



**COLORADO**

**Colorado Water  
Conservation Board**

Department of Natural Resources

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**TO:** Colorado Water Conservation Board Members

**FROM:** Kirk Russell, P.E., Finance Section Chief

**DATE:** March 11-12, 2020, Board Meeting

**AGENDA ITEM:** 7b. Change to Existing Water Project Loans  
Municipal Subdistrict of the Northern Colorado Water Conservancy District  
- Windy Gap Firming Project

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**Staff Recommendation:**

Staff recommends the Board approve a lending rate update for the Municipal Subdistrict, Northern Colorado Water Conservancy District - Windy Gap Firming Project. The interest rate shall be 2.08% per annum for a 30-year term. All other loan terms and approval conditions shall remain.

Additionally, staff recommends the following condition be added to the loan contract:

The loan contract's Time of Performance shall be one year. If during this one-year period the Borrower has secured Revenue Bonds, the Time of Performance shall be extended to encompass the entire project construction period. If at the end of the one-year period, the Revenue Bonds have not been issued, the loan contract shall be substantially completed (closed out) and the disbursed amount (plus the 1% service fee) will be amortized for repayment. The loan funds not disbursed will remain eligible for a new and separate loan contact at an updated CWCB Board approved interest rate. The interest rate will be based on the market rate for a AA rated Bond at the time of the subsequent request.

**Introduction:**

The Municipal Subdistrict, Northern Colorado Water Conservancy District (Municipal Subdistrict) acting by and through the Windy Gap Firming Project Water Activity Enterprise (Firming Enterprise) received approval of a loan for the Windy Gap Firming Project (Project) at the CWCB November 2017 Board Meeting. The Project received legislative approval in the 2017 Projects Bill (HB17-1248), which authorized the CWCB to loan up to \$90,000,000. The purpose of the Project is to increase the firm yield from the existing Windy Gap project to approximately 30,000 (AF) by constructing the Chimney Hollow Reservoir, a new 90,000 AF reservoir to be located in Larimer County.

The Board approved the loan interest rate based on the AA Bond market rate as a variance to the CWCB's Policy #7 - Lending Rate Determination. The rate at the time of application was 3.10% for a 30-year term. A loan contract was not executed due to several factors delaying the Project including a lawsuit filed against the Bureau of Reclamation and the U.S. Army Corps of Engineers.

In an attempt to maintain the original intent of the CWCB subordinate loan, the Municipal Subdistrict has requested the Board consider updating the approved lending rate. The proposed 2.08% interest rate is representative of the current market conditions.



**Project Update:**

At the time of the original CWCB loan approval in November 2017, the Project had just received its final federal permit and plans for construction were being developed. The Project schedule included final design and contractor selection in July 2018. It was anticipated that soon afterwards solicitation of Revenue Bonds would take place for the portion of the Project cost not funded by the CWCB.

This Project schedule has been delayed primarily due to a lawsuit against the federal agencies permitting the Project. Despite this external delay, the Firming Enterprise has been diligently preparing for construction. This includes initiating a thorough and comprehensive design review and contractor procurement.

*Design Overview:* Since the original loan approval in November 2017, the design of the Chimney Hollow dam has received final approval from the Dam Safety Branch of the State Engineer's Office (SEO), ending an approximately 3.5-year design process. At the SEO's request, a Project Review Board (PRB) was assembled by the Firming Enterprise to support the successful execution of the Project. The PRB is an independent technical review board comprised of subject matter experts. A summary of major design milestones is provided below:

**TABLE 1: DESIGN MILESTONES**

Milestone	Date
Design Notice to Proceed	August 2016
Alternatives Analysis	April 2017
Intermediate Design	August 2017
Test Quarry and Test Fill	December 2017
Pre-Final Design	March 2018
Prepare Bid Documents	January 2019
Final Design Complete	April 2019
Final SEO Approval	February 2020

It has been noted that although the SEO revised its Rules and Regulations for Dam Safety and Dam Construction effective January 1, 2020, due to coordination with all members of the design team, PRB, and SEO, the Project was able to incorporate all design updates to ensure the Project could be approved in accordance with the new Rules and Regulations. This included incorporation of the new Colorado-New Mexico Regional Extreme Precipitation Study.

*Procurement Overview:* The procurement process for the General Contractor was completed in the summer of 2019 using a multi-step Best Value process. The selection and evaluation committee's process involved a review of qualifications including experience completing two \$200 million plus heavy-civil projects in the last 5 years, and the ability to bond for amounts greater than \$500 million. Five companies were prequalified and invited to submit proposals. Selection was narrowed to two companies that were asked to submit price proposals. The committee ultimately selected Barnard Construction Company for the Project.

