

LOAN FEASIBILITY STUDY

GRAND VALLEY PROJECT - GOVERNMENT HIGHLINE CANAL TOP 500 FEET LINING PROJECT-CANYON CANAL IMPROVEMENT PROJECT MESA COUNTY, COLORADO

Applicant

Grand Valley Water Users Association (GVWUA)

1147 24 Road

Grand Junction, Colorado 81505

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FEASIBILITY STUDY APPROVAL

Pursuant to Colorado Revised Statutes 37-60-121 & 122, and in accordance with policies adopted by the Board, the CWCB staff has determined this Feasibility Study meets all applicable requirements for approval.

Signed

Date

8/29/16

GRAND VALLEY WATER USERS' ASSOCIATION
GRAND VALLEY PROJECT, COLORADO

1147 24 Road (970) 242-5065 FAX (970) 243-4871
GRAND JUNCTION, COLORADO 81505

July 29, 2016

Anna Mauss, P.E.
Water Project Loan Program
CWCB Finance Section
1313 Sherman Street, Room 718
Denver, CO 80203

Re: CWCB Loan Request to Support the Lining of the Upper 500 Feet of the Government Highline Canal (Canyon Canal)

Dear Anna,

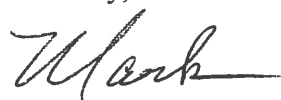
The Grand Valley Water Users' Association (Water Users) is submitting this Water Supply Reserve Account (WSRA) Loan request to support the lining of the upper 500 feet of the Government Highline Canal. Attached are copies of the Loan Application and the Loan Feasibility Study to support this request.

The Grand Valley Project's Roller Dam and the Government Highline Canal are vital for providing irrigation water and sustaining life in the Grand Valley as we know it today, some 100 years after the project was built. The Grand Valley Project Roller Dam and Canyon Facilities are a top priority in our Colorado Basin Roundtable (CBRT) Basin Implementation Plan (BIP) for their role in sustaining our agricultural economy, providing consistent river administration of the Upper Colorado River Basin (Cameo Call), and support various recreational, municipal and environmental benefits. Rehabilitation of these facilities are of statewide importance, therefore, the Water Users recently lead and completed the Roller Dam and Related Facilities Rehabilitation Master Plan (Phase I) (funded by the CWCB¹). This Master Plan identified the top five rehabilitation needs for these facilities of which the Canyon Canal Improvement Project was the top priority. The total estimated construction cost for this project is \$800,000.

The Water Users was successful in obtaining a US Bureau of Reclamation WaterSMART Grant for this project in the amount of \$300,000. The CBRT also voted unanimously at its July 25, 2016, meeting to support this project with \$15,000 of the Basin Funds and \$285,000 of Statewide Funds. If successful, this Loan request will leverage these additional funding sources and allow the Water Users to continue the work documented in the Master Plan and enact needed repairs and upgrades to the system.

We respectfully request your consideration of this Loan Application.

Sincerely,



Mark Harris
Water Users General Manager

¹ CWCB Grant was for \$42,700 from the Colorado Basin Roundtable; cash match and in-kind contributions were \$30,600.




COLORADO

Colorado Water
Conservation Board

Department of Natural Resources

Water Project Loan Program

Application Type	
<input type="checkbox"/> Prequalification (Attach 3 years of financial statements) <input checked="" type="checkbox"/> Loan Approval (Attach Loan Feasibility Study)	
Agency/Company Information	
Company / Borrower Name: Grand Valley Water Users Association	
Authorized Agent & Title: Mark Harris, General Manager	
Address: 1147 24 Road, Grand Junction, Colorado 81505-9639	
Phone: (970) 242-5065	Email: mharris@gvwua.com
Organization Type: <input type="checkbox"/> Ditch Co, <input type="checkbox"/> District, <input type="checkbox"/> Municipality <input checked="" type="checkbox"/> Other: Private Incorporated Not-for-Profit Ditch Company	Incorporated? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
County: Mesa	Number of Shares/Taps: 1,754 Users
Water District: 72	Avg. Water Diverted/Yr 260,000 acre-feet
Number of Shareholders/Customers Served: 1,754	Current Assessment per Share \$ <small>Varies by size/acreage</small> (Ditch Co)
Federal ID Number: 84-0402700	Average monthly water bill \$ (Municipality)
Contact Information	
Project Representative: Mark Harris, GVWUA General Manager	
Phone: (970) 242-5065	Email: mharris@gvwua.com
Engineer: Frederick Busch, Bureau of Reclamation	
Phone: (970) 248-0653	Email: fbusch@usbr.gov
Attorney: Mark Hermundstad	
Phone: (970) 242-6262	Email: mherm@wth-law.com
Project Information	
Project Name: Grand Valley Project - Government Highline Canal Top 500 Feet Lining Project, Canyon Canal Improvement Project	
Brief Description of Project: (Attach separate sheets if needed)	
GVWUA and Orchard Mesa Irrigation District (OMID) are proposing to improve the hydraulic efficiency of the top 500 feet of the Canyon Canal section of the Government Highline Canal. The project will include the installation of a PVC liner and a shotcrete wear surface. These improvements are expected to result in accommodation of at least 100 cfs more of the legal water rights adjudicated for this structure and increase the diversion ability and efficiency during times when the Colorado River flows are less than 2,250 cfs.	
General Location: (Attach Map of Area)	
See Loan Feasibility Study.	
Estimated Engineering Costs: ~\$50,000	Estimated Construction Costs: ~\$660,000 (incl. contingency and CM)
Other Costs (Describe Above): ~\$90,000 (NEPA, reports, Grant applications)	Estimated Total Project Costs: ~\$800,000
Requested Loan Amount: (Limit 90% of Total Project Costs) \$300,000	Requested Loan Term (10, 20, or 30 years): 30 Years
Project Start Date(s) Design: July 2015	Construction: Fall 2017
Signature	
 Signature / Title	Return to: Finance Section Attn: Anna Mauss 1313 Sherman St #718 Denver, CO 80203 Ph. 303/866.3449 e-mail: anna.mauss@state.co.us

LOAN FEASIBILITY STUDY

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1.0 Overview

This Loan Feasibility Study (Study) establishes the need for Grand Valley Water Users Association (GVWUA) Canyon Canal Lining 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: June 30, 2016
Applicant name: GVWUA
City: Grand Junction
County: Mesa
State: Colorado
Estimated Project Start: November 1, 2017
Project Length: 6-8 weeks
Estimated Project Completion: March 15, 2018 (no later than)
Source of water: Colorado River
Current water uses: Irrigation, hydro-electric power, domestic, & livestock
Number of water users served: ~40,000 (Mesa County Planning 2010 Census data; 10,000 four member households)
Current water demand: 1,730 cfs (irrigation season); 800 cfs (non-irrigation season)
Projected water demand: 1,730 cfs (irrigation season); 800 cfs (non-irrigation season)
Shortfalls in existing water supply: Drought; seepage
Major crops served: corn, dry beans, alfalfa, grass hay, pasture, small grains, and seed crops. Fruits and vegetables apples, pears, peaches, and grapes and a variety of truck crops.
Total acres served: ~39,000 acres (23,500 acres under the Canal and 15,000 acres under the MCID, PID, and OMID and water for the Grand Valley Hydroelectric Power Plant (GVPP) year-round)
Water delivery system description: These 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 (which includes the Canyon Canal), 150 miles of project operated laterals, 100 miles of drainage ditches and a hydroelectric power plant. The Roller Dam and upper portions of the Government Highline Canal, including this Canyon Canal Improvement Project, are part of the Dam and Canyon Facilities Master Plan under current active development. GVWUA first delivered water in 1915 to lands under Reclamation's Grand Valley Project and since then has supplied a full supply of irrigation water, diverted at the Roller Dam, to approximately 23,500 irrigated acres

under the Government Highline Canal. In addition, diversions at the Roller Dam provide water to 15,000 irrigated acres under the Irrigation Districts and water for the Grand Valley Power Plant year-round. The primary co-participant for this project is OMID. OMID has two - 15 mile long delivery canals supplied by four hydraulic pumps. OMID provides irrigation water to a little more than 9,000 acres and 10,000 water users.

The GVWUA is the managing entity for the federally owned Grand Valley Project. The Grand Valley Project facilities include the Grand Valley Diversion Dam, known as the Roller Dam, on the Colorado River in De Beque Canyon; an attendant headgate diversion structure; five miles of Canyon Canal and related facilities, including endangered fish recovery facilities; the Stub Ditch pump station; the 55-mile-long Government Highline Canal; 150 miles of project laterals; 100 miles of drainage ditches; and the GVPP which is operated under a Lease of Power Privilege (LOPP) with Bureau of Reclamation (Reclamation) (Figure 1 and Figure 2). These facilities:

- 1) provide irrigation water for Orchard Mesa Irrigation District (OMID), Palisade Irrigation District (PID), Mesa County Irrigation District (MCID) with combined acreages of over 15,000;
- 2) deliver water through GVWUA's Government Highline Canal which provides irrigation water to approximately 23,500 acres in the Gravity Division of the Grand Valley Project;
- 3) deliver water year round water to the 3.5 megawatt (MW) GVPP; and
- 4) maintain critical stream flows in the 15 Mile Reach of the Colorado River, which is critical habitat for four endangered fish species.

GVWUA and OMID are proposing to improve the hydraulic efficiency of the top 500 feet of the Canyon Canal by installing a PVC liner and a shotcrete wear surface. These improvements are expected to result in the accommodation of at least 100 cubic feet per second (cfs) more of the legal water rights adjudicated for this structure and increase the diversion ability and efficiency during times of river flow below 2,250 cfs.

Significant project planning has been completed including design work and National Environmental Policy Act (NEPA) related compliance issues.

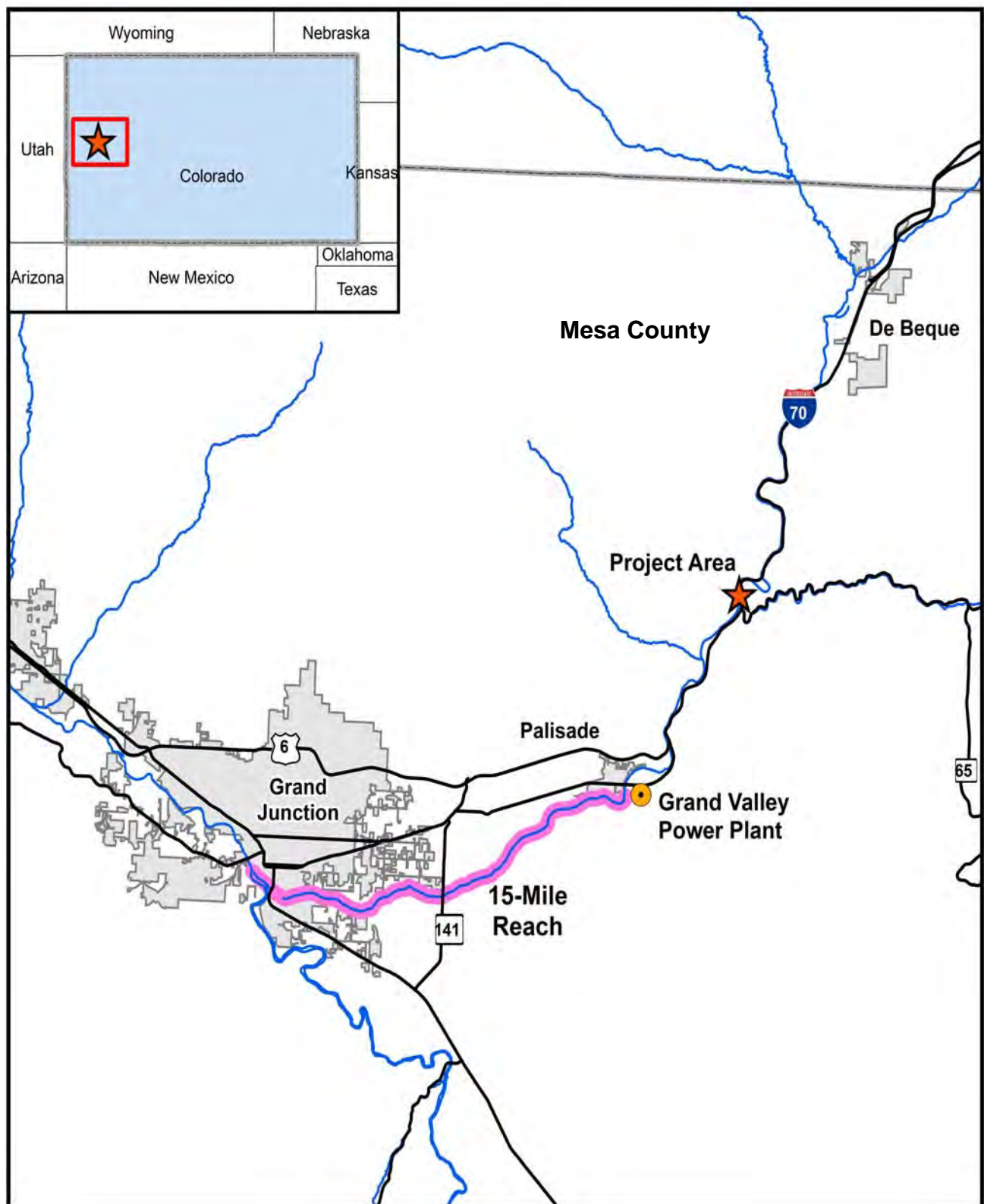


Figure 1. Project Geographic Location.

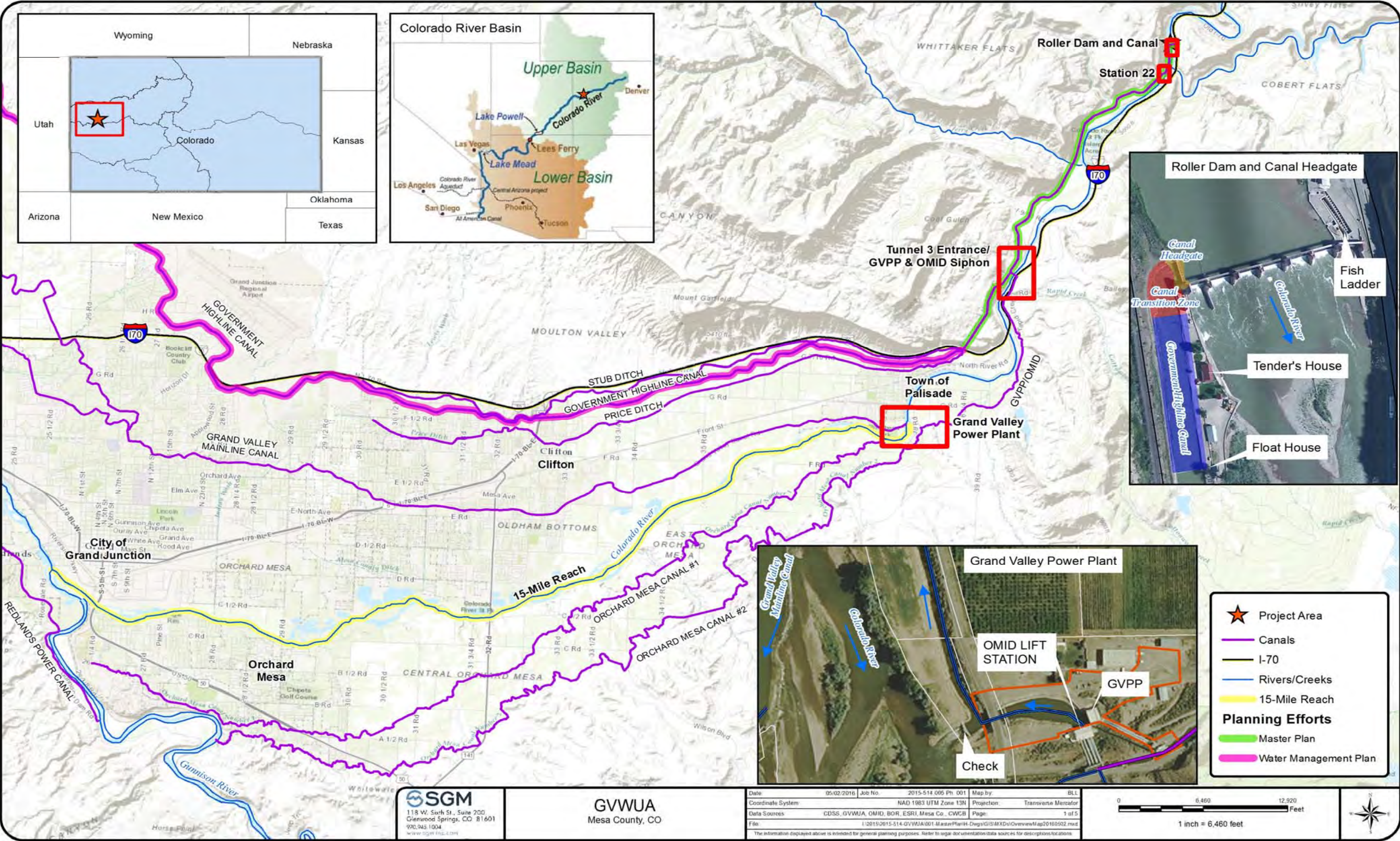


Figure 2. Project Area Map.

The overarching benefits realized through this project include, but are not limited to:

- Complying with obligations to those that receive water from the Roller Dam: OMID, PID, MCID, and the GVPP and with the obligations of the Orchard Mesa Check case which also benefits Grand Valley Irrigation Company (GVIC).
- Allowing GVWUA to better maintain adequate flows in the 15 Mile Reach to aid in the Colorado River Endangered Fish Recovery Program.
- Providing consistent and uniform delivery of water throughout the 55 mile Grand Valley delivery system.
- Complying with contractual obligations of GVWUA to Reclamation for adequate maintenance and operation.
- Reducing Compact issues by supporting a sustainable balance between Lake Powell and Lake Mead.
- Helping implement provisions of the Colorado River Cooperative Agreement (CRCA) and benefits all of the signers of that Agreement. Staying above the power generation level in Powell benefits not just irrigation users, but nearly all power users in the West.
- Supporting Colorado River recreation opportunities by moving irrigation water down the Grand Valley and beyond.
- Improving wildlife habitat through the ability to conserve water at the Roller Dam and in the Colorado River.
- Supporting economic and civic development of approximately 40,000 customers throughout the Grand Valley through effective and efficient irrigation water systems.

1.2 Project Background and Purpose

This Project is a construction project intended to improve the hydraulic efficiency of the top 500 feet of the Canyon Canal. A PVC liner and a shotcrete wear surface will be installed immediately below the Roller Dam as part of an effort to improve the overall integrity of the canal and firm up the water rights associated with the Roller Dam. The embankment between the canal and Colorado River is degrading and sinkholes develop on occasion. Also, the left side of the canal (looking downstream) has sloughed and is thereby restricting flows. This section of canal has minimal freeboard and has overtopped in the past.

This project will promote the full exercise of the “Cameo Call” water rights, support the continued operation of the Roller Dam and canyon facilities, provide reliability to Colorado River flows in the Upper and Lower Colorado River Basins, provide for more efficient operation of the GVPP and the production of more renewable energy from that facility, provide benefits for endangered fish, and provide associated environmental and cultural benefits. These improvements will also result in direct economic benefits in supporting the agricultural economy of the Grand Valley,

1.3 Project Need Issues, and Opportunities to be Addressed

The embankment immediately below the Roller Dam is relatively narrow and separates the Canyon Canal from the Colorado River. This section of canal was constructed between 1913 and 1915. Over the last 100 years the embankment has slumped, settled and degraded. Occasionally water has induced piping erosion within the embankment and led to material loss and sinkholes. This process further destabilized the area and most likely contributed to some of the slumping. Over the years, measures have been taken to control and prevent these processes from escalating. One such action which can still be observed is shotcrete lining along the side slope. However, the movement of the bank continued and led to cracking and displacement of the shotcrete. These actions have resulted in a reduced canal cross section. In addition, the degraded shotcrete as well as displaced masonry stone and riprap has created a very rough surface which restricts water flow. The combination of the reduced cross section and roughened surface has created a “choke” in the flow in the canal (Figure 3 and Figure 4).

1.4 Water Delivery System – Project History

The Roller Dam diverts water into the Government Highline Canal for irrigation and hydropower purposes under very senior water rights that collectively make up the “Cameo Call” from the Colorado River. The irrigation water is provided to four irrigation entities: GVWUA and OMID, PID and MID (Irrigation Districts), which provide irrigation water to approximately 39,000 acres of land in the Grand Valley. The hydropower water is used to produce hydropower at the GVPP, which has a capacity of approximately 800 cfs and a current electrical generation capacity of about 3.5 MW.

Grand Valley Water Users’ Association service area begins on the west side of Indian Wash near 28 ½ Road and continues westward to about 5 Rd. northwest of Mack.

GVWA and OMID share in the cost of operation and maintenance of the Canyon Canal per a 1955 agreement, at 71.6% and 28.4%, respectively. Daily operation of the Roller Dam and canyon facilities are performed by GVWUA. OMID conducts the daily operations of its facilities and of the GVPP, with each organization paying one-half of the associated operation and maintenance cost of the GVPP.

GVWUA is responsible for the flow of water in its canal, in its laterals and through its headgates. All parts of delivery systems (ditches, laterals, pipelines, pumps) beyond the headgates are the responsibility of landowners.



Figure 3. General setting and existing condition of the top 500 feet of the Canyon Canal; looking down canal.



Figure 4. General setting and existing condition of the top 500 feet of the Canyon Canal; looking down canal.

Return flows from the GVPP return to the Colorado River at the head of the 15 Mile Reach, which helps maintain flows in that reach for the Colorado pikeminnow, Humpback chub, Bonytail, and the Razorback sucker, all listed as endangered fish (

Table 1).

There are no direct municipal uses associated with the water in the canal; however irrigation water is delivered to urban/suburban customers via the Irrigation Districts.

Table 1. Endangered Fish in the 15 Mile Reach.

Species	Listing
Colorado pikeminnow <i>Ptychocheilus lucius</i>	Endangered
Humpback chub <i>Gila cypha</i>	Endangered
Bonytail <i>Gila elegans</i>	Endangered
Razorback sucker <i>Xyrauchen texanus</i>	Endangered

There are no dam safety or flood control regulations being addressed as part of this project. Water quality improvements in the vicinity of the project will be improved as a result of the Project.

1.5 Project Area Description

Figure 1 shows the general project area location within Mesa County and proximity to the Towns of Palisade and De Beque. The project is located approximately 7 miles upstream from the Town of Palisade. The project is located within De Beque Canyon and directly adjacent to the Colorado River. Figure 2 shows the location of the project within the Upper Colorado River Basin, State of Colorado, and within the Roller Dam and Canal Headgate facilities (inset, area labeled Government Highline Canal).

The Grand Valley Project, in general, supports the economic and civic development through effective and efficient irrigation water delivery. The Grand Valley Project delivers significant volumes of water to commercial agriculture, assures continued delivery of water to the 15-Mile Reach and benefits the recreational use, wildlife habitat, and aesthetic value of the area. The fresh fruit, vegetable, wine, nursery, corn, wheat, dry bean, seed, alfalfa, pasture grass, beef, and equine industries in the Grand Valley all depend upon reliable, consistent deliveries of irrigation water in face of challenges of climate change, periods, of drought, and population pressure. The efficiencies and flexibility gained by the Project support the Grand Valley Project's continued delivery of the most fundamental supporting input to production agriculture in the Grand Valley water.

GVWUA delivers irrigation water to approximately 23,500 irrigated acres within their service area, supporting approximately 40,000 customers. The total number of irrigated acres within the service area varies from year to year and some

discrepancies exist between data sources. Table 2 illustrates the total number of acres within GVWUA service area by crop type according to 2014 data from the National Agricultural Statistics Service (NASS) Cropscape cropland data layer for the crop year 2014 (Olsson and Associates Operational Study, 2015; report available upon request).

Table 2. Irrigated Cropland, NASS 2014.

Crop Type	Acres
Alfalfa	14,379
Corn	2,973
Winter Wheat	2,143
Other Hay/Non-Alfalfa	1,267
Other Crops	1,621
Developed/Open Space	1,233
Total	23,616

1.6 Previous Studies

Several studies and investigations have been conducted within the Grand Valley Project. Following is a summary of other recent Reclamation projects.

1.7 Top 500 Feet Canal Lining Project (Current Application)

Project Summary

Reclamation staff has provided the design work and attendant pricing estimates for this project, offering engineering design alternatives for reshaping the canal prism and replacing the concrete liner currently in place. They will continue to provide technical and professional assistance, ultimately delivering construction drawings and specifications. GVWUA and OMID will be seeking matching funds from Reclamation, the CWCB, and possibly other sources, in addition to the cash and in-kind contributions they will make to the project.

Dates

The project is anticipated to begin on or about November 1, 2017 and be completed no later than March 15, 2018.

1.8 Water Management Plan (WMP)

Project Summary

Recently, GVWUA received grants from both the Colorado Water Conservation Board (CWCB) Water Supply Reserve Account (WSRA) and Reclamation (Field Services Grant) to match the in-kind and cash contributions of GVWUA to completely update its Water Management Plan (WMP). The objective of the WMP project is to prepare a conditional assessment and operational analysis of the 50 miles of the canal below the outfall of Tunnel No. 3, identify and document water losses, identify priority projects, conduct a benefits analysis, ascertain environmental concerns, determine costs associated with the projects and create a strategic

funding plan to implement the priority projects. The WMP project will also allow GVWUA to implement certain provisions of the Colorado River Cooperative Agreement (CRCA, Section 7, specific to conservation and avoidance of Colorado Compact issues).

Dates

The WMP project began in fall 2015 and is anticipated to conclude in early 2017.

