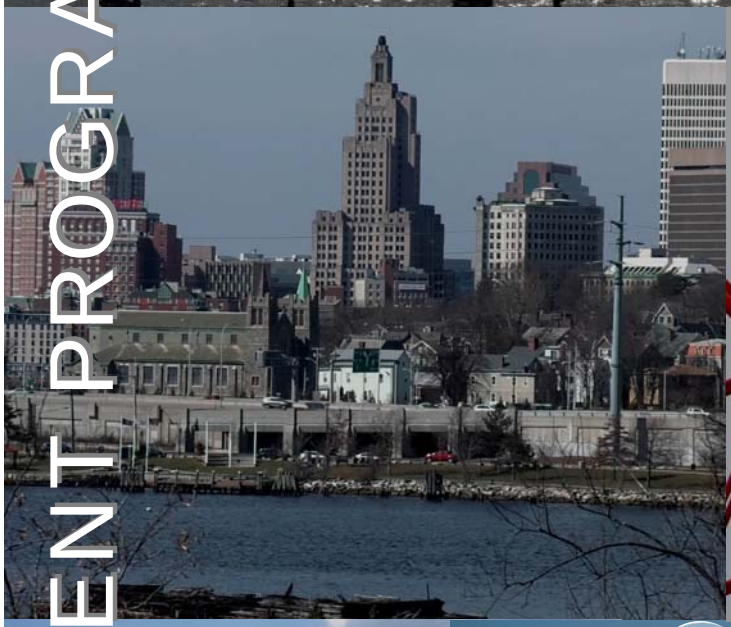
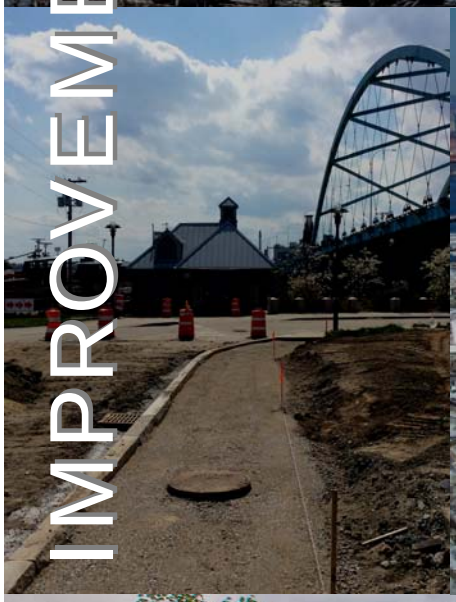
CAPITAL IMPROVEMENT PROGRAM

FY 2018—2022





Narragansett Bay Commission
www.narrabay.com

Vincent J. Mesolella, Chairman

Raymond J. Marshall, P.E., Executive Director

Capital Improvement Program
Table of Contents

Capital Project Summary by Fiscal Year

Project Number	Project Name	Fiscal Years 2018-2022
Wastewater Treatment Facility Improvements		
10908	FPWWTF Blower Improvements Phase II	$ 4,202
11900	Water Quality Science Building	93
12000	BPWWTF Biogas Reuse	201
12400	New IM Facilities	6,607
12900	FPWWTF Operations and Lab Building Reuse	6,734
13000	FPWWTF Final Clarifier Improvements	1,286
13100	NBC Energy Efficiency Upgrades	-
81300	BPWWTF Flood Protection	51
	Subtotal - Wastewater Treatment Facility Improvements	19,173
Infrastructure Management		
1100000	Site Specific Study	245
1140100	River Model Development	99
1140200	Upper Bay Dissolved Oxygen Evaluation	150
1140300	Greenhouse Gas Study	-
1140400	Evaluate NBC Facilities for Climate Resiliency	94
1140500	NBC Energy Sustainability	16
30438	NBC Interceptor Easement Restoration, AVI	5
30500	NBC Interceptor Easements Restoration, Various Locations	1,353
30501	NBC Interceptor Easements Restoration, BVI	725
30700	NBC System-wide Facilities Planning	459
40100	NBC Facility Electrical Improvements	127
40101	FPWWTF Facility Electrical Improvements	-
40200	NBC System-wide Inflow Reduction	360
40300	Municipal Lateral Sewer Acquisition Impact	-
50500	Wind Energy Development Turbines	-
	Subtotal - Infrastructure Management	3,633
Phase III CSO Facilities		
30800	CSO Phase III A Facilities	269,748
30810	CSO Phase III B Facilities	-
30820	CSO Phase III C Facilities	-
30830	CSO Phase III D Facilities	-
	Subtotal - Phase III CSO Facilities	269,748
Interceptor Inspection & Cleaning		
30400M	Interceptor Inspection and Cleaning	2,500
30473	Lockbridge and Valley Street Inspection & Cleaning	-
30474	BVI Inspection & Cleaning	-
	Subtotal - Interceptor Inspection & Cleaning	2,500
Interceptor Restoration & Construction		
30400C	Interceptor Restoration and Construction	4,500
30421	Louisquisset Pike Interceptor Improvements	4,021
30444	Moshassuck Valley Interceptor	4,680
30457	Providence River Siphon	-
30460	Johnston Sewer Improvements	4,002
30462	NBC East Providence Interceptor Improvements	51
30463	Improvements to Interceptors FY 2017	1,455
	Subtotal Interceptor Restoration & Construction	18,708
	Total Capital Improvement Program	**$ 313,762**

This page was intentionally left blank.

Capital Improvement Program

The Capital Improvement Program

The Narragansett Bay Commission's (NBC) Capital Improvement Program (CIP) is a planning document which identifies programmed capital investments necessary to comply with current and future regulatory requirements, take advantage of technological advancements, ensure the integrity of NBC's infrastructure and achieve operational efficiencies. The projects, schedules and costs that are included in the CIP have been developed through a planning process that involves NBC's Engineering and Construction staff and also incorporates the needs identified through NBC's asset management program. These capital improvements represent projects for construction of new facilities, repair and replacement of existing infrastructure as well as energy efficiency and sustainability. The CIP shows programmed expenditures for the current Fiscal Year (FY) 2017 as well as the following five-year period of FY 2018-2022, which is referred to in this document as the "window." Structuring the CIP this way also enables NBC's program to be easily incorporated into the capital budget of the State of Rhode Island.

Capital Improvement Program Overview

This year's CIP identifies a total of 37 projects that are either in progress, to be initiated or to be completed during FY 2018-2022. The estimated costs for this year's CIP window are $313.8 million, with additional expenditures of $40.4 million in FY 2017 for a total of $354.1 million. The majority of the expenditures, more than 86%, are related to the third and final phase of the Combined Sewer Overflow (CSO) Abatement Facilities. Other projects in the CIP account for the remaining 14% or $44.0 million and include the Moshassuck Valley Interceptor Replacement, the Louisquisset Pike Interceptor Replacement, the Field's Point Wastewater Treatment Facility (FPWWTF) Blower Improvements Phase II and green projects.

FY 2017-2022 CIP Costs
(In thousands)

Category	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2018-2022
Administrative	$ 2,407	$ 2,530	$ 490	$ 1,003	$ 693	$ 886	$ 5,601
Land	71	-	50	4,050	-	-	4,100
A/E Professional	8,838	11,814	13,999	5,303	37	6	31,159
Construction	25,836	12,870	991	7,650	84,442	158,361	264,314
Contingency	2,490	3,268	1,940	150	820	650	6,828
Other	714	438	922	136	172	91	1,759
Total	**$ 40,356**	**$30,920**	**$18,392**	**$18,292**	**$86,164**	**$159,994**	**$ 313,761**

Capital Improvement Program Changes

In a departure from prior CIP's, this year's document considers all phases of a construction project, including planning and design to be a single project. In addition, for planning purposes, projects that are substantially complete with only retainage and/or "punch-list" items remaining are considered complete and not carried in the CIP summary or detailed project listing, however, these projects are discussed in the completed projects section of the CIP that begins on page 12.

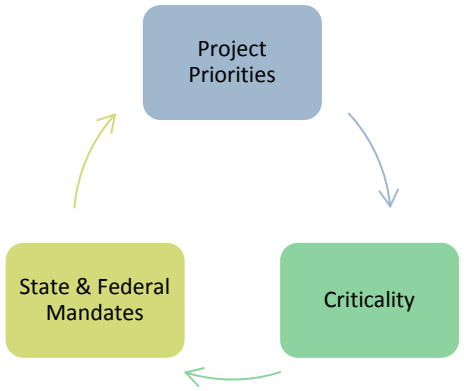
The project priority classifications are also refined in this year's CIP and include four different groups A, B, C and D. In addition, the CIP includes additional information regarding the operating revenue, expense and

savings impact of each project. Lastly, this year's CIP includes more information related to the funding of the CIP as well as a discussion of the projected rate impacts associated with the CIP.

This year's CIP shows the separation of the CSO Phase III Abatement Facilities into four distinct phases. As a result of the Phase III revaluation process completed last year, NBC plans on completing the program over a longer time frame of approximately 22 years. Separating the Phase III Facilities into these phases is consistent with the planning documents submitted to RIDEM for review and approval and will help NBC to plan for the funding of this expensive project. Additional discussion of the CSO Phase III Abatement Facilities begins on page 8 of this document.

Capital Improvement Program Development

NBC's comprehensive capital improvement planning process takes into consideration the project's relationship to the strategic plan, program priorities, the permitting process, project readiness, scheduling and other factors. The CIP drives NBC's long-term financing requirements, and therefore the particulars of each project are an essential component of NBC's financial plan.



NBC's Project Managers begin the annual CIP process with the development of detailed justifications for each capital project including project scope, basis of the cost estimate and key factors impacting costs and schedules. The Project Managers also explain modifications from the prior year's CIP and provide the overall project timeline. A timeline with all of the detailed project schedules can be found in the Appendix. The CIP Review Committee reviews the proposed capital projects including the assignment of priorities and schedules. Projects approved for inclusion in the CIP are subsequently analyzed to assess major program changes, overall capital funding needs and the strength of the project's connection to the objectives in NBC's Strategic Plan, as well as financing and operating cost impacts.

Capital Improvement Program Assumptions

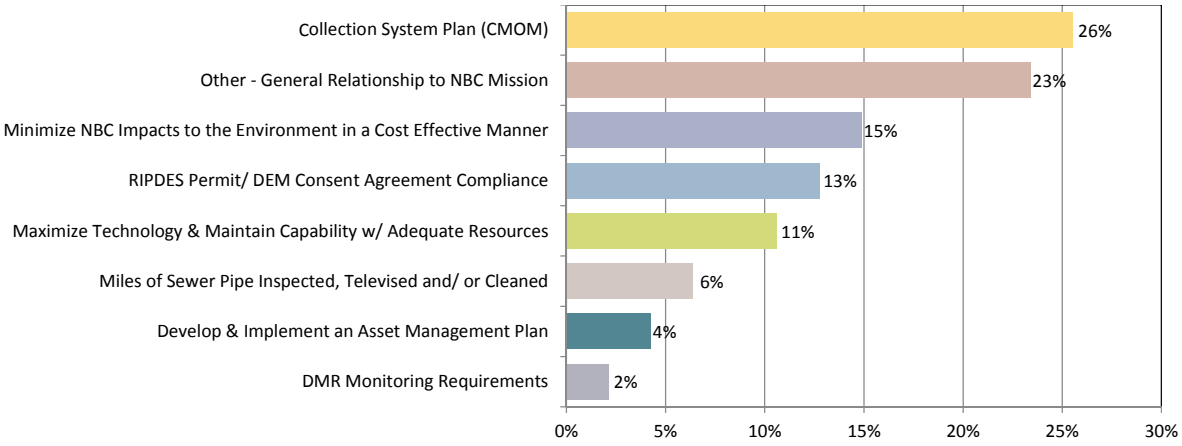
The costs and schedules included in the CIP reflect NBC's best estimates and are based on a number of assumptions as follows:

- Costs and cash flows are based on planning or design estimates and/or bids once available.
- The majority of construction projects include a 12% contingency based on the original construction cost estimate, which reflects recent industry experience. The contingency may be modified based upon the bids. Cost estimates for new projects include a 7% allowance for NBC staff salary and fringe associated with project management, based on historical data.
- Financing costs and debt service associated with the CIP are not included in the CIP expenditures or the project cash flows. Financing costs are capitalized and amortized over the length of the debt payment schedule and debt service is included as an expense in the annual operating budget.
- The CIP does not include the acquisition or replacement of certain assets that are identified in NBC's annual operating budget and are outlined in the five-year Operating Capital Outlay Plan.

Capital Projects by Strategic Objective

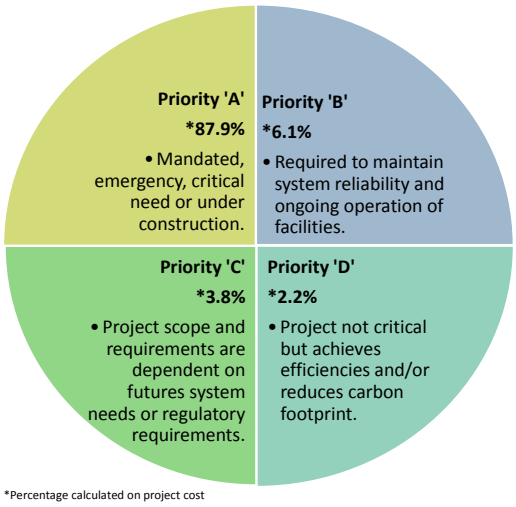
NBC's Strategic Plan ensures NBC's ability to meet water quality objectives set forth by regulatory requirements through achieving short-term and long-term objectives at a reasonable cost. As part of the CIP development process, Project Managers identify the one or more strategic goals that a project will address. The following chart below illustrates the percentage of capital projects in this year's CIP aligned with each Strategic Objective.

Percentage of Capital Projects by Strategic Objective



Of the 37 CIP projects, 26% are related to NBC's Collection System Plan and include capacity management, interceptor easement construction and facilities planning. In addition, 23% of the interceptor restoration and construction projects and wastewater treatment facility improvement projects such as the Water Quality Science Building have a general relationship to NBC's Mission. NBC's regulatory studies and energy sustainability projects represent 15% of efforts to Minimize Impacts to the Environment in a Cost Effective Manner. The remainder of the projects relate to the RIPDES Permit and RIDEM Consent Agreements such as the CSO Phase III Facilities, Asset Management, Interceptor Inspection and Cleaning and Construction.

Project Priorities

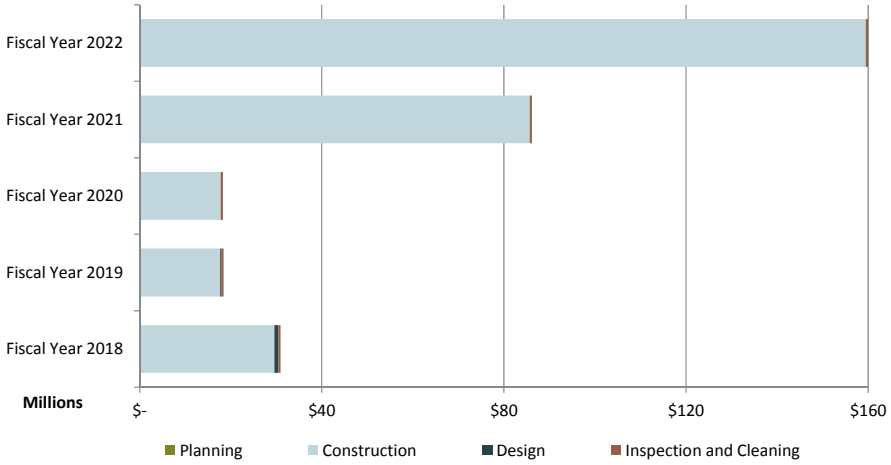


As part of the CIP program development, the criticality of each project is assessed and a priority ranking is assigned based on that assessment. Projects with a ranking of "A", represent a critical need and are either mandated, emergency or currently under construction. Approximately 87.9% of the projects identified in the window are prioritized with an "A" ranking and total $275.8 million.

