

# Environmental Health

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## ENVIRONMENTAL HEALTH

Project Title	Budget Year 2009-2010	Planning Year 2010-2011	Planning Year 2011-2012	Planning Year 2012-2013	Planning Year 2013-2014	Planning Year 2014-2015	Total Planned
<b>Solid Waste Disposal:</b>							
Hanes Mill Road Landfill Cell Construction	\$3,400,000	\$0	\$0	\$7,200,000	\$0	\$0	\$10,600,000
Hanes Mill Road Landfill Gas System Construction	0	0	0	550,000	0	0	550,000
New Construction and Demolition Landfill Site Development	0	0	0	0	3,700,000	12,300,000	16,000,000
Old Salisbury Road Construction and Demolition Recycling Center	500,000	4,600,000	0	0	0	0	5,100,000
<b>Water and Wastewater Treatment:</b>							
Chitty High Service Pumping Station - Standby Power	\$0	\$300,000	\$2,899,990	\$0	\$0	\$0	\$3,199,990
Idol's Pumping Station Rehabilitation	1,887,490	0	0	0	350,010	0	2,237,500
Lift Station Supervisory Control and Data Acquisition, Flowmetering and Telemetry System Upgrade	1,232,500	217,500	0	0	0	0	1,450,000
Miscellaneous Water and Wastewater Treatment Capital Projects	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	12,000,000
Nutrient Removal at Wastewater Treatment Plants	250,000	0	0	0	0	0	250,000
R.W. Neilson Water Treatment Plant - Phase II Modernization	0	2,800,000	28,525,000	18,695,000	0	0	50,020,000
Raw Water Pipeline Evaluation	689,430	0	0	0	0	0	689,430
Reedy Fork Pump Station and Force Main	640,590	6,802,860	3,450,000	0	0	0	10,893,450
Salem Lake Dam Improvements	800,000	9,950,000	1,150,000	0	0	0	11,900,000
Treatment Facilities Reliability	0	680,000	7,160,000	0	0	0	7,840,000
Wastewater Lift Station Rehabilitation	866,060	508,880	5,533,800	1,844,600	0	0	8,753,340
Water Tank Rehabilitation	785,630	690,500	0	0	0	0	1,476,130
<b>Water Distribution and Wastewater Collection:</b>							
2006 Annexation - Potential Petition Projects	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$15,000,000
2" Water Main Replacement	1,135,280	1,135,280	1,135,280	1,135,280	1,135,280	1,135,280	6,811,680
Ardmore Area Water and Sewer Rehabilitation	4,400,000	4,400,000	4,400,000	0	0	0	13,200,000
Construction and Maintenance Facilities Improvements	917,500	2,550,020	0	0	0	0	3,467,520
Muddy Creek Find and Fix Project	1,417,100	1,417,100	371,660	0	0	0	3,205,860
New Elevated Water Tanks	1,770,840	1,629,160	0	0	0	0	3,400,000
Permanent Flow Monitoring	385,000	0	0	0	0	0	385,000
Polo Road Outfall Sewer Rehabilitation	1,876,020	0	0	0	0	0	1,876,020
Wastewater Collection System Improvements	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	18,000,000
Water and Sewer GIS/Work Order Management System	883,400	1,000,000	1,000,000	0	0	0	2,883,400
Water Distribution System Improvements	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	6,000,000
Winston-Salem State University Campus Distribution System Improvements	3,995,870	534,470	0	0	0	0	4,530,340

## ENVIRONMENTAL HEALTH Continued

Project Title	Budget Year 2009-2010	Planning Year 2010-2011	Planning Year 2011-2012	Planning Year 2012-2013	Planning Year 2013-2014	Planning Year 2014-2015	Total Planned
<b>Stormwater Management:</b>							
Drainage Improvements on Private Property	\$250,000	\$250,000	\$500,000	\$500,000	\$500,000	\$0	\$2,000,000
Federal Emergency Management Agency Severe Repetitive Loss Grant Assistance	373,360	0	0	0	0	0	373,360
Municipal Stormwater Pollution Prevention Plans	108,800	0	0	0	0	0	108,800
Stormwater Infrastructure Renovations	0	0	4,285,850	1,389,200	1,324,950	0	7,000,000
<b>Total Expenditures</b>	<b>\$37,064,870</b>	<b>\$47,965,770</b>	<b>\$68,911,580</b>	<b>\$39,814,080</b>	<b>\$15,510,240</b>	<b>\$21,935,280</b>	<b>\$231,201,820</b>
<b>Funding Sources</b>							
<b>Bonds:</b>							
Revenue Bonds	\$23,421,410	\$35,980,490	\$61,276,300	\$23,039,600	\$2,850,010	\$2,500,000	\$149,067,810
Special Obligation Bonds	3,900,000	4,600,000	0	0	0	0	8,500,000
<b>Reserves:</b>							
Stormwater Management Fund	732,160	250,000	500,000	1,889,200	1,824,950	0	5,196,310
Water and Sewer Fund Balance	9,011,300	7,135,280	7,135,280	7,135,280	7,135,280	7,135,280	44,687,700
<b>Other:</b>							
To Be Determined (Solid Waste Disposal)	\$0	\$0	\$0	\$7,750,000	\$3,700,000	\$12,300,000	\$23,750,000
<b>Total Funding Sources</b>	<b>\$37,064,870</b>	<b>\$47,965,770</b>	<b>\$68,911,580</b>	<b>\$39,814,080</b>	<b>\$15,510,240</b>	<b>\$21,935,280</b>	<b>\$231,201,820</b>

