

<b>Public Works Capital</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
Asphalt and Concrete Repairs	\$ 897,500	\$ 800,000	\$ 800,000	\$ 800,000	\$ 800,000
Bridge Repair - Rt 1 over Hazel Run	340,000	-	-	-	-
Bridge - Route 1 over Canal			728,000	1,500,000	3,571,000
Culvert Replacement	75,000	75,000	75,000	75,000	75,000
Downtown Streetscape Renovations	50,000	50,000			
Lafayette Boulevard at Kenmore Roundabout	-	-	-	-	375,000
Princess Anne Street Improvements	-	681,000	-	689,000	
Riverfront Park	1,000,000		9,000,000	-	
Fall Hill Avenue Widening Project		2,880,000	-	-	
Signals - Route 3		500,000	547,000		
Traffic Signal Modernization	1,125,000	250,000	250,000	250,000	250,000
Parking Structure near VRE	-	550,000	338,000	-	367,000
Wheeled Refuse Carts	200,000	100,000	-	-	
Wayfinding Signs Project Completion	-	-	80,000	80,000	80,000
Stormwater Management Plan		150,000	-	-	
<b>Total</b>	<b>\$ 3,687,500</b>	<b>\$ 6,036,000</b>	<b>\$ 11,818,000</b>	<b>\$ 3,394,000</b>	<b>\$ 5,518,000</b>

<b>Revenues</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
RSTP Project Grant	\$ -	\$ 681,000	\$ 728,000	\$ 689,000	
Grant Local Match	-	3,940	4,940	5,960	
RSTP Project Grant	-	232,000	-	-	
Urban Construction Program Allocation	-	197,000	247,000	298,000	
DMV Overweight Tickets	30,000	30,000	30,000	30,000	30,000
Motor Fuels Tax	250,000	250,000	250,000	300,000	300,000
CMAQ: MPO Funding	-	1,050,000	885,000		742,000
State Revenue Sharing	1,000,000				
CTB Bridge Formula - State				1,500,000	3,571,000
Prior Year Capital Fund Balance	500,000	325,000	298,060	275,000	305,000
General Fund Transfer	345,000	3,267,060	375,000	296,040	570,000
Debt Issuance	1,562,500	-	9,000,000	-	
<b>Total</b>	<b>\$ 3,687,500</b>	<b>\$ 6,036,000</b>	<b>\$ 11,818,000</b>	<b>\$ 3,394,000</b>	<b>\$ 5,518,000</b>

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## *Asphalt Program*

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*Project Manager:* Public Works

*Project Description:* Each year the City uses local and Virginia Department of Transportation Revenue sharing funds to complete an asphalt reconstruction and repaving program. Major arteries of the City are candidates for the annual revenue sharing application while less traveled neighborhood streets are generally locally funded. The City maximizes funding available each year to address streets in the greatest need of repair.

*Project Justification:*

- Road maintenance must be addressed routinely to keep the road surfaces in good travelling condition and generally pothole free.

*Recommended Timeline:*

- Roads will generally be paved during the summer and spring months when asphalt is readily available.

*Estimated Capital Cost:* The total project budget is \$897,500 for FY 2016 with the City's local funding totaling \$800,000 and \$97,500 from State Revenue Sharing Funds

*Estimated Ongoing Operational Cost:*

- No change in lane miles so maintenance costs are already built into the budget.

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## *Hazel Run Bridge Rehabilitation*

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*Project Manager:* Virginia Department of Transportation and Public Works

*Project Description:* The Virginia Department of Transportation has performed preliminary engineering studies on the Bridge over Hazel Run. The total length of this bridge is 0.03 of a mile. It has been concluded that the performance of certain repairs to the bridge would extend the useful life of this structure considerably. It is recommended that this bridge is rehabilitated using VDOT Revenue Sharing funding. This project does not add any additional capacity to the bridge.

*Project Justification:*

- Rehabilitation of the bridge will modernize the bridge structure to allow for safe travel through the City.

*Recommended Timeline:*

- The project will start with utility relocation at the end of 2014 then move into construction phases, bridges and roadways, with an estimated project completion date of January 2017.

*Estimated Capital Cost:* The total project budget is \$1,280,000 with the City's local match totaling \$340,000. The City has applied for revenue sharing on this project and has budgeted the local match to the revenue sharing application in FY 2016. This project is managed by VDOT so the only expenditures that will be accounted for on City financials is a single payment to VDOT for \$340,000.

*Estimated Ongoing Operational Cost:*

- After the completion of the rehabilitation the City of Fredericksburg will continue assume the inspection, maintenance and snow removal cost of the structure.

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*Route One Bridge over the Canal*

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*Project Manager:* Virginia Department of Transportation and Public Works

*Project Description:* Rehabilitation of the Route 1 Bridge over the Canal. VDOT has previously allocated \$600,000 to perform engineering work on this project; construction will begin in FY 2018 with additional funding in FY19 to complete the project. This project is funding by RSTP and the formula funding provided by the Commonwealth Transportation Board.

*Project Justification:*

- The Route One Bridge over the Canal is in need of rehabilitation in order to properly maintain the bridge for vehicular traffic.

*Recommended Timeline:*

- The project will begin in FY 2018 and cover several years.

*Estimated Capital Cost:* The total project budget is \$5,799,000.

*Estimated Ongoing Operational Cost:*

- This project does not add any additional lane miles or maintenance cost to the existing roadway system.

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## *Culvert Replacement*

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*Project Manager:* Public Works

*Project Description:* Culvert replacement funding is set aside each year so the Department of Public works can maintain and upgrade the culvert and ditch drainage system. This funding also gives Public Works access to funding when culvert or drainpipe needs emergency repair.

*Project Justification:*

- Each year there are both planned and unplanned replacements of culverts and other drainage systems that create a need for a yearly allocation of funding.

*Recommended Timeline:*

- \$75,000 per year for each year of the plan. Any unspent fund falls back to fund balance at the end of the year to help cover the following year's repairs.

*Estimated Capital Cost:* The total project budget is \$75,000.

*Estimated Ongoing Operational Cost:*

- This project does not add any additional operational cost to the Department of Public Works.

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*Downtown Streetscape Renovation*

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*Project Manager:* Public Works

*Project Description:* The ornamental lights the downtown area of the City need to be upgraded and converted to a more energy efficient type of lighting.

*Project Justification:*

- Each year there are both planned and unplanned replacements of culverts and other drainage systems that create a need for a yearly allocation of funding.

*Recommended Timeline:*

- \$75,000 per year for each year of the plan. Any unspent fund falls back to fund balance at the end of the year to help cover the following year's repairs.

*Estimated Capital Cost:* The total project budget is \$75,000.

*Estimated Ongoing Operational Cost:*

- This project does not add any additional operational cost to the Department of Public Works.

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*Lafayette Boulevard at Kenmore Roundabout*

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*Project Manager:* Public Works

*Project Description:* This project will design and construct a traffic roundabout at the intersection of Lafayette Boulevard at Kenmore Avenue.

*Project Justification:* The City had an engineering study done looking at the Lafayette Corridor and the results show various suggested improvements; a roundabout at the intersection of Lafayette and Kenmore was one of them. The VDOT six year plan estimates an additional \$871,662 will be needed at some point after FY 2020 but the construction of this project is not currently included in their improvement plan.

*Recommended Timeline:*

- \$375,000 is included in fiscal year 2020 to complete preliminary engineering on this project.

*Estimated Capital Cost:* The total project budget is \$1,246,662

*Estimated Ongoing Operational Cost:*

- After the project is completed the City of Fredericksburg will assume general maintenance and snow removal costs of this structure.

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*Princess Anne Street Improvements*

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*Project Manager:* Public Works

*Project Description:* The City is scheduled to receive a grant to do Phase II of Princess Anne Street improvements. Phase II includes resurfacing the roadway and improving the curb and gutter and sidewalks from Route 1 to Fauquier Street.

