

## Capital Improvements Program

### **PURPOSE**

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The Capital Improvements Program (CIP) is a plan for capital and capital-related expenditures and a means of planning for funding these expenditures throughout the Five-Year Financial Plan. The following guidelines established in the County's Financial Policies are used for qualifying expenditures under the CIP:

1. Facilities, equipment and vehicles with a unit cost greater than \$50,000; and
2. Purchases for multiples departments that are generally:
  - a. Managed by a single department/agency; or,
  - b. Over \$50,000 annually in aggregate.

The CIP is guided by the County's Comprehensive Plan, which is a long-term guide for growth and development within the County and outlines goals, objectives and projections of the County's needs for the next twenty-year horizon. The Code of Virginia requires that a CIP be prepared to carry out policies adopted through the Comprehensive Plan. The CIP performs this function by outlining anticipated projects by year, cost and recommended funding source. Hanover County has maintained compliance with capital outlay programs as stated in Section 15.2-2239 of the Code of Virginia as follows:

*"A local planning commission may, and at the direction of the governing body shall, prepare and revise annually a capital improvement program based on the comprehensive plan of the locality for a period not to exceed the ensuing five years. The commission shall submit the program annually to the governing body, or to the chief administrative officer or other official charged with preparation of the budget for the locality, at such time as it or he shall direct. The capital improvement program shall include the commission's recommendations, and estimates of cost of the facilities, including any road improvement and any transportation improvement the locality chooses to include in its capital improvement plan and as provided for in the comprehensive plan, and the means of financing them, to be undertaken in the ensuing fiscal year and in a period not to exceed the next four years, as the basis of the capital budget for the locality. In the preparation of its capital budget recommendations, the commission shall consult with the chief administrative officer or other executive head of the government of the locality, the heads of departments and interested citizens and organizations and shall hold such public hearings as it deems necessary."*

The purpose of having a CIP is to assess the County's existing condition and identify needs which must be addressed to accomplish planning goals set forth in the Comprehensive Plan. The CIP sets forth needs and priorities to coordinate the development of County facilities with anticipated revenues, growth and the community's ability to pay. By saying where public schools, water or sewer lines, drainage and other improvements should be constructed, the County can encourage development in appropriate areas. "Appropriate" is used here to mean consistent with adopted policies. This makes the CIP a key document in influencing and managing growth. The CIP is also an important tool in ensuring efficient use of limited financial resources. By reviewing anticipated revenues with anticipated capital needs, priorities can be established to ensure that essential public services can be continued and improved without interruption.

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### PROCESS

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The CIP process occurs in conjunction with the County's budget process and is used to establish priorities between competing needs. First, departments recommend individual projects based on their needs assessment. Then, Finance and County Administration review and recommend proposals based on an assessment of community needs and financial resources available. The Planning Commission reviews these recommendations and provides input to the Board of Supervisors. The Board of Supervisors acts on the recommendations from public hearings, the County staff and the Planning Commission.

### FUNDING SOURCES

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The Five-Year Financial Plan forecasts the anticipated expenditures, approximate timing and source of funding for each project. The adoption of the CIP does not appropriate funds, nor commit the Board, to any expenditure in fiscal years two through five. The first fiscal year is appropriated in conjunction with the Adopted Budget.

The relationship between the CIP and the operating budget is carefully considered during the operating budget process. The CIP has three direct impacts on the operating budget:

1. Any projects funded with general fund resources must be evaluated and prioritized with other needs for the competing resources for that year;
2. Any project funded with long-term debt financing must be in compliance with the debt policy and must anticipate the impact of the repayment of debt service on current and future budget years; and
3. Operating life cycle costs from implementation, such as staffing and maintenance costs.

The following are the typical CIP funding sources utilized by the County:

**Capacity Fees:** Public Utility fees associated with new water and sewer connections to obtain capacity in the utility system.

**Fund Balance Assignment:** Funds transferred from the General Fund that were classified as an assigned fund balance and in excess of the unassigned fund balance required by County policy.

**General Fund:** Direct payments from the County's operating revenue.

**Long-Term Debt:** Provides current financial resources to governmental funds, while the repayment of the principal and interest of long-term debt consumes the current financial resources of governmental funds.

**Prior Year's Balance - Asset Forfeiture:** Asset forfeiture funds which have been received in a prior year and recorded as part of the General Fund's restricted fund balance which are being appropriated for use on an authorized law enforcement project.

**Proffers:** Cash proffers are only used to finance road projects. The Board adopted the *Business and Residential Development Road Improvements Transportation Policy* in March 2013. The policy supports the implementation of a road impact cash contribution for road improvements. Revenues received from the contribution are used to fund road improvements to address the increased traffic demand arising from residential development. The cash contribution is only negotiated for residential zoning

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requests and the actual value of the cash contribution is based on the *Road Improvement Cost Assumptions*.

**Revenue Bonds:** Payments from the proceeds of the sale of Revenue Bonds. These bonds pledge the revenue generating potential of a facility or utility system.

**State and Federal Grants:** Payments from the State and Federal Government to provide facilities promoted by the State and Federal agencies.

**User Fees:** Public Utility fees paid by existing utility customers.

### **SAMPLE CAPITAL IMPROVEMENT PROJECT**

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Capital Improvements Program		General Government Admin.				
<b>Storage Area Network (SAN)</b>						
<b>DEPARTMENT</b> Information Technology	<b>LOCATION</b> Wickham Building					
<b>PROJECT DESCRIPTION</b> Technology infrastructure enhancements for the County's Storage Area Network (SAN). The current SAN was originally purchased in FY11 using Energy Efficiency and Conservation Block Grant (EECBG) funds. A major upgrade is planned in FY16 to accommodate system growth. The SAN provides the County with the ability to provide storage with greater capabilities and reliability. The SAN allows multiple system access, which helps the County ensure that we are utilizing all storage more effectively and efficiently than traditional server storage. Funds are included for growth in data storage. The SAN also provides greater advance fault detection, allowing staff the ability to identify potential issues and correct them before the problems cause catastrophic system failures and service outages.						
<b>USEFUL LIFE</b> Major upgrades for system growth are planned every 5 years with replacement typically in 10 to 15 years.						
<b>TIMETABLE</b> FY16 includes the addition of a new unit to provide for anticipated storage growth as we migrate our major systems away from the IBM iSeries systems. FY17 will be for existing SAN maintenance. FY18 & FY19 reflect the cost of the new public safety systems storage.						
<b>OPERATING IMPACT</b> There is no anticipated additional operating impact as a result of this project.						
	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	\$ 440,500	\$ 96,000	\$ 126,000	\$ 300,000	\$ 100,000	\$ 1,062,500
General Fund	440,500	96,000	126,000	300,000	100,000	1,062,500
<b>Funding Uses</b>	\$ 440,500	\$ 96,000	\$ 126,000	\$ 300,000	\$ 100,000	\$ 1,062,500
Technology	440,500	96,000	126,000	300,000	100,000	1,062,500

### **Functional Area**

The functional area is a group of related departments aimed at accomplishing a major service or regulatory program for which a locality is responsible, such as General Government Admin., Public Safety or Human Services. This information is located at the top-right of each project page.

## **Capital Improvements Program**

### **Department**

For the County Improvements Fund, this represents the department that has oversight responsibility for the capital improvement project. If applicable, other departments will provide their services to ensure that the capital improvement meets all specifications, laws and budgetary controls.

For the School Improvements Fund and Airport Fund, the fund name is listed. Public Utilities includes three different categories under Department for purposes of distinguishing project types: DPU – Water Source & Distribution, DPU – Wastewater Collection & Treatment and DPU – Other.

### **Location**

The physical location (building, complex, etc.) of where the capital improvement is to be located. Countywide is used for location if the capital improvement is not physically set (e.g. equipment) or maintained in one location.

### **Project Description**

A brief project description provides the reasons behind the project and other pertinent information. Included in the description, if applicable, are the number of acres required, square feet of structure desired, feasibility studies and design work status. For construction projects, a cost/sq. ft. will be provided and adjusted for inflation and contingency.

### **Useful Life**

The estimated amount of time before an asset will need to be replaced based on the expected quality, application and environment of that asset.

### **Timetable**

This is when the project is anticipated to be completed. If construction of a capital improvement is required, the estimated starting and ending dates are noted. Request for Bid (RFB) or Requests for Proposals (RFP) with a vendor are required, with an appropriate contract awarded, in completing a capital improvement.

### **Operating Impact**

Operating impact describes what effect, if any, the capital improvement will have on the operating budget. Impacts may include an increase or decrease in personnel, operating and/or capital outlay. Only incremental impacts are shown in subsequent years as growth of base impacts are correlated to growth rates in Five-Year Financial Plan assumptions. Debt service impacts are shown in the Five-Year Financial Plan and the Debt Service Fund section of the Budget document. Any reduced expenditures or increased revenues are also noted, if applicable.

### **Funding Sources**

Funding sources are categorized by revenue type and are shown by fiscal year as well as total.

### **Funding Uses**

Funding uses are categorized under each project by the type of expenditure(s) required for the capital improvement and are shown by fiscal year as well as total.

## Capital Improvements Program

### PROJECT LOCATIONS

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The following is a list of locations that are referenced within the project pages of the Capital Improvements Program, along with the corresponding addresses and the departments located at each building, as applicable.

<b>301 Landfill (Closed)</b>	7301 Courtland Farm Road, Hanover, VA 23069
<b>County Transfer Station</b>	7301 Courtland Farm Road, Hanover, VA 23069
<b>Co. 5 - Fire/EMS</b>	13326 Hanover Courthouse Road, Hanover, VA 23069
<b>Facilities Building</b>	7490 Library Drive, Hanover, VA 23069
<b>Fleet Building</b>	11375 N. Lakeridge Parkway, Ashland, VA 23005
<b>Harman-Taylor Fire/EMS Training Center</b>	13038 Winston Road, Ashland, VA 23005
<b>Hanover County Airport</b>	11152 Airpark Road, Ashland, VA 23005
<b>Pamunkey Regional Jail</b>	7240 Courtland Farm Road, Hanover, VA 23069
<b>Rutland Center Building</b>	8200 Center Path Lane, Mechanicsville, VA 23116
Economic Development	
<b>Sheriff's Firing Range</b>	7532 Courtland Farm Road, Hanover, VA 23069

### Solid Waste Convenience Centers

<b>Beaverdam</b>	18400 Beaverdam Road, Beaverdam, VA 23015
<b>Courthouse</b>	7301 Courtland Farm Road, Hanover VA 23069
<b>Doswell</b>	11224 Doswell Road, Doswell, VA 23047
<b>Elmont</b>	11045 Lewistown Road, Ashland, VA 23005
<b>Mechanicsville</b>	7427 Verdi Lane, Mechanicsville, VA 23116
<b>Montpelier</b>	15188 Clazemont Road, Montpelier, VA 23192

### Courthouse Complex

<b>Administration Building</b>	7516 County Complex Road, Hanover, VA 23069
Board of Supervisors meeting room	
Building Inspections	
County Administrator	
County Attorney	
Planning Department	
Public Utilities	
Public Works	
<b>Circuit Court</b>	7507 Library Drive, Hanover, VA 23069
Clerk of the Circuit Court	
<b>Emergency Communications Center</b>	7501 Library Drive, Hanover, VA 23069
<b>General District Court</b>	7515 Library Drive, Hanover, VA 23069
Commonwealth's Attorney	
Juvenile & Domestic Relations Court	

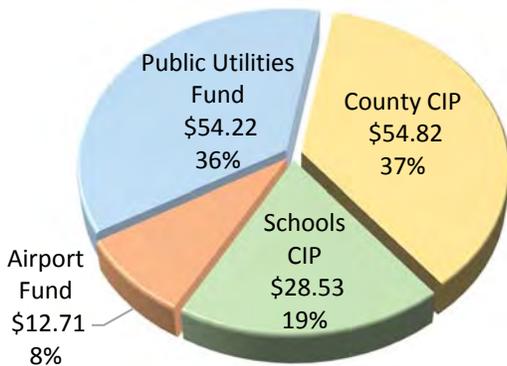
## Capital Improvements Program

<b>Old Clerk Building</b> Finance & Management Services	7496 County Complex Road, Hanover, VA 23069
<b>Pamunkey Regional Library</b>	7527 Library Drive, Hanover, VA 23069
<b>Vaughan-Bradley Building</b> Sheriff	7522 County Complex Road, Hanover, VA 23069
<b>Wickham Building</b> Commissioner of Revenue Human Resources Internal Audit Information Technology Registrar Treasurer	7497 County Complex Road, Hanover, VA 23069
<b>Wickham Annex</b> Assessor Community Corrections	7515 County Complex Road, Hanover, VA 23069
<b><u>Human Services Complex</u></b>	
<b>Community Services Board</b>	12300 Washington Highway, Ashland, VA 23005
<b>Community Resources</b>	12310 Washington Highway, Ashland, VA 23005
<b>Health</b>	12312 Washington Highway, Ashland, VA 23005
<b>Social Services</b>	12304 Washington Highway, Ashland, VA 23005
<b><u>Taylor Complex</u></b>	
<b>Animal Control</b>	12471 Taylor Complex Lane, Ashland, VA 23005
<b>Parks &amp; Recreation</b>	13017 Taylor Complex Lane, Ashland, VA 23005

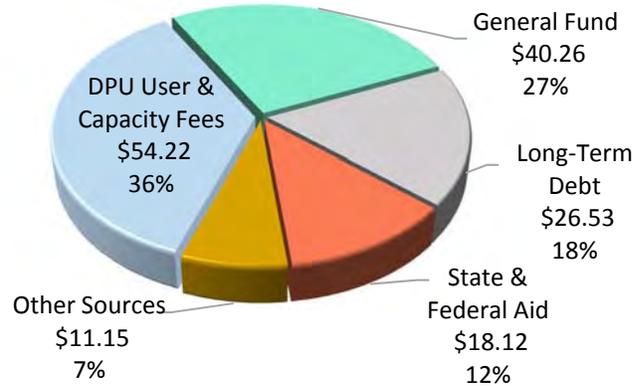
# Capital Improvements Program (CIP) At a Glance

## FIVE-YEAR CAPITAL IMPROVEMENTS PROGRAM: ALL FUNDS (\$150,272,067)

**FY16-20 CIP by Fund (In Millions)**



**FY16-20 CIP Funding Sources (In Millions)**



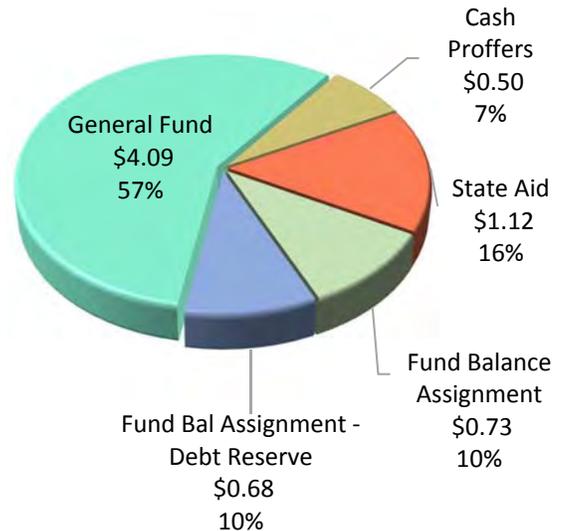
**FY16-20 CIP with General Fund as Funding Source By Project Type (In Millions)**

	Technology	Equipment	Vehicles	Facility Improv.	Roads & Public Works	Reserve	Land	Total
<b>County CIP</b>	7.56	5.28	7.61	4.06	2.65	1.01	-	<b>\$27.17</b>
<b>School CIP</b>	5.00	5.00	-	2.00	-	-	-	<b>12.00</b>
<b>Airport</b>	-	-	-	0.04	-	-	0.05	<b>0.09</b>
<b>Total</b>	<b>\$12.56</b>	<b>10.28</b>	<b>7.61</b>	<b>6.10</b>	<b>2.65</b>	<b>1.01</b>	<b>0.05</b>	<b>40.26</b>

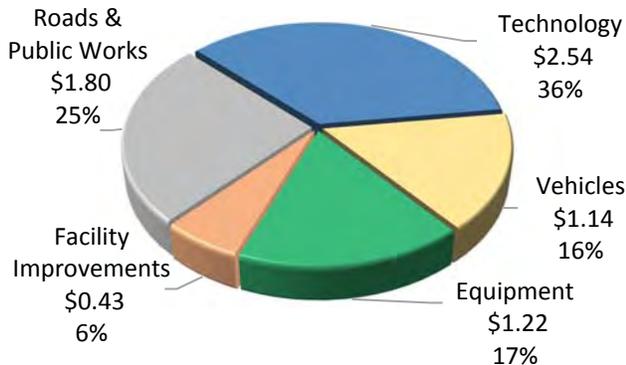
## FY16 COUNTY CIP PROJECTS (\$7,123,400)

Functional Area	FY16
Public Safety	\$ 3.13
Public Works	2.31
General Government Admin.	1.68
<b>Total (In Millions)</b>	<b>\$ 7.12</b>

**FY16 County CIP Funding Sources (In Millions)**



**FY16 County CIP by Project Type (In Millions)**



## Capital Improvements Program

	FY16	FY17	FY18	FY19	FY20	Grand Total	Total General Fund
<b>General Government Admin.</b>	<b>\$ 1,677,000</b>	<b>\$ 2,391,000</b>	<b>\$ 1,636,000</b>	<b>\$ 1,410,000</b>	<b>\$ 1,330,000</b>	<b>\$ 8,444,000</b>	<b>\$ 7,019,000</b>
<b>Human Resources</b>	-	-	<b>300,000</b>	-	-	<b>300,000</b>	-
Human Resource System	-	-	300,000	-	-	<b>300,000</b>	-
<b>Commissioner of the Revenue</b>	-	<b>1,125,000</b>	-	-	-	<b>1,125,000</b>	-
County Revenue Management System	-	1,125,000	-	-	-	<b>1,125,000</b>	-
<b>Information Technology</b>	<b>1,677,000</b>	<b>1,266,000</b>	<b>1,336,000</b>	<b>1,410,000</b>	<b>1,330,000</b>	<b>7,019,000</b>	<b>7,019,000</b>
Technology Infrastructure	650,000	630,000	600,000	600,000	600,000	<b>3,080,000</b>	3,080,000
Enterprise Licenses	336,500	360,000	360,000	360,000	400,000	<b>1,816,500</b>	1,816,500
Storage Area Network	440,500	96,000	126,000	300,000	100,000	<b>1,062,500</b>	1,062,500
Computer Replacement Program	100,000	100,000	150,000	150,000	150,000	<b>650,000</b>	650,000
Data Center Upgrades	150,000	-	100,000	-	-	<b>250,000</b>	250,000
County Website Hosting	-	80,000	-	-	-	<b>80,000</b>	80,000
Tax Parcel Data Enhancement	-	-	-	-	80,000	<b>80,000</b>	80,000
<b>Judicial Administration</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 300,000</b>	<b>\$ 300,000</b>	<b>\$ 300,000</b>
<b>Clerk of the Circuit Court</b>	-	-	-	-	<b>300,000</b>	<b>300,000</b>	<b>300,000</b>
New Land Records Management System	-	-	-	-	300,000	<b>300,000</b>	300,000
<b>Public Safety</b>	<b>\$ 3,135,400</b>	<b>\$ 2,269,750</b>	<b>\$ 2,696,000</b>	<b>\$ 6,346,000</b>	<b>\$ 4,106,000</b>	<b>\$ 18,553,150</b>	<b>\$ 13,470,550</b>
<b>Sheriff</b>	<b>975,000</b>	-	<b>325,000</b>	-	<b>65,000</b>	<b>1,365,000</b>	<b>680,400</b>
Law Enforcement Records Mgmt System	800,000	-	-	-	-	<b>800,000</b>	115,400
Vaughan-Bradley HVAC	-	-	225,000	-	-	<b>225,000</b>	225,000
Vaughan-Bradley Chiller Replacement	175,000	-	-	-	-	<b>175,000</b>	175,000
Firing Range Lead Removal	-	-	100,000	-	-	<b>100,000</b>	100,000
3D Laser Scanner	-	-	-	-	65,000	<b>65,000</b>	65,000
<b>Emergency Communications</b>	<b>1,094,400</b>	<b>1,100,000</b>	<b>1,100,000</b>	<b>3,475,000</b>	-	<b>6,769,400</b>	<b>2,490,400</b>
Radio Replacement - Portable & Mobile	-	1,100,000	1,100,000	3,475,000	-	<b>5,675,000</b>	2,178,000
Capital Region Radio	632,000	-	-	-	-	<b>632,000</b>	-
Tower Light Upgrade/Replacement	250,000	-	-	-	-	<b>250,000</b>	250,000
CPE Phone System	212,400	-	-	-	-	<b>212,400</b>	62,400
<b>Fire/EMS</b>	<b>1,066,000</b>	<b>1,169,750</b>	<b>1,271,000</b>	<b>2,871,000</b>	<b>4,041,000</b>	<b>10,418,750</b>	<b>10,299,750</b>
Fire Engine & Heavy Squad Replacement	500,000	500,000	750,000	750,000	1,270,000	<b>3,770,000</b>	3,770,000
Ambulance Replacement	440,000	521,000	521,000	521,000	521,000	<b>2,524,000</b>	2,524,000
Fire Training Burn Building	-	-	-	250,000	1,500,000	<b>1,750,000</b>	1,750,000
Upgrade to Station Alerting	-	-	-	500,000	500,000	<b>1,000,000</b>	1,000,000
Air Bottles for Scott Air Packs	-	-	-	600,000	-	<b>600,000</b>	600,000
Traffic Preemption	-	-	-	250,000	250,000	<b>500,000</b>	500,000
Life Pack (LP) 15 Upgrade	126,000	148,750	-	-	-	<b>274,750</b>	155,750
<b>Public Works</b>	<b>\$ 2,311,000</b>	<b>\$ 3,128,600</b>	<b>\$ 2,786,200</b>	<b>\$ 3,171,000</b>	<b>\$ 3,259,000</b>	<b>\$ 14,655,800</b>	<b>\$ 5,570,800</b>
<b>Public Works</b>	<b>1,800,000</b>	<b>2,750,000</b>	<b>2,200,000</b>	<b>2,250,000</b>	<b>2,735,000</b>	<b>11,735,000</b>	<b>2,650,000</b>
Reserve for Future Roadway Improvements	1,700,000	1,700,000	2,000,000	2,000,000	2,000,000	<b>9,400,000</b>	2,200,000
Regional Stormwater Implementation	100,000	1,050,000	100,000	100,000	535,000	<b>1,885,000</b>	-
Watershed Improvement Program	-	-	100,000	150,000	200,000	<b>450,000</b>	450,000
<b>Public Works Operations</b>	<b>125,000</b>	<b>63,600</b>	<b>151,200</b>	<b>220,000</b>	<b>100,000</b>	<b>659,800</b>	<b>659,800</b>
Solid Waste Equipment Replacement	-	63,600	151,200	220,000	100,000	<b>534,800</b>	534,800
Closed 301 Landfill Remediation	125,000	-	-	-	-	<b>125,000</b>	125,000
<b>General Services</b>	<b>386,000</b>	<b>315,000</b>	<b>435,000</b>	<b>701,000</b>	<b>424,000</b>	<b>2,261,000</b>	<b>2,261,000</b>
General Vehicle Replacement Schedule	200,000	200,000	300,000	300,000	320,000	<b>1,320,000</b>	1,320,000
Fleet Garage Floor Top-Coat	-	-	-	300,000	-	<b>300,000</b>	300,000
Courthouse Complex Repaving	-	-	-	51,000	104,000	<b>155,000</b>	155,000
HVAC Air Handler Replacement	-	-	135,000	-	-	<b>135,000</b>	135,000
Elevator Cylinder Replacement	126,000	-	-	-	-	<b>126,000</b>	126,000
Human Services Complex Repaving	-	115,000	-	-	-	<b>115,000</b>	115,000
Risk Management Information System	60,000	-	-	-	-	<b>60,000</b>	60,000
Vaughan-Bradley Roof Replacement	-	-	-	50,000	-	<b>50,000</b>	50,000
<b>Human Services</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 500,000</b>	<b>\$ -</b>	<b>\$ 500,000</b>	<b>\$ 500,000</b>
<b>Community Services Board</b>	-	-	-	<b>500,000</b>	-	<b>500,000</b>	<b>500,000</b>
RAFT House Project	-	-	-	500,000	-	<b>500,000</b>	500,000

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	FY16	FY17	FY18	FY19	FY20	Grand Total	Total General Fund
<b>Parks, Recreation &amp; Cultural</b>	\$ -	\$ -	\$ 75,000	\$ 90,000	\$ 10,135,000	\$ 10,300,000	\$ 300,000
<b>Parks &amp; Recreation</b>	-	-	75,000	90,000	2,135,000	2,300,000	300,000
District Park Acquisition & Development	-	-	-	-	2,000,000	2,000,000	-
Courthouse Park - Athletic Field Lighting	-	-	75,000	90,000	135,000	300,000	300,000
<b>Pamunkey Regional Library</b>	-	-	-	-	8,000,000	8,000,000	-
Atlee Branch Library	-	-	-	-	8,000,000	8,000,000	-
<b>Community Development</b>	\$ -	\$ -	\$ 1,050,000	\$ -	\$ -	\$ 1,050,000	\$ -
<b>Planning</b>	-	-	1,050,000	-	-	1,050,000	-
Comm. Development System Replacements	-	-	1,050,000	-	-	1,050,000	-
<b>Nondepartmental</b>	\$ -	\$ 642,350	\$ 371,310	\$ -	\$ -	\$ 1,013,660	\$ 1,013,660
<b>Nondepartmental</b>	-	642,350	371,310	-	-	1,013,660	1,013,660
Debt Capacity Reserve	-	642,350	371,310	-	-	1,013,660	1,013,660
<b>Education</b>	\$ 2,400,000	\$ 12,596,500	\$ 2,400,000	\$ 4,139,000	\$ 6,990,000	\$ 28,525,500	\$ 12,000,000
<b>Schools</b>	2,400,000	12,596,500	2,400,000	4,139,000	6,990,000	28,525,500	12,000,000
HVAC Repairs & Upgrades	-	5,720,500	-	1,339,000	1,550,000	8,609,500	-
School Buses	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000	5,000,000
Technology Enhancements	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000	5,000,000
Roof Repairs & Replacements	200,000	1,467,500	200,000	600,000	283,000	2,750,500	1,000,000
School Grounds Upgrades	-	330,000	-	-	1,882,000	2,212,000	-
Painting	200,000	200,000	200,000	200,000	200,000	1,000,000	1,000,000
Bathroom Renovations	-	900,000	-	-	-	900,000	-
Auditorium Renovations	-	600,000	-	-	250,000	850,000	-
Window Replacements	-	600,000	-	-	200,000	800,000	-
Electrical Service Upgrades	-	536,500	-	-	-	536,500	-
Gym Floor, Bleacher Repairs & Field Lighting	-	90,000	-	-	415,000	505,000	-
Kitchen Modernizations	-	152,000	-	-	210,000	362,000	-
<b>Airport</b>	\$ 4,225,942	\$ 5,995,982	\$ 790,600	\$ 1,125,118	\$ 574,104	\$ 12,711,746	\$ 87,095
<b>Airport</b>	4,225,942	5,995,982	790,600	1,125,118	574,104	12,711,746	87,095
East Side Taxiway Apron	4,008,614	4,048,614	-	-	-	8,057,228	40,000
Airport Land Acquisition	217,328	1,947,368	570,600	1,029,118	430,104	4,194,518	47,095
Terminal Building	-	-	220,000	-	-	220,000	-
Fuel Tank Replacement	-	-	-	-	144,000	144,000	-
Airport Improvements	-	-	-	96,000	-	96,000	-
<b>Department of Public Utilities</b>	\$ 11,237,133	\$ 13,742,311	\$ 11,519,077	\$ 6,075,331	\$ 11,644,359	\$ 54,218,211	\$ -
<b>DPU - Water Source &amp; Distribution</b>	9,228,483	11,942,461	9,207,577	2,796,331	6,379,359	39,554,211	-
Hanover-Richmond Joint Capital Water Contract	5,598,483	6,273,461	6,132,577	772,331	2,109,359	20,886,211	-
Elmont Water Storage Tank & Pump Station	-	5,000,000	-	-	-	5,000,000	-
Cedar Lane Waterline Improvements	208,000	280,000	1,185,000	-	1,196,000	2,869,000	-
Henrico Water Capacity Purchase	2,600,000	-	-	-	-	2,600,000	-
New Ashcake Road Waterline Improvements	322,000	-	1,334,000	-	-	1,656,000	-
Sliding Hill Rd & Ashcake Rd Waterline	-	-	-	310,000	1,284,000	1,594,000	-
Meadowbridge Road Waterline	-	-	-	172,000	701,000	873,000	-
I-95 Waterline Crossing at Long Road	-	-	141,000	-	581,000	722,000	-
Air Park Water Tank Rehabilitation	-	55,000	-	445,000	-	500,000	-
Doswell WTP Carbon Feed System	-	-	54,000	300,000	-	354,000	-
Air Park Water Storage Tank Pump Upgrade	-	-	34,000	290,000	-	324,000	-
Waterline Replacement	-	75,000	75,000	75,000	75,000	300,000	-
Ashcake Rd/Long Rd Waterline Improvements	-	-	-	282,000	-	282,000	-
Pamunkey Regional Jail Water Tank Rehab.	275,000	-	-	-	-	275,000	-
Doswell WTP Rehabilitation	-	75,000	75,000	75,000	-	225,000	-
Cold Harbor Rd Waterline Improvements	-	-	-	-	191,000	191,000	-
Dianne Ridge Water Treatment	-	39,000	102,000	-	-	141,000	-
Oak Hill Estates Hydro & Storage Tank	-	125,000	-	-	-	125,000	-
Doswell WTP Storage Tank Generator	-	-	-	-	98,000	98,000	-
Harris Court Water Tank Rehabilitation	20,000	-	75,000	-	-	95,000	-
Pleasant Street Water Tank Rehabilitation	-	20,000	-	75,000	-	95,000	-
Georgetown Well House Rehabilitation	85,000	-	-	-	-	85,000	-
Water Tank Rehabilitation	-	-	-	-	75,000	75,000	-
Doswell WTP Generator Fuel Tank	-	-	-	-	69,000	69,000	-
Cold Harbor Rd Overpass Waterline Rehab.	60,000	-	-	-	-	60,000	-
Jackson Ave Water Tank Rehabilitation	60,000	-	-	-	-	60,000	-

## Capital Improvements Program

	FY16	FY17	FY18	FY19	FY20	Grand Total	Total General Fund
<b>DPU - Wastewater Collection &amp; Treatment</b>	<b>1,943,650</b>	<b>1,799,850</b>	<b>1,771,500</b>	<b>2,705,000</b>	<b>5,147,000</b>	<b>13,367,000</b>	-
TWWTP Nutrient Improvements Phase 2	-	-	-	-	2,050,000	2,050,000	-
Shelton Pointe Force Main Upgrade	-	-	-	-	1,622,000	1,622,000	-
Ashland Sewerline Rehabilitation - Area 2	-	110,500	739,500	-	-	850,000	-
Pump Station #5 Rehabilitation	-	-	-	763,000	-	763,000	-
Ashland WWTP Generators & Fuel Tank	-	-	-	700,000	-	700,000	-
Mechumps Creek WWPS Force Main Repl	-	-	-	-	625,000	625,000	-
WWPS Control Upgrade	285,000	155,000	145,000	-	-	585,000	-
Shelton Pointe WWPS Upgrade	63,000	450,000	-	-	-	513,000	-
Doswell WWTP Equalization Tank Rehab	56,650	453,350	-	-	-	510,000	-
Mechanicsville Sewer Rehab - Area 1	-	-	-	100,000	400,000	500,000	-
AWWTP UV System Replacement	482,000	-	-	-	-	482,000	-
CHSTP Aeration Tank Rehabilitation	350,000	-	-	-	-	350,000	-
Jail Lift Station Pump & Rotomat Repl	-	-	282,000	-	-	282,000	-
Mechumps Creek WWPS Pump Repl	-	-	-	265,000	-	265,000	-
TWWTP Influent 2nd Influent Step Screen	-	250,000	-	-	-	250,000	-
Beaverdam WWPS Control Panel & Switch Gear	-	-	236,000	-	-	236,000	-
Beaverdam WWPS Grinder Replacement	-	-	-	221,000	-	221,000	-
DWWTP Aeration Basin Blower Repl	-	-	-	210,000	-	210,000	-
DWWTP Clarifier Weir & Baffle Repl	20,000	189,000	-	-	-	209,000	-
Ashland Sewerline Rehab - Area 3	202,000	-	-	-	-	202,000	-
Courthouse STP Generator	-	-	-	-	183,000	183,000	-
DWWTP Magnesium Hydroxide Tank Repl	175,000	-	-	-	-	175,000	-
Ashland WWTP Chemical Feed Unit	-	-	-	165,000	-	165,000	-
Best Products WWPS Replacement	-	-	-	161,000	-	161,000	-
AWWTP Polymer Control Panel	-	-	160,000	-	-	160,000	-
Dabney Lake Sewerline Rehab	140,000	-	-	-	-	140,000	-
DWWTP Digester Blowers & Enclosures Repl	-	-	126,000	-	-	126,000	-
Courthouse STP UV Disinfection System Repl	-	-	-	120,000	-	120,000	-
Hanover Lift Station Pump Replacement	-	119,000	-	-	-	119,000	-
Mechanicsville Sewer Rehab Area 2	-	-	-	-	100,000	100,000	-
Beaverdam WWPS Divider Gate Repl	93,000	-	-	-	-	93,000	-
AWWTP 2nd Auto Valve at Equalization Basin	-	-	-	-	86,000	86,000	-
AWWTP Clarifier Isolation Valves Repl	-	-	83,000	-	-	83,000	-
Ashland WWTP Switch Gear Repl	-	-	-	-	81,000	81,000	-
Snead Street WWPS Pump Repl	77,000	-	-	-	-	77,000	-
Air Park WWPS Generator Repl	-	73,000	-	-	-	73,000	-
<b>DPU - Other Projects</b>	<b>65,000</b>	<b>-</b>	<b>540,000</b>	<b>574,000</b>	<b>118,000</b>	<b>1,297,000</b>	-
Vehicle Replacement	65,000	-	290,000	236,000	-	591,000	-
Customer Info Sys & Asset Mgmt Upgrade	-	-	250,000	250,000	-	500,000	-
Bruce Center Painting & Carpeting	-	-	-	88,000	-	88,000	-
Equipment Replacement	-	-	-	-	60,000	60,000	-
Bruce Center Mezzanine	-	-	-	-	58,000	58,000	-
<b>Grand Total</b>	<b>\$ 24,986,475</b>	<b>\$ 40,766,493</b>	<b>\$ 23,324,187</b>	<b>\$ 22,856,449</b>	<b>\$ 38,338,463</b>	<b>\$ 150,272,067</b>	<b>\$ 40,261,105</b>

