

AGENDA

Denver Board of Water Commissioners

Denver Water Administration Building
1600 West 12th Avenue
Denver, CO
Board Room, Third Floor

Wednesday, June 14, 2017 9:00 a.m.

I. INTRODUCTORY BUSINESS

A. Call to Order and Determination of Quorum

B. Public Comment and Communications

At this point in the agenda, the Board may allow members of the public to address the Board on any item of interest within the jurisdiction of the Board, and not on the agenda for action. Speakers wishing to address a specific Action Item will be invited to address the Board when the item is being considered. Three minutes are allowed for each person unless the President determines otherwise.

1. Distributor Communications
2. Citizen Advisory Committee Communications

C. Ceremonies, Awards and Introductions

II. ACTION ITEMS

A. Consent Items

Items listed below are considered routine and may be enacted by one motion and vote. If any Board member desires discussion beyond explanatory questions, or corrections to the Minutes, the President may order that item to be considered in a separate motion and vote.

1. Minutes from May 10, 2017 – Open and Executive
2. Minutes from May 24, 2017 – Open and Executive
3. Contract 17057A for Potholing and Hydrojetting
4. Contract 16770A Bulk Fluids
5. Contract 16600A PolyDADMAC Polymer
6. Contract 16230B Amendment No. 3 with Brierley Associates for the Geotechnical Services for Proposed New Vault at Ralston Reservoir

7. Contract 16657A Amendment No. 2 with RJH Consultants, Inc., Owner's Consultant for Lupton Lakes Groundwater Cutoff Walls
8. Contract 17117A Cheesman Rock Stabilization
9. Ratification of Construction Contract Change Orders and Amendments and Professional Services Agreement Amendments

B. Individual Approval Items

- | | | |
|---|-------------|--------|
| 1. Intergovernmental Agreement 15105A Amendment No. 1 Relocation of Conduit No. 61 and Various Distribution Mains City and County of Denver Street Improvement Project Broadway from Mississippi Avenue to Kentucky Avenue | Don Wyman | 10 min |
| 2. Intergovernmental Agreement 17149A Brighton Boulevard Reconstruction City and County of Denver Street Improvement Project Water Main Relocation | | |
| 3. Intergovernmental Agreement 16969A Cherry Creek Drive South Reconstruction City and County of Denver Street Improvement Project Water Main Relocation | | |
| 4. Resolution Regarding Reuse of Return Flows from Pre-1940 Water Rights | Patti Wells | 5 min |

III. POLICY MATTERS

IV. EXECUTIVE UPDATE

- A. CEO Update**
- B. CFO Update**
- C. Operations Update – Julie Anderson**

V. BRIEFING PAPERS & REPORTS

A. Briefing Paper

1. Briefing Paper for Gross Reservoir Expansion Design Engineer Procurement Process and Stipend Justification

B. Report

VI. ADJOURNMENT

VII. TRUSTEE MATTERS

VIII. EXECUTIVE SESSION

The Board may adjourn the regular meeting and reconvene in executive session on topics authorized by C.R.S. Sec. 24-6-402 or D.R.M.C Sec. 2-34.

- A. Confidential Report § 24-6-402(4)

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: June 14, 2017

Board Item: II-A-3

Non-Destructive Excavating, Hydro-Jetting, Vacuuming and Potholing Services Contract # 17057A

Action by Consent

Individual Action

Summary:

Denver Water's Operations and Maintenance Division requires non-destructive excavating, hydro-jetting, and vacuuming services to remove loosened material and/or liquids from vaults, manholes, valves, stop boxes, and excavation sites. Denver Water requires potholing services to safely locate utilities and related structures throughout Denver Water's service area. Contractors selected will furnish all labor, materials, tools, equipment and transportation to perform the Work.

Budget Information:

The total amount of this contract is \$1,500,000.00, and the term of the contract is July 1, 2017 through July 31, 2020. Funds for this service/contract will come from the 2017 budget for Water Distribution, which has sufficient funds to pay the \$245,000.00 estimated to be needed in 2017. The remaining \$1,255,000.00 will be budgeted in years 2018, 2019 and 2020.

