	1	LS	$60,000	$60,000
3					
				Sub-total	**$7,410,000**
				Total Probable Construction Cost	**$7,410,000**
Professional Services Prior to Construction					
				Design Engineering 10.0%	$741,000
				Utility Location and Survey 1.0%	$74,100
				Wetland Delineation/ Environmental Assessment / Permitting 0.5%	$37,050
				Easement Acquisition and Easement Plats 0.5%	$37,050
				Legal and Administration 2.0%	$150,200
				Sub-total	**$1,039,400**
Professional Services During Construction					
				Construction Administration / Construction Inspection 7.0%	$518,700
				Materials Testing 1.0%	$74,100
				Construction Survey 1.0%	$74,100
				Sub-total	**$666,900**
				Total Probable Project Cost	**$9,116,000**

G – Cypress Cove, Pretlow and Turner Sites

CYPRESS COVE, PRETLOW, & TURNER SITES

Franklin Southampton
ECONOMIC DEVELOPMENT, INC.



H – Non-Shared Services (Status Quo) Alternative

Franklin-Southampton Shared Utility Services Study
Non-Shared Services (Status Quo or "do nothing")
June 2015

	Franklin Costs	Southampton Costs
City of Franklin Improvements		
Relocate & Construct new 3 MGD WWTP	$54,797,000	
Southampton County Improvements		
None Required		$0

City of Franklin - Potential User Rate Increases

Year of Construction	**2015**	**2020 (2)**	**2025 (2)**
Capital Costs	$54,797,000	61,998,000	70,145,000
Annual Payment (1)	$3,139,000	$3,552,000	$4,019,000
Residential Share (3)	$2,020,862	$2,286,748	$2,587,399
Residential Users (5)	3,208	3,208	3,208
Avg Annual Increase	$629.94	$712.83	$806.55
Avg Monthly Increase	***$52.50***	***$59.40***	***$67.21***
Commercial Share (4)	$926,916	$1,048,871	$1,186,772
Commercial Users (5)	252	252	252
Avg Annual Increase	$3,678.24	$4,162.19	$4,709.41
Avg Monthly Increase	***$306.52***	***$346.85***	***$392.45***

(1) Annual payment for 30-yr financed at 4%
(2) Assumes 2.5% annual escalation for construction prices
(3) Residential users accounted for 64.4% of Franklin wastewater revenue 2009-14
(4) Commercial users accounted for 29.5% of Franklin wastewater revenue 2009-14
(5) Total commercial & residential users from 2013 DAA Water & Wastewater Report

City of Franklin - Historic Water & Sewer Revenue Analysis*

	2013-14		**2012-13**		**2011-12**		**2010-11**		**2009-10**		***Average***
Franklin - Water		% total		% total		% total		% total		% total	***% Total***
Residential Revenues	$842,355	67.2%	$978,261	70.8%	$839,494	67.7%	$814,762	65.7%	$888,243	68.3%	***67.9%***
Commercial Revenues	$410,514	32.8%	$404,070	29.2%	$400,332	32.3%	$426,279	34.3%	$412,634	31.7%	***32.1%***
Total	**$1,252,869**	**100%**	**$1,382,331**	**100%**	**$1,239,826**	**100%**	**$1,241,041**	**100%**	**$1,300,877**	**100%**	***100.0%***
Franklin - Wastewater											
Residential Revenues	$1,134,685	64.7%	$1,112,610	64.0%	$1,167,789	65.4%	$1,190,930	66.6%	$1,187,891	61.3%	***64.4%***
Commercial Revenues	$522,442	29.8%	$536,319	30.9%	$532,312	29.8%	$527,854	29.5%	$537,203	27.7%	***29.5%***
Isle of Wight	$60,544	3.5%	$56,221	3.2%	$53,916	3.0%	$40,635	2.3%	$174,350	9.0%	***4.2%***
Southampton	$36,929	2.1%	$33,295	1.9%	$31,847	1.8%	$29,789	1.7%	$39,215	2.0%	***1.9%***
Total	**$1,754,600**	**100%**	**$1,738,445**	**100%**	**$1,785,864**	**100%**	**$1,789,208**	**100%**	**$1,938,659**	**100%**	***100.0%***

* Based upon City of Franklin Actual Revenue (not budget) Information

I – Shared or Contracted Services Alternative Analysis

Franklin-Southampton Shared Utility Services Study
Shared or Contracted Services - June 2015
*** City of Franklin to pay for all improvements necessary for Southampton to treat WW consistent w/ 1996 Agreement**

Alternative 1	**Franklin Costs***	**Southampton Costs**
Wastewater Improvements		
Cypress Ave Pump Station - 500k GPD ADF	$1,121,000	
10" force main to Courtland WRF	$3,924,000	
Franklin WWTP - 2 MGD WWTP Rebuild	$37,884,000	
Facility / Capacity Fee (City of Franklin @ 500,000 GPD)	$8,220,000	
Courtland WRF - 3 MG Equalization Basin	$1,495,000	
Water Improvements		
Interconnect Turner to CIC		***Deferred***
Interconnect Edgehill to Franklin - 12" Line		***Deferred***
Total Costs - Alternative 1	**$52,644,000**	**$0**

Alternative 2		
Wastewater Improvements		
Franklin WWTP Pump Station - 2.4 MGD ADF	$4,573,000	
24" force main to Courtland WRF	$10,030,000	
Franklin WWTP - 2 MGD WWTP Rebuild	$37,884,000	
Facility / Capacity Fee (City of Franklin @ 500,000 GPD)	$8,220,000	
Courtland WRF - 3 MG Equalization Basin	$1,495,000	
Water Improvements		
Interconnect Turner to CIC		***Deferred***
Interconnect Edgehill to Franklin - 12" Line		***Deferred***
Total Costs - Alternative 2	**$62,202,000**	**$0**

Alternative 2A - Hybrid		
Wastewater Improvements		
Franklin WWTP Pump Station - 2.4 MGD ADF	$4,573,000	
24" force main to Courtland WRF	$10,030,000	
Franklin WWTP - 2 MGD WWTP Rebuild	***Deferred***	
Facility / Capacity Fee (City of Franklin @ 500,000 GPD)	$8,220,000	
Courtland WRF - 3 MG Equalization Basin	$1,495,000	
Courtland WRF Modifications for Flood Flow	$3,902,000	
Water Improvements		
Interconnect Turner to CIC - 12" Line		***Deferred***
Interconnect Edgehill to Franklin - 12" Line		***Deferred***
Total Costs - Alternative 2A	**$28,220,000**	**$0**

Alternative 3		
Wastewater Improvements		
Franklin WWTP Pump Station - 2 MGD ADF	$4,573,000	
24" force main to Courtland WRF	$10,030,000	
Courtland WRF - 1.25 MGD Expand to 2.5 MGD	$18,604,000	
Facility / Capacity Fee (City of Franklin @ 500,000 GPD)	$8,220,000	
Courtland WRF - 3 MG Equalization Basin	$1,495,000	
Water Improvements		
Interconnect Turner to CIC		***Deferred***
Interconnect Edgehill to Franklin - 12" Line		***Deferred***
Total Costs - Alternative 3	**$42,922,000**	**$0**

Alternative 3A		
Wastewater Improvements		
Franklin WWTP Pump Station - 2 MGD ADF	$4,573,000	
24" force main to Courtland WRF	$10,030,000	
Courtland WRF - 1.25 MGD Expand to 2.5 MGD	$18,604,000	
Courtland WRF - 0.625 MGD Expand to 3.125 MGD	$9,116,000	
Courtland WRF - 3 MG Equalization Basin	$1,495,000	
Facility / Capacity Fee (City of Franklin @ 125,000 GPD)	$2,055,000	
Water Improvements		
Interconnect Turner to CIC		***Deferred***
Interconnect Edgehill to Franklin - 12" Line		***Deferred***
Total Costs - Alternative 3A	**$45,873,000**	**$0**

Alternative 3B		
Wastewater Improvements		
Franklin WWTP Pump Station - 2 MGD ADF	$4,573,000	
24" force main to Courtland WRF	$10,030,000	
Courtland WRF - 1.25 MGD Expand to 3.75 MGD	$35,516,000	
Courtland WRF - 3 MG Equalization Basin	$1,495,000	
Water Improvements		
Interconnect Turner to CIC		***Deferred***
Interconnect Edgehill to Franklin - 12" Line		***Deferred***
Total Costs - Alternative 3B	**$51,614,000**	**$0**

Alternative	**1**	**2**	**2A***	**3**	**3A**	**3B**
Total Capital Costs	$52,644,000	$62,202,000	$28,220,000	$42,922,000	$45,873,000	$51,614,000
Overall System Capacity	3,250,000	3,250,000	3,250,000	2,500,000	3,125,000	3,750,000
Franklin Owned Capacity	***2,500,000***	***2,500,000***	***2,500,000***	***1,750,000***	***2,000,000***	***2,500,000***
Southampton Owned Capacity	***750,000***	***750,000***	***750,000***	***750,000***	***1,125,000***	***1,250,000***
$ per Gal	$16.20	$19.14	$8.68	$17.17	$14.68	$13.76

Plant Capacity Analysis	**1**	**2**	**2A***	**3**	**3A**	**3B**
Current ADF						
Franklin WWTP	1,490,000	1,490,000	1,490,000	1,490,000	1,490,000	1,490,000
Courtland WRF	180,000	180,000	180,000	180,000	180,000	180,000
Total System	1,670,000	1,670,000	1,670,000	1,670,000	1,670,000	1,670,000
Diverted ADF						
Franklin WWTP	(260,000)	(500,000)	(500,000)	(1,490,000)	(1,490,000)	(1,490,000)
Courtland WRF	260,000	500,000	500,000	1,490,000	1,490,000	1,490,000
Revised ADF						
Franklin WWTP	1,230,000	990,000	990,000	0	0	0
Courtland WRF	440,000	680,000	680,000	1,670,000	1,670,000	1,670,000
Total System	1,670,000	1,670,000	1,670,000	1,670,000	1,670,000	1,670,000
Remaining Capacity						
Franklin WWTP	770,000	1,010,000	1,010,000	0	0	0
Courtland WRF	810,000	570,000	570,000	830,000	1,455,000	2,080,000
Remaining System Capacity	***1,580,000***	***1,580,000***	***1,580,000***	***830,000***	***1,455,000***	***2,080,000***

* Defers Franklin WWTP Relocation and Rebuild or Courtland WRF Expansion until later date

Facility / Capacity Fee - Per Southampton County (Mike Johnson)

Costs ($ per Gal)	$16.44	$16.44	$16.44
Capacity Purchased	125,000	500,000	750,000
Facility / Capacity Fee	$2,055,000	$8,220,000	$12,330,000

J – Regional Utility Authority Alternatives Analysis

Franklin-Southampton Shared Utility Services Study
Regional Utility Authority - June 2015

Alternative 1	
Wastewater Improvements	
Cypress Ave Pump Station - 500,000 GPD ADF	$1,121,000
10" force main to Courtland WRF	$3,924,000
Franklin WWTP - 2 MGD WWTP Rebuild	$37,884,000
Courtland WRF - 3 MG Equalization Basin	$1,495,000
Water Improvements	
Interconnect Turner to CIC	***Deferred***
Interconnect Edgehill to Franklin - 12" Line	***Deferred***
Total Costs - Alternative 1	**$44,424,000**