# Capital Improvements Program

	General Fund	Fund Balance Assignment	Cash Proffers	Long-Term Debt	Federal Aid	State Aid	Utilities Fees	Grand Total
<b>General Government Admin.</b>	\$ 7,019,000	\$ 1,425,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8,444,000
Human Resources	-	300,000	-	-	-	-	-	\$ 300,000
Commissioner of the Revenue	-	1,125,000	-	-	-	-	-	\$ 1,125,000
Information Technology	7,019,000	-	-	-	-	-	-	\$ 7,019,000
<b>Judicial Administration</b>	\$ 300,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 300,000
<b>Public Safety</b>	\$ 13,470,550	\$ 4,813,600	\$ -	\$ -	\$ -	\$ 269,000	\$ -	\$ 18,553,150
<b>Sheriff</b>	<b>680,400</b>	<b>684,600</b>	-	-	-	-	-	\$ 1,365,000
Law Enforcement Records Mgmt System	115,400	684,600	-	-	-	-	-	\$ 800,000
Vaughan-Bradley HVAC	225,000	-	-	-	-	-	-	\$ 225,000
Vaughan-Bradley Chiller Replacement	175,000	-	-	-	-	-	-	\$ 175,000
Firing Range Lead Removal	100,000	-	-	-	-	-	-	\$ 100,000
3D Laser Scanner	65,000	-	-	-	-	-	-	\$ 65,000
<b>Emergency Communications</b>	<b>2,490,400</b>	<b>4,129,000</b>	-	-	-	150,000	-	\$ 6,769,400
Radio Replacement - Portable & Mobile	2,178,000	3,497,000	-	-	-	-	-	\$ 5,675,000
Capital Region Radio	-	632,000	-	-	-	-	-	\$ 632,000
Tower Light Upgrade/Replacement	250,000	-	-	-	-	-	-	\$ 250,000
CPE Phone System	62,400	-	-	-	-	150,000	-	\$ 212,400
<b>Fire/EMS</b>	<b>10,299,750</b>	-	-	-	-	119,000	-	\$ 10,418,750
Fire Engine & Heavy Squad Replacement	3,770,000	-	-	-	-	-	-	\$ 3,770,000
Ambulance Replacement	2,524,000	-	-	-	-	-	-	\$ 2,524,000
Fire Training Burn Building	1,750,000	-	-	-	-	-	-	\$ 1,750,000
Upgrade to Station Alerting	1,000,000	-	-	-	-	-	-	\$ 1,000,000
Air Bottles for Scott Air Packs	600,000	-	-	-	-	-	-	\$ 600,000
Traffic Preemption	500,000	-	-	-	-	-	-	\$ 500,000
Life Pack (LP) 15 Upgrade	155,750	-	-	-	-	119,000	-	\$ 274,750
<b>Public Works</b>	\$ 5,570,800	\$ 1,360,000	\$ 2,500,000	\$ -	\$ -	\$ 5,225,000	\$ -	\$ 14,655,800
<b>Public Works</b>	<b>2,650,000</b>	<b>1,360,000</b>	<b>2,500,000</b>	-	-	5,225,000	-	\$ 11,735,000
Reserve for Future Roadway Improvements	2,200,000	-	2,500,000	-	-	4,700,000	-	\$ 9,400,000
Regional Stormwater Implementation	-	1,360,000	-	-	-	525,000	-	\$ 1,885,000
Watershed Improvement Program	450,000	-	-	-	-	-	-	\$ 450,000
<b>Public Works Operations</b>	<b>659,800</b>	-	-	-	-	-	-	\$ 659,800
<b>General Services</b>	<b>2,261,000</b>	-	-	-	-	-	-	\$ 2,261,000
<b>Human Services</b>	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 500,000
<b>Parks, Recreation &amp; Cultural</b>	\$ 300,000	\$ -	\$ -	\$ 10,000,000	\$ -	\$ -	\$ -	\$ 10,300,000
<b>Parks &amp; Recreation</b>	<b>300,000</b>	-	-	2,000,000	-	-	-	\$ 2,300,000
District Park Acquisition & Development	-	-	-	2,000,000	-	-	-	\$ 2,000,000
Courthouse Park - Athletic Field Lighting	300,000	-	-	-	-	-	-	\$ 300,000
<b>Pamunkey Regional Library</b>	-	-	-	8,000,000	-	-	-	\$ 8,000,000
Atlee Branch Library	-	-	-	8,000,000	-	-	-	\$ 8,000,000
<b>Community Development</b>	\$ -	\$ 1,050,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,050,000
<b>Nondepartmental</b>	\$ 1,013,660	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,013,660
<b>Education</b>	\$ 12,000,000	\$ -	\$ -	\$ 16,525,500	\$ -	\$ -	\$ -	\$ 28,525,500
<b>Schools</b>	<b>12,000,000</b>	-	-	16,525,500	-	-	-	\$ 28,525,500
HVAC Repairs & Upgrades	-	-	-	8,609,500	-	-	-	\$ 8,609,500
School Buses	5,000,000	-	-	-	-	-	-	\$ 5,000,000
Technology Enhancements	5,000,000	-	-	-	-	-	-	\$ 5,000,000
Roof Repairs & Replacements	1,000,000	-	-	1,750,500	-	-	-	\$ 2,750,500
School Grounds Upgrades	-	-	-	2,212,000	-	-	-	\$ 2,212,000
Painting	1,000,000	-	-	-	-	-	-	\$ 1,000,000
Bathroom Renovations	-	-	-	900,000	-	-	-	\$ 900,000
Auditorium Renovations	-	-	-	850,000	-	-	-	\$ 850,000
Window Replacements	-	-	-	800,000	-	-	-	\$ 800,000
Electrical Service Upgrades	-	-	-	536,500	-	-	-	\$ 536,500
Gym Floor, Bleacher Repairs & Field Lighting	-	-	-	505,000	-	-	-	\$ 505,000
Kitchen Modernizations	-	-	-	362,000	-	-	-	\$ 362,000
<b>Airport</b>	\$ 87,095	\$ -	\$ -	\$ -	\$ 10,864,534	\$ 1,760,117	\$ -	\$ 12,711,746
<b>Airport</b>	<b>87,095</b>	-	-	-	10,864,534	1,760,117	-	\$ 12,711,746
East Side Taxiway Apron	40,000	-	-	-	7,771,802	245,426	-	\$ 8,057,228
Airport Land Acquisition	47,095	-	-	-	3,092,732	1,054,691	-	\$ 4,194,518
Terminal Building	-	-	-	-	-	220,000	-	\$ 220,000
Fuel Tank Replacement	-	-	-	-	-	144,000	-	\$ 144,000
Airport Improvements	-	-	-	-	-	96,000	-	\$ 96,000
<b>Department of Public Utilities</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 54,218,211	\$ 54,218,211
<b>Grand Total</b>	<b>\$ 40,261,105</b>	<b>\$ 8,648,600</b>	<b>\$ 2,500,000</b>	<b>\$ 26,525,500</b>	<b>\$ 10,864,534</b>	<b>\$ 7,254,117</b>	<b>\$ 54,218,211</b>	<b>\$ 150,272,067</b>

# Capital Improvements Program

Summary by Funding Source	FY16	FY17	FY18	FY19	FY20	Total
<b>General Fund</b>	<b>\$ 6,495,947</b>	<b>\$ 7,385,648</b>	<b>\$ 7,627,510</b>	<b>\$ 9,257,000</b>	<b>\$ 9,495,000</b>	<b>\$ 40,261,105</b>
County Improvements Fund	4,087,800	4,906,700	5,227,510	6,857,000	7,095,000	28,174,010
School Improvements Fund	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	12,000,000
Airport Fund	8,147	78,948	-	-	-	87,095
<b>Long-Term Debt</b>	<b>\$ -</b>	<b>\$ 10,196,500</b>	<b>\$ -</b>	<b>\$ 1,739,000</b>	<b>\$ 14,590,000</b>	<b>\$ 26,525,500</b>
County Improvements Fund	-	-	-	-	10,000,000	10,000,000
School Improvements Fund	-	10,196,500	-	1,739,000	4,590,000	16,525,500
Utility Fund	-	-	-	-	-	-
<b>Cash Proffers</b>	<b>\$ 500,000</b>	<b>\$ 2,500,000</b>				
County Improvements Fund	500,000	500,000	500,000	500,000	500,000	2,500,000
<b>Other Sources</b>	<b>\$ 17,990,528</b>	<b>\$ 22,684,345</b>	<b>\$ 15,196,677</b>	<b>\$ 11,360,449</b>	<b>\$ 13,753,463</b>	<b>\$ 80,985,462</b>
County Improvements Fund	2,535,600	3,025,000	2,887,000	4,160,000	1,535,000	14,142,600
Airport Fund	4,217,795	5,917,034	790,600	1,125,118	574,104	12,624,651
Utility Fund	11,237,133	13,742,311	11,519,077	6,075,331	11,644,359	54,218,211
<b>Total Funding Sources</b>	<b>\$ 24,986,475</b>	<b>\$ 40,766,493</b>	<b>\$ 23,324,187</b>	<b>\$ 22,856,449</b>	<b>\$ 38,338,463</b>	<b>\$ 150,272,067</b>

Summary by Function	FY16	FY17	FY18	FY19	FY20	Total
General Government Admin.	1,677,000	2,391,000	1,636,000	1,410,000	1,330,000	8,444,000
Judicial Administration	-	-	-	-	300,000	300,000
Public Safety	3,135,400	2,269,750	2,696,000	6,346,000	4,106,000	18,553,150
Public Works	2,311,000	3,128,600	2,786,200	3,171,000	3,259,000	14,655,800
Human Services	-	-	-	500,000	-	500,000
Parks, Recreation & Cultural	-	-	75,000	90,000	10,135,000	10,300,000
Community Development	-	-	1,050,000	-	-	1,050,000
Nondepartmental	-	642,350	371,310	-	-	1,013,660
Education	2,400,000	12,596,500	2,400,000	4,139,000	6,990,000	28,525,500
Airport	4,225,942	5,995,982	790,600	1,125,118	574,104	12,711,746
Department of Public Utilities	11,237,133	13,742,311	11,519,077	6,075,331	11,644,359	54,218,211
<b>Total by Year</b>	<b>\$ 24,986,475</b>	<b>\$ 40,766,493</b>	<b>\$ 23,324,187</b>	<b>\$ 22,856,449</b>	<b>\$ 38,338,463</b>	<b>\$ 150,272,067</b>

Summary by Fund	FY16	FY17	FY18	FY19	FY20	Total
County Improvements Fund	7,123,400	8,431,700	8,614,510	11,517,000	19,130,000	54,816,610
School Improvements Fund	2,400,000	12,596,500	2,400,000	4,139,000	6,990,000	28,525,500
Airport Fund	4,225,942	5,995,982	790,600	1,125,118	574,104	12,711,746
Utility Fund	11,237,133	13,742,311	11,519,077	6,075,331	11,644,359	54,218,211
<b>Grand Total</b>	<b>\$ 24,986,475</b>	<b>\$ 40,766,493</b>	<b>\$ 23,324,187</b>	<b>\$ 22,856,449</b>	<b>\$ 38,338,463</b>	<b>\$ 150,272,067</b>

Funding Analysis of County and School Projects	FY16	FY17	FY18	FY19	FY20	Total
General Fund Support	68%	35%	69%	59%	36%	48%
Support from Other Sources	32%	17%	31%	30%	8%	20%
<b>Total Non-Debt Funding</b>	<b>100%</b>	<b>52%</b>	<b>100%</b>	<b>89%</b>	<b>44%</b>	<b>68%</b>
<b>Total Debt Funding</b>	<b>0%</b>	<b>48%</b>	<b>0%</b>	<b>11%</b>	<b>56%</b>	<b>32%</b>

# Capital Improvements Program

Funding Sources by Fund	FY16	FY17	FY18	FY19	FY20	Total
<b>County Improvements Fund</b>	<b>\$ 7,123,400</b>	<b>\$ 8,431,700</b>	<b>\$ 8,614,510</b>	<b>\$ 11,517,000</b>	<b>\$ 19,130,000</b>	<b>\$ 54,816,610</b>
General Fund	4,087,800	4,906,700	5,227,510	6,857,000	7,095,000	28,174,010
Categorical State Aid	1,119,000	1,375,000	1,000,000	1,000,000	1,000,000	5,494,000
Cash Proffers	500,000	500,000	500,000	500,000	500,000	2,500,000
Fund Balance Assignment	732,000	1,650,000	1,887,000	2,060,000	535,000	6,864,000
Fund Balance Assignment - Debt Reserve	684,600	-	-	1,100,000	-	1,784,600
Long-Term Debt	-	-	-	-	10,000,000	10,000,000
<b>School Improvements Fund</b>	<b>\$ 2,400,000</b>	<b>\$ 12,596,500</b>	<b>\$ 2,400,000</b>	<b>\$ 4,139,000</b>	<b>\$ 6,990,000</b>	<b>\$ 28,525,500</b>
General Fund	2,400,000	2,400,000	2,400,000	2,400,000	2,400,000	12,000,000
Long-Term Debt	-	10,196,500	-	1,739,000	4,590,000	16,525,500
<b>Airport Fund</b>	<b>\$ 4,225,942</b>	<b>\$ 5,995,982</b>	<b>\$ 790,600</b>	<b>\$ 1,125,118</b>	<b>\$ 574,104</b>	<b>\$ 12,711,746</b>
General Fund	8,147	78,948	-	-	-	87,095
Categorical State Aid	331,894	278,502	790,600	180,010	179,111	1,760,117
Categorical Federal Aid	3,885,901	5,638,532	-	945,108	394,993	10,864,534
<b>Utility Fund</b>	<b>\$ 11,237,133</b>	<b>\$ 13,742,311</b>	<b>\$ 11,519,077</b>	<b>\$ 6,075,331</b>	<b>\$ 11,644,359</b>	<b>\$ 54,218,211</b>
User Fees	8,044,133	8,012,311	8,859,077	5,311,331	5,444,359	35,671,211
Capacity Fees	3,193,000	5,730,000	2,660,000	764,000	6,200,000	18,547,000
<b>Grand Total</b>	<b>\$ 24,986,475</b>	<b>\$ 40,766,493</b>	<b>\$ 23,324,187</b>	<b>\$ 22,856,449</b>	<b>\$ 38,338,463</b>	<b>\$ 150,272,067</b>

Total Capital Improvements Funds	FY16	FY17	FY18	FY19	FY20	Total
General Fund	6,495,947	7,385,648	7,627,510	9,257,000	9,495,000	40,261,105
Cash Proffers	500,000	500,000	500,000	500,000	500,000	2,500,000
Long-Term Debt	-	10,196,500	-	1,739,000	14,590,000	26,525,500
Other Sources	17,990,528	22,684,345	15,196,677	11,360,449	13,753,463	80,985,462
<b>Grand Total</b>	<b>\$ 24,986,475</b>	<b>\$ 40,766,493</b>	<b>\$ 23,324,187</b>	<b>\$ 22,856,449</b>	<b>\$ 38,338,463</b>	<b>\$ 150,272,067</b>

Detail of Other Sources	FY16	FY17	FY18	FY19	FY20	Total
<b>County Improvements Fund</b>	<b>\$ 2,535,600</b>	<b>\$ 3,025,000</b>	<b>\$ 2,887,000</b>	<b>\$ 4,160,000</b>	<b>\$ 1,535,000</b>	<b>\$ 14,142,600</b>
Categorical State Aid	1,119,000	1,375,000	1,000,000	1,000,000	1,000,000	5,494,000
Fund Balance Assignment	732,000	1,650,000	1,887,000	2,060,000	535,000	6,864,000
Fund Balance Assignment - Debt Reserve	684,600	-	-	1,100,000	-	1,784,600
<b>Airport Fund</b>	<b>\$ 4,217,795</b>	<b>\$ 5,917,034</b>	<b>\$ 790,600</b>	<b>\$ 1,125,118</b>	<b>\$ 574,104</b>	<b>\$ 12,624,651</b>
Categorical Federal Aid	3,885,901	5,638,532	-	945,108	394,993	10,864,534
Categorical State Aid	331,894	278,502	790,600	180,010	179,111	1,760,117
<b>Utility Fund</b>	<b>\$ 11,237,133</b>	<b>\$ 13,742,311</b>	<b>\$ 11,519,077</b>	<b>\$ 6,075,331</b>	<b>\$ 11,644,359</b>	<b>\$ 54,218,211</b>
Capacity Fees	3,193,000	5,730,000	2,660,000	764,000	6,200,000	18,547,000
User Fees	8,044,133	8,012,311	8,859,077	5,311,331	5,444,359	35,671,211
<b>Grand Total</b>	<b>\$ 17,990,528</b>	<b>\$ 22,684,345</b>	<b>\$ 15,196,677</b>	<b>\$ 11,360,449</b>	<b>\$ 13,753,463</b>	<b>\$ 80,985,462</b>

## Capital Improvements Program

Funding by Project Type	FY16	FY17	FY18	FY19	FY20	Total
<b>County Improvements Fund</b>	<b>\$ 7,123,400</b>	<b>\$ 8,431,700</b>	<b>\$ 8,614,510</b>	<b>\$ 11,517,000</b>	<b>\$ 19,130,000</b>	<b>\$ 54,816,610</b>
Roads and Public Works	1,800,000	2,750,000	2,200,000	2,250,000	2,735,000	11,735,000
Technology	2,537,000	2,391,000	2,686,000	1,410,000	1,695,000	10,719,000
Equipment Replacement	1,220,400	1,312,350	1,251,200	5,045,000	850,000	9,678,950
Construction	-	-	-	-	8,000,000	8,000,000
Vehicles	1,140,000	1,221,000	1,571,000	1,571,000	2,111,000	7,614,000
Facility Improvements	426,000	115,000	535,000	1,241,000	3,739,000	6,056,000
Reserve	-	642,350	371,310	-	-	1,013,660
<b>School Improvements Fund</b>	<b>\$ 2,400,000</b>	<b>\$ 12,596,500</b>	<b>\$ 2,400,000</b>	<b>\$ 4,139,000</b>	<b>\$ 6,990,000</b>	<b>\$ 28,525,500</b>
Facility Improvements	400,000	10,596,500	400,000	2,139,000	4,990,000	18,525,500
Technology	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000
Equipment Replacement	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000
<b>Airport Fund</b>	<b>\$ 4,225,942</b>	<b>\$ 5,995,982</b>	<b>\$ 790,600</b>	<b>\$ 1,125,118</b>	<b>\$ 574,104</b>	<b>\$ 12,711,746</b>
Facility Improvements	4,008,614	4,048,614	220,000	96,000	-	8,373,228
Land Acquisition	217,328	1,947,368	570,600	1,029,118	430,104	4,194,518
Equipment Replacement	-	-	-	-	144,000	144,000
<b>Utility Fund</b>	<b>\$ 11,237,133</b>	<b>\$ 13,742,311</b>	<b>\$ 11,519,077</b>	<b>\$ 6,075,331</b>	<b>\$ 11,644,359</b>	<b>\$ 54,218,211</b>
Facility Improvements	2,973,650	7,468,850	4,846,500	4,817,000	9,417,000	29,523,000
Utility Service Agreement	8,198,483	6,273,461	6,132,577	772,331	2,109,359	23,486,211
Equipment Replacement	65,000	-	540,000	486,000	118,000	1,209,000
<b>Grand Total</b>	<b>\$ 24,986,475</b>	<b>\$ 40,766,493</b>	<b>\$ 23,324,187</b>	<b>\$ 22,856,449</b>	<b>\$ 38,338,463</b>	<b>\$ 150,272,067</b>

# Capital Improvements Program

	FY16	FY17	FY18	FY19	FY20
<b>County Improvements Fund</b>	<b>\$ -</b>	<b>\$ 135,000</b>	<b>\$ 330,000</b>	<b>\$ 520,800</b>	<b>\$ 570,800</b>
<b>Maintenance</b>	<b>-</b>	<b>135,000</b>	<b>330,000</b>	<b>520,800</b>	<b>570,800</b>
Comm. Development System Replacements	-	-	-	170,000	170,000
County Revenue Management System	-	-	160,000	160,000	160,000
County Website Hosting	-	-	30,000	30,000	30,000
Courthouse Park - Athletic Field Lighting	-	-	-	800	800
Human Resource System	-	-	-	20,000	20,000
Law Enforcement Records Mgmt System	-	125,000	125,000	125,000	125,000
New Land Records Management System	-	-	-	-	50,000
Risk Management Information System	-	10,000	10,000	10,000	10,000
Watershed Improvement Program	-	-	5,000	5,000	5,000
<b>Utility Fund</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 30,000</b>	<b>\$ 33,000</b>	<b>\$ 151,500</b>
<b>Maintenance</b>	<b>-</b>	<b>-</b>	<b>30,000</b>	<b>33,000</b>	<b>151,500</b>
Ashland WWTP Chemical Feed Unit	-	-	-	-	62,500
Dianne Ridge Water Treatment	-	-	-	3,000	3,000
Doswell WTP Carbon Feed System	-	-	-	-	56,000
Elmont Water Storage Tank & Pump Station	-	-	29,000	29,000	29,000
TWWTP Influent 2nd Influent Step Screen	-	-	1,000	1,000	1,000
<b>Grand Total</b>	<b>\$ -</b>	<b>\$ 135,000</b>	<b>\$ 360,000</b>	<b>\$ 553,800</b>	<b>\$ 722,300</b>

**NOTES**

(1) Any debt funding associated with CIP projects has been accounted for in the County's Five-Year Financial Plan and is not represented on this table of operating impacts.

## Human Resource System

**DEPARTMENT**  
Human Resources

**LOCATION**  
Countywide

**PROJECT DESCRIPTION**

The County presently uses a variety of systems and approaches to manage its human capital. A consolidated and integrated Human Resources System will allow the County to keep up with federal and state laws, enhance operations efficiencies, allow for better management/maintenance of personnel records (reporting, benefits administration), and to manage risk.

**USEFUL LIFE**

10 years

**TIMETABLE**

System implementation is scheduled for FY18.

**OPERATING IMPACT**

Software system maintenance fees will begin in FY19.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 300,000	\$ -	\$ -	\$ 300,000
Fund Balance Assignment	-	-	300,000	-	-	300,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 300,000	\$ -	\$ -	\$ 300,000
Professional Services	-	-	300,000	-	-	300,000
<b>Operating Impact</b>	\$ -	\$ -	\$ -	\$ 20,000	\$ 20,000	\$ 40,000
Maintenance	-	-	-	20,000	20,000	40,000

## County Revenue Management System

**DEPARTMENT**  
Commissioner of the Revenue

**LOCATION**  
Countywide

**PROJECT DESCRIPTION**

Presently, the County utilizes the Bright System for its revenue tracking and management. Real Estate and Personal Property records are managed by the Commissioner of the Revenue, and tax billing, cash receipts, collections, and accounting are managed by the Treasurer. This solution runs on the iSeries platform and has limited support and functionality. A new revenue management system will allow the County to implement more controls, workflows, audits, and functionality into the process. In addition, a more effective public portal can be offered to citizens so they can monitor and manage their real estate and personal property accounts.

**USEFUL LIFE**

10 years

**TIMETABLE**

Data conversion and system implementation in FY17.

**OPERATING IMPACT**

Software system maintenance fees will begin in FY18.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 1,125,000	\$ -	\$ -	\$ -	\$ 1,125,000
Fund Balance Assignment	-	1,125,000	-	-	-	1,125,000
<b>Funding Uses</b>	\$ -	\$ 1,125,000	\$ -	\$ -	\$ -	\$ 1,125,000
Technology	-	1,125,000	-	-	-	1,125,000
<b>Operating Impact</b>	\$ -	\$ -	\$ 160,000	\$ 160,000	\$ 160,000	\$ 480,000
Maintenance	-	-	160,000	160,000	160,000	480,000

## Technology Infrastructure

**DEPARTMENT**  
Information Technology

**LOCATION**  
Countywide

**PROJECT DESCRIPTION**

Technology Infrastructure includes the County's Network, Windows Server, and iSeries (AS400) infrastructure, including the County's Security & Network Protection methods and back-up solutions. Some of these costs are not separated by categories as vendors bid these as bundled prices to include the equipment, software licenses and their warranty coverage. These upgrades are required as shifts in technology occur, to provide current support and warranty coverage, provide system enhancements, and to supplement implementation of new technologies. These funds also ensure the Continuity of Operations for all technology services within the County. This CIP includes all hardware to operate the County's Infrastructure in all County locations except for Public Utilities and Pamunkey Regional Jail.

**USEFUL LIFE**

Varies; depends on when the equipment vendor has classified the product as EOL (End Of Life) and is no longer supporting the product.

**TIMETABLE**

Annual purchases for enhancements to the County's major systems and infrastructure. FY16 and FY17 will include replacement of equipment that had been delayed from prior fiscal years.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	<b>\$ 650,000</b>	<b>\$ 630,000</b>	<b>\$ 600,000</b>	<b>\$ 600,000</b>	<b>\$ 600,000</b>	<b>\$ 3,080,000</b>
General Fund	650,000	630,000	600,000	600,000	600,000	3,080,000
<b>Funding Uses</b>	<b>\$ 650,000</b>	<b>\$ 630,000</b>	<b>\$ 600,000</b>	<b>\$ 600,000</b>	<b>\$ 600,000</b>	<b>\$ 3,080,000</b>
Technology	650,000	630,000	600,000	600,000	600,000	3,080,000

## Enterprise Licenses

**DEPARTMENT**

Information Technology

**LOCATION**

Wickham Building

**PROJECT DESCRIPTION**

The County utilizes numerous enterprise software agreements to keep and maintain systems with up-to-date software that provides users and customers with extended functionality, corrections for known issues and key security upgrades. The Microsoft Enterprise Agreement is one example that provides software licensing and product access for all County computers. Servers, desktops, laptops and other device operating systems are funded and maintained through the Enterprise Agreement. Employees are licensed to use the latest version of Microsoft productivity tools, including Office, SharePoint, Exchange and many other products. Administrative costs are greatly reduced through the use of the Enterprise License Agreements. Licenses do not have to be purchased with new computers and the management of licenses are simplified and very efficient. Users have access to vendor issued patches and updates for their systems without the need to re-purchase software or pay vendors on a time and materials basis to correct problems. The County uses the Microsoft Software Assurance and Premier support agreements to provide critical support for the Microsoft platform as the County's enterprise applications are migrated off the iSeries (AS/400) systems.

**USEFUL LIFE**

Varies based upon the product. However, all product upgrades are included with the license agreement.

**TIMETABLE**

Purchase of licenses annually beginning in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 336,500</b>	<b>\$ 360,000</b>	<b>\$ 360,000</b>	<b>\$ 360,000</b>	<b>\$ 400,000</b>	<b>\$ 1,816,500</b>
General Fund	336,500	360,000	360,000	360,000	400,000	1,816,500
<b>Funding Uses</b>	<b>\$ 336,500</b>	<b>\$ 360,000</b>	<b>\$ 360,000</b>	<b>\$ 360,000</b>	<b>\$ 400,000</b>	<b>\$ 1,816,500</b>
Technology	336,500	360,000	360,000	360,000	400,000	1,816,500

## Storage Area Network (SAN)

**DEPARTMENT**  
Information Technology

**LOCATION**  
Wickham Building

**PROJECT DESCRIPTION**

Technology infrastructure enhancements for the County's Storage Area Network (SAN). The current SAN was originally purchased in FY11 using Energy Efficiency and Conservation Block Grant (EECBG) funds. A major upgrade is planned in FY16 to accommodate system growth. The SAN provides the County with the ability to provide storage with greater capabilities and reliability. The SAN allows multiple system access, which helps the County ensure that we are utilizing all storage more effectively and efficiently than traditional server storage. Funds are included for growth in data storage. The SAN also provides greater advance fault detection, allowing staff the ability to identify potential issues and correct them before the problems cause catastrophic system failures and service outages.

**USEFUL LIFE**

Major upgrades for system growth are planned every 5 years with replacement typically in 10 to 15 years.

**TIMETABLE**

FY16 includes the addition of a new unit to provide for anticipated storage growth as we migrate our major systems away from the IBM iSeries systems. FY17 will be for existing SAN maintenance. FY18 & FY19 reflect the cost of the new public safety systems storage.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 440,500</b>	<b>\$ 96,000</b>	<b>\$ 126,000</b>	<b>\$ 300,000</b>	<b>\$ 100,000</b>	<b>\$ 1,062,500</b>
General Fund	440,500	96,000	126,000	300,000	100,000	1,062,500
<b>Funding Uses</b>	<b>\$ 440,500</b>	<b>\$ 96,000</b>	<b>\$ 126,000</b>	<b>\$ 300,000</b>	<b>\$ 100,000</b>	<b>\$ 1,062,500</b>
Technology	440,500	96,000	126,000	300,000	100,000	1,062,500

## Computer Replacement Program

**DEPARTMENT**  
Information Technology

**LOCATION**  
Wickham Building

**PROJECT DESCRIPTION**

The computer replacement program philosophy is to replace computers when they are no longer functioning in an efficient manner. The target replacement schedule is once computers are 5 years old, but there are times when specific computer make/models must be replaced on a more aggressive schedule due to issues. Our experience shows that at 5 years we start seeing consistent performance issues and failures that can impact workforce efficiency and productivity. FY16 & FY17 represent stable budgets that do not fully achieve the 5 year replacement goal. Beginning in FY18 the full amount is budgeted to reach our 5 year goal and provide funds for repairs as needed. As new enterprise applications are deployed using full feature client side applications, the need to keep the client systems current becomes more critical. Funds have been maximized by adjusting warranty periods as appropriate while still providing maximum usability and performance for the County workforce. These funds do not replace any computers in Public Utilities, Regional Jail or any Mobile Device Computers (MDC's).

**USEFUL LIFE**

5 years

**TIMETABLE**

Annual replacement of computers beginning in FY16.

**OPERATING IMPACT**

There are no anticipated additional operating impacts as a result of this project.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 100,000</b>	<b>\$ 100,000</b>	<b>\$ 150,000</b>	<b>\$ 150,000</b>	<b>\$ 150,000</b>	<b>\$ 650,000</b>
General Fund	100,000	100,000	150,000	150,000	150,000	650,000
<b>Funding Uses</b>	<b>\$ 100,000</b>	<b>\$ 100,000</b>	<b>\$ 150,000</b>	<b>\$ 150,000</b>	<b>\$ 150,000</b>	<b>\$ 650,000</b>
Technology	100,000	100,000	150,000	150,000	150,000	650,000

## Data Center Upgrades

**DEPARTMENT**  
Information Technology

**LOCATION**  
Countywide

**PROJECT DESCRIPTION**

This project will provide required maintenance and enhancements of the County Data Centers to ensure continuity of County technology operations by ensuring that existing cooling and UPS (Uninterruptable Power Supply) systems continue to operate properly with regular maintenance and upgrades. Future expenditures are for maintenance of existing cooling and UPS equipment, UPS battery replacements, major component upgrades and replacements, area modifications for growth of services, and improvements to center interconnects to provide highly available systems and services. Without this routine maintenance and upgrades of critical systems, the equipment may fail without warning or not operate as required. Loss of stabilized power or cooling could lead to catastrophic failure of major business systems affecting all County citizens.

**USEFUL LIFE**

5 years for UPS batteries and major components of the cooling system. Major components of the UPS (such as capacitors and filtering circuits) have a useful life of 3 to 5 years.

**TIMETABLE**

Enhancements and maintenance will take place in FY16 and FY18 in a phased approach designed to minimize time that system components may be offline.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	<b>\$ 150,000</b>	<b>\$ -</b>	<b>\$ 100,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250,000</b>
General Fund	150,000	-	100,000	-	-	250,000
<b>Funding Uses</b>	<b>\$ 150,000</b>	<b>\$ -</b>	<b>\$ 100,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 250,000</b>
Technology	150,000	-	100,000	-	-	250,000

## County Website Hosting

**DEPARTMENT**

Information Technology

**LOCATION**

Wickham Building

**PROJECT DESCRIPTION**

The County recently completed a redesign of its website. The website is hosted on-premise using County resources. Moving the hosting of the website to a third party contractor will allow the Information Technology department to focus its resources in other areas while working with the contractor to enhance the functionality of the website. This will also ensure the website functions on all platforms and with all major browsers in support of citizens using advanced technology and functionality.

**USEFUL LIFE**

N/A

**TIMETABLE**

The project will be completed in FY17.

**OPERATING IMPACT**

Website hosting fees starting in FY18 at \$30,000 annually.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 80,000	\$ -	\$ -	\$ -	\$ 80,000
General Fund	-	80,000	-	-	-	80,000
<b>Funding Uses</b>	\$ -	\$ 80,000	\$ -	\$ -	\$ -	\$ 80,000
Technology	-	80,000	-	-	-	80,000
<b>Operating Impact</b>	\$ -	\$ -	\$ 30,000	\$ 30,000	\$ 30,000	\$ 90,000
Maintenance	-	-	30,000	30,000	30,000	90,000

## Tax Parcel Data Enhancement

**DEPARTMENT**  
Information Technology

**LOCATION**  
Wickham Building

**PROJECT DESCRIPTION**

The basis of the County’s real estate tax record system is the tax parcel. Local government tax parcel data is the legal repository of land ownership and property value. The original GIS parcel data layer was established in the mid 1990’s by digitally converting hard copy, manually-created maps that were not based on deeds or survey plats. Since the County’s assessment system is predominantly based on physical attributes of a parcel and characteristics of the land that comprises the parcel, it is imperative that parcels be as accurate as possible. Implementation of a new CAMA system provides an opportunity to make the related GIS parcel data more accurate, which will be beneficial to County operations and the public.

**USEFUL LIFE**  
N/A

**TIMETABLE**  
Implementation to be completed in FY20.

**OPERATING IMPACT**  
There are no anticipated additional operating impacts as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 80,000	\$ 80,000
General Fund	-	-	-	-	80,000	80,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 80,000	\$ 80,000
Technology	-	-	-	-	80,000	80,000

## New Land Records Management System (LRMS)

**DEPARTMENT**  
Clerk of the Circuit Court

**LOCATION**  
Circuit Court

**PROJECT DESCRIPTION**

The Land Records Management System (LRMS) stores and enables access to the public record, including land records, court orders, wills, fiduciary accounts, and marriage licenses, and provides secure remote access to land records to paid subscribers and governmental employees. For the past 12 years the LRMS has been supplied by American Cadastre LLC (AmCad). Due to corporate reorganization, and the amount of time since this service was rebid, this service is likely to need to be rebid within the span of this five-year plan.

**USEFUL LIFE**

10 years

**TIMETABLE**

Request for Proposal (RFP) to be released in late FY19. Vendor selection planned for 2019 and installation during the first quarter of 2020.

**OPERATING IMPACT**

Software system maintenance fees will begin in FY20.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 300,000	\$ 300,000
General Fund	-	-	-	-	300,000	300,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 300,000	\$ 300,000
Technology	-	-	-	-	300,000	300,000
<b>Operating Impact</b>	\$ -	\$ -	\$ -	\$ -	\$ 50,000	\$ 50,000
Maintenance	-	-	-	-	50,000	50,000

## Law Enforcement Records Management System

**DEPARTMENT**

Sheriff

**LOCATION**

Vaughan-Bradley Building

**PROJECT DESCRIPTION**

The Sheriff presently has several software solutions to support the many aspects of law enforcement, including using New World Systems running on the iSeries platform for their records management system. The intent is to replace as many components as possible (prioritizing those that have technology deficiencies) into an integrated solution. The Sheriff also has a need for a mobile field reporting solution. This functionality is presently done using antiquated tools (pdf files). A new system running on the Windows platform will introduce many enhancements and efficiencies into the law enforcement program. Currently, the Commonwealth's Attorney uses the VCAIS system, which has limited support and functionality.

