



**Cherry Creek Basin Water Quality Authority
Technical Advisory Committee Meeting Agenda
Thursday, June 1, 2023, 9:00 a.m.**

**In-Person: SEMSWA
7437 S. Fairplay St.
Centennial, CO 80112**

**Virtual: Zoom¹
<https://us06web.zoom.us/j/87425775963> Passcode: CCBWQA
Phone (646)931-3860 Mtg ID: 874 2577 5963# Passcode: 815374**

TAC Meeting Documents can be found online at the link below.

<https://drive.google.com/drive/folders/12BoEhmFbnnMCxivnpjY2l7T5TzP8Azlq?usp=sharing>

1. Call to Order and Introductions (9:00) (10 minutes)
 - a. Lily Montesano, Wright Water Engineers, Representing the City of Greenwood Village
2. Meeting Minutes from May 4, 2023 (enclosed)
3. Highlights from May 18, 2023 Board Meeting (Clary)
4. Action Items (9:10) (15 minutes)
 - a. Approval of Monitoring Report Timeline (Stewart, enclosed)
 - b. Recommendation for Board Authorization of IGA Amendment for Cherry Creek at Arapahoe Rd (Borchardt, enclosed)
5. Updates (9:25am) (35 minutes)
 - a. Cherry Creek Stewardship Partners (Davenhill)
 - i. Watershed Conference Update - August 24, 2023
 - b. TAC Members
 - c. TAC Subcommittees
 - i. Modeling Subcommittee (Clary)
 - ii. Watershed Plan Subcommittee (Clary)
 - d. Contractors
 - i. [Water Quality Update](#) (Stewart)
 - ii. [May Flood Event](#) (Stewart)
 - iii. Pollution Abatement Projects - CIP Status Report (Borchardt, enclosed)
 - iv. In-Park PRF and RDS Maintenance and Operations Report (Goncalves)
 - v. Regulatory (DiToro)
 - vi. [Land Use Referral Tracking](#) (Endyk)
 - e. Manager (Clary)
 - i. Lone Tree Creek Master Plan
 - ii. BMP Effectiveness Study
 - iii. Site Specific Standards
 - iv. USACE Flood Control Releases
6. Upcoming Events
 - a. 25th Annual Cherry Creek Watershed Conference - August 24, 2023 - PACE Center, Parker
 - b. Watershed Plan Process Workshop - September 21, 2023 - 8:30-11:30 am
7. Adjournment (10:00)

¹ If you are unable to participate on the CCBWQA's Zoom platform, please email val.endyk@ccbwwqa.org



**Cherry Creek Basin Water Quality Authority
Minutes of the Technical Advisory Committee Meeting
Thursday, May, 4, 2023, 9:00 a.m.**

TAC Members Present

Alex Mestdagh, Town of Parker (zoom)
Ashley Byerley, SEMSWA
Caitlin Gappa, Douglas County Health Department
Casey Davenhill, Board Appointee, Cherry Creek Stewardship Partners
Gene Seagle, US Army Corps of Engineers (zoom)
Jacob James, City of Lone Tree
James Linden, SEMSWA - Alternate (zoom)
Jason Trujillo, Board Appointee, Cherry Creek State Park
Jeremiah Unger, CDOT (zoom)
Jessica La Pierre, City of Aurora (zoom)
Jim Watt, Board Appointee, Mile High Flood District
Jon Erickson, TAC Chair, Board Appointee, Colorado Parks and Wildlife
Joshua Giovannetti, CDOT - Alternate (zoom)
Lily Montesano, Wright Water Engineers representing City of Greenwood Village
Lisa Knerr, TAC Vice Chair, Arapahoe County
Ryan Adrian, Douglas County (zoom)
Steve Chevaliere, Arapahoe County Public Health
Wanda DeVargas, Board Appointee, E-470 (zoom)

Board Members Present

Bill Ruzzo, Assistant Secretary, Governor's Appointee
Tom Downing, Governor's Appointee

Others Present

Alan Leak, RESPEC
Erin Stewart, LRE Water
Jane Clary, Wright Water Engineers, CCBWQA Technical Manager
Jessica DiToro, LRE Water (zoom)
Larry Butterfield, CPW (zoom)
Richard Borchardt, R2R Engineers
Val Endyk, CCBWQA

1. Call to Order

Jon Erickson called the meeting to order at 9:00 am.

2. Meeting Minutes from April 6, 2023

Rick Goncalves moved to approve the April 6, 2023 meeting minutes. Seconded by Caitlin Gappa. The motion carried.

3. Highlights from April 20, 2023 Board Meeting

Jane Clary provided an update on actions taken at the March 16, 2023 Board meeting. Minutes from the meeting can be found [here](#).

4. Action Items

a. Recommend Preparation and Authorization of Piney Creek Reaches 1 and 2 IGA Amendment

Rich Borchardt presented background information on the Piney Creek Reaches 1 and 2 project. Project details can be found in the [Action Item Memo](#) provided to the TAC. The project is located between the confluence of Cherry Creek and Parker Road and is a partner project with SEMSWA. The IGA Amendment would include additional funding of \$252,000 (\$63,000 CCBWQA, which is in the 2023 approved budget, and \$189,000 SEMSWA). The IGA Amendment would include total funding of \$404,000. Additional IGA Amendments are anticipated to bring in future funding from the sponsors' capital improvement programs which currently include funding through 2028, when construction is anticipated.

Jacob James moved to recommend that the Board authorize the preparation of the Amendment to the Intergovernmental Agreement (IGA Amendment) for the Stream Reclamation on Piney Creek Reaches 1 and 2, an expenditure for an amount not to exceed \$63,000, and a member of the executive committee to execute the IGA Amendment. Seconded by Jason Trujillo. The motion carried.

b. Recommend Preparation and Authorization of RESPEC's Amendment for East Shade Shelters Phase 3 and Tower Loop Phase 2

Rich Borchardt presented background information on the East Shade Shelters Phase 3 and Tower Loop Phase 2 Shoreline Stabilization Projects. Project details and a detailed background on the competitive proposal process and value engineering process can be found in the [Action Item Memo](#) provided to the TAC. RESPEC has prepared the attached [scope of work](#) and fee for a cost of \$42,619 which implements the recommendations from the value engineering and additional items that were not anticipated in their original scope of work. Rich's AIM includes a table with a comparison of the original 2021 contract to the proposed 2023 contract by design and construction costs.

The project includes a more detailed evaluation of the water quality benefit due to the addition of water quality sampling and analysis of impacts based on elevation of the samples. The project will provide a balance of benefits including both water quality maintenance and recreational use.

