

# CAPITAL IMPROVEMENT PROGRAM

FY 2016-2020

Narragansett Bay Commission



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Chairman



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**Capital Project Cost Summary for Fiscal Years 2016-2020**  
(In Thousands)

Page Number	Project Number	Project Name	FY 2016 - FY 2020 (in thousands)
<b>Wastewater Treatment Facility Improvements</b>			
24	11602C	FPWWTF Tunnel Pump Station Improvements - Construction	\$ 50
25	11900C	Regulatory Compliance Building Construction	4,918
26	12000C	BPWWTF - Biogas Reuse - Construction	4,431
27	12400D	New IM Facilities - Design	236
27	12400C	New IM Facilities - Construction	6,052
30	12800C	BPWWTF Solar Energy - Construction	7,275
31	12900D	FPWWTF- Operations and Lab Building Reuse - Design	155
31	12900C	FPWWTF- Operations and Lab Building Reuse - Construction	952
32	80900C	BPWWTF - Nitrogen Removal Facilities - Construction	3,628
33	81000D	BPWWTF - UV Disinfection Improvements - Design	241
34	81100C	BPWWTF - Effluent Pumps Rehabilitation	164
35	81200P	BPWWTF - Outfall Improvements	26
<i>Subtotal - Wastewater Treatment Facility Improvements</i>			<u>28,128</u>
<b>Infrastructure Management</b>			
38	1140100	River Model Development	30
39	1140200	Receiving Water Compliance Study	225
40	1140300	Green House Gas Study	118
42	30438C	Interceptor Easements - Construction	25
43	30500D	NBC Interceptor Easements - Design	722
43	30500C	NBC Interceptor Easements - Construction	632
44	30501C	Interceptor Easements - NBC BVI Construction	728
45	30700	NBC System-Wide Facilities Planning	451
46	40100P	NBC Facility Electrical Improvements- Planning	80
46	40200D	NBC System-Wide Inflow Reduction-Design	288
47	40200C	NBC System-Wide Inflow Reduction-Construction	549
<i>Subtotal - Infrastructure Management</i>			<u>3,847</u>
<b>Phase II CSO Facilities</b>			
50	30301RS	Phase II CSO Facilities - Program & Construction Management	822
52	30303C	Phase II CSO Facilities - WCSOI Main	5,590
53	30304C	Phase II CSO Facilities - SCSOI Main	3,864
56	30307C	Phase II CSO Facilities - OF 037 South	1,773
57	30308C	Phase II CSO Facilities - OF 037 North	1,504
<i>Subtotal - Phase II CSO Facilities</i>			<u>13,555</u>
<b>Phase III CSO Facilities</b>			
62	30800D	Phase III CSO Facilities - Design	34,387
62	30800C	Phase III CSO Facilities - Construction	300,025
<i>Subtotal - Phase III CSO Facilities</i>			<u>334,412</u>
<b>Sewer System Improvements</b>			
65	70800D	Omega Pump Station Improvements - Design	36
65	70800C	Omega Pump Station Improvements - Construction	615
<i>Subtotal - Sewer System Improvements</i>			<u>651</u>
<b>CSO Interceptor Inspection &amp; Cleaning</b>			
67	30400M	Inspection and Cleaning of CSO Interceptors	2,500
<i>Subtotal - CSO Interceptor Inspection &amp; Cleaning</i>			<u>2,500</u>
<b>CSO Interceptor Repair &amp; Construction</b>			
68	30400C	Repair and Construction of CSO Interceptors	153
69	30421C	Louisquisset Pike Interceptor Replacement - Construction	2,382
70	30444C	Moshassuck Valley Interceptor - Construction	2,296
72	30457D	Providence River Siphon Replacement - Design	672
72	30457C	Providence River Siphon Replacement - Construction	5,853
73	30458P	Douglas/Branch Avenue Interceptor Relief - Planning	71
73	30458D	Douglas/Branch Avenue Interceptor Relief - Design	565
73	30458C	Douglas/Branch Avenue Interceptor Relief - Construction	6,202
74	30459C	Improvements to Interceptors FY 2015	3
<i>Subtotal - CSO Interceptor Repair &amp; Construction</i>			<u>18,197</u>
<b>Total Capital Improvement Program</b>			<u>\$ 401,289</u>



# Capital Improvement Program

## The Capital Improvement Program

The Narragansett Bay Commission’s (NBC) Capital Improvement Program (CIP) identifies programmed capital investments necessary to comply with current and future regulatory requirements, take advantage of technological advancements and ensure the integrity of NBC’s infrastructure. 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 with costs greater than \$75,000 and are for new facilities as well as the repair and replacement of existing infrastructure. The CIP shows programmed expenditures for fiscal year (FY) 2015 as well as the five-year period of fiscal years 2016-2020, 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 71 projects that are either in progress, to be initiated or to be completed during the window.

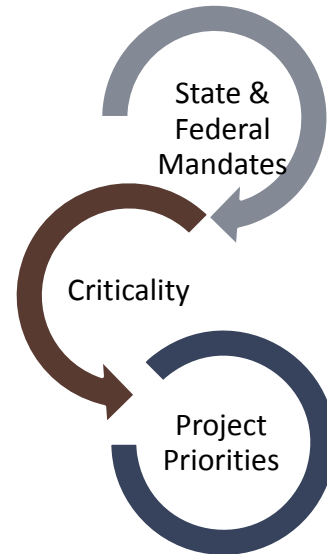
The estimated costs for this year’s CIP window are \$401.3 million with additional capital expenditures projected to be \$66.2 million in FY 2015 for a total of \$467.5 million during FY 2015-2020. The majority of the costs are related to the construction of the Combined Sewer Overflow (CSO) Phase II Facilities, the Nitrogen Removal at Bucklin Point, and the CSO Phase III Facilities. Design of the federally mandated CSO Phase III facilities began in FY 2014 in accordance with the consent agreement between NBC and the Rhode Island Department of Environmental Monitoring (RIDEM). Construction of the CSO Phase III facilities is programmed to begin in FY 2018. For planning purposes, the programmed expenditures are classified into cost categories, as shown in the following table.

**FY 2016-2020 CIP Costs by Category**  
(In thousands)

Category	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	FY 16-20	FY 15-20
<b>Administrative</b>	\$ 3,543	\$ 1,558	\$ 1,057	\$ 1,508	\$ 1,977	\$ 1,711	\$ 7,810	\$ 11,354
<b>Land</b>	361	125	125	4,200	-	-	4,450	4,811
<b>A/E Professional</b>	6,803	15,686	15,369	8,302	14,553	14,442	68,352	75,154
<b>Construction</b>	48,206	23,418	6,651	29,713	100,434	104,816	265,032	313,238
<b>Contingency</b>	3,799	11,525	1,189	581	60	567	13,922	17,721
<b>Other</b>	3,490	635	5,029	6,860	14,650	14,550	41,724	45,214
<b>Total</b>	<b>\$ 66,201</b>	<b>\$ 52,947</b>	<b>\$ 29,419</b>	<b>\$ 51,164</b>	<b>\$ 131,674</b>	<b>\$ 136,086</b>	<b>\$ 401,289</b>	<b>\$ 467,492</b>

# Capital Improvement Program Development

NBC’s comprehensive capital improvement planning process incorporates the project’s relationship to the strategic plan, program priorities, the permitting process, construction management availability, seasonal considerations, 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 capital expenditures are expected to decline primarily due to the completion of construction of CSO Phase II contracts and the Biological Nutrient Removal (BNR) at Fields Point.



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 the overall project timeline. A chart illustrating the detailed project scheduling can be found in the Appendix. A CIP Review Committee reviews the proposed capital project expenditures. 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 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 an “A” ranking are the most critical and are either mandated or currently under construction. Approximately 89% of the projects identified in the window are prioritized with an “A” ranking and total \$358.3 million.

In addition, 4% or \$17.8 million of projects are identified with a “B” ranking, which includes projects that are imperative to NBC’s ongoing operations. Finally 6%, or approximately \$25.3 million of the capital expenditures, are ranked as “C”, which includes projects which are important but not critical to ongoing operations. The following table outlines the programmed expenditures according to the three priority ranking throughout the CIP window.

**Estimated Costs by Project Priority**  
(In thousands)

Project Priority	Fiscal Year 2016	Fiscal Year 2017	Fiscal Year 2018	Fiscal Year 2019	Fiscal Year 2020	Fiscal Years 2016-2020	Ranking Percentage
A	\$ 32,269	\$ 19,956	\$ 45,499	\$ 126,480	\$ 134,061	\$ 358,265	89%
B	1,607	3,582	5,346	5,194	2,025	17,754	4%
C	19,069	5,881	320	-	-	25,270	6%
<b>Total</b>	<b>\$ 52,946</b>	<b>\$ 29,419</b>	<b>\$ 51,164</b>	<b>\$ 131,674</b>	<b>\$ 136,086</b>	<b>\$ 401,289</b>	<b>100%</b>

# Capital Improvement Program Assumptions

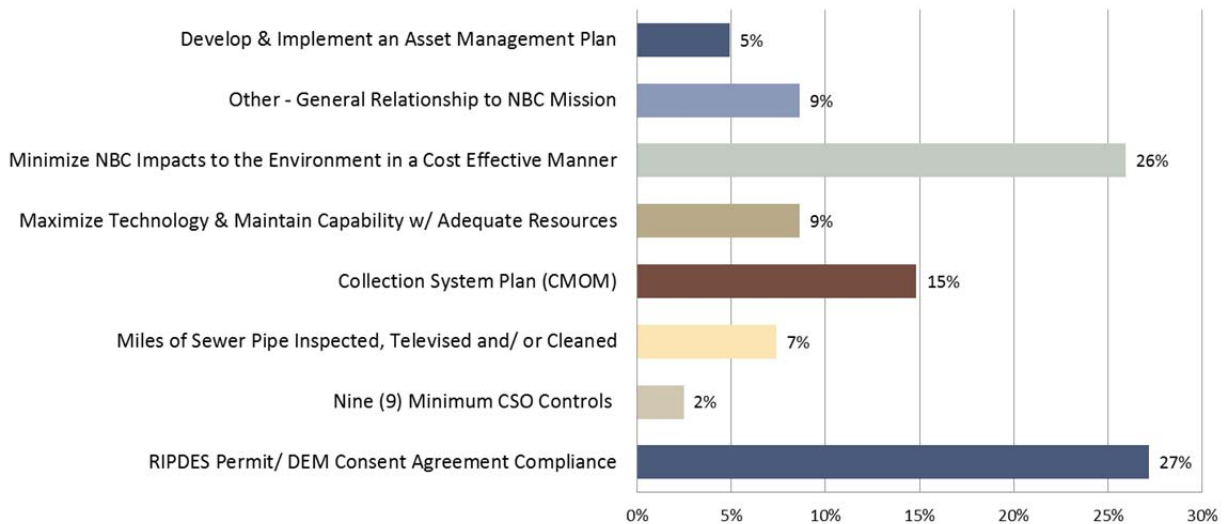
The cost estimates in this CIP are based on a number of assumptions as follows:

- Costs and cash flows are based on engineering estimates as well as bid amounts, once they become available.
- The CIP does not include the operating capital outlay expenses for the acquisition or replacement of long term assets required on an annual basis. These expenses are identified in NBC’s annual operating budget and are outlined in the five-year Operating Capital Outlay Plan.
- The majority of construction projects include a 12% contingency based on the original construction cost estimate, which reflects recent industry experience related to construction cost factors and may be modified upon receipt of bids. The cost estimates for future design projects includes a 7% allowance for salary and fringe associated with project management, based on historical data.
- Financing costs and debt service associated with new debt for the CIP Program 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.

## 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. As part of the CIP development process, Project Managers determine the specific strategic goal or goals that the project will address. Projects may be aligned with more than one objective as the project may address multiple purposes. Of the 71 CIP projects, 27% are related to the RIPDES Permit/DEM Consent Agreement Compliance Objective. This includes the CSO Facilities and Nitrogen Removal. While, 26% are to Minimize NBC’s Impacts to the Environment in a Cost Effective Manner such as Solar Energy at the BPWWTF. In addition, 15% are related to the Collection System Plan Objective which relates to capacity management and operation and maintenance of NBC’s collection and treatment system. The following chart illustrates the percentage of capital projects aligned with each Strategic Objective.

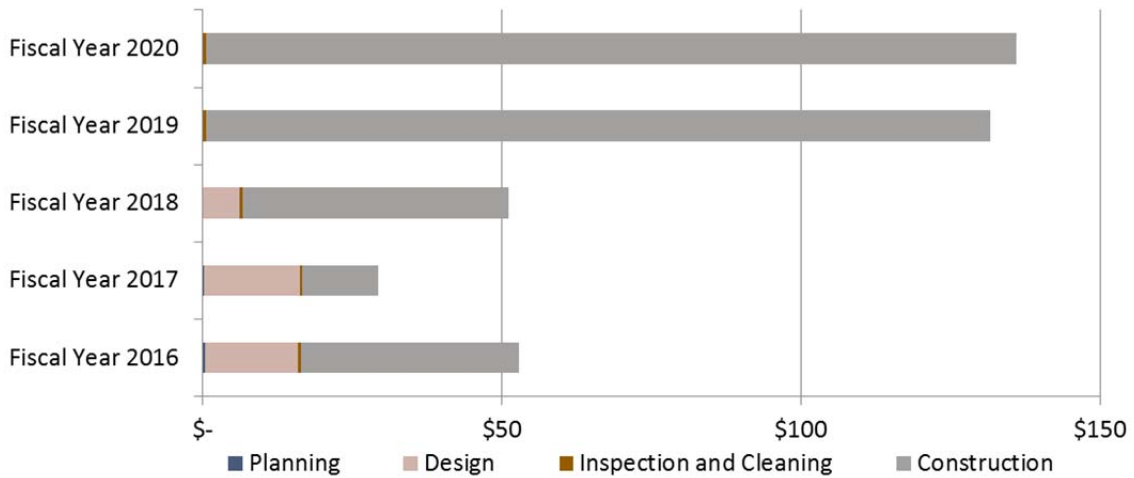
**Percentage of Capital Projects by Strategic Objective**



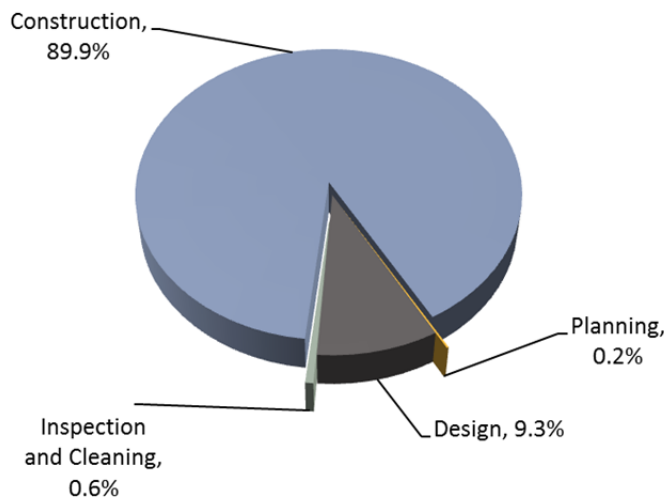
# Capital Expenditure by Phase

NBC’s large construction projects are delineated by three phases: planning, design and construction. Planning consists of tasks such as feasibility studies and mapping. The design phase includes the determination of the intended technology as well as 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, since they deal with the inspection, cleaning and repair of NBC’s miles of interceptors, or other one-time special studies to maintain the integrity of the NBC’s treatment and collection system.

**Expenditures by Project Phase**  
(In millions)



The graph below illustrates the programmed capital expenditures by project phase. The construction phase has the largest amount of expenditures during the window, with approximately 89.9% or \$360.5 million of the total expenditures. Design has the second largest amount of programmed expenditures with 9.3% or \$37.4 million of the total. Finally, Planning represents approximately 0.2% and Inspection and Cleaning represents 0.6%.





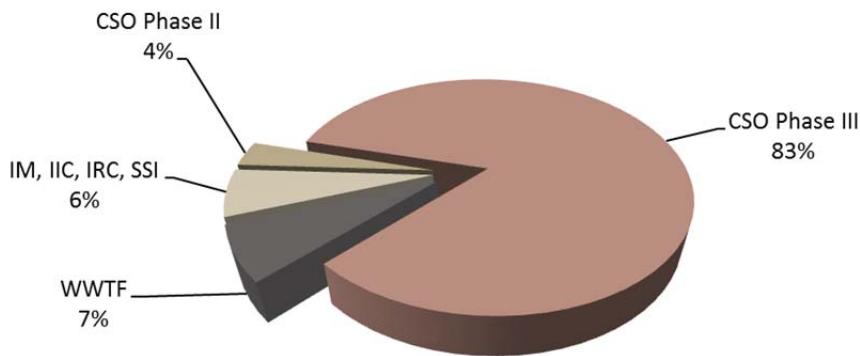
# Capital Improvement Program Project Cost Allocation

NBC categorizes each capital project into one of eight functional areas, according to the scope and tasks involved within each capital project. The eight functional areas are described in the following table.

