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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 a period from July 1, 2001 through September 30, 2001.

II. Project Progress for Comprehensive Citywide CSO Project

A.) Flushing Bay

- **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, the underflow (foul waste) is carried to the 108th Street Pumping Station which pumps the flow to the high level interceptor**.**

Construction

Construction is substantially complete. The facility has been on-line since November 1997. A few punch list items remain to be completed by the contractor.

Monitoring Program

The two-year sampling program began in March 2000. To date, seven water quality sampling events have been conducted. The program was originally to include 15 sampling events; however, additional events are now planned to allow testing of the vortex units individually for a number of storms. To date, ten floatable sampling events have been completed. An interim report on the sampling and monitoring was submitted on January 17, 2001. A second interim report has been prepared for the period ending March 31, 2001.

- **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 (MG), 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 ballfields at the construction site
- Rerouting of sewers around the construction site
- 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

Design

Design has been completed for all elements.

Construction

Construction has been completed for the relocation of ballfields and the rerouting of sewers. Phase 1 construction (Contract CS4-3) for the tank was substantially completed as of August 17, 2001. Bids were opened for the Phase 2 construction contracts. The Electrical, HVAC and Plumbing Contracts have been awarded. The award of the General Contract is being reviewed by the Department. Phase 2 construction is projected to be completed for final acceptance by December 2004.

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 – substantially complete	Bids opened for Phase 2, construction contracts E, H and P awarded, but G Contract not yet awarded
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.

B.) Paerdegat Basin

The Paerdegat Basin CSO Retention Facility is located in southeastern Brooklyn and receives combined sewer overflows from a drainage area of approximately 6,000 acres. The Facility consists of a four (4) bay underground storage tank, which will have storage capacity of 30 million gallons, 20 MG in the tanks and 10 MG in the influent channels. The upstream combined sewers can store additional 20 million gallons. The stored CSO is pumped back to the Coney Island WPCP for treatment after each rain event.

The elements of the facility include the following design and construction phases:

- Phase IA (Contract 4A) – Influent Channels
- Phase II (Contract 4B) – Foundations and Substructures – underground structural elements
- Phase III (Contracts 5G, H, P & E) – Structures and Equipment – aboveground buildings and equipment
- Phase IV (Contract 6) – Natural Area Park Restoration

- **Phase IA – Influent Channels**

Design

Design was completed in 1997**.**

Construction

Construction of the influent channels to the CSO facility is ongoing. Completion of contract work is projected for December 2001.

- **Phase II - CSO Facility Foundations and Substructures**
- **Phase III – Structures and Equipment**

Meetings

Principal meetings held during this report period are as follows:

- Progress meetings with DEP were held during this period. The meetings took place on July 25, August 22, and September 26, 2001.

Design

Final design work for Phase II – CSO Facility Foundations and Substructures has been completed and the project was advertised on August 7, 2001.

Final design work for Phase III, Structures and Equipment, continues.

Dredging

NYCDEP met on September 7, 2001 with NYSDEC to discuss the dredging permit application. NYSDEC agreed to a two step wetland mitigation plan proposed by DEP. The first step would be installation of test plots under the Phase II construction contract 4B. The second

phase would be included in Phase III, construction contract 5G, and would include implementation of the wetland restoration design based on the results of the test plots. NYSDEC indicated at the meeting that a draft permit could be issued as early as November, pending resolution of the NYSDEC Division of Air Resources letter requesting new air modeling which was completed and approved during the Final EIS.

- **Phase IV – Natural Area Park Restoration**

Design

This phase will be designed in the future.

Table 2

Paerdegat Basin CSO Project

	Phase IA	*Phase II*	*Phase III*	*Phase IV*
Plan Elements:	Influent Channels	Foundations and Substructures	Structures and Equipment	Natural Area Park Restoration
Location:	Ralph Avenue and Flatlands Avenue, Brooklyn	Ralph Avenue and Flatlands Avenue, Brooklyn	Ralph Avenue and Flatlands Avenue, Brooklyn	Ralph Avenue and Flatlands Avenue, Brooklyn
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	$145,809,400	$130,026,800	$8,000,000
Status:	Design was completed in 1997 Completion of Contract work is projected for December 2001	Final design work is in progress. Advertised on 8/07/01.	Final Design work is in progress.	This phase will be designed in the future.
Other Issues:		Dredging permit is required prior to award of the contract.		

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

- **Open Waters**

Meetings

Three progress meetings between Hazen and Sawyer and DEP were held during this period. The meetings took place on July 17, August 21, and September 21, 2001.

Final Design

In the final design contract for the 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
- Phase III – In-Line Storage (Inflatable Dams)

Phase I will provide improvements to 72 regulators in Manhattan and Brooklyn, major modifications being the conversion to manually operated sluice gates accessed directly from the street surface. Design on this element is nearing completion, as existing conditions and proposed actions in each of the regulators have been identified. Preliminary Maintenance and Protection of Traffic schemes are finished, and structural design for new cover installation is underway. Construction for Phase I will be divided into two contracts – one for the 40 regulators in Manhattan, and one for the 32 regulators in Brooklyn. Preparation of the final plans and specifications has begun.

Phase II will provide a new throttling facility for the North River WPCP. Design has continued on this portion of the contract, assuming the existing stairway shaft to the interceptor will be used as the construction passageway. A survey of the surface conditions and an inspection of the existing junction chamber were conducted. Investigations of possible existing easements are underway. The mechanical designs of the underground vault and the throttling gates are being finalized.

The Inner Harbor CSO Facility Plan also recommended the construction of throttling facilities at Manhattan Pumping Station and Newtown Creek WPCP. These throttling facilities 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. The contract is currently under construction. For the Manhattan Pumping Station throttling facility, the Contract 40 final design includes the work associated with the throttling facility and it is currently at 60% design completion.

Final design of Phase III has not yet been initiated.

Table 3

Inner Harbor CSO Project

OPEN WATERS

	Phase I	*Phase II*	*Phase III*
Plan Elements:	Regulator Improvements	Throttling Facilities	In-Line Storage
Location:	70 regulator sites throughout Manhattan and Brooklyn	1. North River WPCP 2. Newtown Creek WPCP 3. Manhattan Pumping Station	Upstream of regulators B-6 and R-20 in Brooklyn
Actions:	Conversion to manually operated sluice gates, replacement of stop plank guides, termination of water supply	Installation of sluice gates/roller gates 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 – 80% Complete	1. Final Design –20% Complete at North River 2. Under Construction at Newtown Creek 3. Final Design – 60% complete at Manhattan Pumping Station	Final Design – Not Initiated
Other Issues:	-	-	-

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 submitted for review to the NYCDEP. This report includes the following recommended elements:

- Regulator Improvements
- Throttling Facility
- In-Line Storage
- Coordination of CSO & WPCP Operations

An engineering contract for final design is being developed. This contract will have to be reviewed by NYCDEP, the NYC Law Department, the Mayor's Office, and the Office of Management & Budget before it is registered.

Table 4

Outer Harbor CSO Project

	Phase I	*Phase II*	*Phase III*
Plan Elements:	Regulator Improvements	Throttling Facility	In-Line Storage
Location:	60 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, tide gate telemetry	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*:*	Final Design – Not initiated	Final Design – Not initiated	Final Design – Not initiated
Other Issues:	------	-----	-----

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) combined. 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.

Two issues that necessitated examining alternate options impacted the feasibility of constructing this facility at the proposed location. These issues were: 1) the need to provide five interim ballfields off-site, but within the immediate neighborhood, to replace the five ballfields 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 ballfields.

Recently, a third issue necessitating alternatives to storage beneath Bruekelen Park materialized: park land alienation resulting from the Croton Water Treatment Plant lawsuit.

Over the past several years, the advent of soft ground tunneling has resulted in this type of construction to now be seen as practical for the project area. The alternate option of a storage/conveyance tunnel in lieu of retention tank involves a construction of a 23 foot diameter tunnel about 80 feet beneath Jamaica Bay using advanced full faced Earth Pressure Balanced Tunnel Boring Machine (EPBTMB) and precast concrete segmented gasketed lining techniques. This facility relocates the CSO from the existing Fresh Creek outfall by the Williams Avenue regulator to a NYCDEP owned site south of the sludge dewatering facility at the 26th Ward WPCP, and from Hendrix Creek outfall at the Hendrix Street Canal near the 26th Ward WPCP to the south of sludge dewatering facility at the 26th Ward WPCP. The proposed tunnel will store and convey about 27 million gallons (per Value Engineering revision) of CSO from Fresh Creek (22 million gallons) and Hendrix Creek (5 million gallons), combined, before overflowing into the Hendrix Creek just south of the 26th ward WPCP. Preliminary estimates resulted in a tunnel length of approximately 16,000-ft. Preliminary examination has indicated that less land acquisition would be required for construction for this alternate and also, water quality computer models have resulted in improved water quality in Fresh Creek in reference to dissolved oxygen (DO) and coliform standards.

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

Meetings

- A progress kick-off meeting was held on July 10, 2001 at the Department's offices in Queens to discuss the scope of work for the change order.

- Progress meeting was held on August 14, 2001 between O'Brien & Gere and the Department to discuss the progress of the planning and evaluation of alternatives for the CSO tunnel.

- Progress meeting was held on September 11, 2001 between O'Brien & Gere, Hazen & Sawyer and the Department to discuss the proposed location of Hendrix Street Canal tunnel shaft and planned new blower building location at the 26th Ward plant. Both Hazen & Sawyer and the Department agreed to relocate the blower building to the site occupied by the BNR building at the 26th Ward and move the BNR building to the south end of the plant.

- Meeting was held on September 19, 2001 between O'Brien & Gere, Hazen & Sawyer and the Department to discuss the alternatives for the proposed location of Hendrix Street Canal tunnel shaft since the NYCDEP operations division did not want to move the BNR building to the south end of the plant. Department requested O'Brien & Gere to investigate the options to relocate the Hendrix Street Canal tunnel shaft to a new suitable location in the near proximity of the Hendrix Street Canal.

Preliminary Examinations

Currently evaluating alternatives for shaft locations and boring locations for the Fresh Creek and Hendrix Street Canal tunnel. A draft report on the Chlorine Residual Study was submitted to the Department on September 11, 2001.

