



Arkansas Basin Roundtable

PLANNING OUR
WATER FUTURE

ROUNDTABLE MEETING NOTES

November 13, 2019 – Pueblo Community College, Pueblo, CO

www.arkansasbasin.com

Roundtable Business

Chair Mark Shea called the meeting to order at 12:33 pm. Members and visitors introduced themselves.

Approval of minutes of prior meeting

The meeting notes of the October meeting were approved by consensus.

Public comments – none

Reports

Executive Committee – Chair Mark Shea

- Mark reported the vacancy for the Legislative Appointee was quickly filled by the House with the appointment of Paul Fanning to the position. The Executive Committee agreed through consensus. Paul Fanning introduce himself to the Roundtable.
- Mark presented to the Legislative Water Resources Review Committee a summary pertaining to work being done within the basin. The group discussed various successes and challenges and the BIP Updates with the Committee.
- A request for a letter of support by the HCWCD for a watershed restoration grant application was approved by the committee by consensus. Sandy provided a quick overview of the scope for the grant.
- The Arkansas Basin Roundtable Meeting scheduled for December 11 has been canceled. However, the Exec Committee will meet that date and so will the Needs Assessment Committee. This scheduling was prompted by the structure of the Basin Implementation Plan Update. Brown & Caldwell has been retained as the overall Contractor for the Basin Implementation Plan Update and each Basin has been allocated a fund of \$140,000 to retain Basin-Specific Consultants and Subject Matter Experts. The Executive Committee will meet to define the Scope of Services that the Ark Basin will assign to the chosen Consultants. All Roundtable Members are invited to attend and contribute to this discussion.

CWCB Report – Ben Wade and Jack Goble

- Ben reported the demand management workgroup will meet November 22nd in Frisco from 10am – 2pm. The funding workgroup will meet in Denver.
- Jack reported that the CWCB board meeting will be November 21 – 22 in Denver. CWCB will consider 31 Colorado Water Plan grants, 3 loan requests, the projects bill will be considered for approval, and a funding package for Arkansas Valley Conduit will be heard.

IBCC Report – Jeris Danielson



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- Jeris reported the IBCC met on October 23rd. They discussed a demand management program for the Colorado River. All agreed that no sector or geographic region should be disproportionately appropriated and there was a need to know how water rights will be administered by the State Engineer. The IBCC members discussed ways to define equity. They also discussed ways to include a voluntary demand management policy into a conceptual agreement because all 4 upper basin states have to agree on the program.
- West slope entities are looking at a curtailment in a risk study. The study recommends a voluntary demand management program. Jeris felt a curtailment issue needs to be viewed at a state-wide level rather than just a west slope perspective because transmountain diversions would be impacted by a compact call.

Environmental / Recreation Committee – Bob Hamel

- A tour of mitigation needs on the Decker fire was held yesterday. VFMP meeting will be held Friday. The Ark River diversion and boat chute will be tested on the 21st using reservoir releases to increase flows for the fish passage and boat chute.

PEPO – Amber Weber

No report

Needs Assessment – Abby Ortega

- WSRF grant applications are due December 1st and the Needs Assessment Committee will meet December 11th at 12:30 at Pueblo Community College. Please email application to arkneedsassessment@gmail.com.

Arkansas River Watershed Collaborative – Chelsey Nutter

- A Decker fire meeting was well attended by various stakeholders. They discussed recovery and the approach. The group also discussed a need to enhance the BAER (Burn Area Evaluation Report) process and the need for the evaluation to include downstream impacts. By consensus of the Roundtable, Mark will act on the ABRT's behalf to send a letter to our congressional delegation to support federal funding for mitigation projects throughout the state.
- ARWC is leading a tour of the Decker fire next Monday. This illustrates the value of ARWC to come in and help with stakeholder engagement for landowners and agencies.
- Chelsey reported ARWC will submit a WSRF grant request. She also requested financial support from ABRT members and the agencies they represent. This type of support is needed to build unrestricted funds to grow ARWC. She is looking to Roundtable members for input on how ARWC can support and benefit their communities. She is open for opportunities to personally visit with stakeholders.

BIP/Technical Update – Greg Johnson, Russ Sands, Matt Lindburg, Beorn Courtney, Kara Sobieski, and Bryan Macpherson

- CWCB staff and the Colorado Water Plan General Contractor was asked to present on findings in the Technical Analysis Update. Please review the full presentations at www.arkansasbasin.com. Rather than two 45-minute long presentations on the BIP Update, there were six presenters,



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three from the CWCB and three from consultants who provided intensive background on the Technical Update to the Colorado Water Plan. The Roundtable Membership needed this full-immersion dive to understand how the BIP needs to be redeveloped to mesh with the Technical Update.

- There was considerable discussion about the Demand Calculations that were included in the Technical Update. The Demand Projections for the Arkansas Basin deviated from the numerical values of the Gap presented in the original 2015 Water Plan Demands for all sectors (M&I, Self-Supplied Industrial and Agriculture) under almost all five of the Scenarios. Much of the presentation from the six presenters addressed the different criterium that were applied to the Demand definitions, one of which was the introduction of HB 1051 water use reporting as a primary source for M&I Demand. This had the effect of increasing the Gap for almost all sectors of water users under almost all of the Five Scenarios.
- The Technical Update values of Supply do not include the effects of Projects and the calculations for the Agricultural Gap in all the Basins have, as a base assumption, that all M&I Demands are met in each Basin. These assumptions were questioned by some Roundtable Members.

The meeting was adjourned at 4:00 pm.

Meetings and Links

- ABRT Meeting – December meeting is canceled
- ABRT Executive Committee Meeting – December 11, 2019, 10:30 – 12:30, Pueblo Community College
- Needs Assessment Committee Meeting - December 11, 2019, 12:30 – 3:30, Pueblo Community College
- CWCB Board Meeting - November 21 – 22 in Denver
- Environmental / Recreation Committee Meeting – November 25, 2019, 10:00 am, Canon City
- Arkansas Basin Roundtable: www.arkansasbasin.com
- Arkansas River Watershed Collaborative: <https://www.arkcollaborative.org/>
- Arkansas River Basin Water Forum: <http://www.arbwf.org/>
- CWCB: <http://cwcb.state.co.us/Pages/CWCBHome.aspx>
- Colorado Water Plan: <http://coloradowaterplan.com/>
- Colorado Flood Threat Bulletin: www.coloradofloodthreat.com
- Stream Management Plan Resource Library: <https://coloradosmp.org/>

**ARKANSAS BASIN
FIRE, FLOOD
&
BIP INITIATIVE**





Position ARWC as a Basin leader for fuels mitigation projects and post-fire recovery response



Uniquely positioned to provide input from the water community and act as a liaison for Federal, State, and Local pre and post-fire projects



Continue to support the Roundtable, Sub-Committees, and Basin Members on Project Development and Implementation



Funding gap exists between identifying the need and implementing the project (Scoping, Project Development, Funding, Grant Writing)



Support from the ABRT is essential to position ARWC as a resource for Basin Communities in project development and implementation

PURPOSE & NEED



Position ARWC as the go-to resource for Forest Mitigation and Post-Fire Recovery Work.



Leverage funding from this grant to continue to build support for ARWC's services to support communities between need identification and project implementation.



Create an Upper Basin & Lower Basin Partnership to efficiently and effectively meet the needs of the ABRT & Basin Communities



Align objectives and strategies (ARWC, PEPO, Upper/Lower) to meet the Roundtable's watershed health, education, and project development needs



Work together to continue to provide operations and execution of Roundtable activities including sub-committees and BIP update

STRATEGY

OBJECTIVES

Act	Act as a Basin Leader for Forest Health & Post-Fire Recovery and Locally Identified Project Development
Develop	Develop at least 2 large-scale, multi-jurisdictional fuels mitigation projects that expand jurisdictions
Support	Support Chaffee County with Post-Fire Recovery for Decker Fire
Provide	Provide guidance and assistance to Basin Communities on locally driven project development
Support	Support the functions and address the needs of the Roundtable, sub-committees, and the BIP update process
Provide	Provide education, outreach, and communications throughout the Basin