Functional Area	Definition
Wastewater Treatment Facility Improvements (WWTF)	Projects related to improvements at the NBC's Wastewater Treatment Facilities including Nitrogen Removal Facilities.
Infrastructure Management (IM)	Includes Water Quality Modeling, System-wide Facilities Planning and Interceptor Easements.
Combined Sewer Overflow Phase II (CSO Phase II)	Projects related to the CSO Abatement Phase II Facilities.
Combined Sewer Overflow Phase III (CSO Phase III)	Projects related to the CSO Abatement Phase III Facilities.
Sewer System Improvements (SSI)	Projects related to pump station improvements and other sewer system related improvements.
Floatables Control Facilities (FCF)	CSO Floatables Control Facilities projects.
CSO Interceptor Inspection and Cleaning (IIC)	Projects related to interceptor inspection and cleaning.
CSO Interceptor Repair and Construction (IRC)	Projects related to interceptor repair and maintenance.

The following graph shows the allocation of capital expenditures according to the functional area classification. Of the approximately \$401 million in capital expenditures scheduled over this year's CIP window, \$334.4 million, or 83%, is allocated to the design and construction of the CSO Phase III facilities. Approximately \$28.1 million or 7% is for Wastewater Treatment Facility Improvements, of which \$5 million will be spent on the construction of the new Regulatory Compliance Building located adjacent to Field's Point on Service Road. In addition, \$13.6 million or 4%, is for the completion of the CSO Phase II facilities. The remaining expenditures of \$25.1 million or 6% are for Infrastructure Management, Interceptor Inspection and Cleaning, Interceptor Repair and Construction, Sewer System Improvements, and Floatables Control Facilities.

**CIP Costs by Functional Area**





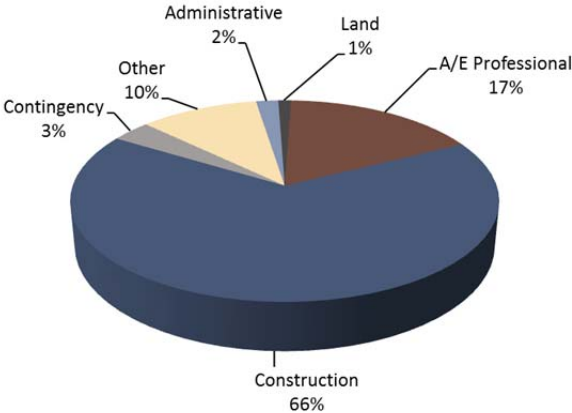
The following table shows a comparison of the capital expenditure costs by functional area from the prior CIP (FY 2015-2019) to the current CIP (FY 2016-2020). The most significant change is due to the CIP’s window shift from year to year. The largest increase is 64.4% for the CSO Phase III Facilities related to the commencement of the design reevaluation in FY 2014 and construction in FY 2018. Another notable change is the inclusion of a Sewer System Improvement project at the Omega Pump Station, at a cost of \$651 thousand. In addition, there is an increase of 4.7% for Wastewater Treatment Facility Improvements. The CSO IIC remains unchanged from year to year at \$2.5 million. The remaining areas show decreases reflecting the completion of capital projects. The most significant decrease, 78%, is due to the completion and near completion of various CSO Phase II contracts. Overall, there is a 25.2% increase in programmed expenditures for the current CIP window as compared to last year’s CIP window.

**CIP Costs by Functional Area**  
(In thousands)

Functional Area	Prior Year CIP (FY 2015-2019)	Current Year CIP (FY 2016-2020)	% Change
Wastewater Treatment Facility Improvements	\$ 26,856	\$ 28,128	4.7%
Infrastructure Management	7,693	3,847	(50%)
CSO Phase II Facilities	61,512	13,555	(78%)
CSO Phase III Facilities	203,425	334,412	64.4%
Sewer System Improvements	-	651	100.0%
CSO Interceptor Inspection and Cleaning	2,500	2,500	0.0%
CSO Interceptor Repair and Construction	18,468	18,197	(1%)
<b>Total</b>	<b>\$ 320,454</b>	<b>\$ 401,289</b>	<b>25.2%</b>

For planning purposes, the programmed expenditures within each project are classified into cost categories. Cost categories include 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 architectural and engineering services related to planning or design. 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 following chart, Construction costs represent \$265 million, or approximately 66% of the total costs within the five-year period. Architectural and Engineering services represent approximately \$68.1 million or 17% of the costs during this same period.

**CIP Costs by Type of Activity**



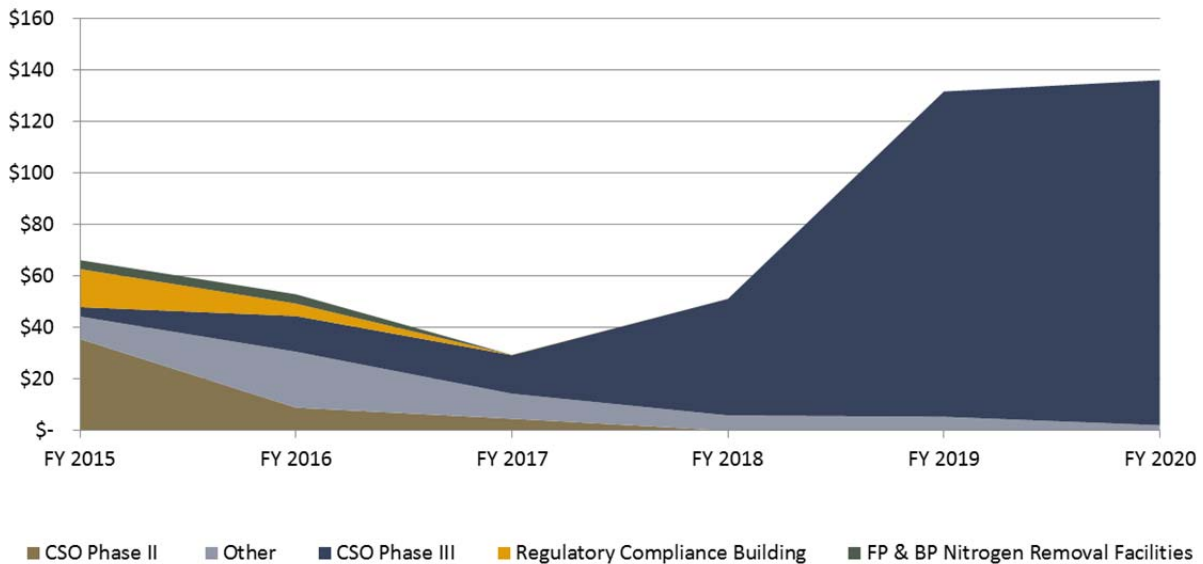
# Significant Capital Improvement Projects

This year’s CIP includes costs for five significant Capital Improvement Projects: construction of the CSO Phase II Facilities, Nutrient Removal Facilities at Field’s Point and Bucklin Point, the reevaluation, design and construction of the Phase III CSO Facilities, and the construction of the Regulatory Compliance Building. Costs for these five projects during the five-year period total \$356.5 million, or 89% of this year’s CIP. Construction of the Field’s Point Nutrient Removal Facilities is scheduled for completion in FY 2015 and the completion of the Bucklin Point Nitrogen Removal Facilities is scheduled for completion in FY 2017. Construction of the CSO Phase II Facilities is scheduled for completion in FY 2017. NBC’s investment in its Other infrastructure projects is anticipated to increase in FY 2016 as NBC completes infrastructure repairs and construction and level off in the near future as part of NBC’s commitment to maintain its facilities. The following table and graph show the programmed expenditures for NBC’s major projects and other smaller projects included in the current CIP window.

**Expenditures by Major Project**  
(In thousands)

Project	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2016 - FY 2020	Five-Year Window %
CSO Phase II Facilities	\$ 35,594	\$ 8,925	\$ 4,630	\$ -	\$ -	\$ -	\$ 13,555	3%
CSO Phase III Facilities	3,662	13,864	14,998	45,250	126,300	134,000	334,412	83%
Regulatory Compliance Building	14,770	4,828	90	-	-	-	4,918	1%
FP & BP Nitrogen Removal Facilities	3,478	3,628	-	-	-	-	3,628	1%
Other	8,701	21,701	9,701	5,915	5,374	2,086	44,777	11%
<b>Total</b>	<b>\$ 66,205</b>	<b>\$ 52,946</b>	<b>\$ 29,419</b>	<b>\$ 51,164</b>	<b>\$ 131,674</b>	<b>\$ 136,086</b>	<b>\$ 401,289</b>	<b>100%</b>

**Expenditures by Major Project**  
(In Millions)



## Project 303 - CSO Phase II Facilities

The CSO Phase II Facilities are the second phase of the three phase federally mandated CSO Abatement Program. NBC continues with the facilities construction in accordance with the schedule set forth in the Consent Agreement between NBC and RIDEM.

This project was separated into fourteen construction contracts based upon the tasks to be completed. Phase II includes four sewer separation projects on the East Side of Providence which will separate the sanitary flow from the stormwater flow. As part of this project, catch basins and storm drains will be constructed and downspouts will be disconnected to eliminate stormwater from entering the sanitary sewer system. A wetlands treatment facility will be constructed in Central Falls and will consist of a storage tank and created wetlands. For small storms, the combined sewer flows will be stored in the tank until after the storm when they will be pumped to the collection system. For larger storms, treatment will be provided by the wetland.

The most significant components of the Phase II Facilities are the construction of two interceptors in the Field's Point Service Area. The Seekonk Interceptor will run approximately 8,000 feet along the Seekonk River and the Woonasquatucket Interceptor will run approximately 18,200 feet along the Woonasquatucket River. These projects began in FY 2012 and are scheduled to be complete in FY 2016 and FY 2017 respectively. The interceptors will eliminate discharge from approximately ten outfalls (OFs) for most storms, and convey the flows to the CSO Tunnel constructed in Phase I.

Currently, construction is approximately 82% complete and estimated at \$196.2 million. The construction costs for FY 2016-2020 are approximately \$13.6 million, or 3% of the total costs included in the five-year window.

Contract #	Project Name	Estimated/Actual Cost (In Thousands)	Percentage Complete
<b>Contracts Completed:</b>			
30309C	WCSOI Regulator	\$ 942	100%
30313C	WCSOI Site Demo	122	100%
<i>Subtotal - Contracts Completed</i>		1,063	100%
<b>Contracts In-Process:</b>			
30301RS	Program and Construction Management	\$ 19,932	78%
30302C	OF 106 Facilities	5,827	70%
30303C	WCSOI Main	78,448	70%
30304C	SCSOI Main	23,306	63%
30305C	OF027 Sewer Separations	12,390	99%
30306C	OF 037 West	10,919	91%
30307C	Sewer Separation/Flow Modification OF-037 South	11,490	38%
30308C	Sewer Separation/Flow Modification OF-037 North	10,835	63%
30310C	Woonasquatucket CSO Interceptor- North	9,277	99%
30311C	Woonasquatucket CSO Interceptor- West	10,259	99%
30312C	SCSOI Regulator	736	99%
30314C	WCSOI OF 054	2,825	99%
<i>Subtotal - Contracts In-Progress</i>		196,244	81%
<b>Total - CSO Phase II Facilities</b>		\$ 197,307	82%

## Project 308 - CSO Phase III Facilities

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. This phase includes the construction of a 13,000 foot long tunnel in Pawtucket along the Seekonk and Blackstone Rivers (shown in yellow). This tunnel will store flows from three CSO Interceptors totaling approximately 14,500 feet in length and two sewer separation projects. Flows from this tunnel will be conveyed to NBC's Bucklin Point WWTF for treatment.

In January 2014, NBC initiated the design of Phase III with a reevaluation of the proposed CSO Phase III program. The reevaluation will determine the level of improvement in water quality as a result of the work completed in the first two phases and investigate the most cost effective approach for Phase III. The reevaluation is scheduled to be completed by December 2014. Design of the recommended facilities will begin after the reevaluation is complete and represents approximately \$34.4 million in this year's CIP window while pre-design cost estimates for construction represent approximately 75% or \$300 million. The total pre-design estimate for Phase III totals \$604.7 million.



*Photo: Highlighted route of CSO Phase III*

## Nitrogen Removal at Field's Point and Bucklin Point

In accordance with terms of the Consent Agreement between NBC and RIDEM, NBC is required to attain a seasonal total nitrogen limit of 5 mg/l from May to October at the Field's Point and Bucklin Point WWTF's.

### Field's Point

The construction cost estimate for the Field's Point nitrogen removal facilities and related upgrades (Project 109) is \$63 million. The project was funded with \$57.7 million in financing through the Federal American Recovery and Reinvestment Act (ARRA). The ARRA program, administered through the RICWFA, included a "principal forgiveness" component of approximately 15% or \$8.6 million in addition to the traditional interest rate subsidy. Construction of the nitrogen removal facilities has been declared substantially complete with testing conducted during the last year. The facilities were transferred to NBC for operation effective May 31, 2013.

### Bucklin Point

In FY 2012, NBC began the process of upgrading existing and constructing new Biological Nutrient Removal (BNR) facilities in order to achieve the required permit nitrogen limit. The construction cost estimate for the Bucklin Point nitrogen removal facilities and related upgrades (Project 809) is \$43 million and is approximately 91% complete. The plant is required to meet the RIDEM permit limit of 5mg/l in July 2014.

The existing two stage aeration tanks are being reconfigured into a four stage process with one additional anoxic zone and one additional aerobic zone in order to provide improved nitrogen removal and attain the permit nitrogen limit. Ceramic disks in each aeration tank were removed and replaced with membrane disks. The

existing diffuser lines were reset, and new saddle supports and air piping were installed to allow the necessary aeration for nitrogen removal.

Existing facilities are being modified to accommodate new equipment and technology. A number of mechanical improvements have been made throughout the facility, including modifications to the electrical distribution system, new electrical control panels and new air piping for the blowers. Ductwork and installation of plumbing, piping and HVAC were completed. New fire alarms and gas detectors were installed, along with odor control, new valves and new sump pumps.

Final clarifiers were redesigned to allow for the installation of center columns for new collector arms and scum baffles. Chamber walls received concrete extensions, new weir walls and were fabricated with new walkways and electrical conduit. The sludge collection drums were modified due to incorrect factory fabrication, while the retention tank mixers were removed to allow for the installation of new conduit for the polymer mixers. Construction is scheduled for completion in FY 2016.

## **Renewable Energy**

A renewable energy source is one which is continuously created. Renewable energy sources minimize greenhouse gases and allow future generations to meet their energy needs. NBC currently has two projects that meet these criteria, one of which is a new solar panel project at Bucklin Point.

### **Bucklin Point Solar Energy**

The NBC is currently investigating the feasibility of installing a 2,000 kW photo-voltaic solar energy cells at the Bucklin Point WWTF. Photovoltaic solar energy cells have semiconductors which are capable of converting sunlight directly into electrical energy. Solar photovoltaic energy is clean, reliable, and economical. Modern solar panels, if well maintained, can continue to produce energy for more than 25 years. This solar energy system operating in conjunction with the planned biogas Combined Heat and Power Project are estimated to provide more than 40% of Bucklin Point's annual energy needs from on-site generated renewable energy.



*Photo: Example of Photovoltaic Solar Energy Cells*

The proposed solar energy system would cover approximately 8.8 acres at Bucklin Point and is estimated to generate as much as 2.27 million kWh of clean renewable electricity annually or approximately 15.9% of Bucklin Point's electrical energy needs.

### **Bucklin Point Wastewater Treatment Facility Biogas Reuse**

At Bucklin Point, NBC uses a process called anaerobic digestion to treat and stabilize biosolids from the wastewater treatment process. The biosolids are placed in large heated digester tanks and biologically decompose in the absence of oxygen, generating a methane rich biogas byproduct.

NBC currently uses about 50% of this biogas in an on-site heat exchanger to supply heat to the anaerobic digestion tanks. The remaining biogas is flared as waste. Using a combined heat and power system, NBC will burn all the biogas in a reciprocating engine to generate both electricity and heat energy for use within the



wastewater treatment facility. This process will reduce NBC’s dependency on fossil fuel generated electricity and will reduce NBC’s carbon footprint through the efficient use of this readily available renewable fuel. Currently, the NBC is in the final design phase for this project which began in FY 2014. Estimated construction costs are approximately \$5.6 million.

## Collection System Infrastructure



*Photo: Inverting of interceptor lining*

This CIP includes projects that demonstrate NBC’s continued commitment to maintain NBC’s infrastructure and collection system. Through this initiative, NBC is able to program its capital expenditures in an efficient manner. These projects allow NBC to protect its infrastructure, maximize flow capacity, and provide for the health and safety of the public. In this year’s CIP, NBC allocates \$1.5 million annually for interceptor construction and repairs and \$500 thousand annually to interceptor inspection and cleaning in years that do not have specific projects identified. As improvement projects are identified through the inspection process they are funded from the annual allocation.