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 for storage/conveyance tunnel	No additional actions regarding dredging have been taken on this project at this time
Project Cost:	$295 million	$3 million (estimate from 1993 Facility Plan)
Status:	-A progress kick-off meeting was held on July 10, 2001 -Evaluating alternatives for tunnel shaft locations, sizing and boring locations	A progress kick-off meeting was held on July 10, 2001
Other Issues:	ULURP, SEQR to be revised	

F.) East River

- **Bronx River**

Project Description

The Bronx River CSO Storage Conduit Project will include construction of a storage conduit to effect 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 18'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 pumpback purposes, air treatment facilities, and mechanical screening facilities.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on July 5, 2001, July 18, 2001, July 31, 2001, August 16, 2001 and September 6, 2001 at the NYC Department of Environmental Protection (NYCDEP) offices between representatives of the NYCDEP, NYS Department of Environmental Conservation (NYSDEC), URS, Lawler, Matusky and Skelly Engineers (LMS), Helen Neuhaus and Associates, and Dvirka and Bartilucci Engineers to discuss and review the overall progress of the East River CSO Project.
- Meeting on August 29, 2001 at the NYCDEP offices between representatives of the NYCDEP, NYSDOT and URS to prepare for the all-agency meeting, scheduled for September 6, 2001, at the NYCDCP offices in Manhattan to discuss the ULURP Application.
- An all-agency meeting on September 6, 2001 at the NYCDCP offices in Manhattan between representatives of the NYCDEP, NYCDCP, NYS Department of Transportation (NYSDOT) and URS to discuss the ULURP Application and mapping actions required for the project.

Field Investigations

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

- Performed a Phase 1B Archaeological Survey in mid-August 2001 in two areas at the CSO storage conduit Site; (1) the area in proximity to the new outfall, and (2) the area near the north entrance to the storage conduit site.

- Reviewed the subsurface environmental investigation reports prepared by LMS in late August 2001, which provide the results of the environmental boring program for the CSO storage conduit site and the shallow borings (2-3 feet deep) drilled along the northern section of the Greenway Project. The two separate subsurface environmental investigation reports were forwarded to the NYCDEP in late September 2001.
- Continued to work on completing the subsurface geotechnical investigation report for the CSO storage conduit site. It was determined that five additional geotechnical borings will be required at the site of the storage conduit as a result of having to re-configure the storage conduit to avoid Metropolitan Transport Authority (MTA) facilities.
- Deleted the survey of the Amtrak bridge over East 172nd Street from the survey subcontract with Massand Engineering due to difficulties that the NYSDOT was experiencing in arranging for the survey. The deletion of this work will not impact the NYCDEP project.
- Received comments from the NYCDEP on the odor investigation protocols, and revised protocols were re-submitted to the NYCDEP in July 2001 for review.

Environmental Review

A draft EAS for the combined Bronx River CSO Storage Conduit/Greenway Project was submitted to the NYCDEP in late June 2001, and is under review. This draft EAS is missing sections pertaining to the southern section of the Greenway Project, which are the responsibility of the NYSDOT.

ULURP

URS continued with preparation of the draft ULURP Application for the Bronx River CSO Storage Conduit/Greenway Project. URS is coordinating with the NYCDCP on the mapping requirements for the land transfers.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- Reviewed the final version of the Memorandum of Understanding (MOU) between the NYCDEP, NYSDOT, MTA and NYC Department of Parks and Recreation (NYCDPR) for the Bronx River CSO Storage Conduit/Greenway Project in August 2001. The MOU was signed by the NYCDEP in September 2001 and forwarded to the NYCDPR for signature.
- Prepared a NYS grant application form, which if approved will provide the NYCDEP funding for a portion of the northern section of the Greenway Project. This

application form was submitted to the NYCDEP in mid-August 2001 for review and further processing.

- Continued to prepare detailed hydraulic calculations for the CSO storage conduit.
- Continued with preliminary design of the CSO storage conduit.
- Performed an investigation in August and September 2001 to determine the feasibility of using tunneling technology to install the two parallel 9.5-foot diameter conduits under the northern terminus of the Sheridan Expressway at East 177th Street, and initiated preparation of a report recommending that the parallel conduits be installed via tunneling.
- For similar reasons indicated for the Alley Creek CSO Project, initiated preparation of a revised project schedule in late September 2001 for the Bronx River CSO Storage Conduit.
- Initiated an in-house re-evaluation of the Bronx River CSO Project in September 2001 to determine if it is feasible from a hydraulic standpoint to provide screens upstream of the influent into the storage conduit.

Table 6

Bronx River CSO Project

Plan Elements:	Bronx River CSO Storage Facility
Location:	Property adjacent to intersection of East 177th Street, DeVoe Ave., and Sheridan Expressway
Actions:	Design and construction of 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; abandonment of existing Outfall HP-23.
Cost:	$40,000,000
Status:	Final design is underway.
Other Issues:	NYSDOT needs to prepare sections of EAS in order to finalize the EAS in order to obtain Negative Declaration for project, ULURP Application needs to be complete 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 effect 7 MG of off-line storage in order to provide CSO abatement at Outfalls HP-14 and HP-15 on the Hutchinson River. The design of the storage conduit will incorporate the San Francisco Collector concept so as to achieve a level of primary treatment (settling) within the conduit. The storage conduit will consist of a northern reach and a southern reach. The northern reach will consist of a conduit varying in width from 16'-0" to 24'-0" by a height of 11'-0" extending southward within roadway rights-of-way approximately 3,500 linear feet from near where Boston Road crosses over the Hutchinson River to the Conner Street Pumping Station, resulting in 4.7 MG of storage capacity. The southern reach will consist of a conduit (10'-0" W x 11'-0" H) extending southward within roadway rights-of-way approximately 3,000 linear feet from the intersection of Conner Street and Peartree Avenue to the CO-OP City North Pumping Station, resulting in 2.3 MG of storage capacity. 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 CO-OP City North Pumping Stations; air treatment facilities; rehabilitation of existing Outfalls HP-14 and HP-15; and construction of a new outfall at the southern terminus of the southern reach.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on July 5, 2001, July 18, 2001, July 31, 2001, August 16, 2001 and September 6, 2001 at the NYC Department of Environmental Protection (NYCDEP) offices between representatives of the NYCDEP, NYS Department of Environmental Conservation (NYSDEC), URS, Lawler, Matusky and Skelly Engineers (LMS), Helen Neuhaus and Associates, and Dvirka and Bartilucci Engineers to discuss and review the overall progress of the East River CSO Project.
- Meeting on September 5, 2001 at the Community Board No. 10 offices in the Bronx between representatives of the NYCDEP, Bronx Community Board No. 10 and URS to discuss and review the Hutchinson River CSO Storage Conduit Project.

Field Investigations

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

- Performed inspection in late July 2001 of the four regulator chambers located within the sewer system to determine their condition and obtain needed details for design of the Hutchinson River CSO Project. URS is currently reviewing the results, and based on the results of the inspection, it appears that additional inspection visits will be required.

- Forwarded a memorandum prepared by LMS to the NYCDEP in early August 2001, indicating that contamination was detected in the recently installed sentry wells located near the Hexagon Pharmaceutical Spill Site. LMS and URS initiated additional investigations to determine if the source of this contamination is the Hexagon Pharmaceutical Spill Site.
- Submitted the soils classification analyses to determine quantities of regulated, non-regulated and hazardous soils to the NYCDEP for approval in mid-August 2001. The NYCDEP submitted the analyses to the NYSDEC in mid-August 2001 for review.
- Continued preparation of the subsurface geotechnical investigation report, summarizing the results and conclusions of the subsurface geotechnical investigations along the northern and southern reaches of the CSO storage conduit.
- Based on an on-site inspection, received a recommendation from the manufacturer of the malfunctioning flowmeter and recorder on the discharge line of the Conner Street Pumping Station that the flowmeter and recorder would need to be removed and sent to the respective manufacturer's factories to determine if it would be cost-effective to repair the units. The NYCDEP has subsequently directed URS to include installation of a new flowmeter with appurtenances in the Hutchinson River CSO Project in lieu of having the existing flowmeter repaired. This new flowmeter will be installed at a location to provide accurate readings.

Environmental Review

URS submitted the NYCDEP Dewatering Permit Application for the Hutchinson River CSO Project to the NYCDEP in early August 2001 for processing.

URS and LMS completed preparing a revised draft EAS that addresses comments provided by the NYCDEP in early April 2001. This revised draft EAS was submitted to the NYCDEP in mid-September 2001 for review.

URS initiated preparation of a tidal wetlands package for submittal to the NYCDEP.

ULURP

No ULURP approval is required for the Hutchinson River CSO Project.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- Reviewed the report prepared by LMS entitled, "Effect of Additional Flow from CSO Storage Facilities on Hunts Point WPCP Loading and Water Quality" in early August 2001, and submitted comments on the report to LMS.
- Continued with the final design for the northern and southern reaches of the CSO storage conduit. Eighty-percent complete drawings and preliminary specifications were submitted to the NYCDEP for review in late June 2001.
- Submitted a report to the NYCDEP in early August 2001 entitled, "Hutchinson River CSO Storage Conduit, Evaluation of the Need for Air Treatment." The NYCDEP initiated an in-house review of this report.
- Received comments from the NYCDEP on draft letters prepared by URS, which describe the Hutchinson River CSO Storage Conduit Project, and the measure and facilities being included in the project as a result of the New York Bus Service Company (NYBSC) fuel oil spill remediation program and the Hexagon Pharmaceutical Spill Site. URS made the requested revisions and re-submitted the draft letters to the NYCDEP in mid-August 2001 for finalization.
- For similar reasons indicated for the Alley Creek CSO Project, initiated preparation of a revised project schedule in late September 2001 for the Hutchinson River CSO Storage Conduit Project

Table 7

Hutchinson River CSO Project

Plan Elements:	Hutchinson River CSO Storage Conduit
Location:	Public Right-of-Ways from Boston Road to CO-OP City North Pumping Station
Actions*:*	Design and construction of CSO storage conduit consisting of two segments; a 4.7 MG northern segment and 2.3 MG 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 CO-OP City North Pumping Station for southern segment.
Cost:	$138,000,000
Status:	Final Design 90% complete.
Other Issues:	Negative Declaration needed project.

Alley Creek

Project Summary

The Alley Creek Drainage Area Improvements/CSO Abatement Facilities Project will be constructed in two phases with the first phase consisting of two stages, the Alley Creek Drainage Area Improvements (Phase I, Stage 1), the Alley Creek CSO Abatement Facilities (Phase I, Stage 2), and the Oakland Ravine Stormwater Treatment System (Phase II). The principal elements included in the project are additional stormwater and combined sewers, a new outfall sewer, 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 (Phase I, Stage 1); activation of the 5 MG CSO Storage Facility (Phase I, Stage 2); and construction of a stormwater treatment system in the form of settling basins and natural emergent wetlands (Phase II).

