COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Last Updated: November 2018

Colorado Water Conservation Board

Water Plan Grant Application

Instructions

To receive funding for a Water Plan Grant, applicant must demonstrate how the project, activity, or process (collectively referred to as "project") funded by the CWCB will help meet the measurable objectives and critical actions in the Water Plan. Grant guidelines are available on the CWCB website.

If you have questions, please contact CWCB at (303) 866-3441 or email the following staff to assist you with applications in the following areas:

Water Storage Projects	Anna.Mauss@state.co.us
Conservation, Land Use Planning	Kevin.Reidy@state.co.us
Engagement & Innovation Activities	Ben.Wade@state.co.us
Agricultural Projects	Alexander.Funk@state.co.us
Environmental & Recreation Projects	Chris.Sturm@state.co.us

FINAL SUBMISSION: Submit all application materials in one email to *waterplan.grants@state.co.us*
in the original file formats [Application (word); Statement of Work (word); Budget/Schedule (excel)]. Please do not combine documents. In the subject line, please include the funding category and name of the project.

Water Project Summary

Name of Applicant	Julesburg Irrigation District (JID)
Name of Water Project	Petersen Ditch Diversion - Integrated Rehabilitation Project

CWP Grant Request Amount	$ 500,000
Other Funding Sources **South Platte Water Related Activities Program, Inc. (SPWRAP)** **Pending Funding Agreement**	$ 600,000
Other Funding Sources **District 64 Reservoir Company (District 64)** **Pending Carriage Agreement**	$ 330,000
Other Funding Sources **Ducks Unlimited** **Pending Funding Agreement**	$ 100,000
Applicant Funding Contribution **Julesburg Irrigation District** **Pending Landowner Meeting**	$ 1,978,230
Total Project Cost (Diversion Structure and Well Field Rehabilitation)	$ 3,508,230

Last Updated: November 2018

Applicant & Grantee Information
Name of Grantee(s) **Julesburg Irrigation District**
Mailing Address **315 Cedar Street, Suite 150**
FEIN **84-6000185**
Organization Contact **Larry Frame**
Position/Title **Superintendent**
Email **supt.jid@pctelcom.coop**
Phone **970-520-3347**
Grant Management Contact **Pam Ornelas**
Position/Title **Secretary**
Email **jid@pctelcom.coop**
Phone **970-474-3737**
Name of Applicant (if different than grantee)
Mailing Address
Position/Title
Email
Phone
Description of Grantee/Applicant
Provide a brief description of the grantee's organization (100 words or less).

Last Updated: November 2018

The Julesburg Irrigation District (JID) was formed in 1904, and serves 19,129 bonded acres within the District, owned by 110 landowners. The District's total average diversion for all owned water rights is 54,421 acre-feet per year, serving the District lands in Sedgwick County. The District uses the terms shares and acres interchangeably, as one share is equivalent to one bonded acre of land ownership. The District has a three-member board of directors elected by the shareholders at large. The majority of revenues are from annual shareholder assessments. The District operates under the Colorado Revised Statutes Title 37 Article 41, the Irrigation District Law of 1905.

Type of Eligible Entity (check one)	
	Public (Government): Municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
X	**Public (Districts):** Authorities, Title 32/special districts (conservancy, conservation, and irrigation districts), and water activity enterprises.
	Private Incorporated: Mutual ditch companies, homeowners associations, corporations.
	Private Individuals, Partnerships, and Sole Proprietors: Private parties may be eligible for funding.
	Non-governmental organizations (NGO): Organization that is not part of the government and is non-profit in nature.
	Covered Entity: As defined in Section 37-60-126 Colorado Revised Statutes.

Type of Water Project (check all that apply)	
	Study
X	Construction
	Identified Projects and Processes (IPP)
	Other

Category of Water Project (check the primary category that applies and include relevant tasks)	

Last Updated: November 2018

X $150,000 Request	Water Storage - Projects that facilitate the development of additional storage, artificial aquifer recharge, and dredging existing reservoirs to restore the reservoirs' full decreed capacity and Multi-beneficial projects and those projects identified in basin implementation plans to address the water supply and demand gap.. *Applicable Exhibit A Task(s):*	
	Conservation and Land Use Planning - Activities and projects that implement long-term strategies for conservation, land use, and drought planning. *Applicable Exhibit A Task(s):*	
	Engagement & Innovation - Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website. *Applicable Exhibit A Task(s):*	
X $200,000 Request	Agricultural - Projects that provide technical assistance and improve agricultural efficiency. *Applicable Exhibit A Task(s):*	
X $150,000 Request	Environmental & Recreation - Projects that promote watershed health, environmental health, and recreation. *Applicable Exhibit A Task(s):*	
	Other	Explain:

Location of Water Project

Please provide the general county and coordinates of the proposed project below in **decimal degrees**. The Applicant shall also provide, in Exhibit C, a site map if applicable.

County/Counties	Sedgwick County
Latitude	40.923901
Longitude	-102.549698

Water Project Overview

Please provide a summary of the proposed water project (200 words or less). Include a description of the project and what the CWP Grant funding will be used for specifically (e.g., studies, permitting process, construction). Provide a description of the water supply source to be utilized or the water body affected by the project, where applicable. Include details such as acres under irrigation, types of crops irrigated, number of residential and commercial taps, length of ditch improvements, length of pipe installed, and area of habitat improvements, where applicable. If this project addresses multiple purposes or spans multiple basins, please explain. The Applicant shall also provide, in Exhibit A, a detailed Statement of Work, Budget, Other Funding Sources/Amounts and Schedule.

Last Updated: November 2018

JID operates the Petersen Ditch and Diversion Structure on the South Platte River, approximately 1.4 miles west of the Town of Sedgwick. The wood and concrete diversion structure was built in 1956 and serves as the primary mechanism for diverting South Platte River streamflow into the Petersen ditch. The ditch serves multiple purposes and beneficiaries including supplying direct flow irrigation water to 8,925 acres of agricultural land, delivering recharge water to more than sixty recharge ponds for 1) the augmentation supply of irrigation and municipal wells, 2) the enhancement of wildlife habitat and 3) the contribution of water towards Colorado's Platte River Recovery Implementation Program water obligation. In addition, the Petersen Ditch is the planned conveyance method for the proposed Ovid Reservoir site.

JID also operates three high capacity wells along the ditch for irrigation and recharge that can pump directly into the Petersen Ditch. The wells provide a net beneficial supply of water due to their close proximity to the river, their ability to pump during the non-compact season, and the ability of JID to augment any depletions from the wells.

Both the Petersen diversion structure and the wells are in need of rehabilitation and repair in order to enhance and maintain constant reliable supplies of water to all the uses listed above and to improve the structures' operational safety. Construction is now anticipated during the 2019-2020 winter months prior to the 2020 irrigation season. Various funding partners including SPWRAP, District 64 Reservoir Company and Ducks Unlimited have committed nearly 30% of the total project cost of the integrated rehab project. JID is asking for approximately 14% of the total project to be funded by a Colorado Water Plan grant from CWCB and will look to its shareholders this spring for a commitment to fund the remainder of the project.

Measurable Results	
To catalog measurable results achieved with the CWP Grant funds, please provide any of the following values as applicable:	
5,770 ac-ft (Phase I of Ovid Reservoir)	New Storage Created (acre-feet)
1,785 ac-ft to 4,463 ac-ft (30 to 45 days of increased operations at 30 to 50 cfs of new water developed – both consumptive and non-consumptive)	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
N/A	Existing Storage Preserved or Enhanced (acre-feet)
N/A	Length of Stream Restored or Protected (linear feet)
N/A	Efficiency Savings (indicate acre-feet/year OR dollars/year)
Greater than 215 acres (Currently over 215 acres of recharge ponds under the Petersen Ditch with new	Area of Restored or Preserved Habitat (acres)

Last Updated: November 2018

Ducks Unlimited sites and other ponds being added in the near future that will all benefit from increased water deliveries under the integrated rehab project).	
N/A	Quantity of Water Shared through Alternative Transfer Mechanisms
N/A	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
	Number of Coloradans Impacted by Engagement Activity
18,800 ac-ft generated to the PRRIP for Colorado over the last ten years (14%).	Other: Increased contributions to the PRRIP will likely occur through this project. This will provide benefits to the entire South Platte Basin by assisting mostly municipal water providers mitigation of existing and future depletion obligations to Endangered Species in Central Nebraska.

Water Project Justification

Provide a description of how this water project supports the goals of Colorado's Water Plan, the most recent Statewide Water Supply Initiative, and the applicable Roundtable Basin Implementation Plan and Education Action Plan. The Applicant is required to reference specific needs, goals, themes, or Identified Projects and Processes (IPPs), including citations (e.g. document, chapters, sections, or page numbers).

The proposed water project shall be evaluated based upon how well the proposal conforms to Colorado's Water Plan Framework for State of Colorado Support for a Water Project (CWP, Section 9.4, pp. 9-43 to 9-44;)

The Petersen Ditch Diversion Integrated Rehabilitation Project addresses multiple goals and objectives of the South Platte Basin Implementation Plan (SPBIP) and the Colorado Water Plan.

In addition to addressing existing agricultural gaps outlined in the SPBIP, this project addresses other key multiple benefits as identified in Section 4.6 of the SPBIP and four of the eleven Plan Elements of the SPBIP (1 – Maximize Implementation of IPPs, 3 – Maximize use and effectiveness of native South Platte supplies, 5 – Protect and enhance environmental and recreation attributes through collaboration with other water use sector, and 7 – Promote multi-purpose storage projects that enhance other South Platte Basin solutions) listed on Figure 5-4 on page 5-23 of the SPBIP. These benefits are further detailed below:

1) The Petersen Ditch can divert up to 164 cfs for the surface irrigation of 8,925 acres. The Petersen Ditch is a junior irrigation ditch near the CO-NE state line which has historically limited its ability to divert irrigation water to landowners. During the most recent 20 year period (1998-2007) the Petersen Ditch has averaged a modest 6,442 ac-ft of diversions per year for irrigation use. Construction of an efficient and automated diversion structure along with the

rehabilitation of the existing well field should aid with increased irrigation deliveries within the last major diversion on the South Platte River.