## Capital Improvement Program Changes

### Completed Projects

NBC completed nine capital projects in FY 2014 at a total cost of \$25.8 million. Of the nine completed projects 28% of the expenditures are related to the design phases of various projects. The largest completed design contract was Project 80900D BPWWTF Nitrogen Removal Facilities at 13% or \$3.4 million. The remaining 72%, were construction related, with the largest completed contract, Project 12100C FPWWTF Wind Turbines, at 57% or \$14.8 million. The following table shows all completed project costs.

Project Number	Project Name	Total Cost (In thousands)	
80900D	BPWWTF Nitrogen Removal Facilities - Design	\$ 3,377	13%
11900D	Regulatory Compliance Building - Design	3,001	12%
30600D	Floatables Control Facilities - Design	473	2%
12000D	BPWWTF - Biogas Reuse - Design	470	2%
<b>Subtotal</b>		<b>7,321</b>	<b>28%</b>
12100C	FPWWTF Wind Turbines	\$ 14,757	57%
30455C	Improvements to Interceptors FY 2012	1,672	6%
12600C	FPWWTF Land Acquisition/Site Demolition	955	4%
30309C	Phase II WCSOI Regulator	942	4%
30313C	Phase II CSO WCSOI Site Demo	122	0%
<b>Subtotal</b>		<b>18,448</b>	<b>72%</b>
<b>Completed Project Total</b>		<b>\$ 25,769</b>	<b>100%</b>

## New Projects

This year's CIP identifies thirteen new capital projects at a cost of \$13.8 million.

Project 12700 involves the design and construction of the main electrical substation replacement at the FPWWTF which upon inspection revealed it to be in poor condition from corrosion. The feasibility of installing a 2 MW solar array at the BPWWTF will be investigated under Project 12800. Project 12900 includes the planning, design, and construction of modifications to the vacated Laboratory Building and sections of the old Operations Building once the new Regulatory Compliance Building has been constructed and Laboratory and EMDA sections relocated. Project 81000 involves the evaluation of the upgrades to the existing Ultraviolet Disinfection system at BPWWTF and to assess if newer technologies available are more efficient. Project 81100 includes the purchase and installation one final effluent pump and rehabilitation of three existing pumps at the BPWWTF. Project 81200 evaluates the BPWWTF outfall pipe, which is over 50 years old, to determine necessary improvements in order to withstand pressure generated during a 100 year storm.

Project Number	Project Name	Estimated Cost (In thousands)
12700D	FPWWTF Electrical Substation No. 1 - Design	\$ 51
12700C	FPWWTF Electrical Substation No. 2 - Construction	922
12800P	BPWWTF Solar Energy - Planning	55
12800D	BPWWTF Solar Energy - Design	166
12800C	BPWWTF Solar Energy - Construction	7,275
12900P	FPWWTF- Operations and Lab Building Reuse - Planning	72
12900D	FPWWTF- Operations and Lab Building Reuse - Design	155
12900C	FPWWTF- Operations and Lab Building Reuse - Construction	952
1140300	Green House Gas Study	405
40100P	NBC Facility Electrical Improvements- Planning	131
40200D	NBC System-Wide Inflow Reduction-Design	331
40200C	NBC System-Wide Inflow Reduction-Construction	549
40300P	Municipal Lateral Sewer Acquisition Impact	296
70800P	Omega Pump Station Improvements - Planning	61
70800D	Omega Pump Station Improvements - Design	93
70800C	Omega Pump Station Improvements - Construction	615
81000P	BPWWTF - UV Disinfection Improvements	40
81100C	BPWWTF - Effluent Pumps Rehabilitation	395
81200P	BPWWTF - Outfall Improvements	66
30471M	Off Allens Ave 78" Interceptor Cleaning & Inspection	517
30459C	Improvements to Interceptors FY 2015	658
<b>Total</b>		<b>\$ 13,805</b>

The Project 40100 gauges the safety of the existing electrical facilities at the FPWWTF and the evaluation improvements to the electrical facilities at other NBC locations. Project 40200 includes the evaluation, design and construction of facilities to eliminate sources of inflow in the separated sewer service areas since the NBC sewer system is susceptible to inflow from various sources and these sewers were not designed to accept this flow. Project 40300 is contingent upon legislation being passed by the General Assembly. The legislation would require NBC to conduct an evaluation of the impacts of the acquisition of municipal lateral sewers from NBC member communities. By measuring greenhouse gas emissions, Project 1140300 can help quantify NBC's carbon footprint should NBC face greenhouse gas regulatory requirements. Project 70800 is the evaluation and replacement of several pieces of necessary equipment at the Omega Pump Station as they are obsolete or no longer functioning. Under Project 30459, 4,100 linear feet of sewer pipe will be lined and numerous spot repairs will be conducted to various streets in Providence. Inspection of the 78" interceptor located downstream of the



## Capital Improvement Program Funding

NBC recognizes the importance of planning for capital expenditures in the context of overall financial management. NBC is committed to obtaining the lowest cost of financing in order to minimize ratepayer impact, while ensuring compliance with regulatory constraints. NBC is authorized to issue debt to finance its CIP and uses a Long-Term Financial Model to identify capital funding needs and sources and to project debt issuance.

NBC maximizes its borrowing from the Rhode Island Clean Water Finance Agency (RICWFA) to the extent that there are loans available. The RICWFA, through the State Revolving Fund Program (SRF), provides interest rate subsidies on loans for eligible projects. However, RICWFA does not have sufficient capacity to meet all the NBC's needs.

Other factors that must be considered include:

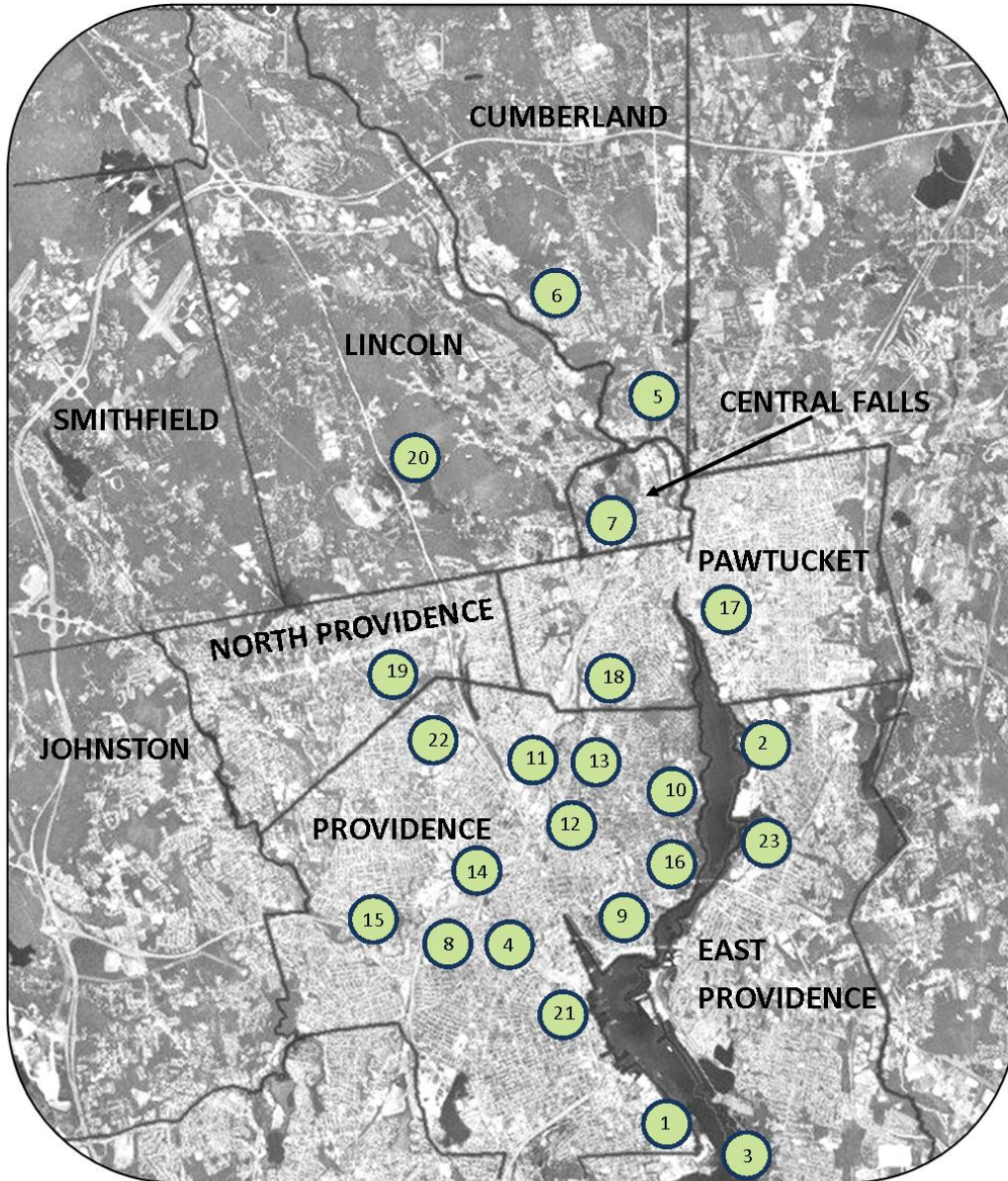
- NBC is regulated by the Rhode Island Public Utilities Commission (PUC) and the PUC has restricted the use of the prior year debt service coverage allowance to fund only operating capital and capital projects, as well as the Reserve for Revenue Stability Fund.
- NBC must take into consideration arbitrage expenditure requirements to avoid financial penalties.
- There are restrictions on the types of expenditures that may be financed through SRF. For example, land may not be financed through SRF, and only projects that have been approved by RIDEM and are reachable on the RIDEM's project priority list are eligible for SRF funding.
- NBC must also expend and manage its resources in accordance with NBC's Trust Indenture and Twenty Supplemental Indentures.

# 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 23 project locations as identified in the key below. Some projects are System Wide and noted as SW.

Legend Key	Project Number	Project Name
<b>Wastewater Treatment Facility Improvements</b>		
1	10901	FPWWTF - Nitrogen Removal Facilities
1	11602	FPWWTF Tunnel Pump Station Improvements
1	11900	Regulatory Compliance Building
2	12000	BPWWTF - Biogas Reuse
1	12400	NBC IM Facilities
1	12500	Utility Reliability Enhancement for the Field's Point Campus
1	12700	FPWWTF Electrical Substation No. 1
2	12800	BPWWTF Solar Energy
1	12900	FPWWTF Operations and Lab Building Reuse
2	80900	BPWWTF - Nitrogen Removal Facilities
2	81000	BPWWTF UV Disinfection Improvements
2	81100	BPWWTF Effluent Pumps Rehabilitation
2	81200	Outfall Improvements
<b>Infrastructure Management</b>		
3	1100000	Site Specific Study
3	1140100	River Model Development
3	1140200	Receiving Water Compliance Study
3	1140300	Green House Gas Study
4	30221	Hydraulic Systems Modeling
5	30438	Interceptor Easements - Construction
SW	30500	NBC Interceptor Easements
6	30501	Interceptor Easements - NBC BVI
SW	30700	NBC System-Wide Facilities Planning
1	40100	NBC Facility Electrical Improvements
10,11,12,13	40200	NBC System-Wide Inflow Reduction
SW	40300	Municipal Sewer Acquisition Impact
<b>Phase II CSO Facilities</b>		
7	30302C	Phase II CSO Facilities - OF 106
8	30303C	Phase II CSO Facilities - WCSOI Main
9	30404C	Phase II CSO Facilities - SCSOI Main
10	30305C	Phase II CSO Facilities - OF 027
11	30306C	Phase II CSO Facilities - OF 037 West
12	30307C	Phase II CSO Facilities - OF 037 South
13	30308C	Phase II CSO Facilities - OF 037 North
14	30310C	Phase II CSO Facilities - WCSOI North
15	30311C	Phase II CSO Facilities - WCSOI West
16	30312C	Phase II CSO Facilities - SCSOI Regulator
15	30314C	Phase II CSO Facilities - WCSOI OF 054
<b>Phase III CSO Facilities</b>		
17	30800	Phase III CSO Facilities
<b>Floatables Control Facilities</b>		
18	30600	Floatables Control Facilities
<b>Sewer System Improvements</b>		
23	70800	Omega Pump Station Improvements
<b>CSO Interceptor Inspection and Cleaning</b>		
19	30470M	North Providence Interceptor Inspection
21	30471M	Off Allens Ave 78" Interceptor Cleaning and Inspection
<b>CSO Interceptor Repair and Construction</b>		
20	30421	Louisquisset Pike Interceptor Replacement
7	30444	Moshassuck Valley Interceptor
10	30456C	NBC Interceptor Lining at Butler Hospital
21	30457C	Providence River Siphon Replacement
22	30458C	Douglas/Branch Avenue Interceptor Relief
SW	30459C	Improvements to Interceptors FY 2015

# CAPITAL IMPROVEMENT PROGRAM PROJECT LOCATIONS



## Impact of the CIP on the Operating Budget

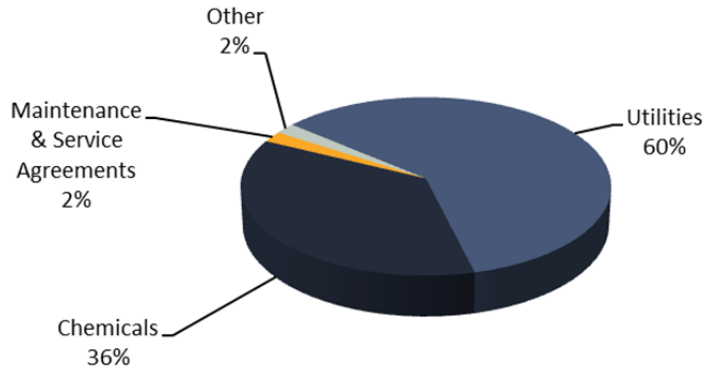
The primary impact of the CIP on the Operating Budget is the payment of debt service in the form of principal and interest on the borrowings executed to finance the CIP. The debt service and user fee projections associated with financing this CIP are identified in the Long-Term Debt Overview section of the Operating Budget. Although the CIP's primary impact on the Operating Budget is debt service, certain capital improvements will also directly impact operating costs. These expenditures relate to the operation of the completed capital improvements and are incorporated into the operating budget. In this CIP, NBC's engineers have identified seven capital projects that will impact NBC's operating budget once they become operational. The following table provides a summary of operational costs by capital project of the current fiscal year and the CIP window.

### CIP Impact on Operating Budget (In thousands)

Project Name	Expenditure Type	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FPWWTF Nitrogen Removal Facilities							
	Utilities	\$ 651	\$ 670	\$ 691	\$ 711	\$ 733	\$ 755
	Chemicals	240	247	254	262	270	278
	Screenings & Grit Disposal	2	2	2	2	2	2
	Water	2	2	2	2	3	3
	<b>Subtotal</b>	<b>895</b>	<b>922</b>	<b>949</b>	<b>978</b>	<b>1,007</b>	<b>1,037</b>
Regulatory Compliance Building							
	Utilities	-	84	86	89	91	94
	<b>Subtotal</b>	<b>-</b>	<b>84</b>	<b>86</b>	<b>89</b>	<b>91</b>	<b>94</b>
BPWWTF Biogas Reuse							
	Maintenance & Service Agreements	-	-	165	170	175	180
	Utilities	-	-	(435)	(448)	(461)	(475)
	<b>Subtotal</b>	<b>-</b>	<b>-</b>	<b>(270)</b>	<b>(278)</b>	<b>(286)</b>	<b>(295)</b>
BPWWTF Solar Energy							
	Utilities	(249)	(249)	(249)	(249)	(249)	(249)
	Maintenance & Service Agreements	16	16	16	16	16	16
	<b>Subtotal</b>	<b>(233)</b>	<b>(233)</b>	<b>(233)</b>	<b>(233)</b>	<b>(233)</b>	<b>(233)</b>
CSO Phase II Facilities							
	Utilities	16	31	34	37	40	43
	Labor	1	1	1	1	1	1
	Chemicals	39	39	39	39	39	39
	Maintenance & Service Agreements	3	3	3	3	3	3
	Other	6	6	6	6	6	6
	<b>Subtotal</b>	<b>64</b>	<b>80</b>	<b>83</b>	<b>86</b>	<b>89</b>	<b>92</b>
Floatable Control Facilities							
	Screenings & Grit Disposal	1	1	1	1	1	1
	Labor	6	6	7	7	8	8
	Other	12	13	13	13	14	14
	<b>Subtotal</b>	<b>19</b>	<b>20</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>
BPWWTF Nitrogen Removal Facilities							
	Utilities	150	154	159	164	169	174
	Chemicals	63	65	67	69	71	73
	<b>Subtotal</b>	<b>213</b>	<b>219</b>	<b>226</b>	<b>233</b>	<b>240</b>	<b>247</b>
<b>Total</b>		<b>\$ 958</b>	<b>\$ 1,091</b>	<b>\$ 862</b>	<b>\$ 896</b>	<b>\$ 931</b>	<b>\$ 967</b>

The following graph shows the percentage of CIP impact by element of operating expense for FY 2015. The majority, or 60%, is related to Utilities for the Fields Point and Bucklin Point Nitrogen Removal Facilities. Increased Chemical costs represent 36% of the expense mainly from the Fields Point Nitrogen Removal Facilities. Maintenance and Service Agreements and Other comprise the remaining 4% of the costs.