*Project Justification:* Phase I improvements have already been completed and Phase II is the next step to improve this area of the City's downtown area.

*Recommended Timeline:*

- The funding allocated in FY 2017 (\$681,000) and FY 2019 (689,000) are intended to be used the street improvements.

*Estimated Capital Cost:* The total project budget is \$1,470,000

*Estimated Ongoing Operational Cost:*

- The City already maintains this corridor but will assume any additional maintenance costs based on the improvements.

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## *Riverfront Park*

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*Project Manager:* Parks and Recreation

*Project Description:* Develop a 3.6 acre area of the City's Riverfront with both active and passive park elements to provide a variety of activity options. The park will have trails, a venue for live music, open space for picnics and gatherings all within the vista of the Rappahannock River.

*Project Justification:*

- Provides a focal point in the downtown with a significant amount of public space for the use of citizens and visitors

*Recommended Timeline:*

- Begin with completing the design phase - \$1,000,000
- Begin construction by FY 2018 - \$9,000,000

*Estimated Capital Cost:* \$10,000,000 split over three years

*Estimated Ongoing Operational Cost:*

- Limited additional part time maintenance staff will be needed based on increased landscaping and detailed maintenance of the area. Much of the land is currently maintained by the parks maintenance staff.
- With an increased use of this area for special events the staffing and overtime impacts of these events will need to be addressed as they are approved.
- No additional equipment will be needed as a result of the completion of the park. Increased use of current equipment makes timely replacement a high priority for the department.

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*Fall Hill Avenue Widening*

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*Project Manager:* Virginia Department of Transportation and Public Works

*Project Description:* The widening of Fall Hill Avenue to four through lanes with appropriate turning lanes from Carl D. Silver Parkway to Jefferson Davis Highway at Mary Washington Boulevard, including a four lane bridge over Interstate 95, a sidewalk on the south side of Fall Hill Avenue and a bicycle path on the north side and extension of Mary Washington Boulevard from its current terminus at the rear of the Mary Washington Hospital campus westward to Fall Hill Avenue just west of the Rappahannock Canal, a total project distance of approximately 2.05 miles

*Project Justification:*

- The road will increase travel lanes available and improve traffic flow in that area of the City
- The expanded road and new bridges will provide a safe means of travel for pedestrians and bicyclists

*Recommended Timeline:*

- The project will start with utility relocation at the end of 2014 then move into construction phases, bridges and roadways, with an estimated project completion date of January 2017

*Estimated Capital Cost:* The total project budget is \$44,000,000 with the City's local match totaling \$2,900,000

*Estimated Ongoing Operational Cost:*

- After the completion of the road way the City of Fredericksburg will assume the maintenance and snow removal cost of the additional lane miles.

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### *Signals - Route 3*

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*Project Manager:* Public Works

*Project Description:* This project is Phase II of signal upgrades which will take place along the Route 3 corridor.

*Project Justification:* This will allow for the signals to be updated with the most efficient equipment along with the ability to be optimized to current travel conditions creating the safest and best flowing traffic pattern for this area.

*Recommended Timeline:*

- The funding allocated in FY 2017 (\$500,000) and FY 2018 (547,000) are intended to being the work to optimize the traffic signals included in Phase II of the Route 3 upgrade project.

*Estimated Capital Cost:* The total project budget is \$1,046,860

*Estimated Ongoing Operational Cost:*

- The City already maintains this corridor but will assume any additional maintenance costs based on the improvements.

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## *Traffic Signal Modernization*

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*Project Manager:* Public Works

*Project Description:* The Traffic Department has done an assessment on the City's signalized intersections to determine deficiencies and establish a schedule for replacement. Many of the oldest equipment is located in the City's downtown and that is where much of the modernization effort will begin. The City has requested revenue sharing money on the FY 2016 application in order to maximize the number of intersection upgrades in that fiscal year.

*Project Justification:* Many intersections in the City are antiquated and are in danger of falling behind federal standards. This project will allow for the signals to be updated with the most efficient equipment along with the ability to be optimized to current travel conditions creating the safest and best flowing traffic pattern for this area.

*Recommended Timeline:* The FY 2016 Revenue Sharing application requests funding in the amount of \$562,500 with a dollar for dollar local match to replace five signalized intersections in the downtown area. These five were chosen based on the need for replacement and the need for pedestrian crossings improvements. The new signals will feature mast arms and signal poles with decorative, architectural-style ornamentation to complement the streetscape of the historic district. The five intersections are as follows:

- Amelia Street at Caroline Street
- Amelia Street at Princess Anne Street
- Amelia Street at Prince Edward
- Lafayette Boulevard at Princess Anne Street
- Lafayette Boulevard at Caroline Street

The out years of the Capital Improvements Plan allocation funding to improve approximately one intersection per year.

*Estimated Capital Cost:* The total project budget is \$2,125,000

*Estimated Ongoing Operational Cost:*

- The City already maintains these intersections and equipment but will assume any additional maintenance costs based on the improvements.

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*Parking Structure near VRE*

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*Project Manager:* Public Works

*Project Description:* Included in the VDOT Six-Year Improvement Plan is preliminary engineering funding to explore a parking structure near the VRE station.

*Project Justification:* Additional commuter parking is needed near the downtown Fredericksburg VRE Station.

*Recommended Timeline:* This is preliminary engineering funding and is the only funding identified in both the six year plan. The total amount of funding identified in the plan is \$1,255,000 over three years.

*Estimated Capital Cost:* The total project budget is \$29,126,255

*Estimated Ongoing Operational Cost:*

- The operational costs of this facility are unknown at this time and will be further developed as the project moves toward construction stages.

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*Expansion of Wheeled Cart Refuse Collection Services*

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*Project Manager:* Public Works

*Project Description:* In June 2014, the City began a pilot program to evaluate the effectiveness of a modified system for residential solid waste and recycling collection. The pilot program introduced 65 gallon roll-out carts for both solid waste and recycling, and changed the location and frequency of collection from backyard collection twice a week to curbside collection once a week. The pilot program took place in two neighborhoods: College Heights and Darbytown. Approximately 500 customers were included, which is roughly 13% of the total number of current customers citywide.

*Project Justification:* The success of the pilot program, and the lessons we learned, have given us confidence that we can expand the program to other neighborhoods in Fiscal 2016. The Recommended Budget includes funds to expand the program in a phased manner during the next two fiscal years

*Recommended Timeline:* This capital improvements allows for a phased in approach to shifting certain customers to wheeled cart once per week pick up. It is recommended with spend \$200,000 in FY 2016 and \$100,000 in FY 2017 to provide all customers who will fit into this collection model with carts.

*Estimated Capital Cost:* The total project budget is \$300,000

*Estimated Ongoing Operational Cost:*

- After the initial capital purchase there should be operational savings in labor and fuel by going to once per week pick up.

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*Estimated Capital Cost:* The total project budget is \$300,000

*Estimated Ongoing Operational Cost:*

- After the initial capital purchase there should be operational savings in labor and fuel by going to once per week pick up.

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## *Stormwater Management*

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*Project Manager:* Community Planning and Building Development Services and Public Works

*Project Description:* During the past several years, there have been dramatic increases in stormwater regulation and awareness in Virginia. Polluted stormwater runoff is commonly transported through Municipal Separate Storm Sewer Systems (MS4's), from which it is often discharged into local waterways. To prevent harmful pollutants from being washed and dumped into an MS4, localities must obtain a National Pollutant Discharge Elimination System (NPDES) permit and develop a stormwater management program. In prior fiscal years funding was provided to develop a comprehensive stormwater management plan and this additional funding will about for the plan to be implemented.

*Project Justification:* This funding will be used to complete projects that prioritize future compliance efforts, and develop strategies to reduce stormwater pollution from existing and new development.