2) Since the mid 1990's the Petersen Ditch has been steadily increasing year-round diversions to supply junior water rights to now over 60 recharge ponds under the ditch system as a water supply. Water diverted for recharge under the Petersen Ditch is used first for augmentation of irrigation and municipal (Towns of Sedgwick, Ovid, and Julesburg) wells in Sedgwick County. During the most recent 20 year period (1998-2007) the Petersen Ditch has averaged 10,956 ac-ft of diversions per year for recharge and during the most recent 10 year period (2008-2017) the Petersen Ditch has averaged 15,498 ac-ft of diversions per year for recharge. It is anticipated that a rehabilitated and enhanced Petersen Diversion structure and well field will increase efficiency and diversions for offseason recharge operations, especially during times when recharge water is currently not diverted due to existing weather and operational constraints.

3) In addition to well augmentation supplies, recharge water supplies provide a direct supply of water to over 215 acres of shallow wetland waterfowl and wildlife habitat in Sedgwick County. Recharge ponds under the Petersen Ditch are viewed as key habitat areas for waterfowl and wildlife. Ducks Unlimited (DU) has partnered with the Julesburg Irrigation District (JID) to construct the Harms recharge pond to provide a multi-use project that includes waterfowl habitat. Ducks Unlimited and the U.S. Fish and Wildlife Service 'Partners for Wildlife' program have also both assisted with cost sharing on various recharge ponds under the Petersen Ditch to provide additional open water habitat. Ducks Unlimited also recently purchased the Petersen Bend property along the Petersen Ditch and plans to install several acres of new shallow recharge wetlands for habitat and local augmentation uses. Increased efficiencies from this project including warm groundwater deliveries from the rehabilitated well field will improve water deliveries to these key habitat areas.

4) The South Platte Water Related Activities Program, Inc. (SPWRAP) utilizes recharge water accretions derived from Petersen Ditch diversions during non-call periods as credit towards Colorado's water obligation for endangered species in Central Nebraska under the Platte River Implementation Program (PRRIP). Recharge accretion credits generated from Petersen Ditch diversions accounted for 18,809 ac-ft (14%) of Colorado's total PRRIP water contribution (138,267 ac-ft) over the last 10 years. In comparison, recharge water accretions from the Tamarack State Wildlife Area totaled 29,003 ac-ft (21%) of Colorado's total PRRIP contributions. Additionally, the Petersen diversion structure is only about 15 river miles downstream of the Tamarack

SWA and most of the recharge water rights under the Petersen Ditch are senior to the Tamarack SWA water rights. Improvements to the efficiency of the current Petersen Ditch diversion structure could alleviate any potential conflict and impacts that the Tamarack SWA well pumping may have on Petersen recharge diversions (both of which are utilized by Colorado under the PRRIP) and should assist in increasing water supplies available to SPWRAP for PRRIP obligations.

5) In correlation with the Platte River Recovery Implementation Program, Colorado has an obligation to mitigate new in-basin water development of post 1997 native water supplies and re-use projects based on population growth. Identified Projects and Processes (IPPs) listed in the SPBIP that are built after 1997 and that rely on development of in-basin water supplies along with new re-use projects built after 1997 must mitigate their impacts to endangered species in Central Nebraska with retimed water supplies near the Colorado-Nebraska state line. These municipal and industrial water supply and storage projects that are planned in the South Platte basin rely entirely on groundwater (alluvial aquifer) recharge projects in the lower South Platte near the state line to mitigate any impacts. As noted above, a significant contribution (14%) of Colorado's current water obligation to the PRRIP is being met by Petersen Ditch operations. As a result of an enhanced Petersen Ditch diversion structure, current and new water supply development in the South Platte basin should continue to maintain reliance on, or even increasingly utilize, Petersen Ditch water supplies for mitigation of new South Platte water development.

6) The proposed Ovid Reservoir site is located approximately one mile west of Ovid, Colorado and is located about a half mile below the Petersen Ditch. The Petersen Ditch would be utilized to fill the proposed Ovid Reservoir during times of excess supply and ditch capacity and during times when water can't be delivered for other uses due to weather and other operational constraints. Ovid Reservoir is currently decreed for replacement obligations to the South Platte compact and for wildlife and wildlife recovery uses. It has a junior (1998) fill and refill right of 5,772 ac-ft with a fill rate of 184 cfs through the Petersen Ditch. Recent planning and water supply studies (including the Ovid Reservoir Comprehensive Feasibility Study and the South Platte Storage Study) have identified Ovid Reservoir as a potential project to meet portions of the municipal and industrial water supply gap in the basin. In 2012 and 2013 Ovid Reservoir was identified as a favorable potential site to meet industrial water supply needs in the South Platte basin. The District 64 Reservoir Company owns the assets and water right for the Ovid Reservoir and views the rehabilitation of the Petersen diversion structure as Phase I in the development of Ovid Reservoir due to the inability to reliably deliver water to Ovid Reservoir without a new Petersen diversion structure.

Finally, this project aligns very well with the values and criteria outlined under Section 9.4 (pages 9-43 and 9-44) of the Colorado Water Plan) for State support of projects.

Related Studies

Please provide a list of any related studies, including if the water project is complementary to or assists in the implementation of other CWCB programs.

1) http://southplattebasin.com/wp-content/uploads/2016/06/South-Platte-Basin-Implementation-Plan-April-17-2015.pdf

2) http://southplattebasin.com/wp-content/uploads/2016/04/South-Platte-Storage-Study_FINAL-REPORT.pdf

3) Ovid Reservoir Comprehensive Feasibility Study – SB-05-179 Analysis – December, 2011

4) Feasibility Study for the Julesburg Irrigation District Petersen Ditch Diversion Structure Replacement Project, Division 1, Water District 64, Structure ID 504, Sedgwick County, Colorado – March 30, 2018

5) https://platteriverprogram.org/document/prrip-final-environmental-impact-statement-volume-1

6) https://platteriverprogram.org/document/platte-river-recovery-implementation-program-final-environmental-impact-statement-volume-2

Previous CWCB Grants, Loans or Other Funding

List all previous or current CWCB grants (including WSRF) awarded to both the Applicant and Grantee. Include: 1) Applicant name; 2) Water activity name; 3) Approving RT(s); 4) CWCB board meeting date; 5) Contract number or purchase order; 6) Percentage of other CWCB funding for your overall project.

Last Updated: November 2018

The Julesburg Irrigation District (JID) has not received any CWCB grants to date. However; JID currently has four active loans through CWCB: 1) Julesburg Reservoir (Harmony No. 1) inlet diversion structure – Loan Amt. $510,469, 2) Julesburg Reservoir outlet structure – Loan Amt. $372,950, 3) Petersen / Lodgepole Creek structure – Loan Amt. $100,000, and 4) Harmony No. 1 measurement weir – Loan Amt. $203,616.

Taxpayer Bill of Rights

The Taxpayer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect your application.

The Julesburg Irrigation District does not have any relevant TABOR issues.

Last Updated: November 2018

Submittal Checklist	
x	I acknowledge the Grantee will be able to contract with CWCB using the Standard Contract.
Exhibit A	
x	Statement of Work(1)
x	Budget & Schedule(1)
x	Engineer's statement of probable cost (projects over $100,000)
x	Letters of Matching and/or Pending 3rd Party Commitments(1)
Exhibit C	
x	Map (if applicable)(1)
x	Photos/Drawings/Reports
x	Letters of Support (Optional)
	Certificate of Insurance (General, Auto, & Workers' Comp.) (2)
	Certificate of Good Standing with Colorado Secretary of State(2)
	W-9(2)
	Independent Contractor Form(2) (If applicant is individual, not company/organization)
Engagement & Innovation Grant Applicants ONLY	
N/A	Engagement & Innovation Supplemental Application(1)

(1) Required with application.
(2) Required for contracting. While optional at the time of this application, submission can expedite contracting upon CWCB Board approval.

Last Updated: November 2018

Colorado Water Conservation Board
Water Plan Grant - Exhibit A

Statement Of Work	
Date:	**February 1st 2019**
Name of Grantee:	**Julesburg Irrigation District (JID)**
Name of Water Project:	**Petersen Ditch Diversion - Integrated Rehabilitation Project**
Funding Source:	**Multiple Sources (Including Colorado Water Plan Grant – Agriculture, Water Storage, and Environmental and Recreation categories).**

Water Project Overview:

The Julesburg Irrigation District's (JID) diversions from the South Platte River through the Petersen Ditch are up to 164 cubic feet per second from the South Platte River providing water to 8,925.64 acres. The diversion of water is accomplished with a concrete diversion dam across the South Platte and a canal regulating head gate structure. The diversion dam is approximately 320 feet wide and the head gate structure is approximately 30 feet wide. The existing diversion structure was originally built in 1956. JID also owns and operates three high capacity wells (average pumping rate of approximately 2500 gpm each) adjacent to the ditch and within 1000 feet of the South Platte River. These wells are an additional source of water supply for irrigation and recharge in the Petersen Ditch and provide warmer groundwater to the ditch for wintertime operations. The diverted water from both the river and wells is delivered to the shareholders through approximately 27.5 miles of canal. The water is used to irrigate corn, alfalfa, beans, sugar beets and wheat. JID manages and maintains the Petersen Ditch as the majority owner. JID also delivers recharge water via the Petersen Ditch for the augmentation of wells irrigation and municipal in the Sedgwick County Well Users and Lower South Platte Water Conservancy District augmentation plans, including wells in the service area of JID. In addition, the Petersen Ditch is the planned conveyance ditch for the proposed Ovid Reservoir site. Both the diversion structure and well field are in need of rehabilitation for continued and future demands under the Petersen Ditch system.

The existing Petersen Ditch river diversion structure was built in 1956 out of wood and concrete. The existing concrete is eroded and needs replacement. The wooden check board diversion structure is difficult to operate and requires personnel to enter the river during flowing conditions to adjust flow thus creating a potentially dangerous condition for operations personnel. The existing structure was built to operate during the normal irrigation season. In the last several years winter season operation has become necessary to satisfy winter flow requirements for recharge water deliveries for well augmentation, shallow wetland habitat, and water supplies for Colorado's obligation to the Platte River Recovery Implementation Program. Adjusting the existing river diversion structure during the winter is not practical or safe. In addition to the expenses

and difficulties in maintaining and operating the structure, which is nearing the end of its useful life, the existing design of the diversion dam promotes the accumulation of sand on the upstream side of the dam. This buildup of sand causes diversion problems and maintenance problems within the canal system. Replacement of the existing diversion dam provides the opportunity to utilize an improved design which would greatly alleviate the sand accumulation problem as well as greatly improve the safety and operability of the diversion structure and ditch gate.

Project Objectives:

Construct the Rehabilitated Petersen Ditch Diversion Structure and Rehabilitate the Petersen Ditch Well Field.

JID wants to completely rebuild the diversion dam and ditch head gate during the 2019-2020 winter months prior to the 2020 irrigation season.

