Fiscal 2011-2012
OPERATING BUDGET

Fiscal 2012-2016
Capital Investment Plans

Artist Rendering of the new Dover Public Library
Holzman Moss Bottino Architecture, LLP

FISCAL YEAR 2012 CAPITAL INVESTMENT PLANS
REVENUE SOURCE AND FUNDS AS OF JULY 1, 2011

Project Name	Comm. Transp. Fund	Electric I & E Fund	General Fund	General Obligation Bonds	Library Reserve Fund	Other	State Grant	Water/Wastewater Debt Financing	Water/Wastewater Fund	Total
Dump Truck Refurbishment			30,000							30,000
Annual Contribution to Robbins Hose			216,820							216,820
Rescue 1 - Holmatro Equipment			28,000							28,000
Replacement Library					1,200,938	4,396,566	5,597,505			11,195,009
Dover Park - Roof Replacement			30,000							30,000
Street and Alley Program	1,000,000			1,000,000						2,000,000
Concrete Construction and Replacement Program			30,000							30,000
GENERAL FUND TOTAL	**1,000,000**	**-**	**334,820**	**1,000,000**	**1,200,938**	**4,396,566**	**5,597,505**	**-**	**-**	**13,529,829**
Substation PT & CT Replacement		267,715								267,715
Lighting Project and Rehabilitation		50,000								50,000
Equipment Replacement		40,000								40,000
Generataor Replacement		50,000								50,000
Frazier Substation Reliability Upgrade		155,000								155,000
Distribution Feeder Replacement Program		377,510								377,510
Distribution Capacitors and Controls		100,000								100,000
Transmission Line Maintenance Program		75,000								75,000
SCADA Master Hardware Replacement		75,000								75,000
Distribution Upgrades		500,000								500,000
New Developments		600,000								600,000
McKee Run Unit 3 Boiler Air Heater		440,000								440,000
McKee Run Unit 3 Turbine Inspection		348,000								348,000
Units 1 & 2 Life Extension		184,000								184,000
McKee Run Unit 3 Boiler Systems		130,000								130,000
McKee Run Unit 3 Auxillary System Components		113,000								113,000
Unit 3 FD & ID Fan Control Damper Upgrade		92,000								92,000
Unit 3 DCS Computers & Software Upgrades		85,000								85,000
Miscellaneous Capital Equipment Relacements		70,000								70,000
McKee Run Unit 3 Air Heater Expansion Joint		70,000								70,000
McKee Run Demineralizer Control Replacement		65,000								65,000
Van Sant Unit 11 Component Replacements		50,000								50,000
McKee Run Switchyard Blast Walls		50,000								50,000
McKee Run Preservation of Structures		38,000								38,000
Units 1 & 2 Cooling Tower Life Extension		25,410								25,410
Unit 3 Cooling Water Line Life Extension		25,000								25,000
McKee Run Unit 3 Stack Repairs		25,000								25,000
ELECTRIC FUND TOTAL	**-**	**4,100,635**	**-**		**-**	**-**	**-**	**-**	**-**	**4,100,635**
Pay-As-You-Go Water Load Station									30,240	30,240
Inflow/Infiltration Removal								2,800,000		2,800,000
SCADA Equipment Technology Upgrade								84,900		84,900
Lepore Road Pump Station Replacement								350,000		350,000
Miscellaneous Sewer System Improvements								37,000		37,000
Wilmington College Pump Station Replacement									25,000	25,000
Dover Brook Gardens Pump Station Upgrade									15,000	15,000
Brandywine Pump Station Replacement									52,000	52,000
McKee Road Pump Station Communator Replacement									10,000	10,000
Miscellaneous Distribution System Improvements								60,000		60,000
Wellhead Redevelopment Program								65,000		65,000
Emergency Generators (Wells)									80,000	80,000
Water Quality Improvements								500,000		500,000
WATER/WASTEWATER TOTAL	**-**	**-**	**-**		**-**	**-**	**-**	**3,896,900**	**212,240**	**4,109,140**
GRAND TOTALS	**1,000,000**	**4,100,635**	**334,820**		**1,200,938**	**4,396,566**	**5,597,505**	**3,896,900**	**212,240**	**21,739,604**

TOTAL CITY SUMMARY

FY 2012 thru FY 2016

Category Summary

Category	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric	4,100,635	5,003,407	4,953,612	4,503,977	4,318,220	***22,879,851***
General	13,529,829	4,594,089	3,271,371	3,199,641	6,088,470	***30,683,400***
Water/Wastewater	4,109,140	5,226,900	4,770,600	3,305,000	3,995,000	***21,406,640***
TOTAL	**21,739,604**	**14,824,396**	**12,995,583**	**11,008,618**	**14,401,690**	***74,969,891***

Funding Source Summary

Source	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Community Transportation Fund	1,000,000	1,000,000	1,000,000	1,400,000	1,000,000	***5,400,000***
Electric I & E Fund	4,100,635	5,003,407	4,953,612	4,503,977	4,318,220	***22,879,851***
General Fund	334,820	1,053,606	1,911,371	1,649,641	5,038,470	***9,987,908***
General Obligation Bonds	1,000,000					
Library Reserve Fund	1,200,938	78,000				***1,278,938***
Other	4,396,566	700,344				***5,096,910***
Parkland Reserve Fund			155,000			***155,000***
State Grants	5,597,505	1,762,139	205,000	150,000	50,000	***7,764,644***
Water/Wastewater Debt Financing	3,896,900	4,016,900	2,776,000	2,373,000	3,313,000	***16,375,800***
Water/Wastewater Fund	212,240	1,210,000	1,994,600	932,000	682,000	***5,030,840***
GRAND TOTAL	**21,739,604**	**14,824,396**	**12,995,583**	**11,008,618**	**14,401,690**	***74,969,891***

TOTAL CITY SUMMARY with VEHICLES

FY 2012 thru FY 2016

Category Summary

Category	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric	4,100,635	5,003,407	4,953,612	4,503,977	4,318,220	***22,879,851***
General	13,529,829	4,594,089	3,271,371	3,199,641	6,088,470	***30,683,400***
Water/Wastewater	4,109,140	5,226,900	4,770,600	3,305,000	3,995,000	***21,406,640***
Vehicles	565,535	2,841,614	1,988,357	1,631,721	1,517,778	***8,545,005***
TOTAL	**22,305,139**	**17,666,010**	**14,983,940**	**12,640,339**	**15,919,468**	***83,514,896***

Funding Source Summary

Source	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Community Transportation Fund	1,000,000	1,000,000	1,000,000	1,400,000	1,000,000	***5,400,000***
Electric I & E Fund	4,148,972	5,145,144	5,331,162	4,623,977	4,610,970	***23,860,225***
General Fund	737,018	3,274,983	3,138,778	2,542,462	5,582,898	***15,276,139***
General Obligation Bonds	1,000,000					***1,000,000***
Library Reserve Fund	1,200,938	78,000				***1,278,938***
Other	4,396,566	700,344				***5,096,910***
Parkland Reserve Fund			155,000			***155,000***
State Grants	5,597,505	1,762,139	205,000	150,000	50,000	***7,764,644***
Water/Wastewater Debt Financing	3,896,900	4,016,900	2,776,000	2,373,000	3,313,000	***16,375,800***
Water/Wastewater Fund	327,240	1,688,500	2,378,000	1,550,900	1,362,600	***7,307,240***
GRAND TOTAL	**22,305,139**	**17,666,010**	**14,983,940**	**12,640,339**	**15,919,468**	***83,514,896***

GENERAL FUND SUMMARY

FY 2012 thru FY 2016

Projects by Department

Department	Project #	FY 12	FY 13	FY 14	FY 15	FY 16	*Total*
Central Services							
Space Needs Study Implentation	CS1300		50,000	434,890	402,446	4,165,328	*5,052,664*
Central Services Conference Room & Offices	CS1301		10,000	15,000			*25,000*
City Hall Fire Suppression System	CS1400			106,000	106,000		*212,000*
Central Services Total			**60,000**	**555,890**	**508,446**	**4,165,328**	***5,289,664***
Customer Service							
Customer Notification by E-IVR Automated Dialing	CU1300		30,000				*30,000*
Customer Service Total			**30,000**				***30,000***
Fire/Robbins Hose							
Annual Contribution	FR1201	216,820	329,481	329,481	415,195	410,142	*1,701,119*
Holmatro Equipment	FR1202	28,000					*28,000*
Fire/Robbins Hose Total		**244,820**	**329,481**	**329,481**	**415,195**	**410,142**	**1,729,119**
Information Technology							
IT Long Range Planning Process Review & Update	IT1300		65,000				*65,000*
CISCO, VoIP Phone Server Replacement	IT1400			40,000			*40,000*
Information Technology Total			**65,000**	**40,000**			**105,000**
Library							
New Dover Public Library	LB0901	11,195,009	2,540,483				*13,735,492*
Library Total		**11,195,009**	**2,540,483**				***13,735,492***
Mayor							
Downtown Security Cameras	MR1300		33,000				*33,000*
Mayor Total			**33,000**				***33,000***
Parks and Recreation							
Dover Park - Roof Replacement	PR1201	30,000					*30,000*
Park and Playground Improvement Program	PR1301		30,000	33,000	33,000	33,000	*129,000*
Splash Pad at Schutte Park	PR1302		20,000	290,000			*310,000*
Skate Parks	PR1401			10,000	300,000		*310,000*
Schutte Park Land Improvements	PR1402			100,000			*100,000*
Pathway at Schutte Park	PR1403			120,000			*120,000*
Tennis Courts at Schutte Park	PR1404			160,000			*160,000*
Lighted Soccer/Mulit Purpose Field	PR1405			195,000			*195,000*
Paving of Parking Lots at Schuttee Park	PR1501				300,000		*300,000*
Parks and Recreation Total		**30,000**	**50,000**	**908,000**	**633,000**	**33,000**	**1,654,000**
Police							
Repair/Micro Seal Police Station Parking Lot	PD1301		25,300				*25,300*
Police Total			**25,300**				***25,300***

Department	Project #	FY 12	FY 13	FY 14	FY 15	FY 16	*Total*
Public Services-Admin							
GIS Infrastructure & Mobile Solutions	PA1301		18,000	18,000	18,000		*54,000*
Public Services-Admin Total			**18,000**	**18,000**	**18,000**		**54,000**
Public Services-Streets							
Street and Alley Program	ST1201	2,000,000	1,300,000	1,300,000	1,300,000	1,300,000	*7,200,000*
Concrete Construction and Replacement Program	ST1202	30,000	65,000	70,000	75,000	80,000	*320,000*
Dumpt Truck Refurbishment	ST1203	30,000					*30,000*
Salt Storage Facility at Schutte Park	ST1301		50,000				*50,000*
Brine Manufacuring System	ST1302		27,825				*27,825*
Silver Lake Revitalization Project	ST1401			50,000	250,000	100,000	*400,000*
Public Services-Streets		**2,060,000**	**1,442,825**	**1,420,000**	**1,625,000**	**1,480,000**	**8,027,825**
GRAND TOTAL		**13,529,829**	**4,594,089**	**3,271,371**	**3,199,641**	**6,088,470**	**30,683,400**

Funding Source Summary

Source	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Community Transportation Fund	1,000,000	1,000,000	1,000,000	1,400,000	1,000,000	***5,400,000***
General Fund	334,820	1,053,606	1,911,371	1,649,641	5,038,470	***9,987,908***
General Obligation Bonds	1,000,000					***1,000,000***
Library Reserve Fund	1,200,938	78,000				***1,278,938***
Other	4,396,566	700,344				***5,096,910***
Parkland Reserve Fund			155,000			***155,000***
State Grants	5,597,505	1,762,139	205,000	150,000	50,000	***7,764,644***
GRAND TOTAL	**13,529,829**	**4,594,089**	**3,271,371**	**3,199,641**	**6,088,470**	***30,683,400***

Capital Investments Plan

FY 12 *thru* FY 16

City of Dover, Delaware

Project #: CS1300

Project Name: Space Needs Study Implementation

Type: Improvement
Useful Life: 50+ Years
Category: General
New Project: No
Time-Line: FY10 thru FY16

Department: Central Services
Contact: Central Services Director
Priority: N/A
Account Number: 147-2500-552.-40-21

Total Project Cost: $13, 399,622

Description

This is a ten-year plan for City buildings that will create spaces and places for the City's elected officials and employees to provide quality services to the citizens. The Facility Space Committee toured all City buildings, interviewed all department heads, conducted a needs assessment and proximity matrix, created measured drawings of buildings, and consulted with an architect as needed. We will continue to face all the problems associated with a lack of space, lack of security, poor locations, and substandard space.

Justification

We will continue to face all the problems associated with a lack of space, lack of security, poor locations, and substandard space. The Space Needs Study revealed (1) a lack of space for public and customers, (2) a lack of working space, (3) poor locations, (4) substandard space, (5) a lack of storage space, and (6) a lack of security.

Expenditure	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction		50,000	434,890	402,446	4,165,328	5,052,664	8,346,958
Total		**50,000**	**434,890**	**402,446**	**4,165,328**	**5,052,664**	**Total**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
General Fund		50,000	434,890	402,446	4,165,328	5,052,664	8,346,958
Total		**50,000**	**434,890**	**402,446**	**4,165,328**	**5,052,664**	**Total**

Budget Impact/Other

DESCRIPTION	FY2012	FY2013	FY2014	FY2015	FY2016	After FY2016	TOTAL
Public Works Addition							
Electric Admin Addition							
Parks & Recreation							
Police 2nd Floor				153,992			153,992
Council Chambers		50,000	392,824				442,824
A/V Communication			42,066				42,066
Relocate Grounds				248,454			248,454
City Hall East Wing					3,718,939		3,718,939
City Hall West Wing						7,395,846	7,395,846
Connectors					446,389	476,317	922,706
City Hall						474,795	474,795
TOTAL		**50,000**	**434,890**	**402,446**	**4,165,328**	**8,346,958**	**13,399,622**

Budget Items	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Total						

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **CS1301**

Project Name **Central Services Conference Room & Offices**

Type Improvement
Useful Life 10-15 years
Category General
New Project: Yes
Time-Line:

Department Central Services
Contact Central Services Director
Priority 3
Account Number: 110-2700-571.40-31

Description

Total Project Cost: **$25,000**

This project will be divided into three parts. Part one for design, framing and electrical installation and will begin in Fiscal 2012. Part two for construction and finishing of the offices will begin in Fiscal 2013. Part three for furnishing, carpeting and equipping of the conference room and offices will begin in Fiscal 2014.

Justification

There is no conference room available within Central Services to conduct bid openings, Pre-bid meetings, contract negotiations or conduct other meetings/training. This conference will be made available to all city offices, especially the Sanitation Department, Street Department and the Water Department. The Central Services Department also needs more space for staffing needs.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance		10,000				10,000
Equip/Vehicle/Furnishings			15,000			15,000
Total		**10,000**	**15,000**			**25,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund		10,000	15,000			25,000
Total		**10,000**	**15,000**			**25,000**

Budget Impact/Other

Project # **CS1400**

Project Name **City Hall Fire Suppression System**

Type Improvement
Useful Life 20-25 years
Category General
New Project:
Time-Line:

Department Central Services
Contact Central Services Director
Priority 4
Account Number:

Description

Total Project Cost: **$212,000**

This project will be divided into two parts. Part one is for the City Hall, single story, Administrative will and will begin in Fiscal 2012. The second part is for the City Hall, two story, Executive wing and will begin in Fiscal 2013.

Justification

This is a workplace safety requirement mandated by the Fire Marshalls Office.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Other			106,000	106,000		212,000
Total			**106,000**	**106,000**		**212,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund			106,000	106,000		212,000
Total			**106,000**	**106,000**		**212,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **CU1300**

Project Name **Customer Notification by E-IVR Automated Dialing**

Type Improvement
Useful Life 5-10 years
Category General
New Project:
Time-Line:

Department Customer Services
Contact Customer Service Manager
Priority 2
Account Number:

Description

Total Project Cost: **$30,000**

One of the most popular and cost effective uses of IVR Technology involves automating the out-dialing process Another use is to add the feature of customer alerts and notifications. This automation can take a variety of forms and functionality. E-IVR automated features include the ability to broadcasting a huge number of calls to deliver a pre-recorded message or alert, targeting a specific list to be called to relay individualized information, and to automate the dialing process as an efficient and management tool for staff. It is critical to maximize the use of communication resources, advance with technology and offer features similar to local utilities and municipalities. Our existing phone system provides the foundation to add beneficial enhancements.

Justification

The E-IVR notification system gets the word out fast for emergency notification, road closures, power outages, alerts customer of electric and water disconnections that are scheduled due to nonpayment of utility account, upcoming events. The Customer Service department is submitting the request for consideration. This system should benefit City departments and Officials city wide. The phone system broadcasts from our data base, when answered the IVR plays a prerecorded message. Unsuccessful calls are noted and can be broadcast again. The benefit to the customer is to receive critical notifications and become better informed. Since the calls are automated staff, may be utilized in other functions.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Other		30,000				30,000
Total		**30,000**				**30,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund		30,000				30,000
Total		**30,000**				**30,000**

Budget Impact/Other

Estimated annual maintenance fees. This type of notification system is already used by other utilities and municipalities in Delaware. In conjunction with electric disconnects for nonpayment, the customer would receive an automated call two days prior to the scheduled disconnection date. This serves as a reminder to remit the payment and allows the customer to prepare for the interruption of service in the event payment is not received. A customer may chose to expedite payment by using the recently implemented credit card online processing system.

Capital Investments Plan

FY 12 *thru* FY 16

City of Dover, Delaware

Project #: FR1201

Project Name: Annual Contribution to Robbins Hose

Type:	Equipment	**Department:**	Fire/Robbins Hose
Useful Life:	15-20 years	**Contact:**	Fire Chief
Category:	General	**Priority:**	1
New Project:	No	**Account Number:**	
Time-Line:			

Total Project Cost: $3,710,049

Description

This contribution covers payments to the Robbins Hose Company to cover the Major Fire Apparatus Replacement Plan.

Justification

The Major Fire Apparatus Replacement Plan ensures loan payments for replacement according to a schedule which guarantees equipment will not be outdated and unserviceable. This plan is based on replacing one of the Company's five engines and one rescue vehicle every three years which would put the average replacement age at 18 years. The two ladder trucks would be replaced every 15 years depending on condition and current needs. This schedule would reduce overall maintenance costs because fire apparatus would be replaced before major problems occur. By providing the Robbins Hose Company with the needed payments for the Major Fire Apparatus Replacement Plan, the Robbins Hose Company will be enabled to pay for a $2.5 million door rehabilitation of the Company Headquarters on Governors Avenue. This renovation is designed to handle 25 years of growth of the company and would preclude any need for an additional fire station in Dover. The Robbins Hose Company will also cover costs associated with miscellaneous apparatus and equipment such as command units, utility vehicles, and large hose replacement. Consequences of delaying or eliminating this project could result in increased maintenance costs; possibility of not meeting ISO requirements and NFPA standards.

Prior 5 Years	Expenditure	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
751,216	Equip/Vehicle/Furnishings	216,820	329,481	329,481	415,195	410,142	1,701,119	1,167,425
	Total	**216,820**	**329,481**	**329,481**	**415,195**	**410,142**	**1,701,119**	

Prior 5 Years	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
751,216	General Fund	216,820	329,481	329,481	415,195	410,142	1,701,119	1,167,426
	Total	**216,820**	**329,481**	**329,481**	**415,195**	**410,142**	**1,701,119**	

Budget Impact/Other

Fiscal Year	2012	2013	2014	2015	2016	Total
Ladder 2	92,910	92,910	92,910	92,910	-	371,640
Engine 2 ($555,000)	123,910	-	-	-	-	123,910
Engine 7 ($585,000)	-	83,571	83,571	83,571	83,571	334,284
Ladder 1 ($920,000)		153,000	153,000	153,000	153,000	612,000
Engine 3 ($600,000)	-	-	-	85,714	85,714	171,428
Engine 6 ($615,000)	-	-	-	-	87,857	87,857
Engine 4 ($630,000)	-	-	-	-	-	-
TOTALS	216,820	329,481	329,481	415,195	410,142	1,701,119

Budget Items	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Total						

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **FR1202**

Project Name **Rescue 1 - Holmatro Equipment**

Type Equipment
Useful Life 15-20 years
Category General
New Project: Yes
Time-Line:

Department Fire/Robbins Hose
Contact Fire Chief
Priority 2
Account Number:

Description

Total Project Cost: **$28,000**

Currently all Fire apparatus are equipped with Holmatro equipment with the exception of Resue Unit #1. This project will bring uniformity to all the hydraulic tools used in rescue situations. The equipment will replace the outdated Hurst equipment on Rescue Unit 1.

