



(877) 300-WATER

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Sanitation Districts of Los Angeles County

## Frequently Asked Questions

### 1. What is the Clearwater Program?

The Clearwater Program is a comprehensive planning and engineering effort to provide for cost-effective and environmentally sound wastewater management services and recycled water supply for the Sanitation Districts' Joint Outfall System (JOS) through the year 2050. Under the Clearwater Program, the Sanitation Districts is preparing a new Master Facilities Plan (MFP), an associated Environmental Impact Report/Environmental Impact Statement (EIR/EIS), designing facilities recommended by the MFP, and ultimately constructing these facilities.

### 2. What is expected to be included in the Clearwater Master Facilities Plan?

The Clearwater MFP evaluates the long-term needs of the JOS for the next 40 years. The MFP will address wastewater conveyance and treatment, solids processing, biosolids management, and effluent management for the JOS. A major component of the MFP will be to evaluate the possible construction of a new tunnel and a new ocean outfall to convey effluent (treated wastewater) from the Sanitation Districts' Joint Water Pollution Control Plant (JWPCP) in the city of Carson to the Pacific Ocean.

### 3. What is the schedule for the Clearwater Program?

The anticipated schedule for the Clearwater Program is as follows:

Community Outreach/Participation	2006 – 2022
Facilities Planning/Preliminary Engineering	2006 – 2011
Environmental Documentation (EIR/EIS)	2008 – 2012
Final Design*	2012 – 2015
Construction*	2015 – 2022

\*The schedule for final design and construction may vary depending on the outcome of the facilities planning and environmental documentation processes

### 4. Have you already decided to build a new tunnel/ocean outfall?

No. The Sanitation Districts are still working on the Clearwater Master Facilities Plan. One component of this effort is to evaluate our aging infrastructure. We are concerned about the condition of the existing tunnels that convey effluent from the JWPCP to the ocean. The tunnels were built in 1937 and 1958 and have not been inspected since 1958. Therefore, the Clearwater Master Facilities Plan is analyzing a range of alternatives to address this concern, including the need for a new tunnel and a new ocean outfall.

**5. How much would a new tunnel and a new ocean outfall cost, and how would it be funded?**

It is estimated that a new tunnel/ocean outfall would cost from \$550 million to \$1.4 billion dollars depending on which alignment selected and ultimately built. The Sanitation Districts would be pursuing state and federal grant funding sources, as well as low-interest loans and bonds, to help finance construction. Over time, the ratepayers in the Sanitation Districts' JOS service area would pay off the loans and bonds through connection fees and annual service charges.

**6. Whom would a new tunnel and a new ocean outfall serve?**

A new tunnel/ocean outfall would primarily serve the residents, businesses, and industries of the 73 cities and unincorporated Los Angeles County areas within the Joint Outfall System.

**7. Can the existing tunnels be inspected and repaired without incurring the \$550 million to \$1.4 billion cost of constructing a new tunnel/ocean outfall?**

The Sanitation Districts are currently investigating the feasibility of inspecting the existing tunnels, but it is evident that such an operation, if possible, would present immense technical challenges and high risks. In order to thoroughly assess the condition of the existing tunnels, each tunnel would need to be inspected in a dry state, which would require constructing new facilities to hydraulically separate the tunnels to make them independent and temporarily diverting approximately two-thirds of the wastewater currently treated by the JWPCP. A diversion of at least 200 million gallons per day (mgd) would be required. At this time, the Sanitation Districts have not been able to identify a means of diverting this much flow to allow for an inspection.

**8. Since San Pedro and Wilmington are located outside the Sanitation Districts' service area, how will these communities benefit from a new tunnel and a new outfall?**

These communities would benefit from having a more reliable infrastructure in their vicinity. Without a new tunnel/outfall, an emergency response to the existing system would mainly affect San Pedro and Wilmington. Specifically, the failure of the existing tunnels could affect Wilmington Drain, Machado Lake, and the Los Angeles Harbor, the only alternative discharge locations for JWPCP effluent. Also, effluent from the Terminal Island Water Reclamation Plant (TIWRP) could potentially be conveyed through a new tunnel/ocean outfall, thus removing the discharge from inside the breakwater in Los Angeles Harbor.

**9. What are some of the benefits that the Sanitation Districts have provided the communities in the immediate vicinity of the JWPCP, including Carson and Wilmington?**

Over the years, the Sanitation Districts have provided land for the Wilmington Jaycees Athletic Complex, Wilmington Boys and Girls Club, and the Carson Depot Commercial Center. The Sanitation Districts have also constructed new sidewalks; added street trees and landscaping; erected ornamental fencing; virtually eliminated plant odors; and built a natural gas fueling station for public use. The Sanitation Districts have recently restored the 17-acre Bixby Marshland at the corner of Sepulveda and Figueroa, which now includes parking and viewing area for visitors. The Sanitation Districts purchased the old Fletcher Oil Refinery Company site and removed the refining equipment and oil storage tanks. New landscaping and block walls have been constructed around the perimeter of the property. The site is being cleaned up to remove soil and groundwater contamination left by the refining operation, and in the future will be used for new regional wastewater treatment facilities.