<b>PROJECT TITLE</b> Hanes Mill Road Landfill Cell Construction	<b>DEPARTMENT/DIVISION</b> Utilities / Solid Waste
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides for the future construction of cells for the disposal of municipal solid waste at Hanes Mill Road Landfill. For this planning period, the project includes all cells in Phase 1 and a portion of Phase 2. Permitting is currently underway for the next phase, which is needed by mid-year FY 2011. The Capital Plan anticipates the issuance of \$8.1 million in special obligation bonds in FY 2011 to finance the construction of the next cell at the landfill, as well as the construction of a construction and demolition recycling facility at Old Salisbury Road Construction and Demolition Landfill. The operating impact of financing these capital improvements would be the additional debt service payments required to retire the bonds over the next 15 years. Current projections of the solid waste disposal fund's unrestricted cash reserves show that the reserves will be depleted in FY 2013. As a result, other funding sources will have to be identified to fund cell construction and other capital improvements beyond FY 2012.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$1,188,900	\$0	\$0	\$0	\$400,000	\$0	\$0	\$1,588,900
Construction	6,345,000	3,400,000	0	0	6,800,000	0	0	16,545,000
<b>Total Project Expenditures</b>	<b>\$7,533,900</b>	<b>\$3,400,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,200,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$18,133,900</b>
<b>Funding Sources</b>								
Special Obligation Bonds	\$0	\$3,400,000	\$0	\$0	\$0	\$0	\$0	\$3,400,000
To Be Determined	0	0	0	0	7,200,000	0	0	7,200,000
Solid Waste Disposal Fund	7,533,900	0	0	0	0	0	0	7,533,900
<b>Total Project Funding Sources</b>	<b>\$7,533,900</b>	<b>\$3,400,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,200,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$18,133,900</b>
<b>OPERATING IMPACT:</b>								
Debt Service		\$0	\$202,730	\$605,450	\$645,850	\$669,450	\$702,650	\$2,826,130
<b>Total Net Expenditures</b>		<b>\$0</b>	<b>\$202,730</b>	<b>\$605,450</b>	<b>\$645,850</b>	<b>\$669,450</b>	<b>\$702,650</b>	<b>\$2,826,130</b>

<b>PROJECT TITLE</b> Hanes Mill Road Landfill Gas System Construction	<b>DEPARTMENT/DIVISION</b> Utilities / Solid Waste
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides for the ongoing construction of various components of a system to extract landfill gas from existing lined cells. Current environmental regulations require the construction of gas extraction systems for sanitary waste landfills. A gas transmission pipeline is planned for 2009, and future construction is planned for gas wells, piping, and related equipment. Current projections of the solid waste disposal fund's unrestricted cash reserves shows that the reserves will be depleted in FY 2013. As a result, other funding sources will have to be identified to fund ongoing construction of the landfill gas system and other capital improvements beyond FY 2012.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$340,000	\$0	\$0	\$0	\$0	\$0	\$0	\$340,000
Construction	1,800,000	0	0	0	550,000	0	0	2,350,000
<b>Total Project Expenditures</b>	<b>\$2,140,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$550,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,690,000</b>
<b>Funding Sources</b>								
To Be Determined	\$0	\$0	\$0	\$0	\$550,000	\$0	\$0	\$550,000
Solid Waste Disposal Fund	2,140,000	0	0	0	0	0	0	2,140,000
<b>Total Project Funding Sources</b>	<b>\$2,140,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$550,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,690,000</b>

<b>PROJECT TITLE</b> New Construction and Demolition Landfill Site Development	<b>DEPARTMENT/DIVISION</b> Utilities / Solid Waste
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project includes the land purchase, rezoning, site development, permitting, and construction of a new construction and demolition landfill located off of U.S. Highway 311, north of Walkertown. Current projections of the solid waste disposal fund's unrestricted cash reserves shows that the reserves will be depleted in FY 2013. As a result, other funding sources will have to be identified to fund the development of a new construction and demolition landfill and other capital improvements beyond FY 2012.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$600,000	\$0	\$0	\$0	\$0	\$0	\$0	\$600,000
Land/Right-of-Way Acquisition	2,000,000	0	0	0	0	0	0	2,000,000
Construction	5,500,000	0	0	0	0	3,700,000	12,300,000	21,500,000
<b>Total Project Expenditures</b>	<b>\$8,100,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,700,000</b>	<b>\$12,300,000</b>	<b>\$24,100,000</b>
<b>Funding Sources</b>								
To Be Determined	\$0	\$0	\$0	\$0	\$0	\$3,700,000	\$12,300,000	\$16,000,000
Solid Waste Disposal Fund	8,100,000	0	0	0	0	0	0	8,100,000
<b>Total Project Funding Sources</b>	<b>\$8,100,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,700,000</b>	<b>\$12,300,000</b>	<b>\$24,100,000</b>

<b>PROJECT TITLE</b> Old Salisbury Road Construction and Demolition Recycling Center	<b>DEPARTMENT/DIVISION</b> Utilities / Solid Waste
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides for the construction of a new recycling center at the Old Salisbury Road Construction and Demolition Landfill. The Utilities staff is analyzing the feasibility of this added cost to determine the costs and benefits of this capital investment over the life of the landfill. The Capital Plan anticipates the issuance of \$8.1 million in special obligation bonds in FY 2011 to finance the development of this new facility as well as the construction of the next cell at Hanes Mill Road Landfill. The operating impact of financing these capital improvements would be the additional debt service payments required to retire the bonds over the next 15 years. Current projections of the solid waste disposal fund's unrestricted cash reserves show that the reserves will be depleted in FY 2013. As a result, other funding sources will have to be identified to fund cell construction and other capital improvements beyond FY 2012.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$0	\$500,000	\$0	\$0	\$0	\$0	\$0	\$500,000
Construction	0	0	4,600,000	0	0	0	0	4,600,000
<b>Total Project Expenditures</b>	<b>\$0</b>	<b>\$500,000</b>	<b>\$4,600,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,100,000</b>
<b>Funding Sources</b>								
Special Obligation Bonds	\$0	\$500,000	\$4,600,000	\$0	\$0	\$0	\$0	\$5,100,000
<b>Total Project Funding Sources</b>	<b>\$0</b>	<b>\$500,000</b>	<b>\$4,600,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$5,100,000</b>
<b>OPERATING IMPACT:</b>								
Debt Service		\$0	\$202,730	\$605,450	\$645,850	\$669,450	\$702,650	\$2,826,130
<b>Total Net Expenditures</b>		<b>\$0</b>	<b>\$202,730</b>	<b>\$605,450</b>	<b>\$645,850</b>	<b>\$669,450</b>	<b>\$702,650</b>	<b>\$2,826,130</b>

<b>PROJECT TITLE</b> Chitty High Service Pumping Station - Standby Power	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