Justification

Resue Unit #1 is the only piece of apparatus not equipped with Holmatro eqiupment. The purchase of the equipment will make it possible to interchange equipment with others during and incident where two or more aparatus are on scene. Rescue Unit 1 is currently equipped with Hurst equipment which is outdated with some the equipment being more than 20 years old. In light of current economic times, the fire department has decided to delay the purchase of Engine #7 scheduled for fiscal year 2012-2013. The delay creates a savings to the City (594,997)

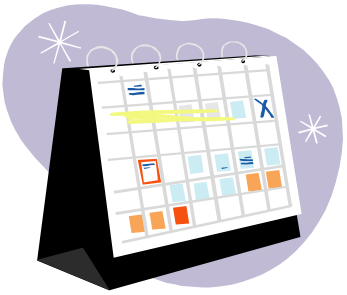
Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Equip/Vehicle/Furnishings	28,000					28,000
Total	**28,000**					**28,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund	28,000					28,000
Total	**28,000**					**28,000**

Budget Impact/Other

City of Dover, Delaware

Project # IT1300
Project Name IT Long Range Planning Process Review and Update



Type	Improvement	**Department**	Information Technology
Useful Life	Unknown	**Contact**	IT Director
Category	General	**Priority**	1
New Project:	No	**Account Number:**	
Time-Line:	Begin Fiscal 2011		

Description

Total Project Cost: **$65,000**

In 2004, the City hired a third party to help us put a framework around long-range technology planning and spending. The outcome which included a five-year plan has provided a road map and format that has allowed us to continue to move forward with technology in an organized and predictable manner. This new project is to repeat the process and update our plan. This update was presented to the TAC group and received a high number of votes October 2008.

Justification

This has been effective, the five-year plan was exhausted in fiscal year 2009 and has begun again in Fiscal 2011.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Other		65,000				65,000
Total		**65,000**				**65,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund		65,000				65,000
Total		**65,000**				**65,000**

Budget Impact/Other

Estimate is based on cost of 2004 study. Lowest bid back then was $50,000.

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **IT1400**

Project Name **CISCO VoIP Phone Server Replacement**

Type Equipment
Useful Life 5-10 years
Category General
New Project:
Time-Line:

Department Information Technology
Contact IT Director
Priority 2
Account Number:

Description

Total Project Cost: **$40,000**

In 2006, the CISCO VoIP telephone system was installed. The three Call Manager servers that operate the system and the Call Center server used by Customer Service will reach the end of its life cycle. After consulting with CISCO and their local service provider, MTM, it is anticipated that the existing equipment could continue to operate for another two years, until Fiscal 2014.

Justification

After Fiscal 2014, it is likely that the servers would no longer be able to be covered by a service contract. Additionally, ther servers would not support any software upgrades.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Equip/Vehicle/Furnishings			40,000			40,000
Total			**40,000**			**40,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund			40,000			40,000
Total			**40,000**			**40,000**

Budget Impact/Other

City of Dover, Delaware

Project # LB0901
Project Name New Dover Public Library

Type Improvement
Useful Life 25+ years
Category General
New Project: No
Time-Line:

Department Library
Contact Library Director
Priority 1
Account Number:

Description

Total Project Cost: **$20,314,917**

The Dover Public Library, built in 1961, can no longer meet the needs of the current population of the greater Dover service area. A new 46,000 square foot library facility will be built on Loockerman Street between City Hall and the Dover Post Office in downtown Dover. The consequences of delaying or eliminating this project are that members of the community will continue to receive very limited library services due to space and other deficiencies in the current facility. State funding, already committed, will be lost if the project is delayed. This project is related to the Delaware Division of Libraries' Statewide Master Plan.

Justification

In 2004, library facilities planners, Robert H. Rohlf Associates conducted a library facilities plan and recommended that the City of Dover build a 39,000-50,000 square foot library in the downtown area because the current library is insufficient to meet the needs of citizens. The study concluded that the current library does not provide enough parking, shelving, programming areas, quiet study rooms, sufficient office space; and that there are ADA issues throughout the building. The study compared the Dover Public Library to libraries in similar-sized communities and services are lacking in many areas, including collection and reference. The benefit of replacing the current library is that the community will have access to a library with sufficient space for collections and computers, lighting, parking, quiet study areas, and programming space.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
6,579,425	Planning/Design	143,156	15,789				158,945
Total	Construction/Maintenance	9,130,209	2,282,533				11,412,742
	Other	1,921,644	242,161				2,163,805
	Total	**11,195,009**	**2,540,483**				**13,735,492**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
6,579,425	Library Reserve Fund	1,200,938	78,000				1,278,938
Total	Other	4,396,566	700,344				5,096,910
	State Grant	5,597,505	1,762,139				7,359,644
	Total	**11,195,009**	**2,540,483**				**13,735,492**

Budget Impact/Other

A larger library will require more maintenance, increased operational funding for heating and cooling, increased janitorial services, and at least 2.5 additional full-time library staff.

Budget Items	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Other (Insurance, Utilities)		169,579	174,666			344,245
Total		**169,579**	**174,666**			**344,245**

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **MR1300**

Project Name **Downtown Security Cameras**

Type	Equipment	**Department**	Mayor
Useful Life	5-10 years	**Contact**	Mayor Carey
Category	General	**Priority**	1
New Project:	No	**Account Number:**	147-3200-519-40-25
Time-Line:			

Description

Total Project Cost: **$64,500**

Installing surveillance cameras, one on Loockerman and State Street, one on State and North Street at the Schwartz center and South Bradford Street on the Minor Street Alley. These are areas that have had the most complaints from, so the first three should be installed in these locations. Eventually we can cover the Business District either by adding so many per year of if a grant should become available, adding more. 2nd Phase add Governor's Avenue Parking Lot.

Justification

Reduction in crime in the specified areas. These Cameras would cooperate off the current fiber optic System, so there would be no telephone line charges. Monitors would be at the police station with dispatchers being able to monitor the locations for illegal actions in the area and to solve crimes that have occurred

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
31,500	Other		33,000				33,000
Total	**Total**		**33,000**				**33,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
31,500	General Fund		33,000				33,000
Total	**Total**		**33,000**				**33,000**

Budget Impact/Other

Phase I completed with Grant Funds, this portion of the project includes Phase II (63,000) and Expansion (63,000).

Project # **PR1201**

Project Name **Dover Park - Roof Replacement**

Type	Maintenance	**Department**	Parks and Recreation
Useful Life	15-20 years	**Contact**	Parks & Recreation Director
Category	General	**Priority**	1
New Project:	Yes	**Account Number:**	
Time-Line:	August - September 2010		

Description

Total Project Cost: **$30,000**

This project will see the replacement of the roof at the Dover Park Administration Building. Consequences of delaying or elminating this project will result in the continued repair of the interior ceiling of the Dover Park Administrative Building due to water leakage.

Justification

Heavy rain or snow has caused water to leak into the building.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	30,000					30,000
Total	**30,000**					**30,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund	30,000					30,000
Total	**30,000**					**30,000**

Budget Impact/Other

The roof on the Dover Park Adminstration Building was replaced in 1990. The present roof is 19 years old and in need of replacement.

Project # PR1301

Project Name Park and Playground Improvement Program

Type	Improvement	**Department**	Parks and Recreation
Useful Life	10-15 years	**Contact**	Parks & Recreation Director
Category	General	**Priority**	3
New Project:		**Account Number:**	
Time-Line:			

Description

Total Project Cost: **$444,000**

This project will resurface the basketball court at William Park & replace playground swings at Dover Park in additional to other repairs at existing park facilities. The consequences of delaying or elminating this project are that the courts may need to be closed for public use due to safety concerns. This project meets Consumer Product Safety Commission Playground Safety Guidelines.

Justification

The existing basketball court has cracks throughout the court and this has created safety issues and playground swings are over 22 years old.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
282,000	Construction/Maintenance		30,000	33,000	33,000	33,000	129,000	33,000
Total	**Total**		**30,000**	**33,000**	**33,000**	**33,000**	**129,000**	**Total**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
282,000	General Fund		30,000	33,000	33,000	33,000	129,000	33,000
Total	**Total**		**30,000**	**33,000**	**33,000**	**33,000**	**129,000**	**Total**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **PR1302**

Project Name **Splash Pad at Schutte Park**

Type Equipment
Useful Life 15-20 years
Category General
New Project: Yes
Time-Line: April - June 2011

Department Parks and Recreation
Contact Parks & Recreation Director
Priority 2
Account Number:

Description

Total Project Cost: **$310,000**

This project will construct a ground-level splash pad at Schutte Park. Consquences of delaying or eliminating this project include not meeting the needs our residents who depend on Silver Lake for outdoor recreation.

Justification

This project would improve the quality of life for families in Dover. It would be an enhancement to our summer outdoor camp and sport activities and provide outdoor water activities during the summer months.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design		20,000				20,000
Construction/Maintenance			290,000			290,000
Total		**20,000**	**290,000**			**310,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund		20,000				20,000
Parkland Reserve Fund			145,000			145,000
State Grant			145,000			145,000
Total		**20,000**	**290,000**			**310,000**

Budget Impact/Other

Increased Water Usage

Budget Items	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Other (Insurance, Utilities)		17,000	18,000	19,000	20,000	74,000
Total		**17,000**	**18,000**	**19,000**	**20,000**	**74,000**

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **PR1401**

Project Name **Skate Parks**

Type Equipment
Useful Life 10-15 years
Category General
New Project: No
Time-Line:

Department Parks and Recreation
Contact Parks & Recreation Director
Priority 4
Account Number:

Description

Total Project Cost: **$340,000**

This project will construct a skating area at Schutte Park. Consequences of delaying or elminating this project will result in the continual lack of meeting the needs of youth population, more destruction and problems with business property.

Justification

Many youth and their parents have approached the City to build a skateboard park. Area business owners have complained about skateboarders damaging their property. This park woud give the youth a designated area to use their skakeboards.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
30,000	Planning/Design			10,000			10,000
Total	Construction/Maintenance				300,000		300,000
	Total			**10,000**	**300,000**		**310,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
30,000	General Fund				150,000		150,000
Total	Parkland Reserve Fund			10,000			10,000
	State Grant				150,000		150,000
	Total			**10,000**	**300,000**		**310,000**

Budget Impact/Other

To meet the need for a designated skating area at Schutte Park. In addition, while working with the Skate Park Committee and Kent County Levy Court, develop plans and construct a Skate Park in Fiscal 2015 for area youth.

Budget Items	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Maintenance			2,500	2,500	3,000	8,000
Total			**2,500**	**2,500**	**3,000**	**8,000**

Project # **PR1402**

Project Name **Schutte Park Land Improvements**

Type Improvement
Useful Life 50 years
Category General
New Project:
Time-Line:

Department Parks and Recreation
Contact Parks & Recreation Director
Priority 5
Account Number:

Description

Total Project Cost: **$100,000**

This project involves the probable land donation from a local developer. Wyoming Mill Road will be reconfigured to intersect the Villiage of Westover entrance. The price listed is for grading and seeding the donated land, which will become athletic fields. The consequences of delaying or elminating this project will be the lack of outdoor athletic field space.

Justification

Increased acreage for outdoor athletic fields.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance			100,000			100,000
Total			**100,000**			**100,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund			100,000			100,000
Total			**100,000**			**100,000**

Budget Impact/Other

Construction to be complete in the same time frame as the new Boys & Girls Club.

Project # **PR1403**

Project Name **Pathway at Schutte Park**

Type Improvement
Useful Life 20-25 years
Category General
New Project:
Time-Line:

Department Parks and Recreation
Contact Parks & Recreation Director
Priority 6 --
Account Number:

Description

Total Project Cost: **$120,000**

This project would involve the continuation of the 10-foot wide multi-use pathway at Schuttee Park. Consequences of delaying or eliminating this project are that park users will not have a trail system that connects from beginning to end. Applications for State Grants from the Delaware Land, Water & Trust Fund will be completed to pay for 50% of the project costs.

Justification

The completion of the path will create a loop for path users. The existing path begins at the parking lot and ends at Wyoming Mills Road.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance			120,000			120,000
Total			**120,000**			**120,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund			60,000			60,000
State Grant			60,000			60,000
Total			**120,000**			**120,000**

Budget Impact/Other

Project # **PR1404**

Project Name **Tennis Courts at Schutte Park**

Type Improvement
Useful Life 10-15 years
Category General
New Project: No
Time-Line: Mar. 2014 - May 2014

Department Parks and Recreation
Contact Parks & Recreation Director
Priority 7 --
Account Number:

Description

Total Project Cost: **$160,000**

This project will construct tennis courts at Schutte Park. Consequences of delaying or eliminating this project are that there are no tennis courts on the west side of Dover for resident use.

Justification

There are no public tennis courts on the West side of Route 13 in Dover. The Parks and Recreation department has received several requests for the addition of tennis courts at Schutte Park. This project is a part of the master plan for Schutte Park that was developed by Sasaki Associates, Inc in 1991.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance			160,000			160,000
Total			**160,000**			**160,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund			160,000			160,000
Total			**160,000**			**160,000**

Budget Impact/Other

Project # PR1405

Project Name Lighted Soccer/Multi Purpose Field

Type Improvement
Useful Life 10-15 years
Category General
New Project: No
Time-Line: Nov. 2013 - Mar. 2014

Department Parks and Recreation
Contact Parks & Recreation Director
Priority 8 --
Account Number:

Description

Total Project Cost: **$195,000**

This project will provide one lighted, multipurpose field at Schutte Park. Consequences of delaying or eliminating this project will be that the City will not be able to provide field space for the outdoor sport leagues.

Justification

Due to the construction of the Pitts Center and the loss of field space, the demand for field space for soccer, lacrosse, flag football and field hockey has grown. We can increase usage of existing fields by lighting one field while will enable teams to play at night.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance			195,000			195,000
Total			**195,000**			**195,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund			195,000			195,000
Total			**195,000**			**195,000**

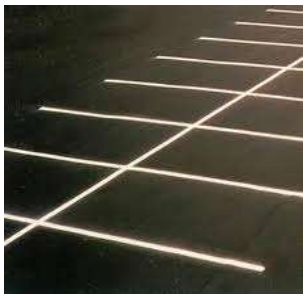
Budget Impact/Other

The cost of electricity for lights will be charged to the teams using the fields.

Budget Items	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Other (Insurance, Utilities)			8,000	16,000		24,000
Total			**8,000**	**16,000**		**24,000**

Project # **PR1501**

Project Name **Paving of Parking Lots at Schutte Park**



Type Improvement
Useful Life 20-30 years
Category General
New Project: Yes
Time-Line:

Department Parks and Recreation
Contact Parks & Recreation Director
Priority 9 --
Account Number:

Description

Total Project Cost: **$300,000**

Pave, stripe and install lighting for two existing parking areas. There is inadequate parking for events at Schutte Park.

Justification

Existing parking doesn't have marked parking spaces and is not lighted. By paving these areas we can increase parking spaces and increase safety for park users after dark.

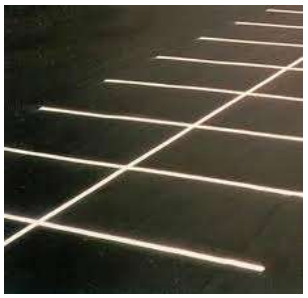
Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance				300,000		300,000
Total				**300,000**		**300,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Community Transportation Fun				150,000		150,000
General Fund				150,000		150,000
Total				**300,000**		**300,000**

Budget Impact/Other

Project # PD1301

Project Name Repair/Micro Seal Police Station Parking Lots



Type Maintenance
Useful Life Unknown
Category General
New Project:
Time-Line:

Department Police
Contact Police Chief
Priority 2
Account Number:

Description

Total Project Cost: **$25,300**

Currently, the southeast and southwest lots have several cracks that need to be filled and micro-sealed. If this is done during FY12, there should be no need to completely redo the station lots (milling down, repaving, and restriping of the parking lots) for another five to ten years. The city crews came over and put cold patches down on the southwest side during FY08, but the current cracks need to be addressed to prevent further damage to department vehicles as well as the vehicles owned by department personnel and visitors who use those lots.

Justification

If the repair isn't completed, the additional cracks & potholes that develop over the winter could cause damage to department and personal vehicles and become a liability issue to the city.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance		25,300				25,300
Total		**25,300**				**25,300**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund		25,300				25,300
Total		**25,300**				**25,300**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **PA1301**

Project Name **GIS Infrastructure and Mobile Solutions**

Type Equipment
Useful Life 3-5 years
Category General
New Project: No
Time-Line:

Department Public Services-Admin
Contact Public Services Director
Priority 4
Account Number:

Description

Total Project Cost: **$54,000**

This project will be used to expand mobile data terminals (MDT's) to building inspectors and the Public Works inspector. The ability will be given to access all networked files and programs (HTE, Fortis, Outlook, etc.) along with utilization of many GIS capabilities. The Fire Marshal's office along with Code Enforcememt staff have this capability and it has been beneficial for both departments.

Justification

This strategy would procure hardware and software as well as perform pilot projects that would test the ability of the City to expand in such areas of technology. The types of hardware to be purchased are GPS receivers, patch antennas, laptops, vehicle mounts, and lightweight clients. Software would be extensions used in conjunction with ESRI's ArcGIS software to perform specific tasks. Types of extensions are spatial analyst, network analyst, etc. ESRI Services may be purchased for help with advancement in the City's use of ArcGIS Server Mobile.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Other		8,000	8,000	8,000		24,000
Miscellaneous		10,000	10,000	10,000		30,000
Total		**18,000**	**18,000**	**18,000**		**54,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund		18,000	18,000	18,000		54,000
Total		**18,000**	**18,000**	**18,000**		**54,000**

Budget Impact/Other

As pilot projects are preformed and found to be successful, budgets will grow as the pilots are implemented department or City-wide. Future software maintenance and hardware replacement (sustainability). The City is using two NASCAR races a year to implement new technologies. Along with training employees in these technologies, we are utilizing techniques used in damage assessment and emergency recovery during daily race weekend operations. To continue expanding on such pilot projects, we would need additional hardware and software. Other below represents ESRI services and support. Miscellaneous below represents mostly hardware and some software.

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # ST1201

Project Name Street and Alley Program

Type Improvement
Useful Life 20-25 years
Category General
New Project:
Time-Line:

Department Public Services-Streets
Contact Public Services Director
Priority 1
Account Number:

Description

Total Project Cost: **$9,850,000**

This project will rehabilitate approximately three to five percent (3-5%) of the street and alley network each year. The estimated capital maintenance costs are $33.7 million over a 20-year planning horizon in Fiscal Year 2005 dollars. This estimate is based on the needs survey conducted by Public Services in Fiscal year 2004. Continuous maintenance on these assets will prevent more costly reconstruction in the future. This project combines the former Street Resurfacing Program, the Alley Program and the Barrier Free Access Ramp Program

Justification

The program identifies maintenance costs for 84.79 miles of streets and 15.24 miles of alleys as of June 30, 2010. Replacement of deteriorated curbs, gutters, and sidewalks provides improved use, drainage, and the appearance of the pavement section. The Street and Alley Program schedule is driven by funding and road ratings. Total street mileage is growing each as more roads and alleys are dedicated for public maintenance due to growth.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
2,650,000	Construction/Maintenance	2,000,000	1,300,000	1,300,000	1,300,000	1,300,000	7,200,000
Total	**Total**	**2,000,000**	**1,300,000**	**1,300,000**	**1,300,000**	**1,300,000**	**7,200,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
2,650,000	Community Transportation Fun	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000
Total	General Fund		300,000	300,000	300,000	300,000	1,200,000
	General Obligation Bonds	1,000,000					1,000,000
	Total	**2,000,000**	**1,300,000**	**1,300,000**	**1,300,000**	**1,300,000**	**7,200,000**

Budget Impact/Other

The improvement schedule is based on the Fiscal Year 2004 ratings and Community Transportation Funds committed by area legislators. The annual funding split is proposed to be $700,000 from the General Fund and $1,000,000 from Community Transportation Funds in Fiscal year 2012.
NOTE: Before the issue of the General Obligation Bonds an affordability study will be conducted.

Project # **ST1202**

Project Name **Concrete Construction and Replacement Program**

Type Maintenance
Useful Life 30+ years
Category General
New Project: No
Time-Line: Continuous

Department Public Services-Streets
Contact Public Services Director
Priority 2
Account Number:

Description

Total Project Cost: **$370,000**

This program replaces and rehabilitates deteriorated sidewalks and curbs throughout the City using in-house labor and private contractors. This is in accordance with the ADA. Delaying or eliminating the project will result in continued complaints and insurance claims from citizens and visitors. In addition, further deterioration of the sidewalk network will occur.