Jason Trujillo moved to recommend that the Board approve RESPEC's scope of work for Additional Services and authorize legal counsel to prepare the necessary consulting amendment for an amount not to exceed \$42,619. Seconded by Rebecca Tejada. The motion carried.

5. Discussion Items

a. Lake Nutrients Criteria Update

Jessica DiToro provided a [memo](#) to the TAC with an update on the Lake Nutrients RMH outcome. At the beginning of the Lakes Nutrients Rulemaking Hearing (RMH) process in the summer of 2022, CCBWQA requested a delayed effective date of December 31, 2025 to allow time to develop site specific standards. Although the Water Quality Control Division (Division) originally opposed this request, in its Consolidated Proposal released on April 3, 2023, the Division proposed a major change in direction for standards adoption that would result in TP and TN standards only being adopted in high priority lakes located upstream of qualified dischargers (i.e., domestic wastewater treatment facilities). The Consolidated Proposal specifically stated that the Division was no longer proposing for TN or TP standards adoption in Cherry Creek Reservoir at the April 2023 RMH. This change has effectively addressed CCBWQA's request. The Division's redlines to Regulation 38 regarding Cherry Creek Reservoir are presented in the memo.

The Lakes Nutrients RMH was held on April 10-12, 2023 in a hybrid format. Jane Clary testified in person on the CCBWQA's behalf on the morning of April 11, 2023 with support from Erin Stewart and Andrea Bronson virtually.

After more than two days of oral testimony, the Water Quality Control Commission moved to adopt the Division's Consolidated Proposal, meaning TP and TN standards were not adopted for Cherry Creek Reservoir.

Next Steps: Work with Hydros to develop site-specific nutrient standards for Cherry Creek Reservoir so that a proposal will be ripe for the 2027 RMH. Additional discussions with Hydros and the TAC may be warranted regarding timing of the reservoir model update relative to development of a site-specific standards proposal, given that additional time is available (2027 rulemaking instead of 2025).

b. Monitoring Report Timeline

Erin Stewart provided a [memo](#) to the TAC summarizing the suggested amendments to the monitoring report timeline in order to provide scheduled opportunities for TAC members to participate in the monitoring review process.

Discussion included:

- Suggestion to include that the first draft of the monitoring report will be listed as provisional and the data that may change will be noted as provisional.
- Suggestion for the executive summary with assumptions and next steps to be a separate document.

The revised monitoring report timeline will be presented to the TAC at a future meeting.

c. Emerging Technologies in Nutrient Remediation and Colorado Watershed Projects

Erin Stewart [presented](#) on emerging technologies in nutrient remediation and updated the TAC on projects occurring across Colorado including the Bear Creek Watershed pilot projects and the City of Denver's efforts in Sloan's Lake. The presentation highlighted EutroSORB applications and encouraged the TAC to consider future Authority projects that may benefit from these emerging technologies.

6. Presentations

None

7. Updates

Due to a shortened meeting to enable an in-person meeting of the Modeling Subcommittee, updates can be found in the below reports. No verbal updates given.

a. Cherry Creek Stewardship Partners (Davenhill)

b. TAC Members

c. TAC Subcommittees

d. Contractors

- [Water Quality Update](#) (Stewart, enclosed)
- [Pollution Abatement Projects - CIP Status Report](#) (Borchardt, enclosed)
- [In-Park PRF and RDS Maintenance and Operations Report](#) (Goncalves, enclosed)
- [Regulatory](#) (DiToro)
- [Land Use Referral Tracking](#) (Endyk)

e. Manager

f. Other

8. Upcoming Events

- 25th Annual Cherry Creek Watershed Conference - August 24, 2023 - PACE Center, Parker**
- Watershed Plan Process Workshop - September 21, 2023 - 8:30-11:30 am**

9. Adjournment

Jon Erickson adjourned the meeting at 9:58 am.



To: CCBWQA Technical Advisory Committee, Jane Clary, CCBWQA Technical Manager
From: Erin Stewart, LRE Water
Date: May 25, 2023
Subject: CCBWQA Monitoring Report Schedule and Updates (revised)

Background: The CCBWQA’s water quality monitoring consultant, LRE Water, generates a water quality monitoring report which provides a summary of the water quality monitoring results from each water year (October 1 through September 30) based on the purpose and objectives set forth in the [CCBWQA Routine Sampling and Analysis Plan/ Quality Assurance Project Plan \(SAP/ QAPP\)](#). The monitoring report addresses the monitoring and reporting requirements in Regulation 72.

Discussion: In order to provide scheduled opportunities for interested members of the CCBWQA TAC to participate in the monitoring report review process, LRE plans to follow the schedule described below to enable additional input from the TAC earlier in the report preparation process.

Timeline

December: Provisional monitoring report available.

A “provisional” version of the monitoring report for the prior water year is due to be completed by December 31st. This version of the report will be available to the TAC and Technical Manager this time. This version of the report may include provisional USGS data or other information and may require updates to the water balance, flow-weighted nutrient concentrations, mass balance of the Reservoir, or other calculations, which will be noted in the report. Also, a complete internal editorial review may not have been completed.

The primary purpose of this provisional draft is to allow TAC members time to peruse the report to become familiar with major findings, themes, assumptions, and conclusions prior to the Monitoring Report presentation at the January TAC meeting. Please note that although this provisional report will be provided as soon as it is available, the timing may be limited based on the schedule of the January TAC meeting.

January: Monitoring report presentation to CCBWQA TAC and Board. Draft monitoring report provided for feedback and comments.

A “draft” version of the report will be provided to the TAC for a full review, questions, and comments after provisional data has been verified, adjustments have been made, and an editorial review has been completed. At that time, staff will set up a meeting to allow interested members to attend and provide feedback, ask questions, etc., before the next TAC Meeting if requested. The draft report will also be available to any interested Board members.

