



Metro Basin – Investigation of Salinity Options
Contract CORE No. CTGG1 2018-1992
CMS #109575

June 13, 2018

South Metro WISE Authority
Chris Muller, Water Resources/Design Engineer
8400 East Prentice Avenue
Greenwood Village, CO 80111

Dear Grantee:

We are pleased to inform you that the Colorado Department of Natural Resources, Colorado Water Conservation Board (CWCB) has approved your application for funding pursuant to the WSRF Grant Program (“Program”) for \$127,500.00. This letter authorizes you to proceed with the Investigation of Salinity Options for WISE Partnership with Potential Shared Benefits of Other Metro Basin Water Users Project (“Project”) in accordance with the terms of this Grant Award Letter.

Attached to this letter are the terms and conditions of your Grant. Please review these terms and conditions, as they are requirements of this Grant to which you, South Metro WISE Authority, agree by accepting the Grant Funds.

The WSRF Criteria & Guidelines can be located on our website for additional information.

If you have any questions or concerns regarding the project, please contact Megan Holcomb, Project Manager at 303-866-3441 or at Megan.Holcomb@state.co.us. Please send the 6-month progress reports and invoices directly to the Project Manager and cc me at Dori.vigil@state.co.us.

Thank you.

Sincerely,

//s//


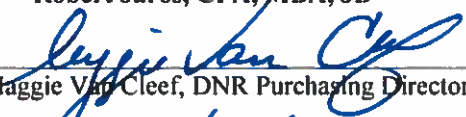
Doriann Vigil
Program Assistant II
O 303-866-3441 ext. 3250
1313 Sherman Street, Rm. 719, Denver, CO 80203
Dori.vigil@state.co.us / cwcb.state.co.com

Attachments

**GRANT AWARD LETTER
SUMMARY OF GRANT AWARD TERMS AND CONDITIONS**

State Agency Department of Natural Resources Colorado Water Conservation Board (CWCBC) 1313 Sherman St, Room 718 Denver, CO 80203	Grant Amount Total for Grant Term: \$127,500.00
Grantee South Metro WISE Authority 8400 East Prentice Avenue Greenwood Village, CO 80111	Agreement Number CMS# 109575 CTGG1 2018-1992
Grant Issuance Date The later of 06/01/2018 or the date the State Controller or an authorized delegate signs this Grant Agreement. Grant Expiration Date September 30, 2020	
Grant Project Name Investigation of Salinity Management Options for the WISE Grant Purpose The purpose of this project is to develop a Regional Investigation of Salinity Management Options in the Metro Basin.	Local Match Total Match for Grant Term: \$67,500.00

THE SIGNATORIES LISTED BELOW AUTHORIZE THIS GRANT

<p style="text-align: center;">STATE OF COLORADO John W. Hickenlooper, Governor Department of Natural Resources Robert D. Randall, Executive Director</p> <p>By:  By: Greg Johnson, Section Chief Colorado Water Conservation Board</p> <p>Date: <u>4/23/18</u></p>	<p>In accordance with §24-30-202 C.R.S., this Grant is not valid until signed and dated below by the State Controller or an authorized delegate.</p> <p style="text-align: center;">STATE CONTROLLER Robert Jaros, CPA, MBA, JD</p> <p>By:  By: Maggie Van Cleef, DNR Purchasing Director</p> <p>Date: <u>6/12/2018</u></p>
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1. GRANT

As of the Grant Issuance Date, the State Agency shown on the first page of this Grant Award Letter (the “State”) hereby obligates and awards to Grantee shown on the first page of this Grant Award Letter (the “Grantee”) an award of Grant Funds in the amounts shown on the first page of this Grant Award Letter. By accepting the Grant Funds provided under this Grant Award Letter, Grantee agrees to comply with the terms and conditions of this Grant Award Letter and requirements and provisions of all Exhibits to this Grant Award Letter.

2. TERM

A. Initial Grant Term and Extension

The Parties’ respective performances under this Grant Award Letter shall commence on the Grant Issuance Date and shall terminate on the Grant Expiration Date unless sooner terminated or further extended in accordance with the terms of this Grant Award Letter. Upon request of Grantee, the State may, in its sole discretion, shall have the option to extend the performance under this Grant Award Letter beyond the Initial Term for a period, or for successive periods, of one (1) year or less under the same terms specified in the Grant Award Letter (each such period an “Extension Term”). In order to exercise this option, the State shall provide written notice to Grantee in a form substantially equivalent to **Exhibit C**.