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 3,000 linear feet of stormwater sewers ranging from 15- through 48-inches in diameter; 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 15 feet; and an outfall structure and stilling basin on Alley Creek. The outfall sewer will discharge into Alley Creek through the new outfall structure to be constructed under Phase I, Stage 1.

The 5 MG CSO Storage Facility will also 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, located 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 CSO Storage Facility will be cleaned, after each storm event by using 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 new contract. This new contract will begin after the completion of Contract ER-AC1. A contract number has not been issued for this new contract at this time.

The stormwater 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.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on July 5, 2001, July 18, 2001, July 31, 2001, August 16, 2001 and September 6, 2001 at the NYC Department of Environmental Protection (NYCDEP) offices between representatives of the NYCDEP, NYS Department of Environmental Conservation (NYSDEC), URS, Lawler, Matusky and Skelly Engineers (LMS), Helen Neuhaus and Associates, and Dvirka and Bartilucci Engineers to discuss and review the overall progress of the East River CSO Project.
- Public Hearing on July 23, 2001 at the NYC Department of City Planning (NYCDCP) offices in Manhattan to obtain certification for the ULURP Application.
- Meeting on August 20, 2001 at Middle School 158 in Bayside, Queens between representatives of the Alley Creek Monitoring Committee, NYCDEP and URS to review the ULURP Application and the overall project status.
- Meeting on August 23, 2001 at the Mayor's Office of Construction (MOC) in Manhattan between representatives of the MOC, NYCDEP and URS to review the four milestones included in Contract ER-AC1, and the bonuses and penalties associated with the respective milestones.
- Meeting on August 24, 2001 at the NYCDEP offices between representatives of the NYCDEP, Consolidated Edison Company, Time Warner Cable, Verizon, and URS to finalize utility coordination issues.
- Meeting on August 24, 2001 at the Old Douglaston Pumping Station between representatives of the NYCDEP and URS to determine the scope of work that needs to be completed to upgrade the pumping station to allow for the pumpback of stored CSO to the Tallman Island WPCP.
- Public Hearing on September 4, 2001 at Middle School 158 in Bayside, Queens between representatives of Queens Community Board No. 11 and the community of Bayside, Queens to obtain approval of the ULURP Application.
- Meeting on September 13, 2001 at the NYCDEP offices between representatives of the NYCDEP, LMS and URS to review the results of an investigation to determine the maximum total acres of wetlands that can be constructed on the west side of Alley Creek adjacent to the project, and to review conceptual plans for providing additional wetlands in Alley Park.
- Public Hearing on September 20, 2001 at Queens Borough Hall between representatives of the Queens Borough President's Office (QBPO) and the community of Bayside, Queens to obtain approval of the ULURP Application.
- Meeting on September 20, 2001 at the NYCDEP offices between representatives of the NYCDEP and URS to review the re-design of the new 11'-0" W x 8'-0" H combined sewer along Springfield Boulevard.

Field Investigations

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

- Final approval of the soils classification report was provided by the NYSDEC in early August 2001.
- NYCDEP initiated review of the protocol for collecting and analyzing samples from the bed of Oakland Lake to determine feasibility of dredging and removing material from the lake.
- LMS conducted an investigation to determine the maximum total acres of wetlands that can be constructed on the west side of Alley Creek adjacent to the project in August 2001. Conceptual plans based on the results of this investigation were presented to the NYCDEP and URS for review, and were revised by LMS based on this review. The revised conceptual plans were submitted to the NYCDEP in late September 2001.
- URS provided the NYCDEP with a detailed grain size analysis for each soil boring within the construction limits in Alley Park.

Environmental Review

The NYCDEP submitted a letter in late July 2001 to the NYSDEC providing updated information on the levels of dissolved oxygen and coliforms in Alley Creek and Little Neck Bay, based on revised water quality modeling for the 5 MG CSO Storage Facility.

The NYSDEC reviewed the Joint Application for Permit for the project, and provided their comments to the NYCDEP in an August 31, 2001 memorandum. URS is assisting the NYCDEP in preparing a response to the NYSDEC memorandum.

The NYCDEP in-house review of the NYCDEP Dewatering Permit Application was completed in September 2001. Dewatering permits will be issued during construction once the contractor has provided specific details for the dewatering operation. URS submitted the NYSDEC Long Island Well Permit Application to the NYCDEP in mid-May 2001 for submittal to the NYSDEC. The NYCDEP submitted the permit application to the NYSDEC in mid-June 2001, and the NYSDEC provided comments on the permit application to the NYCDEP in late August 2001. URS is working with the NYCDEP in preparing responses to the NYSDEC comments.

ULURP

The ULURP Application for the project was certified by the NYCDCP on July 23, 2001. Queens Community Board No. 11 approved the ULURP Application on September 4, 2001, and

the QBPO approved the ULURP Application on September 20, 2001. The next required approval of the ULURP Application is by the City Planning Commission.

URS indicated that decisions will need to be made by the NYCDEP as to whether the Oakland Ravine Project requires ULURP approval, and whether an EAS is required for the project.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- Submitted the revised Maintenance and Protection of Traffic (MPT) Plan drawings to the NYCDEP and NYC Department of Transportation (NYCDOT) in mid-June 2001 for review and final approval. URS contacted the NYCDOT on several occasions in an attempt to expedite the review and approval process; however, comments from all offices of the NYCDOT have not yet been received.
- Received additional review comments on the Phase I, Stage 1 contract drawings from the NYCDEP in early July 2001.
- Submitted the completed revised contract drawings for Phase I, Stage 1 of the project to the NYCDEP in mid-July 2001 for review.
- Received review comments on the amended drainage plan from the NYCDEP in early July 2001. URS made the requested revisions to the plan, and submitted the revised amended drainage plan to the NYCDEP in late July 2001 and again in mid-August 2001. As requested by the NYCDEP, commenced design revisions in September 2001 on Springfield Boulevard consisting of removing the existing 66-inch diameter combined sewer, and replacing it with the new 11'-0" W x 8'-0" H combined sewer, rather than leaving the 66-inch diameter combined sewer in place and in operation.
- Prepared a draft response letter to the NYSDEC letter requesting specific information regarding the City's CSO abatement facilities plans, received by the NYCDEP in mid-July. The draft response letter was submitted to the NYCDEP in early August 2001 for review and finalization.
- Made revisions to the contract drawings for the upstream sewers and re-submitted these drawings to the NYCDEP for review in early August 2001.
- Initiated revisions to the contract drawings and specifications for Contract ER-AC1 to delete the ecological restoration and wetlands construction work in Alley Park, and to incorporate the ecological restoration and wetlands construction work in a separate, stand-alone contract, as directed by the NYCDEP in mid-August 2001.
- Revised the Total Maximum Daily Load (TMDL) Program for floatables removal for Alley Creek, based on comments provided by the NYCDEP, and submitted the revised TMDL Program to the NYCDEP for review in late August 2001.
- Completed the draft Preliminary Design Report for the Oakland Ravine Stormwater Treatment System, and submitted the report to the NYCDEP for review in late August 2001.

- Submitted copies of Drawing SW9 of the plan and profile of the new 30/36-inch diameter steel water main located on 56th Avenue to the NYCDEP in mid-September 2001 for review.
- Completed requested revisions to the contract milestones and submitted the revisions to the NYCDEP in mid-September 2001 for review and further forwarding to the MOC for review. The NYCDEP provided further comments regarding the milestones in late September 2001, and URS commenced revisions of the milestones to address these comments.
- Continued to address comments provided by the NYCDOT on the contract drawings and specifications. URS is working with the NYCDEP to resolve issues regarding the NYCDOT's comments.
- Advised representatives of the Consolidated Edison Company, Time Warner Cable and Verizon in September 2001 that changes are being made in the design of the project along Springfield Boulevard.
- Initiated preparation of revised project schedules in late September 2001 for the four construction contracts that comprise the Alley Creek CSO Abatement Project to reflect the required longer periods of time for the NYCDEP to review the contract specifications and for the bidding and registration of the contracts as compared to previous schedules. These revised schedules will also reflect less overlap between the completion of the drainage elements included in the Phase I, Stage 1 Contract and the initiation of the Phase II Contract to avoid the possibility of a storm washing out newly completed work within Oakland Ravine.
- The NYCDEP submitted a revised CP-1 Application to the NYC Office of Management and Budget (NYCOMB) in September 2001 for Contracts ER-AC1 and ER-AC2 showing a total amount for the two contracts of $142.6 million.
- Requested information from the NYCDEP in August 2001 pertaining to the Old Douglaston Pumping Station that is needed in the investigation of the station, including details on pumps, operation and maintenance records, and problems that have been experienced.

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 stormwater and combined sewers, catchbasins, outfall 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 under Phase I, Stage I.	Design and construction of ecological restoration areas and wetlands to mitigate construction impacts; approximately 7 acres of wetlands to be constructed.	Design and construction of a wetlands stormwater treatment system in Oakland Ravine to treat stormwater prior to discharge into Oakland Lake and ultimately into Alley Creek; design and construction of upgrades to the stormwater sewer system on the Queensborough Community College Campus; and design and construction of rehabilitation measures within Oakland Ravine and Oakland Lake
Cost:	$124,900,000	$17,700,000	Not Yet Available	$24,600,000
Status:	Final design nearly complete; preparing to advertise for bids in January 2002.	Preliminary design to be initiated in January 2002.	Conceptual design underway initiated in August 2001.	Draft Preliminary design report completed in August 2001 which is under review by NYCDEP.
Other Issues:	Parkland alienation issue needs to be resolved; Negative Declaration for project has been issued; ULURP Application approval process underway.	Parkland alienation issue needs to be resolved; available capacity in Old Douglaston Pumping Station and sewer system for pumpback purposes needs to be verified	Requires NYC Department of Parks and Recreation approval.	Determination needs to be made if EAS and ULURP Application are required; requires NYC Department of Parks and Recreation approval; input from special interest 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 27' 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 pumpback 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/storage 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 ballfields and parking areas separated from the BPC Campus facilities and the NYCDEP facilities.

