COLORADO
Colorado Water Conservation Board
Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Rachel Pittinger, P.E., Project Manager
Kirk Russell, P.E., Finance Section Chief

DATE: September 16-17, 2020 Board Meeting

AGENDA ITEM: 8c. Water Project Loans
Genesee Water and Sanitation District – Genesee Reservoir No. 1 Enlargement

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Staff Recommendation:
Staff recommends the Board approve a loan not to exceed $4,242,000 ($4,200,000 for project costs and $42,000 for the 1% service fee) to the Genesee Water and Sanitation District for costs related to the Genesee Reservoir No. 1 Enlargement, from the Construction Fund. The loan term will be 40 years at a high-income municipal interest rate of 2.50% per annum. Security for the loan shall be in compliance with CWCB Financial Policy #5.

Introduction:
The Genesee Water and Sanitation District (District), acting by and through its water activity enterprise, is applying for a loan for the Genesee Reservoir No. 1 Enlargement (Project). Genesee Reservoir No. 1, also known as Genesee Augmentation Reservoir No. 1, is a reservoir built in 1975 that currently stores 16 acre-feet (AF) of water for municipal, augmentation, exchange and other decreed beneficial uses. The purpose of this Project is to provide an additional 30AF of raw water storage capacity, provide additional drought protection, and increase the operational reliability of the District's system by not only enlarging the reservoir but, connecting it to the transmission line that carries water from Bear Creek to the District's water treatment facility. The total Project cost is estimated to be $4,200,000. See attached Project Data Sheet for a location map and Project summary.

Borrower – Genesee Water and Sanitation District:
The District is a special district organized under the laws of the State of Colorado. The District was incorporated on July 3, 1973. The District is considered a governmental subdivision of the State of Colorado and as a corporate body has all the powers of a public or quasi-municipal corporation, with facilities, services and financial arrangements that conform as far as practicable to the approved Service Plan and Resolution of Approval of the Board of Commissioners of Jefferson County, Colorado.

The District's 4.5-square mile service area serves approximately 3,900 people including residential and commercial customers. There are currently 1,442 taps. There are five members of the Board of Directors for the District. The Board of Directors maintains powers, duties and responsibilities, which include the power to incur indebtedness, liabilities and obligations, and to set and enforce the payment of all fees, rates, charges and assessments for the functions, services and facilities provided by the District. The Board acting through its water enterprise fund has the ability to take on debt and to withhold water service if service fees are unpaid. The District's main revenue sources include water service charges and fees.

Background:
Genesee Reservoir No. 1 is located South of Interstate 70 and North of Highway 74, approximately 20-miles west of Denver. The District maintains two reservoirs in its system. Genesee Reservoir No. 1 has a 23-foot high embankment dam that may store 16 AF of water. Based on a recent engineering study provided by W.W.Wheeler and Associates it can be raised to store up to 46AF of water. The 46AF is decreed for several uses including augmentation, raw water supply for municipal and domestic use and fire protection. Genesee Reservoir No. 2 dam is a 111-foot hight roller compacted concrete, gravity dam that has a reservoir storage capacity of 101 AF built in 2007.

The original water supply of the Genesee area development was based solely on pumping water from Bear Creek. During the drought of 2002, water flow in Bear Creek nearly dried up, which drastically reduced the water supply available to the District. District customers suffered through the summer of 2002 using emergency conservation measures imposed by the District. In 2003, the District performed a feasibility study to identify potential raw water storage locations in the vicinity of the District. Fourteen different reservoir sites were identified and the Board selected the Genesee Reservoir No. 2 dam site for development, which is in a small drainage a few hundred feet above the District's water diversion structure on Bear Creek. Construction of Genesee Reservoir No. 2 dam was competed in 2007; water storage in this reservoir has provided limited drought protection for the District's customers since. In 2017, the District completed the construction of a new advanced water treatment facility that was designed to comply with current and future drinking water standards. The new water treatment facility and a new administration building was constructed immediately west of Genesee Reservoir No. 1 dam.