Justification

This program promotes the interconnection of the sidewalk network to conform to ISTEA (Intermodal Surface Transportation Efficiency Act) and rehabilitates sidewalks that have root damage from City street trees. This program also facilitates compliance with the Americans with Disabilities Act as it relates to the pedestrian network as well as improving localized drainage issues.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
50,000	Construction/Maintenance	30,000	65,000	70,000	75,000	80,000	320,000
Total	**Total**	**30,000**	**65,000**	**70,000**	**75,000**	**80,000**	**320,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
50,000	General Fund	30,000	65,000	70,000	75,000	80,000	320,000
Total	**Total**	**30,000**	**65,000**	**70,000**	**75,000**	**80,000**	**320,000**

Budget Impact/Other

There is no impact on the operating budget as reduction in insurance claims and improved pedestrian mobility is difficult to financially quantify. The Department of Public Services maintains a prioritization list that outlines the categories of replacement. Complaints are entered on the list as they are received and prioritized by City staff.

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **ST1203**

Project Name **Dump Truck Refurbishment**

Type Maintenance
Useful Life 5-10 years
Category General
New Project: Yes
Time-Line:

Department Public Services-Streets
Contact Central Services Director
Priority 1
Account Number: 147-1800-554-40-23

Description

Total Project Cost: **$30,000**

The City has three, model year 2001, five ton dump trucks purchased in 2002. These trucks have severaly deteriorated dump bodies. Each truck chassis requires minor repair. The diesel engines reflect less than 35K miles on the odometers. The averages miles drives equals approximately 4,300 per year. These diesal engines should last for 75k miles. The rusted dump bodies will be removed, sandblasted, and the frames will be repainted. New brakes, hydraulic hoses and exhaust systems will be installed. In addition, all belts and hoses will be replaced and new stainless bodies will be installed.

Justification

The most expensive part of the dump trucks are their engines, chassis' and drive trains. Once repaired, the vehicles could last 10 years or more. At current usage, they will only have approximately 78k miles on the odometers. The replacement costs for 3 new dump trucks is $104,476 each. Having the repairs completed on-site will save the City approximately $283,000

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	30,000					30,000
Total	**30,000**					**30,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund	30,000					30,000
Total	**30,000**					**30,000**

Budget Impact/Other

Project # **ST1301**

Project Name **Salt Storage Facility - Schutte Park**

Type Equipment
Useful Life 20-25 years
Category General
New Project: Yes
Time-Line:

Department Public Services-Streets
Contact Public Services Director
Priority 3
Account Number:

Description

Total Project Cost: **$50,000**

This project proposes the construction of a 50' long x 50' wide x 20' high salt storage building at the rear of Schutte Park. The proposed construction will allow city staff to store salt indoors, greatly reducing the environmental impact of this operation. Salt is only used during winter months; however, we typically have this material on hand in varying quantities all year long.

Justification

Salt is currently stored down at Old PW II under a tarp within the concrete area. The current method of covering this material is inadequate and has potential environmental impacts on the St. Jones River. All runoff from this storage area goes directly into the St. Jones River. This project will likely be a requirement in our NPDES MS4 permit renewal scheduled for July 1, 2011. Moving this material indoors and under roof will reduce the environmental impact and allow this resource to be used in a more efficient manner.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance		50,000				50,000
Total		**50,000**				**50,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund		50,000				50,000
Total		**50,000**				**50,000**

Budget Impact/Other

Project # ST1302

Project Name Brine Manufacturing System

Type Equipment
Useful Life 10-15 years
Category General
New Project:
Time-Line:

Department Public Services-Streets
Contact Public Services Director
Priority 4
Account Number:

Description

Total Project Cost: $27,825

The ABS-1500 automatic batch system is designed for the manufacturing of a brine solution continuously. The brine solution is produced from a mixture of granular salt and standard tap water. The system can produce up to 4,000 gal of brine per hour.
The ABS-1500 - $11,550; a 5,000 gallon heavy duty storage tank - $3,675 and the Single lane EZ load applicator system - $12,600

Justification

Waiting to receive updated information from Scott Koenig. (hf 2/23/2011)

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Equip/Vehicle/Furnishings		27,825				27,825
Total		**27,825**				**27,825**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
General Fund		27,825				27,825
Total		**27,825**				**27,825**

Budget Impact/Other

WATER/WASTEWATER FUND SUMMARY

FY 2012 thru FY 2016

Projects by Department

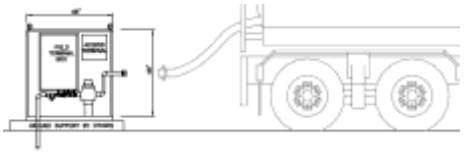
Department	Project #	FY 12	FY 13	FY 14	FY 15	FY 16	*Total*
Customer Services							
Pay-As-You-Go Water Load Station	WD1201	30,240					*30,240*
Customer Services		**30,240**					***30,240***
Public Utilties-Wastewater Management							
Lepore Road Pump Station Replacement	WW1104	350,000					*350,000*
Inflow/Infiltration Removal	WW1201	2,800,000	1,000,000	1,250,000	1,175,000	1,250,000	*7,475,000*
SCADA Equipment Technology Upgrade	WW1202	84,900	87,900				*172,800*
Miscellaneous Sewer System Improvements	WW1203	37,000	39,000	41,000	43,000	45,000	*205,000*
Wilmington College Pump Station Replacement	WW1204	25,000	100,000				*125,000*
Dover Brook Gardens Pump Station Upgrade	WW1205	15,000	50,000				*65,000*
Brandywine Pump Station Replacement	WW1206	52,000	350,000				*402,000*
McKee Road Pump Station Communator Replacement	WW1207	10,000	45,000				*55,000*
Hazletville Road Interceptor	WW1300		30,000	740,000			*770,000*
Dover East Pump Station Abandonment & Sewer Line	WW1302		40,000	213,800			*253,800*
Westover Pump Station & Force Main Upgrade	WW1303		65,000	703,800			*768,800*
Lakeview Drive Pump Station Replacement	WW1400			52,000	450,000		*502,000*
Retreat Pump Station Replacement	WW1500				52,000	360,500	*412,500*
Rolling Aces Pump Station Replacement	WW1501					52,000	*52,000*
Public Utilties-Wastewater Management Total		**3,373,900**	**1,806,900**	**3,000,600**	**1,720,000**	**1,707,500**	***11,608,900***
Public Utilities-Water Management							
Miscellaneous Distribution System Improvements	WD1202	60,000	70,000	75,000	75,000	75,000	*355,000*
Wellhead Redevelopment Program	WD1203	65,000	70,000	75,000	80,000	82,500	*372,500*
Emergency Generators (Wells)	WD1204	80,000	80,000	80,000			*240,000*
1.0 MG Elevated Water Storage Tower	WD1300		2,000,000	390,000			*2,390,000*
Piney Point Well	WD1301		450,000				*450,000*
Future Columbia Well Installation	WD1400			55,000			*55,000*
SCADA Equipment Technology Upgrade	WD1500				80,000	80,000	*160,000*
Water Quality Improvements	WQ1201	500,000	750,000	945,000	1,000,000	1,500,000	*4,695,000*
Water Treatment Plant Process Improvements	WQ1401			150,000	350,000	550,000	*1,050,000*
Public Utilities-Water Management Total		**705,000**	**3,420,000**	**1,770,000**	**1,585,000**	**2,287,500**	***9,767,500***
GRAND TOTAL		**4,109,140**	**5,226,900**	**4,770,600**	**3,305,000**	**3,995,000**	***21,406,640***

Funding Source Summary

Source	FY 12	FY 13	FY 14	FY 15	FY 16	*Total*
Water/Wastewater Debt Financing	3,896,900	4,016,900	2,776,000	2,373,000	3,313,000	***16,375,800***
Water/Wastewater Fund	212,240	1,210,000	1,994,600	932,000	682,000	***5,030,840***
GRAND TOTAL	**4,109,140**	**5,226,900**	**4,770,600**	**3,305,000**	**3,995,000**	***21,406,640***

Project # **WD1201**

Project Name **Pay-As-You-Go Water Load Station**



Type Improvement
Useful Life 15-20 years
Category Water/Wastewater
New Project:
Time-Line:

Department Customer Services
Contact Customer Service Manager
Priority 1
Account Number:

Description

Total Project Cost: **$30,240**

The City of Dover provides local contractors the ability to fill water trucks from a water dispensing connection, located at the William Street warehouse. The connection is not in a secure area and operates on the honor system. Contractors are required to purchase a water ticket from the Customer Service Department. However, there are contractors that circumvent the process and fill the water trucks without purchasing a ticket. The water tickets are sold to contractors for $5.00, per truck fill. The capacities of the trucks vary with the amount of the ticket remaining at $5.00. Consumption is monitored by obtaining a meter reading each month and charging a designated department for the usage. When the amount of tickets purchased is compared to the metered consumption there is a loss of revenue.

Justification

This project will prevent direct access to the City of Dover water supply from the warehouse and allow the City to collect revenue for water usage. The $5.00 charge is obsolete; contractors should pay fairly for water based on truck size and gallons consumed. The new system, the Mini General, is an economical solution for low volume bulk water dispensing applications.After the customer pre-pays for water, they will be given a temporary access number and pin number. The system will only dispense the amount of water that is paid for in advance. Each transaction is date and time stamped and recorded by Water+ software.
City departments may also obtain water from this location. Each department will be required to follow the same process.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Equip/Vehicle/Furnishings	30,240					30,240
Total	**30,240**					**30,240**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund	30,240					30,240
Total	**30,240**					**30,240**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **WW1104**

Project Name **Lepore Road Pump Station Replacement**

Type	Improvement	**Department**	Public Utilities-Wastewater Mg
Useful Life	20-25 years	**Contact**	Public Utilities Director
Category	Water/Wastewater	**Priority**	3
New Project:	No	**Account Number:**	417-6900-569.40-31
Time-Line:			

Description

Total Project Cost: **$402,000**

A replacement of this station was identified in the 2009 Wastewater Master Plan, and the current proposal is to completely replace the aging station with a new Smith & Loveless Station, as well as address problems in the immediate upstream gravity sanitary sewer lines.

Justification

The existing pumps are oversized and inefficient. Therefore, new pumps will be sized for the correct capacity of the wet well. The brick wet well is subject to the groundwater infiltration. The upstream gravity line has a depression that collects grease.
Delaying or eliminating this project would result in the continued deterioration of the infrastructure necessitating the need for more extensive repairs in the future.
This project will have a slight impact on our Inflow and Infiltration problem.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
52,000	Construction/Maintenance	350,000					350,000
Total	**Total**	**350,000**					**350,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
52,000	W/WW Debt Financing	350,000					350,000
Total	**Total**	**350,000**					**350,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **WW1201**

Project Name **Inflow/Infiltration Removal**


SANITARY SEWER INFLOW AND INFILTRATION (I & I) PROBLEMS

Type Improvement
Useful Life 50 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 4
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$7,475,000**

This project will identify and correct areas in the sanitary sewer collection system that are deteriorating and allowing groundwater to enter the sanitary sewer system through cracked pipes and/or joints. Video investigations of the lines will be performed in-house to determine the condition of subject pipes which may help with the identification of sump pumps and other illicit connections to the system which will have to be removed by individual property owners. In conjunction with the Water Quality Improvement Projects, sanitary sewer lines within the project areas will be video inspected to determine main condition. A work plan will be developed based on the results of the investigation.

Justification

The wet weather experienced in both 2003 and 2009/2010, highlighted the fact that we have an aging wastewater system that requires more attention to the condition of the old pipe network and more monitoring of illicit connections to the system. Inflow and infiltration are problems that all customers pay for since they are costs that are not assigned to an individual customer. Therefore, all customers are affected by expenses related to inflow and infiltration.

Delaying or eliminating this project will result in continued higher treatment charges for wastewater flow to Kent County than is necessary. In addition, the reduction in available capacity in the City and county systems due to inflow and infiltration will reduce the capacity available for future growth.

The wet weather which was experienced in both 2003 and 2009/2010, exemplified the fact that the aging and deteriorating sanitary sewer system allows groundwater and rain water to enter the system. This in turn results in higher treatment charges from Kent County. In FY 2011 a new groundwater inflow adjustment charge was established as a result. It is critical to continue making improvements on a regular and planned basis to improve the integrity of the wastewater system. Weather occurs in a cyclical fashion and discrepancies between fees collected and charges received will likely happen again when groundwater and precipitation levels rise.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	2,800,000	1,000,000	1,250,000	1,175,000	1,250,000	7,475,000
Total	**2,800,000**	**1,000,000**	**1,250,000**	**1,175,000**	**1,250,000**	**7,475,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
W/WW Debt Financing	2,800,000	1,000,000	1,250,000	1,175,000	1,250,000	7,475,000
Total	**2,800,000**	**1,000,000**	**1,250,000**	**1,175,000**	**1,250,000**	**7,475,000**

Budget Impact/Other

The project will reduce the operating budget over time due to the reduction in costs for sewage treatment paid to Kent County. All savings are cumulative.

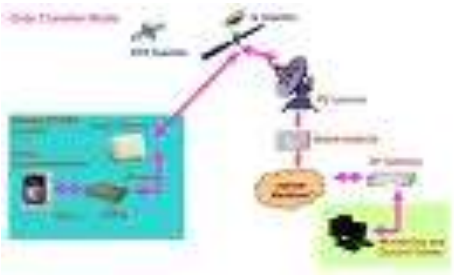
Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **WW1202**

Project Name **SCADA Equipment Technology Upgrade**



Type Improvement
Useful Life 10-12 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 2
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$484,800**

This project involves the replacement of antiquated and/or obsolete remote terminal units (RTUs) at sewage pumping stations with new up-to-date serviceable SCADA equipment. Microwave radios, antennas, and enclosures would be upgraded as needed. The RTU and radio are the reporting equipment for the SCADA system (Supervisory Control and Data Acquisition) which reports, on a constant basis, the status of alarms at the City's pumping stations. The RTUs that are being replaced are outdated and unable to be repaired. Most of the equipment is installed in two steel cabinets mounted outside and are corroding. The new equipment is installed within a single fiberglass NEMA 4 enclosure.

Justification

Replace failing antiquated equipment with completely new alarm reporting equipment to provide reliable SCADA system reporting and to prevent the need for costly non budgeted emergency repairs.
Equipment is becoming old, not supported by the manufacturer, and obsolete.
Each Year; order equipment and construct cabinets and back-plates by December; complete installation by June. Stations being completed in FY 2012: DelTech Pump Station, Turnberry Pump Station, Baltray Pump Station, Westminster Pump Station, Emerald Point Pump Station and Kurt Drive Pump Station.
This is an ongoing project that started in FY 2008, and will be completed in FY 2013.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
312,000	Construction/Maintenance	16,000	16,600				32,600
Total	Miscellaneous	68,900	71,300				140,200
	Total	**84,900**	**87,900**				**172,800**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
312,000	W/WW Debt Financing	84,900	87,900				172,800
Total	**Total**	**84,900**	**87,900**				**172,800**

Budget Impact/Other

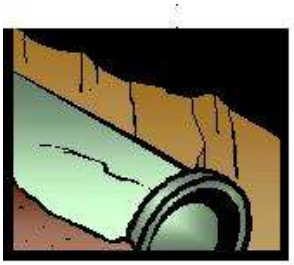
Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **WW1203**

Project Name **Miscellaneous Sewer System Improvements**



Type	Improvement	**Department**	Public Utilities-Wastewater Mg
Useful Life	Unknown	**Contact**	Public Utilities Director
Category	Water/Wastewater	**Priority**	1
New Project:	WW1105	**Account Number:**	417-6900-569.40-35
Time-Line:			

Description

Total Project Cost: **$414,500**

This project will primarily address emergency sanitary sewer infrastructure repairs including sanitary sewer mains and laterals within major roadways, major pump station and force main failures and associated appurtenances. These funds can also be used to partner with private developers to oversize future mains or to install associated improvements to meet the long term goals of the utility.

Justification

Emergency repairs are performed by private contractors or in-house crews as dictated by the scope of work. All costs for over sizing will be paid through negotiated cost and public utilities agreements.
Due to the age of the sanitary sewer system, it can be expected that system failures will occur resulting in capital expenses to repair or replace the failed component(s). In addition, missing opportunities to oversize or reroute mains will result in higher construction costs in the future.
Delaying or eliminating this project would result in reduced ability to properly address system failures and missed opportunities to expand the system.
This is an ongoing annual program. Emergency repairs are addressed as they occur.
This project will primarily address emergency sanitary sewer infrastructure repairs including sanitary sewer mains and laterals within major roadways, major pump station and force main failures and associated appurtenances. These funds can also be used to partner with private developers to oversize future mains or to install associated improvements to meet the long term goals of the utility.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
209,500	Construction/Maintenance	37,000	39,000	41,000	43,000	45,000	205,000
Total	**Total**	**37,000**	**39,000**	**41,000**	**43,000**	**45,000**	**205,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
209,500	W/WW Debt Financing	37,000	39,000	41,000	43,000	45,000	205,000
Total	**Total**	**37,000**	**39,000**	**41,000**	**43,000**	**45,000**	**205,000**

Budget Impact/Other

Project # **WW1204**

Project Name **Wilmington College Pump Station Replacement**

Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 6 --
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$125,000**

The proposed project includes the in kind replacement of the grinder pumping station installed with the construction of the Baltray Subdivision in 1988. The station is approaching its anticipated life expectancy of 20-25 years. The grinder pumps, rail system, and electric controls and communator will be replaced.

Justification

Replace the aging station with new components to prevent the need for costly non budgeted repairs to maintain operation. Because of the age of the pump station, certain parts are no longer obtainable, and replacement of equipment is costly.
Grinder pumps require periodic repairs and replacement to maintain efficient operation. During previous pump removal, staff has noticed leaking seals and instability in the rail system for the pumps due to corrosion. Although grinder pumps are less costly than standard pumps used elsewhere, they are only appropriate under certain conditions. As a grinder pump is still effective at this location, it will be replaced in kind.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	25,000					25,000
Construction/Maintenance		100,000				100,000
Total	**25,000**	**100,000**				**125,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund	25,000	100,000				125,000
Total	**25,000**	**100,000**				**125,000**

Budget Impact/Other

Project # **WW1205**

Project Name **Dover Brook Gardens Pump Station Upgrade**

Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 7 --
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$65,000**

This project would construct a force main priming loop to insure that adequate back pressure is provided to the check valves to maintain prime on the vacuum primed Smith & Loveless pumps and upgrade to maintain or increase capacity. The loop is to create a high point in the force main above the pumps to provide a column of water against the check valves. The existing force main was originally installed with a constant slope away from the station to the receiving gravity sewer manhole. The force main drains by gravity away from the check valves providing very little static water pressure to hold check valves closed.

Justification

Reduce maintenance time of cleaning check valves weekly and on-call or overtime pay when the pumps lose prime.
Staff has observed numerous high wet well alarms due to pump loss of prime. Construction to be provided by in-house crew.

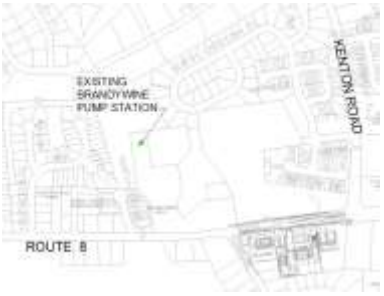
Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	15,000					15,000
Construction/Maintenance		50,000				50,000
Total	**15,000**	**50,000**				**65,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund	15,000	50,000				65,000
Total	**15,000**	**50,000**				**65,000**

Budget Impact/Other

City of Dover, Delaware

Project # WW1206
Project Name Brandywine Pump Station Replacement



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project:
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 8 --
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$402,000**

The proposed project includes the replacement of the Smith & Loveless package pumping station installed in 1977. The station has exceeded its life anticipated expectancy of 20-25 years and is in need of a capacity upgrade due to the increased growth in the basin.

Justification

Replace the aged station with a completely new station to prevent the need for costly non budgeted repairs to maintain operation.
Due to the age of the pump station, certain parts are no longer obtainable, and replacement of equipment is costly.
This station was installed for the Dover Country Club Apartments when City sewer was made available to this area. The site was previously outside the City's service area and had its own onsite sewer treatment system. Over the life span of this station, it has seen increased flows with the construction of Mallard Pond, Marsh Creek, and Westwind Meadows, and the extension of service to Fox Hall Drive and possible infiltration. Based on the monthly runtime hours, the station is currently operating at 130 percent of desired capacity. Staff has observed numerous pump clogs and failures in the past years. The Dover Country Club and Brandywine Condo sewer lines are old and possibly influenced by infiltration.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	52,000					52,000
Construction/Maintenance		350,000				350,000
Total	**52,000**	**350,000**				**402,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund	52,000	350,000				402,000
Total	**52,000**	**350,000**				**402,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **WW1207**

Project Name **McKee Road Pump Station Communator Replacement**

Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority 5
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$55,000**

The proposed project includes the replacement of the communator at the influent line to the pumping station installed in 1995. This acts as a screen/grinder at the influent side of the station, cutting or stopping large debris from entering the wet well and clogging the pumps. The communator motor has run 24/7 since the initial startup of the pumping station.

