

UB00A  
Maryland Environmental Service

***Infrastructure Improvement Fund (Statewide)***

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***Capital Budget Summary***

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Grant and Loan Programs  
(\$ in Millions)

	<i>FY 2011 Approp.</i>	<i>FY 2012 Approp.</i>	<i>FY 2013 Allowance</i>	<i>FY 2012-2013 % Change</i>	<i>DLS Recommd.</i>
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GO Bonds	\$0.000	\$0.000	\$7.462	100.0%	\$7.462
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***Summary of Issues***

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***Notification of Project Changes:*** The January 25, 2012 Board of Public Works agenda included an item that authorized the use of \$4,911,949 for the Dorsey Run wastewater treatment improvements and upgrades. This amount was 10.2% greater than the \$4,459,000 authorization in the Maryland Consolidated Capital Bond Loan (MCCBL) of 2009 and, therefore, triggered the requirement in the MCCBL that expenditures for projects may not exceed the amount listed by more than 7.5% without notification to the General Assembly. **The Department of Legislative Services (DLS) recommends that the Maryland Environmental Service (MES) comment on the status of the letter and the process for informing the budget committees about both expenditures exceeding 7.5% of project authorizations and expenditures used for previously authorized projects.**

***Summary of Recommended Bond Actions***

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1. Infrastructure Improvement Fund

Approve the \$7,462,000 general obligation bond authorization for the Infrastructure Improvement Fund.

2. MES Infrastructure Improvement Fund

Approve the de-authorization of \$285,000 of the \$3,147,000 in general obligation bond authorization in Chapter 445 of 2005 for the Infrastructure Improvement Fund.

3. MES Infrastructure Improvement Fund

Approve the de-authorization of the \$1,151,000 general obligation bond authorization for Elk Neck State Park wastewater treatment plant improvements in Chapter 485 of 2009.

## ***Program Description***

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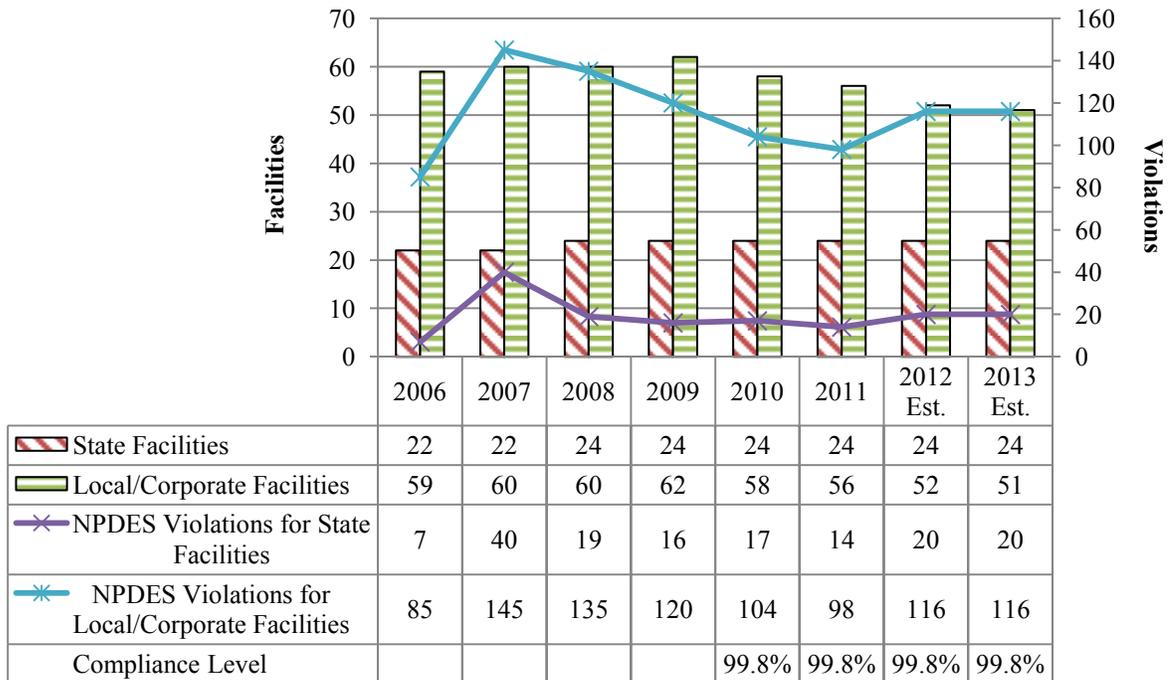
MES was created by statute (Chapter 240 of 1970) as an independent agency. Executive Order 01.01.1971.11 stipulated that MES has responsibility for the operation and maintenance of all State-owned sewage treatment and solid waste disposal facilities. MES then became incorporated into the Department of Natural Resources (DNR) in 1972. During the 1993 session, the General Assembly adopted legislation (Chapter 196 of 1993) that created MES as an instrumentality of the State and a public corporation independent of DNR. MES provides technical services including engineering, design, financing, construction, and operation of water supply and wastewater treatment facilities, among other activities.

The State Water and Sewer Infrastructure Improvement Fund was established to provide for capital improvements of State-owned and operated water treatment and wastewater treatment plants (WWTP); water distribution and sewer collection systems; and water towers. Since fiscal 1999, funding for capital maintenance projects relating to water and WWTP has been budgeted under MES. Prior to this, the State budgeted capital maintenance funds for these projects in the Department of General Services' Facilities Renewal Program. Facilities renewal funds pay for major rehabilitation activities at State-owned facilities. This change was made in order to display more clearly the capital cost of MES-operated State facilities. According to the Department of Budget and Management, MES operates 215 water and WWTPs in Maryland – 65 are State-owned, and 150 are operated by MES for a local government or corporate owner.

## Program Analysis and Performance Measures

MES’s performance measures relate to three goals, one of which is to improve the environment through MES’s activities. One output for this goal is the number of local/corporate and State National Pollutant Discharge Elimination System (NPDES) violations. **Exhibit 1** shows that MES has a greater number of local/corporate clients than State clients, and that violations are proportionate to the number of clients of each type. Since fiscal 2007, violations have declined for both local/corporate clients and State clients. Although, during this time period, the number of local/corporate clients also has decreased. MES has noted that the increase in violations between fiscal 2006 and 2007 relates to more stringent requirements for ammonia and nitrogen removal. MES uses an internal measure of NPDES violations as a percent of total possible violations across all standards. By this measure, MES needs to have fewer than 140 NPDES violations out of 70,000 total possible violations to meet a 99.8% compliance level, which it has done during the fiscal 2010 to 2011 time period for which data was provided.