Alternative 2	
Wastewater Improvements	
Franklin WWTP Pump Station - 2.4 MGD ADF	$4,573,000
24" force main to Courtland WRF	$10,030,000
Franklin WWTP - 2 MGD WWTP Rebuild	$37,884,000
Courtland WRF - 3 MG Equalization Basin	$1,495,000
Water Improvements	
Interconnect Turner to CIC	***Deferred***
Interconnect Edgehill to Franklin - 12" Line	***Deferred***
Total Costs - Alternative 2	**$53,982,000**

Alternative 2A - Hybrid	
Wastewater Improvements	
Franklin WWTP Pump Station - 2.4 MGD ADF	$4,573,000
24" force main to Courtland WRF	$10,030,000
Franklin WWTP - 2 MGD WWTP Rebuild	***Deferred***
Courtland WRF - 3 MG Equalization Basin	$1,495,000
Courtland WRF Modifications for Flood Flow	$3,902,000
Water Improvements	
Interconnect Turner to CIC - 12" Line	***Deferred***
Interconnect Edgehill to Franklin - 12" Line	***Deferred***
Total Costs - Alternative 2A	**$20,000,000**

Alternative 3	
Wastewater Improvements	
Franklin WWTP Pump Station - 2.4 MGD ADF	$4,573,000
24" force main to Courtland WRF	$10,030,000
Courtland WRF - 1.25 MGD Expand to 2.5 MGD	$18,604,000
Courtland WRF - 3 MG Equalization Basin	$1,495,000
Water Improvements	
Interconnect Turner to CIC	***Deferred***
Interconnect Edgehill to Franklin - 12" Line	***Deferred***
Total Costs - Alternative 3	**$34,702,000**

Alternative 3A	
Wastewater Improvements	
Franklin WWTP Pump Station - 2.4 MGD ADF	$4,573,000
24" force main to Courtland WRF	$10,030,000
Courtland WRF - 1.25 MGD Expand to 2.5 MGD	$18,604,000
Courtland WRF - 0.625 MGD Expand to 3.125 MGD	$9,116,000
Courtland WRF - 3 MG Equalization Basin	$1,495,000
Water Improvements	
Interconnect Turner to CIC	***Deferred***
Interconnect Edgehill to Franklin - 12" Line	***Deferred***
Total Costs - Alternative 3A	**$43,818,000**

Alternative 3B	
Wastewater Improvements	
Franklin WWTP Pump Station - 2 MGD ADF	$4,573,000
24" force main to Courtland WRF	$10,030,000
Courtland WRF - 1.25 MGD Expand to 3.75 MGD	$35,516,000
Courtland WRF - 3 MG Equalization Basin	$1,495,000
Water Improvements	
Interconnect Turner to CIC	***Deferred***
Interconnect Edgehill to Franklin - 12" Line	***Deferred***
Total Costs - Alternative 3B	**$51,614,000**

Alternative	**1**	**2**	**2A ***	**3**	**3A**	**3B**
Total Capital Costs	$44,424,000	$53,982,000	$20,000,000	$34,702,000	$43,818,000	$51,614,000
Overall System Capacity	3,250,000	3,250,000	3,250,000	2,500,000	3,125,000	3,750,000
$ per Gal	$13.67	$16.61	$6.15	$13.88	$14.02	$13.76

Plant Capacity Analysis	**1**	**2**	**2A ***	**3**	**3A**	**3B**
Current ADF						
Franklin WWTP	1,490,000	1,490,000	1,490,000	1,490,000	1,490,000	1,490,000
Courtland WRF	180,000	180,000	180,000	180,000	180,000	180,000
Total System	1,670,000	1,670,000	1,670,000	1,670,000	1,670,000	1,670,000
Diverted ADF						
Franklin WWTP	(260,000)	(500,000)	(500,000)	(1,490,000)	(1,490,000)	(1,490,000)
Courtland WRF	260,000	500,000	500,000	1,490,000	1,490,000	1,490,000
Revised ADF						
Franklin WWTP	1,230,000	990,000	990,000	0	0	0
Courtland WRF	440,000	680,000	680,000	1,670,000	1,670,000	1,670,000
Total System	1,670,000	1,670,000	1,670,000	1,670,000	1,670,000	1,670,000
Remaining Capacity						
Franklin WWTP	770,000	1,010,000	1,010,000	0	0	0
Courtland WRF	810,000	570,000	570,000	830,000	1,455,000	2,080,000
Total System	***1,580,000***	***1,580,000***	***1,580,000***	***830,000***	***1,455,000***	***2,080,000***

* Defers Franklin WWTP Relocation and Rebuild or Courtland WRF Expansion until later date

K – Financial Models

City of Franklin - $55.8 Million New Money

FUND - WATER & SEWER	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUMMARY SHEET										
Water Revenue	1,317,966	2,597,198	2,648,591	2,701,012	2,754,481	2,809,020	2,864,649	2,921,391	2,979,268	2,831,682
Total Personnel	337,076	347,188	357,604	368,332	379,382	390,763	402,486	414,561	426,997	439,807
Operation Expenses	282,660	291,140	299,874	308,870	318,136	327,680	337,511	347,636	358,065	368,807
Capital Expenditures	358,098	368,841	379,906	391,303	403,042	415,134	427,588	440,415	453,628	467,237
Transfers for Tax & Service (1/2 total)	146,139	150,523	155,039	159,690	164,481	169,415	174,498	179,733	185,124	190,678
Transfer for Debt Service Reserve (1/2 total)	-	-	-	-	-	-	-	-	-	-
Total Water Expenses	1,123,973	1,157,692	1,192,422	1,228,195	1,265,041	1,302,992	1,342,082	1,382,344	1,423,815	1,466,529
Water Revenue over Expenditures	$ 193,993	$ 1,439,507	$ 1,456,169	$ 1,472,817	$ 1,489,440	$ 1,506,028	$ 1,522,567	$ 1,539,047	$ 1,555,453	$ 1,365,153
Sewer Revenue	1,818,640	3,507,547	3,575,479	3,644,770	3,715,447	3,787,537	3,861,069	3,936,072	4,012,575	3,817,493
Total Personnel	127,688	131,519	135,464	139,528	143,714	148,025	152,466	157,040	161,751	166,604
Operation Expenses	101,672	104,722	107,864	111,100	114,433	117,866	121,402	125,044	128,795	132,659
Capital Expenditures	172,173	177,338	182,658	188,138	193,782	199,595	205,583	211,751	218,103	224,646
Total Personnel	291,379	300,120	309,124	318,397	327,949	337,788	347,921	358,359	369,110	380,183
Operation Expenses	351,897	362,454	373,328	384,528	396,064	407,946	420,184	432,789	445,773	459,146
Capital Expenditures	115,872	119,348	122,929	126,616	130,415	134,327	138,357	142,508	146,783	151,187
Transfers for Tax & Service (1/2 total)	146,139	150,523	155,039	159,690	164,481	169,415	174,498	179,733	185,124	190,678
Transfer for Debt Service Reserve (1/2 total)	-	-	-	-	-	-	-	-	-	-
Total Sewer Expenses	1,306,820	1,346,025	1,386,406	1,427,998	1,470,838	1,514,963	1,560,412	1,607,224	1,655,441	1,705,104
Sewer Revenue over Expenditures	$ 511,820	$ 2,161,522	$ 2,189,074	$ 2,216,773	$ 2,244,609	$ 2,272,575	$ 2,300,658	$ 2,328,848	$ 2,357,134	$ 2,112,389
Total Revenues over Expenditures	705,813	3,601,029	3,645,243	3,689,590	3,734,050	3,778,602	3,823,225	3,867,895	3,912,587	3,477,542
Existing Debt Service	365,594	367,054	366,264	366,104	366,159	365,964	366,941	365,513	375,123	-
Projected Debt Service	-	3,226,746	3,226,746	3,226,746	3,226,746	3,226,746	3,226,746	3,226,746	3,226,746	3,226,746
Total Debt Service	365,594	3,593,800	3,593,010	3,592,850	3,592,905	3,592,710	3,593,687	3,592,259	3,601,869	3,226,746
Net Revenues after Debt Service	340,219	7,229	52,233	96,740	141,145	185,892	229,538	275,636	310,719	250,796
Cash & Cash Equivalents	2,754,491	2,761,720	2,813,953	2,910,693	3,051,838	3,237,730	3,467,268	3,742,904	4,053,623	4,304,419
		45%	45%	46%	47%	49%	52%	55%	58%	65%
TOTAL REVENUES										
Sale of Water- Residential	3.0%	99.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Sale of Water - Commercial	3.0%	99.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Sewer Service Charge - Residential	3.0%	99.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Sewer Service Charge - Commercial	3.0%	99.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Water Connection Fees	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sewer Connection Fees	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other Revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

City of Franklin - $42.922 Million New Money

FUND - WATER & SEWER	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUMMARY SHEET										
Water Revenue	1,317,966	2,274,378	2,319,315	2,365,150	2,411,902	2,459,589	2,508,230	2,557,844	2,608,449	2,479,404
Total Personnel	337,076	347,188	357,604	368,332	379,382	390,763	402,486	414,561	426,997	439,807
Operation Expenses	282,660	291,140	299,874	308,870	318,136	327,680	337,511	347,636	358,065	368,807
Capital Expenditures	358,098	368,841	379,906	391,303	403,042	415,134	427,588	440,415	453,628	467,237
Transfers for Tax & Service (1/2 total)	146,139	150,523	155,039	159,690	164,481	169,415	174,498	179,733	185,124	190,678
Transfer for Debt Service Reserve (1/2 total)	-	-	-	-	-	-	-	-	-	-
Total Water Expenses	1,123,973	1,157,692	1,192,422	1,228,195	1,265,041	1,302,992	1,342,082	1,382,344	1,423,815	1,466,529
Water Revenue over Expenditures	$ 193,993	$ 1,116,687	$ 1,126,892	$ 1,136,955	$ 1,146,861	$ 1,156,597	$ 1,166,148	$ 1,175,499	$ 1,184,635	$ 1,012,875
Sewer Revenue	1,818,640	3,080,837	3,140,235	3,200,821	3,262,619	3,325,653	3,389,947	3,455,527	3,522,419	3,351,845
Total Personnel	127,688	131,519	135,464	139,528	143,714	148,025	152,466	157,040	161,751	166,604
Operation Expenses	101,672	104,722	107,864	111,100	114,433	117,866	121,402	125,044	128,795	132,659
Capital Expenditures	172,173	177,338	182,658	188,138	193,782	199,595	205,583	211,751	218,103	224,646
Total Personnel	291,379	300,120	309,124	318,397	327,949	337,788	347,921	358,359	369,110	380,183
Operation Expenses	351,897	362,454	373,328	384,528	396,064	407,946	420,184	432,789	445,773	459,146
Capital Expenditures	115,872	119,348	122,929	126,616	130,415	134,327	138,357	142,508	146,783	151,187
Transfers for Tax & Service (1/2 total)	146,139	150,523	155,039	159,690	164,481	169,415	174,498	179,733	185,124	190,678
Transfer for Debt Service Reserve (1/2 total)	-	-	-	-	-	-	-	-	-	-
Total Sewer Expenses	1,306,820	1,346,025	1,386,406	1,427,998	1,470,838	1,514,963	1,560,412	1,607,224	1,655,441	1,705,104
Sewer Revenue over Expenditures	$ 511,820	$ 1,734,812	$ 1,753,829	$ 1,772,823	$ 1,791,781	$ 1,810,690	$ 1,829,535	$ 1,848,303	$ 1,866,978	$ 1,646,741
Total Revenues over Expenditures	705,813	2,851,499	2,880,722	2,909,778	2,938,642	2,967,287	2,995,683	3,023,802	3,051,613	2,659,616
Existing Debt Service	365,594	367,054	366,264	366,104	366,159	365,964	366,941	365,513	375,123	-
Projected Debt Service	-	2,482,184	2,482,184	2,482,184	2,482,184	2,482,184	2,482,184	2,482,184	2,482,184	2,482,184
Total Debt Service	365,594	2,849,238	2,848,447	2,848,287	2,848,342	2,848,148	2,849,125	2,847,696	2,857,306	2,482,184
Net Revenues after Debt Service	340,219	2,261	32,275	61,491	90,300	119,139	146,558	176,106	194,307	177,432
Cash & Cash Equivalents	2,754,491	2,756,753	2,789,027	2,850,518	2,940,818	3,059,957	3,206,515	3,382,622	3,576,928	3,754,361
		51%	51%	51%	52%	53%	54%	56%	58%	64%
TOTAL REVENUES										
Sale of Water- Residential	3.0%	74.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Sale of Water - Commercial	3.0%	74.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Sewer Service Charge - Residential	3.0%	74.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Sewer Service Charge - Commercial	3.0%	74.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Water Connection Fees	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sewer Connection Fees	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other Revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

