Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
March 16-17, 2016
Agenda Item 14(a)

Applicant & Fiscal Agent:	WateReuse Colorado
Water Activity Name:	Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands
Water Activity Purpose:	Study
County:	Multiple
Drainage Basin:	Multiple
Water Source:	
Amount Requested/Source of Funds:	$25,000 Metro Basin Account $15,000 South Platte Basin Account $15,000 Colorado Basin Account $2,500 North Platte Basin Account $131,455 Statewide Account $188,955 Total Grant Request
Matching Funds:	Basin Account Match ($57,500) = 30.4% of total grant request (meets 5% min); Basin Account & Applicant Match ($172,025) = 91% of total grant request (meets 25% min); Applicant/3rd Party Match ($114,525) = 60.6% of total grant request (refer to *Funding Summary/Matching Funds* section)

Staff Recommendation:

Staff recommends approval of up to $2,500 from the Metro Account; $15,000 from the South Platte, Basin Account; $15,000 from the Colorado Basin Account; $2,500 from the North Platte Basin Accounts; and $131,455 from the Statewide Account to help fund the project titled: Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands

Water Activity Summary: WSRA funds, if approved, will be expended to fund Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands (the Project). The water activity proposed is three-pronged and geared towards: establishing the regulatory environment to facilitate DPR, facilitating public acceptance, and adapting existing tools to help Colorado utilities evaluate if reuse, including potable, is a viable and cost-effective option.

While some indirect potable reuse occurs, much existing municipal reuse in Colorado is for non-potable irrigation and some commercial and industrial use. Reuse volumes gained from non-potable reuse are limited due to seasonality and demand constraints and the typical need for a separate delivery infrastructure. Potable reuse provides greater flexibility than non-potable reuse, can meet year-round demands, and is more drought-resistant and can be more cost-effective than other water supply options. It can produce a higher "yield" than non-potable reuse, due to reusable return flows from indoor uses. Advances in treatment technologies, national implementation and public

perception, combined with water supply limitations around the West are leading a rapidly-growing number of communities to consider DPR. And while indirect potable reuse (IPR) projects have already been implemented in Colorado, it is anticipated that DPR will become the most feasible option for some communities considering potable reuse.

Task 1: DPR Regulatory and Institutional Framework for Colorado: This task will document the bases for development of potential DPR regulations in Colorado that are protective of public health and safety and reflective of best management practices. There is no framework for regulatory development or project-specific approvals specifically designed for direct potable reuse in Colorado. The project will utilize ongoing research and the approaches and experience in other Western States to develop a proposed Colorado-specific approach to DPR project approvals and/or regulations that describes appropriate treatment, monitoring, and operational requirements for DPR systems. A broad-based technical/regulatory/water user work group will be convened, including Colorado Department of Public Health and Environment (CDPHE) regulatory staff, Colorado water utilities (both large and small), environmental and agricultural representatives, regulators and water utilities from other states, national experts, and other water users and interested parties, with most participants providing their time as in-kind contributions. The end goal of this task is to develop a proposed roadmap for the State of Colorado and its water users to follow in the future development of DPR projects.
[Note: The proposed roadmap developed as part of this process is not to be presented to or construed by the CDPHE as being endorsed by any Basin Roundtable, the CWCB, the IBCC, or any other entity unless that specific entity affirmatively states so in writing.]

Task 2: Public Outreach for DPR at the Local and State Level: This task will help bolster public understanding and acceptance of potable reuse through public information and outreach programs. While the science and engineering behind potable reuse is advancing at unprecedented rates, public perception remains one of the most significant challenges in implementing a potable reuse project. This project will provide specific tools and actions to advance public understanding and acceptance of potable reuse projects in Colorado. We will focus on water utilities, regulators, legislators, opinion leaders and the general public with the guidance and assistance of an education/outreach workgroup consisting of the groups listed under Task 1, with the addition of the CWCB's Outreach and Education Coordinator. All workgroup participants and outreach, with the exception of the project consulting team, will provide their time on an in-kind basis.

Task 3: Leveraging Potable Reuse Planning Tools: This task will enhance existing planning tools and assist Colorado utilities with their assessment of DPR as a potential supply option. Research being conducted nationally has resulted in many approaches and tools that can be used locally to support the analysis and implementation of potable reuse projects, with a specific interest in cost comparisons of water supply options, treatment train options, and other cost-benefit analyses. This task includes updating/adapting an existing treatment alternatives screening tool for Colorado utilities' use and demonstrating its use at the local level. This will avoid providers needing to "start from scratch" when assessing treatment train options (including alternatives to membrane- based treatment and the corresponding need for brine management) and the potential role of potable reuse in a supply portfolio. Three Colorado case studies for DPR analysis will be completed using these tools to represent real world applications for utilities that are seriously considering DPR as a supply option.

Discussion: The proposed study aligns with needs, projects and initiatives identified in Colorado's Water Plan regarding direct potable reuse and the contributions to closing the gap for consumptive water needs.

Issues/Additional Needs: No issues or additional needs have been identified.

Threshold and Evaluation Criteria:
The application meets all four Threshold Criteria.

Tier 1-3 Evaluation Criteria:
This proposal has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to WSRA Application for applicant's detailed response.

Funding Summary/Matching Funds:

Funding Source	Cash	In-kind	Total
Water Reuse Colorado	$10,000	$0	$10,000
Denver Water	$10,000	$10,000	$20,000
City of Aurora	$7,500	$15,000	$22,500
Centennial Water and Sanitation District	$5,000	$6,500	$11,500
Western Resource Advocates	$4,000	$10,500	$14,500
Town of Castle Rock	$7,500	$0	$7,500
Plum Creek Water Reclamation Authority	$5,000	$0	$5,000
South Metro Water Supply Authority	$1,000	$0	$1,000
WateReuse Research Foundation	$5,000	$0	$4,000
Colorado Springs Utilities	$0	$6,525	$6,525
MSK Consulting	$0	$6,000	$6,000
WateReuse Association	$0	$5,000	$5,000
Sub-total matching funds	$55,000	$59,525	$114,525
WSRA Metro Basin Account	$25,000	n/a	$25,000
WSRA South Platte Basin Account	$15,000	n/a	$15,000
WSRA Colorado Basin Account	$15,000	n/a	$15,000
WSRA North Platte Basin Account	$2,500	n/a	$2,500
WSRA Statewide Account	$131,455	n/a	$131,455
Total Project Costs	**$243,955**	**$59,525**	**$303,480**

CWCB Project Manager: Kevin Reidy

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

Engineering: All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.

January 25, 2016

Craig Godbout - WSRA Application
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

Re: Letter of Metro Roundtable WSRA Basin Funds support for WateReuse Colorado's project titled *Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands*

The Metro Roundtable reviewed this WSRA grant application under our Guidelines, believes the application fully meets the Threshold and Evaluation Criteria for the WSRA Grant Program, and is supportive of WateReuse Colorado's direct potable reuse project that will provide water utilities with a valuable tool to help meet the municipal and industrial gap. Metro Roundtable support of this project was unanimous.

Meeting Colorado's water needs is an increasingly difficult challenge, requiring new thinking and nontraditional supplies. The Colorado State Water Plan and the South Platte Basin Implementation Plan recognize this reality, and include priorities for water conservation and water reuse, and in particular, acknowledge of the role that potable water reuse will necessarily play in our state's future water supply portfolio. This project is designed to facilitate the safe and effective adoption of direct potable reuse in Colorado, using legally reusable water supplies, as another option to help meet growing municipal demands.

Upon review and consideration of WateReuse Colorado's proposal, the Metro Roundtable unanimously voted to approve the full $25,000 of Metro Basin WSRA funds requested by the applicant and to support the application for statewide funds.

Sincerely,

Barbara Biggs, Chair
Metro Roundtable

January 22, 2016

Craig Godbout - WSRA Application
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203
Craig.godbout@state.co.us

Dear Mr. Godbout:

The South Platte Basin Roundtable has reviewed the WSRA application from WateReuse Colorado entitled Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands and voted via email on January 22nd, 2016 to approve the grant application for $15,000 from the SPBRT Basin account.

This letter is intended to fulfill Threshold Criteria B (Part III 1.b. in the WSRA Application). The full WSRA Application will be provided separately by the applicant. Please let me know if you need any additional information.

Sincerely,

Joe Frank

Joe Frank, Chair
South Platte Basin Roundtable

THE COLORADO BASIN ROUNDTABLE

C/O P.O. BOX 1120
GLENWOOD SPRINGS, COLORADO
81602

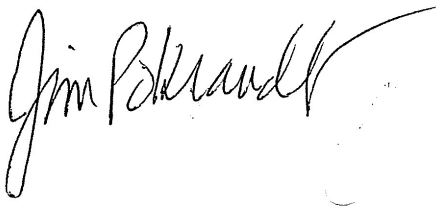
Nov. 30, 2015

Craig Godbout
Colorado Water Conservation Board
Water Supply Planning Section
1313 Sherman Street
(303) 866-3441, ext 3210 (office)
(970) 218-9407 (cell)
craig.godbout@state.co.us

Dear Craig:

The Colorado Basin Roundtable voted unanimously on Nov. 30, 2015 by email balloting to support the WateReuse Colorado project to Advance Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands. The amount requested from the CBRT Basin Account is $15,000. This is to match WSRA Basin requests from the Metro, North Platte and South Platte Roundtables. The total request of this multi-basin project is $57,500 from the Roundtables Basin Accounts and $131,455 from the Statewide Account. The contracting entity will be the national WateReuse Association.

