Hyperion Water Reclamation Plant

Hyperion 2035 Program

Project Background

The Los Angeles Department of Water and Power (LADWP) and LA Sanitation and Environment (LASAN) are jointly pursuing two major programs, Operation NEXT and Hyperion 2035 Program, that together will bring L.A. closer to achieving its 2019 Green New Deal goals of recycling 100% of available treated wastewater and sourcing 70% of L.A.'s water locally by 2035. Together, LADWP and LASAN will maximize the production of purified recycled water, replenish the city's groundwater basins, and develop direct potable reuse (DPR) with purified recycled water as an additional raw water source.

LASAN's Role

As part of the Department of Public Works, LASAN oversees the City of Los Angeles' Clean Water, Solid Resources and Watershed Protection programs. Through LASAN's efforts, Los Angeles has been at the forefront of environmental stewardship, from the restoration of Santa Monica Bay, to achieving one of the highest trash recycling rates among large cities in the nation, to the implementation of the Low Impact Development (LID) Ordinance for stormwater capture and infiltration.

LASAN is a joint partner along with LADWP in the preparation of this Programmatic Environmental Impact Report (EIR) through all phases, including preparing the Programmatic EIR, conducting public involvement, and consulting with other federal and state agencies.

Hyperion 2035 Program

LASAN's Hyperion Water Reclamation Plant (Hyperion) currently has a design capacity of 450 million gallons per day (MGD) and recycles 27% of the treated wastewater for in-plant, irrigation, industrial, and other non-potable uses. Current projections estimate an average daily flow to Hyperion of 272 MGD with the goal of recycling 100% of this wastewater for beneficial reuse by 2035.

The Hyperion 2035 potential Project site would be located within the existing 144-acre footprint of Hyperion at 12000 Vista del Mar in the City's neighborhood of Playa del Rey, California. Under current design planning for the Hyperion 2035 project, LASAN would likely retrofit Hyperion with advanced treatment facilities (membrane bioreactors or equivalent, reverse osmosis, and advanced oxidation), producing up to 174 MGD of purified recycled water.

Project Objectives

The added drinking or potable water supply provided by the Hyperion 2035 Program would enhance regional water reliability, especially during periods of drought and water scarcity (e.g. loss of snowpack in the Sierra Nevada Mountains, catastrophic interruptions of water supply and uncertain impacts of climate change). The Program is being explored as one component of the City's mission to provide safe and reliable water to the communities it serves through the following objectives:

- Diversify the City's water supply portfolio to increase long-term reliability, while reducing reliance on imported water;
- Improve ability to adapt by developing a water supply that is less vulnerable to climate variations;
- Increase local control of water supplies and infrastructure;
- Improve the City's ability to control water costs and provide long-term price stability; and
- Develop a potable water supply that is cost effective and environmentally responsible.

Hyperion Water Reclamation Plant
Hyperion 2035 Program

Overview of Hyperion 2035 Advanced Water Purification Facility Components

The main water reclamation process involves the treatment of primary effluent to produce high-quality clean recycled water. Engineering design is ongoing but the process will likely involve the following steps:

a. **Flow Equalization:** The equalization basins are designed to provide consistent flow to downstream processes by stabilizing diurnal flows and retaining high flow fluctuations from unpredictable weather patterns.

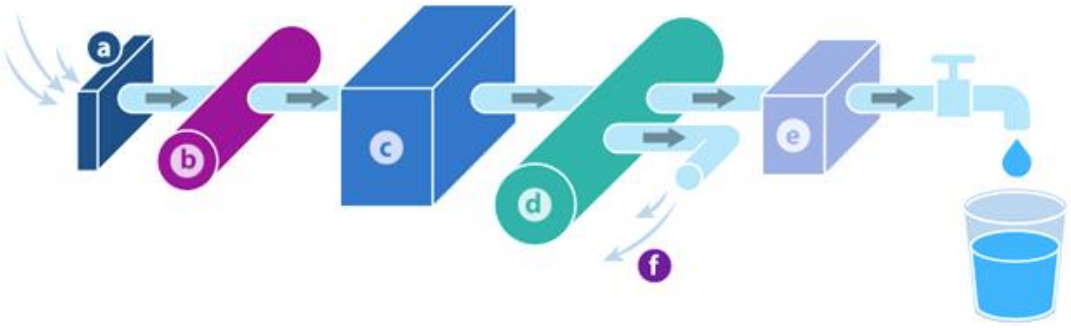
b. **Fine Screens:** The fine screens serve as pretreatment to remove coarse materials from the water.

c. **Membrane Bioreactor:** Secondary treatment, including carbonaceous biochemical oxygen demand (BOD) removal and nitrogen removal, takes place in the membrane bioreactor (MBR). The MBR process involves anoxic, aeration, and membrane separation steps to remove microscopic material in the water, such as bacteria.

d. **Reverse Osmosis:** The filtered water is pumped under high pressure through reverse osmosis (RO) membranes to purify it, removing any remaining dissolved solids, organics, and pathogens. The discarded portion of water that does not make it through the RO membranes (about 15-20% of the treated volume) is referred to as RO concentrate or brine.

e. **Post-Treatment:** Following the RO treatment process, the water is further disinfected so it is safe for potable reuse by utilizing both ultraviolet (UV) light disinfection and an advanced oxidation process, adding another barrier for pathogens and other contaminants. Due to the pure water quality that results from the treatment processes, minerals are then added back to the water to stabilize it and prevent water pipes from corroding.

f. **Brine Disposal:** The brine from the RO process is returned to the ocean via the existing 5-mile outfall. Discharges will be in accordance with the applicable National Pollutant Discharge Elimination System (NPDES) permit with effluent limitations based on the California Ocean Plan water quality objectives. Meeting California Ocean Plan effluent limitations will minimize impacts on marine life and will avoid the creation of discharge plumes or oxygen-starved areas on the seafloor.



For more information contact:
sanrecycledwater@lacity.org

(800) 773-2489
24 HR CUSTOMER CARE CENTER

To learn more visit:
www.lacitysan.org