## **Colorado Water Conservation Board**

# CONSTRUCTION FUND AND SEVERANCE TAX PERPETUAL BASE FUND

## SMALL PROJECT LOAN REPORT

(2016 CALENDAR YEAR)



Colorado Water Conservation Board Department of Natural Resources

January 15, 2017

#### **PREFACE**

Pursuant to Section 37-60-122(b) of the C.R.S. the Colorado Water Conservation Board (CWCB) is required to submit a report by January 15<sup>th</sup> of each year to the Colorado General Assembly describing the basis of all Construction Fund and Severance Tax Perpetual Base Fund loans authorized by the CWCB under \$10,000,000. This report fulfills the CWCB reporting obligations for those "Small Project" loans for calendar year 2016.

The report includes a summary spreadsheet identifying each loan approval date, the project sponsor or borrower, the project name, the loan amount, and the name of the County and river basin where the project is located. There were 13 new loan projects under \$10,000,000 approved by the CWCB in calendar year 2016. The total loan value is approximately \$19.5 million.

Included in the report is a loan project Data Sheet for each new loan project. The Data Sheet includes a project description, project location map, and other pertinent loan and project information.

January 12, 2017



1313 Sherman Street, Room 718 Denver, CO 80203

January 15, 2017

The Honorable Senator Jerry Sonnenberg Chair, Senate Agriculture, Natural Resources, and Energy Committee

The Honorable Representative Jeni Arndt Chair, House Agriculture, Livestock and Natural Resources Committee

Re: Small Project Loans Approved in 2016

Construction Fund and Severance Tax Perpetual Base Fund

Dear Senator Sonnenberg and Representative Vigil.

Pursuant to C.R.S. § 37-60-122(b), the Colorado Water Conservation Board (CWCB) is submitting the attached written determination of the basis for all loans under \$10,000,000 authorized during the 2016 calendar year. The report will be presented to the CWCB at the January 23, 2017 Board meeting.

The report will be posted on the web at www.leg.state.co.us and on the CWCB website www.cwcb.state.co.us. A copy of the report has been submitted to the Legislative Library, Room 029 of the State Capitol Building, Paper copies of the Report will be made available upon request.

If you have questions or need additional copies of the report, please contact Mr. Doug Vilsack, Legislative Liason, at 303-866-3311 x8664.

Sincerely

James Eklund, Director

Colorado Water Conservation Board



Colorado Water Conservation Board Small Project Loans - Construction and Severance Tax Funds For Calendar Year 2016

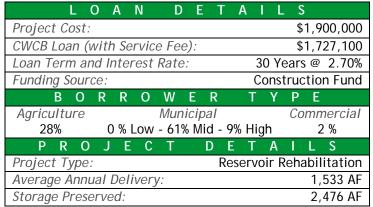
	Basin	South Platte	Gunnison	Gunnison	Gunnison	South Platte	South Platte		South Platte	South Platte	Colorado	South Platte	South Platte	Colorado	Colorado			South Platte South Platte	South Platte		
	County	Boulder	Delta	Mesa	Delta	Larimer	Sedwick		Weld	Larimer	Mesa	Larimer & Weld	Weld	Mesa	Mesa			Jefferson Larimer	Boulder		
Funding	Source *	CF	ST	G	F)	F)	CF		CF	CF	CF	£)	CF	CF	CF			ర్ ర్	f)		
	Amount Approved	\$1,727,100.00	\$151,500.00	\$1,010,000.00	\$90,900.00	\$278,100.00	\$203,616.00		\$248,157.00	\$1,451,673.00	\$151,500.00	\$681,750.00	\$10,000,000.00	\$1,717,000.00	\$1,717,000.00	\$19,428,296.00		\$91,102.00 \$627,210.00	\$120,190.00	\$838,502.00	\$20.266.798.00
	Project	Lake McIntosh Outlet Works Repair	Orchard Ranch Ditch Piping	Hallenbeck Reservoir No. 1 Dam Rehabilitation	Piping the Duke Ditch	Dixon Reservoir Dam Improvement	Reconstruction of the Harmony No. 1 Measurement	Structure	Union Reservoir Water Rights Purchase	Rehabilitation of the Livermore Irrigation Tunnel	Government Highline Canal Lining	Headgate Structure Replacement	Storage Development and Water Rights Purchase	Grand Valley Power Plant Rehabilitation	Grand Valley Power Plant Rehabilitation			Bergen Reservoir No. 2 Rehabilitation Reservoir No. 4 Rehabilitation	Dam Outlet Works Rehabilitation		
	Borrower	Lake McIntosh Reservoir Company	Orchard Ranch Ditch Company	City of Grand Junction	Duke Ditch Company	Dixon Canon Ditch and Reservoir Company	Julesburg Irrigation District		Union Well Augmentation Group	North Poudre Irrigation Company	Grand Valley Water Users Association	Larimer and Weld Irrigation Company	Town of Firestone	Grand Valley Water Users Association	Orchard Mesa Irrigation District	New Small Project Loans Approved in 2016	S.	Bergen Ditch and Reservoir Company North Poudre Irrigation Company	Oligarchy Irrigation Company	Loan Increases Approved in 2016	Total Amount Approved in 2016
Date	Approved	01/26/16	01/26/16	03/16/16	03/16/16	05/18/16	05/18/16		05/18/16	07/20/16	09/21/16	09/21/16	11/16/16	11/16/16	11/16/16		Loan Increases	01/26/16 01/26/16	05/18/16		
	Project	1	2	3	4	5	9		7	8	6	10	11	12	13		L				