The CBRT Basin Implementation Plan calls for Colorado to best use its existing water supplies as a major initiative to meet our growing population. We know the greatest benefits of this project will be on the Front Range, which is exactly as it should be as that is where reuse potential is centered and where the gap is the greatest. The greater degree that Colorado municipalities conserve and reuse water, especially transmountain water, the less pressure there should be on irrigation water and the Colorado River. Therefore we support this cross-basin effort to prepare the public for the benefits of reuse.



Jim Pokrandt
Chair, Colorado Basin Roundtable

NORTH PLATTE BASIN ROUNDTABLE

Wm. Kent Crowder, Chair
P.O. Box 1019
Walden, Colorado 80480

FAX (970) 723-4706
(970) 723-4660

December 11, 2015

Mr. Craig Godbout, Program Manager
Colorado Water Conservation Board
Water Supply Planning Section
WSRA Application
1313 Sherman Stree4t, Suite 718
Denver, CO 80203

Re: Water Supply Reserve Account Grant Application for Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands Project – Applicant WateReuse Colorado-Requesting $131,455 from Statewide Account and $57,500 from Basin Account Funds

Dear Mr. Godbout:

This letter is to advise you that the WSRA grant application submitted by WateReuse Colorado for $131,455 in Statewide Account funds and $57,500 in Basin Account funds for Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands project was reviewed by the North Platte Basin Roundtable and was approved by a majority vote of the voting members present at the North Platte Basin Roundtable meeting held on the 24th day of November, 2015. Eight voting members of the Roundtable voted to approve funding for the project and one member voted against funding the project. The one dissenting vote against funding the project was from a North Platte Roundtable member who felt the applicant was not prepared to move forward with the project. In addition, the North Platte Basin Roundtable voted to stipulate, that if funding was approved, an agriculture representative from the South Platte Basin be appointed to the workgroup established to provide input and advice on the project and that a representative from a small public water utility/provider also be appointed to the workgroup so that no unintended regulatory consequences to small providers result from this undertaking.

Although the primary purpose of this project is to help provide reliable, sustainable municipal and industrial supplies, there are environmental, recreational, and agricultural benefits as well. Direct potable reuse may allow communities to better optimize existing and future supplies which may alleviate some of the need to secure additional supplies from the purchase of agricultural water. The preservation of productive agriculture is very important to the North Platte Basin, and this project has the potential to help preserve very important and valuable agricultural water use.

Please feel free to call me with any questions that you may have regarding the North Platte Basin Roundtable meeting or our level of support for this project.

Sincerely,

Wm. Kent Crowder, Chair

cc: WateReuse Colorado

Cherry Creek Basin Water Quality Authority
8390 East Crescent Parkway, Suite 500
Greenwood Village, Colorado 80111
(P) 303.779.4525 (F) 303.773.2050

January 21, 2016

Craig Godbout - WSRA Application
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

Re: Grant Application for Biological Treatment of Selenium in Concentrate

Dear Mr. Godbout,

The Cherry Creek Basin Water Quality Authority ("CCBWQA") is providing this letter to express support for the grant application for "Biological Treatment of Selenium in Concentrate" as proposed by the Arapahoe County Water and Wastewater Authority ("ACWWA") and the Cottonwood Water and Sanitation District ("CWSD"). This project would construct a Biochemical Reactor ("BCR") to remove selenium from the reject water from the reverse osmosis treatment process.

Selenium concentrations in discharges to Cherry Creek, its tributaries and the Reservoir are a concern of the CCBWQA to protect fish and invertebrates in these ecosystems. Therefore, the development of natural treatment systems like this BCR, which physically removes selenium and allows discharges to meet the aquatic protection limits provides value for both the discharger to optimize its water source and for the CCBWQA by helping protect the environment.

The BCR natural treatment system also has the potential to provide additional benefits by removing other constituents of concern such as nutrients. Hopefully the development of this system will further the technology that can protect ecosystems throughout the state. Therefore, the CCBWQA is pleased to support this application.

Sincerely,

Stephanie Piko
Chairman

COLORADO
Department of Public
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

October 22, 2015

Craig Godbout - WSRA Application
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Craig.godbout@state.co.us

Dear Mr. Godbout:

The Safe Drinking Water Program of the Water Quality Control Division of the Colorado Department of Public Health and Environment is pleased to provide a letter of support for WateReuse Colorado's proposed project "Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands". We support this collaborative project that will facilitate the safe and prudent reuse of reusable water supplies to help meet Colorado's municipal and industrial water supply gap. This effort, which involves appropriate state agencies and key stakeholders, will provide the foundation and support for moving reuse forward as a viable water supply strategy.

The proposed project is consistent with the July 2015 draft of the Colorado Water Plan, which includes actions to use WSRA grant funds to advance reuse and to improve the regulatory environment to reuse while protecting public health and the environment. As the draft Water Plan stated "Widespread development of potable reuse will be an important facet of closing the future water supply-demand gap." The Water Quality Control Commission has indicated that non-potable reclaimed water regulations should "further promote reuse of reclaimed domestic wastewater by providing a comprehensive framework which, when followed, will assure responsible management of operations and a product of a quality compatible with the state's goals of protecting the public health and the environment." We believe that as water reclamation plans to extend into the potable arena, exploring this issue is appropriate and we look forward to collaborating with the project team as described below.

In addition to our written support of the WateReuse Colorado project, our office will be happy to provide project assistance, such as accessing publically available data maintained by Colorado Department of Public Health and Environment and reviewing project plans and documents, if requested.

Thank you.

Sincerely,

Ron Falco, P.E.
Safe Drinking Water Program Manager
Water Quality Control Division

COLORADO
Division of Water Resources
Department of Natural Resources

1313 Sherman Street, Room 821
Denver, CO 80203

October 13, 2015

Craig Godbout – WSRA Application
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Craig.godbout@state.co.us

Dear Mr. Godbout:

The Colorado Office of the State Engineer (SEO) is pleased to provide a letter of support for WateReuse Colorado's proposed project "Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands". As the administrative agent overseeing the diversion of water in Colorado, our support is based on our understanding that the project fulfills many of the state's objectives regarding solutions to water needs, while acknowledging the need to divert, use, and reuse the state's water only in harmony with Colorado's system of water rights. In that regard, the basis for our support is further bolstered by our understanding that the project is consistent with Section 37-75-102 Colorado Revised Statutes and will not attempt to repeal or in any manner amend the existing water rights adjudication system, nor will the project conflict with the operation of, or cause injury to any decreed water right or permitted well.

To that end, we support this collaborative project that will facilitate the reuse of legally reusable water supplies to help meet Colorado's municipal and industrial water supply gap, knowing this project involves appropriate state agencies and key stakeholders.

The proposed project is consistent with the July 2015 draft of the Colorado Water Plan, which includes actions to use WSRA grant funds to advance reuse and to improve the regulatory environment to reuse while protecting public health and the environment. As the Water Plan states "Widespread development of potable reuse will be an important facet of closing the future water supply-demand gap." Similarly, the South Platte Basin Implementation Plan, where much future reuse will likely occur, includes a vision to reach enhanced levels of reuse and a recommendation to "Continue research and development of new strategies to address both the technical and regulatory constraints associated with treating low quality water and disposing of waste including direct potable reuse (DPR) and indirect potable reuse (IPR), developing an appropriate regulatory framework for these technologies, and promoting and monitoring research on relevant technologies to advance these objectives."

In addition to our written support of the WateReuse Colorado project, our office will be happy to provide project assistance, such as facilitating access to publically available data maintained by the Division of Water Resources, if requested.

Sincerely,

Dick Wolfe

Dick Wolfe, M.S., P.E.
State Engineer, Director

1313 Sherman Street, Room 821, Denver, CO 80203 P 303.866.3581 F 303.866.3589 www.water.state.co.us

COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Today's Date: 01/29/2016

Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands

Name of Water Activity/Project

WateReuse Colorado

Name of Applicant

Metro - $25,000
South Platte - $15,000
Colorado - $15,000
North Platte = $2,500

Amount from Statewide Account: $131,455

Amount from Basin Account(s): $57,500

Total WSRA Funds Requested: $188,955

Approving Basin Roundtable(s)
(If multiple basins specify amounts in parentheses.)

FEIN: 68-0235568 (Contracting Agent)

Application Content

Required Exhibits

A. Statement of Work, Budget, and Schedule
B. Project Map
C. As Needed (i.e. letters of support, photos, maps, etc.)

Appendices – Reference Material

1. Program Information
2. Insurance Requirements
3. WSRA Standard Contract Information (Required for Projects Over $100,000)
4. W-9 Form (Required for All Projects Prior to Contracting)

Instructions

To receive funding from the Water Supply Reserve Account (WSRA), a proposed water activity must be approved by the local Basin Roundtable **AND** the Colorado Water Conservation Board (CWCB). The process for Basin Roundtable consideration and approval is outlined in materials in Appendix 1.

Once approved by the local Basin Roundtable, the applicant should submit this application **with a detailed statement of work including budget and schedule as Exhibit A** to CWCB staff by the application deadline.

WSRA applications are due with the roundtable letter of support 60 calendar days prior to the bi-monthly Board meeting at which it will be considered. Board meetings are held in January, March, May, July, September, and November. Meeting details, including scheduled dates, agendas, etc. are posted on the CWCB website at: http://cwcb.state.co.us Applications to the WSRA Basin Account are considered at every board meeting, while applications to the WSRA Statewide Account are only considered at the March and September board meetings.

When completing this application, the applicant should refer to the WSRA Criteria and Guidelines available at: http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Documents/WSRACriteriaGuidelines.pdf. In addition, the applicant should also refer to the Supplemental Scoring Matrix applied to Evaluation Criteria Tiers 1-3 for Statewide Account requests .