City of Franklin - $45.873 Million New Money

FUND - WATER & SEWER	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUMMARY SHEET										
Water Revenue	1,317,966	2,351,855	2,398,341	2,445,757	2,494,121	2,543,453	2,593,771	2,645,095	2,697,446	2,563,951
Total Personnel	337,076	347,188	357,604	368,332	379,382	390,763	402,486	414,561	426,997	439,807
Operation Expenses	282,660	291,140	299,874	308,870	318,136	327,680	337,511	347,636	358,065	368,807
Capital Expenditures	358,098	368,841	379,906	391,303	403,042	415,134	427,588	440,415	453,628	467,237
Transfers for Tax & Service (1/2 total)	146,139	150,523	155,039	159,690	164,481	169,415	174,498	179,733	185,124	190,678
Transfer for Debt Service Reserve (1/2 total)	-	-	-	-	-	-	-	-	-	-
Total Water Expenses	1,123,973	1,157,692	1,192,422	1,228,195	1,265,041	1,302,992	1,342,082	1,382,344	1,423,815	1,466,529
Water Revenue over Expenditures	$ 193,993	$ 1,194,163	$ 1,205,919	$ 1,217,562	$ 1,229,080	$ 1,240,460	$ 1,251,689	$ 1,262,751	$ 1,273,631	$ 1,097,422
Sewer Revenue	1,818,640	3,183,247	3,244,694	3,307,369	3,371,298	3,436,505	3,503,016	3,570,858	3,640,056	3,463,600
Total Personnel	127,688	131,519	135,464	139,528	143,714	148,025	152,466	157,040	161,751	166,604
Operation Expenses	101,672	104,722	107,864	111,100	114,433	117,866	121,402	125,044	128,795	132,659
Capital Expenditures	172,173	177,338	182,658	188,138	193,782	199,595	205,583	211,751	218,103	224,646
Total Personnel	291,379	300,120	309,124	318,397	327,949	337,788	347,921	358,359	369,110	380,183
Operation Expenses	351,897	362,454	373,328	384,528	396,064	407,946	420,184	432,789	445,773	459,146
Capital Expenditures	115,872	119,348	122,929	126,616	130,415	134,327	138,357	142,508	146,783	151,187
Transfers for Tax & Service (1/2 total)	146,139	150,523	155,039	159,690	164,481	169,415	174,498	179,733	185,124	190,678
Transfer for Debt Service Reserve (1/2 total)	-	-	-	-	-	-	-	-	-	-
Total Sewer Expenses	1,306,820	1,346,025	1,386,406	1,427,998	1,470,838	1,514,963	1,560,412	1,607,224	1,655,441	1,705,104
Sewer Revenue over Expenditures	$ 511,820	$ 1,837,223	$ 1,858,288	$ 1,879,371	$ 1,900,460	$ 1,921,542	$ 1,942,605	$ 1,963,634	$ 1,984,616	$ 1,758,496
Total Revenues over Expenditures	705,813	3,031,386	3,064,207	3,096,933	3,129,540	3,162,002	3,194,293	3,226,384	3,258,247	2,855,918
Existing Debt Service	365,594	367,054	366,264	366,104	366,159	365,964	366,941	365,513	375,123	-
Projected Debt Service	-	2,652,840	2,652,840	2,652,840	2,652,840	2,652,840	2,652,840	2,652,840	2,652,840	2,652,840
Total Debt Service	365,594	3,019,894	3,019,104	3,018,944	3,018,999	3,018,804	3,019,781	3,018,353	3,027,963	2,652,840
Net Revenues after Debt Service	340,219	11,492	45,103	77,989	110,541	143,198	174,512	208,032	230,284	203,078
Cash & Cash Equivalents	2,754,491	2,765,983	2,811,086	2,889,075	2,999,616	3,142,814	3,317,326	3,525,358	3,755,642	3,958,720
		50%	50%	50%	51%	53%	54%	57%	59%	66%
TOTAL REVENUES										
Sale of Water- Residential	3.0%	80.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Sale of Water - Commercial	3.0%	80.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Sewer Service Charge - Residential	3.0%	80.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Sewer Service Charge - Commercial	3.0%	80.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-5.0%
Water Connection Fees	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sewer Connection Fees	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other Revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Combined Authority-$20 Million New Money - (County pays for $8.9M of existing DS - rate base pays balance)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUMMARY SHEET										
Total Water Fees	1,632,530	2,661,024	2,714,245	2,795,672	2,851,585	2,908,617	2,966,789	3,026,125	3,086,648	3,086,648
Total Sewer Fees	2,517,966	4,104,284	4,186,370	4,311,961	4,398,200	4,486,164	4,575,888	4,667,405	4,760,753	4,760,753
Total Connection and Facility Fees	75,119	75,119	75,119	75,119	75,119	75,119	75,119	75,119	75,119	75,119
Total Fees and Penalties	47,320	47,320	47,320	47,320	47,320	47,320	47,320	47,320	47,320	47,320
Total Other	109,880	109,880	109,880	109,880	109,880	109,880	109,880	109,880	109,880	109,880
Total Revenues	4,382,815	6,997,627	7,132,933	7,339,952	7,482,105	7,627,100	7,774,996	7,925,849	8,079,720	8,079,720
Total Personnel	732,499	754,474	777,108	800,421	824,434	849,167	874,642	900,881	927,908	955,745
Operation Expenses	433,021	446,012	459,392	473,174	487,369	501,990	517,050	532,562	548,538	564,995
Capital Expenditures	370,973	382,102	393,565	405,372	417,533	430,059	442,961	456,250	469,938	484,036
Transfers for Tax & Service (1/2 total)	146,139	150,523	155,039	159,690	164,481	169,415	174,498	179,733	185,124	190,678
Transfer for Debt Service Reserve (1/2 total)										
Total Water Expenses	1,682,632	1,733,111	1,785,105	1,838,658	1,893,817	1,950,632	2,009,151	2,069,425	2,131,508	2,195,453
Total Personnel	793,394	817,195	841,711	866,963	892,971	919,761	947,353	975,774	1,005,047	1,035,199
Operation Expenses	846,966	872,375	898,546	925,503	953,268	981,866	1,011,322	1,041,661	1,072,911	1,105,098
Capital Expenditures	153,982	158,601	163,359	168,260	173,308	178,507	183,862	189,378	195,060	200,911
Transfers for Tax & Service (1/2 total)	146,139	150,523	155,039	159,690	164,481	169,415	174,498	179,733	185,124	190,678
Transfer for Debt Service Reserve (1/2 total)										
Total Sewer Expenses	1,940,480	1,998,695	2,058,656	2,120,415	2,184,028	2,249,549	2,317,035	2,386,546	2,458,142	2,531,887
Total Water and Sewer Expenses	3,623,113	3,731,806	3,843,760	3,959,073	4,077,845	4,200,180	4,326,186	4,455,971	4,589,651	4,727,340
Total Revenues over Expenditures	759,702	3,265,821	3,289,173	3,380,879	3,404,259	3,426,920	3,448,810	3,469,878	3,490,069	3,352,380
Existing Debt Service	2,833,686	2,836,858	2,835,834	2,938,749	2,936,563	2,933,541	2,931,476	2,929,569	2,937,976	2,558,681
Restructured Debt Service		-	-	-	-	-	-	-	-	-
Projected Debt Service		1,156,602	1,156,602	1,156,602	1,156,602	1,156,602	1,156,602	1,156,602	1,156,602	1,156,602
Total Debt Service	2,833,686	3,993,460	3,992,436	4,095,351	4,093,165	4,090,143	4,088,078	4,086,171	4,094,578	3,715,283
Net Revenues after Debt Service	(2,073,983)	(727,638)	(703,263)	(714,472)	(688,905)	(663,223)	(639,268)	(616,292)	(604,509)	(362,903)
Transfer from Southampton (covers $8.9 of existing DS)	750,536	750,536	750,536	750,536	750,536	750,536	750,536	750,536	750,536	750,536
Net Revenues after Debt Service & Transfers	(1,323,447)	22,898	47,274	36,065	61,631	87,314	111,268	134,244	146,028	387,633
Cash & Cash Equivalents	-	22,898	70,172	106,237	167,868	255,182	366,450	500,694	646,722	1,034,355
		0.3%	1.0%	1.4%	2.2%	3.3%	4.7%	6.3%	8.0%	12.8%

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Water Service Fees	0.0%	63.0%	2.0%	3.0%	2.0%	2.0%	2.0%	2.0%	2.0%	0.0%
Sewer Service Fees	0.0%	63.0%	2.0%	3.0%	2.0%	2.0%	2.0%	2.0%	2.0%	0.0%
Connection and Facility Fees		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fees and Penalties		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Transfer from Southampton		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Monthly Bill using 5,000 gallons										
Current Water Rate (in City)	26.77	43.64	44.51	45.84	46.76	47.70	48.65	49.62	50.61	50.61
Current Sewer Rate (in City)	36.56	59.59	60.78	62.61	63.86	65.14	66.44	67.77	69.12	69.12
Total in City	63.33	103.23	105.29	108.45	110.62	112.83	115.09	117.39	119.74	119.74
Current Water Rate (outside City)	33.54	54.67	55.76	57.44	58.59	59.76	60.95	62.17	63.41	63.41
Current Sewer Rate (outside City)	45.43	74.05	75.53	77.80	79.35	80.94	82.56	84.21	85.90	85.90
Total outside City	78.97	128.72	131.30	135.23	137.94	140.70	143.51	146.38	149.31	149.31
Current Water Rate (County)	31.00	50.53	51.54	53.09	54.15	55.23	56.34	57.46	58.61	58.61
Current Sewer Rate (County)	41.00	66.83	68.17	70.21	71.62	73.05	74.51	76.00	77.52	77.52
Total County	72.00	117.36	119.71	123.30	125.76	128.28	130.85	133.46	136.13	136.13