**Exhibit 1**  
**Local/Corporate and State NPDES Violations**  
**Fiscal 2006-2013**



NPDES: National Pollutant Discharge Elimination System

Source: Governor’s Budget Books, Fiscal 2007-2013

## *Issues*

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### **1. Notification of Project Changes**

The January 25, 2012 Board of Public Works agenda included an item that authorized the use of \$4,911,949 for the Dorsey Run wastewater treatment improvements and upgrades. This amount was 10.2% greater than the \$4,459,000 authorization in the MCCBL of 2009 and, therefore, triggered the requirement in the MCCBL that expenditures for projects may not exceed the amount listed by more than 7.5% without notification to the General Assembly. DLS communicated to MES that in the future a letter to the budget committees would be appropriate. MES indicates that a letter has been drafted and is in the process of being reviewed and revised. **DLS recommends that MES comment on the status of the letter and the process for informing the budget committees about both expenditures exceeding 7.5% of project authorizations and expenditures used for previously authorized projects.**

## *Budget Overview*

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MES's fiscal 2013 authorization includes \$7.5 million in general obligation bond authorization for six projects. In addition, there are two modifications of prior year funding to consider.

### **Projects**

Fiscal 2013 funding reflects the end of a two-year period – fiscal 2011 and 2012 – in which MES received no funding. This was primarily due to the need to encumber and expend existing balances. As noted below, MES has reduced its unencumbered and unexpended balances. In September 2011, MES submitted its 2011 Water and Wastewater Master Plan, which informs the projects selected for fiscal 2013. The six projects included in the fiscal 2013 allowance are shown in **Exhibit 2**.

**Exhibit 2  
Fiscal 2013 Project Funding**

<u>State Unit(s)</u>	<u>Project</u>	<u>Jurisdiction</u>	<u>2013 Request</u>
Rocky Gap State Park	WWTP Improvements	Allegany County	\$341,000
Rocky Gap State Park	New Water Treatment Plant	Allegany County	3,644,000
Freedom District	WWTP Improvements	Carroll County	259,000
Cunningham Falls State Park	Wastewater Collection and Water Distribution System Improvements	Frederick County	200,000
Eastern Correctional Institution	WWTP Improvements	Somerset County	1,514,000
Victor Cullen Youth Center, MCI – Hagerstown, Camp Fretterd	Water Tower Improvements	Statewide	1,504,000
<b>Total</b>			<b>\$7,462,000</b>

MCI: Maryland Correctional Institution  
WWTP: wastewater treatment plant

Source: 2012 *Capital Improvement Program*

**Rocky Gap State Park – Wastewater Treatment Plant Improvements**

According to MES’s revised master plan submitted in September 2011, the Rocky Gap State Park WWTP is meeting permit requirements and is monitoring for biological oxygen demand, total suspended sediments, and temperature – not to exceed 68 degrees Fahrenheit. Water and wastewater treatment needs are expected to rise with the awarding of a contract to install video lottery terminal (VLT) licenses at Rock Gap State Park. However, the most recent round of proposals generated three proposals on September 23, 2011, of which two proposals have been rejected, and one is still pending. MES notes that the design can be adjusted to reflect a lower capacity if the VLT contract does not materialize. This is also true for the Rocky Gap State Park – New Water Treatment Plant project.

The WWTP improvements project is budgeted for \$341,000 in planning funding in fiscal 2013. Future funding of \$3,619,000 would be used for construction for a total project cost of \$3,960,000. The WWTP was built in 1973 and is in need of both capacity expansion and general improvements. It appears that MES last budgeted \$560,000 to design and construct improvements to

the wastewater system in fiscal 1995 and then \$248,000 to design and construct improvements to the existing wastewater facility in fiscal 1997. Proposed fiscal 2013 project components are shown in **Exhibit 3**.

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**Exhibit 3**  
**Rocky Gap State Park – Wastewater Treatment Plant Improvements**  
**Fiscal 2013**

<u>Problem</u>	<u>Description</u>	<u>Solution</u>
Flow Equalization Tank/Capacity	Peak hourly flows of 300,000 gallons per day exceed the 240,000 gallons per day peak capacity. The addition of video lottery terminals to Rocky Gap State Park will raise the average daily flow beyond the 120,000 gallons per day current capacity; 200,000 gallons per day capacity is needed.	Construct a new flow equalization tank.
Headworks	The headworks system for removing large debris at the head of the plant is in need of replacement: the mechanical bar screen is 16 years old and is need of frequent maintenance.	Construct a new headworks system.
Piping and Valves; Clarifiers	Pipes are failing at the joints and fittings, which eventually could compromise the supply of microorganisms being returned in sludge for organic breakdown of nutrients. Clarifier drives are failing.	Construct a new treatment process.
Filters	Undersized filters and frequent maintenance needs mean that wastewater flow is restricted.	Upgrade to new filters.
Structure	The office does not meet building and electrical codes and Occupational Safety and Health Administration handrail requirements. In addition, the office is too small.	Construct improvements to the existing office building.

Source: Department of Budget and Management Capital Budget Worksheets

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### **Rocky Gap State Park – New Water Treatment Plant**

According to MES's revised master plan submitted in September 2011, the preliminary design report has been conducted, and MES is waiting for direction from DNR before finalizing design. Water and wastewater treatment needs are expected to rise with the awarding of a contract to install VLT licenses at Rocky Gap State Park. However, the most recent round of proposals generated three proposals on September 23, 2011, of which two proposals have been rejected, and one is still pending.

The new water treatment plant construction project is budgeted for \$3,644,000 in construction funding in fiscal 2013; no future funding is needed. The current water treatment plant was built in 1973 and is in need of both capacity expansion and general improvements. According to the master

plan, MES last budgeted \$729,000 to design and construct upgrades to the water treatment plant in fiscal 2007. Proposed fiscal 2013 project components are shown in **Exhibit 4**.