Meetings

Principal meetings held during this report period are as follows:

- Project Progress meetings on July 5, 2001, July 18, 2001, July 31, 2001, August 16, 2001 and September 6, 2001 at the NYC Department of Environmental Protection (NYCDEP) offices between representatives of the NYCDEP, NYS Department of Environmental Conservation (NYSDEC), URS, Lawler, Matusky and Skelly Engineers (LMS), Helen Neuhaus and Associates, and Dvirka and Bartilucci Engineers to discuss and review the overall progress of the East River CSO Project.
- Meeting on August 16, 2001 at the NYCDEP offices between representatives of the NYCDEP and URS to review the architectural design of the Little League restroom and clubhouse/storage facilities.
- Meeting on September 6, 2001 at the NYCDEP offices between representatives of the NYCDEP and URS to review the modified architectural design of the Little League restroom and clubhouse/storage facilities.

Field Investigations

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

- Selected Munoz Engineering in mid-August 2001 to perform the metes and bounds survey for the property being acquired for the storage tank project. Field work was completed in late September 2001.
- Selected Jersey Boring and Drilling Co., Inc. in early August 2001 to perform the drilling of six geotechnical borings needed for design of the restroom and clubhouse/storage facilities. Drilling of the geotechnical borings was completed in early October 2001.

Environmental Review

URS received review comments on the draft EAS for the CSO Storage Tank from the NYCDEP in mid-July 2001, and is currently addressing these comments.

Site Acquisition/ULURP

Based on conversations with the NYC Department of Citywide Administrative Services (DECAS), an approved ULURP Application is required prior to the proposed CSO Storage Tank site, located at the Bronx Psychiatric Center (BPC) Campus, being acquired by the City of New York from the State of New York. DECAS is continuing to prepare a cost appraisal for the site, and it is URS' understanding that DECAS will tender an offer to the Dormitory Authority of the State of New York for purchase of the site in the near future.

The NYCDEP continued to review the revised draft ULURP Application submitted by URS in mid-June 2001.

Facility Planning/Preliminary and Final Designs

Principal work performed during this report period includes:

- Continued preparation of a TMDL Program for settleables for Westchester Creek.
- Continued with preliminary work to prepare a site preparation contract for the project, including restroom facilities for the Bronxchester and Van Nest Little Leagues, installation of fencing to separate the Little League area from the BPC and NYCDEP facilities, and other site preparation work.
- Finalized a package showing the Little League facilities (restroom and clubhouse/storage facility) in early September 2001 for presentation to the NYC Art Commission. The package was to be delivered to the NYC Art Commission on September 12, 2001 in preparation for the Committee Hearing scheduled for September 19, 2001. However, due to the September 11, 2001 attack on the World Trade Center, the office of the Art Commission (located at City Hall) was temporarily closed, and the package could not be delivered. The presentation to the NYC Art

Commission was re-scheduled for October 17, 2001. The NYCDEP directed URS to curtail design work on the site preparation contract until approval is obtained from the NYC Art Commission.

For similar reasons indicated for the Alley Creek CSO Project, initiated preparation of revised project schedule in late September 2001 for the Westchester Creek CSO Project.

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 overflow conduits along Waters Place; 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:	$201,000,000
Status:	Preliminary design underway for the site preparation contract (restroom for Little Leagues and miscellaneous site preparation work).
Other Issues:	Site needs to be acquired by NYCDEP from the State of New York; Negative Declaration needed for project; ULURP Application needs to be completed and certified; NYC Art Commission approval needed for restroom and clubhouse/storage facility for Little Leagues.

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 July 25, August 22 and September 26.

Final Design

Final design work of the pumping station upgrade and associated new force mains has continued. Evaluation of Grinder Well and Wet Well partitioning options is complete. The design will incorporate partitioning of the Wet Well into two cells. Also, isolation gates with electric motor operators will be installed upstream of the grinders.

Con Edison reevaluated its infrastructure and informed H&S a network protector structure will be required. 480V service would be provided via transformers and network protectors housed within a nominal 40-foot by 25-foot single story structure located along West 11th Street within the Avenue V Pumping Station property. Due to zoning concerns, alternate means of providing power to the upgraded facility are being investigated.

Additional hydrogen sulfide measurements were collected during the week of July 16. These measurements were generally consistent with the data set collected in the summer of 1999.

Value Engineering

The Value Engineering (VE) Implementation Meeting was held on August 3. Outstanding VE issues were discussed and several identified for further follow-up. Supplemental information was submitted to NYCDEP on September 5 and transmitted to NYCOMB on September 17.

Table 10

CONEY ISLAND CREEK CSO Project

	Contracts PS-79G, H, P, E	*Contract PS-79G*	*Contract PS-79F*
Plan Elements:	Pumping Station Upgrade	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	Enlarge orifice from Regulator AV-1 to branch interceptor to maximize flow to Wet Well before onset of CSO event; Automate Reg. AV-1 throttling gate; Lower weir at Reg. OH-1 diversion chamber to maintain existing HGL in upstream sewers	New force mains to convey DWF and WWF
Cost:	$31,000,000	Incl. at left	$62,000,000
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	——	Routing of force main along parkland; Selective replacement of water and sewer utilities along route.

H.) Newtown Creek

- **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 center-line. 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 alternatives have been presented to 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. Contacts have been made with the USACOE and the US Coast Guard for their review of the project.

ULURP

A draft ULURP application has been completed and signed. Copies were stamped in and distributed at DCP on July 12, 2001. The ULURP application will be presented for certification on October 9, 2001.

- **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. This plan element is undergoing Department review.

Receiving water modeling to assess the benefits of this proposal have 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.

- **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. A presentation of the site evaluation and recommendations will be made to the Mayor's office.

- **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 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 force main to drain the tank for treatment at the Newtown Creek WPCP.
Cost:	Planning not complete	$8,000,000	$73,000,000
Status:	Proposed changes under review in DEP	Preliminary design & CEQR completed. Permit issued by NYSDEC. ULURP to be presented to NYCDCP for certification.	Siting in English Kills was rejected by NYSDEC. Identified preferred site at intersection of Johnson and Morgan Avenues after re-evaluation of siting alternatives. Recommendations to be presented to the Mayor's office.
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.	Configuration of tank will depend on siting and review of proposal to maximize flow through Morgan Ave. Interceptor

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.

Flow Monitoring and Modeling

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.

Field Investigations

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

High Rate Physical Chemical Treatment Demonstration (HRPCT)

See write up in Section IV – Demonstration Projects

Destratification Demonstration

See write up in Section IV- Demonstration Projects

Abatement of Meadowmere/Warnerville Dry Weather Discharges

The Draft Preliminary Design Report was submitted to the DEP on August 31, 2001. A presentation was made at the full Community Board Meeting No. 13 meeting that was held on September 24, 2001 to discuss the project with the community.

Hazen and Sawyer is currently investigating the construction technique of horizontal directional drilling (HDD). HDD can be used, instead of the conventional cut and cover technique to install the proposed force main and, if feasible, a gravity sewer from Meadowmere to the Warnerville Pumping Station.

Work on obtaining information in support of an EAS, has continued. Data collection for the EAS includes wetlands, traffic, archaeology, and Phase I Environmental Site Assessment. The geotechnical subcontractor completed the 26 borings.

Meetings

Principal meetings held during this report period were as follows:

- Project Progress Meetings with NYCDEP on July 17 and September 18, 2001.

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 2 Pumping Stations, Sewer Collection System, and Force Mains	
Construction Cost:	Pilot HRPCT - $100,000 Destratification - $100,000	$12.2 million	To be determined
Status:	HRPCT Pilot completed Destratification has been shutdown for the winter	Draft Preliminary Design Complete	Preliminary Design Underway
Other Issues:		ULURP for site and site acquisition for pumping stations	In-line storage was found to be infeasible due to analysis of flooding complaints

J.) Citywide Floatables

Work continued on tasks being performed for the development of the Comprehensive City-Wide Floatables Control Abatement Plan. During the period July through September 2001, progress continued on tasks related to comprehensive plan development, public outreach, best management practices (BMPs) analysis, wet weather capacity analysis, CSO modeling, floatables loadings, and catch basin and CSO abatement demonstration projects.

Comprehensive Plan Development

Work continued on the development of comprehensive plans for the North River WPCP, Red Hook WPCP, and Hunts Point WPCP drainage areas. Development of a draft pilot comprehensive plan for floatables and settleable solids control for the Bowery Bay WPCP drainage area was completed. The technical memorandum "Comprehensive CSO Floatables and Settleable Solids Abatement Plan for the Bowery Bay WPCP Drainage Area" will be reviewed by NYCDEP and comments received will be incorporated into the final report.

The water quality impairment issues that require abatement vary with the different WPCP service areas. Impacts under investigation include odors and floatables, and may include sediment build-up. Use-impairments associated with potential beach closures due to elevated coliform concentrations are also being analyzed. The plans under development address CSO abatement activities to these issues under the demonstration approach. In addition, the planning efforts are evaluating costs to achieve the presumptive approach as well as to achieve virtually complete elimination of CSOs.

In addition, technologies available for widespread application of best management practices (BMPs) are being evaluated in the plan. Technologies being evaluated include public education, adopt-a-street programs, infiltration of stormwater and in-sewer CSO controls such as baffles and bending weirs. Use of these controls could provide area-wide CSO pollution reduction for the water bodies of concern.

A CSO Workshop was held at the Red Hook WPCP Training Room on July 20, with 41 people in attendance. The main purpose of the workshop was to confirm the direction of the NYCDEP CSO program and to discuss changes in the program where they may be appropriate. The format for the Workshop consisted of a presentation on each of the NYCDEP CSO Program projects by the consulting engineers who are responsible for the planning or design of these projects. A summary of the workshop was prepared, comments were incorporated into it, and a final summary of findings was prepared. A draft agenda was prepared for a second CSO Workshop, being planned for mid December or early January 2002.

CSO Modeling and Floatables Loadings

During this period, a detailed hydraulic analysis was performed using the XP-SWMM model to assess the feasibility of the proposed storage and treatment control plan to minimize

overflows to Flushing Bay. The model of the Bowery Bay High Level Interceptor was calibrated using selected precipitation events from the 30-year historical data at LaGuardia Airport. Actual plant flow data observed during a selected set of wet weather events in the 1979-99 period were used to validate the model. A sensitivity analysis was conducted with wet weather events and projected dry weather flows to determine the maximum conveyance capacity of the High Level Interceptor. Proposed conveyance of captured overflow from two Flushing Bay outfalls to a wet weather storage and treatment facility was tested with the model to assess its feasibility.

