

CLEARWATER Program

Wastewater Management for Future Generations

Residents Offer Guidance at Public Workshops

The Clearwater Program is an effort to develop a long-range comprehensive wastewater management plan for the Districts' Joint Outfall System (JOS) serving seventeen of the Districts. The JOS service area covers 73 cities and unincorporated territory within metropolitan Los Angeles County. The Program is seeking public input during the planning process to help prioritize objectives and evaluate alternatives.

Public workshops took place in early March in Carson, Wilmington, San Pedro, and Rancho Palos Verdes. Residents considered several important issues and gave guidance to engineers working on the Clearwater Program.

"We're trying to develop a plan that will meet the future needs of the community, and we're doing it by talking with the public about what they see as priorities," said Chuck Boehmke, who heads the Sanitation Districts' Planning Section.

EACH WORKSHOP FOLLOWED THE SAME PROCESS:

- A brief overview of the workshop process was provided.
- A short video of the Clearwater Program was shown, followed by a PowerPoint presentation of possible tunnel alignments and shaft sites (both available at www.ClearwaterProgram.org).

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www.ClearwaterProgram.org
(877) 300-WATER

The Clearwater newsletter is also available in Spanish.
To request a copy, please call (877) 300-WATER.

El boletín de Clearwater también está disponible en Español.
Para obtener una copia, por favor llame al (877) 300-9283.



The Clearwater Program's new Facilities Plan is focused on providing environmentally sound wastewater management that will meet the needs of a growing population and future generations.



Message From the Chief Engineer

Dear Friends,

I want to thank the hundreds of people who have taken part in the Clearwater Program's planning process so far.

All of us involved in the Clearwater Program - the Directors, planners, engineers, and consultants are grateful for your input. Community, neighborhood, and business leaders, environmentalists, public agencies, elected officials, and representatives of the news media have responded to our request and been generous with their advice and guidance.

The Clearwater Program Facilities Plan is unquestionably important. It is directly connected to maintaining the public health and safety of millions of people in Los Angeles County and to protecting the environment. We have been impressed by comments from residents who shared their concerns about their communities and the future. As with any large infrastructure project, there will be inconveniences during construction that we will try to minimize as much as possible in order to reach the long-term goals we all share.

There remains before us another year and a half of research, studies, and planning. We will continue throughout that time to keep you informed and encourage your involvement. Throughout this newsletter, you will see many different ways to keep up to date on the Clearwater Program and register your input. We want to hear what you have to say, and we are listening.

Sincerely,
Stephen R. Maguin
Chief Engineer and General Manager

*Please send us
your comments,
concerns, and ideas.*

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U.S. ARMY CORPS OF ENGINEERS IS CLEARWATER PROGRAM FEDERAL LEAD AGENCY

NOI/NOP RELEASED AND PUBLIC SCOPING MEETINGS SCHEDULED

The Sanitation Districts contacted the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers (Corps) as the potential candidates to be the lead agency in preparing the federal environmental documentation. After consultation with both agencies, they determined that under federal guidelines, the Corps would be the appropriate lead agency for the preparation of an Environmental Impact Statement (EIS). At the state level, the Sanitation Districts will be the designated lead agency and will complete an Environmental Impact Report (EIR).

The Clearwater Program will follow the dual track of both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) as the environmental impacts of the program and possible tunnel and ocean outfall are assessed. Projects which involve either a federal permit or federal financing must meet NEPA guidelines. The Clearwater Program will likely require federal permits from the Corps and will seek federal grants to reduce the local cost.

The basic purposes of NEPA and CEQA are to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and identify the ways to mitigate the environmental impacts. The lead agencies are required to analyze the environmental impacts of the project but also must look to the impacts of reasonable alternatives, including a "no project alternative".

Each process requires a public notice that a project is being considered – a Notice of Intent (NOI) under NEPA and a Notice of Preparation (NOP) under CEQA. The Sanitation Districts and the Corps released their NOP and NOI for public review the week of October 6-10. Both documents can be viewed on the Clearwater Program website (www.ClearwaterProgram.org). The Corps and the Sanitation Districts will be accepting comments on the NOI and NOP until November 14.