JID would like to rehabilitate the wells during the summer of the 2019 irrigation season. No CWCB funds will be utilized for the well field project.

Last Updated: November 2018

Tasks

Task 1 – Diversion Structure Rehabilitation

Description of Task:

Task 1 includes the rehabilitation of the river diversion dam using 100 feet of a 5-foot high pneumatically actuated stainless-steel bladder gate and 220-foot concrete weir. The pneumatically actuated gate would be installed on a monolithic reinforced concrete slab. Stability will be provided by a pile foundation and steel sheet piling will provide seepage cutoff and protection from erosion. This combination weir structure will be installed on a monolithic steel reinforced concrete slab in the riverbed and have wing walls of steel reinforced concrete. The ditch head gate will be rehabilitated with a new concrete structure and a 30-foot wide by 3-foot high pneumatically actuated stainless-steel bladder gate. The new ditch head gate structure will have a gated bypass that can be used during winter ice conditions. A preliminary design showing critical elevations was developed by the engineer and required flows were determined. An additional feature of this alternative is improved fish passage.

An easement from the electric service provider is required. All other easements and rights of way have been arranged. The District expects to be exempt from 404 permitting by Statutory Exemption, 33 CFR Section 323.4(a)3, addressing construction and maintenance projects not requiring permits.

The current opinion of probable cost is estimated at $3,308,250 as provided by the *Feasibility Study for the Julesburg Irrigation District, Petersen Ditch Diversion Structure Replacement Project, Division 1, Water District 64, Structure ID 504, Sedgwick County, Colorado,* prepared by Gauthiere Engineering, Inc. JID is currently in the process of obtaining a second opinion of probable cost from Harris Engineering Consultants, Inc. and a third opinion of probable cost from Applegate Group, Inc. Preliminary second and third opinions point to slightly lower overall costs for Task 1, but the current cost estimate is being used until a final cost estimate is determined.

Last Updated: November 2018

Tasks
Method/Procedure:
Standard construction procedures will be followed for this project. See Exhibits A and C for further detail.
Deliverable:
JID will provide a final report to CWCB with: 1) a summary of the project and how the project was completed, 2) a description of any obstacles encountered and how the obstacles were overcome, 3) a confirmation that all matching commitments were fulfilled and 4) photographs, summaries of meeting and engineering reports / final designs. JID will also provide CWCB with progress reports every 6 months beginning from the date of contract execution. The progress reports will describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address such issues.

Last Updated: November 2018

Tasks
Task 2 – Well Field Rehabilitation
Description of Task:
Task 2 includes the pulling, inspection and repair of all pumps and motors for the three existing Petersen wells. Currently there is no design or cost estimate for this work as the work under this task involves the use of a local well or pump contractor to 1) pull the pumps and motors, 2) to inspect and assess the amount of repair work needed, 3) do the necessary pump and motor repair work and 4) reinstall new or repaired pumps and motors. Based on previous work in similar cases it is estimated that the total cost (including contingency, project management and administration) will not exceed $199,980. Ducks Unlimited is taking the lead role on project management, design and procurement. Updated cost estimates will be provided as this work advances. Even though no CWCB funds will be used for this task, Tasks 1 and 2 are integrated and rely on each other. Task 2 is anticipated to begin during the summer of 2019 in order to be completed prior to Task 1 so that some reliable supply of water can be supplied to the Petersen Ditch during Task 1 construction.
Method/Procedure:
Standard well pump and motor repair procedures will be followed for this project.
Deliverable:
The deliverables for Task 2 will be the same as for Task 1 and will be incorporated in integrated progress reports and the final report to CWCB.

Last Updated: November 2018

Budget and Schedule

This Statement of Work shall be accompanied by a combined Budget and Schedule that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format.

Reporting Requirements

Progress Reports: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Report: At completion of the project, the applicant shall provide the CWCB a Final Report on the applicant's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

The CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

Costs incurred prior to the effective date of this contract are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this contract must be provided to CWCB in hard copy and electronic format as part of the project documentation.

Performance Measures

Performance measures for this contract shall include the following:
(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit B. Per Water Plan Grant Guidelines, the CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.
(b) Accountability: Per Water Plan Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per Water Plan Grant Guidelines, Progress Reports must be

Performance Measures
submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment. (c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary. (d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Colorado Water Conservation Board

Water Plan Grant - Detailed Budget Estimate
Fair and Reasonable Estimate

Prepared Date: January 31st, 2019
Name of Applicant: Julesburg Irrigation District
Name of Water Project: Petersen Ditch Diversion - Integrated Rehabilitation Project

EXAMPLE C: Construction

Task 1 - Diversion Structure Rehabilitation

Item	*Sub-task*	Unit	Quantity	Unit Cost	Total Cost	CWCB Grant Funds	Matching Funds
1	Mobilization & Demobilization	LS	1	$ 70,000	$ 70,000	$ 12,696	$ 57,304
2	Control of Water & De-watering	LS	1	$ 147,000	$ 147,000	$ 26,661	$ 120,339
3	Demolition & Proce6ss Existing Concrete	CY	550	$ 30	$ 16,500	$ 2,993	$ 13,507
4	Excavation	CY	2,250	$ 6	$ 13,500	$ 2,448	$ 11,052
5	Structural Fill	CY	2,500	$ 15	$ 37,500	$ 6,801	$ 30,699
6	Low Flow Bypass and Gate	LS	1	$ 45,000	$ 45,000	$ 8,161	$ 36,839
7	Steel Sheet Piling	SF	29,700	$ 19	$ 564,300	$ 102,344	$ 461,956
8	Pipe Piling 8" OD	LF	5,075	$ 35	$ 177,625	$ 32,215	$ 145,410
9	Furnish Obermeyer Bladder Gate 100' by 5' Stainless Steel Complete with all Equipment, Embeds, Piping and Hardware	LS	1	$ 360,390	$ 360,390	$ 65,362	$ 295,028
10	Installation of Item #9	LS	1	$ 45,000	$ 45,000	$ 8,161	$ 36,839
11	Furnish Obermeyer Bladder Gate 30' by 3' Stainless Steel Complete with all Equipment, Embeds, Piping and Hardware	LS	1	$ 79,110	$ 79,110	$ 14,348	$ 64,762
12	Installation of Item #11	LS	1	$ 25,000	$ 25,000	$ 4,534	$ 20,466
13	Control Building 15' by 15'	LS	1	$ 60,000	$ 60,000	$ 10,882	$ 49,118
14	Cast in Place Concrete	CY	1,152	$ 850	$ 979,200	$ 177,592	$ 801,608
15	New Electric Service Underground Electric Service from Meter Drop West of Diversion to Gate Control House (based on 900' of 1 awg copper in conduit with pull boxes to	LS	1	$ 75,000	$ 75,000	$ 13,602	$ 61,398
16	Pedestrian Bridge and Upper Gate Seal Beam	LS	1	$ 30,000	$ 30,000	$ 5,441	$ 24,559
17	Erosion Control BMP	LS	1	$ 3,000	$ 3,000	$ 544	$ 2,456
18	Gravel Surfacing - Service Roads	LS	1	$ 2,000	$ 2,000	$ 363	$ 1,637
19	Concrete Washout Structure	LS	1	$ 500	$ 500	$ 91	$ 409
20	Final Cleanup and Restoration	LS	1	$ 5,000	$ 5,000	$ 907	$ 4,093
21	Hand Rail	LF	250	$ 85	$ 21,250	$ 3,854	$ 17,396
	Sub-Total Estimated Construction Cost				**$ 2,756,875.00**	**$ 500,000**	**$ 2,256,875**
				Contingency @ 10%	$ 275,688		$ 275,688
				Total Estimated Construction Cost	**$ 3,032,563**		**$ 3,032,563**
				Planning, Design and Legal @ 5%	$ 137,844		$ 137,844
				Project Management & Admin @ 5%	$ 137,844		$ 137,844
				Total Estimated Project Cost - Task 1	**$ 3,308,250**		**$ 3,308,250**

Task 2 - Well Field Rehabilitation

Sub-task	Unit	Quantity	Unit Cost	Total Cost	CWCB Grant Funds	Matching Funds
Pull and Repair Well Pumps and Motors	LS	3	$ 60,600	$ 181,800	$ -	$ 181,800
			Contingency @ 10%	$ 18,180.0	$ -	$ 18,180
			Planning, Design and Legal @ 5%	$ 9,090.00	$ -	$ 9,090
			Project Management & Admin @ 5%	$ 9,090.00	$ -	$ 9,090
Sub-Total				**$ 199,980**	$ -	**$ 199,980**
TOTAL				**$ 3,508,230**	**$ 500,000**	**$ 3,508,230**

Project Funding Summary

Funding Organization	Project Contribution	Funding %
CWCB CWP Grant (Diversion)	$ 500,000	14.25%
SPWRAP (Diversion + Wells)	$ 600,000	17.10%
District 64 Reservoir Company (Diversion)	$ 330,000	9.41%
Ducks Unlimited (Wells)	$ 100,000	2.85%
Julesburg Irrigation District (Diversion) via CWCB Loan	$ 1,978,230	56.39%
Total	$ 3,508,230	100.00%

Exhibit C

Letters of Support

January 31, 2019

Ms. Anna Mauss
Water Storage & Supply Projects
Colorado Water Conservation Board
1313 Sherman St., Room 718
Denver, CO 80203

RE: Letter of Support for the Petersen Ditch Diversion Integrated Rehabilitation Project

Dear Ms. Mauss;

The Northern Colorado Water Conservancy District (Northern Water) supports the Julesburg Irrigation District's (JID) application to the Colorado Water Conservation Board for a Colorado Water Plan grant regarding the above-mentioned project. The operation of the Petersen Ditch diversion structure and recharge well field are critical in meeting numerous water user objectives in the Lower South Platte River Basin in Colorado. Northern Water's district boundaries encompass JID and rehabilitating their diversion infrastructure is essential for continued and efficient irrigation and groundwater recharge.

Expanding the period of groundwater recharge farther into the winter by rehabilitating the diversion structure will develop additional recharge accretions to the river that enhance and firm local well augmentation supplies and Colorado's water contribution to the Platte River Recovery Implementation Program (PRRIP). Colorado meets its water contribution to PRRIP by primarily leasing river accretions from local augmentation/recharge groups during non-call periods. Leases from the Petersen Ditch system for PRRIP have amounted to 20% of the total leases and the Petersen Ditch system is the largest single ditch contribution to PRRIP in Water District 64. A successful PRRIP is absolutely essential for ESA compliance for nearly every water user in the South Platte River Basin in Colorado. In addition to the enhanced river accretions, the recharge ponds will provide local habitat for waterfowl and wildlife.

