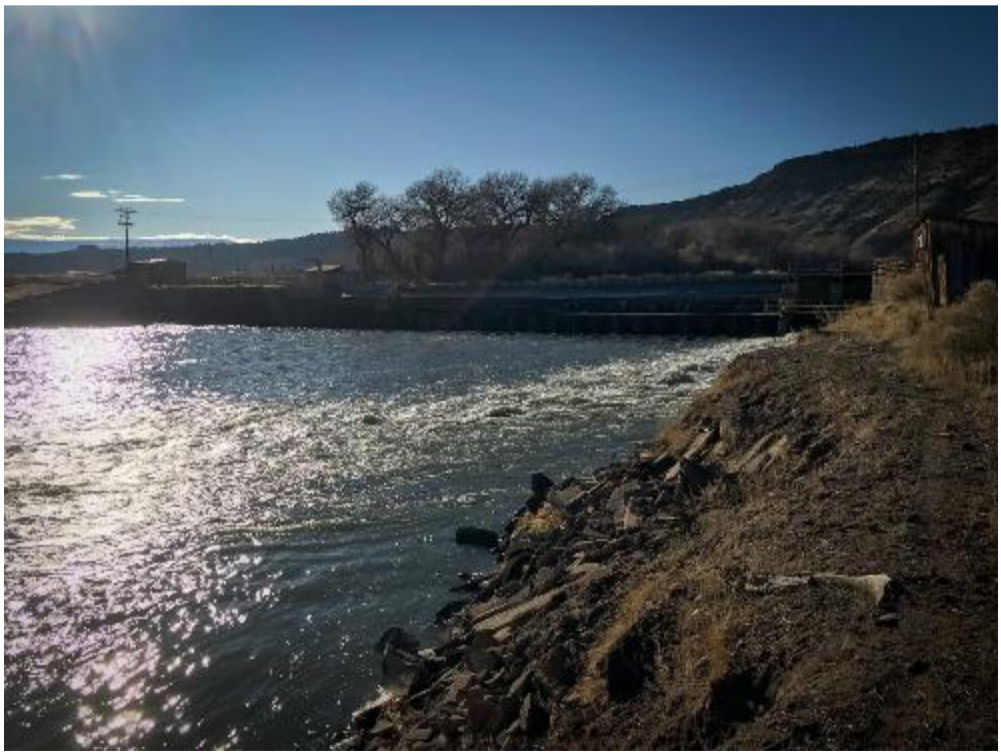
LOAN FEASIBILITY STUDY

REDLANDS WATER & POWER COMPANY
ROLLER GATE REPLACEMENT PROJECT
MESA COUNTY, COLORADO



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1.0 Overview

This Loan Feasibility Study (Study) establishes the need for Redlands Water & Power Company's (RWP) Roller Gate Replacement Project (Project). This Study also documents the technical, economic, institutional, and financial data and social and environmental impacts of the Project as requested by the Colorado Water Conservation Board's (CWCB) *Water Project Loan Program Guidelines* (CWCB, January 2006).

1.1 Executive Summary

Date:	July 29, 2020
Applicant name:	Redlands Water & Power Company
City:	Grand Junction
County:	Mesa
State:	Colorado
Estimated Project Start:	Fall 2020
Project Length:	4 weeks for installation, 4-8 weeks for fabrication. Not concurrent tasks.
Estimated Project Completion:	March 15, 2022 (no later than)
Source of water:	Gunnison River
Current water uses:	Irrigation, commercial, domestic, stock
Population in service area:	~9,000 (State Demographer's Office)
Current water demand:	850 cfs (irrigation season); 850 cfs (non-irrigation season)
Projected water demand:	850 cfs (irrigation season); 850 cfs (non-irrigation season)
Shortfalls in existing water supply:	No current water supply shortfalls
Major crops served:	Grass hay, pasture, small grains, and seed crops. Fruit orchards and vineyards.
Total acres served:	~4,500 total acres (1970 irrigated acres) and water for the Redlands Hydroelectric Power Plant

Water delivery system description: RWP's system generally consists of 26 miles of canal, a hydroelectric power plant, and 13 pumps that lift irrigation water a total of 306 feet to 5 separate canals.

Water is diverted from the left bank of the Gunnison river by a diversion dam located approximately 2 ½ miles upstream of the confluence with the Colorado River. For the purpose of this report, left or right bank refers to the side of the river when looking downstream. The diversion dam is a 330-foot-long structure with headworks that parallel the flow of the river. The headworks has four roller gates to control the flow into the Power Canal. The gates are operated in pairs by two electric motors that lift the gates with cables. Currently the two downstream gates have been bulk-

headed and all flow passes through the two upstream gates. It is our understanding that the existing gates were installed in the 1940's. The diversion dam

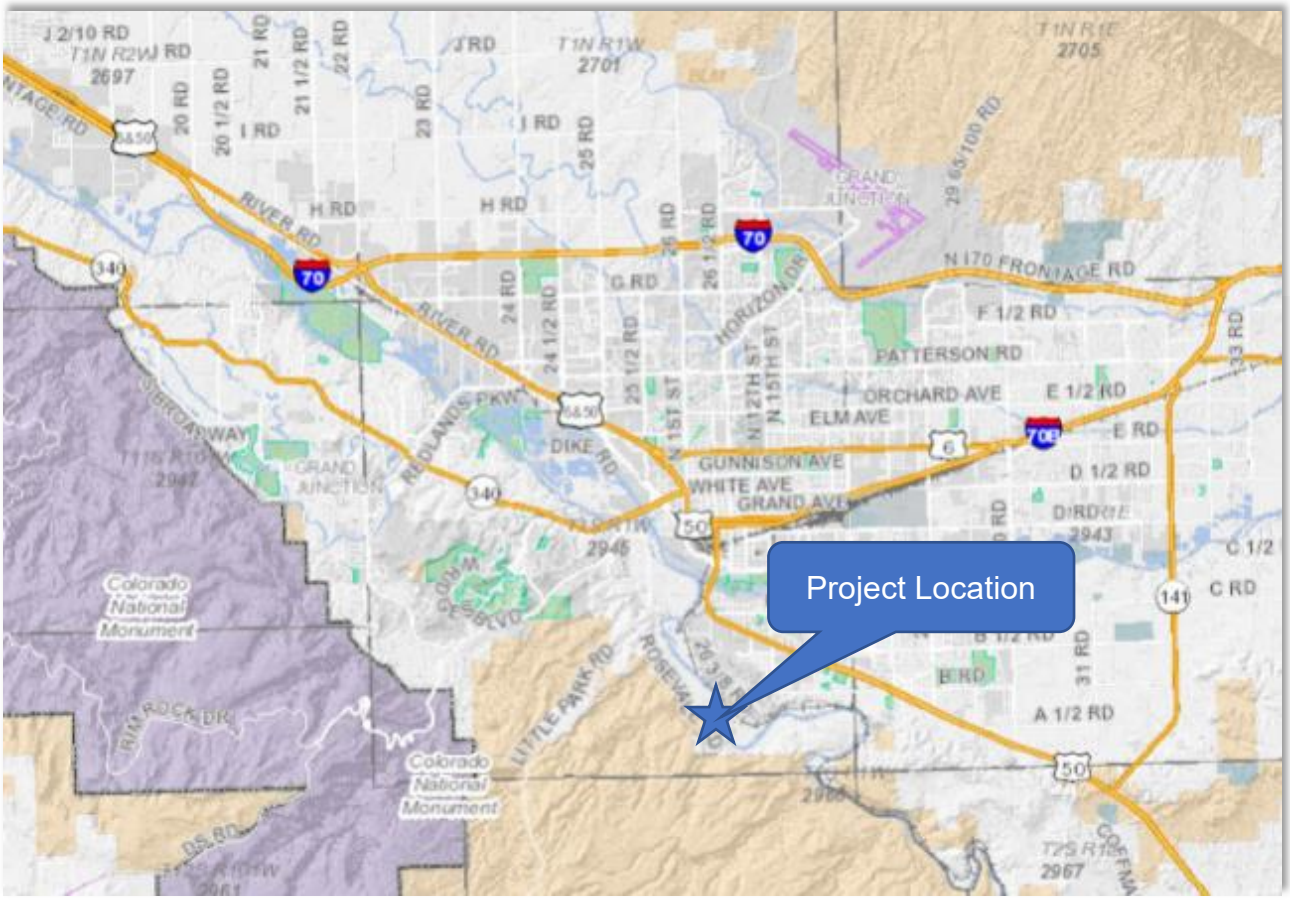


Figure 1. Project Geographic Location.

was retrofitted in the early 1980's. There is a fish bypass located on the right abutment of the dam and a fish screen just downstream of the diversion. Eight hundred fifty cfs flows 3 ½ miles down the Power Canal to the hydroelectric plant located on the north side of Highway 340. At that point 60 cfs is pumped up 127.5 feet to the 1st Lift Ditch and Stub Canal. Water from the 1st Lift Canal is pumped 78 feet up to the 2nd Lift Canal near the intersection of Highway 340 and the Redlands Parkway. Both the 3rd Lift and Goat Canals are pumped up 50 feet near the west end of the system.

