NEW YORK CITY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF ENVIRONMENTAL ENGINEERING

New York City's Combined Sewer Overflow Program

2nd Quarterly Report - Year 2002

July 2002

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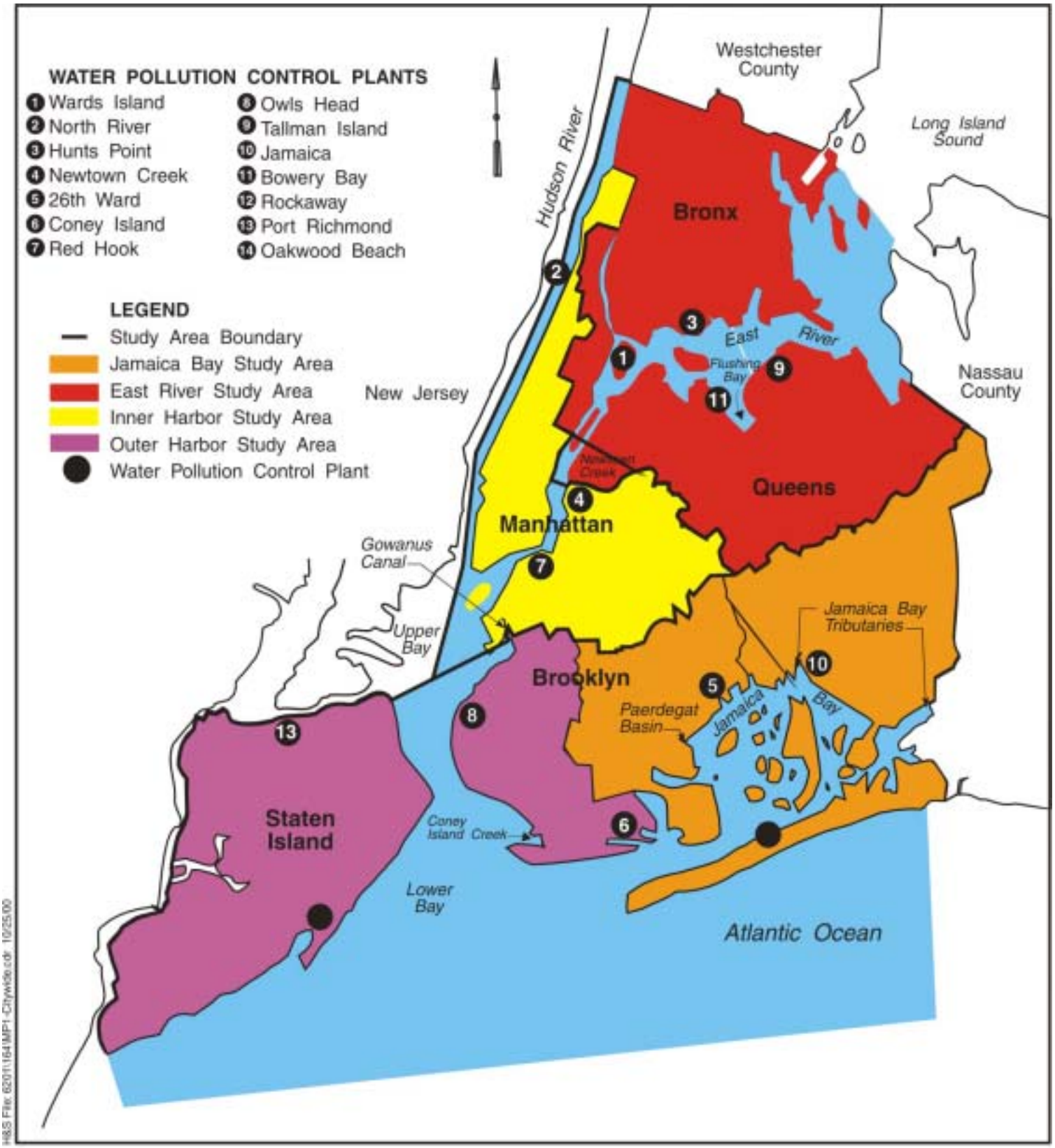
I. Introduction

The City of New York is primarily served by a combined sewer system. Approximately 70% of the City is comprised of combined sewers with 4,800 miles of combined sewers within the five boroughs. The sewer system drains some 200,000 acres and serves a population of about 7 million. Approximately 450 outfalls are permitted to discharge during wet-weather through combined-sewer overflows (CSOs) to the receiving waters of the New York Harbor. Although these discharges do not represent a major source of pollution to the harbor on a long-term basis, they can result in local water-quality problems such as periodically high levels of coliform bacteria, nuisance levels of floatables, depressed dissolved oxygen, and, in some cases, sediment mounds and unpleasant odors.

The NYC Department of Environmental Protection (DEP) is committed to improving water quality and achieving the maximum potential uses of the region's waters, and to maintaining compliance with the applicable regulations. The City has committed billions of dollars for improved pollution-control facilities, water-quality monitoring programs, and scientific and engineering investigations of innovative and cost-effective pollution-control alternatives. As a result, water quality has improved dramatically over the past 10 years.

One of the City's major initiatives to improving local receiving water quality is the $1.8 billion Citywide CSO Program. For this program the City has been divided into eight (8) areas, which together cover the entire harbor area. Four (4) area-wide project areas were developed (East River, Jamaica Bay, Inner Harbor, and Outer Harbor) and four (4) tributary projects areas were defined (Flushing Bay, Paerdegat Basin, Newtown Creek, and the Jamaica Tributaries) as shown in Figure 1.

This quarterly report summarizes recent progress by the City in its efforts to plan and construct the recommended CSO facilities under the Citywide CSO Program. This report covers the period from April 1, 2002 through June 31, 2002.



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DEP

CSO Study Area Locations

City-Wide CSO Facility Planning

Figure 1

II. Project Progress for Comprehensive Citywide CSO Project

A.) Flushing Bay

- **Flushing Bay CSO Retention Facility**

The Flushing Bay CSO Retention Facility is an underground storage tank, which will have a storage capacity of 43 million gallons, 28 MG in the tank and 15 MG in the upstream sewers. The facility collects flow from the system tributary to the "CS-4" outfall, which discharges to the head of Flushing Creek. The elements of the facility include:

- Relocation of ball fields in Kissena Corridor
- Rerouting of Park Drive East CSO line inside the construction site and construction of the effluent channel
- Phase 1 construction of the underground structural elements of the tank
- Phase 2 construction of the mechanical and above-ground portion of the facility
- Construction of tide gates on the tank outfall sewer and construction of ball field

Design

Design has been completed for all elements**.**

Construction

Construction has been completed for the relocation of ball fields and the rerouting of sewers. Phase 1 construction (Contract CS4-3) for the tank was substantially completed as of August 17, 2001. The Notice to Proceed for the Phase 2 construction contracts was issued on April 11, 2002. Construction is progressing on schedule toward the projected milestone date for beneficial use of the storage facility in July 2004. Final completion of the Phase 2 construction is projected for July 2005.

- **Corona Avenue Vortex Facility**

The Corona Avenue Vortex Facility includes three vortex units operating in parallel in an underground facility in Corona Avenue, Queens. The three units treat flow diverted from the lower deck of the "CS-3" outfall (permitted CSO outfall BB–006 in the Bowery Bay WPCP system). The overflow from the facility is returned to the CSO outfall, and the underflow (foul waste) is carried to the 108th Street Pumping Station that pumps the flow to the high level interceptor**.**

Construction

Construction is complete. The facility has been on-line since November 1997.

Monitoring Program

The sampling and evaluation program began in March 2000. Three interim reports have been submitted reporting on progress to March 2002. Field sampling is projected to be completed in September 2002, with another 6 weeks allowed for sampling to fill in missing data. A final report on the evaluation of the data will be prepared after peer review of the data collection program and completion of data evaluation.

Additional Swirl Concentrators

Work on additional swirl concentrators was deferred until the completion of testing of the effectiveness of the Corona Avenue facility. The need for the additional vortex facilities originally proposed for floatables control will be re-evaluated as part of the Comprehensive Floatables and Settleables Plan to determine if other alternatives are either more cost effective, faster to implement or result in better floatables capture. An engineering assessment of the additional proposed swirl concentrators is underway, based on hydraulic data from the Corona Vortex Facility evaluation.

Table 1

Flushing Bay CSO Project

Plan Elements:	Corona Avenue Vortex Facility	Flushing Bay CSO Retention Facility
Location:	Corona Avenue, Queens	Intersection of College Point Boulevard and Avery Avenue, Queens
Actions:	Design and construction of three underground vortex units to treat CSO diverted from the lower deck of the "CS-3" outfall.	Design and construction of a 43 MG storage facility which includes a 28 MG underground storage tank and 15 MG in-line storage in upstream sewers. The facility collects flow from the system tributary to the "CS-4" outfall.
Cost:	$33,000,000	$291,000,000
Status:	Construction complete	Phase 2 construction started April 2002. Milestone for beneficial use July 2004
Other Issues:	Monitoring program – ongoing; contracts for final design of an odor treatment system at the facility and for final design of modifications at the facility are completed and are awaiting final Department review then bidding.	Contract change orders for additional work are in progress.

Table 1A Flushing Bay Status of "Elements Approved by NYSDEC"			
"Element Approved by NYSDEC"	**Status after Value Engineering**	**Work Progress**	**Current Status**
40 MG underground storage tank for CS4 outfall	Utilize induced storage in upstream sewer. 28 MG constructed tank and 15 MG induced in-line storage. Total storage 43 MG with equivalent water quality benefit.	Final phase under construction	Construction of storage facility underway.
Swirl Concentrator devices at several outfalls. (Task 5.2 Report)	Deferred until the testing of the effectiveness of the Corona Avenue facility	Engineering assessment of hydraulics has begun	The need for the additional vortex facilities originally proposed for floatables control will be re-evaluated as part of the Comprehensive Floatables and Settleables Plan to determine if other alternatives are either more cost effective, faster to implement or result in better floatables capture.
3 swirl concentrator devices constructed in sequence. (Task 22.4 Rpt.)	3 devices to be constructed in a single facility (Corona Ave Vortex Facility)	Construction completed	On line since November 1997. Monitoring program is ongoing.

B.) Paerdegat Basin

The Paerdegat Basin CSO Retention Facility is located in southeastern Brooklyn, at the intersection of Flatlands and Ralph Avenues. The facility receives combined sewer overflows from a drainage area of approximately 6,000 acres. Once constructed, it will consist of a four (4) bay underground storage tank and operations buildings. The stored CSO will be pumped back to the Coney Island WPCP for treatment after each rain event.

The elements of the NYSDEC approved facility plan include:

1. 20 MG of in-line storage.

   The CSO tank effluent weir will be set at an elevation of +2.00 ft (approximately the elevation of high tide), which will allow for the storage of 20 MG of CSO within the existing combined sewer network upstream of the facility.

2. 30 MG of off-line storage.

   The below grade retention tank will have a storage capacity of 20 MG and the influent channels, that redirect the existing outfalls to the CSO facility site on the western shore of Paerdegat Basin, have a storage capacity of 10 MG. The total storage of the new facility is 30 MG.

3. Dredging of the mouth of the basin.

   The dredging plan for Paerdegat Basin entails the removal of 20,000 yd^3 of material from the mouth of the basin and about 38,000 yd^3 of sediment from the head end. A dredging permit from NYSDEC has been obtained to implement this element.

The implementation of the facility plan elements will take place during the following phases of design and construction:

- Phase IA – Influent Channels

  This phase includes construction of a major portion of the influent channels and the relief weir.

  Status:

  Construction of the influent channels to the CSO facility was substantially completed in February 2002. A few punch list items remain to be completed.

- Phase II – Foundations and Substructures

  This phase includes construction of the CSO tank and dredging of the mouth of the basin.

  Status:

  The contract was awarded on April 10, 2002 and registered on June 11, 2002. The Notice to Proceed was issued on June 24, 2002.

- Phase III – Structures and Equipment

  This phase includes installation of the CSO tank equipment, construction of the aboveground buildings, and construction of the remaining Influent Channels. The CSO facility will be put on line during construction of this phase.

  Status:

  Final design is 90 % complete. The construction of this phase cannot be scheduled until the CSO tanks and building foundations are substantially constructed under the Phase II.

- Phase IV – Natural Area Park Restoration

  This phase includes restoration and clean up of the Natural Area Park and construction of the park perimeter treatment such as fencing, curbing and lighting.

  Status:

  This phase will be designed in the future.

Table 2

Paerdegat Basin CSO Project

	Phase IA	*Phase II*	*Phase III*	*Phase IV*
Construction Phase:	Influent Channels	Foundations and Substructures	Structures and Equipment	Natural Area Park Restoration
Facility Plan Elements:	30 MG Off-Line Storage; 20 MG In-Line Storage;	30 MG Off-Line Storage; 20 MG In-Line Storage; Dredging of the Mouth	30 MG Off-Line Storage; 20 MG In-Line Storage	-
Actions:	Construction of the influent channels to the CSO facility	Underground structural elements	Aboveground buildings and equipment	Park extending on both sides of Paerdegat Basin.
Cost:	$9,000,000	$145,809,424	$130,026,844	$8,000,000
Status:	Construction substantially completed in February 2002.	Construction contract awarded on 4/10/02. NTP issued on 6/24/02.	Final Design is 90% complete.	This phase will be designed in the future.
Other Issues:	-	-	Construction cannot be initiated until Phase II is substantially completed.	-

C.) Inner Harbor

The Inner Harbor CSO Facility Planning area consists of the North River, Newtown Creek, and Red Hook WPCP drainage areas. The facility plan concluded that CSOs in the Inner Harbor do not contribute to dissolved oxygen and coliform problems in the open water areas of the Hudson River, Lower East River, and Upper Bay. Therefore, consistent with the EPA's Nine Minimum Controls, the recommended elements of the facility plan for the open waters consists of:

- Regulator Improvements
- Throttling Facilities
- In-Line CSO Storage

In contrast to open waters, in Gowanus Canal, CSOs have a significant impact on numerical water quality limits for dissolved oxygen. The recommended plan for Gowanus included:

- Reactivate the Flushing tunnel
- Dredge the canal

Meetings

One progress meeting between Hazen and Sawyer and DEP was held during this period. The meeting took place on May 21, 2002.

Final Design

In the final design contract for Inner Harbor, the following three elements have been targeted in order to achieve the goals of reducing the magnitude, frequency, and duration of CSO discharges:

- Phase I – Regulator Improvements
- Phase II – Throttling Facilities (Interceptor Storage)
- Phase III – In-Line CSO Storage (Inflatable Dams)

Phase I

Phase I will provide improvements to 72 regulators in Inner Harbor. Added to the 22 regulators that were recently upgraded to fixed orifices under the NYSDOT Route 9A Project, and the 29 locations where the Department is installed outfall alarms, a total of 123 regulators are being improved in the Inner Harbor area. The breakdown is as follows:

- In the North River drainage area, 9 regulators have been equipped with outfall alarms, and 33 regulators have been or will be converted to fixed orifices. Of these 33, 15 were converted under the NYSDOT's Route 9A Reconstruction Project; the other 18 will be converted under Phase I.

- In the Newtown Creek Manhattan drainage area, 12 regulators have been equipped with outfall alarms, and 29 regulators have been or will be converted to fixed orifices. Of these 29, 7 were converted under the Route 9A Reconstruction Project; the other 22 will be converted under Phase I.

- In the Newtown Creek Brooklyn drainage area, 5 regulators have been equipped with outfall alarms, and 14 regulators will be converted to fixed orifices. All 14 regulators will be converted under Phase I.

- In the Red Hook drainage area, 3 regulators have been equipped with outfall alarms, and 18 regulators will be converted to fixed orifices. All 18 regulators will be converted under Phase I.

Improvements under Phase I include plank guide and manhole rung replacement, sluice opening enlargement to a minimum of 12", termination of all water service connections, improved/enlarged access to the regulators, and the conversion of all sluice gates to manual operation for a fixed orifice condition. Hand-held hydraulic-powered valve turners will be supplied to maintenance crews to assist in sluice gate operation.

The 100% final design submittal was approved by the NYC Law Department on June 15. Advertising of the two contracts – one for Manhattan regulators and one for Brooklyn regulators – is expected shortly.

Phase II

Phase II is intended to provide a new throttling facility for the North River WPCP. New throttling facilities are also being constructed at the Manhattan Pumping Station and Newtown Creek WPCP, both of which are being designed and constructed under the Newtown Creek WPCP upgrade work. The Newtown Creek throttling facility is included in Contract 30 for the Newtown Creek WPCP upgrade, and this contract is currently underway. The Manhattan Pumping Station throttling facility is included in Contract 40, which is currently at 90% completion. Preliminary design for throttling facility improvements at Red Hook WPCP is complete.

After 60% design documents were reviewed in April, design on the North River Throttling Facility was suspended due to operational concerns. The facility would have been 90 feet below ground and offset from the main access shaft, making maintenance difficult in this deep confined space subject to surcharged levels of sewage during wet weather. An alternative solution is currently being investigated.

Phase III

Final design of Phase III has not yet been initiated. Under this phase, two inflatable dams will be designed – one for Regulator B-6 in the Newtown Creek-Brooklyn drainage area which will store up to 2.0 MG, and the other for Regulator R-20 in the Red Hook drainage area that will have the capacity to store up to 2.2 MG.

Gowanus Canal

Dredging of Gowanus Canal, along with reactivation of the Flushing Tunnel, was completed in March 1999.