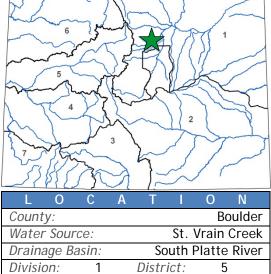
\* Indicates whether the funding source is from Construction Fund (CF) or Severance Tax Fund (ST)



## Lake McIntosh Outlet Works Repair

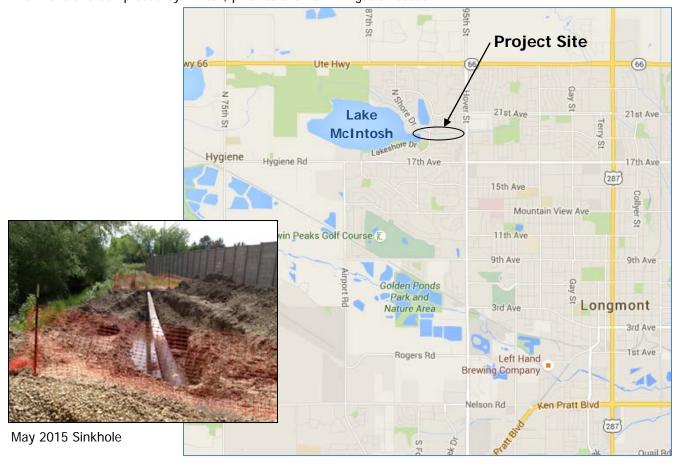
Lake McIntosh Reservoir Company January 2016 Board Meeting





Lake McIntosh Reservoir Company is a mutual irrigation reservoir company formed in 2001. The Company owns Lake McIntosh Reservoir which is used as part of an exchange between the Highland Ditch Company and the Oligarchy Ditch Company.

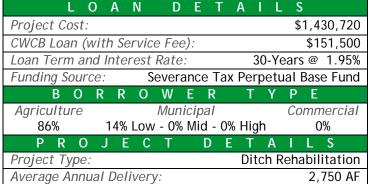
The reservoir was constructed in 1890 and enlarged in 1902. In May 2015, a section of the reservoir's outlet pipe collapsed, creating a sinkhole which deposited soil in the outlet works pipes downstream for approximately 300 feet. This has rendered the reservoir's outlet works unusable and thus water cannot be delivered without the use of a temporary pump. The goal of this project is to restore the reservoir's functionality by repairing its damaged outlet works. Construction is planned to begin in summer 2016 and completed by winter, prior to the 2017 irrigation season.