The application, statement of work, budget, and schedule **must be submitted in electronic format** (Microsoft Word or text-enabled PDF are preferred) and can be emailed or mailed on a disk to:

Craig Godbout - WSRA Application
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203
Craig.godbout@state.co.us

If you have questions or need additional assistance, please contact Craig Godbout at: 303-866-3441 x3210 or craig.godbout@state.co.us.

Water Supply Reserve Account – Application Form
Revised October 2013

Part I. - Description of the Applicant (Project Sponsor or Owner);

1. Applicant Name(s): WateReuse Colorado

Mailing address:
c/o Laura Belanger
Western Resource Advocates
2260 Baseline Road, Suite 200
Boulder, CO 80302

FEIN #: 68-0235568 Contracting Agent

Primary Contact: Laura Belanger Position/Title: WateReuse CO President

Email: laura@westernresources.org

Phone Numbers: Cell: 303-215-9122 Office: 720-763-3718

Alternate Contact: John Rehring Position/Title: Project Engineer

Email: JRehring@carollo.com

Phone Numbers: Cell: 303-489-0786 Office: 303-635-1220

2. Eligible entities for WSRA funds include the following. What type of entity is the Applicant?

[ ] Public (Government) – municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities and the local entity should be the grant recipient. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.

[ ] Public (Districts) – authorities, Title 32/special districts, (conservancy, conservation, and irrigation districts), and water activity enterprises.

[ ] Private Incorporated – mutual ditch companies, homeowners associations, corporations.

[ ] Private individuals, partnerships, and sole proprietors are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.

[X] Non-governmental organizations – broadly defined as any organization that is not part of the government.

3. Provide a brief description of your organization

WateReuse Colorado is the state section of the national WateReuse Association. WateReuse Colorado is comprised of a broad range of reuse professionals, including the state's preeminent voices in water reuse – municipal water providers, users of recycled water, engineering consultants, regulators, and researchers. Our primary objectives include supporting the mission of the WateReuse Association[1], advocating for legislation and regulations that facilitate appropriate water reuse, promoting safe and effective reuse throughout Colorado, and improving public understanding of water reclamation.

[1] The mission of the national WateReuse Association is to educate the public on the importance of reusing water and to advocate for policy, laws and funding to increase water reuse in communities across the United States.

4. If the Contracting Entity is different than the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.

The Contracting Entity is the national WateReuse Association of which WateReuse Colorado (the applicant) is the state section. The WateReuse Association is internationally-recognized as a leader on alternative water supply development. It is the go-to organization for applied research, policy guidance and educational tools on water reuse as well as the principle influencer of public opinion, lawmakers and policymakers on guidance, regulations, and projects related to water reuse. Since its founding in 1990, the WateReuse Association has advocated for policies, laws and funding at the state and federal level to increase the practice of recycling water. Seven state sections work with state lawmakers and regulatory agencies to advance state policies on water reuse. During the last two decades, WateReuse has conducted more than $60 million in research to solve real-world problems that may be barriers to expanding water reuse here and around the world. The research has been used to ensure protection for human health and the environment, improve operational efficiency of water treatment facilities, and increase public acceptance of recycling water. While the science is clear that recycling water is safe, misinformation has contributed to community resistance for water reuse projects. To address that challenge, WateReuse is expanding its efforts to support members in communicating to their customers and constituencies. Their membership of water utilities, businesses, government agencies and not-for-profit organizations is dedicated to recycling water to ensure communities have a safe, reliable and cost-effective supply of water, which is necessary to sustain a high standard of living and robust economy.

5. Successful applicants will have to execute a contract with the CWCB prior to beginning work on the portion of the project funded by the WSRA grant. In order to expedite the contracting process the CWCB has established a standard contract with provisions the applicant must adhere to. A link to this standard contract is included in Appendix 3. Please review this contract and check the appropriate box.

[X] The Applicant will be able to contract with the CWCB using the Standard Contract

[ ] The Applicant has reviewed the standard contract and has some questions/issues/concerns. Please be aware that any deviation from the standard contract could result in a significant delay between grant approval and the funds being available.

6. The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.

WateReuse Colorado and the WateReuse Association do not anticipate any TABOR issues.

Part II. - Description of the Water Activity/Project

1. What is the primary purpose of this grant application? (Please check only one)

	Nonconsumptive (Environmental or Recreational)
	Agricultural
X	Municipal/Industrial
	Needs Assessment
	Education
	Other Explain:

2. If you feel this project addresses multiple purposes please explain.

While the primary purpose of this project is providing reliable, sustainable municipal and industrial supplies, there are environmental, recreational, and agricultural benefits as well. Direct potable reuse (DPR) may allow communities to better optimize existing and future reusable supplies which will alleviate some of the need to secure additional supplies from other sources. While reuse decreases municipal returns flows, which clearly impacts streamflows and downstream users who have historically relied on those flows, potable water reuse, when implemented effectively, can essentially double the demand that an acre-foot of legally reusable water is able to meet. Stretching each acre-foot of water supply further through potable reuse has environmental and recreational benefits when it results in fewer new stream diversions. It also decreases pressure on agriculture and the West Slope as sources of new water supplies. When water is transferred from the West to East Slope and from agriculture to municipalities (through alternative agricultural transfer methods or more traditional purchases), potable reuse fully recognizes the value of this water by ensuring it is used efficiently and effectively.

3. Is this project primarily a study or implementation of a water activity/project? (Please check only one)

X	Study		Implementation

4. To catalog measurable results achieved with WSRA funds can you provide any of the following numbers?

	New Storage Created (acre-feet)
	New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet)
	Existing Storage Preserved or Enhanced (acre-feet)
	Length of Stream Restored or Protected (linear feet)
	Length of Pipe/Canal Built or Improved (linear feet)
	Efficiency Savings (acre-feet/year OR dollars/year – **circle one**)
	Area of Restored or Preserved Habitat (acres)
58,000+	Other -- Explain: The project is designed to pave the way for direct potable reuse (DPR). Resulting DPR combined with indirect potable (IPR) and non-potable reuse will help ensure communities are able to optimize on 58,135 AF of reuse Identified Projects and Processes (IPPs) in the South Platte Basin Implementation Plan (SPBIP), where much new reuse will occur. DPR and IPR can produce a higher "yield" than non-potable reuse, due to reusable return flows from indoor uses. Additional yield opportunities also exist (though there is some overlap with the reuse IPPs) associated with agricultural transfer IPPs (19,900 AF identified in the SPBIP) and transbasin IPPs (58,000 AF identified in the SPBIP) which are typically, though not always, reusable. Additional reuse IPPs and opportunities occur in other basins.

4. To help us map WSRA projects please include a map (Exhibit B) and provide the general coordinates below:

Latitude: | Longitude:

No map provided. The project has statewide implications. As a result of reuse (including DPR), most of which will occur across Colorado's Front Range, less new water will need to be secured from other sources including the West Slope and agriculture.

5. Please provide an overview/summary of the proposed water activity (no more than one page). Include a description of the overall water activity and specifically what the WSRA funding will be used for. A full **Statement of Work** with a detailed budget and schedule is required as **Exhibit A** of this application.

The water activity proposed is three-pronged and geared towards: establishing the regulatory environment to facilitate DPR, facilitating public acceptance, and adapting existing tools to help Colorado utilities evaluate if reuse, including potable, is a viable and cost-effective option.

While some indirect potable reuse occurs, much existing municipal reuse in Colorado is for non-potable

irrigation and some commercial and industrial use. Reuse volumes gained from non-potable reuse are limited due to seasonality and demand constraints and the typical need for a separate delivery infrastructure. To optimize reusable supplies to meet future demands, potable reuse will play an important role, using proven, reliable technology to purify recycled water and safely supplement communities' drinking water supplies. Potable reuse provides greater flexibility than non-potable reuse, can meet year-round demands, and is more drought-resistant and can be more cost-effective than other water supply options. It can produce a higher "yield" than non-potable reuse, due to reusable return flows from indoor uses. Advances in treatment technologies, national implementation and public perception, combined with water supply limitations around the West are leading a rapidly-growing number of communities to consider DPR. And while indirect potable reuse (IPR) projects have already been implemented in Colorado, it is anticipated that DPR will become the most feasible option for some communities considering potable reuse.

Task 1: DPR Regulatory and Institutional Framework for Colorado: This task will document the bases for development of potential DPR regulations in Colorado that are protective of public health and safety and reflective of best management practices. Water providers' interest in potable water reuse is rapidly increasing as a potentially cost-competitive approach for sustainably meeting water demands. However, there is no framework for regulatory development or project-specific approvals specifically designed for direct potable reuse in Colorado. The project will utilize ongoing research and the approaches and experience in other Western States to develop a proposed Colorado-specific approach to DPR project approvals and/or regulations that describes appropriate treatment, monitoring, and operational requirements for DPR systems. A broad-based technical/regulatory/water user work group will be convened, including Colorado Department of Public Health and Environment (CDPHE) regulatory staff, Colorado water utilities (both large and small), environmental and agricultural representatives, regulators and water utilities from other states, national experts, and other water users and interested parties, with most participants providing their time as in-kind contributions. The end goal of this task is to develop a proposed roadmap for the State of Colorado and its water users to follow in the future development of DPR projects.

[Note: The proposed roadmap developed as part of this process is not to be presented to or construed by the CDPHE as being endorsed by any Basin Roundtable, the CWCB, the IBCC, or any other entity unless that specific entity affirmatively states so in writing.]

