



● **Board of Directors**
Engineering, Operations, and Technology Committee

5/9/2023 Board Meeting

7-3

Subject

Authorize an increase of \$1.5 million to an existing agreement with Stantec Consulting Services Inc. for a new not-to-exceed total amount of \$1.69 million for preliminary design of a mechanical dewatering facility at the Joseph Jensen Water Treatment Plant; and an amendment to an agreement with Los Angeles Department of Water and Power to extend Metropolitan's use of two solids lagoons at the Aqueduct Filtration Plant; the General Manager has determined that the proposed actions are exempt or otherwise not subject to CEQA

Executive Summary

In December 2012, Metropolitan's Board authorized an agreement with Los Angeles Department of Water and Power (LADWP) for Metropolitan's use of four lagoons on the grounds of LADWP's Aqueduct Filtration Plant to facilitate the processing of solids materials from the treatment process. Under this strategy, the long-term use of LADWP lagoons, supplemented by a planned mechanical solids dewatering facility at the Joseph Jensen Water Treatment Plant (Jensen plant), would support solids processing for a Jensen flow capacity of 500 million gallons per day (mgd). Feasibility studies have been completed, and staff recommends proceeding with preliminary design of new mechanical dewatering facilities on the Jensen plant site. This action authorizes an amendment to an existing agreement for the design of dewatering facilities at the Jensen plant, and an amendment to the use agreement with LADWP to forego construction of two new lagoons on LADWP's property and to extend the date of use for two of the lagoons.

Details

Background

The Jensen plant was placed into service in 1972 and has a rated capacity of 750 mgd. Located in Granada Hills, the Jensen plant normally treats water from the West Branch of the State Water Project and delivers it to Metropolitan's Central Pool and to exclusive service areas on the west side of the distribution system.

The water treatment process results in settled solids being collected from the Jensen plant's sedimentation basins. These solids materials are currently thickened on-site and pumped through a solids-transfer system to four nearby lagoons on the grounds of LADWP's Los Angeles Aqueduct Filtration Plant. The dried solids are then transported for off-site disposal. Solids produced at the Jensen plant may also be discharged to a city of Los Angeles sanitary sewer. However, sewer disposal is expensive and is limited by the discharge permit.

In 2012, the boards of both Metropolitan and LADWP authorized a 50-year agreement that allowed Metropolitan to use four lagoons, identified as Lagoon Nos. 2, 3, 7 and 8, on the site of LADWP's Aqueduct Filtration Plant for solids dewatering. The four lagoons were expected to process 50 percent of the solids generated at a plant flow rate of 500 mgd under design conditions and could process all solids at lower flows and favorable water quality conditions. With the use of four lagoons, it was expected that construction of the mechanical dewatering facility at the Jensen plant could be deferred seven years or longer, reducing upfront capital expenditures. The agreement also allows the LA Department of Recreation and Parks to use Metropolitan property on the Jensen plant site for recreational ball fields pursuant to a separate lease agreement. Per the use agreement with LADWP, Lagoon Nos. 2 and 3 are to be returned to LADWP by October 1, 2024; Lagoon Nos. 7 and 8 are to be returned to LADWP by October 1, 2062. The agreement also commits LADWP to provide space for Metropolitan to build two new lagoons at the Aqueduct Filtration Plant.

In anticipation of the return of Lagoon Nos. 2 and 3 to LADWP, staff completed a feasibility study to evaluate options for replacing the solids dewatering functionality of Lagoons Nos. 2 and 3. The study took into account the higher groundwater levels in the vicinity of the proposed new lagoons, as well as historical dewatering performance of the existing lagoons, which has been hampered by wet weather conditions. The study recommends that Metropolitan should construct a mechanical dewatering facility at the Jensen plant site sized for 500 mgd rather than building two new lagoons on LADWP property and a mechanical dewatering facility sized for 250 mgd. Initial studies are now complete, and staff recommends proceeding with preliminary design of the dewatering facilities, amending an agreement for engineering services, and amending the agreement with LADWP, as discussed below.

Budget Impact

In accordance with the April 2022 action on the biennial budget for fiscal years 2022/23 and 2023/24, the General Manager will authorize staff to proceed with preliminary design of a solids mechanical dewatering facility at the Jensen plant, pending board authorization of the agreement amendments described below. Based on the current Capital Investment Plan (CIP) expenditure forecast, funds for work to be performed pursuant to this action during the current biennium are available within the CIP Appropriation for Fiscal Years 2022/23 and 2023/24 (Appropriation No. 15508). Approximately \$2.6 million will be incurred in the current fiscal biennium. It is anticipated that all expenditures will be incurred in the current biennium and have been previously authorized.

This project has been reviewed in accordance with Metropolitan's CIP prioritization criteria and was approved by Metropolitan's CIP evaluation team to be included in the Treatment Plant Reliability Program.

Jensen Solids Mechanical Dewatering Facility – Preliminary Design

Planned improvements for Jensen's residual solids processing include the construction of a mechanical dewatering facility and associated solids conveyance piping, chemical feed, and electrical and control systems.