1.9 Reclamation Salinity Program – Government Highline Canal – Reach 1A Lower Section Lining Project**Project Summary**

The overall purpose of the Reach 1A Lower Section Lining project is to install approximately 4,774 feet of PVC liner to an unlined and open section of the Government Highline Canal. The section of canal to be lined is earthen that was originally designed with a trapezoidal cross section with a 30-foot bottom and 2:1 side slopes. Over the years the slopes have eroded and sloughed. In some sections heavy vegetation has grown in along the sides down to the high water surface line in the canal. The proposed improvements include lining with 2 layers of geotextile fabric on either side of a 30 mil PVC liner covered with a protective 3 inch shotcrete layer. A gravel underdrain will also be installed. The total project award is \$3.6 million.

Dates

This project began in October 2015 and is anticipated to conclude in March 2018.

1.10 Government Highline Canal Lining and Improvements Projects**Projects Summary**

The Government Highline Canal – Stage 1 project was constructed in the early 1980's. This project included reshaping about 6.7 miles of canal and lining with unreinforced concrete. This section of canal had 1-1/2:1 side slopes with an 8 foot bottom width. Other features of this project included items such as an 8 foot diameter pipe siphon with radial gate check inlet, wildlife ponds, detention ditches, check structures with radial gates, wasteways, removal of original turnout structures and installation of constant head orifice turnouts, and relocating county roads.

The East End Government Highline Canal – Stage 2 was constructed in the early 1990's. This project included constructing approximately 7.4 miles of buried PVC membrane-lined canal having a bottom width of 30 feet and 2-1/2:1 side slopes with limited reaches of concrete or shotcrete lined sections. Other features of this project included check structures, lateral turnouts, culverts, cross drains, irrigation crossings, drain inlets, a canal underdrain system, and canal safety devices.

The Reach 1A Salinity Lining Replacement project was undertaken by GVWUA and includes approximately \$160,000 of replacement work on Stage 1A of the Government Highline Canal. GVWUA performed approximately \$40,000 of the work

in FY 2015 and the remainder will be done in approximately equal parts in FYs 2016 and 2017.

In addition approximately 130 miles of laterals branching from the Government Highline Canal have been piped by the Salinity Control Project.

Since completion, these projects have been operated and maintained by GVWUA.

1.11 Other Grand Valley Project Improvements

The recent \$850,000 rehabilitation of the Roller Dam roller gates were funded entirely by GVWUA and OMID; the \$250,000 Stub Pump refurbishment was funded by GVWUA; the forthcoming \$5.3 million GVPP Rehabilitation Project is being jointly pursued jointly by GVWUA and OMID; Reclamation and Recovery have invested \$17 million in OMID canal system improvements; and millions of dollars have been invested in the continual improvements of the Grand Valley Project through a variety of arrangements by the Recovery Program, Reclamation, and the State of Colorado.

2.0 Project Sponsor

The GVWUA is the managing entity for a portion of the federally owned Grand Valley Project.

Official Name of Project Sponsor: Grand Valley Water Users Association (GVWUA)

Type of Organization: Private incorporated not-for-profit ditch company

Year Formed: 1905

Status Under which Entity Formed: Reclamation Grand Valley Project

Number of Users: 1,754

Shares of Stock: Not Applicable (water is provided as part of the land)

Current water uses: Irrigation, hydro-electric power, domestic

Current water delivery: Government Highline Canal

2.1 History of GVWUA

The GVWUA is a non-profit corporation formed in 1905 as part of the Bureau of Reclamation's Grand Valley Project. The GVWUA operates the 55 mile long Government Highline Canal and 150 miles of piped and open laterals, providing irrigation water to approximately 23,500 acres of irrigated land. The series of laterals deliver water to individual and shared headgates in the service area. Transfer of water rights in the GVWUA have been allocated to the lands through "Subscription for Stock" agreements. These agreements were entered into by the GVWUA and owners of irrigable lands in the early 1900's and were recorded with the Mesa County Clerk and Recorder's office. When land ownership changes, the water stays with the land and cannot be sold separately.

2.2 Revenue Sources

Assessments are billed in December for the upcoming irrigation season based on allotments for individual parcels of land (Table 3). Any excess usage from the previous season is included on the December bill.

Table 3. Range of Assessment Costs and Seasonal Allotments by Area.

Class 1 Acreage's	Assessment Cost	Acre Foot Seasonal Allotment
0.01 – 0.99 Ac.	\$116.00	21 acre-feet
1.00 – 1.99 Ac.	\$126.00	23 acre-feet
2.00 – 2.99 Ac.	\$136.00	25 acre-feet
3.00 – 3.99 Ac.	\$142.00	26 acre-feet
4.00 – 4.99 Ac.	\$148.50	27 acre-feet
5.00 – 5.99 Ac.	\$150.50	27 acre-feet
6.00 – 6.99 Ac.	\$154.00	28 acre-feet

A parcel area of 7.00 acres and above equates to a fee of \$16.61 / acre with allotment of 4 acre-feet / acre. The fee associated with an excess usage rate (> 4 acre-feet / acre) equates to \$6.23 / acre foot fee. An additional assessment of \$100 has been added to each account to cover the additional costs incurred from work on the Roller Dam, laterals and other entities, which are all part of the overall system used to get irrigation water to the water users.

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

Water for project use is diverted into the Government Highline Canal at the Grand Valley Project Diversion Dam, about 23 miles northeast of Grand Junction. Approximately 4.6 miles below the main diversion, water for the Orchard Mesa Diversion is diverted from the canal. This water passes through the Orchard Mesa Siphon under the Colorado River, through the Orchard Mesa Power Canal to the Grand Valley Power Plant, or to the Orchard Mesa Pumping Plant, where it is pumped into Orchard Mesa Canals No. 1 and 2 for distribution to the water users.

From the Orchard Mesa diversion, the Government Highline Canal continues westward, approximately paralleling the river, distributing water to laterals of the Garfield Gravity Division. Water also is furnished to 8,580 acres in the MCID and PID which were served by private facilities prior to project construction.

2.4 Facility Descriptions

2.5 Grand Valley Diversion Dam

The diversion dam is on the Colorado River about 8 miles northeast of Palisade. This concrete weir is 14 feet high and 546 feet long. Flow over its crest is controlled by six roller gates. These gates were the first of their type designed in the United States.

2.6 Government Highline Canal System

The canal is on the west and north side of the river and extends from the Grand Valley Project Diversion Dam south and west a distance of 55 miles. It has a diversion capacity of 1,675 cfs, which includes 800 cfs for the Orchard Mesa Power Canal. The remaining flows are distributed through the Government Highline Canal and Price-Stubb Pumping Plant. The distribution system for the Garfield Gravity Division consists of 166 miles of laterals. The drainage system consists of 2 miles of closed drains and 110.5 miles of deep open drains.

The Price-Stubb Pumping Plant is on the canal near Tunnel No. 3 Outlet at the east end of the Grand Valley. It lifts 25 cfs of water 31 feet to the Stubb Ditch to serve land of the MCID. Power is provided to the hydraulic pump by water delivered to the Price Ditch for the PID.

2.7 Orchard Mesa Canal System

The Orchard Mesa Siphon conveys water from the Government Highline Canal to the head of the 3.5-mile-long Orchard Mesa Power Canal on the east side of the river. The siphon is reinforced concrete with a capacity of 800 cubic feet per second. Orchard Mesa Pumping Plant lifts water from the Orchard Mesa Power Canal to the distribution system. The plant contains four pump units: two have a combined capacity of 80 cfs and a lift of 41 feet to Canal No. 1; two have a combined capacity of 60 cfs with a lift of 130 feet to Canal No. 2. Water is conveyed to privately owned and operated laterals by Orchard Mesa Canals No. 1 and 2. The canals have capacities of 85 and 65 cfs, respectively, and a combined length of 31.6 miles.

2.8 Grand Valley Power Plant

The plant is about 1 mile south of Palisade at the lower end of the Orchard Mesa Power Canal adjacent to the Orchard Mesa Pumping Plant. It operates under a maximum head of 79 feet and has a capacity of 3,000 kilowatts. The plant was constructed by the United States with funds advanced by Xcel Energy. The company operates and maintains the plant under a rental agreement with the United States and the GVVUA. Power generation averages approximately 19,350,600 kilowatt-hours annually.

2.9 Operating Agencies

On January 1, 1949, the GVVUA assumed the care, operation, and maintenance of project facilities except those of the Orchard Mesa Division and the power plant. Previously, operation was by the Bureau of Reclamation with funds advanced by the association. The power plant is operated and maintained by the Public Service Company of Colorado. The Orchard Mesa Division of the project is operated by the OMID under cooperative agreements with the GVVUA¹.

¹ http://www.usbr.gov/projects/Project.jsp?proj_Name=Grand+Valley+Project

3.0 Water Rights

The water rights of the Grand Valley irrigation systems that comprise the “Cameo Call” are diverted from the Colorado River and, along with the water rights of the Shoshone Hydropower Plant upstream near Glenwood Springs, control administration of the Colorado River basin within Colorado. The flows generated by the “Cameo Call” help provide water for recreational activities on the Colorado River and for riparian habitat and aesthetic values along the entire Colorado River corridor. Flows generated by the Cameo Call also assist the state in complying with its obligations under the Colorado River Compact and in maintaining acceptable lake levels in Lake Powell. Water rights comprising the Cameo Call are for irrigation; power and domestic use as described in **Error! Reference source not found.** Irrigation water is tied to specific lands within the Grand Valley Project and provides full and supplemental service. The domestic water right is a small water right primarily used for livestock watering purposes during non-irrigation season and has not been needed to be used for several years.

GVWUA was a co-Applicant in Case No. 91CW247 (“Check Case”), District Court, Water Division. The other co-applicants were OMID and the United States. Details of the Check Case are available upon request.

Table 4. Summary of Cameo Water Rights.

Owner	Amount (cfs)	Adjudication Date	Appropriation Date	Use
GVWUA/United States	730	7/22/1912	2/27/1908	Irrigation
GVWUA/United States	400/800	7/25/1941	2/27/1908	Hydro-electric Power
GVWUA/United States	220	7/25/1941	2/27/1908	Domestic & Livestock
Orchard Mesa Irrigation District	450	7/22/1912	10/25/1907	Irrigation
Orchard Mesa Irrigation District	10.2	7/22/1912	10/1/1900	Irrigation
Palisade Irrigation District	23.5	7/25/1941	6/1/1918	Irrigation
Palisade Irrigation District	80	7/22/1912	10/01/1889	Irrigation
Mesa County Irrigation District	40	7/22/1912	7/6/1903	Irrigation

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 (09095500) Colorado River near Cameo, Colorado. This gage has streamflow records from October 1933 to current date. The annual average flows are shown in Table 5 and the average monthly flows

from 1934-2015 are provided in Table 6. The statistics of monthly mean data for the period of record by water year is shown in Table 7.

Table 5. Average Annual Flows, USGS Gage 09095500, Colorado River near Cameo, Colorado. 1934-2015 (Water Year).

Year	Annual Average Flow (cfs)	Year	Annual Average Flow (cfs)
1934	2568	1976	3131
1935	3952	1977	1937
1936	5010	1978	3550
1937	3505	1979	4262
1938	5610	1980	4188
1939	3736	1981	2142
1940	2753	1982	3602
1941	4089	1983	6076
1942	4986	1984	7605
1943	3985	1985	5945
1944	3740	1986	5740
1945	4085	1987	3586
1946	3558	1988	2967
1947	5175	1989	2568
1948	4580	1990	2269
1949	4614	1991	3003
1950	3532	1992	2571
1951	4020	1993	4667
1952	5689	1994	2860
1953	3554	1995	5321
1954	2144	1996	4772
1955	2730	1997	5738
1956	3328	1998	4229
1957	5819	1999	3821
1958	4009	2000	3212
1959	3022	2001	2679
1960	3391	2002	1751
1961	2606	2003	2652
1962	5526	2004	2266
1963	2416	2005	3544
1964	2621	2006	3628
1965	4353	2007	3223
1966	2702	2008	4800
1967	2917	2009	4457
1968	3324	2010	3546
1969	3558	2011	6471
1970	4525	2012	2273
1971	4644	2013	2318
1972	3523	2014	4701
1973	4483	2015	4226
1974	4043		
1975	3995		

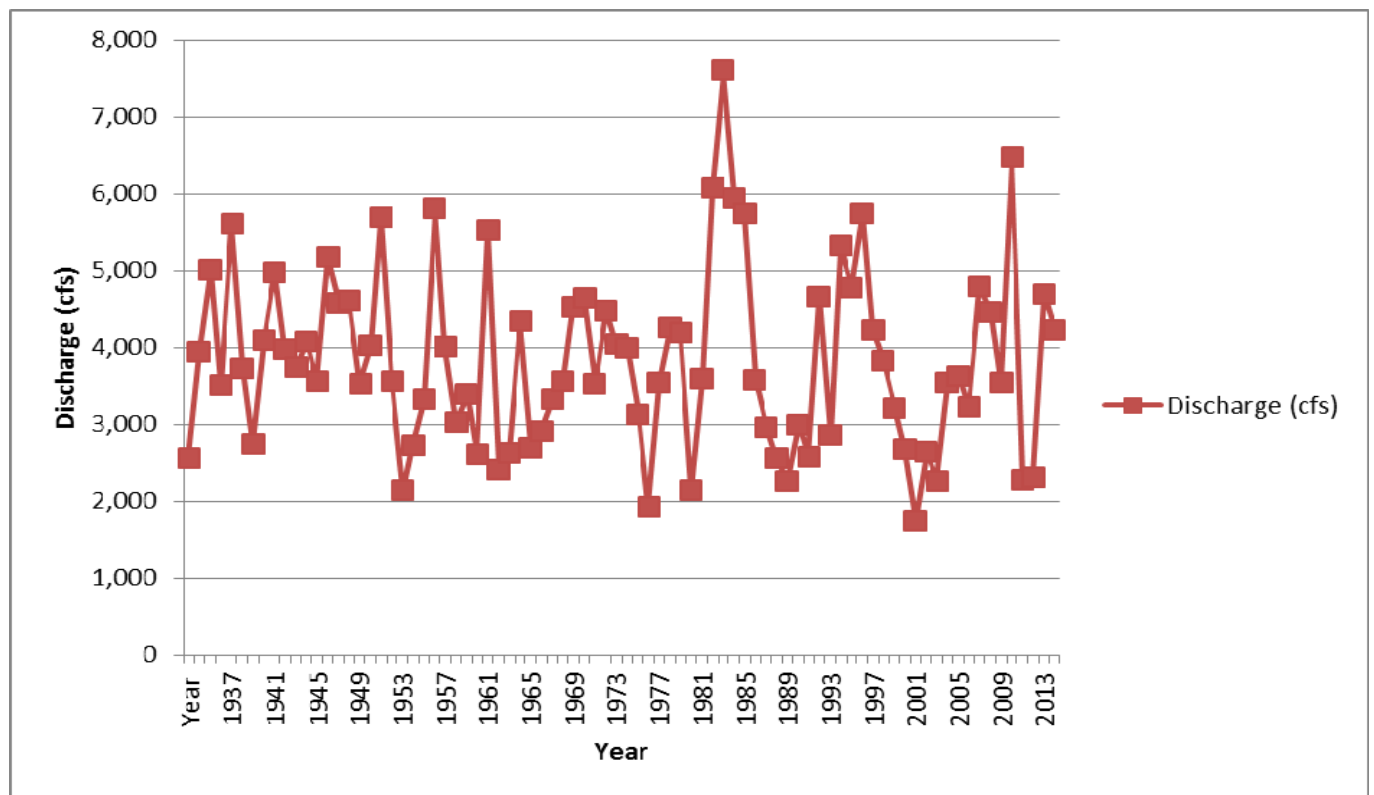


Figure 5. Average Annual Flows, USGS Gage 09095500, Colorado River near Cameo, Colorado. 1934-2015 (Water Year).

Table 6. Average Monthly Flows, USGS Gage 09095500, Colorado River near Cameo, Colorado. 1934-2015 (Water Year).

Year	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1933	--	--	--	--	--	--	--	--	--	1599	1435	1415
1934	1421	1369	1485	3259	10250	4308	1515	1405	1243	1084	1037	1004
1935	1002	941	1020	1942	5811	21380	7738	2552	1961	1764	1568	1192
1936	1199	1188	1232	5536	18990	15840	5652	3818	2054	1775	1512	1243
1937	1145	1268	1464	2574	12100	9896	4915	2058	1953	1990	1746	1495
1938	1285	1290	1917	4628	14090	24570	8360	2770	3142	1969	1745	1689
1939	1476	1350	1819	3480	13710	11050	3062	1633	1714	1554	1309	1016
1940	1022	1088	1276	2307	8811	8962	2632	1332	1724	1997	1430	1201
1941	1056	1199	1336	2238	15420	13500	5117	2336	2049	2702	2080	1684
1942	1458	1550	1673	5608	12320	20420	6611	2254	1450	1524	1583	1364
1943	1246	1329	1443	3985	8280	15650	6298	3126	1967	1811	1936	1734
1944	1209	1329	1325	1975	9178	14950	6141	2000	1305	1605	1687	1608
1945	1271	1291	1539	1941	9775	13350	8110	4669	1978	2052	2102	1897
1946	1778	1643	1616	4781	7294	11590	4336	2055	1552	1989	1742	1961
1947	1340	1479	1742	2984	13160	17260	11910	3897	2400	2482	2273	1913
1948	1885	1934	1876	4242	14960	14180	5069	2612	1484	1768	1805	1470
1949	1608	1506	1592	3374	9311	18150	9662	2994	2056	2039	1820	1634
1950	1488	1589	1925	3567	6799	13220	4433	2024	1866	1569	1649	1593
1951	1567	1589	1608	2539	8725	14410	7665	3373	1866	1948	1751	1726
1952	1561	1466	1836	5259	15910	22180	7295	4495	2870	2000	1879	1613
1953	1601	1440	1651	2285	5634	14900	4804	3153	1695	1649	1668	1495
1954	1537	1460	1530	2287	4807	3435	2372	1711	1730	2035	1650	1331
1955	1197	1204	1399	2379	6248	7529	3476	2560	1676	1476	1587	1454
1956	1315	1309	1693	3099	11140	10700	2810	1867	1473	1510	1403	1184
1957	1297	1384	1345	2535	9616	23780	17430	5505	2645	2205	2069	1667
1958	1492	1709	1996	2884	13780	13580	3135	1771	1735	1618	1574	1400
1959	1532	1554	1341	1988	6375	11490	3496	2135	1763	2242	1957	1623
1960	1627	1593	2191	4133	7028	11220	3525	1903	1711	1732	1664	1627
1961	1606	1532	1393	1730	5767	7156	2252	1875	2939	3256	2196	1965
1962	1866	2431	2610	8615	14520	14830	8862	3018	2032	2808	2483	1875
1963	1548	1558	1599	2138	5245	4125	1804	1874	1882	1564	1518	1153
1964	940.3	956.9	1084	1770	6560	7822	3629	2489	1944	1684	1578	1486
1965	1489	1404	1385	2702	7763	15460	9846	4436	2888	2713	2309	2244
1966	1853	1781	2157	2376	6068	4648	2555	1934	1700	1764	1561	1386
1967	1395	1328	1719	2312	5342	9120	4700	2224	2109	1871	1744	1626
1968	1452	1523	1557	2230	5302	12730	4181	3638	2097	2082	1901	1691
1969	1727	1547	1566	4058	9121	8436	5769	2475	2199	2810	2197	1964
1970	1708	1711	1888	2589	13600	14010	5897	2723	3063	2777	2583	2277
1971	2248	2008	2431	4916	8473	14870	7337	2909	2864	2447	2309	2094
1972	2066	2070	2458	2936	6409	11150	3567	2317	2516	2661	2555	2077

Year	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1973	1894	1888	2028	2038	9630	13920	9185	3366	2397	2421	2376	2051
1974	1991	1958	2472	3109	11540	11050	4655	2615	2153	2213	2126	1872
1975	1769	1763	2021	2590	6331	12420	9127	3234	2367	2284	2241	1952
1976	1875	1981	2261	2707	6520	7570	3470	2423	2287	2252	1944	1811
1977	1715	1545	1300	1841	2536	2959	1828	1761	1735	1589	1393	1403
1978	1299	1324	1564	2892	7018	14230	5850	2196	1831	1764	1860	1491
1979	1349	1525	1837	2891	9865	15050	8404	2901	2097	2147	2127	1971
1980	1804	1959	2028	3168	10420	14870	5363	2381	2052	1876	1783	1637
1981	1369	1185	1193	1880	3259	5499	2403	1745	1861	1892	1627	1426
1982	1529	1355	1581	2282	6857	11540	6674	3392	2980	2802	2475	1898
1983	1696	1700	1797	2214	8783	23780	16280	6538	2755	2494	2533	2393
1984	2230	2195	2709	4148	20290	25830	15450	6571	4271	3732	3253	3002
1985	2621	2476	2834	6377	16440	17160	7190	3555	2541	3205	2928	2417
1986	2375	2775	3365	6883	12700	16990	8401	3543	3238	3427	2991	2501
1987	2158	2222	2362	3730	8229	7653	3077	2484	2140	2046	2094	1789
1988	1668	1691	1905	3118	6337	7794	3005	2140	2041	1733	1709	1535
1989	1475	1467	1843	3239	5287	5337	2816	2377	1953	1903	1574	1370
1990	1202	1290	1352	1882	3085	6581	2998	2055	1936	1883	1634	1253
1991	1385	1323	1392	2060	6449	9885	3958	2412	2365	2002	1970	1583
1992	1392	1443	1629	2642	5874	4681	2891	2473	2242	1865	1984	1488
1993	1389	1387	1893	2993	13680	15320	7941	3283	2596	2432	2162	1891
1994	1849	1762	2053	2845	6203	6209	2394	2290	2186	2046	1673	1594
1995	1521	1564	1937	2321	5611	19500	17060	5683	3152	2778	2601	2246
1996	2058	2389	2790	5568	12570	13830	5543	2507	2399	2503	2315	2005
1997	2035	1918	2748	4058	13830	21610	7080	5044	3618	3461	2554	2381
1998	2320	2357	2774	3848	10540	8963	5493	3322	2586	2656	2482	1967
1999	1879	1786	1801	2169	5665	12800	6021	3523	3084	2960	2167	1757
2000	1817	1815	1889	2975	7986	7225	2919	2604	2406	2159	1866	1644
2001	1485	1431	1502	2319	6301	5445	2747	2702	2469	2058	1721	1293
2002	1329	1215	1357	2214	2683	2606	1699	1520	1296	1341	1455	1132
2003	1081	1073	1200	1723	6855	8491	2774	2285	2376	2335	1630	1433
2004	1273	1267	1645	2164	4571	4431	2427	1949	2038	2239	1889	1412
2005	1580	1333	1450	2907	8059	10440	5562	2866	2701	2662	2369	1850
2006	1697	1627	2042	4603	9854	7812	3542	2677	2705	2813	2129	1683
2007	1443	1762	2502	3104	7200	7461	3316	2536	2665	2469	1785	1803
2008	1540	1791	1889	3106	10950	17170	8647	3417	3025	2665	1967	1742
2009	1674	1636	1777	3320	12960	13380	6652	3053	2493	2590	1848	1408
2010	1488	1447	1539	3003	6072	14010	3889	2898	2385	2355	1946	1837
2011	1552	1513	1969	4174	11480	25750	16980	4697	3226	3021	2196	1782
2012	1645	1534	1969	2398	3446	2810	2349	2186	1896	1587	1352	1125
2013	1098	1170	1214	1428	5558	6072	2434	2277	2461	2384	1914	1531

Year	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
2014	1702	2083	2410	5036	11230	15510	6081	3328	3159	3144	2254	1953
2015	1768	1805	2110	2814	7030	16810	6133	2436	2461	2382	1830	1463

Table 7. Statistics of Monthly Mean Data for Water Years (WY) 1934-2015, by Water Year.

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	2,199	1,945	1,688	1,580	1,593	1,813	3,158	8,920	12,250	5,740	2,843	2,267
Max	3,731	3,253	3,002	2,621	2,775	3,365	8,615	20,290	25,829	17,430	6,571	4,271
(WY)	(1985)	(1985)	(1985)	(1985)	(1986)	(1986)	(1962)	(1984)	(1984)	(1957)	(1984)	(1984)
Min	1,084	1,038	1,004	940	941	1,019	1,428	2,536	2,606	1,515	1,332	1,243
(WY)	(1935)	(1935)	(1935)	(1964)	(1935)	(1935)	(2013)	(1977)	(2002)	(1934)	(1940)	(1934)

3.2 Water Supply Demands

The existing and future water demands are 1,730 cfs during the irrigation season and 800 cfs during the non-irrigation season. These demands are primarily driven by the decreed water uses of the water diverted at the Roller Dam to support irrigation within the Grand Valley Project and a small sector of domestic uses which are used for livestock watering purposes during non-irrigation season (note this has not been needed for several years). Water rights comprising the Cameo Call are very senior and used for irrigation; power and domestic uses as described in Table 4. The Canal is being restricted to approximately 1,600 cfs while the water rights are for 1,730 cfs.

4.0 Project Description – Analysis of Alternatives & Selected Alternative

The canal is being restricted to approximately 1,600 cfs while the water rights are for 1,730 cfs. An additional 100 cfs to 150 cfs is needed to operate the new fish screen located downstream in the canal.

The first design alternative would involve returning the canal to its original shape with 1 ½:1 side slopes and a 38 foot bottom width. The unsuitable material would need to be excavated from the current prism for this to occur. Once suitable mineral soil is reached, free draining pit run material would be brought in and compacted to achieve the desired cross-section. A toe drain would be installed to control groundwater pressure. A liner would be installed consisting of 30-mil PVC with 10 ounce geotextile fabric on either side. A 3 inch thick layer of shotcrete would be placed onto the top layer of geotextile. The shotcrete will provide a wearing surface as well as ultraviolet protection for the liner. This type of lining has been utilized in other Reclamation projects and has an anticipated lifespan of at least 50 years.