#### **10. How would tunnel construction affect my home, my community, and me?**

The Sanitation Districts would construct a tunnel utilizing state-of-the-art tunnel boring machines (TBMs). The new tunnel would mostly be located within the public rights of way approximately 70 to 450 feet below ground surface, depending on the alignment, so there would be no noticeable vibration or noise. The most visible element of a tunnel project would be the presence of a 4- to 8-acre construction shaft site(s), which would be needed to lower the TBMs and construction material into the ground, remove soil from the underground excavation, and provide labor access during construction. The construction shaft site(s) would be screened with barriers as necessary to minimize any visual and noise impacts. There could be traffic impacts associated with a construction shaft site. The EIR/EIS will be assessing the overall impacts of the project and proposing appropriate mitigation measures.

#### **11. How would a new tunnel/ocean outfall be sized?**

A new tunnel/ocean outfall would be sized based on the findings of the Clearwater MFP. At a minimum, a new tunnel would need to be large enough to accommodate peak flows at the JWPCP through the year 2050 planning horizon. The Sanitation Districts prefer to convey as much flow by gravity as possible to increase reliability, conserve energy, and reduce operating costs. It is estimated that the tunnel will have an excavated diameter of approximately 20 to 22 feet and an internal finished diameter of approximately 18 feet.

#### **12. Do the existing tunnels have the capacity to accommodate future projected flows at the JWPCP?**

No. In fact, the existing tunnels are currently at their limits in terms of handling the peak wet-weather flows at the JWPCP. This was demonstrated during the storms in January 1995, when the 670-mgd peak capacity of the existing system was reached. Future population growth will lead to more wastewater being produced in the JOS, and the Clearwater MFP will evaluate the quantity of wastewater to be treated at the JWPCP.

#### **13. How was the wedge-shaped study area for a new JWPCP tunnel and a new ocean outfall established?**

The study area was established to avoid the city of Los Angeles' ocean discharge to the north and Orange County's ocean discharge to the south, and to remain on the continental shelf to the south and west.

#### **14. What street(s) would the tunnel be going under?**

With respect to selecting a possible alignment for a new tunnel, the Sanitation Districts would utilize long, contiguous public rights-of-way (e.g., streets) between the JWPCP and the coast to the extent feasible. The Clearwater MFP has identified four feasible alignments, where the tunnels would go underneath the following streets:

**Alignment 1** – Tunnel would start under the east side of JWPCP, then under Wilmington Boulevard, Harry Bridges Boulevard, Port of Los Angeles (TraPac, West Basin Channel, Pier A, East Main Channel, Yusen terminal, eastern end of the Vincent Thomas Bridge, LAXT, Fish Harbor, and Southwest Marine), and continue beneath the ocean floor to the San Pedro Shelf.

**Alignment 2** – Tunnel would start under the east side of JWPCP, then under Wilmington Boulevard, Harry Bridges Boulevard, Port of Los Angeles (TraPac, West Basin Channel, Pier A, East Main Channel, Yusen terminal, eastern end of the Vincent Thomas Bridge, LAXT, Fish Harbor, and Southwest Marine), and continue beneath the ocean floor to the Palos Verdes Shelf.

**Alignment 3** – Tunnel would start under the west side of JWPCP, then under Figueroa Boulevard, Harry Bridges Boulevard, John S. Gibson Boulevard, Gaffey Street, Angels Gate Park, and continue beneath the ocean floor to the Palos Verdes Shelf.

**Alignment 4** – Tunnel would start under the west side of JWPCP, then under Figueroa Boulevard, Harbor Regional Park, North Gaffey Street, Capital Drive, Western Avenue (through South Dodson Avenue), and terminating under Royal Palms Beach

The final proposed tunnel alignment would be selected based on numerous factors such as environmental impacts, public input, engineering considerations, and cost. Again, because the tunnel would be constructed approximately 70 to 450 feet below ground, street level impacts are anticipated to be minimal or non-existent.

**15. How deep would a new tunnel be? How far out into the Pacific Ocean would the new outfall discharge?**

In order to minimize or eliminate impacts at the ground surface (e.g., noise, vibration, and utility conflicts), the Sanitation Districts would propose deep tunnel construction utilizing state-of-the-art tunnel boring machines (TBMs). The depth of a new tunnel would fluctuate because of variations in the overlying topography, but, in general, a tunnel could reach depths up to 450 feet below the ground surface. It is anticipated a new ocean outfall would extend to the continental shelf, at least 1.5 miles off the coast to an ocean depth of approximately 175-200 feet.

**16. Would a new tunnel and a new outfall result in more air pollution in the Harbor area?**

Any increases in air pollution would be associated with to the temporary construction phase of a tunneling project, not the long-term operation. Tunnel construction could result in vehicle and dust emissions at the tunnel shaft sites. The Sanitation Districts will assess these and any other impacts associated with the project in an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) and adopt mitigation measures to eliminate or reduce such impacts to the extent feasible.

