



**US BUREAU OF RECLAMATION**  
**WaterSMART: Water Recycling**  
**and Desalination Planning**

**Program Funding**  
**R23AS00076**  
**Funding Group II**



FEBRUARY 28, 2023



February 28, 2023

## Hyperion 2035: Phase 1 Project

Los Angeles County | STATE OF CALIFORNIA

WaterSMART: Water Recycling and Desalination Planning Project

Funding Opportunity Number: R23AS00076

**Applicant/Project Manager: City of Los Angeles**

Hubertus Cox, Division Manager  
LA Sanitation and Environment  
Water Recycling Implementation Division  
12000 Vista del Mar  
Playa del Rey, CA 90293  
[Hubertus.cox@lacity.org](mailto:Hubertus.cox@lacity.org)  
Phone: 310-648-5001

**Submitted to:**

**Bureau of Reclamation  
Financial Assistance Operations Section**

Attn: NOFO Team  
P.O. Box 25007, MS 84-27133  
Denver, CO 80225  
Phone: 303-445-2766



# Contents

- TECHNICAL PROPOSAL: EXECUTIVE SUMMARY .....1**
- TECHNICAL PROPOSAL: PROJECT LOCATION .....2**
- TECHNICAL PROPOSAL: TECHNICAL PROJECT DESCRIPTION.....2**
  - Project Goals.....3
  - Project Benefits .....3
  - Project Approach .....4
- TECHNICAL PROPOSAL: RESPONSES TO EVALUATION CRITERIA.....6**
  - EVALUATION CRITERION 1 –  
PROJECT PLANNING AND ANALYSIS .....6**
  - EVALUATION CRITERION 2 –  
STRETCHING WATER SUPPLIES..... 12**
  - EVALUATION CRITERION 3 –  
ENVIRONMENT AND WATER QUALITY ..... 14**
  - EVALUATION CRITERION 4 –  
DEPARTMENT OF THE INTERIOR PRIORITIES ..... 16**
  - EVALUATION CRITERION 5 –  
WATERSHED PERSPECTIVE ..... 18**
- OTHER FEDERAL FUNDING AND PROJECT BUDGET ..... 21**
  - FUNDING PLAN AND LETTERS OF COMMITMENT..... 21**
  - BUDGET PROPOSAL..... 21**
  - BUDGET NARRATIVE..... 22**
- REQUIRED PERMITS OR APPROVALS .....27**

# Appendices

<b>APPENDIX A: AUTHORIZING RESOLUTION.....</b>	<b>28</b>
<b>APPENDIX B: LETTERS OF SUPPORT.....</b>	<b>29</b>
<b>APPENDIX C: STATEMENTS AND REQUIRED FEDERAL FORMS.....</b>	<b>30</b>

# TECHNICAL PROPOSAL: EXECUTIVE SUMMARY

**DATE:** February 28, 2023

**APPLICANT NAME:** City of Los Angeles

**CITY/ COUNTY:** Los Angeles, Los Angeles County

**STATE:** California

**APPLICANT CATEGORY:** Funding Group II

The City of Los Angeles (City) is planning to implement a city-wide integrated water resources strategy, the Hyperion 2035 Program. The goal is to provide a new, local reliable water supply source (up to 243,232 acre feet per year [AFY] or approximately 45 percent of the City's demand) to sustain the long-term reliability of local groundwater basins, build water supply resiliency, diversify the City's water portfolio, and decrease the region's dependence on imported water. **The Hyperion 2035 Phase 1 Project (Phase 1 Project), with a total project cost of \$1.4 billion, is the first phase of the project and implements critical infrastructure to deliver 56,044 AFY (50 MGD) of Indirect Potable Reuse (IPR) water to the West Coast Barrier, Central Basin and new users.** The Phase 1 Project consists of five main components: (1) enabling primary effluent conveyance modification projects; (2) conversion of secondary treatment to MBR including nitrification/denitrification; (3) construction of Advanced Water Purification Facility (AWPF) at Hyperion Water Reclamation Plant (HWRP) to produce 56,044 AFY; (4) modifications to the West Basin Municipal Water District (WBMWD) pump station for recycled water deliveries; and (5) sidestream treatment facility to enhance the secondary treatment. The Phase 1 Project, the first of its size in the nation in terms of

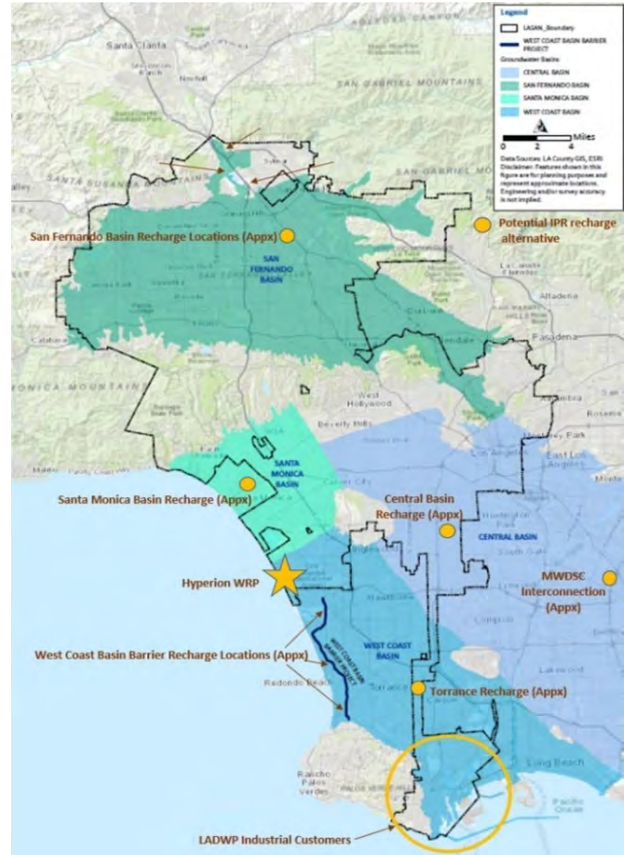


Figure ES- 1: Map of Hyperion Phase 1 Project with HWRP and identified IPR recharge alternatives

magnitude and regional reach, benefits the region by diversifying the City's water supply portfolio by adding recycled water, while modernizing HWRP and reducing effluent discharges to Santa Monica Bay. Los Angeles Sanitation and Environment (LASAN) is requesting funding for the planning/preliminary engineering activities (including a Reclamation Feasibility Study) required to move the Phase 1 Project forward into construction and align the program to pursue future federal funding opportunities. **The total costs to be expended by LASAN during the funding period, October 31, 2023 (anticipated award date) and before October 31, 2025, on planning activities for the Hyperion 2035 Phase 1 Project is \$21,415,458. LASAN is requesting Reclamation funding of \$5,000,000.** The project will not involve a federal facility or be on federal land.

## TECHNICAL PROPOSAL: PROJECT LOCATION

The Project is located in the City of Los Angeles, Los Angeles County, in Southern California, between the San Gabriel Mountains and Pacific Ocean. The Phase 1 Project is located at the HWRP in Playa Del Rey and is anticipated to provide an early delivery of 56,044 AFY of Indirect Potable Reuse (IPR) by partnering with nearby agencies including Los Angeles Department of Water and Power (LADWP), and leveraging existing infrastructure south of the Santa Monica Mountains.



Figure 1: Project Location Map and LASAN service area

## TECHNICAL PROPOSAL: TECHNICAL PROJECT DESCRIPTION

**APPLICANT CATEGORY** Funding Group II. The total planning costs to be expended for the Phase 1 Project during the funding period, October 31, 2023 through October 31, 2025, is \$21,415,458.

**ELIGIBILITY OF APPLICANT** LASAN, a bureau of the Department of Public Works, is the sanitation agency and owner of HWRP. The Phase 1 Project is a collaboration of LASAN with the Los Angeles Department of Water and Power (LADWP), which has water and power delivery authority in the City.

### PROJECT OVERVIEW, BACKGROUND AND GOALS

Los Angeles (City) is the most populous city of California (population 3.9 million people [2020 Census]) and the second most populous city in the United States. The City is primarily reliant on imported water supplies (California State Water Project [SWP], Los Angeles Aqueduct [LAA] and Colorado River Aqueduct [CRA] with limited local water [groundwater, stormwater capture, conservation and water recycling]).

The Phase 1 Project, is a collaboration of LASAN with LADWP, with LASAN responsible for the production of recycled water and LADWP for its delivery to identified users/uses. LADWP provides approximately 512,504 AFY of water to its customers. LASAN, responsible for the City's wastewater collection and treatment systems, operates four water reclamation plants (WRPs) and 6,700 miles of sewers.

Imported water supplies, providing up to 90 percent of the City's potable water demand, are highly vulnerable to cutbacks from droughts, environmental demands, natural disasters and infrastructure failures. Local groundwater and



stormwater sources are also highly susceptible to drought and legacy contaminants, which limit direct use. Social and economic impacts associated with the City's water supply challenges include limited supplies to meet demands, increased cost of living, fire hazards, natural disasters, and rising imported water cost.

The City's Green New Deal, Sustainability Plan 2019 establishes long-term goals to reduce imported water use, increase local water supplies and diversify its water portfolio to enhance long-term reliability and climate-change resiliency. Potable reuse was identified as a major local supply that could provide up to 50 percent of the total potable water demand.

City's planning studies have documented that the greatest potential resides at HWRP, which treats 84 percent of the City's wastewater flows that are predominantly discharged to the Pacific Ocean. Based on flow projections for 2050, LASAN identified the availability of 272 MGD of flows for potable reuse using indirect potable reuse (IPR) for groundwater augmentation or direct potable reuse (DPR) with raw water augmentation with the City's potable water system.

The centralized nature of the HWRP, along with its size and proximity to the Pacific Ocean, provides an opportunity for the City to implement a large-scale recycled water project while leveraging economies of scale for an efficient, environmentally sound and cost-effective operation that maximizes existing infrastructure. The City developed the Hyperion 2035 Program to provide a new, local reliable water supply source to sustain the long-term reliability of local groundwater basins, build water supply resiliency, diversify the City's water supply portfolio, and decrease the region's dependence on imported water.

The Hyperion 2035 Phase 1 Project implements critical infrastructure at the HWRP to establish the advanced treatment capacity needed to

support the larger program and will produce a minimum of 56,044 AFY of IPR quality water upon construction. Project components include the conversion of secondary facilities to membrane bioreactor facilities (MBR), addition of AWP (reverse osmosis [RO] and ultraviolet advanced oxidation process [UV AOP]), effluent pump station modification, and several enabling projects including a new intermediate pump station, diurnal equalization, and a sidestream treatment facility.

### Project Goals:

The Hyperion 2035 Phase 1 Project goals include:

- Advance the policy goals of the City's Green New Deal, Sustainability Plan to increase the development of local water supplies and reduce dependence on imported water.
- Develop 56,044 AFY of new recycled water supply for immediate application.
- Modernize HWRP infrastructure to support the long-term resiliency of the facility.
- Leverage existing conveyance and storage systems to efficiently and cost-effectively distribute recycled water for beneficial reuse in the City.
- Collaboratively develop a regional recycled water system to holistically increase beneficial use of available local water supplies and storage capacity.
- Create an integrated water strategy that improves water security and resiliency in a cost-effective, environmentally sound manner to address the effects of climate change.

### Project Benefits:

The Phase 1 Project provides social, economic and environmental benefits to the region. Benefits include conformance with current and future regulatory standards, water quality and environmental benefits, water portfolio augmentation and diversification, operational

flexibility to address drought and climate change, cost effective solutions for water supply reliability, and local business and workforce development. City incentives encourage women, small and/or minority-owned businesses to compete for City contracting opportunities, including those for the Phase 1 Project.

## Project Approach

The City and LASAN have made a significant investment in the development of the Phase 1 Project. Additional planning studies need to be completed to advance the Phase 1 Project from its current planning stage to 10 percent design and to procure a Progressive-Design Build contractor to complete construction of the Phase 1 Project by 2032.

Phase I Project planning activities include:

**Technical Studies:** To date, LASAN and LADWP have completed planning studies that identify available water supplies and demands, water supply sources, project alternatives, and potential reuse opportunities. Additional technical and environmental studies to be completed include:

- Evaluation of reverse osmosis concentrate (ROC) flow management options in relation to impacts on Santa Monica Bay and NPDES Permit compliance (Santa Monica Bay PCB TMDL; and dilution factors for ROC discharges).
- Evaluation of nutrient management options and anticipated reductions in nutrient loading and associated impacts on coast water quality.
- Evaluations of Contaminants of Emerging Concern (CECs) in wastewater produced during advanced water purification, and in ROC.