Justification

Replace the aging equipment to prevent the need for costly unbudgeted repairs to maintain operation. Unbudgeted costly repairs to communator and damage to a pump when failure occurs. Due to the age of the station, certain parts are no longer obtainable, and replacement of equipment is costly.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	10,000					10,000
Construction/Maintenance		45,000				45,000
Total	**10,000**	**45,000**				**55,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund	10,000	45,000				55,000
Total	**10,000**	**45,000**				**55,000**

Budget Impact/Other

Project # **WW1300**

Project Name **Hazlettville Road Interceptor**

Type Improvement
Useful Life 90+ years
Category Water/Wastewater
New Project: Yes
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: 417-6900-569.40-35

Description

Total Project Cost: **$770,000**

This project, identified in the 2009 Wastewater Master Plan, identified sections of 15" gravity wastewater main as being overloaded in peak conditions, due to a negative slope in the pipe. This project calls for the upgrade of roughly 1,320 linear feet of wastewater main. The proposed upgrade will install 21" main at proper slope to provide adequate capacity and allow for future growth in the basin.

Justification

This project has been identified by the 2009 Wastewater Master Plan that the section of pipes is flowing nearly full, due to negative slope. This project will allow for proper capacity to handle current flow as well to allow for growth.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design		30,000				30,000
Construction/Maintenance			740,000			740,000
Total		**30,000**	**740,000**			**770,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund		30,000	740,000			770,000
Total		**30,000**	**740,000**			**770,000**

Budget Impact/Other

City of Dover, Delaware

Project # WW1302
Project Name Dover East Pump Station Abandonment & Sewer Line

Type Improvement
Useful Life 90+ years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: 417-6900-569.40-35

Description

Total Project Cost: **$253,800**

The proposed project includes the abandonment and removal of the existing Smith & Loveless package capsular pumping station. This scope of work will also include the removal of the existing wet well. The station will be eliminated due to the construction to occur on the Rojan Meadows Subdivision site. East Dover MHP will connect to the new Rojan Meadows pump station by installing approximately 400 lf of 12" gravity sanitary sewer. The existing Dover East station has exceeded its anticipated life expectancy of 20-25 years and the removal of this station can be justified because of the pump station being constructed at the Rojan Meadows Subdivision site. The pump station at Rojan Meadows will be sized to handle the Dover East wastewater and will discharge directly into the Central Transmission Bypass.

Justification

The removal of the existing pump station will prevent the need for maintenance, and costly repairs to the system. The gravity sanitary sewer line will be beneficial to the City of Dover because of the low maintenance costs compared to the costs of maintaining and operating the existing pump station.
Maintenance and expense for operating a station is no longer required.
This station was installed with the development of the East Dover Mobile Home Park in 1973.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design		40,000				40,000
Construction/Maintenance			213,800			213,800
Total		**40,000**	**213,800**			**253,800**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund		40,000	213,800			253,800
Total		**40,000**	**213,800**			**253,800**

Budget Impact/Other

Project # **WW1303**

Project Name **Westover Pump Station and Force Main Upgrade**

Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$768,800**

The proposed project includes the upgrade of the Smith & Loveless pumping station and force main installed in 1994. The pump station's available capacity will be consumed with the build out of the Village of Cannon Mills and will be in need of additional capacity in order to be able receive additional flow from the west. The project will include replacement of interior six-inch suction and discharge piping with eight-inch pipe, upgrade 1,400 feet of six-inch force main to 12-inch diameter pipe from the station to Electric Avenue.

Justification

Provide adequate capacity to receive additional sewage flow from the immediate vicinity due to development and annexation.
Possible pipe rupture due to high head pressures and water hammer. A rupture could cause the station to flood causing damage to motors and controls or spilling raw sewage into the Puncheon Run stream.
This project is related to the Comprehensive Plan Update.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design		65,000				65,000
Construction/Maintenance			703,800			703,800
Total		**65,000**	**703,800**			**768,800**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund		65,000	703,800			768,800
Total		**65,000**	**703,800**			**768,800**

Budget Impact/Other

Project # **WW1400**

Project Name **Lakeview Drive Pump Station Replacement**

Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$502,000**

This project calls for replacement of the Smith & Loveless package pumping station installed in 1971. The station has exceeded its life anticipated expectancy of 20-25 years and is need of a capacity upgrade due to high peak inflow rates.

Justification

Replace the aged station with a completely new station to prevent the need for costly unbudgeted repairs to maintain operation. Due to the age of the station, certain parts are no longer obtainable and replacement of equipment is costly. Design and bid in FY 2014; construction in FY 2015. This station is located within the roadway of Lakeview Drive. The design portion of this project is to address the relocation of this station.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design			52,000			52,000
Construction/Maintenance				450,000		450,000
Total			**52,000**	**450,000**		**502,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund			52,000	450,000		502,000
Total			**52,000**	**450,000**		**502,000**

Budget Impact/Other

Project # **WW1500**

Project Name **Retreat Pump Station Replacement**

Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$412,500**

The proposed project includes the replacement of the Smith & Loveless package pumping station installed in 1978. The station has exceeded its life expectancy of 20-25 years and is in need of a capacity upgrade due to the increased growth in the basin.

Justification

Replace the aged station with a completely new station to prevent the need for costly non budgeted repairs to maintain operation.
Due to the age of the pump station, certain parts are no longer obtainable and replacement of equipment is costly.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design				52,000		52,000
Construction/Maintenance					360,500	360,500
Total				**52,000**	**360,500**	**412,500**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
W/WW Debt Financing					360,500	360,500
Water/Wastewater Fund				52,000		52,000
Total				**52,000**	**360,500**	**412,500**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **WW1501**

Project Name **Rolling Acres Pump Station Replacement**

Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Wastewater Mg
Contact Public Utilities Director
Priority n/a
Account Number: 417-6900-569.40-31

Description

Total Project Cost: **$412,500**

This project calls for replacement of the Smith & Loveless package pumping station installed in 1973 in order to handle the commercial areas from Harrington Realty Shopping Center to the Howard Johnson Hotel. The station has exceeded its life anticipated expectancy of 20-25 years and is in need of a capacity upgrade due to the high peak inflow rates.

Justification

Replace the aged station with a completely new station to prevent the need for costly unbudgeted repairs to maintain operation.
Due to the age of the station, certain parts are no longer obtainable, and replacement of equipment is costly.
This station experiences periods of high inflow rates due to the hotel occupancy and is susceptible to possible inflow/infiltration. Staff has observed numerous pump high wet well alarms due to high inflows and increased runtimes during wet months.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Planning/Design					52,000	52,000	360,500
Total					**52,000**	**52,000**	**Total**

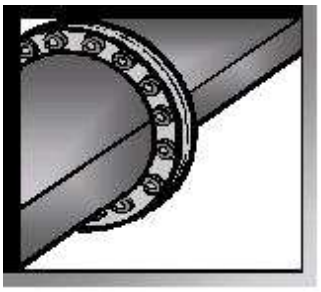
Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Water/Wastewater Fund					52,000	52,000	360,500
Total					**52,000**	**52,000**	**Total**

Budget Impact/Other

City of Dover, Delaware

Project # WD1202

Project Name Miscellaneous Distribution System Improvements



Type Improvement
Useful Life Unknown
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority 1
Account Number: 417-6800-568.40-34

Description

Total Project Cost: **$883,948**

This project will primarily address emergency distribution system infrastructure repairs including water mains and services within major roadways and associated appurtenances. This project will also install improvements identified by the flushing program such as valve insertions and hydrant installations. These funds can also be used to partner with private developers to oversize future mains or to install associated improvements to meet the long term goals of the utility.

Justification

Due to the age of the water system, it can be expected that system failures will occur resulting in capital expenses to repair or replace the failed component(s). Implementing improvements identified by the flushing program will aide in improved operational control of the system. In addition, missing opportunities to oversize or reroute mains will result in higher construction costs in the future.
Delaying or eliminating this project would result in reduced ability to properly address system failures and missed opportunities to expand the distribution system.
This is an ongoing annual program. Emergency repairs are addressed as they occur.
Emergency repairs are performed by private contractors or in-house crews as dictated by the scope of work. All costs for over sizing will be paid through negotiated cost and public utilities agreements.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
528,948	Construction/Maintenance	60,000	70,000	75,000	75,000	75,000	355,000
Total	**Total**	**60,000**	**70,000**	**75,000**	**75,000**	**75,000**	**355,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
528,948	W/WW Debt Financing	60,000	70,000	75,000	75,000	75,000	355,000
Total	**Total**	**60,000**	**70,000**	**75,000**	**75,000**	**75,000**	**355,000**

Budget Impact/Other

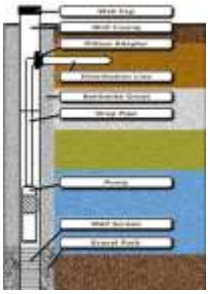
Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **WD1203**

Project Name **Wellhead Redevelopment Program**



Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority 2
Account Number: 417-6800-568.40-34

Description

Total Project Cost: **$768,462**

This project will provide for rehabilitation and repair of each deep wellhead in an effort to maintain operations and/or increase the yield of each well as it relates to the permitted allocation.

Justification

The well screening and gravel pack requires cleaning over time due to a buildup of mineral deposits and foreign materials such as clay and silt. This maintenance effort is critical to ensure that production can continue to meet demand. It is also necessary to maintain the operational aspects of each well and provide repairs as needed to minimize downtime to maintain system capacity.
Delaying or eliminating this project would result in the continued deterioration of the well screen, gravel pack, and well yield over time. It would also result in increased well downtime, emergency repairs, and decreased capacity. These issues can lead to increased flow pattern changes and water quality concerns.
Improved operating efficiencies at the wellhead will slightly reduce power costs, but this savings has not been quantified. FY 2008; total well inspection and testing performed. FY 2009: Motors at Wells #6A and #9 were rebuilt, and wells #13R and #15 were redeveloped. FY 2010: Well #10. FY 2011: Well #4 redevelopment and well piping improvements at various well locations.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	65,000	70,000	75,000	80,000	82,500	372,500
Total	**65,000**	**70,000**	**75,000**	**80,000**	**82,500**	**372,500**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
W/WW Debt Financing	65,000	70,000	75,000	80,000	82,500	372,500
Total	**65,000**	**70,000**	**75,000**	**80,000**	**82,500**	**372,500**

Budget Impact/Other

Project # **WD1204**

Project Name **Emergency Generators (Wells)**

Type Equipment
Useful Life 10-12 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority 4
Account Number: 417-6800-568.40-31

Description

Total Project Cost: **$240,000**

This project, identified in the 2006 Water Master Plan Update, would provide emergency generators for large production wells.

Justification

This project will provide emergency power to wells for continued water production and reliability in the event of power disruptions or other emergencies.
Portable or fixed generators are currently not available to most of the deep wells.
All generators purchased will be permanent fixtures at each site. Generator purchased in FY 2012 will support Well #2, FY 2013 will support Well #6 and FY 2014 will support Well #10. Currently, a portable generator is stationed at Well #10, after installation of permanent generator at Well #10; the portable generator will be used at medium sized production wells as needed.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous	80,000	80,000	80,000			240,000
Total	**80,000**	**80,000**	**80,000**			**240,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund	80,000	80,000	80,000			240,000
Total	**80,000**	**80,000**	**80,000**			**240,000**

Budget Impact/Other

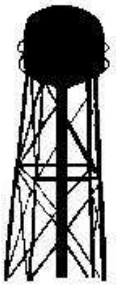
Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **WD1300**

Project Name **1.0 MG Elevated Water Storage Tower**



Type	Improvement	**Department**	Public Utilities-Water Mgmnt
Useful Life	90+ years	**Contact**	Public Utilities Director
Category	Water/Wastewater	**Priority**	n/a
New Project:	No	**Account Number:**	417-6800-568.40-31
Time-Line:			

Description

Total Project Cost: **$3,085,000**

The proposed project, identified by staff and confirmed by the 2006 Water Master Plan Update, will construct a new 1.0 million gallon elevated storage tank within the distribution system.

Justification

This project was determined necessary by the 2006 Water Mater Plan Update in order to meet future storage volume requirements based upon demands and to aid in reducing low pressure areas and enhance fire suppression capability. Delaying or eliminating this project will result in preventing growth within the system, particularly, fire suppression measures will be compromised.
This project is related to the Piney Point Well.
Construction is planned for FY 2013 and FY 2014
The planning, site selection and land acquisition was conducted between FY 2009 and FY 2011. For bonding purposes, the construction of the tank has been divided between two fiscal years.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
695,000	Construction/Maintenance		2,000,000	390,000			2,390,000
Total	**Total**		**2,000,000**	**390,000**			**2,390,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
695,000	W/WW Debt Financing		2,000,000	390,000			2,390,000
Total	**Total**		**2,000,000**	**390,000**			**2,390,000**

Budget Impact/Other

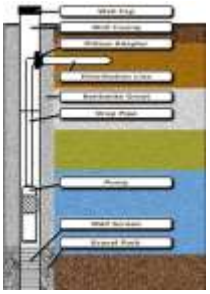
Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **WD1301**

Project Name **Piney Point Well**



Type Improvement
Useful Life 50 years
Category Water/Wastewater
New Project:
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$645,000**

This project, identified by staff and confirmed by the 2006 Water Master Plan Update, proposes the drilling of a new Piney Point Aquifer Production Well to increase production capacity up to our current permitted allocation as well as increase system pressure and stabilize the chlorine residuals of the City.

Justification

A reduction in long-term yield from our Piney Point Well is causing a greater reliance on our more costly aquifers.
Delaying or eliminating this project would result in the continued reduction in our production capabilities under our permitted allocation, as well as our ability to meet projected demand increases.
This project is related to the 1.0 MG Elevated Water Storage Tank.
Planning started in FY 2009. Design continued in FY 2010 and FY 2011. Construction to be completed in FY 2013.
The proposed wellhead is planned to be located in Schutte Park. It is intended that the yield from a new production well will allow us to abandon one of our poorly performing wells.

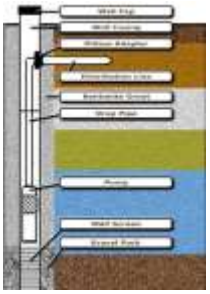
Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
195,000	Construction/Maintenance		450,000				450,000
Total	**Total**		**450,000**				**450,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
195,000	Water/Wastewater Fund		450,000				450,000
Total	**Total**		**450,000**				**450,000**

Budget Impact/Other

Project # **WD1400**

Project Name **Future Columbia Well Installation**



Type	Improvement	**Department**	Public Utilities-Water Mgmnt
Useful Life	20-25 years	**Contact**	Public Utilities Director
Category	Water/Wastewater	**Priority**	n/a
New Project:	No	**Account Number:**	417-6800-568.40-31
Time-Line:			

Description

Total Project Cost: **$55,000**

This project, identified by staff and confirmed by the 2006 Water Master Plan Update, proposes the drilling of new shallow well to increase production capacity at the Water Treatment Plant to design levels of 5.0 Million Gallons per Day. This project is to be completed in conjunction with the Water Treatment Plant Process Improvements.

Justification

To meet increased water demand and fire suppression requirements.
Delaying or eliminating this project would result in the continued reduction in our production capabilities under our permitted allocation, as well as limiting the City's growth.
This project is related to the Water Treament Plant Process Improvements.
Planning is proposed for FY 2014. Design and site procurement are planned for FY 2017. Construction to be completed in FY 2018.
The specific location of a proposed wellhead has not been determined at this time. The location will be selected in the planning and design phase. In addition, the yield from a new production well may allow us to abandon some of our poorly performing wells. Land costs are based upon the need of 1/4 acre of land for the project. This project will be designed in FY 2014 to coincide with the Water Treatment Plant Process Improvements Design, Construction is planned for FY 18.

Expenditures	**FY 12**	**FY 13**	**FY 14**	**FY 15**	**FY 16**	**Total**
Planning/Design			25,000			25,000
Land Acquisition			30,000			30,000
Total			**55,000**			**55,000**

Funding Sources	**FY 12**	**FY 13**	**FY 14**	**FY 15**	**FY 16**	**Total**
Water/Wastewater Fund			55,000			55,000
Total			**55,000**			**55,000**

Budget Impact/Other

Project # **WD1500**

Project Name **SCADA Equipment Technology Upgrade**

Type Equipment
Useful Life 10-12 years
Category Water/Wastewater
New Project: Yes
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority n/a
Account Number: 417-6800-568.40-31

Description

Total Project Cost: **$160,000**

This project involves the replacement of antiquated and/or obsolete equipment related to the SCADA (Supervisory Control and Data Acquisition) system, which controls water production. This equipment includes, but not limited to, Remote Telemetry Units (RTUs), Master Telemetry Unit (MTU) and Radios. SCADA is used for reporting, on a constant basis, the status of the City of Dover's water production wells as well as the Water Treatment Plant. The equipment being replaced would be outdated, or unable to be repaired.

Justification

Replace failing and antiquated equipment to improve monitoring ability and system control to comply with regulatory and reporting requirements and to prevent the need for costly non budgeted emergency repairs. Due to the age of some of the equipment, only used parts are available.
Lack of alarms regarding problems at water production wells and the water treatment plant. Failures would provide no advance warnings of failures in the field at water production sites.
Previous Remote Control and Monitoring Projects, Routine operational replacement of old exhausted equipment. Water Treatment Plant Process Improvements.
Each Year: order equipment for delivery by December; complete installation by June.
It is estimated that upgrades will be made at deep well sites and the Water Treatment Plant, as part of this program.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous				80,000	80,000	160,000
Total				**80,000**	**80,000**	**160,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund				80,000	80,000	160,000
Total				**80,000**	**80,000**	**160,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **WQ1201**

Project Name **Water Quality Improvements**

Type Improvement
Useful Life 90+ years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority 3
Account Number: 417-6800-568.40-31

Description

Total Project Cost: **$4,695,000**

This project was first identified by staff and the 2006 Water Master Plan Update, and has since become further refined with the FY 2006 Water Quality Evaluation. Projects to be included under this category primarily consist of replacement or relining of old unlined cast iron water main within the City's water distribution system; system upgrades to improve system control; and utilization of a consultant to provide additional design and evaluation services, as needed. Recent research and data collections have produced a Water Main Rehabilitation Priority List, based on several criterions to identify water mains that are in need of replacement or relining. Pipes will be upgraded according to the severity of the pipe condition, as well as coordination with the City of Dover's Public Services Street Rehabilitation Program.
Between FY 2008 and FY 2011, the deep well contact chamber designs were completed and installed completed. Water mains have been replaced over this time frame in Washington Street, Pennsylvania Avenue, South Street, Pear Street, West Street, Hazel Road, Maryland Avenue and American Avenue. Operational efforts, such as flushing, will continue to occur on a routine basis.

Justification

Water quality complaints have eroded consumer confidence in the City's water supply as the water is perceived to be aesthetically unpleasant. In order to reduce complaints and potentially alleviate this problem, it is necessary to implement the improvements identified by staff, the 2006 Water Master Plan Update, and the FY 2006 Water Quality Evaluation.
Delaying or eliminating this project will prolong customer dissatisfaction and further erode confidence in the City's water supply. In addition, main rehabilitation and replacement, ensuring pipes do not significantly exceed the expected life cycle, is critical to provide a reliable supply of water for our customers and for fire suppression. Water leaks and breaks on older lines can have a significant impact on our ability to serve over time.
As part of the Water Main Rehabilitation Priority List, water lines were identified throughout the City that requires replacement/relining. Using this as a guide the following water line rehabilitation projects are scheduled for FY 2012: William Street Construction, West Street East Alley Construction, Fairview East & West Alley Design, Lakewood Place Design and Governors Ave. W Alley Design.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	86,000	65,000	50,000	125,000	150,000	476,000
Construction/Maintenance	414,000	685,000	895,000	875,000	1,350,000	4,219,000
Total	**500,000**	**750,000**	**945,000**	**1,000,000**	**1,500,000**	**4,695,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
W/WW Debt Financing	500,000	750,000	945,000	1,000,000	1,500,000	4,695,000
Total	**500,000**	**750,000**	**945,000**	**1,000,000**	**1,500,000**	**4,695,000**

Budget Impact/Other

Addressing the brown water and associated water quality concerns of the City's water system will not only require capital improvements to the system but also operational changes. Some operation changes will result in no net effect on the operating budget, while others will need to be addressed in the development of future operating budgets. Such items include tools and supplies necessary to improve system sampling and monitoring as well as tools and supplies necessary to improve system-wide flushing operations.

Project # **WQ1401**

Project Name **Water Treatment Plant Process Improvements**

Type Improvement
Useful Life 20-25 years
Category Water/Wastewater
New Project: No
Time-Line:

Department Public Utilities-Water Mgmnt
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$1,050,000**

This project, identified in the 2006 Water Master Plan Update, proposes process improvements to the existing Water Treatment Plant. Due to limitations with the Ozone Contactors, the capacity at the Water Treatment Plant is limited to 4.0 Million Gallons per day, as opposed to 5.0 Million Gallons per day, as originally designed. A consultant will be utilized to determine the best means and improvements necessary to increase the capacity. This project is to be performed in conjunction with the future Columbia Well installation.