Northern Water applauds the commitment from the numerous beneficiaries of this project to provide matching funds. Thank you for your consideration of Colorado Water Plan grant funding for this project.

Sincerely,

Bradley D. Wind
General Manager

Cc: Larry Frame, JID, Joe Frank

COLORADO
Division of Water Resources
Department of Natural Resources
Water Division 1 - Main Office

January 29, 2019

Colorado Water Conservation Board
1313 Sherman Street
Denver, CO 80203

Subject: Grant Application by Julesburg Irrigation Company

To Whom It May Concern:

I am writing concerning the grant request by the Julesburg Irrigation Company (JIC). The funding will be used for the Peterson Ditch Diversion Structure and Well Field Rehabilitation Project (Project). My office supports this project because it will benefit the water users and assist in the Division of Water Resources administrative efforts.

The Project will provide needed rehabilitation to the existing Peterson Ditch river diversion, including implementation of current technology and construction. The proposed automated diversion structure, updated control structure and telemetry will allow my office to carry out its statutory mandate to administer water rights in Water Division One in a more efficient and effective manner. This project resulting in more effective and efficient administration of water rights by my office, will provide benefits for numerous of upstream and downstream water users within Division 1.

Thank you.

Corey DeAngelis
Division Engineer, Water Division 1
Division Engineer

ec: Julesburg Irrigation Company; supt.jid@pctelcom.coop

Lower South Platte Water Conservancy District; jmfrank@lspwcd.org

LOWER SOUTH PLATTE WATER CONSERVANCY DISTRICT

100 BROADWAY PLAZA, SUITE 12 / STERLING, CO 80751 / PHONE 970-522-1378 FAX 970-522-0848

January 28, 2019

Ms. Anna Mauss
Water Storage & Supply Projects
Colorado Water Conservation Board
1313 Sherman St., Room 718
Denver, CO 80203

RE: Letter of Support: Petersen Ditch Diversion Integrated Rehabilitation Project

Dear Ms. Mauss;

The Lower South Platte Water Conservancy District (LSPWCD) supports the Julesburg Irrigation District's application to the Colorado Water Conservation Board for a Colorado Water Plan grant regarding the above mentioned project. The operation of the Petersen Ditch diversion structure and well field are critical in the management of multiple uses and benefits of water near the Colorado-Nebraska State-line. These uses include direct irrigation, managed groundwater recharge for well augmentation, local habitat for waterfowl and wildlife, water supplies for Colorado's water obligation to the Platte River Recovery Implementation Program, and the potential conveyance for new storage through the proposed Ovid Reservoir site. Both the surface diversion structure of the Petersen Ditch and the existing well field next to the ditch are in need of rehabilitation and enhancement to efficiently provide future water deliveries for the uses listed above.

LSPWCD also applauds the commitment from the numerous beneficiaries of this project to provide matching funds. Thank you for your consideration of Colorado Water Plan grant funding for this project.

Sincerely,

Joe Frank

Joe Frank,
General Manager

cc: Larry Frame, JID
LSPWCD files

BOARD OF
COUNTY COMMISSIONERS
OF SEDGWICK COUNTY
315 Cedar St., Suite 220
JULESBURG, CO 80737
(970) 474-2485

To Whom it may concern,

The Sedgwick County Commissioners are pleased to support the Petersen Diversion Renovation project. The Petersen Diversion first diverted water from the South Platte in March 1895. Since that time the Diversion has continued to provide irrigated water to 8925.64 acres. In 1957 improved updates were added to the Diversion Head gates, however, after having millions of acre feet of water running through it the Diversion is at a point where it needs another modernization completed.

The Petersen Diversion has further enhanced its value to Sedgwick County with the implementation requirement of providing vital water for recharge credits. Sedgwick County differs from other counties in Colorado when it comes to recharging water well use. When the South Platte River runs into Nebraska on the west edge of Sedgwick County, the recharge credits have to be complete under the Colorado-Nebraska compact. The Petersen Diversion is therefore the last chance for the State of Colorado to be in compliance with this federal compact.

As you can see the Petersen Diversion Renovation project is not only a vital part of Sedgwick County's primary industry but also is indispensable for the State of Colorado. We hope you will grant the Petersen Diversion Renovation project the highest priority.

Sincerely,

Sedgwick County Commissioners

Donald Schneider, Chairman

South Platte Water Related Activities Program, Inc.
220 Water Avenue, Berthoud, Colorado, 80513

SPWRAP

January 23, 2019

Ms. Anna Mauss
Water Storage & Supply Projects
Colorado Water Conservation Board
1313 Sherman St., Room 718
Denver, CO 80203

RE: Letter of Commitment: Petersen Ditch Diversion Reconstruction Project

Dear Ms. Mauss;

The purpose of is letter is to confirm that SPWRAP is committing to contribute Five Hundred Thousand Dollars to the Julesburg Irrigation District / Petersen Canal & Reservoir Company, subject to completion of an agreement now being negotiated, to help fund the reconstruction of the Petersen Ditch diversion dam and river headgate.

As you may be aware, pursuant to a Memorandum of Agreement between SPWRAP and the Colorado Department of Natural Resources, SPWRAP has assumed responsibility for meeting Colorado's obligation to re-time South Platte River flows in accordance with the Platte River Recovery Implementation Program Cooperative Agreement. Recharge credits from water carried through the Petersen Ditch that accrue to the South Platte River during periods of no river call play an important role in SPWRAP's efforts to meet that responsibility.

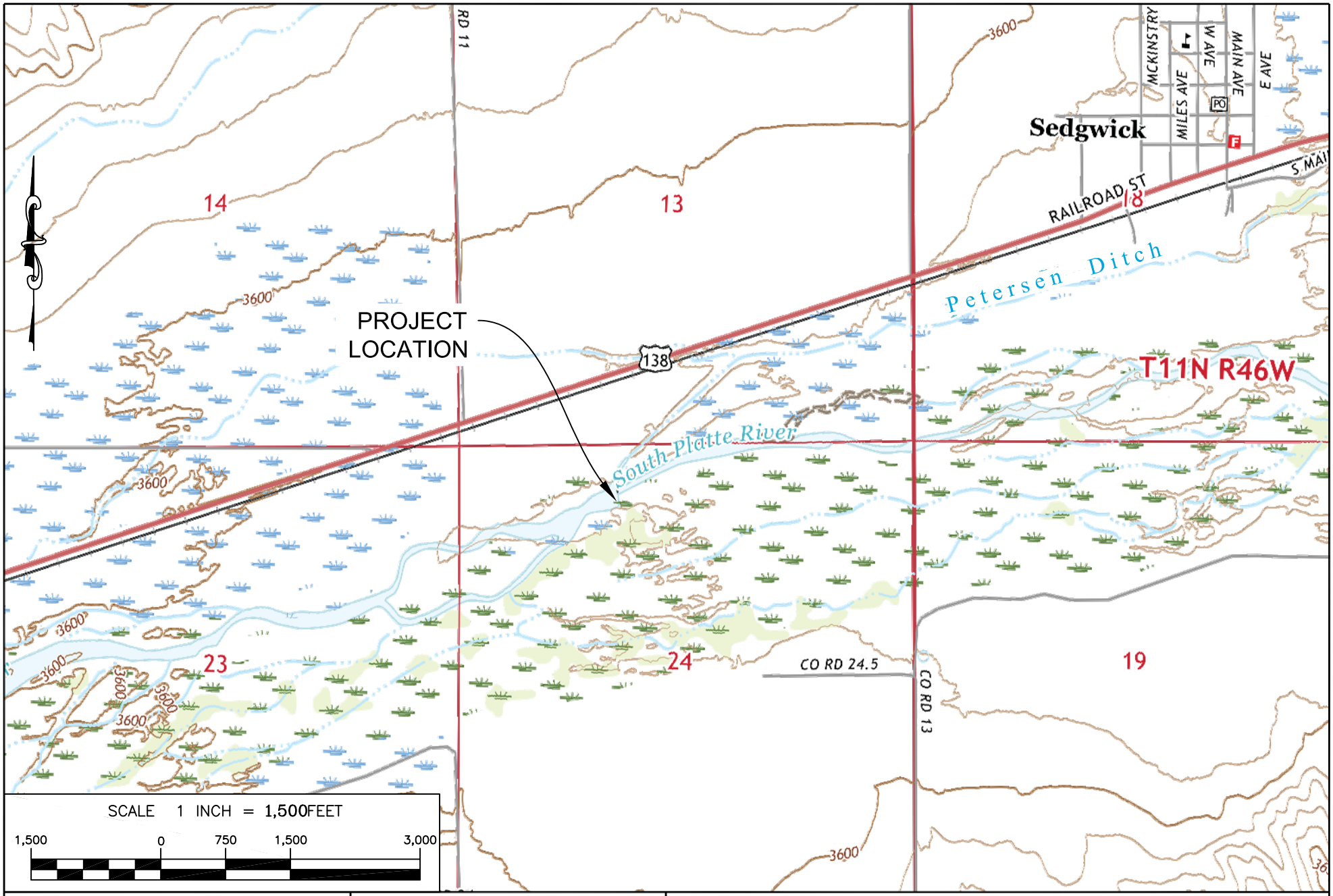
Please contact me if you have questions in connection with this letter.