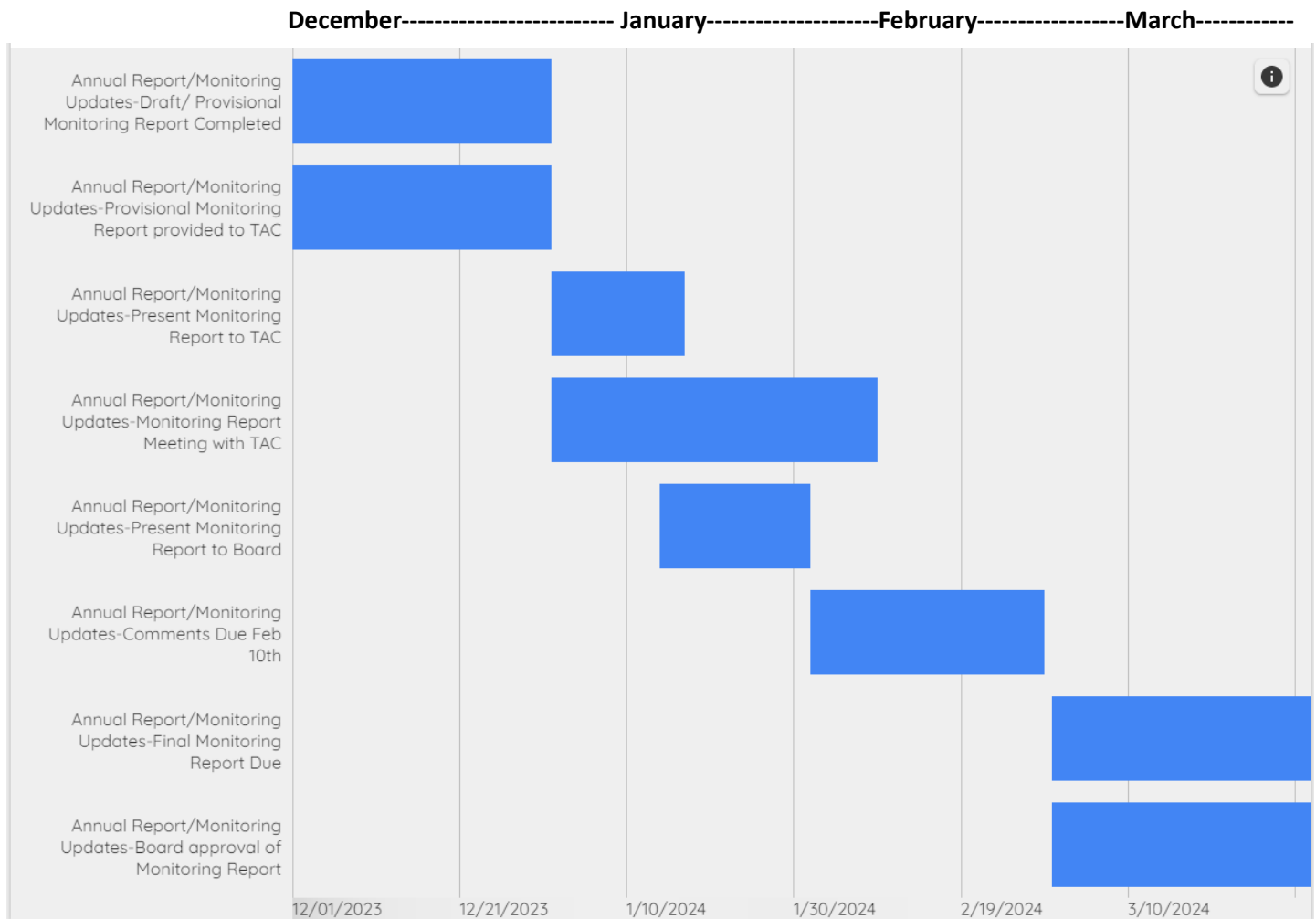
February: Monitoring report discussion and comments.

Time will be set aside during the February TAC meeting for group discussion of the report and any questions and feedback that has been provided at that time. Any additional comments are requested to be provided

by the second week of the month. Questions and feedback will be addressed, and a final report will be provided to the TAC for final review. The online CCBWQA Annual Report on Activities will be linked to the most current version of the report available.

March: Monitoring Report Finalized

Request for TAC to recommend acceptance of the Monitoring Report to the Board. The monitoring report links in the online CCBWQA Annual Report on Activities will be finalized prior to the March 31st submittal to CDPHE, which is required under [Regulation 72](#) (see Sections 72.8 and 72.9). The Board will vote on acceptance of the final Monitoring Report.



Action (if needed): Request for the TAC to accept the Monitoring Report schedule as outlined.



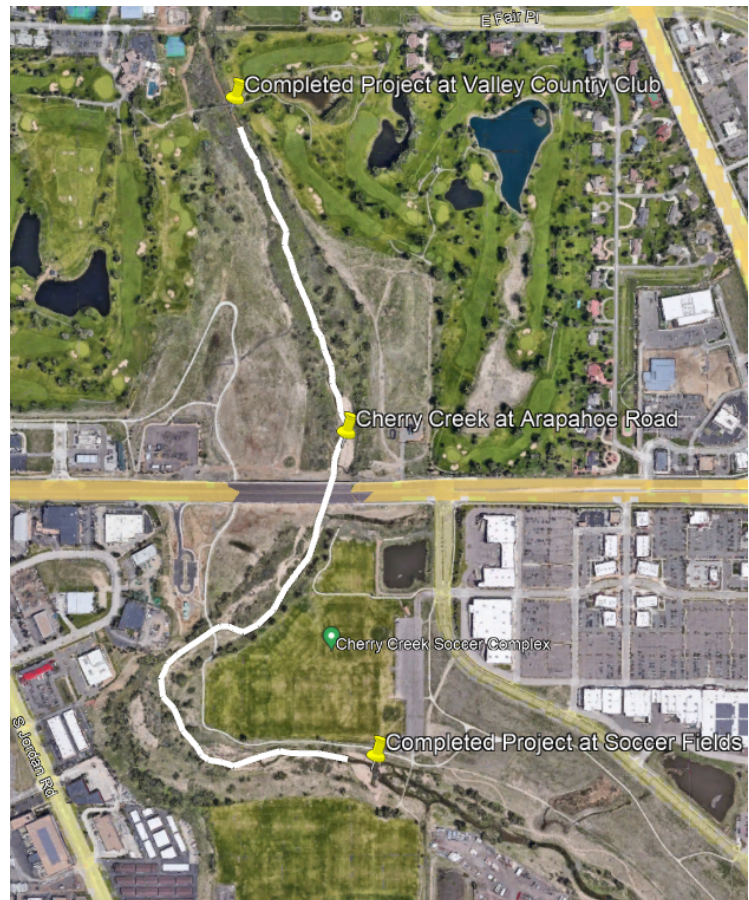
ACTION ITEM MEMORANDUM

To: CCBWQA Technical Advisory Committee (TAC)
From: Richard Borchardt, Pollution Abatement Project Manager
Date: June 1, 2023
Subject: Cherry Creek Stream Reclamation at Arapahoe Road – Amendment to Intergovernmental Agreement (IGA Amendment)

Request: TAC recommends that the Board authorize the execution of the IGA Amendment for Stream Reclamation on Cherry Creek at Arapahoe Road that increases the Authority’s contribution by an amount not to exceed \$300,000, pending satisfactory resolution of CCBWQA’s comments, and to authorize a member of the executive committee to execute the IGA Amendment.