**USEFUL LIFE**

10 years

**TIMETABLE**

Data conversion from July to December 2015; system implementation to be completed in January-December 2016 and final system cutover on January 1, 2017. Mobile field reporting, Commonwealth's Attorney case reporting and prosecutor system will be implemented in FY17.

**OPERATING IMPACT**

Software system maintenance fees will begin in FY17.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 800,000	\$ -	\$ -	\$ -	\$ -	\$ 800,000
General Fund	115,400	-	-	-	-	115,400
Fund Balance Assignment - Debt Reserve	684,600	-	-	-	-	684,600
<b>Funding Uses</b>	\$ 800,000	\$ -	\$ -	\$ -	\$ -	\$ 800,000
Technology	800,000	-	-	-	-	800,000
<b>Operating Impact</b>	\$ -	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 500,000
Maintenance	-	125,000	125,000	125,000	125,000	500,000

## Vaughan-Bradley Building HVAC

**DEPARTMENT**

Sheriff

**LOCATION**

Vaughan-Bradley Building

**PROJECT DESCRIPTION**

The manufacturer no longer makes an interface for the current HVAC system in the Vaughan-Bradley building. Toggle switches are being placed onto each control unit as an interim measure. With funding for this project, this unit will be replaced.

**USEFUL LIFE**

15 years

**TIMETABLE**

Purchase and installation in FY18.

**OPERATING IMPACT**

There are no anticipated additional operating impacts as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 225,000	\$ -	\$ -	\$ 225,000
General Fund	-	-	225,000	-	-	225,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 225,000	\$ -	\$ -	\$ 225,000
Facility Improvements	-	-	225,000	-	-	225,000

## Vaughan-Bradley Building Chiller Replacement

**DEPARTMENT**

Sheriff

**LOCATION**

Vaughan-Bradley Building

**PROJECT DESCRIPTION**

The Vaughan-Bradley building chiller has surpassed its life expectancy. Additionally, the controls are out of date and will cost more to fix than to replace.

**USEFUL LIFE**

15 to 20 years

**TIMETABLE**

Purchase and installation in FY16.

**OPERATING IMPACT**

There are no anticipated additional operating impacts as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 175,000	\$ -	\$ -	\$ -	\$ -	\$ 175,000
General Fund	175,000	-	-	-	-	175,000
<b>Funding Uses</b>	\$ 175,000	\$ -	\$ -	\$ -	\$ -	\$ 175,000
Facility Improvements	175,000	-	-	-	-	175,000

## Firing Range Lead Removal

**DEPARTMENT**  
Sheriff

**LOCATION**  
Sheriff's Firing Range

**PROJECT DESCRIPTION**

Lead removal is an EPA Best Practice for outdoor firing ranges and should be done every 10-12 years. The last removal was completed in 2007. This process will prevent the Hanover Sheriff's Office Range from being a hazardous environment.

**USEFUL LIFE**

N/A

**TIMETABLE**

Lead removal process will be started and completed in FY18.

**OPERATING IMPACT**

There are no anticipated additional operating impacts as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 100,000	\$ -	\$ -	\$ 100,000
General Fund	-	-	100,000	-	-	100,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 100,000	\$ -	\$ -	\$ 100,000
Facility Improvements	-	-	100,000	-	-	100,000

### 3D Laser Scanner

**DEPARTMENT**

Sheriff

**LOCATION**

Vaughan-Bradley Building

**PROJECT DESCRIPTION**

This device is for laser crime scene scanning, documentation and display. This piece of equipment would be used by the Sheriff's Office Traffic Safety Unit and General Investigations personnel to document and accurately record crime scenes and fatal motor vehicle crashes. The 3D Laser Scanner would save time and man-hours and allow investigators to concentrate on recovering other evidence while this device is in use. Our current process could take upwards of several hours; the new device can scan a scene in under 30 minutes. This device would replace the current Total Station laser currently in use, which was purchased in 2004.

**USEFUL LIFE**

10 to 15 years

**TIMETABLE**

Purchase and implementation in FY20.

**OPERATING IMPACT**

Maintenance fees would begin the year following purchase and implementation.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 65,000	\$ 65,000
General Fund	-	-	-	-	65,000	65,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 65,000	\$ 65,000
Technology	-	-	-	-	65,000	65,000

## Radio Replacement - Portable & Mobile

**DEPARTMENT**  
Emergency Communications

**LOCATION**  
Emergency Communications Center

**PROJECT DESCRIPTION**

Radio Subscriber Lifecycle Replacements - replacement of portable radios for Public Safety users. The XTS 5000 radio product is the primary portable radio in use by Hanover public safety agencies and 700 portable radios require replacement. Additionally, regional police agencies (including Hanover) have agreed to encrypt all law enforcement talk groups in FY18, which will require Hanover to replace 320 Sheriff's Office mobile radios. Expenditures will not occur until contract for CRCSC Radio System replacement is awarded.

**USEFUL LIFE**

Current radio subscribers are anticipated to have a useful life of 7 to 10 years. This project represents an initial lifecycle replacement plan request for a phased, multi-year replacement program. Motorola will cease support of current Hanover mobiles/portables effective 12/31/2019.

**TIMETABLE**

Radio replacement will begin in FY18 and continue through FY19.

**OPERATING IMPACT**

There are no anticipated additional operating impacts as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 1,100,000	\$ 1,100,000	\$ 3,475,000	\$ -	\$ 5,675,000
Fund Balance Assignment	-	-	437,000	1,960,000	-	2,397,000
General Fund	-	1,100,000	663,000	415,000	-	2,178,000
Fund Balance Assignment - Debt Reserve	-	-	-	1,100,000	-	1,100,000
<b>Funding Uses</b>	\$ -	\$ 1,100,000	\$ 1,100,000	\$ 3,475,000	\$ -	\$ 5,675,000
Equipment	-	1,100,000	1,100,000	3,475,000	-	5,675,000

## Capital Region Radio System

**DEPARTMENT**  
Emergency Communications

**LOCATION**  
Emergency Communications Center

**PROJECT DESCRIPTION**

The Capital Region Radio System participants (Chesterfield, Henrico and Richmond) are in the process of upgrading their existing Motorola radio systems to a P25 digital radio system capable of integrating with the Hanover County P25 digital radio system. In 2008, Hanover was added as a voting member of the Capital Region Communications Steering Committee. Long-range plans include provisions for including the Hanover County radio system as part of the Capital Region Radio System. This integration provides numerous benefits for radio system users and this CIP project provides funding for the required integration via one of two currently available integration options.

Integration of the two radio systems is contingent upon selection and award of a radio system upgrade/ replacement contract and the development of a regionally-agreeable implementation plan. Regional coordination meetings anticipate that a regional contract will be awarded during FY15 to replace/upgrade the Chesterfield, Henrico and Richmond systems. The integration of the two systems cannot occur until the new Capital Region Radio system is operational.

**USEFUL LIFE**

The useful life of this project is expected to be 15 to 20 years. Hanover currently has in place a support contract that will keep the current system up to date for 15 years.

**TIMETABLE**

This project assumes that integration design will occur during FY15 and equipment funding will follow. Consulting costs in FY16 are related to a regional RFP.

**OPERATING IMPACT**

There are no anticipated additional operating impacts as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	<b>\$ 632,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 632,000</b>
Fund Balance Assignment	632,000	-	-	-	-	632,000
<b>Funding Uses</b>	<b>\$ 632,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 632,000</b>
Equipment	500,000	-	-	-	-	500,000
Professional Services	132,000	-	-	-	-	132,000

## Tower Light Upgrade/Replacement

**DEPARTMENT**  
Emergency Communications

**LOCATION**  
Countywide

**PROJECT DESCRIPTION**

Current tower lighting systems on 10 towers have exhibited lifecycle issues and should be upgraded to address on-going maintenance issues. Cost per tower is estimated to be \$25,000.

**USEFUL LIFE**

Anticipated useful life of 20 years. This project represents the lifecycle replacement plan and phased 2-year replacement program.

**TIMETABLE**

9-month implementation process in FY16.

**OPERATING IMPACT**

There are no anticipated additional operating impacts as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ 250,000
General Fund	250,000	-	-	-	-	250,000
<b>Funding Uses</b>	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ 250,000
Equipment	250,000	-	-	-	-	250,000

## Customer Premise Equipment (CPE) 911 Phone System Upgrade

**DEPARTMENT**  
Emergency Communications

**LOCATION**  
Emergency Communications Center

**PROJECT DESCRIPTION**

This request will provide funding necessary to upgrade the current VIPER CPE Phone System, which is outdated and running on the Microsoft Windows XP platform. Hanover is equipped with 12 E911 trunks and 7 administrative lines. This will provide new system hardware and software to allow us to upgrade ITRR (Integrated Telephone Radio Recorder) and 12 positions of Power 911 and Power MIS (Management Information System). The current CPE is 5 years old with all hardware initially installed in operation. The Intrado VIPER CPE phone system is Next Generation 911 compatible and capable of transferring large amounts of data as needed. This project supports the State Comprehensive 911 plan and allows for the continued provision of reliable E911 services to Hanover County Citizens and the public within our jurisdiction by ensuring Hanover County's CPE and phone system is updated and enhanced to the most current version.

**USEFUL LIFE**

5 to 7 years

**TIMETABLE**

6-month implementation process beginning in FY16.

**OPERATING IMPACT**

There are no anticipated additional operational impacts as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 212,400	\$ -	\$ -	\$ -	\$ -	\$ 212,400
Categorical State Aid	150,000	-	-	-	-	150,000
General Fund	62,400	-	-	-	-	62,400
<b>Funding Uses</b>	\$ 212,400	\$ -	\$ -	\$ -	\$ -	\$ 212,400
Equipment	212,400	-	-	-	-	212,400

## Fire Engine and Heavy Squad Replacement

**DEPARTMENT**

Fire/EMS

**LOCATION**

Fire/EMS Stations

**PROJECT DESCRIPTION**

The County operates a fleet of twenty (20) engines, eight (8) tankers, three (3) ladder trucks, four (4) Heavy Rescue Units and miscellaneous air utility vehicles, brush trucks, first responder all purpose vehicles and a mobile command unit. The engines in this rotation are the first line engines for fire and medical response from the County fire stations. They have a capacity of 750 gallons of water, 2,000 gallon per minute pump, 2,000 feet of assorted hose, breathing apparatus and the capability of transporting six (6) firefighters to emergency scenes. This plan will not expand the current fleet of fire engines beyond the 20 currently in operation.

**USEFUL LIFE**

Varies based on vehicle. 10 years: Engines; 15 years: Ladder Trucks and Heavy Rescue Trucks; 20 years: Tankers.

**TIMETABLE**

Purchase an Engine, Heavy Rescue, Ladder Truck or Tanker each year to stay on point with the 22-year apparatus replacement plan.

**OPERATING IMPACT**

There are no additional maintenance costs associated with the replacement vehicles.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 500,000</b>	<b>\$ 500,000</b>	<b>\$ 750,000</b>	<b>\$ 750,000</b>	<b>\$ 1,270,000</b>	<b>\$ 3,770,000</b>
General Fund	500,000	500,000	750,000	750,000	1,270,000	3,770,000
<b>Funding Uses</b>	<b>\$ 500,000</b>	<b>\$ 500,000</b>	<b>\$ 750,000</b>	<b>\$ 750,000</b>	<b>\$ 1,270,000</b>	<b>\$ 3,770,000</b>
Vehicles	500,000	500,000	750,000	750,000	1,270,000	3,770,000

## Ambulance Replacement

**DEPARTMENT**

Fire/EMS

**LOCATION**

Fire/EMS Stations

**PROJECT DESCRIPTION**

Hanover County currently operates 22 ambulances from 16 stations. The fleet will remain at 22 ambulances. Ambulances are chosen for replacement based on estimated maintenance costs, mileage and age. All ambulances will be outfitted to advanced life support standards. The cost will increase beginning in FY17 due to a new NFPA standard on patient safety and delivery. This plan incorporates the replacement of our QRV's at 1 a year beginning in FY17.

**USEFUL LIFE**

10 years

**TIMETABLE**

Purchasing two ambulances per year beginning in FY16.

**OPERATING IMPACT**

There are no additional maintenance costs associated with the replacement vehicles.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 440,000</b>	<b>\$ 521,000</b>	<b>\$ 521,000</b>	<b>\$ 521,000</b>	<b>\$ 521,000</b>	<b>\$ 2,524,000</b>
General Fund	440,000	521,000	521,000	521,000	521,000	2,524,000
<b>Funding Uses</b>	<b>\$ 440,000</b>	<b>\$ 521,000</b>	<b>\$ 521,000</b>	<b>\$ 521,000</b>	<b>\$ 521,000</b>	<b>\$ 2,524,000</b>
Vehicles	440,000	521,000	521,000	521,000	521,000	2,524,000

## Fire Training Burn Building

**DEPARTMENT**

Fire/EMS

**LOCATION**

Harman-Taylor Fire/EMS Training Center

**PROJECT DESCRIPTION**

The current burn building was originally constructed in 1992 using refractory concrete. Refractory concrete became known as a poor choice for burn building construction because the high temperatures will cause the concrete to separate at the internal rebar. In 2000, the building was inspected and the department decided to use a new construction method using externally constructed “burn boxes,” in an attempt to reduce wear on the building. The boxes were installed in 2003-2004, however, this addition was not designed to add years to the overall service life use of the building. By 2017, the building will be 25 years old and at the end of its service life for live fire training. This funding will allow the department to construct a replacement building, which is absolutely essential to basic firefighting training. The funded burn building consists of mostly gas props. There is an opportunity where our burn boxes can be removed and stacked to give us a combination system for an enhanced live fire training experience.

**USEFUL LIFE**

25 years

**TIMETABLE**

Architecture & engineering in FY19; construction in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 250,000	\$ 1,500,000	\$ 1,750,000
General Fund	-	-	-	250,000	1,500,000	1,750,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 250,000	\$ 1,500,000	\$ 1,750,000
Construction	-	-	-	-	1,500,000	1,500,000
Professional Services	-	-	-	250,000	-	250,000

## Upgrade to Station Alerting System

**DEPARTMENT**

Fire/EMS

**LOCATION**

Fire/EMS Stations

**PROJECT DESCRIPTION**

Our current Station alerting system utilizes 1950’s technology. The alerting system is the first step in a series of cascading events that allow the Fire/EMS Department to meet its’ primary mission. A more advanced alerting system will help reduce response times by shortening the length of time it takes for tones to commence and end. Another regional department who recently upgraded their station alerting system, saw an eighteen percent (18%) reduction in out of station times from the time of dispatch. This reduction in out of station time has a significant correlation to both fire and EMS incident outcomes. We also know that our antiquated alerting technology has a short shelf life, demonstrated by a twenty percent (20%) to twenty-five percent (25%) failure rate at the station paging receiving mechanism, and finding parts to maintain the system will continue to become challenging. Lastly, this is also a significant health and safety initiative. The current alerting mechanism, loud bells and tone pages, have been proven to have long term, negative health effects such as Tinnitus, and undue stress on our personnel’s hearts due to sudden, loud alerting activations that awaken personnel while sleeping. The new technology implemented in modern activation systems utilizes “soft” alerting/notification through the volume of speakers and the gradual illumination of bedroom lighting. The new station alerting system will enable our department to be better prepared for future technology needs, and most importantly will improve the health and safety of our personnel.

**USEFUL LIFE**

20 years

**TIMETABLE**

Installation split between stations in FY19 & FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 500,000	\$ 500,000	\$ 1,000,000
General Fund	-	-	-	500,000	500,000	1,000,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 500,000	\$ 500,000	\$ 1,000,000
Equipment	-	-	-	500,000	500,000	1,000,000

## New Air Bottles for Scott Air Packs

**DEPARTMENT**

Fire/EMS

**LOCATION**

N/A

**PROJECT DESCRIPTION**

The useful life of any air bottle (SCBA) is 15 years. Within that 15 year time span they can only be hydro tested twice. At the conclusion of FY14, we completed our last hydro test for our current SCBA inventory. We will have to replace all of the bottles by the conclusion of FY19. We have 600 bottles and the cost is \$1,000 each to replace.

**USEFUL LIFE**

15 years

**TIMETABLE**

Purchase replacements in FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 600,000	\$ -	\$ 600,000
General Fund	-	-	-	600,000	-	600,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 600,000	\$ -	\$ 600,000
Equipment	-	-	-	600,000	-	600,000

## Traffic Preemption

**DEPARTMENT**  
Fire/EMS

**LOCATION**  
Countywide

**PROJECT DESCRIPTION**

Traffic preemption is a system installed by VDOT that allows emergency vehicles priority at controlled intersections. The emergency units cause the traffic signals in their intended lanes to turn green as the vehicle approaches the intersection. This type of system is common and already in place in Richmond, Henrico and Chesterfield. Given the significant traffic on some of the county’s major thoroughfares, this system can improve response times and safety for both responders and citizens on the roadways. Currently, there are 47 existing signals in the county, 11 of which already have the system installed. This funding would phase in installation of the system on the remaining signals over two years. It will also provide for the signaling equipment to be installed on our fleet of emergency vehicles.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Installations of signals at the busiest intersections in FY19. Install on the remaining intersections in FY20.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 250,000	\$ 250,000	\$ 500,000
General Fund	-	-	-	250,000	250,000	500,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 250,000	\$ 250,000	\$ 500,000
Equipment	-	-	-	250,000	250,000	500,000

## Life Pack (LP) 15 Upgrade

**DEPARTMENT**

Fire/EMS

**LOCATION**

N/A

**PROJECT DESCRIPTION**

The current LP12's have reached the end of their useful life and the manufacturer no longer produces replacement parts. Life Packs are a critical piece of equipment on our ambulances because they provide lifesaving diagnostic and treatment interventions for our most critical patients. In addition, they are a state mandated requirement for ambulances to be licensed and receive an EMS Permit. Each unit costs \$29,750. In FY16, the local share has been discounted based on the trade-in value of our existing units.

**USEFUL LIFE**

10 years

**TIMETABLE**

Complete replacement by FY17.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	<b>\$ 126,000</b>	<b>\$ 148,750</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 274,750</b>
Categorical State Aid	119,000	-	-	-	-	119,000
General Fund	7,000	148,750	-	-	-	155,750
<b>Funding Uses</b>	<b>\$ 126,000</b>	<b>\$ 148,750</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 274,750</b>
Equipment	126,000	148,750	-	-	-	274,750

## Reserve for Future Roadway Improvements

**DEPARTMENT**  
Public Works

**LOCATION**  
To be Determined

**PROJECT DESCRIPTION**

The intent of this project is to improve traffic operations and highway capacity or construct new roadways on an as-needed basis to be determined by the Board of Supervisors. The funds will also be used to match state funds for specific road projects and to help offset unforeseen construction cost increases on current and future road projects.

**USEFUL LIFE**  
N/A

**TIMETABLE**  
Continuous improvements beginning in FY16.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 1,700,000</b>	<b>\$ 1,700,000</b>	<b>\$ 2,000,000</b>	<b>\$ 2,000,000</b>	<b>\$ 2,000,000</b>	<b>\$ 9,400,000</b>
Categorical State Aid	850,000	850,000	1,000,000	1,000,000	1,000,000	4,700,000
Cash Proffers	500,000	500,000	500,000	500,000	500,000	2,500,000
General Fund	350,000	350,000	500,000	500,000	500,000	2,200,000
<b>Funding Uses</b>	<b>\$ 1,700,000</b>	<b>\$ 1,700,000</b>	<b>\$ 2,000,000</b>	<b>\$ 2,000,000</b>	<b>\$ 2,000,000</b>	<b>\$ 9,400,000</b>
Construction	1,020,000	1,020,000	1,200,000	1,200,000	1,200,000	5,640,000
Land	340,000	340,000	400,000	400,000	400,000	1,880,000
Professional Services	340,000	340,000	400,000	400,000	400,000	1,880,000

## Regional Stormwater Implementation

**DEPARTMENT**

Public Works

**LOCATION**

Suburban Service Area

**PROJECT DESCRIPTION**

Prior to June 30, 2014, the County's regional stormwater program provided for the voluntary collection of a one-time pro-rata share fee from development based on the amount of impervious surface. Fees collected were used to construct regional stormwater management ponds to meet water quality requirements in-lieu of requiring on-site Best Management Practices (BMPs). Due to changes to the State's stormwater management laws, the County's regional stormwater program ended on June 30, 2014. The CIP anticipates expending the current un-appropriated fund balances to close out this program over FY16 through FY20 for additional nutrient reductions. For FY17, the Henderson Hall project proposes to restore a stream corridor at the rear of single-family lots in the Kings Charter Subdivision. It has been a source of concern for those residents and the Kings Charter community due to accelerated erosion and down-cutting affecting the lake quality and properties. This project will be to rebuild the channel and engineer a restoration to prevent the ongoing erosion. This project will serve to meet the County's Chesapeake Bay Total Maximum Daily Load stormwater requirements, protect the environment and solve the local erosion problem.

**USEFUL LIFE**

N/A

**TIMETABLE**

Stormwater implementation projects in FY16 through FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 100,000</b>	<b>\$ 1,050,000</b>	<b>\$ 100,000</b>	<b>\$ 100,000</b>	<b>\$ 535,000</b>	<b>\$ 1,885,000</b>
Fund Balance Assignment	100,000	525,000	100,000	100,000	535,000	1,360,000
Categorical State Aid	-	525,000	-	-	-	525,000
<b>Funding Uses</b>	<b>\$ 100,000</b>	<b>\$ 1,050,000</b>	<b>\$ 100,000</b>	<b>\$ 100,000</b>	<b>\$ 535,000</b>	<b>\$ 1,885,000</b>
Facility Improvements	100,000	1,050,000	100,000	100,000	535,000	1,885,000

## Watershed Improvement Program

**DEPARTMENT**

Public Works

**LOCATION**

Countywide

**PROJECT DESCRIPTION**

A special condition in the State’s Municipal Separate Storm Sewer System (MS4) General Permit requires the County to develop and implement a Chesapeake Bay Total Maximum Daily Load (TMDL) action plan to reduce pollutants discharged from our public storm sewer system. The Chesapeake Bay TMDL is a “pollution diet” established by the U.S. Environmental Protection Agency (EPA) and implemented through Virginia’s Watershed Implementation Plan (WIP) to improve water quality in the Chesapeake Bay watershed. Localities in the Bay watershed with MS4 permits like Hanover are mandated to reduce pollutants from previously developed lands as a condition of their permit. The State’s WIP requires localities to address 5% of the required reduction in the current 5-year permit cycle (FY14-FY18), 35% in the second 5-year cycle, and the remaining 60% reductions in the third 5-year cycle.

New capital improvement funds to address the Chesapeake Bay-related requirements contained in the County’s storm sewer system permit will comprise a large portion of budget growth in future years. These capital funds will be used to modify and upgrade stormwater facilities to reduce sediment, phosphorus and nitrogen. At this time, the County is developing a plan which focuses on building projects that fix existing local problems and meet regulatory requirements. A combination of general fund appropriations, grant funds and local developer funds are proposed to fund this increasing obligation. The general fund dollars projected to begin in FY18 are intended to address projected needs in the second permit cycle and beyond. The grant funds are not reflected in the budget since they will be project-specific and incorporated on a case-by-case basis.

**USEFUL LIFE**

N/A

**TIMETABLE**

Second permit cycle projects to begin FY18.

**OPERATING IMPACT**

\$5,000 annually beginning in FY18.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 100,000	\$ 150,000	\$ 200,000	\$ 450,000
General Fund	-	-	100,000	150,000	200,000	450,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 100,000	\$ 150,000	\$ 200,000	\$ 450,000
Facility Improvements	-	-	100,000	150,000	200,000	450,000
<b>Operating Impact</b>	\$ -	\$ -	\$ 5,000	\$ 5,000	\$ 5,000	\$ 15,000
Maintenance	-	-	5,000	5,000	5,000	15,000

## Solid Waste Equipment Replacement

**DEPARTMENT**  
Public Works Operations

**LOCATION**  
Convenience Centers & Transfer Station

**PROJECT DESCRIPTION**

The project will purchase replacement equipment to handle solid waste at the County Convenience Centers, County Transfer Station and Waste-to-Compost (WTC). This project is necessary to maintain a viable fleet of solid waste handling equipment. Aging equipment will be taken out of service and replaced with more modern and reliable equipment. Acquisition of new equipment will provide for more efficient operations with less maintenance and repair downtime.

**USEFUL LIFE**

Varies by equipment. 10 Years: Hooklift Conversion; 15 Years: Farm Tractor, Hooklift Truck and Wheeled Loader; 20 Years: Roll-off Containers.

**TIMETABLE**

Purchasing Farm Tractor in FY17; Hooklift Truck (\$140,400) and Hooklift Conversion (\$10,800) in FY18; Wheeled Loader in FY19; Backhoe and Roll-off Trailer (\$50,000 each) in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 63,600	\$ 151,200	\$ 220,000	\$ 100,000	\$ 534,800
General Fund	-	63,600	151,200	220,000	100,000	534,800
<b>Funding Uses</b>	\$ -	\$ 63,600	\$ 151,200	\$ 220,000	\$ 100,000	\$ 534,800
Equipment	-	63,600	151,200	220,000	100,000	534,800

## Closed 301 Landfill Remediation

**DEPARTMENT**  
Public Works Operations

**LOCATION**  
301 Landfill (Closed)

**PROJECT DESCRIPTION**

Construct a groundwater interception trench for passive remediation of trace volatile organic compounds in the shallow groundwater at the 301 Landfill. Limestone will assist with the control of naturally occurring dissolved metal concentrations in the uppermost aquifer beneath the facility. The cost for this new requirement from the Virginia Department of Environmental Quality includes permitting, engineering and construction.

**USEFUL LIFE**

30 years

**TIMETABLE**

Project to be completed in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 125,000	\$ -	\$ -	\$ -	\$ -	\$ 125,000
General Fund	125,000	-	-	-	-	125,000
<b>Funding Uses</b>	\$ 125,000	\$ -	\$ -	\$ -	\$ -	\$ 125,000
Facility Improvements	125,000	-	-	-	-	125,000

## General Vehicle Replacement Schedule

**DEPARTMENT**  
General Services

**LOCATION**  
N/A

**PROJECT DESCRIPTION**

As the County's fleet ages, vehicle replacement is required. The yearly budgeted amounts will go directly to replacing County vehicles.

**USEFUL LIFE**

7 to 10 years

**TIMETABLE**

Annual purchasing of vehicles.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 200,000</b>	<b>\$ 200,000</b>	<b>\$ 300,000</b>	<b>\$ 300,000</b>	<b>\$ 320,000</b>	<b>\$ 1,320,000</b>
General Fund	200,000	200,000	300,000	300,000	320,000	1,320,000
<b>Funding Uses</b>	<b>\$ 200,000</b>	<b>\$ 200,000</b>	<b>\$ 300,000</b>	<b>\$ 300,000</b>	<b>\$ 320,000</b>	<b>\$ 1,320,000</b>
Vehicles	200,000	200,000	300,000	300,000	320,000	1,320,000

## Fleet Garage Floor Top-Coat

**DEPARTMENT**  
General Services

**LOCATION**  
Fleet Building

**PROJECT DESCRIPTION**

Concrete floor in all bay areas is in need of top-coat application to protect and extend the working life of the garage floor. Dropped tools, spills and the weight of vehicles all combine to destroy, split and crack the concrete surface over time.

**USEFUL LIFE**

10 to 15 years

**TIMETABLE**

Project to be completed in FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 300,000	\$ -	\$ 300,000
General Fund	-	-	-	300,000	-	300,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 300,000	\$ -	\$ 300,000
Facility Improvements	-	-	-	300,000	-	300,000

## Courthouse Complex Repaving

**DEPARTMENT**  
General Services

**LOCATION**  
Courthouse Complex

**PROJECT DESCRIPTION**

Asphalt surfaces are aging and showing signs of wear and deterioration. Repaving parking areas at Vaughan-Bradley Building and Building Inspections office is planned for FY19. In FY20, Main Courts parking areas will be repaved. This request is to repave the parking areas with new asphalt and includes restriping of parking areas.

**USEFUL LIFE**

10 to 15 years

**TIMETABLE**

Work to be scheduled and completed in FY19 and FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 51,000	\$ 104,000	\$ 155,000
General Fund	-	-	-	51,000	104,000	155,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 51,000	\$ 104,000	\$ 155,000
Facility Improvements	-	-	-	51,000	104,000	155,000

## HVAC Air Handler Replacement

**DEPARTMENT**  
General Services

**LOCATION**  
Wickham Building

**PROJECT DESCRIPTION**

The HVAC Supply and Return building air handlers are continuing to age and deteriorate. This project would replace these units.

**USEFUL LIFE**

25 to 40 years

**TIMETABLE**

Purchase and installation in FY18.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 135,000	\$ -	\$ -	\$ 135,000
General Fund	-	-	135,000	-	-	135,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 135,000	\$ -	\$ -	\$ 135,000
Facility Improvements	-	-	135,000	-	-	135,000

## Elevator Cylinder Replacement

**DEPARTMENT**  
General Services

**LOCATION**  
Wickham Building & Vaughan-Bradley Building

**PROJECT DESCRIPTION**

The Wickham Building elevator cylinder (\$51k) has an anticipated useful life of anywhere from 20 to 40 years, depending on the environment. This unit slated for replacement is past the 35 year mark. The Vaughan Bradley Building elevator cylinder (\$75k) is 17 years old and has a 20 year anticipated useful life.

**USEFUL LIFE**

20 to 40 years

**TIMETABLE**

Purchase and installation in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 126,000	\$ -	\$ -	\$ -	\$ -	\$ 126,000
General Fund	126,000	-	-	-	-	126,000
<b>Funding Uses</b>	\$ 126,000	\$ -	\$ -	\$ -	\$ -	\$ 126,000
Facility Improvements	126,000	-	-	-	-	126,000

## Human Services Complex Repaving

**DEPARTMENT**  
General Services

**LOCATION**  
Human Services Complex

**PROJECT DESCRIPTION**

Asphalt surface of parking areas and driveways within the Human Services Complex is aging and showing signs of wear and deterioration. Cracking is worsening and potholes are beginning to develop. Temporary repairs are planned for FY15 and/or FY16 to alleviate immediate concerns. This project is to repave the entire surface with new asphalt and includes restriping of parking areas.

**USEFUL LIFE**

10 to 15 years

**TIMETABLE**

Work to be scheduled and completed in FY17.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 115,000	\$ -	\$ -	\$ -	\$ 115,000
General Fund	-	115,000	-	-	-	115,000
<b>Funding Uses</b>	\$ -	\$ 115,000	\$ -	\$ -	\$ -	\$ 115,000
Facility Improvements	-	115,000	-	-	-	115,000

## Risk Management Information System

**DEPARTMENT**  
General Services

**LOCATION**  
Fleet Building

**PROJECT DESCRIPTION**

Hosted information system to provide risk management support in the areas of record keeping, claims processing and tracking, coverage management, safety issues, etc. System will help provide capacity to handle increased workload from assumption of risk management function for Hanover Schools and improve risk management efficiency.

**USEFUL LIFE**

10 years

**TIMETABLE**

Purchasing in FY16.

**OPERATING IMPACT**

Beginning in FY17, there will be an ongoing maintenance impact of \$10,000.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ 60,000
General Fund	60,000	-	-	-	-	60,000
<b>Funding Uses</b>	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ 60,000
Technology	60,000	-	-	-	-	60,000
<b>Operating Impact</b>	\$ -	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 40,000
Maintenance	-	10,000	10,000	10,000	10,000	40,000

## Vaughan-Bradley Building Roof Replacement

**DEPARTMENT**  
General Services

**LOCATION**  
Vaughan-Bradley Building

**PROJECT DESCRIPTION**

The Vaughan-Bradley Building has a 20-year old ballasted roof system that has received repairs in areas of heavy traffic due to Communication and HVAC equipment installation. The roof will soon be at the end of its useful life and will be replaced with the same type of EPDM (Ethylene Propylene Diene Monomer) material. Also, roof gutters will be relined with EPDM as part of total roof replacement.

**USEFUL LIFE**

20 years

**TIMETABLE**

Project to be completed in FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 50,000	\$ -	\$ 50,000
General Fund	-	-	-	50,000	-	50,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 50,000	\$ -	\$ 50,000
Facility Improvements	-	-	-	50,000	-	50,000

## RAFT (Recovery Acceptance Friendship Teamwork) House Project

**DEPARTMENT**

Community Services Board

**LOCATION**

To be determined

**PROJECT DESCRIPTION**

The purpose of the RAFT (Recovery Acceptance Friendship Teamwork) House project is to provide a facility that fully meets the program needs of the CSB psychosocial rehabilitation program, while also eliminating the last remaining CSB leased facility. The current facility does not allow for needed expansion and configuration for optimum programming. Transition to a County-owned facility will also provide a more cost-effective alternative to long-term leasing.

**USEFUL LIFE**

20+ years

**TIMETABLE**

Purchase of an existing property or construction in FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 500,000	\$ -	\$ 500,000
General Fund	-	-	-	500,000	-	500,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 500,000	\$ -	\$ 500,000
Facility Improvements	-	-	-	500,000	-	500,000

## District Park Acquisition & Development

**DEPARTMENT**  
Parks & Recreation

**LOCATION**  
Countywide

**PROJECT DESCRIPTION**

Acquisition of land and preliminary development of one or more district parks. Amenities for these sites would be both active and passive in nature and may include lighted athletic fields/courts, playgrounds, picnic shelters and walking trails. The acquisition and development of district parks is identified in Year 10 of the Parks and Recreation Comprehensive Facilities Master Plan approved in March 2010.

**USEFUL LIFE**

30 to 50 years with preventative maintenance and constant care.

**TIMETABLE**

Acquisition of land and preliminary development in FY20.

**OPERATING IMPACT**

Additional staff resources will be necessary to maintain the parks and keep amenities at a satisfactory level. Additional utilities, materials and supplies will also be required.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 2,000,000	\$ 2,000,000
Long-Term Debt	-	-	-	-	2,000,000	2,000,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 2,000,000	\$ 2,000,000
Land	-	-	-	-	2,000,000	2,000,000

## Athletic Field Lighting

**DEPARTMENT**  
Parks & Recreation

**LOCATION**  
Various

**PROJECT DESCRIPTION**

In FY18, upgrade lights and wiring for Roller Hockey Rink and Courthouse Park Field #1, upgrade wiring and cross arm supports for lighting poles at Battlefield Park Elementary School. Install lights at Courthouse Park Field #1 in FY19. In FY20, install lights at Courthouse Park Field #2 and upgrade wiring and cross arm supports for lighting poles at Rural Point Elementary School.

**USEFUL LIFE**

25+ years

**TIMETABLE**

Upgrades and installation to begin in FY18 through FY20.