The second design alternative would involve constructing a vertical retaining wall on the left side of the canal instead of a sloped side. The transition structure from the canal head gates to the earth lined section of canal has vertical walls. The transition from vertical walls to 1 ½:1 side slopes occurs where the proposed lining would begin. Therefore, the vertical section in the transition structure would be extended for a majority of the first 500 feet. The bottom width and right side of the canal would be constructed as described in the first design. The advantage of having a vertical retaining wall on the left side would be to provide additional area at the top of the embankment between the canal and Colorado River for operation and maintenance activities (Figure 7 and Figure 8). Currently this area is challenging to maneuver in even with smaller vehicles. This design could provide up to 15 feet of additional width.

The shotcrete over liner with a 1 ½:1 side slope for the canal prism was the selected design. The same hydraulic improvements can be achieved, it is more cost effective, and 10 feet of additional embankment will be gained.

Three options for Alternative 1 were considered for this project.

4.1 Analysis of Alternatives

Three alternatives were developed for the lining Project. The first alternative was a “No Action” alternative. Alternatives 2 and 3 included improvements and lining of the canal between the concrete transition structure of the Roller Dam ends and the float-house structure, approximately, 500 feet downstream of the transition structure (Figure 6). Following is a summary of these alternatives, their associated costs, and evaluation methodology for selection of the preferred alternative.

4.2 No Action Alternative (Alternative 1)

The embankment immediately below the Roller Dam is relatively narrow and separates the Canyon Canal from the Colorado River. This section of canal was constructed between 1913 and 1915. Over the last 100 years the embankment has slumped, settled and degraded. Occasionally water has induced piping erosion within the embankment and led to material loss and sinkholes. This process further destabilized the area and most likely contributed to some of the slumping. Over the years, measures have been taken to control and prevent these processes from escalating. One such action, which can still be observed, is shotcrete lining along the side slope. Since that work was completed the movement of the bank continued and led to cracking and displacement of the shotcrete; hence resulted in a reduced canal cross section. In addition, the degraded shotcrete as well as displaced masonry stone and riprap has created a very rough surface which restricts water flow. The combination of the reduced cross section and roughened surface has created a “choke” in the flow in the canal (Figure 3 and Figure 4). The existing conditions of the canal represent the No Action Alternative.

4.3 Outputs and Yields

The annual yield of the canal for the “No Action” alternative is approximately 332,000 acre-feet. This assumes that there is adequate water supply from the Colorado River to divert 1,600 cfs.

4.4 Costs

The capital, operations and maintenance (O&M), total annual costs, and cost per unit are summarized in Table 8.

4.5 Impacts

The man-made impacts associated with the No Action Alternative, include, but are not limited to:

- Potential damage to the property that supports the Dam Tender’s house, Float house, and channel slope from seepage (canal to river) (Figure 6).
- There are several structures associated with the Roller Dam and Canyon Facilities on the National Historic Register and/or are eligible for this listing.
- Negative operations of the Grand Valley Project through the inability to divert and deliver water.

4.6 Economic Analysis and Feasibility

The structural integrity of the upper canal is critical to delivering water to the Grand Valley Government Highline Canal users and the Recovery Program. Estimated losses that could occur from the failure of the canal to divert and deliver water are approximately \$45,000,000 annually, specifically including loss of approximately 39,000 acres of food and fiber production for approximately 40,000 customers.

4.7 Alternatives 2 and 3 Analysis

Alternatives 2 and 3 are essentially the same with the exception of the associated shape of the walls of the canal, sloped for Alternative 2 and vertical for Alternative 3; hence, the Evaluation Factors are discussed collectively.

4.8 Outputs and Yields

The annual yield of the canal for the Alternatives 2 and 3 is approximately 372,000 acre-feet. This assumes that there is adequate water supply from the Colorado River to divert the full 1,730 cfs.

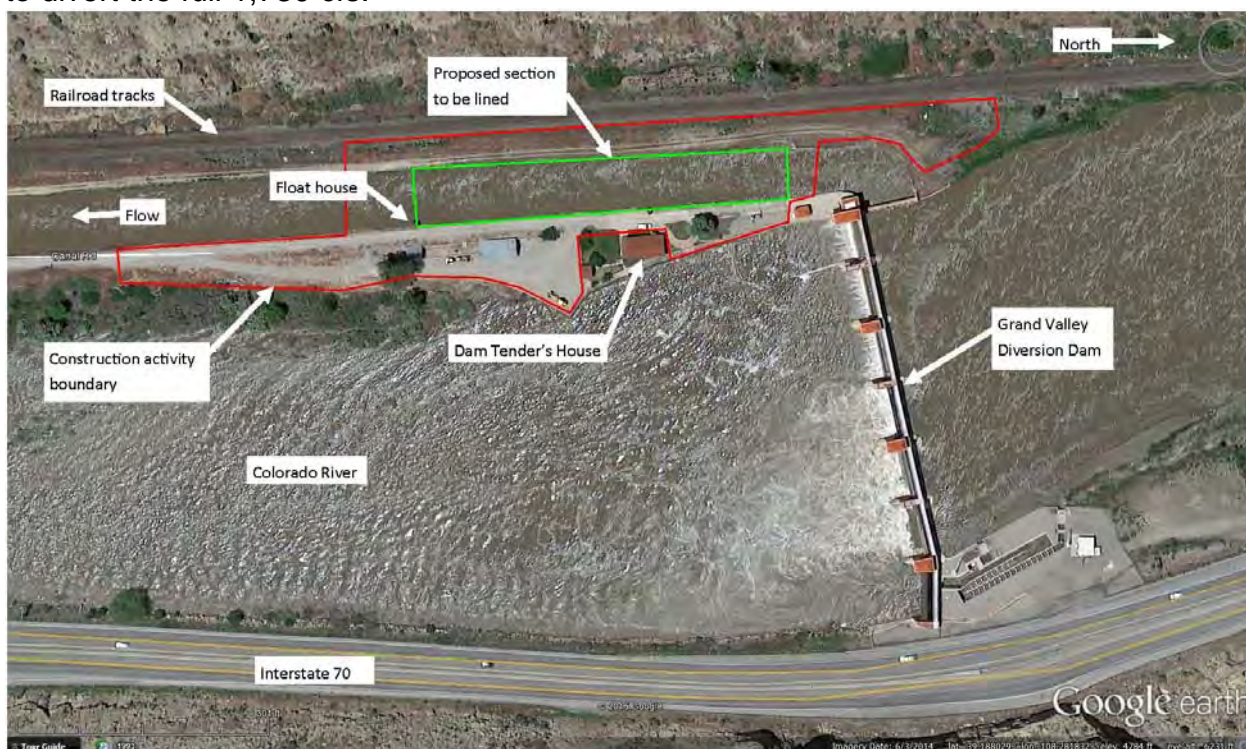


Figure 6. Aerial View of the Roller Dam (Grand Valley Diversion Dam) and Top 500 Feet of the Canyon Canal to be Lined.

4.9 Costs

The capital, operations and maintenance (O&M), total annual costs, and cost per unit are summarized in Table 8.

4.10 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 Alternatives 2 and 3.

4.11 Economic Analysis and Feasibility

The structural integrity of the upper canal is critical to delivering water to the Grand Valley Government Highline Canal users, the Grand Valley Power Plant, and the sustainability of the Recovery Program. This Project will allow an additional 100 cfs to be delivered to users, potentially increasing the economic value annually and supporting the numerous water users, food and fiber producers, and economy as a whole.

4.12 Institutional Requirements

The GVVUA works closely with the Reclamation staff regarding maintenance, operations, and facility improvements. Reclamation staff provided the technical assistance for the Selected Alternative and continues to work closely with GVVUA on this, and other projects.

The GVVUA has the following agreements in place:

- Lease of Power Privilege – GVVUA worked directly with Reclamation to obtain a LOPP and Funding Agreement from Reclamation
- Several Reclamation operation agreements

The following permits and approvals are currently completed or in the process of being acquired:

- NEPA Environmental Assessment

The Reclamation and GVVUA have developed a pending Memo of Understanding (MOU) detailing the identified environmental and regulatory compliance requirements. Due to the cultural sensitivities of the canal facilities additional cultural assessments may be required. Post July 1, 2015, a cultural assessment has begun to address the culturally sensitive areas with further cultural assessment work expected as the project nears final design and construction.

Depending on final design of the canal the Reclamation identified potential mitigation efforts may be required on the historically significant features.

- U.S. Army Corp of Engineers

GVVUA and their consultants have been communicating with the US ACOE staff regarding the necessary Nationwide Permits for this project.

- State of Colorado via Mesa County Building Permit for Electrical

GVWUA is going to trench the overhead powerline as part of this project and will need to coordinate with Mesa County Building Department and the State of Colorado Electrical inspector as part of this activity.

- US FWS – flora and fauna consultations have been conducted with the US FWS.

4.13 Special Considerations

There are no risks associated with Alternatives 2 and 3.

Table 8. Cost Comparison between Alternatives.

Alternative	Total Estimated Capital Costs (A)	Total Annual O&M Costs (B)	Replacement Costs (C)	Total Amortized Capital Costs (D)	Total Annual Costs (B) + (D)	Cost per Unit of AF Delivered
No Action	\$0	\$5,000-\$10,000	--	--	--	--
Action/Alternatives (1, 2, 3)	\$800,000	\$5,000-\$10,000	--	--	--	\$20/Unit AF

4.14 Evaluation Methodology

Measurements of the canal cross section were taken at several locations along the top 500 foot section. Manning's formula was used to calculate theoretical flow values for a full canal and it verified readings being taken by GVWUA's flow gauge. Using Manning's formula, it was determined if the canal were returned to its original cross section and lined with shotcrete; it would be capable of conveying all of the water entitled to be diverted under the Cameo Call water rights and the water needed to operate the fish screen.

Another way of describing this is by looking at normal depth. Normal depth is the depth of water flow when it is continuous, uniform and steady. Again, Manning's formula was utilized for computing the following information. The existing rough and reduced cross section has a normal depth of approximately 12 feet with 1,580 cfs water flow. If the cross section were returned to its original design and lined with shotcrete, the depth of flow for the 1,880 cfs (combination of the water rights and fish screen requirements) would result in a normal depth of just over 6 feet. However, it is important to consider other possible restrictions downstream which would induce a backwater effect. These other restrictions could produce a normal depth equal to the existing conditions even with the improved cross section, but by lining this area it would no longer be contributing to the reduction in flow.

4.15 Field Investigations

The Roller Dam has been examined approximately every seven (7) years since 1949 as required under the Reclamation's Review of Operation and Maintenance (RO&M) Program.

Reclamation assigned a category based upon the severity of the deficiency (1, 2, or 3).

- Category 1 - Recommendations involving the correction of severe deficiencies where immediate and responsive action is required to ensure structural safety and operational integrity of a facility.

- Category 2 – Recommendations covering a wide range of important matters where action is needed to prevent or reduce further damage or preclude possible operational failure of a facility.
- Category 3 – Recommendations covering less important matters but believed to be sound and beneficial suggestions to improve or enhance the O&M of the project or facility.

Program examination reports have also been prepared by Reclamation since 1954 for the Grand Valley Water Users System. The examination reports addressed the condition of the “Government Highline Canal from the Grand Valley Diversion Dam (Roller Dam) to the end of the approximately 55-mile long canal system. Other facilities examined include the Price-Stub Pumping Plant, tunnels, facilities added to the system by the Colorado River Basin Salinity Control Project, various control gates and checks, the drain system and other features.”

These examinations and investigations supported the need for the lining project.

4.16 Alternative 2 Project Description

Alternative 2 would involve returning the canal to its original shape with 1 ½:1 side slopes and a 38 foot bottom width. The unsuitable material would need to be excavated from the current prism for this to occur. Once suitable mineral soil is reached, free draining pit run material would be brought in and compacted to achieve the desired cross-section. A toe drain would be installed to control groundwater pressure. A liner would be installed consisting of 30-mil PVC with 10 ounce geotextile fabric on either side. A 3 inch thick layer of shotcrete would be placed onto the top layer of geotextile. The shotcrete will provide a wearing surface as well as ultraviolet protection for the liner. This type of lining has been utilized in other Reclamation projects and has an anticipated lifespan of at least 50 years.

4.17 Alternative 3 Project Description

Alternative 3 would involve constructing a vertical retaining wall on the left side of the canal instead of a sloped side. The transition structure from the canal head gates to the earth lined section of canal has vertical walls. The transition from vertical walls to 1 ½:1 side slopes occurs where the proposed lining would begin. Therefore, the vertical section in the transition structure would be extended for a majority of the first 500 feet. The bottom width and right side of the canal would be constructed as described in the first design. The advantage of having a vertical retaining wall on the left side would be to provide additional area at the top of the embankment between the canal and Colorado River for operation and maintenance activities (Figure 7 and Figure 8). Currently this area is challenging to maneuver in even with smaller vehicles. This design could provide up to 15 feet of additional width.

4.18 Selected Alternative – Alternative 2

Alternative 2 is the preferred design alternative as it is more cost effective than Alternative 3 and provides an additional 10 feet of embankment.

4.18.1 Design Options Considered for Alternative 2

Figure 7 shows the parameters for the design options considered for this Project. Figure 8 shows the typical cross-sections and design features for each of the design options considered, varying embankment widths of the Canal (5-, 10-, and 15-foot).

4.18.2 Right-of-Way/Land Requirements

This is a Federally-owned project and therefore there are no right-of-way or land requirements associated with the area where this Project is located.

4.18.3 Cost Estimate

Table 9 provides the estimated costs for this project.

4.18.4 Implementation Schedule

Table 10 provides the estimated schedule for this project.



Figure 7. Aerial View of the Canal Section with Varying Widths (Excerpt from Reclamation Drawing, 2015).

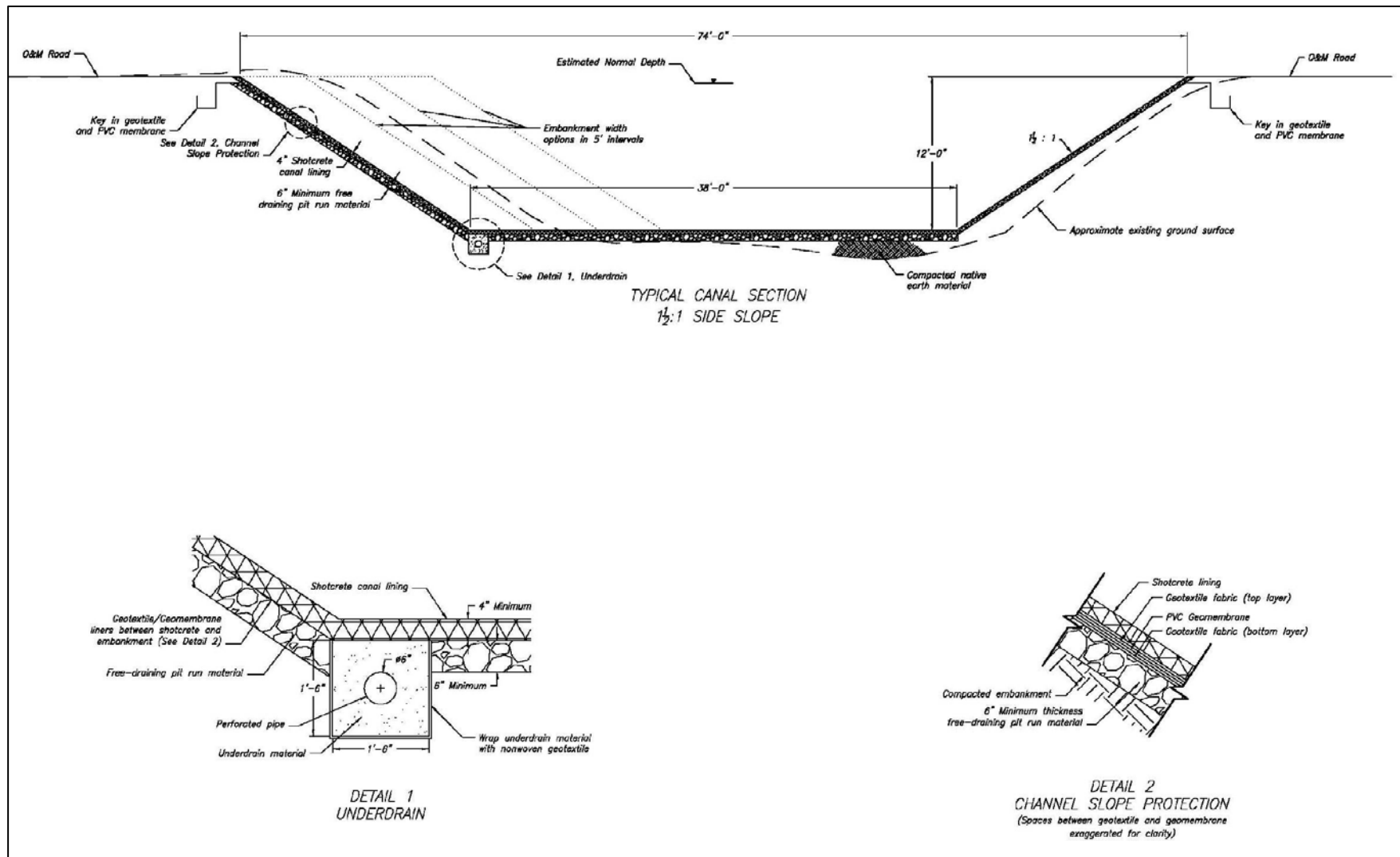


Figure 8. Typical Section for Proposed Canal Alternatives (Excerpt from Reclamation Drawing, 2015).

Table 9. Sample Budget Proposal.

#	ITEM DESCRIPTION	QUANTITY	UNIT	EXPLANATION	\$/UNIT	ITEM COST
1	Mobilization, Demobilization & Preparatory Work	1	LS		\$35,000.00	\$35,000
2	Water for Dust abatement	30	Day	1 off highway 6,000 gal water truck rented by the month and used 4hrs/day	\$ 742.63	\$22,279
3	Removal of water	1	LS	Providing, maintaining and attending pump for removing water in canal invert	\$20,000.00	\$20,000
4	Erosion control	2000	LF	Silt fence, polypropylene, 3' high	\$ 2.24	\$4,480
5	Excavation of canal - waste material	4000	CY	Muck in canal to be removed	\$ 4.24	\$16,960
6	Haul of waste material	4000	CY	Assume 10 CY truck @ 1 round trip/hr	\$ 10.15	\$40,600
7	Placing fill material	2900	CY	Placed fill material in canal prism and compact	\$ 5.73	\$16,617
8	Borrow Material	2900	CY	Material to be purchased and hauled from borrow source	\$ 34.07	\$98,803
9	Side slope compaction	10	Day	Excavator with Ho-pac, 8 hour day	\$ 1,472.40	\$14,724
10	Underdrain excavation	50	CY	Trench 1.5' x 1.5'	\$ 13.54	\$677
11	Underdrain geotextile	3800	SF	Placed in trench with overlapped top after filled with pipe and gravel	\$ 0.30	\$1,140
12	Underdrain perforated pipe	500	LF	Furnishing and laying 6" diameter perforated pipe for canal underdrain system	\$ 8.54	\$4,270
13	Gravel for canal underdrain system	50	CY	1/4" Chat	\$ 48.80	\$2,440
14	Daylight underdrain	1	EA		\$15,000.00	\$15,000
15	Furnishing and placing PVC lining (30 mil)	42000	SF	Furnishing and placing PVS lining	\$ 0.75	\$31,500
16	Geotextile - Upper layer	42000	SF	Furnishing and placing geotextile	\$ 0.30	\$12,600
17	Geotextile - Lower layer	42000	SF	Furnishing and placing geotextile	\$ 0.30	\$12,600
18	Shotcrete Lining	4120	SY	Shooting shotcrete on canal prism including material cost and labor (3" thick)	\$ 36.44	\$150,133
19	Gravel surfacing	670	SY	3" of crushed 3/4" gravel for road and surface on one side of canal, 12 ft wide	\$ 5.95	\$3,987
20	Safety Ladder	2	EA		\$ 2,300.00	\$4,600
Construction Subtotal						\$508,409
NON-CONSTRUCTION COSTS						
21	Construction Management & Testing				10%	\$ 50,841
22	Survey				0.5%	\$ 2,542
23	Professional Assistance (legal, audit, and compliance)				2.5%	\$ 12,710
24	Reporting				1%	\$ 5,084
25	Construction Contingency				20%	\$ 101,682
26	NEPA - EA (Habitat, Cultural, Mitigation, USACE Permitting)				5%	\$ 22,878
27	Detailed Design Engineering				10%	\$ 50,841
Professional Services Subtotal						\$ 246,578
28	Pre-Award Costs: NEPA - Environmental Assessment (Cultural)					\$ 14,835
29	Pre-Award Costs: WaterSMART grant and securing additional funding - Consultants					\$ 10,977
30	Pre-Award Costs: WaterSMART grant and securing additional funding - GVWUA					\$ 7,200
Pre-Award Subtotal						\$ 33,012
31	In-Kind Service - GVWUA (Post Award)					\$ 12,000
Total Costs						\$ 800,000

*Construction cost values were derived from RSMeans 2015 and have been indexed to 2017 construction dollars

Table 10. Canyon Canal Improvement Project Estimated Project Schedule.

	2015		2016				2017				2018	Milestones and Dates
Task	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	
Reclamation Coordination												
1. Secure Funding (Commitments)												Secure commitments; loan
2. NEPA Compliance												
Cultural Inventory and Survey												Class III Cultural Resource Inventory
- SHPO Review & Findings Concurrence												Concurrence
- ACHP Coordination and MOA												MOA
- Submit Cultural Mitigation Document												Approval
3. Final Project Design												
Survey												
Develop 100% CDs												
4. Develop Bid Package and Contract Documents												
Secure Contractor												
5. Permitting												
Electrical Permit												
6. Approval to Start Construction												
7. Construct Project												

5.0 Financial Feasibility Analysis

5.1 Loan Amount

Total Project Costs:	\$800,000
CWCB Loan Requested:	(up to) \$300,000
Term:	30 Years
Interest Rate Sought:	1.50%

5.2 Financing Sources

Non-federal cost share for the Project will be sought through a State funded loan and/or grant through the CWCB, non-federal grants from the CWCB and GVWUA cash and in-kind contributions. GVWUA is contributing cost share to the project of \$12,000 via in-kind contributions related to the development, implementation and management of the project. GVWUA cash contributions of \$42,000 will be split between GVWUA and OMID at a ration consistent to the cost share agreement. OMID will be responsible for the \$11,928 which will be allocated from their reserve accounts. Table 11 summarizes the funding sources for this Project.

Table 11. Summary of Non-Federal and Federal Funding Sources.

Funding Sources	Funding Amount
Non-Federal entities	
GVWUA Cash	\$42,000 (5.25%)
GVWUA In-Kind Services	\$12,000 (1.50%)
Colorado Water Supply Reserve Account (WSRA) Grant and/or Loan	\$450,000 (56.25%)
<i>Non-Federal Subtotal:</i>	\$504,000
Other Federal Entities	
N/A	\$0
Awarded WaterSMART Reclamation Funding	
Awarded WaterSMART Reclamation Funding	\$296,000 (37%)
TOTAL PROJECT FUNDING	\$800,000

The Colorado Water Supply Reserve Account Grant for \$300,000 (Statewide) has been approved by the Colorado Basin Roundtable on July 25, 2016 and is anticipated to be considered by the CWCB during the September 2016 meeting.

The numbers reflected in Table 9 represent Reclamation's design and project cost estimates.

GVWUA will bid the construction portion of the project to several prequalified construction companies. The contractual costs shown (Table 9) 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, excavation of canal waste, shaping canal prism, excavating and installing an

underdrain, furnishing and placing PVC lining and geotextile layer, and installing shotcrete lining.

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 Environmental and Regulatory Compliance Costs

The Reclamation and GVWUA have developed a pending Memo of Understanding (MOU) detailing the identified environmental and regulatory compliance requirements. Due to the cultural sensitivities of the canal facilities additional cultural assessments may be required. Post July 1, 2015, a cultural assessment has begun to address the culturally sensitive areas with further cultural assessment work expected as the project nears final design and construction.

Depending on final design of the canal the Reclamation identified potential mitigation efforts may be required on the historically significant features. Permitting with U.S. Army Corp of Engineers as well as habitat assessments remain as potential environmental components of the project.

A total of 5% of the construction costs has been budgeted for environmental and regulatory compliance associated with the project which is approximately \$22,878 of the project costs. Pre-Award costs already spent by consultants to address the environmental and regulatory compliance total to \$14,835. Pre-Award costs by GVWUA staff in addressing the environmental and regulatory compliance has not been included in the project costs and are over and above the identified project budget.

5.4 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. The budgeted amount for professional assistance is 2.5% of the construction costs for a total of \$12,710.

5.5 Indirect Costs

No indirect costs have been identified with this Project.

5.6 Total Costs

Total project cost for construction and implementation is \$800,000 of which \$504,000 will be supplied by non-Federal sources and \$296,000 will be supplied through the Federal WaterSMART Grant (approved).

5.7 Electric Service

The electric service for the Roller Dam is currently comprised of poles with overhead lines. This creates additional complications for operation and maintenance activities. Therefore, GVWUA proposes to bury the electric service within the canal embankment during this Project.

5.8 Revenue and Expenditure Projections

GVWUA will contribute \$42,000 in cash to the Project. OMID will repay GVWUA \$11,928 (28.4%) of this amount per the 1955 Operating Agreement. The GVWUA net contribution will originate from existing capital expenditure reserves.