B. Early Termination in the Public Interest

The State is entering into this Grant Award Letter to serve the public interest of the State of Colorado as determined by its Governor, General Assembly, or Courts. If this Grant Award Letter ceases to further the public interest of the State or if State, or other funds used for this Grant Award Letter are not appropriated, or otherwise become unavailable to fund this Grant Award Letter, the State, in its discretion, may terminate this Grant Award Letter in whole or in part by providing written notice to Grantee. If the State terminates this Grant Award Letter in the public interest, the State shall pay Grantee an amount equal to the percentage of the total reimbursement payable under this Grant Award Letter that corresponds to the percentage of Work satisfactorily completed, as determined by the State, less payments previously made. Additionally, the State, in its discretion, may reimburse Grantee for a portion of actual, out-of-pocket expenses not otherwise reimbursed under this Grant Award Letter that are incurred by Grantee and are directly attributable to the uncompleted portion of Grantee’s obligations, provided that the sum of any and all reimbursements shall not exceed the maximum amount payable to Grantee hereunder. This subsection shall not apply to a termination of this Grant Award Letter by the State for breach by Grantee.

3. AUTHORITY

Authority to enter into this Grant Award Letter exists in the law as follows:

Colorado Revised Statutes (CRS) §39-29-109(2)(c), §37-75-104(2)(c) and §37-75-102 et al., and Senate Bill 06-179 adopted by the 2006 General Assembly, and a sufficient unencumbered balance thereof remains available for payment. Required approvals, clearance and coordination have been accomplished from and with appropriate agencies.

4. DEFINITIONS

The following terms shall be construed and interpreted as follows:

- A. **“Budget”** means the budget for the Work described in Exhibit B.
- B. **“Business Day”** means any day in which the State is open and conducting business, but shall not include Saturday, Sunday or any day on which the State observes one of the holidays listed in §24-11-101(1) C.R.S.
- C. **“CORA”** means the Colorado Open Records Act, §§24-72-200.1 *et. seq.*, C.R.S.
- D. **“Grant Award Letter”** means this letter which offers Grant Funds to Grantee, including all attached Exhibits, all documents incorporated by reference, all referenced statutes, rules and cited authorities, and any future updates thereto.
- E. **“Grant Funds”** means the funds that have been appropriated, designated, encumbered, or otherwise made available for payment by the State under this Grant Award Letter.
- F. **“Grant Expiration Date”** means the Grant Expiration Date shown on the first page of this Grant Award Letter.
- G. **“Grant Issuance Date”** means the Grant Issuance Date shown on the first page of this Grant Award Letter.
- H. **“Exhibits”** means the following exhibits attached to this Grant Award Letter:
 - i. **Exhibit A**, Statement of Work
 - ii. **Exhibit B**, Budget and Schedule
 - iii. **Exhibit C**, Sample Option Letter
- I. **“Extension Term”** means the period of time by which the Grant Expiration Date is extended by the State through delivery of an Option Letter (see Exhibit C).
- J. **“Goods”** means any movable material acquired, produced, or delivered by Grantee as set forth in this Grant Award Letter and shall include any movable material acquired, produced, or delivered by Grantee in connection with the Services.
- K. **“Initial Term”** means the time period between the Grant Issuance Date and the Grant Expiration Date.
- L. **“Matching Funds”** means the funds provided by Grantee as a match required to receive the Grant Funds.
- M. **“Party”** means the State or Grantee, and **“Parties”** means both the State and Grantee.
- N. **“Services”** means the services to be performed by Grantee as set forth in this Grant Award Letter, and shall include any services to be rendered by Grantee in connection with the Goods.
- O. **“State Fiscal Rules”** means the fiscal rules promulgated by the Colorado State Controller pursuant to §24-30-202(13)(a) C.R.S.
- P. **“State Fiscal Year”** means a 12 month period beginning on July 1 of each calendar year and ending on June 30 of the following calendar year. If a single calendar year follows the term, then it means the State Fiscal Year ending in that calendar year.
- Q. **“State Records”** means any and all State data, information, and records, regardless of physical form, including, but not limited to, information subject to disclosure under CORA.

- R. **“Subcontractor”** means third-parties, if any, engaged by Grantee to aid in performance of the Work. “Subcontractor” also includes sub-grantees.
- S. **“Work”** means the delivery of the Goods and performance of the Services described in this Grant Award Letter.
- T. **“Work Product”** means the tangible and intangible results of the Work, whether finished or unfinished, including drafts. Work Product includes, but is not limited to, documents, text, software (including source code), research, reports, proposals, specifications, plans, notes, studies, data, images, photographs, negatives, pictures, drawings, designs, models, surveys, maps, materials, ideas, concepts, know-how, and any other results of the Work. “Work Product” does not include any material that was developed prior to the Grant Issuance Date that is used, without modification, in the performance of the Work.