Combined Authority-$34.7 Million New Money - (County pays for $8.9M of existing DS - rate base pays balance)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
SUMMARY SHEET										
Total Water Fees	1,632,530	2,987,530	3,047,281	3,138,699	3,201,473	3,265,503	3,330,813	3,397,429	3,465,377	3,465,377
Total Sewer Fees	2,517,966	4,607,877	4,700,035	4,841,036	4,937,857	5,036,614	5,137,346	5,240,093	5,344,895	5,344,895
Total Connection and Facility Fees	75,119	75,119	75,119	75,119	75,119	75,119	75,119	75,119	75,119	75,119
Total Fees and Penalties	47,320	47,320	47,320	47,320	47,320	47,320	47,320	47,320	47,320	47,320
Total Other	109,880	109,880	109,880	109,880	109,880	109,880	109,880	109,880	109,880	109,880
Total Revenues	4,382,815	7,827,727	7,979,635	8,212,054	8,371,649	8,534,435	8,700,478	8,869,841	9,042,591	9,042,591
Total Personnel	732,499	754,474	777,108	800,421	824,434	849,167	874,642	900,881	927,908	955,745
Operation Expenses	433,021	446,012	459,392	473,174	487,369	501,990	517,050	532,562	548,538	564,995
Capital Expenditures	370,973	382,102	393,565	405,372	417,533	430,059	442,961	456,250	469,938	484,036
Transfers for Tax & Service (1/2 total)	146,139	150,523	155,039	159,690	164,481	169,415	174,498	179,733	185,124	190,678
Transfer for Debt Service Reserve (1/2 total)										
Total Water Expenses	1,682,632	1,733,111	1,785,105	1,838,658	1,893,817	1,950,632	2,009,151	2,069,425	2,131,508	2,195,453
Total Personnel	793,394	817,195	841,711	866,963	892,971	919,761	947,353	975,774	1,005,047	1,035,199
Operation Expenses	846,966	872,375	898,546	925,503	953,268	981,866	1,011,322	1,041,661	1,072,911	1,105,098
Capital Expenditures	153,982	158,601	163,359	168,260	173,308	178,507	183,862	189,378	195,060	200,911
Transfers for Tax & Service (1/2 total)	146,139	150,523	155,039	159,690	164,481	169,415	174,498	179,733	185,124	190,678
Transfer for Debt Service Reserve (1/2 total)										
Total Sewer Expenses	1,940,480	1,998,695	2,058,656	2,120,415	2,184,028	2,249,549	2,317,035	2,386,546	2,458,142	2,531,887
Total Water and Sewer Expenses	3,623,113	3,731,806	3,843,760	3,959,073	4,077,845	4,200,180	4,326,186	4,455,971	4,589,651	4,727,340
Total Revenues over Expenditures	759,702	4,095,921	4,135,875	4,252,981	4,293,804	4,334,255	4,374,292	4,413,870	4,452,941	4,315,251
Existing Debt Service	2,833,686	2,836,858	2,835,834	2,938,749	2,936,563	2,933,541	2,931,476	2,929,569	2,937,976	2,558,681
Restructured Debt Service		-	-	-	-	-	-	-	-	-
Projected Debt Service		2,006,704	2,006,704	2,006,704	2,006,704	2,006,704	2,006,704	2,006,704	2,006,704	2,006,704
Total Debt Service	2,833,686	4,843,562	4,842,538	4,945,453	4,943,267	4,940,245	4,938,181	4,936,273	4,944,681	4,565,386
Net Revenues after Debt Service	(2,073,983)	(747,642)	(706,664)	(692,472)	(649,463)	(605,990)	(563,889)	(522,403)	(491,740)	(250,135)
Transfer from Southampton (covers $8.9 of existing DS)	750,536	750,536	750,536	750,536	750,536	750,536	750,536	750,536	750,536	750,536
Net Revenues after Debt Service & Transfers	(1,323,447)	2,895	43,873	58,065	101,073	144,546	186,648	228,133	258,796	500,402
Cash & Cash Equivalents	-	2,895	46,768	104,832	205,905	350,452	537,099	765,232	1,024,029	1,524,430
		0.0%	0.6%	1.3%	2.5%	4.1%	6.2%	8.6%	11.3%	16.9%

	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Water Service Fees	0.0%	83.0%	2.0%	3.0%	2.0%	2.0%	2.0%	2.0%	2.0%	0.0%
Sewer Service Fees	0.0%	83.0%	2.0%	3.0%	2.0%	2.0%	2.0%	2.0%	2.0%	0.0%
Connection and Facility Fees		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fees and Penalties		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Transfer from Southampton		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Monthly Bill using 5,000 gallons										
Current Water Rate (in City)	26.77	48.99	49.97	51.47	52.50	53.55	54.62	55.71	56.82	56.82
Current Sewer Rate (in City)	36.56	66.90	68.24	70.29	71.70	73.13	74.59	76.08	77.61	77.61
Total in City	63.33	115.89	118.21	121.76	124.19	126.68	129.21	131.79	134.43	134.43
Current Water Rate (outside City)	33.54	61.38	62.61	64.48	65.77	67.09	68.43	69.80	71.20	71.20
Current Sewer Rate (outside City)	45.43	83.14	84.80	87.34	89.09	90.87	92.69	94.54	96.43	96.43
Total outside City	78.97	144.52	147.41	151.83	154.86	157.96	161.12	164.34	167.63	167.63
Current Water Rate (County)	31.00	56.73	57.86	59.60	60.79	62.01	63.25	64.51	65.80	65.80
Current Sewer Rate (County)	41.00	75.03	76.53	78.83	80.40	82.01	83.65	85.32	87.03	87.03
Total County	72.00	131.76	134.40	138.43	141.20	144.02	146.90	149.84	152.83	152.83

L – Potential Funding Sources

GRANT FUNDING PROGRAMS

USDA RURAL UTILITIES SERVICE

The USDA Rural Utilities Service (RUS) provides funding to localities through the Virginia state office and respective district offices. Localities interested in applying for these funding sources should contact their local USDA Rural Development office (the district office representing The City of Franklin and Southampton County is the Southampton Sub-Office, located in Courtland, Virginia).

The USDA RUS offers two grant/loan programs of interest: Water and Waste Disposal Direct Loans and Grants and Water and Waste Revolving Loan Fund Grants.

Water and Waste Disposal Direct Loans and Grants

These loans may be used to develop water/wastewater systems (including solid waste disposal and stormwater drainage) in designated rural counties, such as The City of Franklin and Southampton County, or cities and towns with a population of 10,000 or less. Applicants must be unable to secure funding from other sources in order to be eligible. Priorities on serving low-income individuals are reflected in the following interest rates (rates in parentheses updated on 01/01/15):

- **Poverty rate (2.25%)** – available when a.) the project seeks to upgrade or construct facilities as required in order to meet applicable health and safety standards, and b.) the median household income (MHI) of the service area is either below the poverty line for a family of four or below 80 percent of the statewide non-metropolitan MHI (SNMHI)
- **Intermediate rate (3.0%)** – applicable when a project does not meet the criteria for either the poverty or market rates; equivalent to the poverty rate plus half the difference between the poverty rate and the market rate, the intermediate rate may not exceed 7 percent.
- **Market rate (3.75%)** – assigned to loans for projects where the MHI of the service area exceeds the SNMHI, the market rate is set quarterly based on the average of the "Bond Buyer" 11-Bond Index over a four-week period prior to the beginning of the quarter.

The maximum term for loans is 40 years or the period of useful life for the facility, whichever is shorter.

Water and Waste Revolving Loan Fund Grants

Grants will be made for up to $100,000, for the purpose of reducing water and waste disposal costs to a reasonable level for users of the system. Grants are required to be paid back in a maximum of 10 years. Applicant eligibility is the same as for Water and Waste Disposal Direct and Guaranteed loans.

COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)

Community Development Block Grant (CDBG) funds are allocated annually by the U.S. Department of Housing and Urban Development (HUD) to designated entitlement communities and state agencies (for dissemination to non-entitlement communities) on a formula basis. In the Commonwealth of Virginia, the Virginia Department of Housing and Community Development (DHCD) manages this allocation, distributing these funds to non-entitlement communities (including The City of Franklin and

Southampton County) through a variety of competitive grant programs. All funding must be used to support one or more of HUD's three national objectives:

1. *Low- and Middle-Income (LMI) Benefit*
2. *Slum and Blight Elimination*
3. *Urgent Community Development Needs*

Programs of interest include the Community Facilities Grant, the Economic Development Grant, the Community Economic Development Fund Grant, and the Construction-Ready Water and Sewer Fund.

The Community Facilities Grant and the Economic Development Grant fall under the Community Improvement Grants (CIG) category. CIG grants are Competitive Grants. The Community Economic Development Fund Grant and the Construction-Ready Water and Sewer Fund are Open Submission. Open Submission deadlines are contingent upon continued funding availability. Competitive Proposals will be reviewed by DHCD from the submittal deadline in March of any given year. $15.8 million is estimated to be available for CDBG grants; $10.3 million is estimated to be available for Competitive Grant Projects. Open Submission Proposals may be submitted between January 1st and September 30th. The maximum award amount for combined contracts is $2.5 Million.

The Community Facility Competitive Grant may be awarded up to $75,000 per project; the Competitive Economic Development Grant may be awarded up to $50,000 per project.

Community Facilities Grant

The Community Facilities Grant is focused on the providing water and wastewater services, drainage improvements, and street improvements. Water/wastewater projects to low and moderate income people are preferred for this grant. The application period for this funding is normally March of each year and the award is anticipated to be announced in June.

For a Community Facility Competitive Grant, up to $75,000 per project may be awarded. The maximum award for a Community Facility Grant is $1,000,000.

Economic Development Grant

The purpose of the Economic Development Grant is to create job and business opportunities for low to moderate income persons and to eliminate blighting conditions in deteriorating areas.

Projects focusing on one category are eligible for up to $700,000; projects focusing on two or more categories are eligible for up to $1,000,000. $1,200,000 may be awarded for projects with significant regional impact in the Job Creation/Retention category. CIG grant categories for economic development consist of: Job Creation/Retention, Development Readiness, Site Development, and Business District Revitalization.

Construction-Ready Water and Sewer Fund

Construction-Ready Water and Sewer Funds are for construction of public water and/or sewer service to households of at least 60% LMI. This fund is for jobs that have complete engineering, income surveys,

acquisitions, public hearings, and environmental review. The pre-contract phase must be completed within 60 days and the project must be able to be completed in one year.

Up to $500,000 may be awarded for a Construction-Ready Water and Sewer Fund. The funds cannot account for more than 75% of the project cost and the cost per household cannot exceed $12,500. As an Open Submission fund, applications are accepted from January 1 to September 30.

Community Economic Development Fund Grant

Community Economic Development Fund Grants (CED) support community economic development activities, especially the creation of jobs for LMI individuals. This grant is targeted to private, for-profit basic industries only, and grant assistance is limited to off-site improvements, such as water/sewer lines, roads, drainage, etc. An Open Submission program, the period of application submittal is January 1 to September 30, making awards as long as funds remain.

The maximum award for a CED is $700,000 per project. For businesses which cannot guarantee at least 1.5 times the minimum wage to 90% of their employees, the maximum award is $350,000. An irrevocable Letter of Credit, bond, or other guaranteed form of security in the full amount of CDBG funding is required and must remain in place until all program requirements are satisfactorily met.