The District understands with population growth, there will be an increased demand on water supplies and with that more pressure to bring into use the District's existing conditional water rights and provide for drought protection. With direction from the District's Board and an engineering evaluation, it was determined the most economical decision for providing additional raw water storage would be to enlarge the District's existing 16AF raw water storage reservoir.

Loan Feasibility Study:
Mr. Steve Jamieson, P.E., with W.W.Wheeler and Associates, Inc., prepared the Loan Feasibility Study titled,"Loan Feasibility Study," and was received with the loan application dated July 29, 2020. The feasibility study was prepared in accordance with CWCB guidelines and includes an analysis of

alternatives and estimated costs. Audited financial statements were provided by Fiscal Focus Partners, LLC, Certified Public Accountants.

Water Rights:
The District has a portfolio of water rights that are decreed for use in this Project. Additional water rights are not needed for this Project. The District will comply with the terms and conditions decreed in Case No. 09CW270 pertaining to Genesee Reservoir No. 1. The CWCB was a party in that case and negotiated terms and conditions to protect the CWCB instream flow water right on Bear Creek decreed in Case No. 94CW260. Case No. 09CW270 changed the conditional right for storage and use by the District. The District's water supplies and water rights that can and will be used in Genesee Reservoir No. 1 enlargement are shown in Table 1.

TABLE 1: WATER RIGHTS

Name	Amount	Appropriation Date	Adjudication Date	Case No.
Genesee Reservoir No. 1	10 AF	7/9/1986	10/6/1993	90CW194
Genesee Reservoir No. 1	5 AF	7/9/1986	4/18/1994	91CW112
Dakota Well No. 1 (Non-Tributary)	55 AF	3/8/1972	12/9/1976 6/2/1986	W-8159-76 83CW353
Dakota Well No. 2 (Non-Tributary)	45 AF	2/2/1973	3/25/1976 6/2/1986	W-7918-75 83CW353
Pioneer Union No. 11 and 15	125 AF	9/1/1862 3/15/1865	2/4/1884 9/24/1935 12/31/1991	W-7049 W-7050 91CW112
Cold Spring Gulch Reservoir (Conditional)	225 AF	10/02/1971	9/11/1975	W-1515 O9CW270

Project Description:
The purpose of this Project is to provide additional raw water storage capacity, provide additional drought protection, and increase the operational reliability of the District's system.

Alternative 1 – No Action: Taking no action would put the District's existing conditional water rights at risk for abandonment by the State Engineer's Office in the near future. With increasing front range population and demands on existing water supplies, this risk is expected to increase each year. Although the District provides water storage to protect against future droughts with construction of Genesee Reservoir No. 2 dam, 13 years ago, there are continued climate change impacts and increased water demands in the District. These factors have reduced the reliability of the District's drought protection. Without providing additional raw water storage, the District's drought protection and operational reliability may continue to be compromised.

Alternative 2 – Genesee Reservoir No. 2 Enlargement: This alternative involves increasing the storage in Genesee Reservoir No. 2 by 30 AF. This requires raising the existing drop-inlet service spillway tower by about 10 feet and would require reinforcement of the bottom of the tower with a grouted-in-place 90-inch-diameter steel pipe. The existing 20-foot-wide dam crest would be raised by six feet with reinforced concrete. A new parapet wall would be constructed along the upstream crest of the dam to to contain the maximum water surface that would result from routing floodflow through the new service and emergency spillway. A new 100-foot-wide reinforced emergency spillway would be constructed in the right abutment to convey the floodflows to Cold Springs Gulch. An indirect cost of

approximately $130,000 was also included in the cost opinion for this alternative to purchase a flood easement on the adjacent private property and protect the existing Xcel Energy power poles. The estimated cost for this alternative is $4,130,000. Due to the complexity and the timing of the different components, this alternative was not selected.