Work was conducted during this period to evaluate the change in floatables entering New York Harbor associated with public education campaign concepts. In addition, analyses were conducted to estimate how source controls and structural controls being evaluated for the Bowery Bay WPCP drainage area would reduce CSO floatables.

Public Outreach

The Public Outreach subtask is nearing completion as Audits and Surveys Worldwide, Inc. (ASW) completed work on a public-relations strategy that would most effectively increase public awareness of the problem and ultimately reduce littering. ASW presented a summary of their results to the NYCDEP on July 5, 2001. Work was conducted during this period to evaluate the change in floatables entering New York Harbor associated with the ASW public education concepts. This information will be included in the final summary report, to be completed in the fourth quarter of 2001, which will also include an analysis of an effective media campaign aimed at key target groups.

Settleable Toxics

The sampling program to obtain representative samples of combined sewage for analysis of toxics and metals under the Containment Assessment and Reduction Program (CARP) continued during this period. Additional field investigations were conducted to identify sampling locations at the remaining WPCPs to be sampled. During the third quarter of 2001, sampling crews completed sampling of combined sewage at the Hunts Point, Red Hook and Jamaica WPCPs, and the Manhattan Grit Chamber of the Wards Island WPCP. Following each event, samples were delivered to the NYSDEC Regional Office at 4740 21st Street, Long Island City, for sample preparation for the analysis of target analytes. To date, eleven WPCPs, Hunts Point, Red Hook, Jamaica, North River, 26th Ward, Owls Head, Coney Island, Port Richmond, Newtown Creek, at both the influent channel and the Manhattan Pump Station, Bowery Bay, at both the High Level and Low Level channel, and the Manhattan Grit Chamber of the Wards Island WPCP, have been successfully sampled. The sampling program is expected to be completed during the fourth quarter of 2001.

Catch Basin Cleaning Demonstration Project

The objective of the catch basin demonstration project is to estimate grit and litter accumulation rates in catch basins, evaluate the impact of grit and litter accumulation on hood

performance and determine optimum cleaning intervals based on floatables retention efficiency. This is being done to address concerns that the hooding of catch basins may increase the need and frequency for catch basin cleaning. Grit and litter accumulation rates are being developed from inspections of approximately 4000 catch basins distributed across different land use classes. Catch basin flooding evaluations (frequency and cause) were also made through information gathered from NYCDEP's maintenance yards.

A full-scale pilot catch basin system was used to assess the impact of grit and litter on hood efficiency. This system was constructed at the Tallman Island WPCP. Testing was initiated in January 2001, and was completed in late May. Data analysis indicate that hood efficiencies generally ranged between 67% to 100% over a flow range from 75 to 600 gpm and trash volumes of 3.5 to 28 cubic feet. Results also indicated that at flows of 1100 to 1350 gpm, efficiencies dropped to a range of 50% to 70%. A technical memorandum presenting the results and analyses of the Catch Bain Cleaning Demonstration Project is being prepared.

In-Stream Controls

The NYCDEP is investigating the purchase of inter-pier skimmer vessels, which will be completely self-contained, self-powered, and capable of operating on New York City inter-pier waterways. It was decided that two Requests for proposal (RFP) for the purchase of inter-pier marine skimming vessels would be prepared. The first RFP will focus on the conceptual/preliminary design of the vessel, including proof of concept via scale model testing. The second RFP will cover the construction of full-scale skimmer vessels based on the selected design from the first RFP. Preparation of the first RFP was initiated. Three skimmer boat manufacturers were contacted to provide an estimate of the cost to design the type of skimmer boat needed. NYCDEP will be providing funding for up to three manufacturers to develop a design and conduct laboratory tests on a scale model. Two other skimmer boat manufacturers were contacted regarding their interest and capabilities. References were also contacted regarding manufacturer's existing production vessels.

An offshoot of the skimmer boat task was the evaluation of an existing skimmer vessel for removing floatable material from the head end of Sheepshead Bay. A low footbridge at the head end limits access to this area. Vertical and horizontal clearances of the footbridge were measured. It was determined that the smallest UMI vessel could access under the bridge during a short period in the tidal cycle. The vessel could then be kept in Sheepshead Bay, and removed only to unload the collected floatable material.

Wet Weather Capacity Analysis and Generic Wet Weather Operations Plan

As part of the effort to maximize wet weather flows to the City's WPCPs, an evaluation of wet weather capacity of each plant servicing a combined collection system was initiated during the third quarter of 2000. This is being done to define the maximum flows that can be handled by the plant's headworks and primary and secondary treatment processes and the bypass channels. A generic wet weather operating plan will also be prepared to establish an operating

strategy for maximizing wet weather capacity.

During the third quarter of 2001, treatment plant design drawings and other process specifications were assembled so plant wet weather capacity can be estimated. Performance data for fiscal year 2000 was evaluated for six WPCPs. In addition, monthly and weekly averages of parameters reported in the current SPDES permits were reviewed. A site visit to the Bowery Bay WPCP was conducted on September 5 to tour the plant and interview the plant supervisor. A brief presentation and meeting with DEP is planned for October 4, 2001 to review work completed for the Bowery Bay WPCP and to review project scope and goals. A follow-up meeting is planned for late October or early November.

Cryders Lane Outfall Diversion Channel Project

Design

On July 19, the Law Department approved the Construction Contract Documents for the Cryders Lane Outfall Diversion Channel Project. The advertisement for the construction project was placed in The City Record on July 30. In response to questions from prospective bidders, Addendum #1 to the construction documents was prepared. The pre-bid conference and site tour was held on August 14, and the bid opening was held in the NYCDEP Bid Room on September 6. Eight contractors bid on the job, in which Spearin Preston and Burrows was the lowest bidder with a lump sum bid of $2,184,000. A pre-award meeting took place on September 20, where a preliminary construction plan was discussed.

Environmental Review

The Army Corp of Engineers (USACE) public notice period for the project ran from July 4 to August 1, 2001. No significant comments were received from the public regarding the proposed action. The only substantive comment was from the National Marine Fisheries Services (NMFS) which required the development of a conceptual mitigation plan. This plan was submitted to USACE.

The New York State Department of Environmental Conservation (NYSDEC) public notice period for the project commenced mid August with the publication of the project in the Environmental Notice Bulletin (ENB). The public comment period was extended to September 14. A legal notice on the project was published in the New York Daily News on August 17. No comments were received in response to the NYSDEC public notice, and a permit for the project was issued on September 18, 2001.

A meeting was held with the NYCDEP and the Queens Borough President on July 9 to discuss the status of the proposed facility and the anticipated schedules. Also on July 9, the NYCDEP-OEPA issued a Negative Declaration for the Environmental Assessment Statement. NYCDEP attended a meeting with the Queens Borough President on September 20 to present a brief overview of permitting activities.

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 23 waterbodies throughout New York Harbor. The waterbodies include major open water areas of New York Harbor and selected urban tributaries. The USA Project started on August 5, 1999 and is scheduled for completion on August 5, 2003. The following is a brief description of USA Project activities for the period of July 1 to September 30, 2001.

- **Waterbody/Watershed Assessments**

The USA Project is conducting focused assessments on each of the 23 waterbodies that are organized into four groups. These 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

Assessments are anticipated to be 18 to 24 months in duration. Work begun in autumn 1999 on two "pilot assessments" is continuing for the Bronx River and Paerdegat Basin. These two assessments are referenced now as Group 1. Work is now ongoing on the Group 2 waterbodies, which are Jamaica Bay, Mill and East Mill Basins, Fresh Creek, and Shellbank, Bergen and Thurston Basins, and Group 3 waterbodies, which are the East River, Alley Creek, the Hutchinson River, Westchester Creek, Flushing Creek and Bay, Newtown Creek, and Gowanus Canal. Assessment work is scheduled to start in winter 2002 on Group 4 waterbodies, which 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.

Work is proceeding on the two pilot assessments of Paerdegat Basin and the Bronx River. Particular focus has been made during this reporting period on preparing a preliminary waterbody/watershed plan for Paerdegat Basin, which is near completion and is being prepared

for discussion with the New York State Department of Environmental Conservation (DEC). Work is proceeding on the Bronx River assessment as lessons are learned with Paerdegat Basin planning. General work is also proceeding on a variety of tasks for all waterbodies.

Waterbody/Watershed Stakeholder Team Activities

Local Waterbody/Watershed Stakeholder Teams are being formed for each waterbody being assessed by the USA Project as an integral part of the assessment process as well as an important component of the project's public outreach program. The composition of the stakeholder teams includes community leaders, local residents, and waterbody users. The teams are providing information on waterbody and watershed uses, water quality issues, and long-term intentions and desires for the waterbody.

Stakeholder teams have been formed for the Bronx River and Paerdegat Basins waterbody/watershed assessments. The Bronx River Stakeholder Team and the Paerdegat Basin Stakeholder Team have both had several meetings. Meeting notes are recorded and distributed to participants. A glossary of engineering terms and acronyms has been distributed to the Paerdegat Basin and Bronx River stakeholder teams for supporting technical and regulatory discussions. The glossary will be expanded as discussions continue and new terms are identified for inclusion.

A discussion was held with the Paerdegat Basin Stakeholder Team on the findings of field investigations and engineering analyses being conducted by the USA Project. The Team was briefed on use attainability projections for their consideration.

Activities are continuing for convening stakeholder teams for the Group 2 waterbodies. Some of the waterbodies are being aggregated to accommodate similar watersheds, common community characteristics, common waterbody uses, and waterbody proximity. One stakeholder team will represent Mill and East Mill Basin. Fresh, Hendrix and Spring Creeks will have one team. Shellbank Basin will have its own team. Bergen and Thurston Basins are being combined into one team. Finally, a Jamaica Bay Stakeholder Team will be convened. Initial presentations have been made to local Community Boards and several community groups to solicit their involvement and their recommendations for team members. The teams will be convened in early 2002.

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 being 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.

Biological FSAPs were completed for the Bronx River, Paerdegat Basin, as well as the Group 2 (Jamaica Bay) and Group 3 (East River) waterbodies. Data collected during these FSAPs are being added to the USA Project's comprehensive, relational database and geographical information system (GIS).

A Harbor-Wide Ichthyoplankton FSAP and a Harbor-Wide Epibenthic Recruitment and Survival FSAP are completed. The Ichthyoplankton FSAP was conducted to investigate spawning throughout New York Harbor and its tributaries. The Epibenthic FSAP was conducted to characterize benthic invertebrate recruitment and community composition, species richness, and diversity throughout New York Harbor and its tributaries. Reference stations for these sampling programs were located in Manhasset Bay and Hewlett Bay on the north and south shores of Long Island, respectively.