*Completion of these technical studies will address and help remove institutional and public perception barriers to IPR/DPR.*

**Refinement of Alternatives Analyses:** LASAN will review alternatives, identify new project concepts and finalize the preferred treatment/reuse alternative for design and construction:

- Review and evaluate treatment alternatives at HWRP identified by LASAN, LADWP, Technical Advisory Committee members, or others.
- Conduct joint technical planning meetings with LADWP to review proposed concepts.
- Review and evaluate reuse market/alternatives and identify final uses for Phase 1 Project (LASAN, LADWP, TAC, or others).
- Confirm preferred treatment alternative at HWRP.
- Review capital, O&M and lifecycle costs and evaluate cost savings/impacts.

*Refinement of the Alternatives Analysis enables LASAN to confirm the optimal cost-effective treatment alternative to be carried forward in the Concept Design Report.*

**Facility Master Plan:** The above tasks will provide the basis for a comprehensive facility master plan (“Program Implementation Plan”[PIP]) that will include:

- Development design criteria, hydraulic profile, process flow diagrams, key facility layouts, major equipment schedule and estimated electrical loads.
- Weekly meetings to facilitate review, and decisions on the above deliverables.
- Development of 3D models in SketchUp or other 3D tool.
- Constructability, risk, and gap analyses.
- Preliminary site investigations (e.g. surveying, geotechnical investigation, other)

*PIP will delineate the technical elements of the Phase 1 Project and its subsequent phases to ensure proper integration and sequencing.*



**Concept Design Report:** The Concept Design Report provides the basis of design for the progressive design build (PDB) contractor. Tasks to be completed include:

- Conceptual drawings (5-10 percent design) for the Phase 1 Project.
- Technical Requirements including project setting, applicable codes/ standards and preliminary design criteria for all major components of the Phase 1 Project.
- Opinion of Probable Cost of Construction.
- Draft and Final Concept Design Report.

*Development of Concept Design Report enables LASAN to move towards PDB Contractor Procurement and establishes the basis of design of the final Phase 1 Project.*

**Inter-agency coordination and public engagement:** This task implements public involvement activities to inform stakeholders of the alternatives and project progress, obtain input on the final project scope and garner support for the project. Activities include:

- Monthly meetings with LADWP to discuss management, technical aspects of the project.
- Quarterly regional meetings with key regional partners.
- Technical Advisory Group (TAG) and Community Advisory Group (CAG) meetings to provide briefings to and solicit input from industry experts, community representatives, elected and appointed officials, and non-governmental organizations.
- Development of educational content (e.g. mailers, factsheets), website updates, and educational events at HWRP or other venues to promote public education.

*Enhanced inter-agency coordination and public engagement activities help address potential institutional issues during project development.*

**Environmental Planning:** LASAN and LADWP are jointly developing a Programmatic Environmental Impact Report (PEIR) for the overall Hyperion 2035 program. The PEIR will also cover the Phase 1 Project at a project-specific level. Funding for this task will be utilized to:

- Develop the Phase 1 Project description for the CEQA/ NEPA and permit documentation.
- Develop the Environmental Impact Study (EIS) for the Phase 1 Project.
- Develop a Permitting Plan identifying federal, state and local permits and approvals required to implement the Phase 1 Project.

*Completion of the proposed Environmental Planning activities enable LASAN to address environmental compliance requirements and move the project towards construction.*

**Reclamation Feasibility Study.** LASAN will develop a Bureau of Reclamation Feasibility Study, in accordance with WTR 11-01 and TRMR-128 for the Phase 1 Project. LASAN will develop a draft and final report summarizing: water reclamation and recycling opportunities; recycled water uses including a recycled water market analysis, source waters, and existing recycled water facilities and disposal options; Project Alternatives; Economic and Financial Analysis; Recommended Project; and Implementation Plan including regulatory, environmental and financial capabilities.

*Development of the Feasibility Study will enable LASAN to pursue federal funding opportunities through the Bureau of Reclamation's Large-Scale Recycled Water Program.*

# TECHNICAL PROPOSAL: RESPONSES TO EVALUATION CRITERIA

## EVALUATION CRITERION 1 – PROJECT PLANNING AND ANALYSIS

### Subcriterion 1a – Water recycling needs and opportunities

#### 1. Describe the problems and needs in the project area.

The amount of groundwater stored in Los Angeles area basins has been in decline for several decades. Lack of precipitation due to drought, the impacts of climate change, and a rise in population and commercial activity within the Los Angeles region have resulted in an increased demand for surface water and groundwater supplies. Declining amounts of surface water and groundwater reserves make it necessary to identify and utilize new water supply sources to sustain the long-term reliability and utility of local groundwater basins and decrease the region's dependence on increasingly scarce and expensive imported water supplies.

About one-tenth of the City's water supplies comes from local groundwater with the remaining 90 percent supplied by non-local sources. The San Fernando Valley Groundwater Basin (SFGWB) is the largest aquifer within the City, but more than two-thirds of its 115 water wells are not in use due to groundwater pollution dating as far back as the 1940s.

According to the County of Los Angeles Draft 2045 Climate Action Plan, extreme weather events in the region are expected to increase in intensity and frequency. Due to climate change, the area is likely to experience drier periods than what the region has historically experienced, followed by much wetter periods with more extreme

rain events. This meteorological “seesaw” may potentially lead to increased water scarcity, mudslides, and flooding.

These dramatic weather shifts make many of the City's current sources of water unreliable. The City procures a majority of its water from Metropolitan Water District of Southern California (MWD), which receives much of its sources from SWP. SWP, a water storage and delivery system, extends 700 miles from the Sacramento-San Joaquin Delta and supplies 30 percent of Southern California's water supply. SWP allocations have become increasingly variable, driven in part by the state's recent multi-year drought. The last time SWP provided 100 percent allocation was 2006, with recent allocations ranging between 0 (2022) and 20 percent (2021). The 2023 allocation is currently set at 5 percent.

The Colorado River, via CRA, serves as another major source of water for the City through MWD, and is at critically low levels due to drought and decades of overdrawing. The 40 million users of the river's waters in seven states have been asked to cut their consumption voluntarily or face mandatory restrictions. With 25 percent of MWD's source water from the CRA, cutbacks could impact the City's water supply reliability.

Furthermore, infrastructure conveying the City's imported source waters -- SWP, LAA, and CRA -- must cross the San Andreas Fault among others, making them vulnerable to seismic activity and putting the majority of the City's drinking water at risk if a major earthquake were to occur.

Lastly, the demand for water is expected to increase in the region in coming decades. An anticipated 0.64 percent annual growth rate in the next quarter century will add approximately 750,000 people to the region, according to the Southern California Association of Governments (SCAG), increasing water demands on the system while also increasing wastewater flow. Paired with the other risk factors and needs, it is essential

for the City to develop a local resilient water supply to reduce its reliance on imported water. By utilizing the most significant untapped local water source and treating it to high quality recycled water, the Hyperion 2035 Program, including Phase 1 Project, will diversify the City's water supply and thereby increase its resiliency and reliability.

**2. Describe the current and projected water supplies and demands in the project area.**

Primary sources of water for the LADWP service area are the SWP, CRA and LAA. These supplies are classified as imported because they are sourced from outside LADWP's service area. Approximately 90 percent of the City's water is obtained from non-local sources (see Figure 2). Implementation of the Phase 1 Project provides a new, local reliable water supply meeting 10 percent of the City's demands and moves the City towards its local water supply goal of 70 percent by 2035.

The City's current water supply mix results in a heavy dependence on snowfall and sufficient storage in Northern California, the Eastern Sierra Mountains, and the Colorado River watershed. In recent years, drought conditions and climate change have impacted the amount of snowfall in the Eastern Sierra and the Colorado River watershed. The Bureau of Reclamation has asked the seven states who rely on Colorado River water to come up with a plan to reduce their use of the river's flow by 2 million to 4 million acre-feet a year.

As the availability of non-local water supplies fluctuate, so does the City's ability to import water from these sources reliably. Although projections of water supply and demand imbalances differ based on factors including population, drought,

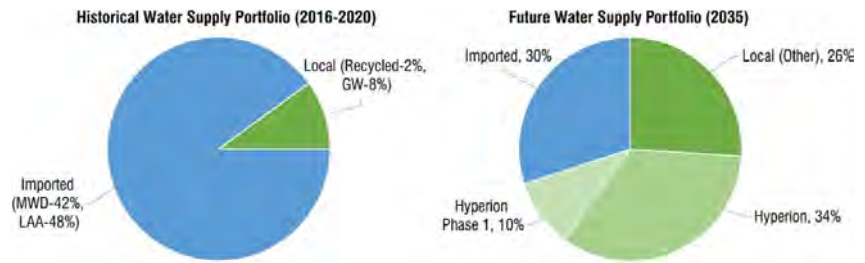


Figure 2: Past (2016-2020) and projected (2035) water supply sources for the City.

rainfall, climate change and other factors, analyses performed by MWD indicate there is a significant risk of shortfall of available water for MWD member agencies of up to 66 percent by 2045. Please see Figure 3 for more information.

Recent City studies have shown that availability of water from LAA is also at risk. LADWP completed a climate change study (2011 Climate Study) on the Eastern Sierra Nevada region to evaluate potential impacts to the LAA system. Results suggested an increase in temperature of 8°F, a reduction in precipitation of 10 percent and a reduction of snowpack in the Eastern Sierra Nevada region by the end of the 21st century. A 2020 update to the study showed similar results. These hydrologic changes may limit the City's ability to tap LAA as a source water.

While supply of water dwindles, however, demand in the region continues to grow. The City's service area population is expected to continue to grow over the next 25 years at a rate of 0.64 percent annually. This rate is similar to the historical 0.7

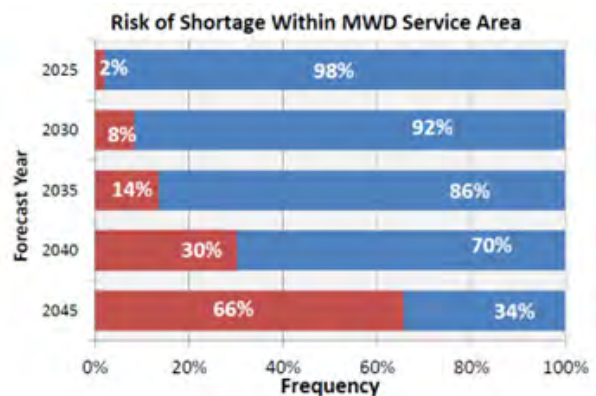


Figure 3: Risk of shortages of water for MWD member agencies during periods of high demand and low water availability.



percent annual growth rate from 1980 to 2020 and will lead to approximately 765,112 new residents over the next 25 years.

### **3. How planning activities will investigate potential uses/markets for reclaimed water**

The City has considered three strategies for instituting a recycled water program at HWRP:

- Potable reuse with groundwater augmentation - Projects that would spread (infiltrate) or directly inject recycled water into a groundwater basin that could be used as potable water after extraction and further treatment.
- Potable reuse with raw water augmentation prior to delivery - Projects that would deliver advanced treated recycled water (purified water) to a conventional water treatment plant before distributing into a potable water system.
- Potable reuse with treated water augmentation prior to delivery into the potable water distribution system - Projects that would deliver advanced treated recycled water (purified water) directly to a potable water distribution system.

Based on initial analyses, potential identified uses for IPR water quality associated with the Phase 1 Project include:

- West Coast Basin demands such as the Water Replenishment District of Southern California's (WRD) West Coast Barrier (WCB) injection (15,000 AFY) and Title 22 West Basin Municipal Water District (WBMWD) customers (20,000 AFY).
- Future potential demands include LADWP injection in the Central Basin (30,000 AFY), WCB Injection (15,000 AFY), groundwater recharge in the Torrance area (8-12,000 AFY), LADWP industrial customers (5-15,000 AFY), City of Santa Monica recharge (4-5,000 AFY) and others.

Planning grant funds will allow for the further investigation of these concept options to determine best use of recycled water in terms of public health, cost, regulation compliance, environmental impact and other factors. Issues in need of examination include development of an institutional agreement with regional project partners and infrastructure modifications necessary to leverage the existing WBMWD distribution system for the purpose of indirect potable reuse.