Sincerely,

Kim Hutton
President

cc: Larry Frame, JID
Joe Frank, LSPWCD

Map



GAUTHIERE ENGINEERING, INC. 2157 Buena Vista Drive Greeley, Colorado 80634 Phone: (970) 330-0855 E-mail: john@gauthiere-engineering.com	Scale: 1" =1,500'	JULESBURG IRRIGATION DISTRICT PETERSEN DITCH DIVERSION REPLACEMENT PROJECT NW $\frac{1}{4}$ OF THE NE $\frac{1}{4}$ OF THE NW $\frac{1}{4}$ SEC 24 T 11N R47 W OF THE 6TH PM
	Drawn By: JGG	
	File: JID	Date: JAN. 25, 2018 — FIGURE 1 - LOCATION MAP

Photos

PHOTO 1 – UPSTREAM VIEW OFEXISTING 320-FOOT DIVERSION DAM

PHOTO 2 – DOWNSTREAM VIEW OF 320-FOOT DIVERSION DAM

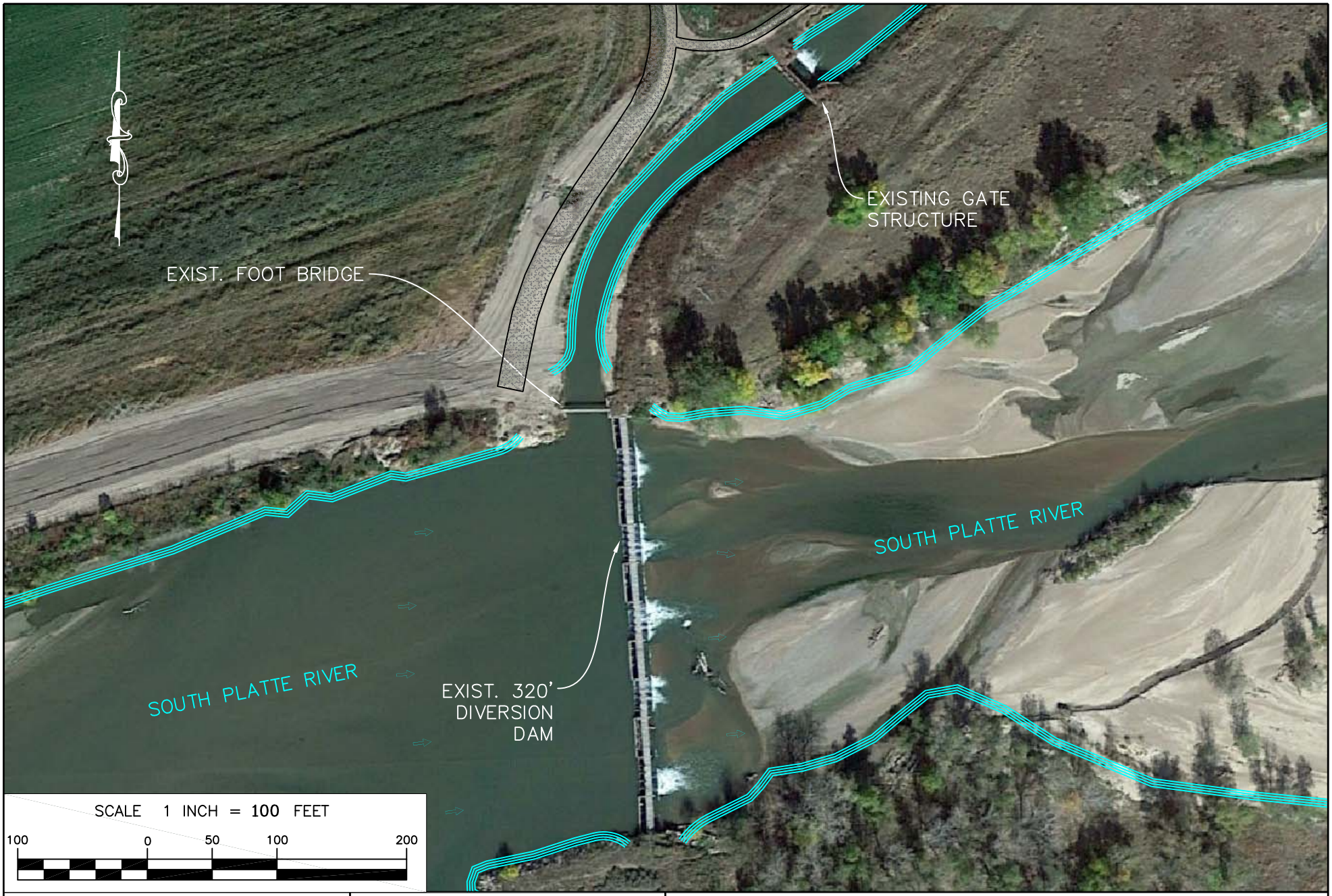
PHOTO 3 - RIGHT (SOUTH) ABUTMENT BLOWOUT

PHOTO 4 – DIVERSION STRUCTURE DETERIORATED CONCRETE

PHOTO 5 – DIVERSION STRUCTURE DURING WINTER OPERATIONS (CHECK BOARD REMOVED

PHOTO 6 DITCH GATE STRUCTURE DURING WINTER OPERATIONS

Drawings



GAUTHIERE ENGINEERING, INC.
2157 Buena Vista Drive Greeley,
Colorado 80634 Phone: (970) 330-0855
E-mail: john@gauthiere-engineering.com

Scale: 1" =100'

Drawn By: JGG

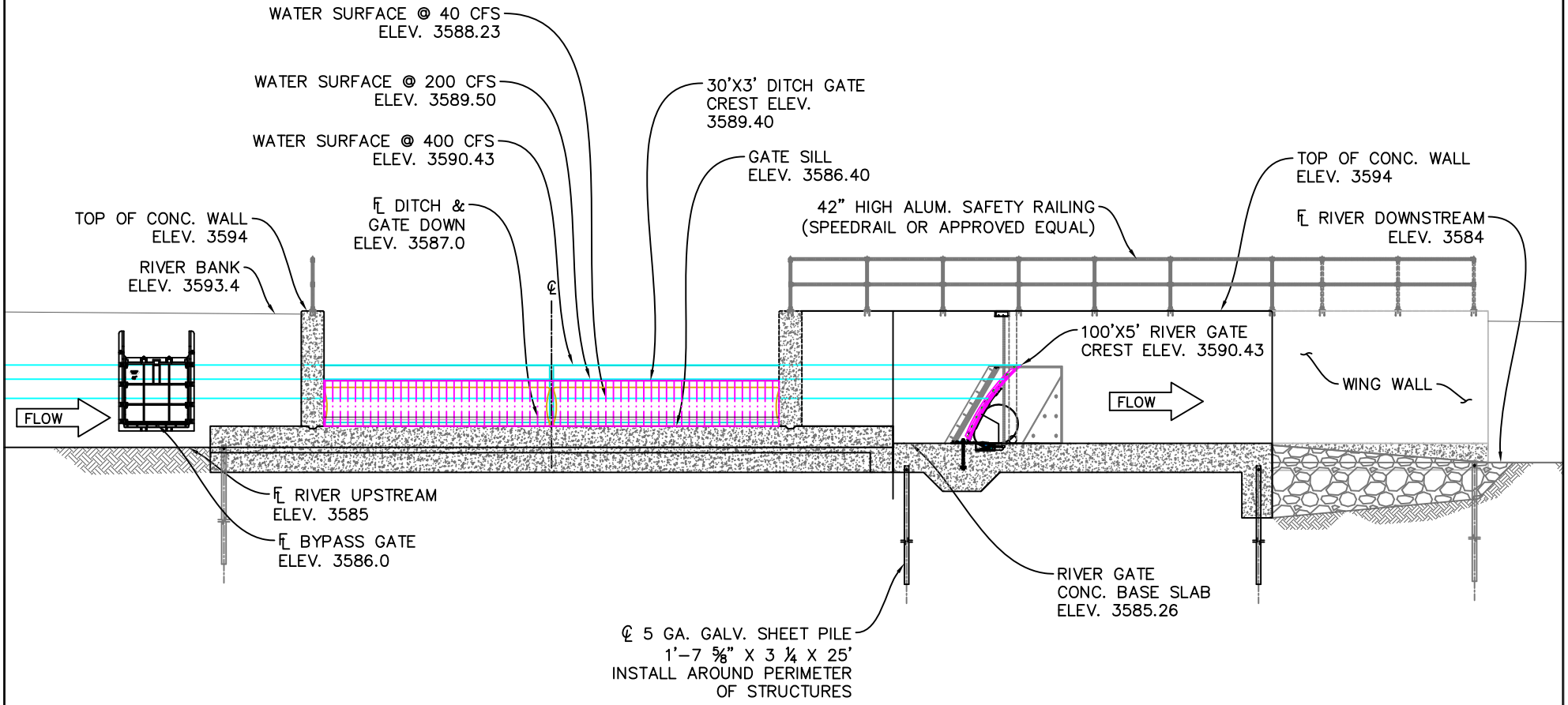
File: JID

JULESBURG IRRIGATION DISTRICT
EXISTING PETERSEN DITCH DIVERSION STRUCTIES

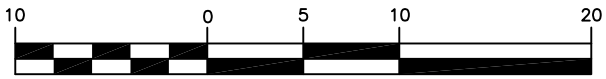
Date: JAN. 25, 2018

FIGURE 2 - PLAN VIEW

NOTE:
1. DITCH GATE SEAL BEAM AND PED BRIDGE NOT SHOW FOR CLARITY
2. FOUNDATION FRICTION PILES NOT SHOWN.



SCALE 1 INCH = 10 FEET



GAUTHIERE ENGINEERING, INC.
2157 Buena Vista Drive Greeley, Colorado
80634 Phone: (970) 330-0855
E-mail: john@gauthiere-engineering.com

Scale: 1" =10'

Drawn By: JGG

File: JID

JULESBURG IRRIGATION DISTRICT
PETERSEN DITCH DIVERSION REPLACEMENT PROJECT

Date: JAN. 25, 2018

FIGURE 4 - CRITICAL ELEVATIONS

NOTES

"PRELIMINARY: ISSUED FOR REVIEW"

REV	REVISIONS	DATE
A	PRELIMINARY: ISSUED FOR DISCUSSION	9/27/18
B	REVISED HEADGATE	10/06/18
C	ADDED VERTICAL SLOT FISHWAY	1/15/19

HARRIS ENGINEERING CONSULTANTS, INC.

DRAWN:	MATT HARRIS	8/22/18
CHECKED:	M. C. HARRIS	
CAD FILE:	18013 PETERSON DIVERSION DAM VX.DWG	

JULESBURG IRRIGATION DISTRICT

REVIEW:		
APPROVED:		

DRAWING STATUS	
ISSUE	DATE
PRELIMINARY	9/27/18
FOR COMMENTS AND APPROVAL	
APPROVED FOR CONSTRUCTION	
REVISED & APPRVD. FOR CONSTRUCTION	△

PROJECT NUMBER	CLIENT REFERENCE
18013	

HARRIS ENGINEERING CONSULTANTS, INC.
21484 County Road T.5
Fort Morgan, CO 80701
(970) 542-0423

JULESBURG IRRIGATION DISTRICT
315 CEDAR STREET, STE 150
JULESBURG, CO 80737

JULESBURG IRRIGATION DISTRICT

PETERSON DITCH DIVERSION STRUCTURE
SITE PLAN
SEDGWICK COUNTY, COLORADO

SCALE: 1" = 25' (D) | DRWG. NO.: 18018-50-2000 | SHEET 1 of 1 | REV. △C

S:\1 HEC PROJECTS\18013 JID PETERSON\AUTOCAD\18013 PETERSON STRUCTURE V5.DWG, 1/15/2019 11:19:30 AM, ADOBE PDF

Loan Feasibility Study

Feasibility Study for the Julesburg Irrigation District Petersen Ditch Diversion Structure Replacement Project Division 1 Water District 64 Structure ID 504 Sedgwick County, Colorado

Sponsored by the
Julesburg Irrigation District
In Conjunction with the
Colorado Water Conservation Board

Prepared by
Gauthiere Engineering, Inc.
2157 Buena Vista Drive
Greeley, Colorado

March 30, 2018

Certificate of Engineer

I, John G. Gauthiere, P.E., a Registered Professional Engineer in the State of Colorado, hereby certify that the information presented in this Feasibility Study for the Julesburg Irrigation District Petersen Ditch Diversion Structure Replacement Project was prepared by me or was prepared under my direct supervision for the owners thereof.

