

Capital Improvement Program

Fiscal Years 2000 - 2004

IN CITY COUNCIL
DEC 3 1998

READ
WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED

Michael A. Clement CLERK

The Narragansett Bay Commission
235 Promenade Street • Suite 500 • Providence, Rhode Island 02908
(401) 222-6680 • TDD (401) 222-6680 • FAX (401) 222-2584

Rep. Vincent J. Mesolella, Chairman • Paul Pinault, P.E., Executive Director

Acknowledgements

The fiscal year 2000 - 2004 Capital Improvement Program was prepared by Jackie Saul, Environmental Planner, Division of Administration and Finance, based upon input from staff from all sections and divisions of the Narragansett Bay Commission.

The development of the CIP also involved the cooperation, assistance and guidance of Paul Pinault, P.E., Executive Director, the Narragansett Bay Commission Board of Commissioners and its Construction, Engineering and Operations Subcommittee, as well as the Narragansett Bay Commission's Citizens Advisory Committee.

Table of Contents

Section I • CIP Overview

Page

•Activities of the Narragansett Bay Commission	1
•Program Changes	2
•Cost by Functional Area	3
•Fiscal Impact	4
•Impact on Total Annual Revenue Requirements and Sewer User Fees	8

Section II • Detailed Project Listings

•Wastewater Treatment Facility Improvements	11
•Sewer System Improvements	24
•Buildings and Grounds Improvements	37

Section III • Appendix

•Abbreviations and Acronyms	40
•Narragansett Bay Commission Facilities Description	41
•Public Review Process with Comments and Responses	43
•Debt Service Calculations	51

Narragansett Bay Commission

Service Area

The Narragansett Bay Commission is Rhode Island's largest wastewater authority dedicated to providing reliable, cost-effective wastewater collection and treatment services to over 360,000 residents and 8,000 businesses in ten Rhode Island communities in the metropolitan Providence and Blackstone Valley areas. These communities include: Providence, North Providence, Johnston, Pawtucket, Central Falls, Cumberland, Lincoln, the northern portion of East Providence and small sections of Cranston and Smithfield.



A vertical dashed line consisting of 20 short, thick black horizontal bars spaced evenly along the left margin of the page.

Brief Project Listing

FY 2000 - 2004 CAPITAL IMPROVEMENT PROGRAM

PROJECT LIST

WASTEWATER TREATMENT FACILITY IMPROVEMENTS 2000-2004

CONTRACT 101: FINAL CLARIFIERS AND CONTROL SYSTEM	\$	-	*
CONTRACT 102: FPWWTF DRY WEATHER AND CSO CHLORINATION/DECHLORINATION SYSTEM	\$	60,000	
CONTRACT 103: SHORT TERM SOLIDS HANDLING IMPROVEMENTS	\$	14,148,000	
CONTRACT 104: SEPTAGE RECEIVING FACILITIES	\$	386,000	
CONTRACT 105: FPWWTF STORAGE BUILDING AND MISCELLANEOUS CSO AND OTHER IMPR.	\$	50,000	
CONTRACT 803: BPWWTF SERVICE BUILDING IMPROVEMENTS	\$	-	*
CONTRACT 807: BPWWTF IMPROVEMENTS	\$	45,925,000	
CONTRACT 807CD: BPWWTF IMPROVEMENTS - DECHLORINATION FACILITIES	\$	10,000	
CONTRACT 809: BUCKLIN POINT NORTH LANDFILL CLOSURE	\$	-	*
SITE SPECIFIC CRITERIA	\$	200,000	
LABORATORY EQUIPMENT: ICP/MS	\$	200,000	
LABORATORY: AUTOMATIC AMMONIA SYSTEM	\$	45,000	

SUBTOTAL \$ 61,024,000

SEWER SYSTEM IMPROVEMENTS 2000-2004

CONTRACT 302.2: CSO REASSESSMENT	\$	-	*
CONTRACT 302.3: COMPREHENSIVE COMBINED SEWER OVERFLOW PROGRAM	\$	139,170,000	
CONTRACT 304: EVALUATION AND CLEANING OF CSO INTERCEPTORS	\$	415,000	
CONTRACT 304.2C: BRANCH AVENUE INTERCEPTOR REHABILITATION	\$	30,000	
CONTRACT 305: CSO 2B HEADWALL IMPROVEMENTS	\$	20,000	
CSO FLOWMETERS	\$	500,000	
CONTRACT 404: GANO ST. TO PITMAN ST. INTERCEPTOR REPLACEMENT	\$	-	*
CONTRACT 504: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN JOHNSTON	\$	70,000	
CONTRACT 701: REPLACEMENT OF THE SAYLESVILLE PUMPING STATION	\$	-	*
CONTRACT 702: INFILTRATION/INFLOW STUDY: LOUISQUISSET PIKE AREA	\$	-	*
CONTRACT 704P: INVESTIGATION AND REHAB. OF WASHINGTON HWY AND OMEGA PUMP STS	\$	75,000	
CONTRACT 903: GEOGRAPHIC INFORMATION SYSTEM IMPLEMENTATION	\$	800,000	

SUBTOTAL \$ 141,080,000

BUILDINGS AND GROUNDS 2000-2004

OFFICE SPACE PLANNING	\$	-	*
VEHICLE REPLACEMENTS	\$	515,000	

SUBTOTAL \$ 515,000

GRAND TOTAL \$ 202,619,000

*project costs through FY 1999 only.



Section I

CIP Overview

FISCAL YEAR 2000 - 2004 CAPITAL IMPROVEMENT PROGRAM

This year's Capital Improvement Program (CIP) identifies over \$202 million of capital improvement projects in progress, to be initiated or completed within the five fiscal year of period of 2000-2004. It also reflects total expenditures of approximately \$298 million for the completion all scheduled projects.

The CIP identifies each capital project, defined as a capital expenditure greater than \$20,000, by functional area (wastewater treatment facilities, sewer systems, and buildings and grounds). Cash flow projections for each project are shown along with the functional area, funding sources and projected schedule. Project costs are also depicted by phase (planning, design and construction).

There are many factors that can impact the Narragansett Bay Commission's (NBC) sources of capital. This CIP attempts to take into consideration the most significant of these factors such as the State of Rhode Island's capital budget, the maximum funding available under the State Revolving Loan Fund program (SRF) and pending federal legislation to accurately reflect the costs associated with the funding of this program and the resulting impact upon users within the service area.

It should also be noted that for the purpose of simplification, this CIP does not include the financing costs associated with new debt in the individual project description sheets. These costs are reflected in the debt service calculations.

SIGNIFICANT CAPITAL PROJECTS

Contract 302.3: Phase I Combined Sewer Overflow (CSO) Facilities

The Combined Sewer Overflow (CSO) Facilities Project alone comprises 69% of the total costs outlined in this document. As such, it remains the most significant project underway at the NBC.

The Phase I CSO Facilities is the first of three phases that comprise the Commission's CSO Program. In March of 1993, after several years of study, the NBC originally approved a comprehensive CSO Abatement Program at a cost of \$559 million. The NBC received final approval from the Rhode Island Department of Environmental Management (RIDEM) in July of 1994 and began preliminary design of the "high priority" facilities identified in the program. In April 1994, shortly before RIDEM approved the NBC program, the United States Environmental Protection Agency (USEPA) adopted a national CSO policy which allowed more flexibility in the development of CSO control plans. This new policy allowed plans to be developed based on water quality improvements and offered the potential of reducing the cost of the CSO abatement program, which was the biggest issue raised against the proposed program.

Based upon this new guidance, the NBC decided to reassess its proposed program to determine if a less expensive program could be developed and still meet regulatory requirements.

With the assistance of a stakeholders group, a revised CSO abatement plan was selected in August 1997. This new program was selected because it has the lowest operation and maintenance cost and construction costs are approximately \$170 million less than the originally proposed plan. This new proposed CSO abatement plan which will be implemented in three phases is expected to cost \$389 million. Please note; however, that the description schedule and costs reflected in the detailed project listings in this document are for the first phase only. At the end of this phase, the NBC is committed to a two-year re-evaluation period to evaluate the water quality improvements and reassess the technologies to determine if future phases of the plan should be modified.

PROGRAM CHANGES

One major program change to this year's CIP is the five-year timeframe for project costs and funding availability. This time period change was made in an effort to dovetail NBC's Capital Program with that of the State of Rhode Island's Capital Program. The NBC essentially develops two Capital Programs. One for the NBC, the other as part of the State of Rhode Island's Capital Program. Because the State's Program is for a different time period, duplicative efforts of compiling data are necessary. This time period change will eliminate these duplicative efforts for the NBC.

Wastewater Treatment Facilities (WWTF)

Deleted from this year's CIP is the Long Term Sludge Management Plan for the Field's Point and Bucklin Point Wastewater Treatment Facilities. The alternatives for both the Field's Point and Bucklin Point facilities are limited and the options presently in place offer the most flexibility for the NBC. In the meantime, Contract 103: Short Term Solids Handling Improvements will provide improvements to the incinerator and solids handling equipment at the Field's Point plant.

As the NBC's laboratory section continues to strive forward and maintain compliance with EPA requirements, the need to improve laboratory functions, equipment and its environment are necessary. This year's CIP includes the purchase of additional monitoring equipment for the laboratory section which will automate laboratory functions and enhance performance when analyzing industrial waste samples in accordance with these EPA requirements. Due to a timeframe change, the construction of a Trace Metals Clean Room within the existing laboratory has been removed since construction is not expected to begin prior to FY 2004.