### **4. Describe the source water that will be considered for the project.**

The City completed a comprehensive analysis of its source waters. It has considered surface water, ground water, wastewater, dry-weather runoff, ocean water, industrial water and stormwater as potential sources in its efforts to decrease its reliance of non-local water and address future issues – such as drought – associated with climate change.

LASAN operates the City's sewer collection and treatment system, the source of the proposed recycling project. The City's wastewater service area consists of two distinct drainage basin areas: the Hyperion Service Area (HSA) and the Terminal Island Service Area (TISA). The HSA covers approximately 515 square miles and serves the majority of the Los Angeles population. In addition, the service area includes 29 non-city agencies that contract with the City for wastewater service.

Wastewater flows to HWRP are expected to remain stable in the next decades and provide a plentiful source of water for the proposed project. See Figure 4 on the following page for influent flows to HWRP.

The City has a successful water conservation program and one of the lowest per-capita water uses among large cities in the nation. Despite population growth of more than 1 million people in the past 40 years, the City's water demand has been relatively flat since the 1970s.

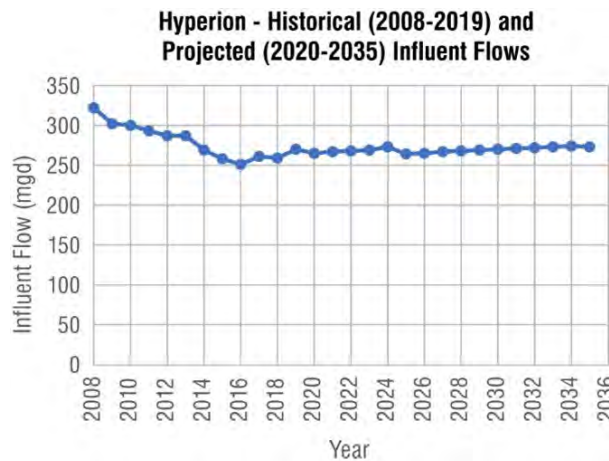


Figure 4: Past and projected effluent inflows to HWRP, 2008 – 2036.

After analysis of the potential source waters, the City identified advanced treated wastewater as the preferred sustainable, cost effective and environmentally advantageous solution to providing a new and reliable source of water for the growing region and is moving forward with efforts to recycle 100 percent of its wastewater by 2035. Grant funding for Phase 1 Project will assist the City by confirming the best approach to recycling at the HWRP in a manner that provides water supply resiliency for the City’s residents as well as that which benefits the environment.

### Subcriterion 1b – Evaluation of project alternatives

#### 1. Describe the objectives that all alternatives will be designed to meet.

Using multiple City analyses investigating the City’s future water, a set of criteria was developed to weigh alternatives considered to achieve its water recycling goals. Objectives that alternatives are designed to meet are grouped into four major categories:

**Economic:** Successful alternatives will have positive financial impact on the City and will be measured by their operations and maintenance costs and likelihood to obtain outside funding.

**Resiliency:** Alternatives will be evaluated on their resiliency to drought, earthquakes, floods, fire and

landslides as well as its ability to provide a reliable local water supply.

**Implementation:** Projects will be assessed on their ease of construction; potential for collaboration; regulatory approval requirements, including meeting evolving water standards for IPR and DPR and pumping and storage rights; and public engagement and support.

**Environmental:** Alternatives will be designed to provide an ecological benefit as well as environmental justice and service to previously underserved communities.

The City has implemented a collaborative approach to explore and evaluate project alternatives to develop a resilient community that can withstand drought and climate change, including:

- Stormwater – Stormwater projects capture or use stormwater to increase water supply and/or meet water quality goals.
- IPR – Treated recycled water is blended with other environmental buffers such as a river, reservoir or groundwater basin before the water is reused. Regulations are in place in California to guide the implementation and operation of such projects.
- DPR – Advanced treated recycled water is distributed directly into a potable water supply distribution system downstream of a water treatment plant or into the source water supply immediately upstream of the water treatment plant. Regulations for DPR in California are pending.
- Other Concepts – Other concepts including sewer rerouting projects, non-potable reuse (NPR), and water conservation measures.

#### 2. Describe how the planning activities will develop project alternatives.

LASAN and LADWP have completed a number of planning activities over the past five years to identify, evaluate and rank water supply

alternatives which have resulted in the identification of the Phase 1 Project. However, LASAN seeks to complete additional studies to develop an optimal regional recycled water program that meets the City's recycled water goals.

Alternative evaluations were completed as part of the One Water LA 2040 Plan. The plan provides an integrated framework for managing of the City's water resources with a focus on sustainability. It resulted in the identification of over two dozen water supply concept options. Through a series of technical workshops, stakeholder meetings and multi-agency collaboration, three strategies were carried forward – all focused on implementing a recycled water program at HWRP, as described in Criterion 1a.3.

LASAN completed a feasibility study in 2020 to refine the preferred alternative of converting HWRP to an advanced water purification facility. The study confirmed that HWRP has sufficient real estate to convert the south side of the plant from secondary treatment to full recycling that meets anticipated direct potable reuse regulations for the plant flow (including wet weather flow). LASAN conducted a treatment process evaluation study in 2021 to focus on technologies and provide a recommendation on the preferred technology for the Hyperion 2035 Program.

LASAN is currently constructing a MBR pilot facility at HWRP to test effectiveness of MBR and to establish design criteria for the design of the Phase 1 Project and subsequent phases. Additional studies to develop and progress the Phase 1 Project and the overall recycled water program are being undertaken by LASAN, in collaboration with LADWP and WBMWD (not part of the funding request). The Technical Studies, Facility Master Plan (PIP), and Concept Design Report proposed under this grant application enable LASAN to identify the optimal and preferred Phase 1 Project, including treatment and recycled water

application site(s). Evaluations conducted thus far have identified the conversion of the high-purity oxygen aeration basins to become the reactors (on air) as part of the MBR treatment process. Proposed planning activities will advance the design requirements and facility layouts to implement MBR and to add AWPf at the HWRP to produce IPR water, and ultimately DPR water. LASAN continues to vet alternatives proposed by other parties (e.g. continuing conventional activated sludge as opposed to utilizing MBR), and participates in joint assessments of advanced treatment process locations to best leverage the regional infrastructure for treatment and distribution of recycled water.

### **3. Provide a general description of the selected project including project features, benefits, anticipated costs, and analyses conducted.**

The City of Los Angeles, the second largest city in the nation by population, imports 90 percent of its water supply. HWRP is the City's oldest (constructed in 1894) and largest water reclamation plant with a peak wet weather flow capacity of 850 MGD. It is also the largest WRP in the Western United States. Currently, HWRP is operated as a full secondary treatment facility utilizing a high purity oxygen-activated sludge (HPOAS) process with most of its effluent discharged to Santa Monica Bay through a 5-mile outfall terminating at a depth of 200 feet. Through the Hyperion 2035 Program, the City plans to provide 45 percent of the City's water demand by recycling 100 percent of HWRP wastewater, thereby creating a new, reliable and resilient water source for the region. The multibillion Hyperion 2035 Program requires phasing not only due to its complexity and magnitude but also because of HWRP site constraints related to keeping the secondary treatment operational during the construction of the new facilities.



The Phase 1 Project, with a construction cost of \$1.4 billion (in 2022 dollars), is the first major phase of the project and implements critical infrastructure to deliver 56,044 AFY of IPR water. The Phase 1 Project consists of five main components: (1) enabling primary effluent conveyance modification projects; (2) conversion of secondary treatment to MBR (more compact and producing higher effluent quality) including nitrification/ denitrification; (3) construction of AWPf at HWRP that produces 56,044 AFY of IPR; (4) modifications to the WBMWD pump station for recycled water pumping; and (5) sidestream treatment facility to enhance the secondary treatment.

The specific elements part of Phase 1 include:

- Addition of diurnal flow equalization, fine screens and new intermediate pump station (and associated odor control) to address the hydraulic grade line
- Retrofit of existing aeration basins to become part of the MBR process
- Construction of AWPf facilities (RO and UV AOP systems)
- New power infrastructure for an increase in power demand due to new processes.
- Demolition of facilities (e.g. clarifiers will be demolished to accommodate membrane separation tanks and AWPf facilities [RO, UV AOP]).

- Modification to the WBMWD effluent pump station and cleaning of the pipeline to be utilized for the distribution recycled water through the existing distribution system.

Analyses conducted to date include the One Water Plan, HWRP Spatial Feasibility Study (2019) and Process Alternative Analysis (2021). LASAN conducted approximately 10 Hyperion 2035 Informing Technical Studies (ITS) to assess process integration, provisions for DPR, power demand, conveyance within the plant, ROC management and secondary clarifier improvement potential. LASAN has also started early project scoping to identify and expedite implementation of foundational projects and is initiating work on the PIP that will provide the blueprint for Hyperion 2035 Program elements.

The Phase 1 Project provides social, economic and environmental benefits on a local and regional scale in addition to the direct water supply benefit of 56,044 AFY. These benefits include conformance with current/future regulatory standards, water quality improvements, water portfolio augmentation and diversification, operational flexibility to address climate change, economic and cost effective solutions reducing rate payer burden, water supply reliability, local job creation, and workforce development.

**4. Include a preliminary schedule.**

Phase 1 Planning activities, will be completed by the funding program completion date of Oct.

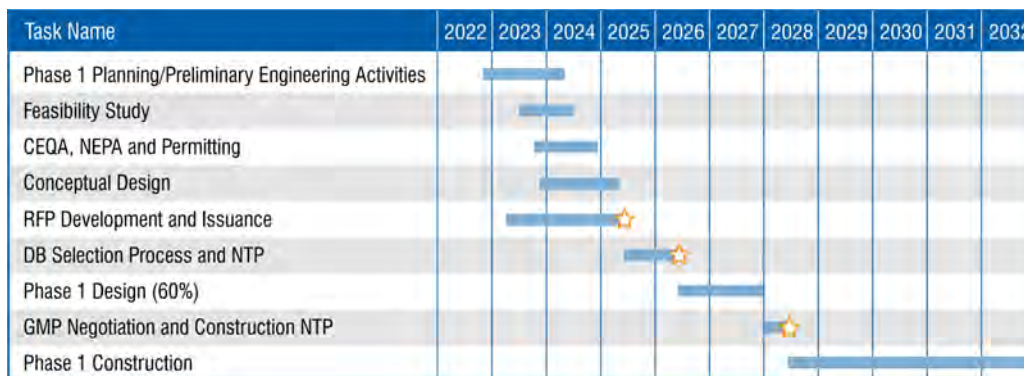


Figure 5: Phase 1 planning activities.

31, 2025 and enable LASAN to move the project forward to design and construction. Figure 5 provides an overview of the overall Phase 1 Project schedule.

## **EVALUATION CRITERION 2 – STRETCHING WATER SUPPLIES**

### **1. Potential to reduce, postpone, or eliminate the development of new or expanded non-recycled water supplies.**

The extended drought conditions in the Western states and associated SWP, LAA, and CRA cutbacks have resulted in variability in the availability of the City's SWP, LAA and CRA water sources and severely limit the ability of the City to increase its imported water allocations to meet future demands. For additional water supplies, the LA One Water Plan considered potential water supply alternatives, including ocean desalination; groundwater basins with and without treatment; stormwater capture/treatment; and potable reuse. If the Hyperion 2035 Program (IPR and DPR) is not implemented, the City will have to significantly increase the efforts of implementing other proposed alternative supplies.

The augmented supplies from the Phase 1 Project will produce 56,044 AFY of IPR quality water for immediate application, providing the City with the capability of meeting approximately 10 percent of current demands, thereby postponing or eliminating the development of new or expanded non-recycled water supplies both now and in the future. The augmentation of the City's existing water supply portfolio with recycled water will allow it to decrease, by the same amount, the quantity of water the City must obtain from non-recycled, non-local sources.

The increase in local reliable water supplies provides for a regional solution using underutilized resources to provide a sustainable water supply source that can be maximized in lieu of implementing other approaches such as desalination, increasing groundwater pumping or other non-recycled water supplies. *The Phase 1 Project is the first step towards moving the City's water supply portfolio to predominantly local water supplies from its imported sources,*

*thereby substantially reducing or eliminating the need to develop new supplies.*

### **2. Describe the potential to alleviate pressure on existing water supplies or facilities.**

The Phase 1 Project will directly alleviate the water supply stresses the City has experienced in the past by significantly reducing the City's dependence on imported water supplies with their variable availability and creating a recharge supply for local groundwater basins. The City secures 90 percent of its water from non-local sources, with MWD providing approximately 49 percent of the supply. MWD obtains its supply from SWP suppliers including the Sacramento-San Joaquin Delta and the critically over-drafted Colorado River, both of which are subject to cutbacks. The direct recharge of local groundwater basins, through IPR, will enable the City to extract approximately 56,044 AFY from the basins to use for local potable water supplies (meeting 10 percent of the City's demands), and enable the City to reduce its import of CRA and LAA waters which will alleviate pressure on the imported supply.

