4. Clean Water Capital Improvement Planning

- **The Public Utilities Commission is facing significant clean water capital improvement challenges, particularly with regard to the Southeast Water Pollution Control Plant, the City's sewer system, the North Point Facility, the Channel Street Pump Station, and the Treasure Island and Hunters Point Naval Shipyard sewer systems.**
- **Despite the significant clean water capital planning work performed by the Department since the 1990s, all clean water projects were severed from the Department's long-term capital improvement program in 2002. Instead, the Department is undertaking a separate Clean Water Master Planning process due for completion in 2007.**
- **Given that Clean Water Master Plan construction cannot begin for at least five to seven years, the Department is actively considering how to ensure certain existing facilities' reliability and compliance with regulatory requirements. Department staff are proposing a five year interim capital improvement program which could cost between $100 million and $150 million.**

Clean Water Capital Improvement Challenges

The Public Utilities Commission is facing significant clean water capital improvement challenges. Due to the Clean Water Master Planning process now underway, which is described in more detail below, a number of urgently required clean water capital improvement projects are either on hold or proceeding incrementally through the annual clean water repair and replacement program. In recent years, however, due to the Proposition H sewer service charge freeze, the clean water revenues available for the annual clean water repair and replacement program have been approximately $15 million annually which has been insufficient for the Department to develop a proactive repair and replacement program and which has resulted in a large backlog of work. Such an amount is insufficient to address all of the known facility inadequacies described below.

Southeast Water Pollution Control Plant

The Southeast Water Pollution Control Plant treats approximately 80 percent of the wastewater generated in the City, including most of the downtown commercial wastewater and the bulk of all industrial discharges. By contrast, the Oceanside Water Pollution Control Plant located on the west side of the City only processes the remaining 20 percent of the City's wastewater, which is primarily generated by residential sources. The Southeast community considers that it is adversely impacted by this distribution of the City's wastewater, in particular by the odors emanating from several sources within the Southeast Water Pollution Control Plant. There are ongoing efforts to reduce odors.

For example, the firm developing Mission Bay, Catellus Inc., provided funding in the amount of $5 million for one odor control improvement project as part of its mitigation commitment.

The Southeast Water Pollution Control Plant's digesters are now more than 50 years old and at the end of their useful lives. Replacement of these digesters will be evaluated as part of the Clean Water Master Planning process currently underway. Therefore, if the digesters are to be replaced, it will take at least five to seven years before new digesters are operational. In the meantime, the old digesters are being maintained through a program of proactive preventive maintenance work.

The Southeast Water Pollution Control Plant was expanded in 1981 to undertake secondary treatment. Therefore, the mechanical components which were installed at that time have come to the end of their 20 year life spans and are now overdue for replacement. Aging equipment will increase the Southeast Water Pollution Control Plant's operations and maintenance costs.

Hydraulically and Structurally Inadequate Sewers

The City has nearly 900 miles of sewers, of which approximately 15 percent are over 100 years old and approximately 70 percent are over 70 years old. The likelihood of sewer failure more than doubles after 90 years of use and more than doubles again after 105 years of use. The large number of sewers built after the 1906 earthquake are reaching those milestones. Approximately 60 miles of sewers are still constructed of brick. The Department's current sewer replacement cycle is approximately 200 years. The Department wishes to significantly reduce that in order to ultimately achieve an 80 year sewer replacement cycle which more closely reflects sewers' average life span. As shown in Table 4.1, the Public Utilities Commission estimates a $283,820,000 backlog for structurally and hydraulically inadequate sewers.[1]

[1] "Structurally inadequate" sewers are broken and in need of replacement. "Hydraulically inadequate" sewers are too small to contain large storm flows without flooding.

Table 4.1

Current Backlog of Structurally and Hydraulically Inadequate Sewers

List	Description	Estimated Amount
1.	Structurally Inadequate Sewers (to be addressed through the Repair and Replacement Program)	$12,020,000
	List 1 Subtotal:	**$12,020,000**
2.	Hydraulically Inadequate Sewers (to be addressed through future capital funding)	
	Category 1: Major Flooding Projects (above $1,000,000)	127,500,000
	Category 2: Minor Flooding Projects (below $1,000,000)	8,300,000
	Category 3: Substantially Inadequate Sewers	66,000,000
	Category 4: Low Priority Inadequate Sewers	70,000,000
	List 2 Subtotal:	**$271,800,000**
	TOTAL:	**$283,820,000**

Source: Public Utilities Commission

The funding that is available to repair and replace sewers cannot always be directed to the highest priority needs because a certain amount of funding has to be available for sewer repair and replacement related to (a) the Department of Public Works' street repaving program, and (b) emergency sewer repairs. Currently, the Department performs approximately 60 miles of sewer inspections per year, and replaces approximately 5.4 miles of sewers per year in the nearly 900 mile system.