Sewer System

Contract 304.2C Branch Avenue Interceptor Rehabilitation has been added to this year's CIP. This project will rehabilitate a failed interceptor detected during a 1997 inspection program (see Contract 304 – Evaluation and Cleaning of CSO Interceptors). Due to the magnitude and cost of this repair, this project has been listed as a separate project. CSO 049 Outfall Modification project has been incorporated into Contract 305 – CSO 2B headwall Improvements.

Buildings and Grounds

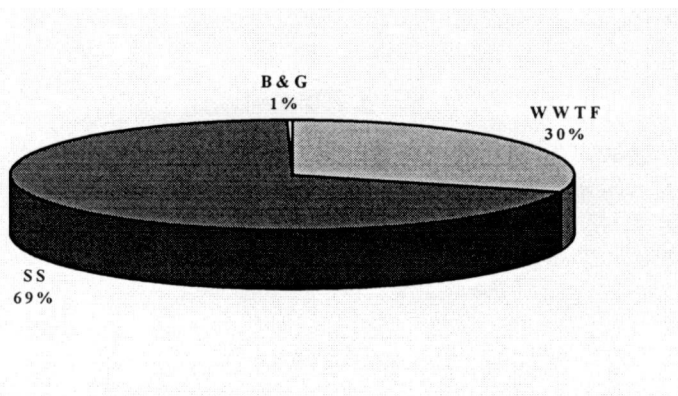
Included in this year's buildings and grounds section of the CIP is the Office Space Planning Project. This project not only replaces the Rehabilitation of the NBC's building at 459 Promenade Street Building project noted in last year's CIP, but, has expanded in scope to include the long-range office space plans for other NBC office locations as well.

COSTS BY FUNCTIONAL AREA

The capital projects have been assigned to functional area as follows:

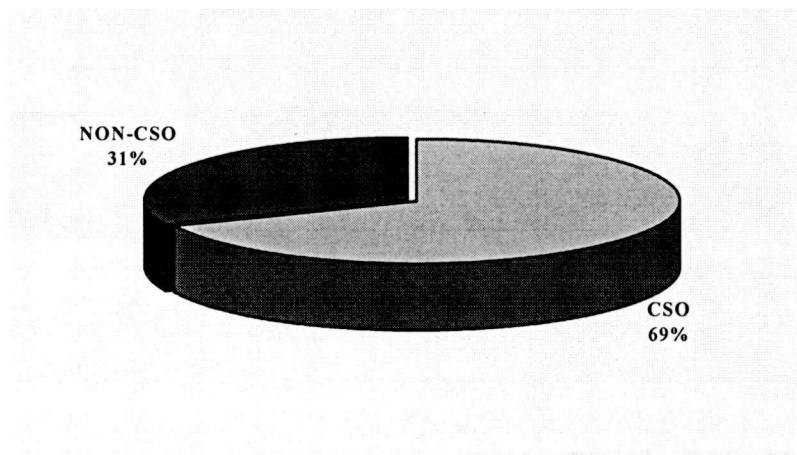
Buildings and Grounds (BG) projects include building repairs and equipment purchases to support NBC staff. Field's Point and Bucklin Point Wastewater Treatment Facility (WWTF) improvements include the contracts related to facility improvements, laboratory, septage receiving and various facility maintenance projects. Sewer System (SS) improvements include the Combined Sewer Overflow project, interceptor rehabilitation, and outlying sewer construction and pumping station improvements. Of the \$202 million in capital improvements scheduled over the five year period, 69% or \$141 million of the total costs fall within the sewer system category, 30% or \$61 million are for wastewater treatment facility improvements, and 1% or \$.5 million are for buildings and grounds projects.

COST BY FUNCTIONAL AREA



To readily view the magnitude of the CSO program, the chart below shows that the CSO program related costs account for \$140 million or 69% of the total five-year capital program.

CSO vs. NON-CSO COSTS



FISCAL IMPACT

The CIP is a planning document and the costs and schedules it reflects are based on the best available information. Experience dictates that as projects proceed from planning to construction, costs generally increase. There are several funding sources for scheduled CIP projects and many projects will have funding from more than one source. The funding options available are as follows:

Grants

In the past, Federal grants were provided by the United States Environmental Protection Agency under the Construction Grants Program. Grants were between 55% and 75% of the total eligible project cost. In addition, RIDEM provided a federal grant match with a grant of 15% of the total eligible project cost. The Construction Grants Program has been phased out and replaced with the State Revolving Loan Fund.

The NBC is currently lobbying its Rhode Island Congressional Delegation for their assistance to advocate on our behalf in Congress for a special federal appropriation to offset a portion of the financial burden associated with the implementation of the CSO program.

BVDC Bonds

The NBC merged with the former Blackstone Valley District Commission (BVDC) on January 1, 1992. The former BVDC had the use of state general obligation (g.o.) bonds issued on their behalf. A statewide voter referendum approved in 1971 authorized \$3.3 million in g.o. bonds for site specific uses such as the planning, construction and equipping of interceptor sewer extension for the Washington Highway Interceptor. In 1986, a statewide voter referendum was passed by the voters authorizing the use of \$17.2 million for upgrades and improvements to the Bucklin Point facility and its interceptor system.

Prior to the merger, debt service was recovered through billings to each of the municipalities served by the Bucklin Point facility. Debt service was allocated based on the proportion of the community's flow to the total flow. As a result of NBC's most recent rate filing, all debt service is now billed directly to the users.

Bay Bonds

In 1980, an \$87.7 million bond issue was passed by the voters to finance improvements to the NBC sewer system that would result in improved water quality. Of the \$87.7 million in Bay Bonds, \$15 million of the authorization was transferred to the former Blackstone Valley District Commission (\$6 million) and the Pawtuxet River Authority (\$9 million) during the 1990 session of the Rhode Island General Assembly. A \$15 million NBC bond issue was passed in the 1992 general election to replace these funds. As a result, voters have authorized a total of \$93.7 million in Bay Bonds for NBC. A total of \$67.5 million has been issued.

Of the \$93.7 million authorized, R.I. General Law 46-25 requires that NBC users be responsible for the debt service on \$14.059 million. To date, user charges are financing the debt service on \$13.485 million of this amount. This means that users will be responsible for the debt service on a maximum of \$0.574 million of the unissued \$26.2 million Bay Bonds. The remaining amount will become an obligation of the State.

The State Budget Office is responsible for the issuance of Bay Bonds on behalf of NBC. The projected availability of Bay Bonds noted in the CIP is consistent with the State of Rhode Island's Capital Budget. It should be noted, however, that the State occasionally modifies the bond issuance schedule set forth in the State Capital Budget.

State Revolving Fund (SRF)

When the Construction Grants Program was phased out as a result of the 1987 reauthorization of the Federal Clean Water Act it was replaced with the SRF program. The SRF finances water quality improvement projects through a low interest loan program. According to officials at the Rhode Island Clean Water Finance Agency (RICWFA), \$260 million is the maximum funding available through the end of fiscal

year 2004. The actual amount that will be available is dependent upon congressional action and the borrowings of other Rhode Island communities.

The Rhode Island Clean Water Finance Agency administers the SRF program. As a public corporation of the State, the agency receives its funding through capitalization grants from the EPA and state bond issues and by selling its own tax-exempt revenue bonds supported by these capitalization grants. The agency loans funds to municipalities, sewer commissions, and wastewater management districts for water pollution abatement projects upon approval by RIDEM. Loans are at a rate one-third below the borrowers' market cost of borrowing. The Agency's operating expenses are funded solely by loan fees and investment income generated from administering the SRF.

The NBC has used \$8 million in SRF funds to finance contracts 201, 401 and 601. In fiscal year 1993, the NBC was the recipient of a \$14.781 million pool loan. After deducting financing costs, \$13.7 million is available for projects. The pool loan has been used to finance a variety of projects including preliminary design of the Contract 302: Comprehensive Combined Sewer Overflow Abatement Program, Contracts 101,102,103,301, 504 and 701. In addition, the NBC was able to finance the construction costs of Contracts 701 and 803 from the proceeds of these SRF loans. In fiscal year 1994, the NBC received a second pool loan in the amount of \$17.2 million which has been used to finance Contracts 101, 404, 807 and 902. In fiscal year 1997, the NBC received its third pool loan in the amount of \$8.15 million which will fund the following projects: Construction of Contract 504; Design of Contract 103; Planning of Project 702; Implementation of Contract 902 (now referred to as Contract 903) and; Construction of Contract 105. It is anticipated that the NBC will need to seek additional SRF funding during FY 1999 to finance some of the projects listed in this document.

The financing costs associated with the SRF program are reflected in the debt service calculations.

Revenue Bonds

This category includes those projects that are to be funded via Revenue Bonds and all debt service that will be paid from user charges. In general, revenue bonds will be used only to finance those projects that are not eligible for SRF funding or once all SRF funds are exhausted. The financing costs associated with the issuance of revenue bonds are reflected in the debt service calculations. This year's CIP does not propose to fund any projects with revenue bonds since it is the NBC's most expensive means of financing capital improvements.

Replacement Reserve

The NBC has established a replacement reserve to fund the replacement of vehicles and equipment at the end of their useful life. This account is funded by user charges via a restricted account.

Operating Budget

The operating budget is financed by sewer user charges. It funds the purchase of non-replacement capital equipment and facilities and may also reflect the annual operating expense associated with short term financing.

Funding source and cash flows by functional area are shown in Table 1 below.

