

**City of Los Angeles
LA Sanitation and Environment (LASAN)**

On-call Consultant Services Contract

Task Order Solicitation (TOS) S-068 for

**Collection System and Water Reclamation Plant Model Development,
Maintenance, and Refinement**

November 2025

1. Introduction

LA Sanitation and Environment (LASAN) has been utilizing a hydraulic collection system model to evaluate the existing hydraulic condition of its sanitary sewer network, establish thresholds for hydraulic relief of sewers, and to identify areas of high inflow and infiltration (I/I). In 2024 the collection system model was calibrated and validated, through a Task Solicitation Order (TOS), for Dry-Weather Flow (DWF) and Wet-Weather Flow (WWF) including an update to the City's 10-year Dynamic Design Storm with climate change consideration.

To properly maintain the calibrated model for long-term planning, it is necessary to refine key model components and inputs. Model components such as Pumping Plants and Low-Flow Diversions (LFD) will be necessary to model the pumped flow into the network based on established operations or existing conditions. Incorporating completed new sewer or sewer rehabilitation projects can further refine the model to simulate post-construction flow conditions and assess available capacity. Another crucial input to the model is wastewater flow projections for various planning windows. With the recent 2020 U.S. Census, updates to the population and flow projections are necessary to ensure future pipe capacity.

In addition to receiving the calibrated Citywide model, (LASAN) received preliminary hydraulic and process models representing the Donald C. Tillman Water Reclamation Plant (DCTWRP) and Los Angeles-Glendale Water Reclamation Plant (LAGWRP). Refining the existing models will be necessary including developing the hydraulic and process models at the remaining Water Reclamation Plants (WRP) at Hyperion and Terminal Island. Development of these hydraulic and process models are crucial to improving plant operations and efficiency. The model can aid in optimizing flows through the treatment process, including optimization of chemical feed and dosing that can lead to cost-savings. Additionally, modeling of plant hydraulics can assist in determining existing capacities and assist with planning for upgrades to accommodate future flows.

2. Scope of Services

LASAN seeks a qualified Consultant team to provide technical expertise and guidance in planning, modeling, engineering, operations improvements, and data collection and analysis. This work shall include, but is not limited to: a review of as-built drawings or other relevant data or records and Supervisory Control and Data Acquisition (SCADA) or plant data analysis.

The qualified Consultant shall also provide modeling support services and training to further expand the City's modeling capabilities.

The following provides more details regarding the services required from the qualified Consultant:

Task 1: Perform updates to model sewer components required from the following subtasks:

- a) Update pump station network, operations, or pumped flow including incorporating new structures.
- b) Update the Low Flow Diversion (LFD) network or operations including incorporating new structures.
- c) Update model sewer network with completed sewer rehabilitation projects including creating new or updating model sewer cross-sections (CRS).

Deliverables:

- Updated MIKE+ sewer model network with any required ancillary files.
- Technical Memorandum summarizing model network updates performed.

Task 2: Revise future flow projections based on available census or population data, City planning data, and recommendation of new planning horizons. The City currently uses near, mid-term, and long-term years of 2040, 2080, and 2120 to plan for wastewater capital improvement needs. Procurement of Gauge Adjusted Radar Rainfall (GARR) continuous data between September 2022 and May 2024, or a maximum total of sixteen (16) months of data, for network optimization.

- a) Assess and evaluate the current methodology used to determine future flow projections.
- b) Recommend near-, mid-, and long-term planning years.
- c) Develop population and employment projections for the recommended near-, mid-, and long-term planning years.
- d) Incorporate flow projections for recommended near-, mid-, and long-term planning windows into the updated model received in Task 1. These future flow scenarios shall be organized within the Scenario Manager with the ability to

simulate the dry or wet-weather condition for current flows (existing scenarios) or future flows (new scenarios).

- e) Procure continuous GARR data between September 1, 2022 and May 1, 2024, up to a total maximum of sixteen (16) months of meaningful data.

Deliverables:

- MIKE+ model with future flow simulation capability with any required ancillary files.
- Continuous GARR in ESRI ASCII and CSV metadata file format.
- Technical Memorandum summarizing population projection methodologies, planning ranges, data analyzed, and recommendations.
- Report summarizing each rainfall event in the GARR data period.

Task 3: Review pertinent data and records to develop a hydraulic and process model in MIKE WEST for the Hyperion Water Reclamation Plant (HWRP). The hydraulic model shall be evaluated with the maximum hydraulic capacity pushed through without surcharging the process basins or sewers. This includes model calibration and validation of the (WRP).

- a) Review available data necessary for model construction and develop a technical memorandum identifying data gaps and assumptions.
- b) Construct hydraulic model for (HWRP) in MIKE+.
- c) Perform model validation and flood (hydraulic) assessment from available plant process tank flow or level monitoring data.
- d) Review available data and information to evaluate the plant process and operations.
- e) Conduct a site visit and plant walkthrough with operations staff at the WRP to further develop an understanding of the treatment unit processes and operational challenges.
- f) Develop the MIKE WEST model for (HWRP).
- g) Perform model calibration and validation of (HWRP) process model.