Table 3

Inner Harbor CSO Project

OPEN WATERS

	Phase I	*Phase II*	*Phase III*
Plan Elements:	Regulator Improvements	Throttling Facilities	In-Line Storage
Location:	72 regulator sites in Manhattan and Brooklyn	North River WPCP, Manhattan Pumping Station, Newtown Creek WPCP	Upstream of regulators B-6 and R-20 in Brooklyn
Actions:	Conversion to fixed orifices	Installation of sluice gates and actuator in interceptor sewer	Installation of two inflatable dams in the combined sewer systems
Construction Cost:	$14,000,000	$10,000,000	$3,000,000
Status:	Final Design 100% Complete	Final Design for NR 60% Complete Final Design for MPS 90% Complete Construction contract at NC awarded	Final Design – Not Initiated
Other Issues:	-	-	Awaiting Hunts Point demonstration test results

Table 3A Inner Harbor Status of "Elements Approved by NYSDEC"		
"Element Approved by NYSDEC"	**Status after Preliminary Engineering**	**Work Progress**
Regulator Improvements *Automate 27 large regulators*	Install outfall alarms at 29 large regulators according to Omnibus IV Consent Order signed in 1998.	Outfall alarms installed.
Regulator Improvements *Install fixed orifices at 25 regulators*	Install fixed orifices at 94 regulators	Fixed orifices installed at 22 regulators. Final design for remaining 72 regulators complete.
Regulator Improvements *Install 46 vortex regulators*	Vortex valve recommendation eliminated due to hydraulic model demonstration that CSOs would actually be increased at selected regulators. Regulators instead proposed for fixed orifice installation.	-
In-line Interceptor Sewer Storage *Throttling facilities for NR, NC, and Manhattan Pumping Station*	No change.	Final design for NR 60% complete. Final design for Manhattan Pumping Station 90% complete. Construction contract at NC underway.
In-line Combined Sewer Storage *In-line storage at 17 regulators to total 13.0 MG*	In-line storage reduced to 2 regulators to total 4.2 million gallons, due to flooding concerns.	Preliminary design complete.
Maximize Flow to Treatment Plants *An additional 28 MG of in-line storage at several interceptors*	Additional interceptor storage will be provided upstream of North River (22 MG), Red Hook (4 MG), and Newtown Creek (3 MG) for a total of 29 MG.	Interceptor storage to be provided when throttling facilities are completed.
Reactivation of Gowanus Canal Flushing Tunnel	No change.	Gowanus Canal Flushing Tunnel reactivation completed in March 1999.

D.) Outer Harbor

The Outer Harbor CSO Facility Planning area consists of the drainage areas of the Port Richmond, Oakwood Beach, Owls Head and Coney Island (separately sewered area) Water Pollution Control Plants (WPCPs) and their associated sewers and pumping stations. The receiving waters of the study area include the New York limits of the Raritan Bay, Arthur Kill, Kill Van Kull, Upper New York Bay waters to the boundary of the Inner Harbor CSO Project, the Narrows, Gravesend Bay, Lower New York Bay, Richmond Creek and Lemon Creek. The facility plan concluded that CSOs have minimal impact on the dissolved oxygen and coliform concentrations in the open water areas of the Outer Harbor. Therefore, consistent with the EPA's Nine Minimum Controls, the recommended elements of the facility plan for the open waters consist of:

- Regulator Improvements
- Throttling Facilities
- In-Line CSO Storage

- **Open Waters**

Preliminary Design

A preliminary design report was completed. This report includes the following recommended elements:

- Regulator Improvements
- Throttling Facility
- In-Line Storage

As-built and record drawings, for the regulators selected for improvement, were collected and will be used for developing final design drawings. Detailed site location plans are also being developed for the final design drawings.

Final Design

An engineering contract for final design has been developed and a pre-solicitation review (PSR) and CP request have been drafted as part of the engineering contract procurement process. The final design contract consists of three phases:

- Phase I – Regulator Improvements
- Phase II – Throttling Facility
- Phase III – In-line CSO Storage

Phase I – Regulator Improvements

Phase I will provide improvements to 32 regulators in the Outer Harbor. In additions, 14 regulators are currently being retrofitted with outfall alarms that will automatically report a

discharge from the combined sewer system. Therefore, a total of 46 regulators are being improved.

In the Port Richmond drainage area, 4 regulators will have outfall alarm capabilities (2 are in operation, 2 additional will be installed) and 28 regulators will be converted to fixed orifices. In the Owls Head drainage area, 7 outfall alarms are operational and 3 more will be installed. In addition, 4 regulators will be improved and converted to fixed orifices.

Phase II – Throttling Facility

A throttling facility to store up to 5 MG in the Port Richmond WPCP east interceptor sewer has been recommended and preliminary design has been completed.

Phase III – In-line CSO Storage

Preliminary design of two inflatable dam locations for the Outer Harbor has been completed – One at Port Richmond (PR-6W, 1.4 MG) and the other at Owls Head (OH-6C, 2.2 MG).

Table 4

Outer Harbor CSO Project

	Phase I	*Phase II*	*Phase III*
Plan Elements:	Regulator Improvements	Throttling Facility	In-Line Storage
Location:	32 regulator sites throughout Brooklyn and Staten Island	Port Richmond WPCP	Owls Head: OH-6C P. Richmond: PR-6W
Actions:	Conversion to manually operated sluice gates, replacement of stop plank guides, termination of water supply	Installation of sluice gate in Port Richmond east interceptor sewer	Installation of two inflatable dams in the combined sewer system
Project Cost:	$4,800,000	$1,300,000	$3,100,000
Status*:*	Preliminary Design – 100% Complete	Preliminary Design – 100% Complete	Preliminary Design – 100% Complete
Other Issues:	-	-	-

Table 4A Outer Harbor Status of "Elements Approved by NYSDEC"		
"Element Approved by NYSDEC"	**Status after Preliminary Engineering**	**Work Progress**
Regulator Improvements *Automate 6 large regulators*	Install outfall alarms at 6 large regulators according to Omnibus IV Consent Order signed in 1998.	Outfall alarm installation complete.
Regulator Improvements *Install fixed orifices at 21 regulators*	Install fixed orifices at 32 regulators	Preliminary design complete.
Regulator Improvements *Install 11 vortex regulators*	Vortex valve recommendation eliminated due to hydraulic model demonstration that CSOs would actually be increased at selected regulators. Regulators instead proposed for fixed orifice installation.	-
Maximize Flow to Treatment Plants *Throttling facilities for OH, PR, and Hannah Street Pumping Station*	Throttling facility recommendation at Hannah Street Pumping Station eliminated due to findings that the existing sluice gate was capable of controlling flow with acceptable velocities.	Throttling facility at Owls Head complete and in use. Preliminary design for throttling facility at Port Richmond complete.
In-Line Combined Sewer Storage *In-line storage at 5 regulators to total 3.8 MG*	In-line storage reduced to 2 regulators to total 4.4 million gallons, due to flooding concerns.	Preliminary design complete.
In-line Interceptor Storage *6.3 MG of in-line storage at several interceptors*	Interceptor storage to be provided upstream of OH (3.5 MG) and PR (5 MG).	3.5 MG of storage provided upstream of OH. Interceptor storage at PR to be provided when throttling facility is completed.

E.) Jamaica Bay

The Jamaica Bay CSO Abatement Facilities Plan submitted in November 1993 recommended retention of 34 million gallons of CSO from Fresh Creek (27 million gallons) and Hendrix Creek (7 million gallons). The retention facility was to be located beneath the Bruekelen Houses Park, a 12-acre site north of the head end of Fresh Creek, and adjacent to the major CSO sewer in Williams Avenue.

34 MG off-line storage for Fresh Creek CSO and Hendrix Creek

These elements are no longer under consideration for the on-going work for revision of the original facility plan. An alternate plan is being developed.

Two issues negatively impacted the feasibility of constructing the off-line storage facility at the proposed location. These issues were: 1) the need to provide five interim ball fields off-site, but within the immediate neighborhood, to replace the five ball fields that would be eliminated during the construction, and 2) the subsequent sale of the only large available land in the immediate neighborhood that could accommodate five interim ball fields. The loss of the alternate ball fields site effectively made construction of the offline storage tank unfeasible.

At this time, an examination of alternate concepts for abating CSO to Fresh Creek and Hendrix St. Canal are being examined as part of new facility planning efforts. Strategies that appear promising include sewer system changes increasing wet weather flow from the Hendrix regulator to the 26th Ward WPCP by 50 MGD, and a tunnel storage conduit.

Investigations of sewer system conditions indicate that remedial work within the complex drainage system could have significant impacts on CSO discharges. The routing of CSO to high and low side systems in the 26th Ward drainage area are affected by the impact of "grit" in several sewers and subsequent impact on several "structural flow diversions". Sewer system modeling is proceeding on several scenarios to ascertain the impact to CSO volumes and the ability to drive 50 MGD more flow to the 26th Ward WPCP from the High Side (Hendrix) system.

Several sewer system/offline-storage scenarios/flow management schemes are under evaluation. Both sewer system modeling and water quality modeling are presently being undertaken to ascertain the feasibility and practicality (constructability and water quality) of each scenario and flow management scheme currently under evaluation.

Another alternative abatement strategy being examined involves the use of a CSO storage tunnel. Geotechnical work (both landside and waterside borings) has been completed for examination by the tunnel consultant. New ortho-photogrammetric mapping has also been completed. Examination of a riser shaft and TBM launch site at the southern end of the 26th Ward WPCP is underway.

Coordination with the 26th Ward WPCP upgrade design has been on going for both sewer system and tunneling alternatives.

Upgrade Spring Creek AWPCP

The original facility plan recommended that no additional storage was required at the Spring Creek Auxiliary WPCP, however modifications to provide around-the-clock disinfection of facility overflows, improved discharge and baffling, and pump-back of stored volume following rain events be provided.

A separate project was underway at the same time the Jamaica Bay CSO project was underway, specifically focusing on operational improvements to the Spring Creek Auxiliary WPCP. The efforts of both projects were coordinated. This resulted in water quality related recommendations from the Jamaica Bay CSO facility plan being incorporated into the work for the Spring Creek facility. The key water quality recommendation was that no additional storage was required.

At this time a construction contract for the upgrade to the Spring Creek AWPCP has been advertised, and bids were received during the second quarter of 2002.

Sewer Separation for Far Rockaway

The original facility plan recommended that in order to provide a 90 percent reduction of coliform bacteria levels in the open waters of Jamaica Bay that (1) the proposed CSO facility at Paerdegat Basin be constructed and with the ability to provided for disinfection of facility overflows, that (2) the sewer correction program on Rockaway be completed, that (3) the proposed CSO facility at Fresh Creek be constructed and that (4) reduction of coliform bacteria loading from Bergen and Thurston Basins be provided. The original facility plan also recommended proceeding with the Jamaica Tributaries Water Quality Facilities Plan.

The NYCDEP's sewer correction program in the Rockaway's is an on-going long-term program. For status of Paerdegat Basin and the Jamaica Tributaries, please refer to other sections of the quarterly report.

Non-structural (Floatables Control) Options

The original facilities recommended that a public education program be undertaken to focus on the relationship between street litter, improper disposal of trash into the sewers and the floatable materials found on beaches, shorelines and in the open waters.

Other derivative studies from Jamaica Bay CSO Facility Planning Project are the Jamaica Bay Eutrophication Study and Jamaica Bay Chlorine Residual Study.

Meetings

No meeting conducted this period.

Preliminary Examinations

Further work on CSO planning and preliminary design is underway. A draft final Eutrophication Study report was submitted to the Department on October 19, 2000 and to the NYSDEC on November 3, 2000. A report on the Chlorine Residual Study was reviewed and the consultant is addressing the Department's comments.

Table 5

Jamaica Bay CSO Project

Plan Elements:	CSO Storage Tank	Dredging
Location:	Fresh Creek, Brooklyn	Head Ends of Fresh, Hendrix and Spring Creeks
Actions:	Facility Plan and conceptual/preliminary design to be revised	No additional actions regarding dredging have been taken on this project at this time
Project Cost:	To be determined	$3 million (estimate from 1993 Facility Plan)
Status:	Evaluating alternatives for storage tunnel, sewer system modifications, and increased wet weather plant capacity	-
Other Issues:	ULURP, SEQR to be revised	-

F.) East River

The facility planning and design services for this project are being performed under East River CSO Project Contracts II, III and IV.

- **Bronx River**

Project Summary

The Bronx River CSO Storage Conduit Project will include construction of a storage conduit to affect 4 MG of off-line CSO storage capacity to provide CSO abatement at Outfall HP-23 on the Bronx River. The storage conduit, which will be approximately 500' L x 60' W x 40' H, will be located along the east shore of the Bronx River in an area immediately south of the intersection of East 177th Street, DeVoe Avenue and the Sheridan Expressway. This project will also include relocating Outfall HP-23, approximately 600 feet downstream of the outfall's existing location, to the downstream end of the storage conduit. Existing Outfall HP-23 will be abandoned. Other principal facilities to be constructed as part of this project include a pumping station with a rated capacity of 2,800 gpm with an accompanying 16-inch diameter force main for pump-back purposes, air treatment facilities, and mechanical screening facilities.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on April 2, 2002, April 10, 2002, May 7, 2002, May 15, 2002, June 4, 2002, and June 12, 2002 at the NYC Department of Environmental Protection (NYCDEP) offices between representatives of the NYCDEP, New York City Department of Parks and Recreation (NYCDPR), URS, Lawler, Matusky and Skelly Engineers (LMS), and Helen Neuhaus and Associates, to discuss and review the overall progress of the East River CSO Project.
- Meeting on April 2, 2002 at the NYCDEP offices between representatives of the NYCDEP, URS and LMS to review the support being provided by the NYCDEP to the NYSDOT on the Bronx River Project.
- Meeting on April 8, 2002 at the NYCDEP offices between representatives of the NYCDEP and URS to review the revised East River CSO Abatement Facilities project schedules.
- Meeting on April 17, 2002 at the NYCDEP offices between representatives of the NYCDEP, New York State Department of Transportation (NYSDOT), URS and LMS to discuss the following issues: (1) preparation of the EAS for the Southern Greenway; (2) support being provided by the NYCDEP to the NYSDOT; (3) mapping requests by the NYSDOT; (4) extension of the ramp which allows northbound traffic on the Sheridan Expressway to enter onto the westbound lanes of the Cross Bronx Expressway; and (5) project schedule. NYSDOT has proposed revisions to the location of ramp support structures, which interfere with the construction of the CSO storage facility. At NYCDEP's request, NYSDOT is re-evaluating the location of their structures. Should

NYSDOT structures interfere with the location of the CSO facility, changes to the land swap agreement could occur, resulting in a delay to the project.

- Meeting on May 6, 2002 at Hazen and Sawyer Engineers offices in Manhattan between representatives of the NYCDEP, New York State Department of Environmental Conservation (NYSDEC), URS, and Hazen and Sawyer to review the revised East River CSO Abatement Facilities project schedules.

Field Investigations

Principal field investigations conducted during this report period are as follows:

- At the direction of the NYCDEP, URS and LMS ceased work on the Phase IA Archaeological Survey for the southern section of the Bronx River Greenway, until the ramp location issues with the NYSDOT on the Bronx River Project are resolved.
- LMS continued to prepare a draft report summarizing the subsurface environmental investigation work performed in the southern portion of the Bronx River Greenway under a NYSDOT contract.
- The NYCDEP continued to review the Phase IA Archaeological Survey Report for the CSO storage conduit site.
- URS ceased in-house review of the Phase IB Archaeological Survey Report, documenting the findings at the two selected locations on the CSO storage conduit site (an area in proximity to the new outfall, and an area near the north entrance to the storage facility site), until the ramp location issues with the NYSDOT on the Bronx River Project are resolved.
- The NYCDEP continued to review the subsurface geotechnical investigation reports (Subsurface Investigation and Geotechnical Evaluations) for the CSO storage conduit site.

Environmental Review

At the direction of the NYCDEP, URS and LMS ceased work on preparation of the EAS, until the ramp location issues with the NYSDOT on the Bronx River Project are resolved.

ULURP

At the direction of the NYCDEP, URS ceased work on preparation of the ULURP Application, including all mapping revisions, until the ramp location issues with the NYSDOT on the Bronx River Project are resolved.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- In a letter dated May 1, 2002, the NYCDEP responded to a NYSDEC letter, dated March 15, 2002, which provided guidance for preparation and submission of final CSO abatement facilities plans for the four East River tributaries. In this May 1st letter, the NYCDEP indicated that the Bronx River CSO Abatement Facilities Plan will be submitted to the NYSDEC following resolution of issues with the NYSDOT with regard to potential impacts on the CSO storage conduit layout, as a result of changes to the existing traffic ramp off the northbound lanes of the Sheridan Expressway onto the westbound lanes of the Cross Bronx Expressway.

- At the direction of the NYCDEP, URS and LMS ceased preparation of a final CSO abatement facilities plan until the ramp location issues with the NYSDOT on the Bronx River Project are resolved.

- In a letter to the NYSDOT dated April 12, 2002, the NYCDEP discussed and clarified several issues with regard to the coordinated efforts of the NYCDEP and NYSDOT on the Bronx River CSO Storage Conduit and Greenway Projects. These issues included: (1) preparation of the EAS for the Southern Greenway; (2) support being provided by the NYCDEP to the NYSDOT; (3) mapping requests by the NYSDOT; (4) extension of the ramp which allows northbound traffic on the Sheridan Expressway to enter onto the westbound lanes of the Cross Bronx Expressway; and (5) project schedule. The principal issue of concern is the proposed extension of the ramp. According to the NYSDOT, the ramp would extend overtop of the Bronx River underground storage conduit and the aboveground operations building, and support structures for the extended ramp would need to be constructed within the NYCDEP easement for the storage conduit, and possibly may need to be integral with the storage conduit. In the April 12th letter, the NYCDEP indicated that it would not be acceptable to have any support structures for the ramp being constructed within the easement for the storage conduit.

- In early May 2002, the NYSDOT submitted a letter to the NYCDEP responding to the above noted April 12th letter. In their response letter, the NYSDOT stated that reconstruction of a ramp from the northbound Sheridan Expressway to the westbound Cross Bronx Expressway has been recently advanced from a bid advertisement date in the year 2011 to 2007, and that subsequent evaluation of this project has brought to light that there may be ramp improvements, beyond what has already been identified, that could potentially impact the proposed land swap for the Bronx River Project. The NYSDOT indicated that while they will continue to make every effort to insure that the land swap moves forward in its current form, they do not want to rule out any alternatives until an analysis has been performed to determine the extent of any incremental improvements involved. The NYSDOT indicated that this analysis would be completed in the near future at which time they will be able to make a determination of the merits of these alternatives. To assist in their efforts to evaluate the alternatives, the NYSDOT requested that the NYCDEP provide copies of the most recent preliminary design drawings for the Bronx River CSO Storage Conduit. Copies of these preliminary design drawings were submitted to the NYSDOT for their use in the evaluation of alternatives, in mid-June 2002.