Table 1
(Cash Flow Basis in Thousand \$'s)

Wastewater Treatment Facilities

Funding Source	FY 00	FY 01	FY 02	FY 03	FY 04	Total
Grant	0	0	0	0	0	0
BVDC Bonds	0	0	0	0	0	0
Bay Bonds	70	0	0	0	0	70
SRF	12,413	19,933	18,529	9,834	0	60,709
Revenue Bonds	0	0	0	0	0	0
Rep. Reserve	45	0	200	0	0	245
Op. Budget	0	0	0	0	0	0
Total	12,528	19,933	18,729	9,834	0	61,024

Sewer System Improvements

Funding Source	FY 00	FY 01	FY 02	FY 03	FY 04	Total
Grant	0	0	0	0	0	0
BVDC Bonds	0	0	0	0	0	0
Bay Bonds	4,400	10,200	8,920	0	0	23,520
SRF	980	33,200	21,980	30,700	30,700	117,560
Revenue Bonds	0	0	0	0	0	0
Rep. Reserve	0	0	0	0	0	0
Op. Budget	0	0	0	0	0	0
Total	5,380	43,400	30,900	30,700	30,700	141,080

Buildings & Grounds

Funding Source	FY 00	FY 01	FY 02	FY 03	FY 04	Total
Grant	0	0	0	0	0	0
BVDC Bonds	0	0	0	0	0	0
Bay Bonds	0	0	0	0	0	0
SRF	0	0	0	0	0	0
Revenue Bonds	0	0	0	0	0	0
Rep. Reserve	90	110	95	150	70	515
Op. Budget	0	0	0	0	0	0
Total	90	110	95	150	70	515

The estimated cost of the projects identified in this year's capital program is approximately \$202.6 million between FY 2000 – FY 2004. Table 2 summarizes the projected cash flows from each of the funding sources.

Table 2
(In Thousand \$'s)

Total Funding Sources

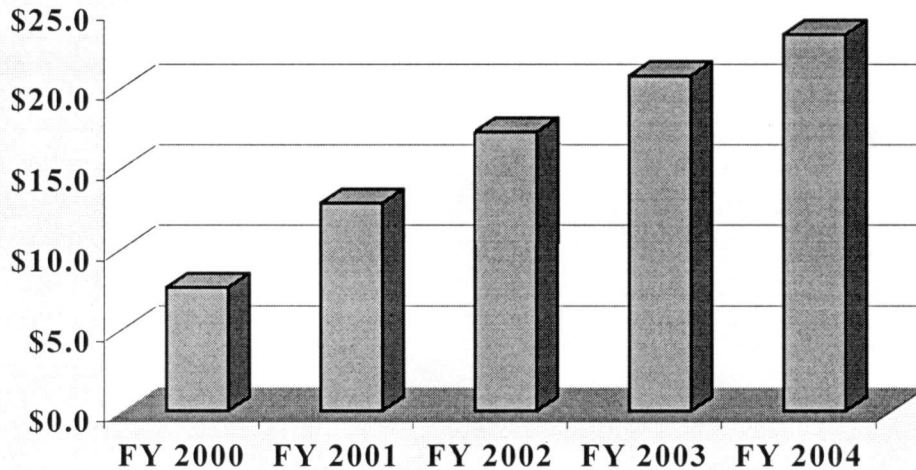
Funding Source	FY 00	FY 01	FY 02	FY 03	FY 04	Total
Grant	0	0	0	0	0	0
BVDC Bonds	0	0	0	0	0	0
Bay Bonds	4,470	10,200	8,920	0	0	23,590
SRF	13,393	53,133	40,509	40,534	30,700	178,269
Revenue Bonds	0	0	0	0	0	0
Rep. Reserve	135	110	295	150	70	760
Op. Budget	0	0	0	0	0	0
Total	17,998	63,443	49,724	40,684	30,770	202,619

Based on the State's current capital budget, existing bond authorizations, and projected rates of expenditure, it appears that the Bay Bonds will be exhausted by fiscal year 2002. At that point, the NBC will pursue the use of SRF funds as the least costly alternative and will utilize the SRF program as its primary source of funding for NBC's capital program. Approximately \$178 million in SRF funds are anticipated to be expended between FY 2000 through FY 2004.

IMPACT ON TOTAL ANNUAL REVENUE REQUIREMENTS AND SEWER USER FEES

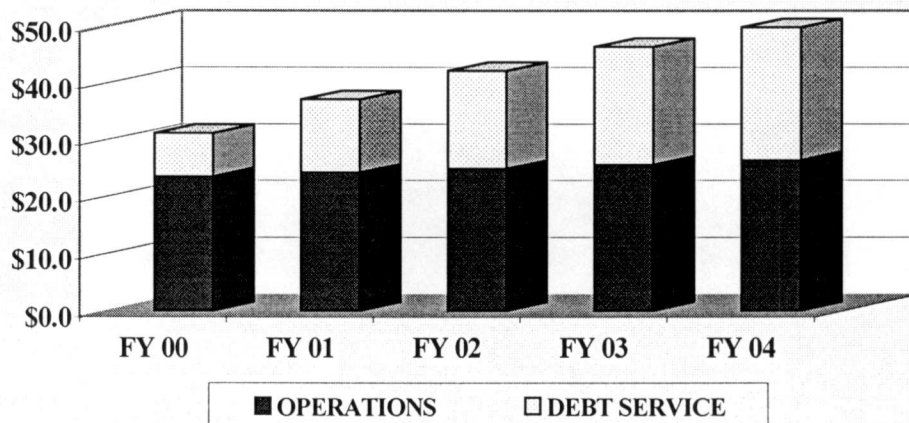
As the NBC proceeds with the construction phase of the CSO abatement project and financing mechanisms become more costly, the impact of the capital program on NBC's budget and ultimately its users becomes more significant. In order to assess the fiscal impact of the improvements, debt service payments have been estimated from the cash flow projections. As depicted graphically on the next page, annual debt service increases from \$7.7 million in fiscal year 2000 to \$23.4 million in fiscal year 2004.

ANNUAL DEBT SERVICE (In Million \$'s)



Assuming a reasonable increase of 3% per year to the operating budget (sans debt service) beginning in fiscal year 2000, NBC's total revenue requirement increases from \$31.1 million in FY 2000 to approximately \$49.8 million in fiscal year 2004. Of this amount, debt service would account for 25% of the total annual budget in FY 2000 and approximately 47% of the total annual budget in FY 2004 as shown in the following graph.

ANNUAL REVENUE REQUIREMENT (In Million \$'s)



SEWER USER FEES

The Public Utilities Commission (PUC) regulates the NBC. Any modifications to NBC user fees are subject to a lengthy review and approval process by the PUC. NBC's revenue requirement as of July 1, 1998 is \$30.4 million. Included in this revenue requirement is an allowance of \$7.2 million for debt service and debt service coverage on SRF loans. This capital program will require additional rate relief to fund debt service. Further, the PUC has placed specific restrictions on the expenditure of funds in excess of those they specifically allowed in the Order for the CSO project.

Despite the substantial number of capital improvements that the NBC has made to its facilities it should be noted that the NBC and its users enjoy one of the lowest annual sewer user bills not only within Rhode Island, but nationally as well.

Section II

Detailed Project Listings

A vertical dashed line runs down the left side of the page, consisting of a series of short, thick black horizontal bars spaced evenly apart.

Wastewater Treatment Facility Improvements

WASTEWATER TREATMENT FACILITY PROJECTS ...A LISTING

The following is a listing of the 12 Wastewater Treatment Facility Projects which
have been included in the Capital Improvement Program.
An explanation and cost breakdown of each of these projects
is included in this section. The total costs of these
projects during this five year period is
\$61,024,000

<u>PROPOSED PROJECT</u>	<u>2000-2004</u>
CONTRACT 101: FINAL CLARIFIERS AND CONTROL SYSTEM	\$ - *
CONTRACT 102:FPWWTF DRY WEATHER AND CSO CHLORINATION/DECHLORINATION SYSTEM	\$ 60,000
CONTRACT 103: SHORT TERM SOLIDS HANDLING IMPROVEMENTS	\$14,148,000
CONTRACT 104: SEPTAGE RECEIVING FACILITIES	\$ 386,000
CONTRACT 105: FPWWTF STORAGE BUILDING AND MISCELLANEOUS CSO AND OTHER IMPR.	\$ 50,000
CONTRACT 803: BPWWTF SERVICE BUILDING IMPROVEMENTS	\$ - *
CONTRACT 807: BPWWTF IMPROVEMENTS	\$45,925,000
CONTRACT 807CD: BPWWTF IMPROVEMENTS - DECHLORINATION FACILITIES	\$ 10,000
CONTRACT 809: BUCKLIN POINT NORTH LANDFILL CLOSURE	\$ - *
SITE SPECIFIC CRITERIA	\$ 200,000
LABORATORY EQUIPMENT: ICP/MS	\$ 200,000
LABORATORY: AUTOMATIC AMMONIA SYSTEM	<u>\$ 45,000</u>
SUBTOTAL	\$61,024,000

*project costs through FY 1999 only.

CONTRACT 101:

PROJECT DESCRIPTION

FPWWTF
IMPROVEMENTS TO
FINAL CLARIFIER
AND
CONTROL SYSTEM
UPGRADE

Contract 101 encompasses several improvements to the FPWWTF including: the demolition of the seven (7) existing final clarifiers chlorine field lab and chlorine contact tank; construction of three (3) 125 foot final clarifiers; a return sludge pump station; a valve station and a splitter box; replacement of the existing instrumentation and control computer system; and miscellaneous other improvements throughout the plant. This project was declared substantially complete on February 14, 1997.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	163						0		163
SRF	12,303						0		12,303
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	12,466	0	0	0	0	0	0		12,466

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	From 3/92 to 4/93 (13 Months)	\$163
DESIGN	From 4/93 to 6/94 (14 Months)	\$878
CONSTRUCTION	From 10/94 to 2/97 (28 Months)	\$11,425
TOTAL		\$12,466

CONTRACT 102 :

FPWWTF DRY WEATHER
AND CSO
CHLORINATION/
DECHLORINATION
SYSTEM

PROJECT DESCRIPTION

This design and construction project will implement the recommendation for the Field's Point portion of the Facilities Plan Amendment for Disinfection Alternatives at the Field's Point and Bucklin Point WWTF's. At Field's Point it is recommended that sodium hypochlorite be used for disinfection and sodium bisulfite for dechlorination. The recommendation for the Bucklin Point WWTF will be implemented separately under Contract 807 (Bucklin Point WWTF Improvements).