Preliminary design activities include: (1) detailed field investigations; (2) environmental review; (3) preparation of a three-dimensional model and preliminary design drawings; (4) development of final design criteria; (5) updates to piping and instrumentation diagrams; (6) value engineering; (7) preparation of a preliminary design report; and (8) development of a class 3 construction cost estimate. These activities are planned to be conducted by both Metropolitan staff and Stantec Consulting Services Inc. (Stantec) under an existing agreement described below. The scope of work for Stantec includes preliminary design for civil, structural, mechanical, and electrical disciplines. Metropolitan staff will perform preliminary design for instrumentation design, environmental support, project management, and technical review.

A total of \$2.6 million is required for this work. Allocated funds include \$1.5 million for preliminary design activities by Stantec, described below. Allocated funds for Metropolitan staff activities include \$310,000 for instrumentation design, technical oversight, and review of consultant's work; \$325,000 for environmental support, project controls and project management; and \$165,000 for remaining budget. Other allocated funds include \$300,000 for value engineering and geotechnical investigations, which will be performed by specialty firms under contracts planned to be executed under the General Manager's Administrative Code authority.

Engineering Services (Stantec Consulting Services, Inc.) – Amendment to Agreement

In August 2022, an agreement with Stantec was authorized under the General Manager's authority for a not-to-exceed amount of \$190,000 to perform a study for the construction of a new mechanical dewatering facility at Jensen. Stantec was selected via Request for Proposals No. 1302 and was selected based on the firm's extensive experience in the design of large water/wastewater treatment plants with solids dewatering facilities. Stantec has completed study phase activities and is now recommended to perform the preliminary design scope of work discussed above under the amended agreement.

This action authorizes an increase of \$1.5 million to the existing agreement with Stantec Consulting Services Inc. for a new not-to-exceed amount of \$1.69 million to perform the preliminary design of a new mechanical solids dewatering facility at the Jensen plant. For this agreement, Metropolitan has established a Small Business Enterprise participation level of 25 percent. Stantec has agreed to meet this level of participation. The planned subconsultants for this work are listed in **Attachment 2**.

Metropolitan Use of Solids Lagoons at the Aqueduct Filtration Plant – Amendment to Agreement

The existing 50-year use agreement was executed in February 2013 and allows Metropolitan to use Lagoons Nos. 2, 3, 7 and 8 on the grounds of the Los Angeles Aqueduct Filtration Plant site. The terms of the agreement provide the option for Metropolitan to construct two additional lagoons on LADWP property at its own cost and require that Lagoons Nos. 2 and 3 be returned to LADWP by October 1, 2024, based on the assumption that construction of the new lagoons would be completed by this date. Staff has evaluated plans for a long-term solution for Jensen solids management and concluded that a mechanical dewatering facility at Jensen sized to manage solids production from a 500 mgd plant flow coupled with the potential use of existing LADWP Lagoons 7 and 8 provides Metropolitan with the most resilient approach to solids management. This approach would eliminate the need for construction of the new lagoons on LADWP's property.

LADWP and Metropolitan have agreed to amend the language of the lagoon use agreement to allow additional time for Metropolitan to use Lagoons Nos. 2 and 3 during the design and construction of a new mechanical solids dewatering facility for the Jensen plant. Metropolitan's use of Lagoons Nos. 2 and 3 will be extended until Metropolitan's construction of the mechanical solids dewatering facility is complete or until December 31, 2033, whichever occurs first. Metropolitan will retain the use of Lagoons Nos. 7 and 8 for the 50-year term of the use agreement. Consistent with this approach, Metropolitan will forego the opportunity to construct two new lagoons on LADWP property, and new articles will be added to allow LADWP to use Lagoon No. 2, as needed, prior to December 31, 2033.

This action authorizes an amendment to the existing use agreement with LADWP to include changes described above in a form approved by the General Counsel.

Alternatives Considered

Staff evaluated alternative approaches for handling the residual solids at the Jensen plant, including (1) the construction of two new lagoons on the site of LADWP's plant, (2) construction of a mechanical dewatering system sized for the full Jensen plant flow of 750 mgd, and (3) construction of a hybrid dewatering system that relies on mechanical solids handling at the Jensen plant as well as the use of LADWP lagoons. The hybrid alternative that includes dewatering facilities sized for 500 mgd and the use of Lagoons Nos. 7 and 8 at the LADWP site will provide the Jensen plant with the flexibility to address occasional higher flows and higher inlet turbidity. Furthermore, with the construction of mechanical dewatering systems, solids handling capacity will not be impacted by inclement weather or high groundwater in the vicinity of the lagoons. Staff recommends proceeding with the hybrid approach of constructing a 500-mgd mechanical dewatering system at the Jensen plant and using existing LADWP Lagoons Nos. 7 and 8. A mechanical dewatering system will be routinely used for processing solids when the plant flows are less than 500 mgd. In those situations where the Jensen plant treats higher flows or high turbidity conditions are encountered, then the off-site lagoons will be used to supplement the mechanical dewatering capacity.