Task 2: Public Outreach for DPR at the Local and State Level: This task will help bolster public understanding and acceptance of potable reuse through public information and outreach programs. While the science and engineering behind potable reuse is advancing at unprecedented rates, public perception remains one of the most significant challenges in implementing a potable reuse project. Understanding of water supply challenges and reuse opportunities is increasing, but experience in the industry clearly shows that there are specific actions that can be taken to improve acceptance of and support for potable reuse projects. This project will provide specific tools and actions to advance public understanding and acceptance of potable reuse projects in Colorado. We will focus on water utilities, regulators, legislators, opinion leaders and the general public with the guidance and assistance of an education/outreach workgroup consisting of the groups listed under Task 1, with the addition of the CWCB's Outreach and Education Coordinator. All workgroup participants and outreach, with the exception of the project consulting team, will provide their time on an in-kind basis.

Task 3: Leveraging Potable Reuse Planning Tools: This task will enhance existing planning tools and assist Colorado utilities with their assessment of DPR as a potential supply option. Research being conducted nationally has resulted in many approaches and tools that can be used locally to support the analysis and implementation of potable reuse projects, with a specific interest in cost comparisons of water supply options, treatment train options, and other cost-benefit analyses. However there is limited awareness in the water provider community regarding these extremely useful tools. This task includes updating/adapting an existing treatment alternatives

screening tool for Colorado utilities' use and demonstrating its use at the local level. This will avoid providers needing to "start from scratch" when assessing treatment train options (including alternatives to membrane-based treatment and the corresponding need for brine management) and the potential role of potable reuse in a supply portfolio. Three Colorado case studies for DPR analysis will be completed using these tools to represent real world applications for utilities that are seriously considering DPR as a supply option.

Part III. – Threshold and Evaluation Criteria

1. Describe how the water activity meets these **Threshold Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines.)

   a) The water activity is consistent with Section 37-75-102 Colorado Revised Statutes.[1]

This project "Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands" is consistent with Section 37-75-102 Colorado Revised Statutes. The project will not repeal or in any manner amend the existing water rights adjudication system and meets this threshold criteria. See attached Letter of Support for the project from the State Engineers Office (SEO).

   b) The water activity underwent an evaluation and approval process and was approved by the Basin Roundtable (BRT) and the application includes a description of the results of the BRTs evaluation and approval of the activity. At a minimum, the description must include the level of agreement reached by the roundtable, including any minority opinion(s) if there was not general agreement for the activity. The description must also include reasons why general agreement was not reached (if it was not), including who opposed the activity and why they opposed it. Note- If this information is included in the letter from the roundtable chair simply reference that letter.

Support of this projects and contributions from basin WSRA funds have been approved from the following roundtables:

- Metro Roundtable - $25,000
- South Platte Basin Roundtable - $15,000
- Colorado Basin Roundtable - $15,000
- North Platte Basin Roundtable - $2,500

[1] 37-75-102. Water rights - protections. (1) It is the policy of the General Assembly that the current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this article. Nothing in this article shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirms the state constitution's recognition of water rights as a private usufructuary property right, and this article is not intended to restrict the ability of the holder of a water right to use or to dispose of that water right in any manner permitted under Colorado law. (2) The General Assembly affirms the protections for contractual and property rights recognized by the contract and takings protections under the state constitution and related statutes. This article shall not be implemented in any way that would diminish, impair, or cause injury to any property or contractual right created by intergovernmental agreements, contracts, stipulations among parties to water cases, terms and conditions in water decrees, or any other similar document related to the allocation or use of water. This article shall not be construed to supersede, abrogate, or cause injury to vested water rights or decreed conditional water rights. The General Assembly affirms that this article does not impair, limit, or otherwise affect the rights of persons or entities to enter into agreements, contracts, or memoranda of understanding with other persons or entities relating to the appropriation, movement, or use of water under other provisions of law.

c) The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.[2] The Basin Roundtable Chairs shall include in their approval letters for particular WSRA grant applications a description of how the water activity will assist in meeting the water supply needs identified in the basin roundtable's consumptive and/or non-consumptive needs assessments.

Letters of support from the Metro, South Platte, Colorado and North Platte Basin Roundtable are attached in Exhibit C.

SWSI, the Colorado Water Plan, and seven of the eight BIPs all emphasize the reuse of fully consumable supplies as an important component to reduce the municipal and industrial (M&I) Gap. The South Platte BIP (SPBIP), where much additional reuse will likely occur, includes a solution to "Maintain leadership in conservation and reuse and implement additional measures to reduce water consumption rates" and a recommendation to "Implement additional reuse where practicable". The SPBIP includes 13 reuse-specific IPPs as well as agricultural transfer and transbasin IPPs where supplies could likely be further stretched to meet additional demands via reuse. The Arkansas BIP discusses the importance of reusing transbasin water supplies to the maximum potential. The Colorado, Yampa/White and Gunnison BIPs stress that entities should reuse all legally reusable supplies to the maximum extent possible to meet demands. The Southwest BIP includes an M&I goal to "Support and implement reuse strategies". This project, by facilitating DPR, will assist in meeting the water supply needs identified in the South Platte and other BIPs.

d) Matching Requirement: For requests from the **Statewide Fund**, the applicants will be required to demonstrate a **25 percent** (or greater) match of the total grant request from the other sources, including by not limited to Basin Funds. A minimum match of 5% of the total grant amount shall be from Basin funds. A minimum match of 5% of the total grant amount must come from the applicant or 3rd party sources. Sources of matching funds include but are not limited to Basin Funds, in-kind services, funding from other sources, and/or direct cash match. Past expenditures directly related to the project may be considered as matching funds if the expenditures occurred within 9 months of the date the contract or purchase order between the applicant and the State of Colorado is executed. Please describe the source(s) of matching funds. (NOTE: These matching funds should also be reflected in your Detailed Budget in **Exhibit A** of this application)

The Total Project Cost = $303,480
Statewide Fund Request = $131,455

[2] 37-75-104 (2)(c). Using data and information from the Statewide Water Supply Initiative and other appropriate sources and in cooperation with the on-going Statewide Water Supply Initiative, develop a basin-wide consumptive and nonconsumptive water supply needs assessment, conduct an analysis of available unappropriated waters within the basin, and propose projects or methods, both structural and nonstructural, for meeting those needs and utilizing those unappropriated waters where appropriate. Basin Roundtables shall actively seek the input and advice of affected local governments, water providers, and other interested stakeholders and persons in establishing its needs assessment, and shall propose projects or methods for meeting those needs. Recommendations from this assessment shall be forwarded to the Interbasin Compact Committee and other basin roundtables for analysis and consideration after the General Assembly has approved the Interbasin Compact Charter.

Matching funds for the Statewide Fund request include:

- Basin Funds - $57,500
  - The Basin Fund match of the Statewide fund request is 43.7%
- Other Project Supporters Match = $114,525
  - Other Project Supporters Match of the Statewide Fund request is 87.1%
  - Other Project Supporters Match of the total WSRA grant request is 60.6%

  - Other Project Supporters Cash Match = $55,000
    - WateReuse Colorado = $10,000
    - Denver Water = $10,000
    - City of Aurora = $7,500
    - Centennial Water and Sanitation District = $5,000
    - Western Resource Advocates = $4,000
    - Town of Castle Rock = $7,500
    - Plum Creek Water Reclamation Authority = $5,000
    - South Metro Water Supply Authority = $1,000
    - WateReuse Research Foundation = $5,000
  - Other Project Supporters In-Kind Match - $59,525
    - Denver Water = $10,000
    - Aurora Water = $15,000
    - Centennial Water and Sanitation District = $6,500
    - Western Resource Advocates = $10,500
    - Colorado Springs Utilities = $6,525
    - MSK Consulting = $6,000
    - WateReuse Association = $5,000
    - Additional in-kind support, which has not been quantified here, will be provided by CDPHE and CWCB staff, South Platte agricultural representatives, out of state regulators and utilities, national reuse experts, and others who will participate in project workgroups.

2. For Applications that include a request for funds from the **Statewide Account**, describe how the water activity/project meets all applicable **Evaluation Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines and repeated below.) Projects will be assessed on how well they meet the Evaluation Criteria. **Please attach additional pages as necessary.**

Evaluation Criteria – the following criteria will be utilized to further evaluate the merits of the water activity proposed for funding from the Statewide Account. In evaluation of proposed water activities, preference will be given to projects that meet one or more criteria from each of the three "tiers" or categories. Each "tier" is grouped in level of importance. For instance, projects that meet Tier 1 criteria will outweigh projects that only meet Tier 3 criteria. The applicant should also refer to the Supplemental Scoring Matrix applied to Evaluation Criteria Tiers 1-3 for Statewide Account requests. WSRA grant requests for projects that may qualify for loans through the CWCB loan program will receive preference in the Statewide Evaluation Criteria if the grant request is part of a CWCB loan/WSRA grant package. For these CWCB loan/WSRA grant packages, the applicant must have a CWCB loan/WSRA grant ratio of 1:1 or higher. Preference will be given to those with a higher loan/grant ratio.

Tier 1: Promoting Collaboration/Cooperation and Meeting Water Management Goals and Identified Water Needs

a. The water activity addresses multiple needs or issues, including consumptive and/or non-consumptive needs, or the needs and issues of multiple interests or multiple basins. This can be demonstrated by obtaining letters of support from other basin roundtables (in addition to an approval letter from the sponsoring basin).

The project helps ensure the success of reuse IPPs, and can stretch supplies from other IPPs with legally reusable supplies, to meet the M&I gap along Colorado's Front Range, including in major gap areas. By advancing DPR, the project will help ensure that existing and future reusable supplies are used optimally, maximizing the amount of demand that is met by these supplies and decreasing the need to secure additional supplies. This benefits multiple basins and consumptive and non-consumptive interests. The project has the participation and support of multiple basins, water utilities, environmental and agricultural interests, among others.