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	3,693	60					60		3,753
SRF	290						0		290
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	3,983	60	0	0	0	0	60		4,043

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	Completed as part of 102P	\$253
DESIGN	From 3/96 to 11/96 (9 Months)	\$290
CONSTRUCTION	From 7/97 to 1/99 (18 Months)	\$3,500
TOTAL		\$4,043

CONTRACT 103:

SHORT TERM
SOLIDS
HANDLING
IMPROVEMENTS

PROJECT DESCRIPTION

This project implements a variety of improvements that are required to enable the NBC to continue to incinerate sludge at its Field's Point facility. Some of the improvements include the: 1) purchase of particulate removal equipment to reduce fine particulate and metals emissions; 2) addition of incinerator controls for ease of operation and control; 3) installation of other miscellaneous incinerator equipment; 4) new dewatering equipment which will result in more reliable operations.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF	3,511	5,184	5,184	3,780			14,148		17,659
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	3,511	5,184	5,184	3,780	0	0	14,148		17,659

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	From 2/96 to 7/97 (18 Months)	\$239
DESIGN	From 10/97 to 11/98 (13 Months)	\$1,220
CONSTRUCTION	From 4/99 to 1/02 (33 Months)	\$16,200
TOTAL		\$17,659

CONTRACT 104:

SEPTAGE
RECEIVING
FACILITY

PROJECT DESCRIPTION

The facilities planning study and marketing survey for septage receiving concluded that there are sufficient septage receiving facilities within the State of Rhode Island to handle the septage generated. However, certain aspects of the Lincoln Septage Receiving Facility need upgrading to address the operational inefficiencies. The identified areas of need are: more efficient method of grit removal; odor control to meet existing and additional needs resulting from the new grit removal system; construction of bathroom and sampling areas, and an evaluation of existing HVAC system and capacities. This project involves the design and construction of these facilities.

PROJECT FINANCING & EXPENDITURES

(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS	166						0		166
BAY BONDS							0		0
SRF	794	386					386		1,180
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	960	386	0	0	0	0	386		1,346

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	From 3/95 through 2/97 (24 Months)	\$97
DESIGN	From 4/97 through 6/98 (14 Months)	\$116
CONSTRUCTION	From 11/98 through 9/99 (10 Months)	\$1,133
TOTAL		\$1,346

**CONTRACT 105 -
FPWWTF STORAGE
BUILDING AND
MISCELLANEOUS CSO
AND OTHER
IMPROVEMENTS**

PROJECT DESCRIPTION

This design and construction project will meet the storage needs at the FPWWTF and make other necessary improvements. The facilities plan amendment recommends the construction of a new building to the southeast of the grit facilities. This building will provide one location to store archived files, maintenance equipment and supplies. Space within the building will also be allocated to provide indoor parking for the scum truck during the winter months. Other improvements to be made at the FPWWTF include replacement of return activated sludge pipe support brackets, repair of the parapet at the Ernest Sreet pump station, painting of the ash crane, installation of a variable frequency drive to operate return sludge pumps, addition of a cyclonic grit separator, filling in of subterranean channels north of aeration tanks and installation of security cameras and improvements to the CSO wet weather facilities.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF	2,450	50					50		2,500
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	2,450	50	0	0	0	0	50		2,500

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	Completed as part of Contract 101D	
DESIGN	Completed as part of Contract 101C	
CONSTRUCTION	From 4/98 to 7/99 (15 Months)	\$2,500
TOTAL		\$2,500

CONTRACT 803:

**BPWWTF
SERVICE BUILDING
IMPROVEMENTS**

PROJECT DESCRIPTION

The existing building is 40 plus years old and is in need of several improvements in order to continue to be functional. This project would result in a new HVAC system for the building, the construction of locker room space along with showers, sinks, toilets for both men and women in the second floor of the dewatering building that formerly housed vacuum filter equipment. A janitorial closet, laundry facilities and a lunch room are also to be located on the second floor. In addition, this project includes the construction of a paint shop and an electrical shop in the vacant areas of the first floor of the dewatering building. This project was declared substantially completed on February 14, 1997.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS	24						0		24
BAY BONDS							0		0
SRF	700						0		700
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	724	0	0	0	0	0	0		724

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	Included as part of design	
DESIGN	From 10/94 to 4/95 (6 Months)	\$24
CONSTRUCTION	From 3/96 to 2/97 (11 Months)	\$700
TOTAL		\$724

CONTRACT 807:

**BPWWTF CSO FACILITIES
AND OTHER
IMPROVEMENTS**

PROJECT DESCRIPTION

A Facilities Plan Amendment (FPA) has been prepared to evaluate improvements needed at the Bucklin Point WWTF to provide wet weather primary capacity of 116 MGD during storms and secondary capacity of 46 MGD over sustained periods of time. Improvements currently proposed in design are: new influent pumping station, new screening and grit handling facilities, new dry weather primary settling tanks, conversion of the existing primary tanks to wet weather treatment, conversion to a fine bubble aeration system, new UV disinfection facilities, new effluent pumping station for dry weather flows, new plant instrumentation and control system.

PROJECT FINANCING & EXPENDITURES

(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	1,100						0		1,100
SRF	1,607	6,593	14,749	14,749	9,834		45,925		47,532
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	2,707	6,593	14,749	14,749	9,834	0	45,925	0	48,632

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	From 12/95 to 10/98 (34 Months)	\$485
DESIGN	From 2/98 to 2/00 (24 Months)	\$3,900
CONSTRUCTION	From 2/00 to 3/03 (36 Months)	\$44,247
TOTAL		\$48,632

CONTRACT 807CD:

BPWWTF IMPROVEMENTS
DECHLORINATION
FACILITY

PROJECT DESCRIPTION

The dechlorination facility provided by this project was part of the overall Bucklin Point Improvements, but has been placed into a separate project for construction to expedite the completion, in accordance with Compliance Order RIO-052, which requires that the chlorine residual be removed from the Bucklin Point WWTF effluent within one year of RIDEM approval of the dechlorination design plans and specifications (estimated completion of construction - July 1999). The cost projections below are for the construction phase only as the planning and design phases of this project are included in the Bucklin Point Improvement project.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	450	10					10		460
SRF	80						0		80
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	530	10	0	0	0	0	10		540

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	From 12/95 to 11/97 (24 Months)	
DESIGN	From 11/97 to 7/98 (7 Months)	
CONSTRUCTION	From 7/98 to 7/99 (12 Months)	\$540
TOTAL		\$540

CONTRACT 809:

**BPWWTF
NORTH LANDFILL
CLOSURE**

PROJECT DESCRIPTION

In response to capacity limitations and federal regulations, the NBC ceased landfilling sludge at the Bucklin Point North Landfill in February, 1996. This project involves the activities required to permanently close the landfill. Regrading and seeding the site, as required by the landfill closure plan prepared by NBC and approved by RIDEM, was completed in FY 97. Work to be completed in FY 99 includes installing a fence around the site and repair of the plant access road from the north gate to the parking lot.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET	505						0		505
TOTAL	505	0	0	0	0	0	0		505

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	Performed by NBC staff	
DESIGN	From 5/95 to 11/95 (7 Months)	\$50
CONSTRUCTION	From 2/96 to 10/98 (32 Months)	\$455
TOTAL		\$505

**SITE SPECIFIC
CRITERIA
EVALUATION
FOR FIELD'S POINT**

PROJECT DESCRIPTION

This project entails the development of site specific criteria in accordance with the Rhode Island Site Specific Criteria Development Policy to evaluate the appropriateness of the criteria used to establish the limitations for metals and other effluent parameters contained in the 1992 permit for the Field's Point Wastewater Treatment Facility. This project is required by the December 15, 1992 RIPDES consent agreement between RIDEM and NBC.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF	100	200					200		300
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	100	200	0	0	0	0	200		300

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
STUDY	From 9/98 through 8/00 (24 Months)	\$300
TOTAL		\$300

**LABORATORY
EQUIPMENT:**

**PURCHASE OF
INDUCTIVELY
COUPLED PLASMA/MASS
SPECTROPHOTOMETER
(ICP/MS)**

PROJECT DESCRIPTION

The continual lowering of metal detection limits by EPA requires the use of highly sensitive instruments. The EPA recommends the use of an ICP/MS for the metal analyses. This instrument has the detection power, sensitivity and elemental coverage to comply with the more stringent EPA regulations.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REP. RESERVE				200			200		200
OP. BUDGET							0		0
TOTAL	0	0	0	200	0	0	200		200

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PURCHASE	Fiscal Year 2001	\$200
TOTAL		\$200

LABORATORY
EQUIPMENT:

AUTOMATIC AMMONIA
SYSTEM

PROJECT DESCRIPTION

The purchase of an automatic ammonia system will allow the Laboratory to distill a maximum of 20 samples per run. Currently, only one sample can be distilled at a time.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REP. RESERVE		45					45		45
OP. BUDGET							0		0
TOTAL	0	45	0	0	0	0	45		45