North Point Facility

The North Point Facility, which was constructed in the 1950s, provides the City with an important venue for primary treatment of wet weather wastewater and storm water flows. However, due to its age and old technology, the North Point Facility is at risk of electrical and mechanical failure and of causing environmental permit violations, which are potentially very expensive. The North Point Facility is currently slated for a $20 million refurbishment which will solve some, but not all, of its problems.

Channel Street Pump Station

The new Mission Bay development surrounds the existing Channel Street Pump Station which currently has no odor control facilities. This situation is likely to create a new source of odor complaints. Further, the Channel Street Pump Station experiences overflows during the annual October to April wet weather period. Capital improvements are needed to reduce combined wastewater and storm water overflows in the new Mission Bay development.

Treasure Island and the Hunters Point Naval Shipyard

When the City assumes responsibility for Treasure Island and the Hunters Point Naval Shipyard, it may assume responsibility for sewer systems which do not comply with Federal, State, or City regulatory requirements. Both systems could cause very expensive environmental permit violations. However, the City is working on agreements with the Navy to avoid assuming facilities that do not comply with regulatory requirements, and the entities developing these two areas will be required to upgrade all facilities to applicable codes and regulations.

Recycled Water Program

A citywide plan to reuse high quality treated wastewater for irrigation, toilet flushing, and other non-potable uses was developed in the 1990s. A revised draft of the *Recycled Water Master Plan* and a draft Programmatic and Project Specific Environmental Impact Report were completed in 1996. These documents outlined a recycled water system consisting of centralized treatment, major underground reclaimed water reservoirs, pump stations, and use of the City's high pressure fire fighting water supply system for reclaimed water distribution throughout the City. When clean water functions were transferred from the Department of Public Works to the Public Utilities Commission in 1996, the recycled water program was deferred, and since that time the Public Utilities Commission has not advanced far in the implementation of a recycled water system.

Potential Impact on Ratepayer Support for Sewer Service Charge Increases

Failure to address the facility inadequacies listed above risks not just serious structural failures, but also citizen support for the clean water system. In her August 12, 2004 briefing to the incoming General Manager, the Acting General Manager stated, "Inadequate definition of upcoming [wastewater] capital costs erodes customer confidence, making it difficult to raise rates to support current operations." The length of the multi-year Clean Water Master Planning effort the Department is now embarking upon (described below) could exacerbate this problem. Indeed, public resistance to ongoing sewer service charge increases could increase pressure not to fund clean water capital improvements.

Previous Clean Water Capital Planning

Historically, the City has made a significant investment in its clean water system. Over the last 105 years, the City has implemented the following master plans to reduce bacterial contamination of the receiving waters:

- 1899: The City consolidated its sewers and reduced the number of sewer outlets.

- 1935: The City consolidated more sewers and sewer outlets, and constructed primary treatment plants.[2] One primary treatment plant was constructed in 1938 and two more, including the North Point Facility, were constructed in the 1950s after World War II.

- 1974: The City worked to consolidate and reduce its wastewater overflows, and provide secondary treatment.[3] This master plan, which began in 1971, was adopted in 1974 after a Programmatic Environmental Impact Report was completed, and it was updated in 1982. The 1974 master plan focused on treatment and discharge in order to bring the City into compliance with the secondary treatment requirements of the Federal Water Pollution Control Act (later known as the Clean Water Act) enacted in 1972. The 1974 master plan also resulted in the construction of an extensive network of storage and transportation box sewers to improve the conveyance of wastewater and storm water to the treatment plants.

The City came into compliance with all its permit conditions and all San Francisco Bay Area Regional Water Quality Control Board cease and desist orders in April of 1997 when the last of the 1974 Master Plan construction projects was completed at a total capital improvement program cost of approximately $1.4 billion.

