

# Engineering, Operations, & Technology Committee Jensen and Mills Solids Removal System Rehabilitation

Item 7-3 February 12, 2024

### Subject

Authorize an agreement with Stantec Consulting Services Inc. in an amount not to exceed \$1 million for preliminary design to rehabilitate the solids removal systems at the Joseph Jensen and Henry J. Mills Water Treatment Plants

### Purpose

Rehabilitation of the solids removal system at the Jensen and Mills plants to improve operational functionality and reliability

### **Recommendation and Fiscal Impact**

Authorize an agreement with Stantec Consulting Services Inc. Fiscal Impact of \$2,300,000

### Budgeted

### Location Map



### **Project Location**



Jensen Modules 2 & 3 Sedimentation Basins

Mills Modules 3 & 4 Sedimentation Basins

## Background

- Each basin is equipped with a traveling bridge to convey solids
- Solids conveyance equipment
  - Pumps
  - Sweep arms
  - Suction piping



#### Traveling Bridge at Jensen plant



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# Background – Jensen Plant

- Traveling bridge alignment problems
  - Increasing maintenance required
  - Decreased solids removal efficiency



Motor drive at end of service life



Gaps in rail



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End-wheels damaged

### Background – Mills Plant

- Excess water in solids increases drying time
- Control system is outdated ~ reached end of service life



#### Existing Vacuum System



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# Project Scope

### Jensen plant

- Replace existing traveling bridge end-truck structure & drive system
- Upgrade bridge control system & power supply
- Replace 48 basin inlet gate actuators
  Mills plant
  - Replace bridge assembly & upgrade with VFD
  - Replace existing vacuum system with a pumping system
  - Automate solids removal system

### Metropolitan Scope of Work

- Prepare piping & instrumentation diagrams
- Perform survey
- Technical oversight
- Review of consultant's work
- Project management

### Alternatives Considered

- Metropolitan staff to complete all preliminary design activities
  - Resource needs exceed staff availability
  - Specialized technical expertise required
- Selected Alternative Use consultant services with specialized expertise

### New Agreement – Stantec Consulting Services Inc.

- Selected through RFP No. 1355
- Scope of Work
  - Preliminary design services for Jensen & Mills solids removal system rehabilitation
    - Evaluation of industry standards for replacement equipment
    - Design criteria & cost estimates
    - Preliminary design report
- NTE amount: \$1,000,000
- SBE participation level: 25%

### Allocation of Funds

Jensen and Mills Solids Removal System Reha	bilitatio	n	
Metropolitan Labor			
Studies & Investigations		\$	364,000
Owner Costs (Proj. Mgmt., Envir. Support)			482,000
Professional/Technical Services			
Stantec Consulting Services Inc.		1	,000,000
Value Engineering			160,000
Environmental Services			48,000
Remaining Budget			246,000
	Total	\$2	2,300,000

### **Project Schedule**



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### **Board Options**

• Option #1

Authorize an agreement with Stantec Consulting Services Inc. in an amount not to exceed \$1 million for preliminary design to rehabilitate the sedimentation basins solids removal systems at the Joseph Jensen and Henry J. Mills Water Treatment Plants.

• Option #2

Do not proceed with the project at this time.

### Staff Recommendation

• Option #1