The total construction contract price is \$485,365,000 which includes a 5-month preconstruction period followed by a 48-month construction period. The Firming Enterprise issued the Administrative Notice to Proceed in December 2019 to start the preconstruction period. Preconstruction activities include construction permitting; 3rd party agreements; project risk workshops; value engineering workshops;

partnering sessions; meetings with the SEO, Reclamation, Larimer County, and Project participants; Failure Modes Analysis workshop; and select submittal review.

*Construction Overview:* Primary elements of the construction work for the Project are as follows:

- *Main Dam* - The new Chimney Hollow Dam will be an approximately 355-feet tall, zoned, rockfill dam with a hydraulic asphalt concrete core.
- *Saddle Dam* - A 40-foot high saddle dam will be constructed near the southern end of the reservoir. It will be a zoned rockfill dam with a clay core.
- *Combined Inlet/Outlet* - The inlet and outlet will consist of a 65 ft tall single-level structure and lined tunnel.
- *Spillway* - The proposed 3,700-foot long spillway will convey a peak discharge of 850 cfs.
- *Conveyance Structures* - The conveyance includes an interconnection to the existing conduit.
- *Valve House* - The valve house construction will include a prefabricated steel building to house a control room and valves.
- *Access Roads* - A new gravel public access road from Larimer County Road 18E (Pole Hill Road) will be constructed. The roadwork will include turning lanes on Pole Hill Road and a bridge over the existing Flatiron Penstocks. Additionally, a new maintenance gravel road will be constructed along the steep terrain on the west side of the reservoir to the saddle dam.

When complete, not only will Chimney Hollow dam be the largest non-federal dam in Colorado, it will also be the largest embankment dam in Colorado. It will be the first jurisdictional hydraulic asphalt core dam constructed in the United States and largest dam built in the United States in the last 25 years. Additionally, during construction, the onsite quarry operation will be the largest mining operation in Colorado.

#### Updated Project Cost

Due to several design changes and documentation of cost allocation, a direct comparison to the May 2017 project cost used for the original loan approval is difficult. However, including all spending to-date (approximately \$74 million), the total Project cost is currently estimated at \$660 million as shown in Table 2. The current estimate to complete the Project is \$586 million.

TABLE 2: ESTIMATED PROJECT COST

Task	Cost (millions)
Construction (Contractor Bid)	\$485.4
Property & Easements	\$6.5
Planning & Permitting	\$13.5
Mitigation & Enhancements	\$29.5
Engineering Design	\$22.0
Relocation of Transmission Line	\$4.0
Engineering Services During Construction	\$12.5
Construction Management	\$30.5
Owner's Cost for Construction	\$8.0
<b>SUBTOTAL</b>	<b>\$126.5</b>
Contingency	\$48.0
<b>Total Project Cost</b>	<b>\$660.0</b>

### Updated Schedule

Final design is complete and a contractor has been selected. Given the status of the litigation and language in the construction contract, November 2020 is likely to be the construction start date. The firming Enterprise will continue to evaluate the timing of the sale of the Revenue Bonds but it anticipates it will occur prior to the end of the proposed one-year Time of Performance window so that an extension can be made to the loan contract. Participant Allotment Contracts are expected to be finalized in April 2020 and the CWCB loan will follow. It is also possible the Firming Enterprise will need access to CWCB loan funds prior to the issuance of the senior Revenue bonds in order to maintain the construction schedule.

### Financial Analysis

Table 3 provides a summary of the Project's financial aspects. In November 2017, the CWCB the Board approved a CWCB loan in a subordinate position to the future Revenue Bonds for the Project. This was meant to benefit the pooled financing participants by attracting buyers of the Revenue Bonds at a more favorable interest rate and reducing the overall project cost. In consideration of CWCB taking a subordinate position, the loan interest rate was set at the AA Bond market rate at that time. This is a variance from CWCB Policy #7.

Since the original loan approval, market rates have dropped significantly and as such, the CWCB loan no longer serves the intended purpose for the pooled financing participants. Staff has determined the AA Bond interest rate for a 30-year term as of February 3, 2020 to be 2.08%.

The Firming Enterprise's anticipated bond rating is between A+ and AA-. An interest rate of 2.00% was used for the anticipated 30-year Revenue Bonds in Table 3.

TABLE 3: FINANCIAL SUMMARY

Project Cost	\$660,000,000
Participant Cash Contribution (paid-to-date)	\$74,000,000
Participant Cash Contribution (future)	\$150,000,000
Estimated Revenue Bond	\$346,000,000
Estimated Revenue Bond's Annual Debt Service	\$21,160,224
CWCB Loan Amount	\$90,000,000
CWCB Annual Loan Payment	\$4,062,831
CWCB Annual Loan Obligation (1 <sup>st</sup> Ten Years)	\$4,469,114

*Creditworthiness:* The Firming Enterprise has no existing debt. All funding to-date has been provided by Project participants through interim annual agreements, of which the Firming Enterprise has never had a failure to collect.