1.2 Project Background and Purpose

The Project generally consists of the replacement of the four existing roller gates that control the flow of diverted water into the Power Canal. The existing gates are approximately 80 years old and have significant corrosion. There is concern that the existing gates will fail during the operating season and control of diverted flows into the Power Canal will be lost. This could potentially cause either damage due to

overflow of the Power Canal or decrease diversion of water during the growing season. RWP has already acquired the stainless steel required to fabricate the proposed gates.

1.3 Water Delivery System – Project History

The Redlands Water and Power Canal was originally constructed starting in 1905 using private funds. The land owned by the RWP was patented under the Desert Entry Act. Water was first delivered for irrigation in 1907.

The canal diverts 850 cfs from the Gunnison River. Of the total water diverted, all but 60 cfs is used for power generation and discharged into the Colorado River downstream of Connected Lakes State Park. The remaining flow is pumped up for residential and agricultural irrigation purposes.

1.4 Project Area Description

Figure 1 shows the general project area location within Mesa County and proximity to the City of Grand Junction. The project is located approximately 2 1/2 miles upstream from the confluence of the Gunnison and Colorado Rivers near downtown Grand Junction.

The RWP canal system, in general, supports the residential and agricultural irrigation needs for residents who live in the Redlands area of Grand Junction. The Colorado National Monument serves as a natural backdrop to the Redlands area. This landmark attracts thousands of visitors (local and international) each year, impacting both the local and state economy aided by the presence of small businesses within this region. Water delivery supports a thriving residential construction industry, agriculture and businesses such as wineries in this area. There are also two golf courses that are irrigated with this water which have significant impacts on the local economy. RWP delivers irrigation water to approximately 4,500 acres within their service area, supporting approximately 9,000 residents. The boundary of the service area is shown below on Figure 2.

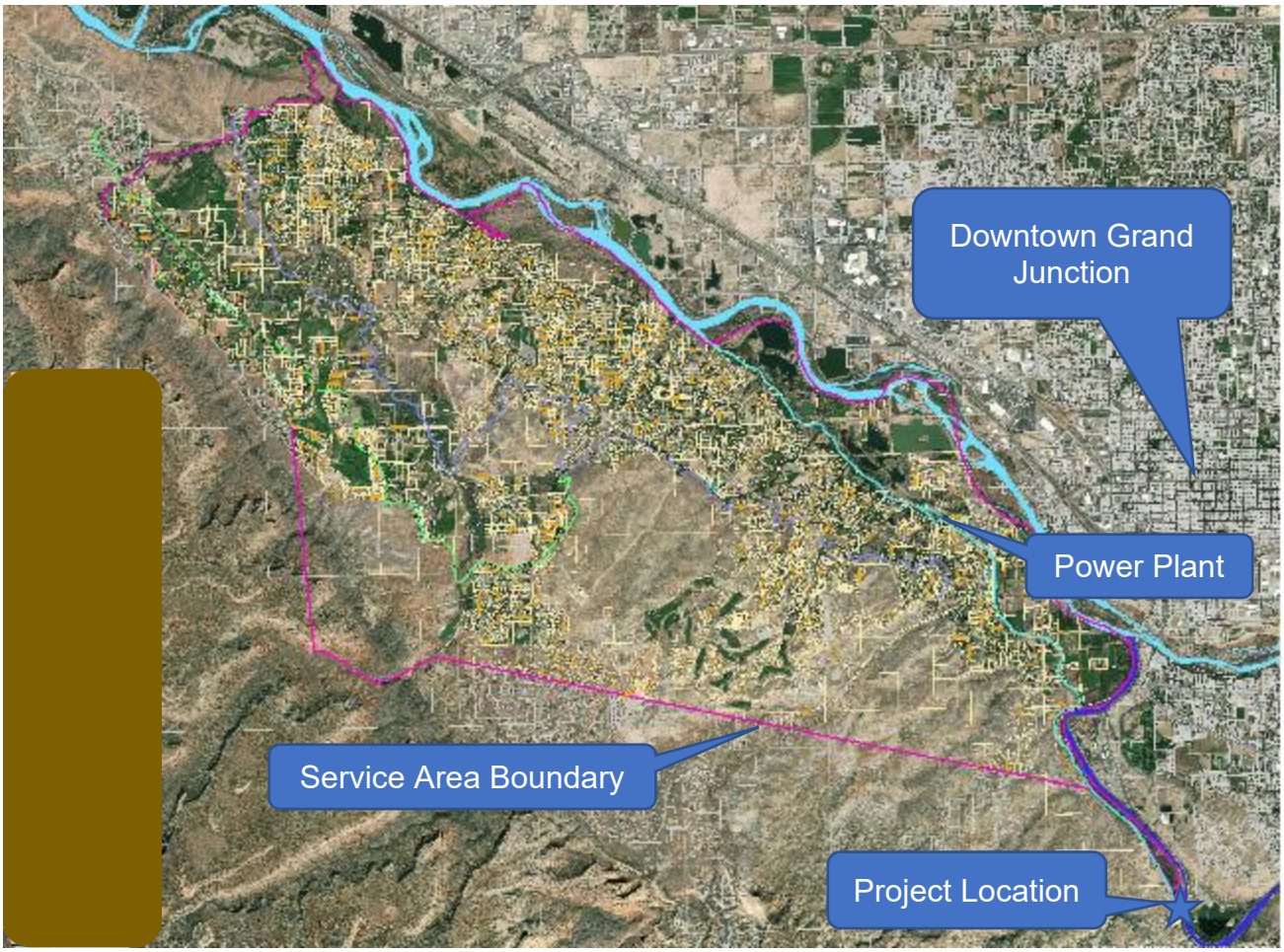


Figure 2-Service Area

2.0 Project Sponsor

Official Name of Project Sponsor:	Redlands Water & Power Company (RWP)
Type of Organization:	Private incorporated not-for-profit ditch company
Year Formed:	1905 Originally, 1931 under Current Name
Status Under which Entity Formed:	The Redlands Company
Shareholders:	1,070
Shares of Stock:	5,759 of which the RWP owns 59
Current water uses:	Irrigation, commercial, domestic, stock
Current water delivery:	Redlands Water Canal System

2.1 History of RWP

RWP was originally formed as a private company in 1905. The company was reorganized in various forms in the subsequent years and became a non-profit, shareholder owned company in 1925. The Redlands Water & Power Company has been in operation since 1931. There is currently a 7-person board of directors that oversee the operations and administrations of the company. Day-to-day operation is directed by the superintendent.

2.2 Revenue Sources

RWP has an annual budget of approximately $1.4 million. Currently, the fee per share is $195/year. The volume of water per share varies with a share of Power Canal water getting 5.8 gpm and a share of any of the Lift Canals getting 3.9 gpm. RWP also generates income from selling excess power to Xcel Energy. The current contract includes a 2% increase per year. Other income sources included payments for the fish screen and other small items such as interest and leases. The three major sources of RWP revenue include:

Table 1-Sources of Income

Revenue Source	Annual Income
Water Assessment	$1,123,000
Sale of Electric Power	$240,000
Other Fixed Income	$57,700
Total Annual Income	$1,413,000

2.3 Existing Water Supply Facilities (Owned and/or Operated)

The RWP system generally consists of diverting 850 cfs from the left bank of the Gunnison river and using 790 cfs to generate power to pump the remaining 60 cfs into 5 separate lift canals for distribution to residential and agricultural users. During the off season the power generated is used for additional revenue. A broad description of the major features of the system is included below.

2.4 Facility Descriptions

2.4.1 Gunnison River Diversion Dam

The diversion dam is located approximately 2 ½ miles upstream of the confluence with the Colorado River. It is a 330-foot-long structure with the headworks parallel to the flow of the river. The headworks has four roller gates to control the flow into the Power Canal. The gates are operated in pairs by two electric motors that lift the gates with cables. Currently the two downstream gates have been bulkheaded and all flow passes through the two upstream gates. Portions of the diversion dam was retrofitted in the early 1980's. There is a fish bypass located on the right abutment of the dam and a fish stream just downstream of the diversion.

2.4.2 Fish Screen

A fish screen was installed in cooperation with the U.S. Fish and Wildlife Service, the Bureau of Reclamation and the U.S. Army Corp of Engineers in 2004. The screen protects threatened and endangered species from entering the power plant or pumps. The Endangered Fish Recovery Program reimburses RWP for operational costs associated with the fish screen.

2.4.3 Electric Power Plant

The plant is located behind the Safeway Shopping Center on Highway 340. It operates under a maximum head of 32 feet and has a capacity of 1,600 kilowatts. The plant was upgraded in 1982 to increase the capacity from an original 1.400 kilowatts. The power generated is primarily used for the 5 pumps at Pump Station #1, the main and first pumping station. The power that is not required for pumping is sold to Xcel Energy which averages approximately 7,500,000 kilowatt-hours annually.

2.4.4 Pump Stations

Other than the water users located between the Power Canal and the river, all other water deliveries are pumped to 5 separate lift canals. There are 13 pumps which lift the water 306 feet. The pumps have electric motors which receive power from Xcel Energy with the exception of the first lift which is located at the power plant.