All eligible communities are placed in one of three economic categories: Distressed, Transitional, or Competitive. As a Distressed county, The City of Franklin may apply for up to 100% of off-site improvement costs, although the City must provide a match equivalent to or greater than 25% of the CDBG funding. Additionally, loans for on-site improvements will also be available through a relaxed underwriting process with flexible terms. Assistance is available for us to $25,000 per created job.

Requirements for Distressed communities include a private investment of at least $100,000 and the creation of at least 10 full-time positions, as well as provision of a post-probationary wage of at least 1.5 times the minimum wage for 90% of all new employees and a benefits package that includes (at minimum) basic medical coverage and insurance (at least 50% employer-paid). This post-probationary period must not exceed six months.

Southampton County falls under the Transitional economic category. Southampton County may apply for up to 80% of total project costs, but local financial participation must equal at least 25% of CDBG eligible costs. CED assistance is available up to $25,000, $10,000 per created job. If the projects increase local diversification, a relaxed underwriting process is available.

Requirements for Transitional counties include a private investment of $300,000 or more and creation of at least 20 full-time positions. As with the distressed community, provision of a post-probationary wage of at least 1.5 times the minimum wage for 90% of all new employees and a benefits package that includes (at minimum) basic medical coverage and insurance (at least 50% employer-paid). This post-probationary period must not exceed six months.

VIRGINIA CLEAN WATER REVOLVING LOAN FUND (VCWRLF)

The Virginia Clean Water Revolving Loan Fund (VCWRLF) was created in 1987 by the Virginia General Assembly in response to the Federal Water Quality Act of 1987, which established a State Revolving

Fund Capitalization Program. This program provides low-interest loans to local governments for wastewater treatment improvements, in cooperation with the Virginia Resources Authority (VRA) which serves as the financial manager for the program, while the State Water Control Board is responsible for developing policies and procedures and the Virginia Department of Environmental Quality (DEQ) oversees the day-to-day management (application, distribution, etc.) of the fund.

VCWRLF applications are solicited annually (generally in May) and applicants have a 45-60 day window in which to submit applications. Applications are then evaluated for placement on a loan priority list, as required by Federal regulations (DEQ has full discretion for project prioritization and reserves the right to by-pass projects that have previously been placed on the list if a newer project more closely aligns with the program's priorities).

From the Program Design Manual (revised May 16, 2001), eligible activities include "any reasonable and necessary expansion, upgrade, extension, replacement, repair, rehabilitation and/or additions to public wastewater treatment facilities" as well as "any needed new facility or new conveyance system and generally all associated planning and design costs." In some cases, the VCWLRF may be used to refinance local debt obligations where debt was incurred after March 7, 1985, and the project completed an environmental review and received a FONSI or other environmental clearance prior to construction. The purchase of land, easements, right-of-ways, or any legal, administrative, or engineering costs associated with these purchases are ineligible.

It should also be noted that "loan requests which are solely supported by the economic development needs of an area or an entity may be excluded from funding participation," as the program emphasizes that projects "must be supported by a need which remediates an existing pollution problem or prevents a future environmental problem."

The priorities for funding are as follows:

- **Targeted Project Types** – priorities…
  - HIGH PRIORITY – assisting localities in meeting state/federal mandates; complying with new/more stringent water quality policies, standards, regulations, or permit limitations; public health hazard remediation
  - MODERATE PRIORITY –all wastewater problems meriting referral to the Office of Enforcement or requiring enforcement action; addressing potential health hazards; rehabilitation, replacement or expansion of existing facilities
- **Environmental Concerns** – two criteria…
  - DEQ's 303(d) Total Maximum Daily Load Priority List
  - Applicant's enforcement and compliance history (good faith efforts = high ranking)
- **Fiscal Stress** – based on…
  - Composite Stress Index from the State Commission on Local Governments
- **Readiness-to-Proceed**
  - The sooner the better
  - Projects ready to start construction during the upcoming calendar year ranked higher

Loan rates are determined on an individual basis, and generally range from 3% to the ceiling rate, which is no less than 1% below municipal bond market rates at the time of closing. Interest rates from 0-3% are available "where financial conditions warrant and at least 75% of the project cost is dedicated to resolving

mandated water quality problems and/or where an imminent or urgent public health situation is documented." An additional rate reduction of 1% is available for innovative projects which demonstrate "improved environmental performance, pollution prevention, reduced cost, and/or enhanced resource efficiency, such as energy conservation, reduced chemical use or water recovery, recycling, and reuse."

Payments will be disbursed on a cost reimbursement basis, and requests for funding must be accompanied by invoices. Loans must be fully amortized within twenty years of project completion, and recipients must establish one or more dedicated sources of revenue for repayment.

DRINKING WATER STATE REVOLVING FUND (DWSRF)

The Virginia Department of Health (VDH), Office of Drinking Water, administers the Drinking Water State Revolving Fund (DWSRF) program, which is funded through a Federal capitalization grant to the Commonwealth of Virginia (which pays a 20% match) based upon the Federal Safe Drinking Water Act (SDWA) Amendments of 1996's establishment of a DWSRF program. The Virginia Resource Authority (VRA) retains certain responsibilities for individual loans.

Construction loans are available to owners of community or non-profit waterworks (excluding State and Federal government). Funds may be granted to waterworks that are currently in noncompliance with the SDWA, as long as those funds are used to ensure compliance, and the waterworks owner agrees to take all necessary measures (e.g. changes in rates, management, maintenance, ownership, consolidation, accounting, etc.) to this end. Additionally, as noted in the Program Design Manual (updated January 2015), "the Code of Virginia requires waterworks owners to obtain a permit from VDH before modifying or establishing a waterworks."

Types of financial assistance include direct loans for planning (Planning and Design Grants) or construction (Construction Loans), guaranteeing or purchasing insurance for a local obligation, and the buying or refinancing of municipal debt obligations where the debt was incurred/construction was started after July 1, 1993.

Eligible uses of Construction Loan funds include the "upgrading, rehabilitation, or reasonable expansion of a waterworks." Ineligible activities include expansion in anticipation of future growth, unless the primary purpose of the project is to remediate a compliance or public health issue; furthermore, if water is contaminated or inadequate, this funding may also be used to consolidate waterworks or nonpublic drinking water systems. Allowable costs include those associated with planning and design; the purchasing of land, easements, or rights-of-way that are integral to the project; and costs incurred prior to approval, provided these activities were conducted in accordance with VDH requirements.

Top priorities include projects exhibiting (in order of importance): an acute health priority/SWDA compliance issue (short-term health effect on individuals), a chronic health priority/SWDA compliance issue (long-term/lifetime health effect on individuals), a public health priority/waterworks regulation compliance issue (existing practices insufficient to ensure provision of safe drinking water). Other priorities include lower Median Household Income (MHI), regionalization, other funds available, projected cost per connections served, sustainability/reliability/green project reserve, and readiness to proceed.

Target user rates are based upon MHI, as follows:

MHI	Points
Less than $44,200	1.00% of the MHI
$44,200 and above	1.25% of the MHI

Disadvantaged waterworks are those who apply for a construction loan to resolve a health or compliance problem, serve less than 10,000 people on a retail connection basis, when MHI is 80% or less than the state average MHI, experiencing financial stress (e.g. Negative cash flow), or have/will have upon project completion monthly user rates above the target rate. Benefits to disadvantaged waterworks include thirty year loan terms, interest rates of 0-3%, and partial or full forgiveness of principal (PF/grant) at the beginning of the loan. Larger waterworks which take over disadvantaged waterworks or supply otherwise unserved areas with public health problems are also eligible for this designation.

Loan rates are determined on an individual basis, and generally range from 3% to the ceiling rate, which is no less than 1% below municipal bond market rates at the time of closing. Loan terms are set at twenty years (thirty for disadvantaged waterworks).

Planning Grants are also available for up to $50,000 per project. Planning and Design Grants are primarily for small, financially challenged, community waterworks. The same priorities as above are considered for preliminary engineering planning, design of plans and specifications, performance of source water quality/quantity studies, and drilling of test wells to determine source feasibility.

Applications for Construction and Refinance Loans must be received by April 1.

WATER SUPPLY ASSISTANCE GRANT FUND (WSAGF)

The Water Supply Assistance Grant Fund (WSAGF) was established by the Code of Virginia in July 1999. The VDH administers the WSAGF, which is funded by the interest earned on the aforementioned state matching dollars for the SDWA.

Eligible applicants include any locality or owner of a community waterworks (excluding State and Federal government) whose customer base MHI is 80% or less than the state average. Funds may be granted to waterworks that are currently in noncompliance with the SDWA, as long as those funds are used to ensure compliance, and the waterworks owner agrees to take all necessary measures (e.g. changes in rates, management, maintenance, ownership, consolidation, accounting, etc.) to this end.

There is no distinct application process for this funding; applicants who apply for DWSRF funding are automatically evaluated for the WSAGF program. Awardees are typically notified in early summer.

Types of financial assistance include grants for project planning and construction, grants for capacity building activities addressing regionalization or consolidation, refinance of debt obligations, and the guarantee or purchase of insurance for a local obligation. Projects requesting grant funding must fall within one of the following categories: Planning Grants, Source Water Development or Improvement Grants, Small Project Construction Grants.

Planning Grants uses may include (but are not limited to) capacity building activities addressing regionalization or consolidation, performance of source water quality and quantity studies, drilling test

wells to determine source feasibility, income surveys, preliminary engineering planning, design and preparation of plans and specifications, or other similar technical assistance projects.

Source Water Development or Improvement Grants may be applied to (among other possibilities) land purchases, options to purchase land, general site development costs, and dam upgrade and construction.

Small Project Construction Grants may be used for activities such as the upgrade or construction of well or spring sources, waterlines, storage tanks, and treatment. A VDH Construction Application must be submitted, and grants are prioritized in accordance with DWSRF criteria first, and WSAGF criteria second.

WSAGF preference will be given to localities with a higher ranking on the Commission on Local Governments (COLG) Composite Fiscal Stress Index and those who have shown a diligent effort to raise funding on their own by charging monthly user rate costs and connection fees that are higher than the state average water rates and median connection fees.

In FY 2015, WAAGF will award grants between $50,000 and $200,000 for individual applications. A maximum of $50,000 can be awarded for WSAG Planning Grants; $200,000 for Surface Source Water Development or Improvement Grants; up to $150,000 for Small Project Construction Grants.

VIRGINIA RESOURCES AUTHORITY (VRA)

In addition to financing the aforementioned CWRLF and DWSRF programs, the Virginia Resources Authority (VRA) also provides loan funding to localities through the Virginia Pooled Financing Program for use in all approved VRA project areas, including water, wastewater, solid waste, and transportation projects (for a complete list of project areas, please see: http://www.virginiaresources.org/projectfinancing.shtml).

Virginia Pooled Financing Program loans are custom-tailored and offer AAA/AA interest rates and terms of up to 30 years. Bonds are issued at least twice a year (fall/spring), and interim financing is also available. Other benefits include a lack of bond insurance premiums and individual rating agency review, coupled with economies of scale and shared issuance costs. Over 100 different localities and service authorities have utilized these loans to finance or refinance over $2 billion in projects since the program's inception in 2003.