Offsetting large portions of imported water eliminates possible emergency shortages as a result of periods of extended drought, infrastructure failures or natural disasters. SWP distributed to Southern California water purveyors is sourced from the Sacramento-San Joaquin Delta and delivered via the California Aqueduct and Coastal Branch Pipeline. If this conveyance system were to undergo major repairs, suffer severe damage, or otherwise go offline for an extended period, the SWP-dependent area of the City would not be able to receive any imported water deliveries. The new water supply provided by the Phase 1 Project will enable the City to have increased flexibility in deciding when and how much SWP, CRA or LAA waters to take in a given hydrologic year. This could allow the

City to reduce deliveries of imported water by 56,044 AFY and thus alleviate pressure on the Sacramento-San Joaquin Delta and the Colorado River basin and/or reduce pressure on local groundwater basins.

### **3. Describe the potential to make water available to address a specific concern.**

The Phase 1 Project addresses concerns associated with water supply shortages, water supply reliability, groundwater depletion, water quality issues and natural disasters (e.g. seismic events) that can impact SWP and CRA infrastructure and increased costs by producing 56,044 AFY of a new, reliable water to augment local water supplies.

**Water Supply Shortages/Reliability:** The City's current supply mix is heavily dependent on imported water from Northern California, the Eastern Sierra, and the Colorado River Watershed, but chronic and more severe droughts reduce the reliability of these imported water supplies. The year 2022 was the state's 9th driest in the past 128 years. In 2014, drought reduced the SWP initial delivery allocation to zero for the first time in history and ended the year at only five percent. CRA deliveries are also vulnerable due to two decades of drought and years of overdraw, and the river basin's water supply are at historically low levels. The unpredictable reductions in imported water supplies have both reduced imported water supply reliability and increased stresses on many groundwater aquifers. As climate change makes weather patterns more volatile, the City realizes it must decrease its reliance on non-local water supplies and develop a reliable and resilient source of water for its community.

**Groundwater Resiliency:** The Phase 1 Project will also address concerns about groundwater basin resiliency and sustainability by decreasing the region's reliance of groundwater as a source and eliminating the negative effects of

overdrafting, such as seawater intrusion, which may further threaten its use as drinking water. The City has sourced approximately eight percent of its drinking water from groundwater in the past five years. Several of the City's groundwater basins are adjudicated, and wells have been removed from service due to pollutants from industrial waste left decades ago. While the City works actively to counteract past pollution and ongoing effects of climate change, IPR quality recycled water could assist by recharging basins and reducing seawater intrusion into the region's drinking water aquifers, thereby preserving and improving water supply reliability for the area.

### **4. Describe the potential to help create additional flexibility to address drought.**

Rainfall amounts in the Los Angeles region are highly variable, ranging from 4 inches to 37 inches annually between 1922 to 2016, with the total annual accumulation decreasing over time. According to the LADWP, hot and dry conditions increase water demand in the region by approximately 5 percent. The long periods of drought experienced by the region since 2012 have placed pressure on the system to make more water available. Population growth is also expected to further increase demand.

Because it imports 90 percent of its water from non-local sources that are subject to significant hydrologic variability, the City is vulnerable to drought and other effects of climate change experienced in the regions where its water is sourced. As discussed in Criteria 1a.2, these sources have become less reliable as drought conditions become more frequent.

The Project's recycled water is resilient to droughts because it is not dependent on hydrologic conditions and is generated directly from a reliable source water, the City's wastewater. Conveying HWRP's recycled water to local groundwater basins provides a resilient water supply that increases operational flexibility



and redundancy to the City's water portfolio thereby enabling it to better address drought. This supply can be used to meet demands or remain in the aquifer as storage for emergency use or other operational needs. Within the West Coast, Central, and San Fernando Valley Groundwater basins, there exists approximately one million acre-feet of available storage capacity, according to the LADWP's 2020 Urban Water Management Plan (UWMP).

Working in conjunction with WRD, the proposed project may utilize this storage potential by conveying IPR to the West Coast Seawater Barrier (WCSB) to help mitigate seawater intrusion, as well as to new injection wells located in the Central Basin and the San Fernando Valley Groundwater Basin. Each basin may serve an essential role in maximizing local groundwater storage. This will allow the City to maintain a reliable and diversified water supply in the event of emergency scenarios such as drought or disruptions in imported supplies.

### **EVALUATION CRITERION 3 – ENVIRONMENT AND WATER QUALITY**

#### **1. Describe the potential to improve the quality of surface water or groundwater.**

Local groundwater is a key resource that the City has relied upon as a major component of its water supply portfolio. In the past five years, local groundwater provided approximately eight percent of the total water supply for Los Angeles. Many of the region's basins, including the San Fernando Valley, West Coast and Central basins, are adjudicated or due to the presence of contaminants require treatment to be used - potentially limiting the amount of water that can be sourced from the basin. In the San Fernando Valley Basin (SFVB) alone, LADWP has 115 water supply wells, only 41 of which could be operated as of December 2020, according to the 2020 UWMP. In the neighboring Sylmar Basin, contamination has caused two of three

water supply wells to be removed from service. Water supply wells in the Central Basin have been impaired, taken out of service, and demolished as a result of groundwater contamination concerns. Water quality problems associated with total dissolved solids (TDS), chloride, and hydrocarbon pollutants caused LADWP to discontinue utilizing its West Coast Basin facilities in 1980. Furthermore, declining groundwater levels and potential overdraft conditions have become additional concerns for local groundwater basins where decades of expanding urbanization, increasing impervious hardscape, and channelization of stormwater runoff have diverted natural groundwater recharge away from local aquifers.

These challenges have prompted the City to renew its focus on its groundwater basins. With careful planning and remediation, the amount of water available for extraction could increase or decrease based on the management of the basin.

Of the reuse application alternatives that will be studied further under the Phase 1 Project, three include recharging recycled water into basins as IPR, which may assist with groundwater long-term sustainability, resiliency, and reliability.

1. Treat HWRP effluent with AWPF and recharge it into West Coast Basin by injection wells.
2. Treat HWRP effluent to supply the seawater intrusion barrier operated by the Los Angeles County Department of Public Works and help replenish the West Coast Groundwater Basin.
3. Treat HWRP effluent with AWPF and recharge it into Central Basin by injection wells.

The use of IPR quality recycled water for groundwater recharge will not only reduce overdraft in the basin, but it will also improve the basin's water quality by reducing total dissolved solids (e.g. salts) and other constituents. Planning grant funds would be used to help determine which reuse strategy would be best for

improving basin health, achieving groundwater augmentation and enhancing drought resiliency of the City's water supply.

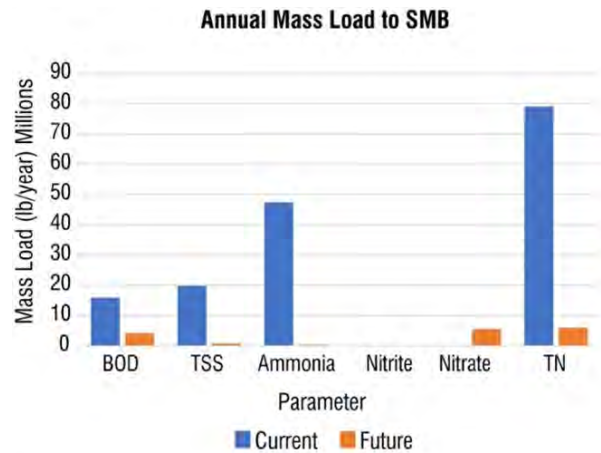
## 2. Potential to improve effluent quality beyond levels to meet State or Federal discharge requirements.

**The Phase 1 Project will produce water with effluent standards beyond levels necessary to meet State or Federal discharge requirements.** Currently, the City's existing HWRP must meet secondary treatment standards for discharge through HWRP's ocean outfall to the Pacific Ocean. Implementation of the Phase 1 Project will not only enhance the secondary treatment at HWRP by using membrane bioreactors, but it will also add a new AWPf that provides a proven purification process consisting of reverse osmosis and advanced oxidation and disinfection using ultraviolet light. The AWPf product water after the UV disinfection is near-distilled quality and, therefore, requires stabilization to prevent corrosion of conveyance pipelines. The stabilized water will then be conveyed for injection into groundwater basins.

The DPR regulations in California are in the draft form and expected to be finalized in 2023. Finalization of regulations will assist planning activities for the Hyperion 2035 Program expected to produce some DPR effluent water quality. Planning grant funds would be used to confirm the IPR and future DPR effluent discharge requirements, establish the Project's design parameters and develop the Preliminary Design Report to move the project towards contractor procurement.

By treating up to 56,044 AFY of wastewater effluent through MBR and AWPf, the HWRP will also reduce its pollutant discharges to the ocean and well beyond what is currently required HWRP's discharge permit. Upgrading the existing activated sludge secondary treatment system to membrane bioreactors will reduce the discharge

of biological oxygen demand, total suspended solids, and nitrogen compounds in the range of 80-100 percent (Refer to Figure 6). Pilot tests are currently underway to also determine the efficacy of enhanced removal of chemicals of emerging concern in membrane bioreactors.



Future mass loads are based on the expected water quality parameters from the NdN-MBR. Subject to verification during the Hyperion MBR Pilot.

Figure 6: Annual mass load to Santa Monica Bay.

## 3. Describe the potential to improve flow conditions in a natural stream channel.

Within the current portfolio of water supply sources serving Los Angeles, the largest source is imported water, representing 90 percent of the City's consumption. Within the imported supplies, the largest portion of water imports comes from the Bay Delta via SWP and the Colorado River via CRA. The recycled water produced by this project will offset a corresponding water demand that otherwise would need to be satisfied by imported water. This demand reduction translates to a greater quantity of water/flow through the Bay Delta and the Colorado River.

## 4. Describe the potential to restore habitat for non-listed fish/wildlife species.

Native non-listed fish species in Santa Monica Bay include the arroyo chub, California killfish, longjaw mudsucker, Pacific lamprey, Pacific staghorn sculpin, rainbow trout, shiner perch, speckled dace, three-spine stickleback, and

others. Currently less than one-third of the wastewater tributary to HWRP is recycled. Approximately 225 MGD of secondary treated water is routinely discharged via a 5-mile ocean outfall. While achieving the NPDES permit's requirements in terms of primary constituents (solids, BOD and ammonia), the treated effluent currently discharged amounts to a significant mass loading of pollutants into the Santa Monica Bay, stressing its assimilative capacity and potentially impacting its ecosystem by contributing to ocean acidification and hypoxia. Recycling of HWRP effluent, in lieu of the current ocean discharge, results in a smaller flow volume and significantly lower mass loadings to the bay (as noted in Criterion 3.2) thereby reducing impacts to the bay's ecosystem and restoring its habitat.

**5. Potential to provide water or habitat for federally listed threatened or endangered species.**

One of the greatest challenges facing the health of the San Francisco Bay Delta ecosystem is increasing water demand and negative impacts associated with corresponding withdrawals. As delineated in Criterion 3.3, the Phase 1 Project will create a new, substantive and sustainable water supply thereby reducing demand exerted on the Bay Delta as a potable water supply serving Los Angeles. Increased flow in the delta will enhance the habitat for sensitive aquatic species such as the tidewater goby, white abalone and black abalone (federally listed as endangered); Delta smelt (federally listed threatened); pink and green abalone (federally listed as a species of concern); giant sea bass (listed as a critically endangered species by the International Union for Conservation of Nature and Natural Resources); and longfin smelt (state listed threatened), as well as numerous non-listed species.

**EVALUATION CRITERION 4 – DEPARTMENT OF THE INTERIOR PRIORITIES**

**Climate Change** The impacts of climate change are particularly important in the Western United States where water supplies are already limited. The City actively monitors climate risks to its service area locally and to the watersheds of its imported water supplies. These watersheds spanning across the Western United States, include the Eastern Sierra Nevada, Northern Sierra Nevada, and the Colorado River Basin where water supplies from the LAA, SWP, and CRA originate, respectively.