Any other term used in this Grant Award Letter that is defined in an Exhibit shall be construed and interpreted as defined in that Exhibit.

5. PURPOSE

South Metro WISE Authority (SMWA) will address water quality issues, including salinity management alternatives. This work is a continuation of the partnership between Aurora Water, Denver Water, and the Wise Authority to fully develop this regional water supply project. The water delivery agreement between the parties addresses the need for this study, for the partners to utilize a treated, but unblended, water supply from Aurora Water’s Prairie Waters system to Denver Water and the Authority through the Wise Authority distribution system.

6. STATEMENT OF WORK

Grantee shall complete the Work as described in this Grant Award Letter and in accordance with the provisions of **Exhibit A**. The State shall have no liability to compensate or reimburse Grantee for the delivery of any goods or the performance of any services that are not specifically set forth in this Grant Award Letter.

7. PAYMENTS TO GRANTEE

A. Maximum Amount

Payments to Grantee are limited to the unpaid, obligated balance of the Grant Funds. The State shall not pay Grantee any amount under this Grant that exceeds the Grant Amount. Financial obligations of the State payable after the current State Fiscal Year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available. The State shall not be liable to pay or reimburse Grantee for any Work performed or expense incurred before the Grant Issuance Date or after the Grant Expiration Date.

B. Erroneous Payments

The State may recover, at the State’s discretion, payments made to Grantee in error for any reason, including, but not limited to, overpayments or improper payments, and unexpended or excess funds received by Grantee. The State may recover such payments by deduction from subsequent payments under this Grant Award Letter, deduction from any payment due

under any other contracts, grants or agreements between the State and Grantee, or by any other appropriate method for collecting debts owed to the State.

C. Matching Funds.

Grantee shall provide the Local Match Amount shown on the first page of this Grant Award Letter and described in Exhibit A (the "Local Match Amount"). Grantee shall appropriate and allocate all Local Match Amounts to the purpose of this Grant Award Letter each fiscal year prior to accepting any Grant Funds for that fiscal year. Grantee does not by accepting this Grant Award Letter irrevocably pledge present cash reserves for payments in future fiscal years, and this Grant Award Letter is not intended to create a multiple-fiscal year debt of Grantee. Grantee shall not pay or be liable for any claimed interest, late charges, fees, taxes or penalties of any nature, except as required by Grantee's laws or policies.

D. Close-Out.

Grantee shall close out this Grant within 45 days after the Grant Expiration Date. To complete close out, Grantee shall submit to the State all deliverables (including documentation) as defined in this Grant Award Letter and Grantee's final reimbursement request or invoice.

8. REPORTING - NOTIFICATION

A. Performance and Final Status

Grantee shall submit all financial, performance and other reports to the State no later than the end of the close out described in §7D, containing an evaluation and review of Grantee's performance and the final status of Grantee's obligations hereunder.

B. Violations Reporting

Grantee shall disclose, in a timely manner, in writing to the State all violations of federal or State criminal law involving fraud, bribery, or gratuity violations potentially affecting the Award.

9. GRANTEE RECORDS

A. Maintenance and Inspection

Grantee shall make, keep, and maintain, all records, documents, communications, notes and other written materials, electronic media files, and communications, pertaining in any manner to this Grant for a period of three years following the completion of the close out of this Grant. Grantee shall permit the State to audit, inspect, examine, excerpt, copy and transcribe all such records during normal business hours at Grantee's office or place of business, unless the State determines that an audit or inspection is required without notice at a different time to protect the interests of the State.

B. Monitoring

The State will monitor Grantee's performance of its obligations under this Grant Award Letter using procedures as determined by the State. The State shall monitor Grantee's performance in a manner that does not unduly interfere with Grantee's performance of the Work.

C. Final Audit Report

Grantee shall promptly submit to the State a copy of any final audit report of an audit performed on Grantee's records that relates to or affects this Grant or the Work, whether the audit is conducted by Grantee or a third party.