3.0 Water Rights

RWP is the holder of three separate water rights for a variety of uses. The original rights date to the formation of the original company and includes the majority of the water used (Table 1).

Table 2. Summary of RWP Water Rights.

Owner	Amount (cfs)	Adjudication Date	Appropriation Date	Use
RWP	670	7/22/1912	7/31/1905	Irrigation, Commercial
RWP	80	7/21/1959	6/26/1941	Irrigation, Commercial, Domestic, Stock
RWP	100	12/31/1994	10/1/1994	Power Generation

3.1 Water Availability

The annual flows and average monthly flows for the Project can be represented by the streamflow data collected at the USGS Gage (09144250) Gunnison River near Delta, Colorado. This gage has streamflow records from June 1976 to current date. The annual average flows are shown in Figure 3 and Table 2 and the average monthly flows are shown in Figure 4 and Table 3.

Table 3. Average Annual Flows, USGS Gage 09144250, Gunnison River near Delta, Colorado. 1977-2019 (Water Year).

Year	Annual Average Flow (cfs)	Year	Annual Average Flow (cfs)
1977	704	1999	1555
1978	1242	2000	1484
1979	2393	2001	1047
1980	2658	2002	707
1981	1270	2003	819
1982	1680	2004	791
1983	3441	2005	1721
1984	4670	2006	1444
1985	3914	2007	1476
1986	3602	2008	2696
1987	2858	2009	1959
1988	1420	2010	1294
1989	799	2011	2213
1990	600	2012	992
1991	1391	2013	726
1992	1421	2014	1643
1993	2743	2015	1661
1994	1377	2016	1650
1995	3437	2017	2057
1996	2167	2018	1075
1997	3005	2019	2014
1998	2300	-	-

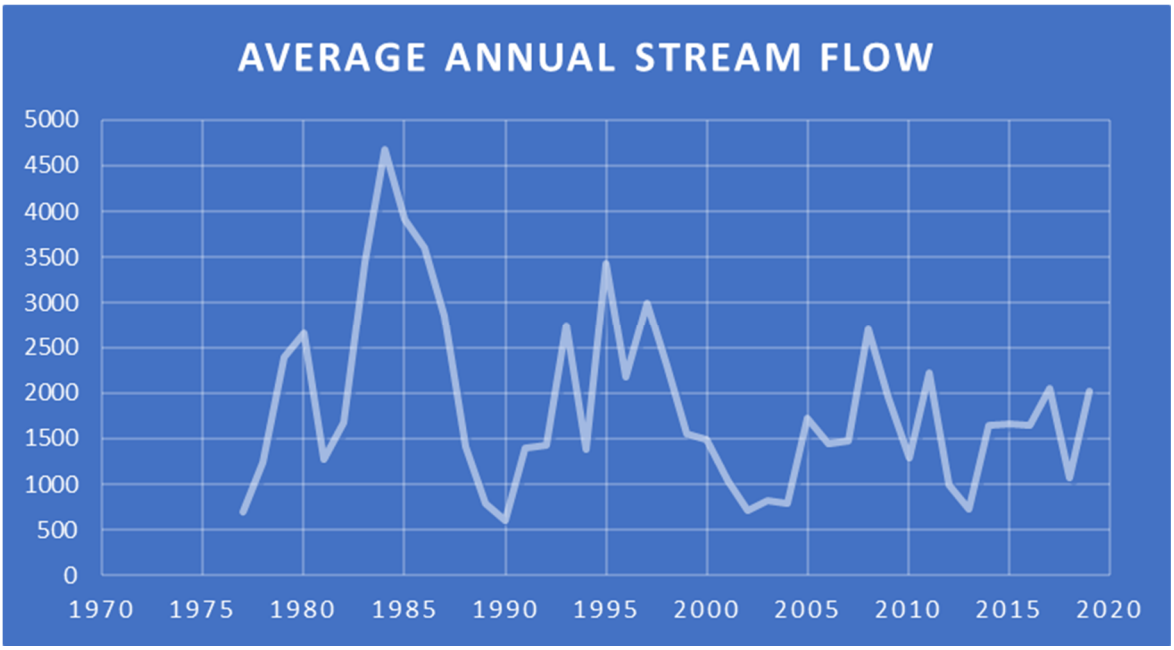


Figure 3-Average Annual Flows, USGS Gage 09144250, Gunnison River near Delta, Colorado. 1977-2020 (Water Year).

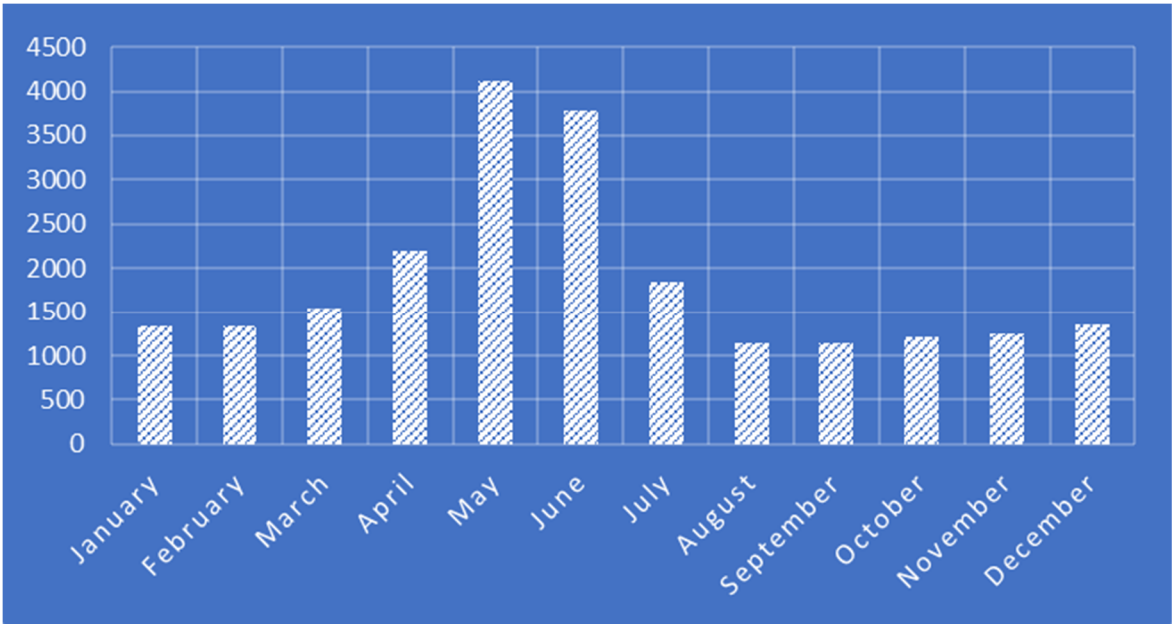


Figure 4-Average Monthly Flows, USGS Gage 09144250, Gunnison River near Delta, Colorado. 1977-2020 (Water Year).