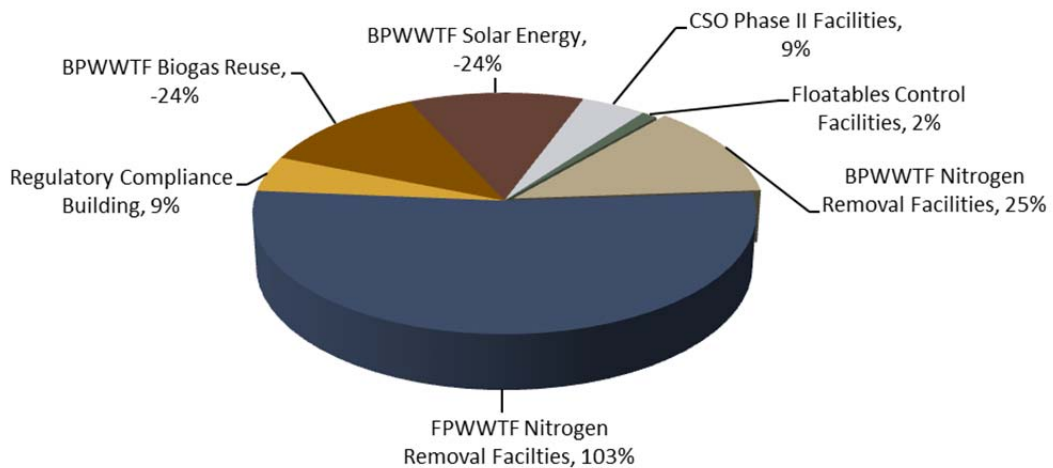
### FY 2015 CIP Impact by Element of Operating Expense



Operational impacts for FY 2016-2020 are for chemicals, utilities, labor, maintenance & service agreements and screening and grit disposal. The chart below shows the percentage of operating costs by project during FY 2016-2020. The majority is for the FPWWTF Nitrogen Removal Facilities which includes chemical costs and increased electricity usage. The BPWWTF Biogas Reuse and BPWWTF Solar Energy projects will generate energy that will result in cost savings once the facilities are complete. Finally, there are minor impacts related to the CSO Phase II Facilities which include labor and maintenance for the new facilities.

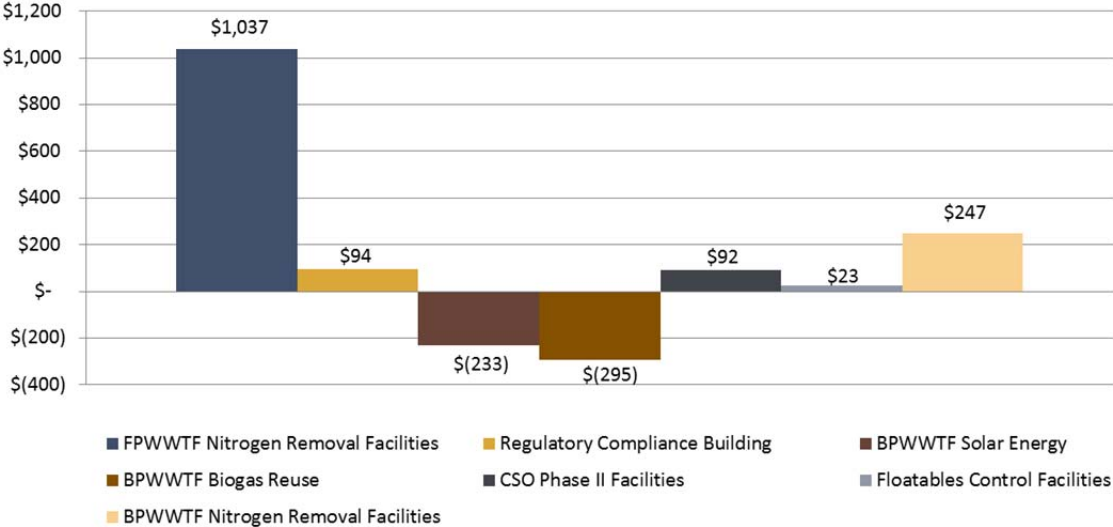
### CIP Impact on Operating Budget

(In thousands)



In order to assess the impact of the operational costs for these facilities, the costs have been calculated as a percentage of the projected operating budget. In FY 2020, the operating cost of the completed facilities is \$967 thousand, or 2.4% of the operating budget. The majority of this increase is related to the Nitrogen Removal Facilities which will be offset as a result of the positive impacts of NBC’s renewable energy projects. The following graph illustrates the cost impact by project.

**FY 2020 CIP Impact by Project**  
(In thousands)





## Capital Project Summary by Fiscal Year

(In Thousands)

Project Name	Project Priority	Pre-Fiscal Year 2015	Fiscal Year 2015	Fiscal Years 2016-2020	Post-Fiscal Year 2020	Total Estimated Project Cost	
<b>Wastewater Treatment Facility Improvements</b>							
10901C	FPWWTF - Nitrogen Removal Facilities - Construction	A	\$ 62,213	\$ 476	\$ -	\$ -	\$ 62,689
11602D	FPWWTF Tunnel Pump Station Improvements - Design	B	23	45	-	-	68
11602C	FPWWTF Tunnel Pump Station Improvements - Construction	B	-	613	50	-	663
11900C	Regulatory Compliance Building Construction	A	1,114	14,770	4,918	-	20,801
12000C	BPWWTF - Biogas Reuse - Construction	C	2	1,184	4,431	-	5,617
12400D	New IM Facilities - Design	C	-	321	236	-	557
12400C	New IM Facilities - Construction	C	-	-	6,052	-	6,052
12500C	Utility Reliability Enhancement for FP Campus	B	652	51	-	-	703
12700D	FPWWTF Electrical Substation No. 1 - Design	B	48	3	-	-	51
12700C	FPWWTF Electrical Substation No. 1 - Construction	B	-	922	-	-	922
12800P	BPWWTF Solar Energy - Planning	C	35	20	-	-	55
12800D	BPWWTF Solar Energy - Design	C	-	166	-	-	166
12800C	BPWWTF Solar Energy - Construction	C	-	-	7,275	-	7,275
12900P	FPWWTF- Operations and Lab Building Reuse - Planning	C	-	72	-	-	72
12900D	FPWWTF- Operations and Lab Building Reuse - Design	C	-	-	155	-	155
12900C	FPWWTF- Operations and Lab Building Reuse - Construction	C	-	-	952	-	952
80900C	BPWWTF - Nitrogen Removal Facilities - Construction	A	36,117	3,002	3,628	-	42,747
81000P	BPWWTF - UV Disinfection Improvements - Planning	C	-	40	-	-	40
81000D	BPWWTF - UV Disinfection Improvements - Design	C	-	8	241	-	249
81100C	BPWWTF - Effluent Pumps Rehabilitation	A	-	231	164	-	395
81200P	BPWWTF - Outfall Improvements	B	-	40	26	-	66
<b>Subtotal - Wastewater Treatment Facility Improvements</b>			<b>\$ 100,204</b>	<b>\$ 21,964</b>	<b>\$ 28,128</b>	<b>\$ -</b>	<b>\$ 150,295</b>
<b>Infrastructure Management</b>							
1100000	Site Specific Study	A	\$ 211	\$ 245	\$ -	\$ -	\$ 456
1140100	River Model Development	C	398	40	30	-	468
1140200	Receiving Water Compliance Study	B	-	75	225	-	300
1140300	Green House Gas Study	C	-	287	118	-	405
30221D	Hydraulic Systems Modeling - Design	C	268	20	-	-	288
30438D	Interceptor Easements - Design	A	756	42	-	-	798
30438C	Interceptor Easements - Construction	A	-	585	25	-	610
30500D	NBC Interceptor Easements - Design	B	-	-	722	-	722
30500C	NBC Interceptor Easements - Construction	B	-	-	632	-	632
30501D	Interceptor Easements - NBC BVI Design	A	278	219	-	-	498
30501C	Interceptor Easements - NBC BVI Construction	A	-	2	728	-	730
30700	NBC System-wide Facilities Planning	C	-	60	451	-	511
40100P	NBC Facility Electrical Improvements- Planning	B	-	51	80	-	131
40200D	NBC System-Wide Inflow Reduction-Design	A	-	44	288	-	332
40200C	NBC System-Wide Inflow Reduction-Construction	A	-	-	549	-	549
40300P	Municipal Lateral Sewer Acquisition Impact	A	-	296	-	-	296
<b>Subtotal - Infrastructure Management</b>			<b>\$ 1,911</b>	<b>\$ 1,966</b>	<b>\$ 3,847</b>	<b>\$ -</b>	<b>\$ 7,724</b>
<b>Phase II CSO Facilities</b>							
30301D	Phase II CSO Facilities - Design	A	\$ 18,501	\$ 216	\$ -	\$ -	\$ 18,717
30301RS	Phase II CSO Facilities - Program & Construction Management	A	15,660	3,450	822	-	19,932
30302C	Phase II CSO Facilities - OF 106	A	4,802	1,024	-	-	5,826
30303C	Phase II CSO Facilities - WCSOI Main	A	58,631	14,226	5,590	-	78,448
30304C	Phase II CSO Facilities - SCSOI Main	A	15,634	3,808	3,864	-	23,306
30305C	Phase II CSO Facilities - OF 027	A	12,264	125	-	-	12,389
30306C	Phase II CSO Facilities - OF 037 West	A	10,110	809	-	-	10,919
30307C	Phase II CSO Facilities - OF 037 South	A	4,466	5,250	1,773	-	11,490
30308C	Phase II CSO Facilities - OF 037 North	A	6,314	3,017	1,504	-	10,835
30310C	Phase II CSO Facilities - WCSOI North	A	6,248	3,029	-	-	9,276
30311C	Phase II CSO Facilities - WCSOI West	A	10,209	50	-	-	10,259
30312C	Phase II CSO Facilities - SCSOI Regulator	A	659	77	-	-	736
30314C	Phase II CSO Facilities - WCSOI of 054	A	2,310	515	-	-	2,825
<b>Subtotal - Phase II CSO Facilities</b>			<b>\$ 165,807</b>	<b>\$ 35,594</b>	<b>\$ 13,555</b>	<b>\$ -</b>	<b>\$ 214,956</b>



## Capital Project Summary by Fiscal Year

(In Thousands)

Project Name	Project Priority	Pre-Fiscal Year 2015	Fiscal Year 2015	Fiscal Years 2016-2020	Post-Fiscal Year 2020	Total Estimated Project Cost
<b>Phase III CSO Facilities</b>						
30800D Phase III CSO Facilities - Design	A	\$ 658	\$ 3,662	\$ 34,387	\$ -	\$ 38,706
30800C Phase III CSO Facilities - Construction	A	-	-	300,025	265,925	565,950
<b>Subtotal - Phase III CSO Facilities</b>		<b>\$ 658</b>	<b>\$ 3,662</b>	<b>\$ 334,412</b>	<b>\$ 265,925</b>	<b>\$ 604,656</b>
<b>Floatables Control Facilities</b>						
30600C Floatables Control Facilities - Construction	A	4,679	324	-	-	5,003
<b>Subtotal - Floatables Control Facilities</b>		<b>\$ 4,679</b>	<b>\$ 324</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,003</b>
<b>Sewer System Improvements</b>						
70800P Omega Pump Station Improvements - Planning	C	\$ -	\$ 61	\$ -	\$ -	61
70800D Omega Pump Station Improvements - Design	C	-	57	36	-	93
70800C Omega Pump Station Improvements - Construction	C	-	-	615	-	615
<b>Subtotal - Sewer System Improvements</b>		<b>\$ -</b>	<b>\$ 118</b>	<b>\$ 651</b>	<b>\$ -</b>	<b>\$ 769</b>
<b>CSO Interceptor Inspection &amp; Cleaning</b>						
30400M Inspection and Cleaning of CSO Interceptors	B	\$ -	\$ -	\$ 2,500	\$ 500	\$ 3,000
30470M North Providence Interceptor Inspection	B	32	48	-	-	80
30471M Off Allens Ave 78" Interceptor Cleaning & Inspection	B	2	515	-	-	517
<b>Subtotal - CSO Interceptor Inspection &amp; Cleaning</b>		<b>\$ 34</b>	<b>\$ 563</b>	<b>\$ 2,500</b>	<b>\$ 500</b>	<b>\$ 3,597</b>
<b>CSO Interceptor Repair &amp; Construction</b>						
30400C Repair and Construction of CSO Interceptors	B	\$ -	\$ -	\$ 153	\$ 1,500	\$ 1,653
30421C Louississet Pike Interceptor Replacement - Construction	C	-	-	2,382	-	2,382
30444D Moshassuck Valley Interceptor - Design	C	332	54	-	-	385
30444C Moshassuck Valley Interceptor - Construction	C	-	1,077	2,296	-	3,373
30456C NBC Interceptor Lining at Butler Hospital	B	341	4	-	-	345
30457P Providence River Siphon Replacement - Planning	B	101	88	-	-	189
30457D Providence River Siphon Replacement - Design	B	-	150	672	-	822
30457C Providence River Siphon Replacement - Construction	B	-	-	5,853	-	5,853
30458P Douglas/Branch Avenue Interceptor Relief - Planning	B	5	4	71	-	80
30458D Douglas/Branch Avenue Interceptor Relief - Design	B	-	-	565	-	565
30458C Douglas/Branch Avenue Interceptor Relief - Construction	B	-	-	6,202	-	6,202
30459C Improvements to Interceptors FY 2015	B	17	638	3	-	658
<b>Subtotal - CSO Interceptor Repair &amp; Construction</b>		<b>\$ 795</b>	<b>\$ 2,014</b>	<b>\$ 18,197</b>	<b>\$ 1,500</b>	<b>\$ 22,506</b>
<b>Total Capital Improvement Program</b>		<b>\$ 274,089</b>	<b>\$ 66,205</b>	<b>\$ 401,289</b>	<b>\$ 267,925</b>	<b>\$ 1,009,508</b>

Priority	Description
A	Mandated, emergency or under construction, etc.
B	Not mandated but project is imperative to ongoing operation of facilities
C	Project is important but not critical to ongoing operations

# 10901

## FPWWTF - Nitrogen Removal Facilities

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

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

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	April-01	May-07	75 Months	\$872
Design	January-07	September-11	57 Months	4,895
Construction	March-09	February-15	73 Months	62,689
<b>Total Project</b>	<b>April-01</b>	<b>February-15</b>	<b>169 Months</b>	<b>\$68,456</b>



Photo: Inspecting Primary Clairifiers

The RIPDES permit for Field's Point requires a nitrogen limit of 5 mg/l from May to October starting in 2014. This project will modify the existing aeration basins to accommodate an Integrated Fixed Film Media process. The operational costs for the utility, chemical and maintenance costs associated with the operation of the new nitrogen removal facilities began in FY 2014.

### Projected Expenditures - 10901P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 392	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 392
A/E Professional	413	-	-	-	-	-	-	-	413
Other	67	-	-	-	-	-	-	-	67
<b>Total Project Costs</b>	<b>\$ 872</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 872</b>

### Projected Expenditures - 10901D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 427	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 427
Land	20	-	-	-	-	-	-	-	20
A/E Professional	4,396	-	-	-	-	-	-	-	4,396
Other	52	-	-	-	-	-	-	-	52
<b>Total Project Costs</b>	<b>\$ 4,895</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 4,895</b>

### Projected Expenditures - 10901C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 2,247	\$ 90	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,337
Land	-	-	-	-	-	-	-	-	-
A/E	3,844	386	-	-	-	-	-	-	4,230
Construction	56,027	-	-	-	-	-	-	-	56,027
Contingency	-	-	-	-	-	-	-	-	-
Other	95	-	-	-	-	-	-	-	95
<b>Total Project Costs</b>	<b>\$ 62,213</b>	<b>\$ 476</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 62,689</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	\$ 1,136	\$ 2,110	\$ 2,173	\$ 2,238	\$ 2,305	\$ 2,374	\$ 2,446	N/A	\$ 13,646

Note: Cash Flow Basis in Thousands

# 11602

## FPWWTF Tunnel Pump Station Improvements

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

Location: Field's Point Wastewater Treatment Facility, Providence, RI  
 Project Priority: B

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	April-14	August-14	3 Months	\$68
Construction	September-14	July-16	23 Months	663
<b>Total Project</b>	<b>April-14</b>	<b>July-16</b>	<b>26 Months</b>	<b>\$731</b>



Photo: Tunnel Pump Station Pump Room

This project involves improvements to the Tunnel Pump Station including the rehabilitation of the canopy roof which protects the pump station equipment from water damage. In addition, the ground water collection and conveyance system needs to be replaced.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 11602D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 3	\$ 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8
Land	-	-	-	-	-	-	-	-	-
A/E Professional	20	40	-	-	-	-	-	-	60
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ 23</b>	<b>\$ 45</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 68</b>

### Projected Expenditures - 11602C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 38	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 38
Land	-	-	-	-	-	-	-	-	-
A/E	-	25	-	-	-	-	-	-	25
Construction	-	500	-	-	-	-	-	-	500
Contingency	-	-	50	-	-	-	-	-	50
Other	-	50	-	-	-	-	-	-	50
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 613</b>	<b>\$ 50</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 663</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 11900

## NBC Regulatory Compliance Building and Related Upgrades

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

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

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	September-08	June-09	9 Months	\$415
Design	September-10	June-14	46 Months	3,001
Construction	June-13	October-16	41 Months	20,801
<b>Total Project</b>	<b>September-08</b>	<b>October-16</b>	<b>99 Months</b>	<b>\$24,217</b>



*Photo: An Architect's rendering of the proposed Regulatory Compliance Building*

This project is for the design and construction of a Regulatory Compliance Building, which will house the EMDA and Laboratory sections of the NBC. This project 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. This building is proposed to be 36,800 square feet and will be located on Service Road in Providence. This project also includes related site demolition.