*Recommended Timeline:* Begin the project in FY 2017 with additional phases needing to be added in future fiscal years.

*Estimated Total One Time Capital Cost:* \$150,000

- *Estimated Total Ongoing Operational Cost:* The operational costs of this project are unknown at this time and will be further developed as the project moves toward construction stages.

<b>Public Facilities Capital</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY20XX</b>
Technology Replacements	\$ 262,500	\$ 275,000	\$ 275,000	\$ 275,000	\$ 275,000	\$ -
Document Management System	-	-	82,000	-	-	-
Telecommunications Replacement	85,500	-	91,000	-	-	-
Replace Enterprise Resource Planning System	-	750,000	750,000	-	-	-
Parks Repair and Maintenance Funding	90,000	100,000	100,000	285,000	185,000	-
Dixon Park Improvements	-	-	-	-	240,000	-
Elevator Repairs	-	100,000	450,000	-	-	-
Maintenance Upgrades and Repairs	200,000	200,000	200,000	200,000	200,000	-
HVAC Replacements	97,000	50,000	50,000	-	-	-
Roof Replacements	40,000	-	75,000	-	-	-
Executive Plaza	80,000	-	-	-	-	5,000,000
Parking Garage	-	2,000,000	-	3,000,000	7,000,000	-
Planning Area Plan Updates	150,000	-	-	-	-	-
<b>Total</b>	<b>\$ 1,005,000</b>	<b>\$ 3,475,000</b>	<b>\$ 2,073,000</b>	<b>\$ 3,760,000</b>	<b>\$ 7,900,000</b>	

<b>Revenues</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY20XX</b>
General Fund Transfer	\$ 882,000	\$ 675,000	\$ 823,000	\$ 560,000	\$ 450,000	
Prior Year Capital Fund Balance	123,000	2,800,000	1,250,000	200,000	450,000	
Debt Issuance	-	-	-	3,000,000	7,000,000	
<b>Total</b>	<b>\$ 1,005,000</b>	<b>\$ 3,475,000</b>	<b>\$ 2,073,000</b>	<b>\$ 3,760,000</b>	<b>\$ 7,900,000</b>	

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## *Technology Replacements*

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*Project Manager:* Information Technology

*Project Description:* The City's Information Technology Department is responsible for maintaining and replacing all hardware and software used by City staff. This capital line item provides funding for various needs and replacement items. The recommended amount for technology capital in FY 2016 will replace 93 computers, 15 mobile printers for public safety vehicles, and 14 iPads; update eleven servers; and install a fire suppression system for the Police Department Server room. In addition to updating primary IT equipment, the Recommended Budget includes funding for a wireless microphone system, replacement credit card machines for Treasurer and Parks and Recreation points of service, and several uninterruptible power supply (UPS) battery systems.

*Project Justification:* The City must continue to replace and upgrade existing technology and look for ways to deploy improved technology to assist with work activities.

*Recommended Timeline:* Replacements will be completed in the year funding is appropriated. In Fiscal Year 2016 replacements total \$262,500 with a planned \$275,000 in funding each year of the Capital Improvements Plan.

*Estimated Total One Time Capital Cost:* \$1,362,500

*Estimated Total Ongoing Operational Cost:* The maintenance costs for majority of these items are already included in the current operating budget. An additional \$5,000 will need to be added to Information Technology's maintenance service contract line to cover voicemail software.

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*Document Management System*

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***Project Manager:*** Information Technology

***Project Description:*** Information Technology completed a study in 2012 detailing the cost of continuing to manage and maintain paper. A document management and imaging solution by far has one of the greatest return on investment of any project outlined in the strategic plan. This project would implement a pilot program with a roll out to all City departments completed at a later date. Moving forward with projects such as ERP, document management and imaging will be a key component to bridge the gap between the past and the future as the City's history, which is maintained in paper, can be joined with the future through a simple document management and imaging solution.

***Project Justification:*** The City will continue to move toward 'Digital Government' by utilizing document management and imaging technology. Not only will this enable departments to achieve greater efficiency and allow the City to reduce overall risk of loss of key information, it will provide a tool which will allow the City to break down barriers in extending services to citizens."

***Recommended Timeline:*** Fiscal Year 2018

***Estimated Total One Time Capital Cost:*** \$82,000 for a 25-User pilot program implementation.

***Estimated Total Ongoing Operational Cost:*** \$6,050 Software Maintenance

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## *Telecommunications Replacements*

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*Project Manager:* Information Technology

*Project Description:* This project will replace the nearly 20 year old phone system in City Hall. The current system and related software are no longer supported by the manufacturer and software updates are no longer available. This upgrade will allow for a Voice over IP Phone System to be installed in City Hall which would help facilitate interdepartmental communications and consolidate telecommunication systems costs and support into a single vendor system.

*Project Justification:* The current system is antique and no longer supported by the vendor.

*Recommended Timeline:* Funding in FY 2016 (\$85,500) is designated to replace the phone system in City Hall and the funding recommended in FY 2018 (\$91,000) is to replace the phone system at the Police Department.

*Estimated Total One Time Capital Cost:* \$176,500

*Estimated Total Ongoing Operational Cost:* The maintenance costs for majority of these items are already included in the current operating budget. An additional \$5,000 will need to be added to Information Technology's maintenance service contract line to cover software.

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## *Enterprise Resource System Replacement*

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*Project Manager:* Information Technology

*Project Description:* Replace the software package that currently is used for the following City functions:

- Tax Assessment
- Billing, Collection and Cashiering
- Web services for Citizens and Businesses
- Payroll & Human Resource
- Financial Management
- Utility Management
- Community Development (Planning and Building & Development).

*Project Justification:*

- The current City system is 27 years old and runs on an antiquated platform.
- Costs to make improvements to the system have become increasingly more expensive.
- The time to implement the limited system improvements available system is often lengthy.
- There is limited availability of programmers to work on existing applications or develop new products on the AS400 platform.
- Many localities are upgrading financial systems making the client group of our existing provider smaller each year.
- Elected Officials and key City staff are committed to carrying out the massive project.
- A new system would allow for more online services for citizens.
- A new system would help Community Development functions become more efficient, automated and customer service friendly.

*Recommended Timeline:* Split the project into two years:

- Begin with replacing the financial portions of the system in FY 2017
- Then address the City Management suite which includes community development, code enforcement and the assessment system in FY 2018.

*Estimated Capital Cost:* \$1,500,000 split over two years

*Estimated Ongoing Operational Cost:* \$75,000 yearly

- Current software maintenance costs are approximately \$45,000; a net increase to the annual budget of \$30,000

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*Parks Repair and Maintenance Funding*

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*Project Manager:* Parks, Recreation & Public Facilities

*Project Description:* This project provides funding for many park facility upgrades and repairs. The projects will be completed based on the greatest need determined by the Parks, Recreation & Public Facilities Department. Projects that have been identified for completion with this funding include in FY2016 updates such as the purchase of rentable facilities at Alum Spring Park and Motts Run Reservoir, additional rentable stage pieces, new art boards, a restroom trailer at Hurkamp Park to replace rented porta-potties, and the purchase of a storage shed for Dixon Park to house equipment.

*Project Justification:* In order to keep up with the usage demands on the City's parks funding is needed annually make repairs and improvements.

*Recommended Timeline:* Projects will be completed in the year funding is appropriated.

*Estimated Total One Time Capital Cost:* The estimated cost for projects in FY 2016 is \$90,000 with \$100,000 recommended in all other years of the capital improvements plan for the department to make improvements as necessary.

*Estimated Total Ongoing Operational Cost:* The Parks and Recreation Department anticipates savings in rental costs as well as on equipment repair based on the completion of these projects.

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*Dixon Park Improvements*

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*Project Manager:* Parks, Recreation & Public Facilities

*Project Description:* The Dixon Park development was phased into three parts in 2002 when the Master Plan was developed. Phase I of the Dixon Park Master Plan was then broken into parts due to funding. The balance of Phase I includes completion of a pathway system and lighting for the parking areas.