Deliverables:

- Technical memorandum summarizing data gaps and assumptions made during the data review subtask.
- MIKE+ Hydraulic Model for (HWRP) including any required ancillary files.
- Technical memorandum summarizing the model validation subtask.
- Technical memorandum summarizing the hydraulic assessment subtask.
- Review of available data and information such as record drawings, historical flows and loads, secondary process parameters, solids handling operations, and effluent quality data necessary for the process model.
- MIKE WEST Process Model for (HWRP) including any required ancillary files.
- Technical memorandum detailing the model calibration and validation subtask for (HWRP), including a summary of adjusted model parameters to match plant data, results, recommendations, and assumptions.

Task 4: Review pertinent data and records to develop a hydraulic and process model in MIKE WEST for the Terminal Island Water Reclamation Plant (TIWRP). The hydraulic model shall be evaluated with the maximum hydraulic capacity pushed through without surcharging the process basins or sewers. This includes model calibration and validation of the (WRP). Additionally, this task will include the development of an optimization study using the process model that focuses on optimizing the plant's aeration system and activated sludge biological nutrient removal process.

- a) Review available data necessary for model construction and develop a technical memorandum identifying data gaps and assumptions.
- b) Construct a hydraulic model for (TIWRP) in MIKE+.
- c) Perform model validation and flood (hydraulic) assessment from available plant process tank flow or level monitoring data.
- d) Review available data and information to evaluate the plant process and operations.
- e) Conduct a site visit and plant walkthrough with operations staff at the WRP to further develop an understanding of the treatment unit processes and operational challenges.
- f) Develop the MIKE WEST model for (TIWRP).
- g) Perform model calibration and validation of (TIWRP) process model.
- h) Develop an optimization study that identifies alternatives, such as advanced aeration control and other optimization options to ensure robust nutrient removal and enhance energy efficiency.

Deliverables:

- Technical memorandum summarizing data gaps and assumptions made during the data review subtask.
- MIKE+ Hydraulic Model for (TIWRP) including any required ancillary files.
- Technical memorandum summarizing the model validation subtask.
- Technical memorandum summarizing the hydraulic assessment subtask.
- Review of available data and information such as record drawings, historical flows and loads, secondary process parameters, solids handling operations, and effluent quality data necessary for the process model.
- MIKE WEST Process Model for (TIWRP) including any required ancillary files.
- Technical memorandum detailing the model calibration and validation subtask for (TIWRP), including a summary of adjusted model parameters to match plant data, results, recommendations, and assumptions.
- Optimization study providing model findings and recommendations for aeration optimization and other activated sludge near-term operational and/or long-term project recommendations. Study to quantify expected aeration energy savings and provide the benefits of, including any requirements, for applying such alternatives. Study to also consider downstream impacts on advanced treatment systems. Deliverable to also include model files and required ancillary files.

Task 5: Refinement of the existing MIKE+ hydraulic and process WEST models at (DCTWRP) and (LAGWRP). This includes model calibration and validation of these (WRPs).

- a) Review technical memorandums and documentation from the original hydraulic and process model development for known data gaps and assumptions for (DCTWRP) and (LAGWRP).
- b) Review available data and information to evaluate the plant process and operations.
- c) Conduct a site visit and plant walkthrough with operations staff at the WRP to further develop an understanding of the treatment unit processes and operational challenges.
- d) Refine existing WEST models for (DCTWRP) and (LAGWRP), including but not limited to sample collection to characterize wastewater parameters.
- e) Perform model calibration and validation.

Deliverables:

- Review of available data and information such as record drawings, historical flows and loads, secondary process parameters, solids handling operations, and effluent quality data.
- Updated MIKE+ Hydraulic Models for (DCTWRP) and (LAGWRP) including any required ancillary files.
- Updated MIKE WEST Process Models for (DCTWRP) and (LAGWRP) including any required ancillary files.
- Technical memorandum detailing the model calibration and validation subtask for (DCTWRP) and (LAGWRP), including a summary of adjusted model parameters to match plant data, results, recommendations, and assumptions.

Task 6: Provide knowledge transfer and training to LASAN staff on the following Tasks and items:

- a) Two (2) Days of visual training using MIKE+ to incorporate or adjust existing boundary conditions to account for future growth. Training to focus on a small City basin.
- b) Two (2) Days of visual training utilizing MIKE WEST for the new hydraulic and process models for (HWRP) and (TIWRP).

Deliverables:

- Virtual training and recorded sessions for incorporating future growth to MIKE+. Including electronic copies of presentations, manuals, and related documentation.
- Virtual training and recorded sessions of MIKE WEST hydraulic and process models. Including electronic copies of presentations, manuals, and related documentation.