5.9 Loan Repayment Sources

Assuming a 30 yr. fixed loan of \$150,000 the annual debt service would be \$6,252. OMID would be responsible for repayment to the GVWUA of \$1776 annually per the 1955 Agreement. GVWUA currently assesses each of the 1,750 accounts \$100 to maintain capital reserves, which can be used for outright purchases or service debt. A portion of this \$175,000 annual collection is available for servicing this debt. The annual debt service on \$300,000 would, of course, be double that outlined above, but still be well within the GVWUA ability to service the debt. OMID obligations would double per the 1955 Agreement.

Based upon the Grand Valley Power Plant revenue calculations (Table 12 and Table 13), a minimum of \$5,000 of additional power revenues are expected from the increased availability of water for power generation due to the increased hydraulic capacity achieved by the improvements included in the Project. These potential revenues are shared equally by GVWUA and OMID per the current Joint Operating Agreement between the two organizations.

Table 12. Estimated Power Revenue per cfs under the Existing Conditions (No Action) (Sorensen, 2015).

unit 1, existing conditions								
	flow (cfs)	net H (ft)	Measured efficiency	Kw/cfs	Kwh/day	current price \$/Kwhr	\$/cfs/day	\$/day @ 23.5 cfs
	340	74.85	53.4%	3.4	81.3	\$ 0.04	\$ 3.25	\$ 76.42
	250	75.26	50.2%	3.2	76.8	\$ 0.04	\$ 3.07	\$ 72.23
	150	75.85	39.3%	2.5	60.6	\$ 0.04	\$ 2.42	\$ 56.92
unit 2, existing conditions								
	flow (cfs)	net H (ft)	Measured efficiency	Kw/cfs	Kwh/day	current price \$/Kwhr	\$/cfs/day	\$/day @ 23.5 cfs
	400	73.39	54.7%	3.4	81.6	\$ 0.04	\$ 3.27	\$ 76.75
	250	75.26	50.2%	3.2	76.8	\$ 0.04	\$ 3.07	\$ 72.23
	160	75.43	40.1%	2.6	61.5	\$ 0.04	\$ 2.46	\$ 57.83

These numbers were based upon the lowest revenue per cfs/day under the existing conditions (\$2.42) with approximately 1/3 of the anticipated potential 100 cfs gained by the Project available (30 cfs) for approximately 1/3 of the days in a typical 210 day irrigation season (70 days); equal to \$5,124 at the current 0.04 KW/hr. That revenue would be reduced by 25% in 2012 with the reduction in price per KW/hr to 0.03. However, using the same assumptions, there would be at least a 50% increase in power revenue post-rehabilitation at these lowest efficiency levels. At the reduced price of 0.03 cents, the anticipated revenue provided by the anticipated 100 cfs realized from this Project should be at least equal to the additional revenue at existing conditions.

Table 13. Estimated Power Revenue under Future (Rehabilitated) Conditions(Sorensen, 2015).

unit 1, future conditions							
	flow (cfs)	net H (ft)	Measured efficiency	Kw/cfs	Kwh/day	current price \$/Kwhr	\$/cfs/day
	340	74.85	82.5%	5.2	125.6	\$ 0.04	\$ 5.02
	250	75.26	77.6%	4.9	118.7	\$ 0.04	\$ 4.75
	150	75.85	60.6%	3.9	93.5	\$ 0.04	\$ 3.74
unit 2, future conditions							
	flow (cfs)	net H (ft)	Measured efficiency	Kw/cfs	Kwh/day	current price \$/Kwhr	\$/cfs/day
	400	73.39	82.5%	5.1	123.1	\$ 0.04	\$ 4.93
	250	75.26	75.7%	4.8	115.9	\$ 0.04	\$ 4.64
	160	75.43	60.5%	3.9	92.8	\$ 0.04	\$ 3.71

Note: Unit 1 and Unit 2 refer to the generators/turbines.

5.10 Financial Impacts

Even assuming the potential increase of indebtedness the GVWUA and OMID may incur to facilitate the rehabilitation of the Grand Valley Power Plant, the financial impacts of the current loan do not require increases in base or capital reserve assessments.

5.11 TABOR Issues

There are no TABOR issues.

5.12 Collateral

The GVWUA is not offering collateral and does not have the ability to provide collateral on the Federal facilities.

5.13 Sponsor Creditworthiness

The current schedule of rates for the GVWUA's customers is included in Table 3. Copies of the three most recent audit reports of financial statements (2013, 2014, 2015) are included as attachments to this study.

6.0 Conclusions and Recommendation

There is a high feasibility that the GVWUA Canal Lining Project can be constructed and that the GVWUA has the financial creditworthiness to repay the loan.

7.0 Attachments

**ARTICLES OF INCORPORATION
OF THE
GRAND VALLEY WATER USERS ASSOCIATION**
(As Amended Through 2007)

Know all men by these articles of incorporation that we, the undersigned, have associated ourselves together under the laws of the State of Colorado, as a body corporate.

ARTICLE I.

The name of this corporation shall be and is The Grand Valley Water Users Association.

ARTICLE II.

The names of the incorporators are Lawrence M. Miller, S. P. Green, H. H. Beach, Daniel Lynch, John T. Beaman, James B. Hunter, George Smith, Marion O. Delaplain, William S. Wallace, James H. Smith and Merrill W. Blakeslee, but other may become members of this association by subscribing for the stock of the Association or by the transfer of stock to them in the regular course of the administration of the affairs of the Association.

ARTICLE III.

The principal place of transacting the business of the Association shall be at Grand Junction, in the County of Mesa, in the State of Colorado.

ARTICLE IV.

SECTION 1. The purposes for which this Association is organized and the general nature of the business to be transacted are: To acquire, furnish, provide for, and distribute to the lands of the shareholders of the Association as herein provided, an adequate supply of water for the irrigation thereof; to divert, store, develop, pump, carry and distribute water for irrigation and all other beneficial uses, deriving the same from all available sources of supply; to construct, install, operate, and maintain pumps, ditches, conduits and other drainage works for draining any or all of the lands receiving water through the irrigation works of the Association; to construct, purchase, lease, condemn, or acquire in any manner whatsoever, and to own, use, sell, transfer, convey, control, maintain, and operate any irrigation works, structures, telephone systems, electric or other power plants, and transmission lines, and property both real and personal of every kind whatsoever, necessary or appropriate for the accomplishment of any of the purposes of this organization; to generate, create, transmit, use and sell power and electrical energy; to act as trustee, agent or attorney for the sale, disposal, and transfer of lands, in order to facilitate the disposal of such lands, or any part thereof, to persons qualified to perfect rights to the use of water under the laws of the United States applicable thereto, and the rules and regulations established thereunder; to incur indebtedness, floating or bonded, and to secure the same by mortgage, deed of trust, pledge or otherwise, to acquire, hold, and dispose of stock in other corporations, domestic or foreign; to

purchase or acquire land by foreclosure or otherwise and to hold, own, sell, transfer or convey such land, any such sale, transfer or conveyance to be upon such terms and conditions as may be fixed by the Board of Directors of this Association; to have and exercise all the powers and to perform any and all acts necessary or appropriate for the accomplishment of any one or more of the said purposes or anything incident thereto.

SECTION 2. This Association shall have the power to enter into any contract or other arrangement with the proper representative of the United States, individual, association of individuals or corporation, for the accomplishment of any of the aforesaid purposes, by means of the construction, acquisition or control of appropriate works or structures, or in any other manner whatsoever.

SECTION 3. It shall have the power to enter into any agreement with the proper representative of the United States with reference to the collection and payment of any and all charges made under the federal statutes for the works providing water for the lands of its shareholders.

SECTION 4. It shall have the power to comply with the provisions of any federal statutes applicable to the work done by the United States in connection with such system of water supply, and any rules and regulations established thereunder.

SECTION 5. The territory within which the lands to be irrigated as aforesaid are situated, to be known as the Grand Valley Irrigation district, includes all lands within the boundaries described as follows, to-wit:

That portion of Grand Valley lying between the east boundary line of Range Ninety-eight (98) west 6th Principal Meridian, and the west boundary line of Range One Hundred and Four (104) west 6th Principal Meridian irrigable by diversion of water from the Grand River in Colorado.

ARTICLE V.

SECTION 1. The capital stock of the Association shall be Seventy-five Thousand Dollars (\$75,000), divided into seventy-five thousand (75,000) shares, of the par value of One Dollar (\$1.00) each. Said stock shall be assessable and assessments thereon for all purposes shall be made by the Board of Directors of this Association.

SECTION 2. Only those who are owners of lands, or occupants of public lands having initiated a right to acquire the same, within the area described in Article IV or within such extensions thereof as may be duly made, shall be qualified to own the shares of this Association. Not more than one share shall be allotted for each acre of land, but fractional shares may be issued on fractions of acres.

SECTIONS 3, 4, and 5, Article V, are omitted. (See attached.)

SECTION 6. The ownership of each share of stock of this Association shall carry, as incident hereto, a right to have water delivered to the owner thereof by the Association for the irrigation of the lands to which such share is appurtenant.

SECTION 7. The amount of water to be delivered to such owner shall be that proportionate part to all the water available for distribution by the Association during any irrigation season, as the number of shares owned by him shall bear to the whole number of valid and subsisting shares then outstanding, such water to be delivered to and upon said lands at such times during such season as he may need for the proper irrigation thereof.

SECTION 8. By subscribing to the shares of this Association each signer agrees that the right to any water theretofore appropriated by him, or by his predecessor in interest, for the irrigation of the lands described in said subscription, or customarily used thereon, shall become appurtenant to such lands and be and remain incident to the ownership of such shares appurtenant to such lands. There shall be further incident to the ownership of such shares the right to have such water delivered to the owner thereof by the Association for the irrigation of said lands, as the Association shall from time to time acquire or control means for that purpose: Provided, that the whole amount of water actually delivered to such lands from all sources shall not exceed the amount necessary for the proper cultivation thereof.

SECTION 9. The records of the Association and each and every certificate or other evidence of ownership of shares of stock in the Association, when issued, shall contain a description of the lands to be irrigated, and to which the aforesaid rights and shares shall be perpetually appurtenant; and, thereafter all rights whatever their source or whatever their manner of acquisition to the use of water for the irrigation of said lands shall forever be inseparably appurtenant thereto, together with the said shares of stock, and all rights and interests represented thereby or existing or accruing by reason thereof, unless such rights shall become forfeited under the provisions of these Articles of Incorporation, or of by-laws adopted in pursuance thereof, or by operation of law, or by the voluntary abandonment thereof by deed, grant or other instrument, or by non-user for the term prescribed by law; but no such abandonment shall be for the benefit of any person designated by such shareholder, directly or indirectly, or to his use, nor confer any right whatsoever upon the holder of any grant, release, waiver, or declaration of abandonment of any kind: Provided, however, that if for any reason it should at any time become impracticable to beneficially use water for the irrigation of the land to which the right to the use of the water is appurtenant, the said right may be severed from said land and simultaneously transferred and attached to other lands to which shares of stock in this Association are or shall thereby be made appurtenant, if a request for leave to transfer, showing the necessity therefor, shall have first been allowed by a two-thirds vote of the Board of Directors at a regular meeting and approved by the Secretary of the Interior. All the provisions and agreements of this section shall be set forth in the aforesaid certificate or other evidence of the ownership of shares of stock in the Association, together with any other provisions and agreements made necessary by these articles, and such certificate or other instrument shall be signed, executed and acknowledged by the President and Secretary of the Association, and by the person to whom it is issued, in the manner required by law for the execution and acknowledgment of deeds for the conveyance of real property, and the Board of Directors shall pass by-laws prescribing the form of such certificate or other instrument, not inconsistent with these articles.

SECTION 10. Every transfer of the title to any lands to which the said rights and shares are appurtenant, whether by grant or by operation of law (except where the land may be subjected by grant, or involuntary under any law, to an easement, the exercise of which does not interfere with the cultivation of the soil by the servient owner) shall operate, whether it be so expressed therein or not, as a transfer to the grantee or successor in title, of all rights to the use of water for the irrigation of said lands, also all rights arising from, or incident to, the ownership of such shares, as well as the shares themselves; and upon presentation to this Association of proof of any such transfer of land, the proper officer shall transfer such share of stock upon its books to the successor in title to said lands.

SECTION 11. Any transfer or attempted transfer, of any of the shares of this Association, made or suffered by the owner thereof, unless simultaneously a transfer of the land to which it is appurtenant is made or suffered to or in favor of the same party, shall be of no force or effect for any purpose and shall confer no rights of any kind whatsoever on the person or persons to whom such transfer may have been attempted to be made.

SECTION 12 is omitted. (See attached.)

SECTION 13. If it should be determined by the United States that the amount of water available from the entire irrigation system as owned or controlled by it and by the Association shall be insufficient to properly irrigate one acre of land for each share of the capital stock, then no shares in excess thereof shall be issued, and the number of shares shall be so reduced by appropriate amendment of these articles, as not to exceed the number of acres determined by the United States as irrigable from the entire available supply of water.

SECTION 14. If, when such determination is made, the number of shares subscribed shall be in excess of the number of acres so determined, an allotment of shares shall be made to the subscribers, equal to the number of acres irrigable, giving preference to the cultivated land. The surplus of shares so subscribed shall thereupon be cancelled and shall not be re-issued. By-laws shall be adopted to govern such allotment.

SECTION 15. If the number of acres of irrigable land or the cost of the works, or both, as determined by the United States, shall exceed the number of shares of the capital stock authorized herein, appropriate amendment of these articles as to the number of shares, the par value thereof and the capital stock shall be made in compliance with the laws applicable thereto.

ARTICLE VI.

SECTION 1. The revenues for the accomplishment of the purposes of this Association shall be raised:

(a) From income arising from the carriage, rental, or delivery of water for irrigation or other purposes, or from the sale, rental, lease, or furnishing otherwise of electric or other power or power privileges, or from any other lawful operations of the Association.

(b) From assessments against the shares of stock of the Association so far as they may be from time to time necessary to meet:

(1) The cost of construction, improvement, enlargement, betterment, repairs, operation and maintenance of the irrigation works of the Association or of those managed, controlled, operated or maintained by it.

(2) Payments due the United States under any contract or contracts between the United States and the Association, or payments under any contract between the United States and other parties which are assumed or guaranteed by the Association.

(3) Deficiencies caused by the failure of some of the shareholders of the Association to pay assessments upon their shares of stock.

(4) Any and all lawful obligations of the Association.

SECTION 2. The directors shall have power to make and enforce necessary by-laws for making, levying, collecting and enforcing the payment of such assessments and charges for water and other services.

SECTION 3. Assessments for the ordinary cost of operation, maintenance and repair, of the works of the Association, or of those the maintenance and control of which are, or may be hereafter, lodge in the Association, shall be equally assessed against all shareholders in proportion to the number of shares held by them respectively, unless existing or future contract or contracts with the United States or the laws or regulations of the United States now or hereafter require unequal assessments. Assessments other than for such ordinary cost of operation, maintenance and repair and other than for the purposes covered by Sections 4 and 5 of this Article shall be equally assessed against all shareholders in proportion to the number of shares held by them respectively, unless existing or future contract or contracts with the United States or the laws or regulations of the United States now or hereafter require unequal assessments.

SECTION 4. Assessments for the purpose of constructing or acquiring, or for the betterment, improvement, renewal, replacement or preservation of any works, property, or rights of the Association, or for the purpose of preserving or increasing or more efficiently or economically distributing the water supplies available for distribution by the Association, or for the fulfillment of any obligation undertaken by the Association, or in any contract, agreement or other arrangement with the United States government, or necessary for the accomplishment or carrying out of the purposes of the Association, may be equally assessed against all shareholders in proportion to the number of shares owned by them respectively. This section, however, is not to prevent unequal assessments when required under existing or future contract or contracts with the United States or under present or future laws or regulations of the United States.

SECTION 5. Assessments for expenditures for purposes that are of benefit to a part of the shareholders may be specially assessed in proportion to such benefits against such shareholders, but no expenditure to be provided for, or covered by, such special assessment shall be made, or obligation to expend the same incurred, except upon the petition of the holders of two-thirds of the shares to be so specially benefitted: Providing, that the terms of this section shall not be construed

as applying to any variation in the charges to be made on account of the building, operation and maintenance of the project, as assessed by the Secretary of the Interior.

SECTION 6. Assessments shall, from time to time, as they are made and levied and until they are paid or otherwise discharged, become, be and remain a lien upon the shares of stock against which they are levied and upon the lands to which such shares are appurtenant, and upon all rights and interests represented by such shares. The manner of fixing the lien and enforcing the same shall be as prescribed in these articles or in the by-laws of the Association, or in any contract to which a stockholder of the Association is a party. The Association may enforce the payment of assessments by foreclosure and sale of said lands and shares of stock in the manner provided by law for the foreclosure of real estate mortgages or by suit thereof in a court of competent jurisdiction, and levy in satisfaction of such judgment to be confined, however, to the land of the judgment debtor described in such suit and subscribed to the Association and/or which is under any contract or water right application with the United States.

SECTION 7. ~~Except for operation, maintenance and repair, no work shall be undertaken, purchase made or indebtedness incurred or be authorized during any one year, whereof the cost shall exceed Fifty Thousand Dollars (\$50,000) until it shall have first been ratified by at least two-thirds of the shares represented by the votes cast at an election to be called for that purpose. Special elections may be called and held for such purpose under such by-laws as the Board of Directors may prescribe, not inconsistent with these Articles. (See attached 2007 amendments).~~

ARTICLE VII.

SECTION 1. The exercise of the corporate powers of this Association and the management of its affairs shall be vested in 11 directors, from whom the President and Vice-President shall be chosen. The officers shall consist of the President, Vice-President, Treasurer and Secretary and shall be elected by the Board of Directors, but the Treasurer and Secretary need not be members of the Board of Directors or Stockholders of the Association. Any and all other officers, agents and employees as shall or may be from time to time created and established by the by-laws, shall be elected by the Board of Directors.

SECTION 2. ~~The annual election of the Board of Directors and of the other officers for whose elections these Articles provide, shall be held on the second Tuesday in January, 1906, and of each year, thereafter in such manner as the by-laws shall provide. (See attached 2007 amendments).~~

SECTION 3. ~~Each director shall at the time of his election be the owner of land situated within the district for which he is elected, to which shares of stock of this Association are appurtenant, and shall also be a resident of the district, and if he shall during his term of office cease to be such owner or resident of said district, his office shall thereupon and by reason thereof become vacant. (See attached 2007 amendments).~~

SECTION 4. Until the election of the Board of Directors at the annual election in 1906, and until their qualification the directors shall consist of the following named persons: Lawrence M. Miller, S. P. Green, H. H. Beach, Daniel Lynch, John T. Beaman, James B. Hunter, George Smith, Marion O. Delaplain, William S. Wallace, James H. Smith and Merrill W. Blakeslee.

SECTION 5. The Board of Directors shall have power to make such prudential by-laws as shall be necessary to the government of this Association, not inconsistent with these Articles, and for the management of its business and the conduct of its affairs, and to repeal, modify and amend the same from time to time. The Board shall not have power to adopt or enforce any by-laws that in anywise conflicts with any rules or regulations established by the Secretary of the Interior or other Agency of the Government, in connection with the Reclamation Act.

SECTION 6. In the event of a vacancy in the Board of Directors by reason of death, resignation or otherwise, the vacancy shall be filled by the Board of Directors.

SECTION 7. Regular and special meetings of the Board of Directors shall be called and held in such manner and at such times and places as may be prescribed by the by-laws.

SECTION 8. Special meetings of the Board of Directors may be called by the President, or by any six of the members of the Board. Such call shall be in writing and signed by either the President, or any six of the members and shall state the time of such proposed meetings, and the nature of the business to be transacted thereat. Such written call shall be filed with the Secretary, who shall thereupon immediately, and at least five days before the time fixed for such meeting mailed postcard to the President, and each member of the Board, a copy of such call, and shall publish the same in some newspaper published and of general circulation in the territory, described in Article IV, of these Articles, on three consecutive days before, and exclusive of, the day fixed for such special meeting. If the Secretary fail or refuse to publish such call or mail copies thereof, as above provided, then either the President, if he issued the call, or any one of the members who issued the same, may make publication and mail copies of the call, with like effect as if done by the Secretary. Special meetings of the Board of Directors shall be held at the office of the Association.

SECTION 9. The Directors shall have the power, in the name of the corporation, to prosecute, defend, and compromise all law suits; to make all contracts, in the name of the Association, necessary and proper for the conduct of affairs and the carrying on of the business of the Association, subject to all limitations and regulations prescribed by these Articles or the by-laws.

SECTION 10. The Board shall have the power to estimate, make and levy all assessments against the shares of stock of this Association to the extent and in the manner authorized by these Articles and the by-laws, and shall also have the power to enforce collection of assessments in such manner as may be prescribed in these Articles or in the by-laws of this Association, and shall also have power to prescribe the terms and conditions under which shares of stock may be subscribed for land to be supplied with water from the irrigation system of this Association, and shall also have power to

prescribe terms and conditions for supplying water upon land from the irrigation system of this Association.

SECTION 11. The Board shall have the power to make, publish, and enforce rules and regulations concerning the distribution, use and application of the water under its control, subject at all times to, and not inconsistent with, these Articles, or with the by-laws, or with the federal statutes applicable thereto and the rules and regulations established thereunder.

SECTION 12. The Board shall keep, or cause to be kept, a record of its transactions, which shall at all time remain in the office of the Association and shall, during office hours, be open to the inspection of the shareholders, or their properly authorized agents.

SECTION 13. The Board shall hear and determine complaints of shareholders of non-service, or of improper service or distribution of water, or of improper performance of duty by any employee of the Association relative to the distribution of water.

SECTION 14. The members of the Board of Directors shall receive such compensation as may be prescribed by the by-laws.

SECTION 15. (See attached.)

SECTION 16. (See attached 2007 amendments).

ARTICLE VIII.

SECTION 1. ~~At all elections the electors shall possess the following qualifications:~~

~~— (a) — Shall be at the time of the election the owner of at least one share of capital stock of this Association, and shall have been the owner thereof, as shown by the books of the Association, for at least twenty days before such election.~~

~~— (b) — Shall be of the age of twenty-one years or more and of sound mind.~~

(See attached 2007 amendments).

SECTION 2. ~~At all elections each shareholder shall be entitled to one vote for each share of stock owned by him, not however to exceed in the aggregate one hundred and sixty votes.~~ (See attached.)

SECTION 3. The votes shall be by written or printed ballot, and be voted only by the electors at the polls in person or by written proxy.

SECTION 4. The Board of Directors may make reasonable by-laws for the registration of voters and the method of holding elections.

SECTION 5. At all elections the person receiving the highest number of votes for any office shall be deemed elected to such office.

ARTICLE IX.

SECTION 1. The President, Vice-President, Treasurer and Secretary shall perform such duties as are prescribed by these Articles and by the by-laws, wherein such by-laws shall not be inconsistent with the law or with these Articles and shall receive such compensation as may be fixed by the by-laws, which compensation shall neither be increased nor diminished during their respective terms of office.

SECTION 2. In case of the absence, illness, or inability of the President to act from any cause, or in case of a vacancy in that office, the Vice-President shall act in the place and stead of the President.

SECTION 3. The President shall be the chief executive officer of the Association, and shall have general supervision over all other officers of the Association in the performance of their duties as such, and of the conduct of the business and affairs of the Association. He shall preside at all meetings of the Board of Directors and shall perform such other duties as may be devolved upon him by the by-laws.

SECTION 4. All certificates or other evidence of the ownership of shares of stock in the Association issued by the Association shall be signed by the President and Secretary of the Association and shall have the seal of the Association affixed.

SECTION 5. All of the contracts and instruments in writing executed for, or in behalf of the Association, shall be executed in the name of the Association by the President and Secretary and shall have the seal of the Association affixed.

SECTION 6. The Treasurer shall receive and be the custodian of all moneys and other funds of the Association. No moneys shall be paid out by the Treasurer unless upon warrants drawn on him by the President and Secretary, except as provided in Article XI, Section 8. No warrants shall be drawn on the Treasurer by the President and Secretary except upon the order of the Board of Directors, recorded in the minutes of the Board, and in a warrant record to be kept by the Secretary.

SECTION 7. The Treasurer shall keep a full, complete and accurate account of all moneys of the Association received and disbursed by him, in books belonging to the Association, and shall present a report and account thereof at every regular meeting of the Board, and shall, at the expiration of each quarter, prepare and publish, in such manner as the by-laws may prescribe, a quarterly statement to shareholders showing all such receipts and disbursements during the last preceding quarters; and the Treasurer shall perform such other duties as may be devolved upon him by the by-laws.

SECTION 8. The Secretary shall act as the clerk of the Board of Directors and keep a record of all their proceedings. He shall immediately upon their adoption, record in a book of by-laws to be kept by him in his office, all by-laws adopted, and shall keep such book open to the inspection of any member of the Association, or his properly authorized agent, at all times during business hours. And the Secretary shall perform such other duties as may be devolved upon him by the by-laws.

SECTION 9. The Treasurer and Secretary shall give such bond as may be prescribed by the by-laws; Provided, that neither the President, Vice-President, or any member of the Board of Directors or the Secretary, shall be accepted as a surety on a bond of the Treasurer.

ARTICLE X.

SECTION 1. The Board of Directors may create such other offices as may be necessary for the carrying on of the business and affairs of this Association, and prescribe the manner of appointment, powers, duties, terms of office, eligibility and compensation thereof by by-laws not inconsistent with these Articles.

SECTION 2. The Board of Directors may remove from office, the Treasurer, Secretary, or the incumbent of any office created by the Board for incompetence, neglect of duty, misappropriation of funds of the Association, or for violation of any of the provisions of these Articles or of any by-law. The Board shall adopt by-laws to govern the procedure for such removal.

ARTICLE XI.