Following the 1974 Master Plan's completion, there were interim ten year plans based on priorities identified by clean water staff. These plans were developed by staff with limited public participation, and the plans did not specifically address environmental justice or sustainability issues, or alternative technologies. Increasingly limited funding was available to fund strategic planning initiatives due to the passage of Proposition H in 1998 which froze the sewer service charges through July 15, 2004.[4]

---

[2] Primary treatment uses settling tanks to remove about half the pollutants carried in wastewater. During wet weather, the wastewater flow is highly diluted, which drops primary treatment's removal efficiency to between 30 and 40 percent.

[3] Using a natural biological process, secondary treatment removes a minimum of 85 percent of the pollutants in wastewater. Secondary treatment facilities combine bacteria, which use wastewater as a food source, with pure oxygen, which accelerates the bacteria's growth. Given the City's combined wastewater and storm water sewer system, secondary treatment removes the majority of pollutants from both wastewater and storm water.

[4] Proposition H, approved by the voters in 1998, froze sewer service charge rates through July 1, 2006 (subject to certain exceptions). However, in 2002 the voters approved Proposition E which gave the Public Utilities Commission the authority to set sewer charges to meet the cost of service, including capital improvement costs, subject to review by the Rate Fairness Board. Subsequent to Proposition E, the Commission increased the sewer service charge rate to meet an 11 percent increase in FY 2004-2005 sewer

Nevertheless, since the early 1990s, the Clean Water Program has undertaken a number of individual projects, studies, reports, and funding initiatives, of which the most notable have been:

- *Bayside Discharge Alternatives Study* (1992 onwards). This included an extensive public consultation process.

- The $140 million revenue bond measure approved by voters in 1994 for clean water capital improvement projects related to treatment facilities and sewer repair, of which only a portion was encumbered by 1998 when the Proposition H sewer service rate freeze came into effect. As a result of Proposition H, the Clean Water Program was unable to issue the balance of the bonds which had been previously authorized.

- *Recycled Water Master Plan* (revised draft, July of 1996, prepared by Montgomery Watson).

- The Technical Review Committee established by the Commission in 1997 to provide technical review of clean water reports and issues. This committee issued an outline for an *Assessment of Wastewater and Storm Water Management Technologies for the City and County of San Francisco* (July 27, 1997).

- *Overview of Wastewater Management Alternatives for Reducing Pollutant Mass Discharge to the Bay* (draft, April of 1997, prepared by CH2M-Hill). In response to a Board of Supervisors directive, this listed clean water management alternatives.

- *Long-term Biosolids Management Report* (December of 1997). This was the culmination of four reports examining biosolids post-treatment, reuse, and marketing.

- *Southeast Plant Anaerobic Digestion/Solids Handling Upgrade Project*. Brown and Caldwell's August of 1998 facilities planning report addressed the replacement of the Southeast Water Pollution Control Plant's original digesters with new egg-shaped digesters. The project was subsequently expanded to upgrade and relocate the solids handling facilities in their entirety. The project was then put on hold for re-evaluation in the upcoming Clean Water Master Plan.

- *Odor Control Master Plan, Report for the Southeast Water Pollution Control Plant* (August of 1998, prepared by Brown and Caldwell).

- *SFPUC 1999 Strategic Plan – Clean Water Program* (draft, November 24, 1998). This strategic plan recommended the development of an updated master plan, Clean Water 2030. Appendix A was used for the clean water component of the Public Utilities Commission's proposed integrated long-term capital improvement program.

service revenue requirements, and is considering additional sewer service charge increases in both FY 2005-2006 and FY 2006-2007.

- *Screening of Feasible Technologies* (draft, February of 2000, prepared by Brown and Caldwell). This report is part of the Commission's response to Board of Supervisors Resolution 876-96 which requested the Commission to conduct a comprehensive feasibility study of environmentally beneficial alternatives to the cross-town tunnel for dealing with clean water flow into the Bay.

- *Wastewater System Reliability Assessment Baseline Facilities Report* (draft, December of 2003, prepared by Water Infrastructure Partners).

- *Treasure Island/Yerba Buena Island Utility Vulnerability and Risk Assessment Final Report* (March of 2004).