Table 4- Average Monthly Flows, USGS Gage 09144250, Gunnison River near Delta, Colorado. 1977-2020 (Water Year).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976						1,282	478	448	558	681	1,295	1,554
1977	1,486	915	543	366	411	331	274	268	335	398	467	440
1978	542	618	672	1,569	3,206	3,999	1,523	597	875	898	1,104	1,803
1979	1,938	2,420	2,787	3,518	5,516	4,530	2,002	1,111	1,114	1,033	1,067	2,039
1980	2,032	2,045	2,195	3,423	8,111	5,849	1,840	1,135	1,119	1,433	2,247	2,241
1981	2,143	1,650	1,128	904	1,167	924	399	403	629	850	780	878
1982	879	2,017	2,167	1,852	3,196	3,068	1,605	1,242	1,678	2,108	2,391	2,444
1983	2,394	2,329	2,249	1,830	5,271	9,861	6,125	2,578	1,667	1,874	1,867	2,396
1984	2,984	3,356	3,665	3,794	11,090	13,520	6,506	2,752	2,242	2,753	2,886	2,378
1985	3,349	3,381	3,696	6,641	8,568	7,156	2,791	1,575	1,835	2,674	2,581	2,715
1986	3,075	3,206	3,670	4,691	6,875	4,933	4,352	1,923	2,496	2,833	3,156	3,103
1987	2,981	3,179	3,576	3,796	4,511	2,675	1,851	1,481	1,160	1,429	1,849	1,892
1988	1,878	1,909	1,957	1,660	1,440	1,253	496	487	814	600	629	603
1989	513	554	938	1,729	1,383	974	502	550	615	739	617	541
1990	480	490	505	591	919	872.2	443	424	579	647	615	462
1991	505	806	810	1,165	3,748	4,147	1,339	1,065	1,377	1,200	1,490	1,466
1992	1,170	919	935	1,862	2,997	1,897	1,105	1,073	927	934	733	630
1993	754	1,226	2,605	3,619	9,774	7,485	2,429	1,234	1,412	1,276	1,586	1,671
1994	1,266	712	1,007	1,442	3,398	1,733	803	703	861	892	898	969
1995	853	862	1,717	3,088	7,623	10,280	10,110	2,396	1,364	1,860	2,240	2,168
1996	1,585	1,351	1,712	2,823	4,917	3,426	1,711	985	1,210	1,321	1,582	1,484
1997	1,627	1,787	3,744	4,458	6,841	7,298	2,725	1,469	1,700	2,303	2,472	2,475
1998	2,126	1,817	1,841	2,504	5,601	2,893	1,401	988	1,119	1,102	1,127	1,081
1999	935	888	884	901	3,283	2,418	1,499	2,226	2,261	2,259	1,405	1,432
2000	1,181	1,007	1,125	2,041	2,730	1,363	1,028	1,199	998	895	915	914
2001	798	791	920	1,167	2,455	1,194	813	877	794	850	830	809
2002	753	761	729	813	569	548	693	596	537	494	421	402
2003	386	383	450	830	2,417	1,669	860	748	738	576	496	485
2004	470	480	782	1,242	1,662	966	749	707	870	959	638	604
2005	848	1,204	1,567	3,289	5,191	3,513	1,126	818	892	1,052	918	860
2006	922	923	1,108	2,773	2,563	1,799	1,490	1,478	1,432	1,319	1,342	1,888
2007	1,880	1,290	1,745	1,606	2,218	1,214	739	1,093	1,349	1,310	1,386	1,417
2008	1,701	2,071	1,201	4,114	8,431	6,386	1,742	1,286	1,339	1,130	982	949
2009	1,069	1,099	1,153	2,370	6,089	4,250	1,996	1,340	1,019	1,007	843	1,063
2010	991	936	834	1,953	2,989	2,191	824	982	900	918	837	788
2011	755	1,037	1,525	2,497	4,919	6,947	3,417	1,440	1,456	1,274	1,082	1,753
2012	1,171	906	1,039	924	727	703	800	796	706	524	509	533
2013	606	513	550	639	1,404	1,060	832	721	807	736	580	533
2014	488	567	798	1,888	2,868	8,205	1,230	1,049	824	1,001	822	1,317
2015	1,373	885	1,024	907	2,514	5,676	2,100	1,079	1,223	1,197	1,232	1,133
2016	1,374	1,426	1,072	1,691	4,773	2,348	1,224	1,157	1,152	1,009	835	848
2017	909	1,476	2,066	2,285	6,540	4,850	1,195	1,305	1,339	1,280	1,081	1,939
2018	1,399	911	924	751	1,297	917	849	761	739	734	510	491
2019	443	637	794	2,174	4,461	7,690	3,465	1,840	890	953	1,663	1,807
2020	1,393											
Mean of monthly Discharge	1,330	1,340	1,540	2,190	4,110	3,780	1,850	1,150	1,140	1,210	1,250	1,350

3.2 Water Supply Demands

The existing and future water demands are 850 cfs year-round. These demands are primarily driven by the decreed water uses of the water diverted at the Redlands Power Dam to support irrigation and power generation in the Redlands area. Future expansion is not being considered at this time. It is expected that the trend of agricultural use converting to residential use will continue and reduce demands upon the system.

4.0 Project Description – Analysis of Alternatives & Selected Alternative

The Project consists of replacing the four existing 80-year-old roller gates with new gates. Extensive corrosion has been observed which has led to concerns over the durability of the gates. Failure of the gates would make it very difficult to control the amount of water diverted into the Power Canal. This could lead to either overfilling the canal or interruption of delivery to the power plant. Either scenario is not acceptable.

4.1 Analysis of Alternatives

Three alternatives were developed for the Project. The first alternative was a "No Action" alternative (Alternative 1). Alternatives 2 included the repair of the existing gates. Alternative 3 included the replacement of the gates. Following is a summary of each alternative and the justification for selection of the preferred alternative.

4.2 No Action Alternative (Alternative 1)

Alternative 1 would entail continuing to use the existing gates. The risks associated with this alternative are significantly greater than the other two Alternatives. As shown below the existing gates have extensive corrosion to the side members. Failure of the side members would likely result in the gates partially obstructing the flow through that bay; and/or the gates being stuck in a partially or fully open position. Depending upon flows in the river this could result in excessive or inadequate flow to the Power Canal. If the flows are too low, it may be possible to increase the flow by removing the bulkheads in place over the lower two bays. At that time, it would be necessary to plan for a full canal shut down to replace or repair the damaged gate. In that case the costs will be similar to Alternative 2 or 3 but the ability to plan and budget for it will be diminished. This alternative has no initial cost but in the long-term would potentially cost more due to the need to react to the situation rather than plan for it. It also carries the risk of losing control of the flows into the canal and causing property damage due to overtopping the Power Canal and flooding adjacent properties. <u>This alternative is not recommended.</u>

Figure 5. Condition of the Existing Gates.

4.3 Repair the Existing Gates (Alternative 2)

Alternative 2 evaluated the repair of the existing gates. A preliminary analysis of the gates indicated the steel members used are undersized for current design standards. Although they have functioned adequately for 80 years, they would have to be brought up to current standards during the retrofit. The scenario evaluated was to bulkhead the upstream gates and empty the canal. This would allow access to the backside of the gates. Once they are accessible each member would be examined, and all corrosion would be removed by abrasive wheel or complete removal of the corroded member. An engineer would have to direct the work. Some members may only need to be cleaned up; others would require reinforcing. After a more detailed analysis it may be necessary to add additional members. There will be limited access to the front of the gate. The principal disadvantage of this alternative is that it will require an extended shut down of the Power Canal. At this time the income generated by the power plant during the off season is approximately $1,200 per day. We estimate that this alternative will require two months to complete, resulting in approximately $50,000 to 60,000 of lost revenue. This is in addition to the cost of the work. We estimate that this option will add 10 to 20 years to the expected life of the gates. This alternative is not recommended.

4.4 Replace the Existing Gates (Alternative 3)

This alternative includes the removal and replacement of the existing gates with new stainless-steel gates. RWP has recently performed this on the river bypass gates and has recent experience . The proposed gates would be constructed like the existing river gates which are shown to the right. The principal difference would be a 40% increase in width and additional stiffening needed to support the additional load. An advantage of this alternative is that it is possible to install seals on the sides and bottom of the gate which allows better control of the canal. It is anticipated that with a stronger gate and stainless steel that these gates will be expected to last for 80 to 100 years. If the gates are fabricated prior to shutting the canal down, we estimate this alternative will require 3 to 4 weeks to install. Installation will require bulkheading the two upstream bays, draining the canal, importing granular material

Figure 6. New Stainless Steel Bypass Gates.

to allow for dry access to the back side of the gates, removal of the existing gates and installation and adjusting of the new gates. This option will result in $20,000 to 30,000 of lost revenue due to no power generation.

4.5 Preferred Alternative

Alternative 3 is the Preferred Alternative based upon the uncertainty associated with Alternative 2. Although Alternative 2 could cost less in the near-term, it will only extend the expected life of the gates by 10 to 20 years. Alternative 1 was not considered feasible due to the excessive risk of property damage or loss of ability to deliver water. The failure to deliver water to the many residential and commercial users that have come to rely on it is incalculable.

4.6 Costs

RWP has already acquired the stainless steel needed to build the gates. Several fabricators and contractors were consulted to develop a cost estimate for the fabrication and installation of the gates. This project is fairly atypical, so a 10% contingency was applied to the estimate to account for the unknowns involved.

4.7 Impacts

The man-made impacts associated with Alternatives 2 and 3, include, but are not limited to:

- Temporary construction-related activities.

There are no natural environmental impacts associated with any of the alternatives.

4.8 Economic Analysis and Feasibility

The structural integrity of the canal is critical to delivering water to the RWP canal users. This Project will allow for an orderly planning and installation process which will result in the least disruption to the industries that rely on the canal.

4.9 Institutional Requirements

As this is essentially a repair project on a privately-owned facility, there are no institutional requirements that must be met. As a repair it does not even require a building permit.

4.10 Environmental Considerations

This Project involves extending the normal annual shut down period of the Power Canal by approximately one month. All the work will be performed on the existing structure and will not require alterations or expansion of the canal. There are no environmental impacts associated with this work.

4.11 Right-of-Way/Land Requirements

The entire Project will occur on property owned by RWP. No right of way is required.

4.12 Cost Estimate

Table 5 provides the Engineers Opinion of Probable Cost for this project.

Table 5. Engineers Opinion of Probable Cost

Construction Item	Estimated Cost
Gate Fabrication	
Materials	$50,000
Labor	$90,000
Gate Fabrication Subtotal:	$140,000
Installation and Canal Improvements	
Dewatering	$25,000
Concrete Repair	$100,000
Install Gates	$100,000
Dredge Canal	$35,000
Riprap Canal Bank	$50,000
Installation and Canal Improvements Subtotal:	$310,000
Fabrication, Installation and Canal Improvements Total	**$450,000**
10% Contingency	$45,000
Total Construction Cost	**$495,000**
Additional Engineering Services	**$15,000**
Total Construction and Engineering Cost	**$510,000**

4.13 Implementation Schedule

The current plan is to fabricate the four gates during the fall of 2020 and install them during a planned shut down in between Mid-October 2021 to Mid-March 2022 when river elevations and weather are most beneficiary. An early install could be January or February 2021 if more advantageous for RWP.