The Chitty High Service Pumping Station is comprised of two pumping stations. The oldest station, built in 1961, has operated for over 45 years with little capital investment. The equipment has aged beyond its useful life, and the lack of available replacement parts has rendered the equipment difficult to maintain. The 1986 pumping station has been in continuous service for 20 years, and some capital improvement is needed to replace aging equipment and maintain the reliability of the station. Under this project, the existing electrical substation would be replaced. New standby power would be provided for both the 1961 and 1986 stations. New equipment will include 4,160 volt switchgear and generators, 480 volt generators, fuel storage tanks, and transformer. The existing diesel driven pumps would be removed from service, and emergency power would be provided by the new equipment. The 45 year old motor control center would be replaced with a new 4,160 volt motor control center and new starters would be installed. Due to changes in the distribution system since the station was put in service, the pumps have experienced abnormal wear. An evaluation of both pump stations would be performed to determine the cause of the wear, and corrective action would be taken to extend the life of the equipment. It is anticipated that some or all of the pumps would need to be replaced.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$0	\$0	\$300,000	\$252,170	\$0	\$0	\$0	\$552,170
Construction	0	0	0	2,521,740	0	0	0	2,521,740
Contingency	0	0	0	126,080	0	0	0	126,080
<b>Total Project Expenditures</b>	<b>\$0</b>	<b>\$0</b>	<b>\$300,000</b>	<b>\$2,899,990</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,199,990</b>
<b>Funding Sources</b>								
Revenue Bonds	\$0	\$0	\$300,000	\$2,899,990	\$0	\$0	\$0	\$3,199,990
<b>Total Project Funding Sources</b>	<b>\$0</b>	<b>\$0</b>	<b>\$300,000</b>	<b>\$2,899,990</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,199,990</b>

<b>PROJECT TITLE</b> Idol's Pumping Station Rehabilitation	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

The Idol's Pump Station plays a vital part in the Winston-Salem/Forsyth County water system by supplying water to two of three treatment plants. Although the infrastructure of the building is sound, the pumping and electrical equipment in the building is over 30 years of age. Phase I of this project provides updated, energy efficient electrical motors on each pump. This phase also provides for upgrading the electrical motor control centers (MCCs) for each pumping unit and incorporating soft starters. Phase I also includes new control instrumentation and communications equipment to operate the station remotely from the Neilson Plant. A diesel emergency generator system, of sufficient size to operate two pumps simultaneously at the station, is proposed to be installed under the future Phase II of this project. Construction of Phase I started in 2008 and is scheduled for completion in 2010.

replaced.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$61,950	\$164,130	\$0	\$0	\$0	\$30,440	\$0	\$256,520
Construction	619,480	1,641,300	0	0	0	304,350	0	2,565,130
Contingency	30,970	82,060	0	0	0	15,220	0	128,250
<b>Total Project Expenditures</b>	<b>\$712,400</b>	<b>\$1,887,490</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$350,010</b>	<b>\$0</b>	<b>\$2,949,900</b>
<b>Funding Sources</b>								
Revenue Bonds	\$712,400	\$1,887,490	\$0	\$0	\$0	\$350,010	\$0	\$2,949,900
<b>Total Project Funding Sources</b>	<b>\$712,400</b>	<b>\$1,887,490</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$350,010</b>	<b>\$0</b>	<b>\$2,949,900</b>

<b>PROJECT TITLE</b> Lift Station Supervisory Control and Data Acquisition, Flowmetering and Telemetry System Upgrade	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project would involve upgrading the power line communications at the Utilities Division's 51 wastewater lift stations, providing for flow metering at six strategically located lift stations, and replacing unreliable telephone land line telemetry system with a state-of-the-art low frequency radio system. State regulations require that the Utilities Division develop flow information relative to its collections system so that it can manage the capacity of all the components that comprise this system. State regulations also require that the division maintain remote telemetry on lift stations as part of an overall environmental focus aimed at eliminating overflows of raw sewage from sanitary sewer systems. This project would provide staff the flow metering capability needed to develop a long-term management plan. The low frequency radio system would replace the current system that relies on telephone land lines for communication between the central computer and the field power line communications. This system frequently fails, and the division's ability to adequately transmit data over Bell South's network is inadequate.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$11,470	\$107,170	\$18,910	\$0	\$0	\$0	\$0	\$137,550
Construction	114,680	1,071,730	189,140	0	0	0	0	1,375,550
Contingency	5,740	53,600	9,450	0	0	0	0	68,790
<b>Total Project Expenditures</b>	<b>\$131,890</b>	<b>\$1,232,500</b>	<b>\$217,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,581,890</b>
<b>Funding Sources</b>								
Revenue Bonds	\$131,890	\$1,232,500	\$217,500	\$0	\$0	\$0	\$0	\$1,581,890
<b>Total Project Funding Sources</b>	<b>\$131,890</b>	<b>\$1,232,500</b>	<b>\$217,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,581,890</b>

<b>PROJECT TITLE</b> Miscellaneous Water and Wastewater Treatment Capital Projects	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides for general building, grounds, and equipment maintenance at the various utility plants. The project also provides for the purchase of costly replacement parts and repairs that are needed for the continuous operation and maintenance of the utility plants. The scope of these improvements or equipment purchases allows them to be completed within the fiscal year.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$172,250	\$173,910	\$173,920	\$173,920	\$173,920	\$173,920	\$173,920	\$1,215,760
Construction	1,722,580	1,739,120	1,739,120	1,739,120	1,739,120	1,739,120	1,739,120	12,157,300
Contingency	86,130	86,970	86,960	86,960	86,960	86,960	86,960	521,770
<b>Total Project Expenditures</b>	<b>\$1,980,960</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$13,980,960</b>
<b>Funding Sources</b>								
Water and Sewer Fund Balance	\$1,980,960	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$13,980,960
<b>Total Project Funding Sources</b>	<b>\$1,980,960</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$2,000,000</b>	<b>\$13,980,960</b>

<b>PROJECT TITLE:</b> Nutrient Removal at Wastewater Treatment Plants	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides for the research and alternatives analysis required to fully comply with the North Carolina Department of Environment and Natural Resources's directive regarding nutrient limits for the Yadkin River Basin. It is anticipated that these new lower limits will be effective in 2014 when the next five-year permitting window takes effect. These additional limits have the potential to require a capital investment in new and improved facilities estimated at \$90,000,000. The requested budget for this study effort is \$250,000.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$0	\$250,000	\$0	\$0	\$0	\$0	\$0	\$250,000
<b>Total Project Expenditures</b>	<b>\$0</b>	<b>\$250,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$250,000</b>
<b>Funding Sources</b>								
Revenue Bonds	\$0	\$250,000	\$0	\$0	\$0	\$0	\$0	\$250,000
<b>Total Project Funding Sources</b>	<b>\$0</b>	<b>\$250,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$250,000</b>

<b>PROJECT TITLE:</b> R.W. Neilson Water Treatment Plant - Phase II Modernization	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