- *Hunters Point Shipyard Decentralized Wastewater Treatment Study* (September of 2004). This study explored a wide range of decentralized treatment alternatives for the Hunters Point Shipyard redevelopment. The technical and cost information developed in this study will be incorporated into an update of the 1996 *Recycled Water Master Plan* and the current Master Planning process.

Elimination of Clean Water Projects from the Long-term Capital Improvement Program

Initially, clean water projects were an integral part of the Department's long-term capital improvement program. In July of 1999, the Department issued a Request for Proposals for a program management services contract for more than 150 water, power, and clean water capital improvement projects, including the replacement of hydraulically inadequate sewers, and installation of new wastewater digesters and improvements to the clean water treatment process at the Southeast Water Pollution Control Plant. The estimated cost of the clean water elements was $960 million. According to that Request for Proposals, a key driver for the Department's long-term capital improvement program was increasingly stringent clean water regulations. Therefore, Clean Water Enterprise Department revenues were to be available as one of the long-term capital improvement program's funding sources. Bidders were required to have at least 15 years experience with water and/or clean water systems.

The Request for Proposals noted that "The [capital improvement] program is loosely organized within each enterprise, but needs to be cohesively planned as a whole to optimize the impact of available funds on infrastructure and service reliability." To that end, the draft *Clean Water Program 10 Year Capital Plan 1998 – 2007* (May of 1998) was appended to the Request for Proposals. Although never formally adopted, iterations of that plan formed the basis for the Department's long-term capital improvement program planning.

The program management services contract, which commenced on September 22, 2000, was initially awarded to the San Francisco Water Alliance which had both water and clean water experience. Early on, the San Francisco Water Alliance identified that key strategic objectives for clean water included:

- Minimizing odors and visual impacts at the Southeast Water Pollution Control Plant.
- Reducing sewer failure and flooding.
- Reducing the number and volume of combined sewer overflows.
- Adequate funding for the clean water repair and replacement program.

Nevertheless, in 2002 the former General Manager severed the clean water projects from the long-term capital improvement program. There was no proportionate decrease to the program management services contract awarded to the San Francisco Water Alliance or its successor, Water Infrastructure Partners, despite the significant decrease in the size of the long-term capital improvement program for which they were providing program management services.

Based on comments from Department interviewees, the Budget Analyst concludes that the former General Manager severed clean water from the long-term capital improvement program due to her assessment that:

- The planning process had been inadequate because the Department had developed a prescription without presenting a range of alternatives to the Southeast community. The prescription comprised a collection of individual projects which were not supported by a clean water system-wide master plan.
- Opposition from the Southeast community and the Mayor's Public Utilities Infrastructure Task Force[5] to the prescribed clean water projects would undermine politician and voter support for the water system components of the proposed long-term capital improvement program and the revenue bonds required to fund them. The Department might not be able to counteract very vocal criticism from the Southeast community that the Department had not analyzed the full range of wastewater and storm water treatment options, had not defined the long-term vision, and had not adequately addressed community concerns through meaningful public participation.
- Voters might not support the total cost of a $4.6 billion integrated long-term capital improvement program.
- The proposed odor control plans for the Southeast Water Pollution Control Plant might not be effective.

The former General Manager decided to sever clean water projects from the long-term capital improvement program without consultation with the Water Pollution Control

[5] The program was not supported by the Mayor's Public Utilities Infrastructure Task Force, formed in 2001 to provide recommendations to the Mayor's Office on the integrated long-term capital improvement program. The wastewater program was not supported by the task force, which included representation from businesses, residents, and special interest groups. The Alliance for a Clean Waterfront provided specific criticism of the Department's planning efforts. The task force issued a final report on June 17, 2002.

Division. The Water Pollution Control Division Manager learned about the decision at a Public Utilities Commission meeting, along with the general public. The former General Manager publicly stated that there was no clean water master plan and that the Department would start clean water capital planning from scratch using a community consultation process which examined all available options. These actions and statements were regarded by long-term clean water staff as dispiriting given the amount of clean water capital planning which had taken place since the 1990s, and the vetting of the long-term capital improvement program's proposed clean water projects and their funding by the initial Program Management Services contractor, the San Francisco Water Alliance (September 22, 2000 – March of 2002), an external analysis performed by R. W. Beck, Inc. (May 21, 2002), and an independent Blue Ribbon Panel evaluation of the R. W. Beck, Inc. analysis (May 23, 2002). The R. W. Beck, Inc. analysis had concluded that:

> "In general, the [long-term capital improvement program] was well developed and provides a comprehensive list of necessary projects. The overall process to develop the [long-term capital improvement program] was thorough and the Long-Range Financial Plan complements the program."