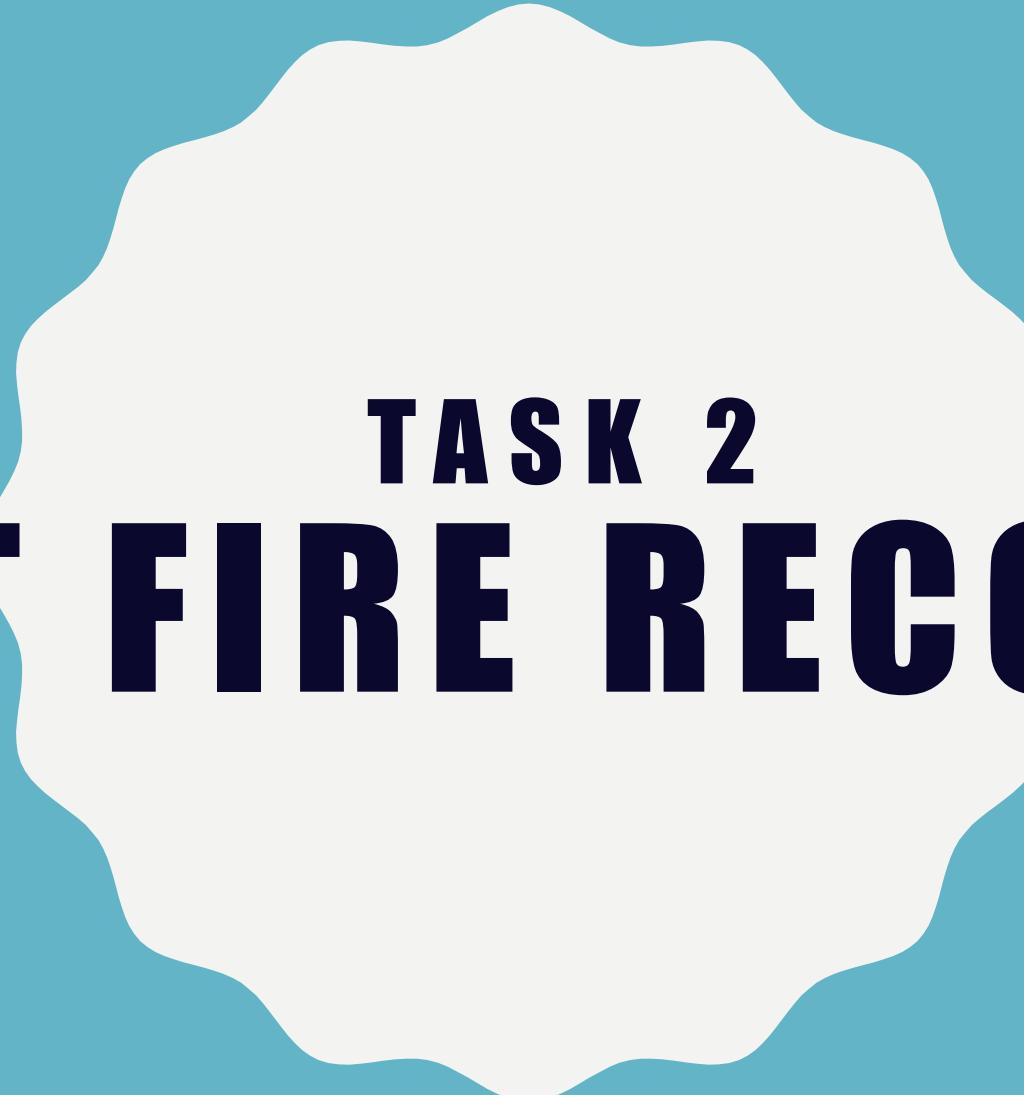


TASK 1

FOREST HEALTH

FOREST HEALTH FUELS MITIGATION

- Cross jurisdictional boundaries & build off existing projects and partnerships
- Serve as a liaison between federal, state, local, and private partners to build critical fuels mitigation projects in the most wildfire prone landscapes
- Develop at least 2 large-scale multi-agency mitigation projects that are ready to move into the implementation phase & focus on water resources
 - Stakeholder Engagement
 - Project Scoping
 - Mapping and Preliminary Design
 - Funding Development
 - Grant Writing
 - Contracting and Permitting
 - Upper Basin Reservoirs and Headwaters, Cucharas River Basin & Pueblo YMCA



TASK 2

POST FIRE RECOVERY

POST-FIRE RECOVERY (DECKER FIRE)

- Assist Chaffee County with Post-Fire Recovery Management
- Serve as a liaison between government and landowners to build relationships and move forward with recovery initiatives
- Help Chaffee County government and landowners navigate post-fire
 - EWP, CWCB, CDPHE, EQUIP, and other assistance programs
- Provide essential “boots on the ground” recovery project development/management services
 - Lead Local Recovery Meetings & Engage Stakeholders
 - Act as a Consultant to the County for Project Development & Scoping
 - Provide Initial Mapping, Modeling, and Assessments
 - Act as a Liaison Between Landowners and Government Agencies
 - Assist with Navigating Recovery Programs
 - Lead Efforts for Contracting, Permitting, LTES and O&M Agreements



TASK 3

BASIN SUPPORT

ABRT, BIP, SUB-COMMITTEES & MEMBER SUPPORT

- Develop an Upper Basin & Lower Basin Partnership to meet Basin needs
- Provide oversight, guidance, and assistance with the BIP update
- Provide continued leadership and assistance for Roundtable & Sub-committees
 - Executive Committee, Needs Assessment, Enviro/Rec, LAWQWG, ARBWF
- Partner with PEPO to provide education, outreach, and communications
 - Provide Monthly Workshops during interim meeting dates
 - Provide a quarterly newsletter on Basin activities, projects, etc.
- Provide guidance and direction to Ark. Basin Communities in the development of locally identified projects
 - Stakeholder engagement, project scoping, funding analysis, grant writing, consulting,



CURRENTLY IDENTIFIED PROJECTS & NEEDS

Identified Needs and Potential Future Projects

- Water Advisory Council Development (Lake)- Lake County BOCC
- Augmentation and Multi-Use Storage (Lake)- Lake County BOCC
- Water System Improvements and Protection- Fuels Mitigation (Lake)- Parkville Water, Lake County BOCC
- Expansion of Fuels Mitigation projects at Turquois Reservoir and Twin Lakes (Lake) - USFS, CSFS, Co Springs Utilities, Lake County BOCC
- Expand Monarch Pass Project (Fuels Mitigation) to Include Phase 3 (Chaffee)-USFS
- Poncha Loop Fuels Mitigation (Chaffee) -USFS
- South Arkansas Integrated Water Management Plan (Chaffee) -UAWCD, Local Partners
- Decker Fire Recovery (Chaffee)- Chaffee County BOCC, UAWCD
- Fuels Mitigation (Fremont)- Fremont BOCC
- Stormwater (Fremont)- Fremont BOCC
- Collaborative Development Water Education and Outreach (Fremont)- Canon City White Water
- Canon City River Restoration, Planning, and Management (Fremont)- Fremont BOCC, Env. Rec, City of Canon City
- Fuels Mitigation YMCA Camp David (Pueblo)- Pueblo YMCA
- Fuels Mitigation (Pueblo) -USFS
- Fuels Mitigation Cucharas River Basin- USFS, SPA
- Soil Health and Soil Health/ Forest Health Nexus- LAVWCD
- Amity Multi-Purpose Storage Project -Amity Mutual Ditch CO, CPW
- Many More to Come!

BUDGET

<u>Task No.</u> ⁽¹⁾	<u>Description</u>	<u>Start Date</u> ⁽²⁾	<u>End Date</u>	<u>Matching Funds (cash & in-kind)</u> ⁽³⁾	<u>WSRF Funds (Basin & Statewide combined)</u> ⁽³⁾	<u>Total</u>
1	Fuels Mitigation Project Development	6/1/2020	12/31/2021	\$ 14,000	\$ 100,950	\$ 114,950
2	Post-Fire Response & Recovery (Decker Fire)	6/1/2020	12/31/2021	\$ 25,000	\$ 91,950	\$ 116,950
3	Roundtable, BIP, and Member Support	6/1/2020	12/31/2021	\$ -	\$ 134,771	\$ 134,771
4	Grant Administration	6/1/2020	12/31/2021	\$ -	\$ 17,403	\$ 17,403
Total				\$39,000	\$345,074	\$384,074

Statewide Request	\$ 255,182		
Basin Roundtable Request = 66.7% of task 3	\$ 89,892	% of State	35%
Chaffee County Post-Fire Match	\$ 25,000		
Colorado Springs Utilities Forestry Match	\$ 5,000		
Pueblo Board of Water Works Forestry Match	\$ 5,000		
Upper Arkansas Water Conservancy District Match	\$ 1,000		
Lake County BOCC Match	\$ 1,000		
Parkville Water District (Lake County) Match	\$ 1,000		
Huerfano County Water Conservancy District Match	\$ 1,000		
Total Basin + Water Provider/ Partner Match=	\$ 128,892	% of State	50.51%
Total Project	\$ 384,074		

ARKANSAS GROUNDWATER USERS' ASSOCIATION RESERVOIR PROJECT

AGUA RESERVOIR CO.

Arkansas Basin Round-table
January 8, 2020



Presented by:
Kevin W. Niles
General Manager

Let us have a splendid legacy for our children... let us turn to them and say 'this you inherit and guard it well, for it is far more precious than money... and once it is destroyed, nature's beauty cannot be repurchased at any price.'
Ansel Adams

AGUA RESERVOIR CO

- BACKGROUND

- * STONEWALL QUARRY – SELLER OF 2000AF STORAGE VESSEL (LOCATION HWY 96)
- * NEW COMPANY TO BE ESTABLISHED – AGUA RESERVOIR COMPANY (2000 SHARES ISSUED)
- * AGUA TO PURCHASE 1000AF OF PERMANENT STORAGE (OFF THE EXCELSIOR DITCH)
- * AGUA WILL OWN 1000 SHARES / OTHER ENTITY WILL OWN 1000 SHARES
- * PURCHASE PRICE - \$3,500 PER SHARE (TOTAL 3.5 MILLION DOLLARS)
- * GRANT FROM COLORADO WATER PLAN (CWCB) - \$500,000
- * TOTAL LOAN \$3 MILLION (COLORADO WATER CONSERVATION BOARD/ CWCB)
- * 30 YEARS @ 2.00% INTEREST = TOTAL ANNUAL LOAN PAYMENT \$135,289

AGUA RESERVOIR CO

- PURPOSE (REASONS FOR PURCHASE)