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.

Data collected during the Paerdegat Basin, Bronx River, Jamaica Bay (Group 2), and East River (Group 3) FSAPs are currently being entered into the database. The Paerdegat Basin FSAP data includes water quality and biological data collected in Paerdegat Basin, Fresh Creek, Hendrix Creek, and Jamaica Bay. The Bronx River FSAP data includes water quality and biological data collected in the fresh and saline reaches of the Bronx River in New York City, Westchester Creek, and the Hutchinson River within New York City. Data collected during the harbor-wide epibenthic and ichthyoplankton FSAPs are also being entered into the database at this time.

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.

The land use analysis includes written characterization summaries of existing and proposed land uses, zoning districts, neighborhood and community character and consistency with the City-Wide Comprehensive Waterfront Revitalization Plan and Borough-specific waterfront plans within the watershed and in areas immediately adjacent to the assessed waterbodies. The analysis also includes integration with GIS and production of maps for: existing land uses, zoning, existing public access and open resource areas, proposed land uses, waterfront revitalization areas (Special Natural Waterfront Area and Significant Maritime and Industrial Area) and proposed public park and recreational uses. All of the GIS maps will be generalized and are not intended to be detailed land use or resources maps, but are intended to provide an overview of the land uses or resources adjacent to the waterbodies.

Shoreline characterizations are a generalized evaluation of the primary physical and biological characteristics of the shorelines adjacent to assessed waterbodies. Physical characterizations are yielding information on the physical condition, slope, substrata, and shoreline uses relating to the assessed waterbody. Biological characterizations are evaluating wetland habitats immediately adjacent to waterbodies and characterize tidal/estuarine and fresh

water systems. Shoreline characterizations are also being integrated with GIS with production of several shoreline characterization maps.

Land use and shoreline characterizations are being conducted on all USA Project waterbodies and watersheds at this time. Particular focus has been made on Paerdegat Basin and Jamaica Bay in support of Paerdegat Basin waterbody/watershed planning.

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. Field investigations, unless performed on a continuous if not daily basis, do not provide all the necessary information for determining compliance with water quality standards. A variety of watershed and receiving water mathematical models are therefore being used to assess water quality conditions and waterbody/watershed uses. Mathematical models provide a means to compare existing and projected water quality conditions to current and potential water quality criteria. Algorithms have been developed for interpreting model calculations for comparisons to existing water quality standards, new dissolved oxygen criteria developed by EPA, and proposed dissolved oxygen criteria being considered by the New York State Department of Environmental Conservation (DEC). Comparisons are being made to existing and upgraded-use criteria.

Watershed modeling is being performed using existing Storm Water Management Models (SWMM) and simplified rainfall-runoff models to calculate watershed impacts on receiving waters. DEP has used existing models with various levels of complexity in its Track I and II CSO facility planning projects. The USA Project is using these models to provide short- and long-term pollutant loading information for receiving water modeling. Watershed models are being modified and updated with the latest information on CSO and stormwater abatement programs and water conservation efforts being implemented by DEP as well as current modes of operation at the City's 13 combined sewer wastewater pollution control plants (WPCPs). These WWTPs are maximizing wet weather flow in conformance with EPA's CSO Nine Minimum Controls and Long-Term Control policies. Ongoing analyses of WPCP flow data have indicated increases in wet weather treatment and decreases in dry weather flows. Further interpretation of these data indicates that CSO discharges have been reduced which is particularly important as the USA Project is updating existing receiving water models for waterbody assessments.

The USA Project is currently updating, upgrading and utilizing models representing Paerdegat Basin, the Bronx River, Jamaica Bay, and several tributaries, for conducting its assessments. The Paerdegat Basin model has used to calculate water quality conditions for an annual-average period selected from available rainfall statistics of over fifty years. Statistical and return-period analyses were performed to select the annual-average year. This simulation period will be used for all waterbody modeling.

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.

Engineering Analyses

Evaluations of CSO abatement alternatives were begun during this reporting period in support of waterbody/watershed planning for Paerdegat Basin. The Paerdegat Basin CSO Facility Plan is being implemented by DEP with the ongoing construction of the Paerdegat Basin CSO Storage Facility. Paerdegat Basin water quality will greatly improve once the facility is constructed but conditions may not meet existing and potential use designations and water quality standards. The analysis is identifying control alternatives that would be implemented in addition to the Paerdegat Basin CSO Facility Plan such that water quality goals are met. Alternatives such as additional floatables controls and disinfection (chlorination/dechlorination and ultraviolet) were evaluated this period. Costs, constructability, implementation schedule, environmental impact, and other associated issues are being developed with conceptual planning of these alternatives.

Waterbody/Watershed Planning

Planning efforts have been particularly focused on Paerdegat Basin during this reporting period. Regulatory review, data analysis/evaluation, mathematical modeling, and engineering analysis components of the USA Project have provided information for a draft Paerdegat Basin Preliminary Waterbody/Watershed Plan. A review was conducted of existing and potential waterbody classifications and criteria for Paerdegat Basin while preparing the plan. The review included evaluations of current and draft state and federal guidance on dissolved oxygen and pathogens. Preliminary recommendations for Paerdegat Basin classification and criteria are included in the 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. No meetings of the Steering Committee itself were held during this reporting period. The next meeting is scheduled for October 12, 2001.

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, and the Bronx River.

New York State Waterbody Inventory/Priority Waterbody List

The USA Project has been assisting the DEC in their efforts to update New York State's Waterbody Inventory and Priority Waterbody List. During this reporting period the USA Project is reviewing revised waterbody worksheets for New York Harbor waterbodies using the broad base of information gathered, collected, and compiled for the project.

- **Project Documentation, Reports and Publications**

Preliminary Waterbody/Watershed Characterizations

Preliminary waterbody/watershed characterization documents are being developed for each waterbody being assessed by the USA Project. Documents are being developed for each of the Group 2 and 3 waterbodies. These preliminary characterization documents are being used as a baseline for developing more comprehensive documents for each waterbody/watershed as their assessments proceed and planning is begun.

Project Web Site

A project web site describing the objectives of the USA Project and the importance of public participation is being constructed. The web site will have specific areas focused on each of the waterbody/watershed assessments. Dissemination of local waterbody stakeholder teams documents such as meeting notes is facilitated. Information on other DEP activities effecting particular waterbodies will be provided. Federal and state regulations on designated uses and water quality standards will be described with links to governmental sites for additional information. An interactive mapping tool will provide spatial representations of USA Project and general DEP activities. During this reporting period the USA Project team has worked with DEP and the New York City Department of Information Technology and Telecommunications (DoITT), which administers the City's Internet operations, on constructing the project web site.

Reports

No reports have been issued for the USA Project.

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 shoreside 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 will be reactivated in the early Summer of 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 are planned for use at several Track 1 CSO abatement projects and could be involved in Track 2 CSO abatement projects (floatables and settleables control).

Meetings

A meeting was held on September 4, 2001 at the Department's offices in Queens to discuss who within the Department will be working with O'Brien & Gere during the first year of operation and testing phase.

Preliminary Examinations

Functional Testing of the installed inflatable dam equipment was completed in August for the Lafayette Avenue site. Utility connections (telephone and electric) to a remote ultrasonic level transmitter (ULT) installation were completed in September. Functional testing of the installed inflatable dam equipment for Metcalf Avenue site will be scheduled for October. Start-up will be scheduled upon the testing of the equipment satisfactory to both the Engineer and the Department. Another Operations meeting between the Department and O'Brien & Gere will be scheduled for October.

C. High Rate Physical Chemical Treatment

A preliminary design of a HRPCT demonstration facility at the 26th Ward WPCP is currently being developed. The demonstration facility is being downsized due to operational concerns of the impact the demo facility will have on plant performance during the planned upgrade. This concern is based on the quantity of ferric chloride that the demo facility will use and the recirculation of the ferric within the plant's liquid and sludge streams.

It is envisioned that the demo facility will consist of two HRPCT units running side-by-side, a Krueger Actiflo unit and an IDI Densadeg unit.

D. CSO Control Technologies

The evaluation of a hinged baffle system as retrofit CSO control technologies continued in this period. During this period, a hydraulic testing program for laboratory testing of hinged baffles was prepared. Evaluation of several facilities where the hinged baffle testing can be conducted was completed. A site visit to the City of Boston, Water and Sewer Commission and the Massachusetts Water Resources Authority has been planned for October. The purpose of the visit is to develop a more comprehensive understanding of their experience with the use of regulator baffles to control CSO floatables. The technical memorandum on the evaluation of CSO control technologies is being updated and reviewed. The memorandum includes discussions on the regulator screening process, control technologies evaluation, the engineering design results and the conclusions of the hydraulic analysis on the regulators and combined sewer analysis. The results of the evaluation and recommendations for pilot testing of the hinged baffle will be incorporated into the draft technical memorandum.

V. Contracts

New Contracts

- No new contracts were reported this quarter.

Change Orders

Comprehensive CSO Plan

A final draft Change Order X-5 to the Comprehensive City-Wide Floatables Control Abatement Plan was submitted to NYCDEP on September 6, 2001. The scope of work includes additional funding to evaluate capacity and operation and maintenance (CMOM) 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.

East River Combined Sewer Overflow (CSO) Project

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

Change Order X-11 to East River Contract II was registered in early October 2001. The scope of work for this change order includes additional work involving: facilities planning, public participation, subsurface investigations, surveying, ULURP Applications and reviews, and environmental reviews (CEQR/SEQR activities) for the four (4) East River CSO Projects (Alley Creek, Bronx River, Hutchinson River and Westchester Creek). The ULURP and environmental review activities required for the NYSDOT-sponsored Greenway Project as part of the Bronx River CSO Storage Conduit Project are also included in this change order.

VI. Public Participation

- **Public Outreach**

Citizens Advisory Committee on Water Quality

There was one Citizens Advisory Committee on Water Quality Meetings held during the third quarter period; the meeting was held on July 11, 2001. The agenda from the meeting is presented in Appendix B.

Local Waterbody Stakeholder Teams

Stakeholder involvement has been identified as a critical component of the USA Project. Local waterbody stakeholder teams will be convened for each waterbody assessment. The USA Project is forming local waterbody stakeholder teams for the Bronx River and Paerdegat Basin.