In addition, 6.1% or $19.2 million of projects are identified with a "B" ranking, which includes projects that are required to maintain system reliability and ongoing operations of NBC's facilities. Projects with a rank of "C" are dependent on future system needs or regulatory requirements and represent 3.8% or $12.0 million. The remaining 2.2% or $6.8 million is ranked as "D" and includes projects that are not critical but achieve efficiencies and/or reduce NBC's carbon footprint.

Capital Expenditure by Phase

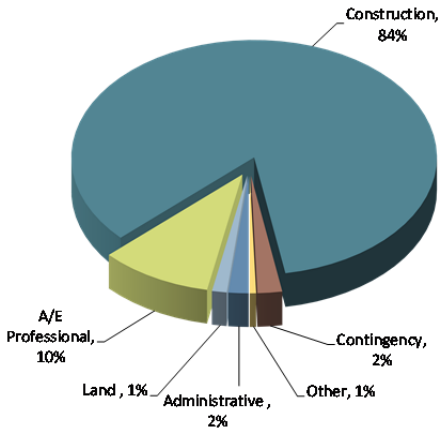
NBC's construction projects are generally comprised of three phases including planning, design, and construction. Planning consists of tasks such as feasibility studies and determination of the technology to be implemented. The design phase includes the development of all plans and specifications, acquisition of easements and permits. During the construction phase, facility improvements and infrastructure are constructed. The CIP also includes some programmed capital projects which are not broken down into phases, such as the inspection, cleaning and repair of NBC's miles of interceptors, or other one-time special studies. As is evident in the chart below, nearly all of the programmed expenditures during the five-year CIP window relate to the construction phase at 98.8% or $310 million.



Capital Expenditure by Cost Category

For planning purposes, the project costs are shown by categories including the Administrative category, which includes NBC's project management costs as well as police, legal and advertising expenses. The Land category includes costs for easements, as well as land acquisition. The Architectural/Engineering (A/E) Professional cost category includes costs for professional planning or design services. The Construction cost category reflects contractor and outside construction management costs. Lastly, the Contingency cost category includes an allowance for construction cost increases based upon industry experience related to construction cost factors. As shown in the chart below, construction costs represent $264.3 million, or approximately 84% of the total costs within the FY 2018-2022. Architectural and Engineering services represent approximately $31.2 million or 10% of the costs during this same period.

CIP Costs by Type of Activity



Capital Expenditures by Functional Area

For planning purposes, NBC also groups capital projects into five functional areas, according to the scope and tasks involved within each capital project. The functional areas are described below.

Functional Area	Project Examples
Wastewater Treatment Facility (WWTF)	Blower Improvements, Water Quality Science Building, Final Clarifiers, Flood Protection and Other WWTF Improvements
Infrastructure Management (IM)	Special Studies, Energy Sustainability, Easement Restoration and System Improvements
CSO Phase III Facilities	CSO Phase III Phases A, B, C and D
Interceptor Inspection and Cleaning (IIC)	Remote Television Inspection and Grit/Debris Removal and Disposal
Interceptor Repair and Construction (IRC)	Interceptor Expansion, Improvements, Lining and Manhole Rehabilitation

The following table shows how the CIP costs have shifted by functional area on a year-to-year basis. The most significant change is the result of the shift in the window so that one additional year of CSO Phase III construction costs are captured. On a year-to-year basis, there is a 158.6% increase in CSO Phase III costs compared to last year's CIP. Interceptor Restoration and Construction shows increased expenditures of 20.5% which is related to two large interceptor projects. The Wastewater Treatment Facility Improvements and Infrastructure Management areas show a decrease of 32% and 26% respectively from the prior year. Overall, programmed expenditures are 102.1% higher in the current CIP window compared to last year's CIP.

Functional Area	Prior Year CIP (FY 2017-2021)	Current Year CIP (FY 2018-2022)	% Change
Wastewater Treatment Facility	$ 28,048	$ 19,173	(32%)
Infrastructure Management	4,884	3,633	(26%)
CSO Phase III Facilities	104,312	269,748	158.6%
Interceptor Inspection and Cleaning	2,500	2,500	0.0%
Interceptor Restoration and Construction	15,522	18,708	20.5%
Total	**$ 155,267**	**$ 313,762**	**102.1%**

Significant Capital Improvement Projects

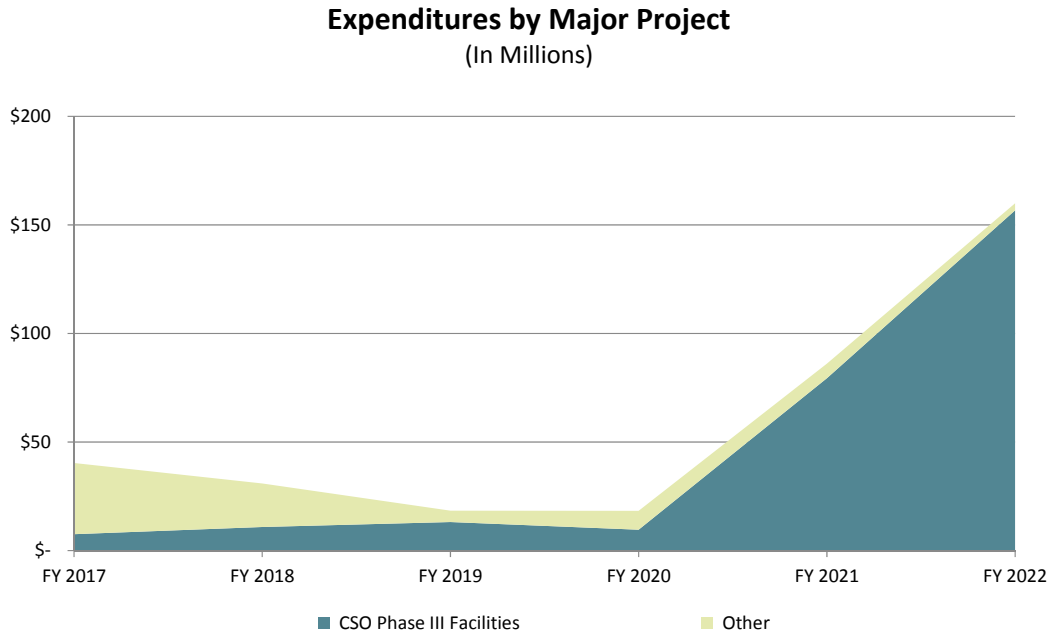
The most significant project included in this year's CIP relates to the CSO Phase III Facilities which accounts for $269.8 million or 86% of the CIP's programmed costs. Expenditures on this project will increase significantly in FY 2021 as NBC progresses from design to construction. Other projects account for the remaining 14% of the CIP. The following table and graph show the programmed expenditures for the CSO Phase III Facilities and other projects included in the current CIP window.

Expenditures by Major Project

(In thousands)

Project	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	Total Costs FY 2018 - 2022	% of Five Year Window
CSO Phase III Facilities	$ 7,545	$ 10,865	$ 13,148	$ 9,605	$ 79,410	$ 156,720	$ 269,748	86%
Interceptor Restoration & Construction	10,878	12,312	1,896	1,500	1,500	1,500	18,708	6%
WWTF Improvements	12,618	5,241	2,174	6,024	4,460	1,274	19,173	6%
Other	9,315	2,502	1,174	1,163	794	500	6,132	2%
Total	**$ 40,356**	**$ 30,920**	**$ 18,392**	**$ 18,292**	**$ 86,164**	**$ 159,994**	**$ 313,761**	**100%**

NBC's Interceptor Restoration and Construction Projects include the Moshassuck Valley Interceptor at $ $4.7 million, the Louisquisset Pike Interceptor Improvements at $4.0 million and Johnston Sewer Improvements at $4.0 million. Projects related to WWTF Improvements include Phase II of the FPWWTF Blower Improvements estimated to cost $4.2 million and $6.6 million is programmed for new Interceptor Maintenance Facilities which may be required if the State enacts legislation mandating NBC to assume responsibility of sewers from communities in NBC's service area within its district. The remaining projects relate to Renewable Energy, Energy Sustainability and Infrastructure Management projects at a cost of $6.1 million.



CSO Abatement Program

In accordance with the terms and schedule set forth in the Consent Agreement between NBC and RIDEM, this CIP includes NBC's design and construction of the third and final phase of the federally mandated CSO Abatement Program.

CSO Phase III Facilities (Project 308)

The CSO Phase III Facilities represent the third and final phase of the federally mandated CSO Abatement Program required as part of a Consent Agreement between NBC and RIDEM. NBC is legally required to proceed with Phase III in order to comply with federal law.

NBC's 18 month reevaluation of the RIDEM approved 1998 Conceptual Design Report Amendment concluded in June 2015 and resulted in the selection of an alternative that the Board determined to provide the best combination of affordability and water quality improvement. The reevaluation report was submitted to RIDEM in July 2015 and RIDEM provided comments to NBC in March 2016. NBC is incorporating RIDEM's comments into a revised conceptual design report which will be submitted to RIDEM for approval. NBC's Consent Agreement must also be renegotiated based upon the approved plan.

As a result of the reevaluation process, the Phase III CSO Program was subdivided into four phases to be completed over a period of 22 years. The program also incorporates Green Stormwater Infrastructure (GSI) facilities to be constructed in each of the four phases to reduce stormwater inflow to the existing CSO system

by implementing ground stormwater infiltration projects, with expenditures of $10 million on GSI in each phase. NBC has commenced preliminary design of the Phase III A Facilities and in response to RIDEM's comments has initiated the simultaneous performance of an environmental assessment. Construction of this first phase is expected to begin in 2020.

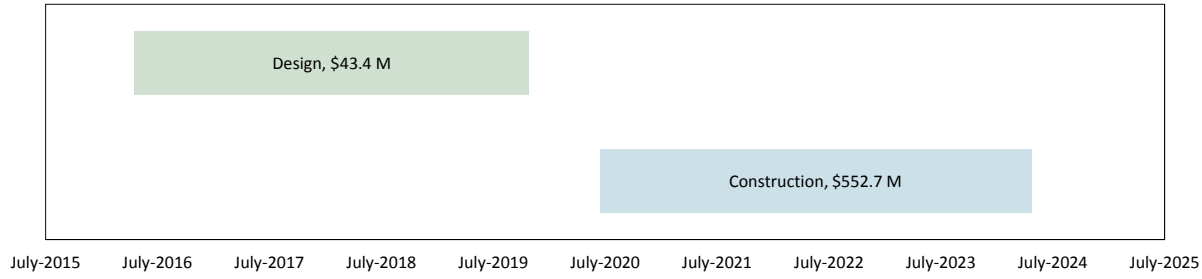
The total pre-design estimate for the four phases of the CSO Phase III Facilities is $833 million in 2018 dollars, with expenditures of approximately $7.5 million in FY 2017 and $269.7 in the five year period of FY 2018-2022 in this year's CIP window. A description of the facilities to be constructed in each of the four phases, as well as estimated costs and schedules is described below.

Photo: Highlighted route of CSO Phase III

Phase III A

This is the first Phase of the Phase III facilities and includes the design and construction of a deep rock tunnel in Pawtucket approximately 13,000 feet in length along the Seekonk and Blackstone Rivers, a Pump Station to convey flow to the Bucklin Point WWTF in East Providence, drop shafts and consolidation conduits. The pre-design estimated cost for design and construction of these facilities in 2018 dollars is $596.1 million. Design work commenced in FY 2016 and NBC has engaged an engineering firm to simultaneously conduct an environmental assessment. The following chart outlines the estimated schedule and costs for design and construction of this phase.

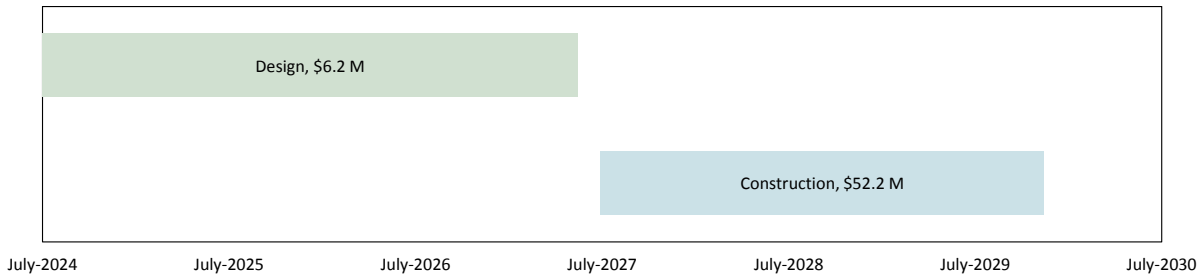
CSO Phase III A Facilities



Phase III B

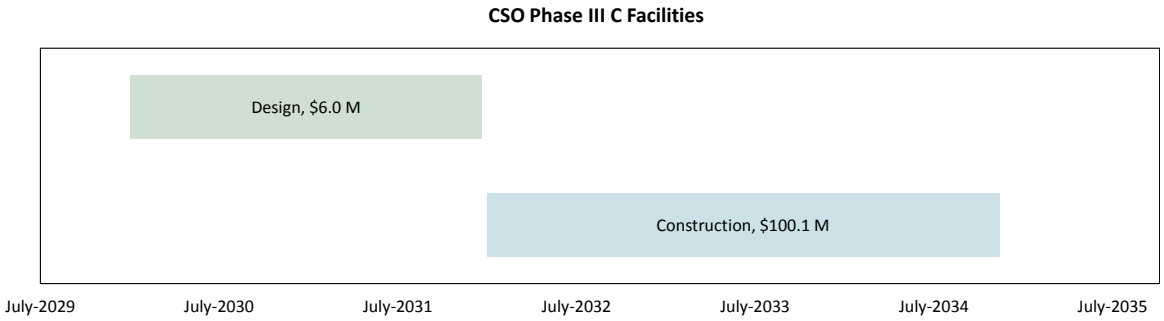
This phase includes the design and construction of two interceptors at High and Cross Street which will be approximately 4,200 feet in length and one interceptor at Middle Street approximately 2,000 feet in length. In addition, this phase contemplates some sewer separation work. The pre-design estimated cost for design and construction of this phase in 2018 dollars is $58.3 million. The following chart outlines the schedule and cost for design and construction of this phase.

CSO Phase III B Facilities



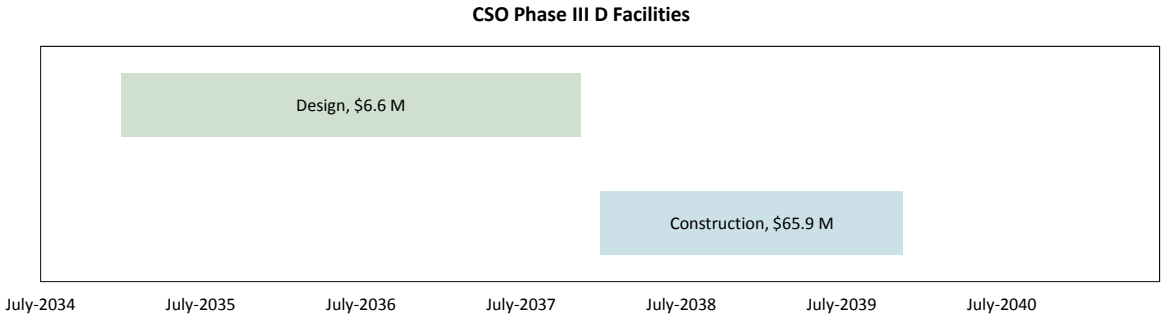
Phase III C

This phase involves the design and construction of a stub tunnel at a pre-design estimated cost in 2018 dollars of $106.1 million. The following chart outlines the schedule and cost for design and construction of this phase.



Phase III D

This is the last phase of the CSO Abatement program and entails the design and construction of an interceptor that will store flow during a storm and later release the flow into the system as capacity allows. The pre-design estimated cost in 2018 dollars is $72.5 million. The following chart outlines the schedule and cost for both design and construction of this phase.