Justification

Process improvements will allow for capacity enhancements as well as improved ability to meet regulatory requirements. Delaying or eliminating this project can result in production capacity decreases, which could limit growth, and/or regulatory compliance.
Planning is proposed for FY 2014. Construction to begin in FY 2015.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design			150,000			150,000
Construction/Maintenance				350,000	550,000	900,000
Total			**150,000**	**350,000**	**550,000**	**1,050,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Water/Wastewater Fund			150,000	350,000	550,000	1,050,000
Total			**150,000**	**350,000**	**550,000**	**1,050,000**

Budget Impact/Other

ELECTRIC FUND SUMMARY

FY 2012 thru FY 2016

Projects by Department

Department	Project #	FY 12	FY 13	FY 14	FY 15	FY 16	*Total*
Public Utilities-Electric Engineering							
Substation PT & CT Replacement	EE1201	267,715					*267,715*
Lighting Project & Rehabilitation	EE1202	50,000	50,000	50,000	50,000	50,000	*250,000*
Equipment Replacement	EE1203	40,000	40,000	40,000	40,000	40,000	*200,000*
Generator Replacement	EE1204	50,000					*50,000*
Frazier Substation Reliability Upgrade	EE1205	155,000	610,247				*765,247*
Distribution Feeder Replacement Program	EE1206	377,510	277,510	277,510	277,510	277,510	*1,487,550*
Distribution Capacitors & Controls	EE1207	100,000	100,000	100,000	100,000	100,000	*500,000*
Transmission Line Maintenance Program	EE1208	75,000	75,000	75,000	75,000	75,000	*375,000*
SCADA Master Hardware Replacement	EE1209	75,000					*75,000*
Outage Management & Automatic Voice Response	EE1300		250,000				*250,000*
69 kV Substation Switch Replacement	EE1301		80,000	80,000	80,000		*240,000*
Horsepond Substation Reliability Upgrade	EE1302		170,000	591,812			*761,812*
Division Street Substation Fence	EE1304		70,000				*70,000*
General Scott Swtichgear	EE1400			800,000	300,000		*1,100,000*
Horsepond to Cartanza 69 kV Rebuild	EE1500				330,467		*330,467*
System Automation	EE1501				300,000	150,000	*450,000*
69 kV Cable Replacement North Street	EE1502				85,000	480,710	*565,710*
System Operations Monitoring	EE1503				30,000		*30,000*
McKee Run Yard Rebuild	EE1600					450,000	*450,000*
Distribution Upgrades	EU1201	500,000	500,000	500,000	500,000	500,000	*2,500,000*
Public Utilities-Electric Engineering Total		**1,690,225**	**2,222,757**	**2,514,322**	**2,167,977**	**2,123,220**	***10,718,501***
Public Utilities-Electric T & D							
New Developments	EE1212	600,000	600,000	600,000	600,000	600,000	*3,000,000*
Public Utilities-Electric T &D Total		**600,000**	**600,000**	**600,000**	**600,000**	**600,000**	**3,000,000**
Public Utilities-Power Plant							
Units 1 & 2 Cooling Tower Life Extension	EG1102	25,410	37,260	91,000		75,000	*228,670*
McKee Run Unit 3 Turbine Inspections	EG1103	348,000	673,000				*1,021,000*
McKee Run Unit 3 Auxillary System Components	EG1104	113,000	143,000	261,000	25,000		*542,000*
Units 1 & 2 Life Extesion	EG1107	184,000	52,000	182,000	149,000	22,000	*589,000*
McKee Run Unit 3 Air Heater Expansion Joint	EG1111	70,000					*70,000*
McKee Run Unit 3 Boiler Air Heater	EG1201	440,000					*440,000*
McKee Run Unit 3 Boiler Systems	EG1202	130,000	163,000		97,000		*390,000*
Unit 3 FD & ID Fan Control Damper Upgrade	EG1203	92,000					*92,000*
Unit 3 DCS Computers & Software Upgrade	EG1204	85,000					*85,000*
Miscellaneous Capital Equipment Replacements	EG1205	70,000	70,000	70,000	70,000	55,000	*335,000*
McKee Run Demineralizer Control Replacement	EG1206	65,000					*65,000*
Van Sant Unit 11 Component Replacements	EG1207	50,000		97,000		143,000	*290,000*
McKee Run Swtichyeard Blast Walls	EG1208	50,000					*50,000*
McKee Run Preservation of Structures	EG1209	38,000		42,000		30,000	*110,000*
Unit 3 Cooling Water Line Life Extenstion	EG1210	25,000		350,000			*375,000*
McKee Run Unit 3 Stack Repairs	EG1211	25,000			50,000		*75,000*

ELECTRIC FUND SUMMARY

FY 2012 thru FY 2016

Projects by Department - Continued

Department	Project #	FY 12	FY 13	FY 14	FY 15	FY 16	*Total*
Van Sant Capacity Increases	EG1300		550,000				*550,000*
Unit 3 Cooling Tower Life Extension	EG1301		417,390	461,290			*878,680*
McKee Run Units 1 & 2 Stack Repairs	EG1302		75,000				*75,000*
Van Sant Unit 11 Major Overhaul/Inspection	EG1400			150,000	850,000	1,000,000	*2,000,000*
McKee Run Hot Water Boilers	EG1401			70,000			*70,000*
McKee Run Unit 3 High Energy Piping Inspections	EG1402			40,000	360,000		*400,000*
Metering System Upgrades	EG1403			25,000	125,000		*150,000*
Units 1 & 2 Boiler Repairs	EG1500				10,000	160,000	*170,000*
McKee Run Building Equipment Replacements	EG1600					110,000	*110,000*
Public Utilities-Power Plant Total		**1,810,410**	**2,180,650**	**1,839,290**	**1,736,000**	**1,595,000**	**9,161,350**
PUBLIC UTILITIES GRAND TOTAL		**4,100,635**	**5,003,407**	**4,953,612**	**4,503,977**	**4,318,220**	**22,879,851**

Funding Source Summary

Source	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	4,100,635	5,003,407	4,953,612	4,503,977	4,318,220	***22,879,851***
GRAND TOTAL	**4,100,635**	**5,003,407**	**4,953,612**	**4,503,977**	**4,318,220**	***22,879,851***

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EE1201**

Project Name **Substation PT & CT Replacement**

Type Maintenance
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 5
Account Number: 487-8300-563.70-27

Description

Total Project Cost: **$784,813**

This project replaces aging metering/system protection equipment in the older substations. The equipment to be replaced measures the line voltage and current which is then interpreted by the relays for system protection. Additionally, the lightning arrestors will be replaced which protects the equipment during lightning strikes. This is the final year of a three year project.

Justification

This equipment has a normal 30-year life and has exceeded that in all of our substations except the newest substations. By replacing the equipment during normal scheduled maintenance shut downs, it will prevent larger outages due to equipment failure.
Such equipment has caused large outages by faulting due to its age. Additionally, many of the current components have not been tested for PCB's which could result in expensive cleanup charges should they fail.
Materials to be ordered in September 2011. Equipment will start arriving in the spring 2012 and be installed during the regular scheduled substation maintenance schedules until the project is completed.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
517,098	Construction/Maintenance	267,715					267,715
Total	**Total**	**267,715**					**267,715**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
517,098	Electric I & E Fund	267,715					267,715
Total	**Total**	**267,715**					**267,715**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EE1202**

Project Name **Lighting Project and Rehabilitation**

Type Maintenance
Useful Life 10-12 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 4
Account Number: 487-8300-563.50-76

Description

Total Project Cost: **$650,000**

This fund was developed to replace and repair existing street lights or install new lights upon customer request.
This fund will remain active as long as there are improvements to be made. Private area lighting requests are a source of revenue for the City. Areas completed are Greens of Dover, Farmview, Twelve Oaks, Old Mill Acres I, White Oak Apartments, Westfield, Fairview, Cranberry Run, Millcreek, Independence Village and Governors Avenue (South 100 Block), Deerfield, Central Middle School, Fox Hall, Hidden Oaks, and a portion of North Governors Ave. Areas to be completed this budget year include The Meadows, Turnberry, Baltray, Acorn Farms, Bicentennial and some improvements to The Green.

Justification

The Electric Division receives numerous requests for lighting improvements. These requests are due to the lights aging, and as they age they put out less light and become unreliable. There are many developments that are in need of street light improvements. This fund would also provide funding for new large security light requests. Consequences of delaying or eliminating this project include constant complaints of poor street lighting and multiple failures due to antiquated lights.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
400,000	Construction/Maintenance	50,000	50,000	50,000	50,000	50,000	250,000
Total	**Total**	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**	**250,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
400,000	Electric I & E Fund	50,000	50,000	50,000	50,000	50,000	250,000
Total	**Total**	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**	**250,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EE1203**

Project Name **Equipment Replacement**

Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 3
Account Number: 487-8300-563.70-27

Description

Total Project Cost: **$280,000**

Replacement of capital equipment valued between $5,000 and $25,000.

Justification

Extended equipment and/or unit outage time will result from lack of funding this project. This will have a direct effect on the cost of energy during the extended outage time as well as increase future energy capacity charges.
This project is required to fund the replacement of capital items that are expected to reach their useful life and will need to be replaced to maintain system reliability

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
80,000	Equip/Vehicle/Furnishings	40,000	40,000	40,000	40,000	40,000	200,000
Total	**Total**	**40,000**	**40,000**	**40,000**	**40,000**	**40,000**	**200,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
80,000	Electric I & E Fund	40,000	40,000	40,000	40,000	40,000	200,000
Total	**Total**	**40,000**	**40,000**	**40,000**	**40,000**	**40,000**	**200,000**

Budget Impact/Other

Project # **EE1204**

Project Name **Generataor Replacement**

Type Equipment
Useful Life 15-20 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 2
Account Number: 487-8300-563.40-25

Description

Total Project Cost: **$50,000**

Replace the existing Public Utilities Administration Building's back-up generator.

Justification

The Public Utilities building houses the 24 hour system operations facility, for the city's electric and water/wastewater infrastructure. The existing 1975 back-up generator has reached its mechanical limits and is now requiring numerous unplanned cost, to ensure that it is operational. the Public Utilities building were to experience an electrical outage and this back-up generator were to fail, the electric and water/wastewater departments would not be able to monitor or remotely control their respective systems or communicate with customers and staff.

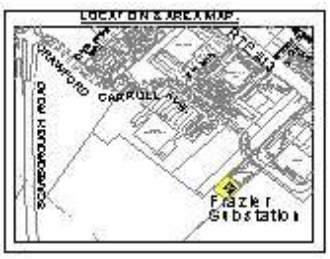
Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Equip/Vehicle/Furnishings	50,000					50,000
Total	**50,000**					**50,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	50,000					50,000
Total	**50,000**					**50,000**

Budget Impact/Other

Project # **EE1205**

Project Name **Frazier Substation Reliability Upgrade**



Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 9 --
Account Number: 487-8300-563.70-27

Description

Total Project Cost: **$765,247**

The high side of the substation will be upgraded to include transmission line protection breakers as well as the transformer breaker.

Justification

When the transmission line experiences a fault this substation loses power until the short circuit is found and the appropriate switching is accomplished. With the installation of the two new line breakers the faulted transmission line will be isolated from the substation and the customers will not experience an interruption of service. Consequences of delaying or eliminating thie project will be accepting the outages in the northwest section of the system during transmission line faults. The design will begin in July 2011; materials will be ordered in July 2012 and construction to be completed by June 2013.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	155,000					155,000
Construction/Maintenance		610,247				610,247
Total	**155,000**	**610,247**				**765,247**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	155,000	610,247				765,247
Total	**155,000**	**610,247**				**765,247**

Budget Impact/Other

Project # **EE1206**

Project Name **Distribution Feeder Replacement Program**

Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 8 --
Account Number: 487-8300-563.90-25

Description

Total Project Cost: **$1,487,550**

Substation feeders are defined as the three-phase lines that carry the load from the substations to the customers' neighborhood. They interconnect to other substations to provide load redundancy should there be a failure of an adjacent substation. Many of the older substation feeders have smaller conductors that cannot carry the load that is required during system peaks and emergency situations. This project would systematically upgrade these conductors to increase the capacity of the feeders as well as ultimately reducing system losses. Lastly, many of the feeder components have reached the end of their useful life and require substantial maintenance.

Justification

Due to the age and condition of the current feeders, delaying this systematic maintenance/upgrade program will result in reduced system utilization as well as detrimentally impacting future reliability.
These lines are typically older, smaller, and are reaching the end of their life. This program will provide the needed systematic maintenance to the conductors, cross arms, switches, and insulators, as well as increasing system capacity hence resulting in more efficient operations by reducing line losses.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	377,510	277,510	277,510	277,510	277,510	1,487,550
Total	**377,510**	**277,510**	**277,510**	**277,510**	**277,510**	**1,487,550**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	377,510	277,510	277,510	277,510	277,510	1,487,550
Total	**377,510**	**277,510**	**277,510**	**277,510**	**277,510**	**1,487,550**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EE1207**

Project Name **Distribution Capacitors and Controls**

Type Improvement
Useful Life 15-20 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 10 --
Account Number: 48-8300-563.60-82

Description

Total Project Cost: **$964,995**

Install distribution capacitors throughout the system to correct poor power factor on distribution circuits. Install capacitor controllers capable of two-way communication to provide real-time monitoring and remote control operation. These controllers will be capable of switching the capacitors on and off to comply with system requirements. This project will also replace outdated substation meters with units capable of advanced metering such as power factor and harmonics to further analyze system performance. Lastly, distribution line recorders will be purchased and installed to provide power factor recordings to fine tune this operation.

Justification

Additional capacitance is required in order to meet system power factor requirements at the Delmarva Power and Light interchange point. This was substantiated through a load-flow study conducted by Shaw in early 2004 and distribution study by Wilson & Wilson in 2006. The current capacitor controls are not providing the granularity required to turn them off and on as required to meet both the power quality requirements of our customers and DP&L requirements. Additional controls are required to fine tune the systems operation. Without the additional capacitor banks and more importantly controls, the City may experience a low/high voltage problem at the customer level and/or the possibility of having to pay power factor penalties to Delmarva Power and Light.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
464,995	Construction/Maintenance	100,000	100,000	100,000	100,000	100,000	500,000
Total	**Total**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**500,000**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
464,995	Electric I & E Fund	100,000	100,000	100,000	100,000	100,000	500,000
Total	**Total**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**500,000**

Budget Impact/Other

Project # **EE1208**

Project Name **Transmission Line Maintenance Program**

Type Maintenance
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 7 --
Account Number: 487-8300-563.70-35

Description

Total Project Cost: **$375,000**

Replace aging porcelain insulators on the transmission pole lines with new polymer insulators.

Justification

Insulators have a defined equipment life due to sun and weather conditions breaking down the porcelain and base bonding cement. Insulators installed in 1960's and 1970's are due for replacement because of this deterioration. We have experienced several transmission outages due to insulator failure. Replacing the insulators should extend the life an additional 30 years. Outages may occur if insulators are not replaced and fail due to deterioration.
Beginning in FY 2012 through FY 2017, we will replace the insulators on the older transmission lines.

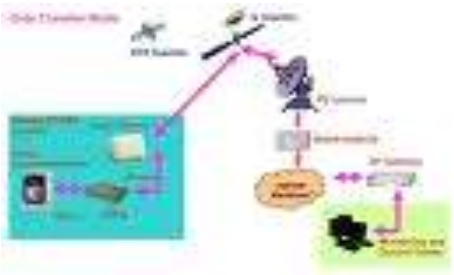
Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous	75,000	75,000	75,000	75,000	75,000	375,000
Total	**75,000**	**75,000**	**75,000**	**75,000**	**75,000**	**375,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	75,000	75,000	75,000	75,000	75,000	375,000
Total	**75,000**	**75,000**	**75,000**	**75,000**	**75,000**	**375,000**

Budget Impact/Other

Project # **EE1209**

Project Name **SCADA Master Hardware Replacement**



Type Improvement
Useful Life 5 years
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 6 --
Account Number: 487-8300-563.80-38

Description

Total Project Cost: **$75,000**

This project would replace the aging Master station hardware. The Master station receives all the analog data, alarms and control for all electrical substations and wastewater lift stations. The master station in comprised of Dual Host Servers, Dual Operator consoles, paging system, web server, 2-Firewalls for DMZ and One remote access/support firewall.

Justification

The equipment has reached the end of its expected life and has already experienced a failure of one of the servers which required substantial expense to repair. It should be noted that this computer system operates 24/7; the additional firewalls are required to meet required system cyber security.
If the system fails we will not be able to monitor or control electrical substations and we will not be able to view alarms for wastewater lift stations. This failure could result in electrical outages or wastewater overflows.
The equipment will be ordered and replaced during the FY 12 budget year.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	75,000					75,000
Total	**75,000**					**75,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	75,000					75,000
Total	**75,000**					**75,000**

Budget Impact/Other

Project # **EE1300**

Project Name **Outage Management & Automatic Voice Reponse**

Type Improvement
Useful Life 5 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: 487-8300-563.40-25

Description

Total Project Cost: **$250,000**

To implement an outage management system that overlays the public utilities newly installed GIS mapping system. This project will be completed in FY 2013.

Justification

This outage management system will increase the electric department's efficiency in managing outages. The system will provide the operators a precise troubleshooting algorithm, to allow for nearly immediate identification of the outage causes and quick dispatch of restoration personnel. The system will also provide an automatic voice response to manage the inrush of telephone calls, when an outage is being experienced. Therefore, additional public utilities' staff will no longer be required to postpone their work obligations, to relocate to the system operation center or assist in receiving telephone calls.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous		250,000				250,000
Total		**250,000**				**250,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		250,000				250,000
Total		**250,000**				**250,000**

Budget Impact/Other

City of Dover, Delaware

Project # EE1301
Project Name 69 kV Substation Switch Replacement

Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: 487-8300-563.70-35

Description

Total Project Cost: **$240,000**

This project will be replacing obsolete 69kV switches in the substation/transmission system.

Justification

The majority of the switches are very old, making for difficult operation and frequent maintenance to ensure operation as needed. Delaying this program will result in switch failure possibly resulting in wide spread power outages. The system has experienced more frequent switch failures in recent years.
The new switches will be gang operated switches which are electrically better to operate and most importantly increase safety to the operator.
The switches that are to be replaced have reached the life expectancy and have a potential of failure if not replaced.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous		80,000	80,000	80,000		240,000
Total		**80,000**	**80,000**	**80,000**		**240,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		80,000	80,000	80,000		240,000
Total		**80,000**	**80,000**	**80,000**		**240,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EE1302**

Project Name **Horsepond Substation Reliability Upgrade**

Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: 487-8300-563.70-27

Description

Total Project Cost: **$761,812**

The high-side of the substation will be upgraded to include two transmission line protection breakers.

Justification

When the transmission line experiences a fault this substation loses power until the short circuit is found and the appropriate switching is accomplished. With the installation of the line breakers the faulted transmission line will be isolated from the substation and the customers will not experience an interruption of service. Consequences of delaying or eliminating this project will result in accepting the outages in the southeast section of the system during transmission line faults. The design and long lead time materials will be completed in FY 2013 and the majority of the materials will be purchased and construction completed in FY 2014.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design		70,000	60,000			130,000
Construction/Maintenance		100,000	531,812			631,812
Total		**170,000**	**591,812**			**761,812**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		170,000	591,812			761,812
Total		**170,000**	**591,812**			**761,812**

Budget Impact/Other

Project # EE1304

Project Name Division Street Substation Fence

Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$70,000**

This project will replace the existing fence at the Division Street Substation.

Justification

This project will replace the existing fence at Division Street Substation with a decorative fence, similar to the fence that was erected at St. Jones Substation. The existing fence no longer meets the National Electric Safety Code height requirements and is generally in poor condition. Existing structure does not meet the National Electric Safety Code (NESC).

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Other		70,000				70,000
Total		**70,000**				**70,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		70,000				70,000
Total		**70,000**				**70,000**

Budget Impact/Other

Project # **EE1400**
Project Name **General Scott Switchgear**

Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$1,100,000**

This project will replace the metal clad switchgear and replace the distribution breakers as they have reached the end of their useful life.

Justification

This station carries the industrial and residential load on the west side of Dover. The station distribution switch gear was installed in 1985 and the replacement of the switch gear should extend the life of the equipment to 2033. Additionally, the breakers have numerous moving parts, including plastic components that tend to fail with age resulting in mis-operation of the breaker.
By replacing the General Scott's aging switchgear, it will extend the life of the switchgear, and replacing the breakers will facilitate correct fault operation.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance			800,000			800,000
Miscellaneous				300,000		300,000
Total			**800,000**	**300,000**		**1,100,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund			800,000	300,000		1,100,000
Total			**800,000**	**300,000**		**1,100,000**

Budget Impact/Other

Project # **EE1500**

Project Name **Horsepond to Cartanza 69 kV Rebuild**

Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$330,467**

This project will replace the poles, conductor, and insulators from Horsepond Substation to Long Point Road.This project will begin and reach completion in FY 2015.