This proposed water activity's promotion of collaboration and cooperative is demonstrated by diverse financial and in-kind contributions, state agency letters of support, and letters of support from different basin roundtables (Metro, South Platte, Colorado and North Platte) which are provided in Exhibit C.

b. The number and types of entities represented in the application and the degree to which the activity will promote cooperation and collaboration among traditional consumptive water interests and/or non-consumptive interests, and if applicable, the degree to which the water activity is effective in addressing intrabasin or interbasin needs or issues.

This proposed project addresses both intrabasin and interbasin needs and issues and includes cooperation and collaboration among consumptive and non-consumptive interests. This collaborative project includes support from state agencies (CDPHE, SEO and the CWCB), numerous Front Range water utilities (both large and small), water research institutes, and environmental and agricultural interests, among others. Any water utility with existing or future reusable supplies throughout the state is a potential beneficiary of this project which seeks to enhance reuse opportunities. Additionally the project will indirectly benefit the West Slope as reuse allows utilities along the Front Range to stretch water supplies to meet more demands, decreasing the need for additional supplies. Similarly, while reuse decreases return flows and impacts downstream flows, it also decreases municipal pressure for additional supplies from agriculture. Reuse may similarly indirectly benefit streams of high recreational and environmental value. DPR is an effective water activity as it is able to meet year round demands and can produce a higher "yield" than non-potable reuse due to return flows from indoor uses. (CDHPE and SEO letters of support provided in Exhibit C).

c. The water activity helps implement projects and processes identified as helping meet Colorado's future water needs, and/or addresses the gap areas between available water supply and future need as identified in SWSI or a roundtable's basin-wide water needs assessment.

The proposed water activity helps implement projects and processes and addresses identified gaps in supply and demand. SWSI, the Colorado Water Plan, and seven of the eight Basin Implementation Plans (BIPs) emphasize the reuse of fully consumable supplies as an important component to reduce the M&I Gap. The Water Plan states that "The full use of reusable water supplies will play an integral role in closing the supply gap

by extending the resource through efficient reuse of water" and, specifically applicable to this this project, that "Widespread development of potable reuse will be an important facet of closing the future water supply-demand gap". This project "Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands" and this grant application help accomplish specific reuse actions identified in the Water Plan which include: Explore reuse options, Clarify the regulatory environment, Support reuse education, and use WSRA grant funds for expanded research and innovation related to the technical challenges and solutions of reuse.

The SPBIP, where much additional reuse will likely occur, includes a Solution to "Maintain leadership in conservation and reuse and implement additional measures to reduce water consumption rates" and a Recommendation to "Implement additional reuse where practicable". The SPBIP includes 13 reuse-specific IPPs as well as agricultural transfer and transbasin IPPs where these new supplies could be stretched to meet additional demands through reuse. The Arkansas BIP discusses the importance of reusing transbasin water supplies to the maximum potential. The Colorado, Yampa/White and Gunnison BIPs stress that entities should reuse all legally reusable supplies to the maximum extent possible to meet demands. The Southwest BIP includes an M&I goal to "Support and implement reuse strategies".

This project, which facilitates DPR and reuse in general, helps meet Colorado's future water needs and addresses M&I gap by providing an important tool to enable communities to stretch their reusable supplies further.

Tier 2: Facilitating Water Activity Implementation

d. Funding from this Account will reduce the uncertainty that the water activity will be implemented. For this criterion the applicant should discuss how receiving funding from the Account will make a significant difference in the implementation of the water activity (i.e., how will receiving funding enable the water activity to move forward or the inability obtaining funding elsewhere).

The project has diverse funding (including Basin WSRA grants) and in-kind support accounting for 56.7% of the total cost but funding from the Account is critical to project implementation. While WateReuse Colorado, utilities and others are making gradual progress to improve regulations to facilitate reuse, funding from the Account will help ensure that Colorado is well positioned to implement DPR as municipalities begin to seriously consider this water supply option. Without funding, Colorado may find itself in the undesirable position of being unprepared and forced to rapidly develop regulations and reassure the public and decision makers as communities construct DPR projects to stretch supplies. This project will leverage a wealth of national research, regulations and expertize to proactively ensure Colorado is well prepared to implement DPR.

e. The amount of matching funds provided by the applicant via direct contributions, demonstrable in-kind contributions, and/or other sources demonstrates a significant & appropriate commitment to the project.

This project has broad support from a variety of project supporters and participants. Direct contributions and/or in-kind contributions are being provided by WateReuse Colorado, Denver Water, the City of Aurora, Centennial Water and Sanitation District, Western Resource Advocates, the Town of Castle Rock, the Plum Creek Water Reclamation Authority, the South Metro Water Supply Authority, the WateReuse Research Foundation, Colorado Springs Utilities and MSK Consulting as detailed in Exhibit A. The project also has the involvement of appropriate state agencies, CDPHE and CWCB, which are supportive and will participate in project workgroups. The SEO office has also offered to provide assistance as needed. Out of state regulators and utility staff and national DPR experts will be involved in workgroups on an in-kind basis (this project contribution has not been quantified) allowing Colorado to benefit from their expertise and experiences

working through DPR regulations, outreach, and project implementation. Additionally, South Platte agricultural interests will be involved in the project on an in-kind basis (not quantified) to ensure their concerns and perspectives are represented.

Tier 3: The Water Activity Addresses Other Issues of Statewide Value and Maximizes Benefits

f. The water activity helps sustain agriculture & open space, or meets environmental or recreational needs.

The project indirectly helps sustain agriculture and preserve environmental and recreational flows. DPR will allow communities to better optimize existing and future reusable supplies which will alleviate some of the need to secure additional new supplies from other sources. While reuse decreases municipal returns flows, which clearly impacts streamflows and downstream users who have historically relied on those flows, reuse, when implemented effectively, can essentially double the demand that an acre-foot of legally reusable water is able to meet. Stretching each acre-foot of water supply further through potable reuse has *environmental* and *recreational* benefits when it results in fewer new stream diversions. It also decreases pressure on *agriculture* and the West Slope as sources of new water supplies. When water is transferred from the West to East Slope and from agriculture to municipalities (through alternative agricultural transfer methods or more traditional purchases), reuse fully recognizes the value of this water by ensuring it is used efficiently and effectively.

g. The water activity assists in the administration of compact-entitled waters or addresses problems related to compact entitled waters and compact compliance and the degree to which the activity promotes maximum utilization of state waters.

The project promotes the maximum utilizations of state waters by helping communities stretch existing and future reusable municipal return flows to meet more demands.

h. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.

The water activity is consistent with the Platte River Recovery Implementation Program (PRRIP) and key municipal project participants are members of the South Platte Water Related Activities Program (SPWRAP).

i. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.

The water activity provides a high level of benefit to Colorado in relationship to the funds being requested. This project has broad financial and in-kind support (detailed in Exhibit A) and many potential beneficiaries. The project will leverage of a wealth of existing research, regulations and experience to ensure Colorado is well positioned to implement DPR as municipalities begin to seriously consider this water supply option. A recently-released DPR regulatory framework document, developed by a consortium of national water associations and a supporting panel of experts, combined with extensive regulatory efforts from New Mexico, California, Texas, and Oregon, will serve as launching points to develop a Colorado-specific regulatory framework proposal. Regulators, water utilities and reuse experts from other western states will participate in project workgroups on an in-kind basis, allowing Colorado to benefit from their expertise and experiences.

Our project consultant, Carollo Engineers, was selected through a competitive process. Carollo works at the forefront of potable reuse across the U.S. Their applied research and implementation work has shaped the

regulatory framework and continues to push the boundaries to find lower cost water purification that is protective of public health. Carollo operates active potable reuse pilot treatment plants across the country and is helping guide state and federal regulators through this emerging field.

The Carollo team includes recognized reuse outreach expert, Linda Macpherson, who will assist with public education and outreach components of the project. This team has seen the highs and lows of public reaction to potable reuse, and is able to define a clear path forward for their clients based upon their experience. The project will leverage existing research on DPR specific education and outreach, including elements of the WateReuse Foundation's model communication plan for DPR, which was developed specifically for use by state sections.

Similarly, a variety of existing planning tools will be utilized to assist Colorado utilities with their assessment of DPR, and reuse in general, as a potential supply option. Central to this effort will be adapting and updating the Integrated Treatment Train Toolbox for Potable Reuse (IT3PR) for use by Colorado utilities, and a synthesis of health research to help assess and define the level of treatment and water quality needed for protection of public health (in addition to existing drinking water standards, and in lieu of DPR-specific water quality standards).

j. The water activity is complimentary to or assists in the implementation of other CWCB programs.

This water activity is complementary to CWCB programs and addresses several recommendations from the 2015 CWCB funded white paper "Considering the Implementation of Direct Potable Reuse in Colorado" and the May 2015 Colorado Direct Potable Reuse Workshop. This project is intended to address several recommendations of the White Paper and Workshop including:

- Bringing together a broad range of experts and interested parties to develop a better understanding of the benefits of DPR in Colorado and produce a roadmap for the State of Colorado to follow in developing DPR as an increasingly important and viable strategy in bridging Colorado's future water supply gap.
- Developing a program to educate the public, elected officials and water utilities about the benefits and safety of DPR.
- Working to develop specific potable reuse regulations, policies and guidance, drawing on the results of California's on-going Direct Potable Reuse Initiative and experience gained by New Mexico, Texas and other states in implementing DPR projects.

This project also helps accomplish specific reuse actions identified in the Colorado Water Plan which include: Explore reuse options, clarify the regulatory environment, support reuse education, and use WSRA grant funds for expanded research and innovation related to the technical challenges and solutions of reuse.

Continued: Explanation of how the water activity/project meets all applicable **Evaluation Criteria**.
Please attach additional pages as necessary.