The Blue Ribbon Panel found that the R. W. Beck, Inc. analysis was "very competent, comprehensive, rigorous, accurate and on-target" and that the long-term capital improvement program should go forward. Further, department engineers interviewed by the Budget Analyst have indicated that the clean water projects severed from the long-term capital improvement program were at a more advanced stage of technical development than the water system projects retained in that program. The Budget Analyst notes that the current development of a five year interim capital improvement program for clean water projects, which would address immediate needs and which may not require the level of public consultation envisaged for the Clean Water Master Plan, indicates that the wholesale severance of all clean water projects from the long-term capital improvement program resulted in the elimination of some clean water projects which justify implementation as quickly as possible.

The Clean Water Master Planning Process

The former General Manager wanted to manage the Clean Water Master Planning process out of the General Manager's Office. This approach has resulted in links with the Infrastructure Division, but not with the Water Pollution Control Division nor with the Planning Bureau. The *Draft Interim Phase II Report* on the Water Pollution Control Division prepared by Red Oak Consulting (August 10, 2004) made the following assessment: "The management of the [Clean Water] Master Plan from the GM's office, rather than directly from the [Water Pollution Control Division], is illustrative of the lack of control of the [Water Pollution Control Division] of the decisions that directly affect it."

Initially, the Clean Water Master Planning process was insufficiently staffed. Department staff did not start to work full force on the process until early 2003 when the Infrastructure Development Program Manager began to lead the process while retaining her prior responsibilities for the development of new sewer systems at Treasure Island,

the Hunters Point Naval Shipyard, and Mission Bay. The Infrastructure Development Program Manager only remained in that role until March of 2004 when she was reassigned to another priority project and the management responsibility for the Clean Water Master Planning process was allocated to two lower level staff. Recently, a Classification 0942 Program Manager VII has been hired to manage the program for part of her time. By FY 2005-2006, the incumbent of this more senior position expects to be devoting approximately 60 percent of her time to the Clean Water Master Planning process. In addition, there will be three sets of staff working on specific aspects of the Clean Water Master Plan managed under a "matrix organization" whereby each staff member will report to both the supervisor in his or her own section and to the Clean Water Master Plan project manager. Engineering and plan checker staff will work on the Planning and Engineering Project. Coordinators of citizens' involvement and public information officers will work on the Public Participation Project. Planners will work on the Environmental Review Project. Therefore, going forward there will be a significant number of City staff dedicated to the Clean Water Master Planning process from both the Public Utilities Commission and the Department of Public Works.

There are three components to the Clean Water Master Planning process to be managed by the Department with contractor support:

1. Planning and engineering: As at the writing of this report, under a proposed $6,000,000 contract, a joint venture between Brown and Caldwell, Carollo Engineers, and Metcalf and Eddy will be responsible for coordinating and synthesizing the technical work and analyses completed by the contractors and City staff into a comprehensive Clean Water Master Plan. Further input will be provided by an eight member Technical Advisory Committee costing $405,000. This committee will provide technical guidance, as-needed consultation, quality control, and independent review throughout the Clean Water Master Planning process.

2. Public participation: As at the writing of this report, under a proposed $2,000,000 contract, a joint venture between Public Affairs Management and Alfred Williams Consultancy will be responsible for a comprehensive three year public participation program which will begin concurrently with the proposed planning and engineering contract, acting as a link between the technical work and the community's input. The Department anticipates that a lot of the public outreach will be coordinated and conducted through the Proposition E-required Public Utilities Citizens' Advisory Committee which will be independently advising the Public Utilities Commission. This public participation effort will include meetings, surveys, websites, tours, public education, and discussions with residents, businesses, and special interest groups throughout the City.

3. Programmatic Environmental Impact Report: As at the writing of this report, under an estimated $2,250,000 contract, the selected contractor will begin work in Year 2 after the public participation process has begun to allow time for the development of project alternatives. The Programmatic Environmental Impact Report will take approximately two years to complete.