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**Exhibit 4**  
**Rocky Gap State Park – New Water Treatment Plant**  
**Fiscal 2013**

<u>Problem</u>	<u>Description</u>	<u>Solution</u>
Drinking Water Standards	Water treatment plant disinfectants are reacting with natural materials to form trihalomethanes and haloacetic acids at levels higher than allowed by the U.S. Environmental Protection Agency. A temporary calgon carbon pre-treatment system costs \$70,000 per year and is located outside, which means that the filters can freeze.	Construct a new expanded water treatment plant capable of meeting U.S. Environmental Protection Agency drinking water standards.
Capacity	Peak hourly flows of 300,000 gallons per day exceed the 240,000 gallons per day peak capacity. The addition of video lottery terminals (VLT) to Rocky Gap State Park will raise the average daily flow beyond the 120,000 gallons per day current capacity; 200,000 gallons per day capacity is needed.	Expand the water treatment plant.
Location	The distribution main to the lodge/conference center and future VLTs is old and runs through the lake. A break in the line would interrupt service to these facilities. Relocating the plant to the other side of the lake would eliminate the risk of losing water service due to a break and provide a better location for raw water withdrawal, as the lake is deeper and the water has a more consistent quality.	Site the new plant near a higher quality raw water source, a more reliable power supply, and facilities served.

Source: Department of Budget and Management Capital Budget Worksheets

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### **Freedom District Wastewater Treatment Plant Improvements**

The Freedom District WWTP is located in Sykesville and serves State facilities at the Springfield Hospital Center and a large portion of Carroll County. The plant is one of the 67 major WWTPs. As such, it must be upgraded from meeting seasonal biological nutrient removal standards to meeting enhanced nutrient removal standards. The October 2010 permit issued for the plant requires enhanced nutrient removal standards to be met by September 2015.

The cost of upgrading the WWTP to enhanced nutrient removal technology will be largely funded by the State. Non-nutrient related costs will be shared by the State and Carroll County based on the treatment capacity allocated to each. The total project will involve construction of a new treatment process and the upgrade of much of the existing equipment. The fiscal 2013 authorization of \$259,000 in planning funding from the State is matched by \$1,206,000 in planning funding from Carroll County. Proposed fiscal 2013 project components for which planning will be conducted are as follows: (1) construct additional process tanks; (2) construct new supplemental carbon storage and feed facilities; (3) construct modifications to the existing biological process basins and connection to the tanks; (4) refurbish aeration system controls and blowers; (5) replace and relocate internal recirculation pumps and pipes; (6) replace and relocate anoxic zone mixers; and (7) refurbish skimmers on the secondary clarifiers and install algae control.

DLS notes that the architectural and engineering (A/E) basic services costs are \$2,717,000, or 17.7% of the project cost. MES indicates that the A/E basic services were estimated using figures in the Preliminary Engineering Report and the Maryland Department of the Environment’s (MDE) allowable design fees guidelines.

Estimated funding for the Freedom District WWTP improvements funding is reflected in **Exhibit 5**. MES indicates that the grant funding from MDE is a preliminary determination of eligibility; final amounts will be decided when the design phase is on its way and so may increase.

**Exhibit 5**  
**Freedom District Wastewater Treatment Plant Upgrade Funding**  
**February 2012**  
**(\$ in Millions)**

<u>Source</u>	<u>Amount</u>
<i>MDE Grants for Nutrient Removal</i>	
Biological Nutrient Removal	\$4.2
Enhanced Nutrient Removal	4.8
<b><i>Subtotal</i></b>	<b><i>\$9.0</i></b>
 <i>State/County Split for Non-nutrient Removal Costs</i>	
State Contribution (26%)	\$2.4
Carroll County Contribution (74%)	7.0
<b><i>Subtotal</i></b>	<b><i>\$9.4</i></b>
 <b>Total</b>	 <b>\$18.4</b>

MDE: Maryland Department of the Environment

Source: Maryland Environmental Service; Department of Legislative Services

## Cunningham Falls State Park – Wastewater Collection and Water Distribution System Improvements

The sanitary sewer at Cunningham Falls State Park was built in the 1970s and is experiencing excessive inflow and infiltration, which results in higher discharge to Thurmont WWTP and thus higher sewer bills. For instance, in the first quarter of 2011, the sewer bill was \$42,000 despite the closure of most of the park to visitors. The water distribution system is over 20 years old and has sections of failing pipe. The proposed improvements will reduce inflow and infiltration and operating expenses and ensure water system reliability. Proposed fiscal 2013 project components are shown in Exhibit 6.

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### Exhibit 6 Cunningham Falls State Park – Wastewater Collection and Water Distribution System Improvements Fiscal 2013

<u>Problem</u>	<u>Description</u>	<u>Solution</u>
Inflow and infiltration in sanitary sewer	Groundwater or stormwater is able to flow into the sanitary sewer system through catch basins or roof drain connections in the William Houck Area.	Repair or replace gravity sewer pipes, manholes, and other sanitary sewer system components.
Reliability of the water distribution system	Polyvinyl chloride piping is developing leaks in the cold, rocky terrain necessitating the need to replace 1,000 feet of pipe in the Manor Area. The William Houck Area does not have emergency backup power, and the water treatment plant in the William Houck Area is subject to periodic lightning strikes.	Replace failing water lines in the Manor Area, and install an emergency generator at the water treatment plant in the William Houck Area.

Source: Department of Budget and Management Capital Budget Worksheets

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DLS notes that A/E basic services are \$200,151, or 20.3% of the project cost. MES indicates that a number of preliminary data sources have to be checked before standard design services are conducted. This data includes closed-circuit television, inspection results, flow data, and other sewer line information. The data review will help determine where the collection system improvements need to be conducted.