Selection of Business Partner:

Denver Water issued an Invitation for Bids ("IFB") to the public on the Rocky Mountain E-Purchasing System (BidNet), on Denver Water's website, through notifications to the SBE and M/WBE list, and via direct solicitation to known vendors. Denver Water received three (3) bids, only two of which offered bids for both Schedules of work. Award recommendation is being made to two bidders in an effort to ensure flexible, comprehensive and reliable support services to Denver Water crews. One of the selected bidders is the incumbent for this service.

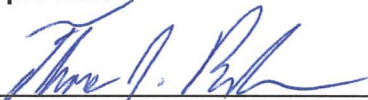
S/MWBE Information:

Neither USIC Locating Services nor Clean Harbors Environmental Services is SBE or certified MWBE. This service falls within the O&M Construction Related MWBE program, which has an overall 2017 target of 30% MWBE participation. MWBE participation targets are not set on an individual contract basis in this program.

Recommendation:

It is recommended that the Board approve Agreements 17057A (Internal Dollar Contract), 17057B and 17057C with USIC Locating Services, LLC and Clean Harbors Environmental Services, Inc., respectively, for Non-Destructive Excavating, Hydro-Jetting, Vacuuming and Potholing Services for the contract period July 1, 2017 through July 31, 2020, for a total contract amount not to exceed \$1,500,000.00.

Approvals:

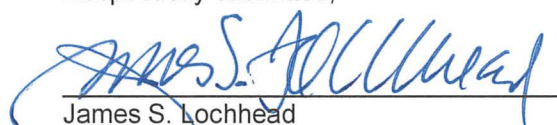


Thomas J. Roode
Chief Operations Maintenance



Angela Brimont
Chief Finance Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager

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DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: June 14, 2017

Board Item: II-A-4

Purchase of Bulk Engine Oils, Lubricants, and Automotive Fluids Contract # 16770A

Action by Consent

Individual Action

Summary:

Denver Water uses various types of oil, lubricants and fluids in the maintenance and repair of Denver Water's vehicles and heavy equipment.

Budget Information:

The total amount of this contract is \$150,000.00, and the term of the contract is June 14, 2017 to June 30, 2020. Funds for this contract will come from the 2017 budget for Fleet, which has sufficient funds to pay the \$25,000.00 estimated to be needed in 2017. The remaining \$125,000.00 will be budgeted in years 2018, 2019 and 2020.

Selection of Business Partner:

Denver Water issued a Request for Proposals (RFP) to the public on Rocky Mountain E-Purchasing System (BidNet), on Denver Water's website, directly to known suppliers, and through notifications to the SBE and MWBE communities. Denver Water received six proposals. Two were from SBEs and one was from an MWBE. Siegel Oil Company was selected based on their low price, short lead time, and industry expertise.

S/MWBE Information:

Contract is not in either the O&M Construction Related or the Covered Goods & Services MWBE programs. Siegel Oil is neither an SBE nor a certified MWBE.


Recommendation:

It is recommended that the Board approve Agreement 16770A with Siegel Oil Company for the purchase of bulk engine oil, lubricants, and automotive fluids for the contract period June 14, 2017 through June 30, 2020 for a total contract amount not to exceed \$150,000.00.

Approvals:


Thomas J. Roode
Chief Operations Maintenance Officer

Respectfully submitted,


James S. Lochhead
CEO/Manager


Angela Brimont
Chief Finance Officer

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: June 14, 2017

Board Item: II-A-5

Purchase of PolyDADMAC Polymer Contract # 16600A

Action by Consent

Individual Action

Summary:

The Board uses diallyldimethylammonium chloride polymer (PolyDADMAC) at the three potable water treatment plants to supplement liquid aluminum sulfate (alum) in the coagulation process. The addition of PolyDADMAC in water treatment results in lower use of alum and caustic soda, and reduces the amount of sludge production.

PolyDADMACs are synthetic polymers, and each type is a proprietary formulation. Previously, Denver Water had prequalified three products from two manufacturers. Prior to rebidding this contract Denver Water went through an extensive testing process to prequalify six additional vendors.

Budget Information:

The total amount of this contract is \$1,700,000.00 and the term of the contract is June 17, 2017 through June 30, 2020. Funds for this contract will come from the 2017 budget for treatment chemicals, which has sufficient funds to pay the \$300,000.00 estimated to be needed to cover the remainder of the contract in 2017. The remaining \$1,400,000.00 will be budgeted in years 2018, 2019 and 2020.