3. Term of Engagement and Cost Estimate

The term of engagement is 24 months from the issuance date of the Notice to Proceed (NTP) with two 12-month extensions if necessary. It is estimated that the cost ceiling for this TOS is approximately \$2,216,410 including \$443,282 contingency.

4. Solicitation Schedule (Tentative)

- Issue Task Order SolicitationDate of Cover Letter.
- Receive Solicitation Responses.....As indicated in Cover Letter.
- Conduct Interviews if necessary.....4 - 8 weeks after issuance of TOS.
- Select and Negotiate.....8 - 12 weeks after issuance of TOS.
- Execute Task Agreement Form.....16 - 24 weeks after issuance of TOS.

- **Estimated Project Start Date:** May 2026

5. Solicitation Response Requirements

Solicitation Responses shall not exceed twenty (20) pages, exclusive of cover, dividers and resumes. Solicitation Responses shall be submitted to the following LASAN staff via email, no later than 2:00 pm on the proposal due date indicated in the cover letter:

- Troy Ezeh, troy.ezeh@lacity.org
- Gabriel Angulo, gabriel.angulo@lacity.org
- David Santos, san.oncall@lacity.org

Solicitation Responses shall include:

- Resume demonstrating that the candidate is capable of meeting the requirements of the Scope of Work. Resume shall include work experience history with dates, and references from past employers, owners, and/or organizations.
- Provide a proposed individual cost breakdown by tasks.
- Provide a breakdown of estimated time for completion of task.
- Proposed Billing Salary Rate Summary for the proposed candidate with all respective direct and indirect costs, markups, expenses, overhead rates and profit. **(See Attachment A below.)**
- MBE/WBE/SBE/EBE/DVBE/OBE subcontractors utilized and the percent utilization. **(See Attachment A below.)**

Note: Department of Public Works only recognizes:

- MBE/WBE certifications certified by City of LA – Bureau of Contract Administration (LABCA), LA County Metropolitan Transportation Authority (MTA), CalTrans, The Southern California Minority Supplier Development Council (SCMSDC), or Women's Business Enterprise National Council (WBENC)-WEST; and any member of California Unified Certification Program (CUCP); and
- SBE/EBE/DVBE certifications certified by LABCA or State of California – Department of General Services (CA-DGS)
- A firm can only be a MBE or WBE (not both) for a pledged amount
- A firm with multiple certifications is acceptable (i.e., a MBE/SBE/EBE/DVBE firm will fulfill 4 of 6 required categories)
- Provide a copy of valid MBE/WBE/SBE/EBE/DVBE Certifications of MBE/WBE/SBE/EBE/DVBE subcontractors utilized.
- If a subconsultant needs to be added to Schedule A, use Mini Outreach Subconsultant Phone Log template uploaded to RAMP (Regional Alliance Marketplace for Procurement) for this TOS.**
- Statement pertaining to the candidate's availability.

6. Selection Criteria

The selection team will evaluate the proposals using the following criteria:

- A. Consultant Qualifications, Experience, and Expertise
- Proven capability in conducting scientific studies and data analysis supporting wastewater planning.
 - Capability, and experience in providing the Scope of Services as demonstrated by the proposal.
 - Expert knowledge and work experience associated with DHI's MIKE+ and WEST modeling software.
 - Experience in assessing local population and employment data for future Capital Improvement Projects.

- B. Personnel Qualifications, Experience, and Expertise
 - Expert knowledge and work experience associated with DHI's Mike+ and WEST modeling software.
 - Experience in assessing Water Reclamation Plant process data.
- C. Technical Approach
 - Knowledge of typical Water Reclamation Plant processes and operations.
- D. Project Management Approach
 - Ability to provide timely updates and deliverables for feedback.
 - Experience in coordinating with various City departments.
- E. Competitive Fees and Costs
 - The value offered to the City considering cost in comparison to capabilities and experience of the candidates.
 - Direct and indirect costs, markups, expense, overhead rates and profit will be considered.

7. Suggested MBE/WBE/SBE/EBE/DVBE/OBE Participation Levels

The City has set anticipated participation levels (APLs) for sub-consultants as follows: 18% MBE, 4% WBE, 25% SBE, 8% EBE, and 3% DVBE. Minority, women, small, emerging, disabled veteran owned and controlled businesses must be considered along with other business enterprises whenever possible as sources of subconsulting services.

8. Task Order Manager

LASAN On-Call Contracts Representative: David Santos, Management Analyst,
On-Call Contracts Representative, Administration Division, (213) 485-2579,
san.oncall@lacity.org

Designated Task Manager for this TOS: Troy Ezeh, Environmental Engineer,
Wastewater Engineering Services Division (WESD), (323) 342-6251,
troy.ezeh@lacity.org.

9. Disclaimer

The City may or may not decide to award any or part of this task order based on its sole convenience and shall not be responsible for any solicitation response costs.