Three years after the commencement of the proposed planning and engineering contract and the proposed public participation contract, the contractors should provide a Clean Water Facilities Plan, a Clean Water Financial Plan, a Programmatic Environmental Impact Report, and a Public Participation Report.

Advantages and Disadvantages of the Clean Water Master Planning Process Being Undertaken by the Department

Table 4.2 summarizes the Budget Analyst's assessment of the advantages and disadvantages of the Clean Water Master Planning process.

Table 4.2
Advantages and Disadvantages of the Clean Water Master Planning Process

Advantages	Disadvantages
A comprehensive analysis of all options will determine definitively what is and what is not possible. The master planning process creates opportunities to (a) link wastewater, storm water, biosolids, recycled water, and conservation planning strategies, and (b) anticipate increasingly stringent Federal and State environmental regulations. This is the Department's first significant public consideration of major policy issues such as decentralizing the clean water system, redirecting flow, separating the combined sewer and storm water system in whole or in part, and whether or not to continue to discharge treated effluent into the ocean.	The sheer length of this multi-year process means that there will be no major new infrastructure constructed for at least five to seven years unless an interim capital improvement program for immediate needs is approved (as recommended below). An interim capital improvement program will be necessary to address the infrastructure needs related to flooding, odor control, other issues of immediate concern to citizens, and compliance with more stringent regulations enacted in the short term. Interim solutions constructed in the short term could have a useful 15 year life span before permanent solutions are identified and constructed. It is important that the master planning process not create an excuse for inaction on the Department's part.

Advantages continued	Disadvantages continued
In line with ideas expressed in the briefing to the incoming General Manager, the master planning process creates an opportunity for the Department to develop its first clean water sustainability plan looking at organizational sustainability (e.g. its financial viability and personnel succession planning), infrastructure sustainability (e.g. asset management), and environmental sustainability (e.g. compliance with more stringent regulations in the future).	The master planning process, by virtue of canvassing all options, could create unrealistic public expectations. For example, with regard to the siting of future treatment plants, how many alternative, low-lying, affordable sites within the City's boundaries, with good transportation access for hazardous materials, are actually available?
The master planning process will formalize, consolidate, and coordinate knowledge held by staff and disparate databases. It will also contextualize the findings contained in the various reports listed above, each of which is focused on specific questions.	There is a risk that the master planning process will "reinvent the wheel" given how much planning work has already happened since the 1990s. The master planning process needs to maximize its use of the thinking that has already been done.
Public participation will shape the projects and policies. The master planning process formalizes citizen involvement and the need for the Department to actively seek citizen input. It creates an opportunity to address environmental justice issues.	This master planning process is holding itself to a much higher standard for public consultation than the Water System Capital Improvement Program process did. For example, there was no equivalent level of public consultation about the Hetch Hetchy restoration proposal. There has also been no equivalent planning process connected to the Department's current and potential future power services.
The proposed public participation contract strongly supports the public outreach and input goals of the master planning process.	Absent strong Department management of the links between the proposed planning and engineering contract and the proposed public participation contract, there is a significant risk that the public input will insufficiently inform the technical process.

Advantages continued	Disadvantages continued
The final product should facilitate obtaining political and public support for financing clean water capital investments.	Whereas the Water System Capital Improvement Program has the Bay Area Water Supply and Conservation Agency as a major external advocate for progress and funding, there is no comparable advocate for a Clean Water Capital Improvement Program. Further, because the Department is compliant with all its clean water permits, there is no external regulatory requirement forcing the Department to invest in its infrastructure. If the Clean Water Master Plan generates proposals which require a huge level of investment, there may be insufficient support for the necessary level of funding.
The master planning process incorporates the need for a Programmatic Environmental Impact Review from the outset, unlike the Water System Capital Improvement Program.	This process is occurring in the absence of a completed strategic plan for the Department as a whole.

Based on the information contained in Table 4.2 above, the Budget Analyst concludes that the advantages of undertaking a Clean Water Master Planning process outweigh the disadvantages. This is primarily because the comprehensiveness of this type of planning process, and the level of stakeholder involvement woven into the entire process, will provide the public with a meaningful opportunity to provide input into policy and planning decisions and will protect the Department from future criticism that it did not consider all the options and work closely with affected communities. This is important given the level of community concern about clean water system planning. Nevertheless, the disadvantages are both real and serious, and need to be carefully managed. The General Manager will need to hold Department staff and third party contractors accountable for meeting critical path milestones in the Clean Water Master Planning process to ensure that the process is not any more lengthy than already planned.