Selection of Business Partner:

Denver Water issued a Request for Information (RFI) to the public on Rocky Mountain E-Purchasing System (BidNet), on Denver Water's website, directly to known suppliers, and through notifications to the SBE and MWBE communities. Denver Water receive responses from six vendors and requested sixteen samples of unique polymer blends to jar test to Denver Water's specifications for prequalification testing.

Denver Water issued a Request for Proposals (RFP) to the six vendors that were prequalified through the RFI testing process. Denver Water received five complete proposals, one of which was from an SBE, and one which was from a certified MWBE. Denver Water selected two vendors in order to reduce the risk of supply chain disruptions as well as respond to seasonal needs from the water treatment plants. Polydyne, Inc. and Alpine Technical Services, LLC were selected based on their price, product performance, logistic capabilities, customer service, and industry expertise. The incumbent for this contract did propose but was not selected.

S/MWBE Information:

Contract is not in either the O&M Construction Related or the Covered Goods & Services MWBE programs. Polydyne is neither an SBE nor a certified MWBE. Alpine Technical Services is an SBE per federal guidelines.

Recommendation:

It is recommended that the Board approve Agreements 16600A (Internal Dollar Contract), 16600B and 16600C with Polydyne, Inc. and Alpine Technical Services, LLC, respectively, for the purchase of PolyDADMAC polymer for the contract period June 17, 2017 through June 30, 2020, for a total contract amount not to exceed \$1,700,000.00.

Approvals:

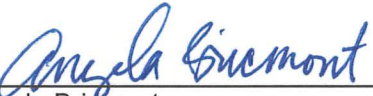


Thomas J. Roode
Chief Operations Maintenance Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager



Angela Bricmont
Chief Finance Officer

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: June 14, 2017

Board Item: II-A-6

Amendment No. 3 with Brierley Associates for the Geotechnical Services for Proposed New Vault at Ralston Reservoir Contract 16230B

Action by Consent

Individual Action

Summary:

Engineering is designing the Ralston Outlet Works as a closely related project to the North Water Treatment Plant (NWTP). After an extensive alternatives evaluation with both Denver Water and a team of subject matter expert consultants, it was decided that a reservoir bypass pipeline was the best approach to enable construction of both projects while minimizing the outage requirements of the Moffat Collection System. The bypass pipeline will convey water from the top of the primary spillway to connections with Arvada, North Table Mountain Water and Sanitation District, and the Moffat Water Treatment Plant. Water can be diverted from the South Boulder Diversion Canal directly into the bypass pipeline, thereby bypassing the reservoir itself. The bypass pipeline will be maintained as a permanent pipeline in order to provide redundancy and operational flexibility for conveying raw water from the South Boulder Diversion Canal to the respective end users including the proposed NWTP.

Additional geotechnical engineering investigation for the bypass pipeline is required for design purposes as well as meeting the State Engineers Office dam safety regulatory requirements.

Budget Information:

This Amendment No. 3, in the amount of \$29,126, brings the total contract amount to \$111,434 and, therefore, requires Board approval. Funds for this Amendment will come from the Ralston Dam Modifications Business Unit which includes sufficient funds for the 2017 expenditure. The completion date of the Amendment is extended to December 31, 2018 to allow for completion of construction phase services approved for in Amendment No. 2.

Selection of Business Partner:

Brierley Associates was competitively selected through the on-call process.

S/MWBE Information:

Due to the specialized nature of the work, no Minority and Women Business Enterprise (MWBE) goal was established for this project.


Recommendation:

It is recommended that the Board approve Amendment No. 3 with Brierley Associates for \$29,126 for a Proposed New Vault at Ralston Reservoir for the contract period ending December 31, 2018 for a total contract amount not to exceed \$111,434.

Approvals:


Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,


James S. Lochhead
CEO/Manager


Angela Bricmont
Chief Finance Officer

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: June 14, 2017

Board Item: II-A-7

Amendment No. 2 with RJH Consultants, Inc., Owner's Consultant for Lupton Lakes Groundwater Cutoff Walls Contract 16657A

Action by Consent

Individual Action

Summary:

There are two open-pit sand and gravel mines (gravel pits) at the Lupton Lakes complex. Lupton Lakes is one of three downstream reservoir complexes. The goal of the project is to design and construct groundwater cutoff walls to prevent groundwater migration to and from the Lupton Lakes reservoir complex. There are two open-pit sand and gravel mines (gravel pits) at the complex and they are referred to as the North Cell and the South Cell. Denver Water intends to convert the gravel pits into surface water reservoirs. On January 13, 2016, the Board approved the Design-Build contract for the Lupton Lakes Groundwater Cutoff Walls Project in the amount of \$3,934,955 (reference: Board Item II-A-13). For specialty inspections, Denver Water solicited proposals from geotechnical engineering consultants to provide Owner's Consultant services for the Project. The Owner's Consultant supports the Project by performing a review of the Design-Builder's drawings, design and specifications, and providing full-time construction administration services. The Board approved the RJH Consultants, Inc. Agreement on March 9, 2016 (reference: Board Item II-A-10).