- * AGUA HAS LOST ALMOST 8,000AF OF EXCELSIOR WATER IN PAST 4 YEARS – NO STORAGE AVAILABLE
- * CURRENTLY ONLY USING RECHARGE PONDS AND TEMPORARY STORAGE IN PUEBLO RESERVOIR (SPILL THREATS 3X YEARS IN A ROW)
- * ALLOWS FOR BETTER ACCOUNTING AND PREDICTED SOURCES AVAILABLE
- * ALLOWS AGUA TO MANAGE DECREED AUGMENTATION PLANS MORE EFFECTIVELY AND RULE 14 PLAN
- * POSSIBLE FUTURE GROUNDWATER RULES PROMULGATED BY DWR DIVISION ENGINEER
- * CREATES ADDITIONAL ASSET TO AGUA (EXCELSIOR DITCH AND AGUA RESERVOIR)
- * ALLOWS FOR BETTER CONTROL OF EXCELSIOR WATER
- * POSSIBLE REVENUE BASED ON LEASING SPACE TO OTHER WATER COMPANIES
- * CREATES AN ADDITIONAL WATER RIGHT FOR AGUA (DECREED STORAGE RIGHT 16CW3093)
- * ALIGNs WITH THE COLORADO WATER PLAN (ADDITIONAL 50,000 AF STORAGE BY 2050)

AGUA RESERVOIR CO

- DETAILS AND SPECIFICATIONS

- * REGISTERED VOTE OF OVERALL AGUA MEMBERSHIP (MAJORITY RULES)
- * AGUA BOARD OF DIRECTORS TO RAISE ANNUAL DUES FOR 2021 (PER AGUA BYLAWS)
- * OPERATIONS AND MAINTENANCE DONE BY AGUA (ANNUAL BILLED MANAGEMENT AGREEMENT)
- * SWSP 2020/ COURT CASE FILED WITH THE STATE TO RUN EXCELSIOR WATER TO RESERVOIR
- * INLET AND OUTLET INFRASTRUCTURE BUILT BY SELLER (COMPLETE TURN-KEY OPERATION)
- * ADDITIONAL STORAGE MAY BE BUILT BY STONEWALL AND AVAILABLE FOR AGUA TO PURCHASE
- * POSSIBLE REVENUE GENERATED BY LEASING STORAGE SPACE AND CONVEYANCE FEES TO USE THE EXCELSIOR DITCH
- * WATER TO BE STORED STARTING 2020 AND LOAN REPAYMENT STARTING 2021

AGUA RESERVOIR CO

- CONCLUSION

- * SO FAR 85% OF MEMBERSHIP POLLED HAS VOTED (YES)
- * ALL MEMBERS MUST VOTE ON THE PROJECT (YES/ NO)
- * THIS PURCHASE WILL STRENGTHEN AGUA'S WATER AND FINANCIAL PORTFOLIO
- * PROJECT HAS COMPLETE SUPPORT BY AGUA BOARD OF DIRECTORS
- * AUGMENTATION ASSOCIATIONS WILL NEED PERMANENT STORAGE IN THE FUTURE
- * STORAGE WILL BE VITAL TO THE LONG-TERM SUCCESS OF AGUA
- * ADDITIONAL ASSETS INCREASES THE VALUE OF AGUA AND THEIR OUTSTANDING SHARES
- * AGUA WILL BE ONE OF THE FIRST ASSOCIATION TO OBTAIN AND OPERATE PERMEANT STORAGE
- * THE BEST GIFT YOU CAN GIVE TO THE COMING GENERATION IS WATER
- * YOU NEVER KNOW THE WORTH OF WATER UNTIL THE WELL RUNS DRY

AGUA RESERVOIR CO

- QUESTIONS AND OR COMMENTS???



Image: Not of actual vessel

Cucharas Collaborative Storage Project



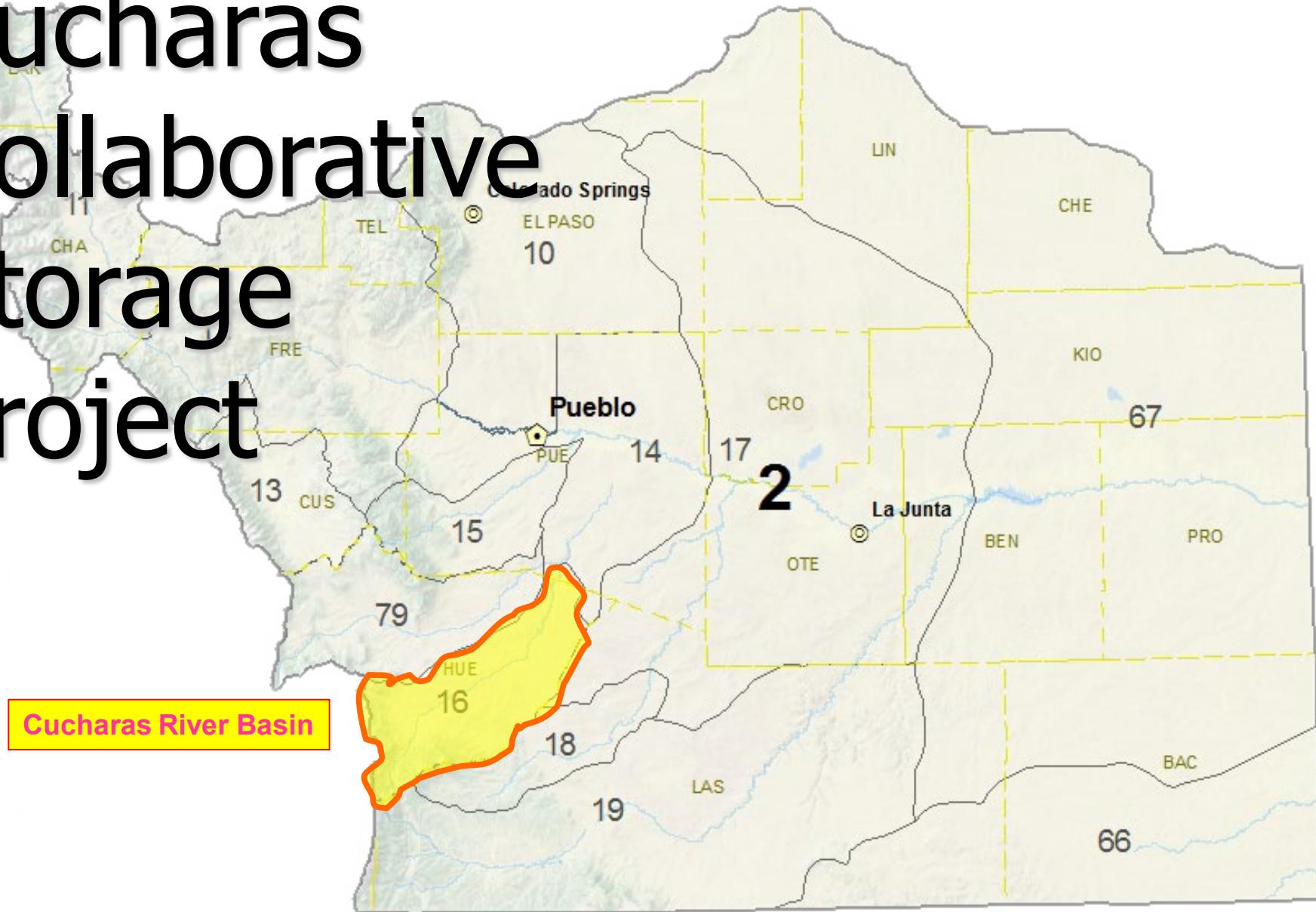
Cucharas River

Butte Ditch

Highway 12

Bruce Canyon Reservoir 1406 ac-ft

Cucharas Collaborative Storage Project



Background

Cucharas Basin Storage
Collaborative

Cucharas Storage Collaborative since 2015

State

- DWR Div 2
 - **LOTS of in-kind**
- CPW
- CSFS

Federal

- USFS
- NRCS

\$\$ Contributors:

- Cuchara S&WD
- Town of La Veta
- City of Walsenburg
- HCWCD
- Maria Lakes Grazing Assn
- LVFPD
- HCFMLD
- Huerfano BOCC

13 meetings

Timeline (1)

- 2013 - DEO/DSB recommend collaborative storage project
- 2014 - HCWCD study: 70% storage capacity loss since WWII
- 2015 - Collaborative formed
- 2015 - 2017, Storage Study (Ph 1, \$250K)
 - 2K af Muni storage gap
 - 15K+ af Ag storage gap
 - Storage sites, winnowing: 70 -> 28 -> 15 -> 5
 - Feasibility design for 5 “preferred” sites
 - DSS yield model