Gauthiere Engineering, Inc.

John D. Gauthiere March 30, 2018

John G. Gauthiere, P.E.
Colorado P.E. No. 22136

Table of Contents

Introduction ……..... 7

Project Sponsor..... 7

Project Service Area and Facilities..... 12

Hydrology and Water Rights..... 13

Project Description and Alternatives..... 13

Selected Alternative..... 14

Cost Estimate..... 15

Implementation Schedule..... 16

Permitting..... 16

Institutional Considerations..... 16

Financial Analysis..... 17

Credit Worthiness..... 17

Alternative Financing Considerations..... 18

Collateral.....……..... 18

Economic Analysis..... 18

Social and Physical Impacts..... 19

Conclusions..... 19

List of Appendices

Appendix A:	District Formation Record
Appendix B:	Water Rights Summary
Appendix C:	Financial Statements and Budgets
Appendix D:	CWCB Loan Application
Appendix E:	Loan Amortization Schedule
Appendix F:	HEC-RAS Hydraulic Model Exhibits
Appendix G:	Replacement Structure Details

Julesburg Irrigation District

Mr. Robert McClary, President
Mr. Mike McKinley, JID Member
Mr. Ricky Ornelas, JID Member
315 Cedar Street, Suite 150
Julesburg, Colorado 80737

Attorney for the Julesburg Irrigation District

Dan Brown
Fischer Brown and Bartle & Gunn, P.C.
1319 E Prospect Rd
Fort Collins, Colorado 80525
970 407-9000

Engineering and Technical Support

John G. Gauthiere, P.E.
Gauthiere Engineering, Inc.
2157 Buena Vista Drive
Greeley, Colorado 80634
970 330 0855

Acknowledgements

Gauthiere Engineering, Inc. would like to thank the Julesburg Irrigation District for the valuable assistance during the preparation of this report. Special thanks are offered to the following individuals of the company and other organizations:

Mr. Robert McClary, President
Mr. Mike McKinley, JID Member
Mr. Ricky Ornelas, JID Member
Mr. Larry Frame, Superintendent
Ms. Pamela Ornelas, Office Manager
Mr. Jonathan Hernandez, Colorado Water Conservation Board
Ms. Anna Maus, P.E., Colorado Water Conservation Board
Mr. Alan Krier, Concrete Specialties

Introduction and Need for Project

The Julesburg Irrigation District (JID), located in Logan County and Sedgwick County, Colorado operates the Petersen Ditch and Diversion Structure as well as other ditches and reservoirs for the benefit of the shareholders by providing direct flow irrigation water. The river check dam structure diverts water from the South Platte River, approximately 1.38 miles west of the Town of Sedgwick (See Location Map Figure 1). Water deliveries to the shareholders are made through the Petersen Ditch to an 8,925-acre service area.

The existing river diversion structure was built in 1956 out of wood and concrete. The existing concrete is eroded and needs replacement. The wooden check board diversion structure is difficult to operate and requires personnel to enter the river during flowing conditions to adjust flow thus creating a potentially dangerous condition for operations personnel.

The existing structure was built to operate during the normal irrigation season. In the last several years winter season operation has become necessary to satisfy winter augmentation flow requirements. Adjusting the existing river diversion structure during the winter is not practical or safe.

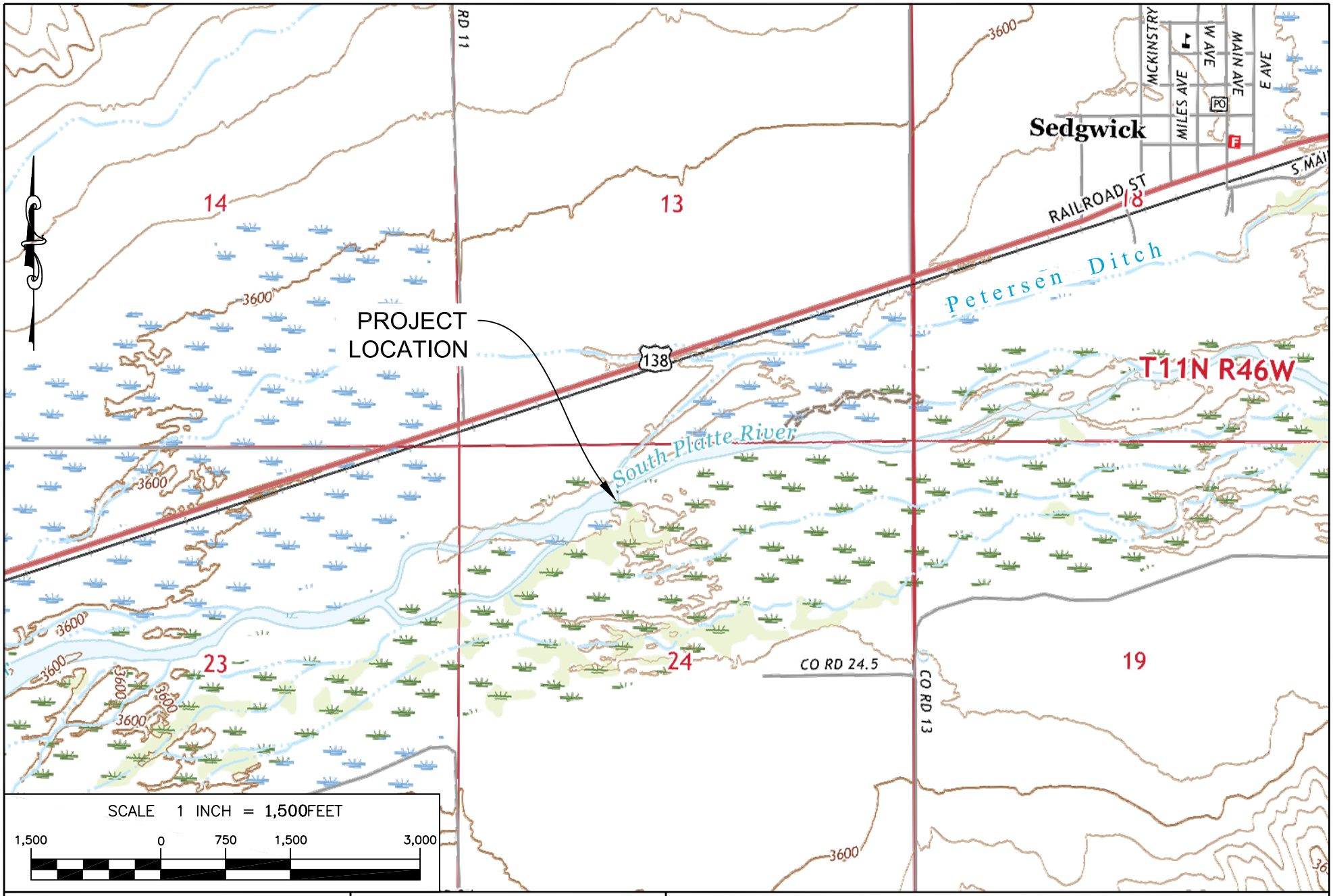
In addition to the expenses and difficulties in maintaining and operating the structure, which is nearing the end of its useful life, the existing design of the diversion dam promotes the accumulation of sand on the upstream side of the dam. This buildup of sand causes diversion problems and maintenance problems within the canal system. Replacement of the existing diversion dam provides the opportunity to utilize an improved design which would greatly alleviate the sand accumulation problem as well as greatly improve the safety and operability of the diversion structure and ditch gate.

The Julesburg Irrigation District wants to completely rebuild the diversion dam and ditch head gate during the 2018-2019 winter months prior to the 2019 irrigation season.

Project Sponsor

Julesburg Irrigation District(JID) is a special district in the State of Colorado governed by an elected three-member board. The Julesburg Irrigation District was organized in July of 1904 and contains 19,129 bonded acres (or shares) of excellent irrigated lands. There are 110 shareholders. Julesburg Irrigation District has the power to set annual assessments to be paid by the shareholders, the power to cut off water deliveries to shareholders that fail to pay their assessments, and the power to offer shares for sale to pay back assessments. The Julesburg Irrigation District operates under the Irrigation District Law of 1905 statute (CRS – Title 37 Article 41).