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PURCHASE	Fiscal Year 2000	\$45
TOTAL		\$45



Sewer System Improvements

SEWER SYSTEM IMPROVEMENTS & MAINTENANCE PROJECTS ...A LISTING

The following is a listing of the 12 Sewer System & Maintenance Projects which
have been included in the Capital Improvement Program.
An explanation and cost breakdown of each of these projects
is included in this section. The total cost of these
projects during this five year period is
\$141,080,000

PROPOSED PROJECT	2000-2004
CONTRACT 302.2: CSO REASSESSMENT	\$ - *
CONTRACT 302.3: PHASE I COMBINED SEWER OVERFLOW (CSO) FACILITIES	\$ 139,170,000
CONTRACT 304: EVALUATION AND CLEANING OF CSO INTERCEPTORS	\$ 415,000
CONTRACT 304.2C: BRANCH AVENUE INTERCEPTOR REHABILITATION	\$ 30,000
CONTRACT 305: CSO 2B HEADWALL IMPROVEMENTS	\$ 20,000
CSO FLOWMETERS	\$ 500,000
CONTRACT 404: GANO ST. TO PITMAN ST. INTERCEPTOR REPLACEMENT	\$ - *
CONTRACT 504: IMPROVEMENTS TO NBC-OWNED INTERCEPTORS IN JOHNSTON	\$ 70,000
CONTRACT 701: REPLACEMENT OF THE SAYLESVILLE PUMPING STATION	\$ - *
CONTRACT 702: INFILTRATION/INFLOW STUDY: LOUISQUISSET PIKE AREA	\$ - *
CONTRACT 704P: INVESTIGATION AND REHAB. OF WASHINGTON HWY AND OMEGA PUMP STS	\$ 75,000
CONTRACT 903: GEOGRAPHIC INFORMATION SYSTEM IMPLEMENTATION	\$ 800,000
SUBTOTAL	\$ 141,080,000

*project costs through FY 1999 only.

CONTRACT 302.2:

COMPREHENSIVE
COMBINED
SEWER
OVERFLOW (CSO)
PROGRAM

REASSESSMENT

PROJECT DESCRIPTION

Because of the rate impact that the CSO program will have on NBC users and changes that have occurred in the national CSO policy since the 1994 approval of the CSO Abatement Plan, the Commission convened a stakeholders group in early 1996 to review the proposed plan. This reassessment has resulted in a modified CSO control plan that is approximately \$170 million less than the originally proposed plan. The stakeholders' group also recommended that the Commission investigate revising its rate structure to include a stormwater user fee and investigate alternatives to prevent stormwater runoff from reaching the combined sewers. These are the only tasks that remain to be completed under this contract.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	1,428						0		1,428
SRF	218						0		218
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	1,646	0	0	0	0	0	0	0	1,646

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	From 1/96 to 1/99 (36 months)	\$1,646
TOTAL		\$1,646

PROJECT DESCRIPTION

CONTRACT 302.3: PHASE I COMBINED SEWER OVERFLOW (CSO) FACILITIES

Providence, Pawtucket and Central Falls all have combined sewers which overflow at approximately 84 locations during wet weather. This Comprehensive Combined Sewer Overflow (CSO) program will mitigate the impact of these overflows through the construction of wet weather control facilities. A reassessment of the CSO control program that was approved by DEM in 1994 was completed in August 1997 after a series of 19 meetings in 20 months with a 40 member stakeholder's group. This reassessment has resulted in a proposed modification of the original control program. The new proposed program consists of two tunnels, the main spine (13,500 ft. long) and the Pawtucket tunnel (13,000 ft. long), two tunnel pump stations, five CSO interceptors and twelve sewer separation projects at a projected cost of \$389 million. Contract 302.3 includes design and construction of the Phase I facilities (the main spine tunnel and pump station estimated at \$165 million) and is expected to be completed in about seven years. Upon completion of construction of Phase I, the proposed Phase II facilities will be reassessed to determine if any changes should be made to the plan. Cost estimates for Phase II facilities is \$72 million; for Phase III facilities is \$152 million.

PROJECT FINANCING & EXPENDITURES (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	8,500	4,370	10,200	8,920			23,490		31,990
SRF	14,840		32,800	21,680	30,600	30,600	115,680	19,490	150,010
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	23,340	4,370	43,000	30,600	30,600	30,600	139,170	19,490	182,000

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	From 1/92 to 7/98 (78 months)	\$6,600
DESIGN	From 7/93 to 6/00 (84 months)	\$19,000
CONSTRUCTION	From 7/00 to 7/05 (60 months)	\$156,400
TOTAL		\$182,000

PROJECT DESCRIPTION

CONTRACT 304:

EVALUATION AND CLEANING OF CSO INTERCEPTORS

This project involves the long term ongoing evaluation of interceptor sewers in the Commission's service area to determine their condition and develop solutions to correct any problems that may be identified such as cleaning or repair. Interceptors currently identified as in need of evaluation are: 1) Moshassuck Valley Interceptor; 2) Blackstone Valley Interceptor; and 3) Allens Avenue Interceptor. Interceptors identified as needing to be cleaned are: 1) Southerly portion of the Seekonk River Interceptor; 2) Elmwood/South Providence Interceptor; and 4) Kinsley Avenue Interceptor. This project also includes conducting Infiltration/Inflow evaluations of the system as needed. The Branch Avenue interceptor in the vicinity of Silver Spring Street has been identified as in need of repair and is listed as a separate project under 304.2.

PROJECT FINANCING & EXPENDITURES (Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT	90						0		90
BVDC BONDS							0		0
BAY BONDS	170						0		170
SRF	415	415					415		830
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	675	415	0	0	0	0	415		1,090

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
IMPLEMENTATION	From 7/97 to 6/00 (35 Months)	\$1,090
TOTAL		\$1,090

CONTRACT: 304.2C

BRANCH AVENUE
INTERCEPTOR
REHABILITATION

PROJECT DESCRIPTION

During a July 1997 inspection program, it was discovered that a partial failure of our 48 inch brick interceptor in the vicinity of Silver Spring Street on Branch Avenue had occurred. This contract will rehabilitate the interceptor as well as line approximately 2700 feet of the 48 inch interceptor in the same area.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	2,850	30					30		2,880
SRF							0		0
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	2,850	30	0	0	0	0	30		2,880

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
DESIGN	From 11/97 to 7/98 (8 Months)	\$200
CONSTRUCTION	From 9/98 to 6/99 (10 Months)	\$2,680
TOTAL		\$2,880

CONTRACT 305:

**CSO 2B
HEADWALL
IMPROVEMENTS**

PROJECT DESCRIPTION

This project includes rebuilding the headwalls for seven (7) outfall pipes along the Woonasquatucket River. Although design was completed five years ago, construction could not start until fiscal year 1998 when the Rhode Island Department of Transportation (RIDOT) moratorium on road cuts on Promenade St. expired.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	1,200						0		1,200
SRF	138	20					20		158
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	1,338	20	0	0	0	0	20		1,358

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING/DESIGN	From 10/88 to 3/91 (30 Months)	\$132
DESIGN UPDATE	From 7/97 to 11/97 (5 Months)	\$32
CONSTRUCTION	From 4/98 to 1/99 (9 Months)	\$1,194
TOTAL		\$1,358

PROJECT DESCRIPTION

CSO FLOWMETERS

This project involves the monitoring of CSO discharge and the water quality of rivers that receive discharges. Flow meters will be used by NBC staff to conduct a CSO flow monitoring study over the next several years to evaluate the amount of discharge during wet weather events from CSO outfalls. This information will be used to design CSO control facilities. Water monitoring will be conducted for the Providence and Seekonk Rivers and their tributaries to determine the impact of CSO discharges on water quality. This data will provide a benchmark to measure water quality improvements after the CSO facilities are constructed.

PROJECT FINANCING & EXPENDITURES

(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	100						0		100
SRF	147	100	100	100	100	100	500		647
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	247	100	100	100	100	100	500		747

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PURCHASE/ INSTALLATION	From 7/95 to 6/04 (108 months)	\$747
TOTAL		\$747

CONTRACT 404:

**GANO STREET
TO
PITMAN STREET
INTERCEPTOR
REPLACEMENT**

PROJECT DESCRIPTION

Contract 404 is the replacement of approximately 2,285 feet of the 42" interceptor from Gano Street to Pitman Street with a new 42" PCCP interceptor because the existing interceptor has become misaligned both vertically and horizontally over the past 60 years. This project is complete.