Climate Change and Sustainability

In accordance with NBC's environmental performance goals of minimizing environmental impact, NBC has programmed a number of projects in the CIP. The Green House Gas Study involves quantifying NBC's overall carbon footprint by measuring the gas emissions from the wastewater collection and treatment process. The results of this study will enable NBC to quickly respond to new requirements related to emissions as they are enacted. In addition, NBC may conduct an evaluation of its facilities for Climate Resiliency to identify and assess potential impacts resulting from climate change, depending on the outcome of a similar study currently being conducted by RIDEM. This includes flooding of NBC facilities which are located in areas prone to flooding and possible mitigation activities to mitigate potential damage from flooding. NBC also plans to maximize energy efficiencies and renewable resources through its Energy Sustainability program that involves the identification and implementation of conservation methods, improved efficiency options, and the use of sustainable renewable energy resources. In addition, the CIP includes funding for two renewable energy projects.

Bucklin Point Biogas Reuse

This year's CIP includes the Bucklin Point Biogas Reuse project which includes the installation of a biogas cogeneration system that will burn the biogas generated from the anaerobic biosolids digestion process and simultaneously generate electricity and heat for reuse in the treatment facility.

Photo: Bucklin Point Digester Building

This process will reduce NBC's dependency on fossil fuel and generate approximately 4.5 million kWh of electricity annually. The estimated construction cost for Project (120) is $8.3 million and includes $512 thousand in principal forgiveness, administered through the Rhode Island Infrastructure Bank (RIIB). Currently, this project is 7% complete and on schedule. An air permit is required for this project and the application has been submitted to RIDEM. Facilities are expected to be complete in the Spring of FY 2018.

Wind Energy Development Turbines

This year's CIP also includes the Wind Energy Development Turbine Project (505) with a cost of $19.0 million which is anticipated to begin in the summer of 2016. This project involves the purchase and installation of three 1.5 MW wind turbines that will convert wind energy into electricity at an off-site location. The energy will be net-metered and projected to generate 9.3 million kWh of electricity needs through renewable resources. This project is also projected to generate revenue through the sale of the Renewable Energy Credits or RECs.

NBC Energy Efficiency Upgrades

NBC has also included funding for NBC Energy Efficiency Upgrades (13100) at a cost of $1.0 million for the installation of new LED lighting systems and sensors. NBC is eligible for a financial incentive as part of the energy conservation measures that will be implemented through this project.

Collection System Infrastructure

This CIP includes several collection system infrastructure projects totaling $14.2 million. The largest project is the Johnston Sewer Improvements (30460) and includes design and construction of improvements to expand and accommodate future development in the Town of Johnston in accordance with the RIDEM approved facilities plan. Other interceptor projects include the Moshassuck Valley Interceptor (30444) to replace the existing sewer pipe and the Louisquisset Pike Interceptor (30421) which involves the construction of a larger interceptor pipe.

In addition, the East Providence Interceptor Improvements and Improvements to Interceptors FY 2017 consist of the correction of various deficiencies throughout NBC's service area and include sewer lining, point repairs, outfall pipes, hydraulic gate operation and manhole rehabilitation.

Photo: Inverted manhole cover

Lastly, NBC is committed to maintaining its infrastructure and collection system by programming an allocation of $1.5 million for interceptor restoration and construction and $500 thousand for interceptor inspection and cleaning annually in years that do not have specific projects identified.

Completed and New Capital Projects

Completed Projects

In FY 2016, NBC completed sixteen capital projects at a cost of $182.3 million. These projects have been determined to be substantially complete with only retainage outstanding. Approximately 92% of the completed projects were part of the CSO Phase II Abatement Facilities. The following table shows the completed projects and estimated costs.

Project Number	Project Name	Cost (In thousands)
10907	FPWWTF - Blower Improvements	$ 2,804
11602	FPWWTF Tunnel Pump Station Improvements	963
12700	FPWWTF Electrical Substation No. 1	1,669
30301D	Phase II CSO Facilities Design	18,820
30301RS	Program and Construction Management	19,932
30302	OF 106 Facilities	5,518
30303*	WCSOI Main	77,171
30304	SCSOI Main	20,906
30306	OF 037 West	9,806
30307	OF 037 South Sewer Separation	9,093
30308	OF 037 North Sewer Separation	7,287
30472	Providence and Lincoln IIC	220
30473	Lockbridge Easement & Valley St. Cleaning & Inspection	385
30457	Providence River Siphon Replacement	6,433
30459	Improvements to Interceptors FY 2015	1,218
70800	Omega Pump Station Improvements	84
	Total	**$ 182,309**

*Complete, contract remains open pending litigation

New Projects

This year's CIP includes eight new capital projects totaling $27.6 million. Five of these projects relate to climate change and sustainability. Project 13100 consists of installation of new LED lighting systems throughout the NBC facilities that will use less energy and last longer. Project 1140400 involves the evaluation of NBC Facilities for Climate Resiliency and Project 1140500 is the evaluation of NBC's operations for conservation and energy efficiency opportunities. Project 40101 involves the evaluation and upgrade of the emergency generators at Field's Point to ensure their reliability. In addition, Project 50500 involves the purchase and installation of three 1.5 MW wind turbines to generate renewable energy for NBC.

The CIP also includes three new projects related to the NBC's collection system infrastructure. These projects include the inspection and cleaning of interceptors as part of Project 30474, the construction of a new interceptor in the Town of Johnston Project 30460 and the interceptor restoration throughout NBC's service area under Project 30463. The new projects and their estimated costs are summarized in the table on the following page.

Project Number	Project Name	Estimated Cost (In thousands)
13100	NBC Energy Efficiency Upgrades	$ 1,001
1140400	Evaluate NBC Facilities for Climate Resiliency	153
1140500	NBC Energy Sustainability	70
40101	FPWWTF Facility Electrical Improvements	125
50500	Wind Development Energy Turbines	19,000
30474	BVI Inspection & Cleaning	175
30460	Johnston Sewer Improvements	4,366
30463	Improvements to Interceptors FY 2017	2,683
	Estimated Total	**$ 27,573**

Financial Impact

NBC recognizes the importance of planning for capital expenditures and is committed to minimizing ratepayer impact through an assessment of both operating cost and financing impacts. This year's CIP includes an expanded analysis and presentation of these impacts. The project specific information is included in the following discussion rather than on the individual project sheets.

FY 2017 Operating Budget Revenue and Expense Impacts

Certain capital improvements will directly impact the operating budget either through increased revenue, increased expense, or cost savings. NBC has identified these impacts on a project by project basis. It is particularly important this year as many of NBC's planned capital projects are projected to have significant impact on NBC's operating budget. The following table describes the impact categories and should be used to interpret the figures in the detailed operating impact tables in this section of the CIP.

Impact	Description	Reflection in Tables
Increased Revenue	An increase in revenues through new user charges, incentives, and/or the sale of Renewable Energy Credits	Shown as an increase in Operating Revenue or Non-Operating Revenue
Increased Expense	An increase in operating costs resulting from new facilities becoming operational	Shown as an increase in Operating Costs
Savings	A reduction in operating costs resulting from no longer operating facilities, reduced energy consumption, and/or the purchase of electricity	Shown as a reduction in Operating Costs

With respect to FY 2017, NBC has identified the operating and expense impacts related to the seven capital projects that are anticipated to be complete during the fiscal year. As is shown on the following page, four of the projects scheduled for completion in FY 2017 are inspections or studies and are not anticipated to have any operating impacts or start-up costs. Three projects, including the Water Quality Science Building, the Wind Energy Development Turbines and the NBC Energy Efficiency Upgrades are projected to have operating impacts with the combined impact of these projects resulting in a $573,665 increase in expenses which is offset by a $588,528 increase in revenues and $1,073,132 in savings.

Estimated Operating Impact of Projects to Be Completed in Fiscal Year 2017

Capital Project	Increased Revenue	Increased Expense	Savings
Lockbridge & Valley St. Inspection & Cleaning	$ -	$ -	$ -
BVI Inspection & Cleaning	-	-	-
FP WWTF Facility Electrical Improvements	-	-	-
Municipal Later Sewer Acquisition Impact Study	-	-	-
Water Quality Science Building*	-	239,415	(142,403)
Wind Energy Development Turbines	387,333	334,250	(739,809)
NBC Energy Efficiency Upgrades	201,195	-	(190,920)
Total	$ 588,528	$ 573,665	$ (1,073,132)

* Start-up costs carried in project cost

Water Quality Science Building

The Water Quality Science Building Project (11900) consists of a new 36,790 square foot facility that will house the EMDA and Laboratory staff and equipment. This building will consolidate the environmental monitoring and analysis functions. There are start-up costs estimated at $80,000 with the relocation of staff and support equipment which are programmed to be paid through the project. The old laboratory facility will be unoccupied in FY 2017 and other than utility costs no ongoing operational costs will be incurred resulting in savings of $142,403. The new building has anticipated annual operating costs of approximately $239,415.

	Increased Revenue	Increased Expense	Savings
HVAC Repairs	$ -	$ -	$ (50,000)
Electricity	-	148,104	(56,583)
Natural Gas	-	49,426	(15,820)
Water	-	3,900	(3,500)
Maintenance	-	37,985	(16,500)
Total	$ -	$ 239,415	$ (142,403)

Wind Energy Development Turbines

The Wind Energy Development Turbines Project (50500) consists of the purchase of three 1.5 MW wind turbines that convert wind energy to electricity. These turbines will be located on a remote site and the electricity will be net metered. These turbines are projected to generate approximately 9.3 million kWh of clean renewable wind energy. NBC will not incur any start-up costs for this project which is programmed to be operational in August 2016. Annual ongoing operating expense includes property maintenance and monitoring, a service agreement, insurance and a land lease payment. These expenses are off-set by the projected annual electricity savings of nearly $0.7 million as well as annual revenues of $387,333 from the sale of Renewable Energy Credits. The figures in the table reflect 10 months of operation.

	Increased Revenue	Increased Expense	Savings
Property Maintenance and Monitoring	$ -	$ 41,250	$ -
O&M Service Agreement	-	87,500	-
Insurance	-	60,000	-
Land Lease	-	135,000	-
REC Monitoring and Certification	-	10,500	-
Purchased Electricity Savings	-	-	(739,809)
Sale of Renewable Energy Credits	387,333	-	-
Total	$ 387,333	$ 334,250	$ (739,809)

NBC Energy Efficiency Upgrades

NBC Energy Efficiency Upgrades Project (13100) resulted from the completion of an energy efficiency audit at NBC facilities. Based on the results of the study, several energy saving opportunities have been identified through the installation of LED lighting systems and sensors. This program has secondary benefits such as a reduction in greenhouse gas emissions associated with electricity production as well as lower maintenance costs. NBC is eligible for a financial incentive from National Grid of $201,195 if all of the proposed energy conservation measures are implemented. The projected electricity savings in FY 2017 is $190,920 and represents ten months. The annual electricity savings thereafter is $226,721.

	Increased Revenue	Increased Expense	Savings
Electricity	$ -	$ -	$ (190,920)
Financial Incentive	201,195	-	-
Total	$ 201,195	$ -	$ (190,920)

FY 2018-2022 Revenue and Expense Impacts

The table below summarizes the projected impact of new capital projects scheduled to become operational in FY 2018-2022. Projects that involve inspection, studies, cleaning and rehabilitation generally do not have operating cost impacts. The estimated impact of the other projects is increased revenue of $757,500 and increased expenses of $1,678,544. These projects are also projected to result in savings of $1,689,271. Projects with revenue, expense or savings impacts are discussed in the following section.

	Fiscal Year	Increased Revenue	Increased Expense	Savings
Johnston Sewer Improvements	2018	$ 517,500	$ 10,000	$ -
BPWWTF - Biogas Reuse	2018	-	170,000	(543,771)
Site Specific Study	2018	-	-	-
NBC Energy Sustainability	2018	-	-	-
Upper Bay Dissolved Oxygen Evaluation	2018	-	-	-
Greenhouse Gas Study	2018	-	-	-
NBC Facility Electricity Improvements	2018	-	-	-
East Providence Interceptor Improvements	2018	-	-	-
FPWWTF - Blower Improvements Phase II	2019	-	1,145,500	(1,145,500)
Evaluation NBC Facilities - Climate Resiliancy	2019	-	-	-
System-wide Facilities Planning	2019	-	-	-
River Model Development	2019	-	-	-
Improvements to Interceptors FY 2017	2019	-	-	-
FPWWTF Final Clarifier Improvements	2019	-	-	-
Louisquisset Pike Interceptor Replacement	2020	240,000	10,000	-
NBC System-Wide Inflow Reduction	2021	-	-	-
New IM Facilities	2022	-	97,288	-
FPWWTF - Operations and Lab Building Reuse	2022	-	245,756	-
Total		$ 757,500	$ 1,678,544	$ (1,689,271)

BPWWTF – Biogas Reuse

The BPWWTF Biogas Reuse Project (12000) is anticipated to become operational in FY 2018. This project consists of the installation of a combined heat and power system that will burn the biogas generated from the anaerobic biosolids digestion process. This system is projected to generate approximately 4.5 million KWh of electricity annually to be used on-site. As a result NBC will not need to purchase as much electricity which will save NBC $543,771 annually. These savings are offset by projected annual maintenance costs of $170,000. All start-up costs are included in the project.

	Increased Revenue	Increased Expense	Savings
Electricity	$ -	$ -	$ (543,771)
Maintenance	-	170,000	-
Total	$ -	$ 170,000	$ (543,771)

Johnston Sewer Improvements

The Johnston Sewer Improvements Project (30460) includes the design and construction of improvements to expand sewers and accommodate future development in the Town of Johnston in accordance with the RIDEM approved facilities plan. The estimated ongoing operation costs are $10,000 every five years to maintain the interceptor. Annual revenues generated as a result of new customers connecting to NBC's system are estimated to be $517,500.

	Increased Revenue	Increased Expense	Savings
User Fees	$ 517,500	$ -	$ -
Maintenance	-	10,000	-
Total	$ 517,500	$ 10,000	$ -

FPWWTF Blower Improvements Phase II

The FPWWTF Blower Improvements Phase II Project (10908) involves the replacement of the Field's Point blowers to provide a reliable air source for heating and cooling in the aeration treatment process. The estimated ongoing operation expense for the blowers is $1,145,500. Since these blowers are replacing existing equipment, the projected savings is $1,145,500 and the net impact is zero. The new blowers are scheduled to become operational in FY 2019 and the start-up costs are carried in the project.

	Increased Revenue	Increased Expense	Savings
Electricity	$ -	$ 1,135,000	$ (1,135,000)
Water	-	500	(500)
Maintenance	-	10,000	(10,000)
Total	$ -	$ 1,145,500	$ (1,145,500)

Louisquisset Pike Interceptor Replacement

Louisquisset Pike Interceptor Replacement Project (30421) is scheduled to be complete in FY 2020. The project consists of the construction of a larger replacement interceptor in the northern section of the Town of Lincoln to accommodate the additional flow resulting from expected development. Preliminary projections indicate that the flow will generate additional sewer user fee revenues of $240,000 annually. There are no start-up costs associated with the construction of this interceptor. Operating costs are $10,000 every five years to maintain the interceptor.

	Increased Revenue	Increased Expense	Savings
User Fees	$ 240,000	$ -	$ -
Maintenance	-	10,000	-
Total	$ 240,000	$ 10,000	$ -

New IM Facilities

Current schedules show the completion of the New IM Facilities Project (12400) in FY 2022. This project involves the construction of a new building that will be required if NBC is required by legislation to assume ownership of lateral sewers currently owned by local communities within the service area. The new building will include an administrative area, garage area and storage yard to house the existing IM staff and equipment. The additional operating expense associated with the new building is approximately $97,288. All project startup costs, such as staff and equipment relocation, are included in the project cost.

