



TO: Commissioners Brown, Carlson, Mital, Simpson and Helgeson  
FROM: Mel Damewood, Chief Water Engineering & Operations Officer  
DATE: July 2, 2018  
SUBJECT: 031-2018 Hayden Bridge Disinfection System Improvements  
OBJECTIVE: Board Approval

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### **Issue**

EWEB recently opened bids for construction of the Hayden Bridge Disinfection System Improvements and a request is being made to award a construction contract for \$2,411,000 with Pacific Excavation, Eugene, Oregon.

### **Background/Discussion**

Disinfection is the most important process at the treatment plant, ensuring that the water is safe to drink. The Hayden Bridge Filtration Plant currently disinfects the drinking water using gas chlorine. Gas chlorine, while effective at protecting drinking water, by its nature is extremely dangerous and requires special safety precautions, certifications and equipment to maintain a stable and safe environment for the workplace and the people living in nearby neighborhoods. Given the risks, the trend in drinking water treatment has been to move away from gas systems to either bulk liquid hypochlorite systems or onsite sodium hypochlorite generation systems. This trend has made it so that obtaining gas chlorine has become difficult, there is only one supplier in the western US, which means following a disaster, chlorine will be unavailable. Without chlorine the plant cannot produce potable water and will need to be shut down.

In 2014, staff, working with Jacobs (formerly CH2M Hill), completed a Disinfection Evaluation to replace the gas chlorine disinfection system. The evaluation included a triple bottom line alternatives analysis that looked at upgrading the existing gas chlorine system, converting the system to a bulk liquid hypochlorite, and replacing the existing system with a new system where sodium hypochlorite is generated on-site. Jacobs' recommended moving forward with onsite generation of sodium hypochlorite because it is the most reliable and resilient solution. In addition, it is much safer than both gas and bulk liquid hypochlorite.

Staff began working with Jacobs in 2017 to complete design for the construction of the onsite hypochlorite generation system. As part of the design work, staff issued a formal Request for Proposals in March 2018, to pre-purchase the required equipment including the onsite sodium hypochlorite generators, storage tanks, and the metering system. The equipment pre-purchase contract was approved by the Board in May 2018. The equipment will be onsite by the end of 2018.

The detailed design completed by Jacobs' includes the following:

- Construction of a new 2,900 square foot precast concrete building to house the EWEB purchased equipment and the required electrical equipment for the system.
- Installation of the pre-purchased equipment.
- Mechanical work including plumbing the pre-purchased equipment and installing a new HVAC system.
- Civil sitework including stormwater piping, earthwork for the new building, new feed lines for chlorine, and site restoration work as required.
- Electrical work required for the new disinfection system, building lighting, instrumentation and control.

Three bids were received for the above work. Pacific Excavation (Eugene, OR) submitted the lowest bid at \$2,411,000. Funding is in place in the Water Capital Improvement Plan (CIP) for 2018 and 2019 for this project. The funding amounts in the CIP were based on an Engineering estimate of \$2,050,000 for the construction of the improvements. This overage will affect the 2019 budget and will be accommodated through a combination of deferrals and reductions in other projects.

### **Requested Board Action**

Management requests the Board approve a contract of \$2,411,000 to Pacific Excavation for construction of the Hayden Bridge Disinfection System Improvements.

If you have any questions please contact Mel Damewood, Chief Water Engineering and Operations Officer at 541-685-7145 or email [Mel.Damewood@eweb.org](mailto:Mel.Damewood@eweb.org).

## **EWEB Board Consent Calendar Request**

*For Contract Awards, Renewals, and Increases*

The Board is being asked to approve a construction contract with **Pacific Excavation of Eugene, OR** for **Hayden Bridge On-Site Hypochlorite Disinfection Housing Improvements**.

Board Meeting Date: August 7, 2018

Project Name/Contract#: ITB 031-2018 / On-Site Hypochlorite Generation System Improvements

Primary Contact: Mel Damewood Ext. 7145

Purchasing Contact: Collin Logan Ext. 7426

### **Contract Amount:**

Original Contract Amount: \$2,411,000

Additional \$ Previously Approved: \$0

Invoices over last approval: \$0

Percentage over last approval: 0 %

Amount this Request: \$2,411,000

**Resulting Cumulative Total:** \$2,411,000

### **Contracting Method:**

Method of Solicitation: Formal Invitation to Bid

If applicable, basis for exemption: N/A

Term of Agreement: Final Completion Dec 31, 2018

Option to Renew? No

Approval for purchases "as needed" for the life of the contract No

Proposals/Bids Received (Range): 3 Bids Received (\$2,411,000 - \$2,730,000)

Selection Basis: Lowest bid from most responsive, responsible bidder

### **Narrative:**

The Board is being asked to approve a construction contract with **Pacific Excavation, Inc.** for **Hayden Bridge On-Site Hypochlorite Disinfection Housing Improvements**.

The Hayden Bridge Filtration Plant currently disinfects the drinking water using gas chlorine. Disinfection is the most important process at the treatment plant as it is what ensures that the water is safe to drink. Gas chlorine, while effective at protecting drinking water, is inherently dangerous and unsafe for those that work on the system and people living in nearby neighborhoods. A gas chlorine release may result in injuries or even death. Given these risks, the trend in drinking water treatment has been to move away from gas systems to safer liquid hypochlorite (liquid chlorine) systems, either delivered in bulk or generated onsite. This trend has made it so that obtaining gas chlorine has become difficult with only one supplier in the western US. This means following a disaster, gas chlorine will likely be unavailable and without it the plant cannot produce potable water.

In 2014, staff, working with Jacobs (formerly CH2M Hill), completed a Disinfection Evaluation to replace the gas chlorine disinfection system. The evaluation included a triple bottom line alternatives analysis that looked at upgrading the existing gas chlorine system, converting the system to a bulk liquid hypochlorite system, and replacing the existing system with a new system where sodium hypochlorite is generated on-site. The results of the evaluation included a recommendation to move forward with onsite generation of sodium hypochlorite. Staff began working with Jacobs in 2017 to complete detailed design for the construction of the onsite hypochlorite generation system. As part of the design work, staff issued a formal Request for Proposals in March 2018, to pre-purchase the required onsite hypochlorite generators, storage tanks, and metering system. The equipment pre-purchase contract was approved by the Board in May 2018.

This contract will include:

- Construction of a new building designed to meet current seismic codes
- Installation of the pre-purchased disinfection equipment
- Miscellaneous mechanical work, including plumbing for the new system
- New electrical equipment and miscellaneous electrical work
- Miscellaneous civil site work

In May 2018, Staff issued a formal ITB seeking bids from contractors to build improvements to the new hypochlorite generation system equipment at Hayden Bridge. Three responses were received from Pacific Excavation, Inc. (Eugene, OR), Stettler Supply Co. (Salem, OR), and DSI Builders, Inc. (Salem, OR). Pacific Excavation, Inc. was determined to be the lowest responsive and responsible bidder.

**ACTION REQUESTED:**

Management requests the Board approve a construction contract with **Pacific Excavation of Eugene, OR** for **Hayden Bridge On-Site Hypochlorite Disinfection Housing Improvements**. The Water Utility Capital Budget for 2018 is \$13.7 Million.

**SIGNATURES:**

Project Coordinator: \_\_\_\_\_

Executive Officer: \_\_\_\_\_

Purchasing Manager: \_\_\_\_\_

Board Approval Date: \_\_\_\_\_