PROJECT FINANCING & EXPENDITURES

(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	866						0		866
SRF	3,747						0		3,747
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	4,613	0	0	0	0	0	0		4,613

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	Included as part of CSO A Facilities Plan	
DESIGN	From 1/87 to 3/94 (75 Months)	\$866
CONSTRUCTION	From 3/95 to 1/96 (10 Months)	\$3,747
TOTAL		\$4,613

CONTRACT 504:

**IMPROVEMENTS TO
NBC OWNED
INTERCEPTORS
IN JOHNSTON**

NORTH END

PROJECT DESCRIPTION

In order to correct capacity problems in the northern portion of the Town of Johnston, the NBC is currently constructing improvements to the interceptor system. These improvements will provide sufficient capacity in NBC pipes for future growth in this portion of the Town.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS	120						0		120
SRF	5,215	70					70		5,285
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	5,335	70	0	0	0	0	70		5,405

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	Planning included as part of SSES	
DESIGN	From 11/93 to 3/96 (30 Months)	\$865
CONSTRUCTION	From 4/97 to 10/98 (18 Months)	\$4,540
TOTAL		\$5,405

CONTRACT 701:

**REPLACEMENT
OF THE
LINCOLN (SAYLESVILLE)
PUMP STATION**

PROJECT DESCRIPTION

An evaluation of the existing package type pumping station in Saylesville was undertaken as part of Contract 103. It was determined that the existing pumping station has size limitations in both the wet well and the dry pit. A new pumping station is necessary in order to provide firm capacity and reliable operation for future flows. this project is substantially complete.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS	151						0		151
BAY BONDS							0		0
SRF	1,675						0		1,675
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	1,826	0	0	0	0	0	0		1,826

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	Prior to 7/95	\$151
DESIGN	From 11/94 to 9/95 (11 Months)	\$195
CONSTRUCTION	From 11/96 to 7/98 (20 Months)	\$1,480
TOTAL		\$1,826

CONTRACT: 702

INFILTRATION/INFLOW
STUDY

LOUISQUISSETT
PIKE AREA

PROJECT DESCRIPTION

NBC's Interceptor Construction and Maintenance section has reported high flow levels and root problems in the Louisquisset Pike area of Lincoln. This project is comprised of an infiltration/inflow study and an evaluation of the sewer repair or rehabilitation.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF	50						0		50
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	50	0	0	0	0	0	0		50

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	From 5/98 to 1/99 (9Months)	\$50
TOTAL		\$50

CONTRACT 704P:

**INVESTIGATION AND
REHABILITATION OF
WASHINGTON HIGHWAY
AND OMEGA PUMP
STATIONS**

PROJECT DESCRIPTION

The Washington Highway and Omega Pump Stations in the Bucklin Point Service area are both older pump stations nearing the end of their design life. This project involves a study of the stations to determine if any rehabilitation or improvements need to be made at this time. Depending on the outcome of this investigation, design and construction phases may follow.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT									0
BVDC BONDS									0
BAY BONDS							0		0
SRF	75	75					75		150
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	75	75	0	0	0	0	75		150

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	From 12/98 to 2/99 (12 Months)	\$150
DESIGN	From 7/99 to 6/00 (12 Months)	
CONSTRUCTION	From 7/00 to 12/01 (18 Months)	
TOTAL		\$150

CONTRACT 903:

GEOGRAPHIC
INFORMATION
SYSTEM (GIS)
IMPLEMENTATION

PROJECT DESCRIPTION

The NBC has completed a study to implement a Geographic Information System (GIS) program. This GIS would allow the NBC to geographically relate and maintain databases on its sewer system and pretreatment programs. The project includes data conversion, data development and acquisition of additional hardware and software. This would be a long term project requiring annual updating subsequent to the initial data acquisition.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF	489	300	300	200			800		1,289
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET							0		0
TOTAL	489	300	300	200	0	0	800		1,289

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	From 10/95 to 5/96 (8 Months)	\$89
IMPLEMENTATION	From 12/97 to 6/03 (66 Months)	\$1,200
TOTAL		\$1,289

A vertical dashed line runs down the left side of the page, consisting of a series of short, thick black horizontal bars separated by gaps.

Buildings & Grounds Improvements

**BUILDINGS
AND GROUNDS PROJECTS
...A LISTING**

The following is a listing of the 2 Buildings and Grounds Projects which
have been included in the Capital Improvement Program.
An explanation and cost breakdown of each of these projects
is included in this section. The total cost of these
projects during this five year period is
\$515,000

<u>PROPOSED PROJECT</u>	<u>2000-2004</u>
OFFICE SPACE PLANNING	\$ - *
VEHICLE REPLACEMENTS	<u>\$ 515,000</u>
SUBTOTAL	\$ 515,000

*project costs through FY 1999 only.

**OFFICE SPACE
PLANNING**

PROJECT DESCRIPTION

This project involves the long range plans of the NBC office space. This project will include plans to combine our business activities at 235 Promenade Street, 459 Promenade Street and other select business activities at the FPWWTF and the BPWWTF to one central business location. This project may include the selling of NBC property and the purchase of land/building.

PROJECT FINANCING & EXPENDITURES
(Cash Flow Basis in Thousand \$)

FUNDING SOURCE	BEFORE JULY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL	AFTER FY '04	TOTAL COSTS
GRANT							0		0
BVDC BONDS							0		0
BAY BONDS							0		0
SRF							0		0
REVENUE BONDS							0		0
REP. RESERVE							0		0
OP. BUDGET	2,557						0		2,557
TOTAL	2,557	0	0	0	0	0	0		2,557

PROJECT COST BY PHASE

Phase	Project Schedule	Cost By Phase
PLANNING	From 6/98 to 10/98 (24 months)	\$12
DESIGN	From 1/99 to 1/00 (12 month)	\$45
PURCHASE/ CONSTRUCTION	From 6/00 to 6/02 (24 months)	\$2,500
TOTAL		\$2,557

VEHICLE REPLACEMENT SCHEDULE*

(In Thousand \$'s)

DESCRIPTION	FY '99	FY '00	FY '01	FY '02	FY '03	FY '04	5 YEAR TOTAL
1984 Sewer Bucket Cleaning Machine				60			60
1984 Digger Truck (Unit 12)	80						
1980 Mack 6-year dump (Unit 7)						70	70
10 Wheeler (Unit 10)			80				80
1985 City Suburban (Unit 14)		30					30
1989 Vactor Truck (Unit 17)	154						
1989 Chevy C-30 (Unit 6)				35			35
Video Inspection (TV) Utility Truck					150		150
1990 Station Wagon		30					30
1989 Van (Unit 30)		30					30
1989 Van (Unit 31)			30				30
Total	\$234	\$90	\$110	\$95	\$150	\$70	\$515

* All Items are to be funded from the Replacement Reserve

Section III

Appendix

THE NARRAGANSETT BAY COMMISSION
ABBREVIATIONS & ACRONYMS
FOR THE 2000-2004 CIP

Average Daily Flow	ADF
Buildings and Grounds	BG
Bucklin Point Wastewater Treatment Facility	BPWWTF
Blackstone Valley District Commission	BVDC
Blackstone Valley Interceptor	BVI
Capital Improvement Plan	CIP
Combined Sewer Overflow	CSO
Department of Environmental Management (Rhode Island)	DEM
Environmental Protection Agency (United States)	EPA
Ernest Street Pumping Station	ESPS
Field's Point Wastewater Treatment Facility	FPWWTF
General Obligation Bonds (issued by The State of Rhode Island)	G.O./g.o.
Geographic Information System	GIS
Inductively Coupled Plasma w/Mass Spectro Photometer	ICP/MS
Interceptor Construction & Maintenance (Narragansett Bay Commission)	ICM
Linear Feet	LF
Million Gallons per Day	MGD/mgd
Moshassuck Valley Interceptor	MVI
Narragansett Bay Water Quality Management District Commission	NBC
National Pollution Discharge Elimination System	NPDES
Out Fall	OF
Operating (to modify "budget")	OP/Oper.
Public Utilities Commission (Rhode Island)	PUC
Replacement (used with "Reserve Fund")	REP./REPL.
Revenues (used with "Bonds")	REV.
Rhode Island Department of Environmental Management	RIDEM
Rhode Island Pollution Discharge Elimination System	RIPDES
State Revolving Fund (Rhode Island)	SRF
Wastewater Treatment Facility	WWTF

NARRAGANSETT BAY COMMISSION FACILITIES

NBC Field's Point Service Area Facilities

The FPWWTF can provide secondary treatment to average dry weather flows of 65 million gallons per day (mgd), sustained wet weather flows of 77 mgd, and peak hourly flows of 91 mgd. Wet weather facilities provide primary treatment and disinfection for stormwater flows of up to 123 mgd beyond the primary and secondary process systems' capacity. Total treatment capacity at the Field's Point facility is 200 mgd.

The Field's Point facility uses an activated sludge process for secondary treatment, incorporating grit removal, primary sedimentation, secondary aeration, final clarification and chlorination for disinfection in the overall treatment process. Final effluent discharge is to the Providence River. The majority of the flow is pumped to the treatment facility by the Ernest Street Pumping Station (ESPS).

Sludge is processed through gravity thickeners and then to two 2-meter Parkson Magnum 3000 belt filter presses which went on-line in mid June, 1988. Sludge is then conveyed to a Nichols nine-hearth sludge incinerator (16 feet diameter, 10 wet ton/hour maximum capacity). The resulting ash from the incinerator is conveyed in a wet state to ash settling tanks. The settled ash is then landfilled.

The Field's Point service area operates and maintains four outlying pump stations. The Washington Park and Reservoir Ave. pump stations located within the City of Providence have recently completed construction improvements. There are two additional pump stations in Johnston. The newest, Central Avenue, came on-line in 1987.

The Field's Point service area has several flow metering stations that are used to measure flows from the various service areas. These meters are read weekly.

In addition, in the Field's Point service area, NBC owns and is responsible for the maintenance and correction of 57 Combined Sewer Overflows (CSO's), 32 tidegates and 68 miles of interceptors.

NBC Bucklin Point Service Area Facilities

The NBC assumed ownership of the Bucklin Point Wastewater Treatment Facility (BPWWTF) in 1992 from the Blackstone Valley District Commission (BVDC) which was established by the Rhode Island General Assembly in 1947 to plan, design, construct and operate and maintain facilities for the abatement of pollution generated from wastewater. Rhode Island voters also granted BVDC the ability to use state issued (but BVDC retired) bonds. The Bucklin Point wastewater treatment plant, providing primary treatment, began operating in 1952. The plant was upgraded to secondary treatment in 1973.