10. CONFIDENTIAL INFORMATION-STATE RECORDS

A. Confidentiality

Grantee shall hold and maintain, and cause all Subcontractors to hold and maintain, any and all State Records that the State provides or makes available to Grantee for the sole and exclusive benefit of the State, unless those State Records are otherwise publically available at the time of disclosure or are subject to disclosure by Grantee under CORA. Grantee shall not, without prior written approval of the State, use for Grantee's own benefit, publish, copy, or otherwise disclose to any third party, or permit the use by any third party for its benefit or to the detriment of the State, any State Records, except as otherwise stated in this Grant Award Letter. Grantee shall provide for the security of all State Confidential Information in accordance with all policies promulgated by the Colorado Office of Information Security and all applicable laws, rules, policies, publications, and guidelines including, without limitation: (i) the most recently promulgated IRS Publication 1075 for all Tax Information, (ii) the most recently updated PCI Data Security Standard from the PCI Security Standards Council for all PCI, (iii) the most recently issued version of the U.S. Department of Justice, Federal Bureau of Investigation, Criminal Justice Information Services Security Policy for all CJI, and (iv) the federal Health Insurance Portability and Accountability Act for all PHI and the HIPAA Business Associate Addendum attached to this Contract. Grantee shall immediately forward any request or demand for State Records to the State's principal representative.

B. Other Entity Access and Nondisclosure Agreements

Grantee may provide State Records to its agents, employees, assigns and Subcontractors as necessary to perform the Work, but shall restrict access to State Confidential Information to those agents, employees, assigns and Subcontractors who require access to perform their obligations under this Grant Award Letter. Grantee shall ensure all such agents, employees, assigns, and Subcontractors sign nondisclosure agreements with provisions at least as protective as those in this Grant, and that the nondisclosure agreements are in force at all times the agent, employee, assign or Subcontractor has access to any State Confidential Information. Grantee shall provide copies of those signed nondisclosure restrictions to the State upon request.

C. Use, Security, and Retention

Grantee shall use, hold and maintain State Confidential Information in compliance with any and all applicable laws and regulations in facilities located within the United States, and shall maintain a secure environment that ensures confidentiality of all State Confidential Information wherever located. Grantee shall provide the State with access, subject to Grantee's reasonable security requirements, for purposes of inspecting and monitoring access and use of State Confidential Information and evaluating security control effectiveness. Upon the expiration or termination of this Grant, Grantee shall return State Records provided to Grantee or destroy such State Records and certify to the State that it has done so, as directed by the State. If Grantee is prevented by law or regulation from returning or destroying State

Confidential Information, Grantee warrants it will guarantee the confidentiality of, and cease to use, such State Confidential Information.

D. Incident Notice and Remediation

If Grantee becomes aware of any Incident, it shall notify the State immediately and cooperate with the State regarding recovery, remediation, and the necessity to involve law enforcement, as determined by the State. After an Incident, Grantee shall take steps to reduce the risk of incurring a similar type of Incident in the future as directed by the State, which may include, but is not limited to, developing and implementing a remediation plan that is approved by the State at no additional cost to the State.

11. CONFLICTS OF INTEREST

Grantee shall not engage in any business or activities, or maintain any relationships that conflict in any way with the full performance of the obligations of Grantee under this Grant. Grantee acknowledges that, with respect to this Grant, even the appearance of a conflict of interest shall be harmful to the State's interests and absent the State's prior written approval, Grantee shall refrain from any practices, activities or relationships that reasonably appear to be in conflict with the full performance of Grantee's obligations under this Grant. If a conflict or the appearance of a conflict arises, or if Grantee is uncertain whether a conflict or the appearance of a conflict has arisen, Grantee shall submit to the State a disclosure statement setting forth the relevant details for the State's consideration.

12. INSURANCE

Grantee shall maintain at all times during the term of this Grant such liability insurance, by commercial policy or self-insurance, as is necessary to meet its liabilities under the Colorado Governmental Immunity Act, §24-10-101, *et seq.*, C.R.S. (the "GIA"). Grantee shall ensure that any Subcontractors maintain all insurance customary for the completion of the Work done by that Subcontractor and as required by the State or the GIA.

13. REMEDIES

In addition to any remedies available under any exhibit to this Grant Award Letter, if Grantee fails to comply with any term or condition of this Grant, the State may terminate some or all of this Grant and require Grantee to repay any or all Grant funds to the State in the State's sole discretion. The State may also terminate this Grant Award Letter at any time if the State has determined, in its sole discretion, that Grantee has ceased performing the Work without intent to resume performance, prior to the completion of the Work.

14. DISPUTE RESOLUTION

Except as herein specifically provided otherwise, disputes concerning the performance of this Grant that cannot be resolved by the designated Party representatives shall be referred in writing to a senior departmental management staff member designated by the State and a senior manager or official designated by Grantee for resolution.