Project: The Cherry Creek Stream Reclamation at Arapahoe Road project is located between the Valley Country Club (north side of Arapahoe Road) and the Aurora Soccer Fields (south side of Arapahoe Road) in Arapahoe County and the Cities of Aurora and Centennial (Project, **Figure 1**). It is a partner project with the City of Aurora (CITY), Southeast Metro Stormwater Authority (SEMSWA), and Mile High Flood District (MHFD) who is the project lead. The proposed stream improvements benefit the water quality in Cherry Creek and the Cherry Creek Reservoir by reducing bed and bank erosion and immobilizing Phosphorus in the adjacent soils. It is estimated that this 0.98 mile long-project will immobilize 88 pounds of phosphorus annually. CCBWQA had a workshop on March 16, 2023 which included the Project and reinforced its priority and importance to the whole system.

Figure 1. Cherry Creek at Arapahoe Road Location Map



Funding: The attached IGA Amendment is being reviewed by CCBWQA’s legal counsel and includes additional funding of \$1,200,000 (\$300,000 CCBWQA, \$300,000 MHFD, \$500,000 CITY, and \$100,000 SEMSWA). The IGA Amendment brings the total funding for the project to about \$2,204,000. **Table 1** provides a breakdown of funding by sponsors rounded to the nearest dollar and shows CCBWQA’s participation is 25% which is consistent with the limit historically used on partner projects. Additional IGA Amendments are anticipated to bring in future funding from the sponsors’ capital improvement programs which currently include funding through 2024.

Funding Source	2021-2022	2023		
	Previous Contributions	Project Sponsor %	Additional Annual Funding	Cumulative Project Funding
MHFD	\$440,531	33.6%	\$300,000	\$740,531
CITY	\$240,259	33.6%	\$500,000	\$740,259
SEMSWA	\$71,791	7.8%	\$100,000	\$171,791
CCBWQA	\$251,247	25.0%	\$300,000	\$551,247
Total	\$1,003,828	100%	\$1,200,000	\$2,203,828

Table 1. Cherry Creek at Arapahoe Road IGA Amendment Funding

Budget: CCBWQA’s 2023 Budget includes \$605,000 for the Project.

Motion: I move to recommend the Board authorize the execution of the IGA Amendment for Stream Reclamation on Cherry Creek at Arapahoe Road that increases the Authority’s contribution by an amount not to exceed \$300,000, pending satisfactory resolution of CCBWQA’s comments, and to authorize a member of the executive committee to execute the IGA Amendment.



Photo of Cherry Creek downstream of Arapahoe Road

SECOND AMENDMENT TO
AGREEMENT REGARDING
FINAL DESIGN, RIGHT-OF-WAY ACQUISITION, AND CONSTRUCTION
OF DRAINAGE AND FLOOD CONTROL IMPROVEMENTS FOR CHERRY CREEK
RESTORATION AT ARAPAHOE ROAD

Agreement No. 21-06.17B
Project No. 108670

THIS SECOND AMENDMENT TO AGREEMENT (hereinafter called "SECOND AMENDMENT"), by and between URBAN DRAINAGE AND FLOOD CONTROL DISTRICT D/B/A MILE HIGH FLOOD DISTRICT (hereinafter called "DISTRICT") and CITY OF AURORA, Colorado, a Colorado home rule municipal corporation of the counties of Adams, Arapahoe, and Douglas acting by and through its Utility Enterprise (hereinafter called "CITY"); SOUTHEAST METRO STORMWATER AUTHORITY (hereinafter called "SEMSWA"); CHERRY CREEK BASIN WATER QUALITY AUTHORITY (hereinafter called "CCBWQA") and collectively known as "PARTIES"; and ARAPAHOE COUNTY, Colorado (hereinafter called "Arapahoe County") ONLY as to Paragraphs 10 and 11 of the original AGREEMENT;

WITNESSETH:

WHEREAS, PARTIES have entered into " Agreement Regarding Final Design, Right-of-Way Acquisition and Construction of Drainage and Flood Control Improvements for Cherry Creek Restoration at Arapahoe Road " (Agreement No. 21-06.17) dated December 21, 2021, as amended (hereinafter called "AGREEMENT"); and

WHEREAS, PARTIES now desire to proceed with the design, right-of-way acquisition and construction of drainage and flood control improvements for Cherry Creek Restoration at Arapahoe Road (hereinafter called "PROJECT"); and

WHEREAS, PARTIES desire to increase the level of funding by \$1,200,000; and

WHEREAS, DISTRICT's Board of Directors has authorized additional DISTRICT financial participation for PROJECT (Resolution No. 52, Series of 2023); and

WHEREAS, the City Council of ~~City~~CITY; Board of Directors of SEMSWA; Board of Directors of CCBWQA; and the Board of Directors of DISTRICT have authorized, by appropriation or resolution, all of PROJECT costs of the respective PARTIES.

NOW, THEREFORE, in consideration of the mutual promises contained herein, PARTIES hereto agree as follows:

1. Paragraph 4. PROJECT COSTS AND ALLOCATION OF COSTS is deleted and replaced as follows:
 4. PROJECT COSTS AND ALLOCATION OF COSTS
 - A. PARTIES agree that for the purposes of this AGREEMENT, PROJECT costs shall consist of and be limited to the following:

1. Final design services;
2. Delineation, description and acquisition of required rights-of-way/ easements;
3. Construction of improvements;
4. Contingencies mutually agreeable to PARTIES.

Commented [BR1]: Do we need a disclaimer for property acquisition? Note that the paragraph below shows no funds for acquisition so its moot at this time.

B. It is understood that PROJECT costs as defined above are not to exceed \$2,203,828.30 without amendment to this AGREEMENT.

PROJECT costs for the various elements of the effort are estimated as follows:

<u>ITEM</u>	<u>PREVIOUSLY</u>	
	<u>AS AMENDED</u>	<u>AMENDED</u>
1. Final Design	\$ 845,000	\$ 345,000
2. Right-of-way	\$ -0-	\$ -0-
3. Construction	\$ 1,358,158,828.30	\$ 658,828.30
4. Contingency	\$ -0-200,000	\$ -0-
Grand Total	\$ 2,203,828.30	\$ 1,003,828.30

* It is anticipated that additional funding for construction will be added through future amendments.

This breakdown of costs is for estimating purposes only. Costs may vary between the various elements of the effort without amendment to this Agreement provided the total expenditures do not exceed the maximum contribution by all PARTIES plus accrued interest, if applicable.

C. At the request of the CITY, SEMSWA, and CCBWQA, the following CITY, SEMSWA, CCBWQA, and DISTRICT funds ~~shall be~~ have been transferred to PROJECT from a separate special fund held by DISTRICT: Transfer from: Cherry Creek at Arapahoe Road; Project No. 100407; Account No. 5603; Agreement No. 12-08.04 Amendment E; Amount: \$288,828.30.