- In a letter to the NYCDEP dated March 26,2002, the NYSDOT confirmed the agreement that the NYSDOT will contribute $2,000,000 towards the cost of the Bronx River Project,

as a result of the NYCDEP agreeing to relocate Outfall HP-23 downstream of its current location.

- URS and LMS continued work, including dispersion air modeling, to determine if the air treatment facilities for the Bronx River Project need to be a one – or two – stage treatment system.
- At the direction of the NYCDEP, URS ceased final design of the CSO storage conduit until the issues with the NYSDOT on the Bronx River Project are resolved.
- The NYCDEP continued to review the report submitted by URS in late January 2002 that provides results of the investigation into alternatives for installing the diversion conduit underneath the ramp to the Sheridan Expressway, and details of the selected installation method, the New Austrian Tunneling Method (NATM).
- The NYCDEP continued to review the detailed hydraulic calculations for the storage conduit and detailed hydrologic calculations for existing Outfall HP-23 that were submitted by URS in late March 2002.
- Approval by the NYCDEP remains pending for URS to utilize the services of Simco Engineering to prepare Maintenance and Protection of Traffic (MPT) Plan drawings for the Bronx River Project.
- As a result of the delay in proceeding with the project because of the issues with the NYSDOT, the NYCDEP decided to delay the 30 percent Value Engineering Review until March 2004.

Table 6

Bronx River CSO Project

Plan Elements:	Bronx River CSO Storage Conduit
Location:	Property adjacent to intersection of East 177th Street, DeVoe Ave., and Sheridan Expressway
Actions:	Design and construction of a 4 MG storage conduit, with new outfall, including screenings facility, air treatment system, and pumping station to pump stored CSO flow back into the interceptor system for conveyance to the Hunts Point WPCP for treatment; abandonment of existing Outfall HP-23.
Cost:	$42,000,000
Status:	Project on hold until issues between the NYCDEP and NYSDOT are resolved.
Other Issues:	EAS needs to be completed to obtain Negative Declaration for project; ULURP Application needs to be completed and certified; mapping for land transfers needs to be completed prior to ULURP Application certification.

- **Hutchinson River**

Project Summary

The Hutchinson River CSO Storage Conduit Project will include the construction of a storage conduit to affect 7 MG of off-line storage in order to provide CSO abatement at Outfalls HP-14 and HP-15 on the Hutchinson River. As a result of public opposition to locating the southern reach of the storage conduit within the right-of-way of CO-OP City Boulevard, the NYCDEP has agreed to relocate this southern reach of the conduit into City-owned land located between CO-OP City Boulevard and the Hutchinson River. However, relocation of the southern reach of the storage conduit will require major revisions to the design and approval of the conduit project. Relocation of the conduit outside public street ROW's will require a ULURP action and attendant environmental reviews before construction of any project elements can begin.

Most of the design revisions will involve the southern reach; however, some revisions will be required to the design of the northern reach. Although the southern reach will be relocated out of the right-of-way, the northern reach of the conduit will remain within roadway rights-of-way, extending approximately 3,600 linear feet southward from near where Boston Road crosses over the Hutchinson River to the Conner Street Pumping Station. Under the re-design of the storage conduit, the northern reach may have a storage volume of less than 4.7 MG as presently designed with the southern reach having a storage volume of greater than 2.3 MG as presently designed. Other principal facilities to be constructed as part of this project include four large chambers for connection of the storage conduit to the existing sewer system, modifications to the existing Conner Street and possibly to CO-OP City North Pumping Stations, air treatment facilities, rehabilitation of existing Outfalls HP-14 and HP-15, and possibly construction of a new outfall at the southern terminus of the southern reach. In addition, a public recreational area will be constructed over top of the southern reach of the storage conduit within the property adjacent to the Hutchinson River. This recreational area will consist of paved walkways for walking and cycling, grass areas and shrubs.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on April 2, 2002, April 10, 2002, May 7, 2002, May 15, 2002, June 4, 2002 and June 12, 2002 at the NYCDEP offices between representatives of the NYCDEP, NYCDPR, URS, Lawler, Matusky and Skelly Engineers (LMS), and Helen Neuhaus and Associates, to discuss and review the overall progress of the East River CSO Project.
- Meeting on April 8, 2002 at the NYCDEP offices between representatives of the NYCDEP and URS to review the revised East River CSO Abatement Facilities project schedules.

- Meeting on May 6, 2002 at Hazen and Sawyer Engineers offices in Manhattan between representatives of the NYCDEP, NYSDEC, URS, and Hazen and Sawyer to review the revised East River CSO Abatement Facilities project schedules.

Field Investigations

Principal field investigations conducted during this report period are as follows:

- The soils classification report, which includes the analyses to determine quantities of regulated, non-regulated and hazardous soils for bidding purposes, was approved in writing by the NYSDEC in late June 2002.
- The NYCDEP continued efforts to have the owner of the auto salvage yard, located at the northern end of the northern reach of the storage conduit, remove the junk vehicles from the City-controlled property, to allow for the construction of the northern reach of the conduit.

- On June 5, 2002, representatives of the NYCDEP and URS visited the CO-OP City ball fields to collect information on which to base the scope of work for restoration of the ball fields as part of the Hutchinson River Project. These ball fields are located on the property between CO-OP City Boulevard and the Hutchinson River near the southern end of the proposed southern reach of the storage conduit.

- The subsurface geotechnical investigation report, summarizing the results and conclusions of the subsurface geotechnical boring investigations along the northern and southern reaches of the CSO storage conduit, within the public rights-of-way, remained under review by the NYCDEP.

- The subsurface environmental investigation report, summarizing the results and conclusions of the subsurface environmental boring investigations along the northern and southern reaches of the CSO storage conduit, within the public rights-of-way, remained under review by the NYCDEP.

- The letter report prepared by LMS in November 2001, which provides the results of the investigation into the source of the contamination detected in the sentry wells located near the Hexagon Pharmaceutical Spill Site, remained under review by the NYCDEP. The results of the investigation indicate that the contamination detected in the sentry wells is from the Hexagon Pharmaceutical Spill Site, and that the spill contamination is migrating towards the Hutchinson River, which will impact on the dewatering operations during construction of the storage conduit.

- In early June 2002, URS submitted a scope of work to the NYCDEP for review for a topographic survey along the proposed route of the southern segment of the storage conduit within the property adjacent to the Hutchinson River. This survey is needed to allow some preliminary routing and sizing of the revised southern segment of the storage conduit to be performed, which will then allow the subsurface investigations to proceed prior to Change Order X-1 to East River Contract III being approved for design of the

revised storage conduit, or as soon as the change order is registered. This will help to advance the project as the information needed for the design of the conduit support system and groundwater removal system will be available at the time of initiation of the re-design. Based on their review, the NYCDEP authorized URS to issue the request for proposals to qualified surveying firms, which was accomplished in mid-June 2002, On June 28, 2002, price quotes for the requested surveying services were received by URS, and evaluation of the submitted price quotes was initiated. It is anticipated that the survey services will be performed in August and September 2002.

Environmental Review

Work associated with the preparation of the EAS and with any permits remained discontinued due to the decision to re-design the Hutchinson River CSO Storage Conduit. Preparation of the EAS and work on permit applications will be re-initiated following registration of Change Order X-1 to East River Contract III.

ULURP

A ULURP Application will need to be prepared for the Hutchinson River Project, as revisions to the storage conduit will require that ULURP actions be completed. Preparation of the ULURP Application will be initiated following registration of Change Order X-1 to East River Contract III.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- In a letter dated May 1, 2002 to the NYSDEC, the NYCDEP indicated that the Hutchinson River CSO Abatement Facilities Plan would be submitted to the NYSDEC by June 2, 2003. Work will be re-initiated on preparation of the facilities plan following registration of Change Order X-1 to East River Contract III.
- Upon registration of Change Order X-1 to East River Contract III re-planning and re-design of the Hutchinson River CSO Storage Conduit will be initiated. This work will consist of: (1) relocating the southern reach of the storage conduit easterly out of the right-of-way of CO-OP City Boulevard into the property located between CO-OP City Boulevard and the Hutchinson River; (2) re-aligning the northern reach of the storage conduit to extend across the New York Bus Service Company property at the southeast corner of the intersection of Conner Street and Tillotson Avenue to avoid having the conduit extend directly through the intersection; (3) constructing a public recreational area over top of the southern reach of the storage conduit within the property adjacent to the Hutchinson River; and (4) upgrading Conner Street Pumping Station. In addition, the work will include a re-evaluation of both the northern and southern reaches of the storage conduit to determine whether it would be more cost-effective to maintain the design of the conduit based on the San Francisco Collector Concept, or whether it would be feasible and cost-effective to re-size and re-configure the entire storage conduit (northern and southern reaches), so that the southern reach would perform in a similar manner to a

storage tank. Under such a scenario, the storage volume of the northern reach would be reduced from the current 4.7 MG and the storage volume of the southern reach would be increased from the current 2.3 MG, so that the total storage volume of the storage conduit would total 7 MG to achieve the required CSO abatement at Outfalls HP-14 and HP-15.

- Design of the northern and southern reaches of the storage conduit remained discontinued based on the decision to re-design the Hutchinson River CSO Storage Conduit. Design will recommence when Change Order X-1 to East River Contract III is registered.
- URS and LMS continued work, including dispersion air modeling, to determine if the air treatment facilities for the Hutchinson River Project need to be a one- or two-stage treatment system.
- In mid-May 2002, the NYCDEP received an inquiry from both State Assemblyman Kaufman and Mr. Arthur Taub requesting an update on the status of the Hutchinson River Project. In mid-June 2002, URS prepared and submitted a draft response to the inquiry to the NYCDEP for finalization and submittal to Assemblyman Kaufman and Mr. Taub.

Table 7

Hutchinson River CSO Project

Plan Elements:	Hutchinson River CSO Storage Conduit
Location:	Public rights-of-way from Boston Road to Conner Street Pumping Station; City-owned property adjacent to Hutchinson River.
Actions*:*	Design and construction of 7 MG CSO storage conduit consisting of two segments; a northern segment and a southern segment. Includes overflow chambers and conduits, dry weather flow conduits, outfalls and drainage conduits with connections to Conner Street Pumping Station for northern segment, and either Conner Street Pumping Station or CO-OP City North Pumping Station for southern segment.
Cost:	To be revised.
Status:	To be re-planned and re-designed.
Other Issues:	Change Order X-1 to East River Contract III needs to be registered for re-planning and re-design of storage conduit; EAS needs to be revised to obtain Negative Declaration for project; ULURP Application needs to be completed and certified.

- **Alley Creek**

Project Summary

The Alley Creek Drainage Area Improvements/CSO Abatement Facilities Project will be constructed in two stages, the Alley Creek Drainage Area Improvements (Stage 1) and the Alley Creek CSO Abatement Facilities (Stage 2). The Oakland Ravine Stormwater Treatment System, which is not a part of the CSO abatement project, has been designated as Phase II of the comprehensive Alley Creek Project. The principal elements included in the project are: additional storm water and combined sewers, a new outfall sewer, and a new combined sewer outfall to substantially eliminate street flooding and sewer surcharging, and construction of a new 5 MG CSO storage facility to abate CSO discharges into Alley Creek (Stage 1); and activation of the 5 MG CSO storage facility including upgrading the Old Douglaston Pumping Station (Stage 2). Construction of a storm water treatment system in the form of settling basins and natural emergent wetlands will be included in the Oakland Ravine Stormwater Treatment System (Phase II). The construction contracts for Phase I, Stage 1 and Phase I, Stage 2 have been designated as ER-AC1 and ER-AC2, respectively.

The principal facilities to be provided under Phase I, Stage 1 include approximately 1,400 linear feet of an 11'-0" W x 8'-0" H combined sewer; approximately 1,200 linear feet of an 11'-0" W x 9'-0" H combined sewer; approximately 4,700 linear feet of storm water sewers ranging from 15- through 48-inches in diameter; approximately 2,350 linear feet of a 20-inch diameter force main; a double barrel outfall sewer consisting of approximately 1,475 linear feet of two 16'-0" W x 7'-6" H barrels followed downstream by approximately 650 linear feet of two parallel 20'-0" W x 7'-9" H barrels (average height); a CSO storage facility to be constructed alongside of the 20'-0" W x 7'-9" H (average height) double barrel outfall sewer, with approximate dimensions of 120 feet wide by 600 feet long and a maximum depth of 25 feet; and an outfall structure and stilling basin on Alley Creek. The outfall sewer will discharge into Alley Creek, through a new outfall structure to be constructed under Phase I, Stage 1, which will be located north of Northern Boulevard, on the west side of Alley Creek.

The 5 MG CSO storage facility will be constructed under Phase I, Stage 1, and activated under Phase I, Stage 2. The new outfall sewer will function as part of the CSO storage facility after the construction of a fixed weir, at the downstream end of the outfall sewer, to induce CSO storage during rainstorms. The CSO storage facility will be emptied by use of 24-inch and 36-inch diameter gravity drains to the Old Douglaston Pumping Station, which is located (in Alley Park) along the south side of Northern Boulevard, west of Alley Creek. The Old Douglaston Pumping Station will be used to pump the captured CSO sewage to the Tallman Island WPCP for treatment. The CSO storage facility will be cleaned, after each storm event, through the use of ten HydroSelf Flushing Gates (five at each end of the CSO storage facility).

The design and construction of ecological restoration areas and wetlands to mitigate construction impacts within Alley Park have been separated from Phase I, Stage 1, Contract ER-AC1 and included in a separate construction contract. This contract will begin after the completion of Contract ER-AC1. A contract number has not been issued for this construction contract at this time.

The storm water treatment system to be provided under Phase II will consist of a wetlands treatment system to be constructed in Oakland Ravine to provide primary and secondary treatment, with the treated effluent being discharged into Oakland Lake, and ultimately into Alley Creek through the existing 10'-0" W x 7'-6" H outfall sewer. A contract number has not been issued for this construction contract at this time.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on April 2, 2002, April 10, 2002, May 7, 2002, May 15, 2002, June 4, 2002 and June 15, 2002 at the NYCDEP offices between representatives of the NYCDEP, URS, Lawler, Matusky and Skelly Engineers (LMS), and Helen Neuhaus and Associates, to discuss and review the overall progress of the East River CSO Project.
- Meeting on April 8, 2002 at the NYCDEP offices between representatives of the NYCDEP and URS to review the revised East River CSO Abatement Facilities project schedules.
- Meeting on April 19, 2002 at the NYCDEP offices between representatives of the NYCDEP and URS to review the NYCDEP's latest comments on the amended drainage plan.
- Meeting on May 6, 2002 at Hazen and Sawyer Engineers offices in Manhattan between representatives of the NYCDEP, NYSDEC, URS, and Hazen and Sawyer to review the revised East River CSO Abatement Facilities project schedules.
- Meeting on June 28, 2002 at the NYCDEP offices between representatives of the NYCDEP, URS and Rosewood Contracting Corporation/AFC Enterprises, Inc., the low bidder on Contract ER-AC1, to discuss and review the bid prices and submittals.

Field Investigations

In May 2002, the NYCDEP requested that mechanical screens be considered for installation at the Old Douglaston Pumping Station as part of the upgrade of the facility. To determine if there is sufficient space within the property boundaries of the pumping station to install the mechanical screens, the NYCDEP authorized URS to have the property surveyed. In early June 2002, URS issued a request for price quotes from several qualified surveying firms to perform the surveying services. Based on price quotes also received in early June 2002, Massand Engineering, who submitted the lowest quote, was selected to provide the surveying services. Work on the survey was initiated in late June 2002.

The request for price quotes discussed above also included surveying services to provide a topographic survey of a portion of Cloverdale Boulevard right-of-way located between 46th Avenue and Birmington Parkway. This topographic survey is required for design of an extension of a storm sewer to have the sewer connect into the existing outfall sewer for Outfall

TI-7 in lieu of discharging into Oakland Lake, as is the existing condition. Massand Engineering submitted drawings presenting this topographic survey to URS for review in late June 2002.

On May 10, 2002, the NYCDEP sponsored a bus trip to sites within the Staten Island Bluebelt that have similar features to those proposed for the Oakland Ravine Project. Attendees on the trip included representatives from the NYCDEP, URS, Queens Borough President's Office, Alley Pond Environmental Center and special interest groups.

The protocol for collecting and analyzing samples from the bed of Oakland Lake to determine the feasibility of dredging and removing material from the lake remained under review by the NYCDEP.

Environmental Review

The NYSDEC issued the Joint Application Permit for the Alley Creek Project in mid-April 2002 contingent upon the submission of a mitigation plan for Alley Park, an erosion-monitoring plan for the shorelines of Alley Creek in the vicinity of the new CSO outfall, and a dewatering plan for the project. In late May 2002, URS and LMS prepared and submitted an erosion-monitoring plan for the shorelines of Alley Creek in the vicinity of the new CSO outfall to the NYCDEP for review and re-submittal to the NYSDEC. In early June 2002, URS submitted information from the contract specifications for Contract ER-AC1to the NYCDEP for review and re-submittal to the NYSDEC. This information included requirements for the dewatering system, and the soil erosion and sediment control measures. Also in early June 2002, LMS made revisions to the mitigation plan (ecological restoration and wetlands construction) for Alley Park as requested by the NYCDEP and submitted the revised mitigation plan to the NYCDEP for review and re-submittal to the NYSDEC. Based on their review of the mitigation plan for Alley Park, the NYCDEP requested additional revisions to the plan in late June 2002. These revisions were initiated by URS and LMS in late June 2002, and a revised plan will be submitted to the NYCDEP in early July 2002 for review and re-submittal to the NYSDEC.