**OPERATING IMPACT**

Anticipated to be approximately \$800 annually beginning in FY19.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 75,000	\$ 90,000	\$ 135,000	\$ 300,000
General Fund	-	-	75,000	90,000	135,000	300,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 75,000	\$ 90,000	\$ 135,000	\$ 300,000
Facility Improvements	-	-	75,000	90,000	135,000	300,000
<b>Operating Impact</b>	\$ -	\$ -	\$ -	\$ 800	\$ 800	\$ 1,600
Maintenance	-	-	-	800	800	1,600

## Atlee Branch Library

**DEPARTMENT**  
Pamunkey Regional Library

**LOCATION**  
Rutland (2.2 acre site donated for proffer credits)

**PROJECT DESCRIPTION**

This project would fund a 25,000 square foot library to replace the 10,000 square foot storefront library and 3,000 square feet of space for the Library's Technical Services and Mobile Services Departments. The additional space is needed to provide contemporary library services to customers. In Hanover County, based on the standard of 0.6 square foot per person and a population of 102,714 (Weldon Cooper Center, 2014 estimate), the library needs 61,628 square feet of space. Currently, the library has 50,200 square feet of space. A new Atlee branch library with a total of 25,000 square feet will add 12,000 square feet of space.

**USEFUL LIFE**  
50 Years

**TIMETABLE**  
Construction in FY20.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 8,000,000	\$ 8,000,000
Long-Term Debt	-	-	-	-	8,000,000	8,000,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 8,000,000	\$ 8,000,000
Construction	-	-	-	-	8,000,000	8,000,000

## Community Development System Replacements

**DEPARTMENT**

Planning

**LOCATION**

Administration Building

**PROJECT DESCRIPTION**

Currently, Community Development departments use the SunGard HTE software solution to support permitting, code enforcement, plan of development, work orders and utility customer service. The system runs on the iSeries (AS400) platform, which is no longer being enhanced by the vendor. A new system running on the Windows platform would introduce efficiencies and enhancements that would expand the functionality of the existing system and would provide more seamless access to the public for the services offered through the system. Funds have been included to implement the new software application, contractor implementation costs, IT infrastructure, SQL database and Project Management. This request also includes funds for an overall asset management and work order system, which will be integrated to GIS technology. The work order component of the system will allow Community Development departments to manage and schedule maintenance activities for the inventoried infrastructure. In addition, this system will allow the public to request that staff check on physical locations that are experiencing various issues.

**USEFUL LIFE**

10 years

**TIMETABLE**

Data conversion and system implementation in FY18; final system cutover by January 1, 2019.

**OPERATING IMPACT**

Software system maintenance fees will begin in FY19.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 1,050,000	\$ -	\$ -	\$ 1,050,000
Fund Balance Assignment	-	-	1,050,000	-	-	1,050,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 1,050,000	\$ -	\$ -	\$ 1,050,000
Technology	-	-	1,050,000	-	-	1,050,000
<b>Operating Impact</b>	\$ -	\$ -	\$ -	\$ 170,000	\$ 170,000	\$ 340,000
Maintenance	-	-	-	170,000	170,000	340,000

## HVAC Repairs & Upgrades

**DEPARTMENT**

Schools

**LOCATION**

Various Schools

**PROJECT DESCRIPTION**

All types of HVAC systems used within the various school facilities require ongoing planned and unplanned maintenance and eventual replacement based on the predicted life of the unit. As an HVAC system approaches the end of the predicted life, the operational staff reviews various factors to determine the timing for replacement. The factors include: the frequency of unplanned maintenance, the costs associated with unscheduled maintenance, the availability of spare parts, the cost and availability of the refrigerant, and the energy efficiency of the unit. Sections of the buildings which require HVAC replacements are based on the FY13 School Facilities Assessment.

**USEFUL LIFE**

20 years

**TIMETABLE**

Repairs and replacements to occur in FY17, FY19 and FY20.

**OPERATING IMPACT**

Potential energy savings achieved through building enhancements.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 5,720,500	\$ -	\$ 1,339,000	\$ 1,550,000	\$ 8,609,500
Long-Term Debt	-	5,720,500	-	1,339,000	1,550,000	8,609,500
<b>Funding Uses</b>	\$ -	\$ 5,720,500	\$ -	\$ 1,339,000	\$ 1,550,000	\$ 8,609,500
Construction	-	5,720,500	-	1,339,000	1,550,000	8,609,500

## School Buses

**DEPARTMENT**  
Schools

**LOCATION**  
N/A

**PROJECT DESCRIPTION**

School buses need to be replaced when they are unable to be practically repaired. This point occurs when buses have been in service around 15 years. Hanover has 34 buses exceeding 15 years old. This funding would replace these buses over the next 5 years.

**USEFUL LIFE**

10 to 15 years

**TIMETABLE**

Buses to be purchased annually.

**OPERATING IMPACT**

The annual replacement of school buses removes the oldest, least efficient buses from the fleet and increases the operational efficiency and reliability of the fleet.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 1,000,000</b>	<b>\$ 5,000,000</b>				
General Fund	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000
<b>Funding Uses</b>	<b>\$ 1,000,000</b>	<b>\$ 5,000,000</b>				
Vehicles	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000

## Technology Enhancements

**DEPARTMENT**

Schools

**LOCATION**

All Schools

**PROJECT DESCRIPTION**

Technology enhancements include server replacements in all schools, additional laptop carts and new mobile devices, expanded Wi-Fi density coverage, expanded bandwidth to tier one provider (move to full 1 GB pipe), replacement of the firewall, proxy and core switching network, hosted email system and archiving and disaster recovery plan and contingency site (in conjunction with County IT).

**USEFUL LIFE**

5 years

**TIMETABLE**

Annual purchase of computers and related hardware.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 1,000,000</b>	<b>\$ 5,000,000</b>				
General Fund	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000
<b>Funding Uses</b>	<b>\$ 1,000,000</b>	<b>\$ 5,000,000</b>				
Equipment	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000

## Roof Repairs & Replacements

**DEPARTMENT**

Schools

**LOCATION**

Various Schools

**PROJECT DESCRIPTION**

All types of roofing systems used within the various school facilities require ongoing maintenance and eventual replacement based on the predicted life and manufacturer’s warranty for the given structure. As a roofing system approaches the end of the predicted life, the operational staff reviews the history of roof repairs and the unscheduled maintenance costs to determine the timing for the replacement. Sections of the roofing systems that will exceed their useful life and require replacement are based on the FY13 School Facilities Assessment.

**USEFUL LIFE**

15 to 25 years

**TIMETABLE**

Annual repairs and replacements in FY16 through FY20.

**OPERATING IMPACT**

Potential energy savings achieved through building enhancements.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	<b>\$ 200,000</b>	<b>\$ 1,467,500</b>	<b>\$ 200,000</b>	<b>\$ 600,000</b>	<b>\$ 283,000</b>	<b>\$ 2,750,500</b>
Long-Term Debt	-	1,267,500	-	400,000	83,000	1,750,500
General Fund	200,000	200,000	200,000	200,000	200,000	1,000,000
<b>Funding Uses</b>	<b>\$ 200,000</b>	<b>\$ 1,467,500</b>	<b>\$ 200,000</b>	<b>\$ 600,000</b>	<b>\$ 283,000</b>	<b>\$ 2,750,500</b>
Construction	-	1,267,500	-	400,000	83,000	1,750,500
Facility Improvements	200,000	200,000	200,000	200,000	200,000	1,000,000

## School Grounds Upgrades

**DEPARTMENT**

Schools

**LOCATION**

Atlee, Battlefield Park, Beaverdam, Chickahominy, Cool Harbor, Cool Spring, Elmont, Lee-Davis, Liberty, Mechanicsville, Stonewall Jackson, South Anna, Washington-Henry

**PROJECT DESCRIPTION**

The schools scheduled for general upgrades to various exterior structures and grounds are based on the FY13 School Facilities Assessment. These projects include installation of playground equipment, drainage improvements, sidewalk installations, parking lot repairs and expansion and the removal of unused storage buildings.

**USEFUL LIFE**

20 years

**TIMETABLE**

Facility improvements to be completed in FY17 & FY20.

**OPERATING IMPACT**

There is no anticipated operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 330,000	\$ -	\$ -	\$ 1,882,000	\$ 2,212,000
Long-Term Debt	-	330,000	-	-	1,882,000	2,212,000
<b>Funding Uses</b>	\$ -	\$ 330,000	\$ -	\$ -	\$ 1,882,000	\$ 2,212,000
Construction	-	330,000	-	-	1,882,000	2,212,000

## Painting

**DEPARTMENT**

Schools

**LOCATION**

All Schools

**PROJECT DESCRIPTION**

The schools scheduled for interior painting are based on the FY13 School Facilities Assessment. These improvements are being done based on normal wear and fall within the reasonable expected lifetime of the component.

**USEFUL LIFE**

20 years

**TIMETABLE**

Painting scheduled in FY16 through FY20.

**OPERATING IMPACT**

There is no anticipated operating impact as a result of this project.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 200,000</b>	<b>\$ 1,000,000</b>				
General Fund	200,000	200,000	200,000	200,000	200,000	1,000,000
<b>Funding Uses</b>	<b>\$ 200,000</b>	<b>\$ 1,000,000</b>				
Facility Improvements	200,000	200,000	200,000	200,000	200,000	1,000,000

## Bathroom Renovations

**DEPARTMENT**

Schools

**LOCATION**

Battlefield Park, Beaverdam, Elmont, Henry-Clay, John Gandy, Mechanicsville, Pearson’s Corner, Rural Point, Washington-Henry

**PROJECT DESCRIPTION**

The schools scheduled for bathroom renovations are based on the FY13 School Facilities Assessment. These schools typically have the original bathroom facilities from when they were constructed. This renovation will only involve modifications above ground and will not include renovations to the plumbing and sewer infrastructure. Typical improvements will include: new fixtures, tile, ceiling grid, paint, ventilation and minor structural changes to improve ADA accessibility.

**USEFUL LIFE**

20 years

**TIMETABLE**

Renovations to be completed in FY17.

**OPERATING IMPACT**

There is no anticipated operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 900,000	\$ -	\$ -	\$ -	\$ 900,000
Long-Term Debt	-	900,000	-	-	-	900,000
<b>Funding Uses</b>	\$ -	\$ 900,000	\$ -	\$ -	\$ -	\$ 900,000
Construction	-	900,000	-	-	-	900,000

## Auditorium Renovations

**DEPARTMENT**

Schools

**LOCATION**

Atlee, Lee-Davis, Patrick Henry

**PROJECT DESCRIPTION**

The schools scheduled for renovations to the auditoriums are based on the FY13 School Facilities Assessment. The auditorium infrastructure in these schools are original from their construction of the school and have exceeded their useful lives. Renovation components include the installation of new seating, sound system, lighting, stage, and curtains as well as cosmetic improvements to wall and floor finishes.

**USEFUL LIFE**

20 years

**TIMETABLE**

Renovations to be completed in FY17 & FY20

**OPERATING IMPACT**

There is no anticipated operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 600,000	\$ -	\$ -	\$ 250,000	\$ 850,000
Long-Term Debt	-	600,000	-	-	250,000	850,000
<b>Funding Uses</b>	\$ -	\$ 600,000	\$ -	\$ -	\$ 250,000	\$ 850,000
Construction	-	600,000	-	-	250,000	850,000

## Window Replacements

**DEPARTMENT**

Schools

**LOCATION**

Battlefield Park, Beaverdam, Elmont, John Gandy, Liberty, Mechanicsville, Patrick Henry, Pearson’s Corner, South Anna, Stonewall Jackson, Washington-Henry

**PROJECT DESCRIPTION**

The schools scheduled for window replacements are based on the FY13 School Facilities Assessment. These schools have the original window structures that were installed when they were constructed. These wood-framed, single-paned glass windows will be replaced with aluminum-framed, double-paned, glass store front windows. These windows will have improved energy efficiency and reduced maintenance due to the elimination of painting, caulking, glazing and replacement of rotten wood.

**USEFUL LIFE**

20 years

**TIMETABLE**

Window replacements to be installed in FY17 & FY20

**OPERATING IMPACT**

Potential energy savings achieved through building enhancements.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 600,000	\$ -	\$ -	\$ 200,000	\$ 800,000
Long-Term Debt	-	600,000	-	-	200,000	800,000
<b>Funding Uses</b>	\$ -	\$ 600,000	\$ -	\$ -	\$ 200,000	\$ 800,000
Construction	-	600,000	-	-	200,000	800,000

## Electrical Service Upgrades

**DEPARTMENT**

Schools

**LOCATION**

Battlefield Park, Beaverdam, Cold Harbor, Lee-Davis, Liberty, Patrick Henry, Rural Point, Stonewall Jackson, South Anna, Washington-Henry

**PROJECT DESCRIPTION**

As part of the FY13 School Facilities Assessment Study, the mechanical and electrical consulting firm of Simmons, Rockecharlie and Prince was hired to assess the general condition of the main electrical service to the facilities. Based on their engineering analysis, some schools require replacement of the switchboard serving the main electrical system because the switchboard is no longer serviceable. Typically, these types of replacements would be done during a major renovation to the facility. Since no major renovations are planned for these facilities, it is advisable to upgrade the main electrical service independently.

**USEFUL LIFE**

20 years

**TIMETABLE**

Upgrades to be completed in FY17.

**OPERATING IMPACT**

Potential energy savings achieved through building enhancements.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 536,500	\$ -	\$ -	\$ -	\$ 536,500
Long-Term Debt	-	536,500	-	-	-	536,500
<b>Funding Uses</b>	\$ -	\$ 536,500	\$ -	\$ -	\$ -	\$ 536,500
Construction	-	536,500	-	-	-	536,500

## Gym Floor, Bleacher Repair & Field Lighting

**DEPARTMENT**

Schools

**LOCATION**

Hanover, Liberty, Patrick Henry, Lee-Davis

**PROJECT DESCRIPTION**

The schools scheduled for general improvements to athletic facility infrastructure are based on the FY13 School Facilities Assessment. These improvements are being done based on normal wear and fall within the reasonable expected lifetime of the component. The improvements include: synthetic track resurfacing, wood gym floor resurfacing, field lighting and regrading and seeding of athletic fields.

**USEFUL LIFE**

20 years

**TIMETABLE**

Improvements to be completed in FY17 & FY20.

**OPERATING IMPACT**

There is no anticipated operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 90,000	\$ -	\$ -	\$ 415,000	\$ 505,000
Long-Term Debt	-	90,000	-	-	415,000	505,000
<b>Funding Uses</b>	\$ -	\$ 90,000	\$ -	\$ -	\$ 415,000	\$ 505,000
Construction	-	90,000	-	-	415,000	505,000

## Kitchen Modernizations

**DEPARTMENT**

Schools

**LOCATION**

Various Schools

**PROJECT DESCRIPTION**

The appliances and mechanical system used within a school kitchen to prepare meals, serve food, and wash dishes must be replaced periodically based on normal wear, excessive cost to repair and the obsolescence of spare parts. Based on the FY13 School Facilities Assessment, some schools will have new appliances installed in their kitchen facilities. These appliances include dishwashers, ovens, refrigerators, freezers, serving lines, kettles and steamers.

**USEFUL LIFE**

20 years

**TIMETABLE**

New equipment to be purchased and installed in FY17 & FY20.

**OPERATING IMPACT**

Potential energy, repair and maintenance savings achieved through equipment upgrades.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 152,000	\$ -	\$ -	\$ 210,000	\$ 362,000
Long-Term Debt	-	152,000	-	-	210,000	362,000
<b>Funding Uses</b>	\$ -	\$ 152,000	\$ -	\$ -	\$ 210,000	\$ 362,000
Construction	-	152,000	-	-	210,000	362,000

## East Side Taxiway and Apron

**DEPARTMENT**

Airport

**LOCATION**

Hanover County Airport

**PROJECT DESCRIPTION**

Current aircraft hangars on the West side are 100% occupied. Additional ramp apron and taxiway connectors on the East side are needed to meet the demand for additional hangars and corporate hangar development.

**USEFUL LIFE**

N/A

**TIMETABLE**

Construction in FY16 and FY17.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	<b>\$ 4,008,614</b>	<b>\$ 4,048,614</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 8,057,228</b>
Categorical Federal Aid	3,885,901	3,885,901	-	-	-	7,771,802
Categorical State Aid	122,713	122,713	-	-	-	245,426
General Fund	-	40,000	-	-	-	40,000
<b>Funding Uses</b>	<b>\$ 4,008,614</b>	<b>\$ 4,048,614</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 8,057,228</b>
Construction	4,008,614	4,048,614	-	-	-	8,057,228

## Airport Land Acquisition

**DEPARTMENT**

Airport

**LOCATION**

Hanover County Airport

**PROJECT DESCRIPTION**

The 2000 Airport Master Plan indicates the need to purchase 58 acres of land and aviation easements to the North, South and East of the runway to meet FAA Airport Safety Criteria. Purchase of this land or easement is required to remove airspace obstructions and complete East side expansion. The County will give priority for acquisition of required land when it is on the market.

**USEFUL LIFE**

N/A

**TIMETABLE**

Purchase of land or easements in FY16/FY17.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 217,328</b>	<b>\$ 1,947,368</b>	<b>\$ 570,600</b>	<b>\$ 1,029,118</b>	<b>\$ 430,104</b>	<b>\$ 4,194,518</b>
Categorical Federal Aid	-	1,752,631	-	945,108	394,993	3,092,732
Categorical State Aid	209,181	155,789	570,600	84,010	35,111	1,054,691
General Fund	8,147	38,948	-	-	-	47,095
<b>Funding Uses</b>	<b>\$ 217,328</b>	<b>\$ 1,947,368</b>	<b>\$ 570,600</b>	<b>\$ 1,029,118</b>	<b>\$ 430,104</b>	<b>\$ 4,194,518</b>
Land	217,328	1,947,368	570,600	1,029,118	430,104	4,194,518

## Terminal Building

**DEPARTMENT**

Airport

**LOCATION**

Hanover County Airport

**PROJECT DESCRIPTION**

The Airport's approved Master Plan calls for a new terminal building on the Airport's East Side. State funding is based on the amount of Terminal Public Use Space versus Private Use Space, with Public Use Space typically funded 100% by the Virginia Department of Aviation (VDOA). The terminal's design and use will determine the appropriate square footage. If grant funding is requested, approval by VDOA is required prior to construction.

**USEFUL LIFE**

N/A

**TIMETABLE**

Design to be completed in FY18.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 220,000	\$ -	\$ -	\$ 220,000
Categorical State Aid	-	-	220,000	-	-	220,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 220,000	\$ -	\$ -	\$ 220,000
Professional Services	-	-	220,000	-	-	220,000

## Fuel Tank Replacement

**DEPARTMENT**

Airport

**LOCATION**

Hanover County Airport

**PROJECT DESCRIPTION**

The current Jet A fuel tank is an above ground tank built in 1989. The tank was refurbished in 1996 with an epoxy coated lining to prevent corrosion. In 2010 the tank was inspected and repaired as needed. Airport customers requiring both Avgas and Jet A Fuel Tanks, and State Environmental regulations require tanks to meet tightness and leak proof standards. The new system will meet the current environmental regulations as well as FAA and State requirements.

**USEFUL LIFE**

20 years

**TIMETABLE**

Design and construction in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 144,000	\$ 144,000
Categorical State Aid	-	-	-	-	144,000	144,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 144,000	\$ 144,000
Equipment	-	-	-	-	144,000	144,000

## Airport Improvements

**DEPARTMENT**

Airport

**LOCATION**

Hanover County Airport

**PROJECT DESCRIPTION**

Funding initiative to be used toward the removal of obstructions on the sides of the runway, and any additional obstruction clearing as needed to maintain federal and state grant assurance.

**USEFUL LIFE**

N/A

**TIMETABLE**

Runway 16 obstruction removal in FY19. Projects will be initiated as sufficient funding is accumulated and/or grant funds become available.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 96,000	\$ -	\$ 96,000
Categorical State Aid	-	-	-	96,000	-	96,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 96,000	\$ -	\$ 96,000
Construction	-	-	-	96,000	-	96,000

# Capital Improvements Program

## **Public Utilities Projects**

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### **Abbreviations**

The following abbreviations are used within the Public Utilities CIP project pages.

**WTP** - Water Treatment Plant

**WWTP** - Wastewater Treatment Plant

**WWPS** - Wastewater Pump Station

**STP** - Sewage Treatment Plant

**FMP** - Facilities Master Plan: Any project that is part of Public Utilities Facilities Master Plan is indicated as FMP and then the project reference number. Example: FMP W (Water) 34.

### **Locations**

The following is a list of locations that are referenced within the project pages of the Capital Improvements Program related to Public Utilities.

Air Park Pump Station

Air Park Wastewater Pump Station

Ashland Wastewater Treatment Plant (AWWTP)

Beaverdam Wastewater Pump Station (BWWPS)

Best Products Wastewater Pump Station

Courthouse Sewage Treatment Plant (CHSTP)

Doswell Wastewater Treatment Plant (DWWTP)

Doswell Water Treatment Plant (DWTP)

Hanover Lift Station

James T. Bruce Operations Center

Mechumps Creek Wastewater Pump Station (WWPS)

Pamunkey Regional Jail (PRJ)

Pamunkey Regional Jail Lift Station

Shelton Point Wastewater Pump Station

Snead Street Wastewater Pump Station

Suburban Service Area & Rural Systems

Totopotomoy Wastewater Treatment Plant (TWWTP)

## Hanover-Richmond Joint Capital Contract Payment

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

N/A

**PROJECT DESCRIPTION**

This project provides for improvements to the City of Richmond water system to support Hanover County's water supply.

**USEFUL LIFE**

N/A

**TIMETABLE**

Improvements to be completed annually beginning in FY16 through FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ 5,598,483</b>	<b>\$ 6,273,461</b>	<b>\$ 6,132,577</b>	<b>\$ 772,331</b>	<b>\$ 2,109,359</b>	<b>\$ 20,886,211</b>
User Fees	5,598,483	6,273,461	6,132,577	772,331	2,109,359	20,886,211
<b>Funding Uses</b>	<b>\$ 5,598,483</b>	<b>\$ 6,273,461</b>	<b>\$ 6,132,577</b>	<b>\$ 772,331</b>	<b>\$ 2,109,359</b>	<b>\$ 20,886,211</b>
Joint Capital	5,598,483	6,273,461	6,132,577	772,331	2,109,359	20,886,211

## Elmont Water Storage Tank and Pump Station

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

Near the intersection of Cedar Lane and Karen Drive  
(FMP W93 & W94)

**PROJECT DESCRIPTION**

This project provides for the FY17 construction of a 1 MG water storage tank and a pump station to be located near the intersection of Cedar Lane and Karen Drive. This project is needed to provide adequate system pressures and fire flows in the far western portions of the Suburban Service Area.

**USEFUL LIFE**

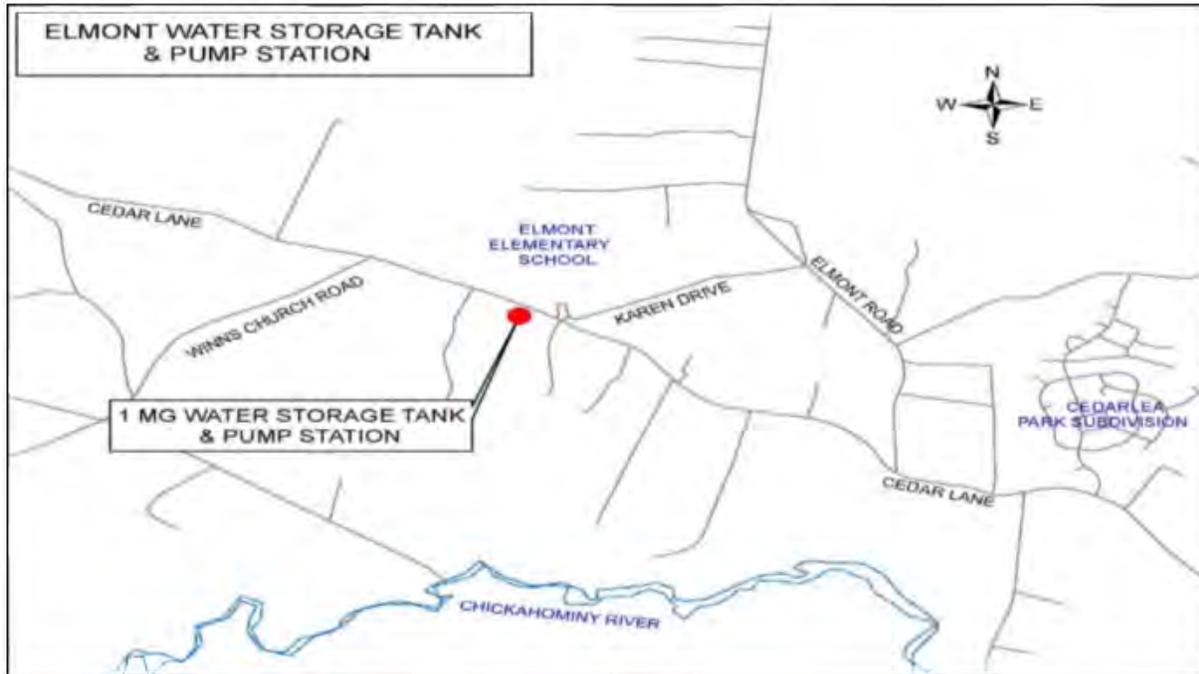
35 to 75 years

**TIMETABLE**

Construction in FY17.

**OPERATING IMPACT**

Operating impact of \$29,000 per year.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 5,000,000
Capacity Fees	-	5,000,000	-	-	-	5,000,000
<b>Funding Uses</b>	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 5,000,000
Construction	-	5,000,000	-	-	-	5,000,000
<b>Operating Impact</b>	\$ -	\$ -	\$ 29,000	\$ 29,000	\$ 29,000	\$ 87,000
Maintenance	-	-	29,000	29,000	29,000	87,000

## Cedar Lane Waterline Improvements

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

Along Cedar Lane from Cedarlea Parkway to Route 1 (FMP W25)

**PROJECT DESCRIPTION**

This project provides for the FY16 design and easement acquisition and FY18 construction of approximately 3,200' of 16" waterline from Cedarlea Parkway to Brookhollow Drive, for the FY17 construction of approximately 900' of 16" waterline in conjunction with the proposed County Cedar Lane road improvement project and for the FY18 design and easement acquisition and FY20 construction of approximately 4,500' of 16" waterline from Brookhollow Drive to the end of the waterline installed with the Cedar Lane road project.

**USEFUL LIFE**

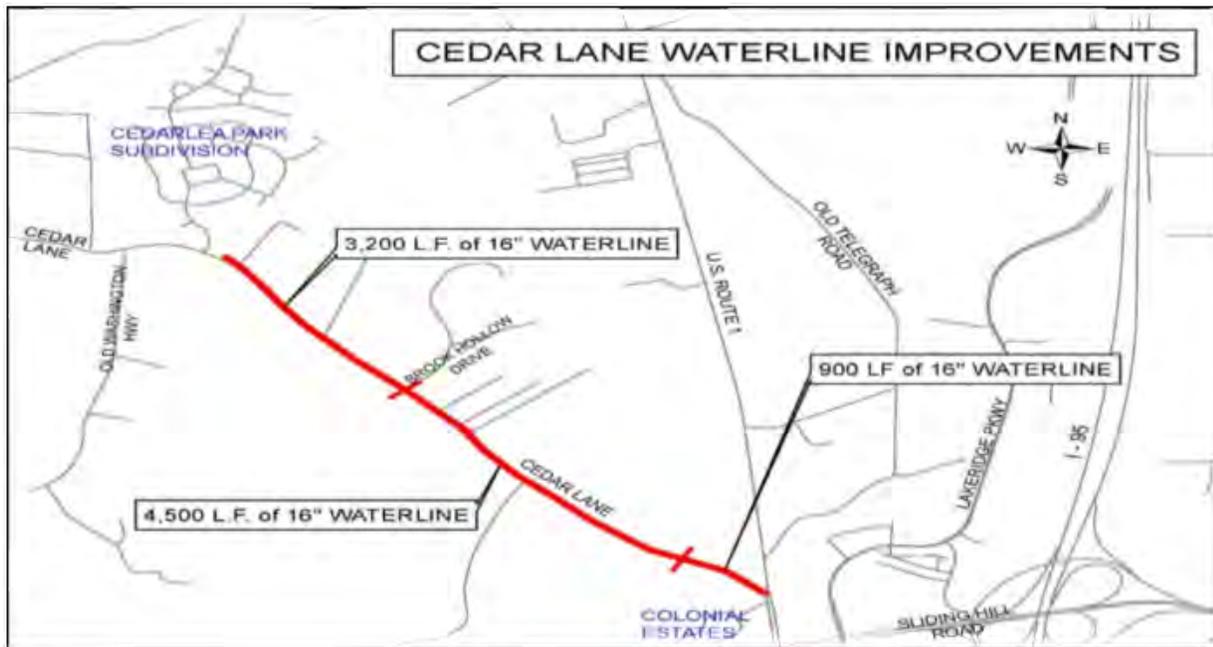
50 years

**TIMETABLE**

Design and easement acquisition in FY16; construction in FY17; design, easement acquisition and construction in FY18; construction in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	<b>\$ 208,000</b>	<b>\$ 280,000</b>	<b>\$ 1,185,000</b>	<b>\$ -</b>	<b>\$ 1,196,000</b>	<b>\$ 2,869,000</b>
Capacity Fees	208,000	280,000	1,185,000	-	1,196,000	2,869,000
<b>Funding Uses</b>	<b>\$ 208,000</b>	<b>\$ 280,000</b>	<b>\$ 1,185,000</b>	<b>\$ -</b>	<b>\$ 1,196,000</b>	<b>\$ 2,869,000</b>
Construction	-	280,000	826,000	-	1,196,000	2,302,000
Professional Services	125,440	-	215,000	-	-	340,440
Land	82,560	-	144,000	-	-	226,560

## Henrico Water Capacity Purchase

**DEPARTMENT**  
DPU - Water Source & Distribution

**LOCATION**  
N/A

**PROJECT DESCRIPTION**

Hanover's current contract with Henrico allows Hanover to purchase its allocated 0.775 MGD capacity. Currently Hanover makes annual payments for capacity. For FY13, the annual capacity payment was \$279,408. The payback period for this purchase is 10 to 12 years.

**USEFUL LIFE**

N/A

**TIMETABLE**

Purchasing in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	<b>\$ 2,600,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,600,000</b>
Capacity Fees	2,600,000	-	-	-	-	2,600,000
<b>Funding Uses</b>	<b>\$ 2,600,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,600,000</b>
Construction	2,600,000	-	-	-	-	2,600,000

## New Ashcake Road Waterline Improvements

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

Along New Ashcake Road from Linderwood Drive to Sliding Hill Road (FMP W14)

**PROJECT DESCRIPTION**

This project provides for the FY16 design and easement acquisition and FY18 construction of approximately 5,000' of 24" waterline along New Ashcake Road from Linderwood Drive to the vicinity of the intersection of New Ashcake and Sliding Hill Roads.

**USEFUL LIFE**

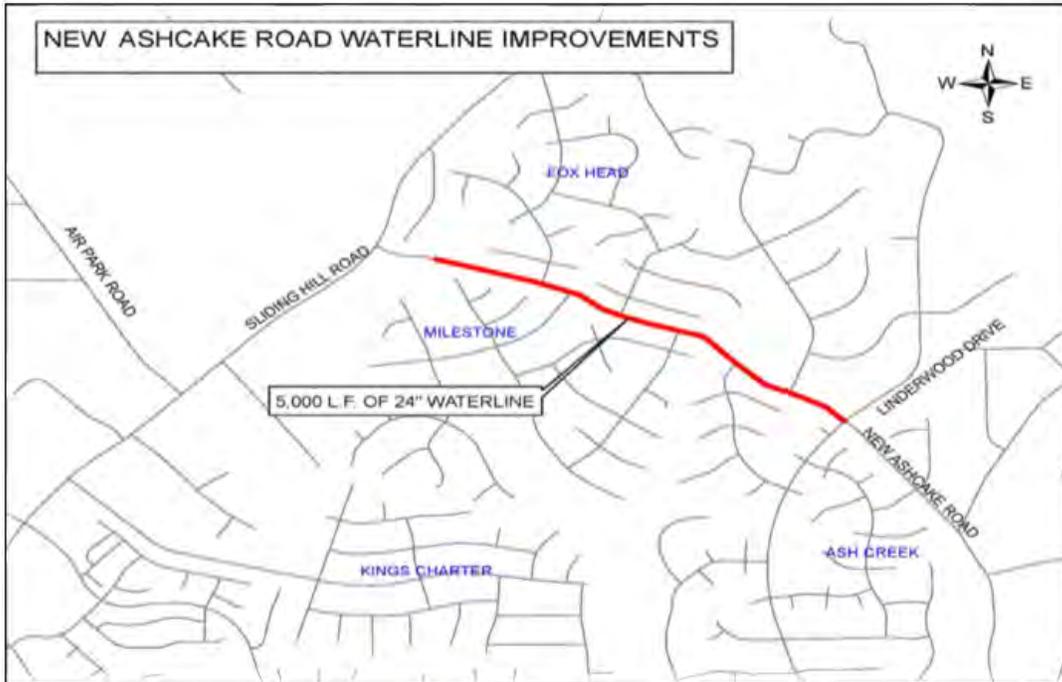
50 years

**TIMETABLE**

Design and easement acquisition in FY16; construction in FY18.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 322,000	\$ -	\$ 1,334,000	\$ -	\$ -	\$ 1,656,000
Capacity Fees	322,000	-	1,334,000	-	-	1,656,000
<b>Funding Uses</b>	\$ 322,000	\$ -	\$ 1,334,000	\$ -	\$ -	\$ 1,656,000
Construction	-	-	1,334,000	-	-	1,334,000
Professional Services	200,000	-	-	-	-	200,000
Land	122,000	-	-	-	-	122,000

## Sliding Hill Rd & Ashcake Rd Waterline Improvements

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

Along Sliding Hill Road from Countryside Lane to Ashcake Road (FMP W19 Modified Phase 2) and along Ashcake Road from Sliding Hill Road to connect to existing waterline in Ashcake Road (FMP W36)

**PROJECT DESCRIPTION**

This project provides for the FY19 design and easement acquisition and the FY20 construction of approximately 2,900' of 20" waterline along Sliding Hill Road from Countryside Lane to Ashcake Road and 3,200' of 16" waterline along Ashcake Road from Sliding Hill Road to connect to the existing waterline in Ashcake Road.

**USEFUL LIFE**

50 years

**TIMETABLE**

Design and easement acquisition in FY19; construction in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 310,000	\$ 1,284,000	\$ 1,594,000
Capacity Fees	-	-	-	310,000	1,284,000	1,594,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 310,000	\$ 1,284,000	\$ 1,594,000
Construction	-	-	-	-	1,284,000	1,284,000
Professional Services	-	-	-	186,000	-	186,000
Land	-	-	-	124,000	-	124,000

## Meadowbridge Road Waterline Improvements

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

Meadowbridge Road from Memorial Regional Medical Center to Shady Grove Road (FMP W77)

**PROJECT DESCRIPTION**

This project includes the FY19 design and easement acquisition and FY20 construction of approximately 2,700' of 16" waterline along Meadowbridge Road from the entrance to Memorial Regional Medical Center to Shady Grove Road.