*Project Justification:* The Dixon Park athletic fields are a tremendous success and appreciated asset to the citizens of the City, but the park is becoming popular for its walking trails as well. By finishing the pathway system and lighting the parking areas, the park could be more appealing for longer periods of the day, and by a wider variety of citizens.

*Recommended Timeline:* FY 2020

*Estimated Total One Time Capital Cost:* \$240,000 for equipment and construction costs.

*Estimated Total Ongoing Operational Cost:* Additional funding will be needed for electricity costs associated with the lights as well as for contracted maintenance to maintain the trail ways.

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## *Elevator Repairs*

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*Project Manager:* Parks, Recreation & Public Facilities

*Project Description:* This project will modernize the existing elevators throughout the City facilities. Based on the Vertical Transportation Excellence due-diligence study conducted in 2011 a five-year plan was developed which includes the Train Station (Kiss & Ride) in FY2017 and (2) elevators at Executive Plaza in FY2018.

*Project Justification:* City elevators are repaired as necessary, but costs and frequency of repairs increase as the elevators age. Funding of this project will improve reliability, reduce operating expense resulting from a reduction of service calls, and improve customer perception.

*Recommended Timeline:* FY2017 and FY2018

*Estimated Total One Time Capital Cost:* \$550,000 over two years with \$100,000 being recommended in FY 2017 and \$450,000 in FY 2018.

*Estimated Total Ongoing Operational Cost:* There are no additional cost associated with this project as the current maintenance service agreement will be continued to cover the new equipment.

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*Public Facilities Building Improvements*

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*Project Manager:* Parks, Recreation & Public Facilities

*Project Description:* This project provides funding for many building upgrades and repairs. The projects will be completed based on the greatest need determined by the Public Facilities Department. Projects that have been identified for completion with this funding include in FY2016 updates such as replacement of the generator at the City Shop, upgrades to the lighting at the Train Station, Executive Plaza and Fire Station 2 as well as the UPS battery replacement at the Police Department.

*Project Justification:* In order to properly maintain City facilities building improvement projects must be completed routinely.

*Recommended Timeline:* The projects listed above are recommended for completion in FY 2016. The Capital Improvements Plan recommends funding in each of the out years for future building related projects.

*Estimated Total One Time Capital Cost:* \$1,000,000 over the five year period.

*Detail Type of Capital Costs:* The funding will be used to purchase equipment and pay for the construction and installation to complete the project.

*Estimated Total Ongoing Operational Cost:* There are no additional ongoing operating costs aside from the maintenance service contract on the City Shop Generator. The cost of that will be determined once the product is selected.

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## *HVAC Replacements*

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*Project Manager:* Parks, Recreation & Public Facilities

*Project Description:* The City has aging HVAC units in several City owned facilities. This funding will allow for the Public Facilities Department to replace older HVAC systems in the greatest need of replacement with more energy efficient systems to provide temperature control in City owned facilities.

*Project Justification:* HVAC upgrades in FY2016 include one unit at the Dorothy Hart Community Center, units for the 3<sup>rd</sup> and 4<sup>th</sup> floors of the Executive Plaza, and replacement of a boiler system at the Cottage on Washington Avenue. FY2017 and FY2018 requests include funding for HVAC replacements that will be identified.

*Recommended Timeline:* Replace several units over a three year period

*Estimated Total One Time Capital Cost:* \$197,000 over a three year period with \$97,000 being recommended for appropriation in FY 2016.

*Estimated Total Ongoing Operational Cost:* There is no additional costs anticipated with these replacement projects. It is the desire of Public Facilities to achieve energy saving by installing modern equipment.

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## *Roof Replacements*

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*Project Manager:* Parks, Recreation & Public Facilities

*Project Description:* Due to the age and overall performance of the roofing systems of at least nineteen buildings throughout the City, there are a number of items to be repaired and replaced. The Public Facilities Department is assessing the needs of the roofs on City owned buildings and will replace based on the order of need each fiscal year funding is appropriated

*Project Justification:* Each year Public Facilities performs roof repairs and replacements to appropriately maintain city buildings.

*Recommended Timeline:* Projects will be completed in the year funding is appropriated.

*Estimated Total One Time Capital Cost:* \$115,000 over several years with \$40,000 recommended for appropriation in FY 2016

*Estimated Total Ongoing Operational Cost:* There are no additional operational costs associated with this project.

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*Executive Plaza*

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*Project Manager:* Parks, Recreation & Public Facilities

*Project Description:* The Executive Plaza building, located at 601 Caroline St., has been renovated to include all floors except two. This building was built in the 1970's and is in need of a pump for the fire suppression system.

*Project Justification:* The fire pump replacement is necessary for the safety of the occupants and contents of the building

*Recommended Timeline:* FY2016

*Estimated Total One Time Capital Cost:* \$80,000

*Detail Type of Capital Costs:* Purchase of equipment and the cost of installation

*Estimated Total Ongoing Operational Cost:* this is a replacement project; efficiencies will be gained by installing new equipment

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## *Downtown Parking Garage*

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*Project Manager:* Public Facilities

*Project Description:* The City of Fredericksburg currently has one structured 297 space parking garage, at the corner of Sophia and Wolfe Streets which was completed in 2005. This project would build a second parking garage in the downtown area in order to meet the current and future parking needs of the City.

*Project Justification:*

- As the downtown area continues to develop it is necessary to offer additional public structures for parking.

*Recommended Timeline:*

- Begin in FY 2017 with contributing \$2,000,000 to an underground parking structure being built by a private developer on William Street.
- Begin in FY 2019 with purchasing land and structure design over two years - \$3,000,000
- Begin construction in FY 2020 - \$7,000,000

*Estimated Capital Cost:* \$12,000,000 for the contribution to one parking facility and building another parking garage at a location to be determined in the downtown.

*Estimated Ongoing Operational Cost:*

- Day-to-day operating costs in the current garage currently approximate \$150,000 per year, which does not include depreciation or overhead items absorbed by the City (e.g. insurance, management, IT support.) Daily revenues of the projected deck would need to be determined once the size and scope of the project are defined.

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### *Planning Area Plans Update*

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*Project Manager:* Planning and Community Development

*Project Description:* Based on Comprehensive Plan goals, objectives, and initiatives, completing Area Plans for specific locations of the City will provide direction for Council and the Planning Commission when considering land use applications. A comprehensive and cohesive area plan can be used as a tool to guide future land use decisions and the expenditure of funds for public facilities. The first two area plans to be completed are Princess Anne and University areas near and along the Route One Corridor.

*Project Justification:* Downtown Fredericksburg needs a comprehensive and cohesive plan to guide future land use decision and the expenditure of funds for public facilities.

*Recommended Timeline:* The plan is slated for completion in FY 2016.

*Estimated Total One Time Capital Cost:* \$150,000

*Estimated Total Ongoing Operational Cost:* There are no ongoing operational costs associated with project.