Part IV. – Required Supporting Material

1. **Water Rights, Availability, and Sustainability** – This information is needed to assess the viability of the water project or activity. Please provide a description of the water supply source to be utilized, or the water body to be affected by, the water activity. This should include a description of applicable water rights, and water rights issues, and the name/location of water bodies affected by the water activity.

This project is designed to: improve the regulatory environment, overcome public perception issues and help individual utilities utilize existing tools to evaluate if reuse, including potable, is a viable and cost effective option. It will facilitate the reuse of legally reusable water supplies to help meet Colorado's M&I water supply gap. While it does not include a specific DPR reuse project, and thus no specific water supply source to identify here, the vast majority of reuse will be implemented along Colorado's Front Range.

2. Please provide a brief narrative of any related studies or permitting issues.

This project will lay the groundwork for DPR to be implemented in Colorado. It is related to recent WSRA funded studies including a 2011 project "Demonstration of Membrane Zero Liquid Discharge Process for Drinking Water Systems" and a 2015 white paper "Considering the Implementation of Direct Potable Reuse in Colorado". A May 2015 Colorado Direct Potable Reuse Workshop, supported in part by WateReuse Colorado, was also held in association with the DPR white paper. The project will also utilize a report "Model Communication Plans for Increasing Awareness and Fostering Acceptance of Direct Potable Reuse" developed by the WateReuse Research Foundation (WRRF) specifically for use by state sections. Other technical studies, such as the "Equivalency of Advanced Treatment Trains for Potable Reuse (WRRF-11-02)", will be incorporated into the project.

Addressing regulatory and permitting issues is a key objective of the project, with a work product being a draft framework for permitting and regulating direct potable reuse in Colorado. There are no permitting issues associated with project completion.

3. Statement of Work, Detailed Budget, and Project Schedule

Provided in Exhibit A

The statement of work will form the basis for the contract between the Applicant and the State of Colorado. In short, the Applicant is agreeing to undertake the work for the compensation outlined in the statement of work and budget, and in return, the State of Colorado is receiving the deliverables/products specified. **Please note that costs incurred prior to execution of a contract or purchase order are not subject to reimbursement**. All WSRA funds are disbursed on a reimbursement basis after review invoices and appropriate backup material.

Please provide a detailed statement of work using the template in Exhibit A. Additional sections or modifications may be included as necessary. Please define all acronyms and include page numbers.

REPORTING AND FINAL DELIVERABLE

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion 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.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 10 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.

The above statements are true to the best of my knowledge:

Signature of Applicant: 

Print Applicant's Name: Laura Belanger

Project Title: Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands

Date: 01/29/2016

Return an electronic version (hardcopy may also be submitted) of this application to:

Craig Godbout – WSRA Application
Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203
303-866-3441, ext. 3210 (office)
303-547-8061 (cell)
craig.godbout@state.co.us

EXHIBITS

Exhibit A:

Statement of Work

Budget (Expenses, Income and In-Kind Contributions)

Schedule

Exhibit B: NA

Exhibit C:

Letters of Support from CDPHE and SEO

Approval Letters from the Metro, South Platte, Colorado and North Platte Basin Roundtables

STATEMENT OF WORK
Water Reuse Colorado (WRCO)
Project: Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands

January 29, 2016

Meeting Colorado's water needs is an increasingly difficult challenge, requiring new thinking and nontraditional supplies. The forthcoming Colorado State Water Plan recognizes this reality, with its emphasis on water conservation and water reuse, and in particular, its acknowledgment of the role that potable water reuse will necessarily play in our state's future water supply portfolio.

Challenging and new regulatory issues, such as those surrounding Direct Potable Reuse (DPR), have difficulty progressing in the abstract. Where DPR has been successfully implemented (Oregon, Texas, New Mexico), the need for water and the leadership of select utilities resulted in a thoughtful, rigorous, and yet, expedited regulatory approval. This WateReuse Colorado (WRCO) project will build upon these and other successful DPR experiences, and intends to do so based upon specific and succinct example projects in Colorado. The work will focus on the three key areas, all of which were highlighted in the May 2015 Colorado DPR Workshop hosted by the Water Environment Research Foundation (WERF) and the Colorado Water Conservation Board (CWCB):

- Regulatory and Institutional Framework
- Public Outreach
- Technical Aspects

This three-tiered approach is generally consistent with successful precedents in Texas, New Mexico, and Oregon. The WRCO project will be conducted in three interrelated tasks, corresponding to the three focus areas described above. A fourth task provides project conclusions, as well as management and administration of grant funds. Carollo Engineers was selected through a competitive process to administer and manage the project and implement and complete project tasks, with assistance from WRCO members and other project participants.

Task 1: DPR Regulatory and Institutional Framework for Colorado

Description of Task

This task will document the bases for development of potential DPR regulations in Colorado that are protective of public health and safety and reflective of best management practices. Water providers' interest in potable water reuse is rapidly increasing as a potentially cost-competitive approach for sustainably meeting water demands. However, there is no framework for regulatory development or project-specific approvals specifically designed for direct potable reuse in Colorado. The project will utilize ongoing research and the approaches and experience in other Western States to develop a proposed Colorado-specific approach to DPR project approvals and/or regulations that describes appropriate treatment, monitoring, and operational requirements for DPR systems. A broad-based technical/regulatory/water user work group will be convened, including Colorado Department of Public Health and Environment (CDPHE) regulatory staff, Colorado water utilities (both large and small), environmental and agricultural representatives, regulators and water utilities from other states, national experts, and other water users and interested parties, with most participants providing their time as in-kind

contributions. The end goal of this task is to develop a proposed roadmap for the State of Colorado and its water users to follow in the future development of DPR projects.

The proposed roadmap developed as part of this process is not to be presented to or construed by the CDPHE as being endorsed by any Basin Roundtable, the CWCB, the IBCC, or any other entity unless that specific entity affirmatively states so in writing.

Task 1.1 – DPR Implementation Success and Failure in OR, TX, NM, and CA. As noted in the 2015 WERF document *Considering the Implementation of Direct Potable Reuse in Colorado,* DPR is not prohibited in Colorado, but there is also no clear regulatory pathway. This subtask will compare and contrast the regulatory pathways for DPR in Oregon, New Mexico, Texas, and California. Oregon, New Mexico, and Texas used flexible but protective approaches to permit and implement DPR projects. California has taken a different approach to DPR. Beginning in 2011, the WateReuse Association – with broad industry support – established the California DPR Research Initiative, funding over $6 million in DPR research to date. In parallel, the State Water Resources Control Board has been mandated to determine by fall 2016 if it is feasible to develop DPR regulatory criteria for the State of California. Once determined, California utilities may have to wait another few years before DPR is officially regulated. Thus, the important questions remain: What are the specific regulatory, legal, and institutional barriers that were overcome in Oregon, New Mexico, and Texas; how do those compare and contrast to the barriers in California (where DPR regulation is slow); and how do those barriers compare to Colorado's?

The project team will research these questions, working closely with the successful project teams in Oregon, New Mexico, and Texas, and working with the California teams looking to progress DPR in California. Once this effort is complete, the project team will summarize its findings in a presentation to be used in Task 1.2, below.

Task 1.2 – Colorado Regulatory Strategy Workgroup Meetings. The project team will convene a series of four quarterly workgroup meetings to weigh issues, make recommendations, and exchange information. The workgroup shall be convened by the WRCO President or Board and will include Colorado Department of Public Health and Environment (CDPHE) regulatory staff, Colorado utilities, regulators and utilities from other states, national experts.[1] These workgroups will be facilitated by Jeff Mosher, of NWRI. Potential topics are defined as follows:

- Meeting #1 - Review of DPR projects and initiatives in Oregon, Texas, New Mexico, and California. Presentation and discussion on technical, outreach, and institutional/legal issues. Workgroup to brainstorm institutional/legal issues for Colorado and to assign tasks for more detail and investigation.
- Meeting #2 - Workgroup to report back with draft summaries of institutional/legal issues for DPR in Colorado. Workgroup will be divided into sub-groups to work through example DPR projects in Colorado, identifying and providing proposed approaches to resolving identified technical and legal/institutional issues. Workgroup to discuss avenues for securing resources needed for CDPHE's efforts in developing regulations.
- Meeting #3 - Extension of Meeting #2, details to be determined.

[1] Hours and expenses beyond those listed in Carollo fee estimate will be funded separately and provided as in-kind project contributions.

- Meeting #4 - Final meeting of Workgroup. The goal of this meeting will be to reach consensus on a path forward for DPR in Colorado.

Task 1.3 – Summary Report. The planning team will develop a summary report of Workgroup activities and a path forward for DPR regulatory development in Colorado, working in collaboration with CDPHE. This will include a brief summary of the legal and institutional barriers (and success stories) to DPR in California, New Mexico, Oregon, and Texas, and approaches to addressing the specific legal and institutional barriers to DPR in Colorado.

Task 1 Cost: $99,267 (project consultant = $77,392, in-kind = $21,875)

Task 1 Deliverables:

- Summary report of Workgroup activities and a path forward for DPR regulatory development in Colorado.

Task 2: Public Outreach for DPR at the Local and State Level

Description of Task

Public acceptance of reuse, and in particular potable reuse, has been shown to be among the most significant challenges in implementing a project. Targeted research as well as project experience from other utilities across the country has clearly demonstrated the benefits of a well-planned, open, and factual public information and outreach program that starts well in advance of implementing a potable reuse project. Extensive tools for potable reuse education and outreach have been developed by the WateReuse Research Foundation (WRRF), most specifically the work in WRRF project no. 13-02 (Model Communication Plans for Increasing Awareness and Fostering Acceptance of DPR) and the work in WRRF project no. 12-06 (Guidelines for Engineered Storage for DPR). This task will support local-level potable reuse public outreach and messaging efforts by providing tools and information, as well as examples of outreach success through websites and education programs, that can be used by utilities across the state. A series of tasks will be used to gauge the specific public perceptions and associated outreach needs, develop messaging tools, and distribute the messages to relevant audiences.