The NYSDEC issued a notice of incomplete for the Long Island Well Permit in mid-April 2002. Full approval of the Long Island Well Permit will be the responsibility of the construction contractor, who will need to furnish additional specific information including laboratory results of the re-testing of the groundwater, as the existing laboratory results will be more than one year old at the time of construction.

In late May 2002, the NYCDEP submitted a letter to the NYSDEC requesting the modification to the Tallman Island WPCP SPDES Permit for the new CSO outfall discharging into Alley Creek. However, the letter included a minor inaccuracy in the description of the location of the new outfall. The letter stated that the new outfall would be located 400 feet north of the Long Island Railroad Bridge. In mid-June 2002, the NYCDEP submitted a letter to the NYSDEC indicating that the correct location of the new outfall will be 400 feet south of the Long Island Railroad Bridge.

ULURP

The ULURP Application for the siting action for the Alley Creek Drainage Area Improvements – Phase I, Stage 1 and Alley Creek CSO Abatement Facilities – Phase I, Stage 2 has been fully approved.

A decision needs to be made by the NYCDEP as to whether the Oakland Ravine Project requires ULURP approval.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- In a letter dated May 1, 2002 to the NYSDEC, the NYCDEP indicated that the Alley Creek CSO Abatement Facilities Plan would be submitted to the NYSDEC by June 1, 2002. In early June 2002, the NYCDEP submitted the facilities plan to the NYSDEC for review, and in late June 2002, minor review comments were received from the NYSDEC. URS will address the minor comments and re-submit the revised facilities plan to the NYCDEP in early July 2002 for re-submittal to the NYSDEC.
- In mid-March 2002, the NYCDEP submitted letters to the NYCDPR and NYCDOT - Arterial Maintenance requesting that the two Departments resolve the issue regarding maintenance jurisdictional limits in proximity to the Cross Island Parkway in Alley Park. Enclosed with these letters were landscape plans presenting the restoration within Alley Park in the vicinity of the Cross Island Parkway, and suggested maintenance jurisdictional limits. An agreement on the maintenance jurisdictional limits is required before NYCDOT - Arterial Maintenance will provide their approval of the Alley Creek Project.
- Approval has not yet been received from the NYCDOT for the Cross Island Parkway MPT Plan drawings, and for the traffic signals. The approval of the Cross Island Parkway MPT Plan drawings is contingent upon an agreement being reached between the NYCDOT - Arterial Maintenance and NYCDPR with regard to the maintenance jurisdictional limits in proximity to the Cross Island Parkway in Alley Park.
- In early April 2002, the NYCDOT - Arterial Maintenance submitted minor review comments to the NYCDEP on the drawings and specifications for Contract ER-AC1. In early May 2002, the NYCDEP submitted a letter to the NYCDOT - Arterial Maintenance responding favorably to the comments.
- In mid-April 2002, URS provided the NYCDOT- Bureau of Traffic Signals for review details and design computations for the temporary traffic signal fixtures for Contract ER-AC1.
- LMS prepared air treatment calculations to determine the facilities required to treat air exhausted from the Alley Creek CSO storage facility and the wet well of the Old Douglaston Pumping Station. For an air treatment system located at the pumping station, the calculations indicate that the required 1 ppb of H_2S concentration can be achieved at the nearest sensitive receptor, the Alley Pond Environmental Center (APEC), with a one-

stage air treatment system in lieu of a two-stage system. For a one-stage system, the height of the dual stacks will need to extend to at least 20 feet above grade. The air treatment calculations were submitted to the NYCDEP for review in mid-June 2002.

- In late May 2002, the NYCDPR submitted a letter to the NYCDEP indicating their approval of the conceptual plans for the ecological restoration and wetlands construction proposed for Alley Park. In this same letter, the NYCDPR provided suggested requirements for erosion monitoring of the shorelines of Alley Creek in the vicinity of the new outfall, and approved the stockpiling of material excavated under Contract ER-AC1, which meets the required soils specifications for the ecological restoration and wetlands construction, within Alley Park on the north side of Northern Boulevard.
- The NYCDEP continued to await a response from the NYSDEC concerning the Total Maximum Daily Load (TMDL) Program for floatables removal for Alley Creek, which was sent to the NYSDEC in mid-November 2001.
- Based on an April 19, 2002 meeting between representatives of the NYCDEP and URS, field surveys were performed to verify several specific sewer invert elevations. Based on the results of these surveys, URS prepared and submitted a revised amended drainage plan to the NYCDEP for review in late May 2002.
- The memorandum submitted to the NYCDEP by URS summarizing the findings and results of the investigation of the alternatives for a water supply to provide a secondary flush for the storage facility, remained under review by the NYCDEP. The memorandum recommends that the stored combined sewage in the elevated outfall sewer be used to refill the reservoirs for each of the ten Hydroself Flushing Gates for a secondary flush of the storage facility.
- URS continued to define the scope of work that needs to be completed to upgrade the Old Douglaston Pumping Station to allow for the pump-back of the stored CSO to the Tallman Island WPCP. Based on an inspection of the pumping station on March 25, 2002, by representatives of the NYCDEP, URS, and Chu and Gassman, a determination was made that a complete upgrade of the station is needed to include mechanical, HVAC, electrical, and instrumentation and control systems. URS will prepare a report describing the necessary work to be performed at the pumping station, including estimated construction costs.
- At the request of the NYCDEP, URS initiated an investigation to determine if mechanical screens can be installed as part of the upgrade to the Old Douglaston Pumping Station. As part of this investigation, URS initiated work to have a property survey performed to verify the property limits of the pumping station. The results of this investigation will be included in the report providing recommendations for upgrading the pumping station.
- The design of Contract ER-AC2, Alley Creek CSO Abatement Facilities - Phase I, Stage 2, will begin after the NYCDEP has had an opportunity to review the recommendations provided by URS for upgrading the Old Douglaston Pumping Station.
- URS prepared and submitted to the NYCDEP in early June 2002 for review a memorandum which presents a summary of the findings of a planning level evaluation of the alternatives for the storm water collection systems (french drains) proposed along the

tops of the Oakland Ravine slopes, and for the Continuous Deflective Separation (CDS) units proposed for floatables control at the south end of Oakland Ravine. Based on the evaluation of alternatives for the french drains, URS recommends in the memorandum to delete the french drain along the Springfield Boulevard side of the ravine, and to replace the french drain on the Queensborough Community College side of the ravine with either a system consisting of hard piping and perforated piping or a drainage swale. In the memorandum, URS recommends that the CDS units be deleted from the project in favor of additional catch basin hooding within the drainage area of the storm sewers to be re-routed into Oakland Ravine, and the use of overflow baffles installed in the flow-splitting or regulatory chambers to be provided to divert the storm water flows into the ravine.

- The NYCDPR will submit a memorandum to the NYCDEP that provides their criteria for design of the Oakland Ravine Project, including the need to develop a water budget for the ravine. No further work will be performed on the Oakland Ravine Project until the design criteria are provided by the NYCDPR.

Facility Bidding and Construction

Addendum No. 1 to the contract documents for Contract ER-AC1 was issued to prospective bidders on April 2, 2002. This addendum addressed comments by the NYCDOT that were received too late to incorporate into the contract documents prior to bid advertisement, as well as the cathodic protection design for the 30- and 36-inch diameter water main installed along 56th Avenue, and the addition of the EP-7 Standard Specifications and Drawings for the modifications to the utilities.

Addendum No. 2 to the contract documents for Contract ER-AC1 was issued to prospective bidders on April 23, 2002. This addendum extended the bid opening date for the contract to May 9, 2002, addressed additional revisions to the contract documents requested by the NYCDEP, and answered questions raised by the prospective bidders.

A notice was issued on May 7, 2002 to all purchasers of contract documents that the bid opening date for Contract ER-AC1 was extended to May 23, 2002.

Addendum No. 3 to the contract documents for Contract ER-AC1 was issued to prospective bidders on May 16, 2002. This addendum included revisions to the milestones and working hour provisions, excavation support system specifications, precast reinforced concrete pipe specifications, and cured-in-place pipe specifications, as well as minor revisions/clarifications to the contract drawings.

On May 23, 2002, the bids were opened for Contract ER-AC1. Six bids were received ranging from $84,711,587.77 to $122,390,000.00. The Engineer's cost estimate was $121,437,644.41. The NYCDEP and URS initiated review of the bid submittals.

Table 8

Alley Creek CSO Project

Plan Elements:	Alley Creek Drainage Area Improvements (Phase I, Stage 1)	Alley Creek CSO Abatement Facilities (Phase I, Stage 2)	Alley Park Ecological Restoration and Wetlands Construction	Oakland Ravine Stormwater Treatment System (Phase II)
Location:	46th Avenue, 53rd Avenue, 56th Avenue, Bell Boulevard, Luke Place, 214th Street, 216th Street, 217th Street, Springfield Boulevard, Cross Island Parkway, Northern Boulevard and Alley Park in Bayside, Queens	Northern Boulevard and Alley Park in Bayside, Queens	Alley Park in Bayside, Queens	Oakland Ravine and Oakland Lake in Bayside, Queens; Queensborough Community College Campus in Bayside, Queens
Actions:	Design and construction of additional storm water and combined sewers, catch basins, outfall sewer and outfall structure to effect improved drainage in areas upstream of Outfall TI-7 in Bayside, Queens. Design and construction of 5 MG CSO storage facility for CSO abatement within Alley Creek.	Design and construction of modifications to the Old Douglaston Pumping Station including air treatment facilities to treat air exhausted from the CSO storage facility; design and construction of hydraulic control structures and facilities to activate the 5 MG CSO storage facility constructed under Phase I, Stage 1.	Design and construction of ecological restoration areas and wetlands to mitigate construction impacts; approximately 8.6 acres to be constructed.	Design and construction of a wetlands storm water treatment system in Oakland Ravine to treat storm water prior to discharge into Oakland Lake and ultimately into Alley Creek; design and construction of upgrades to the storm water sewer system on the Queensborough Community College Campus; and design and construction of rehabilitation measures within Oakland Ravine and Oakland Lake.
Cost:	$84,712,000	$17,700,000	$7,000,000	$26,500,000
Status:	Bids opened on May 23, 2002; bid submittals under review.	Preliminary design underway.	Conceptual design underway.	Preliminary design report under review by NYCDEP.
Other Issues:	NYSDEC issued Joint Application for Permit contingent upon receipt of supplemental information; ULURP Application fully approved.	Address mechanical screenings issue.	NYC Department of Parks and Recreation approved conceptual design.	Determination needs to be made if ULURP Actions required; NYC Department of Parks and Recreation to provide design criteria; Input from local environmental groups needed.

- **Westchester Creek**

Project Summary

The Westchester Creek CSO Storage Tank Project will include construction of a 12 MG underground CSO storage tank to be located in the southwest section of the Bronx Psychiatric Center (BPC) Campus adjacent to Waters Place, near the intersection of Eastchester Road. The proposed underground storage tank will have approximate dimensions of 410' L x 155' W x 36' H and will provide CSO abatement at Outfall HP-25 on Westchester Creek. Other principal facilities to be constructed as part of the project include: a two story administration/support building; an air treatment building; a single-barrel supply conduit (13'-0" W x 8'-0" H) extending from the Outfall HP-25 sewer in Eastchester Road to the underground storage tank; a double-barrel overflow conduit (each barrel 12'-0" W x 5'-0" H) extending from the underground storage tank to the Outfall HP-25 sewer in Eastchester Road; and a pumping station with a rated capacity of approximately 10,500 gpm and an accompanying 24-inch diameter force main extending from the underground storage tank to the sewer system in Eastchester Road for pump-back purposes. In addition to the facilities required for CSO abatement at Outfall HP-25, the NYCDEP has agreed to provide, as part of this project, amenities for use by the two Little Leagues that utilize the baseball fields adjacent to the site of the underground storage tank. These amenities consist of restroom facilities, a clubhouse building, a paved parking area on top of the underground storage tank, and fencing to enclose the Little League areas so as to keep the ball fields and parking areas separated from the BPC Campus facilities and the NYCDEP facilities. The NYCDEP has also agreed to provide the Italian American Soccer League of New York with a replacement soccer field as compensation for the loss of the existing soccer field, which is located at the proposed site of the CSO storage tank. The site for the replacement soccer field has not yet been selected.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on April 2, 2002, April 10, 2002, May 7, 2002, May 15, 2002, June 4, 2002, and June 12, 2002 at the NYCDEP offices between representatives of the NYCDEP, URS, Lawler, Matusky and Skelly Engineers (LMS), and Helen Neuhaus and Associates, to discuss and review the overall progress of the East River CSO Project.
- Meeting on May 6, 2002 at Hazen and Sawyer Engineers offices in Manhattan between representatives of the NYCDEP, NYSDEC, URS and Hazen and Sawyer to review the revised East River CSO Abatement Facilities project schedules.
- Meeting on May 13, 2002 at the offices of Community Board No. 11 in the Bronx, between representatives of the Community Board, NYCDEP, URS and the Italian American Soccer League of New York, to discuss the use of the existing soccer field, located at the site of the proposed CSO storage tank, and the need for an alternative site for a soccer field when construction of the storage tank is initiated.

- Meeting on June 21, 2002 at the Bronx Psychiatric Center (BPC) Campus, between representatives of the NYCDEP, BPC, URS and the Italian American Soccer League of New York, to investigate possible alternative sites for a replacement soccer field.
- Teleconference on June 25, 2002, between representatives of the NYCDEP, Dormitory Authority of the State of New York (DASNY), New York State Office of Mental Health (NYSOMH), BPC, a private developer, and URS, to discuss acquisition of the site for the proposed CSO storage tank at the BPC Campus.

Field Investigations

Principal field investigations conducted during this report period are as follows:

- URS initiated the solicitation of price quotes from subconsultants to inspect and document the conditions of Outfall HP-25 and the upstream outfall sewer.
- The subsurface geotechnical investigation report, which summarizes the findings and results of the geotechnical borings drilled at the locations for the proposed Little League restrooms and clubhouse facility, remained under review by the NYCDEP.
- Based on price quotes received, Craig Test Boring Company was selected and approved to drill the geotechnical borings at the site of the CSO storage tank, as well as along Eastchester Road and Waters Place. These borings, which are needed for design purposes, will be drilled during the time period of July 22, 2002 through August 30, 2002.
- On June 21, 2002, potential sites for the construction of a replacement soccer field, as compensation for the soccer field located at the site of the CSO storage tank, were investigated at the BPC Campus. Participants in this investigation included representatives of the NYCDEP, BPC, URS and the Italian American Soccer League of New York.
- In mid-June 2002, DASNY extended the work permit, which allows the NYCDEP and their consultants/contractors to perform work on the proposed site of the CSO storage tank, through September 2002.

Environmental Review

URS and LMS submitted a revised EAS for the CSO storage tank project to the NYCDEP for review in early June 2002. This revised EAS reflects the revisions to the project as a result of the easement along the west boundary of the BPC Campus granted by DASNY to a private development corporation. The revised EAS also reflects that the NYCDEP intends to provide a replacement soccer field at a new site as compensation for the loss of the existing soccer field at the proposed site of the CSO storage tank.

In late April 2002, the NYC Landmarks Preservation Commission indicated that the Westchester Creek Project has no architectural or archaeological significance. This determination was based on their review of the Phase IA Archaeological Survey Report.

Site Acquisition/ULURP

The NYC Department of Citywide Administrative Services (DECAS) continued to coordinate with DASNY to acquire the site at the BPC Campus for construction of the CSO storage tank and Little League facilities. The acquired site will exclude the easement granted by DASNY to a private development corporation along the west boundary of the BPC Campus.

DASNY has not yet responded in writing to a letter from the NYCDEP Legal Department, sent in late January 2002, explaining that a revised layout for the Westchester Creek CSO Storage Tank Project has been developed. This letter indicates that the need for the land included within the easement, granted by DASNY to a private development corporation along the west boundary of the BPC Campus, is no longer required. This letter also presents a description of the revised property boundaries required for the CSO storage tank project, and indicates that the NYCDEP is proceeding with requirements necessary for acquiring the property. In addition, the letter requests that DASNY reserve the property as now configured for the benefit of the City until such time when the title can be transferred to the City. The letter also requests information on future wastewater flows to be generated by the BPC that are needed for design purposes.

In a June 25, 2002 teleconference, between representatives of the NYCDEP, DASNY, NYSOMH, BPC, a private developer, and URS, DASNY indicated that they cannot commit to selling of property at the BPC Campus for the proposed Westchester Creek Project until a contract or some type of agreement letter is executed between NYC and DASNY.

The completed metes and bounds survey for the property being acquired at the BPC Campus for the Westchester Creek Project remained under review by DASNY and the BPC.

A draft ULURP Application for the Westchester Creek Project was submitted by URS to the NYCDEP in early May 2002 for review. This draft application incorporates recent revisions requested by the NYCDEP.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- In a letter dated May 1, 2002 to the NYSDEC, the NYCDEP indicated that the Westchester Creek CSO Abatement Facilities Plan would be submitted to the NYSDEC by August 9, 2002.
- As per direction from the NYCDEP, preparation of the TMDL Program for settleables removal for Westchester Creek remained on hold until the TMDL Program for floatables removal for Alley Creek is finalized with the NYSDEC.
- URS continued final design of the site preparation contract for the Westchester Creek Project, which includes the Little League restrooms and some miscellaneous site work for the CSO storage tank.

- URS continued preliminary design for the CSO storage tank, which included site surveys, subsurface investigations, and hydrologic and hydraulic analyses.
- URS developed a fencing plan showing the locations of the fencing during the various phases of the Westchester Creek Project: (1) during construction of the Little League restrooms; (2) during construction of the storage tank; and (3) at completion of the project. The NYCDEP will coordinate the fencing plan with Senator Velella's office and the Bronxchester and Van Nest Little Leagues.
- The NYCDEP and URS initiated work to locate a site for a soccer field for use by the Italian American Soccer League of New York. This new soccer field will replace the existing soccer field that is located on the BPC Campus at the site of the proposed CSO storage tank.