Amendment No. 1 with RJH Consultants, Inc. provided for additional oversight services for the design of the North Cell internal reclamation slopes and construction of a segment of the reclamation slopes adjacent to an existing oil and gas facility. The reclamation slopes provide a permanent stable embankment for the gravel pit and will provide protection of the previously constructed groundwater cutoff wall included in the original contract. This Amendment No. 2 adds oversight services for the balance of construction of the reclamation slopes in the North Cell and were referenced in the Briefing Paper dated December 14, 2016. The associated construction of the reclamation slopes was approved by the Board on May 10, 2017 (reference: Contract 16402A, Board Item II-A-6).

Budget Information:

The amount of the original agreement is \$195,988. Amendment No. 2, in the amount of \$246,459, brings the total contract amount to \$537,738. Funds for this Amendment will come from the Lupton Lakes Development Business Unit which includes sufficient funds for the estimated \$240,000 for the 2017 expenditures. The remaining funds will be budgeted for the 2018 Capital Improvement Plan. The term of the Amendment is June 14, 2017 to June 1, 2018.

Selection of Business Partner:

RJH Consultants, Inc. was selected for the original agreement through a competitive quality-based selection process which included 4 proposers. Amendment No. 1 was awarded to RJH Consultants, Inc. because of their familiarity with the design of the original cutoff wall and the interaction with added reclamation slopes. The scope provided in Amendment No. 2 is similar to the added scope for Amendment No. 1, but the extent includes the entire perimeter of the North Cell. In order to maintain a consistent approach to oversight, continuity of issue management, and protection of Denver Water's interests, RJH Consultants, Inc. was selected to continue the North Cell oversight.

S/MWBE Information:

A Minority and Women Business Enterprise (MWBE) participation goal was not established for these specialty inspections and all firms were invited to submit their proposal for the quality-based selection. MWBE participation of 6.25% will be obtained during project construction.

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Recommendation:

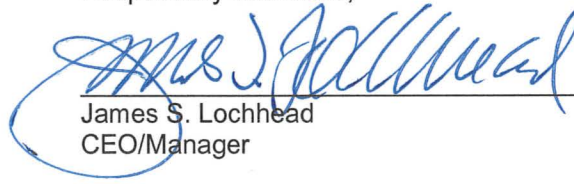
It is recommended that the Board approve Amendment No. 2 to Agreement 16657A with RJH Consultants, Inc. for oversight services for an extension of the contract period through June 1, 2018 and for an addition of \$246,459. for a total amended contract amount not to exceed \$537,738.

Approvals:



Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager



Angela Brimont
Chief Finance Officer

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: June 14, 2017

Board Item: II-A-8

Cheesman Rock Stabilization Contract 17117A

Action by Consent

Individual Action

Summary:

In April of 2016, a large 150-ton rock fell from the slope above the Cheesman Valve House, downstream of Cheesman Dam, narrowly missing the Valve House. During the removal of the rock, an engineer experienced in rock stabilization performed an inspection of the slope and recommended addressing some problem areas to maintain a safe environment around the Valve House and for Denver Water staff and public safety. The problem areas require rock bolting, loose rock scaling, and the installation of a drain system to relieve water pressure from a joint/fault.

Budget Information:

The work will be completed in 2017. This project came in under the Emergency/Unplanned Flow Cell and was not part of the 2017 Capital Improvement Plan. The system managers recommend funding this emergency work within the existing 2017 Capital Budget.