Selected Alternative 3- Genesee Reservoir No. 1 Enlargement: This alternative involves increasing the storage in Genesee Reservoir No. 1 by 30 AF over the reported existing capacity of 16 AF. This alternative would include raising the existing side channel spillway dam crest by about 20 feet and the upstream slope of the raised dam embankment would need to be constructed at a slope of 3H:1V to accommodate a new 45-mill low density polypropylene liner system. To accommodate the higher maximum water surface associated with the raised spillway, additional water storage and routing floodflow through the new spillway for a reinforced concrete parapet wall was developed. This design would allow a 20-foot wide dam crest to be constructed immediately downstream of the parapet wall so that the downstream slope of the existing dam would remain essentially the same as the existing configuration and minimize impacts to downstream infrastructure. The parapet wall would run along the entire slope of the existing dam and would range in height from 8-24 feet. This alternative provides an opportunity to construct a new tie-in between Genesee Reservoir No. 1 and the District's main raw water transmission line at the existing pump building. The estimated cost for Genesee Reservoir No. 1 dam enlargement is approximately $4,200,000 and is shown in Table 2.

TABLE 2: ESTIMATED PROJECT COST

Tasks	Cost
Design / Permitting	$680,000
Project Management / Engineering	$325,000
Construction	
Spillway/Outlet Works	$500,000
Liner	$450,000
Dam/Parapet Wall	$2,245,000
TOTAL	**$4,200,000**

Permitting: Permitting and approvals for this Project are anticipated to include a United States Nationwide 404 maintenance permit, Jefferson County Grading Permit, and State Engineer's Office Dam Safety review and approval. Construction work would occur on property already owned by the District.

Schedule: The District anticipates completing the final design of the Project by December 2020. Conceptual design drawings are complete. Bidding is anticipated in the spring of 2021 with the start of construction in June 2021. The District anticipates final completion of the Project by December 2021.

Financial Analysis:
Table 3 provides a summary of the Project's financial aspects. The District qualifies for a high-income municipal interest rate of 2.25% for a 30-year loan (Ownership: 100% High-Income Municipal). The District is requesting a 40-year term, so the interest rate is increased by 0.25% to 2.50%. All interest rate evaluations are per CWCB Financial Policy #7 (Lending Rate Determination).

TABLE 3: FINANCIAL SUMMARY

Project Cost	$4,200,000
CWCB Loan Amount	$4,200,000
CWCB Loan Amount (Including 1% Service Fee)	$4,242,000
CWCB Annual Loan Payment	$168,985
CWCB Annual Loan Obligation (1st Ten Years)	$185,884
Number of Single Family Equivalents (SFEs)	1,604
Number of Taps	1,442
Monthly Loan Obligation per Tap	$10.74

Loan/Grant Payment: The District plans to apply for a Water Plan Grant in December 2020. If the grant is approved in March 2021, it will go toward the Project costs and reduce the loan amount needed to complete this Project.

Creditworthiness: The District's water activity enterprise fund has $2,734,277 in debt. The District began using the water activity enterprise fund in 2014. The District anticipates raising fees for each tap as a result of this Project. Service fees have increased steadily over the past ten years due to costs associated with providing water to District customers.

TABLE 4: EXISTING DEBT

Lender	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
Wells Fargo Building Authority Bond 2012	$1,118,550	$796,777	$83,652	2027	Pledged Revenues
CWRPDA Loan 2015	$2,500,000	$1,937,500	$125,000	2035	Pledged Revenues
	Total	$2,734,277	$208,652		