### Projected Expenditures - 11900P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 206	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 206
A/E Professional	209	-	-	-	-	-	-	-	209
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ 415</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 415</b>

### Projected Expenditures - 11900D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 224	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 224
Land	1,247	-	-	-	-	-	-	-	1,247
A/E Professional	1,472	-	-	-	-	-	-	-	1,472
Other	58	-	-	-	-	-	-	-	58
<b>Total Project Costs</b>	<b>\$ 3,001</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 3,001</b>

### Projected Expenditures - 11900C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 104	\$ 310	\$ 149	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 563
Land	-	-	-	-	-	-	-	-	-
A/E Professional	310	960	326	-	-	-	-	-	1,596
Construction	700	13,500	3,705	90	-	-	-	-	17,995
Contingency	-	-	638	-	-	-	-	-	638
Other	-	-	10	-	-	-	-	-	10
<b>Total Project Costs</b>	<b>\$ 1,114</b>	<b>\$ 14,770</b>	<b>\$ 4,828</b>	<b>\$ 90</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 20,801</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	\$ 84	\$ 86	\$ 89	\$ 91	\$ 94	N/A	\$ 444

Note: Cash Flow Basis in Thousands

# 12000

## BPWWTF Biogas Reuse

Project Manager: Kathryn Kelly, P.E.  
 Contractor(s): Brown & Caldwell

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

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	June-07	December-09	31 Months	\$46
Design	April-10	June-14	52 Months	470
Construction	September-14	April-16	19 Months	5,617
<b>Total Project</b>	<b>June-07</b>	<b>April-16</b>	<b>102 Months</b>	<b>\$6,133</b>



*Photo: Bucklin Point Boiler Stacks*

This projects consists of the construction of a reciprocating engine to use 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. This project is currently in the design phase which includes the design of a biogas pretreatment system, development of specifications for a generator and design of the interconnection with the existing electrical system.

### Projected Expenditures - 12000P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 22	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22
A/E Professional	23	-	-	-	-	-	-	-	23
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ 46</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 46</b>

### Projected Expenditures - 12000D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 95	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 95
Land	-	-	-	-	-	-	-	-	-
A/E Professional	342	-	-	-	-	-	-	-	342
Other	33	-	-	-	-	-	-	-	33
<b>Total Project Costs</b>	<b>\$ 470</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 470</b>

### Projected Expenditures - 12000C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 2	\$ 30	\$ 30	\$ 2	\$ -	\$ -	\$ -	\$ -	\$ 64
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	24	26	-	-	-	-	-	50
Construction	-	1,125	3,675	100	-	-	-	-	4,900
Contingency	-	-	588	-	-	-	-	-	588
Other	-	5	10	-	-	-	-	-	15
<b>Total Project Costs</b>	<b>\$ 2</b>	<b>\$ 1,184</b>	<b>\$ 4,329</b>	<b>\$ 102</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,617</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	\$ (270)	\$ (278)	\$ (286)	\$ (295)	N/A	\$ (1,129)

Note: Cash Flow Basis in Thousands

# 12400

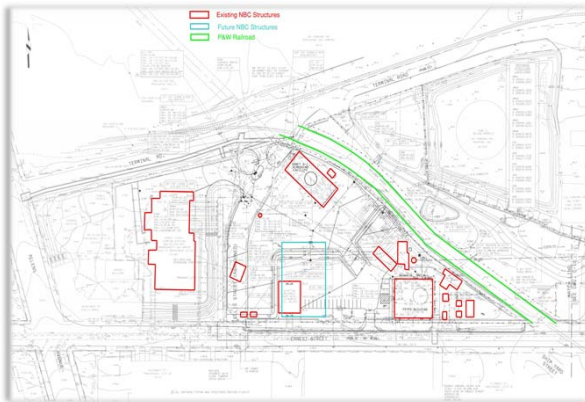
## New IM Facilities

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

Location: 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	February-14	December-15	22 Months	\$557
Construction	September-15	December-17	27 Months	6,052
<b>Total Project</b>	<b>February-14</b>	<b>December-17</b>	<b>47 Months</b>	<b>\$6,609</b>



This projects consists of the design and construction of a new building that would be needed if NBC is required by legislation to assume responsibility of system-wide laterals in addition to the larger interceptors. The building will include an administrative area along with a garage area and storage yard.

**Photo: Proposed Site for New IM Building**

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 12400D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 21	\$ 16	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 37
Land	-	-	-	-	-	-	-	-	-
A/E	-	300	200	-	-	-	-	-	500
Other	-	-	20	-	-	-	-	-	20
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 321</b>	<b>\$ 236</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 557</b>

### Projected Expenditures - 12400C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ 177	\$ 170	\$ 5	\$ -	\$ -	\$ -	\$ 352
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	30	20	-	-	-	-	50
Construction	-	-	2,200	2,750	50	-	-	-	5,000
Contingency	-	-	-	600	-	-	-	-	600
Other	-	-	-	50	-	-	-	-	50
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,407</b>	<b>\$ 3,590</b>	<b>\$ 55</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 6,052</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands



# 12500C

## Utility Reliability Enhancement for the Field's Point Campus

Project Manager: Rich Bernier, 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	N/A	N/A	N/A	N/A
Construction	April-13	December-14	21 Months	\$703
<b>Total Project</b>	<b>April-13</b>	<b>December-14</b>	<b>21 Months</b>	<b>\$703</b>



Photo: Utility work being performed on Service Road

Many of the utility poles within the Field's Point campus are very old and should they fail in a storm, critical NBC operations could be affected. The existing power lines and utility poles located along Service Road are poorly positioned in relation to the new NBC Administration Building and the site of the proposed Regulatory Compliance Building. It is critical that these buildings are powered by reliable utility infrastructure and this project involves the underground installation of the utilities.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 12500C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 46	\$ 25	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 71
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	207	2	-	-	-	-	-	-	208
Contingency	-	-	-	-	-	-	-	-	-
Other	400	24	-	-	-	-	-	-	424
<b>Total Project Costs</b>	<b>\$ 652</b>	<b>\$ 51</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 703</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands



# 12700

## FPWWTF Electrical Substation No. 1

Project Manager: Tom Brueckner  
 Contractor(s): N/A

Location: Providence, RI  
 Project Priority: B

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	December-13	July-14	7 Months	\$51
Construction	July-14	April-15	9 Months	\$920
<b>Total Project</b>	<b>December-13</b>	<b>April-15</b>	<b>16 Months</b>	<b>\$971</b>



*Photo: Field's Point Main Electrical Substation*

This substation is one of the main electrical substations at the Field's Point WWTF. A recent inspection of the substation revealed that it was in poor condition due to corrosion of terminals and the cabinets. Also, replacement parts are not readily available. This project is to design and construct a replacement of the substation.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 12700D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 16	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16
Land	-	-	-	-	-	-	-	-	-
A/E Professional	20	-	-	-	-	-	-	-	20
Other	12	3	-	-	-	-	-	-	15
<b>Total Project Costs</b>	<b>\$ 48</b>	<b>\$ 3</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 51</b>

### Projected Expenditures - 12700C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 22	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	20	-	-	-	-	-	-	20
Construction	-	800	-	-	-	-	-	-	800
Contingency	-	80	-	-	-	-	-	-	80
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 922</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 920</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 12800

## Bucklin Point Solar Engery

Project Manager: Jim McCaughey  
 Contractor: N/A

Location: Providence, RI  
 Project Priority: C

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	March-14	September-14	7 Months	\$55
Design	October-14	May-15	8 Months	\$166
Construction	July-15	December-15	6 Months	\$7,275
<b>Total Project</b>	<b>March-14</b>	<b>December-15</b>	<b>21 Months</b>	<b>\$7,496</b>



Photo: Solar Energy Panels

The NBC is investigating the feasibility of installing a 2 MW solar array at the Bucklin Point WWTF. This solar energy system will cover an approximate area of 8.8 acres over the closed Bucklin Point landfill and is estimated to generate about 2.27 million kWh of clean renewable electricity annually.

### Projected Expenditures - 12800P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 7	\$ 5	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12
A/E Professional	15	15	-	-	-	-	-	-	30
Other	13	-	-	-	-	-	-	-	13
<b>Total Project Costs</b>	<b>\$ 35</b>	<b>\$ 20</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 55</b>

### Projected Expenditures - 12800D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 51	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 51
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	100	-	-	-	-	-	-	100
Other	-	15	-	-	-	-	-	-	15
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 166</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 166</b>

### Projected Expenditures - 12800C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ 75	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 75
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	7,000	-	-	-	-	-	7,000
Contingency	-	-	200	-	-	-	-	-	200
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 7,275</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 7,275</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	\$ 16	\$ 16	\$ 16	\$ 16	\$ 16	\$ 16	N/A	\$ 96

Note: Cash Flow Basis in Thousands

# 12900

## FPWWTF Operations and Laboratory Building Reuse

Project Manager: Tom Brueckner  
 Contractor(s): N/A

Location: Providence, RI  
 Project Priority: C

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	September-14	June-15	9 Months	\$72
Design	September-15	June-16	9 Months	\$156
Construction	September-16	August-17	11 Months	\$952
<b>Total Project</b>	<b>September-14</b>	<b>August-17</b>	<b>29 Months</b>	<b>\$1,180</b>



*Photo: Existing Lab Building at FPWWTF*

When construction of the new Regulatory Compliance Building (RCB) is completed, the existing Laboratory Building will be vacated and the EMDA section will move to the RCB freeing up space in the old Operations Building and Laboratory. This project will be to evaluate the best use of the vacated space and to design modifications to those buildings to accommodate its intended use.

### Projected Expenditures - 12900P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 22	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22
A/E Professional	-	50	-	-	-	-	-	-	50
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 72</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 72</b>

### Projected Expenditures -12900D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ 30	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	100	-	-	-	-	-	100
Other	-	-	25	-	-	-	-	-	25
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 155</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 156</b>

### Projected Expenditures - 12900C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ 42	\$ 10	\$ -	\$ -	\$ -	\$ 52
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	40	10	-	-	-	50
Construction	-	-	-	580	170	-	-	-	750
Contingency	-	-	-	-	75	-	-	-	75
Other	-	-	-	25	-	-	-	-	25
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 687</b>	<b>\$ 265</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 952</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 80900

## BPWWTF Nitrogen Removal Facilities

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

Location: East Providence, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	July-07	September-09	26 Months	\$260
Design	April-10	October-13	43 Months	3,377
Construction	July-11	March-16	57 Months	42,747
<b>Total Project</b>	<b>July-07</b>	<b>March-16</b>	<b>106 Months</b>	<b>\$46,384</b>



*Photo: Aerial view of the BPWWTF*

NBC's facilities at Bucklin Point were designed and constructed to achieve a nitrogen level of 8 mg/l, but subsequent to the completion of construction, RIDEM established a new permit nitrogen level of 5 mg/l. NBC has begun construction of the new facilities and upgrades to the existing Biological Nutrient Removal (BNR) process to achieve the new permit nitrogen limits. This project involves the upgrade of the existing BNR process as well as rehabilitate other key treatment processes.

### Projected Expenditures - 80900P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 57	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	57
A/E Professional	203	-	-	-	-	-	-	-	203
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ 260</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 260</b>

### Projected Expenditures - 80900D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 292	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 292
Land	-	-	-	-	-	-	-	-	-
A/E Professional	3,034	-	-	-	-	-	-	-	3,034
Other	51	-	-	-	-	-	-	-	51
<b>Total Project Costs</b>	<b>\$ 3,377</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 3,377</b>

### Projected Expenditures - 80900C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 1,083	\$ 65	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,148
Land	-	-	-	-	-	-	-	-	-
A/E Professional	2,095	501	405	-	-	-	-	-	3,000
Construction	32,914	2,287	100	-	-	-	-	-	35,301
Contingency	-	-	3,123	-	-	-	-	-	3,123
Other	26	149	-	-	-	-	-	-	175
<b>Total Project Costs</b>	<b>\$ 36,117</b>	<b>\$ 3,002</b>	<b>\$ 3,628</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 42,747</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	\$ 213	\$ 219	\$ 226	\$ 233	\$ 240	\$ 247	N/A	\$ 1,378

Note: Cash Flow Basis in Thousands

# 81000P

## BPWWTF UV Disinfection Improvements

Project Manager: Tom Brueckner  
 Contractor(s): N/A

Location: Providence, RI  
 Project Priority: C

### Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	July-14	January-15	6 Months	\$40
Design	June-15	November-16	17 Months	249
Construction	N/A	N/A	N/A	N/A
<b>Total Project</b>	<b>July-14</b>	<b>November-16</b>	<b>28 Months</b>	<b>\$289</b>



Photo: UV System at BPWWTF

The Ultraviolet Disinfection system at Bucklin Point is nearing the end of its useful life. In addition, the medium pressure, high intensity lamps are expensive and less efficient than newer technologies. This project will evaluate the cost of a system replacement/upgrade to determine if the maintenance costs can be reduced in the interim through the use of alternate technology.

### Projected Expenditures - 81000P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 8	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	8
A/E Professional	-	30	-	-	-	-	-	-	30
Other	-	2	-	-	-	-	-	-	2
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 40</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 40</b>

### Projected Expenditures -Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 8	\$ 36	\$ 15	\$ -	\$ -	\$ -	\$ -	\$ 59
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	105	75	-	-	-	-	180
Other	-	-	5	5	-	-	-	-	10
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 8</b>	<b>\$ 146</b>	<b>\$ 95</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 249</b>

### Projected Expenditures - Construction

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 81100C

## BPWWTF Effluent Pumps Rehabilitation

Project Manager: Tom Brueckner  
 Contractor(s): N/A

Location: Providence  
 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	July-14	October-15	15 Months	\$395
<b>Total Project</b>	July-14	October-15	15 Months	<b>\$395</b>



Photo: BPWWTF Effluent Pumps

The three final effluent pumps at the Bucklin Point WWTF are ten years old and need to be rebuilt. This project includes the purchase and installation of one new pump and rebuilding three pumps.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 81100C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	231	101	-	-	-	-	-	332
Contingency	-	-	63	-	-	-	-	-	63
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 231</b>	<b>\$ 164</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 395</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands



# 81200

## BPWWTF Outfall Improvements

Project Manager: Tom Brueckner  
 Contractor(s): N/A

Location: Providence  
 Project Priority: B

### Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	October-14	October-15	12 Months	\$66
Design	N/A	N/A	N/A	N/A
Construction	N/A	N/A	N/A	N/A
<b>Total Project</b>	October-14	October-15	12 Months	<b>\$66</b>



Photo: BPWWTF Outfall

During reconstruction of the earthen berm at the Bucklin Point WWTF to bring it up to the 100 year design storm elevation, the design engineer indicated that the WWTF outfall pipe, which is over 50 years old, may not be able to withstand pressure on the pipe generated during the 100 year storm. This project involves the evaluation of the outfall pipe to determine if any improvements need to be made to the pipe and, if so, to recommend what the improvements should be.