15. NOTICES AND REPRESENTATIVES

Each Party shall identify an individual to be the principal representative of the designating Party and shall provide this information to the other Party. All notices required or permitted to be given under this Grant Award Letter shall be in writing, and shall be delivered either in hard copy or by email to the representative of the other Party. Either Party may change its principal representative or principal representative contact information by notice submitted in accordance with this §15.

Mr. Craig Godbout, Project Manager
Colorado Water Conservation Board
1313 Sherman Street, Suite 718
Denver, CO 80203
Craig.Godbout@State.co.us

Mr. Chris Miller, Water Resource/Design Eng.
South Metro WISE Authority
8400 East Prentice Avenue
Greenwood Village, CO 80111
Chrismuller@southmetrowater.org

16. RIGHTS IN WORK PRODUCT AND OTHER INFORMATION

Grantee hereby grants to the State a perpetual, irrevocable, non-exclusive, royalty free license, with the right to sublicense, to make, use, reproduce, distribute, perform, display, create derivatives of and otherwise exploit all intellectual property created by Grantee or any Subcontractors or Subgrantees and paid for with Grant Funds provided by the State pursuant to this Grant.

17. GOVERNMENTAL IMMUNITY

Liability for claims for injuries to persons or property arising from the negligence of the Parties, their departments, boards, commissions committees, bureaus, offices, employees and officials shall be controlled and limited by the provisions of the GIA; the Federal Tort Claims Act, 28 U.S.C. Pt. VI, Ch. 171 and 28 U.S.C. 1346(b), and the State's risk management statutes, §§24-30-1501, *et seq.* C.R.S. No term or condition of this Grant Award Letter shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, or protections of any of these provisions.

18. GENERAL PROVISIONS

A. Assignment

Grantee's rights and obligations under this Grant are personal and may not be transferred or assigned without the prior, written consent of the State. Any attempt at assignment or transfer without such consent shall be void. Any assignment or transfer of Grantee's rights and obligations approved by the State shall be subject to the provisions of this Grant Award Letter.

B. Captions and References

The captions and headings in this Grant Award Letter are for convenience of reference only, and shall not be used to interpret, define, or limit its provisions. All references in this Grant Award Letter to sections (whether spelled out or using the § symbol), subsections, exhibits or other attachments, are references to sections, subsections, exhibits or other attachments contained herein or incorporated as a part hereof, unless otherwise noted.

C. Entire Understanding

This Grant Award Letter represents the complete integration of all understandings between the Parties related to the Work, and all prior representations and understandings related to the Work, oral or written, are merged into this Grant Award Letter.

D. Modification

The State may modify the terms and conditions of this Grant by issuance of an updated Grant Award Letter, which shall be effective if Grantee accepts Grant Funds following receipt of the updated letter. The Parties may also agree to modification of the terms and conditions of

the Grant in a formal amendment to this Grant, properly executed and approved in accordance with applicable Colorado State law and State Fiscal Rules.

E. Statutes, Regulations, Fiscal Rules, and Other Authority.

Any reference in this Grant Award Letter to a statute, regulation, State Fiscal Rule, fiscal policy or other authority shall be interpreted to refer to such authority then current, as may have been changed or amended since the Grant Issuance Date. Grantee shall strictly comply with all applicable Federal and State laws, rules, and regulations in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.

F. Order of Precedence

In the event of a conflict or inconsistency between this Grant Award Letter and any Exhibits or attachment, such conflict or inconsistency shall be resolved by reference to the documents in the following order of priority:

- i. The provisions of the Grant Award Letter.
- ii. Exhibit A, Statement of Work
- iii. Exhibit B, Budget,
- iv. Exhibit C, Option Letter

Option Letters or amendments shall have priority in the area that they modify.

G. Severability

The invalidity or unenforceability of any provision of this Grant Award Letter shall not affect the validity or enforceability of any other provision of this Grant Award Letter, which shall remain in full force and effect, provided that the Parties can continue to perform their obligations under the Grant in accordance with the intent of the Grant.

H. Survival of Certain Grant Award Letter Terms

Any provision of this Grant Award Letter that imposes an obligation on a Party after termination or expiration of the Grant shall survive the termination or expiration of the Grant and shall be enforceable by the other Party.

I. Third Party Beneficiaries

Except for the Parties' respective successors and assigns described above, this Grant Award Letter does not and is not intended to confer any rights or remedies upon any person or entity other than the Parties. Any services or benefits which third parties receive as a result of this Grant are incidental to the Grant, and do not create any rights for such third parties.

