



Capital Improvement Program FY 2012 – FY 2021 Published May 2011



Blank Page

**HAMPTON ROADS SANITATION DISTRICT
CAPITAL IMPROVEMENT PROGRAM
FY 2012 to FY 2021**

TABLE OF CONTENTS

| | <u>Page No.</u> |
|--|------------------------|
| Introduction | 1 - 6 |
| Ten Year Projection | 7 - 28 |
| System Maps | 29-34 |
| Individual Project Summaries | 35 - 496 |
| Projects Completed in FY-11 | 497 - 500 |
| Requested But Unfunded Projects | 501 - 504 |

**HAMPTON ROADS SANITATION DISTRICT
CAPITAL IMPROVEMENT PROGRAM
FY 2012 to FY 2021**

INTRODUCTION

HRSD prepares a Capital Improvement Program (CIP) each year for the capital projects currently underway or proposed to be undertaken in the future. The CIP is primarily a planning tool and it identifies individual projects currently underway or proposed to be undertaken over the next ten (10) years. The CIP also summarizes individual projects providing the name, description, justification, cost estimate, funding and schedule. All costs listed in the CIP are based on current year dollars (April 2011).

The draft CIP is submitted to the Commission for concurrence and the final CIP is submitted to the Commission for approval. The CIP document is not a commitment by HRSD to undertake or provide specific improvements by specific dates. Projects may be deleted, delayed or otherwise modified significantly from that indicated in the CIP document. New projects not included in the CIP document may be proposed and authorized at any time. The first fiscal year of the CIP is used for budgeting and assists HRSD to determine needed borrowing.

The CIP is not an approval or appropriation of funds for individual projects. There is no authorization or funding for individual projects until the Commission acts on the specific project. The Commission formally authorizes individual projects through their approval and appropriation of funds for Engineering Agreements, Construction Contracts or other activities for the project.

A capital project by definition involves expenditures to acquire or add assets of a relatively permanent nature such as property, plant and equipment. The CIP is typically for large capital projects, new facilities, expansions and improvements requiring engineering and/or construction services such as:

- Studies preceding or likely to result in new facilities
- New administrative facilities, expansions, major improvements and major renovations
- New pump stations and major improvements
- New pipelines, replacements and major rehabilitations
- New treatment plants, expansions and major improvements
- Capital projects, infrastructure or other large purchases with a value greater than \$100,000
- Studies or projects which will take multiple years to complete

The CIP document is submitted as part of the overall budget package to the Commission each year for review at the end of March or early April, preliminary action in April, and final action in May. Departments may propose new projects at any time throughout the year by submitting a Project Request to the Engineering Department. New projects are usually evaluated for their need and priority only when preparing the CIP. However, the General Manager may decide at any time to initiate an existing not yet started project or a new project due to an emergency or other condition justifying immediate action.

CIP BOOK LAYOUT

CIP Number

Each project included in the CIP is assigned a CIP number to provide a simplified way to reference projects. The first two or three letters represent the system where the project is assigned and the number is assigned starting with 100. The number will not be continuous. The following table provides a description of the numbering system.

| Symbol | Description/System |
|---------------|---------------------------|
| AD | Administration |
| AB | Army Base |
| AT | Atlantic |
| BH | Boat Harbor |
| CE | Chesapeake-Elizabeth |
| JR | James River |
| MP | Middle Peninsula |
| NP | Nansemond |
| VIP | Virginia Initiative Plant |
| WB | Williamsburg |
| YR | York River |
| GN | General |
| IMP | Future Improvements |

Maps

The CIP maps were created using ArcGIS and are dynamically linked to the master CIP database. Maps showing the locations and/or project limits are provided for each system and for each project, except for treatment plant projects.

Requested but Unfunded Projects List

As part of the CIP process, some projects were placed in the requested but unfunded project list for various reasons. These projects are not included in the ten year CIP for funding but they may be included in the future as conditions warrant.