Simultaneous Required Actions

Department staff now estimate that the Department will need to invest between $1 billion and $2 billion in the clean water system's infrastructure. If the Clean Water Master Planning process results in significant infrastructure changes, the costs would be much greater. For example, moving the Southeast Water Pollution Control Plant could alone cost $2 billion. In the interim, the Department does not want to invest in capital improvement projects which might become quickly obsolete if the Master Plan determines new policy parameters (for example, requiring sewers to be built with

sufficient capacity for 25 year storms, rather than the current five year storms) or new ways of conducting business (for example, decentralized sewer treatment and redirected flow).

Nevertheless, a small subset of previously identified capital improvement projects are moving forward as part of the annual repair and rehabilitation program. Further, given that Clean Water Master Plan construction cannot begin for at least five to seven years, the Department is actively considering how to ensure certain existing facilities' reliability and compliance with regulatory requirements. Department staff are developing for the General Manager's consideration a proposal for a five year interim capital improvement program which could cost between $100 million and $150 million. Such an interim capital improvement program could start in FY 2005-2006 for completion by FY 2010-2011. This interim capital improvement plan, which would be managed by the Infrastructure Division's Project Management Bureau, could cover projects which would fall outside the need for extensive public consultation under the Clean Water Master Planning process, such as:

- Immediately required repairs to aged existing infrastructure (for example, replacing the collapsed digester roof at the Southeast Water Pollution Control Plant).

- Sewer improvements to prevent flooding.

- Odor control projects at the Southeast Water Pollution Control Plant and certain pump stations.

- In order to bridge the five to seven year gap before Clean Water Master Plan construction can commence, the General Manager, with assistance from the Assistant General Manager, Clean Water position recommended in Section 10, should consider a five year interim capital improvement program for immediately needed projects which would not jeopardize the Clean Water Master Planning process or result in investing in facilities which would be quickly redundant.

The Department is also refining its assessment of the risks associated with the Department's clean water capital assets as part of the Department's current asset and risk management initiatives. These initiatives will determine the risk of major clean water capital assets failing, and the direct and community costs of such failures. The resulting "risk cost" data will assist the Department to determine what asset-related risks are most important to reduce through the Department's future clean water capital improvement investments.

Conclusion

There are a number of urgently required clean water capital improvement projects which are either on hold or proceeding incrementally through the insufficiently funded annual clean water repair and replacement program.

Since the 1990s, there has been extensive clean water capital planning, but the overall planning process has not been particularly coherent, particularly given the elimination of clean water projects from the Department's long-term capital improvement program.

Despite delays in moving the Clean Water Master Planning process forward, the process has now begun. The advantages of the master planning approach outweigh the disadvantages. This is primarily because the comprehensiveness of this type of planning process, and the level of stakeholder involvement woven into the entire process, will provide the public with a meaningful opportunity to provide input into policy and planning decisions and will protect the Department from future criticism that it did not consider all the options and work closely with affected communities. Nevertheless, the disadvantages are both real and serious, and need to be carefully managed.

An interim five year capital improvement program would usefully bridge the five to seven year gap before Clean Water Master Plan construction can commence.

Recommendations

The Public Utilities Commission General Manager should:

4.1 Hold Department staff and third party contractors accountable for meeting critical path milestones in the Clean Water Master Planning process.

4.2 Consider a five year interim capital improvement program for immediately needed projects which would not jeopardize the Clean Water Master Planning process or result in investing in facilities which would be quickly redundant.

In Section 9, the Budget Analyst recommends that the staff managing the Clean Water Master Planning process should be part of the new Clean Water Enterprise. It is important that (a) Clean Water Master Planning be a core responsibility of the new Assistant General Manager, Clean Water position recommended by the Budget Analyst in Section 10, and (b) clean water staff with operational expertise are an integral part of the Clean Water Master Planning process.

Costs and Benefits

As of the writing of this report, in order to develop a Clean Water Master Plan, the Department is planning to invest $15,750,000 in consultant services and internal City resources. The Budget Analyst considers that this will be a worthwhile investment if it completes a Clean Water Master Plan with widespread stakeholder support that facilitates the financing and construction of necessary capital improvements in a timely fashion.