The BPWWTF can provide maximum secondary treatment to 46 mgd and primary treatment for flows up to 60 mgd.

Wastewater treated at the Bucklin Point Facility first flows through mechanically cleaned screens, grit chambers, a pre-aeration channel, two primary settling tanks and then flows into aeration basins where it receives secondary treatment through the use of activated sludge technology. The activated sludge and the wastewater then flow to six final settling tanks. The effluent from the final settling tanks flows to the chlorine contact tank for disinfection. The treated effluent is discharged to the Seekonk River.

Waste sludge from the activated sludge process is pumped to the flotation thickener where it is thickened with the aid of chemicals and is then pumped to one of the digesters. The sludge is anaerobically digested and methane gas and carbon dioxide are produced as part of this process. The methane is used to heat the digesters and plant buildings. In accordance with Federal Regulations, sludge disposal at the landfill has ceased and the landfill is closed. NETCO presently disposes of the sludge under contract to NBC.

NBC also owns and operates three pump stations within the service area, the Omega (East Providence) Pump Station, the Saylesville (Lincoln) Pump Station and the Washington Highway Pump Station in Lincoln.

NBC is also responsible for five interceptors in the BPWWTF service area: the Blackstone Valley, Washington Highway, Moshassuck Valley, Abbott Run and East Providence. The total length of the interceptors is approximately 28 miles.

In addition, legislation passed by the Rhode Island General Assembly in 1989 assigned responsibility for the 27 CSO's in Pawtucket and Central Falls to BVDC in addition to the BVDC's North Diversion Structure located at Bucklin Point.

**PUBLIC REVIEW PROCESS
WITH
PUBLIC COMMENTS
AND RESPONSES**

In August 1998 the Draft CIP was distributed to the Board of Commissioners.

On August 12, 1998, the Draft CIP was presented to the Citizen's Advisory Committee.

A display advertisement for a public hearing on the Capital Improvement Program (CIP) was published in the Providence Journal Bulletin (see following page). The CIP Public Hearing was held on August 13, 1998 at 7:00 p.m. at the Narragansett Bay Commission Corporate Office, 235 Promenade Street, Suite 500. At the hearing it was noted that public comments would be accepted until August 21, 1998. Several comments were received at the August 13th Public Hearing. The Commission has prepared written responses to those comments and are included in the following pages. Where applicable, comments/suggestions were incorporated into the CIP.

On August 13, 1998, the Citizen's Advisory Committee commented on the Draft CIP.

On September 28, 1998, the Final Draft CIP was adopted by the Board of Commissioners.

Public Hearing

The Narragansett Bay Commission

invites the public to attend a Public Hearing on its

Capital Improvement Program for Fiscal Years 2000 - 2004

on
Thursday, August 13, 1998 • 7:00 p.m.

at
The Narragansett Bay Commission Office*
235 Promenade Street, Suite 500, Providence, RI

At the hearing, the NBC will give the public an overview of its Capital Improvement Program (CIP) for fiscal years 2000-2004. The CIP is a planning document identifying over \$201 million in projects, repairs and purchases anticipated over the next five years. Testimony will be taken from the public following the presentation. For more information, contact Jackie Saul at (401) 222-6680/TDD (401) 222-6680.

*The meeting site is accessible. Individuals requesting interpreter services must notify the NBC at 222-6680/TDD 222-6680 at least 72 hours in advance of the meeting date.

Rep. Vincent Mesoella, *Chairman*

Paul Pinault, P.E., *Executive Director*



**CITIZEN'S ADVISORY COMMITTEE
TO THE
NARRAGANSETT BAY COMMISSION**

August 13, 1998

Mr. Paul Pinault, Executive Director
Narragansett Bay Commission
459 Promenade Street
Providence, RI 02908

RE: **CAPITAL IMPROVEMENT PROGRAM (CIP) FY 2000-2004 FOR THE NARRAGANSETT BAY
WATER QUALITY MANAGEMENT DISTRICT COMMISSION**

The Citizen's Advisory Committee (CAC) to the Narragansett Bay Commission has authorized us to submit a Statement commending the NBC Staff on their draft of the Capital Improvement Program for the FY-2000-2004 for the Narragansett Bay Water Quality Management District Commission.

The Citizens Advisory Committee did have draft copies to study and a comprehensive presentation of the Draft by Ms. Jacqueline Saul of the NBC Staff that enabled us to draw our positive conclusions. In so doing, we unanimously agreed that the CIP draft, was not only an extremely thorough presentation that covered every projected capital project, but also, was set forth with clarity and the kind of logical organization so needed for this type of documentation on behalf of NBC Sewer users and the general public.

We approve of the Capital Improvement Program as submitted with an added commitment to strenuously seek State and Federal financial support of the CSO project. Realizing that the CSO project is Federally mandated and that it now represents 69% of the total cost of the CIP every effort must be made in this area to mitigate the rate impact on users.

We are hopeful and confident that the NBC Board of Commissions will agree with our assessment of this Draft and will forward their approval.

Respectfully Submitted
On behalf of the
CITIZEN'S ADVISORY COMMITTEE



**HAROLD GADON
CHAIRMAN**



**Howard Schachter
Secretary**

cc: Jacqueline Saul

<http://www.narrabay.com>

Paul Pinault, P.E.
Executive Director



Mr. Harold Gadon
Chairman
Citizen's Advisory Committee
The Foundry Corporate Office Center
235 Promenade Street – Suite 500
Providence, Rhode Island 02908-5739

Thank you for taking the time to provide the Narragansett Bay Commission with written comments from the Citizen's Advisory Committee on our draft 2000-2004 Capital Improvement Program (CIP). Your comments will be incorporated into the final CIP document.

Once again, the NBC appreciates your comments and support of this year's Capital Improvement Program.

Paul Prineas

cc: Howard Schachter

401 • 222 • 6680
401 • 222 • 2584 FAX
401 • 222 • 6680 TDD

<http://www.narrabay.com>



Paul Pinault, P.E.
Executive Director

September 17, 1998

Mr. Grant Dulgarian
843 Westminster Street
Providence, Rhode Island 02903

Dear Mr. Dulgarian:

Thank you for providing testimony at the Narragansett Bay Commission's (NBC) 2000-2004 Capital Improvement Program (CIP) Public Hearing on August 13, 1998.

The NBC appreciates your concerns with respect to the cost of the Combined Sewer Overflow (CSO) Program and the rate impact this project will have on its users. Please be assured that the NBC has and will continue to seek federal and state funding to alleviate some of the financial impacts these improvements will have on our customers.

With regard to your concern about public participation, the NBC held a series of stakeholder workshops on the CSO Abatement Project that spanned over two years beginning in January, 1996. These stakeholder workshops were open to the public and scheduled at the request of the 40+ stakeholders, all of whom represented various constituencies of the project. These stakeholders include: representatives of Senator Chafee's, Senator Reed's and the Governor's Office; representatives from cities and towns within our district; the Chamber of Commerce; Save the Bay; the Green Party of Rhode Island; RI WISE USE; R.I. Shellfisherman's Association; the Environmental Council of Rhode Island; Brown University; East Providence Shoreline Improvement Association; Edgewood Yacht Club; Fleet/Norstar; Narragansett Boat Club; NBC's Citizen's Advisory Committee; the Providence Foundation; US EPA; RIPEC; Division of Public Utilities & Carriers; the Attorney General's Office; and other various state agencies.

Further, the NBC held several public meetings and hearings in the evenings at which any interested party could attend and learn more about the project and present their comments and/or concerns.

With the assistance of this stakeholders group, a less costly CSO control plan was selected which reduced the cost from \$559 million for the original plan to approximately

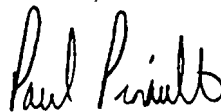
\$389 million for the revised plan. This revised plan will be implemented in three phases. After the first phase is completed, the NBC is committed to a two-year re-evaluation period to evaluate the water quality improvements and reassess the technologies to determine if future phases of the plan should be modified.

Similarly, at the request of the stakeholders group, a Stormwater Assessment Committee has been formed to evaluate the feasibility of an alternative rate structure to NBC's current rate structure that would shift some of the financial burden of the CSO program to the generators of stormwater runoff.

Lastly, the Commission is regulated by the Public Utilities Commission (PUC). As such, rates established are not only designed to be fair and equitable for all users, but must be approved by the PUC prior to implementation. Residential rates within the NBC service area remains one of the lowest in the State and the fifth lowest in the nation for metropolitan cities similar in size.

The Commission remains committed to its role to improve water quality in Narragansett Bay at the least possible cost to our customers.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul Pinault". The signature is fluid and cursive, with the first name "Paul" and last name "Pinault" clearly distinguishable.

Paul Pinault, P.E.
Executive Director

<http://www.nartabay.com>

Paul Pinault, P.E.
Executive Director



With the assistance of this stakeholders group, a less costly CSO control plan was selected which reduced the cost from \$559 million for the original plan to approximately \$389 million for the revised plan. This revised plan will be implemented in three phases. After the first phase is completed, the NBC is committed to a two-year re-evaluation period to evaluate the water quality improvements and reassess the technologies to determine if future phases of the plan should be modified.

Similarly, at the request of the stakeholders group, a Stormwater Assessment Committee has been formed to evaluate the feasibility of an alternative rate structure to NBC's current rate structure that would shift some of the financial burden of the CSO program to the generators of stormwater runoff.

Lastly, the Commission is regulated by the Public Utilities Commission (PUC). As such, rates established are not only designed to be fair and equitable for all users, but must be approved by the PUC prior to implementation. Residential rates within the NBC service area remains one of the lowest in the State and the fifth lowest in the nation for metropolitan cities similar in size.