## **Eastern Correctional Institution – Wastewater Treatment Plant Improvements**

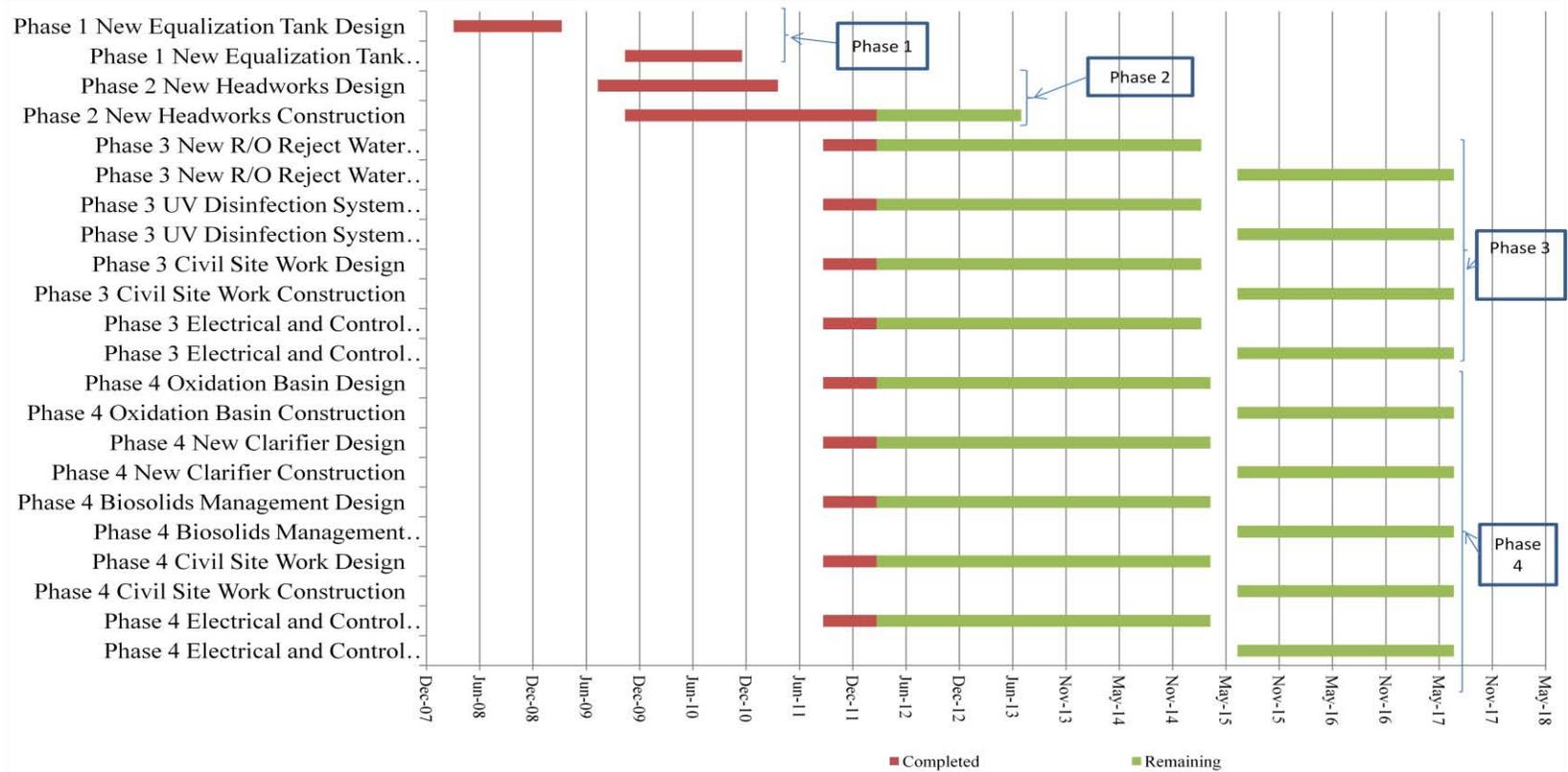
ECI is a unit of the Department of Public Safety and Correctional Services and is located in Somerset County. The institution has grown substantially from 1,500 inmates and 250,000 gallons per day to 3,200 inmates and 563,000 gallons per day with plans to add an additional 480 prisoners. At 563,000 gallons per day, the plant currently exceeds its design capacity of 480,000 gallons per day.

The WWTP upgrade project has been divided into four phases. The first phase consisted of the design and construction for a new equalization tank, which was completed in December 2010. The second phase involved the design and construction of a new headworks – the area for screen out of debris that can cause problems for equipment in later stages of treatment. The headworks will include a new building, coarse and fine screens, screenings conveyor, washer, compactor, grit removal systems, and raw sewage pumps. The new headworks is estimated to be completed in September 2013, although this timeline may be extended by six months due to delays in the issuance of a dewatering permit by MDE. Currently, there are plans to install a new Supervisory Control and Data Acquisition System for analyzing real time data.

The fiscal 2013 funding of \$1,514,000 provides for design of the third and fourth phase of the improvements. The third phase includes the construction of a new reverse osmosis reject water treatment process, installation of an ultraviolet disinfection system, site work, and electrical and control system installation. The fourth phase is comprised of activities necessary for the expansion of the plant including the construction of an oxidation basin, installation of a new clarifier, biosolids management, site work, and electrical and control systems work.

**Exhibit 7** reflects the revised schedule for the ECI WWTP improvements. The improvements are divided into four phases and then again into subcomponents, and then finally into design and construction stages. The only change from July 1, 2011, is that the Phase 2 New Headworks Construction may be extended by six months due to delays in the issuance of a dewatering permit by MDE.

**Exhibit 7  
Eastern Correctional Institution – Wastewater Improvements Schedule  
February 2012**



Note: Maryland Environmental Service advises that Phase 2 New Headworks Construction may be extended by 6 months due to delays in the issuance of a dewatering permit by the Maryland Department of the Environment.

Source: Maryland Environmental Service; Department of Legislative Services

## **State Water Tower Improvements**

MES is responsible for a number of State elevated water storage tanks. Typical needs include rust prevention and Occupational Safety and Health Administration standards compliance. Solutions include stripping existing paint and repainting added safety features.

For fiscal 2013, deficiencies have been identified at Maryland Correctional Institution – Hagerstown, Victor Cullen Youth Center, and Camp Fretterd. In particular, lead paint and climbing system deficiencies will be addressed. While MES proposes to remove interior lead paint from the elevated water storage tanks, the preferred solution for lead paint on the exterior is to add another layer of paint due to the added cost of approximately \$125,000 for structure containment, worker protection, environmental protection, and potential hazardous waste disposal. Proposed fiscal 2013 project components are as follows. The individual project construction costs, absent escalation and other miscellaneous costs, are noted in parentheses.