Commented [RB2]: These were included in the previous Amendment 21-06.17A

D. Based on total PROJECT costs, the maximum percent and dollar contribution by each party shall be:

	Percentage Share	Previously Contributed	<u>Previous</u> Special Funds Transfer from Account No. 5603	Additional Contribution	Maximum Contribution
DISTRICT Special Funds Transfer	33.60%	\$325,000	\$115,531.32	\$300,000	\$740,531.32
CITY Special Funds Transfer	33.59%	\$150,000	\$90,258.84	\$500,000	\$740,258.84
SEMSWA Special Funds Transfer	7.80%	\$70,000	\$1,790.74	\$100,000	\$171,790.74
CCBWQA Special Funds Transfer	25.01%	\$170,000	\$81,247.40	\$300,000	\$551,247.40
TOTAL	100.00%	\$715,000	\$288,828.30	\$1,200,000	\$2,203,828.30

E. DISTRICT Acknowledges that (i) CCBWQA does not by this Agreement irrevocably pledge present cash reserves for payments in future fiscal years, and (ii) It is understood and agreed that notwithstanding any other provision contained herein to the contrary, any additional contribution obligation of CCBWQA hereunder, whether direct or contingent, shall extend only to funds duly and lawfully appropriated and encumbered by the Board of Directors of CCBWQA for the purposes of the Agreement, and paid into the Treasury of CCBWQA, and shall under no circumstances exceed \$551,247.40 without CCBWQA's prior express written consent.

2. Paragraph 5. MANAGEMENT OF FINANCES is deleted and replaced as follows:

5. MANAGEMENT OF FINANCES

As set forth in DISTRICT policy (Resolution No. 11, Series of 1973, Resolution No. 49, Series of 1977, and Resolution No. 37, Series of 2009), the funding of a local body's share may come from its own revenue sources or from funds received from state, federal or other sources of funding without limitation and without prior DISTRICT approval.

Payment of each PARTY's full share (CITY - \$740,258.84; SEMSWA - \$171,790.74; CCBWQA - \$551,247.40; DISTRICT - \$740,531.32) shall be made to DISTRICT subsequent to execution of this AGREEMENT and within 30 days of request for payment by

DISTRICT. The payments by PARTIES shall be held by DISTRICT in a special fund to pay for increments of PROJECT as authorized by PARTIES, and as defined herein. DISTRICT shall provide a periodic accounting of PROJECT funds as well as a periodic notification to ~~COUNTY-CITY, SEMSWA, and CCBWQA~~ of any unpaid obligations. Any interest earned by the monies contributed by PARTIES shall be accrued to the special fund established by DISTRICT for PROJECT and such interest shall be used only for PROJECT upon approval by the contracting officers (Paragraph 13).

Within one year of completion of PROJECT if there are monies including interest earned remaining which are not committed, obligated, or disbursed, each party shall receive a share of such monies, which shares shall be computed as were the original shares; or at ~~CITY, SEMSWA, and CCBWQA~~COUNTY request, ~~CITY, SEMSWA, and CCBWQA~~COUNTY share of remaining monies shall be transferred to another special fund held by DISTRICT.

3. All other terms and conditions of this AGREEMENT shall remain in full force and effect.

WHEREFORE, PARTIES hereto have caused this SECOND AMENDMENT to be executed by properly authorized signatories as of the date and year written below.

URBAN DRAINAGE AND
FLOOD CONTROL DISTRICT D/B/A
MILE HIGH FLOOD DISTRICT

By _____

Name Laura A. Kroeger

Title Executive Director

Date _____

Checked By

CHERRY CREEK BASIN
WATER QUALITY AUTHORITY

By _____

Name _____

Title _____

Date _____

CCBWQA Checked By

ATTEST:

Bill Ruzzo Board Member _____

Commented [BR3]: Leave blank to allow either John or I to sign.

APPROVED AS TO FORM FOR CCBWQA:

Timothy J. Flynn, General Counsel

Date: _____

SOUTHEAST METRO STORMWATER
AUTHORITY

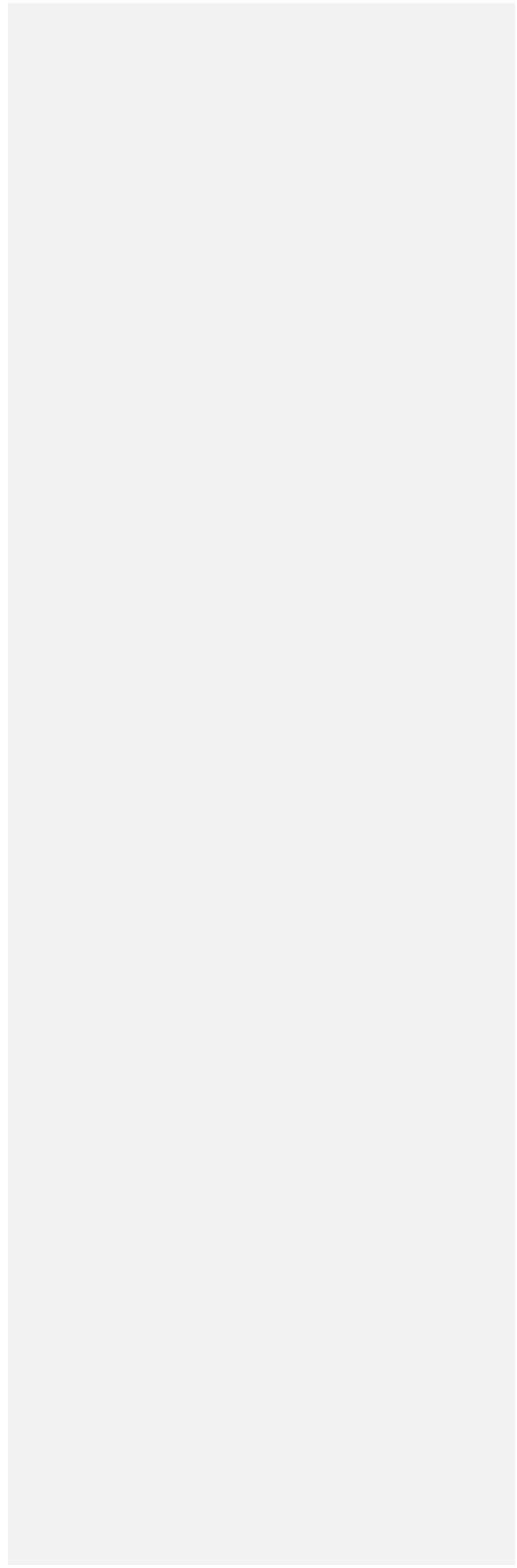
By _____

Name _____

Title _____

Date _____

DRAFT



ARAPAHOE COUNTY

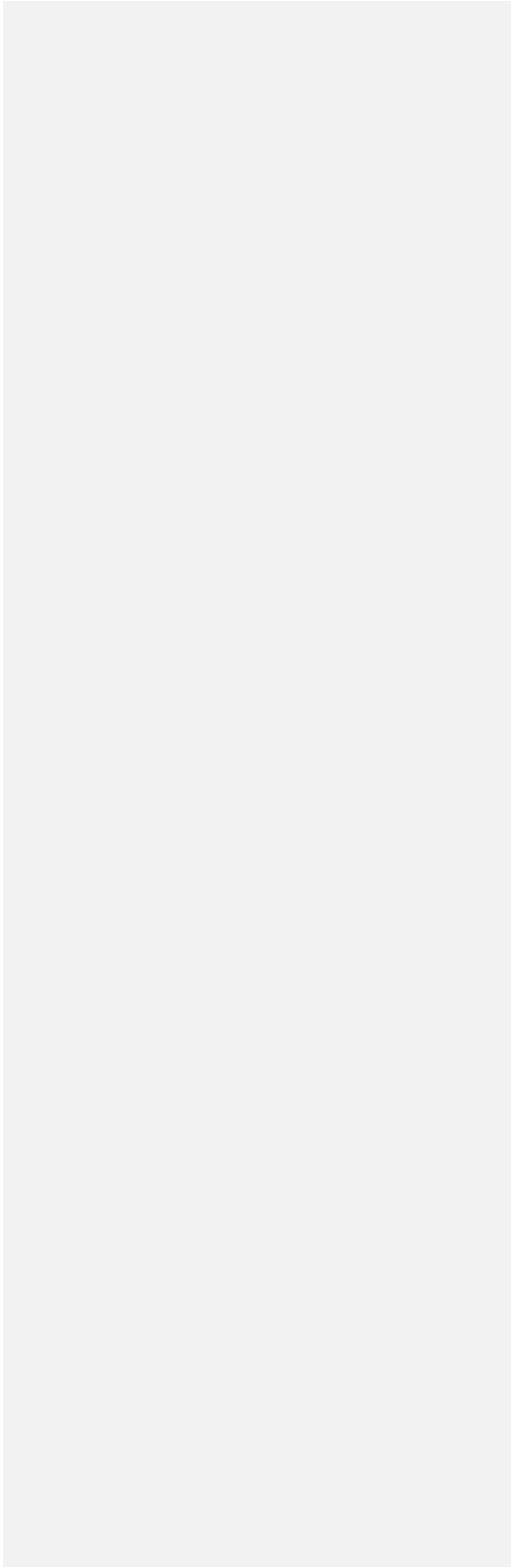
By _____

Title _____

Authorized by Resolution Number 22-049
As to the obligations contained in
Paragraphs 10 and 11 only

Date _____

DRAFT



CHERRY CREEK BASIN WATER QUALITY AUTHORITY
2023 Capital Project Status Report
May 25, 2023

RESERVOIR PROJECTS

1. East Shade Shelters Phase III and Tower Loop Phase II Shoreline Stabilization (CCB-17.5 and CCB-17.7)
 - a. Description: These projects were identified in 2014 through the annual inspection. The Tower Loop Phase II connects to the Phase I project and extends shoreline protection 570 feet to the southeast towards Dixon Grove. The East Shade Shelters Phase III starts on the north end of the Shade Structure and goes 400-feet to the south.
 - b. Status: Consultant selection is scheduled for the 1st quarter. A consultant selection committee will be set in February (1/29/21). At the February TAC meeting Jason Trujillo, Jon Erickson, Lanae Raymond, Bill Ruzzo were interested in serving on the consultant selection committee (2/11/21). This selection committee was discussed at the 3/18/21 Board Meeting, and no further members were added. The Request for Proposals (RFP) has been posted on BidNet and Proposals are due 04/21/21 (3/25/21). The pre-proposal meeting was held on 4/7/21. 5 proposals were received on 4/28/21; the selection committee is reviewing them. Interviews were held and a selection is being brought to the May Board meeting (5/14/21). Board authorized negotiations with RESPEC (5/27/21). Agreement has been executed with RESPEC (10/15/21). Field Survey of project areas and topographic mapping is underway (12/30/21). A design kickoff meeting was held on 4/22/22. A design sprint workshop was held on 7/12/22 which included a site visit and evaluation of alternatives. RESPEC is developing a recommended alternative (9/8/22). RESPEC provided updated project costs for budgeting (10/13/22). The 30% submittal was received on 11/16/22 and is under review. CCBWQA provided comments on 30% review on 1/17/23; a value engineering effort is recommended as the project costs exceed the budget. The value engineering meeting was held on 2/24/23. *RESPEC's request for additional services was approved by TAC and Board in May (5/25/23).*

STREAM RECLAMATION PROJECTS

1. Cherry Creek Stream Reclamation at Arapahoe Road aka Reaches 3 and 4 (CCB-5.14C)
 - a. Description: This project continues the work on Cherry Creek by CCBWQA, MHFD, and local partners. It ties into the previous stream reclamation projects of Cherry Creek Eco Park to Soccer Fields (CCB-5.14A) and Cherry Creek at Valley Country Club (CCB-5.14B). The 5,167 Linear Feet of stream reclamation reduces bed and bank erosion immobilizing approximately 88 pounds of phosphorus annually. The project is anticipated to be funded over several years and likely be broken into phases.
 - b. Status: In 2021, an IGA was executed between CCBWQA, MHFD, City of Aurora, and SEMSWA to begin this work. IGA Amendment that brings in 2022 funding is under review (5/13/22). Board authorized IGA Amendment for 2022 funding on 7/21/22 (8/12/22). IGA Amendment has been revised to show Aurora's lower participation; CCBWQA's participation was lowered accordingly to meet 25% partner project level; revised IGA Amendment received TAC recommendation and is being taken to Board for their consideration in October (10/13/22). Board authorized the IGA Amendment for 2022 funding at their 10/22/22 meeting. It appears that CCBWQA's 2023 participation will be reduced as a result of less partner funding available for this project (2/24/23). *The IGA Amendment that brings in 2023 funding is scheduled for TAC and Board action at their June meetings (5/25/23).*
2. Cherry Creek Stream Reclamation – Upstream of Scott Road (CCB-5.17)
 - a. Description: Design and construction of stream reclamation is in partnership with Douglas County and MHFD. It improves 4,100 feet of Cherry Creek and is located upstream of Scott Road.