Justification

Currently, the conductor size from Horsepond substation to Long Point rd limits the capacity that can be carried on feeder 4. An upgrade from the existing 636 ACSR to 795 ACSR would lift this limit and match the conductor from Cartanza Substation to Horsepond Substation. The poles have nearly reached the life expectancy. The batch of poles from Horsepond to Long Point Road have been known to have numerous problems with woodpecker destruction. The annual pole testing program has noted deficiencies in the above ground condition of these poles. Aging poles and hardware may fail causing outage in east Dover.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design				75,000		75,000
Construction/Maintenance				225,425		225,425
Other				30,042		30,042
Total				**330,467**		**330,467**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund				330,467		330,467
Total				**330,467**		**330,467**

Budget Impact/Other

Project # **EE1501**

Project Name **System Automation**

Type Improvement
Useful Life 5-10 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$450,000**

This project will engineer and install a self healing or "smart" distribution system. This project will begin in FY 2015 and reach completion in FY 2020.

Justification

This project will include an engineering study to be performed using a system model to develop a scheme that will allow the distribution system to be self healing in the event of a fault. Following the study, automation equipment will be purchased to detect problems on the system, isolate the affected area, and reenergize lines not affected. This will improve the reliability of the city's local electric grid, minimize customer outages, and increase customer satisfaction.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design				300,000	150,000	450,000
Total				**300,000**	**150,000**	**450,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund				300,000	150,000	450,000
Total				**300,000**	**150,000**	**450,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EE1502**

Project Name **69 kV Cable Replacement North Street**

Type Improvement
Useful Life 30+ years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$565,710**

This project will replace the aging 69 KV underground cables from North Street switching yard to Kraft's and Proctor & Gamble's (customer owned) substations.

Justification

Proctor & Gamble and Kraft are two (2) of the City of Dover's 69 KV customers and it is our obligation to provide them with adequate and reliable service. The cables were installed in 1973 and have had two repairs. The first repair was in 1986 and the second repair was in 1992.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design				85,000		85,000
Construction/Maintenance					480,710	480,710
Total				**85,000**	**480,710**	**565,710**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund				85,000	480,710	565,710
Total				**85,000**	**480,710**	**565,710**

Budget Impact/Other

Project # **EE1503**

Project Name **System Operations Monitoring**

Type Equipment
Useful Life 5 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number:

Description

Total Project Cost: **$30,000**

This project will replace the system operations monitoring screens.Completion is schedule for FY2015.

Justification

This project replaces the existing monitoring screens in system operations, with projection screens. City staff uses an array of these devices to view and operate the electric system and the lift stations. Additionally, the Public Utilities recently added 6 security cameras surrounding its facility and 2 security cameras at the interconnecting substation, which is our connection to the bulk electric system. These monitoring screens are also utilize in these security hardening measures.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Equip/Vehicle/Furnishings				30,000		30,000
Total				**30,000**		**30,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund				30,000		30,000
Total				**30,000**		**30,000**

Budget Impact/Other

Project # **EE1600**
Project Name **McKee Run Yard Rebuild**

Type Improvement
Useful Life 25+ years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority n/a
Account Number: TBD

Description

Total Project Cost: **$450,000**

The purpose of this project is to refurbish McKee Run switching yard. The engineering will be completed in FY 2015. Construction will be the following year, FY 2016.

Justification

The City of Dover's electrical system has undergone a complete conversion to a 69KV transmission network. Hence, eliminating the old 22KV transmission network. Therefore, the 22KV system located at McKee Run Generating Plant should also be eliminated and a second 12470/69 KV step-up transformer should be installed, provided that Units 1 & 2 are still in operation. The estimate is based on using the old Mid City Step up transformer.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design					250,000	250,000
Miscellaneous					200,000	200,000
Total					**450,000**	**450,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund					450,000	450,000
Total					**450,000**	**450,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EU1201**

Project Name **Distribution Upgrades**

Type Improvement
Useful Life 20-25 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities- Electric Eng
Contact Public Utilities Director
Priority 1
Account Number: 487-8300-563.90-25

Description

Total Project Cost: **$4,554,000**

This project involves the systemic replacement of overhead lines with underground lines whenever services are being moved, wire is damaged, trees cause a high number of outages, or development is in progress, and when it is beneficial to the Utility to convert to underground. This can involve a single line section or an entire residential neighborhood. Annual outage records are reviewed and selected areas are scheduled for upgrade to underground service. Additionally, this program funds the replacement of existing underground conductors and equipment that have reached their useful life and have started failing and require replacement. This project will be ongoing over the 12 months of the budget year. This account is used to upgrade any trouble areas during the year. The following developments are to be upgraded: Huntley Circle and Autumn woods Apts.

Justification

The number of storm and tree-related outages has been greatly reduced under this program and further improvements can be made to insure the most reliable electric service possible. Reliability has become one of most important factors to electric customers, second only to safety. The utility has responded by attempting to provide the most reliable system possible. Underground cable replacement is necessary as the useful, reliable, life of the original underground cable was 20-30 years. By proactively replacing this cable we will minimize outages and improve system reliability. In addition to cable replacement, overhead lines are replaced with underground to minimize outages caused by tree growth or animal contact. Lastly, overhead lines that have reached the end of their useful life are replaced with underground instead of rebuilding the overhead. : Continued outages lead to increased complaints from our customers and will lead to customer dissatisfaction. There will be increased costs for repairs made under outage conditions as well as loss of electric revenue.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	500,000	500,000	500,000	500,000	500,000	2,500,000
Total	**500,000**	**500,000**	**500,000**	**500,000**	**500,000**	**2,500,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	500,000	500,000	500,000	500,000	500,000	2,500,000
Total	**500,000**	**500,000**	**500,000**	**500,000**	**500,000**	**2,500,000**

Budget Impact/Other

Project # **EE1212**

Project Name **New Developments**

Type Improvement
Useful Life 30+ years
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Electric T&D
Contact Public Utilities Director
Priority 1
Account Number: 4878200-562.Several

Description

Total Project Cost: **$4,634,800**

This project purchases materials and equipment that are used to provide electric service to new housing developments, businesses, and industrial developments. Additionally, a portion of this expense is offset by the extension payments whereby new developers pay a $1,100 per residential lot connection fee, or business and industrial developers pay the total material expense for line extensions. This is an ongoing project and effects three separate accounts: 487-8200-562.60-31, 60-34, and 60-46.

Justification

During the course of each budget year, new developers request line extensions for new electric projects. Some are new projects, while other projects may have received plan approval previously but were not completed for any number of reasons. Consequences of delaying or eliminating this project include developers would not be able to receive electric service to new facilities.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	600,000	600,000	600,000	600,000	600,000	3,000,000
Total	**600,000**	**600,000**	**600,000**	**600,000**	**600,000**	**3,000,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	600,000	600,000	600,000	600,000	600,000	3,000,000
Total	**600,000**	**600,000**	**600,000**	**600,000**	**600,000**	**3,000,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # EG1102

Project Name Units 1 & 2 Cooling Tower Life Extension

Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 2
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$477,400**

This project will repair the cooling tower decking, mechanical and internal structure on Unit 1 and 2 Cooling Tower. This is significantly important to the upcoming discharge limit that is being proposed by the Delaware River Basin Committee (DRBC). Note: The project scope added refurbishment of fans, motors and drives in FY 2016 and 2017. This repair/replacement work will extend the service life of the tower a minimum of ten years.

Justification

The cooling tower decking has reached its serviceable life and is in need of immediate replacement in order to maintain its current thermal efficiency as well as its structural integrity. Continued deterioration of the tower will effect unit performance and will limit the unit full load capability. In order to extend the life of the plant, these repairs/ replacements will be required. Additionally this will aid in meeting the discharge temperature limitations that is being actively sought by the DRBC (Delaware river Basin Commission). The integrity of the cooling tower decking and main structure frame work has become an issue. Continued deterioration of the cooling tower wood members and fan decking could result in an employee related accident or equipment failure. Also continued deterioration of the cooling tower performance will lead to load reductions on the unit during periods of high ambient temperatures. This will occur during the time period when generation costs are at their peak.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
173,730	Miscellaneous	25,410	37,260	91,000		75,000	228,670	75,000
Total	**Total**	**25,410**	**37,260**	**91,000**		**75,000**	**228,670**	**Total**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
173,730	Electric I & E Fund	25,410	37,260	91,000		75,000	228,670	75,000
Total	**Total**	**25,410**	**37,260**	**91,000**		**75,000**	**228,670**	**Total**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1103**

Project Name **McKee Run Unit 3 Turbine Inspection**

Type	Maintenance	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Public Services Director
Category	Electric	**Priority**	3
New Project:	No	**Account Number:**	487-8101-591.40-31
Time-Line:			

Description

Total Project Cost: **$1,209,000**

This project will inspect turbine, generator, and auxiliary equipment to determine repairs needed to keep the unit operational and to assess remaining life of the unit. Assess repair quotes, if repairs are needed, to determine best available options. This project will be completed in two phases, an initial limited inspection followed by an extensive detailed inspection and repair planned outage. The first phase will utilize borescope equipment to determine condition of components that can be observed through limited access locations along the turbine casing and through turbine inlet valve/s. This inspection will provide a general condition assessment of a portion of the highly stress components of the turbine and may provide insight into the extent of replacement parts needed to successfully execute phase 2. Phase 2 to be completed one year later will include a full disassembly and inspection of the turbine and auxiliary equipment and a limited disassembly of the Generator. Added scope items to 2016- minor turbine inspections-$160,000 and 2017 condenser vacuum pump refurbishments-$28,000.
Scheduled for spring of 2011 for phase 1 and spring of 2012 for phase 2. This project was previously in the 5 year plan as a 2014 project. The project price is an estimated cost based on budgetary vendor pricing and does not include the cost of any major turbine component parts.

Justification

An assessment of the unit needs to be performed to determine condition of the highly stressed turbine components to assure continued reliability. Documented condition of rotor blading during last inspection noted deterioration of 9th stage blades and temporary repairs performed. A significant probability that the blades should be replaced. Additionally, high pressure rotor bore has never been inspected and should be performed per industry standards. Consequences of delaying or eliminating this project include possible catastrophic equipment failure and indefinite loss of unit availability.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance	256,000	467,000				723,000	188,000
Other	32,000	111,000				143,000	Total
Miscellaneous	60,000	95,000				155,000	
Total	**348,000**	**673,000**				**1,021,000**	

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund	348,000	673,000				1,021,000	188,000
Total	**348,000**	**673,000**				**1,021,000**	**Total**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1104**

Project Name **McKee Run Unit 3 Auxillary System Components**

Type	Maintenance	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Public Utilities Director
Category	Electric	**Priority**	4
New Project:	No	**Account Number:**	487-8101-591.40-31
Time-Line:			

Description

Total Project Cost: **$598,000**

This project will perform inspections and repairs of Unit auxiliary system components that have been identified as critical through the plant life assessment study. Critical auxiliary systems components are those components that could result in unit load reduction or outage with consequential loss of capacity and / or generating although they would not individually affect the long range financial viability of the unit. Components identified include Boiler feed pumps and motors, condensate pumps and motors, circulating water pumps and motors, feedwater heater #5. This project captures the costs of the replacement/ refurbishment multiple components.This is a multi-year project beginning in 2012 and continuing into 2015.

Justification

Critical system components that, if they fail, will result in loss of generation and or capacity. Addressing these assets in a systematic fashion will result in minimizing forced outages and eliminating major maintenance expenses associated with component failure. Performing work work as scheduled will also levelize maintenance expenditures. Delaying this project could result in the failure of critical unit equipment and subsequent lose of generation and or capacity.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance	75,000	80,000	130,000	24,000		309,000	56,000
Other	3,000	6,000	6,000	1,000		16,000	Total
Miscellaneous	35,000	57,000	125,000			217,000	
Total	**113,000**	**143,000**	**261,000**	**25,000**		**542,000**	

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund	113,000	143,000	261,000	25,000		542,000	56,000
Total	**113,000**	**143,000**	**261,000**	**25,000**		**542,000**	Total

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1107**

Project Name **Units 1 & 2 Life Extension**

Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$2,453,000**

Replace or procure capital equipment.
Equipment includes the following:
2011-Turbine valve and first stage inspection-$170k, Oil lubricating system components- $10k
2012 – ID/FD fans and motors-$114,000, Boiler feed pumps and motors- $22,000
2012 - Condensate pumps and motors-$20k, K Heater level controllers-$20k, Circulating water pump motor-$8k
2013 - Boiler Inspection -$150k, condensate pumps and motors-$20k, Circulating water pump and motor-$32k
2014 – Boiler major inspection- $150k, Circulating water pump and motor-$32k
2015 – Main steam piping inspection and pipe hanger repairs-$105k, Boiler feed pump and motors-$44k
2016 – Boiler feed pumps and motors-$22k
Beyond 2016- Major turbine/generator inspections-$1400k, Feed pump recirculation valves-$60k,
FD fan motor -$12k, Steam air heater coils- $50,000, condensate pump and motor-$80k, Circulating water pumps and motor-$82k

Justification

This project is required to fund the replace of capital items that are expected to reach their useful life in 2011 to 2014 and will need to be replaced to maintain plant system and unit reliability. Extended equipment and /or unit outage time will result from lack of funding this project. This will have a direct effect on the cost of energy during the extended outage time as well as increase future energy capacity charges.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
180,000	Construction/Maintenance	184,000	52,000	182,000	149,000	22,000	589,000	1,684,000
Total	**Total**	**184,000**	**52,000**	**182,000**	**149,000**	**22,000**	**589,000**	**Total**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
180,000	Electric I & E Fund	184,000	52,000	182,000	149,000	22,000	589,000	1,684,000
Total	**Total**	**184,000**	**52,000**	**182,000**	**149,000**	**22,000**	**589,000**	**Total**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # EG1111

Project Name McKee Run Unit 3 Air Heater Expansion Joint

Type Maintenance
Useful Life Unknown
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$205,000**

This project will replace the Unit 3 boiler air heater, hot air outlet expansion joint which has reached the end of its' useful life. During Unit 3 operations in August of 2010, a thermographic survey detected multiple cracks in this expansion joint. The work is scheduled to be completed in the spring of 2011. The added expansion joint replacements will be scheduled for 2012 (air heater hot gas inlet) and 2016 (air heater hot gas outlet).

Justification

This expansion joint has failed in multiple locations, allowing hot air to escape from the ductwork going to the boiler. This has a direct impact on the performance of the Unit, limiting capacity and reducing efficiency. Replacement of this expansion joint is necessary in order to recover unit efficiency. This project will be implemented in 2011 and be completed in 2017.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
65,000	Construction/Maintenance	70,000					70,000	70,000
Total	**Total**	**70,000**					**70,000**	**Total**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
65,000	Electric I & E Fund	70,000					70,000	70,000
Total	**Total**	**70,000**					**70,000**	**Total**

Budget Impact/Other

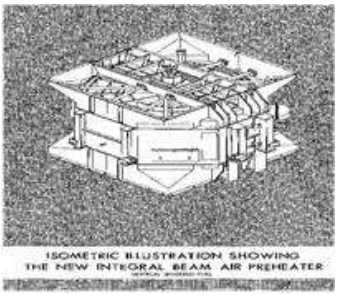
Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1201**

Project Name **McKee Run Unit 3 Boiler Air Heater**



Type Maintenance
Useful Life Unknown
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 2
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$440,000**

This project will perform the needed replacement of the boiler air heater casing, internal components, and structural members which were identified during a planned unit inspection in October 2010. These repairs are required to prevent further deterioration of the air heater structure, maintain the integrity of the air heater casing, and continued availability of the boiler to be dispatched for generation.

Justification

This project will be performed concurrently with other maintenance activities scheduled during the planned maintenance outage period. Delaying this project will result in further deterioration of boiler performance and could result in the failure of the air heater and subsequent unit forced out of service with loss of generation for an extended period of time. Would expect this project to be funded outside the normal operating budget.
This project will be scheduled to take place during the spring of 2012 to coincide with the planned outage of Unit 3.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	350,000					350,000
Miscellaneous	90,000					90,000
Total	**440,000**					**440,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	440,000					440,000
Total	**440,000**					**440,000**

Budget Impact/Other

City of Dover, Delaware

Project # EG1202
Project Name McKee Run Unit 3 Boiler Systems

Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 5
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$962,000**

This project will perform inspections of boiler systems to evaluate the remaining life of critical boiler and supporting system components. Subsequent to those inspections, repair/ replacement costs will be developed for the major boiler components. Additionally, major critical equipment of supporting systems which have already been identified as needing replacement or refurbishment will be addressed in this project. Major equipment includes the following: Boiler, ID and FD fans and motors, boosted overfire air fan and motor. Equipment repairs added to this project beyond 2016, include major boiler inspection, chemical cleaning and repairs to air heater. This is a multi-year project beginning in 2012 and continuing into 2017. In general, most work activities will require planned outages and therefore will be scheduled to coincide with planned outages.

Justification

Critical system equipment represent components that, if they fail, will result in lose of generation and or capacity. Identifying the condition of critical components will allow for proper prioritization of maintenance activities and resources. Delaying this project could result in the failure of critical unit equipment and subsequent loss of generation and or capacity. More importantly, component failure could also result in safety risk to personnel
This project will performed concurrently with several other projects intended to determine the condition of the all McKee Run Unit 3 critical equipment. Reference McKee Run Unit 3 Turbine Inspection Project and McKee Run Unit 3 Auxiliary System Component Project.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance	90,000	113,000		87,000		290,000	572,000
Other	10,000	15,000				25,000	Total
Miscellaneous	30,000	35,000		10,000		75,000	
Total	**130,000**	**163,000**		**97,000**		**390,000**	

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund	130,000	163,000		97,000		390,000	572,000
Total	**130,000**	**163,000**		**97,000**		**390,000**	Total

Budget Impact/Other

Project # **EG1203**

Project Name **Unit 3 FD & ID Fan Control Damper Upgrade**

Type Improvement
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 2
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$92,000**

Replace the 8 existing pneumatic Forced Draft (FD) & Induced Draft (ID) Fan control & isolation operators with electric drive operators.

Justification

To have a more repeatable control of the fan control damper position and a more reliable controller. Extreme weather conditions have affected the operability and repeatability of these large pneumatic controllers. Additionally, parts for the existing controllers are becoming hard to find. The electric drive operators will not be affected by weather and they will provide repeatable control with far less hysteresis than the pneumatic drives. This will provide greater capability to tune the boiler combustion process resulting in improved unit efficiency and stack emissions. Completing this project will result in a more reliable system that will improve the efficiency of the fans and boiler and will help ensure compliance with our current air permits.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous	92,000					92,000
Total	**92,000**					**92,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	92,000					92,000
Total	**92,000**					**92,000**

Budget Impact/Other

Project # **EG1204**

Project Name **Unit 3 DCS Computers & Software Upgrades**

Type	Improvement	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Public Utilities Director
Category	Electric	**Priority**	1
New Project:	No	**Account Number:**	487-8101-591.40-31
Time-Line:			

Description

Total Project Cost: **$85,000**

This project will replace the 7 existing Digital Control System (DCS) computers (servers-4, clients-2 and logic developer-1) and upgrade the ABB software that is being used to control the Boiler Master/ Electro Hydraulic Control (EHC) System and the Burner Management System that are located in Unit 3 control room (clients) and in the Net 90 control room (server and logic developer). This will ensure that when Unit 3 is called upon to operate that the plants staff will be able to start on bring Unit 3 on line with no outages.
The project is estimated to be completed in 2012. The computer and ABB controls upgrade would allow the system to operate faster and be more reliable. Additionally, life cycle of these computer systems is typically 5 to 6 years.

Justification

The DCS computers were installed in March of 2003 as part of the Over-Fired Air Project. These computers are in service 24/7 and due to their run time and the life expectancy of the computers, the need to change out the computer and upgrade the ABB control system is consistent with COD IT protocol of changing out computers after five years. By upgrading the computers and the control software, the plant will have a more reliable system. Included in the software upgrade is an improvement in the redundancy of the EHC Computers. Due to the age of the computers, one of the computers could crash resulting in Unit 3 not be available to run when called upon.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous	85,000					85,000
Total	**85,000**					**85,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	85,000					85,000
Total	**85,000**					**85,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1205**

Project Name **Miscellaneous Capital Equipment Relacements**

Type Equipment
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority 1
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$486,000**

Replace or procure capital equipment valued between $5,000 and $25,000.
Equipment includes the following:
Fiscal 2011- cooling water booster pumps- $20k, Control valves- $15k, Unit 1 boiler feed pump-25k, boiler safety and control valves-$16k
Fiscal 2012- Station critical pumps and motors-$40k, cooling tower fan drives- $6k, HVAC and process Equipment motors and breakers-$10k, minor boiler tube repairs-$14k
Fiscal 2013- #1 and #3 elevator mechanical components-20k, Units 1,2 and 3 Pilot gas piping and instrumentation component inspections-$50,000,
Fiscal 2014 - Station critical pumps and motors- $20k, Boiler system safety and control valves -$30,000, minor boiler tube repairs-$20
Items listed above are not inclusive of all years but represent the first several years of the project.