GOVERNOR'S OPPORTUNITY FUND

The Governor's Opportunity Fund provides grant funding to localities on a dollar-for-dollar matching basis for the completion of basic economic development activities. Localities may receive more than one award per year; however, the receipt of a third award is highly dependent on fiscal stress or other extenuating circumstances. Matching funds must be received within a 5 year period; local enterprise zone incentives may count towards this match where the locality also makes actual expenditures benefiting the project during this 5 year period.

Funding eligibility is subject to a locality's unemployment and poverty rate:

- General Eligibility Thresholds: 50 new jobs/$5 million private investment or 25 new jobs/$100 million private investment (average annual wage for new jobs must be at least equal to average wage in the locality, excluding fringe benefits);
- Localities With Above-Average Unemployment or Above-Average Poverty: 25 new jobs/$2.5 million private investment (wages must be at least 85% of the average wage in the locality, may be less than 85% with benefits if governor approved);
- Localities Above-Average Unemployment and Above-Average Poverty: 15 new jobs/$1.5 million private investment (wages must be at least 85% of the average wage in the locality, may be less than 85% with benefits if governor approved).

The number of existing jobs preserved will be taken into consideration in determining the award amount, but all projects must still meet the minimum job creation requirements above to be eligible for funding; however, at the Governor's discretion, job creation requirements may be reduced where the new average wage will equal at least twice the prevailing wage.

Applications should be made by local officials to the President and Chief Executive Officer of VEDP, and should be submitted in concurrence with a letter on corporate letterhead from the private entity outlining the proposed capital investment, job creation, and average wages, as well as establishing that the entity is considering only one site in Virginia as well as other site(s) outside the Commonwealth.

Evaluation criteria for funding include: proposed employment, wage levels, proposed capital investment, area and regional unemployment, community poverty and fiscal stress, community commitment, and industry or company growth potential. Award amounts are limited to $1,500,000 through June 30, 2015, except in cases where the governor determines projects to be beneficial to the Commonwealth or region.

Localities must enter into a performance agreement with the designated private entity to provide the capital investment and job creation stipulated in the funding application (and satisfying the requirements listed above) within a period of performance of 36 months. If these levels are not met, the locality must repay in full the amount of the grant award.

Eligible activities include (but are not limited to): public and private utility extension or capacity development on and off site; site acquisition and development; transportation access; construction or build-out of publicly-owned buildings.

Projects which have already been publicly announced prior to the public announcement of a locality's Governor's Opportunity Fund request and prior to the Governor's subsequent approval for funding and required coordination with VEDP will be deemed ineligible for funding.

Furthermore, if a private entity who benefits from the Governor's Opportunity Fund funding has facilities or operations in Virginia and have closed, downsized, consolidated, or laid off employees within the past 30 months, the locality's application may be deemed ineligible; at a minimum, the company in question may have to provide additional assurances regarding new facilities and jobs.

EDA

The Economic Development Administration (EDA) of the U.S. Department of Commerce offers a variety of grant and loan programs designed to relieve economic distress through the attraction of capital

investment and higher-skill, higher-wage jobs. These grant programs typically focus on localities with high levels of unemployment, low income levels, concentrations of low-income families, declines in per capita income, declining populations, or who are the victims of business failures, layoffs, plant/military base closures, etc. EDA funding typically requires a dollar-for-dollar match by the locality, but exceptions may be made in extreme cases of fiscal stress shifting match from 50-50 to 80-20; in all cases, preference is given to applicants providing a cash match, as opposed to an in-kind match.

Of the Economic Development Assistance Programs offered by the EDA, the Public Works and Economic Facilities Program may be of particular interest to The City of Franklin and Southampton County. In FY 2008, the EDA allocated a total of $146,430,000 for this program, with an average award size of $1.307 million. From the EDA guidance document, eligible activities under this grant include those which "help facilitate the transition of communities from being distressed to becoming competitive by developing key public infrastructure, such as technology-based facilities that utilize distance learning networks, smart rooms, and smart buildings; multitenant manufacturing and other facilities; business and industrial parks with fiber optic cable; and telecommunications and development facilities. In addition, EDA invests in traditional public works projects, including water and sewer systems improvements, industrial parks, business incubator facilities, expansion of port and harbor facilities, skill-training facilities, and brownfields redevelopment." FY 2014 funding cycles were listed as follows: December 13, 2013, March 14, 2014, June 13, 2014. FY 2015 funding cycle 1 was posted as October 17, 2014. Further funding cycles have not been posted for FY 2015 at this time.

LOCAL GOVERNMENT BONDS

This issuance of local government bonds is covered primarily by Article VII, Section 10 of the *Constitution of Virginia*, as well as Section 15.2-2600 (Chapter 26) of the *Code of Virginia*. A summary of the types of bonds available, and restrictions on their issuance, follows below.

GENERAL OBLIGATION BONDS

General obligation bonds are secured by a pledge on the full faith and credit of the issuing government, as supported by the tax base of the issuing government. As the name implies, these bonds must be repaid by the issuing government generally and are not tied to any particular source of revenue, often leading to the lowest available interest rate.

The maximum amount of a general obligation bond that may be issued varies according to the type of locality. Cities and towns are statutorily limited to a total indebtedness (including all existing bonds) of 10% of the assessed valuation of real estate subject to taxation within their boundaries. Counties are not limited in this regard, but for a county to issue a general obligation bond, the issuance must be approved by a majority of all voters in an election in accordance with Sections 15.2-2610 and 15.2-2611 of the *Code of Virginia*; exceptions to this requirement include bonds issued in advance of the collection of revenues for the then current year, as long as the bonds mature within a year, are not past due, and do not exceed the year's revenue.

Additionally, a county may, pursuant to Section 15.2-2639 of the *Code of Virginia*, hold a referendum by which a majority of voters may elect the county be treated as a city or town to receive the benefits and

limitations of debt issuance provided in Article VII, Section 10 of the *Constitution of Virginia*. However, it is important to note that in so doing, the county will have to include in its 10% limitation the debt (unless otherwise excluded by Article VII, Section 10) assumed by all cities and towns within its boundaries which are empowered to levy tax on real estate.

REVENUE BONDS

Revenue bonds do not count towards the statutory limits on debt issuance for cities and towns (or counties operating as such) nor do they require the approval of a majority of voters for counties. In contrast to general obligation bonds, revenue bonds are tied to a specific source of local government revenue, and all obligations are limited to this revenue stream alone.

Any governing body may issue a revenue bond, so long as it can be demonstrated that the projected revenue (e.g. connection charges, service fees) will be sufficient to cover: all operation and administration costs; all insurance costs; the principal, premium (if any), and interest on the bonds when due and payable; and a reserve fund ("sinking fund") sufficient to pay the bonds at or before maturity.

For cities and towns, bonds issued on a full faith and credit basis, approved by a majority of voters, and designated for water or other potentially revenue producing projects, but which have not yet generated enough revenue to satisfy these requirements, may be exempt from contribution to the 10% limitation for a period to be determined by the city or town but not to exceed 5 years.

SANITARY DISTRICT BONDS

In accordance with Section 21-122 of the *Code of Virginia*, any county in which a sanitary district has been created may issue bonds on behalf of that sanitary district, not to exceed 18% of the assessed value of all real estate within the sanitary district that is subject to taxation. This limit may be exceeded only when the petition which created the sanitary district provides a maximum amount for bonds to be issued and when the specific undertaking for which the bond is to be issued may produce revenue for the sanitary district. In this instance, as with revenue bonds, the undertaking must produce sufficient revenue to pay all annual costs within a period not to exceed 5 years.

Sanitary district bonds must be used for activities which support one or more of the sanitary district's purposes of creation. In order to issue a sanitary district bond, a majority of the members of the county's governing body, or fifty county residents residing within the sanitary district, must petition the county circuit court to hold a referendum on the bond issuance in accordance with Section 24.2-684 of the *Code of Virginia*; subsequent approval by a majority of voters is sufficient for bond issuance.

Sanitary district bonds may be issued without an election only where the bond will be issued for compliance activities in agreement with the State Water Control Board and where the principal and interest for the bond will come exclusively from the revenues and receipts of the sanitary district.

Finally, in anticipation of bond issuance (Section 21-127.1 of the *Code of Virginia*), a county may, on behalf of the sanitary district, borrow money for the purpose and in the maximum amount of the bond issue, to be repaid within 2 years (extensions may not exceed a total term of 5 years).

Program	State/Federal	Grant/Loan	Category	Application Deadlines	Maximum Awards/ Rates & Terms	Special Requirements
Water/Waste Disposal Direct Loans and Grants	Federal (USDA RUS)	Loan	Water/Wastewater	Open	Rates vary from 2.25% to 3.75% by MHI; 40 yrs. or facility lifetime	Must be unable to secure other funding to be eligible
Water/Waste Disposal Grants	Federal (USDA RUS)	Grant	Water/Wastewater	Spring	$1,000,000 (2014); up to $100,000/entity; 10 yr. max payback	$2.5 Mill max award from USDA RUS
Community Facilities Grant	Federal (HUD/CDBG)	Grant	Water/Wastewater, Drainage, Streets	Spring	$1,000,000 (2015); up to $75,000/project	$2.5 Mill max award from USDA RUS
Economic Development Grant	Federal (HUD/CDBG)	Grant	Economic Development, Site Development, Business District Revitalization	Spring	$700,000/ 1 category; $1,000,000/2 category; 1,200,000/regional	$2.5 Mill max award from USDA RUS
Construction-Ready Water and Sewer Fund	Federal/State (HUD/CDBG)	Grant	Economic Development, Roads, Utilities, Water/Wastewater	Open (from Jan. 1-Sept. 30)	$500,000/project; 75% max of project cost; project cost/ person <= $12,500	Must provide service to min 60% LMI persons; Project must be completed within 1 year
Community Economic Development Fund Grant (CED)	Federal/State (HUD/CDBG)	Grant	Economic Development, Roads, Utilities, Water/Wastewater, Stormwater	Open (from Jan. 1-Sept. 30)	$700,000/project with 1.5 x min wage to 90% employees; $350,000/project	25% match, capital investment of $100,000 (Distressed), creation of 10 jobs
Virginia Clean Water Revolving Loan Fund	State (DEQ/VRA)	Loan	Wastewater	Spring	0%-1% below municipal bond market rate; up to 20 yrs.	Address water quality or health risks; otherwise 1%-3%
Drinking Water State Revolving Fund	State (VDH/VRA)	Loan	Water	Spring	3%-1% below municipal bond market rate; up to 20-30 yrs.	None
Water Supply Assistance Grant Fund	State (VDH)	Grant	Water	Spring (same as DWSRF)	$50,000-$200,000 by program	Customer MHI 80% or less of state average
Virginia Pooled Financing Program	State (VRA)	Loan	Water/Wastewater, Roads	Open	AAA/AA rates; up to 30 yrs.	None

Program	State/Federal	Grant/Loan	Category	Application Deadlines	Maximum Awards/ Rates & Terms	Special Requirements
Governor's Opportunity Fund	State (VEDP)	Grant	Economic Development	Open	$1,500,000 max award/ entity; amount based on number jobs created	50% match required; job/investment criteria vary by locality
Economic Development Assistance Programs	Federal (EDA)	Grant	Economic Development, Water/ Wastewater, Roads	Open	Average award over $1 million (2008)	50% match required

M – 1996 Revenue Sharing Agreement

AGREEMENT

THIS AGREEMENT DATED the 6th day of November, 1996, and entered into by the parties on the dates hereinafter stated, by and between the City of Franklin, hereinafter called "the City" and the County of Southampton, hereinafter called "the County".