- b. Status: IGA was approved by the Board at their April 2020 meeting. Muller had been selected as consultant, and design scope of work is being prepared. Kickoff meeting was held on 12/11/20; a follow-up field visit will be scheduled for early 2021. Site visit was held on 1/29/21. Conceptual design is complete, negotiations are underway to contract for 60% design (4/8/21). Muller is working on alternatives (4/30/21). Muller is working on preliminary design and an IGA Amendment to bring in additional 2021 funding from Douglas County is being brought to the Board in October (10/15/21); IGA Amendment has been executed (11/11/21). Muller is preparing 60% Design Submittal (1/28/22). Muller submitted 60% Design on 2/2/22; comments have been provided on 60% Design Submittal (3/10/22). IGA Amendment bringing in 2022 funding is scheduled for TAC and Board consideration in June (5/27/22). IGA Amendment was authorized at the June 16th Board Meeting (6/30/22). Muller is working on Final Design and held a progress meeting on 4/14/23, a site visit is being scheduled to support the 90% design submittal. *The 90% site visit was held on 5/22/23.*
- 3. Cherry Creek Stream Reclamation at Dransfeldt (CCB-5.17.1B)
 - a. Description: Design and construction of stream reclamation is in partnership with Town of Parker and MHFD. It improves 2,400 feet of Cherry Creek near the future location of Dransfeldt bridge which is just downstream of the Cherry Creek at KOA project.
 - b. Status: Initial scoping has begun, and a partners meeting was held on 1/30/21. IGA is scheduled for CCBWQA's May TAC and Board meetings (4/30/21). IGA was approved by all parties and has been executed (6/25/21). Muller Engineering has submitted their Draft Scope of Work for Design Services, and the project sponsors have reviewed it (7/8/21). Design kickoff meeting was held on 10/14/21. Alternatives are being evaluated (12/9/21). Pre-submittal meeting for the 404 permit is being scheduled (12/30/21). CLOMR is being prepared for project (3/10/22) and was submitted to FEMA on 3/31/22. CEI was selected for as project partner to provide contractor input during the design (5/27/22). CLOMR is under review by FEMA (8/12/22). Muller has received comments on CLOMR and is preparing responses; 90% Submittal is scheduled for early February (1/27/23). Comments on 90% Submittal were provided on 2/22/23; project is experiencing substantive cost increases due to current market conditions (2/24/23). TAC at their 3/2/23 meeting recommended that the Board authorized the IGA Amendment to bring in 2023 funding along with an increase in CCBWQA's 2023 funding from \$170,000 to \$570,000. The Board authorized the IGA Amendment with the increased 2023 funding of \$570,000 at their 3/16/23 meeting. The Conditional Letter of Map Revision (CLOMR) was issued by the Federal Emergency Management Agency (FEMA) on April 28, 2023 (5/12/23).
- 4. McMurdo Gulch Priority 3 Stream Reclamation (CCB-7.2)
 - a. Description: The design and construction of stream reclamation is in partnership with Castle Rock. Castle Rock is the lead agency. This phase continues the work from the previous phase. Muller Engineering is the design consultant.
 - b. Status: Board authorized IGA for Priority 3 at their May 19,2022 meeting. Muller submitted their 30% deliverable on 10/31/22, review comments were returned on 11/8/22. Easements needed for projects have been identified (1/23/22). The 60% Submittal was received on 1/30/23 and comments have been provided on 2/7/23. Muller is working on updating their construction cost estimate (2/8/23). On 2/23/23, Castle Rock requested that CCBWQA's 2023 funding be deferred to 2024 to match their schedule.
- 5. Lone Tree Creek in Cherry Creek State Park (CCB-21.1)
 - a. Description: This project includes a trail connection to Cherry Creek State Park and includes 570 linear feet of stream reclamation on Lone Tree Creek from the State Park Boundary to the Windmill Creek Loop Trail. The City of Centennial is the project lead. CCBWQA participation is for stream reclamation only.
 - b. Status: 95% submittal is under review (5/13/22); review comments have been returned (5/27/22). Project funding was brought to TAC at their 7/7/22 meeting, during drafting of IGA it was discovered that future maintenance of stream reclamation should be considered, project will be brought back to TAC at an upcoming meeting for maintenance discussion and

recommendation (8/12/22). A stakeholder meeting was held on 9/29/22 to discuss maintenance. A stakeholder meeting was held on 11/2/22 to discuss findings from CCBWQA's site visit and findings included in Wright Water Engineers report. The Board supports CCBWQA's partnering with Centennial at their 11/17/22 meeting. A Memo of Understanding is under review by Colorado Parks and Wildlife (CPW) affirming maintenance responsibilities for the stream reclamation fit under the current agreement between CCBWQA and CPW (3/30/23). *CCBWQA sent the Draft IGA to Centennial for review on 5/23/23.*

6. Happy Canyon Creek – County Line to Confluence with Cherry Creek (aka Jordan Road, CCB-22.1)
 - a. Description: The design and construction are in partnership with Southeast Metro Stormwater Authority and MHFD and includes 2,500 feet of stream reclamation. The Authority's water quality component share for design and construction is estimated to be \$325,000. The total project cost is estimated at \$1,300,000.
 - b. Status: IGA is scheduled for June TAC and Board meetings (5/27/21). IGA has been approved and executed by all parties (7/29/21). Jacobs has been selected as design consultant and project scoping is underway; limits have been extended upstream to the County Line and sediment capture area and transport will be included with the project (10/15/21). Jacobs has submitted their scope of work and fee for design which is under review by project sponsors (11/11/21). Project sponsors have completed a review of Jacobs' fee and scope of work and the agreement is being routed for signatures (1/28/22). IGA Amendment to bring in 2022 funding is in process (3/10/22). A project kickoff meeting was held on 3/28/2022. A site visit was performed on 4/12/22 to document existing conditions and identify sediment source/transport/deposition areas. Project Team is preparing a sampling plan for bank and bed materials to determine phosphorous content (5/13/22). The project team met on 5/24/22 to discuss project goals and Jacobs is progressing through the study. Jacobs and ERC are working on sediment transport analysis and model (6/30/22). The results from the sediment transport model were presented at the 8/23/22 progress meeting and an upstream sediment capture area just south of the JWPP was included in the alternatives analysis (8/26/22). The alternative analysis report is expected to be completed before the end of 2022 (10/13/22). Lab results from stream soil samples were sent to Jacobs so that they include phosphorus reduction in the alternatives analysis report; a groundwater investigation is needed to inform sediment capture facility and stream reclamation alternatives, scoping and negotiations are in progress (11/11/22). Groundwater scope of work has been reviewed and approved by project sponsors (1/13/23). The IGA Amendment bringing in the 2023 funding was recommended by TAC and authorized by the Board in April (5/12/23).
7. Happy Canyon Creek - Upstream of I-25 (CCB-22.2)
 - a. Description: The design and construction are in partnership with Douglas County, City of Lone Tree, and MHFD and includes 2,500 feet of stream reclamation. The Authority's water quality component share for design and construction is estimated to be \$500,000. The total project cost is estimated at \$2,000,000.
 - b. Status: Douglas County, City of Lone Tree, and MHFD have initially funded and selected Muller Engineering as the design engineer. Design has started and a progress meeting was held on 1/27/21. Design is progressing (2/11/21). Muller has submitted 60% Design Deliverables (5/27/21). IGA for 2021 Funding is being brought to Board in September (9/9/21). 2021 IGA Amendment has been executed (11/11/21). Coordination with CDOT and easement acquisitions are on-going (1/13/22). Board authorized 2022 funding and IGA Amendment at their June 16th meeting (6/30/22). The project received environmental clearance from CDOT (8/12/22). The 90% design submittal is scheduled for delivery by end of September (8/26/22). The 90% design submittal is being reviewed (10/13/22). Comments were provided on 90% submittal (11/11/22). Muller completed the 100% design submittal on 11/22/22. CDOT permit was issued, and pre-construction meeting was held on 1/10/23; construction start is scheduled for 1/30/23 pending execution of easement documents from Surrey Ridge which has agreed to terms and easement language. Notice to Proceed on construction is pending execution of easement documents (1/27/23). Easements have been