Invitations were extended to Bronx Community Boards 2, 3, 6, 9, 11, and 12 for forming the Bronx River Stakeholder Team. An invitation was also extended to a non-governmental group, the Bronx River Working Group. These efforts have resulted in identifying more than twenty citizens for participation in the Bronx River Stakeholder Team.

Efforts have continued for forming the Paerdegat Basin Stakeholder Team. Several members of Brooklyn Community Board 18 have volunteered for participation on the Paerdegat Basin Stakeholder Team.

Internet Project Site

The USA Project includes provisions for developing an Internet project site for dissemination of project information to the public. Development of the web site is currently underway under guidelines established by the City of New York. The web site includes general information on the USA Project, information specific to each waterbody being assessed including maps and pictures, stakeholder team meeting schedules and documents, relevant regulations, links to related web resources, documents for public release, interactive mapping, and officially released data collected by the DEP Harbor Survey.

- **Project Documentation, Reports and Publications**

Waterbody Fact Sheets

Fact sheets have been developed for each waterbody being assessed by the USA Project. These fact sheets include a map showing the waterbody and watershed with combined sewer, storm sewer, and overland runoff components. Locations of CSO and wastewater treatment plant discharges are also provided on the maps. The fact sheets provide tabulated information such as adjacent boroughs and community boards, water use classification, compliance with water quality standards, shoreline characterizations, waterbody improvement initiatives, and projected water quality improvements for the waterbody. These fact sheets have been distributed to the Harbor-Wide Government Steering Committee and are being incorporated into the Internet project site.

Preliminary Waterbody Characterizations

Preliminary waterbody characterization documents are being developed for each waterbody being assessed by the USA Project. These documents build on the brief information compiled for the waterbody fact sheets. Preliminary characterization documents were finalized for the Bronx River, Paerdegat Basin, and Jamaica Bay. These documents were distributed to the Harbor-Wide Steering Committee. Documents are being developed for the entire Group I waterbodies. These preliminary characterization documents are being used as a baseline for developing more comprehensive documents for each waterbody as their assessments proceed and planning is begun.

Project Brochure

A USA project brochure is being developed for public use. This brochure will be distributed to stakeholder teams and during DEP public outreach activities. At the time of this report, the brochure has been approved by the DEP and is being prepared by a professional printer.

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 JULY 2001 - SEPTEMBER 2001

October 2001

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GLOSSARY OF ACRONYMS USED IN THIS REPORT

BNR	Biological Nutrient Removal
CAC	Citizens' Advisory Committee
CB-01	Capital Program for replacement of collapsed catch basins
CP	Capital Program (NYC)
CSO	Combined (Sanitary and Stormwater) Sewer Overflow
DEC	Department of Environmental Conservation (NYS)
DEP	Department of Environmental Protection (NYC)
DWF	Dry-Weather Flow
DDWF	Design Dry-Weather Flow
DOS	Department of Sanitation (NYC)
DOT	Department of Transportation (NYC)
HI-3	Capital Program for hooding of catch basins in Phase III areas
HI-S	Capital Program for hooding of catch basins in high-speed roadways
HSV	Harbor Survey Vessel
IFCP	Interim Floatables Containment Program
MOO	Mayor's Office of Operations (NYC)
NYC	New York City
NYS	New York State
OMB	Office of Management and Budget (NYC)
SLR	Scorecard Litter Rating
PS	Pumping Station
USA	Use and Standard Attainment
WPCP	Water Pollution Control Plant
XP-SWMM	Storm Water Management Model, (proprietary version)

OVERVIEW OF PLAN ELEMENTS

REPORTING PERIOD: JANUARY 2001 THROUGH MARCH 2001

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	Yes
2. Catch Basin Hooding in Phase III Areas	No
3. City-Wide Reconstruction of Unhoodable Catch Basins	No
4. City-Wide Catch Basin Re-Inspection Program	Yes
5. Illegal Disposal Control	No
6. Public Education Program	*
7. Pilot Studies and Demonstration Projects	*

* -Please refer to Section 2 of the CSO Quarterly Report.

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, had been instituted specifically for floatables control. This section summarizes the status of these ongoing activities. Chapters 2 through 7 address other activities that were instituted after the June 1997 City-Wide CSO Floatables Plan.

a) Maintain Street Cleanliness

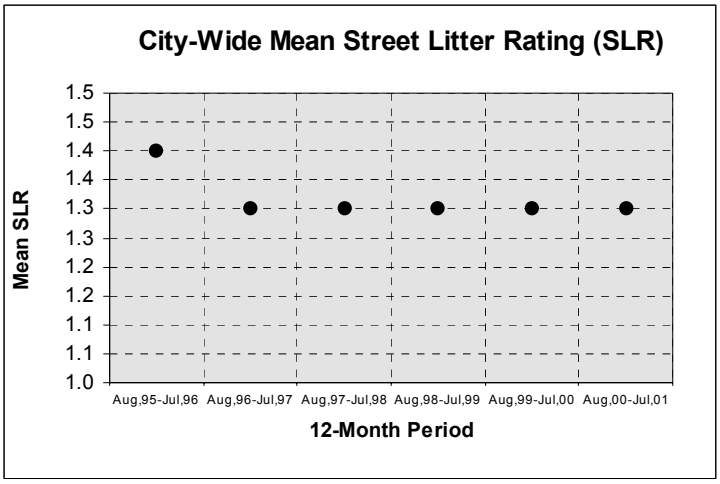
Previous studies have indicated that most floatable litter in New York Harbor can be traced to city streets (HydroQual, 1993). Although many factors can affect the amount of litter on city streets at any given time, the City of New York attempts to control litter levels through a street-sweeping program 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.

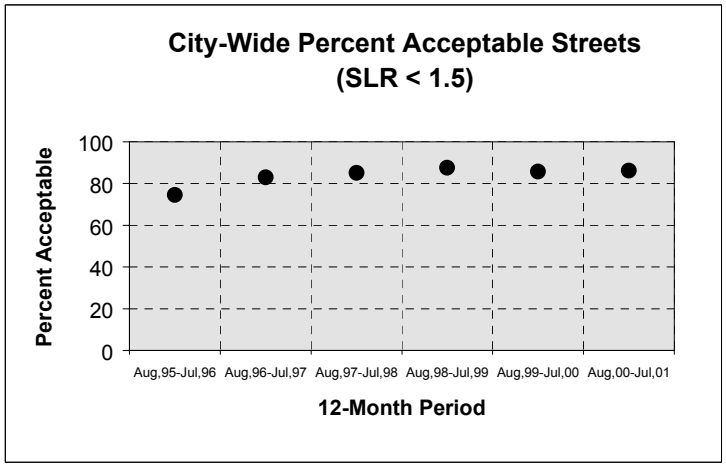
According to the Mayor's Office of Operations, city-wide street litter levels have improved substantially over the past six years. Scorecard Program results for the past six 12-month periods are summarized in the following table and on Figure 1. These results show that street cleanliness has been maintained at or better than 1995 levels. Note that due to the events of September 11, 2001, the most recent data available were through July 2001. As a result, the 12-month period of August through July was selected for comparison.

City-Wide Street Cleanliness, 1995 - 2001

Measure of Street Cleanliness	Results of Scorecard Litter Ratings (SLR)					
	8/95-7/96	8/96-7/97	8/97-7/98	8/98-7/99	8/99-7/00	8/00-7/01
Mean SLR[(1)]	1.40	1.30	1.30	1.30	1.30	1.30
% Acceptable[(2)]	74.6	82.9	85.1	87.6	85.7	86.2
% Filthy[(3)]	5.5	2.4	1.6	1.1	1.4	1.4

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.





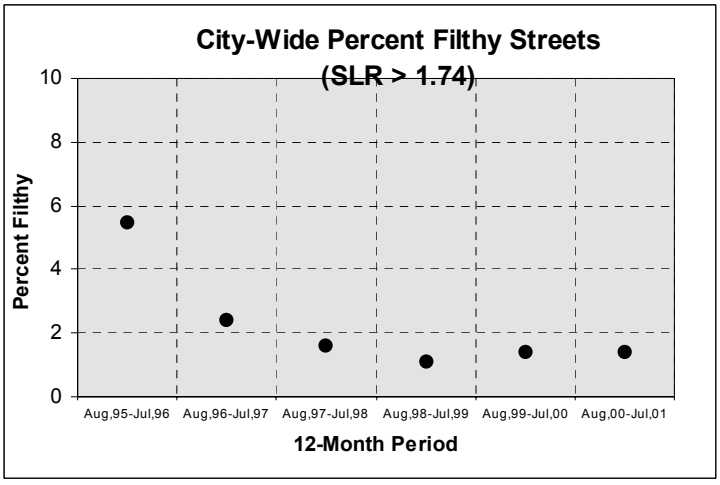


Figure 1. Street Cleanliness

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 September 30, 2001, the IFCP included 19 boomed sites and 4 netted sites draining a total of approximately 58,600 acres. As shown in the table below and on Figure 2, the total volume of floatable material retrieved annually from these sites has varied between about 500 and 2,000 cubic yards. These retrievals are affected by many factors, including the number and efficiency of IFCP sites, street cleanliness, catch basin hooding, and weather. These factors will be analyzed to determine whether the overall decline in retrievals may be attributed to increased catch basin hooding in upland areas.

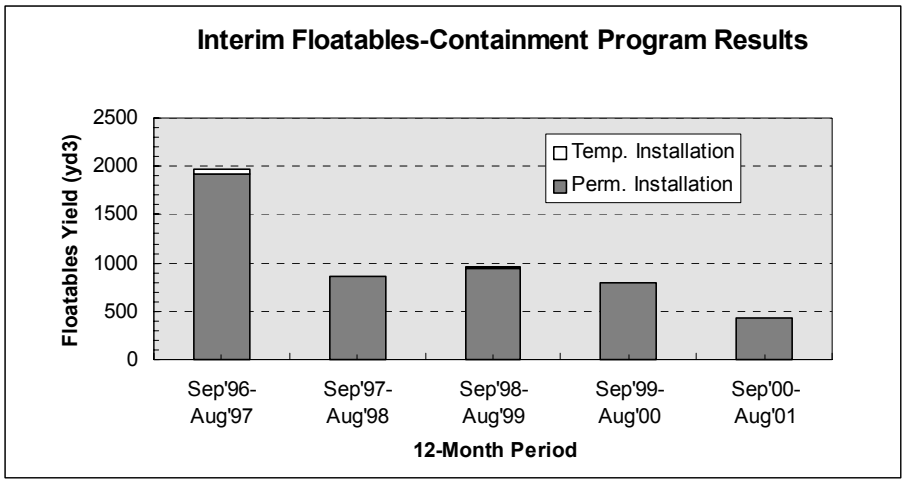


Figure 2. Floatable Material Retrieved from IFCP

As shown on Figure 2 and in the table below, the most recent 12-month period experienced lower yields than in previous years. Overall, a number of sites have yielded lower-than-expected volumes of floatables. An investigation into the reasons for these low yields will be conducted through further data analyses, design review, and possible dry and wet weather inspections.