### Projected Expenditures - 81200P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 40	\$ 26	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 66
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 40</b>	<b>\$ 26</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 66</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Construction

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands





# 1100000

## Site Specific Study

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

Location: Providence, RI  
Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	November-01	June-15	166 Months	\$456
Construction	N/A	N/A	N/A	N/A
<b>Total Project</b>	<b>November-01</b>	<b>June-15</b>	<b>166 Months</b>	<b>\$456</b>



Photo: The RV Monitor, NBC's sampling vessel

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.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 1100000

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 16	\$ 234	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 250
Land	-	-	-	-	-	-	-	-	-
A/E Professional	163	6	-	-	-	-	-	-	169
Other	33	5	-	-	-	-	-	-	38
<b>Total Project Costs</b>	<b>\$ 211</b>	<b>\$ 245</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 456</b>

### Projected Expenditures - Construction

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 1140100

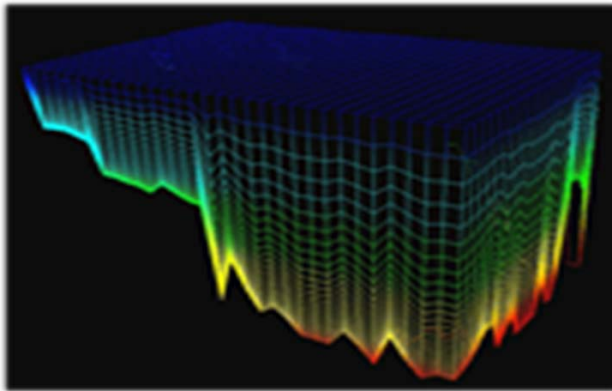
## River Model Development

Project Manager: Tom Uva  
 Contractor(s): University of RI, Graduate School of Oceanography

Location: Providence, RI  
 Project Priority: C

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	March-05	December-15	131 Months	\$468
Construction	N/A	N/A	N/A	N/A
<b>Total Project</b>	<b>March-05</b>	<b>December-15</b>	<b>131 Months</b>	<b>\$468</b>



*Photo: ROMS 3D grid boxes follow the shape of the coastline and represent the volume of Narragansett Bay*

NBC has partnered with the University of Rhode Island (URI) Graduate School of Oceanography (GSO) to develop a Regional Ocean Management System (ROMS) model of circulation and transport within the Providence and Seekonk Rivers and Upper Narragansett Bay. The first phase, which was model development, is complete. The second phase, which was to run the model under varying conditions and loadings to determine the impact of nitrogen loads on the receiving waters is also complete. Future work will be to use the model to determine the effectiveness of different alternatives on improving water quality.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 1140100

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 56	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 56
Land	-	-	-	-	-	-	-	-	-
A/E Professional	244	40	30	-	-	-	-	-	314
Other	98	-	-	-	-	-	-	-	98
<b>Total Project Costs</b>	<b>\$ 398</b>	<b>\$ 40</b>	<b>\$ 30</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 468</b>

### Projected Expenditures - Construction

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 1140200

## Receiving Water Compliance Study

Project Manager: Thomas Uva  
 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	January-15	December-16	24 Months	\$300
Construction	N/A	N/A	N/A	N/A
<b>Total Project</b>	<b>January-15</b>	<b>December-16</b>	<b>24 Months</b>	<b>\$300</b>

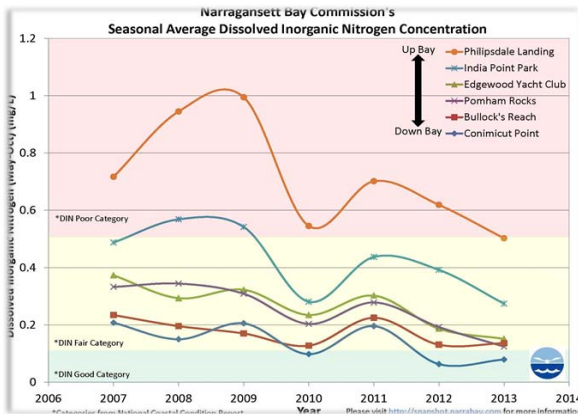


Photo: NBC Bay Nutrient Sampling Stations

Project 1140200 will 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.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -								
A/E Professional	-								
Other	-								
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 1140200

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 38	\$ 75	\$ 38	\$ -	\$ -	\$ -	\$ -	\$ 150
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	38	75	38	-	-	-	-	\$ 150
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 75</b>	<b>\$ 150</b>	<b>\$ 75</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 300</b>

### Projected Expenditures - Construction

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 1140300

## Green House Gas Study

Project Manager: Jim McCaughey  
 Contractor(s): N/A

Location: NBC Service Area  
 Project Priority: C

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	July-14	October-16	28 Months	\$405
Construction	N/A	N/A	N/A	N/A
<b>Total Project</b>	<b>July-14</b>	<b>October-16</b>	<b>28 Months</b>	<b>\$405</b>



Photo: Carbon Footprint Graphic

This project can help quantify NBC's overall carbon footprint by measuring greenhouse gas emissions from wastewater collection and treatment operations. NBC's Greenhouse Gas Study will position NBC favorably should it face additional/new regulatory requirements related to green house gas emissions.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 1140300

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 45	\$ 45	\$ 15	\$ -	\$ -	\$ -	\$ -	\$ 105
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	42	42	16	-	-	-	-	100
Other	-	200	-	-	-	-	-	-	200
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 287</b>	<b>\$ 87</b>	<b>\$ 31</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 405</b>

### Projected Expenditures - Construction

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30221

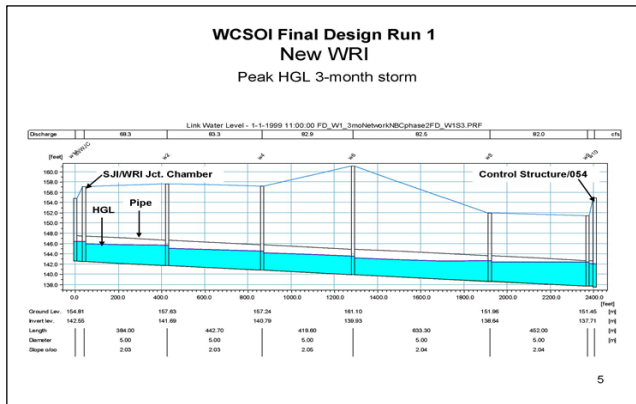
## Hydraulic Systems Modeling

Project Manager: Kathryn Kelly, P.E.  
 Contractor(s): CH2M Hill

Location: NBC Service Area  
 Project Priority: C

### Total Project Duration/Cost

Project Phase	Start Date	Completion Date	Project Duration	Cost (in Thousands)
Planning	June-06	December-11	68 Months	\$75
Design	July-11	December-14	41 Months	288
Construction	N/A	N/A	N/A	N/A
<b>Total Project</b>	<b>June-06</b>	<b>December-14</b>	<b>104 Months</b>	<b>\$363</b>



This project involves the updating of a sewer system model for the Field's Point service area to include the Towns of Johnston and North Providence. The updated model will allow NBC to determine the impact of future development and other changes to the sewer system flows. This information can then be used to determine where there is insufficient capacity in the sewer system, in accordance with the CMOM requirements established by the EPA.

Photo: A graphic depicting the output from the WCSOI model

### Projected Expenditures - 30221P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13
A/E Professional	59	-	-	-	-	-	-	-	59
Other	2	-	-	-	-	-	-	-	2
<b>Total Project Costs</b>	<b>\$ 75</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 75</b>

### Projected Expenditures - 30221D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 65	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 65
Land	-	-	-	-	-	-	-	-	-
A/E Professional	203	20	-	-	-	-	-	-	223
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ 268</b>	<b>\$ 20</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 288</b>

### Projected Expenditures - Construction

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands



# 30438

## Interceptor Easements

Project Manager: Tom Brueckner, 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	September-14	109 Months	\$798
Construction	September-14	July-15	16 Months	610
<b>Total Project</b>	<b>October-05</b>	<b>July-15</b>	<b>119 Months</b>	<b>\$1,408</b>



Much of the NBC sewer system in Cumberland is located in easements that cross private property. NBC is presently 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 for an evaluation of the Abbott Valley Interceptor easements. Upon completion of the evaluation, the easements will be cleared and access provided as necessary under the construction phase of this project.

Photo: Cumberland sewer system easement locations

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30438D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 203	\$ 12	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 215
Land	123	30	-	-	-	-	-	-	153
A/E Professional	429	-	-	-	-	-	-	-	429
Other	2	-	-	-	-	-	-	-	2
<b>Total Project Costs</b>	<b>\$ 756</b>	<b>\$ 42</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 798</b>

### Projected Expenditures - 30438C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 30	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	475	25	-	-	-	-	-	500
Contingency	-	60	-	-	-	-	-	-	60
Other	-	20	-	-	-	-	-	-	20
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 585</b>	<b>\$ 25</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 610</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30500

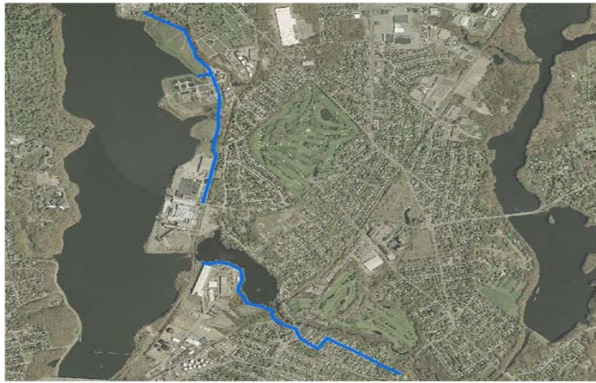
## NBC Interceptor Easements

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

Location: Narragansett Bay Commission Service Area  
 Project Priority: B

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	September-15	September-17	24 Months	\$722
Construction	March-18	September-19	18 Months	632
<b>Total Project</b>	<b>September-15</b>	<b>September-19</b>	<b>49 Months</b>	<b>\$1,354</b>



*Photo: Proposed area for the East Providence easement investigation*

Many of NBC's interceptors are located in overland areas that run through private property. It is difficult to locate and access these easements due to the terrain and overgrown vegetation. The easements will be located through field survey and then cleared sufficiently to provide access to maintain NBC's infrastructure. Project 30500 will continue NBC's efforts to locate the interceptors and easements in each of the communities within the NBC service area. As the field surveys begin for the remaining cities and towns, each will be given a unique project number and draw funding from Project 30500.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30500D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ 20	\$ 45	\$ 37	\$ -	\$ -	\$ -	\$ 102
Land	-	-	-	-	100	-	-	-	100
A/E Professional	-	-	190	250	60	-	-	-	500
Other	-	-	-	10	10	-	-	-	20
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 210</b>	<b>\$ 305</b>	<b>\$ 207</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 722</b>

### Projected Expenditures - 30500C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ 16	\$ 36	\$ -	\$ -	\$ 52
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	107	368	25	-	500
Contingency	-	-	-	-	-	60	-	-	60
Other	-	-	-	-	5	15	-	-	20
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 128</b>	<b>\$ 479</b>	<b>\$ 25</b>	<b>\$ -</b>	<b>\$ 632</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30501

## Interceptor Easements - NBC BVI

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

Location: Lincoln, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	July-09	January-15	55 Months	\$496
Construction	January-15	December-15	12 Months	730
<b>Total Project</b>	<b>July-09</b>	<b>December-15</b>	<b>78 Months</b>	<b>\$1,226</b>



Many of NBC's interceptors are located in overland areas that run through private property. It is difficult to locate and access these easements due to the terrain and overgrown vegetation. The easements will be located through field survey and then cleared sufficiently to provide access to crews and equipment. Project 30501 is to locate manholes and easements on the Blackstone Valley Interceptor in Lincoln and Cumberland. Upon completion of this work, the easement will be cleared to allow access to maintain the sewer.

*Photo: Blackstone Valley Interceptor in Lincoln*

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30501D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 45	\$ 93	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 139
Land	-	100	-	-	-	-	-	-	100
A/E Professional	227	20	-	-	-	-	-	-	246
Other	6	6	-	-	-	-	-	-	12
<b>Total Project Costs</b>	<b>\$ 278</b>	<b>\$ 219</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 496</b>

### Projected Expenditures - 30501C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 2	\$ 36	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 38
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	600	-	-	-	-	-	600
Contingency	-	-	72	-	-	-	-	-	72
Other	-	-	20	-	-	-	-	-	20
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 2</b>	<b>\$ 728</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 730</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30700D

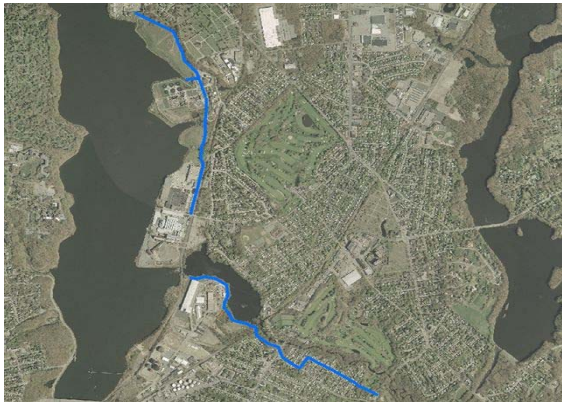
## NBC System-Wide Facilities Planning

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

Location: Narragansett Bay Commission Service Area  
 Project Priority: C

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	April-15	March-17	24 Months	\$511
Construction	N/A	N/A	N/A	N/A
<b>Total Project</b>	<b>April-15</b>	<b>March-17</b>	<b>36 Months</b>	<b>\$511</b>



*Photo: Proposed area for the East Providence capacity analysis*

NBC's interceptor sewers convey flow from local sewers in the district's eight cities and towns to the two NBC wastewater treatment facilities. Project 30700 will continue NBC's studies to determine if there is adequate capacity for the next twenty years and if there is any excessive infiltration/inflow (I/I) in NBC's interceptors. As the evaluations begin for the remaining Cities and Towns, each will be given a unique project number and draw funding from Project 30700.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30700

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 28	\$ 63	\$ 20	\$ -	\$ -	\$ -	\$ -	\$ 111
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	32	206	162	-	-	-	-	400
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 60</b>	<b>\$ 269</b>	<b>\$ 182</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 511</b>

### Projected Expenditures - Construction

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 40100P

## NBC Facility Electrical Improvements

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

Location: Providence  
 Project Priority: B

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	January-15	January-16	12 Months	\$131
Design	N/A	N/A	N/A	N/A
Construction	N/A	N/A	N/A	N/A
<b>Total Project</b>	January-15	January-16	12 Months	<b>\$131</b>



Photo: Electric Panel at FPWWTF

Several NBC facilities are in need of improvements to their electrical facilities. This project includes a Power System Study to evaluate the safety of the existing electrical facilities at the FPWWTF and evaluate improvements to the electrical facilities at other NBC locations.

### Projected Expenditures - 41000P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 11	\$ 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 21
A/E Professional	-	40	60	-	-	-	-	-	100
Other	-	-	10	-	-	-	-	-	10
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 51</b>	<b>\$ 80</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 131</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Construction

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands



# 40200

## NBC Systemwide Inflow Reduction

Project Manager: Tom Bruckner, 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	September-14	June-18	46 Months	\$332
Construction	March-16	September-19	43 Months	\$549
<b>Total Project</b>	September-14	September-19	61 Months	<b>\$881</b>



Photo: Downspouts at NBC COB

The NBC sewer system is susceptible to inflow from various sources. Inflow is storm water that enters the sewer system during rain events. For separate sewer systems, storm flow should not be entering the system as these sewers were not designed to accept this flow. This flow is typically from downspouts and sump pumps that are connected to the sanitary sewer. Specific areas where this inflow needs to be addressed are the OF 027 and OF 037 CSO overflow areas on the East Side of Providence which were recently separated and the Town of North Providence separate sewer system. Storm water inflow is suspected to occur in the separated systems in other communities within the district. This project will include evaluation, design and construction to eliminate sources of inflow in the separated sewer service areas.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 40200D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 12	\$ 27	\$ 17	\$ 29	\$ -	\$ -	\$ -	\$ 85
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	32	68	50	96	-	-	-	246
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 44</b>	<b>\$ 95</b>	<b>\$ 67</b>	<b>\$ 126</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 332</b>

### Projected Expenditures - 40200C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ 7	\$ 43	\$ 32	\$ 47	\$ 12	\$ -	\$ 141
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	6	30	21	33	9	-	99
Construction	-	-	-	80	60	90	30	-	260
Contingency	-	-	-	8	6	-	10	-	24
Other	-	-	-	10	5	10	-	-	25
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 13</b>	<b>\$ 171</b>	<b>\$ 124</b>	<b>\$ 180</b>	<b>\$ 61</b>	<b>\$ -</b>	<b>\$ 549</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands



# 40300P

## Municipal Sewer Acquisition Impact

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

Location:  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	July-14	June-15	11 Months	\$296
Design	N/A	N/A	N/A	N/A
Construction	N/A	N/A	N/A	N/A
<b>Total Project</b>	July-14	June-15	11 Months	<b>\$296</b>



Photo: Municipal Sewer Manhole Cover

Legislation has been introduced in the General Assembly that would require NBC to conduct an evaluation of the impacts of the acquisition of municipal lateral sewers by NBC from its member communities. This evaluation would determine the feasibility, cost, regulatory requirements and other impacts on NBC and the municipalities. Upon completion of the study, a report will be prepared with a recommendation as to whether or not NBC should acquire local sewers in any of the municipalities. This project is contingent upon legislation being passed by the General Assembly.