The Neilson Water Treatment Plant is the largest water treatment plant in the system with a treatment capacity of 48 million-gallon-per-day. Two major expansions have occurred since the construction of the original 24 million-gallon-per-day plant in the 1960s. Despite several small miscellaneous improvements projects, significant capital investment is required to replace aging infrastructure, improve treatment to meet current and future regulatory requirements, and to ensure the continued reliability in the distribution system supplied by this critical facility. This project would evaluate and upgrade the electrical distribution system of the plant, overhaul the filters and washwater system, upgrade the residuals management to utilize an existing National Pollution Discharge Elimination System (NPDES) permit, and modify the treatment trains to optimize the efficiency of the process. The schedule of this project is currently planned for FY 2011-2015 with a total appropriation of \$50,020,000.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$0	\$0	\$2,800,000	\$2,800,000	\$1,306,090	\$0	\$0	\$6,906,090
Construction	0	0	0	24,500,000	16,560,870	0	0	41,060,870
Contingency	0	0	0	1,225,000	828,040	0	0	2,053,040
<b>Total Project Expenditures</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,800,000</b>	<b>\$28,525,000</b>	<b>\$18,695,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$50,020,000</b>
<b>Funding Sources</b>								
Revenue Bonds	\$0	\$0	\$2,800,000	\$28,525,000	\$18,695,000	\$0	\$0	\$50,020,000
<b>Total Project Funding Sources</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,800,000</b>	<b>\$28,525,000</b>	<b>\$18,695,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$50,020,000</b>

<b>PROJECT TITLE:</b> Raw Water Pipeline Evaluation	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides for inspection and evaluation of the raw water lines that connect the Thomas Water Treatment Plant to Salem Lake and the Neilson Water Treatment Plant. The line from the lake to the Thomas Plant consists of 9,400 linear feet of 48" steel pipe. The line from the Neilson Plant to the Thomas Plant consists of 54,000 linear feet of 36" prestressed concrete cylinder pipe. Records indicate that both lines have been in service since at least the 1940's. This project will evaluate the condition of these critical pipelines and assess their ability to reliably deliver water to the Thomas Plant. The scope of the project is proposed to include closed circuit television and electromagnetic inspection of both lines.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$0	\$689,430	\$0	\$0	\$0	\$0	\$0	\$689,430
<b>Total Project Expenditures</b>	<b>\$0</b>	<b>\$689,430</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$689,430</b>
<b>Funding Sources</b>								
Revenue Bonds	\$0	\$689,430	\$0	\$0	\$0	\$0	\$0	\$689,430
<b>Total Project Funding Sources</b>	<b>\$0</b>	<b>\$689,430</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$689,430</b>

<b>PROJECT TITLE:</b> Reedy Fork Pump Station and Force Main	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

The Reedy Fork pump station was conveyed to the Utility Commission under the terms of the 1996 agreement with the Town of Kernersville. The pump station was built in 1982 and is in poor condition. Outdated equipment has led to difficulty in obtaining replacement parts and performing necessary maintenance and repairs. The station is a confined space and requires additional time, safety measures, and costs when inspections and repairs are performed. In addition, a portion of the outfall supplying flow to the pump station traverses upstream wetlands which are a significant source of infiltration and inflow. The scope of this project is proposed to include decommissioning of the existing pump station, designing and constructing a new pump station upstream of the wetlands, and designing and constructing a new 16 inch force main. The scope also includes a downstream hydraulic capacity study of the wastewater interceptors in the South Fork sewer basin.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$11,890	\$640,590	\$607,860	\$300,000	\$0	\$0	\$0	\$1,560,340
Construction	0	0	5,900,000	3,000,000	0	0	0	8,900,000
Contingency	0	0	295,000	150,000	0	0	0	445,000
<b>Total Project Expenditures</b>	<b>\$11,890</b>	<b>\$640,590</b>	<b>\$6,802,860</b>	<b>\$3,450,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,905,340</b>
<b>Funding Sources</b>								
Revenue Bonds	\$11,980	\$640,590	\$6,802,860	\$3,450,000	\$0	\$0	\$0	\$10,905,430
<b>Total Project Funding Sources</b>	<b>\$11,980</b>	<b>\$640,590</b>	<b>\$6,802,860</b>	<b>\$3,450,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$10,905,430</b>

<b>PROJECT TITLE:</b> Salem Lake Raw Water Supply/Facility Improvements	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

The Salem Lake dam was constructed in 1919 to create a raw water supply reservoir to serve the Thomas Water Treatment Plant. The dam's spillway crest elevation was raised three times from 1921 to 1947 to its current elevation. Additional construction included a three-story pump house in the central portion of the dam around 1931 and the 1996 replacement of concrete on the downstream face with a structural overlay to match the 1947 crest elevation. The pump house has been decommissioned for several years. Recent engineering evaluation and analysis of the dam found no immediate concerns related to public health and safety but confirmed that the dam does not meet current standards and methodologies for spillway capacity, lake draw down, and downstream energy dissipation. Rehabilitation of the dam has been recommended as a result of the engineering analysis. This project is proposed to provide evaluation of rehabilitation options and the pre-design, design, and construction of the dam rehabilitation work. The project schedule is currently planned for fiscal years 2010 through 2012.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$82,500	\$800,000	\$500,000	\$100,000	\$0	\$0	\$0	\$1,482,500
Construction	0	0	9,000,000	1,000,000	0	0	0	10,000,000
Contingency	0	0	450,000	50,000	0	0	0	500,000
<b>Total Project Expenditures</b>	<b>\$82,500</b>	<b>\$800,000</b>	<b>\$9,950,000</b>	<b>\$1,150,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$11,982,500</b>
<b>Funding Sources</b>								
Revenue Bonds	\$82,500	\$800,000	\$9,950,000	\$1,150,000	\$0	\$0	\$0	\$11,982,500
<b>Total Project Funding Sources</b>	<b>\$82,500</b>	<b>\$800,000</b>	<b>\$9,950,000</b>	<b>\$1,150,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$11,982,500</b>