**USEFUL LIFE**

50 years

**TIMETABLE**

Design and easement acquisition in FY19; construction in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 172,000	\$ 701,000	\$ 873,000
Capacity Fees	-	-	-	172,000	701,000	873,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 172,000	\$ 701,000	\$ 873,000
Construction	-	-	-	-	701,000	701,000
Professional Services	-	-	-	103,600	-	103,600
Land	-	-	-	68,400	-	68,400

## I-95 Waterline Crossing at Long Road

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

Ashcake Road to Harley Club Drive in the Northlake Development (FMP W38 Modified Phase 1)

**PROJECT DESCRIPTION**

This project provides for the FY18 design and easement acquisition and FY20 construction of approximately 1,200' of 20" waterline from Ashcake Road to Harley Club Drive in the Northlake Development.

**USEFUL LIFE**

50 years

**TIMETABLE**

Design and easement acquisition in FY18; construction in FY20.

**OPERATING IMPACT**

Anticipated impact of \$200 per year beginning in FY21.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 141,000	\$ -	\$ 581,000	\$ 722,000
Capacity Fees	-	-	141,000	-	581,000	722,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 141,000	\$ -	\$ 581,000	\$ 722,000
Construction	-	-	-	-	581,000	581,000
Professional Services	-	-	84,600	-	-	84,600
Land	-	-	56,400	-	-	56,400

## Air Park Water Tank Rehabilitation

**DEPARTMENT**  
DPU - Water Source & Distribution

**LOCATION**  
Air Park Pump Station

**PROJECT DESCRIPTION**

This project provides for the rehabilitation of the 1,000,000 gallon Air Park water storage tank.

**USEFUL LIFE**

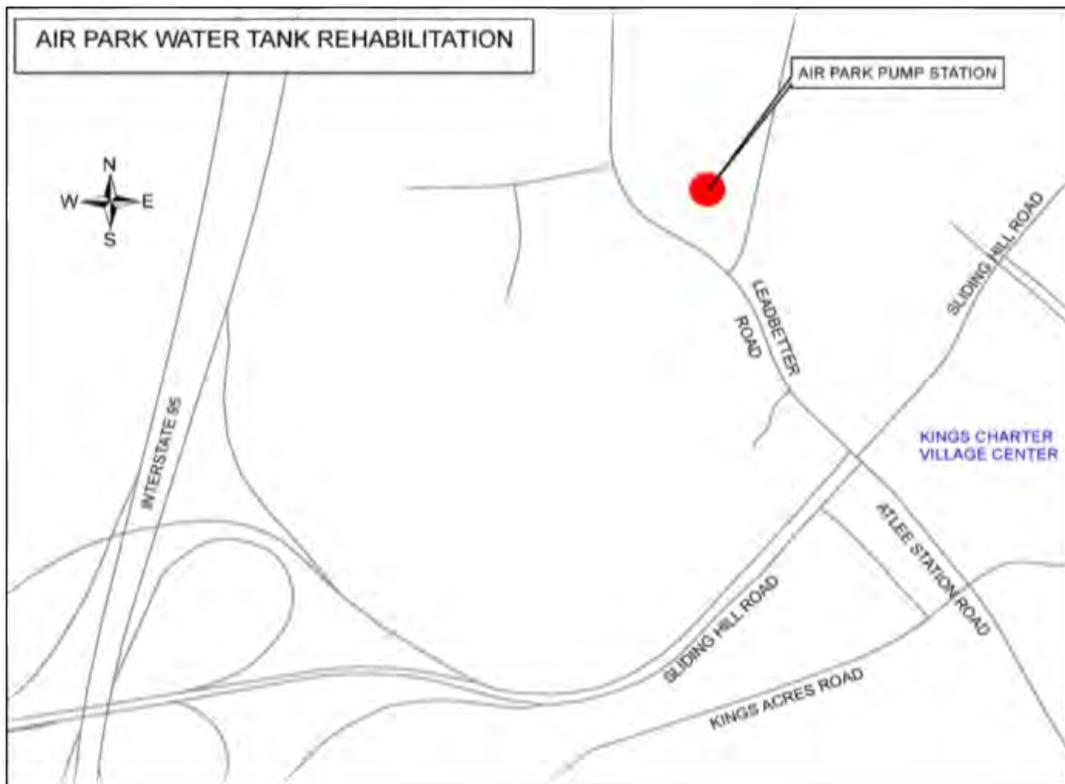
15 to 75 years

**TIMETABLE**

Design in FY17; construction in FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 55,000	\$ -	\$ 445,000	\$ -	\$ 500,000
User Fees	-	55,000	-	445,000	-	500,000
<b>Funding Uses</b>	\$ -	\$ 55,000	\$ -	\$ 445,000	\$ -	\$ 500,000
Construction	-	-	-	445,000	-	445,000
Professional Services	-	55,000	-	-	-	55,000

## Doswell WTP Carbon Feed System

**DEPARTMENT**  
DPU - Water Source & Distribution

**LOCATION**  
Doswell Water Treatment Plant

**PROJECT DESCRIPTION**

EPA's Stage II Disinfectant By-Product Rule is more stringent than the previous Stage I rule. This project provides for the capability of powdered activated carbon addition, if warranted, to enhance water treatment and ensure compliance with the regulation.

**USEFUL LIFE**

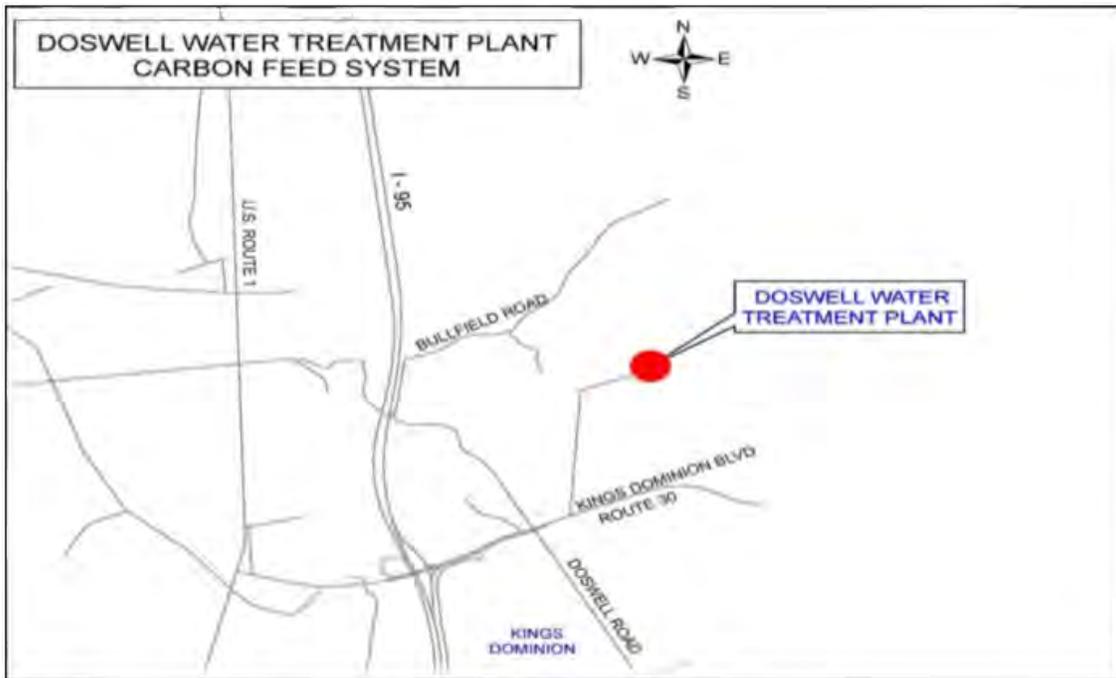
10 years

**TIMETABLE**

Design in FY18; construction in FY19.

**OPERATING IMPACT**

Anticipated operating impact of \$56,000 per year.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 54,000	\$ 300,000	\$ -	\$ 354,000
User Fees	-	-	54,000	300,000	-	354,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 54,000	\$ 300,000	\$ -	\$ 354,000
Construction	-	-	-	300,000	-	300,000
Professional Services	-	-	54,000	-	-	54,000
<b>Operating Impact</b>	\$ -	\$ -	\$ -	\$ -	\$ 56,000	\$ 56,000
Maintenance	-	-	-	-	56,000	56,000

## Air Park Water Storage Tank Pump Upgrade

**DEPARTMENT**  
DPU - Water Source & Distribution

**LOCATION**  
Air Park Pump Station

**PROJECT DESCRIPTION**

This project provides for the upgrade of the existing pumps to full-size impellers and 75 Hp motors and the installation of larger variable frequency drives.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Design in FY18; construction in FY19.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 34,000	\$ 290,000	\$ -	\$ 324,000
User Fees	-	-	34,000	290,000	-	324,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 34,000	\$ 290,000	\$ -	\$ 324,000
Construction	-	-	-	290,000	-	290,000
Professional Services	-	-	34,000	-	-	34,000

## Waterline Replacement

**DEPARTMENT**

DPU - Water Source &amp; Distribution

**LOCATION**

Suburban Service Area and Rural Systems

**PROJECT DESCRIPTION**

This project provides for the replacement of aged and undersized waterlines in various streets within the Suburban Service Area and Rural Systems.

**USEFUL LIFE**

50 years

**TIMETABLE**

Design and construction beginning in FY17.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	<b>FY16</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>Totals</b>
<b>Funding Sources</b>	<b>\$ -</b>	<b>\$ 75,000</b>	<b>\$ 75,000</b>	<b>\$ 75,000</b>	<b>\$ 75,000</b>	<b>\$ 300,000</b>
User Fees	-	75,000	75,000	75,000	75,000	300,000
<b>Funding Uses</b>	<b>\$ -</b>	<b>\$ 75,000</b>	<b>\$ 75,000</b>	<b>\$ 75,000</b>	<b>\$ 75,000</b>	<b>\$ 300,000</b>
Construction	-	67,500	67,500	67,500	67,500	270,000
Professional Services	-	7,500	7,500	7,500	7,500	30,000

## Ashcake Road/Long Road Waterline Improvements

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

From the Northlake Development along Long Road to Ashcake Road ending at Dow Gil Road  
(FMP W38 Modified Phase 2)

**PROJECT DESCRIPTION**

This project provides for the FY19 design and easement acquisition and FY21 construction of approximately 4,600' of 20" waterline from the Northlake Development along Long Road to Ashcake Road and ending at Dow Gil Road. This project provides increased transmission capacity from the planned Garnett/Ashcake Road Water Storage Tank and Pump Station.

**USEFUL LIFE**

50 years

**TIMETABLE**

Design and easement acquisition in FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 282,000	\$ -	\$ 282,000
Capacity Fees	-	-	-	282,000	-	282,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 282,000	\$ -	\$ 282,000
Professional Services	-	-	-	169,200	-	169,200
Land	-	-	-	112,800	-	112,800

## Pamunkey Regional Jail Water Tank Rehabilitation

**DEPARTMENT**  
DPU - Water Source & Distribution

**LOCATION**  
Pamunkey Regional Jail

**PROJECT DESCRIPTION**

This project provides for recoating and structural repairs to the Pamunkey Regional Jail water storage tank.

**USEFUL LIFE**

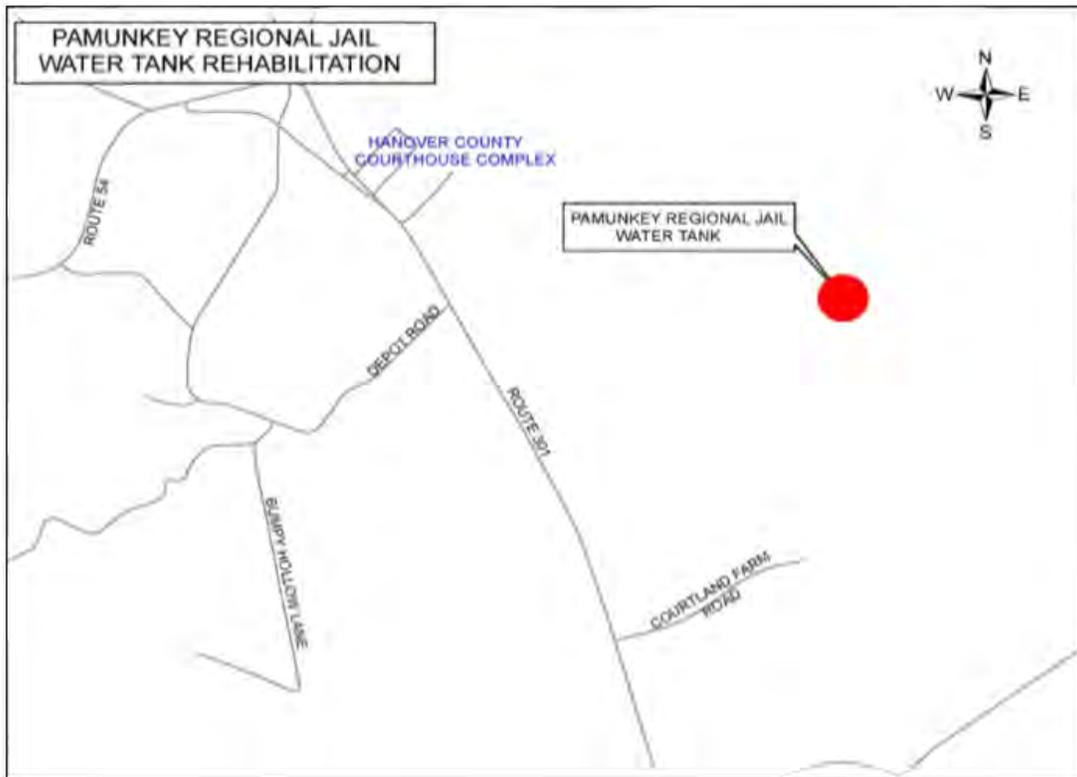
15 to 75 years

**TIMETABLE**

Design and construction in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 275,000	\$ -	\$ -	\$ -	\$ -	\$ 275,000
User Fees	275,000	-	-	-	-	275,000
<b>Funding Uses</b>	\$ 275,000	\$ -	\$ -	\$ -	\$ -	\$ 275,000
Construction	235,000	-	-	-	-	235,000
Professional Services	40,000	-	-	-	-	40,000

## Doswell WTP Rehabilitation

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

Doswell Water Treatment Plant

**PROJECT DESCRIPTION**

This project provides for the continuing funding to rehabilitate various equipment, structural components and process enhancements at the Doswell Water Treatment Plant.

**USEFUL LIFE**

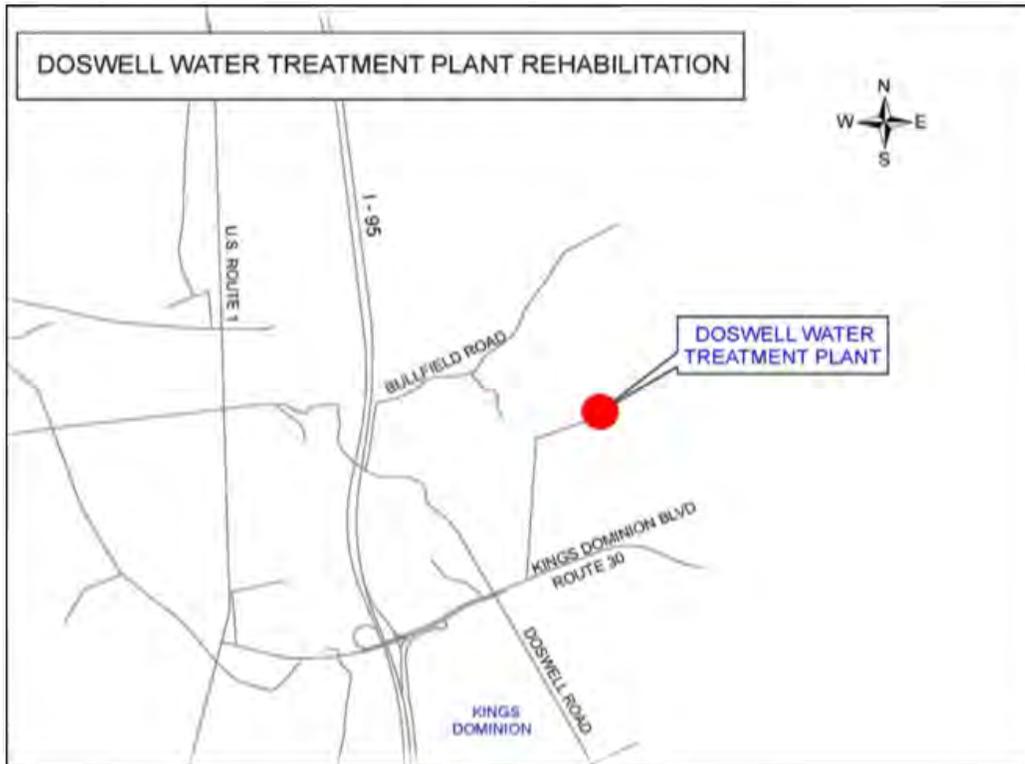
5 to 35 years

**TIMETABLE**

Design and construction from FY17 through FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 75,000	\$ 75,000	\$ 75,000	\$ -	\$ 225,000
User Fees	-	75,000	75,000	75,000	-	225,000
<b>Funding Uses</b>	\$ -	\$ 75,000	\$ 75,000	\$ 75,000	\$ -	\$ 225,000
Construction	-	67,500	67,500	67,500	-	202,500
Professional Services	-	7,500	7,500	7,500	-	22,500

## Cold Harbor Road Waterline Improvements

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

Along Cold Harbor Road from Mary Esther Lane to Bonniefield Drive

**PROJECT DESCRIPTION**

This project provides for the FY20 design and easement acquisition and the FY21 construction of 4,200' of 16" waterline along Cold Harbor Road from Mary Esther Lane to Bonniefield Drive.

**USEFUL LIFE**

50 years

**TIMETABLE**

Design and easement acquisition in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 191,000	\$ 191,000
Capacity Fees	-	-	-	-	191,000	191,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 191,000	\$ 191,000
Professional Services	-	-	-	-	115,000	115,000
Land	-	-	-	-	76,000	76,000

## Dianne Ridge Subdivision Water Treatment

**DEPARTMENT**  
DPU - Water Source & Distribution

**LOCATION**  
Dianne Ridge Subdivision

**PROJECT DESCRIPTION**

This project provides for the FY17 design and FY18 construction of treatment equipment for removal of gross alpha should levels increase beyond maximum containment level. The well water is in compliance with EPA/VDH regulations. Sampling, which is required every three years, will be used to determine if and when the project is needed.

**USEFUL LIFE**

30 years

**TIMETABLE**

Design in FY17; construction in FY18.

**OPERATING IMPACT**

Anticipated operating impact of \$3,000 per year.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 39,000	\$ 102,000	\$ -	\$ -	\$ 141,000
User Fees	-	39,000	102,000	-	-	141,000
<b>Funding Uses</b>	\$ -	\$ 39,000	\$ 102,000	\$ -	\$ -	\$ 141,000
Construction	-	-	102,000	-	-	102,000
Professional Services	-	39,000	-	-	-	39,000
<b>Operating Impact</b>	\$ -	\$ -	\$ -	\$ 3,000	\$ 3,000	\$ 6,000
Maintenance	-	-	-	3,000	3,000	6,000

## Oak Hill Estates Hydro and Storage Tank Replacement

**DEPARTMENT**  
DPU - Water Source & Distribution

**LOCATION**  
Oak Hill Estates

**PROJECT DESCRIPTION**

This project provides for the replacement of the existing 5,000 gallon hydro pneumatic tanks and both the 20,000 and 25,000 gallon ground storage tanks located in Oak Hill Estates.

**USEFUL LIFE**

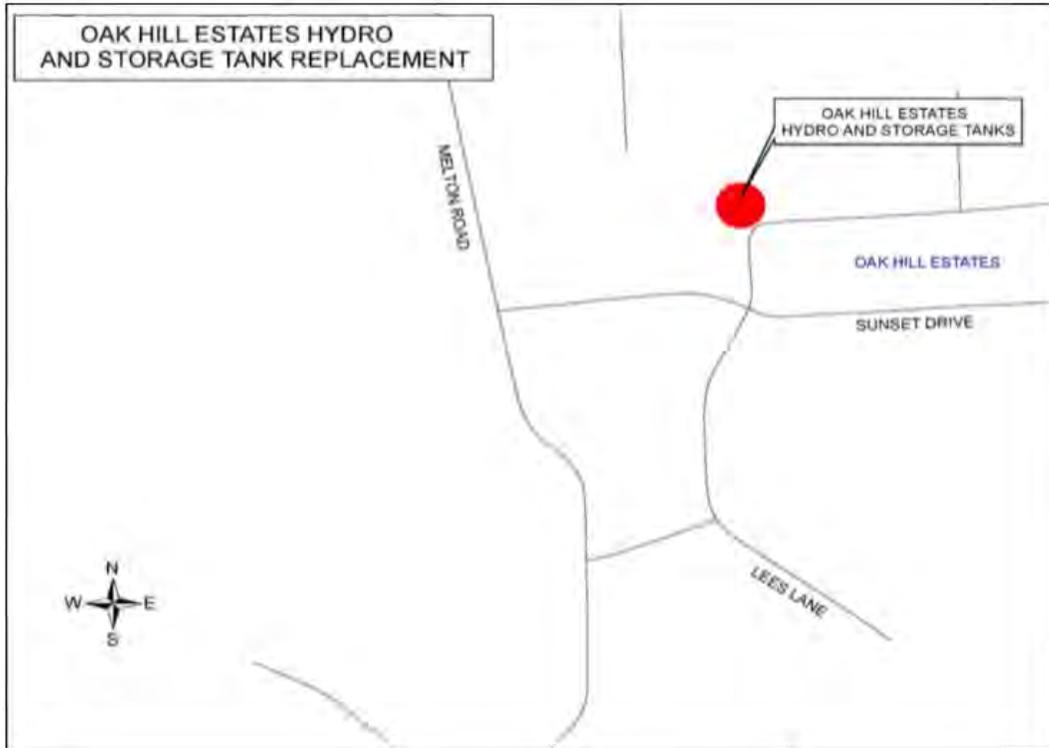
15 to 75 years

**TIMETABLE**

Design and construction in FY17.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 125,000	\$ -	\$ -	\$ -	\$ 125,000
User Fees	-	125,000	-	-	-	125,000
<b>Funding Uses</b>	\$ -	\$ 125,000	\$ -	\$ -	\$ -	\$ 125,000
Construction	-	110,000	-	-	-	110,000
Professional Services	-	15,000	-	-	-	15,000

## Doswell WTP Storage Tank Generator

**DEPARTMENT**  
DPU - Water Source & Distribution

**LOCATION**  
Doswell Water Treatment Plant

**PROJECT DESCRIPTION**

This project includes the removal of the existing 125kW generator and automatic transfer switch. This unit was installed in 1976 and will be at the end of its useful life.

**USEFUL LIFE**

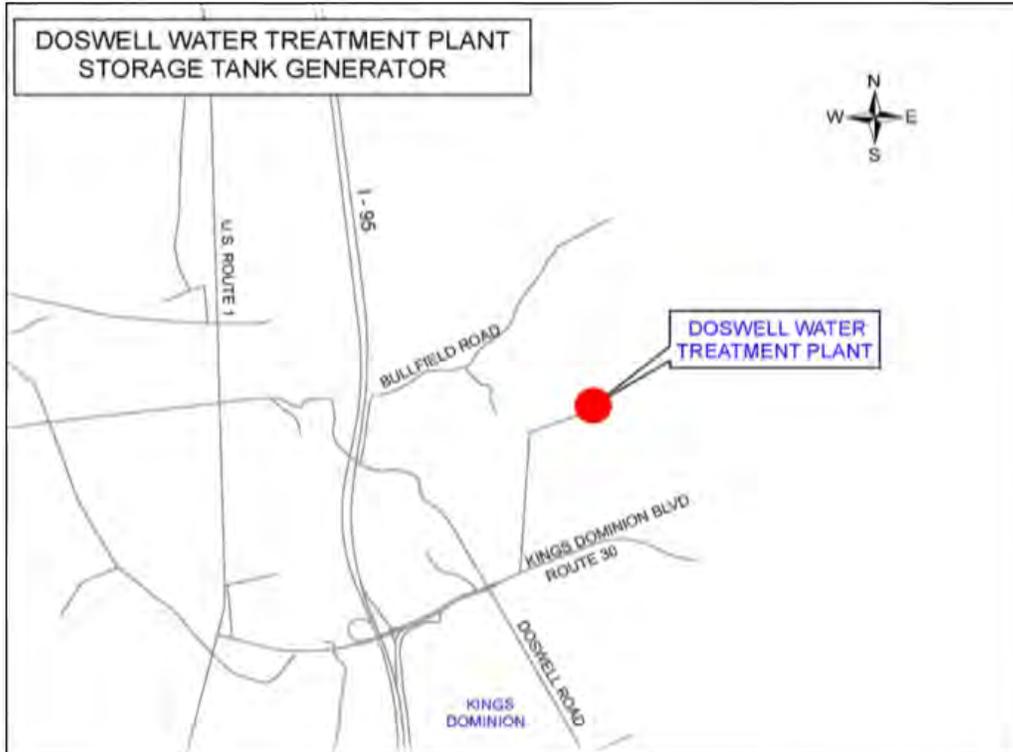
25 to 30 years

**TIMETABLE**

Construction in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 98,000	\$ 98,000
User Fees	-	-	-	-	98,000	98,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 98,000	\$ 98,000
Construction	-	-	-	-	98,000	98,000

## Harris Court Water Tank Rehabilitation

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

Harris Court Ground Storage Tank in Mechanicsville near Lee Davis High School

**PROJECT DESCRIPTION**

This project provides for repairs and cathodic protection addition to the 500,000 gallon Harris Court ground storage tank.

**USEFUL LIFE**

15 to 75 years

**TIMETABLE**

Design in FY16; construction in FY18.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 20,000	\$ -	\$ 75,000	\$ -	\$ -	\$ 95,000
User Fees	20,000	-	75,000	-	-	95,000
<b>Funding Uses</b>	\$ 20,000	\$ -	\$ 75,000	\$ -	\$ -	\$ 95,000
Construction	-	-	75,000	-	-	75,000
Professional Services	20,000	-	-	-	-	20,000

## Pleasant Street Water Tank Rehabilitation

**DEPARTMENT**  
DPU - Water Source & Distribution

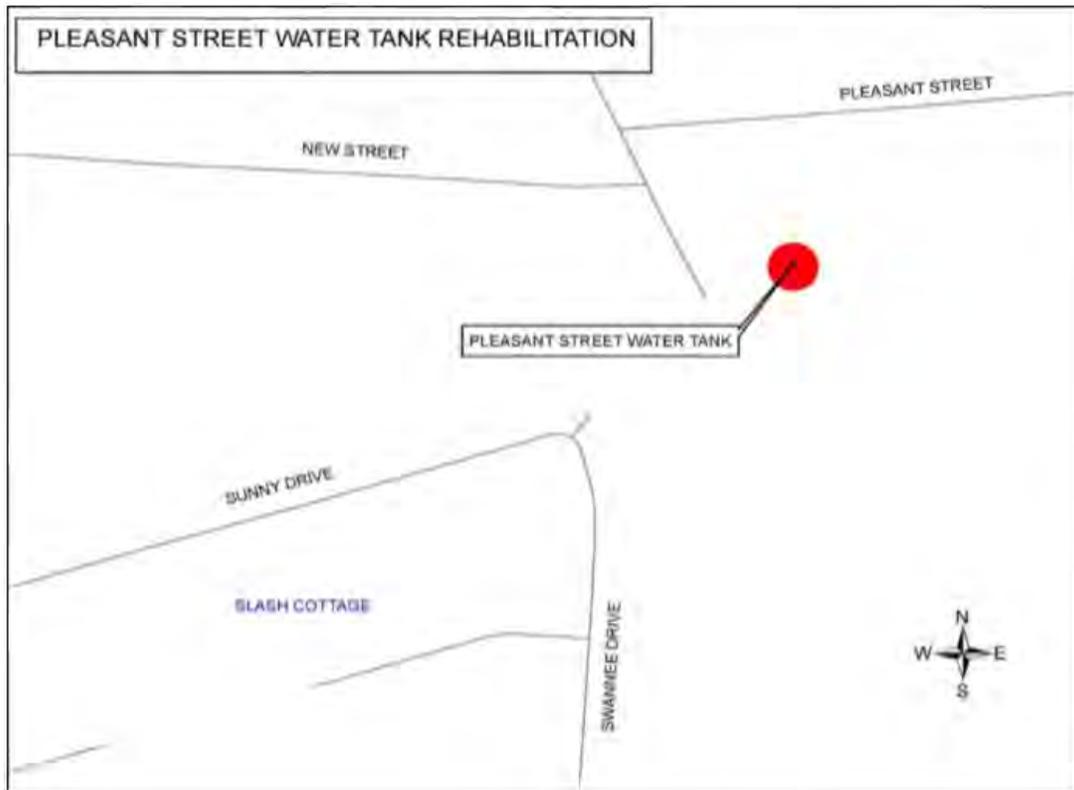
**LOCATION**  
Pleasant Street Ground Storage Tank in Ashland

**PROJECT DESCRIPTION**  
This project provides for repairs and cathodic protection addition to the 1MG Pleasant Street ground storage tank.

**USEFUL LIFE**  
15 to 75 years

**TIMETABLE**  
Design in FY17; construction in FY19.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 20,000	\$ -	\$ 75,000	\$ -	\$ 95,000
User Fees	-	20,000	-	75,000	-	95,000
<b>Funding Uses</b>	\$ -	\$ 20,000	\$ -	\$ 75,000	\$ -	\$ 95,000
Construction	-	-	-	75,000	-	75,000
Professional Services	-	20,000	-	-	-	20,000

## Georgetown Well House Rehabilitation

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

Georgetown Subdivision Well House

**PROJECT DESCRIPTION**

This project provides for the FY16 rehabilitation of the Georgetown Well House facility.

**USEFUL LIFE**

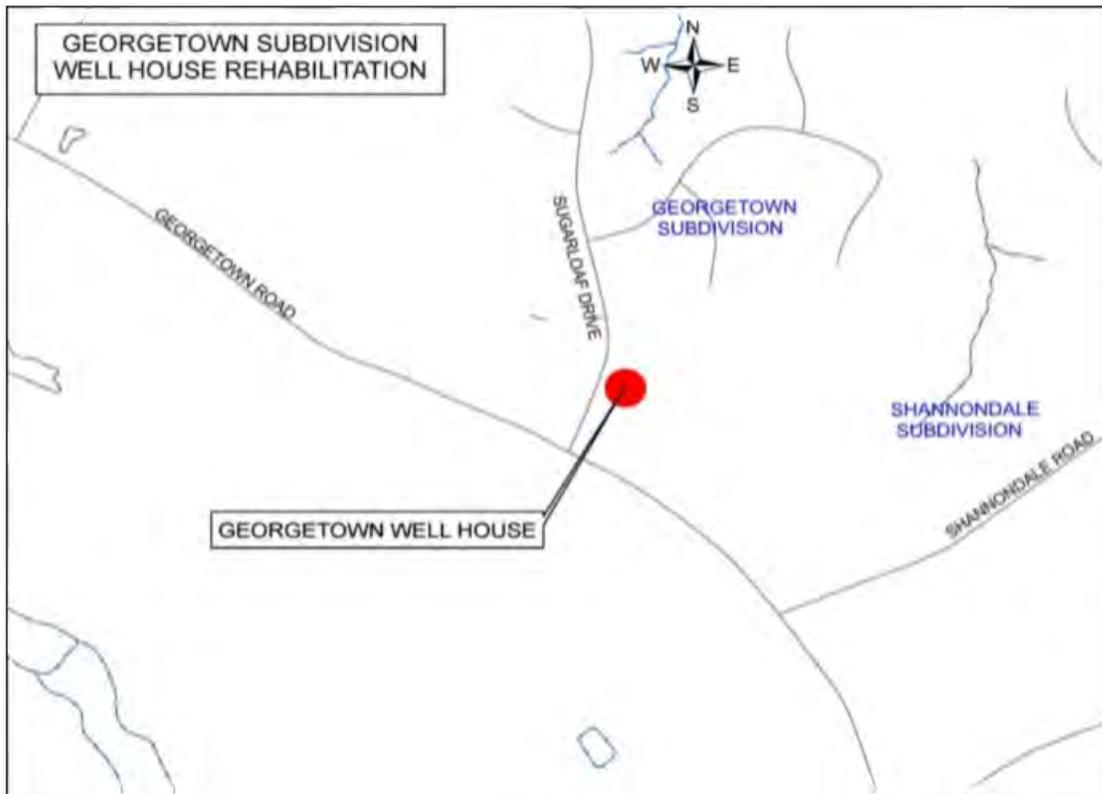
20 to 35 years

**TIMETABLE**

Design and construction in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 85,000	\$ -	\$ -	\$ -	\$ -	\$ 85,000
User Fees	85,000	-	-	-	-	85,000
<b>Funding Uses</b>	\$ 85,000	\$ -	\$ -	\$ -	\$ -	\$ 85,000
Construction	65,000	-	-	-	-	65,000
Professional Services	20,000	-	-	-	-	20,000

## Water Tank Rehabilitation

**DEPARTMENT**  
DPU - Water Source & Distribution

**LOCATION**  
Suburban Service Area and Rural Systems

**PROJECT DESCRIPTION**

This project provides for the continuing funding to rehabilitate existing water storage tanks throughout the Suburban Service Area and Rural Systems.

**USEFUL LIFE**

15 to 75 years

**TIMETABLE**

Construction in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 75,000	\$ 75,000
User Fees	-	-	-	-	75,000	75,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 75,000	\$ 75,000
Construction	-	-	-	-	75,000	75,000

## Doswell WTP Generator Fuel Tank Replacement

**DEPARTMENT**  
DPU - Water Source & Distribution

**LOCATION**  
Doswell Water Treatment Plant

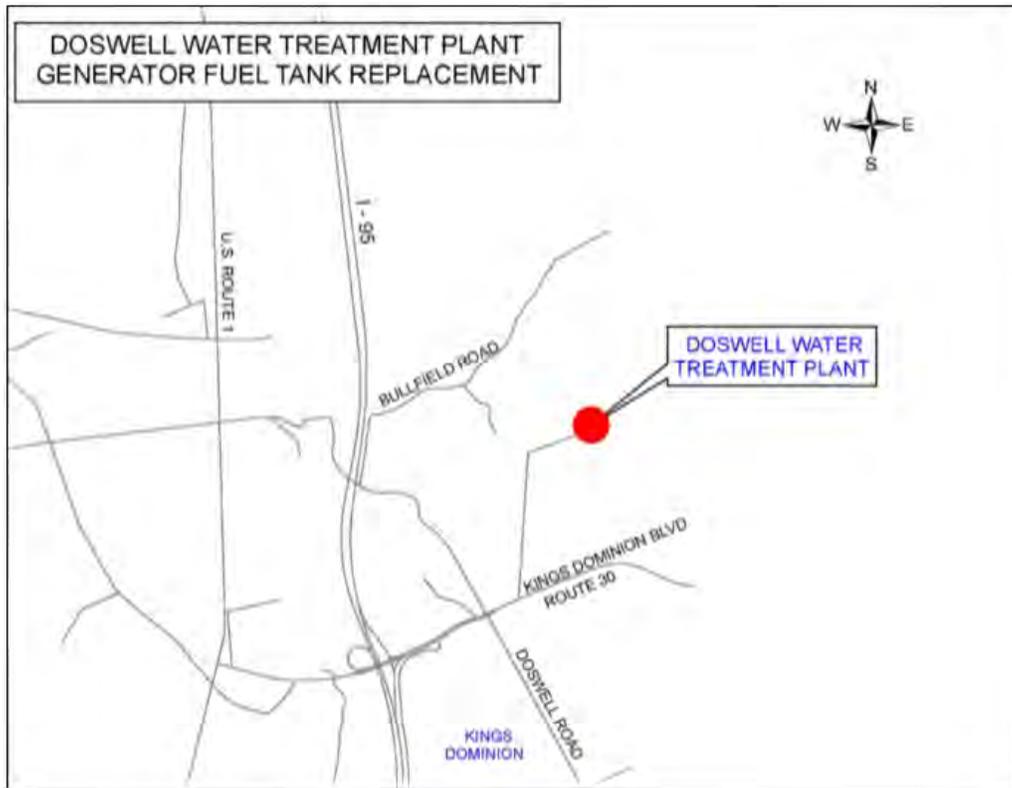
**PROJECT DESCRIPTION**

This project provides for the design and "in kind" replacement of the main plant generator fuel tank. It is anticipated that by 2020 it will have reached the end of its useful life (installed 1991).