WHEREAS, the City and the County by action of the governing body of each under authority granted by §15.1-1167.1, Code of Virginia, 1950 as amended, pursuant to said statute, wish to provide for the orderly growth and continued viability of both jurisdictions, and

WHEREAS, the City and the County wish to enter into a Revenue Sharing Agreement with respect to an area of the County located outside of the corporate limits of the City as more particularly described hereinbelow; and

WHEREAS, the purpose of such agreement is to enable the City and County to mutually benefit from the industrial and commercial development of said area of the County;

NOW, THEREFORE, for and in consideration of the comments and obligations herein contained, the parties hereto covenant and agree as follows:

ARTICLE I

Definitions

The parties hereto agree that the following words, terms and abbreviations used in this agreement shall have the following meanings:

A. **B.O.D. :** The quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five days at 20°C, expressed in parts per million.

B. **Designated Area:** That portion of Southampton County located adjacent to and outside of the corporate limits of the City of Franklin as shown in yellow highlighting on the attached sketch which is made a part hereof.

C. **Industrial Wastes:** Liquid wastes, which exceed a daily average of 250 p.p.m. B.O.D. or a daily average of 250 p.p.m. suspended solids or have any constituent not normally found in domestic sewage.

D. **Industrial Businesses:** Industrial and Commercial establishments including hotels and motels but not home occupations, apartment dwellings, retirement homes, group homes, bed and breakfast inns and other such essentially residential establishments.

E. **Local Tax Revenues:** All revenues raised by the County from taxes presently or in the future classified by the State Auditor of Public Accounts as "general property taxes: and "other local taxes" pursuant to the Uniform System for comparative Cost Reporting, including but not limited to real property taxes, personal property taxes, machinery and tools taxes, motor vehicle license taxes, merchants' capital taxes, business license taxes, taxes on purchase of utility services and local mobile telecommunication taxes. In addition, "local tax revenues" shall include any other local taxes that the County may levy or impose in the future.

F. Normal Wastes or Normal Sewage: Liquid waste with a strength content not exceeding a daily average of 250 p.p.m. B.O.D. nor a daily average of 250 p.p.m. suspended solids.

G. Potable water for non-residential use: Water for domestic use and not for use in any manufacturing or industrial processes.

H. P.P.M: Parts per million.

I. SUSPENDED SOLIDS: Solids that either float on the surface of or are in suspension in water, sewage, or other liquids and which are removable by laboratory filtering.

ARTICLE II

Revenue Sharing

Section 2.1 **Revenue Shared** - The County agrees to share with the City all local tax revenues as defined above collected by the County from within the Designated Area generated by or attributable to activities of industries and businesses therein located before or after the effective date of this agreement provided that such industries or businesses are served by City water or sewage treatment subsequent to the effective date of this agreement. It is understood and agreed that industries and businesses served directly by the County pursuant to Section 3.2 hereinbelow shall constitute industries and businesses "served by City water or sewage treatment" for the purposes of this section.

Section 2.2 **Percentage Shared** - The percentage of local tax revenues to be paid to the City by the County is thirty (30%) percent.

Section 2.3 **Time of Payment** - On or before October 15th of each year following the effective date of this Agreement, the County will pay to the City the City's share of revenues, as provided herein, collected by the County during the period from the effective date hereof to June 30th of the initial year and for the fiscal year each year thereafter. Adjustment shall be made in each subsequent year to account for refunds and abatements of prior years.

Section 2.4 **Delinquent Taxes** - Taxes which become delinquent during the effective term of this Agreement shall be included in shared revenues when collected except that the cost of collecting such shall be deducted prior to determination of the amount to be shared.

ARTICLE III

Certain Services in Designated Area

Section 3.1 **City to Provide Certain Services** - The City agrees to (l) provide at the corporate limits potable water for non-residential use to industrial and commercial businesses in the Designated Area in such amounts as the City determines available for use in the Desinated Area from time to time, taking into consideration (i) the limitations imposed by the City's water withdrawal permit issued by the Department of Environmental Quality of the Commonwealth of Virginia, (ii) present and future demands for water within the City, and (iii) the capacity of individual City water mains and associated facilities to deliver water to the corporate limits; (2) to receive normal sewage at the corporate limits from industrial and commercial businesses in the

Designated Area and transmit it to the City's sewage treatment plant for treatment, in such amounts as the City determines it has the capacity to receive from the Designated Area from time to time, taking into consideration (i) the limitations imposed by the City's sewage discharge permit issued by the Department of Environmental Quality of the Commonwealth of Virginia, (ii) present and future demands for sewage treatment within the City; and (iii) the capacity of individual City sewer collectors, interceptors, and pump stations to deliver wastewater to the City's sewage treatment plant; (3) to bill the county for use of water and treatment of sewage from industrial and commercial businesses in the Designated Area at the same rate as that imposed upon industrial and commercial businesses within the City; and (4) to review the County's engineering plans for water lines, sewer lines, pumping stations and related appurtenances and any future alterations thereof, advise the County of any required modifications thereof in an expeditious manner and make any necessary decisions with respect to said plans within a reasonable time.

Section 3.2 **<u>County to Provide Certain Services</u>** - the County agrees to (l) design and construct at its cost water lines and sewer lines including any necessary pumping stations and related appurtenances from the Designated Area to connect to existing water and sewer lines in the City; (2) obtain any necessary permits and do the necessary work to cross any existing road, railway, gas transmission line or other utility; (3) install master meter(s) in the City to measure the volume of water and the volume of sewer flow from the Designated Area; (4) submit its engineering plans for water lines, sewer lines, pumping stations and related appurtenances and any future alterations thereof to the City for its approval prior to commencing construction; (5) pay the City monthly within 20

days from the date of billing for the water provided to and sewage received for treatment from the Designated Area at the same rate as that imposed upon industrial and commercial businesses located within the City;and (6) bill the industrial and commercial businesses in the Designated Area at a rate sufficient to at least obtain reimbursement for the amounts paid to the City for water provided to and sewage treated from the Designated Area.

Section 3.3 **Ownership of Water and Sewer Lines** - Upon completion of construction by the County all portions of the water lines, sewer lines, master meters, pumping stations and related appurtenances constructed hereunder located in the County shall remain the property of the county which shall maintain them, which maintenance shall include the monitoring and correction of inflow and infiltration. All such repairs and maintenance shall be performed within a reasonable time. Upon completion of construction by the County all portions of the water lines, sewer lines, water meters, pumping stations and related appurtenances located in the City shall become the property of the City which shall maintain them subject to the provisions of Sections 3.9 and 3.10 regarding capital improvements.

Section 3.4 **Records of Meter Readings** - The City shall maintain records of the monthly readings of the master meters to determine the volume of water being provided to the Designated Area and the volume of sewage being treated from the Designated Area in order to determine the amount to bill the County monthly, which records shall be available for inspection by the County during regular business hours.

Section 3.5 **Ownership of Waste** - All waste from the Designated Area treated at the City's sewage treatment plant shall be the property of the City.

Section 3.6 **Compliance with Law** - With respect to the sewage originated in the Designated Area and delivered to the City for treatment and the water which may be obtained by the County from the City for the Designated Area, the County agrees to comply with all applicable provisions of Chapter 30, "Water, Sewers and Sewage Disposal" of the Franklin City Code as it may change from time to time as well as applicable Federal and State law and regulations.

Section 3.7 **Inspections** - The City and the County shall have the right to inspect water and sewer lines, pumping stations and related appurtenances located in the other's jurisdiction pertaining to water provided to or sewage received from the Designated Area.

Section 3.8 **Malfunctioning of Meters** - In the event that any master meter for measurement of the volume of flow of water to or sewage from the Designated Area malfunctions, the parties hereto agree that until the meter is repaired the monthly charge for water and sewer treatment shall be an amount equal to an average of the bills for the prior three months.

Section 3.9 **Improvements to City Water Facilities**- In the event that the City has to make capital improvements to the water line(s) providing water to the Designated Area, the County agrees to pay its pro-rata share of such capital expenditures based upon the proportion that the volume of water capacity in such improved line(s), which the County wishes to reserve for use in the Designated Area, bears to the total volume of water that can be delivered by the City through such improved water line(s). Notwithstanding the above, in the event that the City has to construct a larger water line or lines because the

existing line or lines is inadequate to provide the necessary volume and pressure of water to the Designated Area, the County agrees to pay the full cost of construction of such line or lines. Furthermore, in the event that the City has to make capital improvements to its water wells or has to construct new water wells or a water treatment plant, then the County agrees to pay its pro-rata share of such capital expenditures based upon the proportion that the volume of water capacity the County wishes to reserve for use in the Designated Area from such improved or new water wells or new treatment plant bears to the total quantity of water that can be produced by such improved or new water wells or new treatment plant. In the event that the appropriate allocation of costs of construction of a new water line or lines is not clearly specified above for certain circumstances, the parties hereto agree to meet to arrive at a reasonable allocation of costs.

Section 3.10 **Improvements to City Sewer Facilities** - In the event the City has to make capital improvements to the sewer line(s) carrying sewage from the Designated Area to the City's sewage treatment plant or improvements to any sewage pumping stations, the County agrees to pay its pro-rata share of such capital expenditures based upon the proportion that the total sewage capacity the County wishes to reserve for the Designated area in such improved sewer line(s) or pumping stations bears to the total capacity of those improved sewer line(s) or pumping stations to convey or pump sewage. Notwithstanding the above, in the event that the City has to construct new larger sewer line(s) or new sewage pumping station(s) because the existing line(s) or sewage pumping station(s) are inadequate to carry sewage from the Designated Area to the City's sewage treatment plant, the County agrees to pay the full cost of construction of such line(s) or sewage pumping station(s). Furthermore, in the event that the City has to make capital

improvements to its sewage treatment plant, the County agrees to pay its pro-rata share of such capital expenditures based upon the proportion that the total sewage treatment capacity which the County wishes to reserve for treatment of sewage from the Designated Area bears to the total treatment capacity of the improved sewage treatment plant. In the event that the appropriate allocation of costs of construction of a new sewer line(s) or sewage pumping station(s) is not clearly specified above for certain circumstances, the parties hereto agree to meet to arrive at a reasonable allocation of costs.

Section 3.11 **Residential Use** - The County may not provide water or sewage treatment made available to the County by the City under this agreement to residential users in the Designated Area or other portions of the County without the express written consent of the City.

ARTICLE IV

Annexation Immunity

Section 4.1 **County Immunity from Annexation** - The City agrees and does hereby waive any and all of its rights and power to seek the annexation of any County territory located within the Designated Area in perpetuity. The City agrees to file no petition for annexation and agrees to oppose any petition or suit brought by others seeking to have annexed to the City any part of the Designated Area. The execution of this Agreement shall be a bar to the initiation, prosecution or support of any annexation of any part of the Designated Area by the City. This provision shall be applicable to the City as long as it exists as an independent political subdivision in the nature of a City.