<b>PROJECT TITLE:</b> Treatment Facilities Reliability	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides for the addition of two secondary clarifiers and a gravity thickening facility at the Muddy Creek Wastewater Treatment Plant. The clarifiers are needed to provide additional clarification capacity to decrease the concentration of solids in the plant effluent during periods of peak loading. A future gravity belt thickener will be needed for capacity at the plant once nutrient limits are imposed on the National Pollution Discharge Elimination System (NPDES) permit. New permit limits on nitrogen and phosphorus are expected by 2014 and will require a process change that will create more solids to be removed from the process. A gravity belt thickener facility will be necessary to handle this additional solids load.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$0	\$0	\$680,000	\$622,610	\$0	\$0	\$0	\$1,302,610
Construction	0	0	0	6,226,090	0	0	0	6,226,090
Contingency	0	0	0	311,300	0	0	0	311,300
<b>Total Project Expenditures</b>	<b>\$0</b>	<b>\$0</b>	<b>\$680,000</b>	<b>\$7,160,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,840,000</b>
<b>Funding Sources</b>								
Revenue Bonds	\$0	\$0	\$680,000	\$7,160,000	\$0	\$0	\$0	\$7,840,000
<b>Total Project Funding Sources</b>	<b>\$0</b>	<b>\$0</b>	<b>\$680,000</b>	<b>\$7,160,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,840,000</b>

<b>PROJECT TITLE:</b> Wastewater Lift Station Rehabilitation	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

As proposed in previous years, this project included the construction of a 10 million-gallon-per-day pumping station and forced main near the junction of Little and Muddy Creeks for the purpose of transferring flow from the Muddy Creek Wastewater Treatment Plant to the Elledge Plant. This is needed to manage the flow received by the Muddy Creek Wastewater Treatment Plant so that the plant does not exceed 90% of its permitted flow capacity. It is more cost effective to move flow from the Muddy Creek Plant to Elledge than upgrade the Muddy Creek Plant to accommodate higher flows. The scope of this project is also being expanded for FY 2009 to include the cost to upgrade four existing lift stations that have been identified as being susceptible to having wet weather overflow events due to their capacity limitations. Work to increase the pump capacity of these stations will begin in July 2008.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$4,840	\$75,320	\$44,240	\$481,200	\$160,400	\$0	\$0	\$766,000
Construction	48,390	753,080	442,500	4,812,000	1,604,000	0	0	7,659,970
Contingency	2,420	37,660	22,140	240,600	80,200	0	0	383,020
<b>Total Project Expenditures</b>	<b>\$55,650</b>	<b>\$866,060</b>	<b>\$508,880</b>	<b>\$5,533,800</b>	<b>\$1,844,600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$8,808,990</b>
<b>Funding Sources</b>								
Revenue Bonds	\$55,650	\$866,060	\$508,880	\$5,533,800	\$1,844,600	\$0	\$0	\$8,808,990
<b>Total Project Funding Sources</b>	<b>\$55,650</b>	<b>\$866,060</b>	<b>\$508,880</b>	<b>\$5,533,800</b>	<b>\$1,844,600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$8,808,990</b>

<b>PROJECT TITLE</b> Water Tank Rehabilitation	<b>DEPARTMENT/DIVISION</b> Utilities / Water and Wastewater Treatment
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project consists of structural repairs, lead paint abatement, and coating replacement for elevated and ground storage tanks. Each of the tanks included in this project has been in service at least 20 years. An engineering firm that specializes in tank maintenance has inspected all of the tanks included, and this repair program is based on its recommendations. The goal of the project is to maximize the service life of these structures and to bring them into compliance with current Occupational Safety and Health Administration (OSHA) and American Water Works Association (AWWA) standards. FY 2008-2009 work included exterior coatings on the Graves Street and Chitty tanks and complete rehabilitation of the Wake Forest tank. The water tank master plan identified exterior coating repair needs for the 15th Street and Sides Road ground storage tanks. The work for these two tanks, as estimated by the engineering master plan, is proposed to occur in FY 2009-2010 and FY 2010-2011.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$108,140	\$68,320	\$60,040	\$0	\$0	\$0	\$0	\$236,500
Construction	1,081,420	683,150	600,440	0	0	0	0	2,365,010
Contingency	54,070	34,160	30,020	0	0	0	0	118,250
<b>Total Project Expenditures</b>	<b>\$1,243,630</b>	<b>\$785,630</b>	<b>\$690,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,719,760</b>
<b>Funding Sources</b>								
Revenue Bonds	\$1,243,630	\$785,630	\$690,500	\$0	\$0	\$0	\$0	\$2,719,760
<b>Total Project Funding Sources</b>	<b>\$1,243,630</b>	<b>\$785,630</b>	<b>\$690,500</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,719,760</b>

<b>PROJECT TITLE</b> 2006 Annexation - Potential Petition Projects	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project involves the construction of water and sewer mains to serve new residential and commercial customers in the areas annexed by the City of Winston-Salem in 2006, in accordance with state law. This project includes both the City of Winston-Salem's and the property owner's share of line extensions (operating revenue).

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$217,400	\$217,400	\$217,400	\$217,400	\$217,400	\$217,400	\$217,400	\$1,521,800
Construction	2,173,920	2,173,920	2,173,920	2,173,920	2,173,920	2,173,920	2,173,920	15,217,440
Contingency	108,680	108,680	108,680	108,680	108,680	108,680	108,680	760,760
<b>Total Project Expenditures</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$17,500,000</b>
<b>Funding Sources</b>								
Revenue Bonds	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$17,500,000
<b>Total Project Funding Sources</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$2,500,000</b>	<b>\$17,500,000</b>

<b>PROJECT TITLE</b> 2" Water Main Replacement	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project has been updated to include areas where 2" water mains exist at approximately 30 locations within city limits as well as multiple locations in Rural Hall and Kernersville. These lines are undersized and no longer provide adequate domestic flow or fire flow to the areas they serve. The project consists of replacing the 2" water mains with 6" or 8" water mains so that adequate domestic flow and fire flow would be provided.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$0	\$98,720	\$98,720	\$98,720	\$98,720	\$98,720	\$98,720	\$592,320
Construction	0	987,200	987,200	987,200	987,200	987,200	987,200	5,923,200
Contingency	0	49,360	49,360	49,360	49,360	49,360	49,360	296,160
<b>Total Project Expenditures</b>	<b>\$0</b>	<b>\$1,135,280</b>	<b>\$1,135,280</b>	<b>\$1,135,280</b>	<b>\$1,135,280</b>	<b>\$1,135,280</b>	<b>\$1,135,280</b>	<b>\$6,811,680</b>
<b>Funding Sources</b>								
Water and Sewer Fund Balance	\$0	\$1,135,280	\$1,135,280	\$1,135,280	\$1,135,280	\$1,135,280	\$1,135,280	\$6,811,680
<b>Total Project Funding Sources</b>	<b>\$0</b>	<b>\$1,135,280</b>	<b>\$1,135,280</b>	<b>\$1,135,280</b>	<b>\$1,135,280</b>	<b>\$1,135,280</b>	<b>\$1,135,280</b>	<b>\$6,811,680</b>