	Increased Revenue	Increased Expense	Savings
Electricity	$ -	$ 23,180	$ -
Natural Gas	-	39,072	-
Water	-	3,000	-
Maintenance	-	32,036	-
Total	$ -	$ 97,288	$ -

FPWWTF Operations and Lab Building Reuse

The FPWWTF Operations and Lab Building Reuse Project (12900) consists of the evaluation and development of options for reuse of the space in the laboratory and operations buildings that will become available once staff is relocated to the new Water Quality Science Building. In addition, this project involves the replacement of the Maintenance building. The net annual increase in operating costs associated with the new buildings is $245,756. The relocation and startup costs are included in the project.

	Increased Revenue	Increased Expense	Savings
Electricity	$ -	$ 69,540	$ -
Natural Gas	-	117,216	-
Water	-	9,000	-
Maintenance	-	50,000	-
Total	$ -	$ 245,756	$ -

Collection System Improvements and Easement Restoration

NBC anticipates that it will need to expend approximately $10,000 every two years for ongoing maintenance of the collection system and easement restoration projects to be completed during the five-year window of the CIP. Interceptors must be cleaned of grit and other debris, while the brush and undergrowth must be cleared to ensure easement access. Programmed maintenance expense for these projects is shown below.

	Increased Revenue	Increased Expense	Savings
Maintenance	$ -	$ 10,000	$ -
Total	$ -	$ 10,000	$ -

CSO Phase III Facilities

No operating cost impacts related to the CSO Phase III Facilities are anticipated to occur until FY 2025. For planning purposes, however the CIP identifies estimated annual operating expenses for the first phase of the CSO Phase III A Facilities based upon pre-design estimates. These costs include electricity to pump flow from the Pawtucket tunnel pump station and provide dehumidification, natural gas for heat in the pump station, screening and grit disposal, biosolids, water, treatment chemicals, and maintenance. Additional labor costs are anticipated to operate the facilities. The start-up costs are included in the project. The operating expenses of the remaining three phases will be determined once the design plans are available.

Capital Project	Projected Year Facilities Online	Increased Revenue	Increased Expense	Savings
Phase III CSO Facilities - Phase A				
Electricity	FY 2025	$ -	$ 646,950	$ -
Natural Gas	FY 2025	-	64,240	-
Screening & Grit Disposal	FY 2025	-	49,660	-
Biosolids	FY 2025	-	194,866	-
Water	FY 2025	-	968	-
Hypochlorite	FY 2025	-	12,110	-
Sodium Bisulfite	FY 2025	-	4,942	-
Maintenance	FY 2025	-	29,033	-
Personnel	FY 2025	-	9,811	-
	FY 2025	$ -	$ 1,012,580	$ -
Phase III CSO Facilities - Phase B	FY 2031	None	TBD	None
Phase III CSO Facilities - Phase C	FY 2036	None	TBD	None
Phase III CSO Facilities - Phase D	FY 2041	None	TBD	None

Project Financing

In addition to direct operating cost impacts, debt service related to the financing of NBC's capital program also impacts the operating budget. NBC's operating budget includes principal and interest payments as well as a debt service coverage line item. NBC uses a long-term financial model to identify capital funding needs and sources and to project debt issuance. The debt service and user fee projections associated with financing this CIP are identified in the Long-Term Debt Overview section of the Operating Budget. Traditionally NBC has financed the capital improvement program through the issuance of debt.

CIP Funding Sources

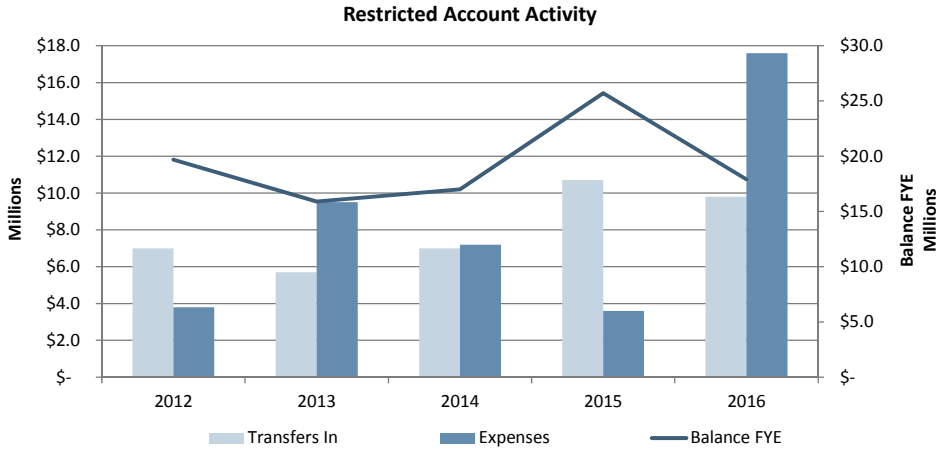
NBC has three significant sources of capital funding as follows:

Funding Source	Description
Restricted Account	Transfers from Stabilization Account - Prior Year Debt Coverage
State Revolving Fund Loans through RIIB	Traditionally subsidized at 1/3 of NBC's market rate
Revenue Bonds	NBC tax-exempt debt issuance

Restricted Account

The NBC is regulated by the Rhode Island Public Utilities Commission (PUC) and the PUC has permitted the use of prior year debt service coverage to finance "pay as you go" capital. NBC typically programs these funds for interceptor cleaning and inspection, studies, land and other projects that may not be eligible or

reachable for funding from the RIIB. NBC may also fund initial project costs from the Restricted Account until SRF funds become available. NBC plans on funding two large projects, the WED Turbines and the Johnston Sewer Improvements with Restricted Account funds. The chart below shows the transfers into the Restricted Account and expenses by fiscal year.



State Revolving Fund Loans – RIIB

The NBC's least cost source of debt financing is through the RIIB. The RIIB provides subsidized loans to eligible borrowers with interest rates that are 1/3 off of the market rate. In some instances, these loans include an additional subsidy through a principal forgiveness component. Typically the NBC submits a loan application in April for a loan that will be executed in June of the next year. In order for a project to be eligible for SRF funding, it must be included in the application and on the RIDEM's Project Priority List. NBC does not directly receive the loan proceeds, rather the invoices are submitted to RIIB for payment. In order for a project cost to be eligible for payment, NBC must receive a Certificate of Approval (COA) from RIDEM. The table below shows the funds that NBC has borrowed from the RIIB.

Debt Service Fiscal Year 2017

RIIB SRF Loans			
Bond Issue	**Interest Rate***	**Outstanding**	**Final Maturity**
1997 Series - $8.150M	3.14473%	$ 2,129,247	September 1, 2020
1999 Series - $23.955M	3.03200%	8,839,999	September 1, 2021
2001 Series - $57M	2.67100%	16,280,000	September 1, 2022
2002 Series - $57M	1.07850%	23,421,360	September 1, 2023
2003 Series - $40M	1.34900%	19,849,000	September 1, 2025
2004 Series B - $40M	1.40400%	25,125,000	September 1, 2025
2005 Series B - $30M	1.39700%	16,402,000	September 1, 2026
2006 Series A - $30M	1.27000%	17,781,000	September 1, 2027
2007 Series B - $25M	1.47500%	18,798,000	September 1, 2029
2009 Series A - $55M	0.87700%	43,301,677	September 1, 2031
2010 Series A - $2M	0.52200%	1,280,371	September 1, 2030
2010 Series B - $20M	2.41300%	15,890,000	September 1, 2031
2011 Series A - $30M	2.25900%	23,629,263	September 1, 2032
2012 Series A - $25.75M	2.08800%	22,175,818	September 1, 2033
2013 Series B - $25M	2.09200%	22,801,946	September 1, 2034
2014 Series A - $45M	2.46700%	43,143,000	September 1, 2035
2015 Series B - $41.7535M	2.54900%	41,241,430	September 1, 2045
2016 Series A - $23.0M	1.96700%	23,000,000	September 1, 2037
		$ 385,089,111	

* RIIB loans have a 0.5% service fee

Revenue Bonds

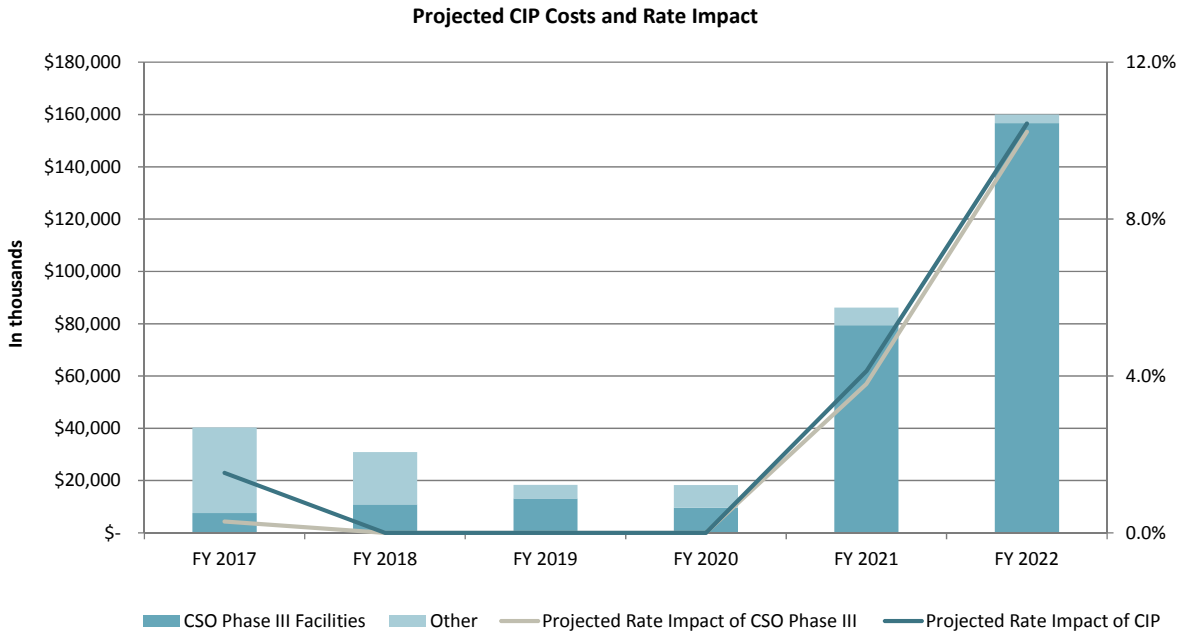
Because the statewide demand for SRF loans exceeds the RIIB lending capacity, NBC issues revenue bonds to the extent that SRF funds are not available. The table below shows NBC's outstanding revenue bonds.

Revenue Bonds			
Bond Issue	**Interest Rate**	**Outstanding**	**Final Maturity**
2008 Series A - $66.0M	Variable	$ 56,465,000	August 1, 2035
2013 Series A - $71.48M	4.33291%	71,480,000	September 1, 2043
2013 Series C - $34.97M	4.68715%	34,970,000	September 1, 2033
2014 Series B - $39.82M Refunding	4.86125%	39,820,000	September 1, 2035
2015 Series A - $40.085M Refunding	4.94207%	40,085,000	September 1, 2037
		$ 242,820,000	

Impact of CIP Financing

Primarily as a result of the modified schedule for the CSO Phase III Facilities, no additional debt financing is anticipated to be needed until FY 2020. In fiscal years 2017 through 2020 NBC will use existing loan proceeds and restricted funds to finance the CIP. More detailed information regarding capital funding sources and uses is included in the Long-Term Debt section of the FY 2017 Operating Budget.

The chart below shows the anticipated rate increases that will be required to support the CIP beginning FY 2021. Based on current figures and a number of assumptions, financing the CIP will require rate increases of 4.1% and 10.5% in FY 2021 and 2022 respectively. The chart also clearly shows that nearly all of the projected costs as well as rate increases relate to the CSO Phase III Facilities.



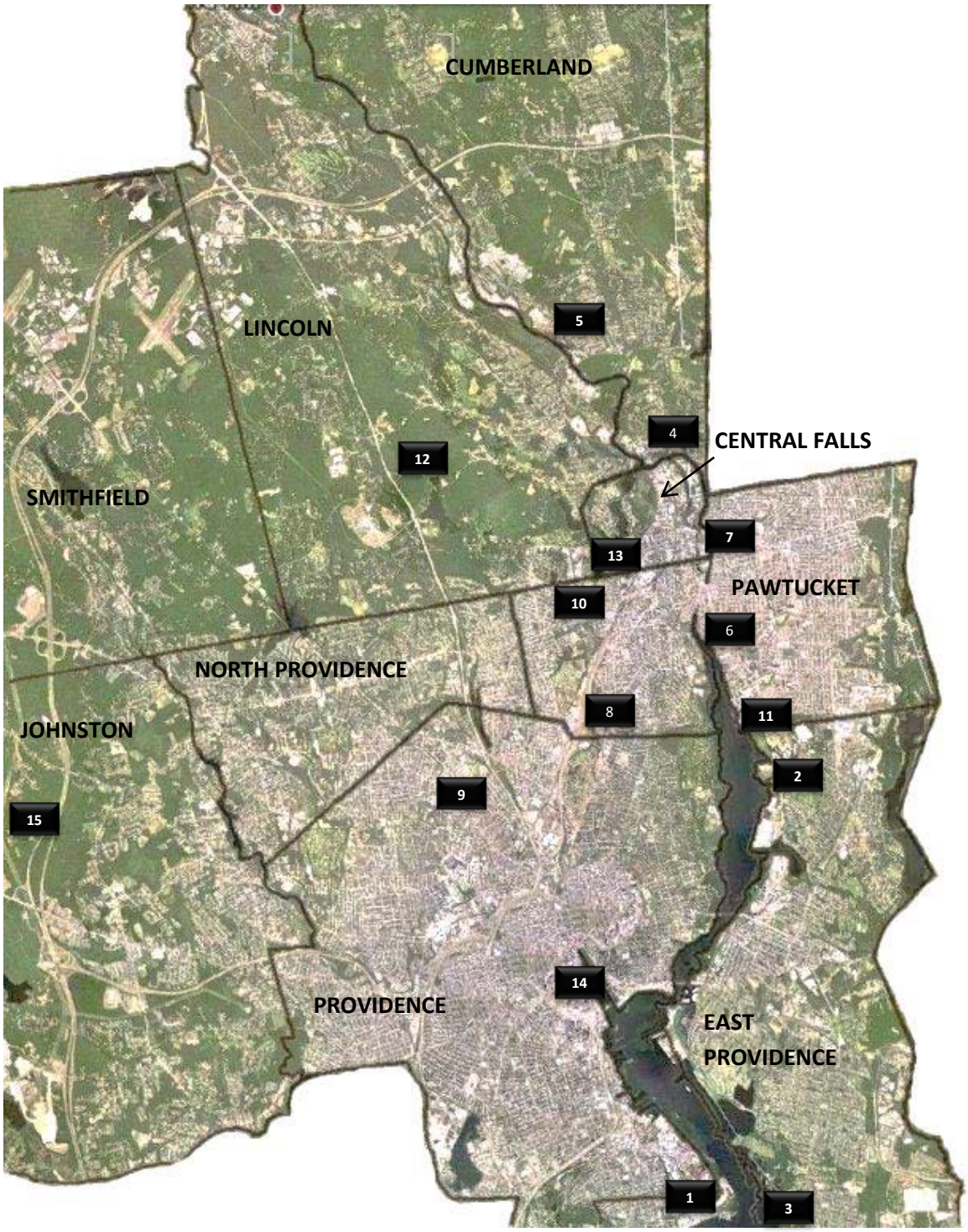
This page was intentionally left blank.

Capital Improvement Program Project Locations

The capital projects identified in this year's CIP are shown on the map on the following page. The map highlights 15 project locations as identified below. Some projects are System-Wide and noted as SW.