SECTION 1. The irrigation system which it is the purpose of this Association to acquire, or secure control of, is to consist of a canal to be constructed by the United States Government to furnish water for irrigation and domestic purposes to unwatered lands lying within the boundaries of said Grand Valley Irrigation District, as defined in Section 5, Article IV, hereof, and such diversion works, ditches, laterals, distribution works, power plant, electric transmission lines, pumping plants, telephone system, and other works or structures as are necessary or proper in connection with the construction and maintenance of said irrigation system. The headgate of said canal is to tap the water of the Grand River at a point near the south line of the Northwest quarter of Section thirteen, Township ten South, Range ninety-eight West of the 6th Principal Meridian, whence the canal will extend in a southwesterly direction through the Canyon of the Grand River for a distance of about six miles, thence in a general westerly and northwesterly course between sixty and sixty-five miles to a point near the Excelsior Divide, so called, discharging its waste water into the Grand River or tributaries thereof.

ARTICLE XII.

The corporate indebtedness other than that incurred for construction, purchase, or securing control of the irrigation system shall not exceed two-thirds of the capital stock.

ARTICLE XIII.

~~The term of existence of this corporation shall be twenty years.~~ (See attached.)

ARTICLE XIV.

SECTION 1. These articles may be amended in accordance with the provisions of the statutes of the State of Colorado in such case made and provided.

SECTION 2. These articles shall not be so amended as to in anywise conflict with any federal statutes, or the rules and regulations established thereunder relating to the supply of water to the land of shareholders of this Association.

ARTICLE XV.

SECTION 1. This Association may accept and avail itself of or subject itself to the provision of any law or laws enacted or that may be enacted by Congress, or the Legislative body of the state, which may be applicable to corporations organized for like purposes as this Association. Such acceptance or subjection shall be valid when ratified by at least two-thirds of the shares represented by the votes cast at any annual election or any special election called for the ratification thereof. Notice of such election shall be given in the method prescribed by these Articles and the by-laws of the Association, stating the purpose thereof.

SECTION 2. The undersigned furthermore grants to the United States, over the lands described herein, as may be required in connection with the works constructed or controlled by the United States, for the use and benefit of the stockholders, necessary right-of-way for the construction, operation and maintenance of canals, tunnels, and other water conduits, telephone and electric transmission lines, drains, dikes, and other works for irrigation, drainage and reclamation.

SECTION 3. The undersigned furthermore releases and discharges the United States from damage or claim for damage on account of the construction, operation and maintenance of the canals or other irrigation works built or operated in connection with this project, including consequential damages, except that reasonable compensation will be made for all improvements actually damaged or destroyed by such construction. The undersigned also releases and hereby grants to the United States the right to take, appropriate and use all seepage, waste and spring waters arising on the land herein described and not heretofore appropriated.

ARTICLE XVI.

The seal of this Association shall be a figure of two concentric circles, the outer being two inches, and the inner one and one-half inches in diameter. In the space between the two shall be the words "Grand Valley Water Users Association," and bearing within the center space an unrolled scroll with the words and figures therein "Incorporated 1905," "Colorado."

END OF ARTICLES OF INCORPORATION

AMENDMENTS TO ARTICLES OF INCORPORATION

AMENDMENTS PRIOR TO 2007:

- 1. Article V amended by omission of Sections 3, 4, 5 & 12.**
- 2. Article VII amended by addition of Section 15 as follows:**

SECTION 15. The Directors shall have no personal liability to the corporation or to its members or stockholders for monetary damages for breach of fiduciary duty as a director; except that this provision does not eliminate or limit the liability of a director for any breach of the director's duty of loyalty to the association or its members or stockholders; acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law; or any transaction from which the director derives an improper personal benefit. This provision shall not effect the liability of a director for any act or omission occurring prior to the effective date of this provision.

- 3. Article VIII amended by changing Section 2 to read:**

SECTION 2. At all times each shareholder shall be entitled to one vote for each acre of land owned by him that is entitled to stock, not however to exceed in the aggregate an amount equal to the number of acres on which a qualified recipient/individual landowner is entitled to receive irrigation water under Section 426.6 of the Reclamation Reform Act of 1982, as the Section now exists or may hereafter be amended.

- 4. Article XIII amended to read:**

The corporation shall have perpetual existence.

2007 AMENDMENTS:

- 1. Article VI, Section 7 is amended to read as follows:**

Except for operation, maintenance and repair, no work shall be undertaken, purchase made or indebtedness incurred or be authorized during any one year, whereof the cost shall exceed One Million Dollars (\$1,000,000) until it shall have first been ratified by at least two-thirds of the shares represented by the votes cast at an election to be called for that purpose. Special elections may be called and held for such purpose under such by-laws as the Board of Directors may prescribe, not inconsistent with these Articles.

2. Article VII, Section 2 of the Articles of Incorporation of the Grand Valley Water Users Association is amended to read as follows:

Members of the Board of Directors of the Association shall be elected as follows:

- (a) The annual election of members of the Board of Directors shall be held on the second Tuesday of February, 2008, and on the second Tuesday of February of each year thereafter, in such manner as the by-laws shall provide. At the annual election there shall be one vote per share of capital stock of the Association, regardless of the number of directors being elected. An elector who owns one share of capital stock shall be entitled to cast his vote for one of the candidates for director at the annual election. An elector who owns more than one share of capital stock shall be entitled to cast his votes for any one or more of the candidates for director in any manner desired by the elector. Any tie votes for members of the Board of Directors shall be resolved by lot in the manner set forth in the by-laws.
- (b) At the election of the Board of Directors held in 2007, the following procedures shall apply: All eleven members of the Board of Directors shall be elected at the 2007 election. The eleven candidates receiving the most votes shall be elected to the Board of Directors. The four persons receiving the most votes shall be elected for a term of three years. Of the remaining seven persons, the four persons receiving the most votes shall be elected for a term of two years. The remaining three persons shall be elected for a term of one year.
- (c) Upon the expiration of the initial staggered terms provided for in Subsection (b), above, all directors shall thereafter be elected for three year terms. For purposes of determining the terms of office of directors, a "year" shall be deemed to be the period from the date of one annual election to the date of the next annual election.

3. Article VII, Section 3 of the Articles of Incorporation of the Grand Valley Water Users Association is amended to read as follows:

Each director shall possess the following qualifications at the time of his election or at the time of his appointment to fill a vacancy on the Board of Directors:

- (a) The director shall be a natural person who is a resident of the Grand Valley Irrigation district (defined in Article IV, Section 5, above); and
- (b) The director shall be the owner of at least two and one-half (2 ½) acres of land to which shares of stock of the Association are appurtenant ("qualifying

land”). As used in this Section, a person shall be considered to be an owner of qualifying land if the person meets one of the following requirements:

- (1) The person is an owner of record, either solely, as a joint tenant or as a co-tenant, of the qualifying land;
 - (2) The qualifying land is owned of record by a corporation, limited liability company, partnership or other organization, association or entity, either solely, as a joint tenant or as a co-tenant, and the person owns a voting interest in the organization, association or entity; or
 - (3) The land is owned of record by a trust or by trustees of a trust, either solely, as a joint tenant or as a co-tenant, and the person is a trustee of the trust.
- (c) If a director ceases meet the qualifications set forth in Subsections (a) or (b), above, during his term of office, he shall no longer be qualified to be a director and his office shall be deemed vacant.

4. Article VIII, Section 1 of the Articles of Incorporation of the Grand Valley Water Users Association is amended to read as follows:

The following provisions shall govern the qualifications of electors and the voting of shares:

- (a) At all elections each elector shall possess the following qualifications at the time of the election, except as otherwise provided in Subsection (d), below:
- (1) The elector shall be the owner of at least one share of capital stock of the Association and shall have been the owner thereof, as shown by the books of the Association, for at least twenty days before such election; and
 - (2) The elector shall be at least eighteen years of age.
- (b) For purposes of Subsection (a)(1), above, an elector shall be considered to be the owner of capital stock of the Association if the elector is a natural person who meets one of the following requirements:
- (1) The person is an owner, either solely, as a joint tenant or as a co-tenant, of the capital stock;
 - (2) The capital stock is owned by a corporation, limited liability company, partnership or other organization, association or entity, either solely, as a joint tenant or as a co-tenant, and the person owns a voting interest in the organization, association or entity; or

- (3) The capital stock is owned by a trust or by trustees of a trust, either solely, as a joint tenant or as a co-tenant, and the person is a trustee of the trust.
- (c) There shall be only one vote per share of capital stock of the Association. If a share of stock is owned by more than one person, organization, association or entity, the owners of the share of stock shall decide the person who shall be the elector for that share, which person shall be qualified as set forth in Subsections (a) and (b), above, and shall declare the identity of such person to the Association at or prior to the election. If the owners of a share of stock fail to make such declaration and multiple votes are attempted to be cast by or on behalf of the share of stock, all of the votes cast by or on behalf of that share of stock shall be invalidated and disregarded.
- (d) If capital stock of the Association is appurtenant to lands that are subdivided into lots or smaller parcels, the Association may require the formation of a homeowners association or similar organization to represent all such lands on matters relating to the Association. The Association's annual assessment for all of the capital stock appurtenant to subdivided lands that are represented by a homeowners association will be billed to that homeowners association, and the homeowners association shall provide to the Association the name and address of the natural person to whom the billing for the annual assessment shall be sent. Such person shall be at least eighteen years of age. Notwithstanding anything to the contrary stated above, the elector for all of the capital stock appurtenant to subdivided lands represented by a homeowners association shall be the natural person designated in the Association's records as the person at the homeowners association to whom the billing for the annual assessment shall be sent.
- (e) Any qualified elector shall be entitled to appoint a proxy to vote the elector's shares, in the manner provided by applicable Colorado law.

5. **Article VII, Section 16 of the Articles of Incorporation of the Grand Valley Water Users Association is amended to read as follows:**

The Association shall indemnify, to the fullest extent permitted by applicable law in effect from time to time, any person, and the estate and personal representative of any such person, against all liability and expense (including attorneys' fees) incurred by reason of the fact that he is or was a director or officer of the Association or, while serving as a director or officer of the Association, he is or was serving at the request of the Association as a director, officer, partner, trustee, employee, fiduciary, or agent of, or in any similar managerial or fiduciary position of, another domestic or foreign corporation or other individual or entity or of an employee benefit plan. The Association shall also indemnify any person who is serving or has served the Association as director, officer, employee, fiduciary, or agent, and that person's estate

and personal representative, to the extent and in the manner provided in any bylaw, resolution of the directors, contract, or otherwise, so long as such provision is legally permissible.

BY LAWS OF THE
GRAND VALLEY WATER USERS' ASSOCIATION

ARTICLE I

Articles of Incorporation.

The object of this Association, territory covered, the qualifications, duties, rights and liabilities of the members of this Association, the number and election of, and the qualifications, duties, rights and liabilities of the Directors of this Association, shall be as provided for and as required and stated in the Articles of Incorporation, and these by-laws.

ARTICLE II

Stockholders.

Section 1. Annual meetings.

The regular annual meeting of the stockholders of this Association shall be held at Grand Junction, Mesa County, Colorado, on the date established in the Articles of Incorporation and at the time set by the Board of Directors.

Section 2. Special meetings.

Special meetings of the stockholders of this Association may be held at any time pursuant to a resolution of the Board of Directors or as otherwise may be provided or required by the laws of the State of Colorado.

Section 3. Notice of meetings.

Notice of all regular and special meetings of the stockholders shall be given as required by the laws of the State of Colorado.

Section 4. Voting.

Only stockholders of record shall be entitled to vote at the regular and special meetings of stockholders. At such meetings each shareholder shall be entitled to one vote for each share of stock held in his name, and only such number of shares as are appurtenant to what is classed as Class 1 acres on the records of the Association. Directors shall be elected in the manner set forth in the Articles of Incorporation.

Section 5. Definition of terms relating to stock and stockholders.

(a) When the words "share," "shares," or "stock" are used in the Articles of Incorporation or these by-laws, they shall be taken to mean, until shares are actually issued, the shares of the capital stock of the

Association agreed to be taken by subscribers (or their successors in interest) for the capital stock of the Association, as shown by the records of the Association, whose subscriptions have not for any reason been canceled or the land for which the subscriptions were made have not been excluded by the United States government from the Grand Valley Project, Colorado.

(b) When the words “shareholder,” “shareholders,” “stockholder,” or “stockholders” are used in the Articles of Incorporation or these by-laws, they shall be taken to mean, until shares are actually issued, subscribers (or their successors in interest) for the stock of the Association, whose subscriptions have not for any reason been canceled or the land for which the subscriptions were made have not been excluded by the United States government from the Grand Valley Project, Colorado.

Section 6. Quorum.

For the purpose of determining a quorum only shares of outstanding stock which are appurtenant to land classed as Class 1 acres as specified in Section 4 of this article shall be considered. A majority of such shares of outstanding stock unless otherwise provided in the Articles of Incorporation or by the laws of the State of Colorado shall be necessary to constitute a quorum at all meetings of stockholders. When a quorum is present at any meeting a majority of the stock represented there at unless otherwise provided in the Articles of Incorporation or by the laws of the State of Colorado, shall decide any question brought before such meeting.

Section 7. Failure of quorum.

In the event no quorum is present at any meeting the Directors may call another meeting of stockholders as soon as reasonably possible, provided, however, nothing herein contained shall prevent any meeting when a quorum is not present from being adjourned from time to time for the purpose of securing a quorum.

Section 8. Proxies.

Any stockholder entitled to vote may be represented at any regular or special meeting of stockholders by a duly appointed proxy. The Association shall prepare a standard proxy appointment form, which form shall be approved by the Board of Directors and made available to stockholders. The appointment of a proxy shall be made using the association’s approved proxy appointment form. The proxy appointment form shall be signed by the stockholder making the appointment, but shall require no other attestation. No proxies shall be recognized unless the proxy appointment form is executed within eleven months of the date of the meeting at which the form is presented. Any individual appointed as a proxy must be a stockholder in the Association and must be present at the meeting to vote the shares under such proxy. If an individual appointed as

a proxy is not present at a meeting to vote the shares under the proxy, the members of the board of Directors who are present at the meeting at which the proxy is to be voted shall be deemed to have been appointed as the proxies to vote the shares of the stockholder who signed the proxy appointment form. Such shares shall be split evenly between the members of the Board of Directors who are present at the meeting.

Section 9. Registration Committee.

To facilitate stockholders elections, whether general or special, there shall be hereafter a standing committee of three known as the Registration Committee, consisting of the Secretary and two other persons to be selected by the Board of Directors. The Registration Committee shall register and tabulate proxies and voters before the time of holding any stockholders' election and shall collect, tabulate and announce the votes cast at any stockholder' election.

Section 10. Time of filing of proxies.

All proxy appointment forms signed by any shareholder shall be delivered to the Registration Committee at least 1 hour prior to the start of the stockholder's meeting at which the proxy is to vote.

Section 11. Tabulation of proxies.

The Registration Committee shall register all proxies and persons entitled to vote and to what extent, either in person or by proxy and shall in a systematic way register and tabulate said voters and votes so the same may be readily cast at such meeting and shall report the result at the opening of the stockholders' meeting, and if said report is not unanimous, majority and minority reports or a report from each member may be reported to the stockholders' meeting and in such an event, the stockholders at the meeting shall decide the legal voters and proxies reported.

Section 12. Judges of election.

The presiding officer at a stockholders meeting shall appoint a committee of three members to act as the judges of election. They shall not be candidates for election as Directors. They shall provide a ballot box to be used at the meeting. Each ballot shall state the names of candidates voted for, and the number of votes for each, and shall be signed by the elector. The committee shall furnish the blank ballot, and count and report the result of the vote.

Section 13. Order of business.

The order of business at the regular annual meeting and so far as possible at all other meetings of stockholders shall be as set by the board of Directors.

Section 14. Officers of meetings.

The President, if present, shall preside at all meetings of the stockholders. In his absence the Vice-President shall preside. If both President and Vice-President are absent a presiding officer shall be elected by the members present. The Secretary shall keep or cause to be kept a faithful record of the proceedings of all stockholders meetings.

ARTICLE III

Directors

Section 1. Number and authority

There shall be eleven members of the Board of Directors. The Board of Directors shall be elected in accordance with the Articles of Incorporation of the Association and shall be elected to serve for their ensuing term and until the election of their respective successors. The Board of Directors shall have entire charge of the property, interests, business and transactions of the Association, with full power and authority to manage and conduct the same.

Section 2. Classes of Directors.

(a) There shall be three classes of directors, as follows:

(i) Class A: Class A shall consist of the three directors elected for one year terms at the election of the Board of Directors held in 2007 and their successors. After the expiration of the initial one year term for Class A directors, all future terms for Class A directors shall be for a period of three years as set forth in the Articles of Incorporation. Thus, the initial term for Class A directors expired in 2008, the next term for Class A directors will expire in 2011, and subsequent terms shall expire every three years thereafter.

(ii) Class B: Class B shall consist of the four directors elected for two year terms at the election of the Board of Directors held in 2007 and their successors. After the expiration of the initial two year term for Class B directors, all future terms for Class B directors shall be for a period of three years as set forth in the Articles of Incorporation. Thus, the initial term for Class B directors will expire in 2009, the next term for Class B directors will expire in 2012, and subsequent terms shall expire every three years thereafter.

(iii) Class C: Class C shall consist of the four directors elected for three year terms at the election of the Board of Directors held in 2007 and their successors. All future terms for Class C directors shall also be for a period of three years as set forth in the Articles of Incorporation. Thus, the initial term for Class C directors will expire in

2010, the next term for Class C directors will expire in 2013, and subsequent terms shall expire every three years thereafter.

(b) The sole purpose of having three classes of directors is to maintain the staggered terms for directors as mandated by the amendments to the Articles of Incorporation adopted in 2007. The directors of all classes of directors shall otherwise have equal rights, duties and responsibilities.

(c) If no quorum is present for the annual meeting of stockholders at which members of the Board of Directors are elected, incumbent members of the Board of Directors whose terms have expired shall continue to serve until the election of their successors or until their re-election at an annual meeting where a quorum is present. When such an election occurs, the persons elected to the Board of Directors shall serve the remaining term of the class of directors to which they were elected. For example, no quorum was present for the annual meeting scheduled for 2008. Thus, the Class A directors whose terms expired in 2008 shall continue to serve until their successors are elected or until they are re-elected at an annual meeting where a quorum is present. If this occurs at the annual meeting in 2009, the Class A directors elected at the 2009 annual meeting will serve until 2011, which is the expiration date of the next Class A term.

(d) If no quorum is present for two or more consecutive annual meetings, two or more classes of directors will be up for election at the next annual meeting at which a quorum is present. In such case, the directors shall fill the open positions in the various classes up for election based on the number of votes received by each director. The directors receiving the fewest number of votes at the annual meeting will be elected to the class of directors with the shortest remaining term, the directors receiving the next fewest number of votes at the annual meeting will be elected to the class of directors with the next shortest remaining term, and so forth.

Section 3. Resolving tie votes.

Any tie votes in the election for members of the Board of Directors shall be resolved by lot with the judges of election committee conducting a random drawing.

Section 4. Qualifications.

No person shall be elected, nor shall be competent to act as a Director of the Association unless possessing the qualifications prescribed in the Articles of Incorporation of the Association.

Section 5. Vacancies.

Any vacancy occurring in the Board of Directors shall be filled for the unexpired term by a majority of the remaining members. In the event of the membership of the Board falling below the number necessary for a quorum, a special meeting of the stockholders shall be called and such number of Directors shall be elected thereat to restore the membership of the Board to its full number.

Section 6. Regular meetings.

The regular meetings of the Board of Directors shall be held in the office of the Association in the City of Grand Junction, Colorado, monthly at the date and time set by the Board of Directors. If deemed expedient however the Board may meet any time or place, provided the place is designated in the notice of the meeting.

Section 7. Special meetings.

Special meetings of the Board of Directors may be held at any time on the call of the President, providing each member of the Board be given notice of the time, place and purpose of meeting at least 24 hours prior thereto. Special meetings may be held at any time and place and without notice by unanimous consent of the Board.

Section 8. Quorum.

A majority of the Board of Directors shall constitute a quorum and a majority vote of the members in attendance at any Board meeting shall in the presence of a quorum, decide its action. A minority of the Board present at any regular or special meeting may, in the absence of a quorum, adjourn to a later date, but may not transact any business until a quorum has been secured.

Section 9. Election of officers.

At the first meeting of the Board of Directors after the election of directors each year a President, Vice-President, Secretary, Treasurer or other officers shall be elected to serve for the ensuing year and until the election of their respective successors. Election shall be by ballot and a majority of the votes cast shall be necessary to elect. The Secretary and the Treasurer need not be stockholders.

Section 10. Compensation of Directors, officers and employees.

The Board of Directors shall fix the compensation of Directors, officers and employees.

Section 11. Order of business.

The regular order of business at meetings of the Board of Directors shall be as set by the Board of Directors.

Section 12. Auditing

An independent auditor shall be retained to examine the books of the Association, and shall report their findings at the annual meeting of the stockholders.

Section 13. Bonds of officers and employees.

The Board shall have the power to require any officer or employee to give any and all bonds for the protection of the Association as it may deem necessary or desirable.

ARTICLE IV
Revenues.

Section 1. Raising of revenues.

The Board of Directors for the purpose of raising revenues to meet any and all obligations of the Association are empowered to and shall make all necessary levies or assessments against shares of stock of the Association and / or establish charges for water and other services all to the end that there may be sufficient funds available to promptly meet when due any and all obligations of the Association as aforesaid, to be done as provided by the laws of Colorado or by any contract between the United States and the Association.

Section 2. Payment of assessments and service charges.

Any order or resolution levying any such assessments or establishing charges for water or other services shall specify the time or times when the same shall be payable and shall be levied or established sufficiently in advance of the date of payment so as to permit of collection thereof in an orderly and business-like manner on or before the time when due.

Section 3. Amount of Assessments and service charges.

In determining the amount of any such assessments and / or water or other service charges reasonable allowance for estimated deficits caused by the failure of some stockholders to pay the same shall be made.

Section 4. Notice of assessment.

The Secretary on or before fifteen days in advance of the date of payment shall notify each shareholder of any and all such assessments and of the amount thereof and the time payable either personally or by depositing the same in the postoffice, postage paid, addressed to the stockholder at his last known address as shown by the records of the Association.

Section 5. Interest on delinquent assessments.

All assessments shall bear interest at a rate to be fixed when the assessment is made from the date due until paid.

ARTICLE V

Section 1. Remedies in General.

The Association shall have all remedies provided by its Articles of Incorporation, in contracts between the Association and the United States, and by law against its stockholders for non-payment of levies, assessments, charges for water service and other services, and any other amounts due to the Association (referred to herein as "Amounts Due"). The delinquent stockholder shall also pay all costs and expenses, including without limitation court costs and attorneys' fees, incurred by the Association in enforcing and collecting the Amounts Due and in exercising the remedies available to it (referred to herein as "Collection Costs"), and interest as specified in Section 2, below. All remedies shall be exercised in accordance with and in compliance with the Association's Articles of Incorporation, the contracts between the Association and the United States, and applicable law. All remedies available to the Association shall be cumulative, and the exercise of one remedy does not preclude the exercise of other available remedies.

Section 2. Interest.

All Amounts Due shall bear interest at the rate of twelve percent (12%) per annum from the due date until paid in full by or on behalf of the delinquent stockholder. All Collection Costs shall bear interest at the rate of twelve percent (12%) per annum from the date such costs were paid by the Association until paid in full by or on behalf of the delinquent stockholder. All interest accruing on Amounts Due and on Collection Costs shall be referred to herein as the "Interest." The amount of Interest to be charged on Amounts Due and on Collection Costs may be revised from time to time by resolution of the Board of Directors of the Association.

Section 3. Specific Remedies.

Remedies available to the Association for collection of Amounts Due, Collection Costs and Interest include the following:

(a) All Amounts Due, together with Collection Costs and Interest, shall be a lien on the delinquent stockholder's stock in the Association and on the land of the of the delinquent stockholder to which such stock is appurtenant (collectively referred to herein as the "Liened Property"), until the Amounts Due, Collection Costs and Interest are paid in full. This lien may be foreclosed and the Liened Property may be sold in the manner provided by applicable Colorado law for the foreclosure of mortgages.

Every published notice in such foreclosure proceedings shall include a statement to the effect that any purchaser at the foreclosure sale shall purchase the Liened Property subject to the lien of the Association for any Amounts Due that are not included in the foreclosure proceeding and subject to the lien of any future levies, assessments, charges for water service and other services, and any other amounts due to the Association. Every purchaser under the foreclosure proceedings shall take title to the Liened Property subject to the continuing lien of the Association and/or the United States as provided in the Association's Articles of Incorporation, the contracts between the Association and the United States, the subscriptions for stock to the Association and/or applicable law.

(b) The Association may refuse to deliver water to the delinquent stockholder until the Amounts Due, together with all Collection Costs and Interest, have been paid in full. If at any time water is being delivered to a delinquent stockholder, the Association may shut off the water to the stockholder and keep the water shut off until the Amounts Due, together with all Collection Costs and Interest, have been paid in full.

(c) The Association may maintain an action against the delinquent stockholder in a court with jurisdiction for collection of the Amounts Due, together with Collection Costs and Interest.

(d) The Association may forfeit all of the delinquent stockholder's stock in the Association. Prior to forfeiting a stockholder's stock in the Association, the Association shall send a written notice to the stockholder demanding payment of all Amounts Due, Collection Costs and Interest and specifying the date the forfeiture is to take effect. This notice shall be sent by first class mail to the address of the stockholder as shown in the records of the Association at least thirty days prior to the date the forfeiture is to take effect. If all Amounts Due, Collection Costs and Interest are paid prior to the date the forfeiture is to take effect as specified in the notice, the stock shall not be forfeited.

(e) The Association shall also be entitled to exercise any other remedy available to it under its Articles of Incorporation, in contracts between the Association and the United States, or by law.

Section 4. Enforcement by the United States.

To the extent provided in the contracts between the Association and the United States, the United States shall be allowed to exercise the rights and remedies of the Association as set forth in this Article V.