### Projected Expenditures - 40300P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 36	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 36
A/E Professional	-	250	-	-	-	-	-	-	250
Other	-	10	-	-	-	-	-	-	10
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 296</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 296</b>

### Projected Expenditures -Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Construction

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30301D

## CSO Phase II Facilities Design

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

Location: Providence, RI; Central Falls, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	November-06	September-14	95 Months	\$18,717
Construction	N/A	N/A	N/A	N/A
<b>Total Project</b>	<b>November-06</b>	<b>September-14</b>	<b>95 Months</b>	<b>\$18,717</b>



Photo: Proposed Woonasquatucket CSO Interceptor alignment

CSO Phase II Facilities design includes the design activities associated with the second phase of NBC's federally mandated CSO Abatement Program. It consists of the construction of two interceptors to convey flows from combined sewer overflows in Providence along the Seekonk and Woonasquatucket Rivers to the Main Tunnel constructed in Phase I. The proposed length of the Woonasquatucket Interceptor is 18,200 feet and the Seekonk Interceptor will be approximately 8,000 feet. Phase II also includes two sewer separation projects in Providence, and a constructed wetlands treatment facility in Central Falls.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30301D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 1,417	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,417
Land	6,284	216	-	-	-	-	-	-	6,500
A/E Professional	10,783	-	-	-	-	-	-	-	10,783
Other	17	-	-	-	-	-	-	-	17
<b>Total Project Costs</b>	<b>\$ 18,501</b>	<b>\$ 216</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 18,717</b>

### Projected Expenditures - Construction

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30301RS

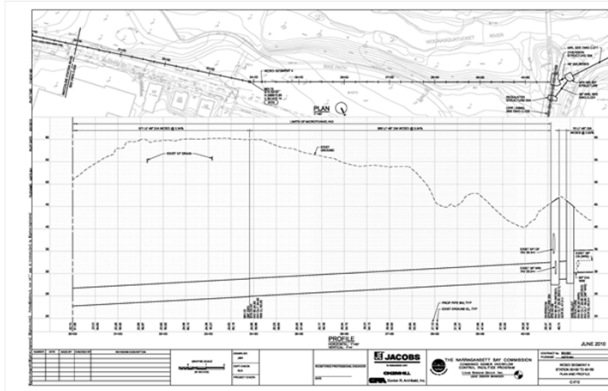
## Phase II CSO Facilities Program & Construction Management

Project Manager: Rich Bernier, P.E.  
 Contractor(s): Louis Berger Group

Location: N/A  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	September-10	April-16	68 Months	\$19,932
<b>Total Project</b>	<b>September-10</b>	<b>April-16</b>	<b>68 Months</b>	<b>\$19,932</b>



Project 30301RS provides Program and Construction Management of the Phase II CSO Phase Facilities construction program, which consists of fourteen construction projects. This project is currently underway and will continue until Phase II of the CSO Program is complete.

*Photo: Plans of the proposed CSO Phase II WCSO alignment*

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30301RS

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	15,660	3,450	822	-	-	-	-	-	19,932
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ 15,660</b>	<b>\$ 3,450</b>	<b>\$ 822</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 19,932</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30302C

## Phase II CSO Facilities OF 106

Project Manager: Rich Bernier, P. E.  
 Contractor(s): JH Lynch & Sons, Inc.

Location: Central Falls, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	March-12	June-15	39 Months	\$5,826
<b>Total Project</b>	<b>March-12</b>	<b>June-15</b>	<b>39 Months</b>	<b>\$5,826</b>



*Photo: Proposed Wetlands Facility in Central Falls*

CSO Phase II is the second phase of NBC's CSO Abatement Program. It consists of the construction of two interceptors to convey flows from combined sewer overflows in Providence along the Seekonk and Woonasquatucket Rives to the Main Tunnel constructed under Phase I, two sewer separation projects in Providence and a constructed wetlands facility in Central Falls. This project (30302C) is for the construction of the wetlands facility to treat the combined sewer overflow from OF 106 in Central Falls.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30302C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 176	\$ 27	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 203
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	4,626	474	-	-	-	-	-	-	5,100
Contingency	-	524	-	-	-	-	-	-	524
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ 4,802</b>	<b>\$ 1,024</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,826</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	\$ 49,414	\$ 49,736	\$ 49,876	\$ 50,017	\$ 50,160	\$ 50,303	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30303C

## Phase II CSO Facilities WCSOI Main

Project Manager: Rich Bernier, P.E.  
 Contractor(s): Barletta Heavy/Shank Balfour Beatty

Location: Providence, RI; 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	N/A	N/A	N/A	N/A
Construction	September-11	July-16	59 Months	\$78,448
<b>Total Project</b>	<b>September-11</b>	<b>July-16</b>	<b>59 Months</b>	<b>\$78,448</b>

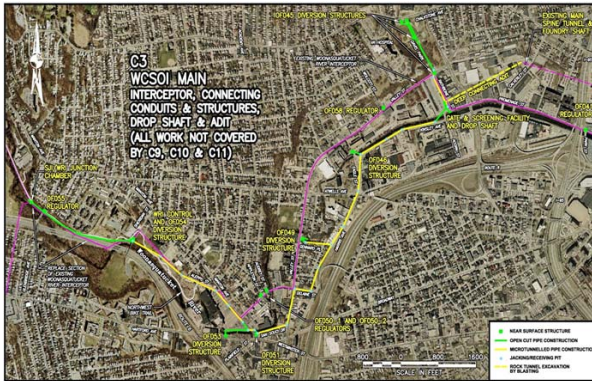


Photo: Proposed Woonasquatucket CSO Interceptor Main alignment

CSO Phase II is the second phase of NBC's CSO Abatement Program. It consists of the construction of two interceptors to convey flows from the combined sewer overflows in Providence along the Seekonk and Woonasquatucket Rivers to the Main Tunnel constructed in Phase I, two sewer separation projects in Providence and a constructed wetlands treatment facility in Central Falls. This project (30303C) will construct a 18,200 foot long Woonasquatucket CSO Interceptor (WCSOI) along the Woonasquatucket River along with a drop shaft and associated adit.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30303C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 2,306	\$ 835	\$ 110	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,251
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	56,323	13,331	850	-	-	-	-	-	70,504
Contingency	-	-	-	291	-	-	-	-	291
Other	2	61	-	4,339	-	-	-	-	4,402
<b>Total Project Costs</b>	<b>\$ 58,631</b>	<b>\$ 14,226</b>	<b>\$ 960</b>	<b>\$ 4,630</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 78,448</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	\$ 10,000	\$ 20,000	\$ 22,000	\$ 24,000	\$ 26,000	\$ 28,000	N/A	N/A

Note: Cash Flow Basis in Thousands



# 30304C

## Phase II CSO Facilities SCSOI MAIN

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

Location: Providence, RI; 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	N/A	N/A	N/A	N/A
Construction	February-12	December-15	47 Months	\$23,306
<b>Total Project</b>	<b>February-12</b>	<b>December-15</b>	<b>47 Months</b>	<b>\$23,306</b>



Photo: Installation of waler supports

CSO Phase II is in the second phase of NBC's CSO Abatement Program. It consists of the construction of two interceptors to convey flows from combined sewer overflows in Providence along the Seekonk and Woonasquatucket Rivers to the Main Tunnel constructed in Phase I, two sewer separation projects in Providence and a constructed wetlands facility in Central Falls. This project (30304C) will construct an 8,000 foot long Seekonk CSO Interceptor (SCSOI) along the Seekonk River.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30304C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 536	\$ 338	\$ 100	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 973
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	15,098	3,471	93	-	-	-	-	-	18,661
Contingency	-	-	3,671	-	-	-	-	-	3,671
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ 15,634</b>	<b>\$ 3,808</b>	<b>\$ 3,864</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 23,306</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	\$ 5,000	\$ 10,000	\$ 11,000	\$ 12,000	\$ 13,000	\$ 14,000	N/A	N/A

Note: Cash Flow Basis in Thousands



# 30305C

## Phase II CSO Facilities OF 027

Project Manager: Rich Bernier, P.E.  
 Contractor(s): John Rocchio Corporation

Location: Providence, RI; Central Falls, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	March-11	September-14	42 Months	\$12,389
<b>Total Project</b>	<b>March-11</b>	<b>September-14</b>	<b>42 Months</b>	<b>\$12,389</b>



Photo: OF 027

CSO Phase II is the second phase of NBC's CSO Abatement Program. It consists of the construction of two interceptors to convey flows from combined sewer overflows in Providence along the Seekonk and Woonasquatucket Rivers to the Main Tunnel constructed in Phase I, two sewer separation projects in Providence, and a constructed wetlands treatment facility in Central Falls. This project (30305C) is for the separation of combined sewers in the Hope Street area of the East Side of Providence.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30305C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 1,270	\$ 21	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,291
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	9,228	105	-	-	-	-	-	-	9,333
Contingency	-	-	-	-	-	-	-	-	-
Other	1,765	-	-	-	-	-	-	-	1,765
<b>Total Project Costs</b>	<b>\$ 12,264</b>	<b>\$ 125</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 12,389</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30306C

## Phase II CSO Facilities OF 037 West

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

Location: Providence, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	May-11	December-14	51 Months	\$10,919
<b>Total Project</b>	<b>May-11</b>	<b>December-14</b>	<b>51 Months</b>	<b>\$10,919</b>



*Photo: CSO 037 at Cemetary Street*

CSO Phase II is the second phase of NBC's CSO Abatement Program. It consists of the construction of two interceptors to convey flows from combined sewer overflows in Providence along the Seekonk and Woonasquatucket Rivers to the Main Tunnel constructed in Phase I, two fewer sewer separation projects in Providence and a constructed wetlands facility in Central Falls. This project (30306C) is for the separation of combined sewers in North Main Street area of the East Side of Providence from Colonial Road to Hillside Avenue.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30306C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 928	\$ 50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 978
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	7,433	508	-	-	-	-	-	-	7,941
Contingency	-	-	-	-	-	-	-	-	-
Other	1,749	251	-	-	-	-	-	-	2,000
<b>Total Project Costs</b>	<b>\$ 10,110</b>	<b>\$ 809</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 10,919</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30307C

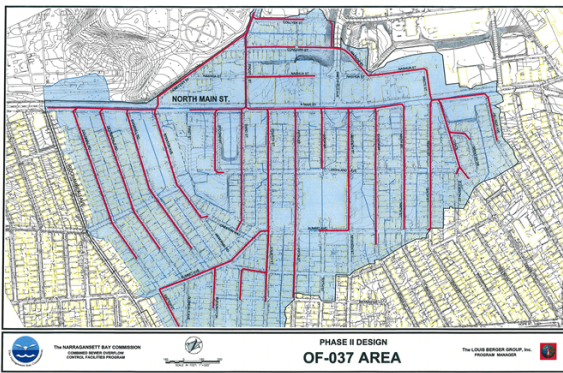
## Phase II CSO Facilities OF 037 South

Project Manager: Rich Bernier, P.E.  
 Contractor(s): John Rocchio Corporation

Location: Providence, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	January-13	January-16	36 Months	\$11,490
<b>Total Project</b>	<b>January-13</b>	<b>January-16</b>	<b>36 Months</b>	<b>\$11,490</b>



CSO Phase II is the second phase of NBC's CSO Abatement Program. It consists of the construction of two interceptors to convey flows from combined sewer overflows in Providence along the Seekonk and Woonasquatucket Rivers to the Main Tunnel constructed in Phase I, two fewer sewer separation projects in Providence and a constructed wetlands facility in Central Falls. This project (30307C) is for the separation of combined sewers east of North Main Street from Colonial to Fourth Street.

*Photo: Proposed OF 037 Sewer Separation*

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30307C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 252	\$ 350	\$ 31	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 633
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	3,814	3,650	303	-	-	-	-	-	7,767
Contingency	-	-	1,440	-	-	-	-	-	1,440
Other	400	1,250	-	-	-	-	-	-	1,650
<b>Total Project Costs</b>	<b>\$ 4,466</b>	<b>\$ 5,250</b>	<b>\$ 1,773</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 11,490</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30308C

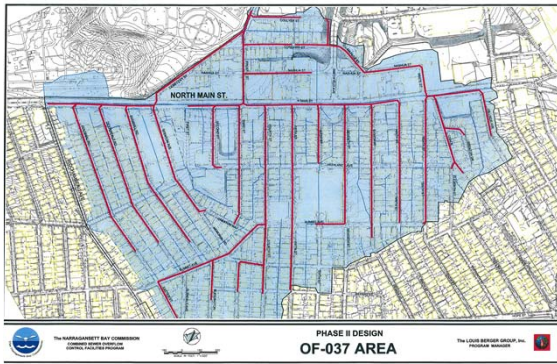
## Phase II CSO Facilities OF 037 North

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

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	N/A	N/A	N/A	N/A
Construction	August-12	February-16	43 Months	\$10,835
<b>Total Project</b>	<b>August-12</b>	<b>February-16</b>	<b>43 Months</b>	<b>\$10,835</b>



CSO Phase II is the second phase of NBC's CSO Abatement Program. It consists of the construction of two interceptors to convey flows from combined sewer overflows in Providence along the Seekonk and Woonasquatucket Rivers to the Main Tunnel constructed in Phase I, two sewer separation projects in Providence and a constructed wetlands facility in Central Falls. This project (30307C) is for the separation of combined sewers east of North Main Street from Fifth to Hillside.

Photo: Proposed OF 037 Sewer Separation

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30308C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 424	\$ 281	\$ 24	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 729
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	5,179	2,148	40	-	-	-	-	-	7,368
Contingency	-	-	1,440	-	-	-	-	-	1,440
Other	711	588	-	-	-	-	-	-	1,298
<b>Total Project Costs</b>	<b>\$ 6,314</b>	<b>\$ 3,017</b>	<b>\$ 1,504</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 10,835</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30310C

## Phase II CSO Facilities WCSOI North

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

Location: Providence, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	April-11	February-14	34 Months	\$9,276
<b>Total Project</b>	<b>April-11</b>	<b>February-14</b>	<b>34 Months</b>	<b>\$9,276</b>



CSO Phase II is the second phase of NBC's CSO Abatement Program. It consists of the construction of two interceptors to convey flows from combined sewer overflows in Providence along the Seekonk and Woonasquatucket Rivers to the Main Tunnel constructed in Phase I, two fewer sewer separation projects in Providence and a constructed wetlands facility in Central Falls. This project (30310C) is for the construction of a 1,800 foot long Woonasquatucket CSO Interceptor (WCSOI) through Davis Park.

*Photo: Infiltration into existing WCSOI North overflow*

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30310C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 79	\$ 11	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 89
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	5,419	53	-	-	-	-	-	-	5,472
Contingency	-	2,296	-	-	-	-	-	-	2,296
Other	750	669	-	-	-	-	-	-	1,419
<b>Total Project Costs</b>	<b>\$ 6,248</b>	<b>\$ 3,029</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 9,276</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands



# 30311C

## Phase II CSO Facilities WCSOI West

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

Location: Providence, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	April-11	August-14	40 Months	\$10,259
<b>Total Project</b>	<b>April-11</b>	<b>August-14</b>	<b>40 Months</b>	<b>\$10,259</b>



*Photo: Piping Installation north of Route 6 in Johnston*

CSO Phase II is the second phase of NBC's CSO Abatement Program. It consists of the construction of two interceptors to convey flows from combined sewer overflows in Providence along the Seekonk and Woonasquatucket Rivers to the Main Tunnel constructed in Phase I, two fewer sewer separation projects in Providence and a constructed wetlands facility in Central Falls. This project (30311C) is for the construction of a 2,400 foot long Woonasquatucket CSO Interceptor (WCSOI) along the bike path from Sheridan Street to Glenbridge Road.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30311C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 114	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 114
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	10,094	50	-	-	-	-	-	-	10,144
Contingency	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ 10,209</b>	<b>\$ 50</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 10,259</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands





# 30314C

## Phase II CSO Facilities WCSOI OF 054

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

Location: Providence, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	January-12	September-14	33 Months	\$2,825
<b>Total Project</b>	<b>January-12</b>	<b>September-14</b>	<b>33 Months</b>	<b>\$2,825</b>



Photo: CSO 054

CSO Phase II is the second phase of NBC's CSO Abatement Program. It consists of the construction of two interceptors to convey flows from combined sewer overflows in Providence along the Seekonk and Woonasquatucket Rivers to the Main Tunnel constructed in Phase I, two fewer sewer separation projects in Providence and a constructed wetlands facility in Central Falls. This project (30314C) is for the construction of two chambers associated with outfall 054 on the Woonasquatucket Sewer Interceptor (WSI) along the bike path north of Route 6 near the Johnston Town line.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30314C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 24	\$ 1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	2,286	83	-	-	-	-	-	-	2,369
Contingency	-	431	-	-	-	-	-	-	431
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ 2,310</b>	<b>\$ 515</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,825</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30800

## CSO Phase III Facilities

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

Location: Pawtucket, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	August-13	July-17	48 Months	\$38,706
Construction	July-17	August-22	62 Months	565,950
<b>Total Project</b>	<b>August-13</b>	<b>August-22</b>	<b>110 Months</b>	<b>\$604,656</b>



CSO Phase III is the third phase of NBC's federally mandated CSO Abatement Program and includes the construction of a tunnel in Pawtucket totaling approximately 13,000 feet in length. Phase III also includes three CSO Interceptors totaling approximately 14,500 feet in length and two sewer separation projects. Total cost estimates for CSO Phase III are based on pre-design estimates. This year's CIP reflects design beginning in FY 2014 which includes a reevaluation to determine after the first two phases of the CSO Program. The reevaluation will determine the improvement in water quality as a result of that work completed, if Phase III needs to be completed and, if so, if the approach as originally designed is still the most cost effective.