The Commission remains committed to its role to improve water quality in Narragansett Bay at the least possible cost to our customers.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul Pinault". The signature is fluid and cursive, with the first name "Paul" and last name "Pinault" clearly distinguishable.

Paul Pinault, P.E.
Executive Director

NARRAGANSETT BAY COMMISSION

EXISTING DEBT SERVICE FOR CAPITAL PROJECTS (BASED ON ACTUAL PAYMENT SCHEDULES)

			FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
\$14 M	State/G.O.'s	Principal	33,959	145,973	163,916	165,216	167,416
		Interest	49,708	47,738	39,126	29,257	17,562
		Subtotal	83,667	193,711	203,042	194,473	184,977
1987 Bonds Refunded 5/92 (\$6M)	State/G.O.'s	Principal	47,594	47,594	259,092	261,192	264,692
		Interest	154,353	151,592	148,784	133,191	114,594
		Subtotal	201,947	199,187	407,876	394,383	379,286
1984 Bonds (\$3M)	State/G.O.'s	Principal	15,000	15,000	15,000	15,000	0
		Interest	4,170	3,150	2,114	1,065	0
		Subtotal	19,170	18,150	17,114	16,065	0
1988 Bonds (\$5.5M)	State/G.O.'s	Principal	175,000	175,000	175,000	175,000	175,000
		Interest	116,725	104,300	91,700	78,925	65,975
		Subtotal	291,725	279,300	266,700	253,925	240,975
1986 Bonds City of Providence		Principal	366,974	357,812	0	0	0
		Interest	49,642	24,689	0	0	0
		Subtotal	416,616	382,501	0	0	0
Promenade St. Property		Principal	97,153	107,326	118,564	0	0
		Interest	19,453	12,207	4,202	0	0
		Subtotal	116,605	119,532	122,766	0	0
1991 Bonds \$21.55 M GOB's	State/G.O.'s	Principal	276,796	278,660	349,485	291,859	289,888
		Interest	173,771	157,184	131,182	115,389	100,497
		Subtotal	450,567	435,844	480,667	407,248	390,385

NARRAGANSETT BAY COMMISSION

			FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Contract 401-Butler	SRF	Principal	71,389	74,076	76,865	79,758	82,761
		Interest	47,026	44,289	41,447	38,500	35,441
		Subtotal	118,415	118,365	118,312	118,258	118,201
Contract 601-North Prov.	SRF	Principal	118,185	122,587	127,153	131,890	136,803
		Interest	69,742	65,258	60,606	55,782	50,777
		Subtotal	187,927	187,845	187,760	187,671	187,580
Contract 201-Wash. Park	SRF	Principal	154,875	160,349	166,017	171,886	177,961
		Interest	102,652	97,109	91,370	85,427	79,275
		Subtotal	257,527	257,458	257,387	257,313	257,236
Pool Financing I	SRF	Principal	571,500	592,500	614,500	637,000	660,500
		Interest	473,314	451,959	429,542	406,856	383,052
		Subtotal	1,044,814	1,044,459	1,044,042	1,043,856	1,043,552
Pool Financing II	SRF	Principal	673,805	697,465	721,955	747,306	773,546
		Interest	523,255	499,300	474,504	448,838	422,270
		Subtotal	1,197,060	1,196,765	1,196,459	1,196,144	1,195,816
8/6/92 Issue \$100,000	State/G.O.'s	Principal	5,000	5,000	5,000	5,000	5,000
		Interest	3,585	3,294	3,045	2,793	2,535
		Subtotal	8,585	8,294	8,045	7,793	7,535
8/6/92 Issue \$3,315,000	State/G.O.'s	Principal	125,000	135,000	140,000	150,000	160,000
		Interest	139,855	132,335	125,480	118,155	110,170
		Subtotal	264,855	267,335	265,480	268,155	270,170
5/15/92 Issue \$1,270,364.15	State/G.O.'s	Principal	247,619	0	0	0	0
		Interest	14,362	0	0	0	0
		Subtotal	261,981	0	0	0	0

NARRAGANSETT BAY COMMISSION

			FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
5/15/92 Issue \$7,731,583.1	State/G.O.'s	Principal	131,155	131,155	713,975	719,675	729,575
		Interest	425,348	417,741	410,003	367,036	315,780
		Subtotal	556,503	548,896	1,123,977	1,086,711	1,045,354
6/15/88 Issue \$4,770,000	State/G.O.'s	Principal	420,000	415,000	435,000	430,000	280,000
		Interest	113,395	94,075	74,570	53,690	32,620
		Subtotal	533,395	509,075	509,570	483,690	312,620
8/1/90 Issue \$200,000	State/G.O.'s	Principal	0	0	0	0	0
		Interest	0	0	0	0	0
		Subtotal	0	0	0	0	0
10/15/91 Issue \$900,000	State/G.O.'s	Principal	51,256	51,600	64,764	53,956	53,577
		Interest	32,177	29,105	24,289	21,365	18,612
		Subtotal	83,433	80,705	89,053	75,321	72,189
Pool Loan Financing III	SRF	Principal	0	283,397	283,778	304,539	315,695
		Interest	245,084	291,881	281,363	270,459	260,156
		Subtotal	245,084	575,278	565,141	574,998	575,851
		TOTALS					
		Principal	3,582,260	3,795,494	4,430,063	4,339,277	4,272,413
		Interest	2,757,616	2,627,206	2,433,327	2,226,728	2,009,316
		Grand Total Existing	6,339,876	6,422,700	6,863,391	6,566,004	6,281,729

NARRAGANSETT BAY COMMISSION

NEW BAY BOND FINANCING FOR CAPITAL PROJECTS

ASSUMPTIONS: 7.00% Interest, 20 Year Financing

		FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
FY 2000 NEW BAY BONDS	\$0 Principal	0	0	0	0	0
	Interest	0	0	0	0	0
	Subtotal	0	0	0	0	0
FY 2001 NEW BAY BONDS	\$0 Principal	0	0	0	0	0
	Interest	0	0	0	0	0
	Subtotal	0	0	0	0	0
FY 2002 NEW BAY BONDS	\$0 Principal	0	0	0	0	0
	Interest	0	0	0	0	0
	Subtotal	0	0	0	0	0
FY 2003 NEW BAY BONDS	\$0 Principal	0	0	0	0	0
	Interest	0	0	0	0	0
	Subtotal	0	0	0	0	0
FY 2004 NEW BAY BONDS	\$0 Principal	0	0	0	0	0
	Interest	0	0	0	0	0
	Subtotal	0	0	0	0	0
Totals						
Principal		0	0	0	0	0
Interest		0	0	0	0	0
Total Bay Bonds		0	0	0	0	0

NARRAGANSETT BAY COMMISSION
NEW SRF BOND FINANCING FOR CAPITAL PROJECTS

ASSUMPTIONS: 4.7% Interest, 20 Year Financing

			FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
FY 2000 NEW SRF	\$13,970,000	Principal	698,500	474,150	474,150	474,150	474,150
		Interest	656,590	625,730	596,321	568,294	541,584
		Subtotal	1,355,090	1,099,880	1,070,471	1,042,444	1,015,734
FY 2001 NEW SRF	\$55,630,000	Principal	0	2,781,500	2,731,500	2,731,500	2,731,500
		Interest	0	2,614,610	2,491,723	2,374,612	2,263,006
		Subtotal	0	5,396,110	5,223,223	5,106,112	4,994,506
FY 2002 NEW SRF	\$42,413,000	Principal	0	0	2,120,650	2,115,650	2,115,650
		Interest	0	0	1,993,411	1,899,721	1,810,434
		Subtotal	0	0	4,114,061	4,015,371	3,926,084
FY 2003 NEW SRF	\$42,439,000	Principal	0	0	0	2,121,950	2,121,950
		Interest	0	0	0	1,994,633	1,900,885
		Subtotal	0	0	0	4,116,583	4,022,835
FY 2004 NEW SRF	\$32,143,000	Principal	0	0	0	0	1,607,150
		Interest	0	0	0	0	1,510,721
		Subtotal	0	0	0	0	3,117,871
		Totals					
		Principal	698,500	3,255,650	5,326,300	7,443,250	9,050,400
		Interest	656,590	3,240,340	5,081,455	6,837,260	8,123,059
		Total New SRF	1,355,090	6,495,990	10,407,755	14,280,510	17,173,459

NARRAGANSETT BAY COMMISSION

SUMMARY OF ALL DEBT SERVICE SCHEDULES

		FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
EXISTING DEBT SERVICE	Principal	3,582,260	3,795,494	4,430,063	4,339,277	4,272,413
	Interest	2,757,616	2,627,206	2,433,327	2,226,728	2,009,316
		<u>6,339,876</u>	<u>6,422,700</u>	<u>6,863,391</u>	<u>6,566,004</u>	<u>6,281,729</u>
NEW BAY BONDS	Principal	0	0	0	0	0
	Interest	0	0	0	0	0
		<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
NEW SRF BONDS	Principal	698,500	3,255,650	5,326,300	7,443,250	9,050,400
	Interest	656,590	3,240,340	5,081,455	6,837,260	8,123,059
		<u>1,355,090</u>	<u>6,495,990</u>	<u>10,407,755</u>	<u>14,280,510</u>	<u>17,173,459</u>
TOTAL	Principal	4,280,760	7,051,144	9,756,363	11,782,527	13,322,813
	Interest	3,414,206	5,867,546	7,514,782	9,063,987	10,132,375
	Grand Total	<u>7,694,966</u>	<u>12,918,690</u>	<u>17,271,146</u>	<u>20,846,514</u>	<u>23,455,187</u>