The Corps and the Sanitation Districts have scheduled a public scoping meeting for both the NOI and NOP:

- *Thursday, November 6, at 6:30 p.m.*
Crowne Plaza Los Angeles Harbor Hotel
601 S. Palos Verdes St.
San Pedro, CA

The Sanitation Districts have scheduled four additional public scoping meetings for the NOP:

- *Wednesday, October 29, at 6:30 p.m.*
Carson Community Center
801 East Carson St.
Carson, CA
- *Thursday, October 30, at 1:30 p.m. & 6:30 p.m.*
Sanitation Districts Joint Administration Office
1955 Workman Mill Rd.
Whittier, CA
- *Wednesday, November 5, at 6:30 p.m.*
Wilmington Senior Center
1371 Eubank Ave.
Wilmington, CA

These public scoping meetings provide an excellent opportunity to learn more about the Clearwater Program and to provide comments!



Public Input Received

- protect health and environment

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- A question and answer session ensued after which small discussion groups were formed.
- The discussion groups answered a series of questions about program objectives, screening criteria, water reuse, and the location of facilities, and then presented their findings at the conclusion of the workshop.

CLEARWATER PROGRAM OBJECTIVES RANKED

The Sanitation Districts looked for input from the public to prioritize the five major objectives of the Clearwater Program.

The five major objectives for the Clearwater Program (in unranked order) are:

- Protect Public Health and the Environment. Approximately 440 million gallons of wastewater enter the JOS on a daily basis.
- Increase Opportunities for the Reuse of Reclaimed Water. California's drought and the loss of water resources from Northern California and the Colorado River make reclaimed water an attractive source of "new water" for various uses.
- Replace Aging Infrastructure. The two tunnels now used to convey treated wastewater from the Joint Water Pollution Control Plant (JWPCP) in Carson to the ocean are over 50 and 70 years old and the four ocean outfalls range in age from 40 to 70 years.
- Ensure Adequate Capacity. As the JOS population grows, the Sanitation Districts need to provide adequate conveyance and treatment capacity for everyone.
- Accommodate Additional Dry Weather Urban Runoff. Urban runoff can pollute beaches and the ocean; the Sanitation Districts' treatment facilities role in the solution may expand significantly during dry weather.

Workshop participants unanimously decided that "protecting public health and the environment" should be the Clearwater Program's top concern. Increased water recycling and the replacement of aging infrastructure were both ranked second, ensuring adequate capacity for the region's growing population was next, followed by accommodating dry weather urban runoff.

SCREENING CRITERIA REVIEWED AND RANKED

Six criteria for evaluating project alternatives were considered:

- Public Health and Safety
- Environmental Protection (e.g., biological resources, air quality)
- Resource Conservation (e.g., energy, water)
- Operational Considerations (e.g., reliability, flexibility)
- Community Impact (e.g., traffic, land use, noise)
- Cost



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Workshops Unanimous

support increased reuse of reclaimed water

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Overall, workshop attendees rated public health and safety as their top concern, followed in order by environmental protection, resource conservation, operational considerations, community impact, and cost. Participants at the workshops in Wilmington and San Pedro added two additional criteria to the list: earthquake redundancy and community jobs.



San Jose Creek Water Reclamation Plant

RECLAMATION PLANT EXPANSIONS AND WATER REUSE CONSIDERED

Workshop participants discussed options for the management of increased wastewater volume due to the growing population and ranked their preferred types of reuse for reclaimed water. There was overall unanimity across all of the workshops on both issues. All strongly approved of the need to increase reuse, and all preferred expansion of the existing water reclamation plants, rather than adding a new plant to the system.



Percolation Basins

When ranking various types of reuse, groundwater recharge (the process by which treated recycled water is blended with water from other sources and filtered down to underground aquifers) was the preferred use, followed by industrial reuse and irrigation.

CLEAR INPUT ON CONSTRUCTION SHAFT SITE LOCATIONS PROVIDED

The Sanitation Districts presented potential tunnel alignments (routes) and 14 potential construction shaft site locations.