**USEFUL LIFE**  
30 years

**TIMETABLE**  
Construction in FY20.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 69,000	\$ 69,000
User Fees	-	-	-	-	69,000	69,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 69,000	\$ 69,000
Construction	-	-	-	-	69,000	69,000

## Cold Harbor Road Overpass Waterline Rehabilitation

**DEPARTMENT**  
DPU - Water Source & Distribution

**LOCATION**  
Cold Harbor Road at Route 360 Aerial Crossing

**PROJECT DESCRIPTION**

This project includes broken hanger replacements, expansion joint coupling, TEAM valve installations and joint tightening on Cold Harbor Road at the Route 360 aerial crossing.

**USEFUL LIFE**  
50 years

**TIMETABLE**  
Construction in FY16.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ 60,000
User Fees	60,000	-	-	-	-	60,000
<b>Funding Uses</b>	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ 60,000
Construction	60,000	-	-	-	-	60,000

## Jackson Avenue Water Tank Rehabilitation

**DEPARTMENT**

DPU - Water Source & Distribution

**LOCATION**

Jackson Avenue Elevated Storage Tank in Old Mechanicsville

**PROJECT DESCRIPTION**

This project provides for minor corrosion and structural repairs to the 200,000 gallon Jackson Avenue elevated water storage tank.

**USEFUL LIFE**

15 to 75 years

**TIMETABLE**

Construction in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ 60,000
User Fees	60,000	-	-	-	-	60,000
<b>Funding Uses</b>	\$ 60,000	\$ -	\$ -	\$ -	\$ -	\$ 60,000
Construction	60,000	-	-	-	-	60,000

## Totopotomoy WWTP Nutrient Improvements Phase 2

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Totopotomoy Wastewater Treatment Plant

**PROJECT DESCRIPTION**

This project will include replacement of the nitrified recycle pumps in the remaining two treatment trains of the biological treatment facilities. The new nitrified recycle pumps increase mechanical reliability and increase the recycle flow rate to optimize nutrient removal. This project also includes supplemental carbon storage feed facilities for enhanced denitrification in the TWWTP. Supplemental carbon feed provides a carbon (e.g. glycerine) source needed for enhanced nitrogen removal.

**USEFUL LIFE**

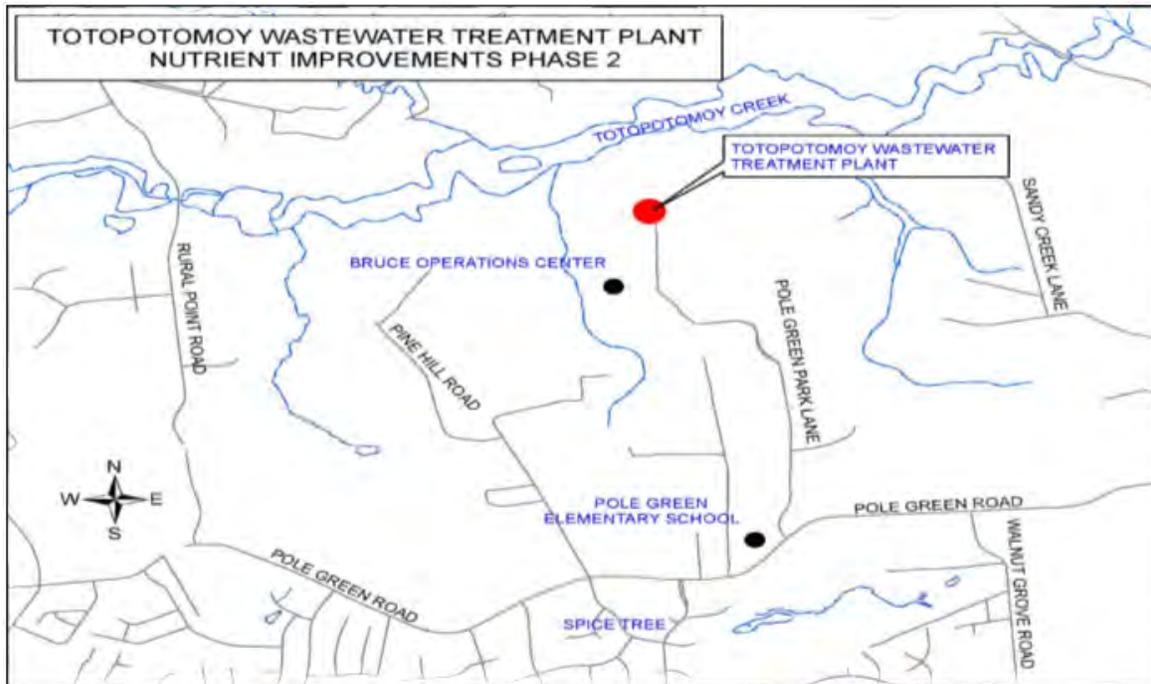
30 years

**TIMETABLE**

Design and construction in FY20.

**OPERATING IMPACT**

Chemical costs will be dependent on removal goals. The carbon feed facility will have normal heating and cooling costs and minor costs for metered pumping. To be established with design.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 2,050,000	\$ 2,050,000
User Fees	-	-	-	-	2,050,000	2,050,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 2,050,000	\$ 2,050,000
Construction	-	-	-	-	1,783,500	1,783,500
Professional Services	-	-	-	-	266,500	266,500

## Shelton Pointe Force Main Upgrade

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Shelton Pointe Force Main (FMP S66)

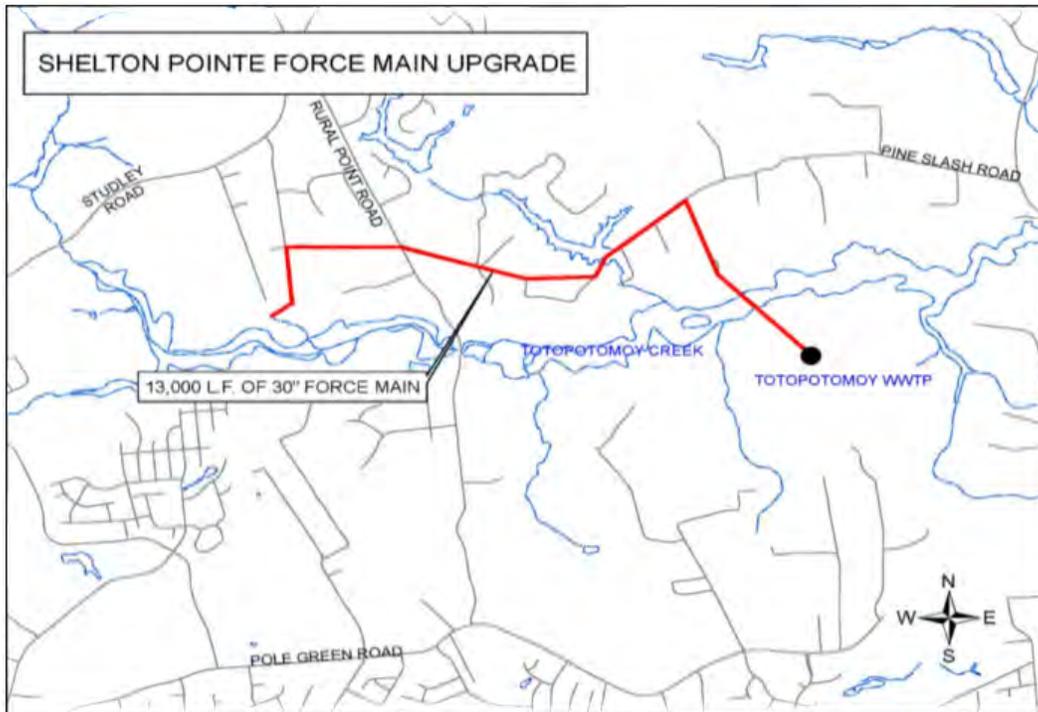
**PROJECT DESCRIPTION**

This project provides for the FY20 design and easement acquisition and the FY22 construction of 13,000' of 30" force main beginning at the Shelton Pointe Wastewater Pump Station (WWPS) and extending northeast to the Totopotomoy Wastewater Treatment Plant (WWTP). This project will allow additional wastewater from Shelton Pointe WWPS to be conveyed to the Totopotomoy WWTP.

**USEFUL LIFE**  
50 years

**TIMETABLE**  
Design and easement acquisition in FY20.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 1,622,000	\$ 1,622,000
Capacity Fees	-	-	-	-	1,622,000	1,622,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 1,622,000	\$ 1,622,000
Professional Services	-	-	-	-	973,000	973,000
Land	-	-	-	-	649,000	649,000

## Ashland Sewerline Rehabilitation - Area 2

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Ashland Wastewater Treatment Plant Drainage Basin

**PROJECT DESCRIPTION**

This project provides for sewerline rehabilitation within the Ashland Wastewater Treatment Plant drainage basin. This project consists of sewerline, lateral and manhole rehabilitation and replacement. These repairs are needed to correct structural defects in the sewer pipes and to reduce the volume of inflow and infiltration to the sanitary sewer system.

**USEFUL LIFE**

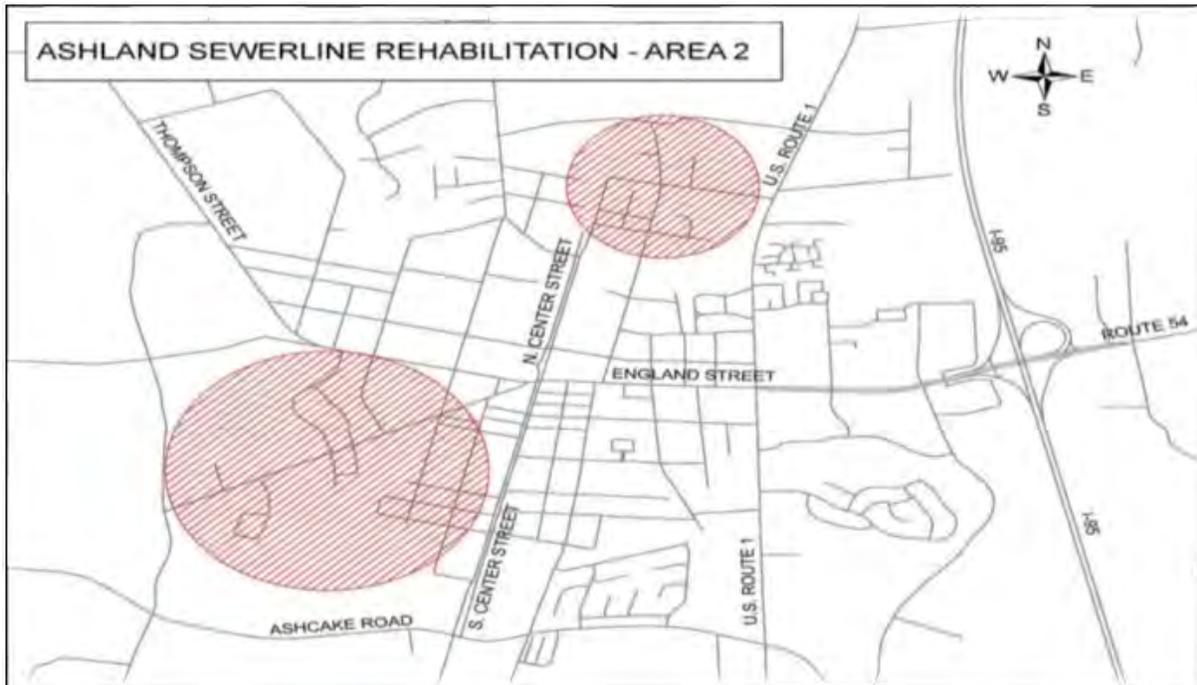
50 years

**TIMETABLE**

Design in FY17; construction in FY18.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 110,500	\$ 739,500	\$ -	\$ -	\$ 850,000
User Fees	-	110,500	739,500	-	-	850,000
<b>Funding Uses</b>	\$ -	\$ 110,500	\$ 739,500	\$ -	\$ -	\$ 850,000
Construction	-	-	739,500	-	-	739,500
Professional Services	-	110,500	-	-	-	110,500

## Pump Station #5 Rehabilitation

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Atlee High School Pump Station #5

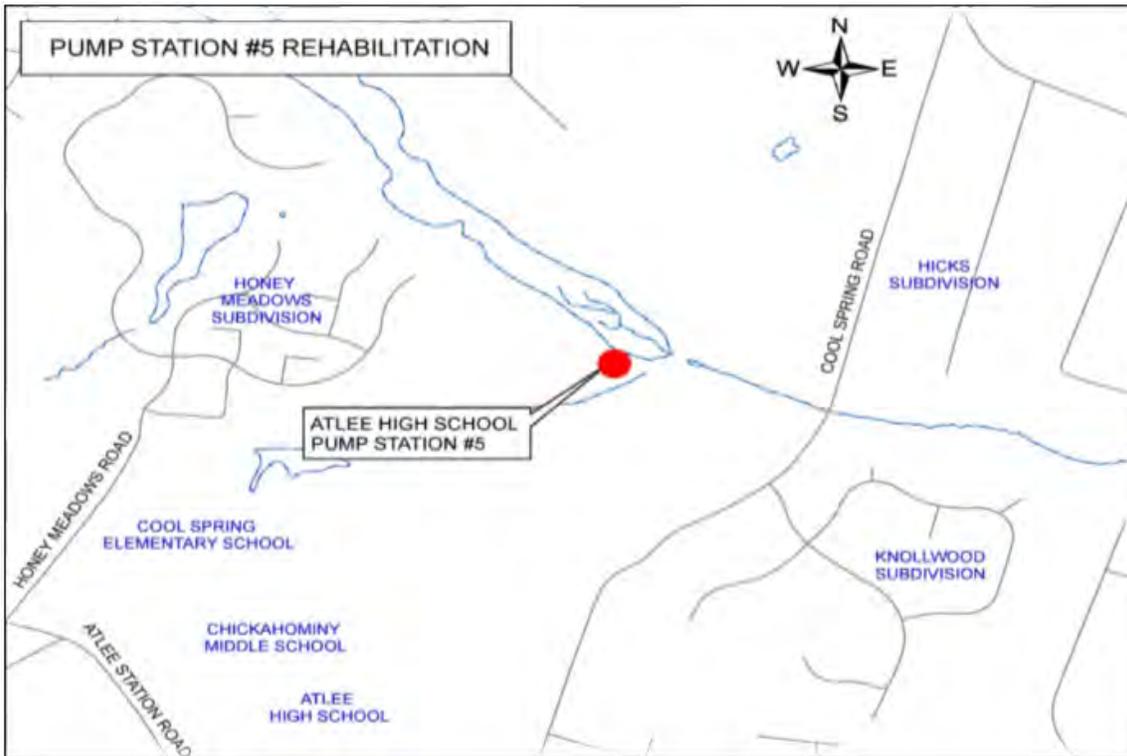
**PROJECT DESCRIPTION**

This project includes the design and rehabilitation of the pump station. The pump station will be 30 years old at the time of rehabilitation.

**USEFUL LIFE**  
30 years

**TIMETABLE**  
Design and construction in FY19.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 763,000	\$ -	\$ 763,000
User Fees	-	-	-	763,000	-	763,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 763,000	\$ -	\$ 763,000
Construction	-	-	-	681,000	-	681,000
Professional Services	-	-	-	82,000	-	82,000

## Ashland WWTP Generators & Fuel Tank

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Ashland Wastewater Treatment Plant

**PROJECT DESCRIPTION**

This project provides for the design and "in kind" replacement of the Main Plant generator (700kW) and the Headworks generator (300kW). Also included are the installations of sound attenuation enclosures and new fuel tanks.

**USEFUL LIFE**

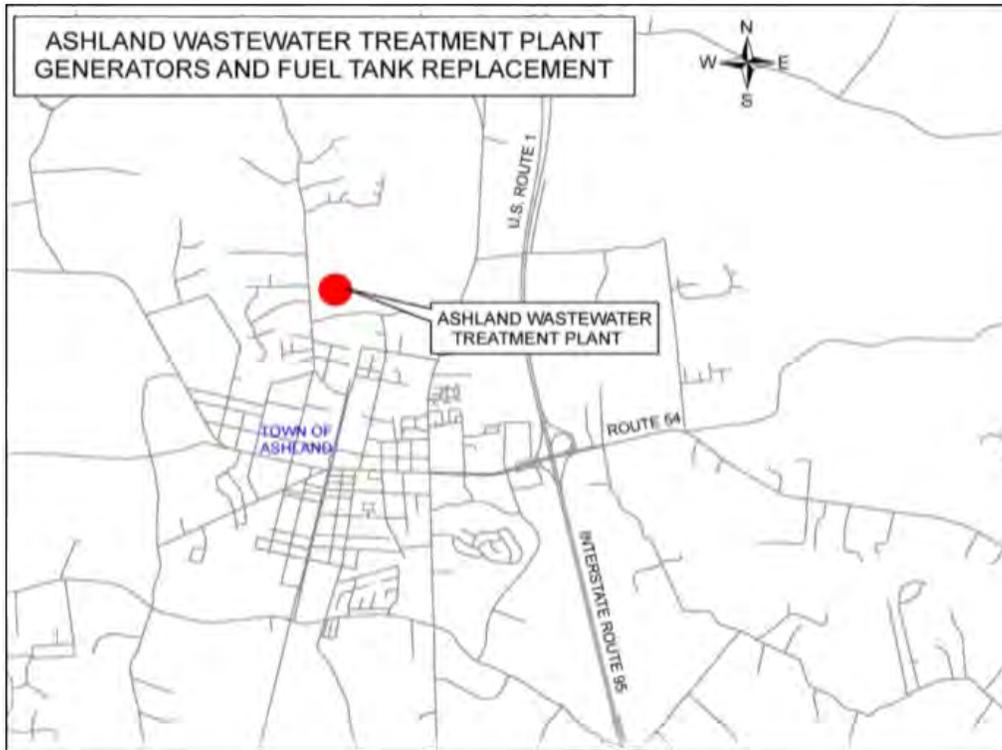
20 years

**TIMETABLE**

Construction in FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 700,000	\$ -	\$ 700,000
User Fees	-	-	-	700,000	-	700,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 700,000	\$ -	\$ 700,000
Construction	-	-	-	700,000	-	700,000

## Mechumps Creek WWPS Force Main Replacement

**DEPARTMENT**

DPU - Wastewater Collection & Treatment

**LOCATION**

Mechumps Creek Pump Station to Ashland Wastewater Treatment Plant (FMP S83)

**PROJECT DESCRIPTION**

This project provides for the FY20 design and easement acquisition and FY21 construction of 12,000' of 10" force main beginning at the existing Mechumps Creek Wastewater Pump Station (WWPS) and extending south to the existing Lickinghole Creek Trunk Sewer. This project will allow wastewater to be diverted from the Ashland WWTP to the Totopotomoy WWTP.

**USEFUL LIFE**

50 years

**TIMETABLE**

Design and easement acquisition in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 625,000	\$ 625,000
Capacity Fees	-	-	-	-	625,000	625,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 625,000	\$ 625,000
Professional Services	-	-	-	-	375,000	375,000
Land	-	-	-	-	250,000	250,000

## Wastewater Pump Station Control Upgrade

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Various

**PROJECT DESCRIPTION**

This project provides for the upgrade of 27 pump station control panels. The current "EnviroRanger" programmable logic control units have been discontinued and support is limited. New control panels will be installed.

**USEFUL LIFE**

15 years

**TIMETABLE**

Design and construction in FY16 through FY18.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	<b>\$ 285,000</b>	<b>\$ 155,000</b>	<b>\$ 145,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 585,000</b>
User Fees	285,000	155,000	145,000	-	-	585,000
<b>Funding Uses</b>	<b>\$ 285,000</b>	<b>\$ 155,000</b>	<b>\$ 145,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 585,000</b>
Construction	285,000	155,000	145,000	-	-	585,000

## Shelton Pointe WWPS Upgrade

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Shelton Pointe Pump Station (FMP S59)

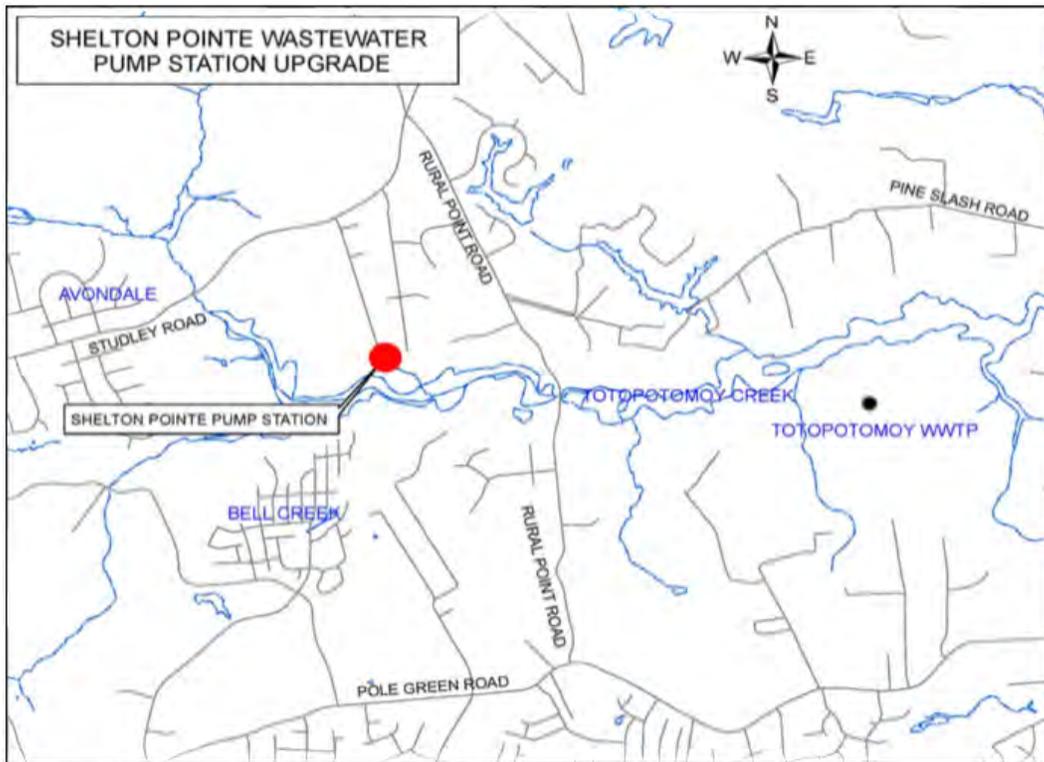
**PROJECT DESCRIPTION**

This project provides for the FY16 design and FY17 construction of an upgrade of Shelton Pointe Wastewater Pump Station to increase capacity to 5.75 MGD through the installation of new pumps.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Design in FY16; construction in FY17.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 63,000	\$ 450,000	\$ -	\$ -	\$ -	\$ 513,000
Capacity Fees	63,000	450,000	-	-	-	513,000
<b>Funding Uses</b>	\$ 63,000	\$ 450,000	\$ -	\$ -	\$ -	\$ 513,000
Construction	-	450,000	-	-	-	450,000
Professional Services	63,000	-	-	-	-	63,000

## Doswell WWTP Equalization Tank Rehabilitation

**DEPARTMENT**

DPU - Wastewater Collection & Treatment

**LOCATION**

Doswell Wastewater Treatment Plant

**PROJECT DESCRIPTION**

This project consists of the rehabilitation and recoating of the two 500,000 gallon steel equalization tanks. This includes cleaning, complete recoating of the interiors and spot repair and recoating of the exteriors.

**USEFUL LIFE**

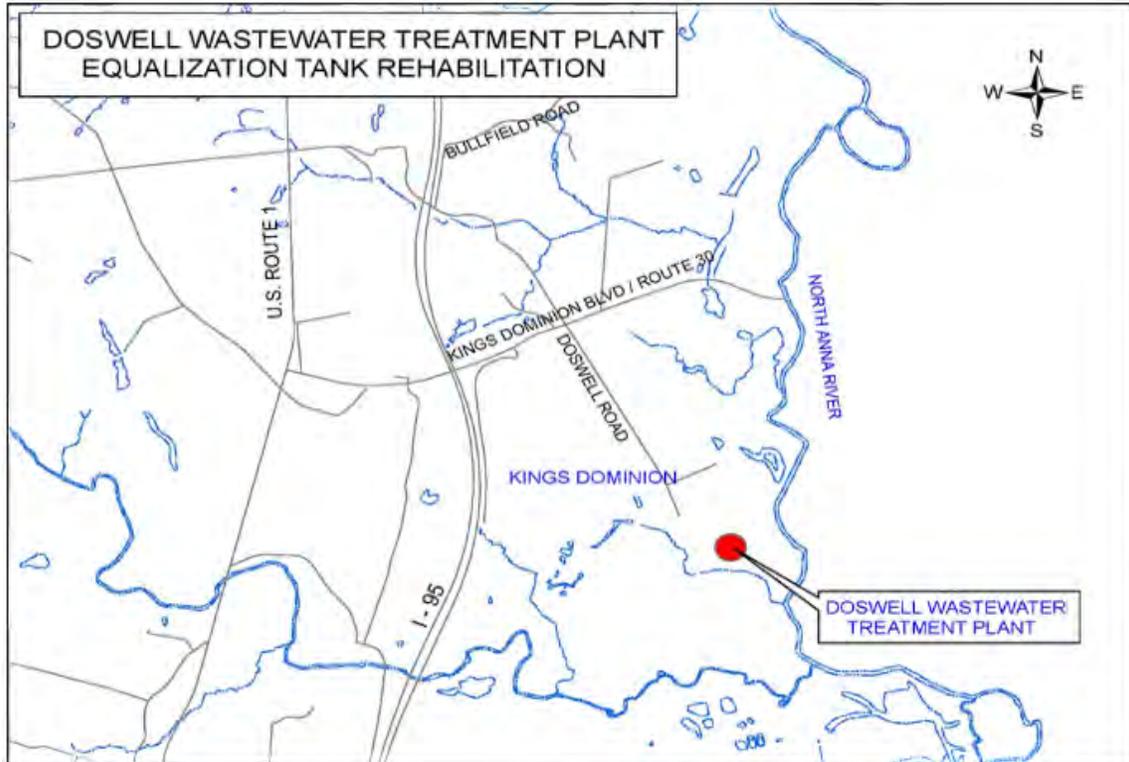
20 to 35 years

**TIMETABLE**

Design in FY16; construction in FY17.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 56,650	\$ 453,350	\$ -	\$ -	\$ -	\$ 510,000
User Fees	56,650	453,350	-	-	-	510,000
<b>Funding Uses</b>	\$ 56,650	\$ 453,350	\$ -	\$ -	\$ -	\$ 510,000
Construction	-	453,350	-	-	-	453,350
Professional Services	56,650	-	-	-	-	56,650

## Mechanicsville Sewer Rehabilitation Area 1

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Mechanicsville (generally west of I-295)

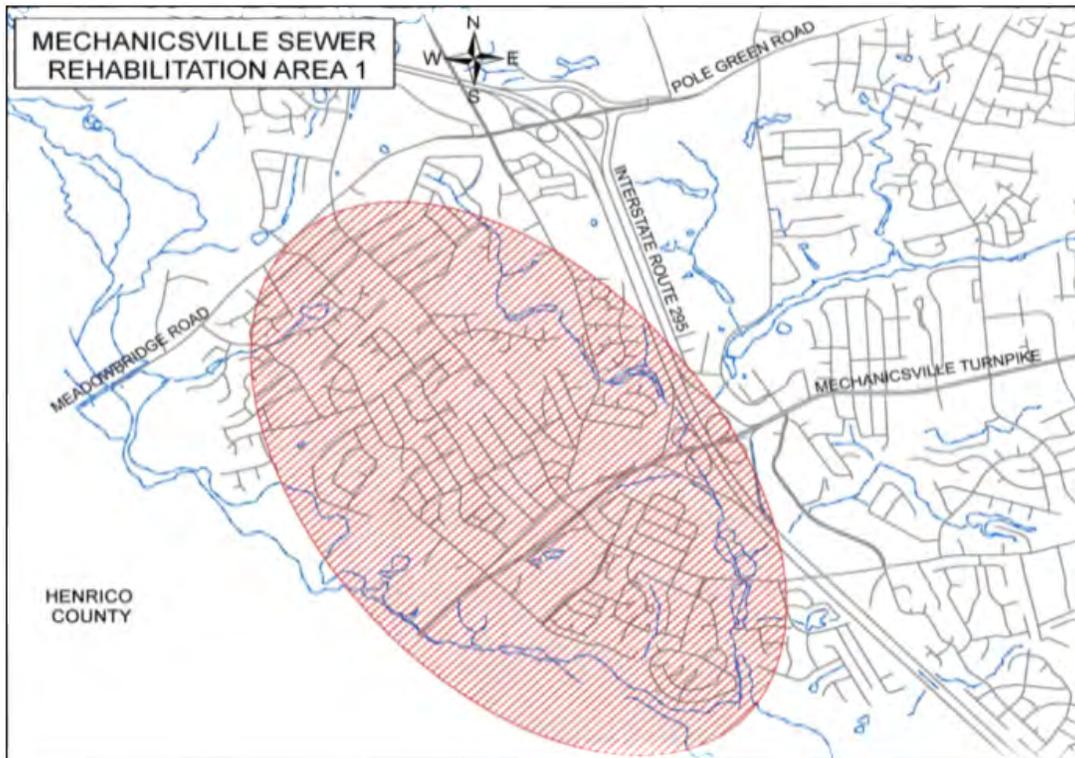
**PROJECT DESCRIPTION**

This project consists of sewerline, lateral and manhole rehabilitation and replacement to correct deficiencies and reduce inflow/infiltration.

**USEFUL LIFE**  
50 years

**TIMETABLE**  
Design in FY19; construction in FY20.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 100,000	\$ 400,000	\$ 500,000
User Fees	-	-	-	100,000	400,000	500,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 100,000	\$ 400,000	\$ 500,000
Construction	-	-	-	-	400,000	400,000
Professional Services	-	-	-	100,000	-	100,000

## Ashland WWTP UV Disinfection System Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Ashland Wastewater Treatment Plant

**PROJECT DESCRIPTION**

This project includes the complete replacement of the ultraviolet (UV) disinfection system. The existing equipment has reached the end of its useful life. The equipment manufacturer has indicated that future maintenance support and availability of replacement parts are no longer reliable.

**USEFUL LIFE**

20 years

**TIMETABLE**

Construction in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 482,000	\$ -	\$ -	\$ -	\$ -	\$ 482,000
User Fees	482,000	-	-	-	-	482,000
<b>Funding Uses</b>	\$ 482,000	\$ -	\$ -	\$ -	\$ -	\$ 482,000
Construction	482,000	-	-	-	-	482,000

## Courthouse STP Aeration Tank Rehabilitation

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Courthouse Sewage Treatment Plant

**PROJECT DESCRIPTION**

This project provides for the recoating of aeration tanks, railings, piping and steel appurtenances including blower pipe recoating. Anode replacement will also be included.

**USEFUL LIFE**

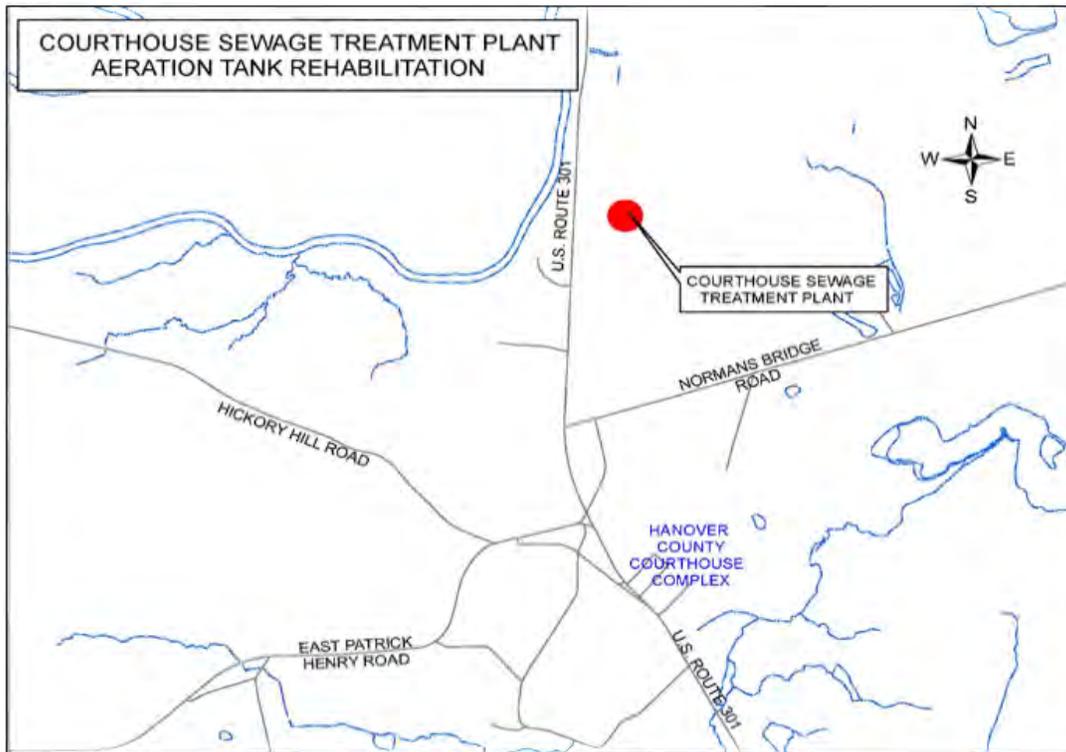
20 to 35 years

**TIMETABLE**

Construction in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 350,000	\$ -	\$ -	\$ -	\$ -	\$ 350,000
User Fees	350,000	-	-	-	-	350,000
<b>Funding Uses</b>	\$ 350,000	\$ -	\$ -	\$ -	\$ -	\$ 350,000
Construction	333,000	-	-	-	-	333,000
Professional Services	17,000	-	-	-	-	17,000

## Pamunkey Jail Lift Station Pump and Rotomat Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

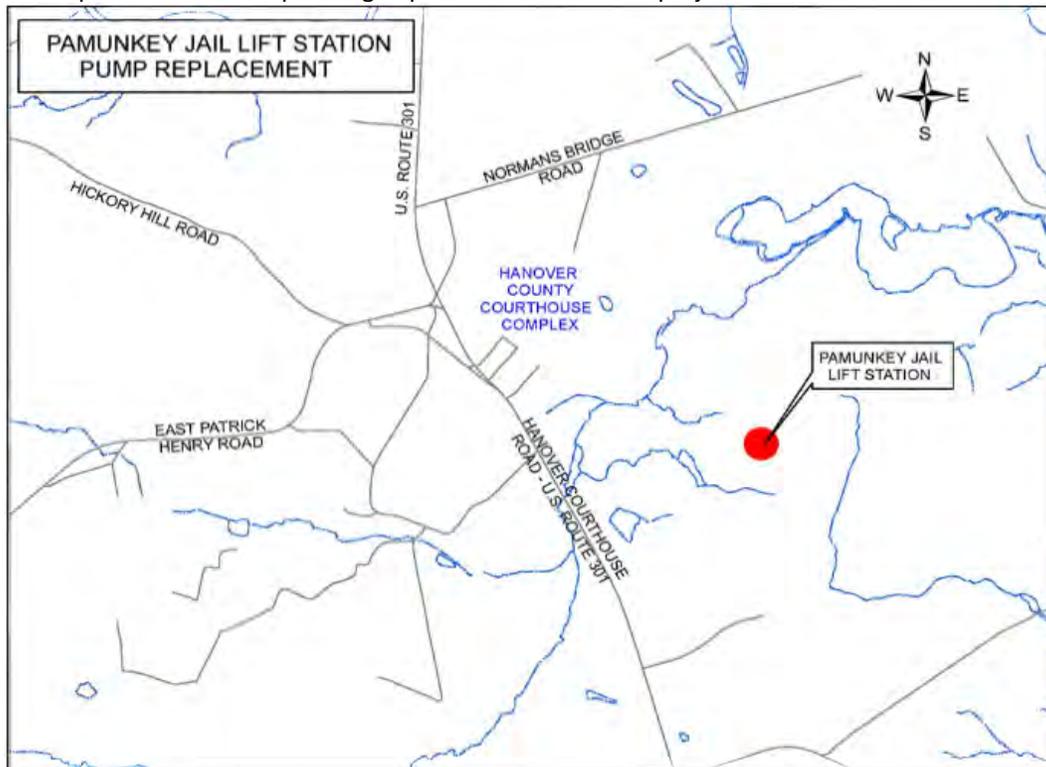
**LOCATION**  
Pamunkey Jail Lift Station

**PROJECT DESCRIPTION**  
This project provides for the replacement of the two existing submersible pumps and Rotomat (installed in 1998).