- **Maryland Correctional Institution – Hagerstown (\$400,000)** – The Maryland Correctional Institution – Hagerstown’s 300,000-gallon elevated water storage tank was constructed in calendar 1983 and was inspected in calendar 2005. The interior and exterior paint contains lead. The interior paint will be removed, and the surface repainted with lead free paint. The exterior paint is in relatively good condition, and so it will be cleaned, and a new layer of paint will be added.
- **Victor Cullen Youth Center (\$425,000)** – The Victor Cullen Youth Center has two elevated water storage tanks. The 300,000-gallon tank was constructed in 1950 and was last painted in 1991. The interior and exterior paint contains lead. The interior paint will be removed, and the surface repainted with lead free paint. The exterior paint is in relatively good condition, and so it will be cleaned and a new layer of paint will be added. In addition, Occupational Safety and Health Administration guidelines dictate the replacement of a corroded floor-to-ceiling access ladder with a flexible stainless steel cable safety climb system and installation of a ground level riser pipe access hatch.
- **Camp Fretterd (\$375,000)** – Camp Fretterd’s 300,000-gallon elevated water storage tank was recently improved. Fiscal 2013 funding will refurbish the 125,000-gallon tank. Presumably, the exterior paint, which contains lead, is not well-adhered to the surface and thus will be removed, and the exposed surface repainted. In terms of Occupational Health and Safety Administration compliance, a corroded floor-to-ceiling access ladder will be replaced with a flexible stainless steel cable safety climb system. In addition, a ground level riser pipe access hatch will be installed.

**Prior Authorization Modifications**

The fiscal 2013 capital budget includes two prior authorization modifications, as shown in Exhibit 8.

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**Exhibit 8**  
**MES Prior Year Funding Modifications**  
**Fiscal 2006 and 2010**

<u>Timeframe</u>	<u>Project Title(s)</u>	<u>Description</u>	<u>Explanation</u>	<u>Amount</u>	<u>DLS Recomm.</u>
Fiscal 2006	Springfield Hospital Center, Poplar Hill Pre-Release Unit; Eastern Correction Institution	De-authorizes funding for design/construction projects related to water, wastewater, and water tower improvements.	Competition for bids reduced costs.	\$285,000	Approve
Fiscal 2010	Elk Neck State Park	De-authorizes funding to construct improvements to the WWTP at Elk Neck State Park.	North Bay LLC is unable to pay agreed upon amount for WWTP upgrade.	1,151,000	Approve
<b>Total</b>				<b>\$1,436,000</b>	

DLS: Department of Legislative Services  
MES: Maryland Environmental Service  
WWTP: wastewater treatment plant

Source: Department of Legislative Services

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The Elk Neck State Park de-authorization reflects the failure of a deal to jointly fund upgrades to the Elk Neck State Park WWTP with the North Bay LLC. The \$1.15 million reflected above was intended to be the final component of the State’s share, a total of \$1.5 million, which was to be matched by North Bay LLC’s 70% contribution. However, no such funding has been provided by North Bay LLC, despite the State funding being available and the design for the project being completed.

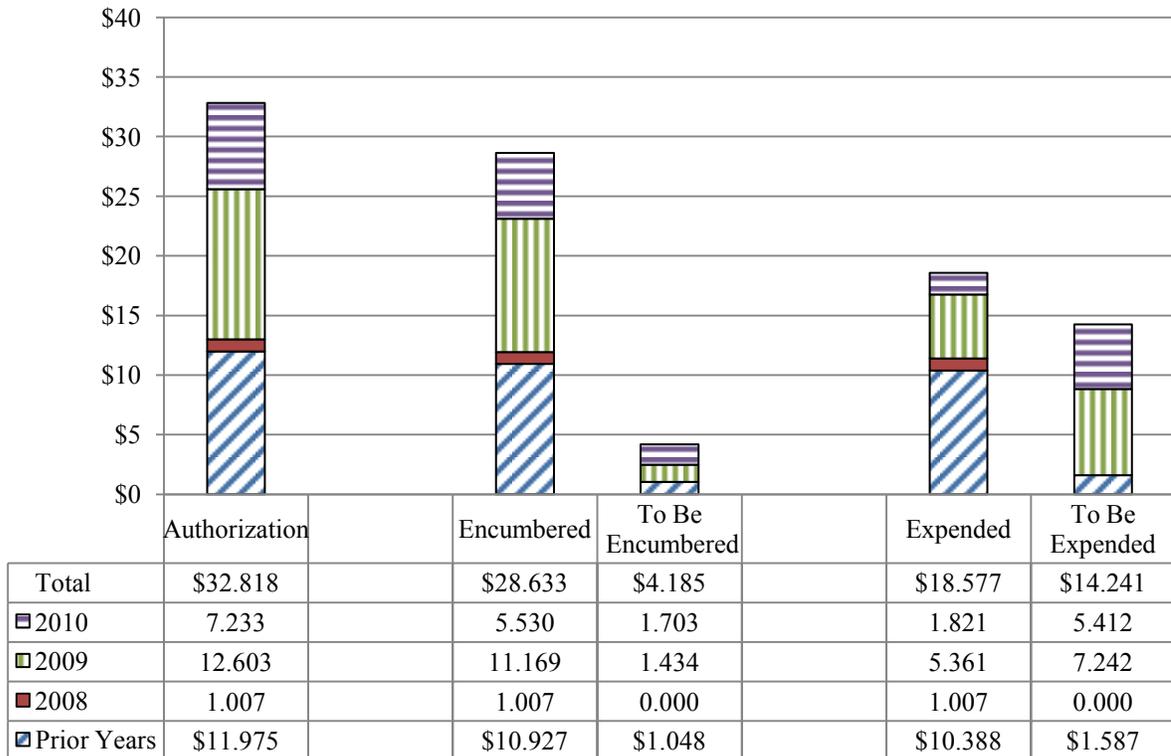
At this point, the existing WWTP at Elk Neck State Park meets the current discharge permit limits. In fall 2012, MES will find out if more stringent nitrogen and phosphorus nutrient reductions will be required of the WWTP. MES indicates that the WWTP at Elk Neck State Park may be excused from more stringent permits based on a clause in the existing permit language and the fact

that the plant is very small. If Elk Neck State Park is not excused, then MES will request additional funding from the State, since North Bay LLC is unlikely to be able to provide funding.

### Authorization Encumbrance and Expenditure Data

MES has reduced its unencumbered and unexpended balances substantially. **Exhibit 9** reflects encumbrances and expenditures from fiscal 2003 through February 2012. MES indicates that it has divided capital budget requests into planning and construction funding in order to expedite the encumbrance of funding. Unexpended funds primarily reflect ECI Wastewater Treatment Plant Improvements funding in fiscal 2009 (\$5.7 million) and Dorsey Run Wastewater Treatment Plant Upgrade funding in fiscal 2010 (\$3.4 million).