<b>PROJECT TITLE</b> Ardmore Area Water and Sewer Rehabilitation	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides for the evaluation and rehabilitation of the Ardmore neighborhood water and sewer systems. Due to the large size of the Ardmore neighborhood, the age of the water and sewer systems, and the historical aspects of the area, a master plan approach is being pursued in developing an overall project approach for the rehabilitation of these systems.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$228,670	\$382,600	\$382,600	\$382,600	\$0	\$0	\$0	\$1,376,470
Construction	0	3,826,080	3,826,080	3,826,080	0	0	0	11,478,240
Contingency	0	191,320	191,320	191,320	0	0	0	573,960
<b>Total Project Expenditures</b>	<b>\$228,670</b>	<b>\$4,400,000</b>	<b>\$4,400,000</b>	<b>\$4,400,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$13,428,670</b>
<b>Funding Sources</b>								
Revenue Bonds	\$228,670	\$4,400,000	\$4,400,000	\$4,400,000	\$0	\$0	\$0	\$13,428,670
<b>Total Project Funding Sources</b>	<b>\$228,670</b>	<b>\$4,400,000</b>	<b>\$4,400,000</b>	<b>\$4,400,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$13,428,670</b>

<b>PROJECT TITLE</b> Construction and Maintenance Facilities Improvements	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project addresses space limitations currently facing the Construction and Maintenance operation. Due to changes in responsibility and a shift to more technical personnel, more office space is needed to accommodate this staff. With the move of the Meter Shop to its own building, recent renovations to the main construction and maintenance building provided additional office space, more meeting space, an cubicle spaces. Some work is still needed at the Meter Shop building to better utilize space that formerly housed backflow prevention staff and to reestablish meter testing operations. This project also would address the planning and construction of an additional facility elsewhere to provide for better service coverage and response times.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$0	\$100,000	\$221,740	\$0	\$0	\$0	\$0	\$321,740
Construction	0	817,500	2,217,400	0	0	0	0	3,034,900
Contingency	0	0	110,880	0	0	0	0	110,880
<b>Total Project Expenditures</b>	<b>\$0</b>	<b>\$917,500</b>	<b>\$2,550,020</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,467,520</b>
<b>Funding Sources</b>								
Revenue Bonds	\$0	\$917,500	\$2,550,020	\$0	\$0	\$0	\$0	\$3,467,520
<b>Total Project Funding Sources</b>	<b>\$0</b>	<b>\$917,500</b>	<b>\$2,550,020</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,467,520</b>

<b>PROJECT TITLE</b> Muddy Creek Find and Fix Project	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides for inflow and infiltration investigations, flow monitoring, planning, and construction for sewer rehabilitation projects in the Muddy Creek drainage basin sewer system. The project should decrease the amount of inflow and infiltration entering the system and increase its long-term capacity.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$98,440	\$123,230	\$123,230	\$32,320	\$0	\$0	\$0	\$377,220
Construction	0	1,232,250	1,232,250	323,180	0	0	0	2,787,680
Contingency	0	61,620	61,620	16,160	0	0	0	139,400
<b>Total Project Expenditures</b>	<b>\$98,440</b>	<b>\$1,417,100</b>	<b>\$1,417,100</b>	<b>\$371,660</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,304,300</b>
<b>Funding Sources</b>								
Revenue Bonds	\$98,440	\$1,417,100	\$1,417,100	\$371,660	\$0	\$0	\$0	\$3,304,300
<b>Total Project Funding Sources</b>	<b>\$98,440</b>	<b>\$1,417,100</b>	<b>\$1,417,100</b>	<b>\$371,660</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,304,300</b>

<b>PROJECT TITLE</b> New Elevated Water Tanks	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project would fund the construction of two new elevated storage tanks in the system. The current recommendations from the distribution system master plan indicate the need for additional storage in the Clemmons and Kernersville service areas to meet demand projections for 2015. A 1.5 million gallon storage tank would be needed in Clemmons, and an additional 1.0 million gallon storage tank would be needed in Kernersville.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$0	\$283,340	\$141,660	\$0	\$0	\$0	\$0	\$425,000
Construction	0	1,416,660	1,416,660	0	0	0	0	2,833,320
Contingency	0	70,840	70,840	0	0	0	0	141,680
<b>Total Project Expenditures</b>	<b>\$0</b>	<b>\$1,770,840</b>	<b>\$1,629,160</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,400,000</b>
<b>Funding Sources</b>								
Revenue Bonds	\$0	\$1,770,840	\$1,629,160	\$0	\$0	\$0	\$0	\$3,400,000
<b>Total Project Funding Sources</b>	<b>\$0</b>	<b>\$1,770,840</b>	<b>\$1,629,160</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,400,000</b>

<b>PROJECT TITLE</b> Permanent Flow Monitoring	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides for the purchase of permanent flow monitors and their installation at or near existing wastewater pumping stations. Installation at these locations would allow utilization of existing telemetry and Supervisory Control and Data Acquisition System (SCADA) information gathering capabilities at the pump stations in the operation of the flow monitors. Permanent flow monitoring would assist in gaining system performance knowledge and help determine capacity related issues as prescribed in the most recent update to the Flow Acceptance and Tracking portion of the Sewer Extension permit.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$33,480	\$33,480	\$0	\$0	\$0	\$0	\$0	\$66,960
Construction	334,780	334,780	0	0	0	0	0	669,560
Contingency	16,740	16,740	0	0	0	0	0	33,480
<b>Total Project Expenditures</b>	<b>\$385,000</b>	<b>\$385,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$770,000</b>
<b>Funding Sources</b>								
Revenue Bonds	\$385,000	\$385,000	\$0	\$0	\$0	\$0	\$0	\$770,000
<b>Total Project Funding Sources</b>	<b>\$385,000</b>	<b>\$385,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$770,000</b>