Given that the City is dependent on imported water supplies, it is highly vulnerable to ongoing drought conditions. Like much of California, the City and region has experienced intermittent periods of prolonged drought in the past two decades:

- 2012: Moderate drought
- 2014, 2015, 2016: Extreme to exceptional drought
- 2018: Severe Drought
- 2021, 2022: Severe drought

Drought monitor maps (Figure 7) for the last three years show that the entire region was listed Abnormally Dry to Extreme Drought. These dry periods have wide-ranging impacts on the

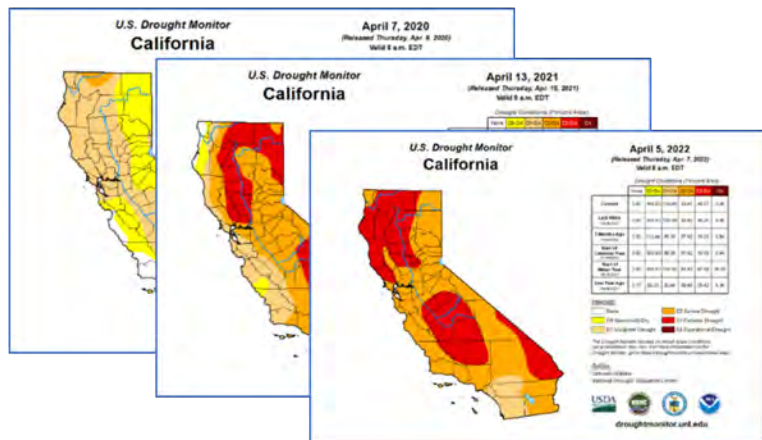


Figure 7: National Drought Monitor Map (2020, 2021 and 2022)



region, from escalated wildfire risks, decreased groundwater levels, decreased imported water supplies and increased water demand. Implementation of the Project will move the City towards a more climate-resilient place that is able to address an increasingly unpredictable climate. This means not only preparing for droughts, but also for increasing temperatures, more intense precipitation events, sea level rise, risk of wildfires and damage from high winds.

The Project addresses climate change by increasing the region’s water supply resiliency by creating drought resistant water supply and infrastructure that is flood-safe and seismically resilient. The recycled water supply includes IPR through storage in the region’s groundwater basins for future extraction as a local water supply or, in the future, DPR for addition to the City’s potable water system. Development of a reliable recycled water supply will help the City lessen its reliance on non-local sources which are threatened by climate change impacts and may be further restricted in future years. This new supply may be tapped during drought and other climate-impacted disasters in the region to ensure residents have access to clean water at all times. Finally, injection of recycled water into aquifers can help prevent saltwater intrusion due to sea-level rise and overdraft.

**Disadvantaged or Underserved Communities**

According to the 2020 U.S. Census, 17.2 percent of City residents are below the poverty line, approximately 1.4 times above California’s rate of 12.3 percent. The City contained 170 high-poverty neighborhoods in 2018, an increase from 139 in 1980. Median household income is \$70,372, about 80 percent of the State’s MHI (Census, 2020). Figure 8 shows the service area boundaries of LASAN along with the disadvantaged communities (DACs) (orange shading on map) and severely disadvantaged communities (SDACs) (brown shading on map), as defined by California

Department of Water Resources (DWR). The current DAC and SDAC thresholds are \$51,026 and \$38,270, respectively.

Disadvantaged communities are disproportionately impacted by socio-economic burdens and environmental hazards, including climate change and drought. Lack of transportation, alternate housing, income and other social protections can prevent those in poverty from getting assistance during periods of environmental crisis.

The City recognizes that equitable water management means reliable, affordable, and safe water supplies for all residents. One of the guiding principles of the One Water LA 2040 Plan was to “incorporate environmental justice into decision-making on where projects are implemented and focus on increasing benefits in underserved communities,” and this principle is a criterion used in evaluating alternatives and developing

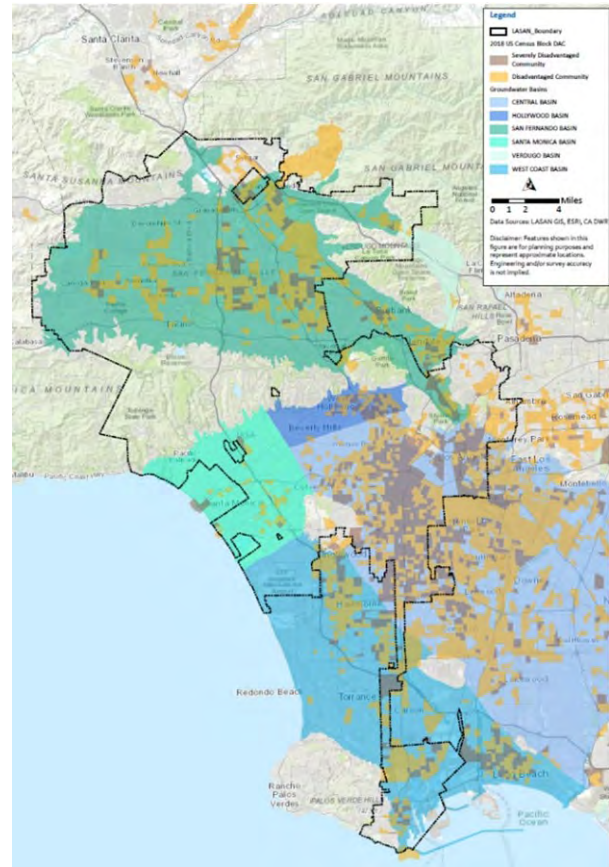


Figure 8: Map of LASAN service area and regions of disadvantaged and severely disadvantaged communities.



strategies in the proposed project. The proposed project's goal of recycling the City's wastewater at the HWRP will provide a stable source of water for the region including DACs/SDACs communities and ensure that droughts, natural disasters and other events do not prevent the City's most vulnerable from accessing the water they need for life.

Fluctuations and increases in water rates can create a burden on economically disadvantaged communities. The Phase 1 Project, which provides for a long-term, reliable, drought resistant water supply, also helps the City stabilize imported water price fluctuations (beyond the City's control) and minimize impacts on residents, especially those on fixed and low incomes. In recognition of the challenges faced by many residents, the City has continually considered affordability in the Phase 1 Project by leveraging existing infrastructure to the extent feasible.

**Tribal Benefits** The project benefits all residents of the City, including the Gabrielino Tongva Nation and other tribes, by providing an equitable source of water and contributing to the replenishment or restoration of groundwater basins. Local tribes will be consulted during the CEQA process to ensure that tribal interests are fully acknowledged.

## **EVALUATION CRITERION 5 – WATERSHED PERSPECTIVE**

### **1. Will project implement a regional or state water plan or an integrated resource management plan?**

The Hyperion 2035 Phase 1 Project implements a number of state and regional water plans.

The **2020 California Water Resiliency Portfolio (Portfolio)** represents the Governor's blueprint for state water management. The portfolio encourages water supply diversity, treatment of compromised supplies, infrastructure improvements, and climate impact preparedness (including reduced reliance on SWP). The Phase 1 Project supports the portfolio's goal of having

local and regional agencies reuse at least 2.5 million AFY by 2030.

The Phase I Project also supports the **State's 2018 Recycled Water Policy**, which recognizes the importance of recycled water as a critical water supply for California. The policy includes a goal of increasing recycled water use to 2.5 million AFY by 2030 and maximizing recycled water in areas where groundwater is in a state of overdraft.

As a member of the Greater Los Angeles County (GLAC) Region, the City has participated in the development of the **2017 Upper Los Angeles River Subregion Integrated Regional Water Management Plan (IRWMP)**, a collaborative effort to manage regional water resources. The IRWMP plans for the management of water resources in the GLAC region for the next 20 years, including recycled water projects in the City. The Phase 1 Project meets the plan's objectives.

The **City's Green New Deal** expands upon the City's 2015 Sustainable City Plan with the goal to secure clean air and water and a stable climate, improving community resiliency, and other initiatives. The Phase 1 Project will help Los Angeles improve its water supply resiliency by developing a local, drought resistant, recycled water supply; diversifying its water portfolio and reducing reliance on imported water. LASAN coordinates closely with Operation NEXT (led by LADWP) to meet the water management goals of the LA's Green New Deal.

The City's **2020 Urban Water Management Plan (UWMP)** provides water supply planning through 2045. It identified that recycled water from the HWRP will help to diversify the City's water supply portfolio by augmenting groundwater supplies, replenishing groundwater basins and providing other potential reuse opportunities.

## **2. Will project help meet the water supply needs of a large geographic area, region, or watershed?**

The Phase 1 Project provides a clean, safe and sustainable source of water supply for the portion of Los Angeles County south of the Santa Monica Mountains. Depending on the final uses of the water (see Criterion 1a.3), this water could serve customers receiving groundwater from the West Coast Basin or the Central Basin, potable water service from the LADWP in their City and Harbor service areas, potable water service from the cities of Torrance and Santa Monica, and/or recycled water service in either West Basin Municipal Water District or LADWP's service area. The population in the City that could receive water from the project is approximately 2.5 million. In addition, the population that could be served with water from the West Coast or Central Basins, Santa Monica, or West Basin MWD total approximately 3 million. Therefore, this project, could serve a population of up to 5.5 million people.

Climate change has resulted in rain and snowfall well below historical averages in California resulting in extended drought conditions throughout the State including the City. These impacts have reduced LAA and CRA waters and SWP reservoirs to unsustainable levels. The SWP, LAA and CRA systems provide water to meet City and state demands including drinking, environmental, and agricultural uses. Due to the drought, SWP allocations have been significantly reduced. For cities and agricultural users who rely on SWP and CRA systems, the reductions have resulted in a greater reliance on groundwater pumping, which, if over drafted, can cause increased seawater intrusion or permanent reduction in groundwater storage capacity. The Phase 1 Project provides the City with a new, sustainable water supply for its service area to meet potable water demands and reduce the

City's reliance on SWP and CRA. The volume of SWP and CRA not utilized by the City could be made available for use by local partners or water agencies elsewhere. Regional efforts to diversify and provide opportunities to better utilize SWP and CRA supplies amongst multiple users will be an important strategy for adapting to climate change in the Western U.S.

## **3. Does the project promote collaborative partnerships to address water-related issues?**

The Phase 1 Project is being developed in collaboration with regional partners to ensure institutional alignment and optimization of a regional solution; enhance collaboration; and address water supply shortages in the City and the surrounding region. The Phase 1 Project is managed by LASAN with LADWP as a key partner: LASAN is managing the treatment while LADWP will manage recycled water conveyance. LASAN and LADWP are conducting partnering sessions and regularly meet to discuss technical and management aspects of the project.

In addition, the enhancement of regional water supply resiliency is being promoted through interagency collaboration with WBMWD, LA County Public Works, WRD and MWD. LASAN meets at least quarterly with these regional partners to help shape the best approach for the broader Los Angeles area to build a local resilient water supply and reduce dependence on imported water. An outcome of these partnering efforts includes delivery of IPR water earlier than planned by partnering with WBMWD to serve existing recycled water demands located "south of the Santa Monica Mountains" including WRD's West Coast Barrier injection (15,000 AFY) and other West Basin customers (20,000 AFY), as well as anticipated future demands on the order of magnitude of 80,000 AFY between the LADWP injection in the Central Basin, additional WCB Injection, recharge in the Torrance area,

LADWP industrial customers and City of Santa Monica recharge.

Regional collaboration has enabled the water purveyors to prioritize achieving water supply resilience, including enhancing efficiency and cost-effectiveness, while utilizing existing regional facilities, contributing to the strong working relationship between project partners and the greater region. The project has been a catalyst for regional collaboration.

#### 4. Discuss public outreach and opportunities for the public to learn about the project?

LASAN and LADWP have been working to engage with stakeholders and the public on the region’s water supply issues and the Phase 1 Project. LASAN has conducted outreach activities to determine the feasibility of the project and share information with stakeholders about implementation. Community outreach activities, initiated in 2020, have included City Council meetings, development of a project specific website to provide the community with information on project activities and status updates, execution of public information/visioning workshops, and plant tours.

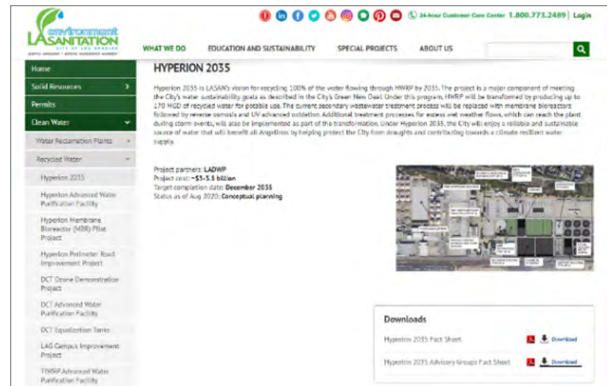


Figure 9: Photo of the Hyperion 2035 Project website.