J. Waiver

A Party's failure or delay in exercising any right, power, or privilege under this Grant Award Letter, whether explicit or by lack of enforcement, shall not operate as a waiver, nor shall any single or partial exercise of any right, power, or privilege preclude any other or further exercise of such right, power, or privilege.

EXHIBIT C, OPTION LETTER (SAMPLE)

State Agency Department of Natural Resources Colorado Water Conservation Board (CWCB) 1313 Sherman St, Room 718 Denver, CO 80203	Option Letter Number
Grantee South Metro WISE Authority 8400 East Prentice Avenue Greenwood Village, CO 80111	Original Agreement Number CMS# 109575 CTGG1 2018-1992
Current Agreement Maximum Amount (Initial Term) \$127,500.00	Option Agreement Number
	Agreement Performance Beginning Date
	Current Agreement Expiration Date

1. **OPTIONS:**

A. Option to extend for an Extension Term

2. **REQUIRED PROVISIONS:**

A. **For use with Option 1(A):** In accordance with Section 2.C., of the Original Agreement referenced above, the State hereby exercises its option for an additional term, beginning _____ and ending on the current Agreement expiration date shown above, at the rates stated in the Original Agreement, as amended.

3. **OPTION EFFECTIVE DATE:**

A. The effective date of this Option Letter is upon approval of the State Controller or ____, whichever is later.

<p style="text-align: center;">STATE OF COLORADO John W. Hickenlooper, Governor Department of Natural Resources Colorado Water Conservation Board</p> <p>By: _____</p> <p>Name: _____</p> <p>Title: _____</p> <p>Date: _____</p>	<p>In accordance with §24-30-202, C.R.S., this Option is not valid until signed and dated below by the State Controller or an authorized delegate.</p> <p style="text-align: center;">STATE CONTROLLER Robert Jaros, CPA, MBA, JD</p> <p>By: _____</p> <p>Name: _____</p> <p>Title: _____</p> <p>Option Effective Date: _____</p>
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Last Update: January 9, 2018 (d.vigil)

Colorado Water Conservation Board	
Water Supply Reserve Fund	
<u>Exhibit A - Statement of Work</u>	
Date:	1/24/2018
Water Activity Name:	Investigation of Salinity Management Options for the WISE Partnership with Potential Shared Benefits by Other Metro Water Users
Grant Recipient:	South Metro WISE Authority
Funding Source:	Metro Basin Roundtable Account and Statewide Account
Water Activity Overview:	
<p>The WISE Project includes the delivery of Aurora Water and Denver Water reusable return flows to the SMWA, allowing SMWA members to reduce dependence on non-renewable groundwater. WISE water is diverted from the South Platte River north of the Metro region, which regularly has Total Dissolved Solids concentrations exceeding the U.S. EPA secondary maximum contaminant level of 500 mg/L. Two common methods for reducing TDS concentrations are blending elevated TDS water with low TDS water or physical removal with desalination treatment technologies.</p> <p>Through May 2030, Aurora Water and Denver Water have agreed to provide WISE with low TDS blending water. Following May 2030, Aurora Water and Denver Water may have other needs for this water and therefore may not be able to provide low TDS blend water to WISE. This investigation explores a wide array of options to mitigate high TDS reusable return flows from South Platte. When practical, options will be configured to allow others in the region to use desalination options to combat similar salinity issues. This investigation is scheduled to start mid-June of 2018 and will be completed by June of 2019.</p>	
Objectives:	
<ol style="list-style-type: none">1) Investigate how treatment options can be configured to reduce salinity in South Platte River return flows.2) Study options for brine disposal beyond deep well injection including landfill disposal.3) Develop blending concepts incorporating the extension of existing blending concepts and the identification of new blending concepts.4) Gain deeper insight into long-standing questions on inland salinity management and brine disposal principals.	

Tasks



Last Update: January 9, 2018 (d.vigil)