TABLE 5: FINANCIAL RATIOS

Financial Ratio	Past Years	Future w/ Project
Operating Ratio (revenues/expenses) weak: <100% - average: 100% - 120% - strong: >120%	83% (weak) $960K/$1.16M	100% (average) $1.35M/$1.35M
Debt Service Coverage Ratio (revenues-expenses)/debt service weak: <100% - average: 100% - 120% - strong: >120%	3% (weak) ($960K-$953K) $209K	100% (average) ($1.35M-$953K) $395K
Cash Reserves to Current Expenses weak: <50% - average: 50% - 100% - strong: >100%	24% (weak) $283K/$1.16M	21% (weak) $283K/$1.35M
Debt per Tap (1,442 taps) weak: >$5,000 - average: $2,500 - $5,000 - strong: <$2,500	$1,893 (strong) $2.73M/1,442taps	$4,834 (average) $6.97M/1,442taps
Average Monthly Water Bill[1] weak: >$60 - average: $30 - $60 - strong: <$30	$60 (average)	$82 (weak)

[1]*Average monthly water bills for the District include service, replacement and usage fees and maintains commercial and residential customers. Actual District billings to customers are on a bi-monthly schedule.*

Collateral: Security for this loan will be a pledge of revenues backed by a rate covenant and annual financial reporting. This security is in compliance with the CWCB financial Policy #5 (Collateral).

cc: Scott Jones, District Manager, Genesee Water and Sanitation District
Steve Jamieson, P.E., Principal, W.W.Wheeler and Associates, Inc.
Jennifer Mele, Colorado Attorney General's Office

Attachments: Water Project Loan Program – Project Data Sheet

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Genesee Reservoir No. 1 Enlargement

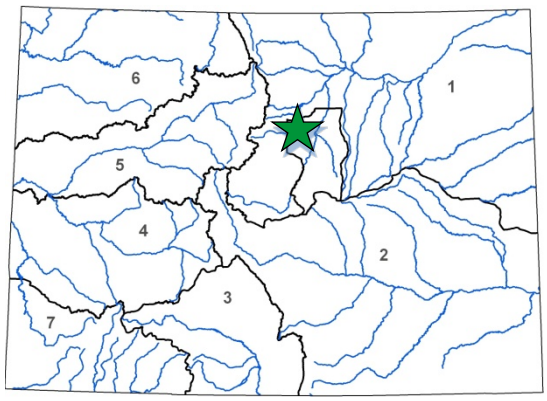
Genesee Water and Sanitation District

September 2020 Board Meeting

LOAN DETAILS	
Project Cost:	$4,200,000
CWCB Loan (with Service Fee):	$4,242,000
Loan Term and Interest Rate:	40 Years @ 2.50%
Funding Source:	Construction Fund

BORROWER TYPE		
Agriculture	*Municipal*	*Commercial*
0%	0% Low - 0% Mid - 100% High	0%

PROJECT DETAILS	
Project Type:	Reservoir Enlargement
Average Annual Diversion	411 AF
New Storage:	46 AF



LOCATION			
County:			Jefferson
Water Source:			Bear Creek
Drainage Basin:			South Platte
Division:	1	*District:*	9

The Genesee Water and Sanitation District (District) was created in 1973 and currently services 1,442 taps and approximately 3,900 people in Genesee. Genesee Reservoir No. 1 was originally constructed in 1975 to provide a raw sewage lagoon for the District; however, it was later changed to a water augmentation reservoir for the District.

The Genesee Reservoir No. 1 Enlargement (Project) includes final design, permitting, and construction of a 30 AF enlargement to the 16AF existing reservoir. The Project includes replacement of the synthetic liner, construction of a new tie-in to the District's raw water transmission line, a 20-foot raise of the spillway, and construction of a parapet wall ranging from 8-24 feet high on top of the existing earthen dam crest to minimize changes to the downstream dam slope. This construction will increase the raw water storage in the District by almost 50%, and provide greater operational flexibility and better drought protection. The District also intends to apply for Water Plan Grant in December 2020 and if approved, the funds will go toward Project costs. Final design is expected to occur during the fall of 2020 and final construction is anticipated by fall of 2021.