In 2021, LASAN convened two Hyperion Advisory Groups, to discuss the projects challenges and opportunities, including:

- CAG, comprised of community-based organizations representing interests including economic development, labor, environmental justice, energy consumption, air quality, equity and more.
- TAG, comprised of environmental organizations, academia, and regulators to discuss topics related to outfall discharge, health of the Santa Monica Bay, energy and carbon footprints, regulations and permitting.

LASAN is also conducting tours focused on two recycled water pilot projects currently implemented at HWRP. LASAN has hosted elected and appointed officials including Antonio Villaraigosa, the State’s Infrastructure Advisor, to leverage federal dollars in building California infrastructure by Gov. Gavin Newsom. LASAN intends to continue and expand its public outreach efforts including briefing interested stakeholders, conducting tours, and engaging the TAG/CAG through Project development.

## OTHER FEDERAL FUNDING AND PROJECT BUDGET

The Project budget includes the following:

- Funding Plan.
- Letters of Commitment.
- Budget Proposal.
- Budget Narrative.

The Hyperion 2035 Phase 1 Project (Phase 1 Project), total project cost of \$1.4 billion, is the first major phase of the larger Hyperion 2035 Program and implements critical infrastructure to deliver 56,044 AFY of Indirect Potable Reuse (IPR) water. The Phase 1 Project, expected to be completed by 2032, consists of five main components: (1) enabling primary effluent conveyance modification projects; (2) conversion of secondary treatment to MBR including nitrification/ denitrification; (3) construction of AWWP at HWRP that produces 50 MGD of IPR; (4) modifications to the WBMWD pump station for recycled water pumping; and (5) sidestream treatment facility to enhance the secondary MBR treatment process. The Phase 1 Project, benefits the region by diversifying the water supply portfolio by adding a drought resistant water supply (recycled water), while modernizing the HWRP and reducing effluent discharges to the Santa Monica Bay. LASAN is requesting funding for the planning/preliminary engineering activities (including a Feasibility Study in accordance with WTRs 11-01/TRMR-128) required to move the Phase 1 Project forward into construction, as well as to align the program to pursue future federal funding opportunities under the Large Scale Recycled Water Program through the Bureau of Reclamation. **The total costs to be expended by LASAN during the funding period, October 31, 2023 (anticipated award date) and before October 31, 2025, on planning activities for the Hyperion 2035 Phase 1 Project is \$21,415,458.**

**LASAN is requesting Reclamation funding of \$5,000,000 or twenty-five percent of the total eligible cost.**

### FUNDING PLAN AND LETTERS OF COMMITMENT

The non-federal cost-share contribution, of \$16,415,458 for the Phase 1 Project will be provided by LASAN (Project Proponent). There are no other local, state or federal funding sources for project planning activities associated with the Phase 1 Project. The funds to be provided by LASAN will be committed and available upon notification of award and will enable LASAN to start planning efforts. There are no constraints on or contingencies associated with the availability of these funds.

### BUDGET PROPOSAL

Please refer to Table 1 for a summary of the non-federal and federal cost share contributions.

**Table 1 Summary of Non-Federal and Federal Funding Sources**

Funding Sources	Funding Amount
Non-Federal Entities	
1. Los Angeles Sanitation and Environment	\$16,415,458
<b>Total Non-Federal Funding</b>	<b>\$16,415,458</b>
<b>Requested Reclamation Funding</b>	<b>\$5,000,000</b>

*Any third-party contributions (i.e., goods and services provided by a third party).*

LASAN has not received nor anticipates receiving any third-party contributions for the Phase 1 Project planning activities.

*Any cash requested or received from other federal and non-federal entities.*

LASAN has not received nor anticipates receiving any federal or non-federal contributions.



Table 2 summarizes the Phase 1 Project budget proposal for the funding period between October 31, 2023 through October 31, 2025. The total budget for this funding period is \$21,415,458 which includes the cost for planning, public engagement, environmental, alternatives analyses, field studies, feasibility study development and preliminary design.

**Table 2 Phase 1 Project Budget Proposal**

Funding Sources	Funding Amount
Cost to be reimbursed with requested federal funding	\$5,000,000
Cost to be paid by the applicant	\$16,415,458
Value of third-party contributions	\$0
<b>Total Project Cost</b>	<b>\$21,415,458</b>

**BUDGET NARRATIVE**

The following budget narrative provides a discussion of items included in the budget proposal above and provides a budget breakdown and detailed support for the various tasks associated with Phase 1 Project. Budget categories that are listed as Not Applicable or have no costs associated with them are not included in the budget proposal for the project.

**Salaries and Wages and Fringe Benefits**

There are no salaries and wages or fringe benefits associated with LASAN staff being claimed as grant requested funds.

**Travel**

There are no travel costs being claimed as grant requested funds.

**Equipment**

Equipment for the project will be purchased by the selected contractor as part of their contract.

**Supplies and Materials**

There are no supplies and materials, outside of those purchased by the consultants as part of their contract.

**Construction**

There are no construction costs being claimed as grant requested funds.

**Third Party Materials**

There are no third-party materials being claimed as grant requested funds.

**Other Direct Costs**

There are no Other Direct Costs associated with the Phase 1 Project.

**Other Indirect Costs**

There are no other expenses being claimed as grant requested funds.

**Consultant (Planning and Design Services)**

Costs associated with this element are related to the planning of the Phase 1 Project. A request for proposal (RFP) was used to acquire the Owner’s Advisor/Design Team. The following summarizes the Phase I Project planning activities that potential grant funds would support:

- **Development of additional technical studies:** While LASAN already conducted numerous studies as described in the description of the selected project, additional studies are warranted to further evaluate known public concerns and/or new potential considerations that may stem from new regulations to come. The scope of work will consist of studying the following:
  - » Evaluation of reverse osmosis concentrate (ROC) flow management options in relation to impacts on Santa Monica Bay and NPDES Permit compliance (Santa Monica Bay PCB TMDL; dilution factors for ROC discharges)

- » Review of nutrient management options and expected reductions in nutrient loading and associated impacts on coast water quality
- » Evaluations of Contaminants of Emerging Concern (CECs) in wastewater, during advanced water purification, and in ROC

The total costs for the Technical Studies are as follows:

- Carollo Engineers, Inc. – \$39,806
- Trussell Technologies, Inc. - \$10,000
- Luce Consulting – \$100,000
- Larry Walker & Associates -- \$50,000

▪ **Review and refinement of alternatives analyses:** LASAN and its partner LADWP are jointly evaluating the best solution for the City. As new concepts come up, the team will continue to review the new ideas and alternatives identified (e.g. capital and O&M cost competitiveness, environmental impacts, etc.) to ensure that the best alternative is selected for the treatment at HWRP. LASAN will perform the following scope with support from consultants:

- » Conduct joint technical planning meetings with LADWP and their consultants
- » Review and evaluate treatment alternatives identified by HWRP, LADWP, Technical Advisory Committee members, or others. Compare to the baseline process train currently envisioned for Phase 1
- » Review the cost savings/impacts both for capital and O&M
- » Participate in meetings to review concepts proposed by other parties

The total costs for the Alternatives Analysis are as follows:

- Carollo Engineers, Inc. – \$166,432
- Stantec – \$90,000
- Trussell Technologies, Inc. - \$20,000

- CPM Construction, Inc. – \$15,000
- Other Direct Costs -- \$8,000

▪ **Feasibility Study.** LASAN has already performed extensive engineering studies to identify the modifications and additions needed to the HWRP to implement Phase 1, developing a comprehensive feasibility study meeting the requirements for a construction grant application will require substantial work given the complexity of the project. This effort will include the following key components:

- » Introductory Information
- » Statement of Programs and Needs
- » Water Reclamation, Recycling, and Desalination Opportunities describing uses of the recycled water, providing a recycled water market analysis (supplies and demands), customer incentives, agency jurisdictions, source waters, and existing recycled water facilities as well as disposal options.
- » Alternatives Analysis listing up to three alternatives to the proposed project in addition to a no-project alternative, and associated screening and ranking.
- » Economic and Financial Analysis including planning-level total capital costs and O&M, and life-cycle costs for each of the alternatives, comparison in \$/AF, and economic analysis demonstrating the cost effectiveness and economic benefits of the project in comparison to other water supply alternatives
- » Recommended Project Summary to describe the project objectives, scope, cost, schedule, phasing, and justification.
- » Implementation Plan to characterize regulatory requirements, environmental issues, financial capability, and research needs

- » Feasibility Study Report: a draft and final report will be developed

The total costs for the Reclamation Feasibility Study are as follows:

- Carollo Engineers, Inc. – \$359,612
  - Stantec – \$215,000
  - Trussell Technologies, Inc. -- \$25,000
  - Other Direct Costs -- \$46,000
- **Development of a Facility Master Plan (Program Implementation Plan):** Upon completion of the technical studies that will provide the basis for the scope of the project (e.g. power needs, major hydraulic corridors, treatment processes, etc.), the project team will need to develop a comprehensive facility master plan entitled “Program Implementation Plan” (PIP) laying out the technical elements of this project and its subsequent phases to ensure proper integration and sequencing. The scope of the PIP effort will consist of the following
    - » Development of baseline improvement concepts: design criteria, hydraulic profile, process flow diagrams, key facility layouts, major equipment schedule and estimated electrical loads
    - » Conduct weekly meetings to facilitate the presentation, review, and decisions on the above deliverables.
    - » Development of 3D models in SketchUp or other 3D tool.
    - » Analysis of the project packaging and phasing analysis
    - » Constructability, risk, and gap analysis
    - » Preliminary site investigation (e.g. surveying, geotechnical investigation, potholing, CAD modeling of utilities).

The total costs for the Facility Master Plan are as follows:

- Carollo Engineers, Inc. – \$1,427,468
  - Stantec – \$750,000
  - CPM Construction, Inc. – \$35,000
  - ProjectLine - \$250,000
- **Concept Design Report:** LASAN plans to deliver the Phase 1 Project utilizing a progressive design build (PDB) delivery method by bringing a design-build team onboard by mid-2026. The Concept Design Report provides the basis of design (project scope and design criteria) for the PDB contractor with an agreed-upon project concept and established design parameters. LASAN will develop this Concept Design Report by completing: Conceptual drawings for the Phase 1 project. The design completion will be on the order of magnitude of a 5-10% design.
    - » Geotechnical requirements for the portion of Hyperion where the facilities will be located.
    - » Project Technical Requirements will describe the project setting, applicable codes and standards and preliminary design criteria for all major components of the project.
    - » Opinion of Probable Cost of Construction

The total costs for the Concept Design Report are as follows:

- Carollo Engineers, Inc. – \$5,764,476
- Stantec – \$5,086,250
- Trussell Technologies, Inc. -- \$1,500,000
- CPM Construction, Inc. – \$80,000
- Projectline - \$2,171,250
- Ninyo & Moore – \$360,000
- Other Direct Costs -- \$50,000

- **Inter-agency coordination and public engagement:** This project being part of a regional solution, extensive inter-agency coordination will remain essential to ensure alignment, readiness, and collaboration to plan this critical first wave of water recycling at HWRP. Additionally, the development of this project must involve the public and non-profit governmental organizations to not only inform them of the alternatives and progress but even more so to obtain input to reflect into the plan, and garner support for the project. The scope of work will consist of the following:
  - » Preparation and attendance of monthly meetings with LADWP to discuss management and/or technical aspects of Phase 1
  - » Preparation and attendance of quarterly regional meetings with key regional partners such as WBMWD, MWDCS, WRD, LACDPW, LACSD.
  - » Preparation, hosting, facilitation, and summary of Technical Advisory Group (TAG) meetings where LASAN and its consultants will provide briefings to, and solicit input from, a cross section of industry experts
  - » Preparation, hosting, facilitation, and summary of Community Advisory Group (CAG) meetings where LASAN and its consultants will provide briefings to, and solicit input from, community representatives, elected and appointed officials, and non-governmental organizations.
  - » Preparation of educational content, posting for web access, and hosting of events at Hyperion or other venues to promote public education

The total costs for the Public Engagement are as follows:

- Carollo Engineers, Inc. – \$482,664
- Stantec - \$60,000
- Trussell Technologies, Inc. -- \$20,000
- Luce Consulting -- \$15,000
- Other Direct Costs -- \$22,000

- **Environmental Planning:** Phase 1 is part of the broader Programmatic Environmental Impact Report (PEIR) jointly led by LADWP and LASAN, covering treatment and distribution of the recycled water. While the PEIR will cover the entire Hyperion 2035 and Operation Next (distribution component) at the program level, it will likely also include project-specific information for Phase 1. The scope of work will consist of the following:

- » Development of the project description for environmental documentation
- » Development of the anticipated Environmental Impact Study
- » Development of the studies to address NEPA requirements

The total costs for the Environmental Planning are as follows:

- Carollo Engineers, Inc. – \$150,100
- Stantec -- \$100,000
- Trussell Technologies, Inc. -- \$50,000
- Larry Walker & Associates -- \$50,000
- Catalyst – \$850,000



### ▪ **Program and Administration**

The costs of this element of the project are Program Management activities for the planning activities by the Program Manager, Carollo Engineers, Inc. Carollo was the selected program manager for the Project and has provided support to the City completing administrative items, contract management, contractor procurement, funding coordination, public outreach, and coordination with City staff.