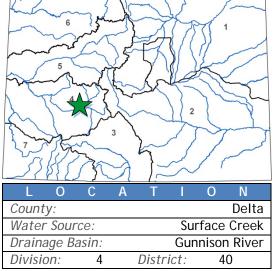




## **Orchard Ranch Ditch Pipe Project**

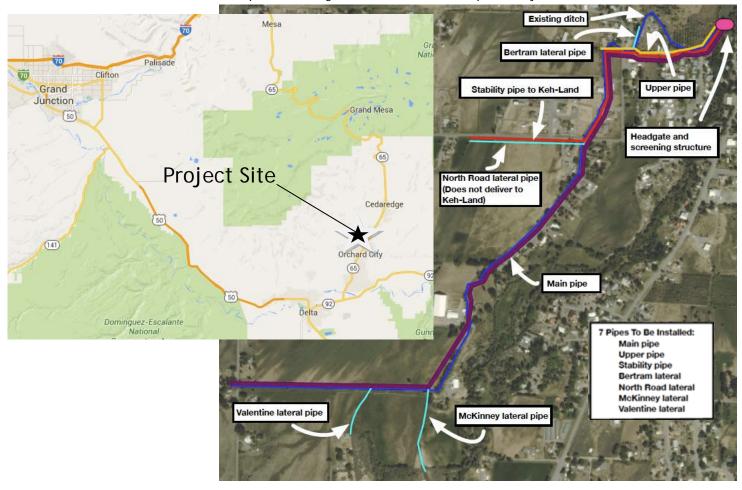
Orchard Ranch Ditch Company January 2016 Board Meeting





The Company serves approximately 350 irrigated acres in Delta County, approximately 10 miles north of the town of Delta, diverting all its supplies via a concrete diversion structure on Surface Creek. The Company's ditch was constructed in the late 1800s by a group of early settlers cooperating to get water to their new farms, and has been in continuous operation since that time. The

proposed project will pipe the 1.6 mile long main earthen canal and portions of 4 laterals. The project will be done in conjunction with the U.S. Bureau of Reclamation's Colorado River Basin Salinity Control Program. Approximately 90% of project costs will be provided by a grant from the the U.S. Bureau of Reclamation. Construction is expected to begin in mid-2016 with completion by mid-2017.

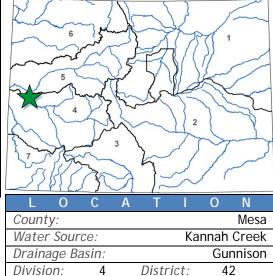




## Hallenbeck Reservoir No. 1 Dam Rehabilitation

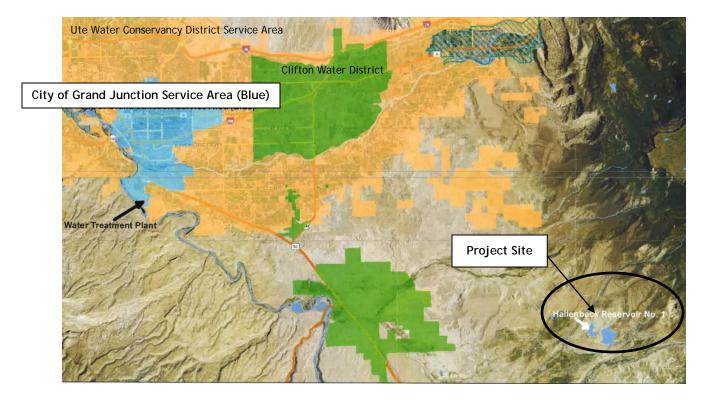
City of Grand Junction March 2016 Board Meeting

L O A N D E	TAILS										
Project Cost:	\$1,153,782										
CWCB Loan (with Service Fee):	\$1,010,000										
Loan Term and Interest Rate:	20 years @ 2.65%										
Funding Source: Construction Fund and WSRA Grants											
BORROWE	RTYPE										
Agriculture Municipa	oal Commercial										
0% 0% Low - 100% Mid	d - 0% High 0%										
P R O J E C T I	DETAILS										
Project Type:	Dam Rehabilitation										
3 31											
Average Annual Delivery:	5,218 AF										



Hallenbeck Reservoir No. 1 is one of the City of Grand Junction's 14 reservoirs. It has a capacity of 699 acrefeet. In 2014 the City of Grand Junction developed plans to mitigate seepage through the dam; however, during the evaluation process, seepage increased and an 80-foot crack developed on the downstream face of the dam.