<b>Public Safety Capital</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
Ambulance Replacement	\$ 260,000	\$ 260,000	\$ -	\$ 260,000	\$ 260,000
Fire Apparatus Replacement	-	-	-	885,000	110,000
SCBA Replacement	60,000	60,000	-	-	-
Fire Station 3	650,000	5,850,000	1,000,000	-	-
Public Safety Radio System Study and Upgrade	-	-	2,125,000	2,125,000	-
Police Camera System	74,000	145,000	74,000	74,000	190,000
Fire Station 1&2 Furniture and Equipment	125,000	135,000	-	-	-
911 Center Improvements	-	250,000	-	-	-
Tactical Building and Classrooms for Firearms Training	100,000	-	-	-	-
<b>Total</b>	<b>\$ 1,269,000</b>	<b>\$ 6,700,000</b>	<b>\$ 3,199,000</b>	<b>\$ 3,344,000</b>	<b>\$ 560,000</b>

<b>Revenues</b>					
Prior Year Capital Fund Balance	\$ 130,000	\$ 168,000	\$ 74,000	\$ 100,000	\$ -
General Fund Transfer	489,000	682,000	-	884,000	375,000
Debt Issuance	650,000	5,850,000	3,125,000	2,125,000	-
Grant Funding	-	-	-	235,000	185,000
<b>Total</b>	<b>\$ 1,269,000</b>	<b>\$ 6,700,000</b>	<b>\$ 3,199,000</b>	<b>\$ 3,344,000</b>	<b>\$ 560,000</b>

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## *Ambulance Replacements*

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*Project Manager:* Fire Department

*Project Description:* The Fire Department has three ambulance units in service and shares other units with the Fredericksburg Rescue Squad when maintenance is required for these units. The Fredericksburg Fire Department EMS provides coverage during the day every day of the week, and the Fredericksburg Rescue Squad provides coverage during off-hours. Funding in the capital improvements plans allows for the replacement of this crucial equipment for the Fire Department and Rescue Squad.

*Project Justification:* Replacement funding will replace ambulances that have reached the end of their lifespan due to extensive mileage and maintenance costs.

*Recommended Timeline:* The Funding in FY16 will replace a unit for the Fire Department and the funding in FY17 will replace a unit for the Rescue Squad.

*Estimated Total One Time Capital Cost:* \$260,000 per ambulance

*Estimated Total Ongoing Operational Cost:* The maintenance, fuel and soft supply costs for these items are already included in the current operating budget.

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## *Fire Apparatus Replacements*

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*Project Manager:* Fire Department

*Project Description:* The Fire Department has a variety of trucks and equipment that enables them to respond to all calls for service. This capital project is designed to replace fire engines and other specialized equipment. Included in this project is funding to replace a fire engine, the Haz-Mat truck as well as the Dive Team Vehicle.

*Project Justification:* Replacement funding will replace equipment that have reached the end of their lifespan due to extensive mileage and maintenance costs.

*Recommended Timeline:* The Funding in FY19 is anticipated local funding and will replace a fire engine (\$675,000). The remainder of the equipment replacement in the plan will be contingent upon the availability of grant funding.

*Estimated Total One Time Capital Cost:* \$675,000 fire engine, \$210,000 hazmat vehicle, \$110,000 dive team vehicle.

*Estimated Total Ongoing Operational Cost:* The maintenance, fuel and soft supply costs for these items are already included in the current operating budget.

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## *SCBA Replacements*

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*Project Manager:* Fire Department

*Project Description:* The Fire Department currently has 42 Self-Contained Breathing Apparatus (SCBA) that are part of the firefighters' personal protective ensemble. These units are mounted on our fire apparatus and available for immediate use during emergencies. All personnel are also required to be fit-tested each year per the NFPA standards. This requires a mask sized to each person and issued to that individual.

*Project Justification:* The established replacement program for SCBA is enabling the upgrade of this equipment over several years to meet current and future NFPA standards related to respiratory protection.

*Recommended Timeline:* Funding is recommended in FY 2016 and FY 2017 to complete initial replacement and with further funding needed to be added to the out years in order to continue the replacement schedule.

*Estimated Total One Time Capital Cost:* \$120,000 in equipment cost over two years.

*Estimated Total Ongoing Operational Cost:* The maintenance costs for these items are already included in the current operating budget.

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### *Fire Station #3*

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*Project Manager:* Fire Department

*Project Description:* To build a third fire station to address the continually growing fire and rescue needs of the City of Fredericksburg. Fire Station 3 is proposed to be built on current city property in the Celebrate Virginia South development. The building is anticipated to be 16,000 square feet in order to house fire and emergency medical apparatus, provide living space for 24/7 staffing, as well as space for a community and training room.

*Project Justification:*

- Increasing call volumes coupled with new construction have created a need to construct and occupy a third fire station within the City limits
- Strategically locating staff and equipment throughout the City will assist in meeting NFPA guidelines for response times for both emergency medical and fire suppression calls
- Allows quicker access to the western region of the City especially the Fall Hill Avenue, Central Park and Cowan Blvd. areas.

*Recommended Timeline:*

- Begin in FY 2016 with completing the design phase and construction the following year

*Estimated Capital Cost:* \$7,000,000

- Design Phase: \$700,000
- Construction Costs: \$5,000,000
- Furniture Fixtures and Equipment: \$300,000
- Purchase of Fire and EMS Equipment: \$1,000,000
  - Desired replacement schedule of an ambulance: 7 years
  - Desired replacement schedule of a fire truck: 15 years

*Estimated Ongoing Operational Cost:*

- Additional Staffing Needs
  - 15 Firefighter medics to staff the station on a 24 hour basis
    - Hire this staff on a phased in approach over time instead of all employees at once.
    - Estimated cost \$1,200,000 which equates to \$0.033 cents on the real estate tax rate
- Electricity, cleaning and other maintenance costs at \$7.00 per square foot.

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## *Public Safety Radio System Upgrade*

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*Project Manager:* Police and Fire Departments

*Project Description:* This project would replace the current antiquated radio systems for Police, Fire, FRED Transit, Public Works and Public Facilities. The current radio system is composed of frequencies, towers, transmitters, repeaters, receivers, consoles, mobile and portable radios. The other component is leased phone lines. Utilizing phone lines as the means of transportation for radio communications is often problematic because of reliability. Included in the FY 2015 budget are funds to develop a comprehensive report pertaining to our current radio systems and an upgrade to a new system. The report will include the following information:

- Needs assessment and analysis.
- Potential concept designs for an improved radio communication system.
- Assessment report of findings and recommendations.

The upgrade project will be split into two major components. The first is to replace all in vehicle and portable radios with new devices that operate on the frequency of the new radio system. The second component is to update the dispatch consoles in the 911 Emergency Communications Center to communicate with the new frequency.

*Project Justification:*

- Three of the frequencies were procured through the Federal Communications Commission over 30-years ago. The last frequency was established when Mary Washington Hospital moved to their current location 20 years ago.
- Regional first responders all operate on higher band frequencies. This compromises interoperability by making us reliant on a few specific multi-band radios or by using a “patch system” run through voice over internet protocol technology (VoIP).
- The upgraded system would rely on micro-wave technology system which would no longer make us reliant on phone lines to transmit radio communication.
- An upgraded system would provide better, more reliable and clearer communication for our first responders and other City staff.

*Recommended Timeline:*

- Begin in FY 2018 with a two year total project time to replace both systems.

*Estimated Capital Cost:* \$4,250,000

*Estimated Ongoing Operational Cost:*

- The maintenance costs of operating on the new system may be higher as well as the cost of replacing the new radio devices. A better estimate of the ongoing cost will be provided once the final scope of the project is determined.

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## *Police Camera System*

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*Project Manager:* Police Department

*Project Description:* The Police Department plans to purchase 6 in-car cameras in FY16. In-car cameras are digital audio and visual recording devices that are mounted above the dashboard of patrol vehicles. The camera is activated automatically whenever the emergency lights and/or siren on the patrol vehicle are in use or can be manually triggered by the officer.

*Project Justification:* The value of the camera technology to increase officer safety through the documentation of evidence concerning observed criminal activity and assaults against police officers is incalculable. Nearly of equal value to agency management is the modification of behavior that takes place when an officer and citizen know that their actions are being recorded, as well as the mitigation of complaints through incontrovertible proof of an employee's conduct. These advantages serve to strengthen the overall accountability of the agency and increase the public's trust in the professionalism of the individual officers who serve the community.

*Recommended Timeline:* The funding located in the Capital Improvements Plan is allocated to replace and maintain both the car and body camera system.

*Estimated Total One Time Capital Cost:* The five year cost is estimated at \$557,000

*Estimated Total Ongoing Operational Cost:* The maintenance service contract for these items are already included in the current operating budget.