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Construction in FY18.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 282,000	\$ -	\$ -	\$ 282,000
User Fees	-	-	282,000	-	-	282,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 282,000	\$ -	\$ -	\$ 282,000
Construction	-	-	282,000	-	-	282,000

## Mechumps Creek WWPS Pump Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Mechumps Creek Wastewater Pump Station

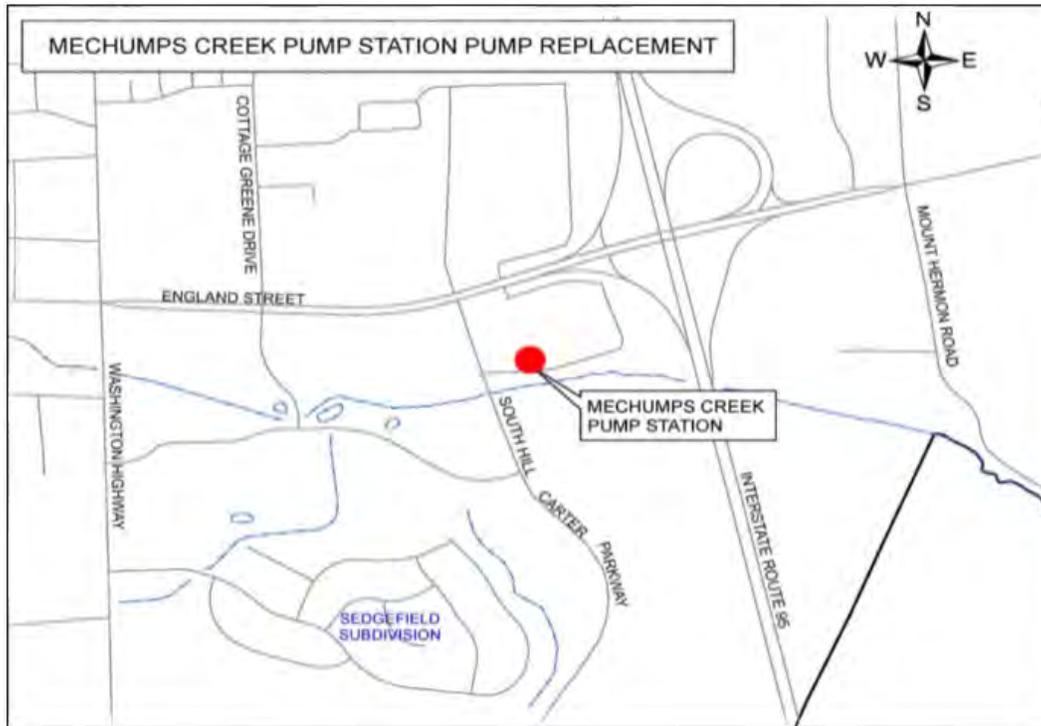
**PROJECT DESCRIPTION**

This project provides for the replacement and installation of the two dry well sewer pumps. The pumps will be 20 years old at the time of replacement.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Design and Construction in FY19.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 265,000	\$ -	\$ 265,000
User Fees	-	-	-	265,000	-	265,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 265,000	\$ -	\$ 265,000
Construction	-	-	-	231,000	-	231,000
Professional Services	-	-	-	34,000	-	34,000

## Totopotomoy WWTP 2nd Influent Step Screen

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Totopotomoy Wastewater Treatment Plant

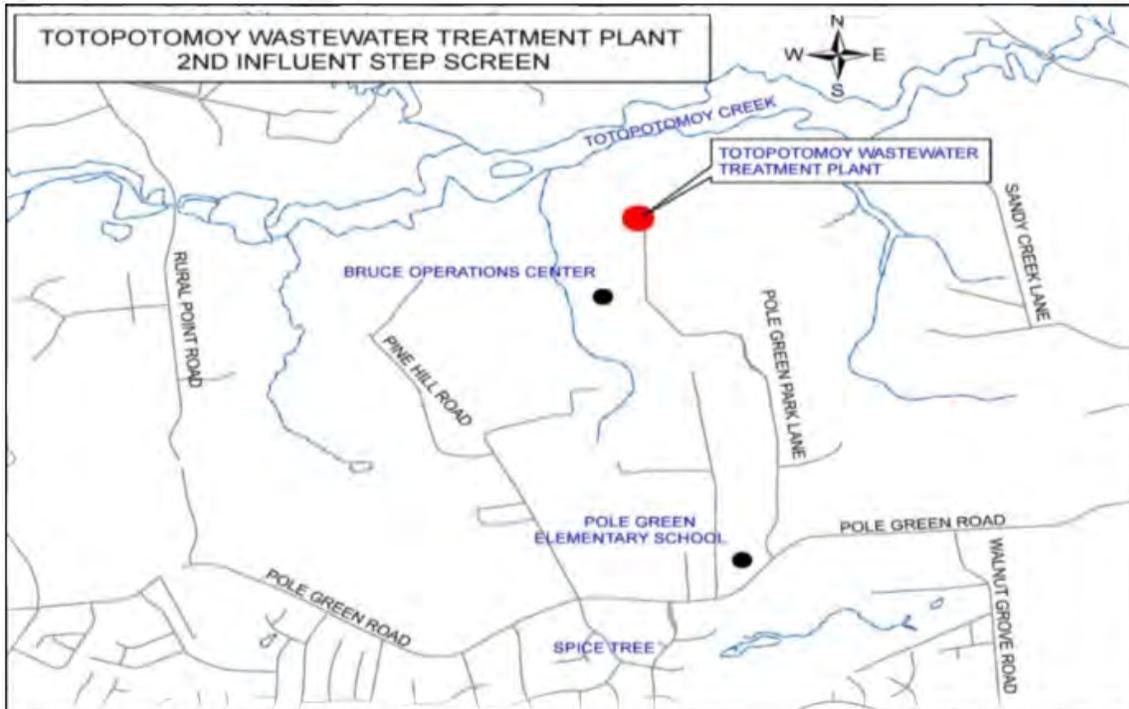
**PROJECT DESCRIPTION**

This project consists of the addition of a second influent step screen at the Totopotomoy Wastewater Treatment Plant. The second screen will be needed to handle higher flows.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Design and construction in FY17.

**OPERATING IMPACT**  
Anticipated operating impact of \$1,000 per year.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 250,000	\$ -	\$ -	\$ -	\$ 250,000
User Fees	-	250,000	-	-	-	250,000
<b>Funding Uses</b>	\$ -	\$ 250,000	\$ -	\$ -	\$ -	\$ 250,000
Construction	-	230,000	-	-	-	230,000
Professional Services	-	20,000	-	-	-	20,000
<b>Operating Impact</b>	\$ -	\$ -	\$ 1,000	\$ 1,000	\$ 1,000	\$ 3,000
Maintenance	-	-	1,000	1,000	1,000	3,000

## Beaverdam WWPS Control Panel & Switch Gear Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Beaverdam Wastewater Pump Station

**PROJECT DESCRIPTION**

The existing control panel has been in service since 2001 and will be near the end of its service life at the time of replacement.

**USEFUL LIFE**

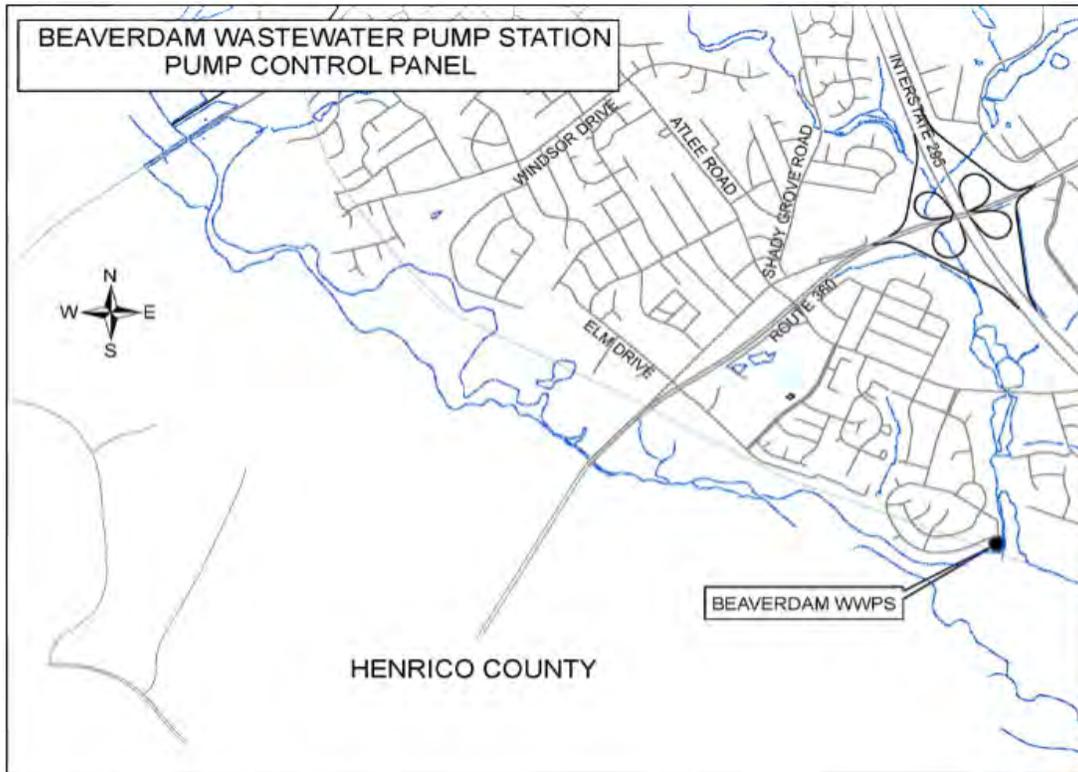
10 to 20 years

**TIMETABLE**

Construction in FY18.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 236,000	\$ -	\$ -	\$ 236,000
User Fees	-	-	236,000	-	-	236,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 236,000	\$ -	\$ -	\$ 236,000
Construction	-	-	236,000	-	-	236,000

## Beaverdam WWPS Grinder Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Beaverdam Wastewater Pump Station

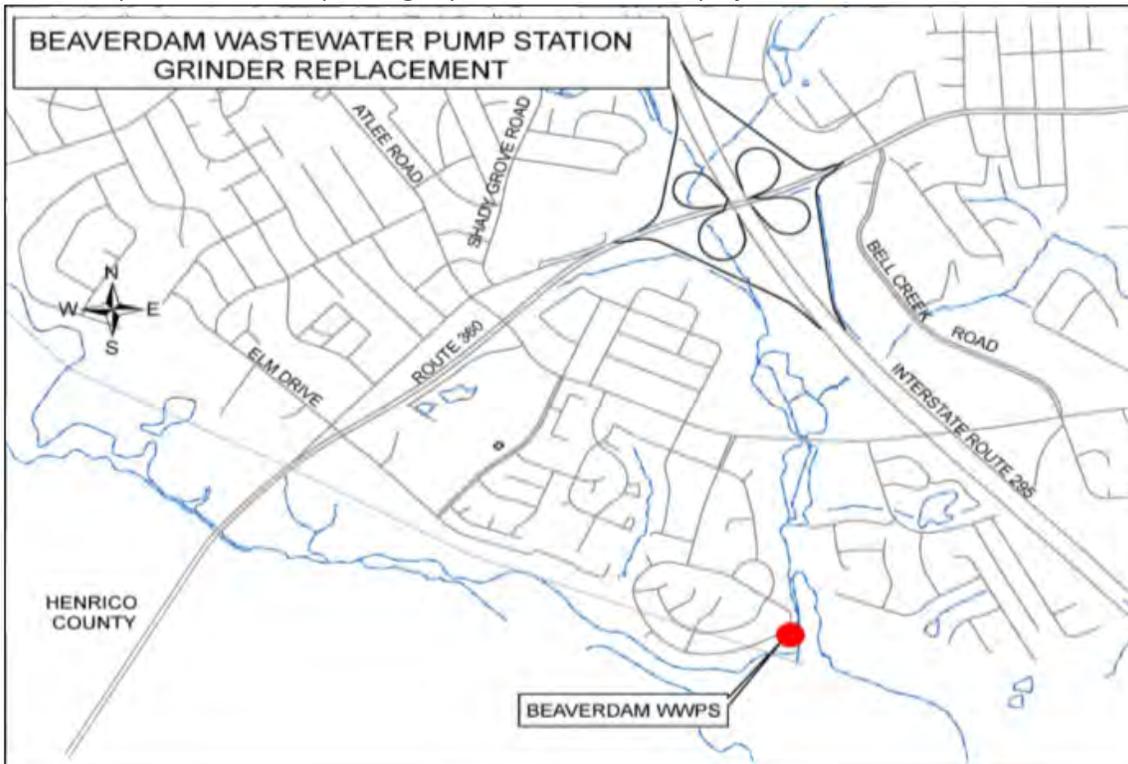
**PROJECT DESCRIPTION**

The project provides for the replacement of the two existing influent grinders. The grinders will be over 20 years old, both have been rebuilt and have reached the end of their useful life.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Design and construction in FY19.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 221,000	\$ -	\$ 221,000
User Fees	-	-	-	221,000	-	221,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 221,000	\$ -	\$ 221,000
Construction	-	-	-	197,300	-	197,300
Professional Services	-	-	-	23,700	-	23,700

## Doswell WWTP Aeration Basin Blower Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Doswell Wastewater Treatment Plant

**PROJECT DESCRIPTION**

This project includes the replacement of the three existing aeration basin centrifugal blowers and associated equipment. The existing blowers were installed in 1994 making them over 25 years old at the time of their replacement; consequently, they have reached the end of their useful life.

**USEFUL LIFE**

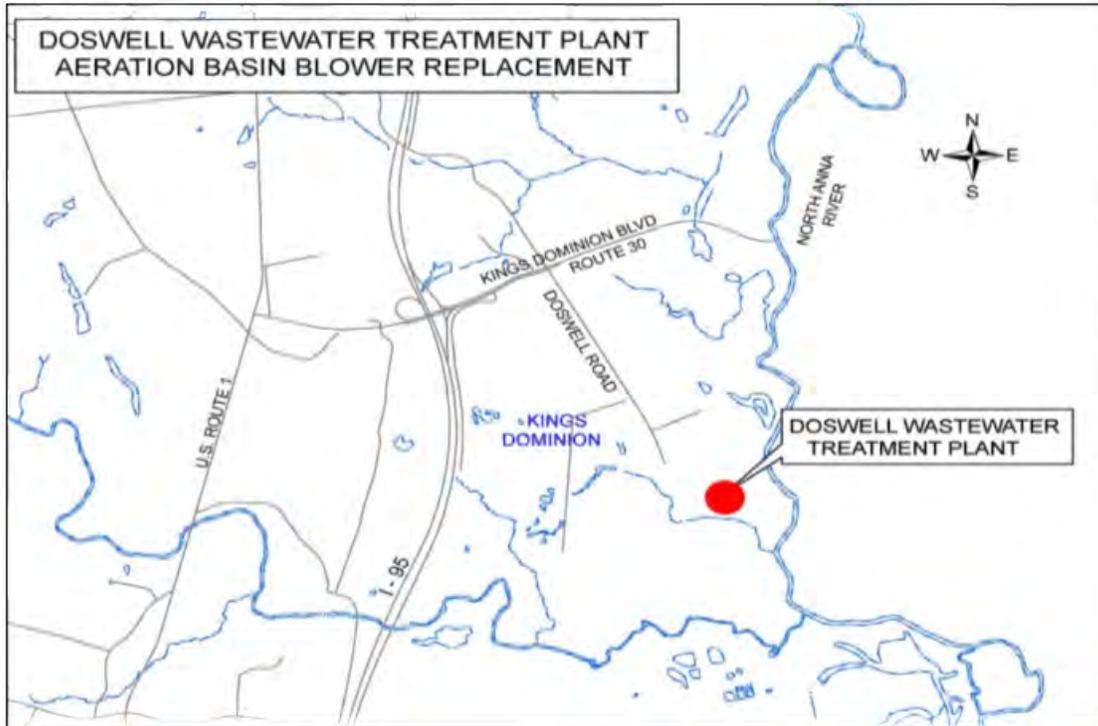
20 years

**TIMETABLE**

Design and construction in FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 210,000	\$ -	\$ 210,000
User Fees	-	-	-	210,000	-	210,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 210,000	\$ -	\$ 210,000
Construction	-	-	-	187,000	-	187,000
Professional Services	-	-	-	23,000	-	23,000

## Doswell WWTP Clarifier Weir & Baffle Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Doswell Wastewater Treatment Plant

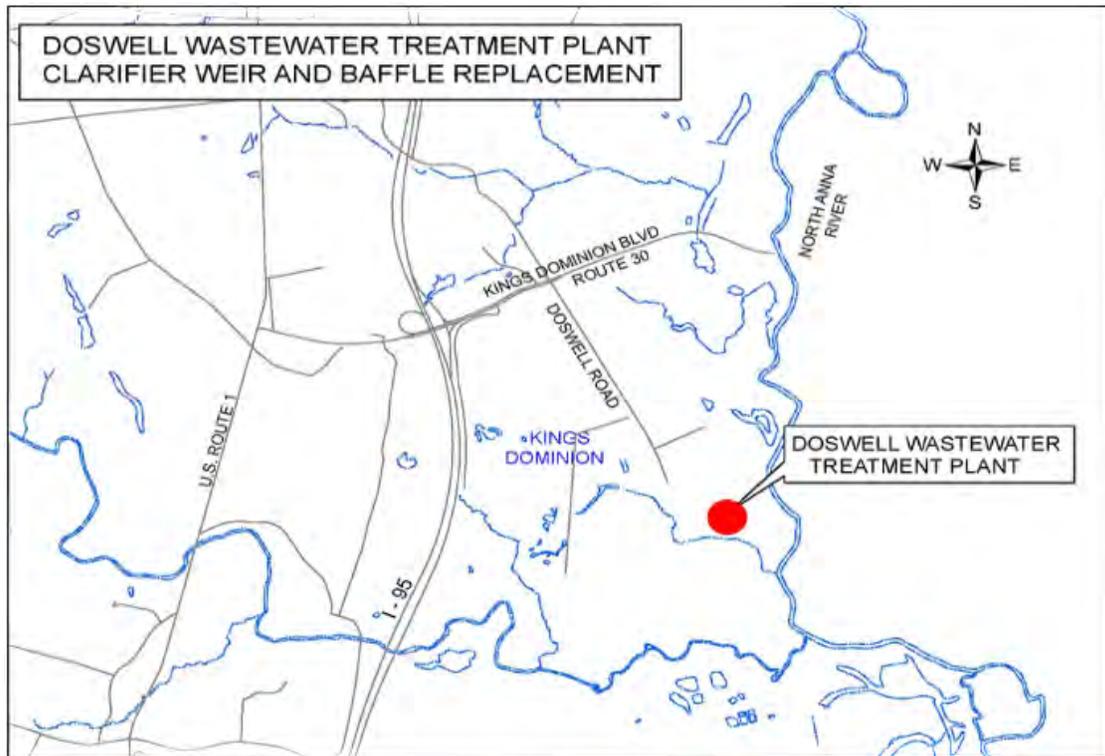
**PROJECT DESCRIPTION**

This project provides for the replacement of both the clarifier weir and baffles along with coating the effluent trough and wall.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Design in FY16; construction in FY17.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 20,000	\$ 189,000	\$ -	\$ -	\$ -	\$ 209,000
User Fees	20,000	189,000	-	-	-	209,000
<b>Funding Uses</b>	\$ 20,000	\$ 189,000	\$ -	\$ -	\$ -	\$ 209,000
Construction	-	189,000	-	-	-	189,000
Professional Services	20,000	-	-	-	-	20,000

## Ashland Sewerline Rehabilitation - Area 3

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Ashland Wastewater Treatment Plant Drainage Basin

**PROJECT DESCRIPTION**

This project provides for sewerline rehabilitation within the Ashland Wastewater Treatment Plant drainage basin. This project consists of sewerline, lateral and manhole rehabilitation and replacement. These repairs are needed to correct structural defects in the sewer pipes and to reduce the volume of inflow and infiltration to the sanitary sewer system.

**USEFUL LIFE**

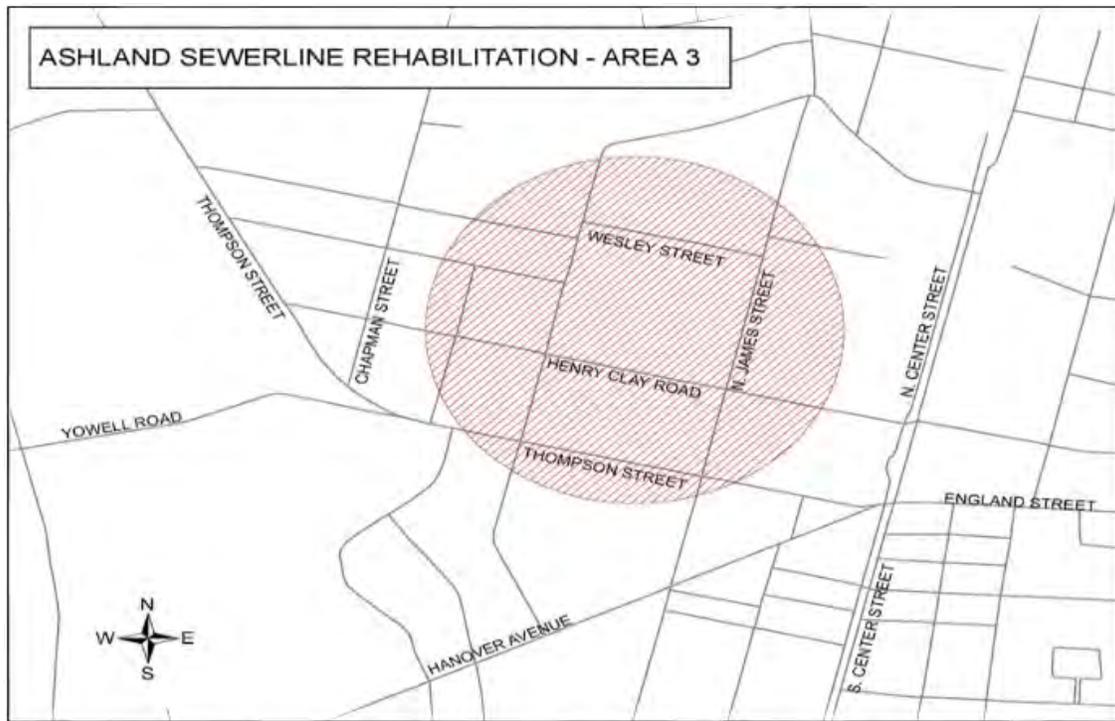
50 years

**TIMETABLE**

Design and construction in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	<b>\$ 202,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 202,000</b>
User Fees	202,000	-	-	-	-	202,000
<b>Funding Uses</b>	<b>\$ 202,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 202,000</b>
Construction	173,000	-	-	-	-	173,000
Professional Services	29,000	-	-	-	-	29,000

## Courthouse STP Generator & Switch Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Courthouse Sewage Treatment Plant

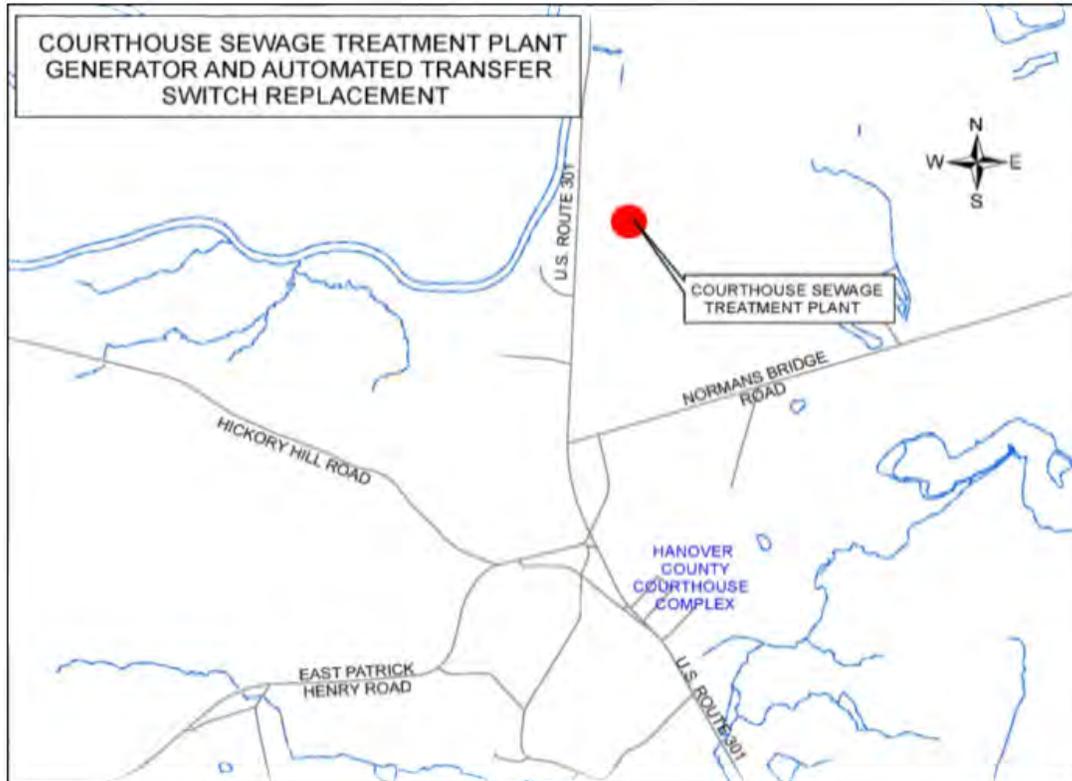
**PROJECT DESCRIPTION**

This project includes the replacement of the backup generator and associated automatic transfer switch along with the replacement of the concrete slab and deck structure. The generator was installed in 1998.

**USEFUL LIFE**  
25 years

**TIMETABLE**  
Construction in FY20.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 183,000	\$ 183,000
User Fees	-	-	-	-	183,000	183,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 183,000	\$ 183,000
Construction	-	-	-	-	183,000	183,000

## Doswell WWTP Magnesium Hydroxide Tank Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Doswell Wastewater Treatment Plant

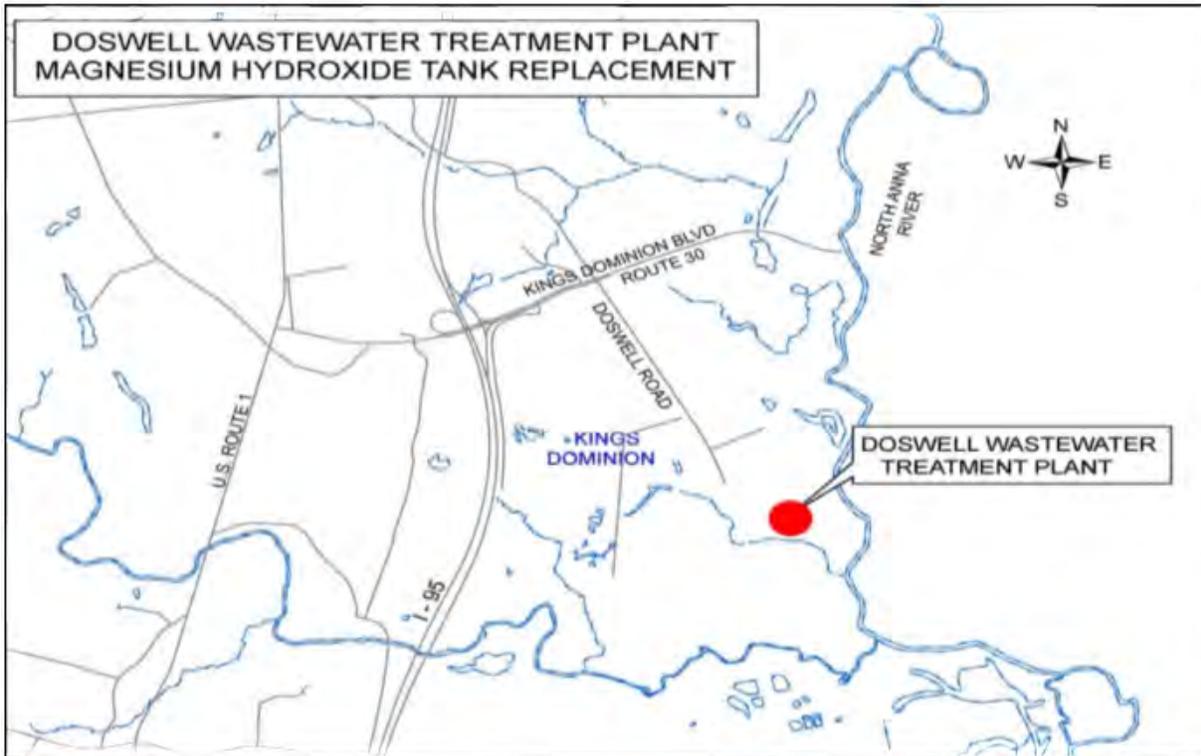
**PROJECT DESCRIPTION**

This project consists of the replacement of the existing horizontal magnesium hydroxide tank and associated equipment.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Design and construction in FY16.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	<b>\$ 175,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 175,000</b>
User Fees	175,000	-	-	-	-	175,000
<b>Funding Uses</b>	<b>\$ 175,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 175,000</b>
Construction	156,500	-	-	-	-	156,500
Professional Services	18,500	-	-	-	-	18,500

## Ashland WWTP Chemical Feed Unit

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Ashland Wastewater Treatment Plant

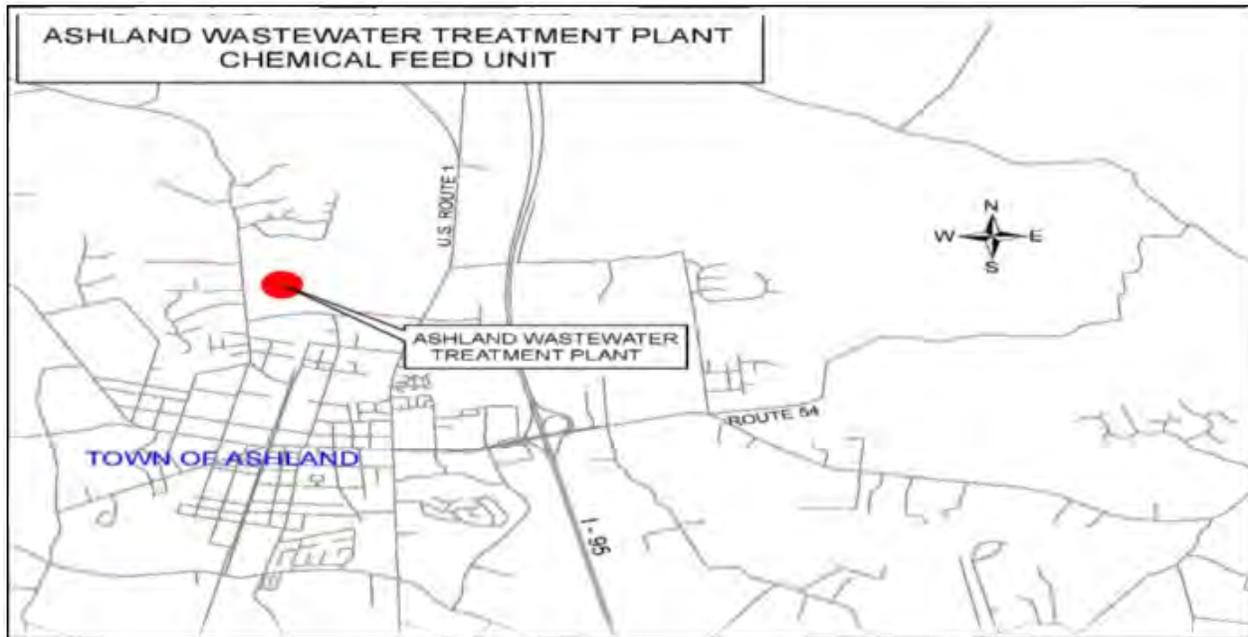
**PROJECT DESCRIPTION**

This project includes the FY19 addition of chemical storage, pumping, piping and miscellaneous electrics and controls to improve treatment.