The District's Petersen diversion dam and ditch head gate facilities are located just south west of the Town of Sedgwick on the north side of the South Platte River (see Project Location Map Figure 1). The facilities to be replaced include a rollover type



GAUTHIERE ENGINEERING, INC. 2157 Buena Vista Drive Greeley, Colorado 80634 Phone: (970) 330-0855 E-mail: john@gauthiere-engineering.com	Scale: 1" =1,500'	JULESBURG IRRIGATION DISTRICT PETERSEN DITCH DIVERSION REPLACEMENT PROJECT NW $\frac{1}{4}$ OF THE NE $\frac{1}{4}$ OF THE NW $\frac{1}{4}$ SEC 24 T 11N R47 W OF THE 6TH PM
	Drawn By: JGG	
	File: JID	Date: JAN. 25, 2018 — FIGURE 1 - LOCATION MAP

diversion dam and head gate on the South Platte River located near the NW 1/4 of the NE 1/4 of the NW 1/4 SEC 24 T 11N R47 West of the Sixth Principal Meridian, Sedgwick County, Colorado (See Photographs of Existing Structures below:

PHOTO 1 – UPSTREAM VIEW OFEXISTING 320-FOOT DIVERSION DAM

PHOTO 2 – DOWNSTREAM VIEW OF 320-FOOT DIVERSION DAM

PHOTO 3 - RIGHT (SOUTH) ABUTMENT BLOWOUT

PHOTO 4 – DIVERSION STRUCTURE DETERIORATED CONCRETE

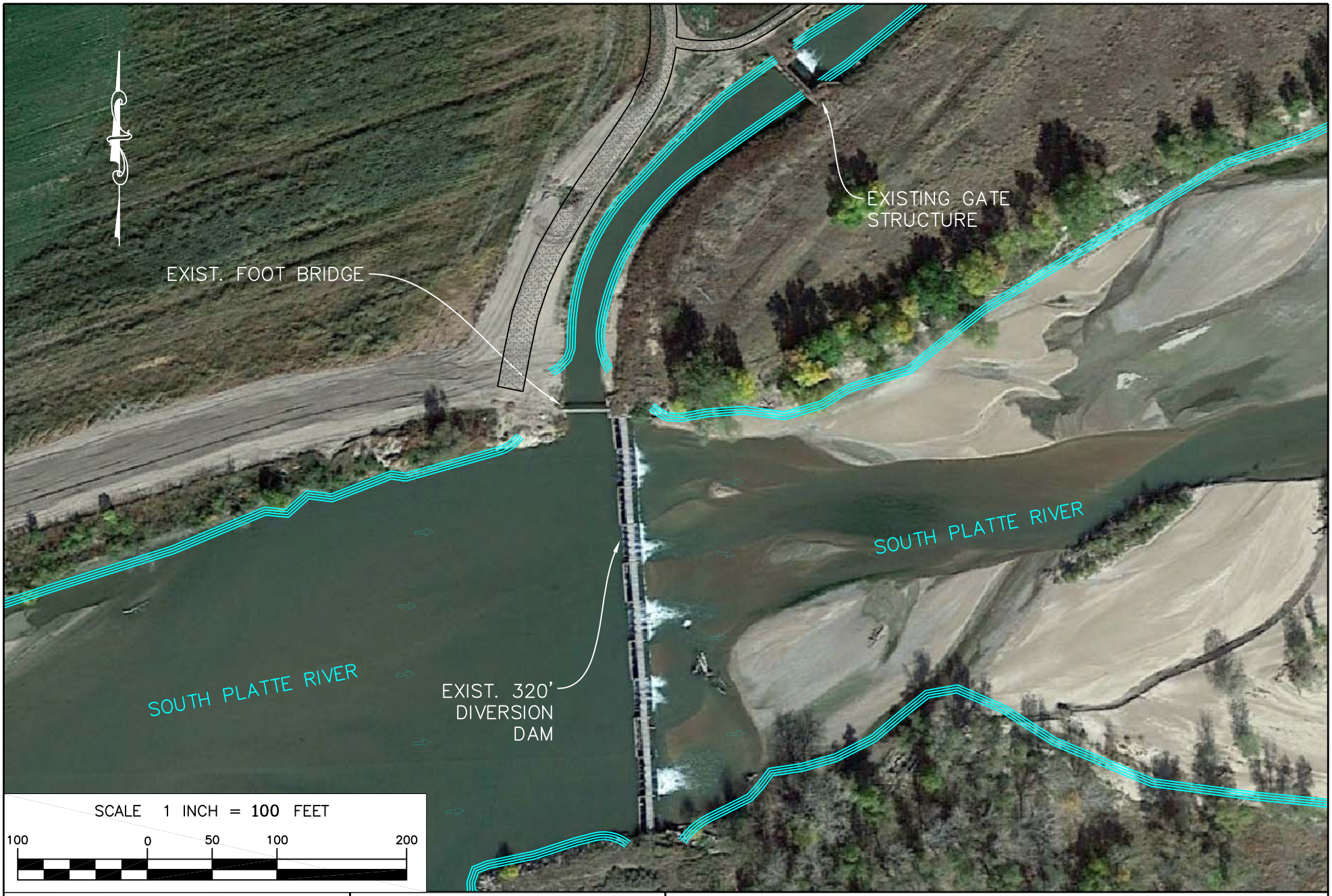
PHOTO 5 – DIVERSION STRUCTURE DURING WINTER OPERATIONS (CHECK BOARD REMOVED

PHOTO 6 DITCH GATE STRUCTURE DURING WINTER OPERATIONS

Project Service Area and Facilities

The District service area is comprised of approximately 19,129 acres located in northeastern Colorado in Logan County, Sedgwick County, Colorado, and southern Deuel County, Nebraska. The District's diversions from the South Platte River through the Petersen Ditch are normally 164 cubic feet per second from the South Platte River[1] providing water to 8,925.64 acres. Absolute water diversion rights associated with the Petersen Ditch owned by the District total 347.39 cubic feet per second. The diversion of water is accomplished with a concrete diversion dam across the South Platte and a canal regulating head gate structure. The diversion dam is approximately 320 feet wide and the head gate structure is approximately 30 feet wide (See Figure 2 Plan View of Existing Structure). The existing diversion structure was originally built in 1956. The diverted water is delivered to the shareholders through approximately 27.5 miles of canal. The water is typically used to irrigate corn, alfalfa, beans, sugar beets and wheat. The Petersen Ditch delivers irrigation water to 8,925.64 acres within the Julesburg Irrigation District. JID owns 80% of the Petersen Rights leaving 20% held by landowners both in Colorado and

[1] Estimated diversions are based on review of the State of Colorado's HydroBase data and conversations with Mr. Larry Frame, JID Superintendent



GAUTHIERE ENGINEERING, INC.
2157 Buena Vista Drive Greeley,
Colorado 80634 Phone: (970) 330-0855
E-mail: john@gauthiere-engineering.com

Scale: 1" =100'

Drawn By: JGG

File: JID

JULESBURG IRRIGATION DISTRICT
EXISTING PETERSEN DITCH DIVERSION STRUCTIES

Date: JAN. 25, 2018

FIGURE 2 - PLAN VIEW

Nebraska. No JID water is delivered to Nebraska. JID manages and maintains the Petersen Ditch as the majority owner.

Hydrology and Water Rights

A review of the HydroBase files for the Petersen Ditch (Structure ID Number 504) indicates that the water rights associated with this structure are as shown in Table 1 below:

Table 1

Appropriation Date	Absolute CFS	Conditional CFS	Alternate Point Exchange CFS
1895-03-01	164.00	0	0
926-10-01	50.00	0	0
1989-05-02	35.00	30.00	0
1995-12-29	34.50	55.50	0
1998-06-30	0	184.00	0
2002-12-31	0	0	116.00
2003-04-30	29.39	80.61	30.00
2003-12-31	34.50	55.50	0
2006-01-26	0	0	90
Totals	347.39	405.61	236

(See Appendix B for the Structure Summary Report for a listing of all water rights data). The Julesburg Irrigation District Shareholders also have numerous other decrees relating to recharge, augmentation and storage water in Julesburg Reservoir and the Harmony Ditches.

The annual average diversion over the last four years for the Julesburg Irrigation District amounts to 54,421 acre-feet per year of which 10,647 acre-feet per year is diverted at the Petersen Diversion. This average is based on State of Colorado's HydroBase data for the years 1950 through 2012 (See Appendix B)

Considering the Company's available diversion rights, hydraulic design of the new structure will be based on a diversion capacity of not less than 400 cubic feet per second.

Project Description and Alternatives

The purpose of this project is to provide a means for the Julesburg Irrigation District to continue providing irrigation water to shareholders while minimizing the occurrence of future failures of their diversion structure. Three alternatives were considered:

1. The no-action alternative.

2. Alternate 2 involves the reconstruction of the river diversion dam using 320 feet of concrete weir with board slots. The canal head gate would be reconstructed with a new concrete structure and 30 feet of 3-foot high bladder gate. The estimated cost of this alternative is $ 2,700,000.

3. Alternate 3 involves the reconstruction of the river diversion dam using 100 feet of 5-foot high pneumatically actuated stainless-steel bladder gate and 220 feet of concrete weir. The pneumatically actuated gate would be installed on a monolithic reinforced concrete slab, which is founded on piling with seepage cutoff provided by steel sheet piling. The canal head gate would be reconstructed with a new concrete structure and a 30-foot wide by 3-foot high pneumatically actuated stainless-steel bladder gate. (See Figures 3 & 4.)

   The new ditch head gate structure will be equipped with a gated bypass that can be used during winter ice conditions. The design of the bypass will also consider the eventual opportunity to equip the conduit with low head hydroelectric equipment.

4. The estimated cost of this alternative is $**$3,308,250**. Preliminary details of the replacement structures are shown in Appendix G.

Alternative No. 1 was considered unacceptable because the existing diversion dam is at the end of its useful life and is no longer dependable nor is it reliably repairable. The Julesburg Irrigation District will be unable to fully divert water into the Petersen canal if the diversion dam is not replaced. This would amount to a loss of an average of 10,647 acre-feet and potentially up to 29,000 acre-feet of irrigation water per year, resulting in a major loss of crops under the JID system. The per acre value of the farm ground in the JID system could drop significantly. This alternative is not acceptable to The Julesburg Irrigation District.

Alternative No. 2 was ruled out because it does not provide the ease, efficiency and safety of operation that Alternate 3 does. This alternative does nothing to address the large accumulation of sand upstream of the dam and associated canal maintenance issues nor the operational difficulties experienced satisfying the winter augmentation demand.