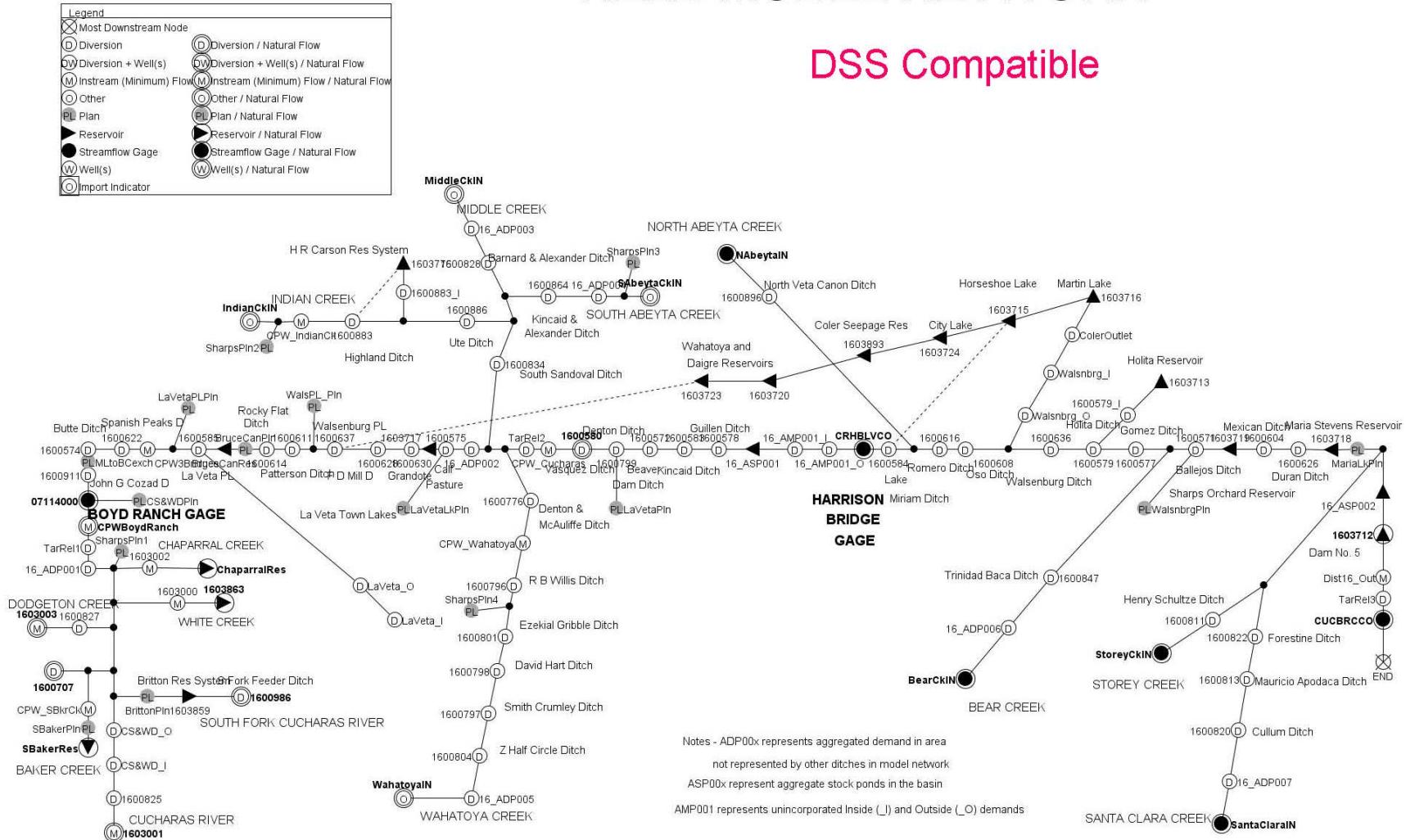
Timeline (2)

- 2017 - Water Ct Appl, storage + exchange
(\$210K+ thru Oct)
- 2017 - Geotechnical Investigation, 5 sites (Ph 2, \$134K)
- 2017 - Add'l geotech investigation, 3 sites (Ph 3, \$43K)
- 2018 - 30% design – 3 sites (Ph 4, \$50K)
- **2019 - 50% design – 2 sites, (Ph 5, \$141K)**
- 2020 - Water Ct trial...

CUCHARAS COLLABORATIVE STORAGE STUDY

YIELD MODEL NETWORK

DSS Compatible



Screening Matrix

Enlargement of Existing Storage	Weighted Score	Rank
Britton Ponds Enlargement (42 AF small dam)	40	18
Britton Ponds Enlargement (239 AF large dam)	41	16
La Veta Lakes Enlargement	55	3
HR Carson #1/#2 combined storage	47.5	8.5
Daigre Reservoir enlargement	46	12
City Lake (unrestricted)	47.5	8.5
City Lake (enlargement)	45.5	13.5
Holita Reservoir Rehabilitation	55	3
Maria Stevens Rehab/Enlargement	55	3
Horseshoe/Martin Joint Use Pool	45.5	13.5

New Storage Projects	Weighted Score	Rank
South Baker Creek Reservoir	40.5	17
Chaparral Creek Reservoir	47	10
Bruce Canyon Reservoir	56	1
Coler Seepage Reservoir	46.5	11
White Creek Reservoir (500 AF)	50.5	6.5



Preferred Sites

Maria Stevens enlg 642 af

Bruce Canyon 1406 af

La Veta Lakes enlg 102 af

South Baker 122 af

Britton enlg 42 af

South Baker Creek Reservoir

Britton Reservoir

Legend

- City
- Existing Reservoir
- ▲ Potential Storage Site

0 1.5 3 Miles

Preferred Sites

Reservoir	Capacity (ac-ft)	Ave Yield (ac-ft per yr)
Britton	42	42
South Baker Creek	122	54
Bruce Canyon	1,406	677
LV Lakes	102	102
Maria Stevens	642	1,206
Total	2,314	2,081

“Preferred” Reservoir Costs

Feasibility level

Reservoir Alternative / Storage Capacity Project Cost^{1,2} Unit Cost (\$/ac-ft Capacity)

Britton Ponds Enlargement (42 AF)	\$6,577,340	\$156,602
★ South Baker Creek Reservoir (122 AF)	\$13,101,600	\$107,390
La Veta Lakes Enlargement (102 AF)	\$6,621,300	\$64,915
★ Bruce Canyon Reservoir (1406 AF)	\$19,184,100	\$13,644
★ Maria Stevens Rehab/Enlargement (642 AF)	\$8,406,300	\$13,094

Reservoir Alternative / Storage Capacity Delivery (ac-ft/yr) 50-Yr Cost^{1,2} (\$/ac-ft/yr)

Britton Ponds Enlargement (42 AF)	22	\$5,979
★ South Baker Creek Reservoir (122 AF)	54	\$4,852
La Veta Lakes Enlargement (102 AF)	102	\$1,298
★ Bruce Canyon Reservoir (1406 AF)	622	\$617
★ Maria Stevens Rehab/Enlargement (642 AF)	271	\$620

Who paid for all this? So far....

CWCB

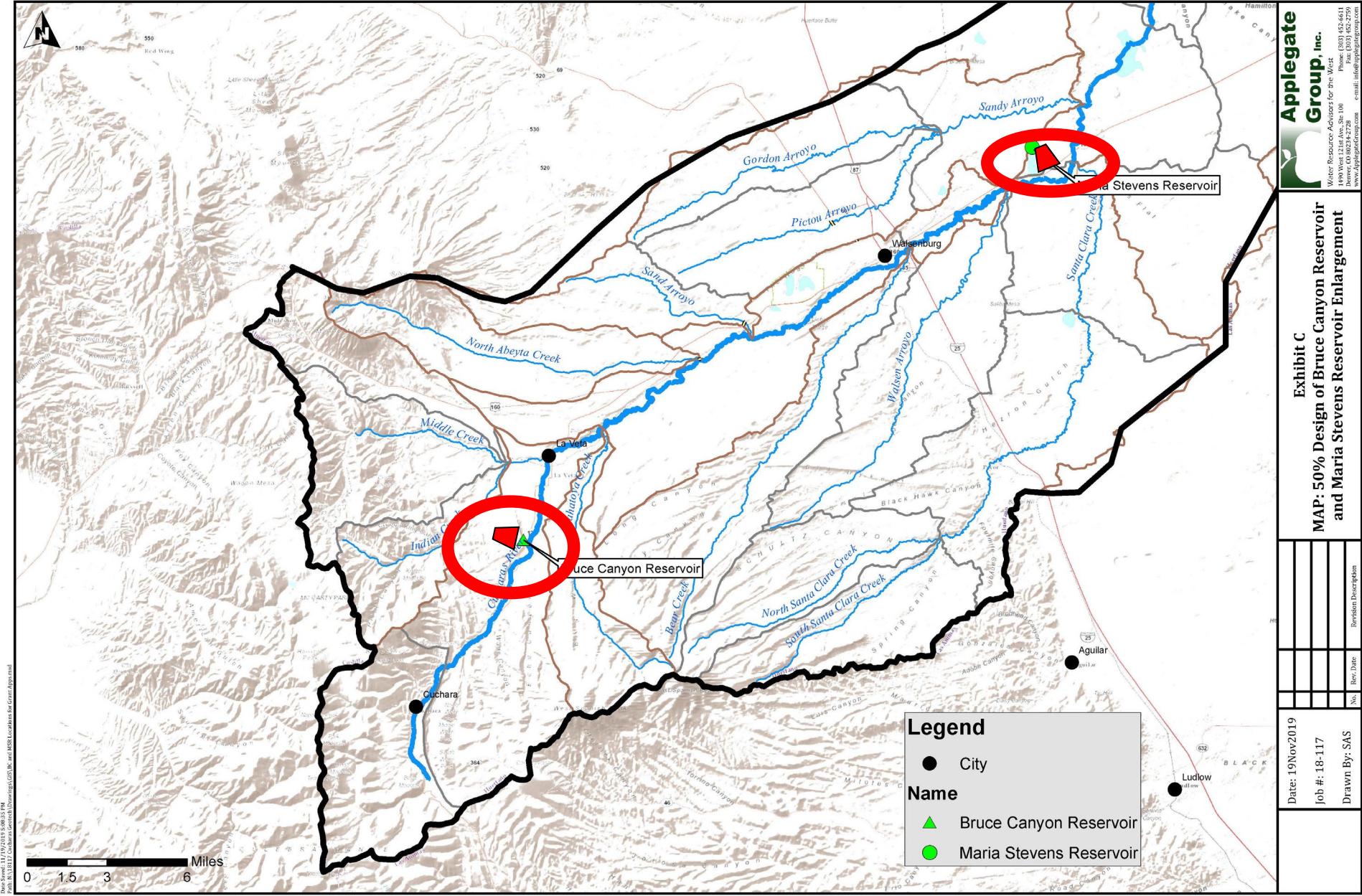
WSRA	\$357,277
CWP	\$16,786
Total CWCB	\$374,063 78%