Interim Floatables Containment Program Results, 1996[1] - 2001

	9/96-8/97	9/97-8/98	9/98-8/99	9/99-8/00	9/00-8/01
No. Sites[2]					
Permanent	21	22	22	22	21
Temporary	1	1	1	1	2
Total	22	23	23	23	23
Volume [cy][3]					
Permanent	1,925	869	952	793	425
Temporary	53	0	1	0	0
Total	1,978	869	953	793	425

Notes:
[1] Volume measurements began 7/95.
[2] Maximum number of sites operating during period.
[3] Total volume of floatables retrieved from sites during period.
[4] "Temporary-status" sites feature lower-quality equipment than "Permanent-status" sites.

In addition to the IFCP netting and booming sites, there are two additional sites from which DEP has recently agreed to collect material on an as-needed basis. These sites are located at Buttermilk Channel (at the intake to the Gowanus Canal flushing tunnel) and near Bowery Bay at the Ogden Fuel Services site. Both sites are boomed. From June through August 2001, 54.5 cubic yards of material was collected from the Buttermilk channel site (including material collected by the Transportation Section). Nothing was observed at the Ogden Fuel services site.

DEP also conducts retrievals of large floating debris using the *Cormorant* skimmer vessel throughout New York Harbor. During June through August, the *Cormorant* retrieved a total of approximately 69 tons of floating debris, including roughly 6 tons of trash. Most of the remaining 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 2 of the CSO Quarterly Report.

e) Maximizing Wet-Weather Flow to WPCPs

On behalf of NYCDEP, HydroQual, Inc. is continuing to evaluate the wet-weather capacity of the city's WPCPs, including the headworks; primary tanks; aeration tanks; final settling tanks; and chlorination tanks. HydroQual developed information packages for each plant, including pump capacity; volume of primary, aeration, and final tanks; overflow rates of the settling tanks; and chlorination contact time.

Plant performance data for fiscal year 2000 have been obtained from each treatment plant and are being reviewed. Bowery Bay, North River, Red Hook, Hunts Point, Owls Head, and Tallman Island WPCPs are the first set of WPCPs that are being evaluated. The performance data under review include flow, BOD5, suspended solid, nutrient, fecal coliform, chlorine residual, overflow rates, etc. Within the fiscal year 2000, the top 10 storm months are the main focus. In addition, monthly and weekly averages of parameters reported in the current SPDES permits are being reviewed to understand the impact of wet weather flows to the plant performance.

In this Quarter, HydroQual also started to review the as-built drawing for Bowery Bay and Tallman Island WPCPs. The drawings are used to determine the size, shape, and configuration of major units and bypass lines in the plants. The drawings for the Bowery Bay WPCP did not have enough information to determine the bypass capacity. Collection of more detailed information, such as secondary bypass flow rates and bypass pipe length and slope, is planned during a site vist.

HydroQual visited Bowery Bay WPCP on September 5 to tour the plant and conduct an interview with Mr. Robert Bruce, the plant supervisor. During the site visit, the plant layout, its operation, specifically on how the bypass is activated during wet-weather events, and clarification of operating data for FY2000 were discussed. Information gathered from the site visit was incorporated into the overall analysis of wet-weather capacity of the plant.

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 is proceeding with catch basin inventory and hood replacement operations in Phase III areas. According to data available through September 30, 2001, a total of 40,773 structures have been found in Phase III areas, 35 percent more structures than DEP had previously estimated in these areas. Of these structures, about 73 percent are basins (that is, structures connected directly to the sewer) and about 14 percent are hoodable inlets (structures not connected directly to sewer and having a sump depth of greater than 27 inches). The remaining 13 percent of structures are inlets with sump depths of less than 27 inches, which DEP does not consider candidates for hoods.

Figure 3 summarizes the hooding program in Phase III areas as of September 30, 2001. About 13 percent of all Phase III structures are not candidates for hooding, about 54 percent structures were found hooded, 23 percent have been installed with hoods as part of this program, and the remaining10 percent of structures are still missing hoods.

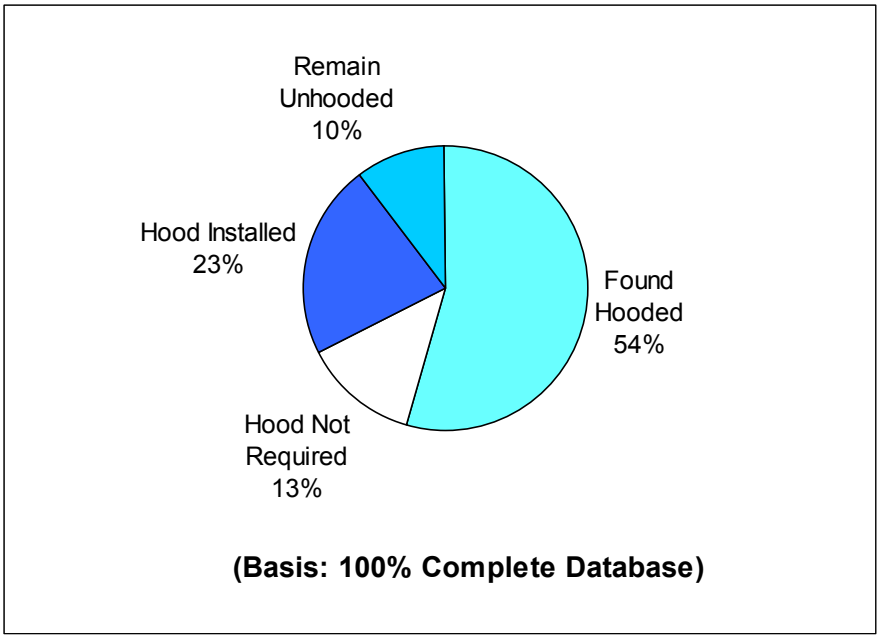


Figure 3. Status of DEP Hooding Program (Phase III)

3. City-Wide Reconstruction of Unhoodable Catch Basins

The ongoing catch basin hooding program continues to identify basins that cannot be hooded due to physical conditions requiring extensive repairs or reconstruction for hooding. DEP is reviewing the various conditions that preclude normal hooding and is assessing how many basins can be "retrofitted" with modified hood designs. Retrofitting is desirable because it can be done more quickly and cost-effectively than reconstructing the basins. DEP has developed prototype versions of modified hoods to be used in situations where a normal hood cannot be used because:

1) the exit pipe is too close to the top of the basin (15 percent of unhoodable basins),

2) the back wall of the basin is too deteriorated to support hood hanger hooks (15 percent of unhoodable basins),

3) steel plates above the exit pipe preclude hanging a normal hood (1 percent of unhoodable basins), and

4) the exit pipe is located in a corner of the basin (3 percent of unhoodable basins).

DEP has initiated a pilot program to evaluate whether the modified hood designs provide adequate performance over a reasonable time period. From March through June, 2000 and as part of this pilot program, 48 of 60 catch basins in the Queens 10 community district, which had been previously defined as requiring reconstruction for hooding, have been fitted with conventional or modified hoods. The other 12 basins have been identified for structural repair or catch basin replacement.

In addition to investigating modified hoods in lieu of basin reconstruction, Capital Program CB-01 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 the Spring of 2002.

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 follow:

Reinspection Round	Phase	Completion
1	1	December 1999
1	2	September 2000
2	1	January 2002[(1)]

[(1)] Anticipated

According to DEP, all missing hoods were replaced within 90 days of the inspection, as per the Consent Order.

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 (as shown below). This equates to an annual hood-dislodge rate of about 1.6 percent.

Status of Catch Basin Re-Inspection For Hoods[1] – Phase I

Community Board	Number of Basins(2)	Total Hoods Replaced	Rehooding Percentage(3)
BX01	772	75	9.7%
BX02	595	3	0.5%
BX03	536	46	8.6%
BX04	774	1	0.1%
BX05	590	38	6.4%
BX07	682	48	7.0%
BX09	1,612	23	1.4%
KG04	574	23	4.0%
KG06	1,040	6	0.6%
KG07	887	93	10.5%
KG10	1036	25	2.4%
KG12	1,515	27	1.8%
KG18	2,760	65	2.4%
MN01	621	3	0.5%
MN02	859	2	0.2%
MN03	679	6	0.9%
MN09	541	8	1.5%
MN10	472	20	4.2%
MN11	438	30	6.8%
MN12	824	31	3.8%
QN01	2,046	116	5.7%
QN02	2,032	90	4.4%
QN10	2,875	113	3.9%
QN14	2,168	44	2.0%
SI01	2,455	29	1.2%
Total	**29,383**	**965**	**3.3%**
	Annual Hood-Dislodge Rate		**1.6%**

[1] From information provided by NYCDEP, March 2, 2000
[2]Total number of basins that do not require extensive repairs for hooding
[3]Rehooding percentage over the 2-year re-inspection cycle.

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.

Data from 2001 has not yet been received from DEP's Marine Sciences Section. An update will be forthcoming in the next Quarterly Report.

6. Public Education

Please refer to Section 2 of the CSO Quarterly Report.

7. Pilot Studies and Demonstration Projects

Please refer to Section 2 of the CSO Quarterly Report.

APPENDIX B

CITIZEN ADVISORY COMMITTEE ON WATER QUALITY – AGENDA

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION

AGENDA

CITIZENS ADVISORY COMMITTEE ON **WATER QUALITY**

MEETING NO. 46
Wednesday, July 11, 2001
3:00 - 6:00 p.m.

Real Estate Board of New York
570 Lexington Avenue, New York City
Lower Level Classroom

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1. Opening Remarks	CAC co-chairs NYCDEP
2. Waterless Urinals	James Krug, Falcon Waterfree
3. Water Quality Work at the NY Academy of Sciences	Susan Boehme, New York Academy of Sciences
4. Update, Newtown Creek WPCP Consent Order	NYCDEP
5. Other Business	
6. Next Meeting	