Water was immediately released from the reservoir in an effort to relieve hydrostatic pressure within the dam. The City completed a forensic evaluation of the dam that included a geotechnical investigation and structural evaluation. The purpose of this project is to repair the dam to allow the City to use all if the storage capacity. Construction involves removal of several feet of material on the downstream face of the dam, removal of the existing toe drain system, installation of a blanket filter on the downstream face, installation of a new toe drain system, installation of a buttress on the downstream face, and installation of new piezometers and monuments. This will allow the City to make use of its 1939 absolute irrigation right, and 1993 conditional municipal right. Construction is expected to occur in the summer of 2016.

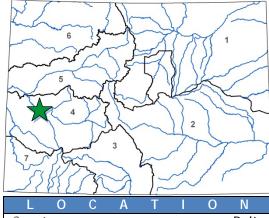




## Piping the Duke Ditch

Duke Ditch Company March 2016 Board Meeting





The Duke Ditch Company diverts from Leroux Creek and Barrow Gulch, west of the Town of Hotchkiss, and delivers water through the Company's ditch to a 380-acre service area. The earthen ditch traverses a steep hillside in the Leroux Creek canyon where it is prone to washout and is subject to significant seepage and evaporative losses. As a result of the location, it has significant

County:DeltaWater Source:Leroux CreekDrainage Basin:GunnisonDivision:4District:42

maintenance and aquatic vegetation growth issues. The deep percolation of irrigation water in this area contributes salinity and selenium to the Colorado River system; therefore, the Company obtained a \$464,000 Salinity Control Program grant (61% of project costs) and a \$100,900 NRCS grant (13% of project costs), as the project is expected to reduce salt loading to the Colorado River system by 395 tons/year. In addition, the Company is applying for a \$47,237 basin grant and a \$47,237 statewide grant from the Water Supply Reserve Account Grant Program to pipe the entire 2.7 miles of ditch. Construction is scheduled for the fall/winter of 2016/2017.

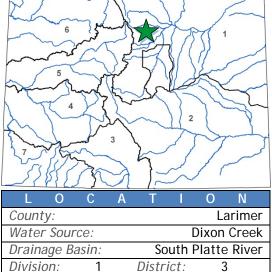




#### **Dixon Reservoir Dam Improvement**

Dixon Canon Ditch and Reservoir Company
May 2016 Board Meeting

LOAN DET	AILS				
Project Cost:	\$309,000				
CWCB Loan (with Service Fee):	\$278,100				
Loan Term and Interest Rate:	30 years @ 2.55%				
Funding Source:	Construction Fund				
BORROWER	TYPE				
	Commercial				
Agriculture Municipal	Commercial				
Agriculture Municipal 17% 0% Low - 83% Mid - 0%					
17% 0% Low - 83% Mid - 0%	High 0%				
17% 0% Low - 83% Mid - 0% P R O J E C T D E	High 0%				



Dixon Canon Ditch and Reservoir Company owns and operates the Dixon Reservoir Dam and associated ditch located in Larimer County on the west side of Fort Collins. Dixon Reservoir is directly east of Horsetooth Reservoir. The ditch diverts water off of Dixon Creek and

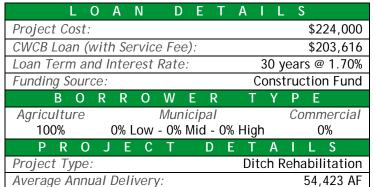
provides water for outdoor irrigation to a 206-acre service area via approximately 9,000 feet of pipe and ditch. The water is typically used to irrigate turf, agricultural crops, and the City of Fort Collins parks and open space. The dam was constructed in 1885 and is classified as a Significant Hazard Dam by the Dam Safety Branch of the Office of the State Engineer (SEO). The Reservoir has a decreed storage volume of 412 acre-feet. Recent SEO inspections identified areas of seepage that need to be addressed in order to maintain the full storage decrees. The purpose of this project is to address seepage issues and improve the dam outlet works so the Company can continue providing an adequate amount of irrigation water to shareholders while minimizing the risk of dam failure. Construction is expected to begin in late 2016.