5.0 Financial Feasibility Analysis

5.1 Loan Amount

Total Project Costs: $510,000
CWCB Loan Requested: (up to) $400,000
Term: 20 Years
Interest Rate Sought: 1.5%

5.2 Financing Sources

Non-federal cost share for the Project will be sought through a State funded loan through the CWCB and RWP cash and in-kind contributions. RWP is contributing cost share to the project of $110,000 via in-kind contributions related to the development, implementation and management of the Project. Table 6 summarizes the funding sources for this Project.

Table 6. Summary of Funding Sources.

Funding Sources	Funding Amount
Non-Federal entities	
RWP Cash	$60,000 (12%)
RWP In-Kind Services and Providing Material	$50,000 (10%)
Colorado Water Supply Reserve Account (WSRA) Loan	$400,000 (78%)
TOTAL PROJECT FUNDING	$510,000

RWP will bid the construction portion of the project to several prequalified construction companies. The construction costs shown in Table 4 are estimates for each of the components to furnish and install all the equipment. Generally, the low bidder will be selected based on a determination of acceptable qualifications. The construction contractor will be hired to perform mobilization, erosion control, fabrication and installation of the gates.

Consultants will be secured for each of the non-construction costs including: Construction management & testing, Survey, Overhead & Project Management, Reporting, NEPA related efforts, and detailed design engineering.

5.3 Other Expenses

Professional assistance will be required to address legal, audit and compliance matters related to the project. All assistance related to this task will be through the use of consultants. These expenses have already been included in RWP's annual budget and will not be specifically included in the cost of the project. There is also a 1% loan origination fee.

5.4 Indirect Costs

The indirect costs have been identified with this Project include loss of revenue associated with not being able to generate power for the duration of the project. This has been estimated at $1200 per day for a 30-day construction period. The overall indirect cost is $36,000.

5.5 Total Costs

Total project cost for construction and implementation is $546,000.

5.6 Loan Repayment Sources

Assuming a 20 yr. fixed loan of $400,000 the annual debt service would be $23,322. The annual debt service on $400,000 would be well within the RWP ability to service the debt.

5.7 Financial Impacts

Revenue and Expenses were predicted for the term of the loan. A detailed schedule is shown below in Table 7. The loan origination fee is shown as a payment in 2020. This schedule includes the revenue assumptions for the first 10 years from the Pumpline Replacement Project loan that was obtained earlier this year. Shown in the table are predicted expenses assuming a 1% rate of inflation which include the annual loan payment. Without the extra burden of the loan it was found that $5 increases in assessments would be required at regular 3 to 4-year intervals. The effect of the added loan payment was to move the need for the first $5 increase two years sooner than would have occurred otherwise.

5.8 TABOR Issues

There are no TABOR issues.

5.9 Collateral

The RWP has sufficient assets and real property to provide collateral for the term of the loan.

5.10 Sponsor Creditworthiness

RWP's sources of income were discussed above. Copies of the three most recent audit reports of financial statements (2016, 2017, 2018) are included as attachments to this study.

Table 7-Income and Expense Analysis

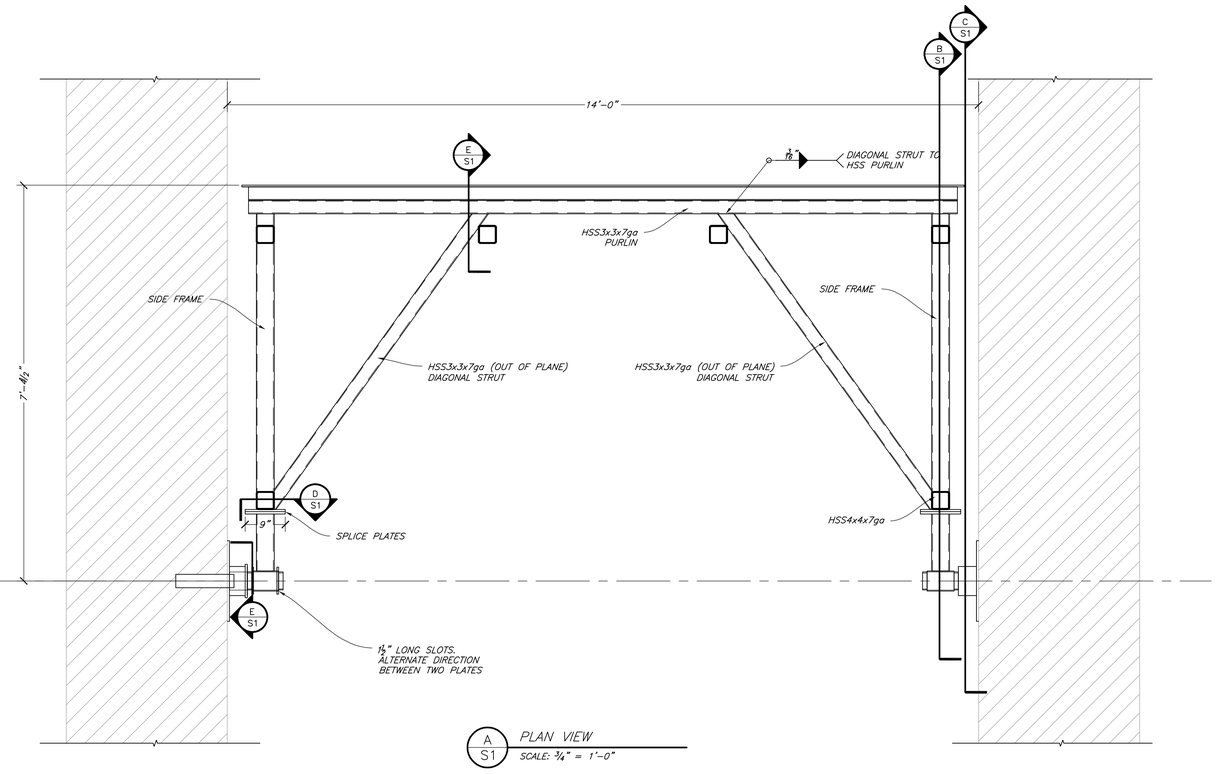
Year	Expenses			Assessment Per Share	Income			
	Predicted Expenses	Loan Repayment	Total Predicted Expenses		Predicted Share Income	Predicted Fixed Income	Predicted Power Income	Predicted Total Income
2020	$ 1,376,038	$ 4,000	$ 1,380,038	$ 195	$ 1,123,005	$ 57,700	$ 240,000	$ 1,420,705
2021	$ 1,389,798	$ 23,322	$ 1,413,120	$ 195	$ 1,123,005	$ 57,700	$ 244,800	$ 1,425,505
2022	$ 1,403,696	$ 23,322	$ 1,427,018	$ 195	$ 1,123,005	$ 57,700	$ 249,696	$ 1,430,401
2023	$ 1,417,733	$ 23,322	$ 1,441,055	$ 195	$ 1,123,005	$ 57,700	$ 254,690	$ 1,435,395
2024	$ 1,431,911	$ 23,322	$ 1,455,233	$ 195	$ 1,123,005	$ 57,700	$ 259,784	$ 1,440,489
2025	$ 1,446,230	$ 23,322	$ 1,469,552	$ 200	$ 1,151,800	$ 57,700	$ 264,979	$ 1,474,479
2026	$ 1,460,692	$ 23,322	$ 1,484,014	$ 200	$ 1,151,800	$ 57,700	$ 270,279	$ 1,479,779
2027	$ 1,475,299	$ 23,322	$ 1,498,621	$ 205	$ 1,180,595	$ 57,700	$ 275,685	$ 1,513,980
2028	$ 1,490,052	$ 23,322	$ 1,513,374	$ 205	$ 1,180,595	$ 57,700	$ 281,198	$ 1,519,493
2029	$ 1,504,952	$ 23,322	$ 1,528,275	$ 205	$ 1,180,595	$ 57,700	$ 286,822	$ 1,525,117
2030	$ 1,520,002	$ 23,322	$ 1,543,324	$ 210	$ 1,209,390	$ 57,700	$ 292,559	$ 1,559,649
2031	$ 1,535,202	$ 23,322	$ 1,558,524	$ 210	$ 1,209,390	$ 57,700	$ 298,410	$ 1,565,500
2032	$ 1,550,554	$ 23,322	$ 1,573,876	$ 210	$ 1,209,390	$ 57,700	$ 304,378	$ 1,571,468
2033	$ 1,566,060	$ 23,322	$ 1,589,382	$ 215	$ 1,238,185	$ 57,700	$ 310,466	$ 1,606,351
2034	$ 1,581,720	$ 23,322	$ 1,605,042	$ 215	$ 1,238,185	$ 57,700	$ 316,675	$ 1,612,560
2035	$ 1,597,537	$ 23,322	$ 1,620,859	$ 215	$ 1,238,185	$ 57,700	$ 323,008	$ 1,618,893
2036	$ 1,613,513	$ 23,322	$ 1,636,835	$ 220	$ 1,266,980	$ 57,700	$ 329,469	$ 1,654,149
2037	$ 1,629,648	$ 23,322	$ 1,652,970	$ 220	$ 1,266,980	$ 57,700	$ 336,058	$ 1,660,738
2038	$ 1,645,944	$ 23,322	$ 1,669,266	$ 220	$ 1,266,980	$ 57,700	$ 342,779	$ 1,667,459
2039	$ 1,662,404	$ 23,322	$ 1,685,726	$ 220	$ 1,266,980	$ 57,700	$ 349,635	$ 1,674,315
		Total Expenses	$ 30,746,106				Total Income	$ 30,856,424