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## *Fire Station Upgrades*

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*Project Manager:* Fire Department

*Project Description:* The two fire stations are strategically located within the city to allow prompt response to emergencies. Both stations are fully-equipped with furniture, fixtures and equipment to allow for personnel to be stationed 24-hours each day. Station #1 was occupied in 1972 and Station #2 in 1988. This recommended funding will replace and/or upgrade outdated or obsolete equipment as necessary to continue fire service operations at both stations.

*Project Justification:* These stations are manned 24/7 it is reasonable to expect that the furniture and fixtures will sustain heavier usage. The furniture, fixtures and equipment needs to be upgraded or replaced to allow for efficient and effective operations of firefighting and EMS personnel.

*Recommended Timeline:* The first phase will be FY16 and will include the upgrade of the kitchen and bathrooms at Fire Station #1 to make them more functional and meet ADA requirements as well as the replacement of the gear lockers and the personnel lockers. FY17 funding will upgrade the kitchen at Fire Station #2.

*Estimated Total One Time Capital Cost:* The total renovation cost is estimated at \$260,000

*Estimated Total Ongoing Operational Cost:* The maintenance and upkeep for these items are already included in the current operating budget.

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## *911 Center Improvements*

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*Project Manager:* Police Department

*Project Description:* The operating system and related hardware to support emergency call taking must be replaced as it is antiquated and no longer maintained by the systems provider.

*Project Justification:* An updated operating system and related hardware to support emergency calls is a high priority to maintain an expected level of service to the public and defines our operations as a Public Safety Answering Point (PSAP). It is essential to incorporate technological advances with the consideration of end of life and cessation of available maintenance

*Recommended Timeline:* This project will be completed in FY 2017

*Estimated Total One Time Capital Cost:* The total cost to upgrade the 911 operating system is estimated at \$250,000.

*Estimated Total Ongoing Operational Cost:* The maintenance service contract for this operating system is already included in the current operating budget.

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*Tactical Building and Classrooms for Firearms Training*

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*Project Manager:* Police Department

*Project Description:* The Police Department shares an outdoor firearms range with the Stafford County Sheriff's Office which is located in Stafford County. The Stafford County Sheriff's Office is constructing a classroom/tactical building with the use of seized assets. Due to it being a shared facility, the City is requested to outfit the building with furniture, fixtures and equipment for the building.

*Project Justification:* The City's Police Department has an agreement with the Stafford Sheriff's Office so City police officers have a facility to complete firearms training. In order for the City to be a partner at the facility, we must contribute to capital costs.

*Recommended Timeline:* This project will be completed in FY 2017

*Estimated Total One Time Capital Cost:* The total cost of this project is \$100,000.

*Estimated Total Ongoing Operational Cost:* The maintenance service agreement for utilizing this facility is already included in the current operating budget.

<b>Public Education Capital</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
Original Walker Grant School Renovation	\$ -	\$ -	\$ 1,300,000	\$ 11,700,000	\$ -
School Bus Replacement	180,000	185,000	185,000	185,000	-
School Computer Technology	79,000	185,000	185,000	185,000	-
School Equipment / Carpet	25,000	85,000	85,000	85,000	-
Walker-Grant Roof Replacement	-	-	-	1,200,000	-
Elementary School	-	-	-	-	18,000,000
<b>Total</b>	<b>\$ 284,000</b>	<b>\$ 455,000</b>	<b>\$ 1,755,000</b>	<b>\$ 13,355,000</b>	<b>\$ 18,000,000</b>
<b>Revenues</b>					
Debt Issuance	\$ -	\$ -	\$ 1,300,000	\$ 12,900,000	\$ 18,000,000
Transfer from General Fund	284,000	455,000	455,000	455,000	-
<b>Total</b>	<b>\$ 284,000</b>	<b>\$ 455,000</b>	<b>\$ 1,755,000</b>	<b>\$ 13,355,000</b>	<b>\$ 18,000,000</b>

<b>New Court Capital</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
Renwick Building	-	1,280,000	11,520,000	-	
<b>Total</b>	<b>\$ -</b>	<b>\$ 1,280,000</b>	<b>\$ 11,520,000</b>	<b>\$ -</b>	
<b>Revenues</b>					
Debt Issuance		\$ 1,280,000	\$ 11,520,000	\$ -	
<b>Total</b>	<b>\$ -</b>	<b>\$ 1,280,000</b>	<b>\$ 11,520,000</b>	<b>\$ -</b>	

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*Renwick Reuse*

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*Project Manager:* Public Facilities

*Project Description:* The City of Fredericksburg's historic Circuit Court building, designed by James Renwick, will be vacated by the court and the Clerk of Circuit Court after the completion of the new court building at the intersection of Princess Anne and Charlotte Streets. The Renwick Building is vacant as of August 1, 2014 due to the opening of the new courthouse building. This project would renovate the Renwick Building while preserving the historic character for future use by the City of Fredericksburg. The building provides 12,919 square foot of space. The facility has problems with moisture intrusion and mold. It does not comply with ADA Building Codes and will require significant renovations to extend its useful life and remedy known deficiencies.

*Project Justification:*

- The building is historic and vacant so an appropriate renovation and reuse project needs to be developed and completed to preserve and best use this piece of history in our City.

*Recommended Timeline:*

- Begin in FY 2017 with completing the study and design phase over two years - \$1,280,000
- Begin construction in FY 2019 - \$11,520,000

*Estimated Capital Cost:* \$12,800,000

*Estimated Ongoing Operational Cost:*

- The cost of operating the building is currently in the City's budget. More specific estimate as to ongoing costs will be provided once the full scope of the project is determined.

<b>Water Capital</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
System Assessment and Improvements	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
College Heights Water System Upgrades	500,000	2,000,000	2,000,000	2,200,000	-
Powhatan Tank and Line Improvements	-	1,000,000	800,000	-	-
Caroline Street Water Line Replacement	2,000,000	-	-	-	-
2" Water Line Replacement - Off Lafayette Boul	210,000	-	-	-	-
Fall Hill Avenue Betterments	488,219	-	-	-	-
<b>Total Water</b>	<b>\$ 3,448,219</b>	<b>\$ 3,250,000</b>	<b>\$ 3,050,000</b>	<b>\$ 2,450,000</b>	<b>\$ 250,000</b>

<b>Revenues</b>					
Availability Fees	\$ 210,000	\$ 400,000	\$ 400,000	\$ 650,000	\$ 250,000
Debt Issuance	2,625,000	2,850,000	2,000,000	1,200,000	-
Prior Year Capital Fund Balance	613,219	-	650,000	600,000	-
<b>Total</b>	<b>\$ 3,448,219</b>	<b>\$ 3,250,000</b>	<b>\$ 3,050,000</b>	<b>\$ 2,450,000</b>	<b>\$ 250,000</b>

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## *System Assessment and Improvements*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The City of Fredericksburg will use a combination of staff and consultants to complete an assessment of the overall water linesystem. This work will require staff involvement, and the investment in staff time working with the outside consultant help to complete the assessment in order to determine the status of the pipe in the City's water linesystem. Stage one of this project will be to complete the assessment and then funding in the out years of the capital improvements plan will be allocated to projects identified in the assessment process.

*Project Justification:* An efficient and effective Water and Sewer system is vital to the City's operation it ties into the Council Initiative of increasing prosperity of citizens and businesses by offering this effective services as well as sustaining the environment by having a reliable system that protects the drinking water, natural beauty, and historic resources of the Rappahannock River.

*Recommended Timeline:* This project will be completed in FY 2016 with work to continually improve the system done each year.