**Exhibit 9**  
**Infrastructure Improvement Fund Encumbrances and Expenditures**  
**Fiscal 2003 through February 2012**  
**(\$ in Millions)**



Note: No funding was provided in either fiscal 2011 or 2012.

Source: Maryland Environmental Service

Since July 2011, MES has encumbered funding for several projects, as shown in **Exhibit 10**. The encumbrance of \$10.3 million since July 2011 reflects the majority of the \$11.5 million spending plan for fiscal 2012 using authorizations from Maryland Consolidated Capital Bond Loans 2003 to 2009. If MES is able to encumber the entire \$11.5 million and the \$1.4 million de-authorization noted above is approved, then MES will have \$1.5 million for future year projects such as Rocky Gap Water Treatment Plant Improvements (\$431,105), Dorsey Run Wastewater Treatment Plant Improvements (\$699,728), and ECI Wastewater Treatment Plant Improvements (\$247,230) as shown in the Proposed Use of Available Funds exhibit at the end of this analysis.

**Exhibit 10  
Encumbered Funding  
July 2011 to February 2012**

<u>Project Title</u>	<u>Description</u>	<u>Fund Source</u>	<u>Amount</u>
Deep Creek Lake State Park	Cleaning and inspection of sewer collection system	MCCBL of 2005	\$23,025
Dorsey Run Advanced Wastewater Treatment Plant	Improvements and equipment upgrades	MCCBLs of 2003, 2006, 2008, and 2009	4,911,949
Eastern Correctional Institution WWTP	Design development services for plant upgrades and construct new headworks building housing various wastewater equipment, including: coarse and fine screens, grit removal systems, pumps, and electrical and control systems	MCCBL of 2008	5,129,429
Rocky Gap Water Treatment Plant	Design, bid and construct upgrade of water treatment plant and distribution main	MCBBL of 2008	248,025
<b>Total</b>			<b>\$10,312,428</b>

MCCBL: Maryland Consolidated Capital Bond Loan  
WWTP: wastewater treatment plant

Source: Board of Public Works; Department of Legislative Services

## ***Capital Improvement Program***

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### **GO Bond Authorization Request (\$ in Millions)**

<i>Fund Source</i>	<i>2011 Approp.</i>	<i>2012 Approp.</i>	<i>2013 Request</i>	<i>2014 Estimate</i>	<i>2015 Estimate</i>	<i>2016 Estimate</i>	<i>2017 Estimate</i>
2012 CIP	\$0.000	\$0.000	\$7.462	\$14.550	\$11.200	\$9.950	\$13.350
2011 CIP	0.000	0.000	13.700	7.500	7.500	7.500	0.000
<b>Difference</b>	<b>\$0.000</b>	<b>\$0.000</b>	<b>-\$6.238</b>	<b>\$7.050</b>	<b>\$3.700</b>	<b>\$2.450</b>	<b>\$13.350</b>

CIP: *Capital Improvement Program*

The 2012 *Capital Improvement Program* (CIP) reflects a decrease in funding for fiscal 2013 relative to the 2011 CIP but then increases relative to the 2011 CIP for fiscal 2014, 2015, and 2016. MES's September 2011 master plan reflects several large projects including \$7.0 million in fiscal 2015 and \$10.6 million in fiscal 2016 for the Eastern Correctional Institution WWTP project.

## ***GO Bond Recommended Actions***

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1. Approve the \$7,462,000 general obligation bond authorization for the Infrastructure Improvement Fund. This authorization includes funds to design, construct, and equip capital improvements for the following State institutions: Rocky Gap State Park – Wastewater Treatment Plant Improvements (\$341,000); Rocky Gap State Park – New Water Treatment Plant – \$3,644,000; Freedom Wastewater Treatment Plant Improvements (\$259,000); Cunningham Falls State Park – Wastewater Collection and Water Distribution System Improvements (\$200,000); Eastern Correctional Institution – Wastewater Treatment Plant Improvements (\$1,514,000); and State Water Tower Improvements (\$1,504,000).
2. Approve the de-authorization of \$285,000 of the \$3,147,000 in general obligation bond authorization in Chapter 445 of 2005 for the Infrastructure Improvement Fund. This is due to the following projects coming in under cost: Springfield Hospital Center (\$835,000 is reduced to \$590,000); Poplar Hill Pre-Release Unit (\$410,000 is reduced to \$388,000); and Eastern Correctional Institution (\$300,000 is reduced to \$282,000).
3. Approve the de-authorization of the \$1,151,000 general obligation bond authorization for Elk Neck State Park Wastewater Treatment Plant Improvements in Chapter 485 of 2009. North Bay LLC has been unable to provide the cash match for upgrading the wastewater treatment plant, and at this time, the wastewater treatment plant's permit has not been updated to include nutrient reductions.

## ***Proposed Use of Available Funds***

<b><u>Subdivision</u></b>	<b><u>Project Title</u></b>	<b><u>Estimated Cost</u></b>	<b><u>Prior Auth.</u></b>	<b><u>Fiscal 2012 Amount</u></b>	<b><u>Future Request</u></b>	<b><u>Total State Share (%)</u></b>	<b><u>Status</u></b>
Allegany	Rocky Gap Water Treatment Plant Improvements	\$729,000	\$44,579	\$249,316	\$435,105	100.0%	Design is about 30% complete. Awaiting survey information from the Department of Natural Resources. Projected construction contract award is September 2013.
Anne Arundel	Dorsey Run Wastewater Treatment Plant Improvements	6,309,716	613,144	4,996,844	699,728	100.0%	Construction started September 2011 and is anticipated to be completed March 2013.
Garrett	Deep Creek Lake State Park – Water and Wastewater Improvements	1,323,892	632,720	691,172	–	100.0%	For water improvements, construction bids have been received and are in process of awarding contract. For wastewater improvement, construction is being advertised, and bids are due March 21, 2012.
Somerset	ECI Wastewater Treatment Plant Improvements	7,227,91	1,586,331	5,394,354	247,230	100.0%	Equalization tank completed. New headworks facility is under construction. Design development for the reverse osmosis reject treatment and expansion of the WWTP is in progress. Final report is due September 2012.
Somerset	ECI Water Treatment Plant Improvements	3,764,445	3,728,445	36,000	–	100.0%	Construction of the ECI water treatment plant is 99% complete. Change order for emergency generator for well #6 is pending. Installation should be completed July 2012.