Photo: Proposed alignment for the Pawtucket CSO Tunnel

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30800D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 122	\$ 124	\$ 144	\$ 378	\$ 185	\$ -	\$ -	\$ -	\$ 952
Land	-	-	-	-	4,000	-	-	-	4,000
A/E Professional	536	3,508	13,400	14,300	1,300	-	-	-	33,044
Other	-	30	320	320	40	-	-	-	710
<b>Total Project Costs</b>	<b>\$ 658</b>	<b>\$ 3,662</b>	<b>\$ 13,864</b>	<b>\$ 14,998</b>	<b>\$ 5,525</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 38,706</b>

### Projected Expenditures - 30800C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ 875	\$ 1,500	\$ 1,500	\$ 2,125	\$ 6,000
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	6,650	14,400	14,400	20,550	56,000
Construction	-	-	-	-	25,600	96,000	103,700	174,700	400,000
Contingency	-	-	-	-	-	-	-	48,000	48,000
Other	-	-	-	-	6,600	14,400	14,400	20,550	55,950
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 39,725</b>	<b>\$ 126,300</b>	<b>\$ 134,000</b>	<b>\$ 265,925</b>	<b>\$ 565,950</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30600

## Floatables Control Facilities

Project Manager: Rich Bernier, P.E.  
 Contractor(s): John Rocchio Corporation

Location: Pawtucket, RI; Central Falls, RI  
 Project Priority: A

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	July-09	October-13	52 Months	\$473
Construction	October-11	September-14	35 Months	5,003
<b>Total Project</b>	<b>July-09</b>	<b>September-14</b>	<b>63 Months</b>	<b>\$5,476</b>



Photo: Trash Net Facility at OF 220

As part of the nine minimum controls required under EPA's CSO Control Policy, floatables control is to be provided at the Phase III CSO overflows. NBC conducted an evaluation and then designed floatables control facilities for the three largest Phase III overflows; OF 205, OF 219 and OF 220.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30600D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 197	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 197
Land	15	-	-	-	-	-	-	-	15
A/E Professional	211	-	-	-	-	-	-	-	211
Other	50	-	-	-	-	-	-	-	50
<b>Total Project Costs</b>	<b>\$ 473</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 473</b>

### Projected Expenditures - 30600C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 226	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 226
Land	-	-	-	-	-	-	-	-	-
A/E Professional	114	9	-	-	-	-	-	-	123
Construction	4,332	42	-	-	-	-	-	-	4,374
Contingency	-	272	-	-	-	-	-	-	272
Other	7	-	-	-	-	-	-	-	7
<b>Total Project Costs</b>	<b>\$ 4,679</b>	<b>\$ 324</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,003</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	\$ 19	\$ 20	\$ 20	\$ 21	\$ 22	\$ 23	N/A	N/A

Note: Cash Flow Basis in Thousands



# 70800

## Omega Pump Station Improvements

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

Location:  
 Project Priority: C

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	July-14	February-15	7 Months	\$61
Design	March-15	August-15	4 Months	93
Construction	September-15	January-17	16 Months	615
<b>Total Project</b>	July-14	January-17	31 Months	<b>\$769</b>



*Photo: Pump at Omega Pump Station*

Several pieces of equipment at the Omega Pump Station need to be replaced as they are obsolete or no longer functioning. This project will evaluate replacement of the pump motor control center, sewage pump 4 and the bar screen. The evaluation will also include a study to increase the operating efficiency of the station and piping changes to improve operating flexibility.

### Projected Expenditures - 81200

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 11	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 11
A/E Professional	-	50	-	-	-	-	-	-	50
Other	-	0	-	-	-	-	-	-	0
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 61</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 61</b>

### Projected Expenditures - 81200

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 12	\$ 6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	45	30	-	-	-	-	-	75
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 57</b>	<b>\$ 36</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 93</b>

### Projected Expenditures - 81200

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ 18	\$ 15	\$ -	\$ -	\$ -	\$ -	\$ 33
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	17	15	-	-	-	-	32
Construction	-	-	175	325	-	-	-	-	500
Contingency	-	-	-	50	-	-	-	-	50
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 210</b>	<b>\$ 405</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 615</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands





# Projects 304 M Summary

## CSO Interceptor and Cleaning Projects

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

Location: Narragansett Bay Commission Service Area  
 Project Priority: B

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	July-09	Ongoing	Ongoing	\$3,597
<b>Total Project</b>	<b>July-09</b>	<b>Ongoing</b>	<b>Ongoing</b>	<b>\$3,597</b>



Photo: Large Pipe Diameter Cleaning Nozzle

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 from the TV inspections, they will be given a unique project number and draw funding from the funds available in Project 30400M.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 304 M Summary

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 21	\$ 51	\$ 124	\$ 124	\$ 124	\$ 124	\$ 124	\$ 124	\$ 816
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Inspect/Cleaning	8	422	226	226	226	226	226	226	1,786
Contingency	-	-	-	-	-	-	-	-	-
Other	5	90	150	150	150	150	150	150	995
<b>Total Project Costs</b>	<b>\$ 34</b>	<b>\$ 563</b>	<b>\$ 500</b>	<b>\$ 500</b>	<b>\$ 500</b>	<b>\$ 500</b>	<b>\$ 500</b>	<b>\$ 500</b>	<b>\$ 3,597</b>

### Operating Impact

Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30400C

## Repair and Construction of CSO Interceptors

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

Location: Narragansett Bay Commission Service Area  
 Project Priority: B

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	July-01	Ongoing	Ongoing	\$1,653
<b>Total Project</b>	<b>July-01</b>	<b>Ongoing</b>	<b>Ongoing</b>	<b>\$1,653</b>



*Photo: Removal of abandoned pipe at Atwells Ave. and Valley Street*

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.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30400C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8	\$ 75	\$ 83
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	3	-	3
Construction	-	-	-	-	-	-	85	1,250	1,335
Contingency	-	-	-	-	-	-	57	150	207
Other	-	-	-	-	-	-	-	25	25
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 153</b>	<b>\$ 1,500</b>	<b>\$ 1,653</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30421

## Louisquisset Pike Interceptor Replacement

Project Manager: Terry Cote, P.E.  
 Contractor(s): Beta Engineering

Location: Lincoln, RI  
 Project Priority: C

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	May-07	July-09	26 Months	\$241
Construction	July-15	October-16	21 Months	2,382
<b>Total Project</b>	<b>May-07</b>	<b>October-16</b>	<b>47 Months</b>	<b>\$2,623</b>



*Photo: Proposed portion of Lincoln Interceptor Replacement*

The Facilities Plan for project 30421 identified wet weather capacity problems with the Louisquisset Interceptor and recommended that the southern half of the interceptor in Lincoln be replaced with a larger pipe to accommodate present and projected flows.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30421D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 40	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 40
Land	-	-	-	-	-	-	-	-	-
A/E Professional	155	-	-	-	-	-	-	-	155
Other	46	-	-	-	-	-	-	-	46
<b>Total Project Costs</b>	<b>\$ 241</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 241</b>

### Projected Expenditures - 30421C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ 61	\$ 31	\$ -	\$ -	\$ -	\$ -	\$ 92
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	32	18	-	-	-	-	50
Construction	-	-	1,500	500	-	-	-	-	2,000
Contingency	-	-	-	240	-	-	-	-	240
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,593</b>	<b>\$ 789</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,382</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30444

## Mosshassuck Valley Interceptor

Project Manager: Terry Cote, P.E.  
 Contractor(s): Louis Berger Group

Location: Providence, RI  
 Project Priority: C

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	May-06	October-06	6 Months	\$22
Design	January-12	March-15	39 Months	385
Construction	September-14	February-16	17 Months	3,373
<b>Total Project</b>	<b>May-06</b>	<b>February-16</b>	<b>119 Months</b>	<b>\$3,780</b>



Inspection of 2,600 feet 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 settling is causing maintenance problems and accumulation of grease which may result in structural problems. This project would replace this line in the public right of way.

*Photo: Portion of the Moshassuck Valley Interceptor to be replaced*

### Projected Expenditures - 30444P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2
A/E Professional	20	-	-	-	-	-	-	-	20
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ 22</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 22</b>

### Projected Expenditures - 30444D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 82	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 82
Land	60	15	-	-	-	-	-	-	75
A/E Professional	183	39	-	-	-	-	-	-	221
Other	7	-	-	-	-	-	-	-	7
<b>Total Project Costs</b>	<b>\$ 332</b>	<b>\$ 54</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 385</b>

### Projected Expenditures - 30444C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 44	\$ 34	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 78
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	23	12	-	-	-	-	-	35
Construction	-	1,000	2,000	-	-	-	-	-	3,000
Contingency	-	-	240	-	-	-	-	-	240
Other	-	10	10	-	-	-	-	-	20
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 1,077</b>	<b>\$ 2,296</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 3,373</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30456C

## NBC Interceptor Lining at Butler Hospital

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

Location: Providence, RI  
 Project Priority: B

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	April-13	January-15	20 Months	\$345
<b>Total Project</b>	<b>April-13</b>	<b>January-15</b>	<b>20 Months</b>	<b>\$345</b>



*Photo: Lining at an interceptor improvement location*

Project 30456C involves the lining of 2,435 linear feet of 15" NBC sewer pipe and rehabilitate 15 NBC manholes on Butler Hospital property in Providence.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30456C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 43	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 43
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	265	4	-	-	-	-	-	-	269
Contingency	30	-	-	-	-	-	-	-	30
Other	2	-	-	-	-	-	-	-	2
<b>Total Project Costs</b>	<b>\$ 341</b>	<b>\$ 4</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 345</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands



# 30457

## Providence River Siphon Replacement

Project Manager: Tom Brueckner, P.E.  
 Contractor: N/A

Location: Providence, RI  
 Project Priority: B

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	March-13	December-14	22 Months	\$189
Design	February-15	July-16	17 Months	822
Construction	July-16	September-18	26 Months	5,853
<b>Total Project</b>	<b>March-13</b>	<b>September-18</b>	<b>62 Months</b>	<b>\$6,864</b>



*Photo: Providence River Siphon House*

The existing Providence River Siphon is over 100 years old. Should it fail there is no back up sewer to convey flow from the East Side of Providence to the Allen's Ave. interceptor. This project will evaluate if replacing or rehabilitating this siphon is necessary to ensure continuous uninterrupted service for the future.

### Projected Expenditures - 30457P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 31	\$ 15	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 46
A/E Professional	68	55	-	-	-	-	-	-	123
Other	2	18	-	-	-	-	-	-	20
<b>Total Project Costs</b>	<b>\$ 101</b>	<b>\$ 88</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 189</b>

### Projected Expenditures - 30457D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ 20	\$ 67	\$ 10	\$ -	\$ -	\$ -	\$ -	\$ 97
Land	-	-	125	125	-	-	-	-	250
A/E Professional	-	105	275	20	-	-	-	-	400
Other	-	25	50	-	-	-	-	-	75
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ 150</b>	<b>\$ 517</b>	<b>\$ 155</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 822</b>

### Projected Expenditures - 30457C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ 53	\$ 50	\$ -	\$ -	\$ -	\$ 103
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	50	50	-	-	-	100
Construction	-	-	-	2,000	2,750	250	-	-	5,000
Contingency	-	-	-	-	500	-	-	-	500
Other	-	-	-	100	50	-	-	-	150
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 2,203</b>	<b>\$ 3,400</b>	<b>\$ 250</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 5,853</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30458

## Douglas / Branch Avenue Interceptor Relief

Project Manager: Tom Brueckner, P.E.  
 Contractor: N/A

Location: Providence, RI  
 Project Priority: B

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	September-14	March-16	6 Months	\$80
Design	July-16	December-17	18 Months	565
Construction	September-17	September-19	24 Months	6,202
<b>Total Project</b>	<b>September-17</b>	<b>September-19</b>	<b>49 Months</b>	<b>\$6,847</b>



The Branch Avenue Interceptor is subject to surcharging in wet weather which may result in Sanitary Sewer Overflows. The planning phase of this project will evaluate the necessary improvements to be made to the Interceptor to eliminate the surcharging. Subsequent phases will design and construct the necessary improvements.

*Photo: Lining at an interceptor improvement location*

### Projected Expenditures - 30458P

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 5	\$ 4	\$ 16	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25
A/E Professional	-	-	50	-	-	-	-	-	50
Other	-	-	5	-	-	-	-	-	5
<b>Total Project Costs</b>	<b>\$ 5</b>	<b>\$ 4</b>	<b>\$ 71</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 80</b>

### Projected Expenditures - 30458D

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ 39	\$ 56	\$ -	\$ -	\$ -	\$ 95
Land	-	-	-	-	100	-	-	-	100
A/E Professional	-	-	-	285	65	-	-	-	350
Other	-	-	-	20	-	-	-	-	20
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 344</b>	<b>\$ 221</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 565</b>

### Projected Expenditures - 30458C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ 90	\$ 270	\$ 67	\$ -	\$ 427
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	50	120	30	-	200
Construction	-	-	-	-	750	3,500	750	-	5,000
Contingency	-	-	-	-	-	-	500	-	500
Other	-	-	-	-	-	75	-	-	75
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 890</b>	<b>\$ 3,965</b>	<b>\$ 1,347</b>	<b>\$ -</b>	<b>\$ 6,202</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

# 30459C

## Improvements to Interceptors FY 2015

Project Manager: Mark Thomas  
 Contractor: N/A

Location: Providence, RI  
 Project Priority: B

### Total Project Duration/Cost

<u>Project Phase</u>	<u>Start Date</u>	<u>Completion Date</u>	<u>Project Duration</u>	<u>Cost (in Thousands)</u>
Planning	N/A	N/A	N/A	N/A
Design	N/A	N/A	N/A	N/A
Construction	May-14	October-15	17 Months	\$658
<b>Total Project</b>	<b>N/A</b>	<b>October-15</b>	<b>18 Months</b>	<b>\$658</b>



Photo: Lining at an interceptor improvement location

This project consists of the lining 4,100 linear feet of sewer pipe and do various spot repairs to interceptors on Mineral Spring Avenue and Smith Street in North Providence as well as miscellaneous streets in Providence.

### Projected Expenditures - Planning

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - Design

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-
<b>Total Project Costs</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Projected Expenditures - 30459C

Cost Category	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
Administrative	\$ 17	\$ 71	\$ 1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 88
Land	-	-	-	-	-	-	-	-	-
A/E Professional	-	-	-	-	-	-	-	-	-
Construction	-	498	3	-	-	-	-	-	500
Contingency	-	60	-	-	-	-	-	-	60
Other	-	10	-	-	-	-	-	-	10
<b>Total Project Costs</b>	<b>\$ 17</b>	<b>\$ 638</b>	<b>\$ 3</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 658</b>

### Operating Impact

	Pre FY 15	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Post FY 20	Total
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: Cash Flow Basis in Thousands

Task Name	2015				2016				2017				2018				2019				2020						
	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	Qtr. 3	Qtr. 4	
14 10901 - FPWWTF Nitrogen Removal Facilities Construction				2/28/15	2/28/15																						
11602 FPWWTF Tunnel Pump Station Improvements Design				8/1/14																							
Bid/Award Process				1/14																							
Construction				11/1/14																							
11900 - NBC Regulatory Compliance Building and Related Upgrades Design/Funding Requirements				1/1/15																							
Bid/Award Process				6/1/15																							
Construction				10/28/16																							
12000 - BPWWTF Biogas Reuse Design				4/1/16																							
Bid/Award Process				7/1/14																							
Construction				10/1/14																							
12400 - New IM Facilities Design				12/1/15																							
Bid/Award Process				9/15/15																							
Construction				10/15/15																							
12500 - Utility Reliability Enhancement for the FP Campus Design				12/18/14																							
Bid/Award Process				12/18/14																							
Construction				4/1/15																							
12700 - FPWWTF Electrical Substation No. 1 Design				1/14																							
Bid/Award Process				1/14																							
Construction				4/1/15																							
12800 - BPWWTF Solar Energy Planning				9/30/14																							
Design/Funding Requirements				10/1/14																							
Bid/Award Process				5/31/15																							
Construction				6/1/15																							
12900 - Operations and Lab Building Reuse Planning				1/14																							
Design/Funding Requirements				1/14																							
Bid/Award Process				6/1/15																							
Construction				9/15/15																							
30301D - CSO Phase II Facilities Design Design/Funding Requirements				9/1/14																							
30301RS - Phase II CSO Facilities Program & Construction Management Construction				9/1/14																							
30302C - Phase II CSO Facilities OF 106 Bid/Award Process				6/1/15																							
30303C - Phase II CSO Facilities WCSOI Main Construction				6/1/15																							
30304C - Phase II CSO Facilities SC SOI Main Bid/Award Process				6/6/16																							
30305C - Phase II CSO Facilities OF 027 Construction				6/6/16																							
30306C - Phase II CSO Facilities OF 037 West Bid/Award Process				9/1/14																							
30307C - Phase II CSO Facilities OF 037 South Bid/Award Process				9/1/14																							
30308C - Phase II CSO Facilities OF 037 North Bid/Award Process				7/16/15																							
30310C - Phase II CSO Facilities WCSOI North Construction				7/16/15																							
				1/1/16																							
				1/1/16																							
				2/14/16																							
				2/14/16																							