Tasks
<u>Task 1 – Salinity Removal Options</u>
Description of Task:
Evaluate treatment technologies and treatment site locations to physically remove dissolved solids from South Platte River return flows.
Method/Procedure:
<p>Options Workshop: A workshop will be held with the project participants to discuss potential locations for desalination facilities. Sites expected to be considered include sites located near the Prairie Waters Project (PWP) North Campus, along the PWP Pipeline, and near the Aurora Binney Water Purification Facility. The merit of other potential sites will also be discussed.</p> <p>Desalination technologies will also be discussed with a focus on comparing benefits of traditional reverse osmosis technologies versus selective membrane technology that can selectively remove target ions (e.g sodium and chloride) while leaving other constituents in the water to minimize brine stream volume.</p> <p>In the later stages of the workshop, the goal will be to select three (3) sites and two (2) desalination technologies to be reviewed in more detail. Meeting minutes will be prepared by the consultant.</p> <p>Prepare 3 Fact Sheets: This task includes the preparation of fact sheets with concise write-ups of the selected sites, simple layout of the facilities on an aerial map, and the flow and process schematics unique to each site. Next, a 90-minute follow-up meeting will be held to jointly review the fact sheets to confirm all parties have a common understanding before performing more detailed analyses.</p> <p>Prepare Site Plans and Cost Estimates: Layout new building locations and identify the connection points to existing facilities on a more detailed aerial map. Outline considerations for which entity would be the operator in responsible charge for the facilities. Discuss site access considerations and site security, particularly for sites that may have more than one utility routinely accessing the site. Develop rough order of magnitude cost estimates for each site.</p> <p>Prepare Operations Considerations Writeup: Water through this system would be delivered at variable rates. A brief write-up will discuss how this impacts sizing of the facilities and estimate how much capacity should be provided.</p>
Grantee Deliverable:
A summary of the key findings of the three evaluated sites will be documented in a technical memorandum. Meeting minutes, fact sheets, and site plans will be attachments to the TM providing a comprehensive summary of the work performed with planning level cost estimate.
CWCB Deliverable:
The CWCB will be provided a copy of the Technical Memorandum prepared for the grantee. The CWCB will also receive status report following 6 months of work and a final report prepared in accordance with the reporting requirements below.
Tasks



Last Update: January 9, 2018 (d.vigil)

Tasks
<u>Task 2 – Brine Disposal Options</u>
Description of Task:
Evaluate the benefits and risks of deep well injection for disposal of brine and evaluate feasibility of alternate disposal methods.
Method/Procedure:
<p>Engage Subject Matter Experts: Desalination subject matter experts will be engaged to provide rough estimates of the relative difference in brine disposal volumes between traditional reverse osmosis membranes and selective membranes. Deep well brine disposal experts will be engaged to qualify the benefits and potential risks of deep well injection of the estimated volumes. Landfill experts will be engaged to writeup key considerations regarding the potential opportunities and limitations of sending concentrated brine to non-hazardous versus hazardous waste landfills.</p> <p>Interview Landfill Operators: Landfills require Toxicity Characteristic Leaching Procedure (TCLP) testing among others where the results are compared to Maximum Concentration of Contaminants for Toxicity Characteristic for non-hazardous landfills as defined by the EPA. However, there can be exclusions and exemptions from the standard requirements at each landfill. This task includes interviews with both non-hazardous and hazardous material landfill operators in Colorado to discuss their ability and limitations of accepting a concentrated brine waste material.</p> <p>Characterization of Brine: Based on information learned from landfill interviews and subject matter expert input, calculations will be performed to estimate concentrations of contaminants in brine generated from desalination of South Platte River return flows. This effort includes assessing historical raw water quality data from the Prairie Waters Project and calculating the resulting brine stream concentrations that would occur due to the use of selective and non-selective membranes to remove dissolved solids.</p> <p>The feasibility of using Aurora Water laboratory facilities and laboratory staff to perform a laboratory experiment that would produce a representative brine sample will also be assessed. However, there are no standard laboratory procedures for performing such an experiment and this approach would not be as accurate as performing an extended pilot program using actual proposed treatment technologies. If laboratory experiments are performed, the work will be done using Aurora Water in-kind services and the findings will be compared to the calculated findings.</p>
Grantee Deliverable:
The findings of this study will be summarized in a technical memorandum and will provide the WISE Partnership, and other water utilities considering inland desalination, with a better understanding of potential opportunities and risks of brine disposal including potential effects on operations and maintenance costs.
CWCB Deliverable:
The CWCB will be provided a copy of the Technical Memorandum prepared for the grantee. The CWCB will also receive up status report following 6 months of work and a final report prepared in accordance with the reporting requirements below.