Table 9

Westchester Creek CSO Project

Plan Elements:	Westchester Creek CSO Storage Tank
Location:	Bronx Psychiatric Center Campus in the Bronx
Actions:	Design and construction of a 12 MG underground CSO Storage Tank to provide CSO abatement at Outfall HP-25 on Westchester Creek, including influent and effluent conduits along Waters Place and Eastchester Road; design and construction of a two-story support/ operations building and an air treatment building; and design and construction of amenities for the Bronxchester and Van Nest Little Leagues.
Cost:	To be revised.
Status:	Final design underway for the site preparation contract (restrooms for Little Leagues and miscellaneous site preparation work); preliminary design underway for storage tank.
Other Issues:	Site needs to be acquired by NYCDEP from the State of New York; EAS needs to be finalized; ULURP Application needs to be certified and approved; replacement soccer field needs to be located to replace existing soccer field; NYC Art Commission granted Full Preliminary Approval for restrooms and clubhouse facility for Little Leagues; licensing agreement between the NYCDEP and the Little League organizations needs to be finalized.

G.) Coney Island Creek

- **Avenue V Pumping Station**

The recommended plan for the Coney Island Creek CSO Facility Planning Project is to increase the wet weather pumping capacity of the Avenue V Pumping Station. The Avenue V Pumping Station tributary area encompasses 2,900 acres, of which 2,056 acres are separately sewered and 844 acres have combined sewers. The Avenue V Pumping Station capacity will be increased to capture 85 percent, by volume, of the CSO discharges to Coney Island Creek. The capacity of the pumping station will be increased from approximately 30 mgd to 80 mgd. New pumps, motors, variable frequency drives (VFDs) and controls will be installed and two new force mains will be constructed.

Meetings

Principal meetings held during this report period were as follows:

- Meetings with NYCDEP and Hazen and Sawyer on April 1 and May 22.

Maximize Flows: Upgrade Avenue V Pumping Station for Wet Weather Flow Conveyance Capacity and Regulator Automation at Avenue V Pumping Station

Final design work of the pumping station upgrade, associated new force mains and modification of existing regulators has continued.

In a letter to Con Edison dated 4/8/08, the Department stated a preference for 120/208V power supply from the electrical utility, Con Edison. However, following further evaluation by the City, it was decided that it is more beneficial to have: 277/480V service. A letter to Con Edison has been drafted and transmittal to the utility is anticipated shortly.

The 480V service will require construction within the site of a single story Network Protect or Structure (NPS) with approximate dimensions of 40 feet long by 20 feet wide. The NPS will be located at the southwest corner of the pumping station site on West 11th Street. Zoning requirements for the Avenue V PS (map 28c, R5, corner lot) dictate that the NPS have a minimum front yard of 18 feet on West 11th Street, given that the front yard on Avenue V is 10 feet. In order to locate the facility on or close to the property line, a variance (from Board of Standards and Appeals or via a ULURP action) is now required.

Elimination of Dry Weather Overflows (DWOs)

Eight outfalls that discharge to Coney Island Creek were identified as contributing dry weather overflows to the Creek. The following table identifies the outfall number, location, and determination date of the discharge, flow, and current status.

Outfall I.D.	Location	Determination Date	Flow (GPD)	Status
CI-214	CI Creek (N) 600' w/o Shore Pkwy	12/20/90	1,860	Abated as of 12/31/96
CI-215	CI Creek (N) 10' w/o Shore Pkwy	12/20/90	1,411	Abated as of 12/31/98
CI-602	CI Creek & W.33rd Street	11/20/90	259	Abated as of 12/31/98
CI-639	CI Creek (SS) & W.12th Street	02/08/95	2,938	Abated as of 12/31/96
CI-641	Head of CI Creek & Shore Pkwy	12/20/90	372,960	Abated as of 12/29/94
CI-653	CI Creek (SS) 1500' sw/o Shore Pkwy	02/08/95	1,958	Abated as of 12/31/98
CI-664	CI Creek (S) & W.15th Street	12/12/90	3,326	Abated as of 12/31/98
CI-601	CI Creek & W.28th Street	11/16/90	158	Capital Project to abate discharge is under design

Dredge the Head End of Coney Island Creek

At this time, DEP has no immediate plans for dredging Coney Island Creek due to the high costs associated with land disposal and the inability to dispose materials at a ocean mud site.

Table 10

CONEY ISLAND CREEK CSO Project

	Contracts PS-79G, H, P, E	*Contract PS-79G*	*Contract PS-79F*
Plan Elements:	Upgrade Avenue V Pumping Station	Regulator Modifications	New Force Mains
Location:	Avenue V PS (Avenue V and West 11th Street)	Reg. AV-1 at Avenue V PS site; Reg. OH-1 (Shore Pkwy. vic. Verrazano Bridge)	42-inch to SE-133 (Shore Pkwy. Vic. Verrazano Bridge); 48-inch to vic. Reg. 9A
Actions:	Comprehensive upgrade to automate and increase station capacity to 80 mgd; Lower Wet Well to reduce sewer surcharges; Generator system to improve station reliability; Architectural restoration of Main Building to 1915 appearance	Automate Reg. AV-1 throttling gate; Lower weir at Reg. OH-1 diversion chamber and at Reg. 9A to maintain existing HGL in upstream sewers	New force mains to convey DWF and WWF
Cost:	$32,000,000	Incl. at left	$68,000,000
Status:	Final Design – 50% Complete	Final Design – 0% Complete	Final Design – 50% Complete
Other Issues:	Con Edison Network Protector Structure at property line on West 11th Street; relocation of station personnel during construction.	-	Routing of force main along parkland; Selective replacement of water and sewer utilities along route.

H.) Newtown Creek

The ongoing progress under the Newtown Creek Water Quality plan includes elements that are different from those identified as "Elements approved by NYSDEC". Table 11A compared the ongoing plan elements with those listed by NYSDEC.

- **Phase I Aeration Facilities**

This element of the plan will provide for aeration of English Kills, south of the Grand Street bridge, to raise DO concentrations to a minimum of 1.0 mg/l at all times. A compressor station will be located at 1106 Grand Street, adjacent to English Kills and will deliver air to English Kills via air headers and diffusers on the Creek bottom along its centerline. Data will be collected during the first year of operation to guide refinements in operating procedures and verify performance.

Preliminary Design

The preliminary design has been completed. Drawings, facility descriptions and construction cost estimates have been prepared for three alternatives. The Department has reviewed the alternatives.

A preliminary evaluation of an alternative utilizing perforated plastic pipe as a header/diffuser, has also been completed and was reviewed by the Department.

CEQR and Permitting

An EAS for the Phase I Aeration has been completed and sent to NYSDEC together with applications for permits for their review. OEPA issued a negative declaration on December 14, 2000 for the Phase I Aeration project. NYSDEC issued a permit on May 31, 2001. The U.S. Army Corp. of Engineers has approved the Departments request for a Nationwide Permit No. 5 concurrence for Scientific Measurement Devices. Contact has also been made with the US Coast Guard for their review of the project.

ULURP

The NYC Department of City Planning certified the ULURP application on October 22, 2001. The Community Board and the Borough President's Office reviewed it. A Public Hearing before the City Planning Commission was held on February 6, 2002 and the application was adopted by the City Planning Commission on March 6, 2002.

Final Design

Construction of the Phase I Aeration Facility will be performed in two stages. During the initial stage of construction, plastic perforated piping will be used and evaluated. If the perforated piping does not achieve the desired result, the piping will be replace with stainless steel pipe with air diffusers under the second stage of the construction contract.

- **Phase II Aeration Facilities**

This element of the facility plan includes aeration of the Lower English Kills, the East Branch and Dutch Kills. This work will follow the performance evaluation of the Phase I facilities.

- **Maximize Flow Through Morgan Ave. Interceptor**

In-line storage in the combined systems within the Newtown Creek wet weather tributary area has been determined to be inconsistent with the City drainage plan. An alternative to installation of in-line storage dams has been proposed that would increase the capacity of Regulator B1, increase flow through the Morgan Avenue Interceptor, and provide a relief sewer from the St. Nicholas Weir to Regulator B1. Facility planning for routing of the sewer has been completed. The facility plan includes throttling of the Kent Avenue Interceptor in order to allow more flow from the Morgan Avenue Interceptor to reach the WPCP. Modeling of the interceptors was performed to determine the size and operation of the throttling gate.

Receiving water modeling to assess the benefits of this proposal has established required volume for supplementary off-line storage.

Preliminary Design

Preliminary design will be completed after the conclusions have been reviewed and incorporated into a new facility plan. The requirements of the throttle facility will be coordinated with Hazen and Sawyer, as the facility will be constructed under the Newtown Creek WPCP project.

- **Off-Line Storage Tank**

This plan element comprises the construction of an off-line storage facility to control CSO discharge into English Kills. Flow would be diverted from the combined sewers flowing west along Johnson Avenue. As described in the facilities plan, the proposed tank was to be on property located on Varick Avenue, adjacent to English Kills. The tank was to be co-located on the site with a Department of Sanitation facility.

Siting

An alternative siting proposal was developed, to construct the tank within the head end of English Kills. This proposal was sent to NYSDEC for comment on its feasibility. The Department met with NYSDEC on May 23, 2001 to review this proposal and to solicit comment from NYSDEC. The proposal was rejected because the Department had not established sufficient cause why a tank could not be constructed on existing land.

A re-evaluation of land based siting alternatives was initiated following this meeting. Six (6) alternative sites were reviewed and presented to the Department. Information presented to the Department included possible site plans, construction feasibility and risks, impacts on current

occupants and neighborhood, and construction and O&M costs. The alternative sites were screened and the advantages and disadvantages were evaluated. The preferred site is located at the intersection of Johnson and Morgan Avenues. This site is preferred due to its close proximity to the interceptor, outfall and force main. Concerns have been raised regarding dislocating 4 businesses with 105-115 employees and a presentation will be made to the Commissioner's office to present the proposed plan for the preferred site. Additional work cannot proceed until a site decision has been made.

Facility Planning

A draft Facility Plan was prepared for construction of the storage facility on the preferred site. Modeling analysis was performed to verify CSO abatement projections. Preliminary plan and profile drawings and preliminary equipment sizing was performed. An updated Facility Plan Draft Report was submitted to the Department.

CEQR and Permitting

A draft EAS for the proposed storage facility was prepared. OEPA has reviewed and submitted comments to the report. A Phase I Site Assessment, including the site history and site inspection was prepared. OEPA has reviewed and accepted this report. A scope of work for the Phase II Site Assessment has been prepared. OEPA has reviewed and submitted comments to the scope of work.

- **Sediment Dredging**

A dredging feasibility study was added to the facility plan at the request of NYSDEC. The feasibility of dredging CSO sediments from the branches of Newtown Creek will be investigated. The investigation includes a hydrographic survey to determine locations of sediment mounds and sediment sampling to clarify sediment quality.

Feasibility Study

The draft Dredging Feasibility Study Report was completed in October 2000. The Department anticipates collaboration with the Army Corps of Engineers to include the dredging of Newtown Creek with the COE Habitat Restoration Projects.

Table 11

Newtown Creek CSO Project

Plan Elements:	Maximize flow through Morgan Ave. Interceptor	Phase I Aeration Facilities	Off-line Storage Tank
Location:	Regulator B1 and WPCP throttling chamber	Head end of English Kills, south of Grand Street	Sewers tributary to CSO outfall discharging to English Kills
Actions:	Raise overflow weir in Regulator B1; increase sluice gate openings to interceptor; provide relief sewer from St. Nicholas weir to Regulator B1; provide throttling gate on Kent Avenue Interceptor.	Provide aeration of English Kills to raise DO concentrations to a minimum of 1.0 mg/l. The facility includes a landside compressor station and an air header and diffuser assembly on the Creek bottom.	Design of an off-line storage facility to control CSO discharge into English Kills. The facility would include the tank, a pumping station, and a new gravity drain to drain the tank for treatment at the Newtown Creek WPCP.
Cost:	$4,000,000*	$8,000,000	$92,000,000
Status:	Facility plan elements for modifications to regulator and routing of the relief sewer have been completed and included in an Updated Facility Plan Draft Report. Modeling of the interceptors was performed to determine the size and operation of the throttling gate.	Preliminary design & CEQR completed. Permit issued by NYSDEC. Nationwide Permit No. 5 concurrence issued by USACOE. ULURP application adopted by City Planning Commission.	Siting within English Kills was rejected by NYSDEC. Identified preferred site at intersection of Johnson and Morgan Avenues after re-evaluation of siting alternatives. Preliminary plan and profile drawings and preliminary equipment sizing prepared for construction of tank at preferred location. Updated Facility Plan Draft Report Submitted to DEP.
Other Issues:	Requires coordination with WPCP planning and design requirements	Phase II for the lower English Kills, the East Branch and Dutch Kills will follow.	Site approval (ULURP) and acquisition of property required.

* Does not include cost of Kent Avenue Throttling Facility to be constructed under Newtown Creek WPCP project.

Table 11A Newtown Creek Status of "Elements Approved by NYSDEC"				
"Element Approved by NYSDEC"	**Status after Value Engineering**	**Work Progress**	**Alternative Plan Element**	**Current Status**
In-line storage at 3 locations	Plan element accepted	Determined during preliminary design to be inconsistent with the requirements of the New York City drainage plans.	Construct 36" diameter relief sewer between St. Nicholas Weir chamber and Regulator B1 as a substitute for storage in Scott Avenue and St Nicholas Avenue sewers. Construct modifications to Regulator B1 and throttle Kent Avenue interceptor, and enlarge storage tank as a substitute for storage in Knickerbocker Ave sewer.[1]	Updated Facility Plan completed including relief sewer, regulator modifications, and throttling facility.
Install a mixing/aeration system in major branches of Newtown Creek	Perform pilot testing	Pilot testing completed. Facility plan and preliminary design reports completed for Phase I.	Split into two phases, Phase I located in Upper English Kills. Includes performance evaluation	Final design of Phase I is underway.
		Phase II not begun	Phase II aeration in Lower English Kills, East Branch and Dutch Kills	Phase II facility planning to begin after performance evaluation of Phase I
Construct separate sanitary sewers north and south of South 5th Street (including the diversion of wet weather flow)	Sanitary sewers eliminated (not cost-effective). Diversion of wet weather flow through existing South 5th Street sewer accepted.	Construction of sanitary sewers had been proposed as part of flow diversion. Work was stopped after VE. Diversion was in conflict with the City Drainage Plan.	Modify Regulator B1, construct throttling facility on the Kent Avenue Interceptor and construct a larger CSO storage tank to account for CSO reduction from the diversion.[1]	Updated Facility Plan completed including regulator modifications, and throttling facility.
3.5 MG storage tank (recommended in the Addendum to the report)	Plan element accepted, with additional modeling requested to see if tank size can be reduced	Proposed site could not be acquired. Alternative siting within English Kills was not acceptable to DEC unless no feasible land-based site could be found.	Construct 9 MG storage tank to provide water quality benefits comparable to previously approved elements.[1]	Decision on site approval is pending.

[1] A facility plan for these alternative plan elements has not yet been finalized or approved by NYCDEP and may be changed.

Table 11A Newtown Creek Status of "Elements Approved by NYSDEC"				
"Element Approved by NYSDEC"	**Status after Value Engineering**	**Work Progress**	**Alternative Plan Element**	**Current Status**
Flushing tunnel	-	Not included in any facility plan prepared by NYCDEP.	-	-
Dredge and dispose of Creek sediments	Not included in recommended plan. Investigated in response to NYSDEC comments on plan.	A dredging feasibility study was completed dated September 2000.	Alternative not required. Not included in recommended plan.	NYCDEP has proposed an ecosystem restoration plan to the US ACOE to include removal of sediments in the upper branches of the Creek

I.) Jamaica Tributaries

The Jamaica Tributaries project area includes the Jamaica WPCP sewershed area and the tributaries, which receive the wet weather discharges from the drainage area. These tributaries include Bergen, Thurston, Shellbank, and Hawtree Basin, which are located in the northeast portion of Jamaica Bay.

Area-Wide Recommendations

- Clean the East Interceptor.

  The Jamaica WPCP East Interceptor sewer has been cleaned of accumulated sediments.

- Automate and improve the regulator system.

  As part of the Department's citywide effort to provide outfall alarm capabilities at key regulators, 7 outfall alarms will be installed in the Jamaica WPCP drainage area as per Omnibus IV Consent Order requirements.

  Continued the calibration of the HydroWorks model of the Jamaica WPCP drainage area. Confirming model input data including regulator drainage area and dry weather flow.

- Build-out storm sewers in JA drainage area.

  A drainage plan for the Jamaica WPCP drainage area must be developed. Currently, the Department is in the process of selecting a consultant to award an engineering contract to develop the drainage plan. Proposals in response to the Bureau of Water and Sewer Operations RFP were submitted on June 27, 2002.

- Jamaica WPCP stabilization.

  The Jamaica WPCP stabilization project is currently under construction.

- Reconfigure forebay at JA WPCP.

  The HydroWorks hydraulic model of the drainage area is being developed. This model will be used to evaluate the hydraulics of the interceptor and forebay.

- Booming and skimming at basins.

  DEP continues the use of interim facilities to capture floatables with in-stream booms in Bergen and Thurston Basins, and to remove floatables with skimmer vessels.

- Nitrogen Control Action Plan

  An analysis of BNR technologies for the four (4) Jamaica Bay WPCPs was performed and documented in the Nitrogen Control Feasibility Plan (December 1998).

Thurston Basin Recommendations

- Eliminate dry weather flow.

  Mega Engineering, Inc. completed the topographical/utility survey. A copy was approved by the BWSO and forwarded to DDC once the revisions are completed.

  Completed detailed field investigations of the storm sewer system tributary to Thurston Basin. The results obtained from the field investigations are currently being analyzed.

  A portion of dry weather discharge to Thurston Basin has been eliminated through the construction of a sanitary sewer along Springfield Blvd from Linden Blvd to 131st Avenue.

  Commenced revisions to the Draft Preliminary Design Report for the Abatement of Meadowmere/Warnerville Dry Weather Discharges based on comments received from the DEP. Received DEP comments on the Draft EAS, and will submitted to shortly due to late changes. A pre-certification meeting for the ULURP application has been requested, and a meeting date with the Department of City Panning is anticipated in due time.