Task 2.1 – Public Education and Outreach Workgroup. Convene a series of four workgroup meetings to weigh issues, make recommendations, and exchange information. These meetings will be held in conjunction with the Task 1.2 Workgroup Meetings (i.e., on the same day, immediately preceding or following those meetings). These meetings will discuss the terminology and goals for the outreach task (Meeting #1), results of the web-based survey effort (Meeting #2), the planned educational materials for the example utility (Meeting #3), and the results of the educational efforts for the same example utility (Meeting #4). The Workgroup's findings and recommendations will be documented in brief meeting minutes.

Task 2.2 – Develop web-based educational materials. Develop a series of public information web pages applicable to Colorado utilities/communities that can be used as a resource and referenced/linked by utilities practicing or considering potable water reuse. Web pages will utilize materials developed through WateReuse, The Ways of Water, and materials dedicated to a better understanding of Colorado's water supplies. The included and linked information will highlight potable reuse around the Western U.S., answers to frequently asked questions, details of treatment technologies, regulatory

barriers, and can provide information or links to existing information regarding potable reuse success stories, treatment technologies, regulatory protections, and other related information.

Task 2.3 – Web-Based Outreach Stakeholder Survey - Working with up to two select example utilities, the project team will develop and conduct a web-based survey using the water customer email address database. The email invitation will contain a URL that links respondents to the survey. The survey will start by showing a short, 2 minute, informational animation on how the water cycle interfaces with municipal water supplies, and how it might be altered to take more advantage of water reuse. The survey will use existing animations (one or both: The Ways of Water or a Water: Think & Drink animation). The survey differs from opinion polls where people are not first informed, which may be a key factor in potable reuse acceptance. The draft survey content and questions will be developed by the project team and finalized with WRCO input. A written summary of the survey results will be provided with conclusions identified.

Task 2.4 – Interpret and apply results from surveys. Using the survey results above, the project team will detail the public perception hurdles faced for DPR in Colorado and documented in the Task 2.2 written summary. Have workgroup review and decide on next steps integrating results.

Task 2.5 – Outreach Materials for DPR Demonstration Facility. Develop materials to support public outreach associated with a DPR demonstration facility in the Front Range, with access provided to all Colorado residents to extend messaging regarding DPR's water security benefits and public health and regulatory protections. Develop educational materials including signage to highlight key features of the facility, and provide training of staff (and potentially WRCO volunteers) for providing tours. WRCO members may offer their time as in-kind contributions to provide scheduled tours. *In the event that a DPR demonstration facility is not constructed during the execution of this project, the funds will instead be allocated to development/delivery of additional outreach materials under Task 2.6.*

Task 2.6 – Develop and Deliver Outreach Materials and Messages through Multiple Outlets. This task includes efforts to develop some or all of the following: one or more Op-Ed articles regarding water reuse to be placed in major newspapers; development and delivery of presentations to legislators, opinion leaders, or other influential groups; development of press release(s); use of social media; and similar efforts. Carollo's efforts under this task will be up to the labor and expenses described in the accompanying cost estimate; additional support will be provided by WRCO, its members and other project participants as in-kind contributions.

Task 2 Cost: $127,625 (project consultant = $104,375, in-kind = $23,250)

Task 2 Deliverables:

- Central website or template website for potable reuse in Colorado.
- Outreach stakeholder survey, including summary report with conclusions.
- Development of educational materials for DPR demonstration facility.
- Documentation of other outreach completed, e.g., Op-Eds, meetings, tours, and presentations.
- Minutes from Public Education and Outreach Workgroup meetings.

Task 3: Leveraging Potable Reuse Planning Tools

Description of Task: This task will enhance existing planning tools and assist Colorado utilities with their assessment of DPR as a potential supply option. Research being conducted nationally has resulted in many approaches and tools that can be used locally to support the analysis and implementation of potable reuse projects, with a specific interest in cost comparisons of water supply options, treatment train options, and other cost-benefit analyses. However there is limited awareness in the water provider community regarding these extremely useful tools. This task includes updating/adapting an existing treatment alternatives screening tool for Colorado utilities' use and demonstrating its use at the local level. This will avoid providers needing to "start from scratch" when assessing treatment train options (including alternatives to membrane-based treatment and the corresponding need for brine management) and the potential role of potable reuse in a supply portfolio.

Task 3.1 – Synthesis of Health Research - This task will review and summarize the treatment and health based analysis of potable water reuse systems, to provide the necessary basis for updating and applying the treatment train tool in Tasks 3.2 and 3.3. Understanding the level of pathogen removal provided by various treatment trains, as well as targeted removal levels, is key to ensuring public health is protected. Resources include WRRF projects no. 11-02, 12-06, 11-10, the National Research Council's *Potential for Expanding the Nation's Water Supply Through Reuse of Municipal Wastewater*, the NWRI *Framework for Direct Potable Reuse*, and the State of California's potable reuse regulations. Results will be summarized in a brief technical memorandum.

Task 3.2 – Enhance IT3PR - WRRF project no. 11-02 developed a detailed potable reuse treatment model, the Integrated Treatment Train Toolbox for Potable Reuse (IT3PR). The IT3PR tool focuses on advanced treatment processes commonly used in California for potable water reuse to remove pathogens and trace organics, allowing a quick comparison of removals to target removal goals. In particular, IT3PR can be beneficial for comparing reverse osmosis (RO)-based treatment trains to non-RO-based trains, as utilities seek ways of meeting potable reuse treatment goals while avoiding the challenges associated with brine disposal. Colorado utilities have shown innovation in the use of alternative technologies and approaches to potable water reuse, such as bank filtration in the Prairie Waters project in Aurora. IT3PR will be updated to reflect the innovative nature of potable reuse in Colorado. Updates will include an extension of the literature options ("engine") within the tool, extension of the cost library (or "engine") within the tool, and an iterative and collaborative approach to working with WRCO as the tool is refined.

Task 3.3 – Tool Updates Rollout. In conjunction with one of the Task 1.2 Regulatory workgroup meetings, the IT3PR tool development will be detailed to the project team, likely in Meeting #3.

Task 3.4 – Colorado Case Studies - Once the IT3PR tool is refined, the project team will work with WRCO to define 3 Colorado case studies for DPR analysis using the tool. These three case studies will represent real world applications for utilities that are seriously considering DPR as an option. Output from the case studies will be treatment and cost summaries for each facility to help utilities that are interested in DPR understand how to utilize the tool and interpret results. A technical memorandum and presentation will be prepared to summarize and disseminate the findings.

Task 3 Cost: $45,755 (project consultant = $34,255, in-kind = $11,500)

Task 3 Deliverables:

- Brief technical memorandum on water quality and public health pertaining to DPR.
- Updated IT3PR tool for DPR treatment planning and cost estimating.
- Technical memorandum on 3 DPR case studies in Colorado and presentation of results at one or two state/regional-level conferences (e.g., WRCO biannual reuse conference, RMWEA annual conference, etc.).

Task 4: Summary, Project Management, and Administration of Grant Funds

Task 4.1 – Executive Summary – The results of Tasks 1, 2, and 3 will be summarized in an Executive Summary with previous tasks' documentation comprising a series of appendices.

Task 4.2 – Project Management – Brief monthly project status reports will be provided with monthly invoices, formatted per CWCB requirements. Monthly project coordination calls will be held with WRCO leadership. Ongoing staffing, communications, and scope and schedule management will be provided.

Task 4.3 – Administration of Grant Funds – Develop format for monthly submittals to CWCB and develop materials to submit to CWCB each month for reimbursement.

Task 4 Cost: $30,833 (project consultant = $27,933, in-kind = $2,900)

Task 4 Deliverables:

- Draft and final Executive Summary with Appendices.
- Monthly project status reports.
- Monthly submittal materials for CWCB.

Total Project Cost: $303,480 (project consultant = $243,955, in-kind = $59,525)

PROJECT SCHEDULE

A project schedule accompanies this Statement of Work.