Matching

HCWCD	\$31,237
BOCC	\$13,000
CSWD	\$13,000
La Veta	\$12,000
Walsenburg	\$5,000
HCFMLD	\$10,000
LVFPD	\$3,000
Maria Lake GA	\$15,331
Total Local Match	\$102,568 22%
Total all sources	\$476,631

Current Applications

- **50% design, including geotech**
 - Bruce Canyon Reservoir**
 - Maria Stevens Reservoir Enlargement**
- **Total project cost: \$141,144**
 - **$\frac{1}{2}$ each**



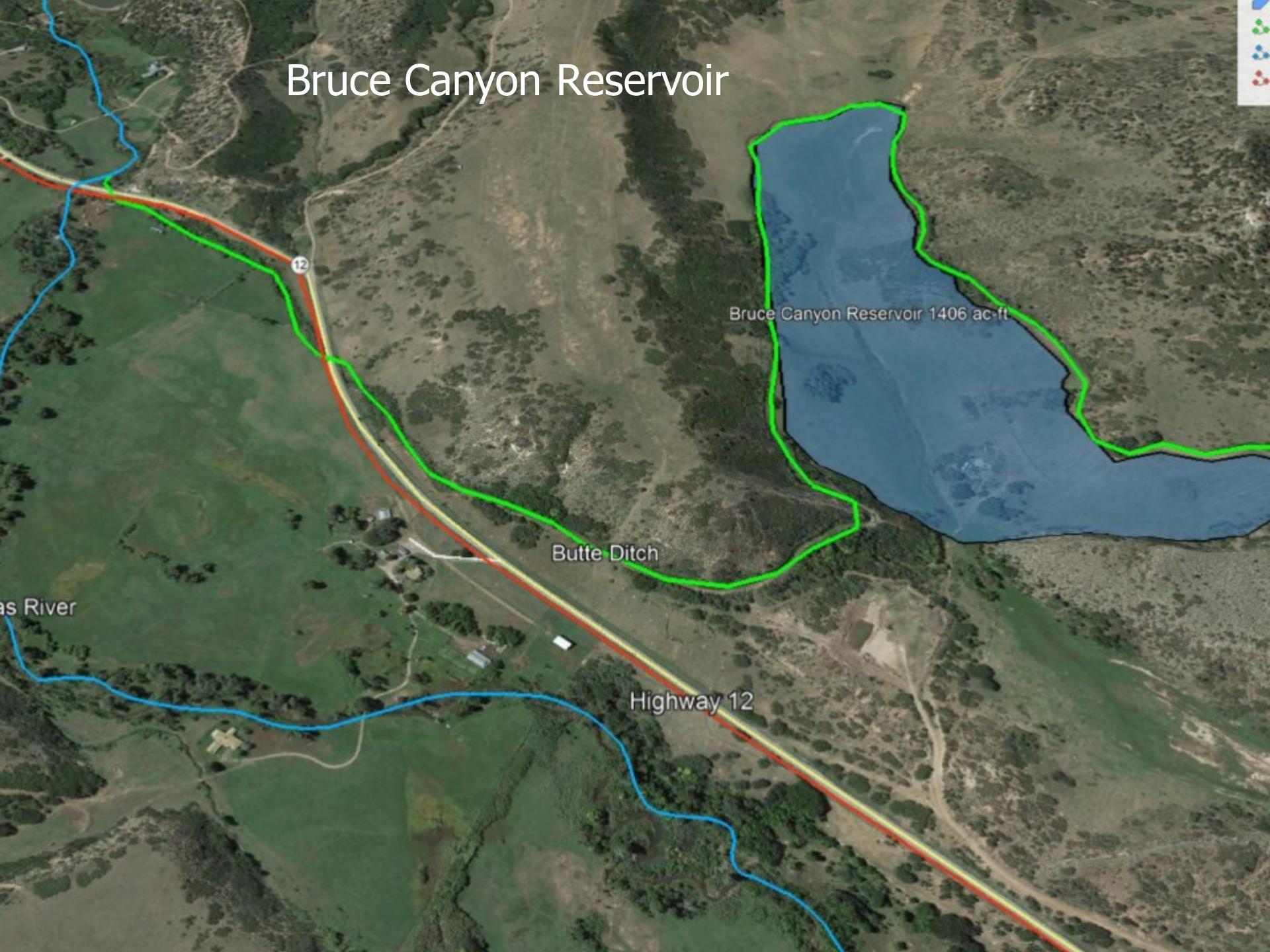
Bruce Canyon



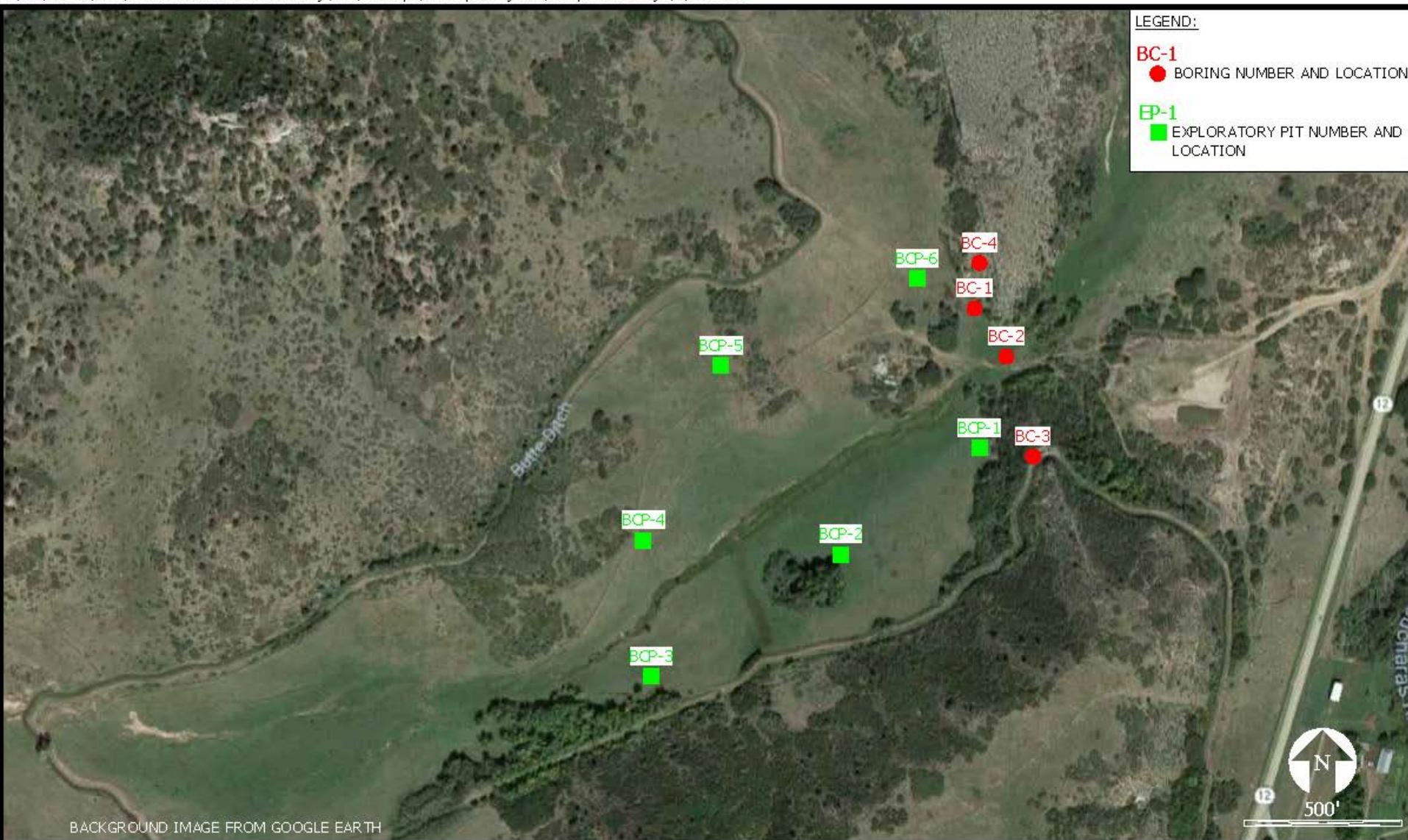
Bruce Canyon Reservoir site



Bruce Canyon Reservoir







PROJECT NO:	18.117		
PROJECT NAME:	Cucharas Basin Collaborative Storage		
DRAWN BY:	KNZ	CHECKED BY:	JAC2
DWG DATE:	10.11.18	REV. DATE:	10.17.19