Last Update: January 9, 2018 (d.vigil)

Tasks
<u>Task 3 – Investigate Blending Options</u>
Description of Task:
Evaluate the opportunity to blend low salinity waters with the elevated salinity South Platte River return flows to reduce or eliminate the need for desalination treatment.
Method/Procedure:
<p>Options Workshop: This task includes a brainstorming session to develop (in schematic form) as many potential blending concepts as possible. In the later stages of the workshop, the goal will be to select five (5) options to be reviewed in more detail. Meeting notes on the key points of discussion for this workshop will be prepared by the consultant.</p> <p>Prepare 5 Fact Sheets: Up to five blending strategies will be documented in 2-page write-ups with schematic figures of the concept and a qualitative discussion of benefits and challenges of each concept. The findings of the mass balance analysis will be presented to the WISE Partnership in a follow-up meeting and it is expected that the concepts may be modified slightly based on the discussions.</p> <p>Prepare Cost Estimates: Rough order of magnitude capital cost estimates and operation costs will be developed for the facilities required for each blending strategy. This might include pipeline costs, pump station costs, blending tank or reservoir costs, and or costs to share/utilize existing facilities owned by others.</p>
Grantee Deliverable:
A summary of the key findings of the five blending strategies will be documented in a technical memorandum. Meeting minutes and fact sheets will be attachments to the TM providing a comprehensive summary of the work performed.
CWCB Deliverable:
The CWCB will be provided a copy of the Technical Memorandum prepared for the grantee. The CWCB will also receive a status report following 6 months of work and a final report prepared in accordance with the reporting requirements below.



Last Update: January 9, 2018 (d.vigil)

Budget and Schedule

Exhibit B - Budget and Schedule: This Statement of Work shall be accompanied by a combined [Budget and Schedule](#) that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format. A separate excel formatted Budget is required for engineering costs to include rate and unit costs.

Reporting Requirements

Progress Reports: The grantee shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues. The CWCB may withhold reimbursement until satisfactory progress reports have been submitted.

Final Report: At completion of the project, the grantee shall provide the CWCB a Final Report on the grantee's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

Payments

Payment will be made based on actual expenditures, must include invoices for all work completed and must be on grantee's letterhead. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

The CWCB will pay the last 10% of the entire water activity budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the water activity and purchase order or contract will be closed without any further payment. Any entity that fails to complete a satisfactory Final Report and submit to CWCB within 90 days of the expiration of a purchase order or contract may be denied consideration for future funding of any type from CWCB.

Performance Requirements

Performance measures for this contract shall include the following:

(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit B. Per Grant Guidelines, the CWCB will pay out the last 10% of the budget when the final deliverable is completed to the satisfaction of CWCB staff. Once the final deliverable has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

(b) Accountability: Per the Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per the Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment.

(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.

(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

**COLORADO**Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board**Water Supply Reserve Fund****EXHIBIT B - BUDGET AND SCHEDULE****Date:** 1/24/2018**Water Activity Name:** Investigation of Salinity Management Options for the WISE Partnership with Potential Shared Benefits by Other Metro Water Users**Grantee Name:** South Metro WISE Authority

<u>Task No.</u> ⁽¹⁾	<u>Description</u>	<u>Start Date</u> ⁽²⁾	<u>End Date</u>	<u>Matching Funds</u> (cash & in-kind) ⁽³⁾	<u>WSRF Funds</u> (Basin & Statewide combined) ⁽³⁾	<u>Total</u>
1	Investigate Salinity Removal Options	6/2018	6/15/2019	\$ 25,500.00	\$ 53,000.00	\$ 78,500.00
2	Investigate Brine Disposal Options	6/2018	6/15/2019	\$ 20,100.00	\$ 32,900.00	\$ 53,000.00
3	Investigate Blending Options	6/2018	9/30/2020	\$ 21,900.00	\$ 41,600.00	\$ 63,500.00
Total				\$ 67,500.00	\$ 127,500.00	\$ 195,000.00

(1) The single task that include costs for Grant Administration must provide a labor breakdown (see Indirect Costs tab below) where the total WSRF Grant contribution towards that task does not exceed 15% of the total WSRF Grant amount.

(2) Start Date for funding under \$100K - 45 Days from Board Approval; Start Date for funding over \$100K - 90 Days from Board Approval.

(3) Round values up to the nearest hundred dollars.

- Reimbursement eligibility commences upon the grantee's receipt of a Notice to Proceed (NTP)

- NTP will not be accepted as a start date. Project activities may commence as soon as the grantee enters contract and receives formal signed State Agreement.

The CWCB will pay the last 10% of the entire water activity budget when the Final Report is completed to the satisfaction of the CWCB staff project manager. Once the Final Report has been accepted, the final payment has been issued, the water activity and purchase order (PO) or contract will be closed without any further payment. Any entity that fails to complete a satisfactory Final Report and submit to the CWCB with 90 days of the expiration of the PO or contract may be denied consideration for future funding of any type from the CWCB.

- Additionally, the applicant shall provide a progress report every 6 months, beginning from the date of contract execution