# Reconstruction of the Harmony No.1 Measurement Structure

Julesburg Irrigation District
May 2016 Board Meeting



L O C A T I O N

County: Sedgwick

Water Source: South Platte River

Drainage Basin: South Platte River

Division: 1 District: 64

The Julesburg Irrigation District (District), part owner and the operator of the Harmony No. 1 Canal, delivers both Direct Flow rights and Storage water rights to the Julesburg Reservoir. The Canal diverts water from the South Platte River approximately three miles southwest of the town of Crook, Colorado. The Canal delivers direct

flow irrigation water, storage water and augmentation water to approximately 17, 000 acres of land controlled by the Harmony Ditch Company and Julesburg Irrigation District. The Canal can also be used to deliver irrigation water to an additional 6,000 acres thru the Julesburg Reservoir rights administered to the Petersen Canal as a supplemental source if supplies at the Petersen head gate are not adequate. The existing 20 foot Parshall Flume has structural damage that will cause failure. The District wishes to replace the existing structure with a new structure located just upstream, prior to the 2017 reservoir fill season beginning in November 2016. The purpose of this project is to provide a reliable measurement structure to accurately measure the flow of the Harmony No. 1 Canal during the diversion of water for the various water rights being used by the Julesburg Irrigation District.

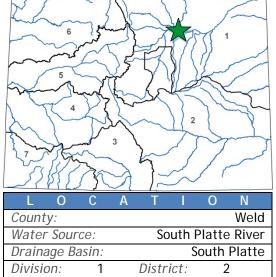




## **Union Reservoir Water Rights Purchase**

Union Well Augmentation Group May 2016 Board Meeting

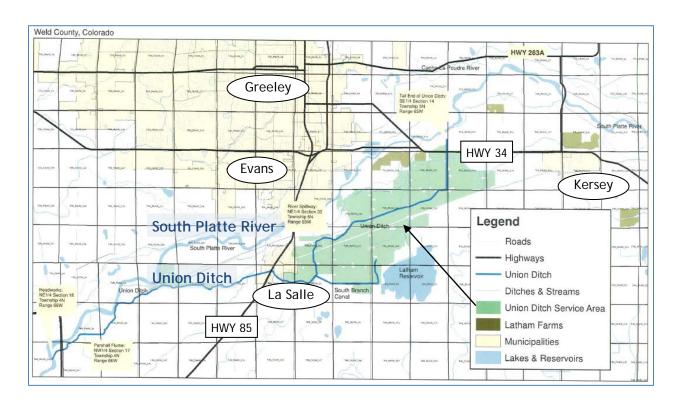
LOAN DE	TAILS										
Project Cost:	\$273,000										
CWCB Loan (with Service Fee):	\$248,157										
Loan Term and Interest Rate:	20 Years @ 1.45%										
Funding Source: Severance Tax PBI											
BORROWER	TYPE										
Agriculture Municipal	Commercial										
100% 0% Low - % Mid -	% High 0%										
P R O J E C T D	ETAILS										
Project Type:	Water Rights Purchase										
Average Annual Delivery:	116 AF										



The Union Well Augmentation Group provides augmentation water for well owners of the Union Ditch Company, providing supplemental irrigation water to 29 wells covering 2,200 acres. The Company covers an average of 4 AF of well depletions per year.

The Augmentation Group seeks to purchase 2.0 shares of

the Union Reservoir Company. The Augmentation Group will use these shares in the augmentation plan via a lease with the City of Longmont where Longmont will use the 2 shares and in return the Augmentation Group will receive the city's effluent, which is approved for use in the augmentation plan. It is expected that these 2 shares will add 15.3 AF to the Augmentation Group's average quota of 0.5 AF per well.