FIGURE 14
Bruce Canyon Reservoir
Locations of Borings and Exploratory Pits

Grant Applications

50% Design, including geotech

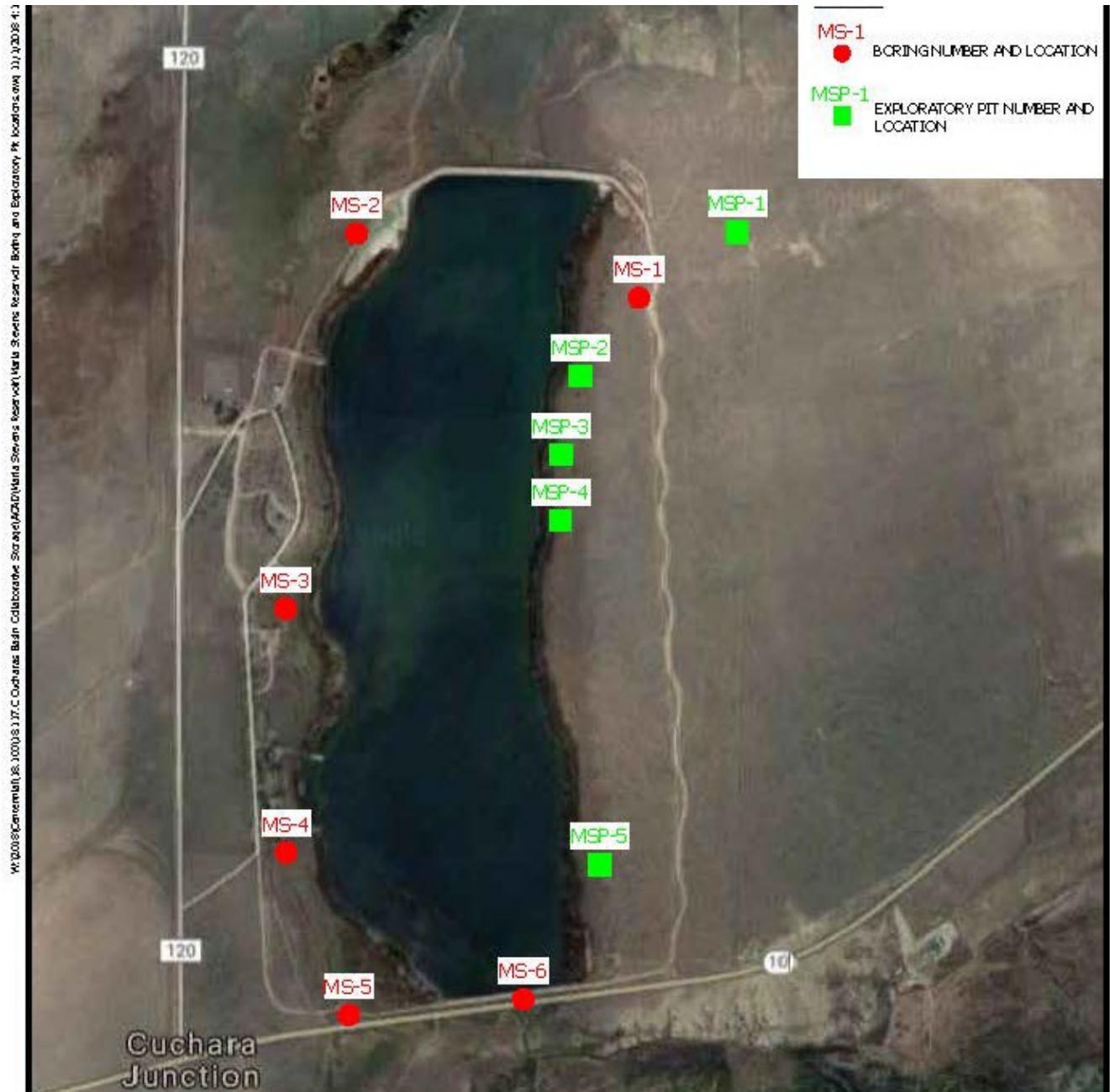
- Total project cost: \$141,144 (1/2 each)
- Bruce Canyon, 1406 af, \$70,572
- HCWCD-1, WSRF
 - \$35,286 state-wide account
 - \$17,643 basin account
 - \$17,643 local cash match
- SOW
 - 1: Geotechnical analysis [50%]
 - 2: Hydrologic analysis (IDF, routing) [8%]
 - 3: 50% design, DSB [32%]
 - 4: Present results to Collaborative [3%]
 - 5: Administration [7%]

Maria Stevens - Current



Maria Stevens Reservoir Enlargement





Maria Stevens Reservoir



Maria Steven Reservoir Enlargement, 642 af

- 50% design, \$70,572
- HCWCD-2, CWP Grant (storage)
 - \$35,286 CWCB
 - \$17,786 local cash match
 - \$17,500 basin account
- HCWCD-3, WSRF
 - \$17,500 basin account
 - \$4,375 local cash match
- SOW – same as Bruce Canyon Reservoir



Summary Amounts

- \$35,143: WSRF basin account [24.9%]
 - \$35,286: WSRF state-wide acct [25.0%]
 - \$35,286: CWP grant [25.0%]
 - \$35,429: Local cash match [25.1%]
- \$144,144: Total project cost

Local Cash Matches

for these grants

Contributing Entity	Grant Application			Total
	HCWCD-1 WSRA-BCR	HCWCD-2 CWP-MSRE	HCWCD-3 WSRA-MSRE	
BOCC	\$5,000	\$4,000	\$0	\$9,000
MLGA	\$0	\$5,411	\$0	\$5,411
CSWD	\$2,500	\$0	\$0	\$2,500
LV	\$5,000	\$0	\$0	\$5,000
HCWCD	\$5,143	\$4,000	\$4,375	\$13,518
		Total local cash match		\$35,429

Cucharas Collaborative Storage Project

Questions?



Actual Local Match

[including litigation legal and engineering]

- CWCB
 - \$479,748
(58%)
- Local Match
 - \$347,997
(42%)
- Unemployment
 - 7.6%
 - 2.6% State
- Median HH Income
 - \$35,800 (55%)
 - \$65,458 State
- Median home value
 - \$137,400 (48%)
 - \$286,100 State

COLLABORATIVE STORAGE PHASES:

		Calendar Year(s)	Phase Costs	Cumulative Costs	Comments
1	Feasibility Study [part of initial investigation]	2015-2017	\$250,000	\$250,000	WSRF+local; resulting in 5 <i>preferred</i> reservoir sites identified: BPE, SBC, BCR, LVLE, MSRE
2	Initial Geotechnical Investigation	2017-18	\$133,557	\$383,557	WSRF+local; all preferred sites
3	30% design, SBC; Geotech for SBC + BCR	2018-19	\$60,045	\$443,602	WSRF+local
4	30% design for MSR + BCR	2018-2019	\$32,000	\$475,602	CWP+local
-	-	-	-		Costs includes both BCR and MSRE hereafter
5	50 % design for BCR and MSR with EOPC	2020-2021	\$141,144	\$616,746	CWP/WSRF/+local?? Will take 1 year from NTP/PO which is expected c. 7/2020
6	90% design	2021-2022	c. \$200,000	c. \$816,746	c.\$100K/dam. Funding: CWCB WSRF/CWP/+local, EDA, USBOR waterSMART, CWCB's TAFC?
7A	Final design	2022?	c. \$80,000	c. \$896,746	c.\$40K/dam. Funding: CWCB WSRF/CWP/+local, USBOR waterSMART, CWCB's TAFC?
7B	Permitting	2022-2024?	c. \$600,000	c. \$1,496,746	SWAG: per dam \$120K/dam - \$1M/dam
7C	Land acquisition	2022-2024?	c. \$1,195,000	c. \$ 2,691,746	SWAG: MLGA, \$963K per appraisal of right to enlarge (8/13/2019); BCR, 62 ac x \$2.5K/ac x 1.5 = \$232K
8A	Bidding, contractor selection, and construction	2024-2027?	c. \$27,600,000	c. \$ 30,291,746	SWAG! Funding: CWCB WPLF?, CWP, WSRA/WPG/+local; EDA, Fed'l Infrastructure Bill?? MSR (feasibility) construction only, \$8.4M; BCR (feasibility) construction only, \$19.2M
8B	Construction Engineering	2024-2027?	c. \$160,000	c. \$ 30,451,746	SWAG: \$80,000/dam; CWCB WPLF?, CWP, WSRA/WPG/+local; EDA, Fed'l Infrastructure Bill??