- CSO control vs. high-level storm sewers in the Laurelton area.

  As part of the build-out of storm sewers (area-wide recommendation) high-level storm sewers will be constructed in the Laurelton area as the control strategy for this area.

- Dredge basin.

  At this time, DEP has no immediate plans for dredging due to the high costs associated with land disposal of dredged sediments and the inability to dispose materials at an ocean mud dumpsite.

- In-stream basin aeration.

  In-stream aeration is being demonstrated and evaluated in the Newtown Creek waterbody. Results from this demonstration test are awaited.

Bergen Basin Recommendations

- Reduce CSO discharges through expansion of plant capacity.

  High rate physical/chemical treatment (HRPCT) is being considered to expand the Jamaica WPCP from 200 to 250 MGD wet weather capacity. The Port Richmond WPCP was selected as the best-suited site for the demonstration facility. An analysis and technical report of the process impacts of siting the HRPCT demonstration facility at Port Richmond is near completion.

- Eliminate JA WPCP dry weather discharge.

  The abatement process to correct the dry weather illicit sewer connections into Bergen Basin, from Outfall JAM-006, has been substantially completed. The official certification confirming abatement was submitted.

  The related projects were as follows:

  Baisley Boulevard = #SEQ-002381 Construction completed
  (Installed new sanitary sewer fronting properties along Baisley Boulevard)

  Liberty Avenue = SE-744/SEQ-200260 Construction completed
  Tuckerton Street
  (Corrected illegal connections at locations along Liberty Avenue)

  The completion of the above Capital Sewer Projects resulted in the abatement of 65,580 GDP of flow entering Bergen Basin. The total amount of flow abated to date is 340,000 GPD with the remaining 1,500 GPD the result of the four homeowners who could not afford to make the necessary repairs due to financial hardships. These locations were forwarded to NYC's Department of Housing Preservation & Development to make the necessary repairs, and then place lines on the properties. Housing has provided no information up to this reporting period. DEP has requested an update on the status of the four hardship properties.

- Evaluate the potential for 7 MG in-line storage.

  A detailed analysis of flooding complaints in DEP's database of complaint records was conducted for the area proposed for in-line storage (Regulators 3 & 14). Based on the evaluation, in-line storage was found to be unfeasible due to excessive complaints.

- Dredge basin.

  At this time, DEP has no immediate plans for dredging due to the high costs associated with land disposal of dredged sediments and the inability to dispose materials at an ocean mud dumpsite.

- In-stream basin aeration.

  In-stream aeration is being demonstrated and evaluated in the Newtown Creek waterbody. Results from this demonstration test are awaited.

- Eliminate Jamaica WPCP discharge to Bergen Basin.

  The feasibility of installing a sluice gate in Jamaica WPCP outfall will be evaluated. Currently, the Jamaica WPCP has a dual outfall, one to Bergen Basin and one to Grassy Bay. Most of the effluent is discharged to Bergen Basin, but the installation of a sluice gate in the outfall would direct most of the flow to Grassy Bay.

Shellbank Basin Recommendations

- Bulkhead CSO outfall to basin.

  The construction work to bulkhead the inactive CSO outfall to Shellbank Basin has been completed. Therefore, there are no CSO discharges to Shellbank Basin, only storm water.

- Pilot destratification system for basin.

  The pilot destratification facility was reactivated in early June. The preparation of a ULURP and EAS for the review and approval of a permanent facility at Shellbank Basin was initiated. A privately owned site along the west side of Shellbank Basin has been selected for the facility.

- Pilot chemical oxidation.

  A bench scale study of the feasibility of adding calcium nitrate to significantly reduce sediment oxygen demand (SOD) was performed. Sediment cores were taken from the Jamaica Tributary basins and analyzed in a laboratory setting to determine the effectiveness of various dosages of calcium nitrate on lowering the SOD. The results indicated that chemical oxidation of SOD in a marine environment is not effective.

Hawtree Basin Recommendations

- Construct sanitary sewers in Hamilton Beach.

  Construction of sanitary sewers in the area has been completed. The sanitary sewers were constructed to eliminate the failing septic tanks in this small community.

Meetings

Principal meetings held during this report period were as follows: Project Progress Meetings with NYCDEP on April 16, May 21, and June 13, 2002.

Table 12

Jamaica Tributaries CSO Project

Plan Elements:	Chemical Oxidation, HRPCT and Destratification Demonstrations	Abatement of Meadowmere and Warnerville	Preliminary Design – Thurston/Bergen Drainage Plan
Location:	Jamaica WPCP, Jamaica WPCP, and Shellbank Basin	Meadowmere and Warnerville – Queens, New York	Jamaica WPCP Drainage Area
Actions:	Conduct demonstration testing of new technologies	Construction of 1 Pumping Station, Sewer Collection System, and Dual Force Mains	Develop drainage plan for sewer separation
Construction Cost:	Pilot HRPCT - $100,000 Destratification - $100,000	$12.2 million	To be determined
Status:	Developing a Process Evaluation / Impact Report	Draft Preliminary Design Complete; ULURP and EAS Under Review	Consultant Selection Process Underway

J.) Citywide Floatables

Work continued on tasks being performed for the development of the Comprehensive City-Wide Floatables Control Abatement Plan. During the period April through June 2002, progress continued on tasks related to comprehensive plan development, public outreach, in-stream controls, wet weather capacity analysis, CSO modeling, floatables loadings, and CSO abatement demonstration projects.

- ***Comprehensive Plan Development***

Joint planning meetings were held to coordinate efforts between the Use and Standards Attainment (USA) Bronx River Plan and the Hunts Point WPCP Comprehensive Plan. CSO and floatables control options were evaluated for Bronx River outfalls. A survey was completed of floatables material in the Bronx River and at the border of Westchester and Bronx Counties to evaluate upstream sources of floatables material. An evaluation of modifications to the design of the Facility Plan storage conduit to enhance floatables capture was completed.

Work continued on the Tallman Island WPCP draft comprehensive plan. Information was collected on the combined sewer system, drainage area and shoreline characteristics. Flow monitoring was completed at 8 locations within the drainage area. Twenty-two manholes and six regulators were inspected. Investigation of the Ulmer Street sewer was completed, along with an inspection of closed outfall TI-10A. Calibration of the hydraulic model of the combined sewer system continued.

A memorandum was completed and submitted to DEP, which detailed the history of odor problems associated with Outfall NR-037 along the Hudson River. A survey of this outfall during both low and high tide and during a rain event is being planned to provide information on the possible sources of odor.

The integration of the CSO floatables and settleable solids analysis of the Comprehensive Plan Project with the USA Project continued. A plan was developed for the integration of the projects and this concept was presented to NYSDEC on May 2, 2002. NYSDEC approved the plan and long-term schedule. Coordination of the two projects is ongoing.

- ***CSO Modeling and Floatables Loadings***

Through a coordinated effort with the USA Project and the Facilities Planning Project of URS, the RAINMAN model for Hunts Point WPCP was cross-calibrated with URS's XP-SWMM model. Work was initiated on calibration of URS's XP-SWMM model for the Tallman Island WPCP drainage area. Work continued on preparation of a technical memorandum on the use of hydraulic computer sewer system models within New York City.

- ***Public Outreach***

A meeting was held on February 11, 2002 to present the results of the RoperASW (formerly Audits and Surveys Worldwide) study to the Citizens Advisory Committee (CAC)

Education Subcommittee. A follow-up meeting to present and discuss all ongoing programs within the City was held on April 19, 2002. Comments from these meetings will be incorporated into the final report.

- ***In-Stream Controls***

DEP is investigating the use of inter-pier skimmer vessels for use in floatables removal where other CSO control measures are not feasible. These vessels would be completely self-contained, self-powered, and capable of operating on New York City inter-pier waterways. The RFP and PSR for the first phase, which covers the conceptual/preliminary design to meet the performance criteria for the DEP inter-pier marine trash skimmer vessels, have been finalized. The project is presently waiting for CP approval to move forward.

- ***Wet Weather Capacity Analysis***

A final draft of the wet weather operating plan specification entitled "Specification For Preparing Wet Weather Operating Plans For New York City Wastewater Pollution Control Plants" was prepared and submitted to DEP for internal distribution and review. The final draft was expanded to include a more comprehensive analysis of treatment plant operating data and an analysis of plant wet weather flow data for determining observed wet weather capacity.

A 26th Ward WPCP design meeting was held on June 10, 2002 to discuss the requirements for Wet Weather Operating Plans (WWOPs) and to answer any questions the design team might have on the WWOP requirements. Progress on the WWOP will be reviewed on a quarterly basis. As a requirement of the Nitrogen Consent Order, the 26th Ward WPCP WWOP is to be completed by July 20, 2003.

A draft Newtown Creek WWOP was prepared by the joint venture design team (Greeley and Hansen, Hazen & Sawyer, and Malcolm Pirnie) and reviewed by HydroQual. The Newtown Creek Consent Order requires the draft WWOP be completed by July 1, 2002.

- ***Cryders Lane Outfall Diversion Channel Project***

Design and Construction

Spearin, Preston and Burrows was awarded the contract for the Cryders Lane Outfall Diversion Channel Project. Due to the seasonal dredging restrictions, construction activities will not start until approximately October 2002. A meeting was held April 4, 2002 with NYCDEP, HydroQual, and Spearin, Preston and Burrows to discuss engineering responsibilities, project schedule and startup issues. Two follow-up meetings were held in June to review and discuss all administrative and construction requirements and to answer any remaining questions.

III. Project Progress for Use and Standards Attainment Project

The Use and Standards Attainment (USA) Project is being conducted by the New York City Department of Environmental Protection (DEP) for waterbodies throughout New York Harbor to address compliance with water quality standards and designated uses. The goals of the USA Project are to:

- Define, through a public process, more specific and comprehensive long-term beneficial use goals for each waterbody, including habitat, recreational, wetlands and riparian uses, in addition to water quality goals, thus maximizing the overall environmental benefit;
- Develop technical, economic, public and regulatory support for prioritizing and expediting implementation of projects and actions needed to attain the defined goals; and
- Provide the technical, scientific and economic bases to support the regulatory process needed to define water quality standards for the highest reasonably attainable use and to allow water quality standards to be attained upon implementation of recommended projects.

Waterbody/Watershed assessments are being conducted for more than 23 waterbodies throughout New York Harbor. The waterbodies include major open water areas of New York Harbor and selected urban tributaries. The following is a brief description of USA Project activities for the period of April 1 to June 30, 2002.

- **Waterbody/Watershed Assessments**

The USA Project is conducting focused waterbody/watershed assessments on more than 23 waterbodies that are organized into four groups. The Group 1 waterbodies are "pilot waterbody/watershed assessments" being conducted for Paerdegat Basin and the Bronx River. Group 2 waterbodies include Jamaica Bay, Sheepshead Bay, Mill and East Mill Basins, Fresh, Hendrix and Spring Creeks, and Shellbank, Bergen and Thurston Basins. The Group 3 waterbodies are the East River, Alley Creek, the Hutchinson River, Westchester Creek, Flushing Creek and Bay, Newtown Creek, and Gowanus Canal. The Group 4 waterbodies are the Harlem River, Hudson River, Upper New York Bay, Lower New York Bay, Kill van Kull, Arthur Kill, Raritan Bay, and Coney Island Creek. The waterbody/watershed assessments include various activities including existing data and information gathering/compilation, watershed/waterbody field investigations and data collection, public outreach in the form of stakeholder teams, land use and shoreline characterizations, data management, watershed and receiving water mathematical modeling, ecosystem (habitat) evaluations, waterbody use evaluations, problem identification and prioritization, engineering analyses, and waterbody/watershed planning.

Assessment Schedule

The Paerdegat Basin assessment is nearing completion. A Preliminary Paerdegat Basin Waterbody/Watershed Plan in nearing finalization pending completion of additional modeling and engineering analyses. Work is continuing for the Bronx River as the remaining Group 1 waterbody. Work is ongoing on the Group 2 and Group 3 waterbodies. Assessment work is scheduled to start in winter 2002 on the Group 4 waterbodies.

Field Investigations

Field Sampling and Analysis Programs (FSAPs) are being developed and executed to conduct field investigations for waterbody/watershed assessments. Specific FSAPs address biological sampling, shoreline characterizations, and other investigations necessary for collecting comprehensive information on each waterbody/watershed, where no information has previously been collected or is out of date. A Field and Laboratory Standard Operation Procedures (SOP) document for the USA Project is being used in support of FSAP execution. This document is updated when new procedures are required for additional investigations. The SOP and all FSAPs are developed in conformance with SOP guidelines developed by the U.S. Environmental Protection Agency (EPA) and discussed with the EPA Monitoring and Assessment Branch in Edison, NJ.

Laboratory work continues on biological samples collected during the Group 2 and 3 and harbor-wide epibenthic and ichthyoplankton investigations. A FSAP is currently being executed to further characterize epibenthic, ichthyoplankton, zooplankton, and fish communities in selected waterbodies. Ichthyoplankton, zooplankton, and fish trawling were conducted this reporting period in Paerdegat and Mill Basins, and at three Jamaica Bay stations. Fish stomach samples are being preserved for later analysis if determined necessary for refined characterization purposes. Ichthyoplankton sub-samples are being preserved and shipped to the University of Connecticut for RNA/DNA typing and identification Quality Assurance/Quality Control (QA/QC). A FSAP document for this FSAP is being finalized pending epibenthic panel site determination. The project Standard Operating Procedures (SOP) document is being revised to reflect the addition of zooplankton sampling to the USA Project. Laboratory analytical work and database entry with QA/QC is ongoing.

A sampling program is ongoing for characterizing total and fecal coliform and enterococcus in New York City's sanitary sewage. The program includes sampling the influent of all 14 New York City Water Pollution Control Plants (WPCP). Each WPCP is being sampled five occasions on a rotating schedule. Four samples are collected on an hourly basis on each sampling day. Sampling is performed following at least one full day of dry weather to assure that the samples truly represent sanitary sewage. This information is being used to reinforce the selection of sanitary pathogen concentrations for mathematical modeling purposes. Three of the five sampling occasions have been completed at each WPCP. A database for the sampling has been established and data is being compiled and reviewed for QA/QC. The data is being compared to data collected during previous monitoring programs and the literature for ground truthing. Efforts are also underway to facilitate duplicate analyses with the Interstate Environmental Commission to assess data comparability with other programs.

The USA Project is working closely with the DEP Harbor Survey to install continuous monitoring sensors throughout the New York Harbor complex. Locations are being selected and installation hardware was fabricated for installing sensors that will continuously monitor salinity, temperature, dissolved oxygen, and other parameters to better characterize water quality conditions concurrently with biological investigations. One device is installed on the East River at the Wards Island WPCP. Mounting hardware was installed this period in Flushing Bay.

A Tributary Benthos Characterization FSAP was finalized at the end of June for investigating New York City tributaries throughout New York Harbor. This FSAP is gathering data for total organic carbon model calibration and habitat assessments. CR Environmental, Inc., a qualified Woman-owned Business Enterprise (WBE), was selected for executing the FSAP. Reconnaissance and data collection surveys are scheduled for completion during the month of July. The project SOP was revised, Revision No. 1, to include the types of sampling required to perform this investigation.

Data Management

Sewer system, surface water, sediment, biological, and many other categories of data have been compiled from a variety of sources to construct a relational database. The database consists of data from DEP's Harbor Survey, the Interstate Environmental Commission, the National Park Service, and virtually all of DEP's CSO and water quality facility planning projects. The relational database is also integrated with a Geographic Information System (GIS) such that spatial information is maintained for analyses. Water quality, biological, and other data forms collected by the USA Project are being added to this relational database for waterbody assessments with quality assurance/control verification. A customized graphical user interface was developed for the database that will facilitate efficient data extractions. The interface was provided to DEP for evaluation and testing.

Data collected during the Jamaica Bay (Group 2), East River (Group 3), and the harbor-wide epibenthic and ichthyoplankton FSAPs are currently being entered into the project database.

Land Use and Shoreline Characterizations

Land use and shoreline characterizations described in the previous status report are continuing. The characterizations are general in nature and build upon existing data. Field verification of the analyses is being performed as existing information is compiled and interpreted. Land use and shoreline characterizations are being conducted on all USA Project waterbodies and watersheds at this time.

Waterbody/Watershed Mathematical Modeling

An important component of the USA Project is assessing existing conditions in waterbodies as well as projecting the long-term benefits of the DEP's various water quality improvement projects. Mathematical modeling consists of both watershed modeling and

receiving water modeling. The models are being prepared to calculate water quality conditions for a meteorologically average annual period. The annual period was selected from available rainfall statistics and available modeling abilities. Statistical and return-period analyses were performed on the fifty-year rainfall record of New York City to select the annual-average year - 1988. This simulation period is being used for all waterbody modeling of baseline, facility plan, and sewer separation scenarios. DEP's System-Wide Eutrophication Model (SWEM) is the primary model being used to assess harbor-wide conditions as well as calculating boundary conditions for tributary models. The Jamaica Bay Eutrophication Model (JEM) is being used to assess conditions in Jamaica Bay and calculate boundary conditions for Jamaica Bay tributaries. Tributary models are being used to assess near-field water quality impacts of point and non-point sources and evaluate long-term improvement alternatives.

Watershed modeling for SWEM and JEM is primarily being performed using HydroQual's RAINMAN model, which is a simplified rainfall-runoff models to calculate watershed pollutant loadings to receiving waters. Watershed models are being modified and updated for all fourteen of New York City's WPCPs as new information is developed and water quality improvement plans evolve. The models are calibrated to the City's WPCP flow data for the years 1996 and 2000. Detailed hydraulic models (SWMM) are being used for simulating combined sewer systems for tributary assessments. These models are being used for the Paerdegat Basin and Bronx River assessments.