signed by property owners and Notice to Proceed has been issued to Naranjo Civil Constructors (2/8/23). Construction is underway with initial construction BMPs/stormwater controls in place; water diversion and control is being set up for the downstream section of the project (3/10/23). Water control is in place and construction of stream reclamation is underway for downstream sections of the project (3/30/23). Riffle and Boulder Cascade drop structures on downstream third of project are nearing completion (4/13/23). Construction is underway in the middle third of the project; efforts consist of stream grading and installation of Riffle and Boulder Cascade drop structures (5/12/23). *The storm damage from May 11 to 13, 2023 event is being identified and repaired (5/25/23).*

8. Dove Creek - Otero to Chambers Rd. (CCB-23.1)

- a. Description: The design and construction are in partnership with Southeast Metro Stormwater Authority (SEMSWA) and with Mile High Flood District (MHFD) being a key stakeholder; it includes 1,300 feet of stream reclamation. The Authority's water quality component share for design and construction is estimated to be \$175,000. The total project cost is estimated at \$700,000.
- b. Status: SEMSWA is drafting the Intergovernmental Agreement to bring in the 2021 funding for the project (3/12/21). RESPEC is the design consultant; two conceptual design alternatives have been prepared and reviewed during meeting on 3/15/21. IGA is scheduled for CCBWQA's May TAC and Board meetings (4/30/21). IGA has been approved and executed by all parties (7/29/21). 30% Design Review Meeting was held on 8/23/21. A Progress meeting is scheduled for 2/26/22 with 60% Plan submittal expected to follow (1/28/22). The 60% Design was submitted on 2/16/2022, comments were provided, and a design review meeting was held on 2/23/2022. IGA Amendment to bring in 2022 funding is in process (3/10/22). Construction costs were prepared by CEI based on 60% submittal (5/13/22). A design progress meeting was held 6/14/22 and 90% design submittal is being prepared (6/30/22). 90% design submittal is expected by the end of July (7/15/22). The 90% design submittal was reviewed, and comments were submitted on 8/22/22. *Construction is anticipated in 2023 (10/13/22).* A progress meeting was held on 11/8/22, project will likely be done in 2 phases, IGA Amendment will be needed early in 2023 so that construction can start ahead of storm season. Dove Creek IGA for construction of Phase 1 is scheduled for TAC and Board in January 2023, construction is expected to start shortly afterwards (12/30/22). Construction is scheduled to start mid-February; construction agreement and engineering construction services amendment are currently being reviewed (1/27/23). Construction and engineering construction services have been finalized and a preconstruction meeting was held on 2/2/23. Notice to Proceed has been issued to Concrete Express; construction is underway with initial construction BMPs/stormwater controls in place (3/10/23). Water control is in place and construction of stream reclamation is on-going (3/30/23). Step pool drop structures have been constructed and work on soil wraps is underway (4/13/23). Low-flow or bank full channel work (soil wraps and erosion control blanket) and step-pool structures are complete, water diversion has been removed, and is active to storm flows; work continues in upland areas and higher elevations of stream reclamation (5/12/23). *Storm damage from May 11 to 13, 2023 event is being repaired (5/25/23).*

c.

9. Piney Creek from Fraser Street to Confluence with Cherry Creek aka Reaches 1 and 2 (CCB-21.1)

- a. Description: This project includes 2900 liner feet of stream reclamation on Piney Creek. The project partners are SEMSWA and CCBWQA.
- b. Status: Project coordination meeting was held with SEMSWA on 6/29/22. IGA drafted and is being reviewed by SEMSWA (8/12/22). IGA was approved by CCBWQA at the 9/15/22 Board meeting. *IGA Amendment to bring in 2023 funding was approved by TAC and Board in May (5/25/23).*

10. Mountain and Lake Loop Shoreline Stabilization Phase II (OM 4.6)

- a. Description: This project was identified in through the 2020 annual inspection and design and permitting started in 2021. It adds about 40 feet of shoreline protection where it has eroded leaving a 1-2 foot tall vertical bank.
 - b. Status: Construction Plans have been prepared and the GESC was submitted to Arapahoe County for review (1/13/22). Plans are being reviewed by US Army Corps of Engineers for 408 clearance (5/13/22).
11. Cherry Creek from Reservoir to Lake View Drive (OM 4.6)
- a. Description: This project is in follow up to CCBWQA's study of Cherry and Piney Creeks in Cherry Creek State Park (CCSP). Muller completed two reports on Cherry Creek from Reservoir to State Park Boundary, Stream and Water Quality Assessment and Baseline Channel Monitoring Report, in 2022. These reports highlight the need for this project.
 - b. Status: A workshop is scheduled for the 3/16/23, to seek CCBWQA Board and TAC input on this project and Cherry and Piney Creeks in CCSP (3/10/23). *The follow up from workshop is underway – project overview and funding flyer has been created*, Muller is scoping the next step of design for Reach 1 and providing a fee, and multi-pronged approach is in development for workshop priority reaches that prioritizes Reach 1 and reduces risk from upstream reaches; these items will be brought to TAC and Board for discussion, direction, and/or action at upcoming meetings (3/30/23). A site visit for partner outreach and funding is scheduled for 5/25/23 at 1-4 pm (5/12/23).