<b>PROJECT TITLE</b> Polo Road Outfall Sewer Rehabilitation	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project would include inspection and rehabilitation of approximately 8,300 feet of 8-inch sanitary sewer line. It is unknown how much of the sewer line is inside of an existing sewer easement, but it is clear that much of the property around it has developed and limited or blocked access. Construction of new houses near the line and fences across the line have contributed to access issues making it very difficult in some areas and impossible in other areas to access the main. To further complicate matters, the line borders multiple small lakes in the area, potentially allowing a situation that could be damaging to the environment if a major overflow were to occur. Work would include an unspecified type of rehabilitation to the main, connections, and manholes, as a comprehensive improvement. Also, this project would most likely include acquisition of easements for future access. Staff recognizes that public education in the form of providing information to property owners along the project limits will be critical to the success of this project.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$0	\$163,140	\$0	\$0	\$0	\$0	\$0	\$163,140
Construction	0	1,631,320	0	0	0	0	0	1,631,320
Contingency	0	81,560	0	0	0	0	0	81,560
<b>Total Project Expenditures</b>	<b>\$0</b>	<b>\$1,876,020</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,876,020</b>
<b>Funding Sources</b>								
Water and Sewer Fund Balance	\$0	\$1,876,020	\$0	\$0	\$0	\$0	\$0	\$1,876,020
<b>Total Project Funding Sources</b>	<b>\$0</b>	<b>\$1,876,020</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,876,020</b>

<b>PROJECT TITLE</b> Wastewater Collection System Improvements	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides multi-year funding for inspection, evaluation, design, and construction of sanitary sewer rehabilitation projects throughout the system. In many areas of the sewer system, the pipes and manholes have reached ages that exceed 60, 70, and 80 years and have exceeded their design life. Manholes have deteriorated and pipes have cracked and broken. These problems cause backups, cavities/voids underground, flow problems, and they allow water to infiltrate/inflow into the sewer system causing sanitary sewer overflows (SSO's) and extra cost at the plants for treatment.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$260,870	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$450,000	\$2,960,870
Construction	2,608,690	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	16,108,690
Contingency	130,440	300,000	300,000	300,000	300,000	300,000	300,000	1,930,440
<b>Total Project Expenditures</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$21,000,000</b>
<b>Funding Sources</b>								
Water and Sewer Fund Balance	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$21,000,000
<b>Total Project Funding Sources</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$3,000,000</b>	<b>\$21,000,000</b>

<b>PROJECT TITLE</b> Water and Sewer GIS/Work Order Management System	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project would create a new Geographical Information System (GIS) mapping and database of the water and sewer system. The GIS mapping would utilize Global Positioning System (GPS) technology to tie existing mains and manholes to a current GIS datum. The project would include the cost to collect data on the water and sewer system. Request for proposals would be solicited from firms that would collect geographic coordinates on the major appurtenances of the water and sewer systems. Once completed, the database would be used for capital improvement planning, maintenance planning and scheduling, and storing information on existing systems. The systems would combine data from other agencies (e.g., Tax Office, Planning, Engineering, etc.), which would allow maps to overlay other various facets of information on top of the water and/or sewer system.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$0	\$883,400	\$1,000,000	\$1,000,000	\$0	\$0	\$0	\$2,883,400
<b>Total Project Expenditures</b>	<b>\$0</b>	<b>\$883,400</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,883,400</b>
<b>Funding Sources</b>								
Revenue Bonds	\$0	\$883,400	\$1,000,000	\$1,000,000	\$0	\$0	\$0	\$2,883,400
<b>Total Project Funding Sources</b>	<b>\$0</b>	<b>\$883,400</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,883,400</b>

<b>PROJECT TITLE</b> Water Distribution System Improvements	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project provides multi-year funding for water distribution improvements throughout the city and county. This project would fund some planned work such as valve exercising as well as unanticipated miscellaneous projects that arise throughout the fiscal year, such as projects for rehabilitating portions of the water system, chlorination booster projects, structure adjustments, system-wide asset replacement planning, and other miscellaneous water system improvements.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$75,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$975,000
Construction	400,000	800,000	800,000	800,000	800,000	800,000	800,000	5,200,000
Contingency	25,000	50,000	50,000	50,000	50,000	50,000	50,000	325,000
<b>Total Project Expenditures</b>	<b>\$500,000</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$6,500,000</b>
<b>Funding Sources</b>								
Water and Sewer Fund Balance	\$500,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$6,500,000
<b>Total Project Funding Sources</b>	<b>\$500,000</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$1,000,000</b>	<b>\$6,500,000</b>

<b>PROJECT TITLE</b> Winston-Salem State University Campus Distribution System Improvements	<b>DEPARTMENT/DIVISION</b> Utilities / Water Distribution and Wastewater Collection
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project was developed to eliminate the encroachment of a 24" water main easement located on Winston-Salem State University's (WSSU) campus and to ensure the quality of service provided by the Thomas Water Treatment Plant's transmission mains. This project is proposed to be conducted in two phases, replacing/relocating approximately 10,670 feet of transmission mains that range in size from 12" to 24". A future phase to construct a 30" main from the Thomas Plant to Ridgewood Drive would be proposed when the system demand indicates the need for this main. Once this phased project is complete the transmission mains in some locations around the Thomas Plant would have a "looped" system design, would replace water mains over 50 years in age, and would completely remove the City-County Utility Commission from maintaining the water system located on the WSSU campus.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$219,140	\$448,700	\$46,480	\$0	\$0	\$0	\$0	\$714,320
Construction	0	3,378,250	464,750	0	0	0	0	3,843,000
Contingency	0	168,920	23,240	0	0	0	0	192,160
<b>Total Project Expenditures</b>	<b>\$219,140</b>	<b>\$3,995,870</b>	<b>\$534,470</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,749,480</b>
<b>Funding Sources</b>								
Revenue Bonds	\$219,140	\$3,995,870	\$534,470	\$0	\$0	\$0	\$0	\$4,749,480
<b>Total Project Funding Sources</b>	<b>\$219,140</b>	<b>\$3,995,870</b>	<b>\$534,470</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,749,480</b>

<b>PROJECT TITLE</b> Drainage Improvements on Private Property	<b>DEPARTMENT/DIVISION</b> Stormwater Management
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**PROJECT DESCRIPTION/JUSTIFICATION**