Abbreviations and notes:

BPE = Britton Ponds Enlargement, 42 af

SBC = South Baker Creek Reservoir, 122 af

BCR = Bruce Canyon Reservoir, 1406 af

LVLE = La Veta Town Lakes Enlargement, 102 af

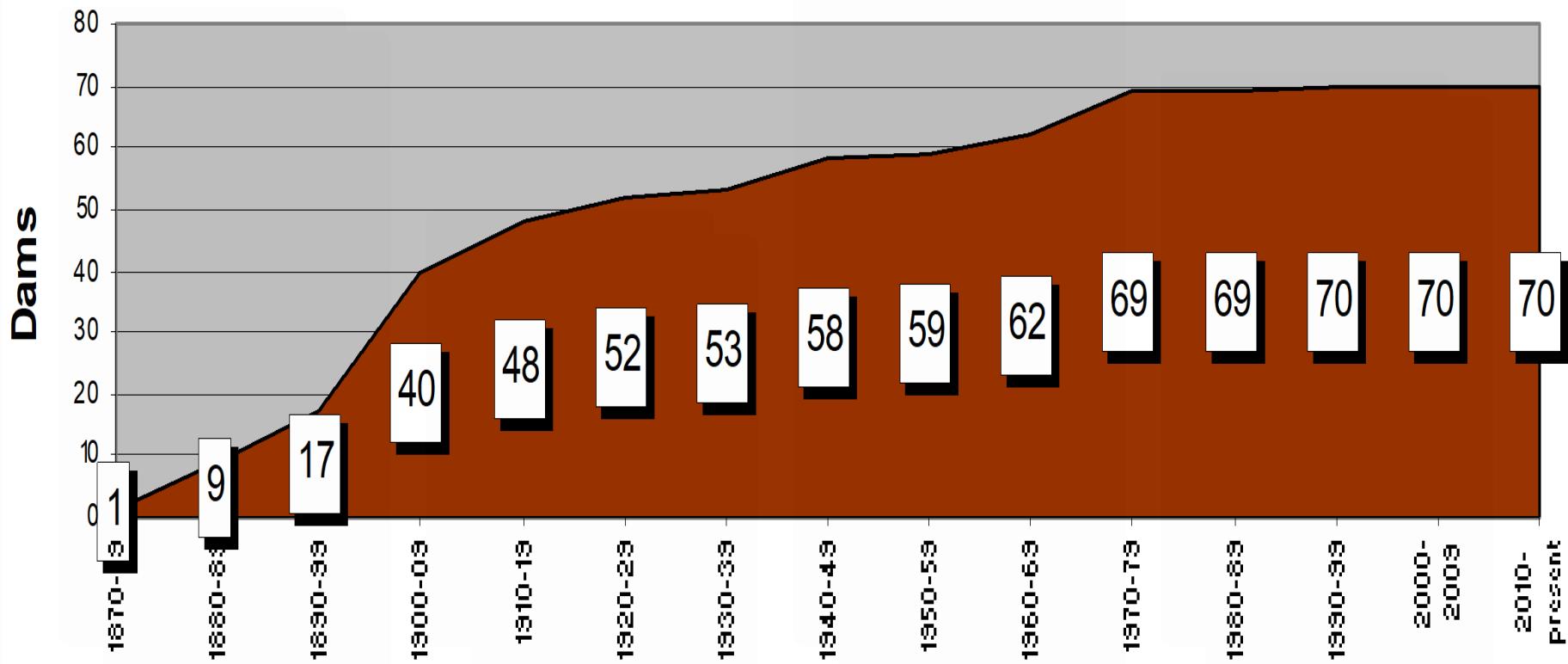
MSRE = Maria Stevens Reservoir Rehab/Enlargement, 642 af

SWAG = Scientific Wild-Assed Guess

FY ends on Sept 30 of the same calendar year

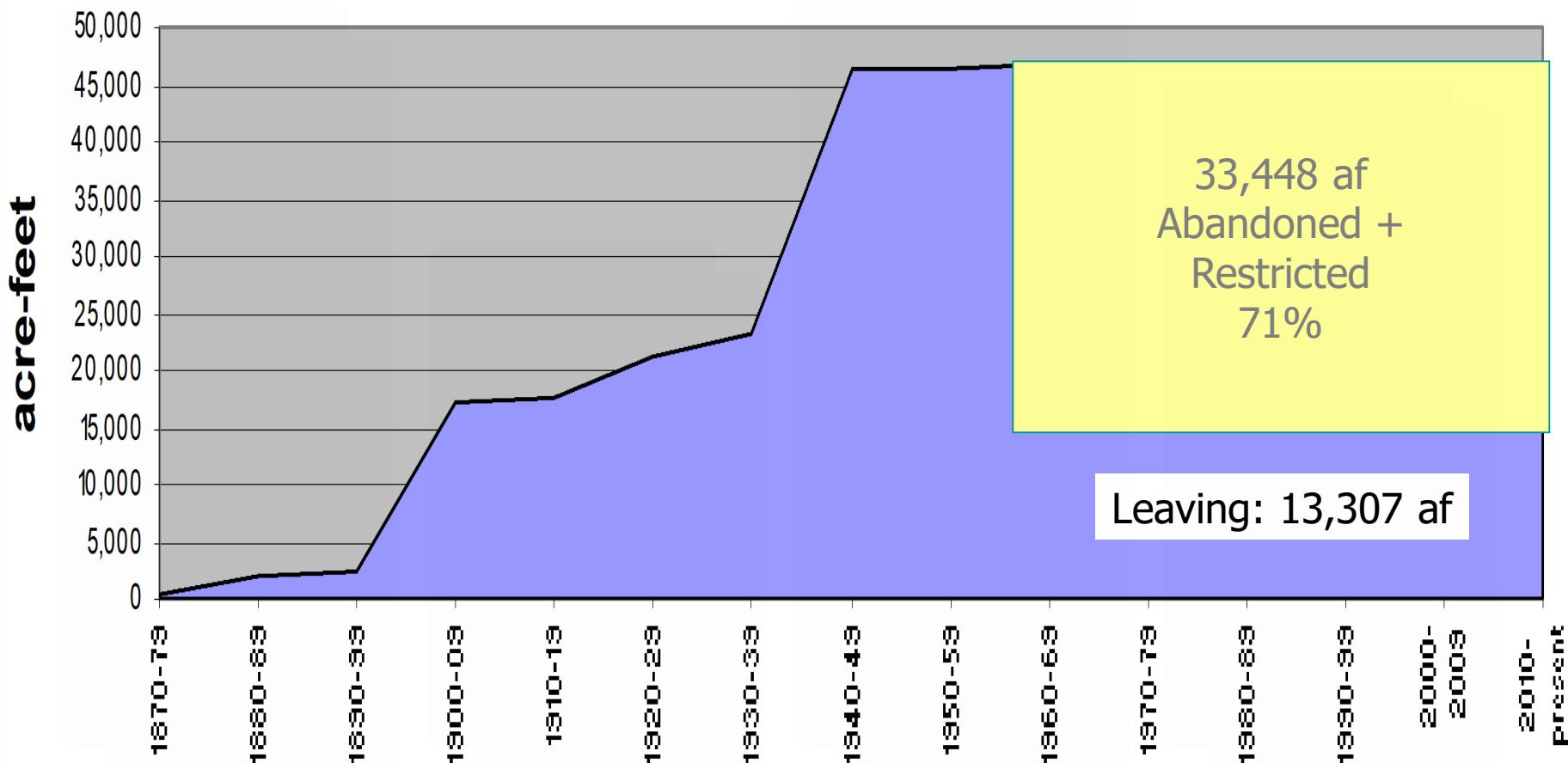
Cucharas Basin Dams Constructed

STRUCTURES



Cucharas Basin Storage Construction

VOLUME



ST. CHARLES MESA COTTONWOOD
IRRIGATING DITCH # 2
HEADGATE/ AUGMENTATION
STATION

GRANT OBJECTIVES

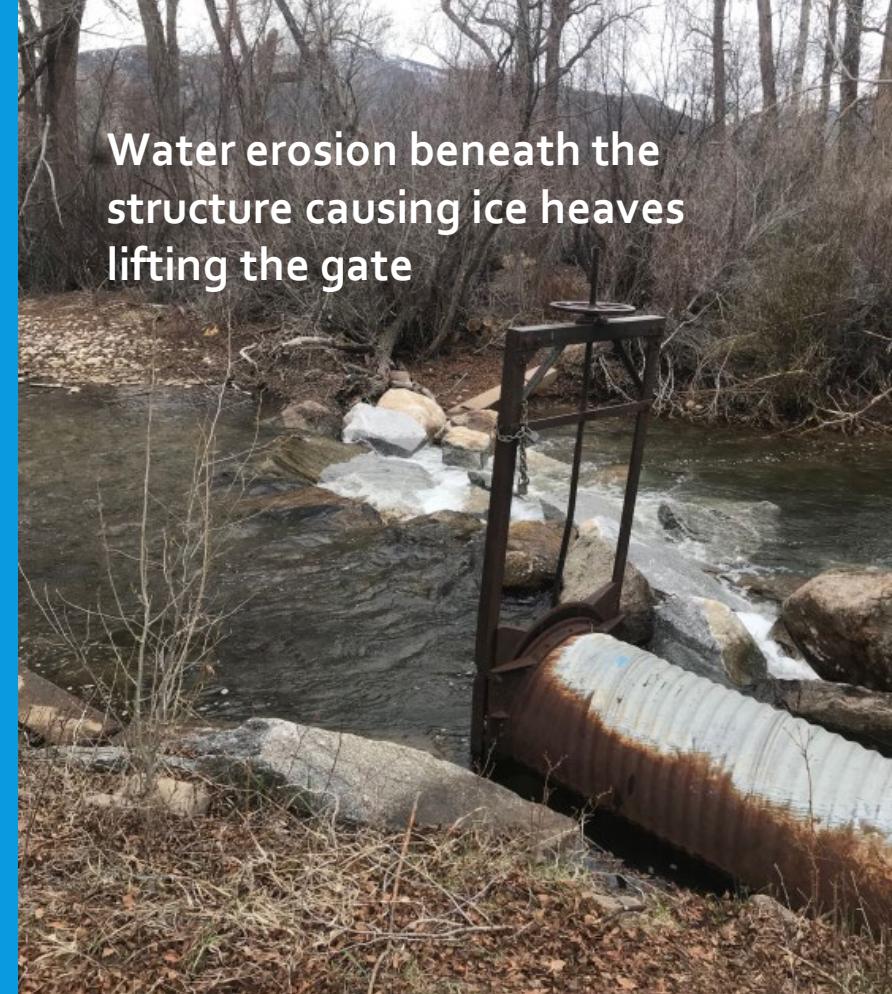
- Maximizing the use of water resources by replacing aging infrastructure
- Improving the overall engineering soundness, stability, and efficiency of the structures
- More efficient and better water delivery for M&I and Augmentation
- The telemetry station will more accurately measure/quantify the diversion, and provide real-time data access and threshold alerts
- Cost savings for SCMWD on yearly repair fees
- UAWCD will also utilize the augmentation station to quantify CID1 water and save costs by not having to build an additional augmentation station
- UAWCD is working in collaboration with SCMWD which will increase the beneficial use of water on Cottonwood Creek through the water districts augmentation plan

CURRENT ISSUES



Wing wall failing causing a drop in water level at the headgate.