PROGRAM CONTINGENCY

In the FY2012 to FY2021 CIP, HRSD will be implementing an overall program contingency for each fiscal year. Project contingencies are shown on the Individual Project Sheets but they are not aggregated as part of the program funding for each fiscal year. The purpose for this change is to more accurately estimate future CIP spending projections which HRSD has historically overestimated partially due to the amount of contingency associated with each individual project. Since HRSD's CIP program is not an authorization of funds, individual project contingencies are not required from a capital financial planning perspective. At HRSD, the Commission formally authorizes individual projects through their approval and appropriation of funds for Professional Services Agreements, Construction Contracts or other activities for the project. By using program contingencies for each fiscal year and having more accurate cash flow projections, capital projects will not be unnecessarily delayed and bond sales can be more accurately scheduled. In addition, program contingencies can globally account for inflation, variations in the bidding environment, emergency infrastructure efforts, unplanned relocations and other unforeseen factors.

As a guideline, individual project contingencies vary depending on the project status:

- Proposed or Pre-Design 20%
- Design 10%
- Bid Stage 5%
- Construction 3%

When aggregating the individual projects’ cash flow projections into fiscal years, the near term fiscal years have a lower program contingency since many of the projects have begun. In the future years, the program contingency increases to reflect the uncertainty associated with proposed projects. The following program contingencies are used for each fiscal year in the FY 2012 to FY 2021 CIP:

**FY 2012 to FY 2021
PROGRAM CONTINGENCIES**

| FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 |
|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 0% | 2% | 5% | 5% | 5% | 5% | 5% | 5% | 5% | 5% |

PROGRAM SUMMARY

The total capital improvement program, including projects currently funded and underway and program contingencies, is approximately \$1.45 billion. This amount includes previous expenditures and projected expenditures to FY 2021 and an estimated program contingency of \$47 million. The total funding required for the FY 2012 to FY 2021 CIP including program contingencies is approximately \$1.2 billion.

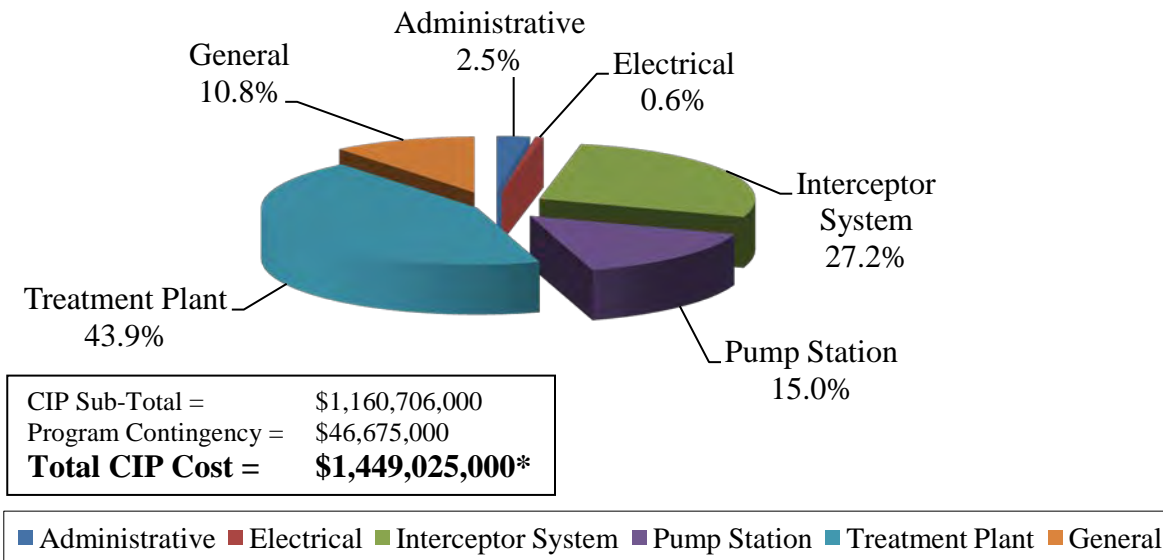
The projects included in the FY 2012 to FY 2021 CIP were ranked using HRSD’s prioritization tool. Although there are a number of factors in scheduling projects, the ranking provides an objective means to effectively and efficiently develop financially feasible cash flow projections. An Interceptor Sewer Replacement Planning Model was also used to ensure that the projects included in the 10 year program were being budgeted for replacement at a rate that would allow for Interceptor System integrity. Other factors which affected project scheduling include coordination with other projects, timing of the Regional Wet Weather Plan and the availability of funds within each fiscal year.