Table 4 presents the financial ratios of the Firming Enterprise. Activities of the Firming Enterprise have thus far consisted of permitting, design engineering activities, and property acquisitions for the reservoir site. The 'Future w/ Project' ratios analyzes the Firming Enterprise after construction is finished. Expenses of the Firming Enterprise post construction will only include O&M of Chimney Hollow Reservoir, power interference charges assessed by Reclamation, and debt service payments. For purposes of financial review, annual O&M and power interference charges are estimated to be \$1.0 million.

TABLE 4: FINANCIAL RATIOS

Financial Ratio	Prior Years	Future w/ Project
Operating Ratio (Revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	82% (weak) <sup>1</sup> \$10.0M/\$12.2M	100% (average) \$20.9M/\$20.9M
Debt Service Coverage Ratio (Revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	N/A	100% (average) (\$20.9M-\$1.0M) \$19.9M
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	51% (average) \$6.2M/\$12.2M	103% <sup>2</sup> (strong) \$21.5M/\$20.9M

<sup>1</sup>The Firming Enterprise intentionally set assessments over the last three years such that excess cash remains low.

<sup>2</sup>Cash Reserves based on 2 years of O&M and 1 year of debt service in reserves.

*Collateral:* Security for this loan will remain a pledge of the Revenues due to the Firming Enterprise from the Project participants under the Storage Allotment Contracts, provided that such pledge will be subordinate to the payment of the Revenue bonds issued for constructing the Windy Gap Firming Project. This security is a variance from CWCB Financial Policy #5 (Collateral)

cc: John Budde, Financial Services Manager, Northern Colorado Water Conservancy District  
 Jenifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program - Project Data Sheet

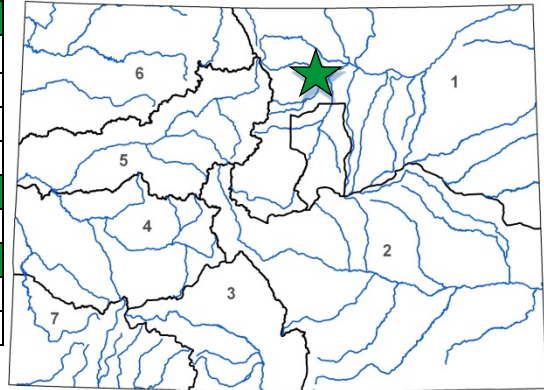


## Windy Gap Firming Project

Municipal Subdistrict, Northern Colorado WCD  
Windy Gap Firming Project Water Activity Enterprise  
March 2020 Board Meeting

(Project Update)

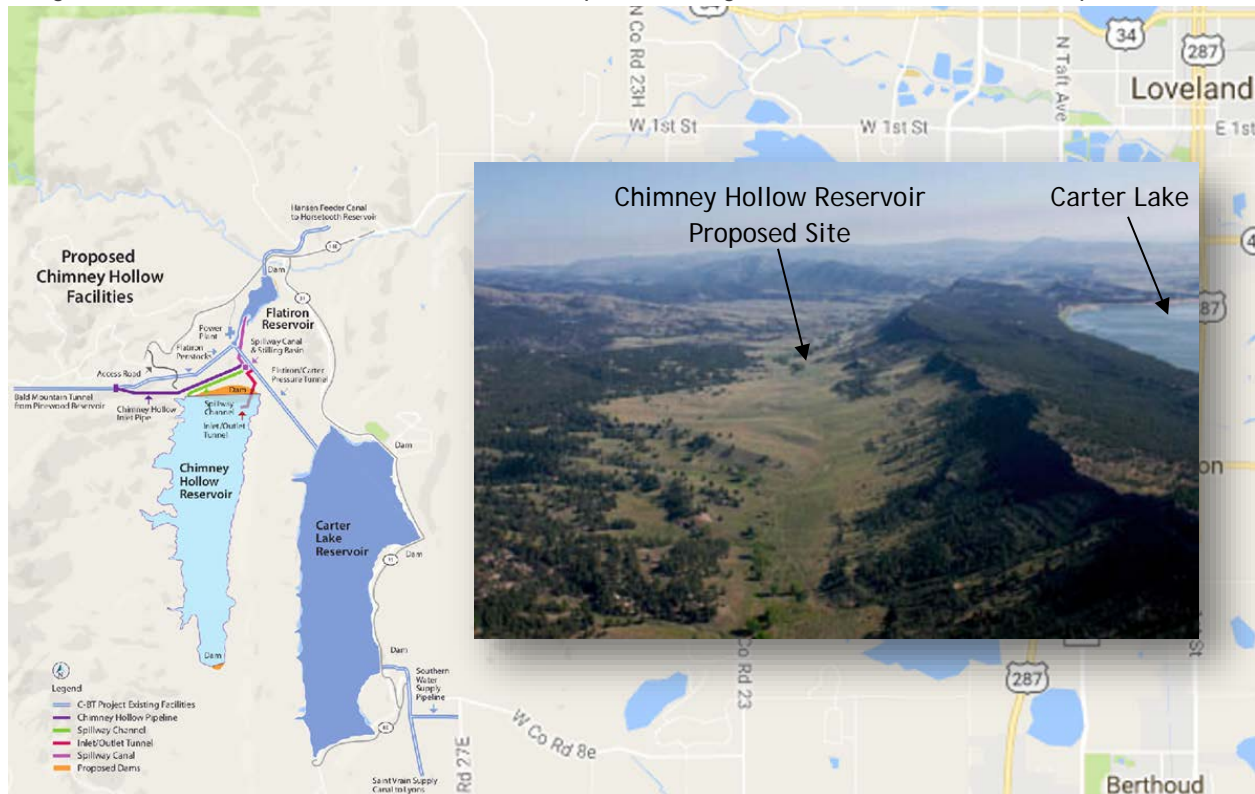
L O A N   D E T A I L S	
Project Cost:	\$660,000,000
CWCB Loan (with Service Fee):	\$90,000,000
Loan Term and Interest Rate:	30 years @ 2.08%
Funding Source:	Revenue Bonds & Construction Fund
B O R R O W E R   T Y P E	
Municipal	
P R O J E C T   D E T A I L S	
Project Type:	New Reservoir
New Storage Capacity:	90,000 AF