City ordinances authorize the city to participate in the correction of storm drainage problems that occur on private residential property. The cap on project cost is \$50,000, with the city's participation in eligible projects limited to 70%. Each project request will be reviewed by city staff and presented to the City Council for final approval.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Construction	\$1,150,000	\$250,000	\$250,000	\$500,000	\$500,000	\$500,000	\$0	\$3,150,000
<b>Total Project Expenditures</b>	<b>\$1,150,000</b>	<b>\$250,000</b>	<b>\$250,000</b>	<b>\$500,000</b>	<b>\$500,000</b>	<b>\$500,000</b>	<b>\$0</b>	<b>\$3,150,000</b>
<b>Funding Sources</b>								
Stormwater Management Fund	\$1,150,000	\$250,000	\$250,000	\$500,000	\$500,000	\$500,000	\$0	\$3,150,000
<b>Total Project Funding Sources</b>	<b>\$1,150,000</b>	<b>\$250,000</b>	<b>\$250,000</b>	<b>\$500,000</b>	<b>\$500,000</b>	<b>\$500,000</b>	<b>\$0</b>	<b>\$3,150,000</b>

<b>PROJECT TITLE</b> Federal Emergency Management Agency (FEMA) Severe Repetitive Loss Grant Assistance	<b>DEPARTMENT/DIVISION</b> Stormwater Management
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**PROJECT DESCRIPTION/JUSTIFICATION**

Per the special meeting of the Public Works Committee in February 2007, the City Council has indicated an interest to assist citizens with flood ravaged properties. In doing so, it has ordained cost share percentages at 70% city and 30% property owner for assistance in drainage issues across private property. The Council has also approved assistance for citizens who wish to participate in FEMA grant funding programs for severe repetitive loss, which removes properties from the 100 year floodplain. Scope of work for this project includes payment for the dwelling and property, demolition of the property, and disposal of debris, legal fees associated with placing deed restrictions on the property and recording a conservation easement on the property. Any grant awarded by FEMA must be carried out by the local government. Grant assistance is expected from FEMA in the amount of 75% of the total cost of the project, with the remaining 25% being part of the city's 70% cost share. However, FEMA will only reimburse the city when the project has been completed; therefore, the full amount of the project has to be appropriated.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Construction	\$0	\$373,360	\$0	\$0	\$0	\$0	\$0	\$373,360
Removal of Flood Ravaged Property	187,550	0	0	0	0	0	0	187,550
<b>Total Project Expenditures</b>	<b>\$187,550</b>	<b>\$373,360</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$560,910</b>
<b>Funding Sources</b>								
Stormwater Management Fund	\$187,550	\$373,360	\$0	\$0	\$0	\$0	\$0	\$560,910
<b>Total Project Funding Sources</b>	<b>\$187,550</b>	<b>\$373,360</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$560,910</b>

<b>PROJECT TITLE</b> Municipal Stormwater Pollution Prevention Plans	<b>DEPARTMENT/DIVISION</b> Stormwater Management
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**PROJECT DESCRIPTION/JUSTIFICATION**

This project involves the development of stormwater pollution prevention plans for all municipally owned and operated facilities that have the potential to contribute pollution to surface waters. Departments and locations for which plans would be developed include: Fleet Services, Department of Transportation, Streets, Sanitation, Utilities Construction and Maintenance, water and wastewater treatment plants, Winston-Salem Entertainment and Sports Complex, landfills, Division of Vegetation Management, and Recreation and Parks Department. Development of these plans is a requirement of the United States Environmental Protection Agency (USEPA) and the City's National Pollution Discharge Elimination System Phase I permit. The USEPA requires that the city complete these plans within three years. Current pollution prevention plans that are under contract review are Fleet Services and Archie Elledge Wastewater Treatment Plant. Muddy Creek Wastewater Treatment Plant contract draft is under construction. The Sanitation Department and Streets Division pollution prevention plans are currently in the mapping process phase.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$217,600	\$108,800	\$0	\$0	\$0	\$0	\$0	\$326,400
<b>Total Project Expenditures</b>	<b>\$217,600</b>	<b>\$108,800</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$326,400</b>
<b>Funding Sources</b>								
Stormwater Management Fund	\$217,600	\$108,800	\$0	\$0	\$0	\$0	\$0	\$326,400
<b>Total Project Funding Sources</b>	<b>\$217,600</b>	<b>\$108,800</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$326,400</b>

<b>PROJECT TITLE</b> Stormwater Infrastructure Improvements	<b>DEPARTMENT/DIVISION</b> Stormwater Management
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**PROJECT DESCRIPTION/JUSTIFICATION**

Through stormwater basin studies and city inspections, the Stormwater staff has identified over 30 locations throughout the city where public stormwater infrastructure is deficient. The drainage systems in these locations are aging or inadequate in size to handle current stormwater volumes. The estimated cost of improvements to these locations totals over \$24 million. The Stormwater staff has assigned each project a priority ranking and created a 15-year plan for constructing these improvements. The 2010-2015 capital plan provides funding for the first six years of the stormwater capital plan, which would construct improvements at approximately half of the locations. The city would fund these improvements using both stormwater management fund reserves and revenue bonds. The debt service on revenue bonds represents a new cost to the Stormwater Management Program, as noted below in the operating impact section.

**FINANCIAL SUMMARY:**

	Prior Years	Planned Appropriations 2010-2015						Grand Total
	Total Approp To Date	Budget FY 09-10	Planning FY 10-11	Planning FY 11-12	Planning FY 12-13	Planning FY 13-14	Planning FY 14-15	
<b>Expenditures</b>								
Planning/Design/Engineering	\$160,000	\$0	\$0	\$0	\$0	\$0	\$0	\$160,000
Construction	3,096,830	0	0	4,285,850	1,389,200	1,324,950	0	10,096,830
<b>Total Project Expenditures</b>	<b>\$3,256,830</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,285,850</b>	<b>\$1,389,200</b>	<b>\$1,324,950</b>	<b>\$0</b>	<b>\$10,256,830</b>
<b>Funding Sources</b>								
Revenue Bonds	\$1,426,000	\$0	\$0	\$4,285,850	\$0	\$0	\$0	\$5,711,850
Stormwater Management Fund	1,830,830	0	0	0	1,389,200	1,324,950	0	4,544,980
<b>Total Project Funding Sources</b>	<b>\$3,256,830</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,285,850</b>	<b>\$1,389,200</b>	<b>\$1,324,950</b>	<b>\$0</b>	<b>\$10,256,830</b>
<b>OPERATING IMPACT:</b>								
Debt Service		\$0	\$0	\$0	\$362,220	\$362,220	\$362,220	\$1,086,660
<b>Total Net Expenditures</b>		<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$362,220</b>	<b>\$362,220</b>	<b>\$362,220</b>	<b>\$1,086,660</b>