Legend Key	Project Number	Project Name
	Wastewater Treatment Facility Improvements	
1	10908	FPWWTF Blower Improvements Phase II
1	11900	Regulatory Compliance Building
2	12000	BPWWTF - Biogas Reuse
1	12400	New IM Facilities
1	12900	FPWWTF- Operations and Lab Building Reuse
1	13000	FPWWTF Final Clarifier Improvements
1	13100	NBC Energy Efficiency Upgrades
2	81300	BPWWTF Flood Protection
	Infrastructure Management	
3	1100000	Site Specific Study
3	1140100	River Model Development
3	1140200	Receiving Water Compliance Study
1, 2	1140300	Green House Gas Study
1, 2	1140400	Evaluate NBC Facilities for Climate Resiliency
SW	1140500	NBC Energy Sustainability
4	30438	NBC Interceptor Easement Restoration - AVI
SW	30500	NBC Interceptor Easements Restoration - Various Locations
5.00	30501	NBC Interceptor Easements Restoration - BVI
SW	30700	NBC System-wide Facilities Planning
1, 2	40100	NBC Facility Electrical Improvements
1	40101	FPWWTF Facility Electrical Improvements
SW	40200	NBC System-Wide Inflow Reduction
SW	40300	Municipal Lateral Sewer Acquisition Impact
	Phase III CSO Facilities	
6	30800	CSO Phase III A Facilities
7	30810	CSO Phase III B Facilities
8	30820	CSO Phase III C Facilities
9	30830	CSO Phase III D Facilities
	Interceptor Inspection & Cleaning and Restoration and Construction	
10	30473	Lockbridge and Valley Street Inspection & Cleaning
11	30474	BVI Inspection and Cleaning
12	30421	Louisquisset Pike Interceptor
13	30444	Moshassuck Valley Interceptor
14	30457	Providence River Siphon
15	30460	Johnson Sewer Improvements
SW	30462	NBC East Providence Interceptor Improvements
SW	30463	Improvements to Interceptors FY 2017

CAPITAL IMPROVEMENT PROGRAM PROJECT LOCATIONS



Capital Project Summary by Fiscal Year

Project Number	Project Name	Project Priority	Pre-Fiscal Year 2017	Fiscal Year 2017	Fiscal Years 2018-2022	Post-Fiscal Year 2022	Total Estimated Project Cost
Wastewater Treatment Facility Improvements							
10908	FPWWTF Blower Improvements Phase II	A	$ 6	$ 1,187	$ 4,202	$ -	$ 5,395
11900	Water Quality Science Building	A	19,752	1,419	93	-	21,264
12000	BPWWTF Biogas Reuse	A	1,698	6,373	201	-	8,272
12400	New IM Facilities	C	-	-	6,607	-	6,607
12900	FPWWTF Operations and Lab Building Reuse	D	-	25	6,734	-	6,759
13000	FPWWTF Final Clarifier Improvements	B	28	1,458	1,286	-	2,772
13100	NBC Energy Efficiency Upgrades	D	-	1,010	-	-	1,010
81300	BPWWTF Flood Protection	A	83	1,146	51	-	1,280
	Subtotal		21,567	12,618	19,173	-	53,358
Infrastructure Management							
1100000	Site Specific Study	C	211	-	245	-	457
1140100	River Model Development	C	354	72	99	-	525
1140200	Upper Bay Dissolved Oxygen Evaluation	C	-	150	150	-	300
1140300	Greenhouse Gas Study	D	73	332	-	-	405
1140400	Evaluate NBC Facilities for Climate Resiliency	C	3	56	94	-	153
1140500	NBC Energy Sustainability	D	22	32	16	-	70
30438	NBC Interceptor Easement Restoration, AVI	A	130	621	5	-	756
30500	NBC Interceptor Easements Restoration, Various Locations	B	-	1	1,353	-	1,354
30501	NBC Interceptor Easements Restoration, BVI	B	274	194	725	-	1,194
30700	NBC System-wide Facilities Planning	C	-	51	459	-	509
40100	NBC Facility Electrical Improvements	B	-	3	127	-	130
40101	FPWWTF Facility Electrical Improvements	B	17	108	-	-	125
40200	NBC System-wide Inflow Reduction	C	-	-	360	-	360
40300	Municipal Lateral Sewer Acquisition Impact	C	-	296	-	-	296
50500	Wind Energy Development Turbines	A	12,100	6,900	-	-	19,000
	Subtotal		13,185	8,815	3,633	-	25,633
Phase III CSO Facilities							
30800	CSO Phase III A Facilities	A	2,382	7,545	269,748	316,475	596,149
30810	CSO Phase III B Facilities	A	-	-	-	58,310	58,310
30820	CSO Phase III C Facilities	A	-	-	-	106,110	106,110
30830	CSO Phase III D Facilities	A	-	-	-	72,510	72,510
	Subtotal		2,382	7,545	269,748	553,405	833,079
Interceptor Inspection & Cleaning							
30400M	Interceptor Inspection and Cleaning	B	-	83	2,500	500	3,083
30473	Lockbridge and Valley Street Inspection & Cleaning	A	328	258	-	-	586
30474	BVI Inspection	B	16	159	-	-	175
	Subtotal		344	500	2,500	500	3,844
Interceptor Restoration & Construction							
30400C	Interceptor Restoration and Construction	B	-	-	4,500	1,500	6,000
30421	Louisquisset Pike Interceptor Improvements	C	-	24	4,021	-	4,044
30444	Moshassuck Valley Interceptor	B	-	1,851	4,680	-	6,531
30457	Providence River Siphon	A	247	6,186	-	-	6,433
30460	Johnston Sewer Improvements	B	9	356	4,002	-	4,366
30462	NBC East Providence Interceptor Improvements	B	36	1,255	51	-	1,342
30463	Improvements to Interceptors FY 2017	A	21	1,207	1,455	-	2,683
	Subtotal		313	10,878	18,708	1,500	31,399
	Total Capital Improvement Program		**$ 37,791**	**$ 40,356**	**$ 313,762**	**$ 555,405**	**$ 947,314**

Priority	Description
A	Mandated, emergency, critical need or under construction.
B	Required to maintain system reliability and ongoing operation of facilities.
C	Project scope and requirements are dependent on futures system needs or regulatory requirements.
D	Project not critical but achieves efficiencies and/orreduces carbon footprint.

10908

FPWWTF Blower Improvements Phase II

Project Manager: Thomas Brueckner, P.E.
Contractor(s): CDM Smith

Location: Field's Point WWTF (Providence, RI)
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	February-15	April-16	14 Months	$655
Construction	April-16	September-18	29 Months	5,395
Total Project	**February-15**	**September-18**	**44 Months**	**$6,050**

Photo: Aeration tanks at Field's Point

This project is to replace the existing blowers at Field's Point with new blowers to provide a reliable source of air for the aeration treatment process.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 6	**$ 1,187**	**$ 3,112**	**$ 1,090**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 5,395**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 60	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 60
Land	-	-	-	-	-	-	-	-	-
A/E Professional	580	-	-	-	-	-	-	-	580
Other	15	-	-	-	-	-	-	-	15
Total	**$ 655**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 655**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 6	$ 42	$ 58	$ 12	$ -	$ -	$ -	$ -	$ 118
A/E Professional	-	45	54	8	-	-	-	-	107
Construction	-	1,100	3,000	600	-	-	-	-	4,700
Contingency	-	-	-	470	-	-	-	-	470
Other	-	-	-	-	-	-	-	-	-
Total	**$ 6**	**$ 1,187**	**$ 3,112**	**$ 1,090**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 5,395**

Note: Cash Flow Basis in Thousands

11900
Water Quality Science Building

Project Manager: Rich Bernier, P.E.
Contractor(s): Calson Construction Corp.

Location: Service Road (Providence, RI)
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	September-08	June-09	9 Months	$415
Design	September-10	June-14	46 Months	3,000
Construction	June-13	July-17	49 Months	21,264
Total Project	**September-08**	**July-17**	**108 Months**	**$24,679**

Photo: Water Quality Science Building

This project is to construct the new Water Quality Science Building which will house the EMDA and Laboratory sections of the NBC. This building will unify NBC's efforts for environmental sampling and related analysis by including the necessary laboratory equipment and monitoring capability required by the RIPDES permit and EPA.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 19,752	**$ 1,419**	**$ 93**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 21,264**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 206	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 206
A/E Professional	209	-	-	-	-	-	-	-	209
Other	-	-	-	-	-	-	-	-	-
Total	**$ 415**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 415**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 230	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 230
Land	1,247	-	-	-	-	-	-	-	1,247
A/E Professional	1,464	-	-	-	-	-	-	-	1,464
Other	59	-	-	-	-	-	-	-	59
Total	**$ 3,000**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 3,000**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 717	$ 53	$ 3	$ -	$ -	$ -	$ -	$ -	$ 773
A/E Professional	1,531	145	-	-	-	-	-	-	1,676
Construction	17,182	1,221	90	-	-	-	-	-	18,493
Contingency	-	-	-	-	-	-	-	-	-
Other	322	-	-	-	-	-	-	-	322
Total	**$ 19,752**	**$ 1,419**	**$ 93**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 21,264**

Note: Cash Flow Basis in Thousands

12000
BPWWTF Biogas Reuse

Project Manager: Rich Bernier, P.E.
Contractor(s): Daniel O'Connell's Sons
Brown & Caldwell

Location: Bucklin Point WWTF (East Providence, RI)
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	June-07	December-09	31 Months	$47
Design	April-10	June-14	52 Months	473
Construction	May-14	May-18	49 Months	8,272
Total Project	**June-07**	**May-18**	**133 Months**	**$8,792**

Photo: Bucklin Point Boiler Stacks

This project is to install a biogas cogeneration, or combined heat and power system, to burn the biogas generated within the biosolids anaerobic digesters at the Bucklin Point WWTF as a fuel to generate electricity and heat for reuse in the treatment facility.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 1,698	**$ 6,373**	**$ 201**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 8,272**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 22	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 22
A/E Professional	25	-	-	-	-	-	-	-	25
Other	-	-	-	-	-	-	-	-	-
Total	**$ 47**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 47**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 123	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 123
Land	-	-	-	-	-	-	-	-	-
A/E Professional	323	-	-	-	-	-	-	-	323
Other	27	-	-	-	-	-	-	-	27
Total	**$ 473**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 473**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 171	$ 120	$ 41	$ -	$ -	$ -	$ -	$ -	$ 332
A/E Professional	192	128	-	-	-	-	-	-	320
Construction	1,330	5,485	155	-	-	-	-	-	6,970
Contingency	-	600	-	-	-	-	-	-	600
Other	5	40	5	-	-	-	-	-	50
Total	**$ 1,698**	**$ 6,373**	**$ 201**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 8,272**

Note: Cash Flow Basis in Thousands

12400
New IM Facilities

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Field's Point (Providence, RI)
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	March-15	February-19	48 Months	$555
Construction	March-19	August-20	18 Months	6,052
Total Project	**March-15**	**August-20**	**67 Months**	**$6,607**

Photo: Proposed Site for New IM Building

This project is to design and construct a new building that would be needed if NBC is required by legislation to assume ownership of lateral sewers currently owned by local communities within its district. The building will include an administrative area along with a garage area and storage yard.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ -	**$ -**	**$ 201**	**$ 376**	**$ 5,191**	**$ 839**	**$ -**	**$ -**	**$ 6,607**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ 17	$ 18	$ -	$ -	$ -	$ -	$ 35
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	164	336	-	-	-	-	500
Other	-	-	20	-	-	-	-	-	20
Total	**$ -**	**$ -**	**$ 201**	**$ 354**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 555**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ 12	$ 305	$ 35	$ -	$ -	$ 352
A/E Professional	-	-	-	10	36	4	-	-	50
Construction	-	-	-	-	4,850	150	-	-	5,000
Contingency	-	-	-	-	-	600	-	-	600
Other	-	-	-	-	-	50	-	-	50
Total	**$ -**	**$ -**	**$ -**	**$ 22**	**$ 5,191**	**$ 839**	**$ -**	**$ -**	**$ 6,052**

Note: Cash Flow Basis in Thousands

12900

FPWWTF Operations and Laboratory Building Reuse

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Field's Point WWTF (Providence, RI)
Project Priority: D

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	January-17	September-17	8 Months	$146
Design	November-17	June-19	19 Months	885
Construction	October-19	August-21	22 Months	5,728
Total Project	**January-17**	**August-21**	**56 Months**	**$6,759**

Photo: Existing Laboratory Building

The existing Laboratory Building and vacated space in the old FPWWTF Operations Building are to be evaluated for the best use of space and to design modifications to those buildings to accommodate the intended use. In addition, a new maintenance building is to be designed and constructed.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ 25**	**$ 310**	**$ 696**	**$ 833**	**$ 3,621**	**$ 1,274**	**$ -**	**$ 6,759**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ 25	$ 16	$ -	$ -	$ -	$ -	$ -	$ 41
A/E Professional	-	-	30	75	-	-	-	-	105
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ 25**	**$ 46**	**$ 75**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 146**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ 24	$ 36	$ -	$ -	$ -	$ -	$ 60
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	240	510	-	-	-	-	750
Other	-	-	-	75	-	-	-	-	75
Total	**$ -**	**$ -**	**$ 264**	**$ 621**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 885**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ 44	$ 72	$ 18	$ -	$ 134
A/E Professional	-	-	-	-	14	24	6	-	44
Construction	-	-	-	-	750	3,500	750	-	5,000
Contingency	-	-	-	-	-	-	500	-	500
Other	-	-	-	-	25	25	-	-	50
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 833**	**$ 3,621**	**$ 1,274**	**$ -**	**$ 5,728**

Note: Cash Flow Basis in Thousands

13000
FPWWTF Final Clarifier Improvements

Project Manager: Rich Bernier, P.E.
Contractor(s): N/A

Location: Field's Point WWTF (Providence, RI)
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	April-15	May-16	13 Months	$75
Construction	March-16	December-18	34 Months	2,772
Total Project	**April-15**	**December-18**	**45 Months**	**$2,847**

Photo: Final Clarifier at FPWWTF

This project involves replacement of the internal drive and scraper mechanisms and new launder covers on final clarifiers 1, 2 and 3 and new launder covers on final clarifiers 4-9 at the Field's Point WWTF. There will also be a new Grit Pad, RSPS #2 HVAC unit replacement and installation of rip rap on the slope along New York Ave.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ 28	**$ 1,458**	**$ 1,274**	**$ 12**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,772**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 50	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50
Land	-	-	-	-	-	-	-	-	-
A/E Professional	15	-	-	-	-	-	-	-	15
Other	10	-	-	-	-	-	-	-	10
Total	**$ 75**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 75**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 28	$ 48	$ 20	$ -	$ -	$ -	$ -	$ -	$ 96
A/E Professional	-	40	-	-	-	-	-	-	40
Construction	-	1,340	1,008	12	-	-	-	-	2,360
Contingency	-	-	236	-	-	-	-	-	236
Other	-	30	10	-	-	-	-	-	40
Total	**$ 28**	**$ 1,458**	**$ 1,274**	**$ 12**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,772**

Note: Cash Flow Basis in Thousands

13100
NBC Energy Efficiency Upgrades

Project Manager: James McCaughey, P.E.
Contractor(s): N/A

Location: Field's Point WWTF Campus (Providence, RI)
Project Priority: D

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	July-16	October-16	3 Months	$1,010
Total Project	**July-16**	**October-16**	**3 Months**	**$1,010**

Photo: LED Lighting

The NBC Energy Efficiency Upgrades Program, will install new LED lighting systems that use less energy, last longer and require less maintenance.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ -	**$ 1,010**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,010**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ 10	$ -	$ -	$ -	$ -	$ -	$ -	$ 10
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	1,000	-	-	-	-	-	-	1,000
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ 1,010**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,010**

Note: Cash Flow Basis in Thousands

81300
BPWWTF Flood Protection

Project Manager: Rich Bernier, P.E.
Contractor(s): D'Ambra Construction

Location: Bucklin Point WWTF (East Providence, RI)
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	April-16	July-18	27 Months	$1,280
Total Project	**April-16**	**July-18**	**27 Months**	**$1,280**