## COLORADO Rehabilitation of the Livermore Irrigation Tunnel

North Poudre Irrigation Company July 2016 Board Meeting

LOAN DET	AILS				
Project Cost:	\$ 1,597,000				
CWCB Loan (with Service Fee):	\$ 1,451,673				
Loan Term and Interest Rate:	30 years @ 2.25%				
Funding Source:	Construction Fund				
BORROWER	TYPE				
Agriculture Municipal	Commercial				
26% 0% Low - 73% Mid - 0%	High 1%				
PROJECT DE	TAILS				
Project Type:	Ditch Rehabilitation				
Average Annual Delivery:	44,400 AF				

L O C A T I O N

County: Larimer

Water Source: Cache la Poudre River

Drainage Basin: South Platte River

Division: 1 District: 3

The North Poudre Irrigation Company service area encompasses approximately 300 square miles, including 160 square miles of service area under the North Poudre Canal (36 square miles of irrigated acreage), as well as additional service areas covering 14 communities and municipal water providers that own NPIC shares.

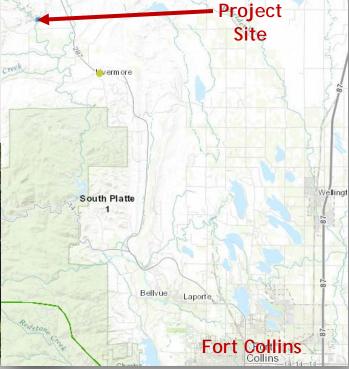
The Livermore Tunnel carries water diverted from the North Poudre Canal headgate, located on the north side of the North Fork Cache la Poudre River, for approximately 4,900 feet before it is discharges into an earth-lined open canal and flows on toward the Buckeye Lateral, Park Creek Reservoir, and the Company's downstream delivery infrastructure.

The Livermore Tunnel consists of two tunnels connected by a short section of open channel. The tunnels are approximately 8.5 feet high and 8 feet wide with a concrete invert along the entire tunnel length. The tunnels are considered generally stable with the exception of six collapse zones where large piles of rock and debris have accumulated in the base of the tunnel, ponding up to three feet of water and

restricting the overall flow capacity. The geometry of the collapse zones varies; however, the disrupted zones were estimated visually to be up to 45 feet high and 35 feet wide. An ongoing concern is of roof or partial collapse in the tunnel, which could result in severe disruption of water service for 14 communities and over 200 farms. The project will also include proactive repairs to an additional ten shear/void areas.

Construction is scheduled for the fall/winter of 2016/2017.



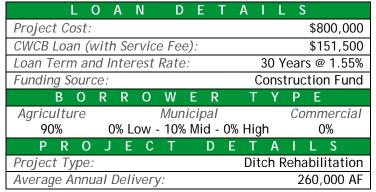


Water Project Loan Program - Project Data Sheet



## **Government Highline Canal Lining**

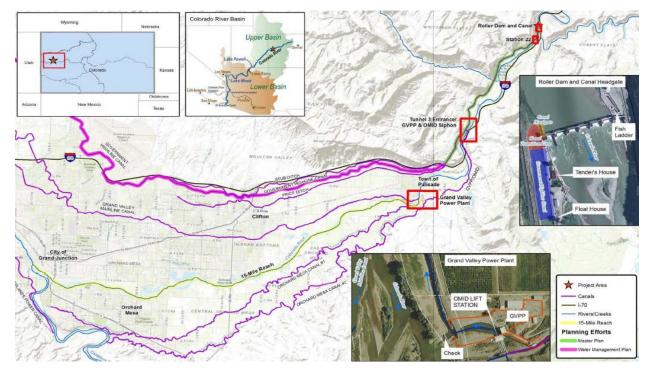
Grand Valley Water Users Association September 2016 Board Meeting



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The Grand Valley Water Users Association (Association), is requesting funding for the Government Highline Canal Lining Project. The Association is the managing entity of the Bureau of Reclamation's Grand Valley Project. The Grand Valley Project facilities include the Grand Valley Diversion Dam (also known as the Roller Dam) on the Colorado River in De Beque Canyon, the