<u>Subdivision</u>	<u>Project Title</u>	<u>Estimated Cost</u>	<u>Prior Auth.</u>	<u>Fiscal 2012 Amount</u>	<u>Future Request</u>	<u>Total State Share (%)</u>	<u>Status</u>
St. Mary's	St. Mary's College – Water and Wastewater Improvements	618,494	603,494	15,000	–	100.0%	Design documents 80% complete.
Regional	Western Maryland State Parks – Water and Wastewater Infrastructure	479,123	346,544	132,579	–	100.0%	Construction bid documents for Fort Frederick State Park water improvements are being finalized by procurement. Advertisement is planned for on or about March 16, 2012.
<b>Total</b>		<b>\$20,452,585</b>	<b>\$7,555,257</b>	<b>\$11,515,265</b>	<b>\$1,382,063</b>		

ECI: Eastern Correctional Institution  
 WWTP: wastewater treatment plant

***Fiscal 2013 Proposed Projects***

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<u>Subdivision</u>	<u>Project Title</u>	<u>Estimated Cost</u>	<u>Prior Auth.</u>	<u>Fiscal 2013 Amount</u>	<u>Future Request</u>	<u>Total State Share (%)</u>
Allegany	Rocky Gap State Park – Wastewater Treatment Plant Improvements	\$3,960,000	\$0	\$341,000	\$3,619,000	100.0%
Allegany	Rocky Gap State Park – New Water Treatment Plant	4,373,000	729,000	3,644,000	0	100.0%
Carroll	Freedom Wastewater Treatment Plant Improvements	18,372,000	0	259,000	2,156,000	13.2%
Frederick	Cunningham Falls State Park – Wastewater Collection and Water Distribution System Improvements	1,238,000	0	200,000	1,038,000	100.0%
Somerset	Eastern Correctional Institution – Wastewater Treatment Plant Improvements	26,730,000	7,230,000	1,514,000	17,986,000	100.0%
Statewide	State Water Tower Improvements	1,504,000	0	1,504,000	0	100.0%
<b>Total</b>		<b>\$56,177,000</b>	<b>\$7,959,000</b>	<b>\$7,462,000</b>	<b>\$24,799,000</b>	

**Capital Project Cost Estimate Worksheet**

**Department:** Maryland Environmental Service  
**Project Number:** 4  
**Project Title:** Rocky Gap State Park – Wastewater Treatment Plant Improvements  
**Analyst:** Andrew D. Gray

***Structure***

New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	\$0
New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Built-in Equipment:			0
Demolition:			0
Information Technology:	0 GSF X	\$0.00 GSF =	0
Telecommunications:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
<b>Subtotal</b>			<b>\$0</b>
Regional Factor:	95.0%		0
<b>Subtotal</b>			<b>\$0</b>
Escalation to Mid-point:	4.00 Yrs. X	3.9% =	15.50% 0
<b>Total Cost of Structure (Bid Cost)</b>			<b>\$0</b>

***Site Work and Utilities***

Site Improvements:	0 + regional factor + mid-point escalation	\$0
Utilities:	2,960,500 + regional factor + mid-point escalation	3,248,409
<b>Project Subtotal (Bid Cost)</b>		<b>\$3,248,409</b>

***Fees and Miscellaneous Costs***

Green Building Premium:	0.0%	\$0
Total Construction Contingency:	5.0%	162,420
Inspection Cost:	6.0%	194,905
Miscellaneous: Critical Path Method		12,991
Miscellaneous:		0
Miscellaneous:		0
A/E Fee through Construction Phase @	9.5%	341,083
<b>Total Cost of Project</b>		<b>\$3,959,808</b>

<b>Base Cost Per New Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per New Square Foot (incl. escalation, contingencies, and Green Bldg.)</b>	<b>\$0</b>
<b>Base Cost Per Renovated Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per Renovated Square Foot (incl. escalation, conting., and Green Bldg.)</b>	<b>\$0</b>

**Capital Project Cost Estimate Worksheet**

**Department:** Maryland Environmental Service  
**Project Number:** 3  
**Project Title:** Rocky Gap State Park – New Water Treatment Plant  
**Analyst:** Andrew D. Gray

***Structure***

New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	\$0
New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Built-in Equipment:			0
Demolition:			0
Information Technology:	0 GSF X	\$0.00 GSF =	0
Telecommunications:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
<b>Subtotal</b>			<b>\$0</b>
Regional Factor:	95.0%		0
<b>Subtotal</b>			<b>\$0</b>
Escalation to Mid-point:	3.17 Yrs. X	3.8% =	12.17% 0
<b>Total Cost of Structure (Bid Cost)</b>			<b>\$0</b>

***Site Work and Utilities***

Site Improvements:	0 + regional factor + mid-point escalation	\$0
Utilities:	3,417,500 + regional factor + mid-point escalation	3,641,631
<b>Project Subtotal (Bid Cost)</b>		<b>\$3,641,631</b>

***Fees and Miscellaneous Costs***

Green Building Premium:	0.0%	\$0
Total Construction Contingency:	5.0%	182,087
Inspection Cost:	6.3%	229,794
Miscellaneous:	Critical Path Method Schedule	13,523
Miscellaneous:		0
Miscellaneous:		0
A/E Fee through Construction Phase @	7.5%	306,000
<b>Total Cost of Project</b>		<b>\$4,373,035</b>

<b>Base Cost Per New Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per New Square Foot (incl. escalation, contingencies, and Green Bldg.)</b>	<b>\$0</b>
<b>Base Cost Per Renovated Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per Renovated Square Foot (incl. escalation, conting., and Green Bldg.)</b>	<b>\$0</b>

**Capital Project Cost Estimate Worksheet**

**Department:** Maryland Environmental Service  
**Project Number:** 2  
**Project Title:** Freedom Wastewater Treatment Plant Improvements  
**Analyst:** Andrew D. Gray

***Structure***

New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	\$0
New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Built-in Equipment:			0
Demolition:			0
Information Technology:	0 GSF X	\$0.00 GSF =	0
Telecommunications:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
<b>Subtotal</b>			<b>\$0</b>
Regional Factor:	90.0%		0
<b>Subtotal</b>			<b>\$0</b>
Escalation to Mid-point:	4.83 Yrs. X	3.9% =	18.83%
<b>Total Cost of Structure (Bid Cost)</b>			<b>\$0</b>