In 1970, six Northern Colorado cities formed the Municipal Subdistrict to plan, finance, and build the Windy Gap project. That project was completed in 1985. The annual delivery of Windy Gap water is not reliable because in dry years the junior water rights may not come into priority, and in wet years, there may not be room in Lake Granby to store Windy Gap water.

L O C A T I O N	
County:	Larimer, Boulder, Broomfield, Weld
Water Source:	Colorado River
Drainage Basin:	South Platte
Division:	1      District: 2,3,4,5,6

In 1999, the Subdistrict formed the Windy Gap Firming Water Activity Enterprise with the purpose of pursuing activities that would lead to firming the yield of Windy Gap water. Participants identified 30,000 AF as a goal for total firm yield. After a review of over 170 alternatives, the Bureau of Reclamation and project participants identified the construction of a 90,000 AF Chimney Hollow Reservoir as the preferred alternative. This Project consists of the construction of the Reservoir and associated pipelines to deliver water from the existing C-BT infrastructure, as well as environmental mitigation/enhancements. Construction is anticipated to begin in fall of 2020 and be complete in 2026.







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**TO:** Colorado Water Conservation Board Members

**FROM:** Jonathan Hernandez, P.E., Project Manager  
Kirk Russell, P.E., Finance Section Chief

**DATE:** November 15-16, 2017 Board Meeting (**Updated November 16, 2017**)

**AGENDA ITEM:** 19a. Water Project Loans  
Municipal Subdistrict, Northern Colorado Water Conservancy District - Windy  
Gap Firing Project

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### Introduction

The Municipal Subdistrict, Northern Colorado Water Conservancy District (Municipal Subdistrict) owns the Windy Gap Firing Project Water Activity Enterprise (Firing Enterprise). The Firing Enterprise is applying for a loan for the Windy Gap Firing Project (Project). The purpose of the Project is to increase the firm yield of the existing Windy Gap project to approximately 30,000 AF by constructing Chimney Hollow Reservoir, a new 90,000 AF reservoir located in Larimer County. The current Project cost is estimated to be \$440 million. To help project participants finance the Project, the Firing Enterprise is creating a pooled financing program which will include this loan and a revenue bond. The Firing Enterprise is seeking a loan from CWCB for \$90,000,000 to cover a portion of Project costs. See attached Project Data Sheet for a location map and Project summary.

The CWCB requested the General Assembly to include this loan in the 2017 Projects Bill at the November 2016 Board Meeting. The 2017 Projects Bill (HB17-1248), signed on May 23, 2017, authorized the CWCB to loan up to \$90,000,000 from the Construction Fund for the Windy Gap Firing Project.

### Staff Recommendation

Staff recommends the Board approve a loan not to exceed \$90,000,000 to the Windy Gap Firing Project Water Activity Enterprise owned by the Municipal Subdistrict, Northern Colorado Water Conservancy District for costs related to the Windy Gap Firing Project, from the Construction Fund. The loan terms shall be 30 years at an interest rate of 3.10% per annum. Security for the loan shall be a pledge of Firing Enterprise revenues, namely the revenue from Storage Allotment Contracts of the pooled financing participants. Such pledge will be subordinate to the payment of the revenue bonds issued for constructing the Windy Gap Firing Project.

