

**Metropolitan Domestic Water Improvement District  
Board of Directors Meeting**

**November 9, 2020**

**Authorizing the General Manager to Execute Amendment No. 1 to the  
Contract for Final Design Services for Shared Portions of the  
Northwest Recharge, Recovery and Delivery System**

**Synopsis**

The Board of Directors is requested to authorize the General Manager to execute Amendment No. 1 to the contract for final design of shared portions of the Northwest Recharge, Recovery and Delivery System (NWRRDS).

**Background**

At the February 10, 2020 meeting, the Board of Directors authorized the General Manager to negotiate and enter into a contract with Carollo Engineers, Inc., (Carollo) for final design services for the transmission main and forebay facility.

Subsequent to that authorization, the Partners have determined it would be beneficial to the project to authorize additional services as an amendment to the original contract. Amendment No. 1 would include design and bid phase services for recovery well equipping, collector pipelines, and forebay chemical storage and feed system (Amendment No. 1). Also included in Amendment No. 1 are revisions to the transmission main design to reduce the pipeline diameter from 30-inch to 24-inch, survey services to collect data from potholing efforts related to the transmission main, plans for additional conduits and related vaults to provide electric service to the forebay facility, plans for grubbing, clearing, and grading existing easements necessary for access to the forebay facility, and bid phase services for both the transmission main and forebay, as well as the recovery well equipping and collector pipelines. The Partners have executed MOA 20007-00 regarding their respective share of costs related to Amendment No. 1.

**Issues**

At the August 27, 2020 meeting, the Partners discussed the transmission main size, the final design for well equipping and the associated collector pipelines, and chemical stabilization at the forebay. A summary of those discussions follows.

- Carollo performed an hydraulic analysis and lifecycle cost analysis for the transmission main, which demonstrates that a 24-inch transmission main could effectively deliver the volume of water per the Intergovernmental Agreement. The cost analysis indicates the 24-inch diameter pipelines is more cost-effective with an initial savings in capital cost of

approximately \$3,310,000, with a slightly higher annual operating cost due to power consumption. Combined, the analysis reflects an overall cost savings over a 20-year period of approximately \$651,732. Due to the cost savings, the Partners agreed to reduce the pipeline size from 30-inch to 24-inch diameter and acknowledged there would be costs for Carollo to incorporate the design change.

- The Partners discussed the final design for well equipping and the associated collector pipelines. Based on Carollo's extensive knowledge of NWRDSD through the current final design efforts, as well as through previous and other ongoing work, the Partners concurred with utilizing Carollo to complete the design of the well equipping and associated collector pipelines. At that time, the Partners requested District staff solicit a proposal from Carollo for these services.
- The Partners discussed potential chemical adjustment, including design and construction considerations, location of chemical adjustment, and redundancy. The Partners agreed it made sense to include the chemical storage and adjustment in the current design to enable the item to be included as a construction bid alternate. At that time, the Partners requested District staff solicit a proposal from Carollo for the related design services. A future decision will be made regarding the need for chemical storage and adjustment based on the results of further water quality analyses.

During preparation of the 60% design of the transmission main, Carollo identified approximately 50 potholes that, if performed, would provide refined information regarding the physical location of existing utilities. Having a firm understanding of the location of underground utilities can help avert unintended delays and cost impacts during construction. At the October 20, 2020 Technical Group meeting, Marana and Oro Valley concurred with the potholing effort, subject to budget availability. District staff have requested Carollo prioritize the list of requested potholes to enable a more refined collection of field data based on anticipated level of impact to construction. Amendment No. 1 includes the survey services to locate and collect field data resulting from the potholing effort. The survey services performed would be based on the actual number of potholes. A separate action will be brought to the Partners and the Board of Directors related to the contractor potholing effort.

At the October 15, 2020 Partner meeting, the draft addendum was reviewed by the Partners. The Partners confirmed their agreement with including the design in the current documents to facilitate the best pricing options during bidding. The Partners also discussed bid, construction, and post-construction phase services and determined only bid phase services would be included in the current addendum. Those services would generally include pre-bid conference participation, evaluation of bidders' alternate product proposals, and preparation of bid addenda. Construction and post-construction period services would not be included in the addendum, but may be included as potential additional services in the future under a separate action by the Partners and the Board of Directors.

Finally, while discussions with Trico are ongoing with respect to service to the forebay facility, District staff recommended that Carollo include the plans for the conduits and related vaults to provide electric service to the forebay facility and the plans for grubbing, clearing, and grading

existing easements necessary for access to the forebay facility as part of Amendment No. 1. This would reduce redundant costs in development of the associated plans, provide a more competitive bidding environment, and would ensure scheduling of the necessary work would be coordinated with the forebay construction.

The proportional costs associated with Amendment No. 1 were distributed among the Partners based on the type of work performed. Work related to the transmission main and forebay are split between Oro Valley, Marana and the District based on the proportional capacity of water to be delivered. The District's portion of costs for the proposed Amendment No. 1 is \$495,259.86. Work related to the recovery wells and associated collector pipelines are distributed based on a 50/50 cost-share between Oro Valley and the District. Administrative costs and expenses were divided among the Partners based on the percentage value of work efforts.

**Recommendation**

It is recommended the Board of Directors authorize the General Manager to execute Amendment No. 1 with Carollo Engineers, Inc., for shared components of NWRRDS in an amount-not-to exceed \$1,050,109.

**Suggested Motion**

I move to authorize the General Manager to execute Amendment No. 1 with Carollo Engineers, Inc., for shared components of the Northwest Recharge, Recovery, and Delivery System in an amount-not-to exceed \$1,050,109.

Respectfully submitted,

Sheila M. Bowen, P.E.  
District Engineer

I concur with the above-noted recommendation.

Respectfully submitted,

Joseph Olsen, P.E.  
General Manager