Alternatives considered to complete the preliminary design for the mechanical solids dewatering facility at the Jensen plant included assessing the availability and capability of in-house Metropolitan staff to complete this work. Metropolitan's staffing strategy for utilizing consultants and in-house Metropolitan staff has been: (1) to assess current work assignments for in-house staff to determine the potential availability of staff to conduct this work; and (2) for long-term rehabilitation projects, when resource needs exceed available in-house staffing or require specialized technical expertise.

After assessing the current workload for in-house staff, the relative priority of this project, and the specialized technical expertise required, staff recommends continuing the use of a professional services agreement to complete the subject project. This approach will allow for the completion of not only this project, but also other budgeted capital projects within their current schedules and ensure that the work is conducted in the most efficient manner possible.

Summary

This action amends an existing agreement with Stantec Consulting Services Inc. for a new not-to-exceed amount of \$1.69 million to provide engineering services for a mechanical solids dewatering facility at the Jensen plant. This action also amends the agreement with LADWP for the use of lagoons on the grounds of the Aqueduct Filtration Plant site to extend Metropolitan's use of Lagoon Nos. 2 and 3. See **Attachment 1** for the Allocation of Funds, **Attachment 2** for the List of Subconsultants, and **Attachment 3** for the Location Map.

Project Milestone

May 2024 – Completion of preliminary design of the Jensen plant's dewatering facility

Policy

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 49271, dated December 11, 2012, the Board authorized an agreement with Los Angeles Department of Water and Power for Metropolitan use of solids lagoons at the Aqueduct Filtration Plant.

By Minute Item 52778, dated April 12, 2022, the Board appropriated a total of \$600 million for projects identified in the Capital Investment Plan for Fiscal Years 2022/23 and 2023/24.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed actions are categorically exempt under the provisions of CEQA and the State CEQA Guidelines. The proposed actions consist of basic data collection and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. This may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed actions qualify for a Class 6 Categorical Exemptions (Class 6, Section 15306 of the State CEQA Guidelines).

CEQA determination for Option #2:

None required

Board Options

Option #1

- a. Authorize an increase of \$1.5 million to an existing agreement with Stantec Consulting Services Inc. for a new not-to-exceed total amount of \$1.69 million for preliminary design of a mechanical dewatering facility at the Jensen plant.
- b. Authorize an amendment to an agreement with Los Angeles Department of Water and Power to forego construction of two new lagoons on LADWP's property and to extend Metropolitan's use of two solids lagoons at the Aqueduct Filtration Plant.

Fiscal Impact: \$2.6 million in capital funds. All expenditures will be incurred in the current biennium and have been previously authorized.

Business Analysis: This action will allow the Jensen plant to continue processing residual solids in the near term while completing design and construction of a new mechanical dewatering facility.

Option #2

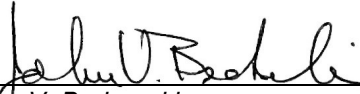
Do not proceed with amending the agreements.

Fiscal Impact: None

Business Analysis: This option would require staff to return to the Board with an alternative approach for addressing the future needs of the Jensen plant to process residual solids.

Staff Recommendation

Option #1



John V. Bednarski
Manager/Chief Engineer
Engineering Services

4/21/2023

Date



Adel Hagekhalil
General Manager

4/25/2023

Date

Attachment 1 – Allocation of Funds

Attachment 2 – List of Subconsultants

Attachment 3 – Location Map

Ref# es12689138

Allocation of Funds for Jensen Mechanical Dewatering Facility

| | Current Board Action (May 2023) |
|---|--|
| Labor | |
| Studies & Investigations | \$ - |
| Preliminary Design | 310,000 |
| Owner Costs (Program mgmt., envir. planning) | 325,000 |
| Construction Inspection & Support | - |
| Metropolitan Force Construction | - |
| Materials & Supplies | - |
| Incidental Expenses | - |
| Professional/Technical Services | |
| Stantec Consulting Services, Inc. | 1,500,000 |
| Geotechnical Investigations | 230,000 |
| Value Engineering | 70,000 |
| Contracts | - |
| Remaining Budget | 165,000 |
| Total | \$ 2,600,000 |

The total amount expended to develop the mechanical dewatering facility at Jensen is approximately \$227,000. The total estimated cost to complete this project, including the amount allocated to date, funds allocated for the work described in this action, and future construction costs, is anticipated to range from \$45 million to \$55 million.

The Metropolitan Water District of Southern California
Subconsultants for Agreement with Stantec Consulting Services Inc.
Jensen Mechanical Dewatering Facility

| Subconsultant and Location | Service Category; Specialty |
|--|------------------------------------|
| T2 Utilities Huntington Beach, CA | Subsurface Utility Engineering |
| Beyaz and Patel San Diego, CA | Structural Design |
| ProjectLine Technical Services Costa Mesa, CA | Mechanical Design |

Distribution System