Irrigation with Recycled Water

The potential tunnel alignments from the JWPCP to the coast had to meet the following minimum engineering criteria: (1) utilize public right of way and property owned by public agencies as much as possible in order to avoid private property, (2) provide a relatively direct route to the coast, and (3) avoid sharp turns.

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see website for larger photo and more information on alignments and locations.

What Is the Clearwater Program?

The Clearwater Program will produce a new Facilities Plan to enable the Sanitation Districts to continue providing state-of-the-art wastewater management in the Sanitation Districts' Joint Outfall System (JOS), an area serving 73 cities and unincorporated county areas, including portions of the City of Los Angeles.

The current Facilities Plan, published in 1995, addressed managing the system's needs up to 2010 and must be updated with the following goals in mind:

- Maintain a system that is protective of public health and the environment
- Increase opportunities for reuse of reclaimed water
- Explore accommodating additional dry weather urban runoff
- Inspect and, if needed, repair the system's aging infrastructure, in particular two tunnels that were built in 1937 and 1958
- Ensure adequate capacity for population growth

The new Facilities Plan will serve as a blueprint for operating the JOS for many years to come.

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Workshop attendees preferred tunnel alignments from the JWPCP to the Port of Los Angeles. While there was not a unanimous choice from all of the workshops, Figueroa Street, Frigate Avenue, and Wilmington Boulevard were among the highest ranked alignments. Tunneling would occur deep below the ground and would have minimal impact on traffic or the public at the ground surface.

The 14 potential construction shaft site locations, where equipment and material would be lowered into the tunnel and soil would be removed, had to meet the following minimum engineering criteria: (1) close to a potential tunnel alignment, (2) at least 4-8 acres in size, (3) regularly shaped and relatively flat, and (4) preferably close to the coast, at the approximate midpoint of the tunnel. All open sites meeting these criteria were evaluated without consideration of existing land use. Clearly, existing land use is important and will result in early removal of many of the sites from consideration. One of the two construction sites that will be needed would be located at the JWPCP. After completion, the construction sites would be restored with minimal above ground structures remaining.

The four workshop groups unanimously preferred the construction shaft site locations at Terminal Island in the Port of Los Angeles and the JWPCP in Carson. Two other sites were viewed as possibly acceptable – the U.S. Navy Fuel Depot and Fort MacArthur. Workshop participants all agreed that the remaining ten locations were much less desirable because of their current use and the anticipated traffic impacts associated with tunneling (transporting construction materials to the site and removing soil).

The Sanitation Districts' engineers and consultants involved in the studies of the sites and alignments continue to seek input from the community. For further information, or to comment on the identified locations, the public is invited to go to the Clearwater Program website (www.ClearwaterProgram.org) or call (877) 300-WATER.

Clearwater Program Presentation

Community organizations are encouraged to schedule a presentation of the Clearwater Program by calling (877) 300-WATER. An engineer from the Sanitation Districts will show a 9-minute video, a short slide show, respond to questions, distribute information, and ask for community input.



PUBLIC OUTREACH UPDATE

The first step in the Clearwater Program's public outreach activities began with a presentation to the Citizens Advisory Committee of the Joint Water Pollution Control Plant (JWPCP) in December 2006. Since then, more than 300 stakeholders (community and business leaders, public officials, and environmentalists) have been briefed on the Clearwater Program, the study areas of the new Master Facilities Plan, and its possible alternatives.

In October 2007, the Clearwater Program website went online to give interested parties access to regularly updated information on the program. The website can be found at www.ClearWaterprogram.org.

At the beginning of this year, the focus shifted to reach out to larger groups and organizations. More than 100 community organizations were contacted and offered a presentation that includes a 9-minute video on the Clearwater Program and a short slide show on the most recent information.



The Joint Water Pollution Control Plant, in Carson. Property boundaries denoted in yellow.