ARTICLE VI
Amendments.

Section 1. Amendment of Articles of Incorporation.

Amendment may be made to the Articles of Incorporation in the manner provided by law.

Section 2. Amendment to by-laws.

The Board of Directors may amend, alter, add to or repeal these by-laws subject only to the limitations provided by the Articles of Incorporation or by any contract between the United States and the Association.

ARTICLE VII
Repeal of former by-laws.

Section 1.

Any and all by-laws heretofore adopted and in force are hereby repealed and these by-laws or as they may hereafter be amended, shall constitute the sole and only by-laws of the Association and shall take effect immediately upon their adoption.

Resolution To Adopt These By Laws

Was Made On December 4, 2008

Grand Valley Water Users'
Association

ATTEST:

D. Kim Albertson
President, Board of Directors

Daniel E. Cronk
Secretary



GRAND VALLEY WATER USERS' ASSOCIATION
CASH BASIS FINANCIAL STATEMENTS
AND REPORT OF
INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

December 31, 2013

6333

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INDEPENDENT AUDITOR'S REPORT

January 28, 2014

President and Board of Directors
Grand Valley Water Users' Association

We have audited the accompanying statement of cash and investment balances arising from cash transactions of the Grand Valley Water Users' Association as of December 31, 2013 and the related statement of cash receipts and disbursements for the year then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the cash basis of accounting as described in Note A; this includes determining that the cash basis of accounting is an acceptable basis for the preparation of the financial statements in the circumstances. Management is also responsible for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Association's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Association's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.



President and Board of Directors
Grand Valley Water Users' Association
Page Two

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the cash and investment balances arising from cash transactions of the Grand Valley Water Users' Association at December 31, 2013, and its receipts collected and disbursements made during the year then ended in accordance with the cash basis of accounting as described in Note A.

Basis of Accounting

We draw attention to Note A of the financial statements, which describes the basis of accounting. The financial statements are prepared on the cash basis of accounting, which is a basis of accounting other than accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to that matter.

Chadwick, Steinkirchner, Davis & Co., P.C.

Grand Valley Water Users' Association

STATEMENT OF CASH AND INVESTMENTS

December 31, 2013

CASH

Cash on hand	\$	372
Cash on deposit - General Fund,		
US Bank		133,298
Wells Fargo Bank		6,756
Cash on deposit - Power Trust Fund,		
Bank of Colorado - Western Slope		117,218
Grand Valley Bank		65,022
		<u>322,666</u>

INVESTMENTS

General Fund, Note B		
US Bank Money Market		6,254
Wells Fargo Bank Money Market		178,027
Power Trust Fund, Note B		
Certificates of Deposit		256,974
Money Market Fund		136,576
Improvement Grant Fund, Note B and D		
Certificates of Deposit		1,204,489
Money Market Fund		168,304
		<u>1,950,624</u>

Total Cash and Investments	\$	<u><u>2,273,290</u></u>
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The accompanying notes are an integral part of the financial statements.

Grand Valley Water Users' Association

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

Year ended December 31, 2013

RECEIPTS

Operation and maintenance assessments - 2013	\$	612,334
Operation and maintenance assessments - 2014		191,465
Interest received - delinquent assessments		5,826
Orchard Mesa Irrigation District:		
Canyon operating cost reimbursement		277,601
Public Service Company of Colorado:		
Grand Valley Power Plant		156,316
Interest received - investments		8,497
Improvement grant interest received		13,395
Miscellaneous receipts and reimbursements		179,568
Miscellaneous water sales		1,135
House rental		6,640
Cameo Cooling		6,393
U.S. Contract repayment		730,945
Palisade Irrigation District Excess Water		968
Land owner reimbursements costs - laterals and drains		3,008
Employee reimbursements		38,935
Account transfer fee		2,100
National Fish and Wildlife reimbursement		107,350
		<u>2,342,477</u>

DISBURSEMENTS

Operation and maintenance expenses		
Administrative	369,619	
Dam/Canyon	694,424	
Canals	508,336	
Laterals	566,850	
Drains	<u>173,460</u>	2,312,689
Reimbursable employee related charges		38,935
Equipment purchases		59,089
Grand Valley Power Plant		175,559
Miscellaneous disbursements		<u>38,285</u>
		<u>2,624,557</u>
EXCESS RECEIPTS OVER (UNDER) DISBURSEMENTS		(282,080)

Cash and investment balance at beginning of year	2,555,370
Cash and investment balance at end of year	<u>\$ 2,273,290</u>

The accompanying notes are an integral part of the financial statements.

Grand Valley Water Users' Association
NOTES TO FINANCIAL STATEMENTS

December 31, 2013

NOTE A – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Purpose and Organization

Grand Valley Water Users' Association (the Association) was established in 1905 to deliver water for the purpose of irrigating farm land which carries water rights appurtenant to the land. The Association operates and maintains water lines and infrastructure, including canals, ditches, drains, and laterals, for the delivery of irrigation water to its users. The Association draws the majority of its revenue from operation and maintenance assessments received from its users.

Basis of Presentation

These financial statements are prepared on the basis of cash receipts and cash disbursements. Consequently, certain revenue and the related assets are recognized when received rather than when earned and certain expenses are recognized when paid rather than when the obligation is incurred. Assessments receivable, fixed assets, long-term debt, and capital are not reflected in these financial statements.

NOTE B – INVESTMENT ACCOUNTS

Cash and investments accounts within the improvement grant funds and Grand Valley Power Plant accounts within the power trust fund are required to be maintained separately. Investment accounts consist of deposits in money market accounts and certificates of deposit. The market value of the power investments on December 31, 2013 was \$393,550. The funds in the money market accounts can be withdrawn on demand. Interest rates on these accounts range from 0.08% to 0.14% and fluctuate with changes in the prime rate. Interest rates on the certificates of deposit range from 0.2% to 5.00%.

NOTE C – CASH DEPOSITS

The Association's cash deposits with financial institutions do not exceed FDIC limits at December 31, 2013.

NOTE D – IMPROVEMENT GRANT

During May 2000, the Association entered into a contract with the State of Colorado Department of Natural Resources, Colorado Water Conservation Board (CWCB), and the U.S. Bureau of Reclamation. The purpose of the contract is to provide public funds to be used exclusively for costs incurred by the Association in connection with the operation, maintenance and replacement of the Grand Valley Water Management Improvements. The U.S. Bureau of Reclamation will design and construct the improvements and pay for the costs of the design and construction. The planned improvements are part of the Recovery Implementation Program Recovery Action Plan of the Recovery Implementation Program for the Endangered Fish Species of the Upper Colorado River Basin. The Association received \$1,250,000 from the CWCB in September of 2000 in order to provide for the State's 15% cost share for the improvements.

Grand Valley Water Users' Association

NOTES TO FINANCIAL STATEMENTS

December 31, 2013

NOTE D – IMPROVEMENT GRANT - CONTINUED

The Grant requires that the funds only be used specifically for the operation, maintenance and replacement expenses associated with the Improvements over the next fifty years. The agreement also requires that the Improvements account be separate from all other Association accounts and be invested only in approved investment accounts as defined in the Colorado Public Deposit Protection Act.

The Improvement Account was set up with Wells Fargo Investments under the name of both Grand Valley Water Users Association and the Department of Natural Resources – Colorado Water Conservation Board. The investments are certificates of deposit with staggered maturities and a money market account.

NOTE E – SUBSEQUENT EVENTS

Management has evaluated subsequent events through January 28, 2014 (date of availability of financial statements for issuance) for necessary disclosures and/or financial statement adjustments. Disclosures and/or adjustments identified by management, as applicable, are included in the financial statements.



REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS
ON SUPPLEMENTAL INFORMATION

January 28, 2014

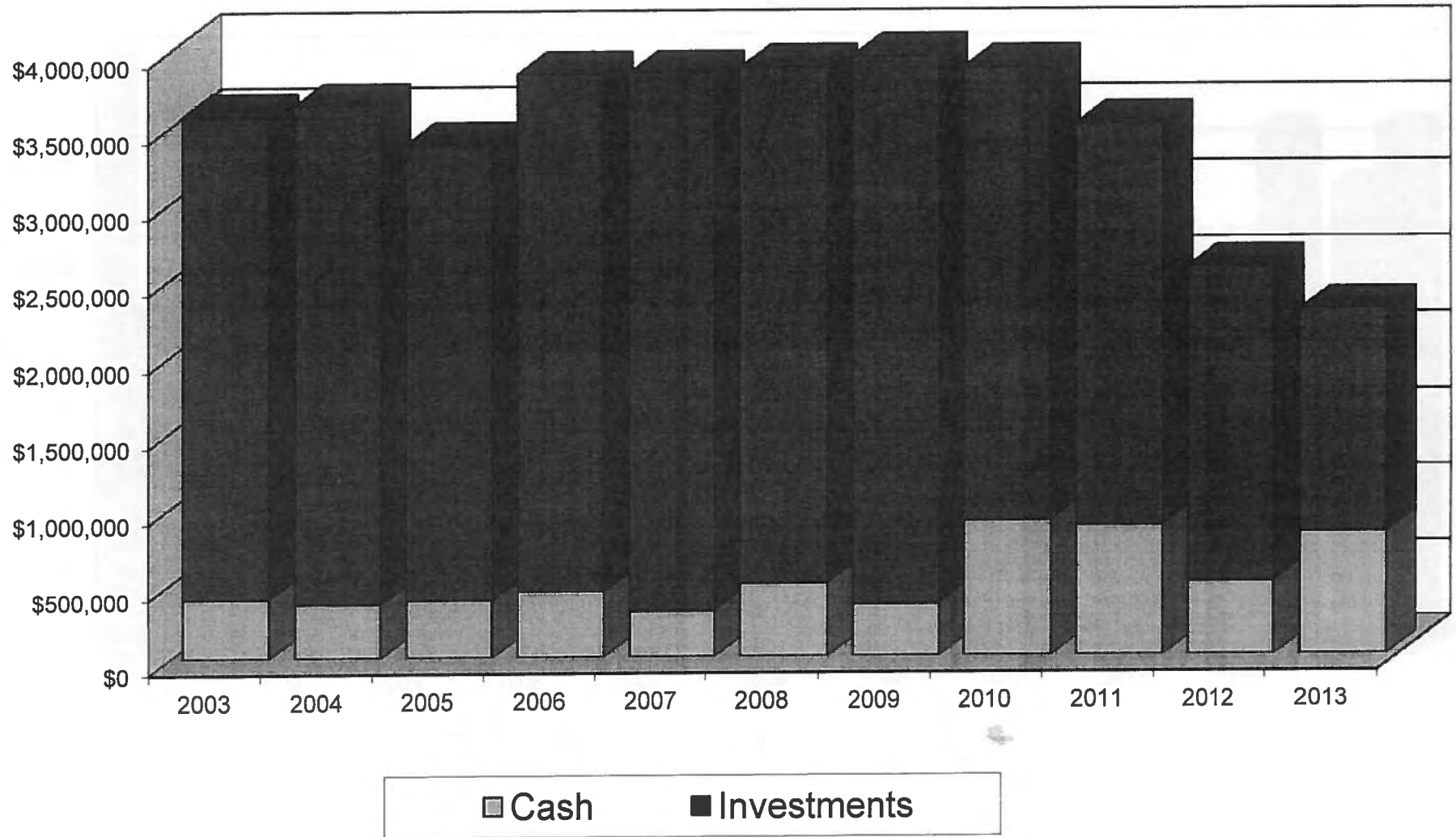
President and Board of Directors
Grand Valley Water Users' Association

We have audited the statement of cash and investment balances as of December 31, 2013 for Grand Valley Water Users' Association and the related statement of cash receipts and disbursements for the year then ended. Our report thereon dated January 28, 2014, which contained an unqualified opinion on those financial statements, appears on page 1. Our audit was performed for the purpose of forming an opinion on the financial statements as a whole. The supplementary information presented hereinafter is presented for the purposes of additional analysis and is not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

Chadwick, Steinkirchner, Davis & Co., P.C.

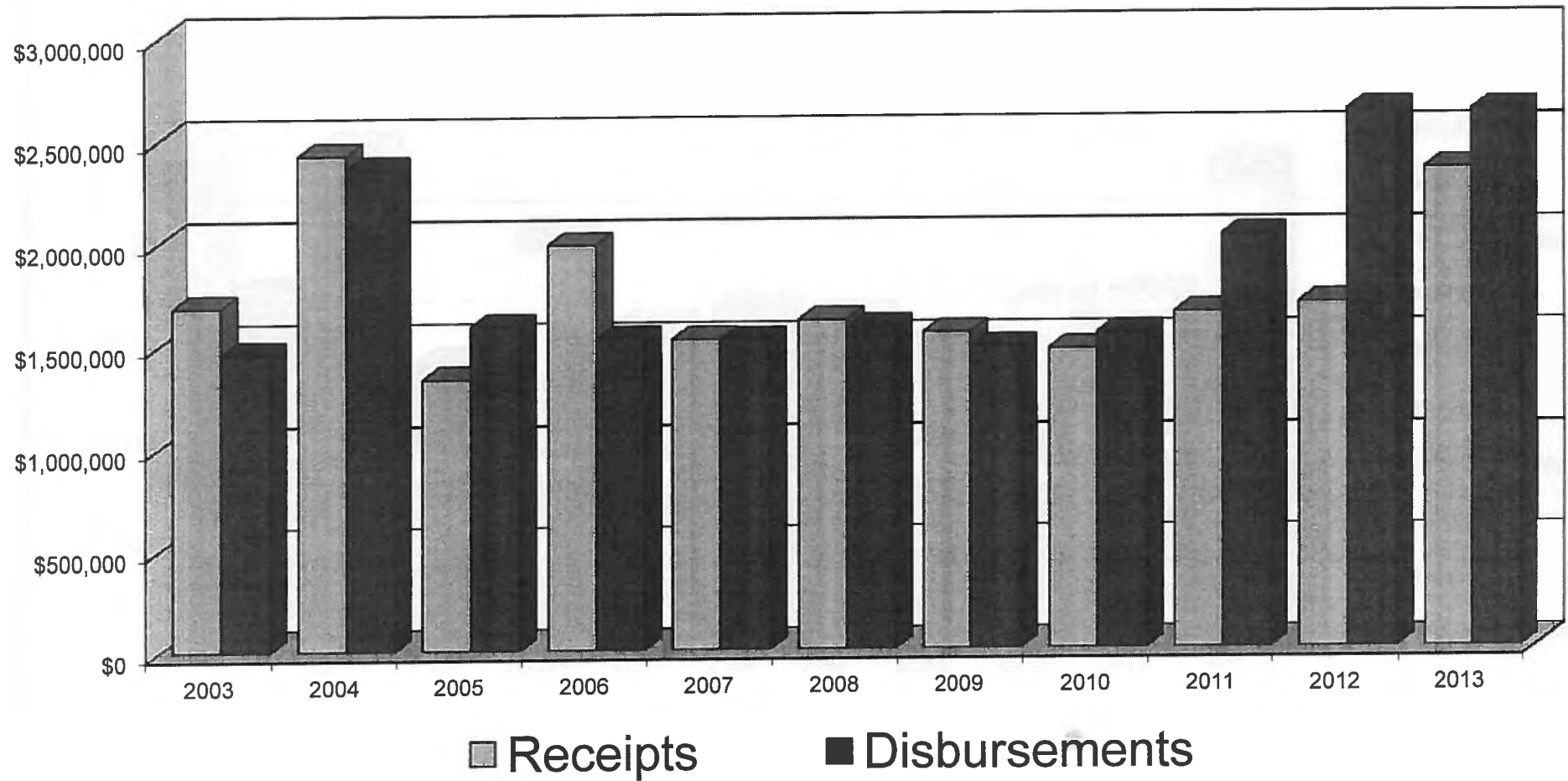
Grand Valley Water Users' Association Cash and Investments

Dollars



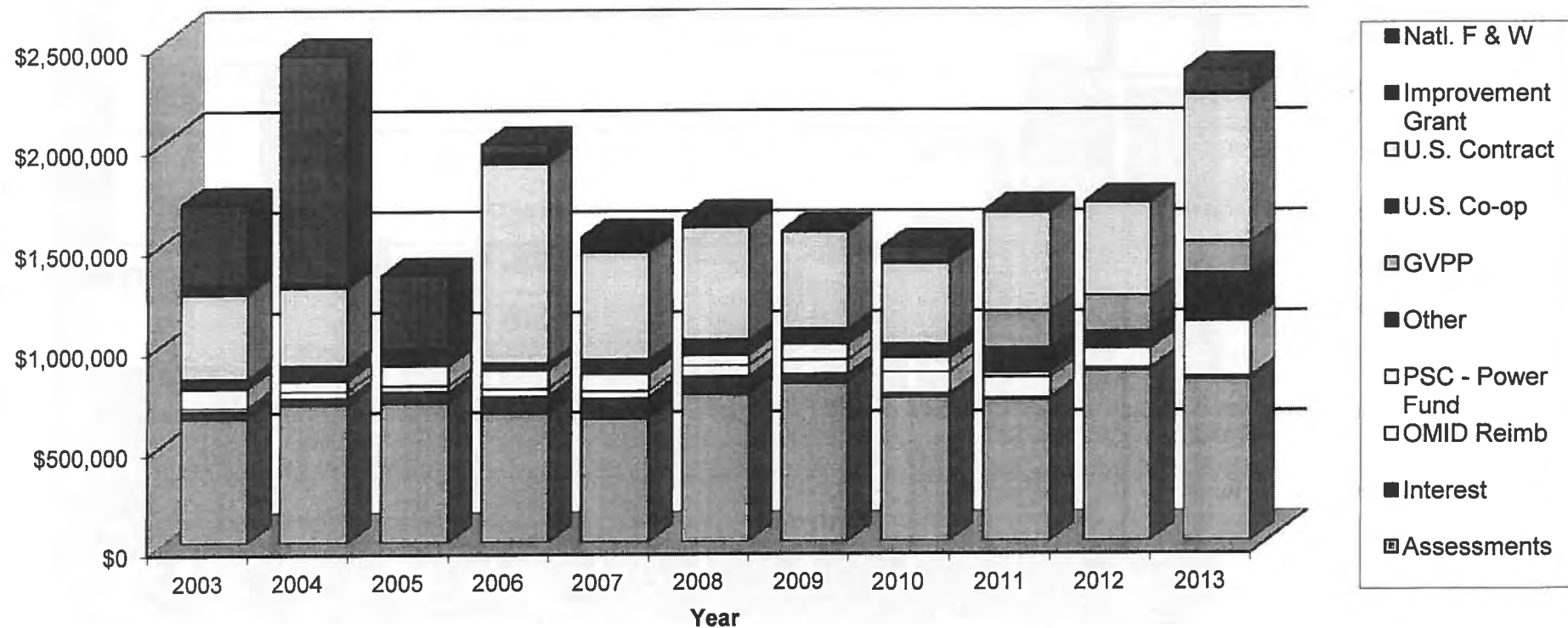
Grand Valley Water Users' Association Total Receipts and Disbursements

Dollars

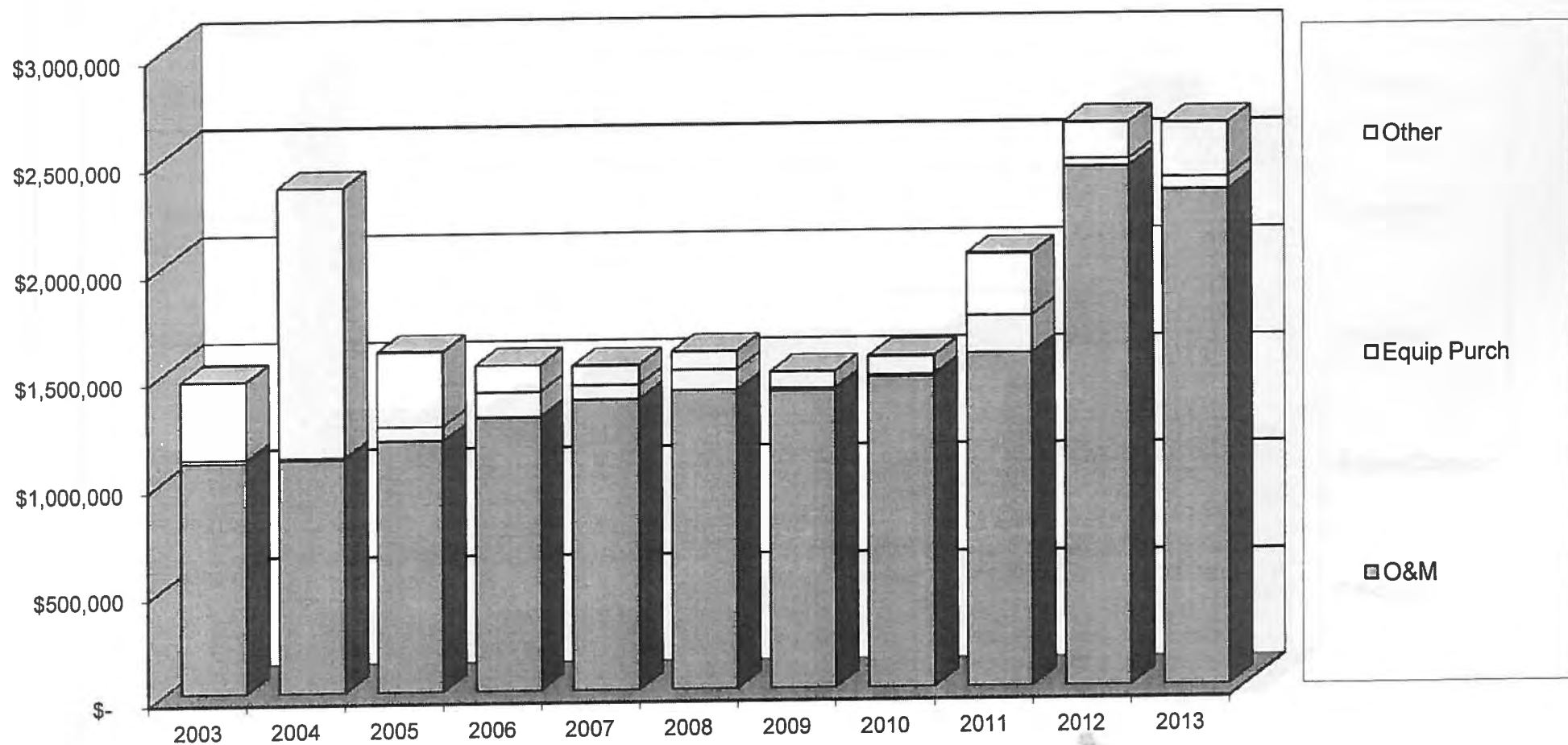


Comparison of Receipts

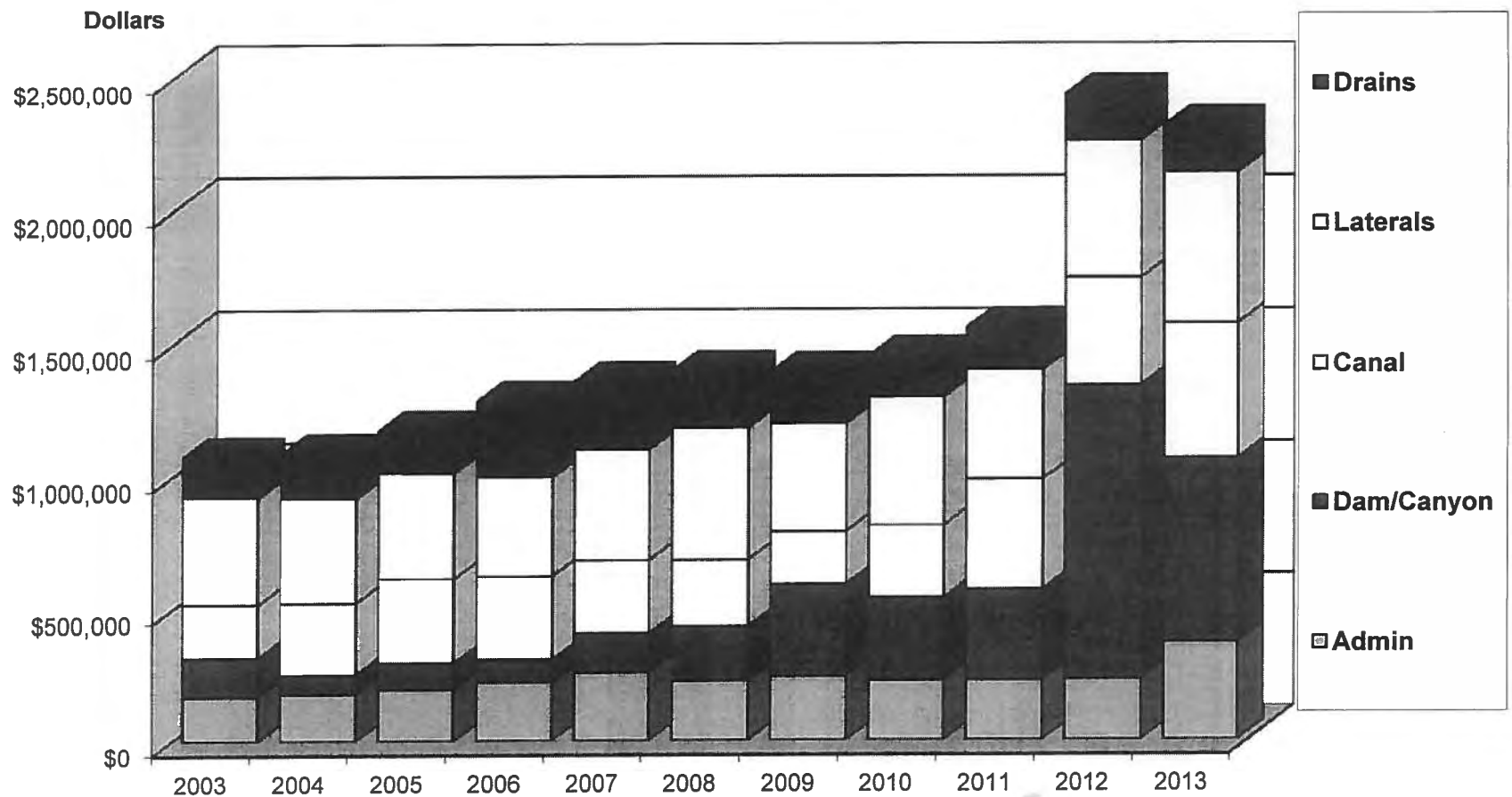
Dollars



Grand Valley Water Users' Association Comparison of Disbursements



Grand Valley Water Users' Association Operation and Maintenance Disbursements





GRAND VALLEY WATER USERS' ASSOCIATION
CASH BASIS FINANCIAL STATEMENTS
AND REPORT OF
INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

December 31, 2014

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INDEPENDENT AUDITOR'S REPORT

January 22, 2015

President and Board of Directors
Grand Valley Water Users' Association

We have audited the accompanying financial statements of Grand Valley Water Users' Association (a nonprofit organization), which comprise the statement of cash and investments balances as of December 31, 2014, and the related statement of cash receipts and disbursements for the year then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the cash basis of accounting as described in Note A; this includes determining that the cash basis of accounting is an acceptable basis for the preparation of the financial statements in the circumstances. Management is also responsible for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Association's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Association's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.