Additionally staff recommends the following loan approval condition prior to executing a contract:

- 1) The CWCB shall be provided the executed Storage Allotment Contracts of each pooled financing participant. The contracts shall include, but not be limited to, the following requirements:
  - a. Debt obligations under the Storage Allotment Contracts shall have parity status with any other first-lien debt obligations of the respective participant.
  - b. All payments owed to the Firing Enterprise under the Storage Allotment Contracts shall be subject to take-or-pay and step-up provisions.



## **Background**

The Municipal Subdistrict was established in 1970 to develop a water supply project for six Northern Colorado municipalities, known as the Windy Gap project. The Windy Gap participants have since expanded to include the Platte River Power Authority; the municipalities of Boulder, Broomfield, Fort Lupton, Greeley, Lafayette, Longmont, Louisville, Loveland, Superior, Estes Park and Erie; and the Little Thompson and the Central Weld County Water Districts. The areas served by the Municipal Subdistrict are situated north of Denver along the Front Range. The Municipal Subdistrict established the Windy Gap Water Activity Enterprise (Windy Gap Enterprise) in 1993 in order to construct and operate the Windy Gap project.

The Windy Gap project currently consists of a small reservoir and diversion dam on the Colorado River, and a pump station and a pipeline to pump and transport diverted Windy Gap water to Lake Granby. Windy Gap water is then conveyed through the Adams Tunnel of the Colorado-Big Thompson (C-BT) project for distribution to the participants on the East Slope. The Windy Gap project became operational and began making water deliveries in 1985. The Municipal Subdistrict has a Carriage Contract with the U.S. Bureau of Reclamation (Reclamation) and the Northern Colorado Water Conservancy District (Northern Water) whereby the Windy Gap project may utilize unused capacity in the C-BT Project. The agreement specifies that when Lake Granby's storage capacity is fully needed for storage, conveyance, and delivery of C-BT water, then the Windy Gap water must either be delivered to participants or spilled out of Lake Granby.

The annual delivery of Windy Gap water is not reliable in years of low spring runoffs due to Windy Gap's junior water rights. Conversely, the annual delivery of Windy Gap water is not reliable in years of high spring runoff, since storage space in Lake Granby is not guaranteed to be available. For this reason, the firm yield of Windy Gap water is zero. Using strategic water management, Windy Gap water has thus far been delivered each year even though there have been periods when Windy Gap water was not able to be diverted and pumped.

In 1999, the Municipal Subdistrict established the Firming Enterprise with a purpose of pursuing activities that would lead to a firm yield of Windy Gap water. Participants in the Firming Enterprise are the same as in the Windy Gap Project with the exception of Boulder and Estes Park. The Windy Gap Enterprise manages and operates the water diversion and delivery system, while the Firming Enterprise will manage and operate the east slope storage component.

## **Loan Feasibility Study**

John Budde, CPA, Financial Services Manager for Northern Water, prepared the Loan Feasibility Study titled, "Windy Gap Firming Project Loan Feasibility Study," dated October 1, 2017. The feasibility study was prepared in accordance with CWCB guidelines. Audited financial statements of the Municipal Subdistrict, which includes the Firming Enterprise, were provided by CliftonLarsonAllen, LLP. The Feasibility Study relied on the extensive engineering and environmental studies performed including the April 1997 Feasibility Study by GEI Consultants, the March 2014 Preliminary Design Report by AECOM, the Final EIS and the Bureau of Reclamation's December 2014 Record of Decision.

## **Borrower - Windy Gap Firming Project Water Activity Enterprise, owned by Municipal Subdistrict, Northern Colorado Water Conservancy District**

The Firming Enterprise is a government-owned business within the meaning of Article X, Section 20(2)(d), of the Colorado Constitution, organized pursuant to C.R.S. § 37-45.1-101 et seq., owned by the Municipal Subdistrict. As a water activity enterprise, it is excluded from the application of Article X, Section 20, of the Colorado Constitution (TABOR). Revenues of the Firming Enterprise come solely from Windy Gap Firming Project participants.



The Municipal Subdistrict was organized as a subdistrict of Northern Water by decree of the District Court of Weld County in 1970, pursuant to the Water Conservancy Act. The Municipal Subdistrict is a separate and independent conservancy district with the same powers and legal standing as its parent district and is an independent political subdivision of the State of Colorado.

By statute, the Municipal Subdistrict has the same 12-member Board of Directors as Northern Water, members of which are appointed by the presiding District Court Judges of four out of the five judicial districts within Northern Water's boundaries. The Municipal Subdistrict has the authority to undertake projects separately from those undertaken by Northern Water. The Municipal Subdistrict has no employees but has an agreement with Northern Water whereby Northern Water provides all administrative, operation, and maintenance functions for the Municipal Subdistrict, and is reimbursed by the two Municipal Subdistrict's enterprises (Firming Enterprise and Windy Gap Enterprise) for the services rendered.