At each meeting a Sanitation Districts engineer presented this information and was available to answer questions. Neighborhood councils, homeowner associations, chambers of commerce, business improvement districts, service clubs, school groups, and senior citizens organizations were contacted. To date, presentations have been made to more than 30 organizations.

Four Public Workshops were held in March in San Pedro, Wilmington, Rancho Palos Verdes, and Carson to seek further input and guidance from the public.

Public outreach activities on the Clearwater Program will continue through the duration of the project. Presentations for clubs and organizations may be scheduled by calling the Clearwater Program Info-Line at (877) 300-WATER.

COASTAL MONITORING: A LEGACY OF ENVIRONMENTAL STEWARDSHIP



Several mornings each week, the Sanitation Districts' Ocean Monitoring and Research staff commute in their satellite office, the research vessel Ocean Sentinel (above), out to the Pacific Ocean off the Palos Verdes coast.

For nearly 40 years, we have gathered, analyzed, and reported data critical to monitoring the health of the ecosystem near White Point, where treated wastewater from the Joint Water Pollution Control Plant (JWPCP) is put into the ocean through a series of outfalls.

Monitoring activities (below) include bacteriological sampling to aid local health departments in protecting swimmers, divers, and surfers from illness. Water quality is checked for algal blooms, which could poison marine birds and mammals, and to ensure water conditions are healthy for local wildlife. Pollutant concentrations in sediments are measured, and the health of fish and invertebrates (worms, clams, shrimp, etc.) living in the area is evaluated. Tissue samples from

local sportfish are also collected and analyzed for more than 75 compounds listed in safe seafood guidelines developed by the California Department of Health Services.

When these monitoring efforts began in the 1970s, conditions along the Palos Verdes coast were very different than they are today. The nutrient-rich matter and trace contaminants in the treated wastewater caused problems for many species of local marine life. The Clear Water Act of 1972 (CWA) added protection of the environment as an objective for wastewater management. Beginning in 1970, two years before passage of the CWA, the Sanitation Districts continuously and aggressively improved the level of treatment at the JWPCP and enforced much stricter limitations on what industries can put into the sewer system.



Dramatic improvements in the Palos Verdes ecosystem, following the treatment upgrades at the JWPCP, were clearly documented by the ocean monitoring program. The health and variety of fish and invertebrates living near the ocean outfalls improved dramatically by the mid 1980s and today are consistent with healthy communities found elsewhere in Southern California. Similarly, kelp forests (above), which were non-existent along the Palos Verdes coastline in the 1960s and early 1970s, were quickly reestablished and today are the largest kelp beds in the region.

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The impressive recovery of the Palos Verdes ecosystem does not mean our work is complete. The Sanitation Districts' ocean monitoring program continues to ensure that the environmental gains of the last 40 years are not lost.

The Ocean Monitoring and Research staff works with other groups studying the entire Southern California coastal region. For example, we participate in a variety of regional monitoring programs in the Southern California Bight, an area of coastal water stretching from Point Conception to the U.S./Mexico border and out to the Channel Islands. Regional monitoring provides a way to compare the health of the areas near our outfalls to other ecosystems in the region.

This summer, we joined more than 60 agencies in the Bight'08 regional monitoring effort coordinated by the Southern California Coastal Water Research Project. Bight'08 measured pollutants in water, sediment, and fish at over 500 randomly selected sites to assess the overall health of biological communities within the Bight. We are also working with the University of Chicago and the Skidaway Institute of Oceanography to understand what the local marine environment was like 200 years ago using the shells of dead clams collected from sediment samples throughout the Bight.

Knowledge gained over the years has not only documented the tremendous recovery in the Palos Verdes coastal ecosystem since the early 1970s, but has also demonstrated that the biological

communities living near the Sanitation Districts' ocean outfalls are thriving. The dedicated Ocean Monitoring and Research scientists, marine biologists, and boat crew remain diligent in their mission to understand and protect our precious coastal environment against future impacts.



COMMITMENT TO THE ENVIRONMENT

The Sanitation Districts are a unique public agency in more ways than one. As a regional agency consisting of separate special districts formed under state legislation, our very purpose is to protect public health and the environment by safely managing wastewater and solid waste.