The channel substrate is such that it moves during high flows and pushes the larger riprap down stream or makes it sink changing water levels.



Goal: Looking for a permanent fix, more accurate water measuring, and better utilization of resources.

TASKS 1 & 2

Task 1

- Mobilization of equipment and materials.
- Site preparation and debris cleanup

Task 2 (Right – South Side of diversion)

- Installation of bulk bags to dewater the area of construction and divert flows to the North side of the creek.
- Install Cast-in-place headwall and new slide gate

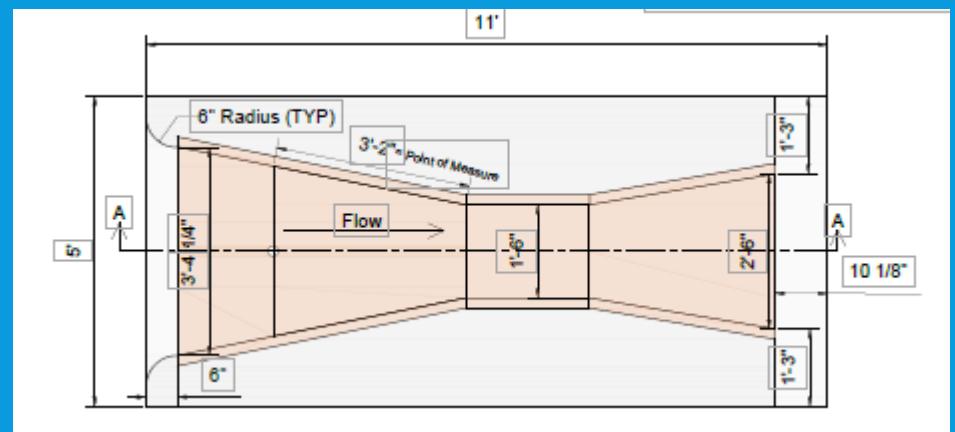


TASK 2 (continued)



Task 2 – Parshall Flume

- Existing flume and measuring equipment to be removed and flume re-installed with a concrete foundation.
- Create more stability and better grading.



TASKS 3 & 4

Task 3 (Left- North side of diversion)

- Installation of bulk bags to dewater the construction area
- Installation and grouting of riprap
- Reinforcement for erosion control
- Preservation of floodwall and protection of fishery flow and passage

Task 4

- De-mobilization of equipment and materials.
- Site restoration of disturbed area



TASK 5

Task 5 – Telemetry Station

- Installation and verification of all equipment and programing
- Integrating previous equipment into upgraded station
- Database management to ensure proper and timely reporting on the UAWCD website
- Provides alert system for predetermined threshold values



SCMWD CD2

-GRANT FUNDING REQUEST-

Basin Account Request	\$10,040
Statewide Account Request⁽¹⁾	\$100,400
Total WSRF Funds Requested (Basin & Statewide)	\$110,440
Match Funding (not including Basin Acct)	\$73,560
Total Project Costs	\$184,000

Contributing Entity	Amount and Form of Match (Cash or In-Kind)
Arkansas Basin Roundtable	\$10,000 (Cash)
Upper Arkansas Water Conservancy District	\$10,000 (In-Kind)
St Charles Mesa Water District	\$63,560 (Cash)
Total Match	\$83,560

83% of statewide request



LAVWCD- Soil Health Demonstration Plots

Amber Weber, LAVWCD Soil Health Director

Needs Assessment Meeting 12/11/2109

LAVWCD's Mission

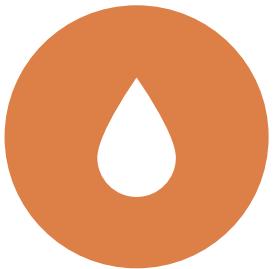
- “To acquire, retain and conserve water resources within the Lower Arkansas River; To encourage the use of such water for the socio-economic benefit of the District citizens. To participate in water-related projects that will embody thoughtful conservation, responsible growth, and beneficial water usage within the Lower Arkansas Valley” and this is done with projects relating to water quantity, quality, conservation easements, and soil health practices to maintain water rights in the area.

Project Overview

- Soil health- vastly misunderstood in both implementation and how soil health practices will impact water use and water quality
- Because of stringent water rights, an arid landscape, late adopters, and insecurities, demonstration plots will be the key to proving the affects of soil health BMPs (Best Management Practices) on not only the soil and its organic matter, but water quality, water holding capacity, and on-field economics.
 - Demo plots will be placed on water-long, water-short, dryland, and natural grass grazing

- 4 soil health demonstrations with water quality nexus
 - Producer-led
 - 100 acre plots
 - Split in half or smaller sections within
 - Weather station in middle
 - Multi-variable plots- cover crops, composting, synthetic input reduction, grazing, etc.
 - Soil and water quality samples
 - Economic, quantitative, and qualitative analysis
 - Technically synthesize the water consumption and quality of soil health practices
 - Display effectiveness via field days/tours
 - Farmer-led network of resources

BIP and CWP Justification



WATER SUPPLY
MANAGEMENT- WATER
HOLDING CAPACITY
INCREASE



AGRICULTURAL GAP OF
600,000 AC-FT OF WATER
PER YEAR- CONSERVATION
IS KEY



INCREASED ORGANIC
MATTER AND
MYCORRHIZAL FUNGI WILL
LEAD TO HIGHER WATER
AND NUTRIENT HOLDING
CAPACITY; LEADS TO
BETTER CROP
QUALITY/PRODUCTION,
CONSERVATION OF WATER,
INCREASE WATER QUALITY
WITH NUTRIENT HOLDING
CAPACITY



WATER QUALITY AND SOIL
HEALTH ARE BOTH
MENTIONED IN THE
COLORADO WATER PLAN.
THESE DEMONSTRATION
PLOTS UTILIZE BOTH SETS
OF DATA TO SHOW THE
NEXUS BETWEEN THE
TWO.

Related Studies

- CDPHE
 - Currently working to see how cover crops, reduced tillage, and reduced fertilizer input can affect crop production and water quality
- EPA
 - Working on both water quality and soil health and educational outreach for each
- NRCS
 - Working to partner to utilize funding and expertise on LAVWCD's projects
- LAVWCD
 - Super Ditch is fallowing fields and may reduce wind and soil erosion on fallowed fields



Task 1- Development of Soil Health Test Plots



Task 2- Soil and Water Quality Monitoring



Task 3- Economic Analysis

Task 4- Field Days



COLORADO SOIL HEALTH

HOME

VOICES OF COLORADO FARMERS

MORE...

VIDEO



TESTIMONIALS



LINKS

BURY YOUR BRIEFS

MERIT OR MYTH?

NO TILL FARMER

NRCS YOUTUBE

SOIL FOR HOPE CONSULTING

SOIL HEALTH INSTITUTE

SOIL HEALTH PARTNERSHIP FB PAGE

SD SOIL HEALTH COALITION FB PAGE

UNDERSTANDING AG

Task 5 - Success Stories



Colorado Water Conservation Board

Water Plan Grant - Exhibit B

Budget and Schedule

Prepared Date: December 1, 2019

Name of Applicant: Lower Arkansas Valley Water Conservancy District

Name of Water Project: Soil Health Demonstration Plots

Project Start Date: November 1, 2020

Project End Date: December 31, 2023

Task No.	Task Description	Task Start Date	Task End Date	Grant Funding Request	Match Funding	Total
1	Development of Soil Health Demo Plots	NTP	12/31/2023	\$79,500.00	\$48,125.00	\$127,625
2	Soil and Water Quality Monitoring	NTP	12/31/2023	\$75,000.00	\$96,875.00	\$171,875
3	Economic Analysis	1/1/2021	12/31/2023	\$20,500.00	\$9,900.00	\$30,400
4	Field Days	1/1/2021	12/31/2023	\$6,500.00	\$10,500.00	\$17,000
5	Success Stories	1/1/2022	12/31/2023	\$8,500.00	\$16,625.00	\$25,125
6	Grant Management	NTP	12/31/2023	\$10,000.00	\$17,975.00	\$27,975
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
						\$0
Total				\$200,000	\$200,000	\$400,000

Budget



Questions?