The following charts provide a breakdown of the projects by category (treatment plant, interceptor sewer, etc.) and by type (nutrient reduction, expansion, etc.).

CIP Expenditures by Project Category

The following graph provides a breakdown of projects by category.

CIP Expenditures by Project Category FY 2012 thru FY 2021



**Total CIP Cost includes projects currently funded and underway*

CIP Expenditures by Project Type

HRSD is addressing two major regulatory drivers: Chesapeake Bay Nutrient Reduction Compliance and the reduction of Sanitary Sewer Overflows.

In order to meet the 2011 Chesapeake Bay Nutrient Compliance Limits set for the James River, York River and Rappahannock River Basins, HRSD is making a significant investment at the York River, James River, Boat Harbor, Army Base and Nansemond Treatment Plants. The recently received 2017 and 2022 Nutrient Compliance limits see significant investment at the VIP, Williamsburg and Chesapeake-Elizabeth Plants. The nutrient compliance strategy continues to be refined to ensure that the most cost-effective solution is implemented.

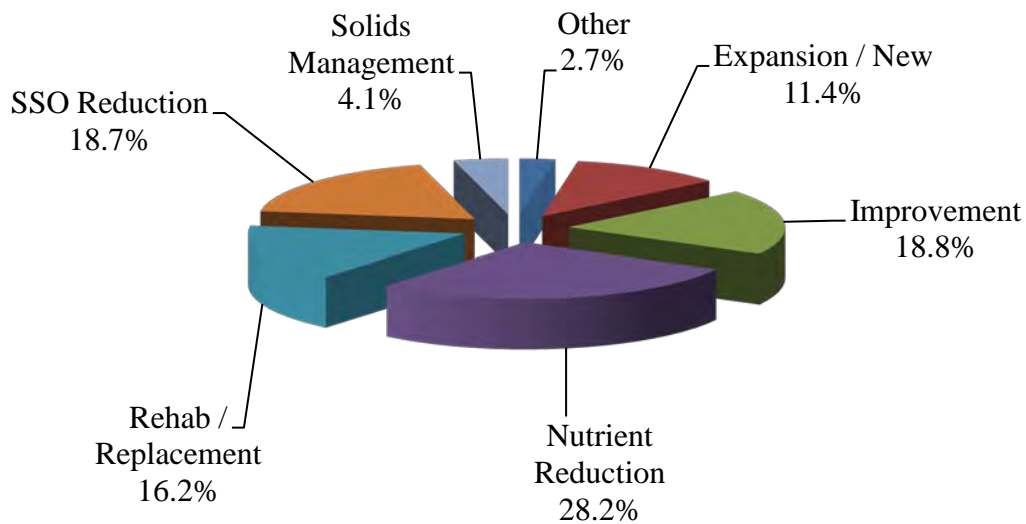
As part of the State’s Special Order by Consent, HRSD is working with the Localities in Hampton Roads to address sanitary sewer overflows through the development of the Regional Hydraulic Model and the

Regional Wet Weather Management Plan. The Regional Wet Weather Management Plan, to be completed by 2013, will define the required capital improvements to meet a specified level of service.

Project Types under “Other” include emergency projects studies, and interceptor sewer relocation projects.

CIP Expenditures by Project Type FY 2012 thru FY 2021

| | |
|-------------------------|-------------------------|
| CIP Sub-Total = | \$1,160,706,000 |
| Program Contingency = | \$46,675,000 |
| Total CIP Cost = | \$1,449,025,000* |



| | | | |
|-----------------------|-------------------|---------------------|----------------------|
| ■ Other | ■ Expansion / New | ■ Improvement | ■ Nutrient Reduction |
| ■ Rehab / Replacement | ■ SSO Reduction | ■ Solids Management | |

**Total CIP Cost includes projects currently funded and underway with contingency*

This page left intentionally blank