### Water Rights

The water rights of the Windy Gap Water System are shown in Table 1.

**TABLE 1: WINDY GAP WATER SYSTEM WATER RIGHTS**

Name	Amount	Appropriation Date	Adjudication Date	Water Court Case No.
Windy Gap Pump, Pipeline and Canal	300 CFS	6/22/1967	5/31/1972	88CW298
Windy Gap Pump, Pipeline and Canal, First Enlargement	100 CFS	7/9/1976	12/31/1978	89CW298
Windy Gap Pump, Pipeline and Canal, Second Enlargement	200 CFS	4/30/1980	12/31/1980	89CW298
Windy Gap Reservoir	445 AF (1,104.14 AF Conditional)	6/22/1967	5/31/1972	88CW169 (08CW92)

Over the last ten years, Project participants took an average delivery of 16,164 AF of water per year. Storage of Windy Gap water in Chimney Hollow Reservoir will be adjudicated in the overall Windy Gap Firming decree which will also incorporate the settlement agreement with Grand County and other related documents. Requested findings by and from the water court include: 1) confirmation that the conditions within the Water Conservancy Act have been satisfied; 2) approval of water releases to Middle Park Water Conservancy District and on behalf of Grand County; 3) confirmation of the envisioned operation of the Windy Gap Firming Project; and 4) confirmation of the Windy Gap connectivity operations.

### Project Description

The purpose of the Project is to increase the firm yield of the existing Windy Gap project to approximately 30,000 AF. Over 170 different alternatives were extensively screened using National Environmental Policy Act (NEPA) criteria and Clean Water Act Section 404(b)(1) guidelines. That process led to the development of the following five alternatives which were analyzed in detail within the Final EIS. The following alternatives were compared and contrasted based on: surface and ground water hydrology; stream morphology and floodplains; surface water and air quality; aquatic resources (fish habitat); vegetation, wetlands, and other waters; wildlife; threatened and endangered species; geology, paleontology, and soils; noise and land use; recreation, cultural and visual resources; and socioeconomics.

**Alternative 1 - No Action:** This alternative was not selected because without dedicated storage, the firm yield of Windy Gap project water would remain at zero, not allowing participants to rely on Windy Gap water for meeting a portion of their annual water demand. The Final EIS noted the No Action alternative would likely lead to the enlargement of Ralph Price Reservoir by 13,000 AF for storage of Longmont's Windy Gap water. No action would similarly lead the other participants to find new storage projects on their own.

**Alternative 2 - Chimney Hollow Reservoir and Jasper East Reservoir:** This alternative consists of a 70,000 AF Chimney Hollow Reservoir on the East Slope and a 20,000 AF Jasper East Reservoir on the West Slope. The availability of a new West Slope reservoir would allow water diversions from Windy Gap Reservoir to be delivered to Lake Granby, or when Lake Granby is full or the Adams Tunnel is at capacity, to Jasper East. Construction costs were estimated to be \$240 million and annual operating & maintenance (O&M) costs were expected to be \$1,375,000 (both in 2005 dollars).

**Alternative 3 - Chimney Hollow Reservoir and Rockwell/Mueller Creek Reservoir:** This alternative consists of a 70,000 AF Chimney Hollow Reservoir on the East Slope and a 20,000 AF Rockwell/Mueller Creek Reservoir on the West Slope. This alternative is the same as Alternative 2 except for the West Slope reservoir location. Construction costs were estimated to be \$252 million and annual O&M costs were expected to be \$1,730,000 (both in 2005 dollars).

**Alternative 4 - Dry Creek Reservoir and Rockwell/Mueller Creek Reservoir:** This alternative consists of a 60,000 AF Dry Creek Reservoir on the East Slope and a 30,000 AF Rockwell/Mueller Creek Reservoir on the West Slope. This alternative is similar to Alternative 3 except for the East Slope reservoir location and the size of the reservoirs. Construction costs were estimated to be \$289 million and annual O&M costs were expected to be \$2,240,000 (both in 2005 dollars).

**Selected Alternative 5 - Chimney Hollow Reservoir:** This alternative consists of a 90,000 AF Chimney Hollow Reservoir on the East Slope, and no new reservoir on the West Slope. Water will be conveyed to Chimney Hollow Reservoir via a new pipeline connection to existing East Slope C-BT Project facilities, allowing the delivery of water using existing C-BT Project infrastructure. This alternative does not require any new West Slope infrastructure. Instead, water management will involve a concept referred to as "prepositioning" where at times of allowable capacity, C-BT Project water would be delivered from Lake Granby into Chimney Hollow Reservoir, creating space in Lake Granby for Windy Gap water. When Windy Gap water is diverted into Lake Granby, the C-BT Project water in Chimney Hollow Reservoir would be exchanged for a similar amount of Windy Gap water in Granby Reservoir. If operated in this manner, Chimney Hollow Reservoir would be nearly full most of the time. Prepositioning also eliminates the need for a new west slope reservoir. Construction costs were estimated to be \$223 million and annual O&M costs were expected to be \$795,000 (both in 2005 dollars). After an extensive comparison of alternative's features and impacts, this alternative was selected as Reclamation's preferred alternative.

