



DATE: June 25, 2014

TO: Honorable Mayor and City Councilmembers

FROM: Water Utilities Department

SUBJECT: **PLANS AND SPECIFICATIONS FOR THE FIRE MOUNTAIN AND GUAJOME NO. 1 RESERVOIR REPAIRS PROJECT**

SYNOPSIS

Staff recommends that the City Council approve the plans and specifications for the Fire Mountain and Guajome No. 1 Reservoir Repairs project; and authorize the City Engineer to call for bids.

BACKGROUND

The City of Oceanside has 12 reservoirs in the potable water distribution system for a total water storage capacity of 50.5 million gallons. Reservoir construction consists of either pre-stressed concrete walls with gunite cover & gunite dome roof or pre-stressed concrete tanks with a flat roof, or steel structures. Reservoir ages range from 16–55 years old.

Structural evaluations, completed in October of 2012, determined that two of the reservoirs were in need of repairs based upon their remaining useful life: the Fire Mountain Reservoir, a 3-million-gallon pre-stressed concrete structure, and the Guajome No. 1 Reservoir, a 5-million-gallon pre-stressed concrete structure (Exhibit A).

ANALYSIS

The reservoirs do not meet current seismic requirements and presents a vulnerability during earthquakes. Currently, there is no mechanical connection between the reservoir walls and footing which means the tank walls and foundation could separate during an earthquake. It was also determined that the connection that ties the reservoir roof to the walls is insufficient. They both therefore require substantial seismic retrofits.

The retrofits will consist of excavating and partially deconstructing (removing the gunite) to expose the reinforcing steel and prestressing cables inside the concrete walls, roof, and footings. This work can be labor intensive. New connections will be constructed to tie the footings to the walls and improve the connection of the walls to the roof. Prestressed concrete tanks also require a special machine to install the new prestressing cables.

In addition to the seismic retrofits, significant repairs need to be made to piping with each reservoir site as well as some buildings and vaults and improvements to security of the reservoir sites.

The City Council approved an agreement with Richard Brady and Associates of San Diego in June 2013 to prepare the plans and specifications for the Fire Mountain and Guajome No. 1 Reservoir Repair project. The design included cleaning and detailed inspection of the interior of the reservoirs. Staff has worked closely with operations and distribution personnel to implement temporary rerouting of the water supply during the evaluations to ensure there are no interruptions to local water service. The plans and specifications were completed in April 2014.

Staff anticipates commencement of work in September 2014, and estimates that construction of the project will take approximately 12 months. The Department is planning an outreach program for residents who live near the construction zones.

The plans and specifications for the project are available for review in the offices of the City Manager and the City Engineer.

FISCAL IMPACT

The contract price is estimated to be \$4,394,000. The FY 2014/15 CIP budget includes \$4,500,000 in new project funds in account 908754600712. Water Sales and Water Meter Charges for service deposited under Water F/A Replacement accounts 4471.0001 and 4471.0003 respectively, and bond proceeds are the funding sources. Although this action does not award the project and does not result in expenditures at this time, sufficient funds are available.

Prestressed concrete tanks in our system are more economical to construct and maintain over a 50-60 year life cycle. Full replacement of both reservoirs at their current capacities would be approximately \$8,000,000 - \$10,000,000 and does not include demolition costs which could exceed a million dollars for both projects.

INSURANCE REQUIREMENTS

The City's standard insurance requirements will be met.

COMMISSION OR COMMITTEE REPORT

The Utilities Commission received an update at its regularly scheduled meeting on March 18, 2014.

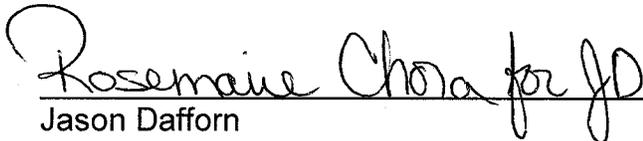
CITY ATTORNEY'S ANALYSIS

The referenced documents have been reviewed by the City Attorney and approved as to form.

RECOMMENDATION

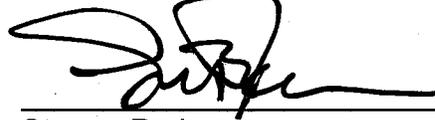
Staff recommends that the City Council approve the plans and specifications for the Fire Mountain and Guajome No. 1 Reservoir Repairs project; and authorize the City Engineer to call for bids.

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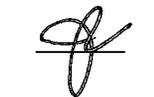
for Scott Smith, City Engineer

James R. Riley, Financial Services Director

Exhibit A: Site Map







ATTACHMENT A: CITY OF OCEANSIDE SERVICE AREA AND LOCATION OF GUAJOME AND FIRE MOUNTAIN RESERVOIRS



Legend

 City of Oceanside Service Area

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Geomapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community