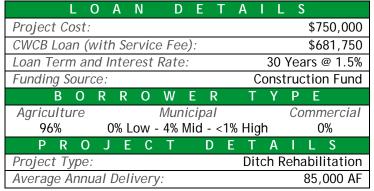
55-mile-long Government Highline Canal,150 miles of project operated laterals, 100 miles of drainage ditches, and a hydroelectric power plant. The embankment immediately below the Roller Dam is relatively narrow and separates the Government Highline Canal from the Colorado River. This section of canal was constructed around 1915. Over the last 100 years the embankment has slumped, settled and degraded. Occasional erosion within the embankment has led to material loss and sinkholes. As a result of canal degradation, water flow is restricted and the canal cross section has been reduced, causing a reduction in capacity of the canal channel. The canal is currently physically restricted to approximately 1,600 cfs while the water rights are for 1,730 cfs. To increase the capacity, the Association intends to improve first 500 feet of the canal. Permitting and final design are scheduled for completion by March 2017. Construction is anticipated in summer and fall of 2017.

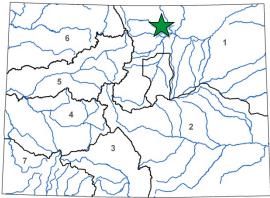




## **Headgate Structure Replacement**

Larimer and Weld Irrigation Company September 2016 Board Meeting





The Larimer and Weld Irrigation Company is a Colorado Mutual Ditch Company and a nonprofit corporation. The Company's service area extends from the Cache la Poudre River diversion north of Fort Collins, east to near the town of Galeton, encompassing approximately 61,000 acres of irrigated land in Larimer and Weld Counties. The

LOCATIONCounty:Larimer & WeldWater Source:Cache la Poudre RiverDrainage Basin:South PlatteDivision:1District:3

Company's diversion off the Cache la Poudre River is aging and in need of repair. This Project will focus on replacing the headgate structure, including the concrete structure, gates, and gate operators. The replacement of the trash rack and forebay structure, and repairs to the diversion structure, are planned to take place within the next few years and are not a part of this Project.

The City of Fort Collins has developed a flood control plan for the Dry Creek Basin, which in part uses the Larimer & Weld Ditch as a conveyance for flood flows in Dry Creek. Therefore, should a flood occur in the Dry Creek Basin, it is of great importance for life, safety, and prevention of property damage, that the ditch's upstream headgate off the Poudre River be able to close so there is capacity available in the ditch to handle flood flows. Construction activities will include the replacement of the concrete structure, new gates and operators, and a new control building. Construction is expected to occur between the 2016 and 2017 irrigation seasons.





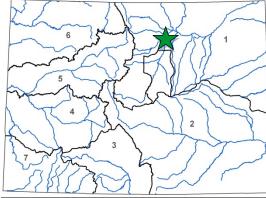
# Storage Development and Water Rights Purchase

Town of Firestone

November 2016 Board Meeting

L O	Α	N I	) E	T	Α	1 1	_ S		
Project Cost:							\$10	0,043	,150
CWCB Loan (wit	\$10	0,000	,000						
Loan Term and	Inter	est Rat	e:			20 '	Year.	s @ 2	.35%
Funding Source:					(	Cons	truc	tion F	und
B O R	R	O W	Е	R	T	Υ	Р	Е	
Agriculture		Mu	nicipa	al	Commercial				
0%	)% Lo	w - 0%	Mid -	1009	6 Hi	gh		0%	
PRO		~ <del>-</del>	_		_				
PRU	) E	C T		) E	T	Α		L S	
Project Type:	E		_		T late	<u> </u>	l ghts	L S Purcl	nase
•		Stor	_		T /ate	<u> </u>	ghts		nase 2 AF

The Town of Firestone's boundary encompasses approximately 9,089 acres and is generally located east of Interstate 25 between Highway 66 and Highway 52. The Town of Firestone provides water and wastewater services to approximately 12,110 residents and operates a water distribution network of approximately 58.5 miles of pipeline and associated facilities. The purpose of this



L	0	С	Α	T	I	0	N			
Count	ty:						Weld			
Water	r Sour	се:		St. Vrain River /						
				Boulder Creek						
Drain	age Ba	asin:		South Platte River						
Divisi	on:	1		Distr	ict:		2			

project is to provide a water storage project to help meet the Town's current and future non-potable water needs. For planning purposes, the Town is pursuing a little over two times the demand, or 2,000 acre-feet of non-potable storage for the Town. As a short-term water supply goal, the Town is requesting funds to Purchase the Carbon Valley Resource Pit and acquire 1,092 acre-feet as part of this project.