The Sanitation Districts operate, maintain, and proactively monitor 1,370 miles of trunk sewers, 11 wastewater treatment plants, and an ocean outfall system. Read more about the Sanitation Districts' ocean monitoring activities on page 8.

The Districts have become a leader in the production of green energy and the recycling of water and materials. The following are just a few of the statistics that have helped to achieve this status.

- A total of 127 megawatts (MW) of electricity is generated in the Districts' wastewater and solid waste operations. According to the USEPA, the Districts are among the top twenty largest green energy users in the nation and the only organization on the list that produces all of the green power it uses.
- Reclaimed water from the Districts Water Reclamation Plants is reused at more than 530 sites throughout the county.
- 550,000 tons of biosolids per year are produced as a byproduct of wastewater treatment at the Districts' wastewater treatment plants. Prior to dewatering, the biosolids are digested, producing a biogas that is converted to electricity or used for heating parts of the treatment process. As a result, the JWPCP is totally energy self-sufficient. The biosolids are beneficially reused through a variety of management options including a soil amendment for agriculture and manufacture of high-quality compost.

More information on the Sanitation Districts' commitment to the environment can be found on the Clearwater Program Website (www.ClearwaterProgram.org).

Contact Clearwater Program

Please send us your comments, concerns, and ideas.

Email: ClearwaterProgram@lacs.org.

Website: www.ClearwaterProgram.org.

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HISTORY OF WASTEWATER

PART 2

After the fall of the Roman Empire, sanitation practices became practically non-existent. Disease became common and epidemics flourished. It wasn't until the nineteenth century that progress was once again made toward a sanitary system for managing wastewater (History of Wastewater Part 1, Clearwater Newsletter No. 1).

The following excerpts are from a report to the British Parliament regarding the administration of the Public Health Act and the Nuisances Removal and Diseases Prevention Acts for the period 1848-1854:

"... the abolishing of cess-pools and their replacement by water-closets, together with the abolishing of brick drains and their replacement by impermeable and self-cleansing stone-ware pipes, has been attended with an immediate and extraordinary reduction of mortality."

"If the reduced rate of mortality ... should continue, and there appears to be no reason to suppose that it will not ... the improvements ... would raise the average age at death to about forty-eight instead of twenty-nine, the present average age at death of the inhabitants of towns in all England and Wales."

In colonial America, most homes had "privies", which discharged into the yard, street, gutter or an open channel that served as a sewer. Because there were so few people living in urban areas, the resulting odors and filth were accepted as an unpleasant but unavoidable consequence of "city" living.

However, in the mid-19th Century, as populations began rapidly growing, the "dry" sewage systems, with their privy vaults and cesspools draining into the surrounding soil, sometimes contaminated drinking water, causing disease outbreaks.

Repeated cholera and typhoid epidemics led to the understanding that sanitary waste management was essential to protect public health, and new sewer systems were designed that used water to carry waste. By 1910, there were approximately 25,000 miles of sewer lines in the United States. Sewage treatment plants began to be constructed following the recognition that discharging raw, untreated sewage caused health problems.

In the 1950s and 1960s, the U.S. government began providing funds for the construction of municipal waste treatment plants.

The California State Legislature enacted the Porter-Cologne Water Quality Control Act in 1969, which became the basis of the 1972 federal Clean Water Act (CWA) that led to significant increases in federal funds for wastewater treatment plant construction. Today, the California State Water Resources Control Board and its nine Regional Boards enforce the stringent water quality standards of the CWA and subsequent regulations.

Clearwater Program Video

The 9-minute video gives an overview of the Sanitation Districts' history, formation, governance and facilities; the wastewater treatment process; the reasons for the Clearwater Program; the area it will service; and possible program outcomes.

The video may be viewed on the Clearwater Program website (www.ClearwaterProgram.org), in English and Spanish-subtitle versions.

Clearwater Info-Line

(877) 300-WATER • Call our toll-free Clearwater Info-Line for information or to register your comments on the Clearwater Program.



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