Justification

This project is required to fund the replace of capital items that are expected to reach their useful life in 2011 and beyond that have not been identified in other Capital projects and will need to be replaced to maintain plant system and unit reliability.
Extended equipment and /or unit outage time will result from lack of funding this project. This will have a direct effect on the cost of energy during the extended outage time as well as increase future energy capacity charges.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
71,000	Miscellaneous	70,000	70,000	70,000	70,000	55,000	335,000	80,000
Total	**Total**	**70,000**	**70,000**	**70,000**	**70,000**	**55,000**	**335,000**	**Total**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
71,000	Electric I & E Fund	70,000	70,000	70,000	70,000	55,000	335,000	80,000
Total	**Total**	**70,000**	**70,000**	**70,000**	**70,000**	**55,000**	**335,000**	**Total**

Budget Impact/Other

Project # **EG1206**

Project Name **McKee Run Demineralizer Control Replacement**

Type	Maintenance	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Public Utilities Director
Category	Electric	**Priority**	2
New Project:	No	**Account Number:**	487-8101-591.40-31
Time-Line:			

Description

Total Project Cost: **$65,000**

This project will replace the existing demineralizer control system with a state of the art solid state programmable controller. Replacement to be completed in 2012.
The system has been reliable over its operating life, but parts are getting harder to find, and maintenance of the system controls is increasing.
The cost identified assumes the replacement of the controls only.

Justification

The existing demineralizer system is a 1960's vintage. Replacing of the existing controls on the system would improve reliability. Replacement parts for our current system are becoming obsolete and hard to locate.
If we were to have a major problem with the demineralizer system, it could impact the unit run time and could result in a forced outage. Repairs requiring an extended outage of the demineralizer system would require having a portable demineralizer brought in and temporarily hooked up until the repairs were made and the system put back in service.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	65,000					65,000
Total	**65,000**					**65,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	65,000					65,000
Total	**65,000**					**65,000**

Budget Impact/Other

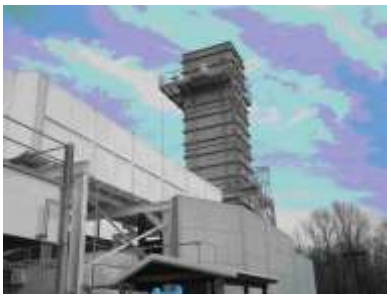
Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1207**

Project Name **Van Sant Unit 11 Component Replacements**



Type	Maintenance	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Plant Manager
Category	Electric	**Priority**	9 --
New Project:	No	**Account Number:**	487-8101-591.40-31
Time-Line:			

Description

Total Project Cost: **$1,340,000**

Replace or procure capital equipment valued between $5,000 and $25,000.
Equipment includes the following:
Process equipment motors (2012) - $22k (2014) - $7k
Station critical system pumps and blowers (2012) - $15k and (2014) - $30k
Cooling/Circulating Water pumps and motors (2012) - $13k and (2014) - $10k
Rebuild of Black Start- Starting Diesel Engine (2014) - $30k
Air Intake System Filtration System (2014) - $20k
2016- Generator , stack, and lube oil pump inspections-$140k
Beyond 2016- combustion and hot gas path inspections- $1,050k

Justification

This project is required to fund the replace of capital items that are expected to reach their useful life in 2012 and beyond and will need to be replaced or refurbished to maintain plant system and unit reliability. Extended equipment and /or unit outage time will result from lack of funding this project. This will have a direct effect on the cost of energy during the extended outage time as well as increase future energy capacity charges. This project will be implemented in 2012 and continue through 2016.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance	50,000		97,000		143,000	290,000	1,050,000
Total	**50,000**		**97,000**		**143,000**	**290,000**	**Total**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund	50,000		97,000		143,000	290,000	1,050,000
Total	**50,000**		**97,000**		**143,000**	**290,000**	**Total**

Budget Impact/Other

Project # **EG1208**

Project Name **McKee Run Switchyard Blast Walls**

Type	Improvement	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Plant Manager
Category	Electric	**Priority**	n/a
New Project:	Yes	**Account Number:**	487-8101-591.40-31
Time-Line:			

Description

Total Project Cost: **$50,000**

This project will install blast walls between the auxiliary transformers in the McKee Run Switchyard. There is a possibility, if the walls are built, there may be a reduction in insurance premium costs, but that cost is undetermined at this time. Recommendation from the insurance company to install blast walls between our transformers. In addition, safety of personnel working in the plant and that of the citizens living outside the plant perimeter could be affected by flying debris. There is a possibility, if the walls are built, there may be a reduction in insurance premium costs, but that cost is undetermined at this time.

Justification

Per NFPA, outdoor oil-insulated transformers should be separated from adjacent structures and from each other by firewalls, spatial separation, or other approved means for the purpose of limiting the damage and potential spread of fire from a transformer failure. There is a greater risk of damage to equipment the longer the project is delayed. If damage occurs there will be high replacement/repair costs of the affected transformers, high possibility of lost revenue from Units 1 and 2 generation, and an increase in City of Dover budget in terms of having to purchase additional capacity due to the loss of the generating capacity of Units 1 and 2.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	10,000					10,000
Construction/Maintenance	40,000					40,000
Total	**50,000**					**50,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	50,000					50,000
Total	**50,000**					**50,000**

Budget Impact/Other

Project # **EG1209**

Project Name **McKee Run Preservation of Structures**

Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Plant Manager
Priority n/a
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$110,000**

This project includes sandblasting and painting the plant structures along with the retirement of equipment placed out of service. This work will be completed over several fiscal year budgets starting in 2012 and completing in 2014

Justification

Structural steel painting is needed in various areas throughout the plant proper as well as various outbuildings on the plant property to maintain the physical building structures and equipment in an acceptable condition and prevent further deterioration. This project represents a minimum preservation and maintenance of structures consistent with the expected life of the station. Consequences of delaying or eliminating this project will result in the acceleration of deterioration of plant structures and larger future costs associated with strutual repairs.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Construction/Maintenance	38,000		42,000		30,000	110,000
Total	**38,000**		**42,000**		**30,000**	**110,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	38,000		42,000		30,000	110,000
Total	**38,000**		**42,000**		**30,000**	**110,000**

Budget Impact/Other

City of Dover, Delaware

Project # EG1210
Project Name Unit 3 Cooling Water Line Life Extension

Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Plant Manager
Priority n/a
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$375,000**

This project will inspect and repair the underground cooling water line from the Unit 3 condenser to the cooling tower. A condition assessment and life evaluation will be performed on this pipe in 2012 to develop a repair/replace action plan to address the suitability for continued operation as well as extending the life of the piping beyond 2015. The actual repairs will be completed in 2014. We would expect this project to be funded outside the normal operating budget. Completion of the project as scheduled will eliminate the need to add additional O&M funding for emergency repairs in future years. The condition assessment will be completed in 2012with the repair/construction work to be completed in 2014. The results of the condition assessment will determine what action plan will be developed. The budgeted costs assume repairs of the lines (2) from the cooling tower to the plant exterior wall.

Justification

The condition of the underground cooling water line has required numerous repairs over the life of the plant and is expected to reach its useful life in the 2012-2015 time period. It is expected that the repair frequency will accelerate over the next several years as the internal pipe coating continues to degrade. Delaying this project beyond 2014 will increase the risk of a failure causing an extended unit outage to repair or replace the failed pipe as well incur water spillage to the ground. Additional budget dollars will need to be allocated to repair/ replace sections of piping.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design	25,000					25,000
Miscellaneous			350,000			350,000
Total	**25,000**		**350,000**			**375,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	25,000		350,000			375,000
Total	**25,000**		**350,000**			**375,000**

Budget Impact/Other

City of Dover, Delaware

Project # EG1211
Project Name McKee Run Unit 3 Stack Repairs

Type	Maintenance	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Public Utilities Director
Category	Electric	**Priority**	1
New Project:	No	**Account Number:**	487-8101-591.40-31
Time-Line:			

Description

Total Project Cost: **$75,000**

An inspection will be made and assessment will be made from the inspection to determine the remaining life of the stack and also provide cost of any repairs required to extend the life of the stack for 15 to 20 yrs. Repairs to the stack lining and exterior will be made in order to allow continued operation of Unit 3. A determination for the necessity of repairs to Unit 3 stack will be performed on an annual basis. An internal and external inspection will be performed by outside consultant in 2012.

Justification

Current plans are to contract for an external and internal inspection in 2012 to develop an action plan to extend the life of the stack as well as develop costs for the repairs of the stack by outside contractors. We will perform in-house inspections of the stack on an annual basis until 2015 at which time we will contract for needed repairs as determined by the 2012 and subsequent yearly inspections. Delaying necessary repairs could lead to more costly repairs in the future, unplanned forced outage on Unit 3, fall out of internal material upon the surrounding community and potential injury to employees. Earnings from the sale of capacity may also be affected.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous	25,000			50,000		75,000
Total	**25,000**			**50,000**		**75,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	25,000			50,000		75,000
Total	**25,000**			**50,000**		**75,000**

Budget Impact/Other

Due to the reduced operation of Unit 3, the plan is to inspect the stack in fiscal year 2012. The repair portion of the project has been moved out to fiscal year 2014 /15. The plan is to perform regular assessments of the internal condition to the stack, then determine when repairs may be necessary. Severe damage may move the repairs to an earlier date however the reduced run time of Unit 3 may afford an ability to postpone repairs to a later date.

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1300**

Project Name **Van Sant Capacity Increase**

Type Maintenance
Useful Life Unknown
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities-Power Plant
Contact Plant Manager
Priority n/a
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$550,000**

This project will increase the electric generation output of the VanSant Unit 11 gas turbine generator by installing technology specifically designed to decrease the air inlet temperatures to the gas turbine during high ambient air temperature days. This project is dependent on obtaining favorable payback as determined by an evaluation of available technologies conducted as part of a strategically budgeted initiative that will determine the most cost effective technology to utilize. This initiative is contained in the 2012 Strategic level of the Power Plant O&M budget. The project is estimated to be completed in 2013. Multiple technologies to achieve the increased generator output will be evaluated in 2012

Justification

This project will provide a positive cash flow within 5 years of installation as the City of Dover will benefit through additional capacity and generation sales. Each year this project is delayed will result in lost revenue opportunity to the City of Dover.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design		75,000				75,000
Construction/Maintenance		475,000				475,000
Total		**550,000**				**550,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		550,000				550,000
Total		**550,000**				**550,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1301**

Project Name **Unit 3 Cooling Tower Life Extension**

Type	Maintenance	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Public Utilities Director
Category	Electric	**Priority**	1
New Project:	No	**Account Number:**	487-8101-591.40-31
Time-Line:			

Description

Total Project Cost: **$1,277,018**

This project will repair the cooling tower decking, mechanical and internal structure on Unit 3 Cooling Tower. The repairs/replacements include a new design on Unit 3 Cooling Tower to improve heat transfer and assure that the discharge temperature of the cooling tower continues to meet regulatory requirements. This is significantly important to the upcoming discharge limit that is being proposed by the Delaware River Basin Committee (DRBC). Inspection of the tower was completed in 2009. Engineering and bid cycle to be completed in 2010 within the operations budget. The installation work to be completed in 2012 and 2013. This repair / replacement work will extend the service life of the towers five to ten years.

Justification

The cooling tower is nearing the end of life its serviceable life and is expected to impact the cooling tower performance to an extent that it will also affect unit performance and will limit the unit full load capability. In order to extend the life of the plant, these repairs/ replacements will be required as well as aid in meeting the discharge temperature limitations that is being actively sought by the DRBC. The integrity of the cooling tower decking and main structure frame work has become an issue. Continued deterioration of the cooling tower wood members and fan decking could result in an employee related accident or equipment failure. Also continued deterioration of the cooling tower performance will lead to load reductions on the unit during periods of high ambient temperatures. This will occur during the time period when generation costs are at their peak.

Prior	Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
398,338	Construction/Maintenance		417,390	461,290			878,680
Total	**Total**		**417,390**	**461,290**			**878,680**

Prior	Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
398,338	Electric I & E Fund		417,390	461,290			878,680
Total	**Total**		**417,390**	**461,290**			**878,680**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1302**

Project Name **McKee Run Units 1 & 2 Stack Repairs**

Type Maintenance
Useful Life 15-20 years
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$75,000**

Repairs to the stack lining and exterior will be made in order allow continued operation of these units. In addition, an assessment will be made to determine the remaining life of the stack and also provide cost of any repairs required to extend the life of the stack for another 15 to 20 yrs. Due to the reduced operation of Units 1 & 2, the project has been moved out to fiscal year 2013. Plans to perform regular assessments of the internal damage to the common stack will determine when future repairs may be necessary. Severe damage may move the repairs to an earlier date however the reduced run time of Units 1 & 2 may continue to afford the plant the ability to postpone repairs to a later date past the proposed. The current expectation is to perform the repairs in fiscal year 2013.
A determination for the necessity of repairs to Units 1 & 2 common stack will be performed on an annual basis. An internal and external inspection will be performed by outside consultant in 2011.

Justification

Current plans are to perform in-house inspections of the stack on an annual basis and to contract the repairs of the stack by outside contractors. Delaying necessary repairs could lead to more costly repairs in the future, simultaneous unplanned forced outages on both Units 1 & 2, fall out of internal material upon the surrounding community and potential injury to employees. Earnings from the sale of capacity may also be affected.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous		75,000				75,000
Total		**75,000**				**75,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund		75,000				75,000
Total		**75,000**				**75,000**

Budget Impact/Other

City of Dover, Delaware

Project # EG1400
Project Name Van Sant Unit 11 Major Overhaul/Inspection

Type Improvement
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$2,000,000**

This project will perform major overhaul on unit due to OEM recommended repair frequency based on factored starts of the unit from first commissioning and from last inspection/repair interval. This project will be implemented in 2014 with long lead material purchases and installation in 2016.

Justification

This project is required to fund the purchase of all parts needed to perform a major overhaul on the unit based on estimated factored starts since unit was first commissioned and since last the Hot Gas Path. This project will span the course of two years. In Year 1, the majority of the parts will be purchased and services will be lined up for the actual installation on the unit in Year 2. Extended equipment and /or unit outage time will result from lack of funding this project. This will have a direct effect on the cost of energy during the extended outage time as well as increase future energy capacity charges. In addition, gradual degradation of the unit's output could occur which would have a negative effect on the capacity rating of the unit and could result in catastrophic failure of the unit.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design				100,000	50,000	150,000
Construction/Maintenance					600,000	600,000
Other					100,000	100,000
Miscellaneous			150,000	750,000	250,000	1,150,000
Total			**150,000**	**850,000**	**1,000,000**	**2,000,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund			150,000	850,000	1,000,000	2,000,000
Total			**150,000**	**850,000**	**1,000,000**	**2,000,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1401**

Project Name **McKee Run Hot Water Boilers**

Type	Equipment	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Public Utilities Director
Category	Electric	**Priority**	n/a
New Project:	No	**Account Number:**	487-8101-591.40-31
Time-Line:			

Description

Total Project Cost: **$70,000**

This project will replace the 2 existing hot water boilers with smaller more efficient (90 percent or better) boilers. This project will tie in the Units 1 and 2 plant heating system to the hot water system. This project was originally set up for 2011. The plant Hot water boilers would only be supplying heat to the plant. The existing hot water boilers are 36 yrs old and have an efficiency of less than 85%.

Justification

A result of the conversion from residual to distillate oil as part of the pollution remediation project, the existing hot water boilers will no longer be needed to heat oil. Therefore the only load on the hot water system will be for plant heating. The existing hot water boilers are grossly oversized for this application and not suited for this seasonal operating mode. Additionally, the boilers are 36 years old and approaching end of life. Replacing the existing boilers with properly sized boilers will reduce costs on monthly gas usage and reduced maintenance on existing boilers. Installing more efficient boilers will also result in reducing the carbon footprint of the plant. The boilers are approaching end of life and are requiring more frequent maintenance. Repalcing these in 2014 will reduce the potential for experiencing system outages and more expensive repairs. Additionally, the sooner we replace the current boilers with the more efficient units the sooner we will realize payback on investment.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Miscellaneous			70,000			70,000
Total			**70,000**			**70,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund			70,000			70,000
Total			**70,000**			**70,000**

Budget Impact/Other

City of Dover, Delaware

Project # EG1402
Project Name McKee Run Unit 3 High Energy Piping Inspection

Type Maintenance
Useful Life Unknown
Category Electric
New Project: No
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$400,000**

This project will develop and implement a high energy piping inspection program for the Unit 3 piping systems. Included will be the main steam, hot and cold reheat lines as well as feed water and condensate piping. This program is intended to prevent any long term stress or flow induced pipe failures from occurring. Program development will be completed in the fall of 2014. The inspections will be completed during the spring 2015 planned outage.

Justification

High energy piping systems are subject to service related structural failure due to the high temperature service under which they operate. Additionally, lower temperature piping systems are subject to accelerated corrosion rates due to flow characteristics. Identifying any such piping before failures occur will prevent extended forced outage to make emergency repairs/replacement. Delaying this project could result in the failure of critical piping systems and subsequent lose of generation and or capacity. More importantly, component failure could also result in safety risk to personnel.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design			40,000	40,000		80,000
Construction/Maintenance				280,000		280,000
Other				40,000		40,000
Total			**40,000**	**360,000**		**400,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund			40,000	360,000		400,000
Total			**40,000**	**360,000**		**400,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1403**

Project Name **Metering System Upgrades**

Type	Maintenance	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Public Utilities Director
Category	Electric	**Priority**	n/a
New Project:	Yes	**Account Number:**	487-8101-591.40-31
Time-Line:			

Description

Total Project Cost: **$150,000**

: This project involves the replacement of all the meters (15) in the COD system that are currently tied to the metering computer at McKee Run Generating Station. In addition, costs associated with the replacement of the Metering computer (PC) at McKee Run and an alternate demark for the telephone line that the NRG meter uses to communicate data to the McKee Run computer is included in this project. A metering computer would also be installed at the City of Dover dispatch center for use. At the present time, there are annual maintenance costs associated with keeping the reliability of the meters and the metering software current. In addition, a software maintenance fee is included in the annual budget.

Justification

The meters are 14 years old and the metering computer is 4 years old and nearing the end of their recommended service life. The metering system provides the City of Dover, PaceGlobal, NAES, PJM, NRG and Delmarva Power with accurate data for revenue metering, cost metering, load scheduling and forecasting and for generator capacity rating verification purposes. Submission of this data/information is also an important part of compliance with various NERC standards. Non-compliance with NERC Standards could result in fines and other penalties. Delaying or eliminating this project could have a substantial effect on the City of Dover Electrical bill. Failures to the meters or computers would force the City of Dover to rely on DPL metering, NRG metering and/or other methods of determining load usage costs and generation revenues. In addition, costs associated with the manual documentation and submission of the information would be labor intensive and could become extremely costly.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Planning/Design			25,000			25,000
Construction/Maintenance				125,000		125,000
Total			**25,000**	**125,000**		**150,000**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund			25,000	125,000		150,000
Total			**25,000**	**125,000**		**150,000**

Budget Impact/Other

Capital Investment Plans

FY 12 *thru* **FY 16**

City of Dover, Delaware

Project # **EG1500**

Project Name **Units 1 & 2 Boiler Repairs**

Type Maintenance
Useful Life Unknown
Category Electric
New Project: Yes
Time-Line:

Department Public Utilities-Power Plant
Contact Public Utilities Director
Priority n/a
Account Number: 487-8101-591.40-31

Description

Total Project Cost: **$365,000**

This project will replace certain boiler components on units 1 and 2 boilers. Equipment to be addressed include the following:
FD and ID fan damper drives – 2016-$90,000
Air Heater Inlet and outlet expansion joints – 2016- $60,000
FD fan expansion joint – 2019- $60,000
Boiler exit expansion joint -2019- $60,000
Replace air heater Baskets -2020-$75,000
Air heater cleaning -2015 - $10,000, 2016 - $10,00
This project will be implemented in 2015 and continue into 2020.
This project would be funded outside of the normal O&M budget. Should result in reduced risk of increasing maintenance budget in the future.