WATEREUSE COLORADO WSRA GRANT APPLICATION January 2016		CAROLLO DIRECT LABOR																CAROLLO DIRECT EXPENSES				
LINE	DESCRIPTION	SENIOR PROF (Hours)	LEAD PROJ PROF (Hours)	PROJECT PROF (Hours)	PROF (Hours)	ASST PROF II (Hours)	ASST PROF I (Hours)	DOC PRO & CLER (Hours)	TOTAL LABOR HOURS	TOTAL LABOR COSTS	NWRI Mosher	New Water ReSources Macpherson	TOTAL LABOR HOURS	TOTAL LABOR COSTS	SUBS EXPENSES	TOTAL SUB FEES	SUBCONTR INVOICING MARKUP	TRAVEL & OTHER DIRECT COSTS	PECE ON CAROLLO DL Hrs	TOTAL OF: CAROLLO DIRECT EXPENSES	TOTAL COST
		$230	$210	$177	$157	$140	$125	$95			$130	$145			$		5%		$11.70		
Task 1 DPR Regulatory and Institutional Framework for Colorado																					
1.1	DPR Success and Failure in OR TX NM and CA	40		40		12		8	100	$18,720			0	$0		$0	$0	$200	$1,170	$1,370	$20,090
1.2	CO Reg Strategy Workgroup Meetings (4)	80		24		16		20	140	$26,788	40		40	$5,200	$4,000	$9,200	$460	$4,000	$1,638	$6,098	$42,086
1.3	Summary Report	20		24		16		20	80	$12,988	8		8	$1,040		$1,040	$52	$200	$936	$1,188	$15,216
	subtotal: hours	140	0	88	0	44	0	48	**320**	*58,496*	48	0	**48**	*6240*		*10,240*	*512*	*4,400*	*3,744*	*8,656*	*77,392*
	SUBTOTAL: COSTS	$32,200	$0	$15,576	$0	$6,160	$0	$4,560		**$58,496**	$6,240	$0		$6,240	$4,000	**$10,240**	$512	$4,400	$3,744	**$8,656**	**$77,392**
Task 2 Public Outreach for DPR at the Local and State Level																					
2.1	Public Education and Outreach Workgroup	16		12				8	36	$6,564		40	40	$5,800	$4,000	$9,800	$490	$200	$421	$1,111	$17,475
2.2	Develop Web-Based Educational Materials	4		8			8		20	$3,336		60	60	$8,700		$8,700	$435	$200	$234	$869	$12,905
2.3	Web-Based Outreach Stakeholder Survey	8						8	16	$2,600		100	100	$14,500	$1,000	$15,500	$775	$200	$187	$1,162	$19,262
2.4	Interpret and Apply Results from Surveys	10		16					26	$5,132		20	20	$2,900		$2,900	$145	$200	$304	$649	$8,681
2.5	Outreach Materials for DPR Demonstration Facility	18		20			24	8	70	$11,440		32	32	$4,640		$4,640	$232	$3,000	$819	$4,051	$20,131
2.6	Develop and Deliver Outreach Materials and Messages	40		20		10		40	110	$17,940		40	40	$5,800		$5,800	$290	$600	$1,291	$2,181	$25,921
									0	$0			0	$0		$0	$0		$0	$0	$0
	subtotal: hours	96	0	76	0	10	32	64	**278**	*47,012*	0	292	**292**	*42340*		*47,340*	*2,367*	*4,400*	*3,256*	*10,023*	*104,375*
	SUBTOTAL: COSTS	$22,080	$0	$13,452	$0	$1,400	$4,000	$6,080		**$47,012**	$0	$42,340		$42,340	$5,000	**$47,340**	$2,367	$4,400	$3,253	**$10,020**	**$104,375**
Task 3 Leveraging Potable Reuse Planning Tools																					
3.1	Synthesis of Health Research	8			24			4	36	$5,988			0	$0		$0	$0	$200	$421	$621	$6,609
3.2	Enhance IT3PR	4	8		32				44	$7,624			0	$0		$0	$0	$400	$515	$915	$8,539
3.3	Tool Updates Rollout	2	16						18	$3,820			0	$0		$0	$0	$1,000	$211	$1,211	$5,031
3.4	Colorado Case Studies	12			60			8	80	$12,940			0	$0		$0	$0	$200	$936	$1,136	$14,076
	subtotal: hours	26	24	0	116	0	0	12	**178**	*30,372*	0	0	**0**	-		*0*	*-*	*1,800*	*2,083*	*3,883*	*34,255*
	SUBTOTAL: COSTS	$5,980	$5,040	$0	$18,212	$0	$0	$1,140		**$30,372**	$0	$0		$0	$0	**$0**	$0	$1,800	$2,083	**$3,883**	**$34,255**
Task 4 Summary, Project Management, and Administration of Grant Funds																					
4.1	Executive Summary	24		40		30		16	110	$18,320			0	$0		$0	$0	$400	$1,287	$1,687	$20,007
4.2	Project Management	12						12	24	$3,900			0	$0		$0	$0	$100	$281	$381	$4,281
4.3	Administration of Grant Funds			12				12	24	$3,264			0	$0		$0	$0	$100	$281	$381	$3,645
	subtotal: hours	36	0	52	0	30	0	40	**158**	*25,484*	0	0	**0**	-		-	-	*600*	*1,849*	*2,449*	*27,933*
	SUBTOTAL: COSTS	$8,280	$0	$9,204	$0	$4,200	$0	$3,800		**$25,484**	$0	$0		$0	$0	**$0**	$0	$600	$1,849	**$2,449**	**$27,933**
	TOTAL SERVICES: LABOR HOURS	298	24	216	116	84	32	164	**934**	*161,364*	48	292	340								
	TOTAL COST OF SERVICES	$68,540	$5,040	$38,232	$18,212	$11,760	$4,000	$15,580		**$161,364**	$6,240	$42,340		$48,580	$9,000	**$57,580**	**$2,879**	**$11,200**	**$10,928**	**$25,007**	**$243,955**

WateReuse Colorado

Project: Advancing Direct Potable Reuse to Optimize Water Supplies and Meet Future Demands

EXPENSES	
Total Project Cost	**$ 303,480**

PROJECT INCOME		
Source	**Amount**	**Percent of Total**
Statewide WSRA Funds	$ 131,455	43.3%
Basin WSRA Fund	$ 57,500	18.9%
Metro Roundtable $25,000		
South Platte Roundtable $15,000		
Colorado Roundtable $15,000		
North Platte Roundtable $2,500		
Project Supporter Cash Match	$ 55,000	18.1%
WateReuse Colorado $10,000		
Denver Water $10,000		
City of Aurora $7,500		
Centennial Water and Sanitation $5,000		
WateReuse Research Foundation $5,000		
South Metro Water Supply Authority $1,000		
Western Resource Advocates $4,000		
Town of Castle Rock $7,500		
Plum Creek Water Reclamation Authorithy $5,000		
Project Support In-Kind Match	$ 59,525	20%
Total Project Income	**$ 303,480**	100%

Total WSRA	$ 188,955	62%
Total Project Match	$ 114,525	38%
Total	**$ 303,480**	**100%**

WATEREUSE COLORADO WSRA GRANT APPLICATION	In-Kind Contributing Entities and Amount							
	City of Aurora[1]	Denver Water[2]	CSU[3]	MSK Consulting[4]	Western Resource Advocates[5]	Centennial Water & San[6]	WateReuse Association[7]	TOTAL TASK
Task 1 DPR Regulatory and Institutional Framework for Colorado	$ 5,000	$ 4,375	$ 2,250	$ 4,000	$ 3,000	$ 2,000	$ 1,250	$ 21,875
Task 2 Public Outreach for DPR at the Local and State Level	$ 7,000	$ 4,375	$ 2,625	$ 1,000	$ 5,000	$ 2,000	$ 1,250	$ 23,250
Task 3 Leveraging Potable Reuse Planning Tools	$ 2,750	$ 1,000	$ 1,500	$ 1,000	$ 2,000	$ 2,000	$ 1,250	$ 11,500
Task 4 Summary, Project Management, and Administration of Grant Funds	$ 250	$ 250	$ 150	---	$ 500	$ 500	$ 1,250	$ 2,900
	$ 15,000	$ 10,000	$ 6,525	$ 6,000	$ 10,500	$ 6,500	$ 5,000	

Total Documented* In-Kind Contribution	**$ 59,525**

In-Kind Contribution Notes

* Additional in-kind contributions will be made to the project that have not been document here. These include participation by CDPHE and CWCB staff, South Platte agricultural stakeholders, out of state regulators and utilities, national reuse experts, and others.

[1] Aurora will provide an in-kind contribution of $15,000 in addition to their cash match. Their in-kind will be split between the Reuse Treatment Plant Supervisor, Water Resources Mangement Advisor,Environmental Permitting Manager, and Aurora Water Public Relations Manager. The Reuse Supervisor will participate in the workgroups, actively involved in ed/outreach work,and in leveraging Potable Reuse Planning tools. Manager of Aurora Water Public Relations will be involved in the Public Outreach. Environmental Permitting Manager will be involved with the DPR Regulatory and Institutional Framework. Each will be involved as needed to help meet the project needs.

[2] Denver Water is contributing $10,000 of in-kind time commitments from their reuse specialist and manager. This time will go towards participating in workshops, providing input on the regulatory framework, and other work as needed.

[3] Colorado Springs Utilities will provide an in-kind contribution of $6,525. The majority of this time is Springs Utilities Environmental Section Supervisor time to participate in workgroups for Tasks 1 and 2, and to provide review and input on project deliverables. About 10 hours has been budgetted for participation and review by a Springs Utilities Managing Engineer who is part of the Water Resource Planning group.

[4] MSK Consulting will provide in-kind contributions of $6,000. This is for time participating in the Tasks 1, 2, and 3 workshops.

[5] Western Resource Advocates will provide an in-kind contribution of $10,500. Most of this if for WRA's water resources engineer's time to participate in both workgroups as appropriate, to be actively involved in ed/outreach work, and to assist w/project administration. $2,200 of of the total in-kind contribution is WRA's Communication Director's time to participate in the Ed/Outrearch workgroup and to help with some outreach and materials development.

[6] Centennial W&S will provide an in-kind contribution of $6,500. Their Director of Operations and water treatment staff will participate in project worksgroups, potable reuse planning tasks, and other work as needed.

[7] WateReuse Association will contribute $5,000 of in-kind contribtions. They are serving as the fiscal agent for the project so will contribute grants adminstration. They will also assist as necessary in providing technical and outreach materials and participating with ed/outreach.

WATEREUSE COLORADO **WSRA GRANT APPLICATION** **December 2015**		2016							2017											
		J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Task 1 DPR Regulatory and Institutional Framework for Colorado																				
1.1	DPR Success and Failure in OR TX NM and CA																			
1.2	CO Reg Strategy Workgroup Meetings (4)																			
1.3	Summary Report																			
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2.1	Public Education and Outreach Workgroup																			
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Task 3 Leveraging Potable Reuse Planning Tools																				
3.1	Synthesis of Health Research																			
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