Mathematical modeling of Paerdegat Basin is nearing conclusion as final analyses are being performed to finalize the Preliminary Paerdegat Basin Waterbody/Watershed Plan. Simulations have been performed to evaluate baseline, facility plan, and sewer separation scenarios using revised CSO discharge calculations from a new hydraulic model of the Paerdegat CSO storage facility. Engineering alternatives are also being simulated to evaluate supplemental aeration, which was requested by the U.S. Environmental Protection Agency (EPA) during a January 2002 Harbor-Wide Government Steering Committee meeting. An analysis of planned Neptune Avenue pump station modifications was conducted to determine the impact of the planned activities on the Paerdegat Basin CSO Facility Plan – no impact was identified to be of concern. Mathematical modeling of Paerdegat Basin is now approaching closure pending the completion of an independent review of the new hydraulic calculations for the predicted performance of the Paerdegat Basin CSO Storage facility. A member of the USA Project's Technical Advisory Committee is conducting a review of a hydraulic model of the Paerdegat CSO storage facility. Comments on model calibration and hydraulic predictions are being prepared and will determine if additional mathematical modeling is required to finalize the Preliminary Paerdegat Basin Waterbody/Watershed Plan. Analyses were also performed this reporting period to determine the influence of water quality standards/criteria compliance calculations vs. model calculations when assessing use attainment.

Mathematical modeling of the saline reach of the Bronx River continued for identifying additional strategies beyond the current CSO facility plan that will achieve compliance with water quality standards and criteria for the Bronx River while also meeting water use goals of stakeholders. Water use goals being evaluated include current and upgraded classifications for aquatic life and recreational uses, the draft NYSDEC marine dissolved oxygen criteria, and New York City Department of Health total coliform requirements for unimpaired bathing.

Efforts are now ongoing for developing an approach to watershed/waterbody modeling of Gowanus Canal. Watershed and receiving water models were previously developed for the Gowanus Canal CSO Facility Planning Project and are now being evaluated for application to the Gowanus Canal waterbody/watershed assessment. Several watershed models representing the Red Hook and Owls Head WPCP combined sewer systems have been employed in the past to calculate loadings to Gowanus Canal, Creek and Bay and evaluate long-term CSO control options. Information on these models is being compiled to identify the most proper tool and approach to employ for satisfying USA Project and long-term CSO control planning goals. The U.S. Army Corp of Engineers (USACE) Ecosystem Restoration Study plan for Gowanus Canal is also being reviewed to identify the mathematical modeling necessary to fulfill DEP's in-kind services commitments. The receiving water model of Gowanus Canal, Creek and Bay used for the CSO facility planning project is being recovered and evaluated to determine what modifications/updates will be necessary to address use assessment and attainability issues of the USA Project and ecosystem analysis requirements of the USACE project.

Mathematical modeling activities for Flushing Bay and Creek were initiated this reporting period. A receiving water model of these waterbodies was previously developed as part of the USACE's Flushing Bay and Creek ecosystem restoration project. The model is being tested to evaluate and improve mathematical continuity. A meeting on developing assessment approaches for improving water and sediment quality in Flushing Bay was held this reporting period with the USACE and that included discussions for enhancing benthic habitat and species diversity while also addressing aesthetic issues.

Mathematical modeling of Jamaica Bay by the USA Project is being coordinated with DEP's Jamaica Bay CSO Facility Planning Project to assure consistency of approach. The Jamaica Eutrophication Model (JEM), which is being used by the USA Project, is undergoing a review by a Model Evaluation Group (MEG). MEG comments on JEM were received, reviewed, and a response was provided to the MEG. Mathematical modeling of the 26th Ward Tributaries (Fresh, Hendrix, and Spring Creeks) by the Jamaica Bay CSO Facility Planning Project is being monitored by the USA Project to assure consistency of approach. Existing conditions and long-term CSO control alternatives are being evaluated using the same approach as the USA Project.

Ecosystem Evaluations

Data collected during field investigations are being used to comprehensively analyze existing ecological conditions of USA Project waterbodies. Comparisons are being made between waterbodies of similar and differing water quality and habitat conditions both within and outside New York Harbor. Information developed by mathematical modeling is also being used to assess existing benthic and water quality biological conditions and to assess future potential conditions with anticipated water quality improvements of facility plans and other pollution abatement programs. Evaluations of existing and potential dissolved oxygen conditions are being conducted for larval growth, larval survival, and juvenile growth of aquatic species for dissolved oxygen conditions. Evaluations are now focused on the Bronx River and Jamaica Bay waters.

Engineering Analyses

Engineering analyses are being conducted to identifying control alternatives that may be implemented in addition to WPCP and CSO facility plans such that water quality goals are met. CSO abatement alternatives such as outfall relocation, additional storage, floatables controls, and disinfection are being evaluated. Costs, constructability, implementation schedule, environmental impact, and other associated issues are being developed with conceptual planning of these alternatives.

Evaluations of CSO abatement alternatives continued in support of waterbody/watershed planning the Bronx River. Floatables controls and facility plan enhancements are being identified and evaluated in coordination with the DEP's Comprehensive City-Wide Floatables Control Abatement Plan project and the East River CSO Facility Planning Project.

Waterbody/Watershed Planning

The Paerdegat Basin Preliminary Waterbody/Watershed Plan was presented specifically to the U.S. Environmental Protection Agency and subsequently to the Harbor-Wide Government Steering Committee. Planning efforts were particularly focused on the Bronx River during this reporting period. Regulatory review, data analysis/evaluation, mathematical modeling, and engineering analysis components of the USA Project provided information for developing a Bronx River Preliminary Waterbody/Watershed Plan.

- **Interagency Coordination**

Harbor-Wide Government Steering Committee

A Harbor-Wide Government Steering Committee provides guidance and coordination for conducting the USA Project. Members of the Harbor-Wide Government Steering Committee represent the U.S. Environmental Protection Agency, the National Park Service, the U.S. Army Corps of Engineers, the Interstate Environmental Commission, the New York State Department of Environmental Conservation, the New York City Departments of Environmental Protection, City Planning, and Parks & Recreation, and the New York City Citizens Advisory Committee on Water Quality. Harbor-Wide Government Steering Committee meetings are scheduled to occur on a quarterly basis. There were no Steering Committee activities this period.

U.S. Army Corps of Engineers Restoration Projects

The USA Project is conducting a variety of field and engineering investigations that are similar in scope to proposed plans being developed by the U.S. Army Corps of Engineers (USACE) for New York Harbor and its tributaries. These plans are primarily focused on habitat/ecosystem restoration. USA Project efforts are continually being evaluated for identifying cost-sharing opportunities that will fulfill DEP's commitments as a local sponsor to the USACE projects. Specifically, the USA Project is coordinating its activities with the USACE's restoration work on Jamaica Bay, Gowanus Canal, Flushing Creek and Bay, and the

Bronx River. The USA Project is also gathering information on these projects to identify the water quality benefits and how they can be integrated into DEP's waterbody/watershed plans.

IV. Demonstration Projects

A.) Destratification Demonstration at Shellbank Basin

The purpose of this demonstration is to specifically address the poor water quality that seasonally exists in Shellbank Basin (located in the Jamaica Bay) due to natural temperature stratification of the waterbody.

System Design

In an effort to mitigate the natural temperature stratification and resulting marine kills and odor releases, a full-scale destratification demonstration system has been installed in the Shellbank Basin. The destratification facility consists of a shore-side compressor station and diffused-air lines, which run along the bottom of the basin. The destratification system delivers compressed air to the basin bottom, which is intended to vertically mix the water column of Shellbank Basin to create an isothermal condition.

System Operations

The second year of the demonstration was successfully completed in September. Receiving water monitoring indicated that the facility was able to maintain a vertically uniform temperature in Shellbank Basin. No odor complaints associated with past chronic stratification were received from the residents near Shellbank Basin. The facility was shutdown for the fall/winter seasons and was reactivated in the beginning of June 2002.

B.) In-Line Storage

The Hunts Point drainage basin comprises the eastern two thirds of the borough of the Bronx. It is bounded by Westchester County to the north and the East River estuary to the east and the south. The drainage area comprises of approximately 1,800 acres of urban terrain. The Hunts Point drainage area sewer system may be appropriate for in-line storage because of a large sewer storage capacity, shallow hydraulic grade, gravity flow, and low potential for flooding.

The Hunts Point In-line Storage project incorporates the use of three inflatable dams, installed in sewers within the Hunts Point drainage basin, to make use of the in-line storage capacity of the sewers. The purpose of this project is to demonstrate the technology and ascertain the operational and maintenance issues and concerns at actual full-scale New York City installations. The systems from two inflatable dam manufacturers, Rodney Hunt and Bridgestone, will be tested. O'Brien and Gere will be operating both systems for a period of one year.

The use of inflatable dam sewer installations is planned for use at some Track 1 CSO abatement projects and could be involved in Track 2 CSO abatement projects (floatables and settleables control).

C.) High Rate Physical Chemical Treatment

The Port Richmond WPCP was selected as the best-suited site for the demonstration facility. It is envisioned that the demo facility will consist of two 6 mgd HRPCT units running side-by-side, a Krueger Actiflo unit and an IDI Densadeg unit. An analysis and technical report of the process impacts of siting the HRPCT demonstration facility at Port Richmond is near completion.

D.) CSO Control Technologies

The evaluation of a hinged baffle system as retrofit CSO control technologies continued during this period. Alden Laboratories in Holden, MA performed hydraulic testing of the hinged baffle. A meeting was held on April 11 at Alden Labs to review the first phase of the hydraulic model testing of the fixed baffle. In May, HydroQual attended the installation and initial testing of the hinged baffle system with the addition of the torque-limiting device. Representatives from Henry Pratt Company, suppliers of the hinged baffle, were also in attendance. A second site visit occurred on May 22 when HydroQual reviewed the hydraulic model testing results and observed the testing of the hinged baffle. In June, HydroQual reviewed the testing results and completed an analysis of calculated and observed head losses and torque (moments) applied to the hinged baffle system. A technical memorandum will be prepared to present the results of the hinged baffle test.

V. Contracts

- **New Contracts**

  No new contracts were reported this quarter.

- **Change Orders**

  - ***East River***

    The NYCDEP directed URS in early February 2002 to prepare Change Order X-1 to East River Contract III to cover the additional engineering costs associated with additional planning and re-design of the Hutchinson River CSO Storage Conduit. This change order was submitted to the NYCDEP by URS in late May 2002 for review.

  - ***Comprehensive CSO Plan***

    Change Order X-5 to the Comprehensive City-Wide Floatables Control Abatement Plan was registered on June 12, 2002. The scope of work includes additional funding to evaluate capacity and operation and maintenance issues and funding for evaluating the use of skimmer vessels to remove floatables from New York Harbor if other CSO control measures are unable to.

VI. Public Participation

- **Public Outreach**

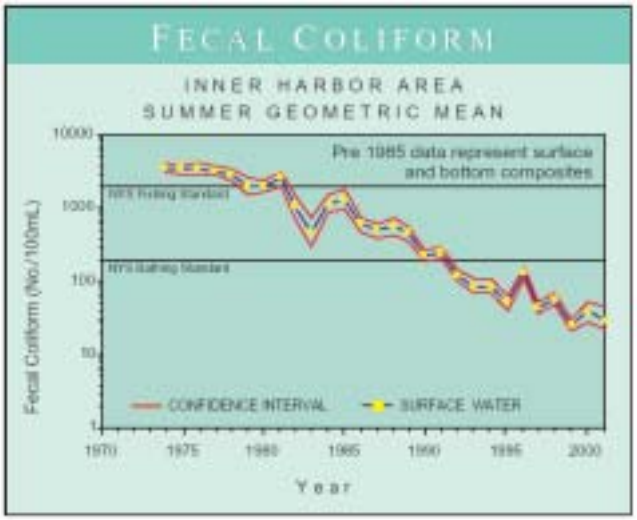
Citizens Advisory Committee on Water Quality

Two *Citizens Advisory Committee on Water Quality Meetings* were held during the second quarter period, on April 10 and June 12, 2002. The agendas from the meetings are presented in Appendix B.

VII. Water Quality

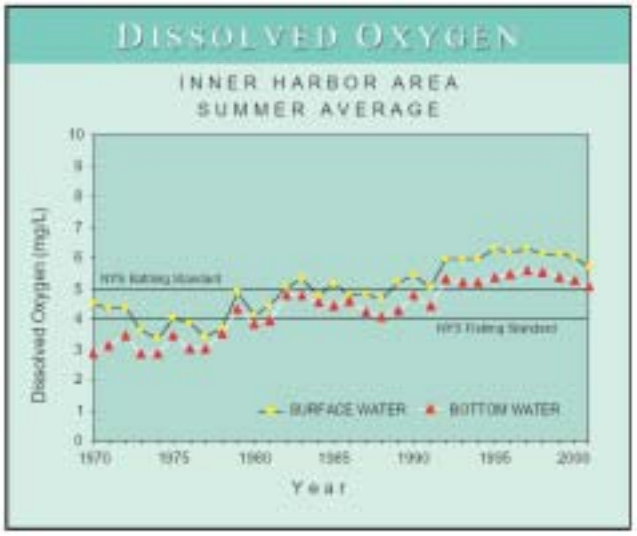
The following information was taken from the New York Harbor Water Quality Regional Summary Report for the year 2001.

- **Inner Harbor**



Sanitary water quality as estimated by fecal coliform (FC) concentrations was excellent for the Inner Harbor Area in summer 2001. All IH Area monitoring sites complied with monthly FC standards of 200 cells/ 100 mL.

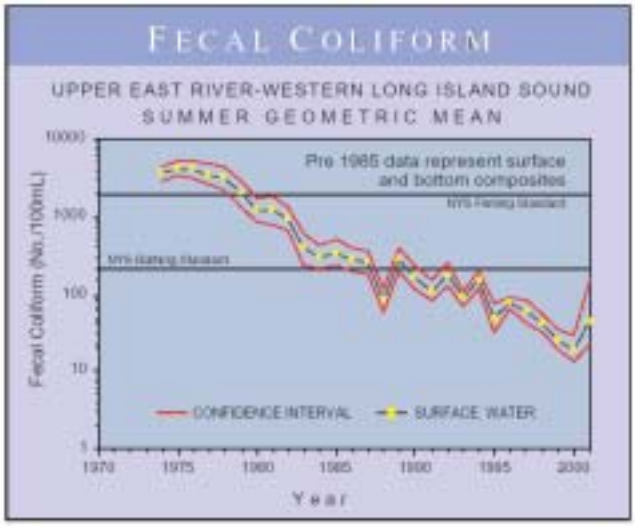
Fecal coliform concentrations for the Inner Harbor Area show a dramatic decline from the early 1970s to the present time. Today's water quality has improved to the degree that surpasses conditions deemed appropriate for most recreational activities, whereas 1970s water quality did not meet fishing standards.



Dissolved Oxygen (DO) values in the Inner Harbor area declined slightly from 2000. However, average DO values remained above the DEC standard of 4 mg/L deemed appropriate for fishing for both surface and bottom waters.

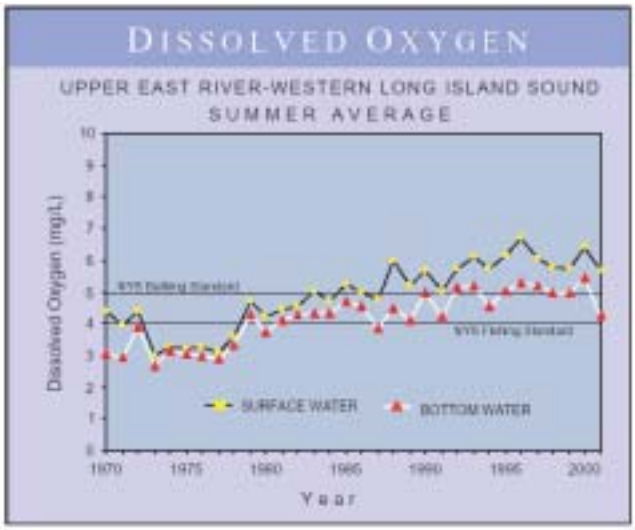
Dissolved oxygen has shown a consistent increase in the Inner Harbor Area over the past 30 years. The average DO values for bottom waters have increased from below 3mg/L in 1970 to nearly 6 mg/L in 2001.

- **East River**



In 2001, a slight increase in fecal coliform concentrations was observed for this area. Average levels increased from 19 cells/100 ml to 65 cells/100ml. Weather and illegal connection are suspected of causing this upturn. Corrective action is ongoing.

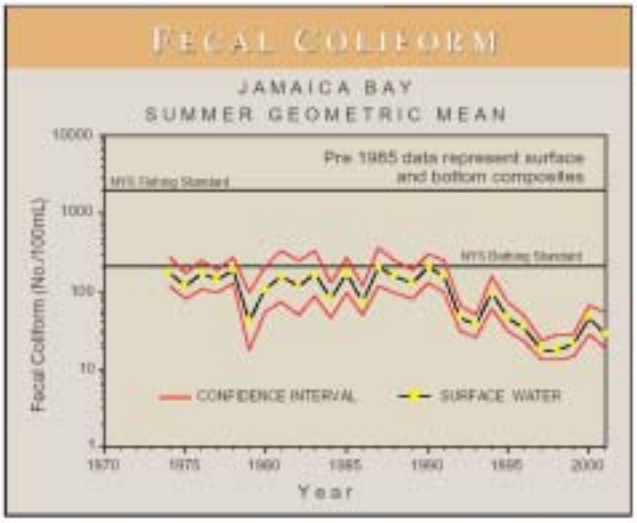
Fecal coliform levels in 2001 reversed the trend that has been observed in the Upper East River - Long Island Sound (UER-LIS) region for the past twenty years. A similar upturn was observed in 1989, with a downward trend following thereafter for the past two decades.



Average summer DO values for the UER-LIS vicinity showed a pattern similar to that displayed by fecal coliform values. However, at all stations the surface waters met or exceeded state standards, and only two stations showed average levels below standards in the bottom waters (a decrease from three in 2000).