6.0 Conclusions and Recommendation

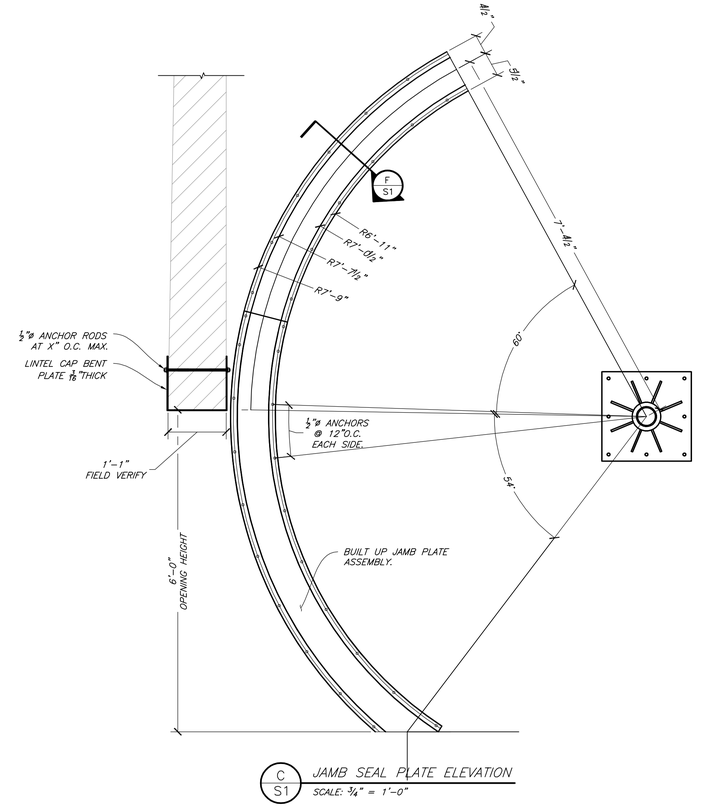
- The existing gates are nearing the end of their reliable lifespan.
- Replacement of the gates is the most feasible alternative.
- There are no regulatory or permitting issues that would prevent replacing the gates.
- RWP can fund the replacement through a combination of CWCB loans, cash and in-kind contributions.
- RWP has the financial creditworthiness to repay the loan.
- The project is both technically and financially feasible.

7.0 Attachments

Roller Gate Preliminary Plans
2016 Independent Auditor's Report
2017 Independent Auditor's Report
2018 Independent Auditor's Report
Articles of Incorporation
Current Financial Statements



A S1 PLAN VIEW
SCALE: ¾" = 1'-0"



C S1 JAMB SEAL PLATE ELEVATION
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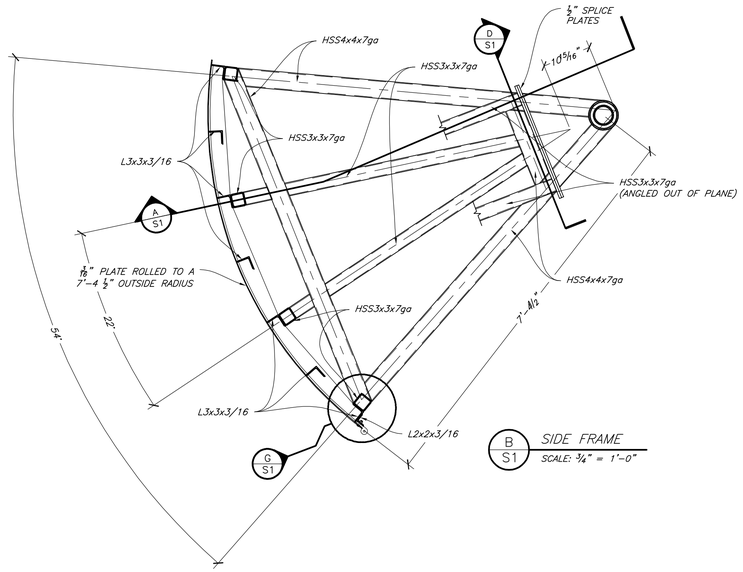

B S1 SIDE FRAME
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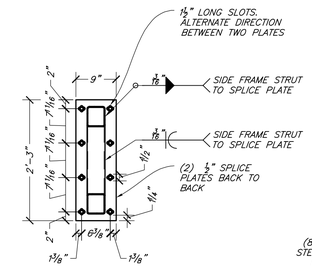
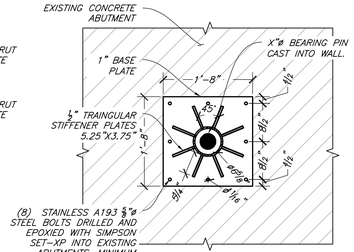
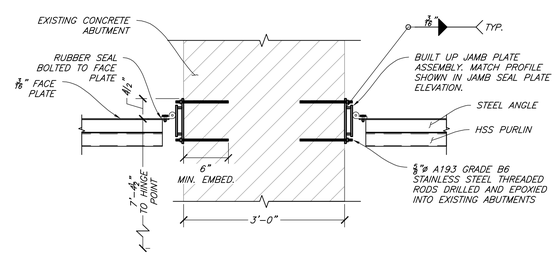


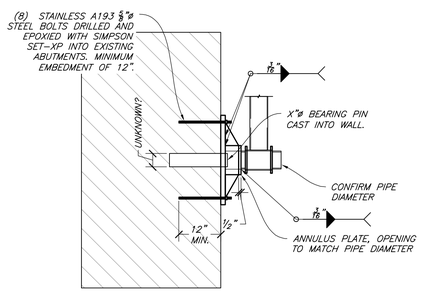
D S1 SPLICE PLATE
SCALE: ¾" = 1'-0"



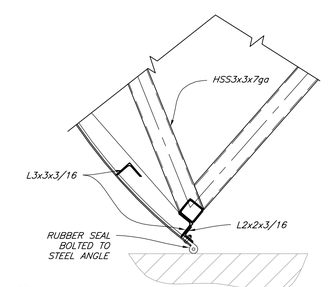
E.1 S1 SPLICE PLATE
SCALE: ¾" = 1'-0"



F S1 JAMB SEAL PLATE
SCALE: ¾" = 1'-0"



E.2 S1 SPLICE PLATE
SCALE: ¾" = 1'-0"



G S1 SILL SEAL PLATE
SCALE: 1" = 1'-0"

SGM
744 Horizon Court, Suite 250
Grand Junction, CO 81506
970.245.2571 www.sgm-inc.com

Redlands Water & Power
Grand Junction, Colorado

No.	Revision	Date	By:
1			

Project Milestone: Preliminary Not For Construction

Job No.	2020-235.001
Drawn by:	RWM/JJB
Date:	10/11/2017
QC: ELK | PE:	JJB
File:	RollerGateDetails2

Title: Roller Gate Replacement Project

Dwg No. S1

Of: 1

REDLANDS WATER & POWER COMPANY
2216 SOUTH BROADWAY
GRAND JUNCTION, COLORADO 81503

ARTICLES OF INCORPORATION

STATE OF COLORADO

DEPARTMENT OF STATE

CERTIFICATE

I, NATALIE MEYER, Secretary of State of the State of Colorado hereby certify that the prerequisites for the issuance of this certificate have been fulfilled in compliance with law and are found to conform to law.

Accordingly, the undersigned, by virtue of the authority vested in me by law, hereby issues A RESTATED CERTIFICATE OF INCORPORATION WITH AMENDMENTS TO REDLANDS WATER AND POWER COMPANY, A NONPROFIT CORPORATION.

Dated: FEBRUARY 19, 1992

Natalie Meyer

SECRETARY OF STATE

RESOLUTION TO RESTATE THE ARTICLES OF INCORPORATION

At a regular meeting of the Board of Directors of Redlands Water and Power Company duly held on DECEMBER 11, 1991, the following Resolution was proposed and unanimously adopted.

BE IT RESOLVED THAT the Articles of Incorporation of the company be restated to read as follows:

(See attached Exhibit A)

IT IS FURTHER RESOLVED THAT the Restated Articles of Incorporation be submitted to a vote of the shareholders of the corporation as provided in the Articles of Incorporation and Bylaws at the annual meeting of the shareholders to be held on JANUARY 14, 1992.

IN WITNESS WHEREOF I have signed this Resolution as Secretary of the corporation upon its adoption at a regular meeting of the Board of Directors of Redlands Water & Power Company duly held on the above date, and I have caused the corporate seal of the corporation to be affixed hereto.