*Estimated Total One Time Capital Cost:* It is recommended that \$250,000 be set aside each year to assess and improve the water system.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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## *College Heights Water System Upgrades*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The College Heights neighborhood is an older, well-established neighborhood in the City with aging infrastructure. The City's Public Works Department has conducted an assessment of the water lines in the area. The assessment revealed that improvements are needed in order to continue to serve the neighborhood and the University of Mary Washington with adequate water supply and pressure. The preliminary engineering report recommended a combination of continued pipe and valve assessment, valve replacement, pipe replacement, and pipe cleaning throughout the neighborhood to improve residual pressures and water quality. In addition, the report recommended constructing a secondary source of supply for the area to increase residual pressures and provide for additional system redundancy in the case of pipe failures.

*Project Justification:* Completion of this project will address water quality and supply issues that are being experienced in this area of the City.

*Recommended Timeline:* This is a multi-year improvement project that began in FY 2015 with full upgrade completed by FY 2019

*Estimated Total One Time Capital Cost:* Total cost of this project is \$6,700,000

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Powhatan Water Tank and Line Improvements*

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*Project Manager:* Public Works Utilities Division

*Project Description:* After the closure of the Cossey Water Plan on Kenmore Avenue the flow of the water system changed. As time has passed and the Powhatan Tank has aged improvements must be made to the tank in order to address water age and chlorine residuals of water in the tank due to the lesser daily demand on the tank than when it was originally built. This project will improve the tank as well as replace a 24 inch mainline from the Powhatan Tank to the Canal.

*Project Justification:* Completion of this project will address water quality and supply issues that are being experienced due to less daily water flow being pulled from this tank.

*Recommended Timeline:* This project will begin in FY 2017 and is slated for completion in FY 2018.

*Estimated Total One Time Capital Cost:* Total cost of this project is \$500,000 for tank improvements and \$1,500,000 for the line improvements

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Caroline Street Water Line Replacement*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The City Public Works Department recommends replacing the water line in Caroline Street between Amelia Street and Dixon Street. The water line north of William Street would be a twelve-inch water line, while the water line going south of William Street would be upgraded from a six-inch to a larger size to be determined with additional engineering.

*Project Justification:* Completion of this project will address water quality and supply issues that are being experienced in this area of the City.

*Recommended Timeline:* This project will begin in FY 2016.

*Estimated Total One Time Capital Cost:* Total cost of this project is \$2,000,000.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Water Line Replacement off Lafayette Boulevard*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The Public Works Department has identified a need to replace a small 2” water line that runs along a service road in the 1900 block of Lafayette Boulevard. The completion of this project will better tie this area of the system into the main lines.

*Project Justification:* Completion of this project will improve the ability to provide water to the customers who access this line.

*Recommended Timeline:* This project will begin in FY 2016.

*Estimated Total One Time Capital Cost:* Total cost of this project is \$150,000

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Fall Hill Avenue Betterments*

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*Project Manager:* Public Works Utilities Division

*Project Description:* Plans for the upgrading of the Fall Hill Avenue roadway have been approved by the Virginia Department of Transportation. There are a number of small upgrades and improvements to the City's utilities which are required during the construction of this upgraded roadway. These improvements, while necessary, are not within the scope of the work by VDOT. The betterments include relocation of a sewer line and realignments of water mains, all of which are either presently needed or will be needed in the near future.

*Project Justification:* This project is a necessary upgrade to the utility system and it makes sense to complete these betterments prior to the construction of the new Fall Hill Avenue.

*Recommended Timeline:* This project will begin in FY 2016.

*Estimated Total One Time Capital Cost:* The cost of the water portion of this project is \$488,219.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

<b>Wastewater Capital</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>
Infiltration & Inflow Abatement	\$ 250,000	\$ 750,000	\$ 750,000	\$ 750,000	\$ 750,000
Caroline Street - Route 1 to Pump Station	-	1,300,000	-	-	-
Renovate Caroline Street Pump Station	-	-	400,000	-	-
Caroline Street - Pump Station to Wolfe Street	-	-	500,000	1,000,000	-
Caroline Street - Wolfe Street to Rocky Lane	-	-	-	500,000	-
Prince Edward Street - William to Canal	-	-	-	-	250,000
NPS - Off Farrell Lane Line Replacement	-	-	-	-	390,000
SC WWTP Upgrades / Repairs	1,500,000	1,500,000	-	-	-
Bragg Hill to Fall Hill Pump Station	540,000	-	-	-	-
Replace Steel Pipes Downtown	-	240,000	-	-	-
Pump Station Upgrades - Grinders & Hydrants	110,000	-	165,000	-	-
Replace Route 2 / 17 Pump Station	-	500,000	-	-	-
Fall Hill Avenue Betterments	50,500	-	-	-	-
WWTP - Replace Filter Press	1,500,000	-	-	-	-
WWTP - Rehab Oxidation Ditch	-	-	250,000	-	-
WWTP - Rehab Influent Pump Station	-	-	500,000	500,000	-
WWTP - Replace Sludge Transfer & Pumps	50,000	80,000	-	110,000	-
WWTP - New Bar Screen Equipment	-	-	75,000	50,000	-
<b>Wastewater Total</b>	<b>\$ 4,000,500</b>	<b>\$ 4,370,000</b>	<b>\$ 2,640,000</b>	<b>\$ 2,910,000</b>	<b>\$ 1,390,000</b>

<b>Revenues</b>					
Availability Fees	\$ 500,000	\$ 550,000	\$ 600,000	\$ 700,000	\$ 750,000
Prior Year Capital Fund Balance	400,500	1,020,000	40,000	210,000	-
Debt Issuance	3,100,000	2,800,000	2,000,000	2,000,000	640,000
<b>Total</b>	<b>\$ 4,000,500</b>	<b>\$ 4,370,000</b>	<b>\$ 2,640,000</b>	<b>\$ 2,910,000</b>	<b>\$ 1,390,000</b>

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## *System Assessment and Improvements*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The City of Fredericksburg will use a combination of staff and consultants to complete an assessment of the overall sewer linesystem. This work will require staff involvement, and the investment in staff time working with the outside consultant help to complete the assessment in order to determine the status of the pipe in the City's sewer linesystem. Stage one of this project will be to complete the assessment and then funding in the out years of the capital improvements plan will be allocated to projects identified in the assessment process.

*Project Justification:* An efficient and effective Water and Sewer system is vital to the City's operation it ties into the Council Initiative of increasing prosperity of citizens and businesses by offering this effective services as well as sustaining the environment by having a reliable system that protects the drinking water, natural beauty, and historic resources of the Rappahannock River.

*Recommended Timeline:* This project will be completed in FY 2016 with work to continually improve the system done each year.

*Estimated Total One Time Capital Cost:* It is recommended that \$250,000 be set aside in year one with \$750,000 in the remainder of the plan to continue to assess and improve the sewer system.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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## *Caroline Sewer System Improvements*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The sewer lines beneath Caroline Street serve the majority of the downtown area. These lines are rapidly approaching the end of their projected life-cycle. While presently serviceable, the consequence of their failure and the condition of the pipes makes it prudent to upgrade and replace the piping in the near future. A multiyear sewer upgrade project is included in the capital improvements plan and slated for completion as followed:

- *Route 1 to Caroline Pump Station – FY 2017 at a cost of \$1,300,000*
- *Renovation of Caroline Pump Station – FY 2018 at a cost of \$400,000*
- *Caroline Street Pump Station to Wolfe Street – FY 2018 and FY 2019 at a cost of \$1,500,000*
- *Wolfe Street to Rocky Lane – FY 2019 at a cost of \$500,000*

*Project Justification:* An efficient and effective Water and Sewer system is vital to the City's operation it ties into the Council Initiative of increasing prosperity of citizens and businesses by offering this effective services as well as sustaining the environment by having a reliable system that protects the drinking water, natural beauty, and historic resources of the Rappahannock River.

*Recommended Timeline:* This is a multi-year capital improvements project that will begin in FY 2017 and end in FY 2019.