Justification

This project is required to fund the replacement of capital items that are expected to reach their useful life in 2016 and beyond. This equipment is associated with the boiler gas flow system and the condition of these items is critical to the efficient operation of the boilers.
A continuous deterioration of unit performance, both generation output and capacity, will occur from lack of funding this project.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance				10,000	160,000	170,000	195,000
Total				**10,000**	**160,000**	**170,000**	**Total**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund				10,000	160,000	170,000	195,000
Total				**10,000**	**160,000**	**170,000**	**Total**

Budget Impact/Other

Project # **EG1600**

Project Name **McKee Run Building Equipment Replacement**

Type	Maintenance	**Department**	Public Utilities-Power Plant
Useful Life	Unknown	**Contact**	Public Utilities Director
Category	Electric	**Priority**	n/a
New Project:	Yes	**Account Number:**	487-8101-591.40-31
Time-Line:			

Description

Total Project Cost: **$215,000**

This project includes the replacement of certain building support systems along with the paving of roadways around the cooling towers at the McKee Run Generating station. The specific building systems to be addressed include:
Supervisors Office Roof top Air Conditioners – 2016-$30,000
Control Room rooftop air Conditioning Unit – 2017 - $50,000
Administrative Building roof top Air Conditioner -2020 -$30,000
Rebuild #1 elevator – 2019-$25,000
Pave roadway around cooling towers and tank berm -2016- $80,000
This project will be implemented in 2016 and complete in 2020
This project is expected to be funding outside the normal O&M budget. It should result in reducing the risk of increased maintenance budget in the future.

Justification

This project is required to fund the replacement of roof top air conditioners that are expected to reach their useful life starting in 2016. In addition, the #1 elevator is expected to require significant rebuilding to maintain it's reliability. Major maintenance was performed last in 1999. The roadway around the cooling towers is expected to need major repair due to damage resulting from heavy vehicle and construction equipment traffic associated with the cooling tower repairs scheduled for 2011 through 2015. Continuing increase in the costs to maintain this equipment will result from the lack of funding this project. In addition, critical temperature control is necessary to keep plant instrumentation located in the control room at acceptable operating conditions. Allowing the temperature to exceed design conditions could contribute to reduced control equipment life and possible reduced unit reliability. Maintaining the roadway access to the cooling towers and oil tank area is critical to being able to respond to emergencies at those locations.

Expenditures	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Construction/Maintenance					110,000	110,000	105,000
Total					**110,000**	**110,000**	**Total**

Funding Sources	FY 12	FY 13	FY 14	FY 15	FY 16	Total	Future
Electric I & E Fund					110,000	110,000	105,000
Total					**110,000**	**110,000**	**Total**

Budget Impact/Other

VEHICLE/EQUIPMENT REPLACMENTS

FY 2012 thru FY 2016

By Department

Department	Project #	FY 12	FY 13	FY 14	FY 15	FY 16	*Total*
Central Services							
1987 Forklift	12Veh#NEW	30,670					*30,670*
Central Services Total		**30,670**					***30,670***
Facilities Management							
1996 Dodge B2500 (438)	*13Veh# 438*		16,096				*16,096*
1996 Ford E350 (436)	*14Veh# 436*			16,096			*16,096*
1999 Dodge RMV Van (435)	*15Veh# 435*				16,096		*16,096*
Facilities Management Total			**16,096**	**16,096**	**16,096**		**48,288**
Parks and Recreations							
2002 Dodge Van (590)	13Veh# 590		17,400				*17,400*
Mayor Total			**17,400**				***17,400***
Planning							
2009 Chevy Uplander	*13Veh# 3*		16,177				*16,177*
Planning Total			**16,177**				**16,177**
Police							
1999 Ford Taurus (204)	*12Veh# 204*	18,550					
2000 Ford Taurus (241)	*12Veh# 241*	18,550					
2000 Ford Taurus (242)	*12Veh# 242*	27,900					
2007 Ford Crown Victoria (201)	*13Veh# 201*		20,698				
2007 Ford Crown Victoria (216)	*13Veh# 216*		20,698				
2006 Ford Crown Victoria (217)	*13Veh# 217*		20,698				
2006 Ford Crown Victoria (219)	*13Veh# 219*		20,698				
2007 Ford Crown Victoria (220)	*13Veh# 220*		20,698				
2007 Ford Crown Victoria (228)	*13Veh# 228*		20,698				
2006 Ford Crown Victoria (229)	*13Veh# 229*		20,698				
2006 Ford Crown Victoria (232)	*13Veh# 232*		20,698				
2007 Ford Crown Victoria (236)	*13Veh# 236*		20,698				
2008 Ford Crown Victoria (239)	*13Veh# 239*		20,698				
2004 HD FHP Motorcycle	*13Veh# 244*		18,255				
2008 Ford Crown Victoria (258)	*13Veh# 258*		20,698				
2008 Ford Crown Victoria (259)	*13Veh# 259*		20,698				
2007 HD FHC Motorcycle	*13Veh# 267*		18,255				
2005 Ford Crown Victoria (277)	*13Veh# 277*		20,698				
2001 Chevy Malibu (282)	*13Veh# 282*		18,550				
2001 Chevy Malibu (283)	*13Veh# 283*		18,550				*18,550*
2005 Ford Crown Victoria (288)	*13Veh# 288*		20,698				*20,698*
2007 Ford Crown Victoria (290)	*13Veh# 290*		20,698				*20,698*
2007 Ford Crown Victoria (292)	*13Veh# 292*		20,698				*20,698*
2002 Ford Taurus (206)	*14Veh# 206*			18,550			*18,550*
2007 Ford Crown Victoria (227)	*14Veh# 227*			20,698			*20,698*
2000 Ford Crown Victoria (234)	*14Veh# 234*			20,698			*20,698*
2007 Ford Crown Victoria (238)	*14Veh# 238*			20,698			*20,698*
2008 HD Motorcycle FHP (256)	*14Veh# 256*			18,255			*18,255*
2008 HD Motorcycle FHP	*14Veh# 257*			18,255			*18,255*
2007 Ford Crown Victoria (278)	*14Veh# 278*			20,698			*20,698*
2005 Ford Crown Victoria-Tahoe (279)	*14Veh# 279*			20,698			*20,698*
2007 Ford Crown Victoria (280)	*14Veh# 280*			20,698			*20,698*
1999 Ford E250 (281)	*14Veh# 281*			92,671			*92,671*
2001 Chevy Malibu (284)	*14Veh# 284*			18,550			*18,550*

VEHICLE/EQUIPMENT REPLACEMENTS

FY 2012 thru FY 2016

By Department - Continued

Department	Project #	FY 12	FY 13	FY 14	FY 15	FY 16	*Total*
Police - Continued							
2010 Ford Crown Victoria (202)	*15Veh# 202*				20,698		*20,698*
2010 Ford Crown Victoria (203)	*15Veh# 203*				20,698		*20,698*
2010 Dodge Charger (209)	*15Veh# 209*				20,698		*20,698*
2005 Ford F150 Pick Up (245)	*15Veh# 245*				17,035		*17,035*
2009 HD Motorcycle FHP (266)	*15Veh# 266*				18,255		*18,255*
2009 HD Motorcycle FHP (268)	*15Veh# 268*				18,255		*18,255*
2008 Ford Crown Victoria (291)	*15Veh# 291*				20,698		*20,698*
2008 Ford Crown Victoria (293)	*15Veh# 293*				20,698		*20,698*
2001 Ford E350 SD (299)	*15Veh# 299*				46,585		*46,585*
1998 Ford E250 (207)	*16Veh# 207*					17,265	*17,265*
2010 Ford Crown Victoria (243)	*16Veh# 243*					20,698	*20,698*
1996 Ford E350 (246)	*16Veh# 246*					74,983	*74,983*
2010 Ford Crown Victoria (271)	*16Veh# 271*					20,698	*20,698*
2010 Ford Crown Victoria (273)	*16Veh# 273*					20,698	*20,698*
2010 Ford Crown Victoria (275)	*16Veh# 275*					20,698	*20,698*
2010 Ford Crown Victoria (285)	*16Veh# 285*					20,698	*20,698*
2010 Ford Crown Victoria (289)	*16Veh# 289*					20,698	*20,698*
2002 Dodge Ram 1500 (296)	*16Veh# 296*					17,035	*17,035*
Police Total		**65,000**	**404,778**	**290,469**	**203,620**	**233,471**	**1,197,338**
Public Services-Admin							
1999 Ford Explorer (6)	13Veh# 6		28,818				*28,818*
Public Services-Admin Total			**28,818**				**28,818**
Public Services-Grounds							
2002 Dodge Pick Up (550)	*13Veh# 550*		17,000.00				*17,000*
1995 Ford Crew Cab Dump Truck (552)	*13Veh# 552*		44,720.00				*44,720*
2001 Dodge Pick Up (553)	*13Veh# 553*		17,000.00				*17,000*
1999 Dodge Pick Up (558)	*13Veh# 558*		17,000.00				*17,000*
2002 Toro Wing Mower (562)	*13Veh# 562*		57,500.00				*57,500*
1999 Chevy Dump Truck (554)	*14Veh# 554*			54,491.00			*54,491*
1998 Vermeer Stump Grinder (566)	*14Veh# 566*			44,000.00			*44,000*
1998 X-Mark Mower (568)	*14Veh# 568*			14,310.00			*14,310*
2001 Kubota Tractor (569)	*14Veh# 569*			29,116.00			*29,116*
1998 Chevy Crew Cab Dump Truck (551)	*15Veh# 551*				58,962.00		*58,962*
2006 X-Mark Mower (573)	*15Veh# 573*				15,456.00		*15,456*
1991 International Utility Trailer (578)	*15Veh# 578*				14,000.00		*14,000*
2002 Bean 300 Gallon Sprayer (585)	*15Veh# 585*				22,122.00		*22,122*
1990 FMC 300 Gallon Sprayer (565)	*16Veh# 565*					23,760.00	*23,760*
1999 Bandit Chipper (579)	*16Veh# 579*					46,122.00	*46,122*
1994 Vermeer Chipper (588)	*16Veh# 588*					46,000.00	*46,000*
Public Services-Grounds Total			**153,220**	**141,917**	**110,540**	**115,882**	**521,559**
Public Services-Inspections							
2001 Dodge Pick Up (19)	*13Veh# 19*		16,000				*16,000*
2001 Dodge Pick Up Truck (20)	*13Veh# 20*		16,500				*16,500*
2002 Dodge Pick Up (18)	*14Veh#18*			16,000			*16,000*
2001 Dodge Pick Up (22)	*14Veh#22*			16,000			*16,000*
Public Services-Inspections Total			**32,500**	**32,000**			**32,500**
Public Services-Life Safety							
20' Express Wagon with Honda Generator	*13Veh# 14*		17,500				*17,500*
Public Services-Life Safety Total			**17,500**				**17,500**

VEHICLE/EQUIPMENT REPLACEMENTS

FY 2012 thru FY 2016

By Department - Continued

Department	Project #	FY 12	FY 13	FY 14	FY 15	FY 16	*Total*
Public Services-Sanitation							
2003 Sterling Bulk Truck (447)	*12Veh# 447*	136,500					*136,500*
2004 Peterbilt Automated Trash Truck (442)	13Veh# 442		232,084				*232,084*
2004 Peterbilt Automated Trash Truck (443)	13Veh# 443		253,875				*253,875*
2002 Int'l Rear Loader (449)	13Veh# 449		129,375				*129,375*
2003 Peterbilt 320 Automated Trash Truck (450)	13Veh# 450		246,075				*246,075*
2008 Peterbilt Automated Trash Truck (441)	14Veh# 441			296,075			*296,075*
2002 Hurst Trailer (453)	14Veh# 453			14,500			*14,500*
2008 Intn't Rear Loader (445)	15Veh# 445				165,975		*165,975*
2008 Peterbilt Side Loader (451)	15Veh# 451				296,075		*296,075*
Public Services-Sanitation Total		**136,500**	**861,409**	**310,575**	**462,050**		**1,770,534**
Public Services-Streets							
2002 Tymco Street Sweeper (357)	*12Veh# 357*	170,028					*170,028*
1986 Case Backhoe (319)	*13Veh# 319*		94,075				*94,075*
2001 Int'l Dump Truck (322)	*13Veh# 322*		123,275				*123,275*
2001 Int'l Dump Truck (324)	*13Veh# 324*		133,074				*133,074*
1992 International Dumpt Truck (328)	*13Veh# 328*		131,055				*131,055*
1999 Dodge Pick Up Truck (330)	*13Veh# 330*		19,500				*19,500*
2001 Dodge Pick Up Truck (331)	*13Veh# 331*		19,500				*19,500*
1992 Int'l Leaf Truck (366)	*13Veh# 366*		110,000				*110,000*
2002 Airman Air Compressor (382)	*13Veh# 382*		23,000				*23,000*
2001 Case Front-End Loader (312)	*14Veh# 312*			129,700			*129,700*
2002 Case Front-End Loader (316)	*14Veh# 316*			129,700			*129,700*
2001 Int'l Dump Truck (321)	*14Veh# 321*			115,075			*115,075*
2001 Dodge Utility Truck (345)	*14Veh# 345*			46,875			*46,875*
1986 Hudson Trailer (394)	*14Veh# 394*			15,000			*15,000*
2006 Ford 1-Ton Dump Truck (325)	*15Veh# 325*				58,395		*58,395*
2002 ODB Leaf Vacuum Trailer (361)	*15Veh# 361*				42,120		*42,120*
2006 Int'l Sweeper (361)	*16Veh# 356*					195,075	*195,075*
Public Services-Streets Total		**170,028**	**653,479**	**436,350**	**100,515**	**195,075**	**1,555,447**
Public Utilities-Electric Engineering							
2000 Dodge Pick Up Truck (731)	*14Veh# 731*			25,000			*25,000*
2005 Ford Utility Truck (764)	*14Veh# 764*			35,000			*35,000*
2005 Dodge Stratus (8)	*14Veh# 8*			23,000			*23,000*
2005 Ford SUV (741)	*15Veh# 741*				24,000		*24,000*
2006 Ford Van (749)	*15Veh# 749*				25,000		*25,000*
2006 Dodge Pickup (790)	*15Veh# 790*				26,000		*26,000*
2008 Dodge Avenger (7)	*16Veh# 7*					25,000	*25,000*
2007 Dodge Pickup (9)	*16Veh# 9*					27,000	*27,000*
Public Utilities-Electric Engineering Total				**83,000**	**75,000**	**52,000**	**210,000**
Public Utilities-Electric T & D							
2001 Dodge Pickup (719)	*12Veh# 719*	21,737					*21,737*
1996 Ford F-350 (773)	*12Veh# 773*	26,600					*26,600*
2001 Dodge Pickup (767)	*13Veh# 767*		21,737				*21,737*
2003 Freightliner (778)	*13Veh# 778*		120,000				*120,000*
2002 Sherman & Reilly Wire Puller (758)	*14Veh# 758*			109,550			*109,550*
2001 Freightliner (766)	*14Veh# 766*			185,000			*185,000*
1989 Smith SM160 (716)	*15Veh# 716*				15,000		*15,000*
2001 Dodge Ram 3500 (799)	*15Veh# 799*				30,000		*30,000*
Trencher/Hoe (702)	*16Veh# 702*					55,750	*55,750*
2003 Freightliner (779)	*16Veh# 779*					185,000	*185,000*
Public Utilities-Electric T & D Total		**48,337**	**141,737**	**294,550**	**45,000**	**240,750**	**770,374**

VEHICLE/EQUIPMENT REPLACEMENTS

FY 2012 thru FY 2016

By Department - Continued

Department	Project #	FY 12	FY 13	FY 14	FY 15	FY 16	*Total*
Public Utilities-Wastewater Management							
2001 Dodge 1-Ton Utility Truck (680-2)	*12Veh 680-2*	19,550					*19,550*
2001 Dodge Pick Up Truck (695-2)	*12Veh 695-2*	11,450					*11,450*
2001 Dodge Pick Up Truck (661-2)	*13Veh 661-2*		11,450				*11,450*
2006 Vaccon Jet Vac Truck (692-2)	*13Veh 692-2*		144,500				*144,500*
2003 Chevrolet Pick-Up (655)	*13Veh# 655*		45,100				*45,100*
2002 Ford 1-Ton Utility Truck with Crane (664)	*13Veh# 664*		43,000				*43,000*
2002 Dodge Pick Up Truck (663-2)	*14Veh 663-2*			17,450			*17,450*
2002 Dodge Pick- Up (668-2)	*14Veh 668-2*			17,450			*17,450*
2000 Airman Air Compressor (683-2)	*14Veh 683-2*			9,700			*9,700*
2003 Sterling Truck Jet (691)	*14Veh# 691*			210,400			*210,400*
2002 Sterling L7500 Dump Truck (671-2)	*15Veh 671-2*				59,850		*59,850*
1987 Empire Generator (601)	*15Veh# 601*				30,600		*30,600*
1987 Empire Generator (602)	*15Veh# 602*				30,600		*30,600*
1987 Empire Generator (603)	*15Veh# 603*				30,600		*30,600*
1997 New Holland 575E (674-2)	*16Veh 674-2*					59,100	*59,100*
2008 Ford Pickup	*16Veh 698-2*					17,150	*17,150*
2008 Ford 1 Ton Utility w/ Crane (665)	*16Veh# 665*					47,600	*47,600*
Public Utilities-Wastewater Management Total		**31,000**	**244,050**	**255,000**	**151,650**	**123,850**	**805,550**
Public Utilities-Water Construction							
2001 Dodge 1-Ton Utility Truck (426)	*12Veh# 426*	30,100					*30,100*
1999 Dodge, 1-Ton Utility Truck (403)	*13Veh# 403*		31,000				*31,000*
2004 Ford 1-Ton Dump Truck (417)	*14Veh# 417*			61,600			*61,600*
2001 Dodge Pick-Up (419)	*14Veh# 419*			22,200			*22,200*
1995 Caterpillar Loader (402)	*15Veh# 402*				182,300		*182,300*
2000 Caterpillar 416CH (405)	*15Veh# 405*				135,600		*135,600*
1995 John Deere Broom Tractor (406)	*15Veh# 406*				44,300		*44,300*
1995 Caterpillar Excavator (400)	*16Veh# 400*					352,400	*352,400*
1991 International 40S (422)	*16Veh# 422*					75,200	*75,200*
Public Utilities-Water Construction Total		**30,100**	**31,000**	**83,800**	**362,200**	**427,600**	**934,700**
Public Utilities-Water Management							
2001 Dodge, 1-Ton Utility Truck (680-2)	*12Veh# 680-2*	19,550					*19,550*
2001 Dodge Pick Up Truck (695-2)	*12Veh# 695-2*	11,450					*11,450*
2001 Dodge Pick Up Truck (661-2)	*13Veh# 661-2*		11,450				*11,450*
2006 Vaccon Jet Vac Truck (692-2)	*13Veh# 692-2*		144,500				*144,500*
2002 Dodge Pick-Up (663-2)	*14Veh# 663-2*			17,450			*17,450*
2002 Dodge Pick-Up (668-2)	*14Veh# 668-2*			17,450			*17,450*
2000 Airmen Air Compressor (683-2)	*14Veh# 683-2*			9,700			*9,700*
2002 Sterling L7500 (671-2)	*15Veh# 671-2*				59,850		*59,850*
1997 New Holland (674-2)	*16Veh# 674-2*					59,100	*59,100*
2008 Ford Pickup (698-2)	*16Veh# 698-2*					17,150	*17,150*
Public Utilities-Water Management Total		**31,000**	**155,950**	**44,600**	**59,850**	**76,250**	**367,650**
Public Utilities-Water Treatment Plant							
1992 Dodge Van	*12Veh# 621*	22,900					*22,900*
2001 Dodge Pick Up (660)	*13Veh# 660*		24,100				*24,100*
2007 Ford 1-Ton Utlity (622)	*15Veh# 622*				45,200		*45,200*
2008 GMC Cargo Van (662)	*16Veh# 662*					25,900	*25,900*
Public Utilities-Water Treatment Plant Total		**22,900**	**24,100**		**45,200**	**25,900**	**118,100**

VEHICLE/EQUIPMENT REPLACEMENTS

FY 2012 thru FY 2016

By Department - Continued

Department	Project #	FY 12	FY 13	FY 14	FY 15	FY 16	*Total*
Public Utilties-Water/Wastewater Engineering							
2003 Chevrolet Pick-Up (418)	*13Veh# 418*		23,400				*23,400*
2008 Chevrolet Pickup (421)	*16Veh# 421*					27,000	*27,000*
Public Utilties-Water/Wastewater Eng. Total			**23,400**			**27,000**	**50,400**
Tax Assessor							
2002 Dodge Stratus	*12Veh# 4*		20,000				*20,000*
Tax Assessor Total			**20,000**				**20,000**
GRAND TOTAL		**565,535**	**2,841,614**	**1,988,357**	**1,631,721**	**1,517,778**	**8,545,005**

Funding Source Summary

Source	FY 12	FY 13	FY 14	FY 15	FY 16	Total
Electric I & E Fund	48,337	141,737	377,550	120,000	292,750	***980,374***
General Fund	402,198	2,221,377	1,227,407	892,821	544,428	***5,288,231***
Water/Wastewater Fund	115,000	478,500	383400	618900	680600	***2,276,400***
GRAND TOTAL	**565,535**	**2,841,614**	**1,988,357**	**1,631,721**	**1,517,778**	***8,545,005***