E Gale Loesch
Secretary E. GALE LOESCH

(SEAL)

APPROVED:

Robert L. Sutton
ROBERT L. SUTTON

William T. Cohan
WILLIAM T. COHAN

Duane Clymer
DUANE CLYMER

Ronald P. Bonds
RONALD P. BONDS

E Gale Loesch
E. GALE LOESCH

Leatha Jean Stassen
LEATHA JEAN STASSEN

Gary Boesch
DIRECTORS GARY BOESCH

Restated Articles of Incorporation
of
Redlands Water and Power Company
(a Nonprofit Corporation)

ARTICLE I
NAME

The name of the corporation is
REDLANDS WATER AND POWER COMPANY.

ARTICLE II
STATE OF ORGANIZATION

The corporation is organized under the laws of the State of Colorado, and it has elected the provisions of the Colorado Nonprofit Corporation Act.

ARTICLE III
DURATION

The period of duration of the corporation shall be perpetual.

ARTICLE IV
PURPOSES AND POWERS

The objects, purposes and powers for which said company shall be created are: To purchase, acquire, own and possess the rights of way, canals, ditches, pipe lines, laterals, water rights, appropriations, priorities, decreed rights, power plants, substations, transmission lines and other property of The Redlands Water and Power Company; to maintain, operate, manage and control the same, to add to, extend and complete the system of works so acquired; to furnish and distribute to the stockholders water for irrigation and domestic purposes; to use power developed in its said system for the above purposes and to sell any surplus of power so developed from time to time; to borrow money; to mortgage, pledge or hypothecate any of the property of the corporation for company purposes; to bargain, sell, exchange, transfer, convey, warrant and covenant concerning, any of its property and rights or any interest in any thereof; to assume and perform any of the obligations of The Redlands Water and Power Company in favor of individual owners of any outstanding contracts for water right issued from said Redlands Water and Power Company; and to have and exercise any and every other powers and rights which may be incident or beneficial to the exercise and attainment of any of the above stated objects, purposes and powers.

This corporation shall not be or function as a common carrier of water or power, nor make any contracts on its own behalf to sell, rent or carry water or power for hire, or sell or rent or carry water or power for hire, except to sell and dispose of from time to time such surplus power as may be from time to time developed by its plant beyond its own need, - the same being purely the sale of dump power.

ARTICLE V
SOURCE AND PARTICULARS OF THE WATER

The stream from which the water for the canals or ditches of this corporation shall be taken is the Gunnison River.

The point or place on said stream near which the water is to be taken out is located on the left bank of the Gunnison River, in the Southeast quarter of the Northwest quarter (SE1/4 NW1/4) of Section thirty-five (35), Township one (1) South, Range one (1) West of the Ute Principal Meridian, in Mesa County, Colorado.

The canal flows in a northwesterly direction parallel to the Gunnison River to its junction with the Colorado, and then paralleling the Colorado River to a point about 3 1/2 miles below the point of diversion, where the water is taken through a hydroelectric and pumping plant, which is located in the northeast quarter of the southeast quarter (NE 1/4 SE 1/4) of Section sixteen (16), Township one (1) South, Range one (1) West of the Ute Principal Meridian. There are approximately 300 acres of land under irrigation under the power canal.

The water in the power canal is pumped to a height of 127 1/2 feet, through a pipe line approximately 1600 feet to the intake of First Lift and Stub Ditch. Approximately 33 acres are watered under the pipe line by direct use therefrom, herein classified as from a lift ditch.

The First Lift Ditch flows in a northwesterly direction from its said intake about 11 miles, and waters approximately 2250 acres of land.

The Stub Ditch also takes water out of the same discharge of the pipe line, and is a lift ditch. It runs for a distance of 2 miles, in a southeasterly direction, and waters approximately 160 acres of land.

At a point about 3.8 miles on the First Lift Canal, below its intake, is located a substation that lifts the water 78 feet and carries it through a canal about 6 miles long, in a northwesterly direction, watering approximately 1025 acres.

At the beginning of the Second Lift is another substation which lifts the water 50 feet and carries it a distance of 1 1/2 miles in a southwesterly direction, irrigating approximately 100 acres.

At a point on the Second Lift, approximately 3 miles below its intake, is located another Third Lift substation, which lifts the water 50 1/2 feet and carries the water through a canal approximately 3 miles, in a northwesterly direction, watering approximately 350 acres of land.

All of the above substations are operated by electric driven pumps, the current for which is generated from the hydroelectric plant located on the power canal.

It is intended that our said corporation shall be empowered to extend any of the said canals beyond their lower termini to serve any additional acreage of available land; also to construct any additional lift canals above the levels of said existing lift canals to be connected with power lift plants and pipe line thereby to serve any available additional land, all and each as may be found feasible and expedient.

The water from said ditches, canals and works is to be used for irrigation, domestic and power purposes.

ARTICLE VI
CAPITAL STOCK

Section 1. Authorized Shares. The aggregate number of shares, which the Corporation shall have authority to issue is 6,000 shares, consisting of:

a. 4,600 shares, which shall be either Class A or Class B, Lift Canal Stock, without par value; and

b. 400 shares, which shall be either Class C or Class D, Power Canal Stock, without par value; and

c. 1,000 shares, which shall be either Class E or Class F, Lift Canal Stock, without par value, the nature and character of which shall be as set forth in the corporate by-laws.

Section 2. Classes A and B.

a. Every user of water under the Lift Canal System shall be required to own at least one share of Class A, Lift Canal Stock, as a prerequisite to obtaining water through the facilities of the Company. Any shares of Class A stock in excess of one share owned by any individual, individuals, or entity may be converted into Class B stock upon the request of such owner.

b. Shareholders owning in excess of one (1) share of Lift Canal Stock are entitled to receive such excess in Class B stock. In the event of the transfer or sale of any share or shares of Class B stock, such transfer shall be deemed an election on the part of the transferor and transferee to convert such share, or the first share, if more than one share is being transferred, of such Class B stock so transferred, to Class A stock; Provided, however, that if such transferee owns any share or shares of Class A stock at the time of such transfer or sale, then in that event such transfer or sale shall not be deemed an election to convert such share, or the first share, as above described, to Class A. In the event any owner of both Class A and Class B stock attempts to convey, transfer or sell all of the Class A stock so owned, retaining only Class B stock, such conveyance, transfer or sale shall be deemed null and void and of no force or effect as to one share of such Class A stock concerned.

c. Each share of Class A or Class B stock shall entitle the owner thereof to receive 1/3 statute inch of water, or a pro-rata share of the water in the Lift Canal System.

d. Classes A and B, Lift Canal Stock shall be issued for the use of water under the Lift Canal System above described and under any extension thereof and additions thereto and shall not be transferred for use under the Power Canal System.

Section 3. Classes C and D.

a. Every user of water under the Power Canal System shall be required to own at least one share of Class C, Power Canal Stock, as a prerequisite to obtaining water through the facilities of the Company. Any shares of Class C stock in excess of one share owned by any individual, individuals, or entity may be converted into Class D stock upon the request of such owner.

b. Shareholders owning in excess of one (1) share of Power Canal Stock are entitled to receive such excess in Class D stock. In the event of the transfer or sale of any share or shares of Class D Stock, such transfer shall be deemed an election on the part of the transferor and transferee to convert such share, or the first share, if more than one share is being transferred, of such Class D stock; provided, however, that if such transferee owns any share or shares of Class C stock at the time of such transfer or sale, then in that event such transfer or sale shall not be deemed an election to convert such

share, or the first share, as above described, to Class C. In the event any owner of both Class C and Class D stock attempts to convey, transfer or sell all of the Class C stock so owned, retaining only Class D stock, such conveyance, transfer or sale shall be deemed null and void and of no force or effect as to one share of such Class C stock concerned.

c. Each share of Class C or Class D stock shall entitle the owner thereof to receive 1/2 statute inch of water, or a pro-rata share of the water in the Power Canal System.

d. Classes C and D, Power Canal Stock shall be issued for the use of water under the Power Canal System above described and under any extension thereof and additions thereto and shall not be transferred for use under the Lift Canal System.

Section 4. Assessment of Stock.

a. The capital stock of the Company shall be assessed when necessary to raise funds to keep its ditches, canals, plants, reservoirs, and any and all other facilities in good repair, or when it is necessary to raise funds to pay any indebtedness theretofore contracted or the interest thereon. Such assessment shall be payable in money or labor or both, provided, however, that whether or not labor shall be accepted in lieu of money shall be at the sole discretion of the Board of Directors. No assessment shall be made unless the question of making such assessment shall first be submitted to the stockholders of such Corporation, at an annual meeting, or at a special meeting called for that purpose and a majority of a quorum of the stock entitled to vote, represented either by the owner in person or by proxy, voting thereon, shall be voted in favor of making such assessment; that a quorum for the purposes hereof shall be not less than one-third of the issued and outstanding capital stock of the Company; provided, however, that in the case said stockholders fail to hold any such meeting or fail to make or authorize any such assessment by the 1st day in April in any year, then the Directors of the Company shall have power to make any such assessment at any regular or special Directors' Meeting called therefor for such year.

b. Manner of Assessing. - Assessments shall be levied pro-rata on the shares of each Class of stock as follows:

1. The assessment per share of Class B stock shall be set first. All Classes of stock shall be entitled to vote on such assessment.