**17. Would a new tunnel and a new outfall result in more local traffic?**

It is anticipated that approximately 50-100 trucks per day would be required each day to transport construction materials and excavated material to and from the tunnel shaft site during the construction phase of the project. To put this in perspective, the Ports of LA and Long Beach generate approximately 16,000 truck trips per day in the Harbor Area. As part of the environmental impact analysis for this project, the Sanitation Districts would determine potential traffic impacts and would propose appropriate mitigation. Furthermore, the Sanitation Districts will explore different truck hailing routes to and from the proposed shaft sites to help minimize impacts to community.

**18. Would you need to take any private land for the project?**

The Sanitation Districts would try to build the project beneath the public right-of-ways (streets) to avoid the need to take any private land. It is possible that the Sanitation Districts would need subsurface easements for portions of the tunnel alignment. If easements were needed, the Sanitation Districts would compensate the property owner at the fair market value of the easement. The Sanitation Districts might also need land for temporary occupational right-of-way. Again, the property owners would be compensated at fair market value of temporary occupation.

**19. How will the MFP address the future use of recycled water to assist Southern California during this prolonged period of drought?**

The Sanitation Districts are strong proponents of the use of recycled water (commonly referred to as water "reuse"), and have been aggressively marketing its recycled water for over 45 years. This past year, over 90,000 acre-feet of our recycled water was beneficially reused for a variety of purposes including groundwater replenishment, landscape and agricultural irrigation, industrial applications, and wildlife habitat enhancement. (An acre-foot serves the approximate needs of two families for one year.) Even so, a significant portion of the recycled water is still being discharged to the Pacific Ocean via concrete-lined rivers and flood control channels. As part of the facilities planning effort, the Sanitation Districts will be seeking to identify new users and reuse sites for the remaining available recycled water being produced at the upstream water reclamation plants (WRPs).

**20. Will water conservation efforts reduce the need for additional effluent management capacity?**

Over the past decade, water conservation efforts have delayed the need for additional facilities, and to some extent, it is anticipated that this trend will continue into the future. The Sanitation Districts recognize the environmental and economic benefits of water conservation and support the efforts of water supply agencies to increase use of water conservation fixtures, such as high efficiency toilets. The MFP will be assessing the overall impact of water conservation on flow projections.

**21. In the Palos Verdes Peninsula we have an active landslide and our homes and roads are continuously shifting. How can you guarantee that this construction will not trigger another event or make an existing situation worse?**

It is unlikely that the Sanitation Districts would route a tunnel alignment that crosses an active landslide area. If an alignment were chosen in the vicinity of an active landslide, appropriate geotechnical engineering considerations and environmental mitigation measures would be implemented.

**22. If a new tunnel alignment were to cross earthquake faults, what could be done in the event of a failure?**

A new tunnel would be designed and aligned in a manner by which the impacts from a seismic event would be minimized. Prior to construction, the local geology would be well characterized to assure that a new tunnel would cross a fault in the safest possible way. Furthermore, the tunnel itself would be engineered to allow for the movement or displacement that would be caused by an earthquake. Compared to the existing tunnels, the new tunnel would be more resistant to seismic damage and provide far more reliability for disposal of the treated wastewater than currently exists today.

**23. What are the plans for the existing tunnels and ocean outfalls if new facilities are built?**

The two existing tunnels and the four existing ocean outfalls are valuable public assets. In combination with any new facilities, the existing tunnels and ocean outfalls provide redundancy and operational flexibility for this critical wastewater infrastructure into the future. The Sanitation Districts plan to inspect and, if necessary, repair the existing tunnels. However, a project to repair the existing tunnels is beyond the scope of the Clearwater Program and would require future studies and environmental analyses.

**24. How will the California Fish & Game's newly designated "marine protection area" off the Palos Verdes Peninsula affect the existing and proposed tunnels and outfalls?**

The California Fish and Game Commission recently completed a multi-year process required by State law to establish new Marine Protected Areas (MPAs) along the Southern California coastline. The Sanitation Districts participated in the process and provided technical input on the marine environment off the Palos Verdes Peninsula. In December 2010, the Commission completed its work and established thirty-six MPAs from Point Conception to the Mexican border.

Two of the new MPAs are close to the Sanitation Districts' existing ocean outfalls. An unintended consequence of the Commission's decision was that the discharge permits for all existing ocean outfalls located near new MPAs would need to be reconsidered per the California Ocean Plan, issued by the State Water Resources Control Board. The State Board recognized this problem and adopted a resolution in November 2010 directing its staff to amend the Ocean Plan within eighteen months to clarify that the current regulations for existing ocean outfalls will remain in effect.

The Sanitation Districts will continue to monitor and participate in the Ocean Plan amendment process as we move forward with the Clearwater Program.