**Mitigation and Enhancements:** As part of the NEPA permitting process, and Colorado's mitigation requirements, the Municipal Subdistrict worked with biologist to develop the state fish and wildlife mitigation plan (approved in 2011) which has operational considerations to mitigate higher stream temperatures, increased flushing flows to clean sediment in the stream, and nutrient removal to offset water quality impacts in Grand Lake and the Colorado River. Additionally, as a result of a decade of discussions, the Project will include voluntary enhancements, including the Windy Gap Connectivity Channel and stream restoration projects to enhance river habitat. The CWCB authorized \$2,000,000 in the 2013 Projects Bill (SB 13-181) and an additional \$200,000 in the 2016 Projects Bill (SB16-174) to fund a portion of the cost of planning, design, and construction of the connectivity channel. State

biologist, Grand County officials, and Trout Unlimited experts believe the Project, coupled with the required mitigation and voluntary enhancements, will lead to a healthier Colorado River than currently exists.

***Project Participation and Storage Allotment Contracts:*** The participant's storage amounts are shown in Table 2. Each Project participant will enter into Storage Allotment Contracts with the Firming Enterprise. These contracts will obligate each participant to pay its pro-rata share of annual O&M costs and debt service. Conditions that will be required within each contract are that the debt service owed under the contract will be on a parity status with that participant's other existing first-lien debt. Additionally, each participant will be subject to "take-or-pay" provision which obligates the participant to pay their pro-rata share of O&M and debt service regardless of water deliveries each year. Finally, "step-up" language will be added to protect revenues should a participant leave, or reduce their participation.

**TABLE 2: PARTICIPANTS STORAGE AMOUNTS IN CHIMNEY HOLLOW RESERVOIR**

Participant	Storage Volume (AF)	Percentage
Broomfield	26,464	29.40%
Platte River Power Authority	14,136	15.71%
Longmont	10,000	11.11%
Loveland	9,451	10.50%
Greeley	9,189	10.21%
Erie	6,000	6.67%
Little Thompson Water District	4,850	5.39%
Superior	4,726	5.25%
Louisville	2,835	3.15%
Fort Lupton	1,103	1.23%
Lafayette	900	1.00%
Central Weld County Water District	346	0.38%
<b>TOTAL</b>	<b>90,000</b>	<b>100%</b>

***Project Costs:*** The May 2017 cost estimate for this Project is \$440 million as shown in Table 3. Design, permitting, and property acquisition costs that have already been funded by the participants to date (approximately \$40 million) are included in that cost estimate but will not be reimbursed with the revenue bonds or loan. A refined cost estimate is expected in November 2017 and will be the cost used as the basis for the Storage Allotment Contracts. The revenue bonds will be sold after the Project has received hard contractor bids. This CWCB loan request will remain at \$90 million and the revenue bond will fluctuate up or down based on final construction cost.

**TABLE 3: ESTIMATED PROJECT COST**

Tasks	Cost
General Construction Items	\$12,570,000
Main Dam	\$154,560,000
Saddle Dam	\$7,330,000
Chimney Hollow Pipeline	\$22,390,000
Inlet/Outlet Structure & Tunnel	\$13,680,000
Spillway	\$5,990,000
<b>SUBTOTAL A</b>	<b>\$216,520,000</b>
Required Mitigation	\$10,700,000
Voluntary Enhancements	12,000,000
Indirects & Allowances	\$92,700,000
O&P, Bonds & Insurance	\$42,300,000
Administration & Management	\$55,930,000
<b>SUBTOTAL B</b>	<b>\$213,630,000</b>
Contingency	\$10,000,000
<b>TOTAL (Rounded)</b>	<b>\$440,000,000</b>

**Permitting:** Federal permitting began in 2003 and was completed in May 2017. Table 4 shows a summary of permits received. Colorado officially endorsed the Project in April 2016.