President and Board of Directors
Grand Valley Water Users' Association
Page Two

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the cash and investment balances arising from cash transactions of the Grand Valley Water Users' Association at December 31, 2014, and its receipts collected and disbursements made during the year then ended in accordance with the cash basis of accounting as described in Note A.

Basis of Accounting

We draw attention to Note A of the financial statements, which describes the basis of accounting. The financial statements are prepared on the cash basis of accounting, which is a basis of accounting other than accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to that matter.

Chadwick, Steinkirchner, Davis & Co., P.C.

Grand Valley Water Users' Association

STATEMENT OF CASH AND INVESTMENTS

December 31, 2014

CASH

Cash on hand	\$ 372
Cash on deposit - General Fund, US Bank	192,276
Wells Fargo Bank	4,547
Cash on deposit - Power Trust Fund, Bank of Colorado - Western Slope	276,194
Grand Valley Bank	<u>65,087</u>
	538,476

INVESTMENTS

General Fund, Note B	
US Bank Money Market	46,438
Wells Fargo Bank Money Market	378,006
Power Trust Fund, Note B	
Certificates of Deposit	318,785
Improvement Grant Fund, Note B and D	
Certificates of Deposit	1,085,726
Money Market Fund	<u>221,972</u>
	<u>2,050,927</u>

Total Cash and Investments \$ 2,589,403

The accompanying notes are an integral part of the financial statements.

Grand Valley Water Users' Association

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

Year ended December 31, 2014

RECEIPTS

Operation and maintenance assessments - 2014	\$	799,127
Operation and maintenance assessments - 2015		309,376
Interest received - delinquent assessments		3,129
Orchard Mesa Irrigation District:		
Canyon operating cost reimbursement		192,928
Public Service Company of Colorado:		
Grand Valley Power Plant		246,775
Interest received - investments		1,181
Improvement grant interest received		3,442
Miscellaneous receipts and reimbursements		4,301
Miscellaneous water sales		1,217
House rental		2,640
Cameo Cooling		1,816
U.S. Contract repayment		758,649
Land owner reimbursements costs - laterals and drains		2,025
Employee reimbursements		50,040
Account transfer fee		5,700
Debt proceeds for equipment purchases		222,027
National Fish and Wildlife reimbursement		152,692
		<u>2,757,065</u>

DISBURSEMENTS

Operation and maintenance expenses		
Administrative	423,125	
Dam/Canyon	181,701	
Canals	334,567	
Laterals	679,033	
Drains	<u>227,305</u>	1,845,731
Reimbursable employee related charges		50,040
Equipment purchases		393,596
Grand Valley Power Plant		120,157
Miscellaneous disbursements		31,428
		<u>2,440,952</u>
		<u>316,113</u>

EXCESS RECEIPTS OVER (UNDER) DISBURSEMENTS

Cash and investment balance at beginning of year	2,273,290
Cash and investment balance at end of year	<u>\$ 2,589,403</u>

The accompanying notes are an integral part of the financial statements.

Grand Valley Water Users' Association
NOTES TO FINANCIAL STATEMENTS

December 31, 2014

NOTE A – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Purpose and Organization

Grand Valley Water Users' Association (the Association) was established in 1905 to deliver water for the purpose of irrigating farm land which carries water rights appurtenant to the land. The Association operates and maintains water lines and infrastructure, including canals, ditches, drains, and laterals, for the delivery of irrigation water to its users. The Association draws the majority of its revenue from operation and maintenance assessments received from its users.

Basis of Presentation

These financial statements are prepared on the basis of cash receipts and cash disbursements. Consequently, certain revenue and the related assets are recognized when received rather than when earned and certain expenses are recognized when paid rather than when the obligation is incurred. Assessments receivable, fixed assets, long-term debt, and capital are not reflected in these financial statements.

Income taxes

The Association is exempt from income taxes under Section 501(c)(12) of the Internal Revenue Code. The Association files its informational return, Internal Revenue Service form 990, for the federal jurisdiction on an annual basis. The Association's informational forms are not subject to review by the IRS except for the last three years filed.

NOTE B – INVESTMENT ACCOUNTS

Cash and investments accounts within the improvement grant funds and Grand Valley Power Plant accounts within the power trust fund are required to be maintained separately. Investment accounts consist of deposits in money market accounts and certificates of deposit. The funds in the money market accounts can be withdrawn on demand. Interest rates on these accounts range from 0.01% to 0.12% and fluctuate with changes in the prime rate. Interest rates on the certificates of deposit range from 0.2% to .44%.

NOTE C – CASH DEPOSITS

\$26,194 of the Association's cash deposits with financial institutions exceeded FDIC limits and was not covered by FDIC insurance at December 31, 2014.

NOTE D – IMPROVEMENT GRANT

During May 2000, the Association entered into a contract with the State of Colorado Department of Natural Resources, Colorado Water Conservation Board (CWCB), and the U.S. Bureau of Reclamation. The purpose of the contract is to provide public funds to be used exclusively for costs incurred by the Association in connection with the operation, maintenance and replacement of the Grand Valley Water Management Improvements.

Grand Valley Water Users' Association

NOTES TO FINANCIAL STATEMENTS

December 31, 2014

NOTE D - IMPROVEMENT GRANT - CONTINUED

The U.S. Bureau of Reclamation will design and construct the improvements and pay for the costs of the design and construction. The planned improvements are part of the Recovery Implementation Program Recovery Action Plan of the Recovery Implementation Program for the Endangered Fish Species of the Upper Colorado River Basin. The Association received \$1,250,000 from the CWCB in September of 2000 in order to provide for the State's 15% cost share for the improvements. The Grant requires that the funds only be used specifically for the operation, maintenance and replacement expenses associated with the Improvements over the next fifty years. The agreement also requires that the Improvements account be separate from all other Association accounts and be invested only in approved investment accounts as defined in the Colorado Public Deposit Protection Act.

The Improvement Account was set up with Wells Fargo Investments under the name of both Grand Valley Water Users Association and the Department of Natural Resources - Colorado Water Conservation Board. The investments are certificates of deposit with staggered maturities and a money market account.

NOTE E - SUBSEQUENT EVENTS

Management has evaluated subsequent events through January 22, 2015 (date of availability of financial statements for issuance) for necessary disclosures and/or financial statement adjustments. Disclosures and/or adjustments identified by management, as applicable, are included in the financial statements.

NOTE F - NOTES PAYABLE

Notes payable are owed by the Association at December 31, 2014 as follows:

Note payable to purchase equipment; payable in annual installments of \$41,595; including interest at 3.95% per annum through July 8, 2018. Equipment is pledged as collateral on the note.

\$ 151,164

Note payable to purchase equipment; payable in annual installments of \$17,828; including interest at 0% per annum through October 24, 2018. Equipment is pledged as collateral on the note.

70,863

222,027

Less current portion

(53,452)

\$ 168,575

The following schedule outlines principal amounts due on the notes:

2015	\$ 53,452
2016	54,859
2017	56,322
2018	<u>57,394</u>
	<u>\$ 222,027</u>

SUPPLEMENTARY INFORMATION



**REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS
ON SUPPLEMENTARY INFORMATION**

January 22, 2015

President and Board of Directors
Grand Valley Water Users' Association

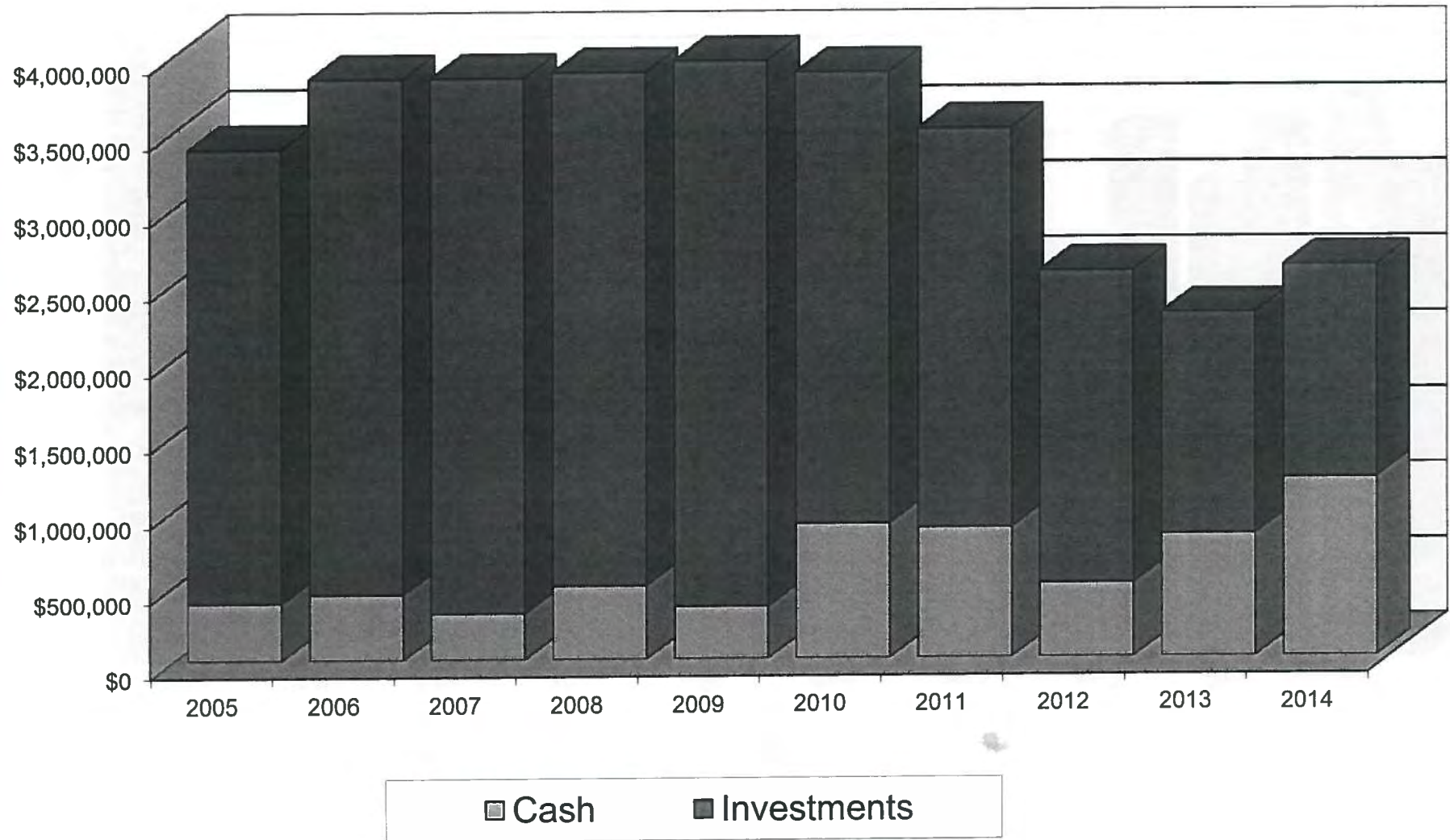
We have audited the financial statements of Grand Valley Water Users' Association (a nonprofit organization), which comprise the statement of cash and investments balances as of December 31, 2014, and the related statement of cash receipts and disbursements for the year then ended, and the related notes to the financial statements. Our report thereon dated January 22, 2015, which contained an unmodified opinion on those financial statements, appears on page 1. Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The supplementary information presented hereinafter is presented for the purposes of additional analysis and is not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

Chadwick, Steinkirchner, Davis & Co., P.C.

Grand Valley Water Users' Association

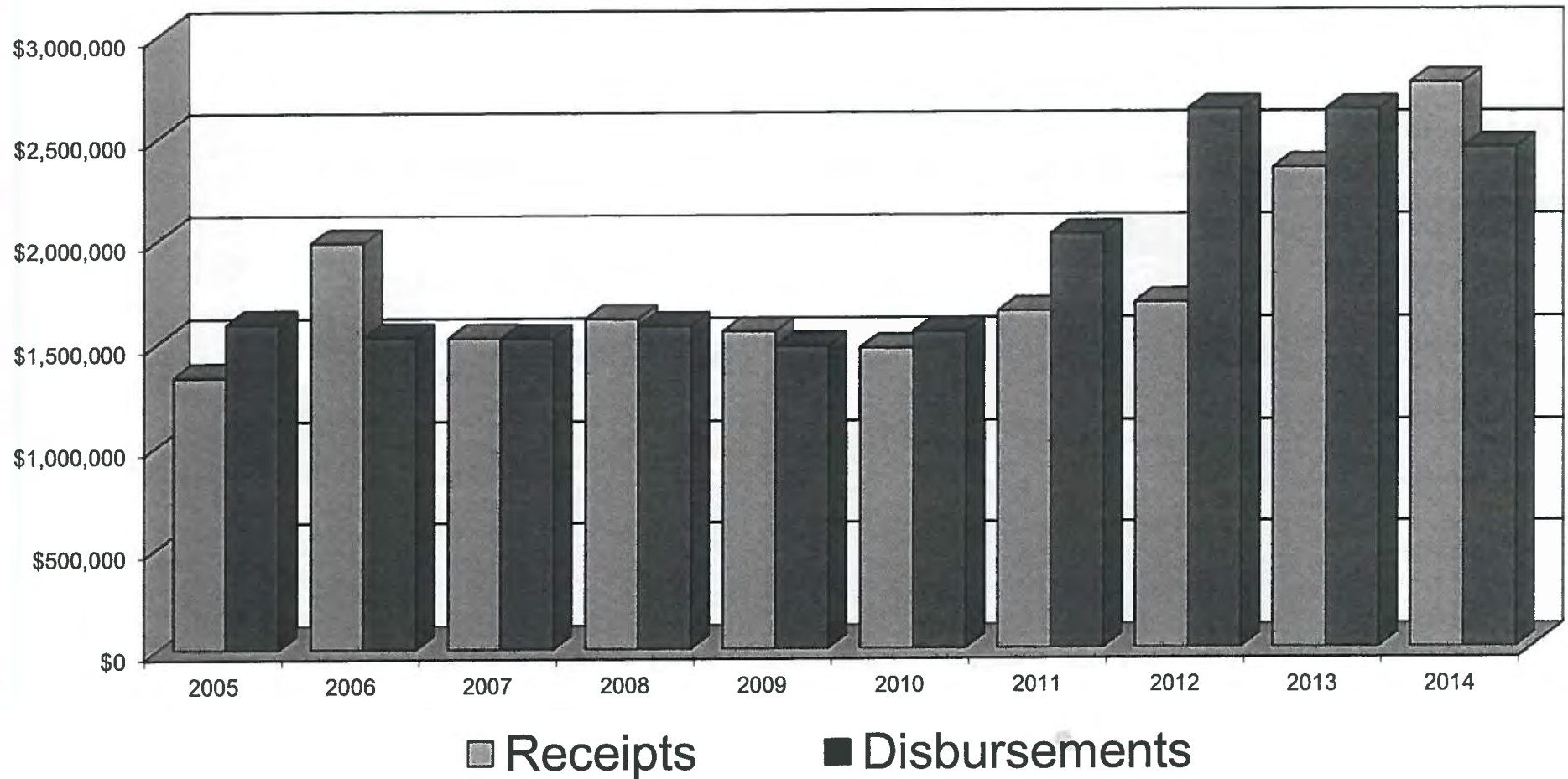
Cash and Investments

Dollars



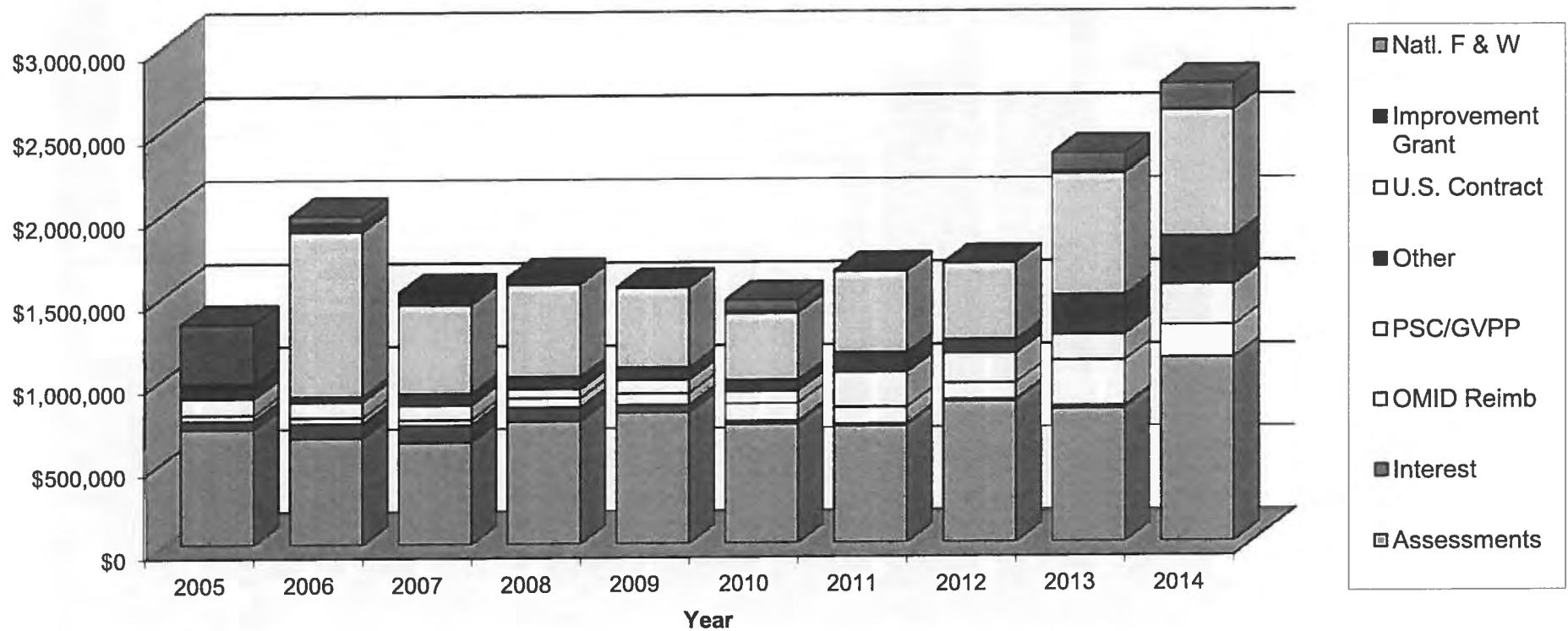
Grand Valley Water Users' Association Total Receipts and Disbursements

Dollars

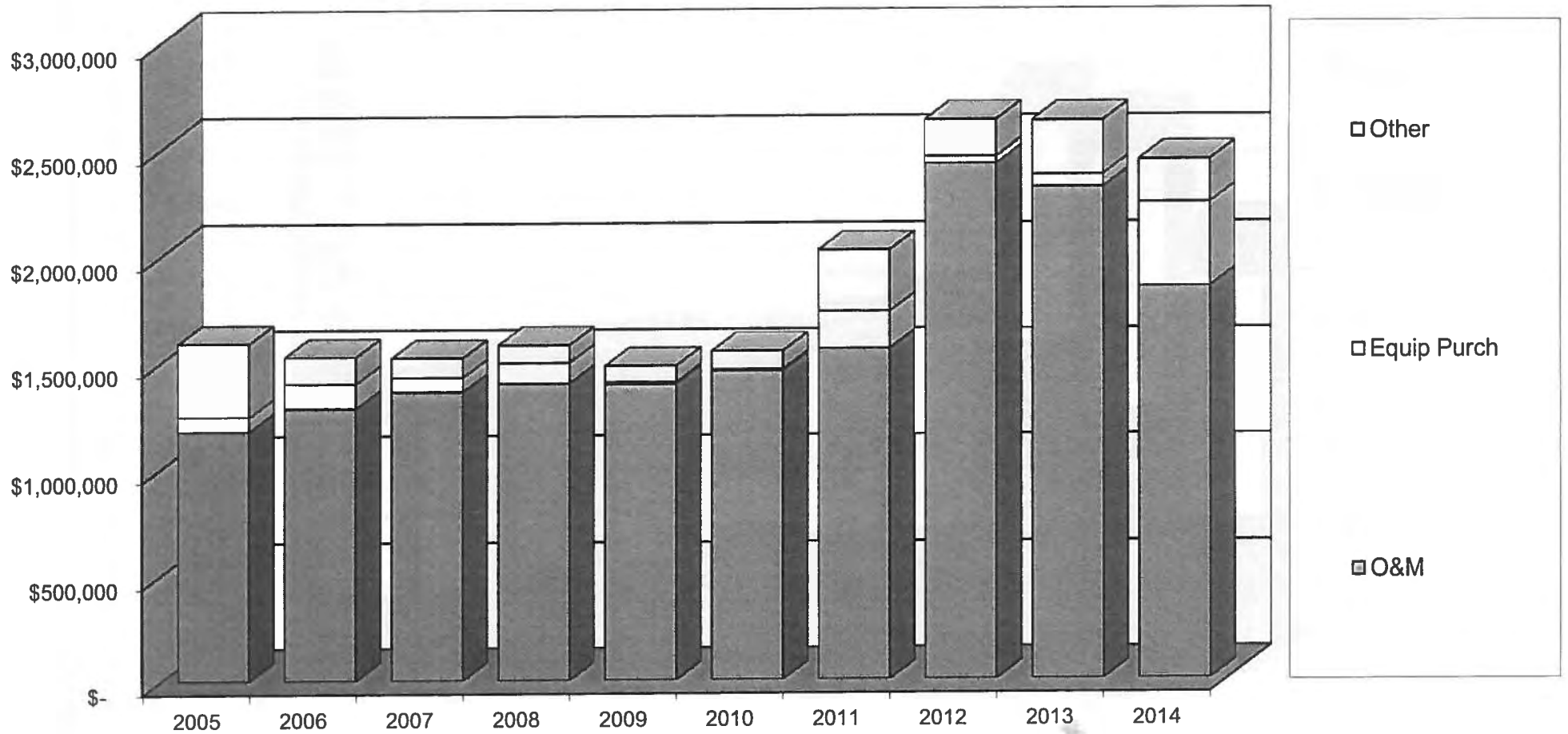


Grand Valley Water Users' Association Comparison of Receipts

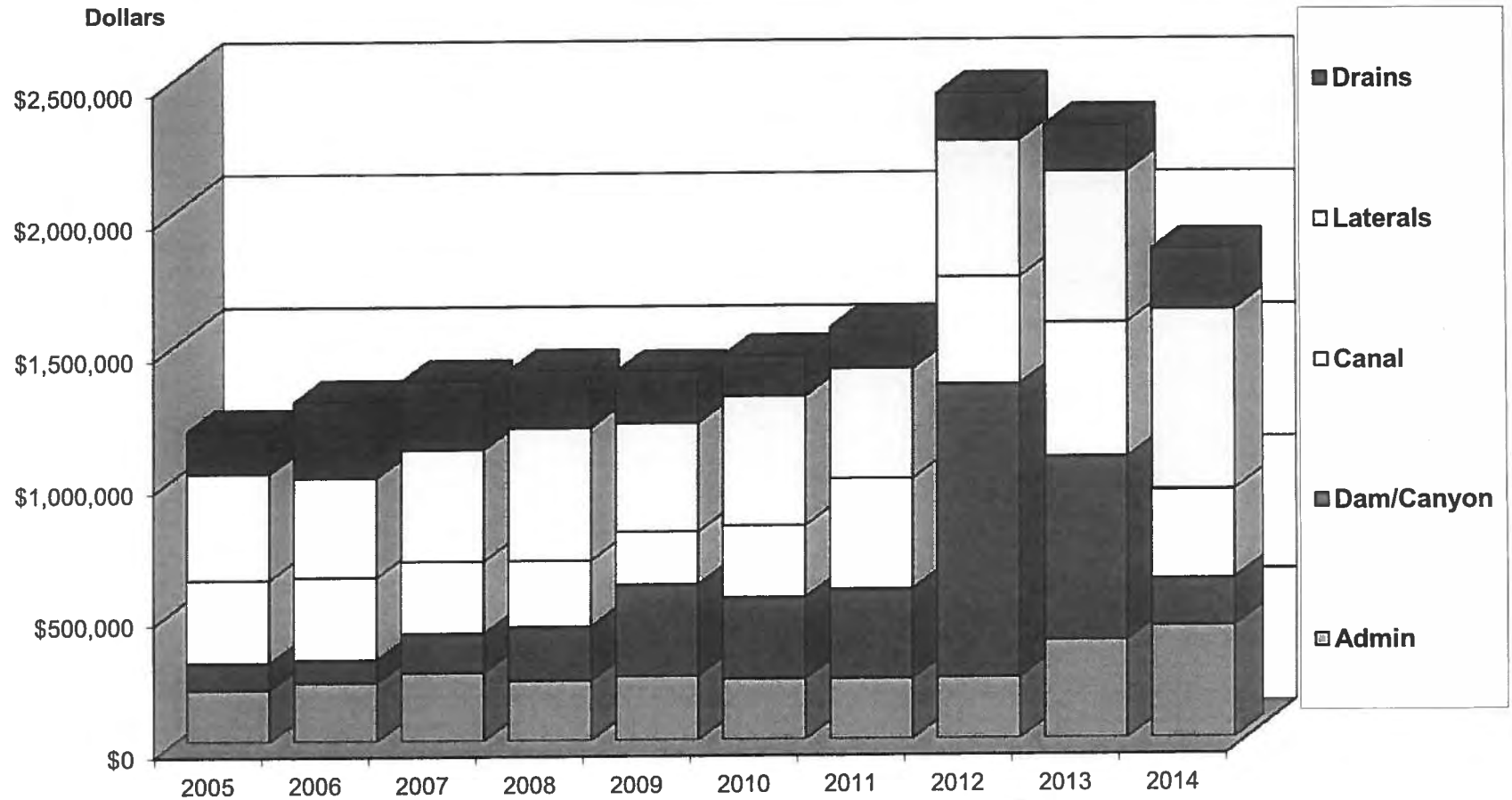
Dollars



Grand Valley Water Users' Association Comparison of Disbursements



Grand Valley Water Users' Association Operation and Maintenance Disbursements





GRAND VALLEY WATER USERS' ASSOCIATION
CASH BASIS FINANCIAL STATEMENTS
AND REPORT OF
INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

December 31, 2015

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INDEPENDENT AUDITOR'S REPORT

January 13, 2016

President and Board of Directors
Grand Valley Water Users' Association
Grand Junction, Colorado

We have audited the accompanying financial statements of Grand Valley Water Users' Association (a nonprofit organization), which comprise the statement of cash and investments balances as of December 31, 2015, and the related statement of cash receipts and disbursements for the year then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with the cash basis of accounting as described in Note A; this includes determining that the cash basis of accounting is an acceptable basis for the preparation of the financial statements in the circumstances. Management is also responsible for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Association's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Association's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.