Water Project Loan Program - Project Data Sheet



## **Grand Valley Power Plant Rehabilitation**

Grand Valley Water Users Association
November 2016 Board Meeting

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Project	Cost											\$	5,2	00,0	000
CWCB Loan (with Service Fee): \$1,717,000												000			
Loan Term and Interest Rate: 30 Years @ 2.0%												.0%			
Funding Source: Construction Fur												und			
В	0	R	R	0	W	Е	R		T	,	Y	Р	Е		
				ŀ	Hydro	оро	wei	r							
P 1	₹ 0	) ,	JΕ	С	Т		D	Ε	T	-	4	Τ	L	S	
Project	Туре	:									ŀ	Нус	lroe	elec	tric
Average Annual Power Production:													17	M k	Wh

The Grand Valley Water Users Association (Association) and Orchard Mesa Irrigation District (District) are each seeking a loan to cover its cost share for the Grand Valley Power Plant (GVPP) Rehabilitation Project. The GVPP is owned by the Bureau of Reclamation and originally operated by Public Service Company of Colorado (Xcel Engergy) in conjunction with the Cameo coal fired power plant. The Association and District took operational control of the plant when Xcel decided to cease its operations. The Association and District equally split costs and

6 1

L	0	С	Α	T		0	N				
County	<i>/:</i>						Mesa				
Water	Sour	ce:		Colorado River							
Draina	ge B	asin:				Сс	lorado				
Divisio	n:	5		Distr	ict:	7	'2				

revenues from the GVPP under a Lease of Power Privilage with Reclamation and a Power Purchase Agreement with Xcel. In addition to being a revenue source, the GVPP serves an importnant role in providing water to the "15-Mile Reach" which has been designated by the Upper Colorado River Endangered Fish Recovery Program as critical habitat. The non-consumptive hydropower water right ensures continued flows for this important stretch of river.

The goal of the Project is to bring the GVPP up to a sustainable operating condition and meet current electric and safety standards. The GVPP was built in the early 1930s and has seen no major upgrades or modernization to date. Under current operations, the "water-to-wire" efficiency is approximately 54% with a maximum generation output of 2.5 MW. Calculations show as much as 4.1MW production should be feasible based on flow rate and available head.

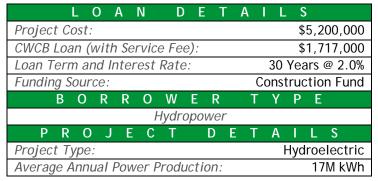


Water Project Loan Program - Project Data Sheet

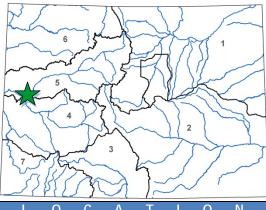


## **Grand Valley Power Plant Rehabilitation**

Orchard Mesa Irrigation District
November 2016 Board Meeting



The Orchard Mesa Irrigation District (District) and Grand Valley Water Users Association (Association) are each seeking a loan to cover its cost share for the Grand Valley Power Plant (GVPP) Rehabilitation Project. The GVPP is owned by the Bureau of Reclamation and originally operated by Public Service Company of Colorado (Xcel Engergy) in conjunction with the Cameo coal fired power plant. The District and Association took operational control of the plant when Xcel decided to cease its operations. The District and Association equally split costs and revenues



L	0	С	Α	Т		0	N				
Count	ty:						Mes	a			
Water	r Sour	ce:		Colorado River							
Draina	age Ba	asin:		Colorado							
Divisi	on:	5		Distr	ict:	7	2				

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Water Project Loan Program - Project Data Sheet