**TABLE 4: PERMITTING SUMMARY**

Permit/Document	Date
State Fish and Wildlife Mitigation Plan	June 2011
Final Environmental Impact Statement (EIS)	November 2011
Grand County 1041 Permit	December 2012
Reclamation's Record of Decision	December 2014
State Water Quality Control Commission 401 Certification	March 2016
State of Colorado Endorsement	April 2016
Army Corps of Engineer's 404 Permit (final federal requirement)	May 2017

**Schedule:** The Storage Allotment Contracts between the participants and the Firming Enterprise will be finalized by March 2018. Contractor prequalification will occur from January 2018 through March 2018 and the Project will be put out to bid from April 2018 through June 2018. The contractor will be selected in July 2018 at which point the revenue bonds will be sold. The Notice to Proceed is planned to be issued in September 2018, followed by 41 months of construction. The Reservoir is expected to be operational in 2022.

### Financial Analysis

Table 5 provides a summary of the Project's financial aspects. Project participants are responsible for all Project costs based on a pro-rata share of storage ownership. To assist Project participants in financing the project, the Firming Enterprise will offer a pooled financing program, comprised of this CWCB loan and revenue bonds.

In order to attract buyers for the revenue bonds at a more favorable interest rate by meeting a favorable debt coverage ratio, CWCB staff is recommending CWCB to accept a subordinate position to the revenue bonds. This will benefit the pooled financing participants by leading to substantial interest savings over the life of the bonds. In consideration of CWCB taking a subordinate position, this loan interest rate was negotiated to be the market rate of a AA bond at the time of loan application

(10/2/2017), which was determined to be 3.10% for a 30-year term. A subordinate position is a variance from CWCB Financial Policy #5 (Collateral) and a market rate determination for the lending rate is a variance from CWCB Financial Policy #7 (Lending Rate Determination).

It is expected the Enterprise will receive an indicative rating for the revenue bonds in early 2018. The participants will then finalize the decision to be in the pooled financing program or to fund their participation independently. For purposes of this financial review, it was conservatively estimated that all participants will participate in the pooled financing. To provide budget numbers, the revenue bond interest rate was conservatively estimated to be 4.0% per annum. The actual interest rate will be determined upon selling the bonds in summer 2018.

TABLE 5: FINANCIAL SUMMARY

Project Cost	\$440,000,000
Participant Cash Contribution (paid to-date)	\$40,000,000
Estimated Revenue Bond	\$310,000,000
Estimated Revenue Bond's Annual Debt Service	\$18,150,000
CWCB Maximum Loan Amount	\$90,000,000
1% Service Fee	\$900,000
CWCB Annual Loan Payment	\$4,651,286
CWCB Annual Loan Obligation (1 <sup>st</sup> Ten Years)	\$5,116,414
Project Cost per AF of Storage (90,000 AF)	\$4,889/AF

**Creditworthiness:** The Firming Enterprise has no existing debt. Additionally, the Municipal Subdistrict and Windy Gap Enterprise has no existing long-term liabilities as the outstanding indebtedness incurred for the construction of the Windy Gap Project was defeased in 2016.

Table 6 presents the financial ratios of the Firming Enterprise. Activities of the Firming Enterprise have thus far consisted of permitting, preliminary engineering activities, and property acquisitions for Chimney Hollow Reservoir, and have been paid through capital contributions from Project participants. The 'Future with Project' ratios analyze the Firming Enterprise after construction is finished. Expenses of the Firming Enterprise post Project will only include O&M of Chimney Hollow Reservoir, power interference charges assessed by Reclamation, and debt service payments. For purposes of financial review the Enterprise's O&M and power interference charges are estimated to be \$1,000,000 per year. All Firming Enterprise revenue will be provided through the participant's Storage Allotment Contracts.

TABLE 6: FINANCIAL RATIOS

Financial Ratio	Past 3 Years	Future w/ Project
Operating Ratio (revenues/expenses) <div> <div>weak: &lt;100%</div> <div>average: 100% - 120%</div> <div>strong: &gt;120%</div> </div>	352% (strong) \$5.60M/\$1.59M	110% (average) \$26.1M/\$23.8M
Debt Service Coverage Ratio (revenues-expenses)/debt service <div> <div>weak: &lt;100%</div> <div>average: 100% - 120%</div> <div>strong: &gt;120%</div> </div>	NA	110% (average) (\$26.1M-\$1.0M) \$22.8M
Cash Reserves to Current Expenses <div> <div>weak: &lt;50%</div> <div>average: 50% - 100%</div> <div>strong: &gt;100%</div> </div>	792% (strong) \$12.6M/\$1.59M	53% (average) \$12.6M/\$23.8M

**Collateral:** Security for this loan will be a pledge of the revenues due to the Firming Enterprise, from the Project participants under the Storage Allotment Contracts, provided that such pledge will be subordinate to the payment of the revenue bonds issued for constructing the Windy Gap Firming Project. This security is a variance from CWCB Financial Policy #5 (Collateral).

cc: John Budde, Financial Services Manager, Northern Colorado Water Conservancy District  
Jennifer Mele, Colorado Attorney General's Office

Attachment: Water Project Loan Program - Project Data Sheet