**USEFUL LIFE**  
20 to 50 years

**TIMETABLE**  
Design and construction in FY19.

**OPERATING IMPACT**  
Anticipated operating impact of \$62,500 per year.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 165,000	\$ -	\$ 165,000
User Fees	-	-	-	165,000	-	165,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 165,000	\$ -	\$ 165,000
Construction	-	-	-	145,000	-	145,000
Professional Services	-	-	-	20,000	-	20,000
<b>Operating Impact</b>	\$ -	\$ -	\$ -	\$ -	\$ 62,500	\$ 62,500
Maintenance	-	-	-	-	62,500	62,500

## Best Products WWPS Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Best Products Wastewater Pump Station

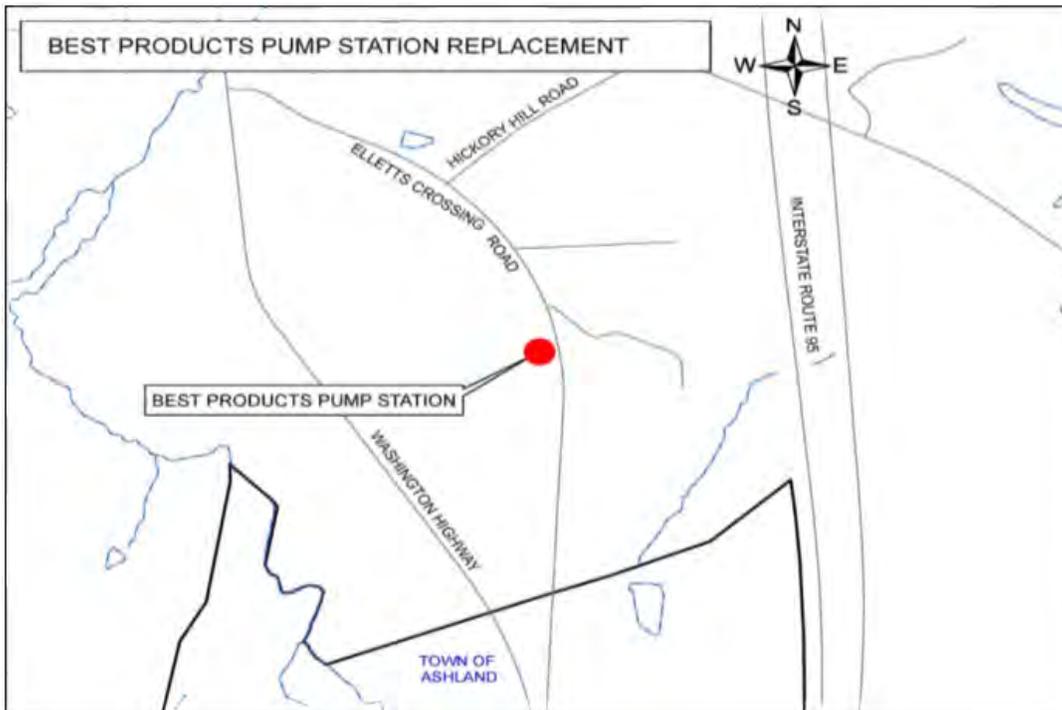
**PROJECT DESCRIPTION**

This project provides for the replacement of the Best Products Wastewater Pump Station. The pump station was installed in 1977, will be over 40 years old at the time of replacement and will have reached the end of its useful life.

**USEFUL LIFE**  
40 years

**TIMETABLE**  
Design and construction in FY19.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 161,000	\$ -	\$ 161,000
User Fees	-	-	-	161,000	-	161,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 161,000	\$ -	\$ 161,000
Construction	-	-	-	140,400	-	140,400
Professional Services	-	-	-	20,600	-	20,600

## Ashland WWTP Polymer Control Panel

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Ashland Wastewater Treatment Plant

**PROJECT DESCRIPTION**

This project provides for the replacement of the polymer feed panel located adjacent to the belt press room at the Ashland Wastewater Treatment Plant. The panel has been in service since 1992.

**USEFUL LIFE**

20 years

**TIMETABLE**

Construction in FY18.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 160,000	\$ -	\$ -	\$ 160,000
User Fees	-	-	160,000	-	-	160,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 160,000	\$ -	\$ -	\$ 160,000
Construction	-	-	160,000	-	-	160,000

## Dabney Lake Sewerline Rehabilitation

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Dabney Lake at Walgrove Court

**PROJECT DESCRIPTION**

This project includes rehabilitating approximately 680' of 12" sewerline located under Dabney Lake and one small section near the lake.

**USEFUL LIFE**

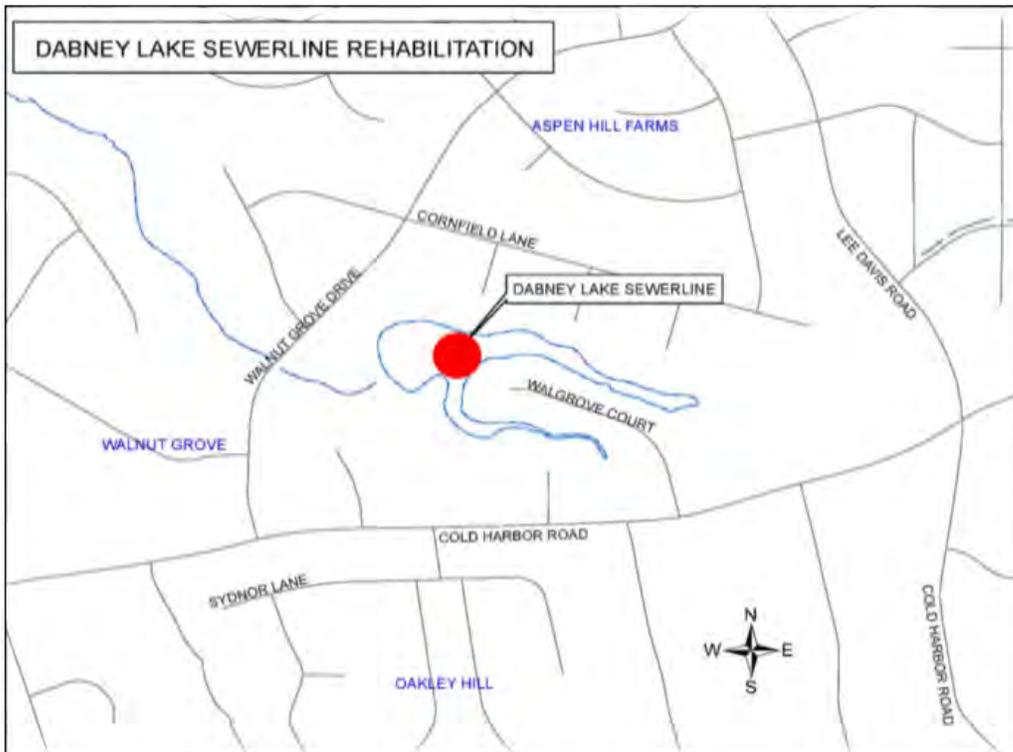
50 years

**TIMETABLE**

Construction in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 140,000	\$ -	\$ -	\$ -	\$ -	\$ 140,000
User Fees	140,000	-	-	-	-	140,000
<b>Funding Uses</b>	\$ 140,000	\$ -	\$ -	\$ -	\$ -	\$ 140,000
Construction	125,000	-	-	-	-	125,000
Professional Services	15,000	-	-	-	-	15,000

## Doswell WWTP Digester Blowers & Enclosures Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Doswell Wastewater Treatment Plant

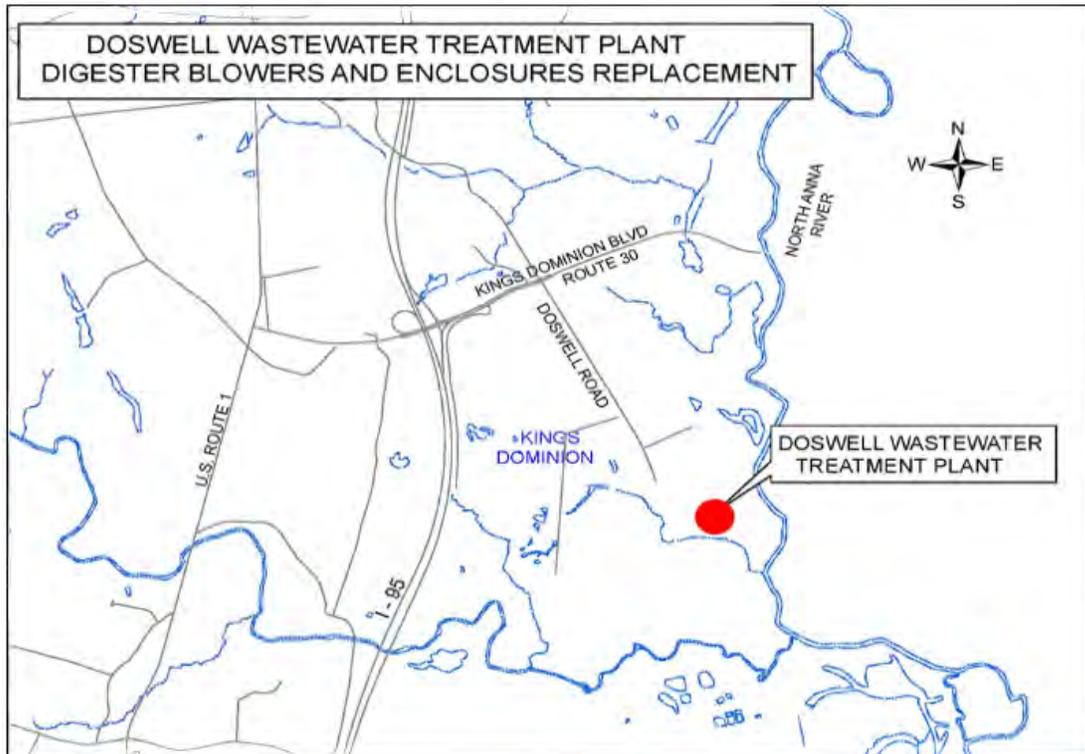
**PROJECT DESCRIPTION**

The two existing 50 Hp centrifugal blowers will be 17 years old at the time of replacement. This project provides for the replacement "in kind" of both blowers.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Construction in FY18.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 126,000	\$ -	\$ -	\$ 126,000
User Fees	-	-	126,000	-	-	126,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 126,000	\$ -	\$ -	\$ 126,000
Construction	-	-	126,000	-	-	126,000

## Courthouse STP UV System Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Courthouse Sewage Treatment Plant

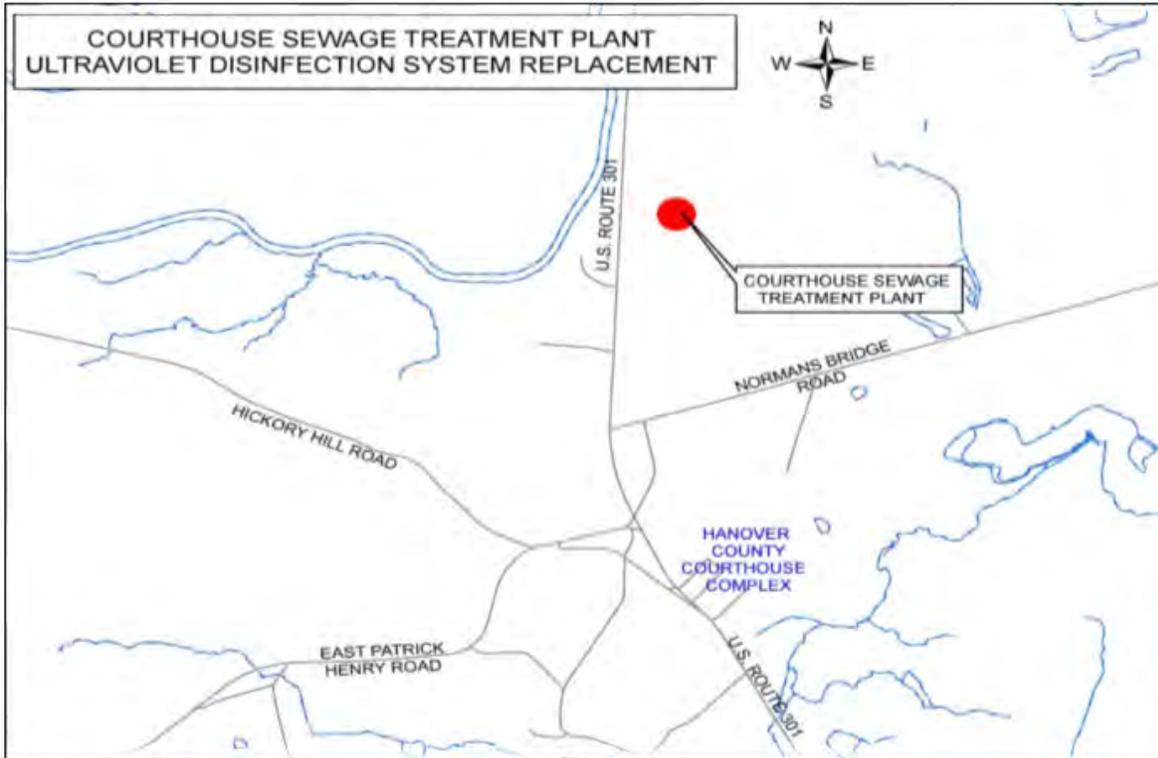
**PROJECT DESCRIPTION**

This project includes the replacement of the ultraviolet (UV) disinfection system. The existing equipment was installed and placed in service in 1997 and has reached the end of its useful life.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Design and construction in FY19.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 120,000	\$ -	\$ 120,000
User Fees	-	-	-	120,000	-	120,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 120,000	\$ -	\$ 120,000
Construction	-	-	-	106,800	-	106,800
Professional Services	-	-	-	13,200	-	13,200

## Hanover Lift Station Pump Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

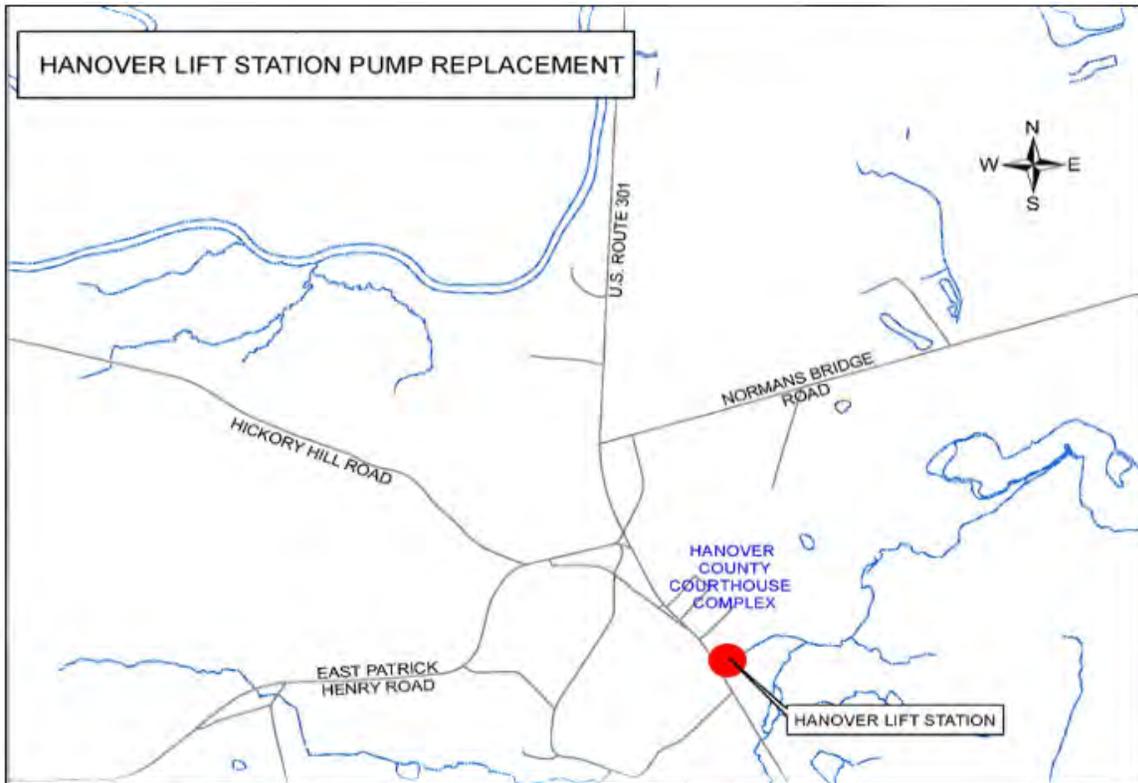
**LOCATION**  
Hanover Lift Station

**PROJECT DESCRIPTION**  
This project provides for the replacement of the existing submersible pumps.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Construction in FY17.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 119,000	\$ -	\$ -	\$ -	\$ 119,000
User Fees	-	119,000	-	-	-	119,000
<b>Funding Uses</b>	\$ -	\$ 119,000	\$ -	\$ -	\$ -	\$ 119,000
Construction	-	119,000	-	-	-	119,000

## Mechanicsville Sewer Rehabilitation Area 2

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Mechanicsville (generally east of I-295)

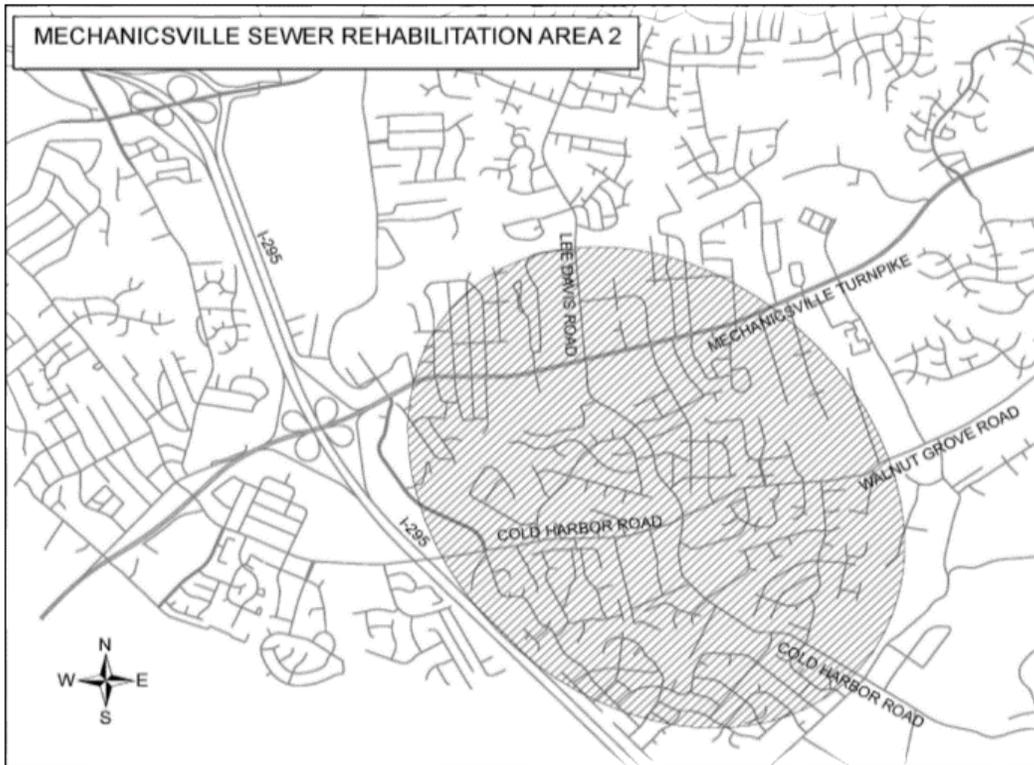
**PROJECT DESCRIPTION**

This project consists of sewerline, lateral and manhole rehabilitation and replacement to correct deficiencies and reduce inflow/infiltration.

**USEFUL LIFE**  
50 years

**TIMETABLE**  
Design in FY20.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 100,000	\$ 100,000
User Fees	-	-	-	-	100,000	100,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 100,000	\$ 100,000
Professional Services	-	-	-	-	100,000	100,000

## Beaverdam WWPS Divider Gate Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Beaverdam Wastewater Pump Station

**PROJECT DESCRIPTION**

The existing 30" divider gate has been in service since 1978. The gate is becoming increasingly difficult to operate and is critical to the operation of the pump station.

**USEFUL LIFE**

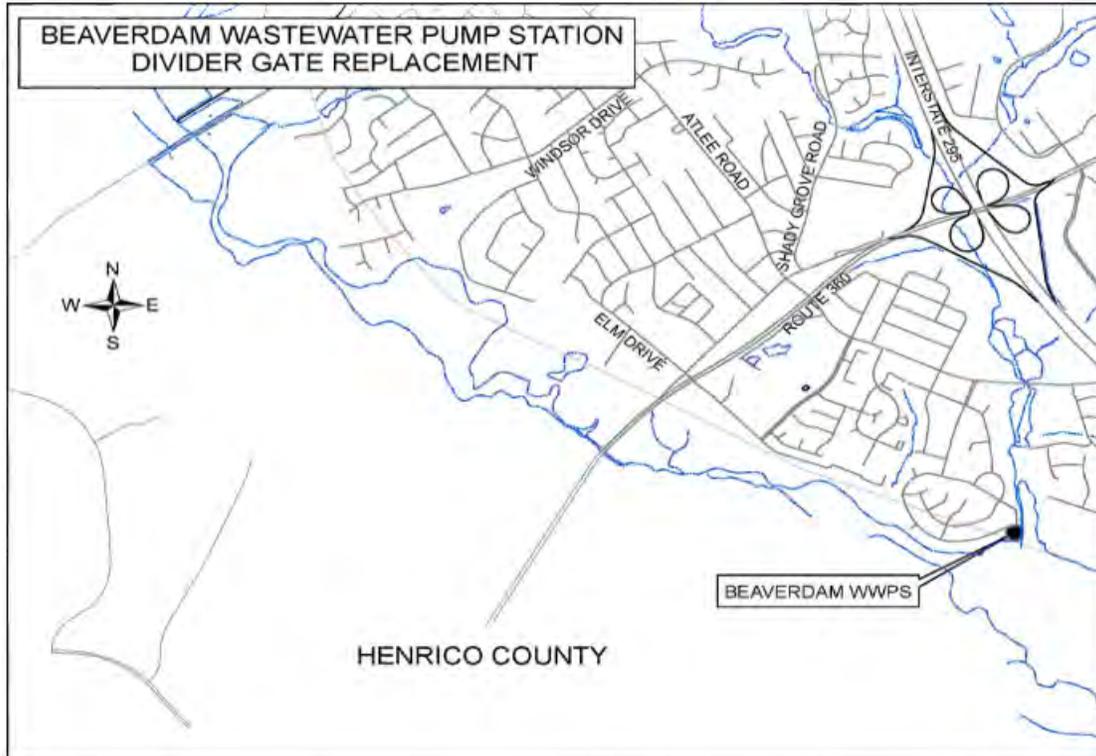
20 to 35 years

**TIMETABLE**

Design and construction in FY16.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 93,000	\$ -	\$ -	\$ -	\$ -	\$ 93,000
User Fees	93,000	-	-	-	-	93,000
<b>Funding Uses</b>	\$ 93,000	\$ -	\$ -	\$ -	\$ -	\$ 93,000
Construction	83,000	-	-	-	-	83,000
Professional Services	10,000	-	-	-	-	10,000

## Ashland WWTP 2nd Valve at Equalization Basin

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Ashland Wastewater Treatment Plant

**PROJECT DESCRIPTION**

This project includes the installation of a mechanical joint buried plug valve with an above ground pedestal geared electrical operator. This valve will allow for improved flow control. The valve will also be tied into the plant SCADA (Supervisor Control and Data Acquisition) system providing remote operation.

**USEFUL LIFE**

30 years

**TIMETABLE**

Construction in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 86,000	\$ 86,000
User Fees	-	-	-	-	86,000	86,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 86,000	\$ 86,000
Construction	-	-	-	-	86,000	86,000

## Ashland WWTP Clarifier Isolation Valves Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Ashland Wastewater Treatment Plant

**PROJECT DESCRIPTION**

This project provides for the replacement of both clarifier isolation valves. These valves allow for the isolation of the two clarifiers from the Orbal (aeration tanks). The valves leak and are difficult to open/close because of age.

**USEFUL LIFE**

20+ years

**TIMETABLE**

Construction in FY18.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 83,000	\$ -	\$ -	\$ 83,000
User Fees	-	-	83,000	-	-	83,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 83,000	\$ -	\$ -	\$ 83,000
Construction	-	-	83,000	-	-	83,000

## Ashland WWTP Switch Gear Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Ashland Wastewater Treatment Plant

**PROJECT DESCRIPTION**

This project includes the replacement of the plant's main power supply switch gear located at the blower building. The existing equipment has been in service since 1991 and will have reached the end of its useful life.

**USEFUL LIFE**

25 to 30 years

**TIMETABLE**

Design and construction in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 81,000	\$ 81,000
User Fees	-	-	-	-	81,000	81,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 81,000	\$ 81,000
Construction	-	-	-	-	71,300	71,300
Professional Services	-	-	-	-	9,700	9,700

## Snead Street WWPS Pump Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

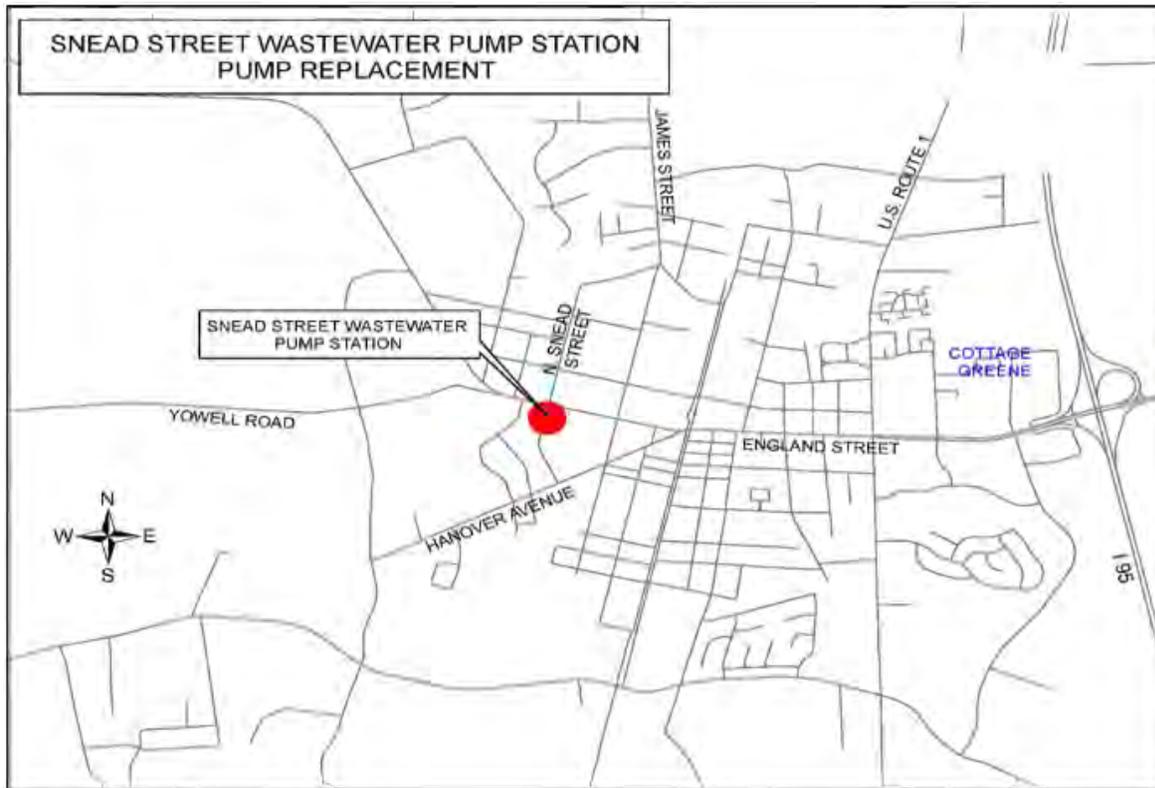
**LOCATION**  
Snead Street Wastewater Pump Station

**PROJECT DESCRIPTION**  
This project provides for the replacement of the two existing submersible pumps that were installed in 1995.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Construction in FY16.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 77,000	\$ -	\$ -	\$ -	\$ -	\$ 77,000
User Fees	77,000	-	-	-	-	77,000
<b>Funding Uses</b>	\$ 77,000	\$ -	\$ -	\$ -	\$ -	\$ 77,000
Construction	77,000	-	-	-	-	77,000

## Air Park WWPS Generator Replacement

**DEPARTMENT**  
DPU - Wastewater Collection & Treatment

**LOCATION**  
Air Park Wastewater Pump Station

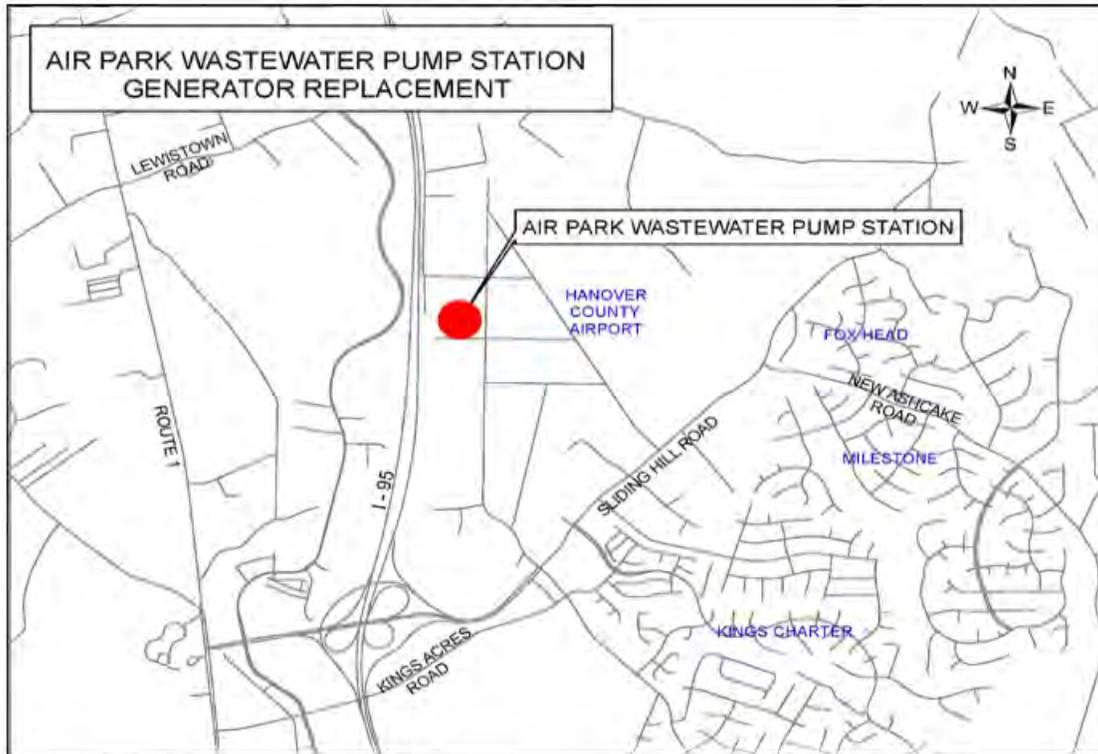
**PROJECT DESCRIPTION**

The generator at the Air Park Wastewater Pump Station will have been in service for over 20 years and is nearing the end of its service life. Project includes design and construction to replace the existing unit.

**USEFUL LIFE**  
20 years

**TIMETABLE**  
Design and construction in FY17.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.



	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ 73,000	\$ -	\$ -	\$ -	\$ 73,000
User Fees	-	73,000	-	-	-	73,000
<b>Funding Uses</b>	\$ -	\$ 73,000	\$ -	\$ -	\$ -	\$ 73,000
Construction	-	65,000	-	-	-	65,000
Professional Services	-	8,000	-	-	-	8,000

## Maintenance Vehicle Replacement

**DEPARTMENT**  
DPU - Other Projects

**LOCATION**  
N/A

**PROJECT DESCRIPTION**

FY16 - \$65,000 Utility Body Truck  
 FY18 - \$290,000 Sewer Flush Truck  
 FY19 - \$86,000 Utility Diesel Body Truck  
 FY19 - \$150,000 Dump Truck

**USEFUL LIFE**

5 to 10 years

**TIMETABLE**

Purchase vehicles in FY16, FY18 and FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ 65,000	\$ -	\$ 290,000	\$ 236,000	\$ -	\$ 591,000
User Fees	65,000	-	290,000	236,000	-	591,000
<b>Funding Uses</b>	\$ 65,000	\$ -	\$ 290,000	\$ 236,000	\$ -	\$ 591,000
Vehicles	65,000	-	290,000	236,000	-	591,000

## Customer Information System & Asset Management Upgrade

**DEPARTMENT**

DPU - Other Projects

**LOCATION**

Administration Building

**PROJECT DESCRIPTION**

This project is the upgrade or replacement to the existing SunGard Customer Information System (CIS), integrated work order and resource allocation system.

**USEFUL LIFE**

10 to 20 years

**TIMETABLE**

Purchase system in FY18 through FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ 250,000	\$ 250,000	\$ -	\$ 500,000
User Fees	-	-	250,000	250,000	-	500,000
<b>Funding Uses</b>	\$ -	\$ -	\$ 250,000	\$ 250,000	\$ -	\$ 500,000
Technology	-	-	250,000	250,000	-	500,000

## Bruce Center Painting & Carpeting

**DEPARTMENT**

DPU - Other Projects

**LOCATION**

James T. Bruce Operations Center

**PROJECT DESCRIPTION**

The Bruce Center is a heavily used facility and has been in operation since 2002. Consequently, the facility needs to have the interior repainted and the carpet replaced.

**USEFUL LIFE**

10 to 15 years

**TIMETABLE**

Improvements to be completed in FY19.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ 88,000	\$ -	\$ 88,000
User Fees	-	-	-	88,000	-	88,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ 88,000	\$ -	\$ 88,000
Facility Improvements	-	-	-	88,000	-	88,000

## Maintenance Equipment Replacement

**DEPARTMENT**  
DPU - Other Projects

**LOCATION**  
James T. Bruce Operations Center

**PROJECT DESCRIPTION**  
Replacement of existing lab discreet analyzer.

**USEFUL LIFE**  
10 to 20 years

**TIMETABLE**  
Equipment purchase in FY20.

**OPERATING IMPACT**  
There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 60,000	\$ 60,000
User Fees	-	-	-	-	60,000	60,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 60,000	\$ 60,000
Equipment	-	-	-	-	60,000	60,000

## Bruce Center Mezzanine

**DEPARTMENT**

DPU - Other Projects

**LOCATION**

James T. Bruce Operations Center

**PROJECT DESCRIPTION**

Public Utilities continues to grow and subsequently will need additional storage space in the future. One bay currently has a mezzanine and is at capacity. This addition will make use of existing available vertical space with the addition of a second mezzanine.

**USEFUL LIFE**

50+ years

**TIMETABLE**

Design and construction in FY20.

**OPERATING IMPACT**

There is no anticipated additional operating impact as a result of this project.

	FY16	FY17	FY18	FY19	FY20	Totals
<b>Funding Sources</b>	\$ -	\$ -	\$ -	\$ -	\$ 58,000	\$ 58,000
User Fees	-	-	-	-	58,000	58,000
<b>Funding Uses</b>	\$ -	\$ -	\$ -	\$ -	\$ 58,000	\$ 58,000
Equipment	-	-	-	-	49,000	49,000
Professional Services	-	-	-	-	9,000	9,000