2. The assessment per share of Class D stock shall be 1/2 the assessment set for Class B stock.

3. The assessment per share of Class A stock shall then be set. All classes of stock shall be entitled to vote on such assessment. The assessment per share shall be set at not less than double nor more than four times the amount of the assessment per share of Class B stock.

4. The assessment per share of Class C stock shall be 1/2 the assessment set for Class A stock.

c. Forfeiture. - The Directors of the Company by By-Laws may prescribe for a forfeiture or sale of stock on failure to pay such assessments as the same become due from time to time, but no forfeiture of stock shall be declared against any estate or against any stockholder before demand shall have been made for the amount due thereon, either in person or by written or printed matter, duly mailed, to the last known address of such stockholder, at least 30 days prior to the time when such forfeiture is to take effect; but the proceeds of any sale, over and above the amount due on such shares, shall be paid to the delinquent stockholder. The Company shall have a perpetual lien upon all shares of the Company stock and the water rights represented by the same, for any and all such assessments and all parts thereof until the same are fully paid. The Company shall not be required to deliver water to any stockholder until all assessments owed by such stockholder shall have first been paid.

ARTICLE VII
NO PRE-EMPTIVE RIGHTS

No holder of shares of capital stock shall have any pre-emptive or other rights as such holder to purchase, subscribe for, or otherwise acquire any part of any new or additional shares of stock of any class whatsoever, or of securities convertible into any class whatsoever, or of warrants, rights, or other instruments which carry the right to purchase shares of stock of any class whatsoever, whether now or hereafter authorized, or whether issued for cash, property or services.

ARTICLE VIII
VOTING - WHEN CUMMULATIVE VOTING ALLOWED

Section 1. General Matters.

The voting power shall vest solely in the holders of the capital stock. At every meeting of the stockholders every holder of capital stock, whether it be Class A, B, C or D shall be entitled to one vote for each share standing in his name on the books of the Corporation.

Section 2. Election of Directors.

Every holder of the capital stock shall have the right to vote in person or by proxy, the number of shares owned by him for as many persons as there are Directors to be elected and for whose election he has a right to vote, or to cumulate his votes by giving one candidate as many votes as the number of such Directors multiplied by the number of his shares shall equal, or by distributing such votes on the same principle among any number of such candidates.

ARTICLE IX
BOARD OF DIRECTORS

The corporation shall have a Board of Directors consisting of seven persons.

ARTICLE X
PRINCIPAL OFFICE

The principal office of the corporation shall be at Grand Junction, Mesa County, Colorado, and the principal business of the company shall be carried on in the County of Mesa and State of Colorado.

ARTICLE XI
BY-LAWS

The Board of Directors shall have the power to make such prudent by-laws as they may deem proper for the management of the affairs of the company, not inconsistent with these Articles of Incorporation nor inconsistent with laws. The by-laws may provide that no person shall be eligible to or remain in office as a director who shall not be a resident of Mesa County, Colorado; and may provide further qualification severally for the office of one or more directors, so as to insure there being one or more directors from among owners of any kind of stock irrigating lands by waters thereon in any particular area or areas, respectively, as may be defined by the by-laws.

ARTICLE XII
RESTATED ARTICLES

These Restated Articles of Incorporation only restate and integrate and do not further amend the provisions of the corporation's Articles of Incorporation as previously amended or supplemented. There is no discrepancy between such Articles of Incorporation with such amendments or supplements and the provisions of the Restated Articles of Incorporation. The Restated Articles of Incorporation supercede the original Articles of Incorporation and all amendments and supplements thereto. Omitted from the Restated Articles of Incorporation are the provisions of the original Articles of Incorporation which named the incorporators and the initial board of directors of the corporation.

The above and foregoing Restated Articles of Incorporation were duly adopted on January 14, 1992, at an annual meeting of the shareholders of the Corporation entitled to vote thereon with a quorum present, upon the affirmative vote of the majority of such shareholders entitled to vote thereon who were present at such meeting or represented by proxy.

Dated this 12th day of February, 1992.

Redlands Water and Power Company

By Robert L. Sutton
President

Attest:

John B. Custis
Secretary

VERIFICATION

STATE OF COLORADO,)
) ss.
COUNTY OF M E S A.)

Robert L. Sutton, being first duly sworn upon his oath, deposes and says:

He is president of Redlands Water and Power Company. He has read the foregoing Restated Articles of Incorporation, knows the contents thereof, and they accurately reflect the Articles of Incorporation as originally adopted and later amended.

Further your affiant sayeth not.

Redlands Water and Power Company

Robert L. Sutton
President

Subscribed and sworn to before me this 12th day of February, 1992, by Robert L.Sutton, as President of Redlands Water and Power Company.
Witness my hand and official seal.
My commission expires: May 22, 1993

Richard A. Arnold
Notary Public

FILED COPY

NONPROFIT

951005715 $25.00
SECRETARY OF STATE
01-17-95 11:29

ARTICLES OF AMENDMENT
OF
REDLANDS WATER AND POWER COMPANY

Redlands Water and Power Company, a Colorado nonprofit corporation, having its principal office at 197 Power Road, Grand Junction, Colorado 81503 (Corporation), hereby certifies to the Secretary of State that:

FIRST: The name of the corporation is: Redlands Water and Power Company

SECOND: The Articles of Incorporation of the Company are hereby amended by striking Article VI, Section 4(b), and by substituting in lieu thereof the following:

> Manner of Assessment. Assessments shall be levied on all shares of stock of the Corporation in an equal amount, on a pro rata basis, regardless of class.

THIRD: The amendment was recommended to the stockholders by resolution of the Board of Directors, which was adopted at a regular meeting of the Board of Directors held on December 14, 1994.

FOURTH: The amendment was adopted by the stockholders of the Corporation in the manner prescribed by the Colorado Nonprofit Corporation Act at the annual meeting held January 10, 1995, at which a quorum of members was present, and the amendment received at least two-thirds of the votes which stockholders present at such meeting or represented by proxy were entitled to cast.

IN WITNESS WHEREOF, Redlands Water and Power Company have caused these Articles of Amendment to be signed in its name and on its behalf by its President and its corporate seal to be hereunder affixed and attested to by its Secretary on this 12th day of January, 1995, and its President acknowledges that these Articles of Amendment are the act and deed of Redlands Water and Power Company and, under penalties of perjury, that the matters and facts set forth herein with respect to authorization and approval are true in all material respects to the best of the President's knowledge, information and belief.

REDLANDS WATER AND POWER COMPANY

By Earl Fisk
Earl Fisk, President

Attest:

Edward A. Carpenter
Edward Carpenter, Secretary

ARTICLES OF AMENDMENT
OF
REDLANDS WATER AND POWER COMPANY

The Amended and Restated Articles of Incorporation of Redlands Water and Power Company, a Colorado nonprofit corporation, dated January 12, 1995, as previously amended, are hereby amended as provided in these Articles of Amendment.

1. Article VI, Section 1, is amended to provide as follows:

Section 1. Authorized Shares. The aggregate number of shares, which the Corporation shall have the authority to issue, is 6,000 shares, consisting of:

a. Five thousand six hundred (5,600) shares of Lift Canal Stock, without par value; and

b. Four hundred (400) shares of Power Canal Stock, without par value.

2. Article VI, Section 2, is amended to provide as follows:

Section 2. Lift Canal Stock.

a. Each share of Lift Canal Stock shall entitle the owner thereof to receive one-third (1/3) statute inch of water, or a pro rata share of the water in the Lift Canal System.

b. Lift Canal Stock shall be issued for the use of water under the Lift Canal System above described and under any extension thereof and additions thereto and shall not be transferred for use under the Power Canal System. Transfer of Lift Canal Stock between different lifts shall be subject to conditions and restrictions set forth in the bylaws.

c. All Lift Canal Stock currently designated as A, B, E and F shares shall be deemed to be Lift Canal Stock without the need for reissuance of stock certificates. However, upon future reissuance of stock certificates, such certificates shall be reissued as Lift Canal Stock with a designation as to the lift where the water represented by the stock is used.

3. Article VI, Section 3, is amended to provide as follows:

Section 3. Power Canal Stock.

a. Each share of Power Canal Stock shall entitle the owner thereof to receive one-half (½) statute inch of water, or a pro rata share of water available for irrigation in the Power Canal System.

b. Power Canal Stock shall be issued for use of water under the Power Canal System above described and under any extension thereof and any additions thereto and shall not be transferred for use under the Lift Canal System.

c. All Power Canal Stock currently designated as C or D shares shall be deemed to be Power Canal Stock without the need for reissuance of certificates. However, upon future reissuance of stock certificates, such certificates shall be reissued as Power Canal Stock.

4. Article VIII, Section 1, is amended to provide as follows:

Section 1. General Matters. The voting power shall vest solely in the holders of the capital stock. At every meeting of the stockholders, every holder of capital stock, whether it be Power Canal Stock or Lift Canal Stock, shall be entitled to one (1) vote for each share standing in such stockholder's name on the books of the Corporation.

REDLANDS WATER AND POWER COMPAN

By Charles A. Mitisek
Chuck Mitisek, President

By Earl Fisk
Earl Fisk, Secretary/Treasurer