- Carollo, Inc. -- \$726,400
- Stantec -- \$265,000
- Other Direct Costs -- \$5,000

## REQUIRED PERMITS OR APPROVALS

LASAN has identified a preliminary list of state and local permits/approvals that are required for the planning, design, construction and operation of the Hyperion Phase 1 Project as summarized in Table 3. As part of the planning activities associated with Phase 1 Project, LASAN will confirm required permits and approvals required for project implementation.

**Table 3 Anticipated Federal/State/Local Permits**

Agency	Permit or Approval
California Coastal Commission	<ul style="list-style-type: none"> <li>• Conveyance Facilities: Coastal Development Permit</li> <li>• Recycled Water Facilities: Coastal Development Permit</li> </ul>
South Coast Air Quality Management District	<ul style="list-style-type: none"> <li>• Title V Permit and permits to construct and operate</li> </ul>
California Department of Transportation (Caltrans)	<ul style="list-style-type: none"> <li>• Conveyance Facilities: Encroachment Permit</li> </ul>
California Department of Fish and Wildlife	<ul style="list-style-type: none"> <li>• Conveyance Facilities: Section 1602 Lake and Streambed Alteration Program</li> <li>• Recycled Water Facilities: Section 1602 Lake and Streambed Alteration Program</li> </ul>
State Water Resources Control Board, Regional Water Quality Control Board	<ul style="list-style-type: none"> <li>• General: Enhanced Source Control and Pretreatment Program</li> <li>• National Pollutant Discharge Elimination System (NPDES) Permit</li> <li>• Construction General Permit Order 009-0009-DWQ</li> <li>• Recycled Water Facilities: Aquifer Storage and Recovery Permit</li> </ul>
	<ul style="list-style-type: none"> <li>• Regional Water Quality Control Board IPR and DPR Water Recycling Permit</li> </ul>
State Water Resources Control Board – Division of Drinking Water (DDW)	<ul style="list-style-type: none"> <li>• Conveyance Facility: DDW Separation Request</li> <li>• Potable Reuse Permit</li> </ul>
California State Historic Preservation Officer	<ul style="list-style-type: none"> <li>• Authorization to Start Construction</li> <li>• Conveyance Facilities: Authorization to Start Construction</li> <li>• Recycled Water Facilities: Authorization to Start Construction</li> </ul>

## Appendix A: **AUTHORIZING RESOLUTION**

An official resolution will be taken to the City Council, and the adopted resolution will be submitted prior to the April 29, 2023 deadline.

## DRAFT RESOLUTION

### **RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LOS ANGELES TO ACCEPT GRANT FUNDS FROM THE BUREAU OF RECLAMATION, FOR THE WATERSMART WATER RECYCLING AND DESALINATION PLANNING PROJECT GRANT PROGRAM**

WHEREAS, as of July 2022, the U.S. Drought Monitor indicates that more than 93% of the land in nine of the Western states is in drought conditions, and nearly 60% of the area is experiencing extreme or exceptional drought; and

WHEREAS, the City of Los Angeles (City) is the most populous city of California and the second most populous city in the United States. The City is primarily reliant on imported water supplies, which are highly vulnerable to cutbacks from droughts, environmental demands, natural disasters and infrastructure failures; and

WHEREAS, social and economic impacts associated with the City's water supply challenges include limited supplies to meet demands, increased cost of living, fire hazards, natural disasters, and rising imported water cost; and

WHEREAS, the United States Department of the Interior, Bureau of Reclamation (Reclamation)'s WaterSMART Grant Program provides financial assistance for projects that seek to conserve and use water more efficiently and accomplish other benefits that contribute to sustainability in the Western United States (West); and

WHEREAS, water recycling projects develop and supplement urban and irrigation water supplies through water reuse—thereby improving efficiency, providing flexibility during water shortages, and diversifying the water supply; and

WHEREAS, these projects provide Los Angeles with new sources of clean water which increases water management flexibility and makes our water supply more reliable; and

WHEREAS, the Infrastructure Investment and Jobs Act was passed in November 2021, which provided \$1 billion (\$1,000,000,000) over five years for Western water recycling programs through Reclamation; and

WHEREAS, the Reclamation's WaterSMART: Water Recycling and Desalination Planning Program (Grant) includes up to \$30 million (\$30,000,000) in funding available for feasibility studies, planning activities, preliminary design and environmental compliance activities that support the development of water recycling and desalination projects that will supplement existing fresh water supplies in urban and agricultural areas in the Western United States; and

WHEREAS, the City published L.A.'s Green New Deal (GND) in 2019 which set various targets to tackle the climate emergency, including sourcing 70 percent of the City's



water locally and recycling 100 percent of all wastewater for beneficial reuse by 2035; and

WHEREAS, the Bureau of Sanitation seeks to meet the GND's targets with the Donald C. Tillman Water Reclamation Plant Water Purification Facility Project and the Hyperion 2035: Phase 1 Project (Projects), which will deliver 15.5 million gallons per day (MGD) by 2027 and 50 MGD of recycled water by 2035, respectively; and

WHEREAS, the Bureau of Sanitation is submitting two applications to the Grant to request up to \$5 million (\$5,000,000) in funding to support planning and design of each of the Projects; and

NOW, THEREFORE, BE IT RESOLVED, with the concurrence of the Mayor, the City Council of the City of Los Angeles hereby:

1. Authorizes the Director and General Manager of the Bureau of Sanitation, or designee, to negotiate, accept, execute, and submit all documents, including, but not limited to, applications, agreements, amendments, and payment requests etc., by the deadlines established by the grantor, subject to the approval of the City Attorney as to form, which may be necessary to secure the WaterSMART Water Recycling and Desalination Planning Project Grant Program, through the United States Department of the Interior, Bureau of Reclamation, in an amount not to exceed **\$5 million (\$5,000,000) EACH**, for the implementation of the **HYPERION 2035 PHASE 1 AND D.C. TILLMAN ADVANCED WATER PURIFICATION WATER RECYCLING PLANNING PROJECTS**.

ADOPTED BY THE CITY COUNCIL on: \_\_\_\_\_.

I, the undersigned, hereby certify that the foregoing Resolution was duly adopted by the Council of the City of Los Angeles.

---

City Clerk

Appendix B:  
**LETTERS OF  
SUPPORT**



KAREN BASS  
MAYOR

February 24, 2023

The Honorable Camille Touton  
Commissioner  
U.S. Bureau of Reclamation  
1849 C Street NW  
Washington DC 20240-0001

**Re: Letter of Support for the Los Angeles Sanitation and Environment Department Application for Hyperion 2035 Program - FY2023 WaterSMART Water Recycling and Desalination Planning Program (Funding Opportunity Number R23AS00076)**

Dear Commissioner Touton:

I write in support of the Hyperion 2035 Phase 1 Project proposal submitted by the Los Angeles Sanitation and Environment Department's (LASAN) to the Bureau of Reclamation's FY2023 WaterSMART: Water Recycling and Desalination Planning Program (Funding Opportunity Number R23AS00076). The requested \$5 million will help fund the Phase 1 Project of the Hyperion 2035 Program (Hyperion 2035).

Hyperion 2035 will produce purified recycled water using advanced treatment, providing Los Angeles with a local, reliable, and resilient water supply. The Hyperion Water Reclamation Plant will be transformed into a water recycling hub to produce 230 million gallons of purified recycled water. This advances the Los Angeles Sustainability Plan to locally source 70% of water needs and recycle 100% of wastewater.

The Hyperion 2035 Phase 1 Project is the first of three phases to produce 50 million gallons per day of indirect potable reuse recycled water for injection into groundwater basins by 2032. Subsequent phases will expand the indirect potable reuse capacity and also include direct potable reuse. Hyperion 2035 will have the ability to provide approximately 50% of the City's water demand, help address current and future periods of drought, and reduce the City's reliance on imported water.

Investments are in place toward sustainability and resiliency for the construction of two pilot projects at the Hyperion Water Reclamation Plant to test the advanced treatment technologies that will be used for the full-scale transformation to water recycling. Construction of these pilot projects began in 2021 and is nearing completion. Thus, your support of this application will



ensure the continued progress toward the sustainability and resiliency of our City and the region's water.

Thank you for considering this proposal and for your commitment to sustainable water efforts for drought-impacted cities.

Sincerely,



KAREN BASS  
Mayor



TED W. LIEU  
36TH DISTRICT, CALIFORNIA

COMMITTEE ON THE  
JUDICIARY

COMMITTEE ON  
FOREIGN AFFAIRS

**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-0536**

2454 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON, DC 20515  
(202) 225-3976

1645 CORINTH AVENUE, SUITE 101  
LOS ANGELES, CA 90025  
(323) 651-1040

1600 ROSECRANS AVENUE, 4TH FLOOR  
MANHATTAN BEACH, CA 90266  
(310) 321-7664

February 27, 2023

The Honorable Camille Calimlim Touton  
Commissioner  
U.S. Bureau of Reclamation  
1849 C Street, NW  
Washington, D.C. 20240

Dear Commissioner Touton,

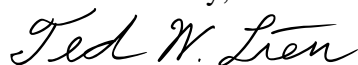
I write in support of the application submitted by Los Angeles Sanitation and Environment (LASAN) to the Bureau of Reclamation for a WaterSMART Water Recycling and Desalination Planning grant. LASAN is requesting \$5 million in funding to support the Phase 1 Project of the Hyperion 2035 Program (Hyperion 2035). Hyperion 2035 is expected to deliver 50 million gallons per day of purified recycled water to the city of Los Angeles (City) as early as 2032.

LASAN's Hyperion Water Reclamation Plant (HWRP) is the City's largest wastewater treatment facility and the largest source of recycled water for potable and non-potable purposes. The HWRP serves a population of four million, covering an area of over 600 square miles and discharges approximately 220 million gallons per day of fully treated wastewater into Santa Monica Bay. The Hyperion 2035 project will transform the HWPR into a water recycling hub and produce 230 million gallons of purified recycled water per day for reuse through advanced water purification treatment. Under Hyperion 2035, the City of Los Angeles will have local, reliable, and resilient water supply.

If this proposal is fully funded, LASAN will initiate Phase 1 Project of Hyperion 2035 to produce purified water and meet indirect potable reuse standards for various uses, including groundwater recharge and injection to prevent sea water intrusion. Hyperion 2035 will have the ability to provide approximately 50 percent of the City's water demand. The development of this project will allow Los Angeles to address current and future periods of drought and reduce its reliance on imported water.

I ask that you give this application full and fair consideration consistent with all applicable laws, rules, and regulations. Should your staff have any questions, please contact Ariana Heydari and Janet Mendez in my district office at (323) 651-1040.

Sincerely,



Ted Lieu  
Member of Congress

## Appendix C:

# STATEMENTS AND REQUIRED FEDERAL FORMS

### Overlap or Duplication of Effort Statement

The Phase 1 Project does not overlap with any other active or anticipated projects in terms of funding, activities, costs or commitment of key personnel.

### Uniform Audit Reporting Statement

The City was required to submit a Single Audit report for the most recently closed fiscal year. The City's Employer Identification Number (EIN) associated with that report is 95-6000735. The report is available through the Federal Audit Clearinghouse website.

### Conflict of Interest Disclosure Statement

The City has no conflicts of interest to disclose.

## OTHER FEDERAL FUNDING AND PROJECT BUDGET

The Project budget includes the following:

- Funding Plan.
- Letters of Commitment.
- Budget Proposal.
- Budget Narrative.