Photo: Bucklin Point WWTF Outfall

This project consists of raising the walls in the Dry Weather PS channel, installation of a sluice gate in the Wet Weather PS channel and installation of a drain manhole with a sluice gate to protect the Bucklin Point WWTF from flooding the Seekonk River.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 83	**$ 1,146**	**$ 51**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,280**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 31	$ 30	$ 1	$ -	$ -	$ -	$ -	$ -	$ 62
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	50	900	50	-	-	-	-	-	1,000
Contingency	-	120	-	-	-	-	-	-	120
Other	2	96	-	-	-	-	-	-	98
Total	**$ 83**	**$ 1,146**	**$ 51**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,280**

Note: Cash Flow Basis in Thousands

1100000
Site Specific Study

Project Manager: John Motta
Contractor(s): N/A

Location: NBC Receiving Waters
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	November-01	June-18	203 Months	$457
Construction	N/A	N/A	N/A	N/A
Total Project	**November-01**	**June-18**	**203 Months**	**$457**

Photo: NBC Staff Collecting Samples

The Site Specific Study required by NBC's RIPDES permit was completed in FY 2003 and final results were submitted to RIDEM in FY 2004. This study characterized the level of dissolved and total metals in the receiving waters at both Field's Point and Bucklin Point. The data obtained from this study was used for project 1140100, as well as by NBC and RIDEM in the joint development of new discharge permits and consent agreements for both plants. RIDEM is currently developing new RIPDES permits for each WWTF. As a result, new studies may be required as part of the re-permitting process.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 211	**$ -**	**$ 245**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 457**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 16	$ -	$ 234	$ -	$ -	$ -	$ -	$ -	$ 250
Land	-	-	-	-	-	-	-	-	-
A/E Professional	163	-	6	-	-	-	-	-	169
Other	33	-	5	-	-	-	-	-	38
Total	**$ 211**	**$ -**	**$ 245**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 457**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

1140100
River Model Development

Project Manager: Thomas Uva
Contractor(s): Kincaid Consulting

Location: NBC Receiving Waters
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	March-05	July-18	162 Months	$525
Construction	N/A	N/A	N/A	N/A
Total Project	**March-05**	**July-18**	**162 Months**	**$525**

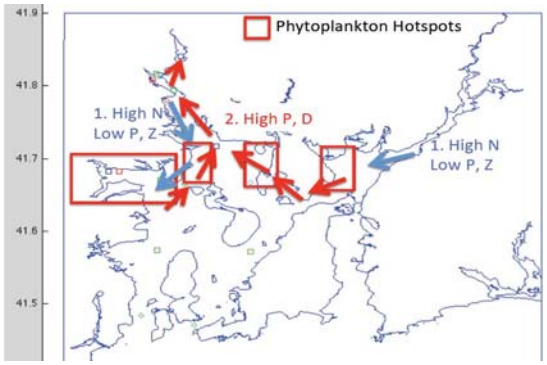


Photo: Map of phytoplankton flow dynamics seen in the ROMS biological model.

NBC has partnered with the University of Rhode Island (URI) Graduate School of Oceanography (GSO) and Kincaid Consulting to develop the Regional Ocean Modeling System (ROMS) for the Providence and Seekonk Rivers and Narragansett Bay. The Modeling System tracks the circulation and transport of nutrients in the Bay and determines how changing nitrogen loads effect the biology of the Bay, which therefore effect water quality. Future work includes improving the physical and biological models based on initial stakeholder feedback, as well as external review of the model to further validate the model progress.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ 354	**$ 72**	**$ 50**	**$ 49**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 525**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 56	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 56
Land	-	-	-	-	-	-	-	-	-
A/E Professional	260	22	-	-	-	-	-	-	282
Other	38	50	50	49	-	-	-	-	187
Total	**$ 354**	**$ 72**	**$ 50**	**$ 49**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 525**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

1140200
Upper Bay Dissolved Oxygen Evaluation

Project Manager: Thomas Uva
Contractor(s): N/A

Location: NBC Receiving Waters
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	July-17	June-18	11 Months	$300
Construction	N/A	N/A	N/A	N/A
Total Project	**July-17**	**June-18**	**11 Months**	**$300**

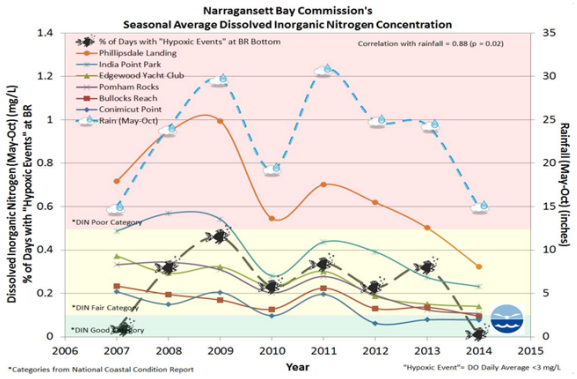


Photo: Dissolved inorganic nitrogen concentration in the upper bay in relation to amount of low dissolved oxygen events at Bullock's Reach.

Project 1140200 is to evaluate the effect of nitrogen reductions on dissolved oxygen levels in upper Narragansett Bay. The project involves the collection of data and the development of a comprehensive report that will assist NBC with information relative to potential permit requirements. This project also entails the engagement of consultants and legal counsel related to permit requirements that would mandate NBC to make additional capital investments.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ 150**	**$ 150**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 300**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ 75	$ 75	$ -	$ -	$ -	$ -	$ -	$ 150
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	75	75	-	-	-	-	-	150
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ 150**	**$ 150**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 300**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

1140300
Greenhouse Gas Study

Project Manager: James McCaughey, P.E.
Contractor(s): University of Rhode Island

Location: NBC Service Area
Project Priority: D

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	October-14	May-17	32 Months	$405
Construction	N/A	N/A	N/A	N/A
Total Project	**October-14**	**May-17**	**32 Months**	**$405**

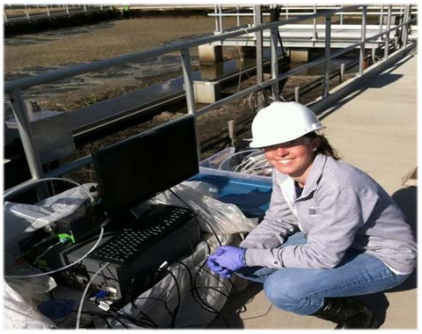


Photo: Measuring Greenhouse Gases at Field's Point

This project is to quantify NBC's overall carbon footprint by measuring green house gas emissions from wastewater collection and treatment operations. NBC's Green House Gas Study will position NBC favorably if NBC is subject to additional regulatory requirements related to green house gas emissions.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 73	**$ 332**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 405**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 33	$ 72	$ -	$ -	$ -	$ -	$ -	$ -	$ 105
Land	-	-	-	-	-	-	-	-	-
A/E Professional	40	81	-	-	-	-	-	-	121
Other	-	179	-	-	-	-	-	-	179
Total	**$ 73**	**$ 332**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 405**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

1140400

Evaluate NBC Facilities for Climate Resiliency

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Locaiton: NBC Service Area
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	January-17	January-18	12 Months	$153
Construction	N/A	N/A	N/A	N/A
Total Project	**January-17**	**January-18**	**12 Months**	**$153**

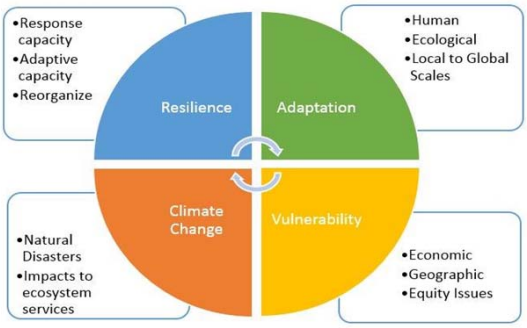


Photo: Evaluate NBC Facilities for Climate Resiliency

This project is to determine the effect of climate change and flooding potential at NBC facilities and possible improvements that may be required to comply with new regulatory requirements to mitigate potential damage from flooding.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ 3	**$ 56**	**$ 94**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 153**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 3	$ 16	$ 14	$ -	$ -	$ -	$ -	$ -	$ 33
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	40	60	-	-	-	-	-	100
Other	-	-	20	-	-	-	-	-	20
Total	**$ 3**	**$ 56**	**$ 94**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 153**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

1140500
NBC Energy Sustainability

Project Manager: James McCaughey, P.E.
Contractor(s): N/A

Location: NBC Service Area
Project Priority: D

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	January-16	June-18	29 Months	$70
Construction	N/A	N/A	N/A	N/A
Total Project	**January-16**	**June-18**	**29 Months**	**$70**

Photo: Methods of generating energy

NBC's Energy Sustainability Program is to identify, measure, and implement ways of obtaining and using energy such that NBC's energy needs of today are met while assuring NBC's future energy needs. NBC will maximize its use of conservation, efficiency, and sustainable renewable energy resources in an economically viable and sound manner.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 22	**$ 32**	**$ 16**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 70**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 16	$ 28	$ 16	$ -	$ -	$ -	$ -	$ -	$ 60
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	6	4	-	-	-	-	-	-	10
Total	**$ 22**	**$ 32**	**$ 16**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 70**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

30438

NBC Interceptor Easement Restoration, AVI

Project Manager: Rich Bernier, P.E.
Contractor(s): VHB

Location: Cumberland, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	October-05	April-16	128 Months	$803
Construction	March-16	January-18	22 Months	756
Total Project	**October-05**	**January-18**	**148 Months**	**$1,558**

Photo: Cumberland sewer system easement locations

Much of the NBC sewer system in Cumberland is located in easements that cross private property. NBC is evaluating these easements, as to whether the access to the easements is sufficient in order to maintain the integrity of the collection system. This project is to evaluate the Abbott Valley Interceptor easements and clear the easements to provide necessary access under the construction phase of this project.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 130	**$ 621**	**$ 5**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 756**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 276	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 276
Land	84	-	-	-	-	-	-	-	84
A/E Professional	428	-	-	-	-	-	-	-	428
Other	14	-	-	-	-	-	-	-	14
Total	**$ 803**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 803**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 48	$ 40	$ -	$ -	$ -	$ -	$ -	$ -	$ 88
A/E Professional	17	26	-	-	-	-	-	-	43
Construction	-	495	5	-	-	-	-	-	500
Contingency	-	50	-	-	-	-	-	-	50
Other	65	10	-	-	-	-	-	-	75
Total	**$ 130**	**$ 621**	**$ 5**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 756**

Note: Cash Flow Basis in Thousands

30500

NBC Interceptor Easements Restoration, Various Locations

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: NBC Service Area
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	September-17	August-19	23 Months	$722
Construction	September-19	October-20	13 Months	632
Total Project	**September-17**	**October-20**	**36 Months**	**$1,354**

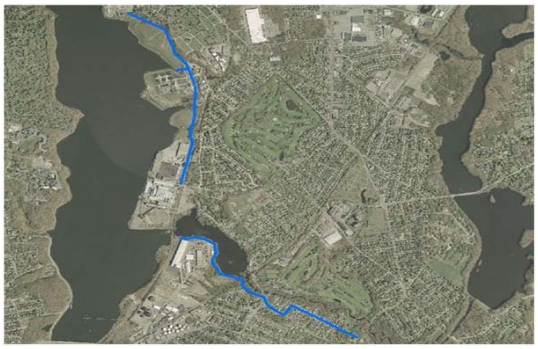


Photo: Proposed area for the East Providence easement investigation

This project is to verify easement locations and to provide access to the easement by removing overgrowth.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ 1**	**$ 275**	**$ 365**	**$ 480**	**$ 233**	**$ -**	**$ -**	**$ 1,354**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ 1	$ 25	$ 63	$ 11	$ -	$ -	$ -	$ 100
Land	-	-	-	50	50	-	-	-	100
A/E Professional	-	-	240	240	20	-	-	-	500
Other	-	-	10	12	-	-	-	-	22
Total	**$ -**	**$ 1**	**$ 275**	**$ 365**	**$ 81**	**$ -**	**$ -**	**$ -**	**$ 722**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ 40	$ 16	$ -	$ -	$ 56
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	349	151	-	-	500
Contingency	-	-	-	-	-	60	-	-	60
Other	-	-	-	-	10	6	-	-	16
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 399**	**$ 233**	**$ -**	**$ -**	**$ 632**

Note: Cash Flow Basis in Thousands

30501

NBC Interceptor Easements Restoration, BVI

Project Manager: Thomas Brueckner, P.E.
Contractor(s): VHB

Location: Cumberland & Lincoln
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	July-09	November-16	89 Months	$448
Construction	February-17	April-18	14 Months	746
Total Project	**July-09**	**April-18**	**107 Months**	**$1,194**

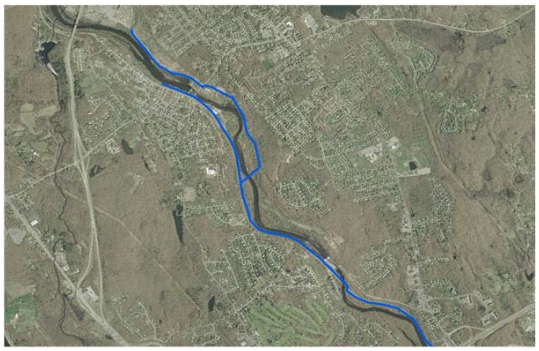


Photo: Blackstone Valley Interceptor in Lincoln

This project is to locate manholes and easements on the Blackstone Valley Interceptor in Lincoln and Cumberland and clear the easement of vegetation to allow access to maintain the sewer.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 274	**$ 194**	**$ 725**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,194**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 41	$ 65	$ -	$ -	$ -	$ -	$ -	$ -	$ 106
Land	-	50	-	-	-	-	-	-	50
A/E Professional	221	26	-	-	-	-	-	-	247
Other	12	33	-	-	-	-	-	-	45
Total	**$ 274**	**$ 173**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 448**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ 14	$ 33	$ -	$ -	$ -	$ -	$ -	$ 47
A/E Professional	-	7	20	-	-	-	-	-	27
Construction	-	-	600	-	-	-	-	-	600
Contingency	-	-	72	-	-	-	-	-	72
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ 21**	**$ 725**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 746**

Note: Cash Flow Basis in Thousands

30700
NBC System-wide Facilities Planning

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: NBC Service Area
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	April-17	April-19	24 Months	$509
Construction	N/A	N/A	N/A	N/A
Total Project	**April-17**	**April-19**	**24 Months**	**$509**

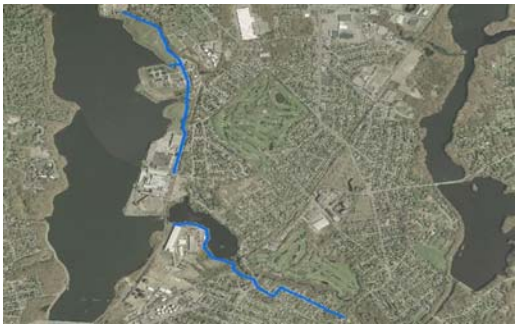


Photo: Proposed area for the East Providence capacity analysis

Project 30700 is to continue NBC's studies to determine if there is adequate capacity for the next twenty years and if there is any excess infiltration/inflow in NBC's interceptors. As the evaluations begin for each city and town, they will be given a unique project number and draw funding from project 30700.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ 51**	**$ 271**	**$ 188**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 509**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ 19	$ 65	$ 26	$ -	$ -	$ -	$ -	$ 109
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	32	206	162	-	-	-	-	400
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ 51**	**$ 271**	**$ 188**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 509**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

40100
NBC Facility Electrical Improvements

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: NBC Systemwide Facilities
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	May-17	June-18	13 Months	$130
Design	N/A	N/A	N/A	N/A
Construction	N/A	N/A	N/A	N/A
Total Project	**May-17**	**June-18**	**13 Months**	**$130**

Photo: NBC Facility Electrical Improvements

This project is for improvements to electrical equipment at NBC facilities. Projects to be undertaken are power studies, arc flash studies and upgrades to electrical equipment including standby power generators.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ 3**	**$ 127**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 130**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ 3	$ 17	$ -	$ -	$ -	$ -	$ -	$ 20
A/E Professional	-	-	100	-	-	-	-	-	100
Other	-	-	10	-	-	-	-	-	10
Total	**$ -**	**$ 3**	**$ 127**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 130**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