ARTICLE V

Cessation of Obligations

Section 5.1 **Cessation of Obligations** - The parties hereto agree that in the event the City or a City Water and/or Sewer Authority established by the City decides to discontinue operation of both its water and sewage treatment system the mutual obligations hereunder shall be void. In such event the City must give the County two years prior notice of its discontinuance of such operations unless extenuating circumstances reasonably dictate a shorter period of notice.

ARTICLE VI

Effective Date and Duration of Agreement, Amendments

Section 6.1 **Effective Date** - This Agreement shall become effective on _____.

Section 6.2 **Duration** - Except as otherwise provided herein, this Agreement shall remain in effect in perpetuity unless modified or terminated by the City and County.

Section 6.3 **Amendment or Modification** - This agreement may be amended, modified, or supplemented in whole or in part, by mutual consent of the City and the County, by a written document executed by the authorized representatives of the City and the County and approved, to the extent necessary, pursuant to the procedure set forth in Section 15.1-1167.1 of the Code. Any amendment, modification or supplement relating to Article III ("Certain Services in Designated Areas") and Article V ("Cessation

of Obligations") shall not require review or approval by the Commission on Local Government or a Court.

ARTICLE VII

Presentation and Approval of Agreement

Section 7.1 **Presentation to Commission on Local Government** - The City and County agree to take all necessary actions to present this Agreement to the Commission on Local Government for its report and recommendations as provided in Virginia Code Section 15.1-1167.1.

Section 7.2 **Commission's Recommendations** - The City and County agree to oppose any Commission recommendation contrary to the terms of this Agreement unless such recommendation is agreed to by both the City and the County.

Section 7.3 **Petition to Court** - The City and the County agree to take all necessary actions and cooperate in petitioning the Court as provided by statute for the ratification and approval of this Agreement.

Section 7.4 **Costs Incurred in Presentation and Petitioning** - The County and the City agree to pay their own costs incurred in the presentation to the Commission and petitioning of the Court for the approval of this Agreement.

Section 7.5 **Contracting of County Debt** - The City and County agree that the provisions of Article VII, Section 20 of the Virginia Constitution, require that the provisions of this Agreement providing for annual payments by the County to the City be approved by a majority of the qualified voters in the county voting in an election on the question of contracting such debt.

Section 7.6 **Submission to Voters** - It is the intent of the parties to submit this question to the qualified voters of the County on the same day as the earliest possible general election after receipt of the recommendation of the Commission on Local Government.

Section 7.7 **Approval of Court and Citizens** - The City and County agree that if Court approval as required in Section 7.3 or citizens' approval as required in Section 7.5 is not obtained, then this Agreement shall be null and void except that if any industry or business in the Designated Area begins to obtain water from the City or begins to have its sewage treated by the City pending consideration by the Commission on Local Government, the Court or the voters, then Articles I, III and VI of the Agreement shall survive such disapproval as to such business or industry site only, and the County agrees that it has a moral obligation to honor the provisions of Article II of the Agreement as to that site only.

Pursuant to the authority granted by Virginia Code Section 15.1-1167.1, the governing body of the City of Franklin and of the County of Southampton execute this Agreement pursuant to resolution duly adopted on November 6, 1996 by the City Council of the City of Franklin, and on November 6, 1996, by the Board of Supervisors of Southampton County.

THE CITY OF FRANKLIN

BY James P Councill, III
JAMES P. COUNCILL, III, MAYOR

ATTEST:

ROWLAND L. TAYLOR, CLERK

THE COUNTY OF SOUTHAMPTON

BY _____
REGGIE W. GILLIAM, CHAIRMAN,
BOARD OF SUPERVISORS

ATTEST:

MICHAEL W. JOHNSON, CLERK

STATE OF VIRGINIA, At Large
CITY OF FRANKLIN, to-wit:

I, Betsy D. Cutright, a Notary Public of and for the County and State aforesaid, certify that James P. Councill, III, Mayor, and Rowland L. Taylor, Clerk of the Council of the City of Franklin, whose names are signed to the writing above, bearing date of the 6th day of November 1996, have acknowledged the same before me in my City aforesaid.

My commission expires the 31st day of May, 1998.

Given under my hand this 6th day of November, 1996.

Betsy D. Cutright
Notary Public

STATE OF VIRGINIA, At Large
COUNTY OF SOUTHAMPTON, to-wit:

I, Betsy D. Cutright, a Notary Public of and for the County and State aforesaid, certify that Reggie W. Gilliam, Chairman, and Michael W. Johnson, Clerk of the Board of Supervisors of the County of Southampton, whose names as such are signed to the writing above, bearing date of the 6th day of November 1996, have acknowledged the same before me in my County aforesaid.

My commission expires the 31st day of May, 1998.

Given under my hand this 6th day of November, 1996.

Betsy D. Cutright
Notary Public

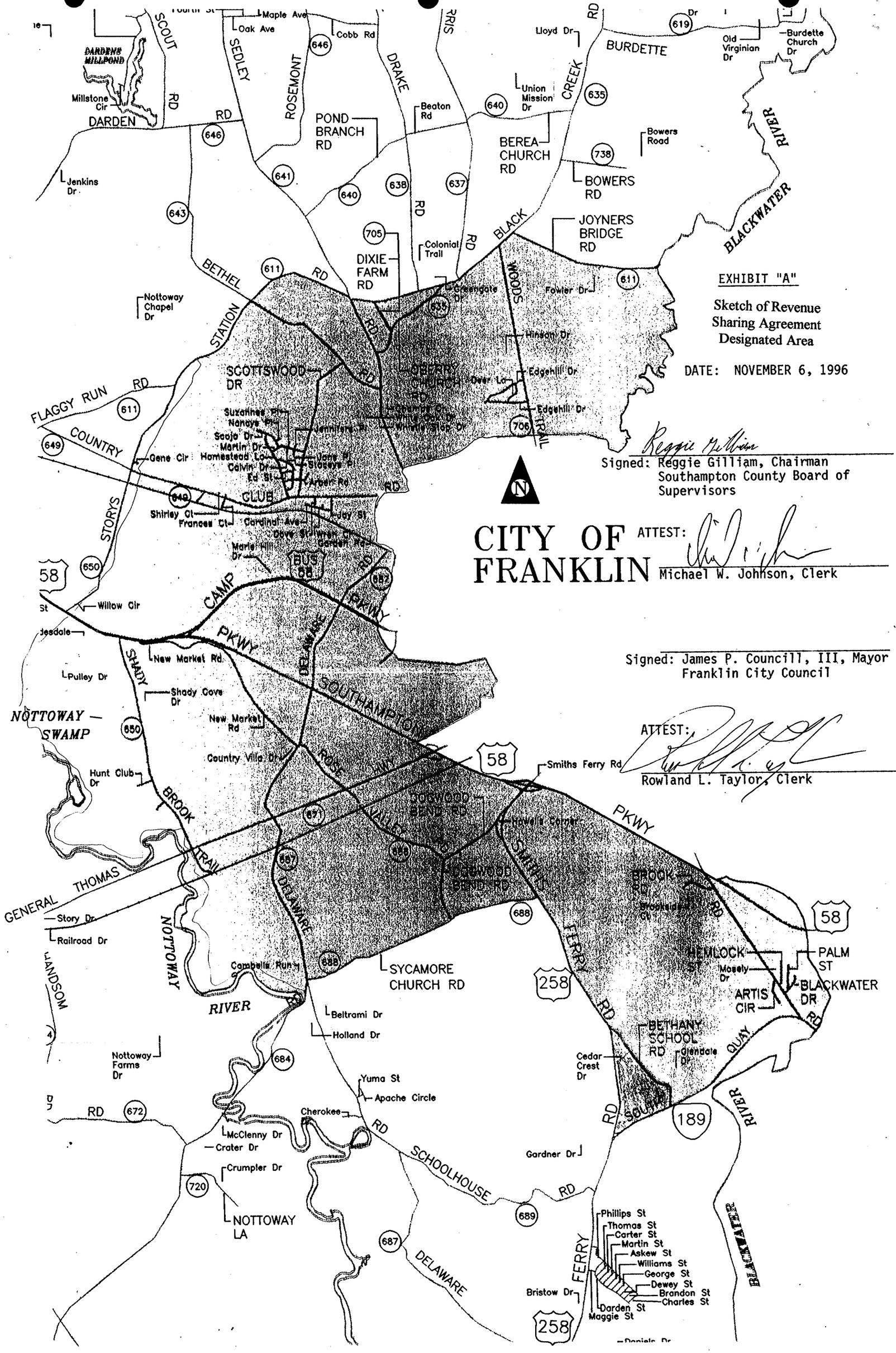


EXHIBIT "A"
Sketch of Revenue Sharing Agreement Designated Area
DATE: NOVEMBER 6, 1996
Signed: Reggie Gilliam, Chairman
Southampton County Board of Supervisors
CITY OF FRANKLIN
ATTEST:
Michael W. Johnson, Clerk
Signed: James P. Councill, III, Mayor
Franklin City Council
ATTEST:
Rowland L. Taylor, Clerk
DARDEN MILLPOND
Millstone Cir
DARDEN RD
SCOUT RD
SEDLEY
ROSEMONT
DRAKE RD
POND BRANCH RD
BEREA CHURCH RD
BOWERS RD
BURDETTE
CREEK RD
Lloyd Dr
Union Mission Dr
Beaton Rd
Bowers Road
Old Virginian Dr
Burdette Church Dr
BLACKWATER RIVER
Jenkins Dr
JOYNERS BRIDGE RD
BLACK
WOODS
Colonial Trail
DIXIE FARM RD
BETHEL RD
STATION
Nottoway Chapel Dr
Greengate Dr
Fowler Dr
Hinson Dr
Edgehill Dr
Deer Ln
SCOTTSWOOD DR
OBERRY CHURCH RD
FLAGGY RUN RD
COUNTRY
Gene Cir
Suzannes Pl
Nancys Pl
Scojo Dr
Martin Dr
Homestead Ln
Calvin Dr
Ed St
Jennifers Pl
Jons Pl
Stoneys Pl
Arber Rd
CLUB RD
Shirley Ct
Frances Ct
Cardinal Ave
Jay St
Cove St
Wren Cir
Garden Rd
Marie Hill Dr
BUS 58
STORYS
CAMP
PKWY
Willow Cir
New Market Rd
Pulley Dr
Shady Cove Dr
SHADY
DELAWARE
SOUTHAMPTON
NOTTOWAY SWAMP
New Market Rd
Country Villa Dr
ROSE HWY
Hunt Club Dr
BROOK TRAIL
DOGWOOD BEND RD
Howells Corner
Smiths Ferry Rd
SMITHS FERRY RD
BROOK RD
Brookside Ct
GENERAL THOMAS
Story Dr
Railroad Dr
NOTTOWAY RIVER
Campbells Run
SYCAMORE CHURCH RD
HEMLOCK ST
Mosely Dr
PALM ST
ARTIS CIR
BLACKWATER DR
BETHANY SCHOOL RD
Glendale Dr
QUAY
Beltrami Dr
Holland Dr
Nottoway Farms Dr
Cedar Crest Dr
Yuma St
Apache Circle
Cherokee
McClenny Dr
Crater Dr
Crumpler Dr
NOTTOWAY LA
SCHOOLHOUSE RD
Gardner Dr
Phillips St
Thomas St
Carter St
Martin St
Askew St
Williams St
George St
Dewey St
Brandon St
Charles St
Darden St
Maggie St
Bristow Dr
FERRY RD
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