

## MEMORANDUM

**TO:** Governing Board Members

**FROM:** Jennifer Reynolds, Ecosystem Restoration & Capital Projects

**DATE:** June 9, 2022

**SUBJECT:** Contract for Land Based Seismic Tomography and Regional Characterization of the Floridan Aquifer System for the Lake Okeechobee Water Restoration Project Aquifer Storage and Recovery (ASR) Well Program and Science Plan

### **Agenda Item Background:**

The Aquifer Storage and Recovery (ASR) Science Plan indicates additional research is recommended to determine aquifer suitability for ASR Well Clusters. The National Research Council suggested considering the use of cross-well seismic tomography and regional seismic evaluation to assess the effects of tectonic faults on well location and performance. The ASR Peer Review Panel indicated that there is a significant potential role for applied geophysics regarding aquifer property characterization, and seismic surveys can provide information on storage zone integrity. The District proposes land-based seismic surveys to address these recommendations.

The District has completed seismic surveys or cross-well tomography surveys at the Kissimmee River (C38S) ASR well location and the C43 and C44 ASR well cluster locations and is now recommending conducting science based seismic survey investigations at other ASR well cluster locations. The Collier Geophysics, LLC Statement of Work has been prepared to facilitate subsurface delineation and characterization of the Hawthorn confining unit and FAS to evaluate storage zone integrity and address ASR Well uncertainties. Seismic lines will be shot at the L63N, C59, L63S, C38N, C40 and C41 proposed ASR wellfield locations to a depth of 3,000 feet below land surface into the bolder zone. Upon execution, the seismic survey efforts are estimated to take six to nine months to complete, and the contract will be for one year in Fiscal Year 2022-2023.

### **Core Mission and Strategic Priorities:**

### **Additional Item Background:**

As part of CERP, LOWRP is designed to improve water levels in Lake Okeechobee, increase the spatial extent and functionality of wetlands, and improve water supply for existing legal water users. The project includes construction of up to fifty five (55) ASR wells located in clusters in various locations throughout the Lake Okeechobee watershed. During the previous three Florida State Legislature appropriated \$100 million (\$50 million in FY20 and an additional \$50 million in FY21) to the District for the design, engineering, and construction of the specific project components designed to achieve the greatest reductions in harmful discharges to the Caloosahatchee and St. Lucie Estuaries. The South Florida Water Management District has initiated the ASR Well program for LOWRP and is moving expeditiously.

The project supports the District's core mission of restoring South Florida's water resources and ecosystems while meeting the region's present and future water supply needs.

**Funding Source:**

Dedicated funds (State General Revenue) are budgeted in Fiscal Year 2021-2022 in the amount of \$545,537.36.

**Staff Contact and/or Presenter:**

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**ATTACHMENTS:**

[Resolution No. 2022-0605](#)

[Map](#)