Selection of Business Partner:

Denver Water solicited proposals from four General Contractors listed on the Prequalified Contractor List under the Heavy Civil Geotech discipline. This Contract was a Quality Based Selection and a restricted proposal process using Instructions to Proposers on the QuestCDN platform. On May 30, 2017, proposals were received from all four General Contractors. Proposals were evaluated on proposal cost, project team qualifications, project execution plan and schedule, and MWBE participation. Scoring was performed by a subject matter expert team from Engineering. Harrison Western Construction Corporation, Inc. achieved the highest score, with an associated price of \$211,000.

S/MWBE Information:

A 5% Minority Women Business Enterprise (MWBE) participation goal was required for the construction portion of the project. Harrison Western Construction Corporation, Inc. attained 5% MWBE participation.

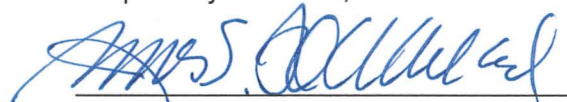
Recommendation:

It is recommended that the Board approve 17117A with Harrison Western Construction Corporation, Inc. for rock stabilization for the contract period June 28, 2017 to November 30, 2017 for a total contract amount not to exceed \$211,000.

Approvals:


Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,


James S. Lochhead
CEO/Manager


Angela Bridmont
Chief Finance Officer

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DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: June 14, 2017

Board Item: II-A-9

Ratification of Construction Contract Change Orders and Amendments and Professional Services Agreement Amendments

Action by Consent

Action

Summary:

The attached are Construction Contracts Change Orders and Amendments and Professional Services Agreement Amendments for Board ratification for April and May 2017.

Recommendation:

It is recommended that the Board ratify these Construction Contract Change Orders and Amendments and Professional Services Agreement Amendments.

Approvals:



Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,



James S. Lochhead
CEO/Manager

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: June 14, 2017

Board Item: II-B-1

Amendment No. 1 with the City and County of Denver for the Relocation of Conduit No. 61 and Various Distribution Mains City and County of Denver Street Improvement Project Broadway from Mississippi Avenue to Kentucky Avenue Intergovernmental Agreement 15105A

Action by Consent

Individual Action

Summary:

The City of Denver has reconstructed a portion of South Broadway between Mississippi Avenue and Kentucky Avenue. The project included the relocation of Conduit No. 61 and various distribution mains. An unknown buried railroad bridge foundation and hard rock foundations forced a change in alignment and construction procedures of the Conduit No. 61 relocation. In addition, the actual cost for planned relocation work exceeded the estimate used in the original agreement. An additional \$432,526 is necessary to compensate the City for work associated with the required relocations. The project is a City transportation project funded by the City and per Denver Water's Operating Rules, Denver Water is responsible for the cost of the water main relocations made necessary by the project. The attached Intergovernmental Agreement 15105A Amendment No. 1 will provide funding for the Change Order.

Budget Information:

The term of the agreement will begin upon execution by the Board and end with payment to the City for the work. The 2017 Capital Improvement Plan for Conduit No 61 Mississippi and Broadway Business Unit does not include sufficient funds for the project. A project budget adjustment is recommended by the System and Program Managers.

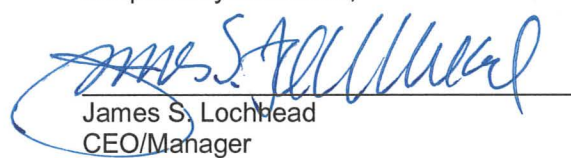
Recommendation:

It is recommended that the Board execute Agreement 15105A Amendment No. 1 with the City and County of Denver for additional costs associated with the relocation of Conduit No, 61 and various distribution mains on the South Broadway Street Reconstruction project for a total contract amount not to exceed \$432,526.

Approvals:


Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,


James S. Lochhead
CEO/Manager

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: June 14, 2017

Board Item: II-B-2 ¹²

Brighton Boulevard Reconstruction City and County of Denver Street Improvement Project Water Main Relocation Intergovernmental Agreement 17149A

Action by Consent

Individual Action

Summary:

The City and County of Denver is reconstructing Brighton Boulevard between 29th Street and 44th Street. The Project will include the relocation of approximately 6,946 linear feet of the Board's 4" thru 20" distribution mains. Placement of new drain inlets, upgrading and relocation of other utilities, and the placement of a new concrete roadway has led to the relocation and/or replacement of the 1920s water main. The total estimated cost for the work is \$3,637,060. The project is a City transportation project funded by the City and per Denver Water's Operating Rules, Denver Water is responsible for the cost of the water main relocations made necessary by the project. The attached Intergovernmental Agreement 17149A defines project responsibilities.