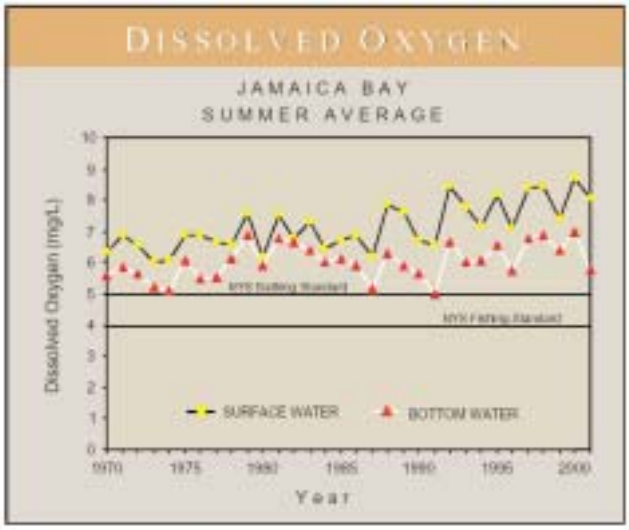
Trend analysis for the UER-WLIS area shows an increase in DO of almost 2 mg/L for top waters and almost 1.5 mg/L for bottom waters since 1970.

- **Jamaica Bay**



In 2001, sanitary water quality was superior for Jamaica Bay, with summer fecal coliform concentrations well below standards for most stations.

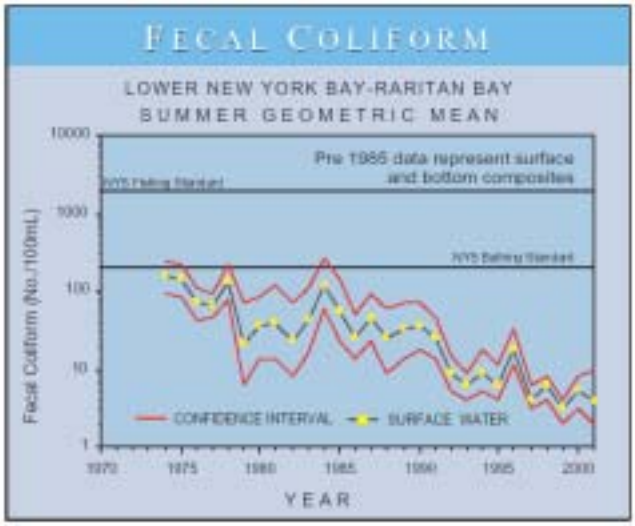
Trends for Jamaica Bay FC, from the early 1970s until 1990, show considerable variability above and below the standard. However, beginning in the 1990s, a significant improvement is apparent. From this point, and continuing through 1999, the geometric mean FC concentration decreased by an order of magnitude.



The summer averages for dissolved oxygen for surface and bottom waters surpassed the New York State standard of 5 mg/L for bathing at all Jamaica Bay sites.

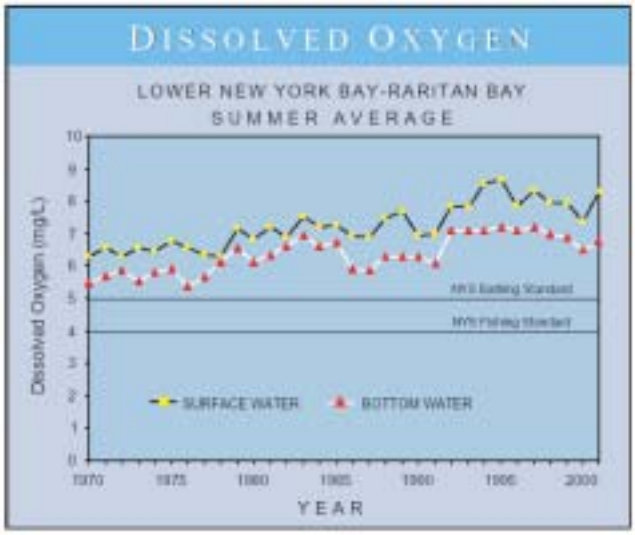
Average DO concentrations in Jamaica Bay have shown improvement over the past 30 years; with top waters often reaching DO levels over 8 mg/L since the 1990s.

- **Outer Harbor**



Fecal coliform levels in the Lower Bay / Raritan area (collectively, dubbed Outer Harbor) surpassed NYS standards, with all stations having average summer values below 20 cells/100ml.

Fecal coliform concentrations for Outer Harbor show significant declines from the early 1970s to the present time.



Dissolved Oxygen values for top and bottom waters show excellent compliance with the NYS DO standard of 5 mg/L.

Since 1970, average DO concentration have increased by 1.75 mg/L – from just over 6 mg/L to just over 8 mg/L for surface waters, and from about 5.5 mg/L to nearly 7 mg/L for bottom waters.

APPENDIX A

QUARTERLY REPORT ON STATUS OF CITY-WIDE FLOATABLES PLAN

City of New York
Department of Environmental Protection
Bureau of Environmental Engineering
Comprehensive City-Wide Floatables Control Abatement Plan

TECHNICAL MEMORANDUM

QUARTERLY REPORT ON STATUS OF CITY-WIDE FLOATABLES PLAN APRIL 2002 - JUNE 2002

HydroQual Environmental Engineers and Scientists, P.C.
In Association With
HydroQual, Inc.

July 2002
Project No: NYDP4008/89

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OVERVIEW OF PLAN ELEMENTS

REPORTING PERIOD: APRIL 2002 THROUGH JUNE 2002

Floatables Plan Elements	New Information This Period
1. Ongoing Activities	
-Maintain Street Cleanliness	Yes
-Catch Basin Hooding in Phase I/II Areas	No
-Netting/Booming and Skimming	Yes
-Track I Facilities	*
-Maximizing Wet-Weather Flow to WPCPs	*
2. Catch Basin Hooding in Phase III Areas	Yes
3. City-Wide Reconstruction of Unhoodable Catch Basins	Yes
4. City-Wide Catch Basin Re-Inspection Program	Yes
5. Illegal Disposal Control	Yes
6. Public Education Program	*
7. Pilot Studies and Demonstration Projects	*

* -Please refer to NYC's CSO Program 2nd Quarterly Report – Year 2002.

1. Ongoing Activities

Prior to the issuance in June 1997 of the City-Wide CSO Floatables Plan, the City of New York had been engaged in a number of activities that help to control floatables. Some of these ongoing activities, such as street sweeping and catch basin hooding, were not originally intended for the purpose of reducing floatables discharges. Other activities, such as the Interim Floatables Containment Program (IFCP), had been instituted specifically for floatables control. This section summarizes the status of these ongoing activities. Sections 2 through 7 address other activities that were instituted after the June 1997 City-Wide CSO Floatables Plan.

a) Maintain Street Cleanliness

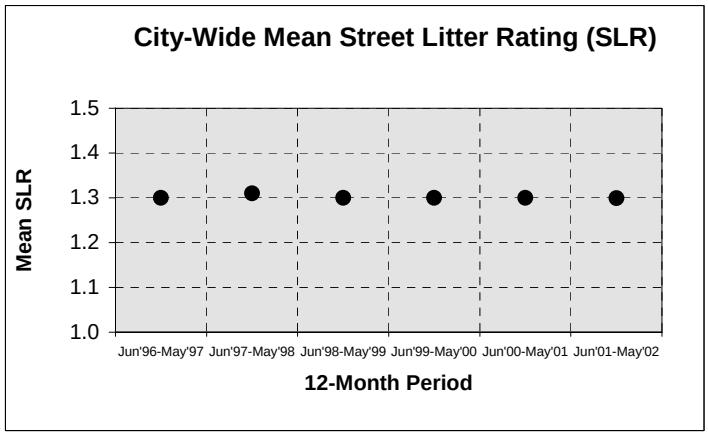
Previous studies have indicated that most floatable litter in New York Harbor can be traced to city streets (HydroQual, 1993). Although many factors can affect the amount of litter on city streets at any given time, the City of New York attempts to control litter levels through a street-sweeping program administered by the Department of Sanitation and through systematic street-litter monitoring, known as the "Scorecard Program," conducted by the Mayor's Office of Operations.

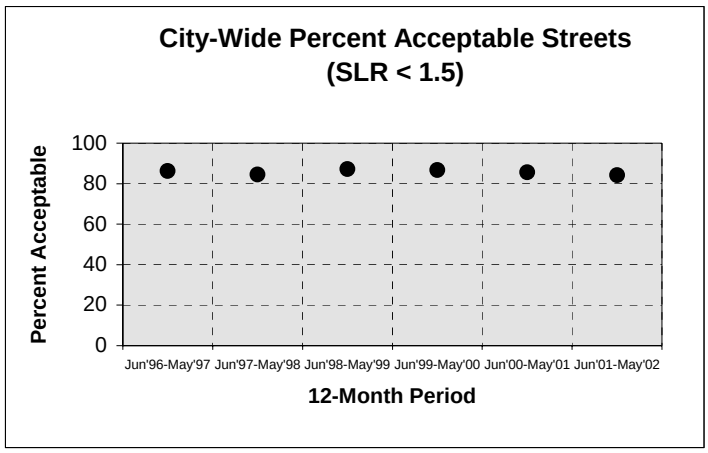
According to the Mayor's Office of Operations, city-wide street litter levels have improved substantially over the past six years. Scorecard Program results for the past six 12-month periods are summarized in the following table and on Figure 1. These results show that street cleanliness has been maintained at or better than 1996 levels.

City-Wide Street Cleanliness, 1996 - 2002

Measure of Street Cleanliness	Results of Scorecard Litter Ratings (SLR)					
	6/96-5/97	6/97-5/98	6/98-5/99	6/99-5/00	6/00-5/01	6/01-5/02
Mean SLR[(1)]	1.30	1.31	1.30	1.30	1.30	1.30
% Acceptable[(2)]	86.2	84.5	87.2	86.7	85.7	84.2
% Filthy[(3)]	1.4	1.8	1.3	1.3	1.4	1.7

Notes:
(1) SLRs follow a 7-point scale from 1.0 (cleanest) to 3.0 (dirtiest).
(2) Percentage of tested blockfaces with SLR less than 1.5.
(3) Percentage of tested blockfaces with SLR greater than 1.74.





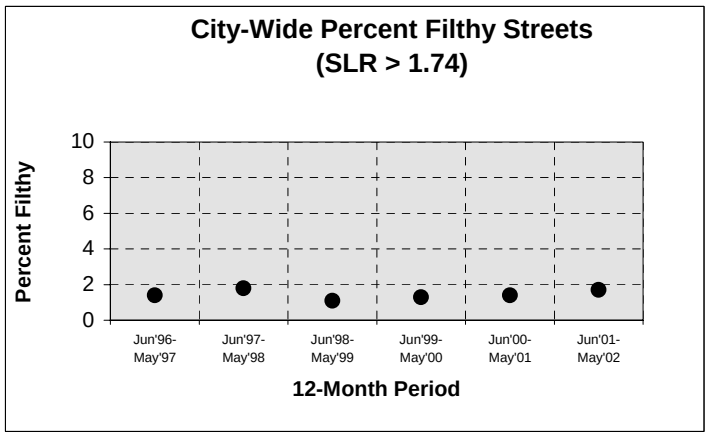


Figure 1. Street Cleanliness

b) Catch Basin Hooding in Phase I / II Areas

Catch basin hooding in Phase I/II areas was completed on or ahead of schedule. A detailed description of these activities, with a summary of the results, is available in previous Quarterly Reports and will not be repeated here.

c) Netting/Booming and Skimming (Interim Floatables Containment Program)

As of June 30, 2002, the Interim Floatables Containment Program (IFCP) included 19 boomed sites and 4 netted sites draining a total of approximately 58,600 acres. The contractor servicing these sites defaulted on January 28, 2002 and an emergency contract was issued on February 15 to restore service. Due to this change in operation, amounts recovered from the booms during the 1st quarter of 2002 were not available at the time of the previous report. Collected amounts have now been tabulated and reported for the period January through April 2002. Limited skimming operations were performed during that period, thus amounts collected are less than previous amounts reported. During January 1 through March 30, 2002, 60 cubic yards (c.y.) of material was collected from 5 IFCP locations. An additional 3.5 c.y. of material was collected from the Buttermilk Channel intake site. During April 2002, 86 c.y. of material was collected from 6 IFCP locations.

DEP also conducts retrievals of large floating debris using the *Cormorant* skimmer vessel throughout New York Harbor. During April 2002, the *Cormorant* retrieved a total of approximately 18.7 tons of floating debris, including roughly 1.8 tons of trash, 0.26 tons of metal, 1.07 tons of plastic, and 0.26 tons of rubber. The remaining 15.3 tons of material was comprised of wood from decayed piers and derelict vessels.

No community clean-up activities were reported during this period.

d) Track I Facilities

Please refer to Section II of the NYC's CSO Program 2nd Quarterly Report – Year 2002.

e) Maximizing Wet-Weather Flow to WPCPs

Please refer to Section II-J of the NYC's CSO Program 2nd Quarterly Report – Year 2002.

2. Catch Basin Hooding in Phase III Areas

Non-priority ("Phase III") areas of the city are not subject to Consent Order requirements for catch basin inspections and hooding. However, DEP proceeded with catch basin inventory and hood replacement operations in Phase III areas. Catch basin hooding in Phase III areas was

completed on or ahead of schedule. A detailed description of these activities, with a summary of the results, is available in the NYC's CSO Program 4th Quarterly Report – Year 2001.

3. City-Wide Reconstruction of Unhoodable Catch Basins

Catch basin reconstruction is provided for in Capital Program CB-01, which appropriates $6 million annually for replacement of collapsed catch basins and associated work required to make sidewalks handicapped accessible. The funding for CB-01 is above and beyond the existing levels needed to address normal repair work.

In addition to the catch basins being identified for reconstruction, and based on estimates by Liro Consulting Engineers, P.C., there are roughly 1,067 catch basins that cannot be inspected and hooded as part of the ongoing program because they are located in "high-speed roadways" and as such require DOT permits as well as special safety equipment. Liro Consulting Engineers, P.C. has visited these high-speed sites to determine the need for safety measures, lane closures, etc., and contract specifications were completed for this project (MI-4) by January 2001. National Water Main was selected as the contractor to perform this work and is expected to start in July 2002. HydroQual will also perform inspections of these basins.

4. City-Wide Catch Basin Re-inspection Program

As a follow-up to the catch basin hooding program (discussed in Section 1b), the Consent Order also requires that all catch basins in Phase I and Phase II areas be re-inspected every two years to confirm that hoods remain in place. These two-year re-inspection cycles are to commence upon completion of the initial hooding process, for which the milestone dates were February 1998 (Phase I) and February 1999 (Phase II). DEP completed initial hooding ahead of schedule, in December 1997 (Phase I) and September 1998 (Phase II).

The Status of DEP's reinspection program is as follows:

Re-inspection Round	Phase	Completion
1	1	December 1999
1	2	September 2000
2	1	January 2002

Discussions with Mr. Edward Coleman of DEP indicate that the Department expects to conduct the second round of re-inspections for Phase II by September 2002. Mr. Coleman also confirmed that all missing hoods are being replaced within 90 days of the inspection, as per the Consent Order.

HydroQual will be assisting the Department in the re-inspection program as part of a change order to the Catch Basin Inspection and Hooding Project. HydroQual's activities are

expected to start in July of 2002. Initial activities will include inspection of catch basin on high speed roads and Phase III areas.

DEP compiled the results of the first round of Phase I re-inspections and determined that, of the 29,383 basins that had been hooded initially, just under 3.3 percent required re-hooding over the two-year re-inspection cycle. This equates to an annual hood-dislodge rate of about 1.6 percent. HydroQual, under Change Order X-2 to Contract IV (Catch Basin Program) will be providing catch basin re-inspection services consistent with the requirements of the Modified Consent Order, which will allow hood loss and replacement rates to be monitored. This information will be reported in future quarterly reports as available.

5. Illegal Disposal Control

In 1998, HydroQual helped DEP and DOS develop a protocol to record and report locations of suspected illegal shoreline trash-dumping. This "Illegal Dumping Notification" program has coordinated efforts between DEP's Harbor Survey Program, DEP's Sentinel Monitoring Program, and two branches of DOS, the Environmental Police and the Sanitation Police. The Environmental Police handle information related to hazardous substances (such as medical waste and asbestos), and the Sanitation Police handle information related to illegal trash dumping. The "Illegal Dumping Notification" program within DEP is presently on hold. An update will be provided when available.

6. Public Education

Please refer to Section VI of the NYC's CSO Program 2nd Quarterly Report – Year 2002.

7. Pilot Studies and Demonstration Projects

Please refer to Section IV of the NYC's CSO Program 2nd Quarterly Report – Year 2002.

APPENDIX B

CITIZEN ADVISORY COMMITTEE ON WATER QUALITY – AGENDAS

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
58-17 JUNCTION BLVD., CORONA, NY 11368

WATER QUALITY CITIZENS ADVISORY COMMITTEE

MEETING REMINDER

To: Water Quality Citizens Advisory Committee Participants
From: Rick Raymond, Tel 718-595-6272. Fax. 718-595-6259

The next meeting of the Water Quality CAC is scheduled for:

Date **WEDNESDAY, APRIL 10, 2002**
Time: **3:00 - 6:00 P.M.**
Place: **Real Estate Board of New York (REBNY)**
570 Lexington Avenue, New York (51st Street)
Lower Level Classroom
Attn. Deborah Beck 212-616-5230

Presentations will be made on the

- Use & Standards Attainment (USA) Paerdegat Basin Project
- The Croton Filtration Project

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
58-17 JUNCTION BLVD., CORONA, NY 11368

WATER QUALITY CITIZENS ADVISORY COMMITTEE

MEETING ADVISORY

To: Water Quality Citizens Advisory Committee Participants
From: Rick Raymond, Tel 718-595-6272. Fax. 718-595-6259

The next meeting of the Water Quality CAC is scheduled for:

Date	**WEDNESDAY, JUNE 12, 2002**
Time:	**3:00 - 6:00 P.M.**
Place:	**Environmental Defense**
	257 Park Avenue South (20th Street)
	Attn. Jim Trip (212) 505-2100 x2147

The agenda includes:

- Introduction, NYCDEP's New Commissioner, Christopher Ward
- NYC Water Improvement Projects and Their Impact Upon New York City Water Rates
- Percent for Art Projects as part of NYCDEP's Capital Improvement Work