The Hyperion 2035 Phase 1 Project (Phase 1 Project), total project cost of \$1.4 billion, is the first major phase of the larger Hyperion 2035 Program and implements critical infrastructure to deliver 56,044 AFY of Indirect Potable Reuse (IPR) water. The Phase 1 Project, expected to be completed by 2032, consists of five main components: (1) enabling primary effluent conveyance modification projects; (2) conversion of secondary treatment to MBR including nitrification/ denitrification; (3) construction of AWWP at HWRP that produces 50 MGD of IPR; (4) modifications to the WBMWD pump station for recycled water pumping; and (5) sidestream treatment facility to enhance the secondary MBR treatment process. The Phase 1 Project, benefits the region by diversifying the water supply portfolio by adding a drought resistant water supply (recycled water), while modernizing the HWRP and reducing effluent discharges to the Santa Monica Bay. LASAN is requesting funding for the planning/preliminary engineering activities (including a Feasibility Study in accordance with WTRs 11-01/TRMR-128) required to move the Phase 1 Project forward into construction, as well as to align the program to pursue future federal funding opportunities under the Large Scale Recycled Water Program through the Bureau of Reclamation. **The total costs to be expended by LASAN during the funding period, October 31, 2023 (anticipated award date) and before October 31, 2025, on planning activities for the Hyperion 2035 Phase 1 Project is \$21,415,458.**

**LASAN is requesting Reclamation funding of \$5,000,000 or twenty-five percent of the total eligible cost.**

### FUNDING PLAN AND LETTERS OF COMMITMENT

The non-federal cost-share contribution, of \$16,415,458 for the Phase 1 Project will be provided by LASAN (Project Proponent). There are no other local, state or federal funding sources for project planning activities associated with the Phase 1 Project. The funds to be provided by LASAN will be committed and available upon notification of award and will enable LASAN to start planning efforts. There are no constraints on or contingencies associated with the availability of these funds.

### BUDGET PROPOSAL

Please refer to Table 1 for a summary of the non-federal and federal cost share contributions.

**Table 1 Summary of Non-Federal and Federal Funding Sources**

Funding Sources	Funding Amount
Non-Federal Entities	
1. Los Angeles Sanitation and Environment	\$16,415,458
<b>Total Non-Federal Funding</b>	<b>\$16,415,458</b>
<b>Requested Reclamation Funding</b>	<b>\$5,000,000</b>

*Any third-party contributions (i.e., goods and services provided by a third party).*

LASAN has not received nor anticipates receiving any third-party contributions for the Phase 1 Project planning activities.

*Any cash requested or received from other federal and non-federal entities.*

LASAN has not received nor anticipates receiving any federal or non-federal contributions.

Table 2 summarizes the Phase 1 Project budget proposal for the funding period between October 31, 2023 through October 31, 2025. The total budget for this funding period is \$21,415,458 which includes the cost for planning, public engagement, environmental, alternatives analyses, field studies, feasibility study development and preliminary design.

**Table 2 Phase 1 Project Budget Proposal**

Funding Sources	Funding Amount
Cost to be reimbursed with requested federal funding	\$5,000,000
Cost to be paid by the applicant	\$16,415,458
Value of third-party contributions	\$0
<b>Total Project Cost</b>	<b>\$21,415,458</b>

**BUDGET NARRATIVE**

The following budget narrative provides a discussion of items included in the budget proposal above and provides a budget breakdown and detailed support for the various tasks associated with Phase 1 Project. Budget categories that are listed as Not Applicable or have no costs associated with them are not included in the budget proposal for the project.

**Salaries and Wages and Fringe Benefits**

There are no salaries and wages or fringe benefits associated with LASAN staff being claimed as grant requested funds.

**Travel**

There are no travel costs being claimed as grant requested funds.

**Equipment**

Equipment for the project will be purchased by the selected contractor as part of their contract.

**Supplies and Materials**

There are no supplies and materials, outside of those purchased by the consultants as part of their contract.

**Construction**

There are no construction costs being claimed as grant requested funds.

**Third Party Materials**

There are no third-party materials being claimed as grant requested funds.

**Other Direct Costs**

There are no Other Direct Costs associated with the Phase 1 Project.

**Other Indirect Costs**

There are no other expenses being claimed as grant requested funds.

**Consultant (Planning and Design Services)**

Costs associated with this element are related to the planning of the Phase 1 Project. A request for proposal (RFP) was used to acquire the Owner’s Advisor/Design Team. The following summarizes the Phase I Project planning activities that potential grant funds would support:

- **Development of additional technical studies:** While LASAN already conducted numerous studies as described in the description of the selected project, additional studies are warranted to further evaluate known public concerns and/or new potential considerations that may stem from new regulations to come. The scope of work will consist of studying the following:
  - » Evaluation of reverse osmosis concentrate (ROC) flow management options in relation to impacts on Santa Monica Bay and NPDES Permit compliance (Santa Monica Bay PCB TMDL; dilution factors for ROC discharges)



- » Review of nutrient management options and expected reductions in nutrient loading and associated impacts on coast water quality
- » Evaluations of Contaminants of Emerging Concern (CECs) in wastewater, during advanced water purification, and in ROC

The total costs for the Technical Studies are as follows:

- Carollo Engineers, Inc. – \$39,806
- Trussell Technologies, Inc. - \$10,000
- Luce Consulting – \$100,000
- Larry Walker & Associates -- \$50,000

▪ **Review and refinement of alternatives analyses:** LASAN and its partner LADWP are jointly evaluating the best solution for the City. As new concepts come up, the team will continue to review the new ideas and alternatives identified (e.g. capital and O&M cost competitiveness, environmental impacts, etc.) to ensure that the best alternative is selected for the treatment at HWRP. LASAN will perform the following scope with support from consultants:

- » Conduct joint technical planning meetings with LADWP and their consultants
- » Review and evaluate treatment alternatives identified by HWRP, LADWP, Technical Advisory Committee members, or others. Compare to the baseline process train currently envisioned for Phase 1
- » Review the cost savings/impacts both for capital and O&M
- » Participate in meetings to review concepts proposed by other parties

The total costs for the Alternatives Analysis are as follows:

- Carollo Engineers, Inc. – \$166,432
- Stantec – \$90,000
- Trussell Technologies, Inc. - \$20,000

- CPM Construction, Inc. – \$15,000
- Other Direct Costs -- \$8,000

▪ **Feasibility Study.** LASAN has already performed extensive engineering studies to identify the modifications and additions needed to the HWRP to implement Phase 1, developing a comprehensive feasibility study meeting the requirements for a construction grant application will require substantial work given the complexity of the project. This effort will include the following key components:

- » Introductory Information
- » Statement of Programs and Needs
- » Water Reclamation, Recycling, and Desalination Opportunities describing uses of the recycled water, providing a recycled water market analysis (supplies and demands), customer incentives, agency jurisdictions, source waters, and existing recycled water facilities as well as disposal options.
- » Alternatives Analysis listing up to three alternatives to the proposed project in addition to a no-project alternative, and associated screening and ranking.
- » Economic and Financial Analysis including planning-level total capital costs and O&M, and life-cycle costs for each of the alternatives, comparison in \$/AF, and economic analysis demonstrating the cost effectiveness and economic benefits of the project in comparison to other water supply alternatives
- » Recommended Project Summary to describe the project objectives, scope, cost, schedule, phasing, and justification.
- » Implementation Plan to characterize regulatory requirements, environmental issues, financial capability, and research needs

- » Feasibility Study Report: a draft and final report will be developed

The total costs for the Reclamation Feasibility Study are as follows:

- Carollo Engineers, Inc. – \$359,612
  - Stantec – \$215,000
  - Trussell Technologies, Inc. -- \$25,000
  - Other Direct Costs -- \$46,000
- **Development of a Facility Master Plan (Program Implementation Plan):** Upon completion of the technical studies that will provide the basis for the scope of the project (e.g. power needs, major hydraulic corridors, treatment processes, etc.), the project team will need to develop a comprehensive facility master plan entitled “Program Implementation Plan” (PIP) laying out the technical elements of this project and its subsequent phases to ensure proper integration and sequencing. The scope of the PIP effort will consist of the following
    - » Development of baseline improvement concepts: design criteria, hydraulic profile, process flow diagrams, key facility layouts, major equipment schedule and estimated electrical loads
    - » Conduct weekly meetings to facilitate the presentation, review, and decisions on the above deliverables.
    - » Development of 3D models in SketchUp or other 3D tool.
    - » Analysis of the project packaging and phasing analysis
    - » Constructability, risk, and gap analysis
    - » Preliminary site investigation (e.g. surveying, geotechnical investigation, potholing, CAD modeling of utilities).

The total costs for the Facility Master Plan are as follows:

- Carollo Engineers, Inc. – \$1,427,468
  - Stantec – \$750,000
  - CPM Construction, Inc. – \$35,000
  - ProjectLine - \$250,000
- **Concept Design Report:** LASAN plans to deliver the Phase 1 Project utilizing a progressive design build (PDB) delivery method by bringing a design-build team onboard by mid-2026. The Concept Design Report provides the basis of design (project scope and design criteria) for the PDB contractor with an agreed-upon project concept and established design parameters. LASAN will develop this Concept Design Report by completing: Conceptual drawings for the Phase 1 project. The design completion will be on the order of magnitude of a 5-10% design.
    - » Geotechnical requirements for the portion of Hyperion where the facilities will be located.
    - » Project Technical Requirements will describe the project setting, applicable codes and standards and preliminary design criteria for all major components of the project.
    - » Opinion of Probable Cost of Construction

The total costs for the Concept Design Report are as follows:

- Carollo Engineers, Inc. – \$5,764,476
- Stantec – \$5,086,250
- Trussell Technologies, Inc. -- \$1,500,000
- CPM Construction, Inc. – \$80,000
- Projectline - \$2,171,250
- Ninyo & Moore – \$360,000
- Other Direct Costs -- \$50,000

- **Inter-agency coordination and public engagement:** This project being part of a regional solution, extensive inter-agency coordination will remain essential to ensure alignment, readiness, and collaboration to plan this critical first wave of water recycling at HWRP. Additionally, the development of this project must involve the public and non-profit governmental organizations to not only inform them of the alternatives and progress but even more so to obtain input to reflect into the plan, and garner support for the project. The scope of work will consist of the following:
  - » Preparation and attendance of monthly meetings with LADWP to discuss management and/or technical aspects of Phase 1
  - » Preparation and attendance of quarterly regional meetings with key regional partners such as WBMWD, MWDCS, WRD, LACDPW, LACSD.
  - » Preparation, hosting, facilitation, and summary of Technical Advisory Group (TAG) meetings where LASAN and its consultants will provide briefings to, and solicit input from, a cross section of industry experts
  - » Preparation, hosting, facilitation, and summary of Community Advisory Group (CAG) meetings where LASAN and its consultants will provide briefings to, and solicit input from, community representatives, elected and appointed officials, and non-governmental organizations.
  - » Preparation of educational content, posting for web access, and hosting of events at Hyperion or other venues to promote public education

The total costs for the Public Engagement are as follows:

- Carollo Engineers, Inc. – \$482,664
- Stantec - \$60,000
- Trussell Technologies, Inc. -- \$20,000
- Luce Consulting -- \$15,000
- Other Direct Costs -- \$22,000

- **Environmental Planning:** Phase 1 is part of the broader Programmatic Environmental Impact Report (PEIR) jointly led by LADWP and LASAN, covering treatment and distribution of the recycled water. While the PEIR will cover the entire Hyperion 2035 and Operation Next (distribution component) at the program level, it will likely also include project-specific information for Phase 1. The scope of work will consist of the following:

- » Development of the project description for environmental documentation
- » Development of the anticipated Environmental Impact Study
- » Development of the studies to address NEPA requirements

The total costs for the Environmental Planning are as follows:

- Carollo Engineers, Inc. – \$150,100
- Stantec -- \$100,000
- Trussell Technologies, Inc. -- \$50,000
- Larry Walker & Associates -- \$50,000
- Catalyst – \$850,000

### ▪ **Program and Administration**

The costs of this element of the project are Program Management activities for the planning activities by the Program Manager, Carollo Engineers, Inc. Carollo was the selected program manager for the Project and has provided support to the City completing administrative items, contract management, contractor procurement, funding coordination, public outreach, and coordination with City staff.

- Carollo, Inc. -- \$726,400
- Stantec -- \$265,000
- Other Direct Costs -- \$5,000