Budget Information:

The term of the agreement will begin upon execution by the Board and end with payment to the City for the work. Funds for this agreement will come from the 2017 budget for Capital Improvement Plan for Main Relocations Business Unit, which has sufficient funds to pay \$2,550,000 the estimated cost to be needed in 2017. The remaining \$1,087,060 will be budgeted for 2018.

Recommendation:

It is recommended that the Board execute Agreement 17149A with the City and County of Denver for the relocation of Denver Water's mains in Brighton Boulevard between 29th Street and 44th Street for a total contract amount not to exceed \$3,637,060.

Approvals:


Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,


James S. Lochhead
CEO/Manager

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: June 14, 2017

Board Item: II-B-3¹³

Cherry Creek Drive South Reconstruction City and County of Denver Street Improvement Project Water Main Relocation Intergovernmental Agreement 16969A

Action by Consent

Individual Action

Summary:

The City is reconstructing a portion of Cherry Creek Drive South in the area of South Steele Street. The project will include the relocation of approximately 650 linear feet of existing 8" and 12" waterlines due to the placement of new sidewalks, curb and gutter, and drain inlets over existing Denver Water mains. The total estimated cost for construction is \$176,722. The project is a City transportation project funded by the City and per Denver Water's Operating Rules, Denver Water is responsible for the cost of the water main relocations made necessary by the project. The attached Intergovernmental Agreement 16969A defines project responsibilities.

Budget Information:

The term of the agreement will begin upon execution by the Board and end with the 2017 payment to the City for the work. Funds for this agreement will come from the 2017 budget for Capital Improvement Plan for Main Relocations Business Unit, which has sufficient funds to pay \$176,722 the estimated cost.

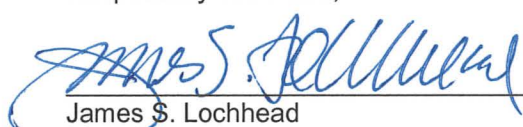
Recommendation:

It is recommended that the Board execute Agreement 16969A with the City and County of Denver for the relocation of Denver Water's mains in Cherry Creek Drive South in the area of South Steele Street for a total contract amount not to exceed \$176,722.

Approvals:


Robert J. Mahoney
Chief Engineering Officer

Respectfully submitted,


James S. Lochhead
CEO/Manager

DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: June 14, 2017

Board Item: II-B-4

Resolution Regarding Reuse of Return Flows from Pre-1940 Water Rights

Action by Consent

Individual Action

Summary:


Since 1940, under an agreement with Consolidated Ditches Company of Water District No. 2, Denver Water has been precluded from reusing return flows from use of its water imported through the Moffat Tunnel. The purpose of the 1940 Agreement was to replace water lost to evaporation from Antero, Eleven Mile and Cheesman Reservoirs. As more fully explained in the attached Resolution, return flows relinquished to the river are now double the water lost to evaporation, as an annual average. These excess return flows are needed for future supply.

The Resolution instructs staff to determine appropriate measures to achieve the goal of recapturing Denver Water's right to reuse return flows from its imported water, in excess of evaporative losses, in a manner that fairly recognizes ratepayers' past and future financial contributions to producing those return flows.

Recommendation:

It is recommended that the Board approve the attached Resolution of the Denver Board of Water Commissioners Regarding Reuse of Return flows from Pre-1940 Water Rights.

Approvals:



Patricia Wells
General Counsel

Respectfully submitted,



James S. Lochhead
CEO/Manager



Mike King
Chief Planning Officer

Briefing Paper for Gross Reservoir Expansion Design Engineer Procurement Process and Stipend Justification

Strategic Plan Alignment:

Lenses: Customer Centric Industry Leader Long-Term View

Design Engineer selection for the Gross Reservoir Expansion Project (GRE) is a critical step in delivering a secure water future to Denver Water customers. The selection process and stipend described in this paper were developed to ensure we choose a business partner who demonstrates innovation, practical experience, and value based solutions.

Summary:

Although design engineering services procurement is common work at Denver Water, the estimated value of the design contract (greater than \$10 M), the associated risk with dam ownership, and the influence the design has on the final construction costs are significantly greater than typical Denver Water projects. In addition, the GRE management team understands the pool of qualified design firms is limited. As such, the procurement process of the GRE Design Engineer was developed to ensure Denver Water receives the best value considering design cost, construction cost, innovation, and risk mitigation.