40101
FPWWTF Facility Electrical Improvements

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Field's Point WWTF (Providence, RI)
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	January-16	January-17	12 Months	$125
Design	N/A	N/A	N/A	N/A
Construction	N/A	N/A	N/A	N/A
Total Project	**January-16**	**January-17**	**12 Months**	**$125**

Photo: Field's Point Electrical Panel

This project is to evaluate the current emergency generators at the Field's Point WWTF and determine the upgrades necessary in order to maintain reliable operation in the event of a power failure.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 17	**$ 108**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 125**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 17	$ 33	$ -	$ -	$ -	$ -	$ -	$ -	$ 50
A/E Professional	-	75	-	-	-	-	-	-	75
Other	-	-	-	-	-	-	-	-	-
Total	**$ 17**	**$ 108**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 125**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

40200

NBC System-wide Inflow Reduction Program-Design

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: NBC Service Area
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	September-17	January-19	16 Months	$116
Construction	March-19	September-20	18 Months	244
Total Project	**September-17**	**September-20**	**37 Months**	**$360**

Photo: Downspouts at the NBC COB

This project is to reduce inflow by disconnecting downspouts and catch basins from sanitary sewers in communities throughout the NBC district.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ -**	**$ 44**	**$ 72**	**$ 183**	**$ 61**	**$ -**	**$ -**	**$ 360**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ 20	$ 14	$ -	$ -	$ -	$ -	$ 34
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	24	58	-	-	-	-	82
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ 44**	**$ 72**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 116**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ 50	$ 12	$ -	$ -	$ 62
A/E Professional	-	-	-	-	33	9	-	-	42
Construction	-	-	-	-	90	30	-	-	120
Contingency	-	-	-	-	-	10	-	-	10
Other	-	-	-	-	10	-	-	-	10
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 183**	**$ 61**	**$ -**	**$ -**	**$ 244**

Note: Cash Flow Basis in Thousands

40300
Municipal Sewer Acquisition Impact

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: NBC Service Area
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	July-16	June-17	11 Months	$296
Design	N/A	N/A	N/A	N/A
Construction	N/A	N/A	N/A	N/A
Total Project	**July-16**	**June-17**	**11 Months**	**$296**

Photo: Municipal Sewer Manhole Cover

Legislation has been introduced in the General Assembly that would require NBC to study the feasibility of assuming ownership of sewers currently owned and maintained by communities within NBC's district. This project is to determine the feasibility, cost, regulatory requirements and other impacts on NBC and the municipalities. Upon completion of the study, a report will be prepared recommending whether NBC should acquire local sewers in any of the municipalities. This study will not be undertaken until the legislation passes the General Assembly.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ 296**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 296**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ 36	$ -	$ -	$ -	$ -	$ -	$ -	$ 36
A/E Professional	-	250	-	-	-	-	-	-	250
Other	-	10	-	-	-	-	-	-	10
Total	**$ -**	**$ 296**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 296**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Note: Cash Flow Basis in Thousands

50500

Wind Energy Development Turbines

Project Manager: Rich Bernier, P.E. Location: Coventry, RI
Contractor(s): Wind Energy Development Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	May-16	December-16	7 Months	$19,000
Total Project	**May-16**	**December-16**	**7 Months**	**$19,000**

Photo: Wind Turbines

This project is to construct three 1.5 MW wind turbines that convert wind energy to electricity at a remote site. NBC's Off-Site Wind Energy Project will supply NBC facilities with clean renewable wind energy. This project will bring NBC closer to meeting a goal of obtaining all required electrical energy from locally derived renewable resources.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ 12,100	**$ 6,900**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 19,000**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 75	$ 75	$ -	$ -	$ -	$ -	$ -	$ -	$ 150
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	12,000	5,800	-	-	-	-	-	-	17,800
Contingency	-	1,000	-	-	-	-	-	-	1,000
Other	25	25	-	-	-	-	-	-	50
Total	**$ 12,100**	**$ 6,900**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 19,000**

Note: Cash Flow Basis in Thousands

This page was intentionally left blank.

30800
CSO Phase III A Facilities

Project Manager: Thomas Brueckner, P.E.
Contractor(s): MWH

Location: Pawtucket & East Providence, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	August-13	December-19	77 Months	$43,419
Construction	January-20	June-24	54 Months	552,730
Total Project	**August-13**	**June-24**	**132 Months**	**$596,149**

Photo: Proposed alignment for the Pawtucket CSO Tunnel

Phase III A is to design and construct a deep rock tunnel in Pawtucket approximately 13,000 feet in length along the Seekonk and Blackstone Rivers, a pump station to convey flow to the Bucklin Point WWTF in East Providence, drop shafts and consolidation conduits. In addition, GSI facilities will be constructed to reduce storm water inflow by infiltration of storm water into the ground.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ 2,382	**$ 7,545**	**$ 10,865**	**$ 13,148**	**$ 9,605**	**$ 79,410**	**$ 156,720**	**$ 316,475**	**$ 596,149**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 422	$ 84	$ 72	$ 178	$ 280	$ -	$ -	$ -	$ 1,036
Land	-	-	-	-	4,000	-	-	-	4,000
A/E Professional	1,913	7,450	10,550	12,600	5,200	-	-	-	37,713
Other	46	11	243	370	-	-	-	-	670
Total	**$ 2,382**	**$ 7,545**	**$ 10,865**	**$ 13,148**	**$ 9,480**	**$ -**	**$ -**	**$ -**	**$ 43,419**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ 125	$ 410	$ 720	$ 1,475	$ 2,730
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	79,000	156,000	315,000	550,000
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 125**	**$ 79,410**	**$ 156,720**	**$ 316,475**	**$ 552,730**

Note: Cash Flow Basis in Thousands

30810
CSO Phase III B Facilities

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Central Falls, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	July-24	December-26	30 Months	$6,160
Construction	July-27	December-29	30 Months	52,150
Total Project	**July-24**	**December-29**	**60 Months**	**$58,310**

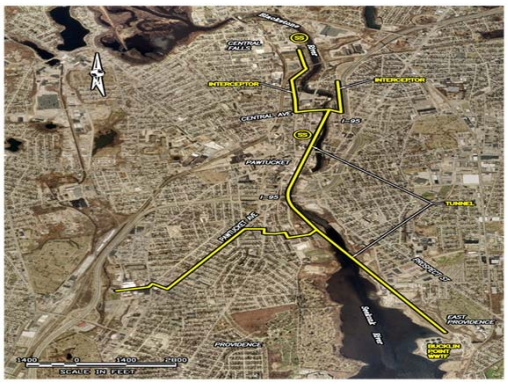


Photo: Proposed alignment for the Pawtucket CSO Tunnel

Phase III B is to design and construct two interceptors at High and Cross Street which will be approximately 4,200 feet in length and one at Middle Street approximately 2,000 feet in length. These interceptors will convey flow to the tunnel to be built in Phase III A. In addition, GSI facilities will be constructed to reduce storm inflow to the combined sewer system, and one sewer separation project will be included as part of Phase III B.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 58,310**	**$ 58,310**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 500	$ 500
Land	-	-	-	-	-	-	-	1,000	1,000
A/E Professional	-	-	-	-	-	-	-	4,300	4,300
Other	-	-	-	-	-	-	-	360	360
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,160**	**$ 6,160**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,650	$ 1,650
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	50,500	50,500
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 52,150**	**$ 52,150**

Note: Cash Flow Basis in Thousands

30820
CSO Phase III C Facilities

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Pawtucket, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	January-30	June-32	30 Months	$6,010
Construction	January-32	December-34	36 Months	100,100
Total Project	**January-30**	**December-34**	**61 Months**	**$106,110**

Photo: Proposed alignment for the Pawtucket CSO Tunnel

Phase III C is to design and construct a stub tunnel that will convey flow from CSO 220 to the tunnel to be constructed in Phase III A. In addition, GSI facilities will be constructed to reduce storm water inflow to the combined sewers.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 106,110**	**$ 106,110**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 450	$ 450
Land	-	-	-	-	-	-	-	500	500
A/E Professional	-	-	-	-	-	-	-	4,700	4,700
Other	-	-	-	-	-	-	-	360	360
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,010**	**$ 6,010**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,100	$ 1,100
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	99,000	99,000
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 100,100**	**$ 100,100**

Note: Cash Flow Basis in Thousands

30830
CSO Phase III D Facilities

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Providence, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	January-35	June-37	30 Months	$6,610
Construction	January-38	December-39	24 Months	65,900
Total Project	**January-35**	**December-39**	**61 Months**	**$72,510**

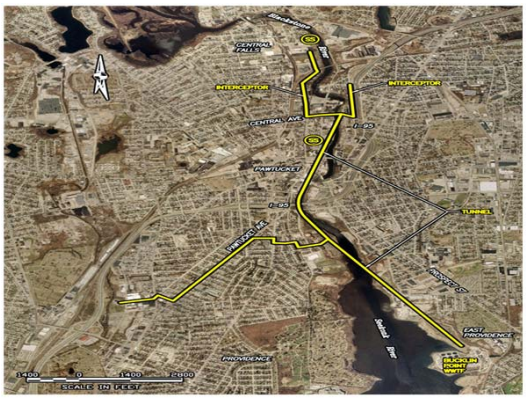


Photo: Proposed alignment for the Pawtucket CSO Tunnel

Phase III D is to design and construct an interceptor that will store flow during a storm and later release the flow into the system as capacity allows. In addition, GSI facilities will be constructed to reduce storm water inflow to the combined sewer system.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 72,510**	**$ 72,510**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 700	$ 700
Land	-	-	-	-	-	-	-	1,000	1,000
A/E Professional	-	-	-	-	-	-	-	4,300	4,300
Other	-	-	-	-	-	-	-	610	610
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,610**	**$ 6,610**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,900	$ 1,900
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	64,000	64,000
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 65,900**	**$ 65,900**

Note: Cash Flow Basis in Thousands

304 M Summary
Interceptor Inspection and Cleaning

Project Manager: Meg Goulet, P.E.
Contractor(s): Various

Location: NBC Service Area
Project Priority: Dependent Upon Project

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Inspection and Cleaning	July-09	Ongoing	Ongoing	$3,844
Total Project	**July-09**	**Ongoing**	**Ongoing**	**$3,844**

Photo: Interceptor grit removal

The 304 M projects continue NBC's program to clean and inspect NBC interceptors as needed. The TV inspections assist in determining pipe conditions and developing solutions to any problems which may be identified. Based on completed inspections to date, the cleaning is needed to remove accumulated grit. As new inspection and cleaning projects are identified, they will be given a unique project number and draw funding from the funds available in Project 30400M.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 344	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 3,844**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 104	$ 73	$ 73	$ 73	$ 73	$ 73	$ 73	$ 73	$ 615
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	210	361	361	361	361	361	361	361	2,737
Contingency	-	-	-	-	-	-	-	-	-
Other	30	66	66	66	66	66	66	66	492
Total	**$ 344**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 500**	**$ 3,844**

Note: Cash Flow Basis in Thousands

30400C
Interceptor Restoration and Construction

Project Manager: Rich Bernier, P.E.
Contractor(s): Various

Location: NBC Service Area
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	July-01	Ongoing	Ongoing	$6,000
Total Project	**July-01**	**Ongoing**	**Ongoing**	**$6,000**

Photo: Proposed portion of Lincoln Interceptor Replacement

Project 30400C estimates the unknown costs of interceptor repair and construction resulting from NBC's inspection and cleaning projects and emergency situations. Interceptor repair and construction projects result from such issues as root intrusion, structural damage, odor control, aging infrastructure, inaccessible structures, pipe damage and emergency situations. As new repair and construction projects are identified, they are given a unique project number and draw funding from the funds available in Project 30400C.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ -**	**$ -**	**$ -**	**$ 1,500**	**$ 1,500**	**$ 1,500**	**$ 1,500**	**$ 6,000**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ 75	$ 75	$ 75	$ 75	$ 300
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	1,250	1,250	1,250	1,250	5,000
Contingency	-	-	-	-	150	150	150	150	600
Other	-	-	-	-	25	25	25	25	100
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,500**	**$ 1,500**	**$ 1,500**	**$ 1,500**	**$ 6,000**

Note: Cash Flow Basis in Thousands

30421
Louisquisset Pike Interceptor Improvements

Project Manager: Rich Bernier, P.E.
Location: Lincoln, RI
Contractor(s): N/A
Project Priority: C

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	May-07	July-09	26 Months	$178
Construction	March-17	December-18	21 Months	4,044
Total Project	**May-07**	**December-18**	**141 Months**	**$4,222**

Photo: Lincoln Interceptor Replacement Location

This project to design and construct a larger replacement interceptor in the Northern section of the Town of Lincoln to accommodate the additional flow resulting from expected development.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ 24**	**$ 2,135**	**$ 1,886**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 4,044**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 23	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23
Land	-	-	-	-	-	-	-	-	-
A/E Professional	155	-	-	-	-	-	-	-	155
Other	-	-	-	-	-	-	-	-	-
Total	**$ 178**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 178**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ 15	$ 79	$ 48	$ -	$ -	$ -	$ -	$ 141
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	9	26	18	-	-	-	-	53
Construction	-	-	2,030	1,470	-	-	-	-	3,500
Contingency	-	-	-	350	-	-	-	-	350
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ 24**	**$ 2,135**	**$ 1,886**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 4,044**

Note: Cash Flow Basis in Thousands

30444
Mosshassuck Valley Interceptor

Project Manager: Thomas Brueckner, P.E.
Contractor(s): Louis Berger Group

Location: Central Falls and Lincoln
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	May-06	October-06	6 Months	$22
Design	January-12	June-16	54 Months	411
Construction	September-16	June-18	21 Months	6,531
Total Project	**May-06**	**June-18**	**147 Months**	**$6,964**

Photo: Portion of the Moshassuck Valley Interceptor to be replaced

An inspection of the Moshassuck Valley Interceptor from Higginson Street in Central Falls to Lockbridge Street in Pawtucket revealed that this line has sunk from its original grade at numerous points, by as much as 2.5 feet. This project is to design and construction a new sewer to replace the existing sewer.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ -	**$ 1,851**	**$ 4,680**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,531**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2
A/E Professional	20	-	-	-	-	-	-	-	20
Other	-	-	-	-	-	-	-	-	-
Total	**$ 22**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 22**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 78	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 78
Land	61	-	-	-	-	-	-	-	61
A/E Professional	265	-	-	-	-	-	-	-	265
Other	7	-	-	-	-	-	-	-	7
Total	**$ 411**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 411**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ 48	$ 51	$ -	$ -	$ -	$ -	$ -	$ 99
A/E Professional	-	18	24	-	-	-	-	-	42
Construction	-	1,775	4,025	-	-	-	-	-	5,800
Contingency	-	-	580	-	-	-	-	-	580
Other	-	10	-	-	-	-	-	-	10
Total	**$ -**	**$ 1,851**	**$ 4,680**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,531**

Note: Cash Flow Basis in Thousands

30457
Providence River Siphon

Project Manager: Thomas Brueckner, P.E.
Contractor: Stantec Consulting Services

Location: Providence, RI
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	March-13	May-15	26 Months	$228
Design	July-15	July-16	12 Months	307
Construction	July-16	June-17	11 Months	6,126
Total Project	**March-13**	**June-17**	**52 Months**	**$6,662**

Photo: Siphon Trail Chamber

During the planning phase of this project, it was determined that the existing Providence River siphon was in good condition but that a section of the 78" interceptor needed to be replaced and that the inlet and outlet siphon chambers needed repair. These deficiencies will be corrected in the design and construction phases.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ 247	**$ 6,186**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,433**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 100	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 100
A/E Professional	123	-	-	-	-	-	-	-	123
Other	5	-	-	-	-	-	-	-	5
Total	**$ 228**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 228**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 42	$ 3	$ -	$ -	$ -	$ -	$ -	$ -	$ 45
Land	-	21	-	-	-	-	-	-	21
A/E Professional	175	41	-	-	-	-	-	-	216
Other	25	-	-	-	-	-	-	-	25
Total	**$ 242**	**$ 65**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 307**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 2	$ 42	$ -	$ -	$ -	$ -	$ -	$ -	$ 44
A/E Professional	3	29	-	-	-	-	-	-	32
Construction	-	5,400	-	-	-	-	-	-	5,400
Contingency	-	600	-	-	-	-	-	-	600
Other	-	50	-	-	-	-	-	-	50
Total	**$ 5**	**$ 6,121**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,126**