***Site Work and Utilities***

Site Improvements:	0 + regional factor + mid-point escalation	\$0
Utilities:	13,693,000 + regional factor + mid-point escalation	14,644,664
<b>Project Subtotal (Bid Cost)</b>		<b>\$14,644,664</b>

***Fees and Miscellaneous Costs***

Green Building Premium:	0.0%	\$0
Total Construction Contingency:	5.0%	732,213
Inspection Cost:	1.7%	251,881
Miscellaneous:	Critical Path Method	26,954
Miscellaneous:		0
Miscellaneous:		0
A/E Fee through Construction Phase @	17.4%	2,717,000
<b>Total Cost of Project</b>		<b>\$18,372,712</b>

<b>Base Cost Per New Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per New Square Foot (incl. escalation, contingencies, and Green Bldg.)</b>	<b>\$0</b>
<b>Base Cost Per Renovated Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per Renovated Square Foot (incl. escalation, conting., and Green Bldg.)</b>	<b>\$0</b>

**Capital Project Cost Estimate Worksheet**

**Department:** Maryland Environmental Service  
**Project Number:** 6  
**Project Title:** Cunningham Falls State Park – Wastewater Collection and Water Distribution  
**Analyst:** Andrew D. Gray

***Structure***

New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	\$0
New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Built-in Equipment:			0
Demolition:			0
Information Technology:	0 GSF X	\$0.00 GSF =	0
Telecommunications:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
<b>Subtotal</b>			<b>\$0</b>
Regional Factor:	90.0%		0
<b>Subtotal</b>			<b>\$0</b>
Escalation to Mid-point:	3.75 Yrs. X	3.9% =	14.50%
<b>Total Cost of Structure (Bid Cost)</b>			<b>\$0</b>

***Site Work and Utilities***

Site Improvements:	0 + regional factor + mid-point escalation	\$0
Utilities:	910,000 + regional factor + mid-point escalation	937,755
<b>Project Subtotal (Bid Cost)</b>		<b>\$937,755</b>

***Fees and Miscellaneous Costs***

Green Building Premium:	0.0%	\$0
Total Construction Contingency:	5.0%	46,888
Inspection Cost:	4.6%	43,137
Miscellaneous:	Critical Path Method Schedule	10,000
Miscellaneous:		0
Miscellaneous:		0
A/E Fee through Construction Phase @	19.5%	200,151
<b>Total Cost of Project</b>		<b>\$1,237,931</b>

<b>Base Cost Per New Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per New Square Foot (incl. escalation, contingencies, and Green Bldg.)</b>	<b>\$0</b>
<b>Base Cost Per Renovated Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per Renovated Square Foot (incl. escalation, conting., and Green Bldg.)</b>	<b>\$0</b>

**Capital Project Cost Estimate Worksheet**

**Department:** Maryland Environmental Service  
**Project Number:** 1  
**Project Title:** Eastern Correctional Institution – Wastewater Treatment Plant Improvements  
**Analyst:** Andrew D. Gray

***Structure***

New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	\$0
New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Built-in Equipment:			0
Demolition:			0
Information Technology:	0 GSF X	\$0.00 GSF =	0
Telecommunications:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
<b>Subtotal</b>			<b>\$0</b>
Regional Factor:	90.0%		0
<b>Subtotal</b>			<b>\$0</b>
Escalation to Mid-point:	5.50 Yrs. X	3.9% =	21.50%
<b>Total Cost of Structure (Bid Cost)</b>			<b>\$0</b>

***Site Work and Utilities***

Site Improvements:	0 + regional factor + mid-point escalation	\$0
Utilities:	20,518,245 + regional factor + mid-point escalation	22,436,701
<b>Project Subtotal (Bid Cost)</b>		<b>\$22,436,701</b>

***Fees and Miscellaneous Costs***

Green Building Premium:	0.0%	\$0
Total Construction Contingency:	5.0%	1,121,835
Inspection Cost:	2.2%	493,607
Miscellaneous:	Critical Path Method Schedule	29,761
Miscellaneous:		0
Miscellaneous:		0
A/E Fee through Construction Phase @	11.0%	2,648,259
<b>Total Cost of Project</b>		<b>\$26,730,163</b>

<b>Base Cost Per New Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per New Square Foot (incl. escalation, contingencies, and Green Bldg.)</b>	<b>\$0</b>
<b>Base Cost Per Renovated Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per Renovated Square Foot (incl. escalation, conting., and Green Bldg.)</b>	<b>\$0</b>

**Capital Project Cost Estimate Worksheet**

**Department:** Maryland Environmental Service  
**Project Number:** 8  
**Project Title:** State Water Tower Improvements  
**Analyst:** Andrew D. Gray

***Structure***

New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	\$0
New Construction:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Renovation:	0 Sq. Ft. X	\$0.00 Sq. Ft. =	0
Built-in Equipment:			0
Demolition:			0
Information Technology:	0 GSF X	\$0.00 GSF =	0
Telecommunications:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
Miscellaneous – Other:			0
<b>Subtotal</b>			<b>\$0</b>
Regional Factor:	100.0%		0
<b>Subtotal</b>			<b>\$0</b>
Escalation to Mid-point:	2.00 Yrs. X	3.8% =	7.50%
<b>Total Cost of Structure (Bid Cost)</b>			<b>\$0</b>

***Site Work and Utilities***

Site Improvements:	0 + regional factor + mid-point escalation	\$0
Utilities:	1,200,000 + regional factor + mid-point escalation	1,290,000
<b>Project Subtotal (Bid Cost)</b>		<b>\$1,290,000</b>

***Fees and Miscellaneous Costs***

Green Building Premium:	0.0%	\$0
Total Construction Contingency:	5.1%	65,790
Inspection Cost:	10.7%	137,514
Miscellaneous:	Critical Path Method Schedule	11,188
Miscellaneous:		0
Miscellaneous:		0
A/E Fee through Construction Phase @	0.0%	0
<b>Total Cost of Project</b>		<b>\$1,504,492</b>

<b>Base Cost Per New Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per New Square Foot (incl. escalation, contingencies, and Green Bldg.)</b>	<b>\$0</b>
<b>Base Cost Per Renovated Square Foot</b>	<b>\$0</b>
<b>Adjusted Cost Per Renovated Square Foot (incl. escalation, conting., and Green Bldg.)</b>	<b>\$0</b>