Background:

The GRE management team has made contact with qualified engineering firms capable of designing the dam raise and wants to ensure designer commitment to pursue the project. At the time of authoring this paper, two firms have expressed interest in pursuing the project. The potential lack of commitment is due primarily to the following factors:

- Consolidation of moderate and large engineering firms into “mega-firms”;
- Dam engineering specific market saturation in the Denver area (difficult business decision for out of area firms to pursue);
- Stretched engineering community due to project competition (e.g. Northern Water Conservancy District’s Chimney Hollow and Glade dam projects); and
- The expense of developing a competitive technical proposal.

Competition between qualified firms is not only a cost benefit, but in the GRE’s case, is essential for generating innovation and long term value. As such, the management team considered alternative procurement solutions to ensure productive and innovative competition results from the GRE procurement process.

Approach:

The management team believes additional interest and innovation could be generated by the use of a stipend to offset the costs of the proposal. In addition to increasing interest and competition, further value will be obtained by requiring the proposers to “dive deeper” into the technical analyses of the dam raise and project risks. Finally, a stipend allows Denver Water to own the proposal innovations, capitalize on the collective effort from all proposers, and review and compare an actual work product as part of the proposal.

Based on communication with potential proposers, and the design-build industries¹ experience, a proposal stipend:

- Enhances competition to generate market interest in the project from most highly qualified design teams;
- Helps defray costly proposal development incurred by the design teams;
- Signals the intent that the owner is serious about carrying the project forward;
- Encourages proposers to expend the time, money and resources to provide a more creative and comprehensive solution; and
- Allows Denver Water to retain ownership and capitalize on the innovative ideas and approaches submitted by all responders.

¹ Design-Build Institute of America – DBIA Position Statement - Use of Stipends

The RFP will require each proposer to respond to specific technical elements of the project. Specifically, the proposer will be tasked with evaluating the following design elements to a concept level design:

- Preliminary structural analyses;
- Spillway design; and
- Roller compacted concrete mix design.

The stipend amount should be commensurate with the level of effort required and the size and complexity of the project. Specifically the development of the GRE stipend amount considered several factors including the estimated cost of the proposal effort, the complexity of the project, the technical requirements of the proposal, and industry standards for proposal stipends. According to the Design Build Institute America, typical stipends range from 0.01 to 0.25 percent of the project budget depending on requirements of the proposal scope and the complexity of the project. The estimated cost of the GRE proposal from each design firm/team to range from \$100,000 to \$150,000, of which 75 percent will likely be spent on the proposal strategy, development, and production, while about 25 percent will be spent on technical development such as calculations and models.

Based on this information and the technical scope requirements, the GRE stipend is recommended to be set at \$50,000 per proposal. Presently we anticipate shortlisting 2 to 4 design teams to submit proposals, resulting in a total investment of \$100,000 to 200,000 (based on the number and quality of proposals received).

The Design Engineer procurement process will include 3 stages, and is based on an objective of starting final design in January 2018.

- The first stage, an open informational meeting, was designed as an industry open house to create an environment for perspective proposers to learn about the project. It also provided the opportunity for networking and relationship building between firms and subconsultants. The open information meeting was completed on May 24, 2017, and was attended by twelve dam-focused engineering firms.
- The second stage, an advertised Request for Qualifications (RFQ), will encourage all prospective proposers to submit a statement of qualifications specific to the GRE, which will be used to evaluate and rank the most qualified teams possessing the best personnel and relevant experience. The RFQ process was designed as a low cost endeavor to encourage participation by as many firms as possible. Up to four teams may be qualified for the RFP process and stipend. The RFQ process will occur between June and July 2017.
- The third and final stage, the RFP process, is designed to allow proposers to showcase innovative design, project risk reduction, execution methodology, and design engineering costs. The technical requirements of the proposal will be eligible for the design stipend if the proposal meets the responsiveness criteria as outlined in the RFP. The RFP process will occur between August and October 2017

Owner:

Jeff Martin, GRE Program Manager – Engineering Division, is responsible for the procurement of the Design Engineer, associated stipend approval, and the overall execution and delivery of the Gross Reservoir Expansion Project.

Respectfully submitted,



Jeff Martin
GRE Program Manager



Robert J. Mahoney
Chief Engineering Officer