Note: Cash Flow Basis in Thousands

30460
Johnston Sewer Improvements

Project Manager: Thomas Brueckner, P.E.
Contractor(s): N/A

Location: Johnston, RI
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	May-16	January-17	8 Months	$336
Construction	January-17	January-18	12 Months	4,030
Total Project	**May-16**	**January-18**	**20 Months**	**$4,366**

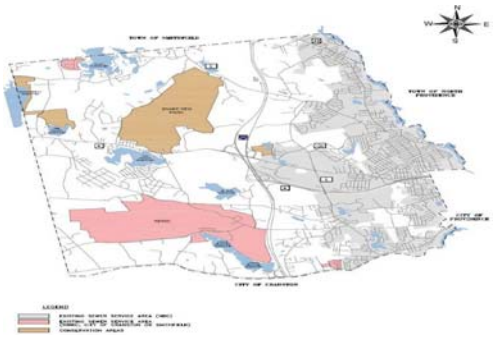


Photo: Plans for Johnston Sewer Improvements

The Facilities Plan for Johnston has been completed and approved by RIDEM. The plan recommended that sewers in the Town be expanded to accommodate future development in the Town. This project is to design and construct the first of these proposed improvements.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 9	**$ 356**	**$ 4,002**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 4,366**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 9	$ 27	$ -	$ -	$ -	$ -	$ -	$ -	$ 36
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	300	-	-	-	-	-	-	300
Other	-	-	-	-	-	-	-	-	-
Total	**$ 9**	**$ 327**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 336**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ 20	$ 131	$ -	$ -	$ -	$ -	$ -	$ 150
A/E Professional	-	9	21	-	-	-	-	-	30
Construction	-	-	3,500	-	-	-	-	-	3,500
Contingency	-	-	350	-	-	-	-	-	350
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ 29**	**$ 4,002**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 4,030**

Note: Cash Flow Basis in Thousands

30462

NBC East Providence Interceptor Improvements

Project Manager: Rich Bernier, P.E.
Contractor(s): N/A

Location: East Providence, RI
Project Priority: B

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	August-15	March-18	31 Months	$1,342
Total Project	**August-15**	**March-18**	**31 Months**	**$1,342**

Photo: Manhole along river

This project consists of the lining of 4,100 linear feet of sewer pipe for the East Providence Interceptor from Bourne Ave. to the BPWWTF in East Providence.

CIP Window Summary	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
	$ 36	**$ 1,255**	**$ 51**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,342**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 36	$ 85	$ 1	$ -	$ -	$ -	$ -	$ -	$ 122
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	950	50	-	-	-	-	-	1,000
Contingency	-	120	-	-	-	-	-	-	120
Other	-	100	-	-	-	-	-	-	100
Total	**$ 36**	**$ 1,255**	**$ 51**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,342**

Note: Cash Flow Basis in Thousands

30463

Improvements to Interceptors FY 2017

Project Manager: Rich Bernier, P.E.
Contractor(s): N/A

Location: NBC Service Area
Project Priority: A

Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	August-16	September-18	25 Months	$2,683
Total Project	**August-16**	**September-18**	**25 Months**	**$2,683**

Photo: Conducting Sewer System Repairs

This project is to correct various deficiencies throughout the sewer system such as sewer lining, point repairs to sewers, install hatches for better access to structures, abandonment of an outfall pipe, repair the hydraulic gate operator to the Allens Ave. Hurricane Gate and rehabilitation to leaking manholes.

CIP Window Summary

Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
$ 21	**$ 1,207**	**$ 1,445**	**$ 10**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,683**

Projected Expenditures - Planning

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Projected Expenditures - Design

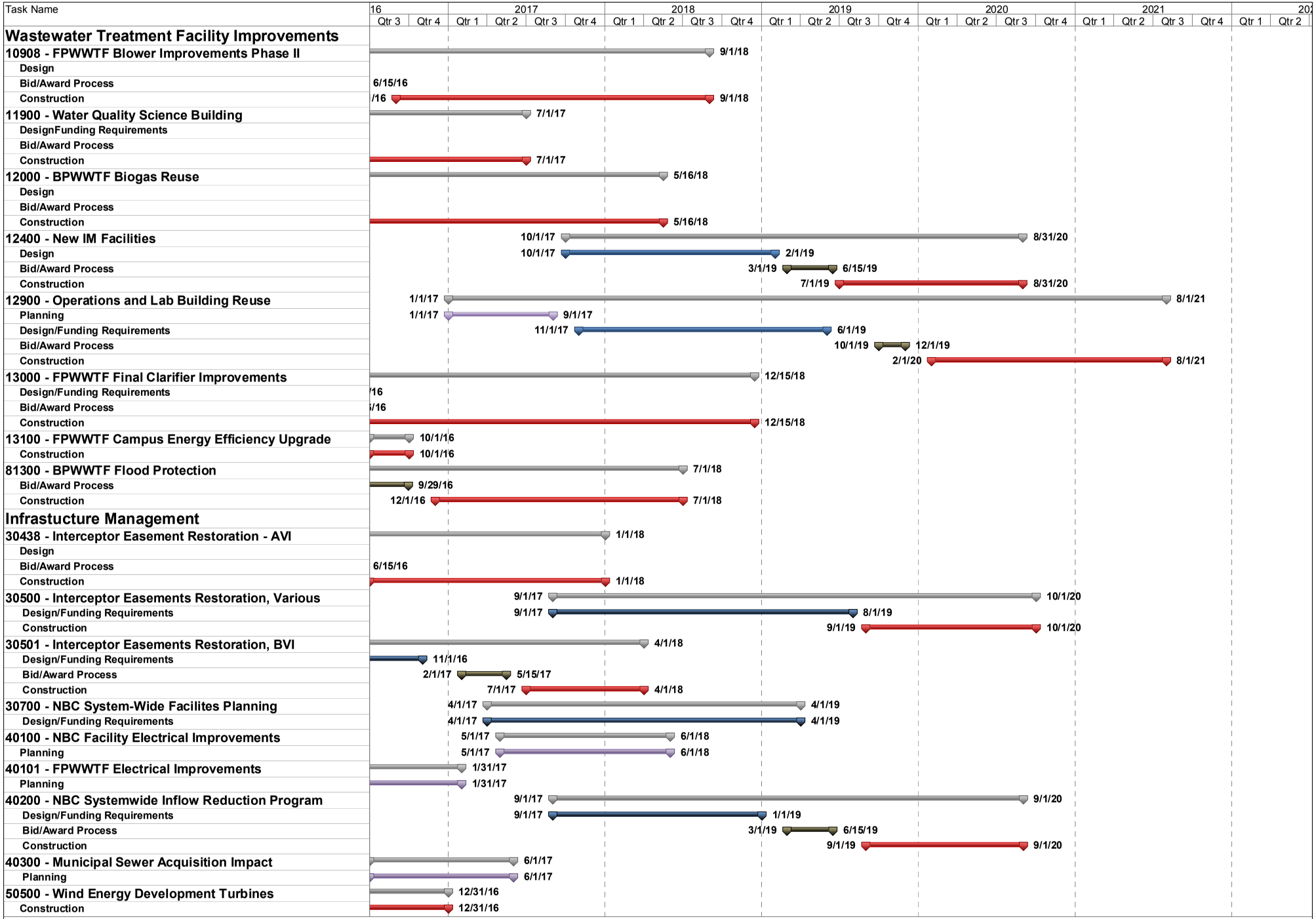
Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
Total	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

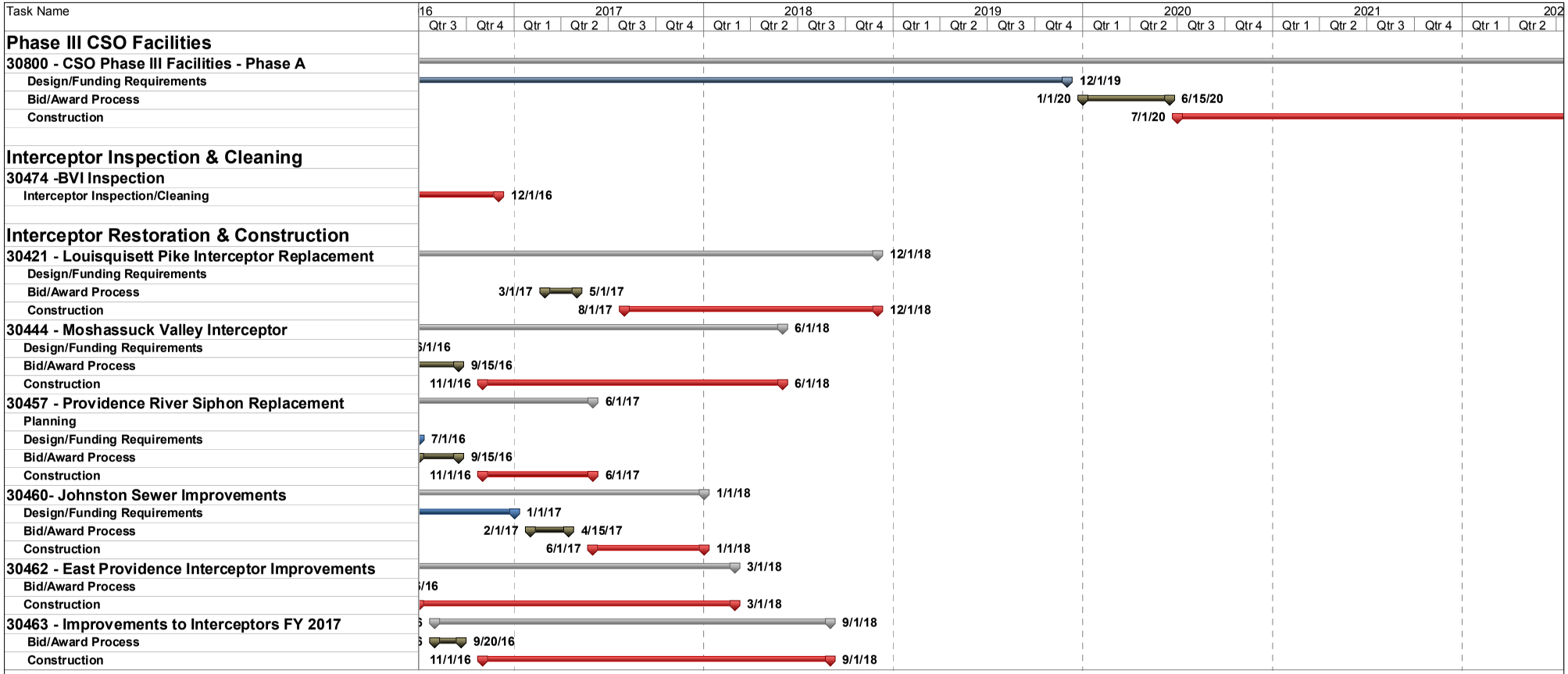
Projected Expenditures - Construction

Cost Category	Pre FY 17	FY 17	FY 18	FY 19	FY 20	FY 21	FY 22	Post FY 22	Total
Administrative	$ 21	$ 187	$ 55	$ -	$ -	$ -	$ -	$ -	$ 263
A/E Professional	-	120	-	-	-	-	-	-	120
Construction	-	900	1,090	10	-	-	-	-	2,000
Contingency	-	-	200	-	-	-	-	-	200
Other	-	-	100	-	-	-	-	-	100
Total	**$ 21**	**$ 1,207**	**$ 1,445**	**$ 10**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,683**

Note: Cash Flow Basis in Thousands

This page was intentionally left blank.


Task Name
16
2017
2018
2019
2020
2021
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Wastewater Treatment Facility Improvements
10908 - FPWWTF Blower Improvements Phase II
9/1/18
Design
Bid/Award Process
6/15/16
Construction
/16
9/1/18
11900 - Water Quality Science Building
7/1/17
DesignFunding Requirements
Bid/Award Process
Construction
7/1/17
12000 - BPWWTF Biogas Reuse
5/16/18
Design
Bid/Award Process
Construction
5/16/18
12400 - New IM Facilities
10/1/17
8/31/20
Design
10/1/17
2/1/19
Bid/Award Process
3/1/19
6/15/19
Construction
7/1/19
8/31/20
12900 - Operations and Lab Building Reuse
1/1/17
8/1/21
Planning
1/1/17
9/1/17
Design/Funding Requirements
11/1/17
6/1/19
Bid/Award Process
10/1/19
12/1/19
Construction
2/1/20
8/1/21
13000 - FPWWTF Final Clarifier Improvements
12/15/18
Design/Funding Requirements
/16
Bid/Award Process
/16
Construction
12/15/18
13100 - FPWWTF Campus Energy Efficiency Upgrade
10/1/16
Construction
10/1/16
81300 - BPWWTF Flood Protection
7/1/18
Bid/Award Process
9/29/16
Construction
12/1/16
7/1/18
Infrastucture Management
30438 - Interceptor Easement Restoration - AVI
1/1/18
Design
Bid/Award Process
6/15/16
Construction
1/1/18
30500 - Interceptor Easements Restoration, Various
9/1/17
10/1/20
Design/Funding Requirements
9/1/17
8/1/19
Construction
9/1/19
10/1/20
30501 - Interceptor Easements Restoration, BVI
4/1/18
Design/Funding Requirements
11/1/16
Bid/Award Process
2/1/17
5/15/17
Construction
7/1/17
4/1/18
30700 - NBC System-Wide Facilites Planning
4/1/17
4/1/19
Design/Funding Requirements
4/1/17
4/1/19
40100 - NBC Facility Electrical Improvements
5/1/17
6/1/18
Planning
5/1/17
6/1/18
40101 - FPWWTF Electrical Improvements
1/31/17
Planning
1/31/17
40200 - NBC Systemwide Inflow Reduction Program
9/1/17
9/1/20
Design/Funding Requirements
9/1/17
1/1/19
Bid/Award Process
3/1/19
6/15/19
Construction
9/1/19
9/1/20
40300 - Municipal Sewer Acquisition Impact
6/1/17
Planning
6/1/17
50500 - Wind Energy Development Turbines
12/31/16
Construction
12/31/16


Task Name
16
2017
2018
2019
2020
2021
202
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Qtr 1
Qtr 2
Phase III CSO Facilities
30800 - CSO Phase III Facilities - Phase A
Design/Funding Requirements
12/1/19
Bid/Award Process
1/1/20
6/15/20
Construction
7/1/20
Interceptor Inspection & Cleaning
30474 -BVI Inspection
Interceptor Inspection/Cleaning
12/1/16
Interceptor Restoration & Construction
30421 - Louisquisett Pike Interceptor Replacement
12/1/18
Design/Funding Requirements
Bid/Award Process
3/1/17
5/1/17
Construction
8/1/17
12/1/18
30444 - Moshassuck Valley Interceptor
6/1/18
Design/Funding Requirements
Bid/Award Process
9/15/16
Construction
11/1/16
6/1/18
30457 - Providence River Siphon Replacement
6/1/17
Planning
Design/Funding Requirements
7/1/16
Bid/Award Process
9/15/16
Construction
11/1/16
6/1/17
30460- Johnston Sewer Improvements
1/1/18
Design/Funding Requirements
1/1/17
Bid/Award Process
2/1/17
4/15/17
Construction
6/1/17
1/1/18
30462 - East Providence Interceptor Improvements
3/1/18
Bid/Award Process
Construction
3/1/18
30463 - Improvements to Interceptors FY 2017
9/1/18
Bid/Award Process
9/20/16
Construction
11/1/16
9/1/18