*Estimated Total One Time Capital Cost:* The total cost of this project is \$3,700,000.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Prince Edward Street Sewer System Improvements*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The sewer lines beneath Prince Edward Street serve a vital portion of the downtown area. These lines are rapidly approaching the end of their projected life-cycle. While presently serviceable, the consequence of their failure and the condition of the pipes makes it prudent to upgrade and replace the piping in the near future. The project replaces the lines on Prince Edward Street that run from William Street to Canal Street.

*Project Justification:* An efficient and effective Water and Sewer system is vital to the City's operation it ties into the Council Initiative of increasing prosperity of citizens and businesses by offering this effective services as well as sustaining the environment by having a reliable system that protects the drinking water, natural beauty, and historic resources of the Rappahannock River.

*Recommended Timeline:* This project is slated for completion in FY 2020

*Estimated Total One Time Capital Cost:* The total cost of this project is \$250,000.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*National Park Service Project – Farrell Lane Line Replacement*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The Public Works Department has identified a need to replace sewer lines off of Farrell Lane. The Ferrell lane sewer runs through the Nation Park Service Land. The sewer is old and has frequent back-ups. These are caused by root intrusions into not only the sewer lines but the manholes as well. Access to the lines is difficult due to restrictions placed by the Park Service and the terrain.

*Project Justification:* An efficient and effective Water and Sewer system is vital to the City's operation it ties into the Council Initiative of increasing prosperity of citizens and businesses by offering this effective services as well as sustaining the environment by having a reliable system that protects the drinking water, natural beauty, and historic resources of the Rappahannock River.

*Recommended Timeline:* This is a multi-year capital improvements project that will begin in FY 2016 and end in FY 2019.

*Estimated Total One Time Capital Cost:* The total cost of this project is \$2,990,000.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Spotsylvania County Wastewater Treatment Plant Improvements*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The City of Fredericksburg has an agreement with Spotsylvania County to treat 1.5 million gallons of the City's wastewater yearly. The plant is a 4.0 million gallon plant thus the City represents about 37.5% of plant capacity. This funding is for upgrades of hydraulic systems to transfer flow to Massaponax. The project represents the City's cost in completion of this project.

*Project Justification:* An efficient and effective Water and Sewer system is vital to the City's operation it ties into the Council Initiative of increasing prosperity of citizens and businesses by offering this effective services as well as sustaining the environment by having a reliable system that protects the drinking water, natural beauty, and historic resources of the Rappahannock River.

*Recommended Timeline:* This project is slated for completion in FY 2020

*Estimated Total One Time Capital Cost:* The total cost of this project is \$250,000.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Sewer Lines from Bragg Hill to the Fall Hill Avenue Pump Station*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The Public Works Department has identified a need to replace and install sewer lines from the Bragg Hill area to the Fall Hill Avenue Pump Station. .The completion of this project will better tie this area of the system into the main lines.

*Project Justification:* Completion of this project will improve the quality of service to the customers who access this line.

*Recommended Timeline:* This project is slated for completion in FY 2016

*Estimated Total One Time Capital Cost:* The total cost of this project is \$540,000.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Replacement of Steel Lines in the Downtown Area*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The steel sewer lines beneath portions of Princess Anne serve a vital portion of the downtown area. These lines are rapidly approaching the end of their projected life-cycle. While presently serviceable, the consequence of their failure and the condition of the pipes makes it prudent to upgrade and replace the piping in the near future

*Project Justification:* An efficient and effective Water and Sewer system is vital to the City's operation it ties into the Council Initiative of increasing prosperity of citizens and businesses by offering this effective services as well as sustaining the environment by having a reliable system that protects the drinking water, natural beauty, and historic resources of the Rappahannock River.

*Recommended Timeline:* This project is slated for completion in FY 2017

*Estimated Total One Time Capital Cost:* The total cost of this project is \$240,000.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Pump Station Upgrades – Grinders and Hydrants*

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*Project Manager:* Public Works Utilities Division

*Project Description:* Pump stations are an integral part of the sewer system and need to be maintained and upgraded regularly. This project upgrades grinders and hydrants located in pump stations around the City to ensure they continue to work properly help mitigate failure which can cause damage to the environment or property located on effected lines.

*Project Justification:* An efficient and effective Water and Sewer system is vital to the City's operation it ties into the Council Initiative of increasing prosperity of citizens and businesses by offering this effective services as well as sustaining the environment by having a reliable system that protects the drinking water, natural beauty, and historic resources of the Rappahannock River.

*Recommended Timeline:* This is a multi-year project addressing plants in FY 2016 and FY 2018

*Estimated Total One Time Capital Cost:* The total cost of this project is \$275,000.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Pump Station Upgrades – Route 2/17 Pump Station*

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*Project Manager:* Public Works Utilities Division

*Project Description:* Pump stations are an integral part of the sewer system and need to be maintained and upgraded regularly. This project upgrades the entire pump station located in the Route 2/17 area of the City. Proper maintenance and upgrades of pump stations are an essential component to ensure they continue to work properly and help mitigate failure which can cause damage to the environment or property located on effected lines.

*Project Justification:* An efficient and effective Water and Sewer system is vital to the City's operation it ties into the Council Initiative of increasing prosperity of citizens and businesses by offering this effective services as well as sustaining the environment by having a reliable system that protects the drinking water, natural beauty, and historic resources of the Rappahannock River.

*Recommended Timeline:* This project is slated for completion in FY 2017.

*Estimated Total One Time Capital Cost:* The total cost of this project is \$500,000.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Fall Hill Avenue Betterments*

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*Project Manager:* Public Works Utilities Division

*Project Description:* Plans for the upgrading of the Fall Hill Avenue roadway have been approved by the Virginia Department of Transportation. There are a number of small upgrades and improvements to the City's utilities which are required during the construction of this upgraded roadway. These improvements, while necessary, are not within the scope of the work by VDOT. The betterments include relocation of a sewer line and realignments of water mains, all of which are either presently needed or will be needed in the near future.

*Project Justification:* This project is a necessary upgrade to the utility system and it makes sense to complete these betterments prior to the construction of the new Fall Hill Avenue.

*Recommended Timeline:* This project will begin in FY 2016.

*Estimated Total One Time Capital Cost:* The cost of the sewer portion of this project is \$50,000.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .

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*Upgrades to the City's Wastewater Treatment Plant*

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*Project Manager:* Public Works Utilities Division

*Project Description:* The City's Wastewater Treatment Plant is a vital part of the City's sewer system. This is the point in the system where waste arrives and various physical, biological or chemical processes are used to change the properties of the wastewater by removing harmful substances in order to turn it into a type of water that can be safely discharged into the environment or that is usable for a certain reuse purpose. In order to keep the plant working property and up to environmental standards the following upgrades are needed

- *Replacement of Filter Press – FY 2016 at a cost of \$1,500,000*
- *Rehabilitation of Oxidation Ditch – FY 2018 at a cost of \$250,000*
- *Rehabilitation of Influent Pump Station – FY 2018 and FY 2019 at a cost of \$1,000,000*
- *Replacement of Sludge Transfer and Pumps – FY 2016, FY 2017 and FY 2019 at a cost of \$240,000*
- *New Screen Bar Equipment – FY 2018 and FY 2019 at a cost of \$125,000*

*Project Justification:* An efficient and effective Water and Sewer system is vital to the City's operation it ties into the Council Initiative of increasing prosperity of citizens and businesses by offering this effective services as well as sustaining the environment by having a reliable system that protects the drinking water, natural beauty, and historic resources of the Rappahannock River.

*Recommended Timeline:* This is a multi-year capital improvements project that will begin in FY 2016 and end in FY 2019.

*Estimated Total One Time Capital Cost:* The total cost of this project is \$2,990,000.

*Estimated Total Ongoing Operational Cost:* The maintenance and staff associated with the water system are already included in the current operating budget; the system hopes to gain operational efficiencies by installing newer pipe into the system. .