President and Board of Directors
Grand Valley Water Users' Association
Page Two

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the cash and investment balances arising from cash transactions of the Grand Valley Water Users' Association as of December 31, 2015, and its receipts collected and disbursements made during the year then ended in accordance with the cash basis of accounting as described in Note A.

Basis of Accounting

We draw attention to Note A of the financial statements, which describes the basis of accounting. The financial statements are prepared on the cash basis of accounting, which is a basis of accounting other than accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to that matter.

Chadwick, Steinkirchner, Davis & Co., P.C.

Grand Valley Water Users' Association

STATEMENT OF CASH AND INVESTMENTS

December 31, 2015

CASH

Cash on hand	\$	372
Cash on deposit - General Fund,		
US Bank		249,863
Wells Fargo Bank		9,098
Cash on deposit - Power Trust Fund,		
Bank of Colorado - Western Slope		121,963
Grand Valley Bank		140,302
		<u>521,598</u>

INVESTMENTS

General Fund, Note B		
US Bank Money Market		439,954
Wells Fargo Bank Money Market		285,158
Power Trust Fund, Note B		
Certificates of Deposit		318,796
Improvement Grant Fund, Note B and D		
Certificates of Deposit		1,098,842
Money Market Fund		126,219
		<u>2,268,969</u>

Total Cash and Investments	\$	<u><u>2,790,567</u></u>
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The accompanying notes are an integral part of the financial statements.

Grand Valley Water Users' Association

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

Year ended December 31, 2015

RECEIPTS		
Operation and maintenance assessments - 2015	\$	688,122
Operation and maintenance assessments - 2016		458,028
Orchard Mesa Irrigation District:		
Canyon operating cost reimbursement		61,165
Public Service Company of Colorado:		
Grand Valley Power Plant		284,209
Interest received - investments		1,053
Improvement grant interest received		3,951
Miscellaneous receipts and reimbursements		10,840
Miscellaneous water sales		2,361
House rental		2,640
Cameo Cooling		6,575
U.S. Contract repayment		817,824
Land owner reimbursements costs - laterals and drains		4,075
Employee reimbursements		51,476
Account transfer fee		7,700
National Fish and Wildlife reimbursement		68,629
		<u>2,468,647</u>
DISBURSEMENTS		
Operation and maintenance expenses		
Administrative	396,746	
Dam/Canyon	178,536	
Canals	456,257	
Laterals	575,281	
Drains	<u>376,908</u>	1,983,728
Reimbursable employee related charges		51,476
Purchases of equipment		96,262
Interest expense on equipment purchases		6,008
Grand Valley Power Plant		126,319
Miscellaneous disbursements		3,690
		<u>2,267,483</u>
EXCESS RECEIPTS OVER (UNDER) DISBURSEMENTS		<u>201,164</u>
Cash and investment balance at beginning of year		2,589,403
Cash and investment balance at end of year	\$	<u><u>2,790,567</u></u>

The accompanying notes are an integral part of the financial statements.

Grand Valley Water Users' Association

NOTES TO FINANCIAL STATEMENTS

December 31, 2015

NOTE A – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Purpose and Organization

Grand Valley Water Users' Association (the Association) was established in 1905 to deliver water for the purpose of irrigating farm land which carries water rights appurtenant to the land. The Association operates and maintains water lines and infrastructure, including canals, ditches, drains, and laterals, for the delivery of irrigation water to its users. The Association draws the majority of its revenue from operation and maintenance assessments received from its users.

Basis of Presentation

These financial statements are prepared on the basis of cash receipts and cash disbursements. Consequently, certain revenue and the related assets are recognized when received rather than when earned and certain expenses are recognized when paid rather than when the obligation is incurred. Assessments receivable, fixed assets, long-term debt, and capital are not reflected in these financial statements.

Income taxes

The Association is exempt from income taxes under Section 501(c)(12) of the Internal Revenue Code. The Association files its informational return, Internal Revenue Service form 990, for the federal jurisdiction on an annual basis. The Association's informational forms are not subject to review by the IRS except for the last three years filed.

NOTE B – INVESTMENT ACCOUNTS

Cash and investments accounts within the improvement grant funds and Grand Valley Power Plant accounts within the power trust fund are required to be maintained separately. Investment accounts consist of deposits in money market accounts and certificates of deposit. The funds in the money market accounts can be withdrawn on demand. Interest rates on these accounts range from 0.03% to 0.10% and fluctuate with changes in the prime rate. Interest rates on the certificates of deposit range from 0.40% to 0.65%.

NOTE C – CASH DEPOSITS

\$15,259 of the Association's cash deposits with financial institutions exceeded FDIC limits and was not covered by FDIC insurance at December 31, 2015.

NOTE D – IMPROVEMENT GRANT

During May 2000, the Association entered into a contract with the State of Colorado Department of Natural Resources, Colorado Water Conservation Board (CWCB), and the U.S. Bureau of Reclamation. The purpose of the contract is to provide public funds to be used exclusively for costs incurred by the Association in connection with the operation, maintenance and replacement of the Grand Valley Water Management Improvements.

Grand Valley Water Users' Association
NOTES TO FINANCIAL STATEMENTS

December 31, 2015

NOTE D – IMPROVEMENT GRANT – CONTINUED

The U.S. Bureau of Reclamation will design and construct the improvements and pay for the costs of the design and construction. The planned improvements are part of the Recovery Implementation Program Recovery Action Plan of the Recovery Implementation Program for the Endangered Fish Species of the Upper Colorado River Basin. The Association received \$1,250,000 from the CWCB in September of 2000 in order to provide for the State's 15% cost share for the improvements. The Grant requires that the funds only be used specifically for the operation, maintenance and replacement expenses associated with the Improvements over the next fifty years. The agreement also requires that the Improvements account be separate from all other Association accounts and be invested only in approved investment accounts as defined in the Colorado Public Deposit Protection Act.

The Improvement Account was set up with Wells Fargo Investments under the name of both Grand Valley Water Users Association and the Department of Natural Resources – Colorado Water Conservation Board. The investments are certificates of deposit with staggered maturities and a money market account.

NOTE E – SUBSEQUENT EVENTS

Management has evaluated subsequent events through January 13, 2016 (date of availability of financial statements for issuance) for necessary disclosures and/or financial statement adjustments. Disclosures and/or adjustments identified by management, as applicable, are included in the financial statements.

NOTE F – LEASE PAYABLE

The Association entered a lease agreement in October 2015 in the amount of \$141,878 for a truck. Payments on this lease began in November 2015.

The future minimum lease obligation and the net present value of the minimum lease payments as of December 31, 2015 were as follows:

2016	\$ 24,222
2017	24,222
2018	24,222
2019	24,222
2020	<u>24,222</u>
	121,110
Less amounts representing interest	<u>(3,418)</u>
Present value of net minimum lease payments	<u>\$ 117,692</u>

Grand Valley Water Users' Association
NOTES TO FINANCIAL STATEMENTS

December 31, 2015

NOTE G – NOTES PAYABLE

Notes payable are owed by the Association at December 31, 2015 as follows:

Note payable to purchase equipment; payable in annual installments of \$41,595; including interest at 3.95% per annum through July 8, 2018. Equipment is pledged as collateral on the note.

\$ 115,539

Note payable to purchase equipment; payable in annual installments of \$17,828; including interest at 0% per annum through October 24, 2018. Equipment is pledged as collateral on the note.

53,484

169,023

Less current portion

(54,859)

\$ 114,164

The following schedule outlines principal amounts due on the notes:

2016	\$ 54,859
2017	56,322
2018	<u>57,842</u>
	<u>\$ 169,023</u>

NOTE H – LINE OF CREDIT

The Association entered an agreement for a revocable line of credit in October 2015 with a maximum principal amount of \$75,000 and an interest rate equal to the prime rate announced by the Bank. The assets of the Association are pledged as collateral on the line of credit. No amounts have been drawn on the line of credit.

SUPPLEMENTARY INFORMATION



REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS
ON SUPPLEMENTARY INFORMATION

January 13, 2016

President and Board of Directors
Grand Valley Water Users' Association

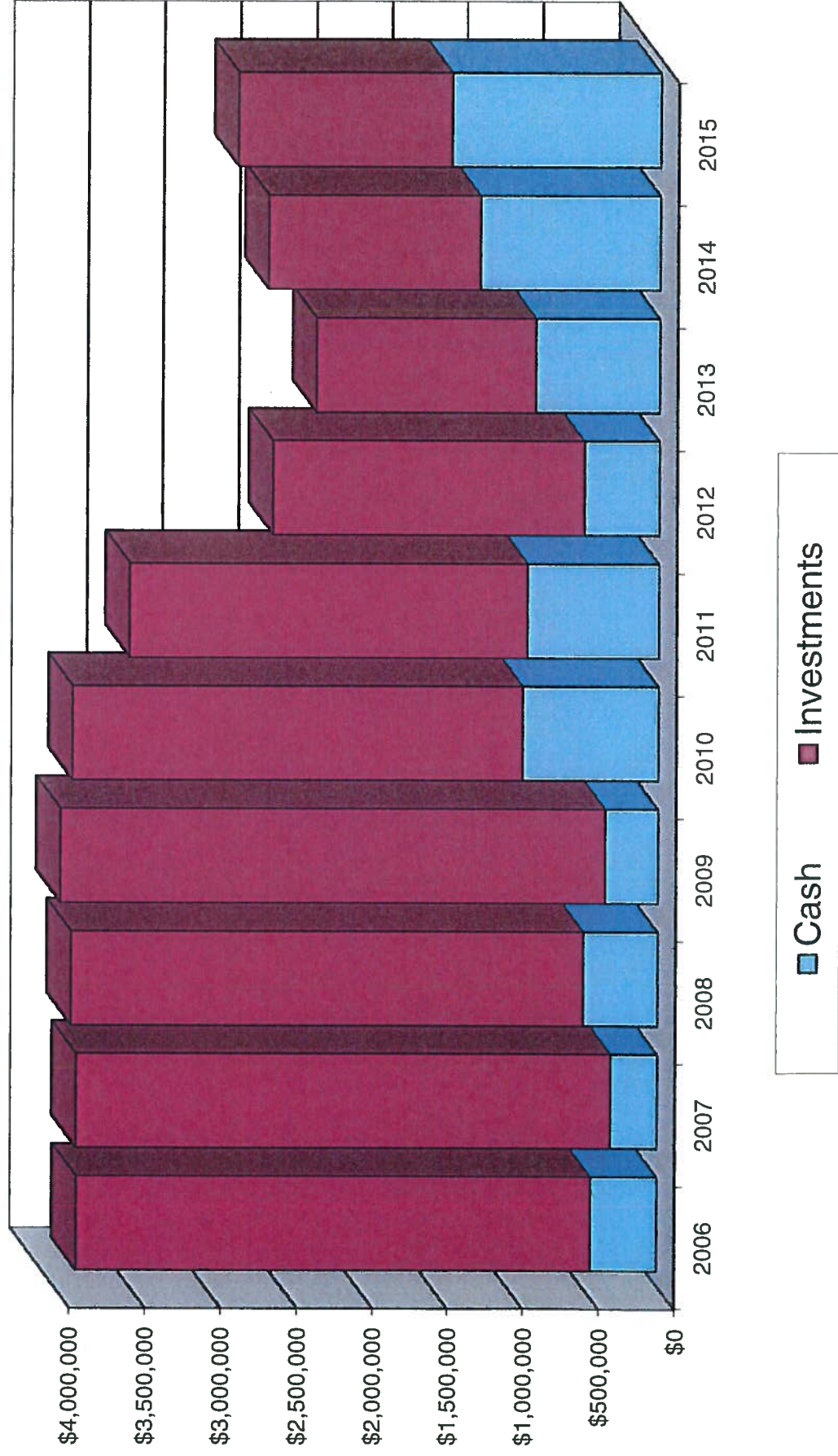
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Chadwick, Steinkirchner, Davis & Co., P.C.

Grand Valley Water Users' Association

Cash and Investments

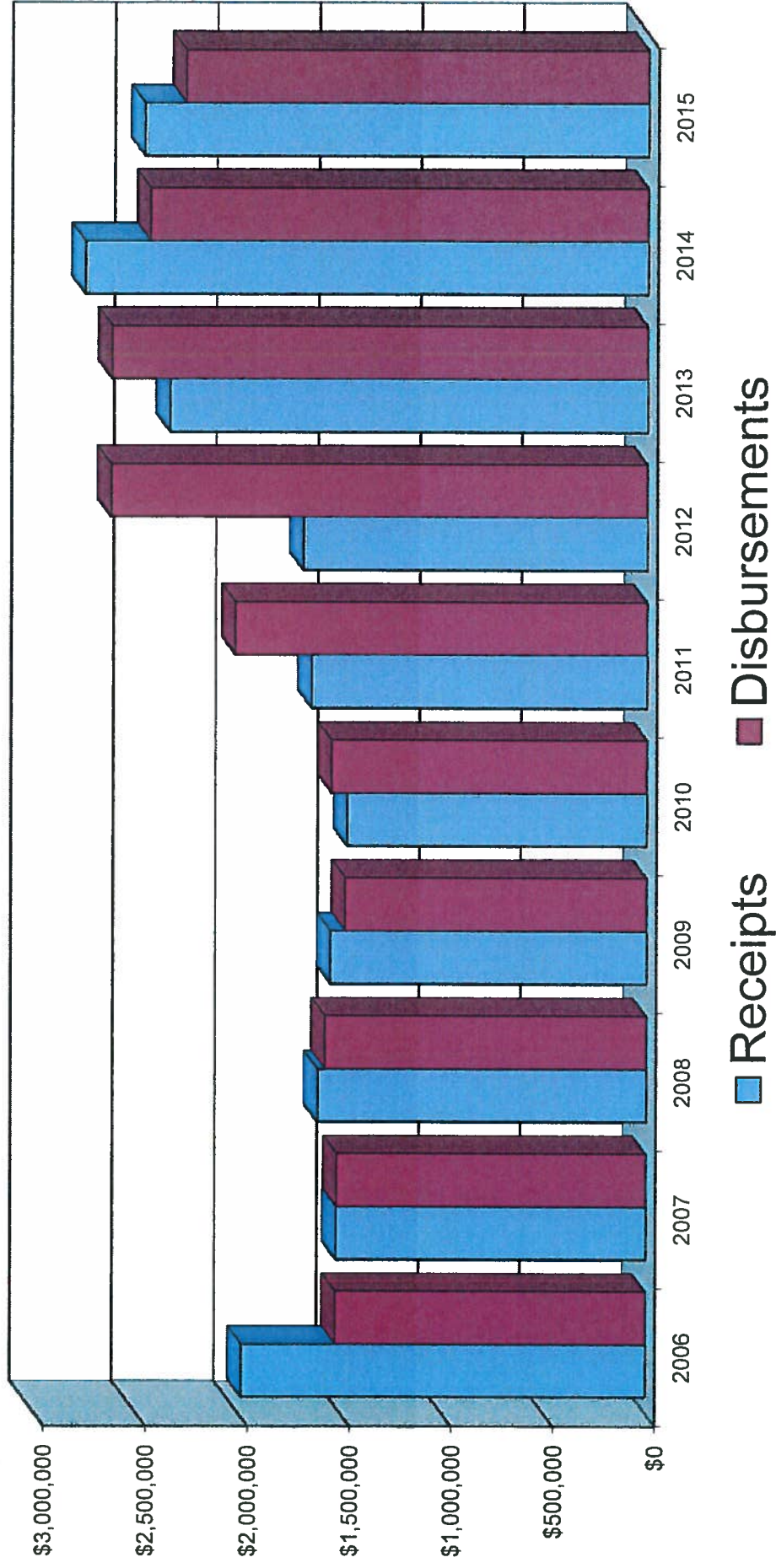
Dollars



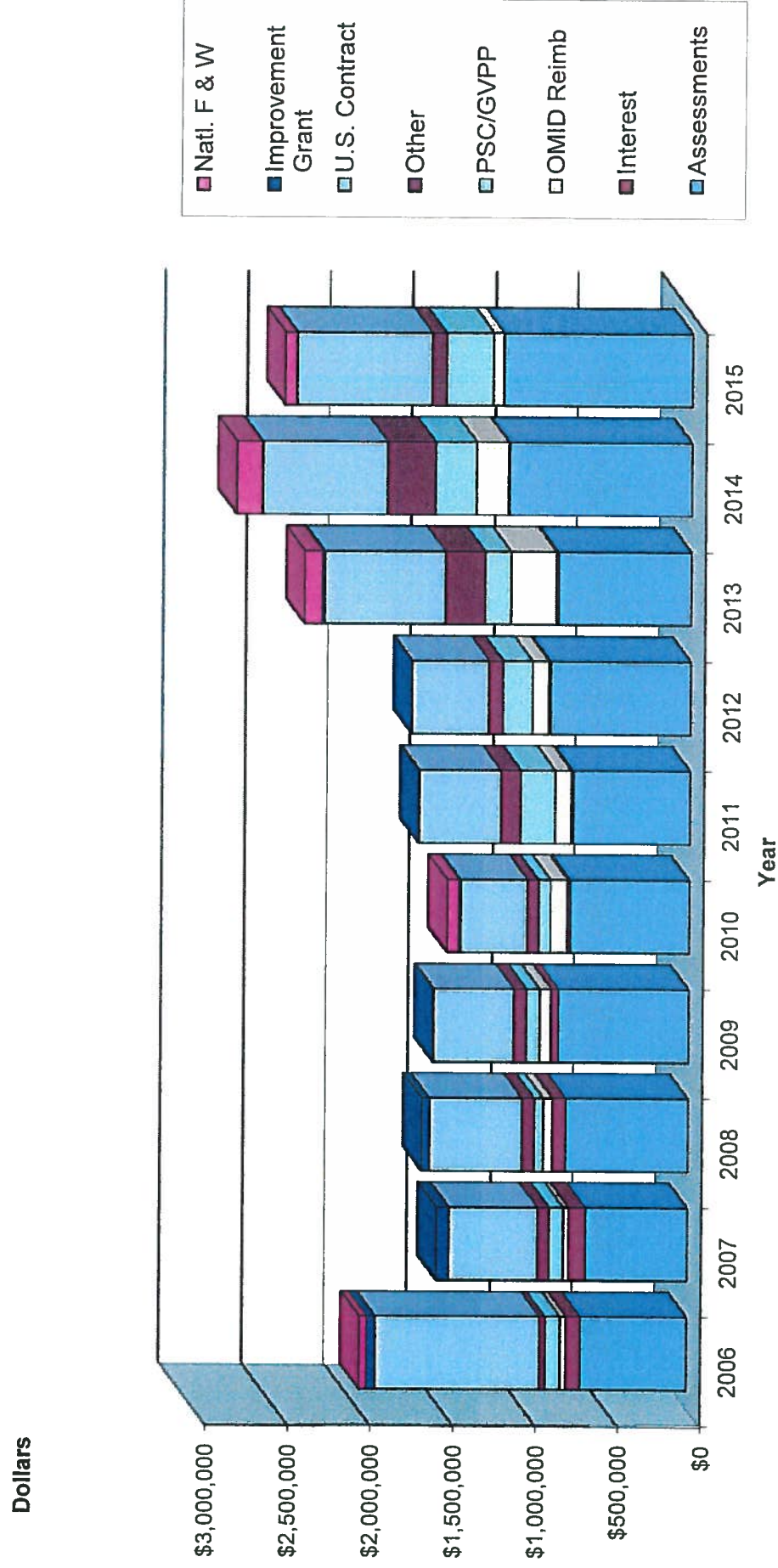
Grand Valley Water Users' Association

Total Receipts and Disbursements

Dollars

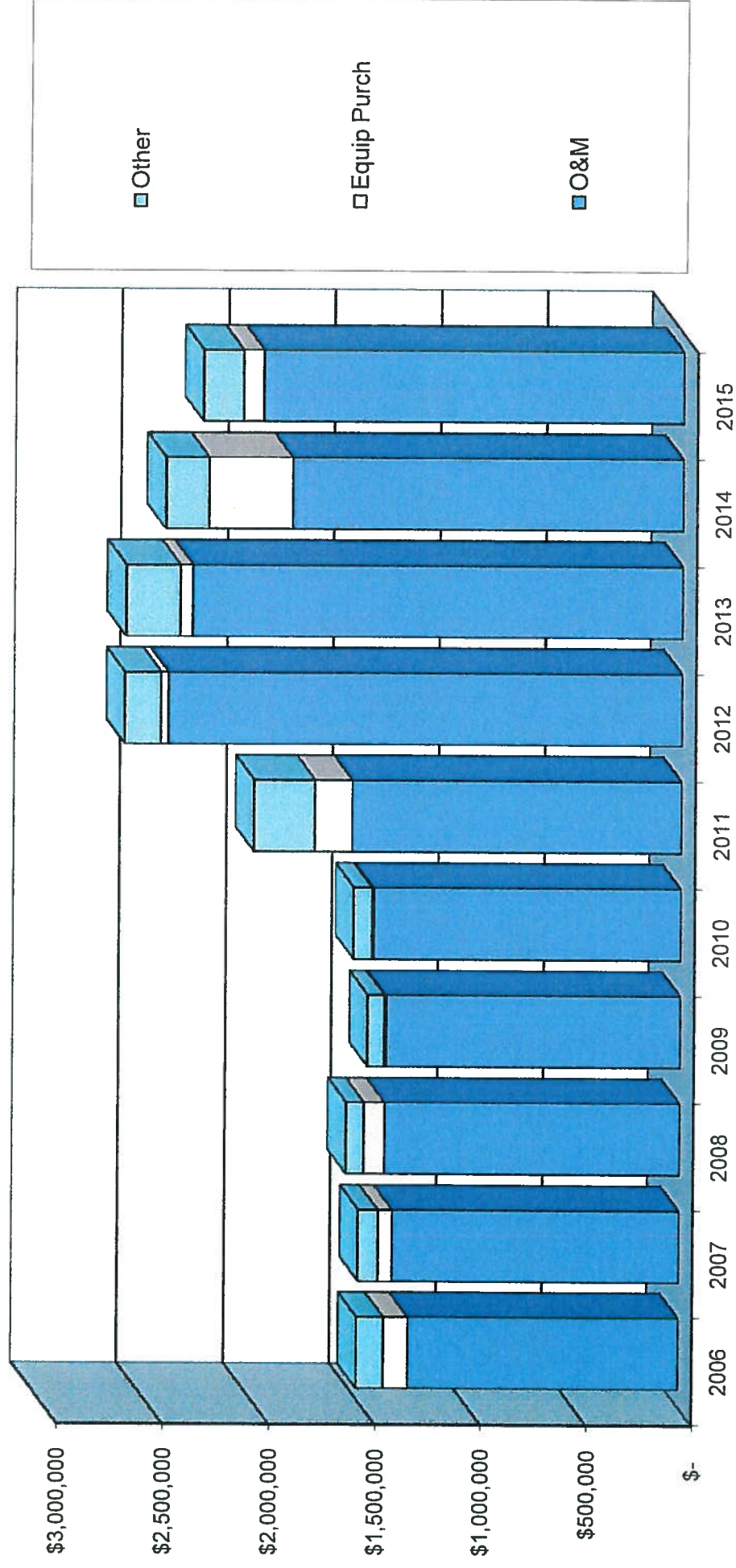


Grand Valley Water Users' Association Comparison of Receipts



Grand Valley Water Users' Association

Comparison of Disbursements



Grand Valley Water Users' Association Operation and Maintenance Disbursements