Alternative No. 3 was selected, since it is considered to be the most reliable approach to efficient and safe diversion of water. An additional feature of this alternate is improved fish passage. The selected alternative involves construction of 320 feet of diversion dam composed of 100 feet of 5-foot high pneumatically actuated bladder gate and 220 feet of concrete weir. This combination weir structure will be installed on a monolithic steel reinforced concrete slab in the riverbed and have wing walls of steel reinforced concrete. Stability will be provided by a pile foundation and steel sheet piling will provide seepage cutoff and protection from erosion. The canal head gate would be replaced with a new concrete structure and 30 feet of 3-foot high pneumatically actuated bladder gate. A conceptual plan showing critical elevations is shown on Figure 3 & 4 and critical elevations to produce required flows were

determined using HEC-RAS. Excerpts from the HEC-RAS analysis and modeling are included in Appendix F. The estimated cost of the completed project is **$3,308,250**. The cost breakdown is summarized in Table 2 below:

TABLE 2

Item	Description	Qty.	Unit	Unit Price $	Amount $
1	Mobilization and Demobilization	1	LS	$70,000	$70,000
2	Control of Water & De-watering	1	LS	147,000	147,000
3	Demolition & Process Existing Concrete for Reuse as Riprap	550	CY	30	16,500
4	Excavation	2,250	CY	6	13,500
5	Structural Fill	2,500	CY	15	37,500
6	Low Flow Bypass and Gate	1	LS	45,000	45,000
7	Steel Sheet Piling	29,700	SF	19	564,300
8	Pipe Piling 8” OD	5,075	LF	35	177,625
9	Furnish Obermeyer Bladder Gate 100’ by 5’ Stainless Steel Complete with all Equipment, Embeds, Piping and Hardware	1	LS	360,390	360,390
10	Installation of Item #9	1	LS	45,000	45,000
11	Furnish Obermeyer Bladder Gate 30’ by 3’ Stainless Steel Complete with all Equipment, Embeds, Piping and Hardware	1	LS	79,110	79,110
12	Installation of Item #11	1	LS	25,000	25,000
13	Control Building 15’ by 15’	1	LS	60,000	60,000
14	Cast in Place Concrete	1,152	CY	850	979,200
15	New Electric Service Underground Electric Service from Meter Drop West of Diversion to Gate Control House (based on 900' of 1 awg copper in conduit with pull boxes to provide complete 480v 3Ph Service)	1	LS	75,000	75,000
16	Pedestrian Bridge and Upper Gate Seal Beam	1	LS	30,000	30,000
17	Erosion Control BMP	1	LS	3,000	3,000
18	Gravel Surfacing - Service Roads	1	LS	2,000	2,000
19	Concrete Washout Structure	1	LS	500	500
20	Final Cleanup and Restoration	1	LS	5,000	5,000
21	Hand Rail	250	LF	85	21,250
	Subtotal Estimated Construction Cost				**$2,756,875**
	Contingency @ 10%				**275,688**
	Total Estimated Construction Cost				**$3,032,563**
	Planning, Design and Legal @ 5%				137,844
	Project Management and Administration @ 5%				137,844
	Total Estimated Project Cost				**$3,308,250**

Implementation Schedule

The proposed implementation schedule anticipates a completed project by mid-March of 2019. The milestone dates are shown below.

Item	Date Completed
Feasibility Study Submitted to CWCB	April 1, 2018
Preliminary Design	April 30, 2018
Feasibility Study Review and Approval by CWCB	May 15, 2018
Order Gates and Sheet Piling (long lead time items)	May 15, 2018
Complete Final Design	June 30, 2018
State Reviews and Approvals	July 30, 2018
Biding and Contract Award	August 20, 2018
Notice to Proceed with Construction	September 10, 2018
Begin Construction September	September 15, 2018
Construction Complete	March 15, 2018

Permitting

An easement will need to be acquired for the electric service. All other easements and rights of way have been arranged for.
The Company expects to be exempt from 404 permitting by Statutory Exemption, 33 CFR Section 323.4 (a) 3.

Institutional Considerations

The Julesburg Irrigation District needs authorization to borrow 100 percent of the total estimated project cost of **$3,308,250** from the Colorado Water Conservation Board Construction Fund. The loan, if approved, from the CWCB will be contingent upon the successful negotiation of a contract between the CWCB and the JID. Any other costs of the project will be funded through assessment of the shareholders. Bidding and agreements with contractors will be finalized upon authorization of the CWCB Loan.

Financial Analysis

The District qualifies for the agricultural interest rate of 1.70% for a 30-year term. Table 3 provides a summary of the Project's financial aspects:

Table 3 Financial Summary

Project Cost	$3,308,250
Loan Amount (100% of Project Cost)	$3,308,250
CWCB Loan Payment amount, including 1% Service Fee	$3,341,333
New CWCB Loan Debt Service	$143,107
Number of Shareholders	110
Number of Shares of Stock or Bonded Acres	19,129
Current Assessment per Share	$23.50
Future Assessment per Share	$30.98
Annual Project Cost per acre-foot (Average annual District Diversions: 54,421 acre-feet.)	$2.63

All other funding for the project will be provided by JID. Operating and maintenance costs are expected to decrease with the new diversion structure, and can be accommodated by the JID's budget.

Credit Worthiness

The Julesburg Irrigation District has four existing loans with the CWCB, all in good standing:

Lender	Project	Original Balance	Current Balance	Annual Payment	Maturity Date	Collateral
CWCB C153827	Outlet Reconstruction	$510,469	$290,385.57	$28,631	2031	Assessment Covenant/Property
CWCB C150060A	Inlet Reconstruction	$100,000	$62,621.76	$5,437	2032	Assessment Covenant/Property
CWCB C153604	Lodgepole Petersen Structure	$372,951	$221,444.51	$20,278	2031	Assessment Covenant/Property
CWCB 90665	Reconstruction of the Harmony No 1 Measurement Structure	$203,616	$198,356.75	$8,720.72	2047	Assessment Covenant/Property
Totals		$1,187,036.00	$772,808.59	$63,066.72		

Table 4 shows the Financial Ratios for the Julesburg Irrigation District and indicates average to strong ability to repay with the project in place.

Table 4 Financial Ratios

Financial Ratio	Without the Project	With the Project & Assessment Increase
Operating Ratio (Rev/Exp.) (weak: <100%) (average: 100% - 120%) (strong: >120%)	92%	100%
Cash Reserves to Current Expense (weak: <50%) (average: 50% - 100%) (strong: >100%)	100%	100%
Annual Cost per acre-foot	$8.26	$10.89

Based on the 2017 financial statement, JID had cash reserves of $736,651 in excess of cash expenses. However, to fund the project debt service, JID will have to adjust their assessments from the current rate of $23.50 per share to $30.98 per share by 2019 if no other funding sources are found. Three years of financial statements are appended to this report.

Alternative Financing Considerations

No alternative financing options have been secured as of the date of this study.

Collateral

The JID can offer the following collateral for the CWCB loan.

1. The JID can offer as collateral, the project itself, if approved by a vote of the shareholders.

2. The JID can offer as collateral, a pledge of assessment revenues.

Economic Analysis

Although shareholders in JID will be impacted with increased assessments for construction and loan repayment, the project will have a long-term positive economic impact by assuring continued diversions into JID system.

If the diversion is not replaced with a dependable alternative a critical component to the value of nearly 8,925 acres will be lost.

Social and Physical Impacts

The project will have no significant social impacts.

Although shareholders in the Julesburg Irrigation District will be impacted with increased assessments for construction and loan repayment, the project will have a long-term positive economic impact by assuring continued diversion into the Petersen Ditch.

The project will have no significant physical impacts once construction is complete. The new diversion structures will occupy the same area as the existing structures.

Conclusions

1. The Julesburg Irrigation District is a Special District in the State of Colorado with the ability to enter into a contract with the CWCB for the purpose of obtaining a Construction Fund loan.

2. Rights-of Way easements are adequate for the construction of this diversion replacement project, however, an easement for the electric service will be needed prior to construction.

3. The project would provide for the continued delivery of irrigation water to shareholders.

4. The total estimated cost of the project is $3,308,250 and this will be funded, by an adjustment of the District's assessment. The Julesburg Irrigation District is applying for a $3,308,250 loan from the CWCB Construction Fund to cover 100% of the project cost.

5. The project is technically and financially feasible.

The selected alternative is technically and financially feasible. There are no known issues that would prevent the Julesburg Irrigation District from successfully completing this project.

Appendix A
District Formation Record

J U L E S B U R G , Monday, June 6, 1904.

PROCEEDINGS BEFORE THE BOARD OF COUNTY COMMISSIONERS OF THE COUNTY OF SEDGWICK AND STATE OF COLORADO.

The board of county commissioners of the county of Sedgwick and state of Colorado met in special session this sixth day of June, A.D.1904, pursuant to call duly made.

Present: C. W. White, chairman; P. B. Upson; John Hiatt, commissioners; C. H. McNew, clerk; W. H. Pound, county attorney.

The board was called to order by chairman White and the object of the metting stated to be the consideration of the matter of the formation of an irrigation district within the county of Sedgwick and state of Colorado.

Messrs. W. E. Vaughan, John L. Elhart and Albert E. Pfau, as a committee representing the petitioners for the formation of an irrigation district of a part of the county of Sedgwick and state of Colorado appeared before the board in person and by their attorney, James W. McCreery, Esq., and presented a petition together with the notice of the publication of the hearing thereof praying that an irrigation district be formed as in said petition set forth; and also presented a bond in the sum of $225 to provide for the payment of the expenses of the said proceeding signed by the persons constituting said committee and by others as provided by law.

That said notice and petition are in words and figures as follows:

"NOTICE OF PETITION.

Julesburg, Colorado, May 2,1904.

"TO WHOM IT MAY CONCERN:

Appendix B
Water Rights Summary

Structure Summary Report

Structure Name: PETERSON DITCH **Water District:** 64 **Structure ID Number:** 504

Source: South Platte River

Location:	Q10	Q40	Q160	Section	Twnshp	Range	PM
	NW	NE	NW	24	11N	47W	S

Distance From Section Lines: From N/S Line: From E/W Line:

UTM Coordinates (NAD 83): Northing (UTM y): 4533170 Easting (UTM x): 706360 Spotted from PLSS distances from section lines

Latitude/Longitude (decimal degrees): 40.923618 -102.549234

Water Rights Summary:						
Total Decreed Rate(s) (CFS):	Absolute: 347.3900	Conditional: 405.6100	AP/EX: 0.0000
Total Decreed Volume(s) (AF):	Absolute: 0.0000	Conditional: 0.0000	AP/EX: 0.0000

Water Rights -- Transactions

Case Number	Adjudication Date	Appropriation Date	Administration Number	Order Number	Priority Number	Decreed Amount	Adjudication Type	Uses	Action Comment
CA0944	1907-10-26	1895-03-01	17846.16496	0		164.0000 C	S	1	205A-I COURT RECORD ASP B25124 JULESBURG
91CW0121	1911-01-05	1897-10-11	17846.17451	0		350.0000 C	S,AB	1	ABAN 01/06/1997
CA0944	1911-01-05	1897-10-11	17846.17451	0		350.0000 C	S	1	231, 205A-I COURT RECORD ASP B25124 JULESBURG
W7161	1972-12-31	1926-10-01	44559.28032	0		50.0000 C	S	4	GREAT WESTERN SUGAR
90CW0182	1990-12-31	1989-05-02	51134.50891	0		40.0000 C	S,C	12348AR	LOWER SO PLATTE RECHARGE PROJECT
90CW0182	1990-12-31	1989-05-02	51134.50891	0		25.0000 C	S	AR	LOWER SO PLATTE RECHARGE PROJECT
97CW0385	1990-12-31	1989-05-02	51134.50891	0		10.0000 C	S,CA	12348AR	MADE ABS 02/24/1999
15CW3155	1998-12-31	1995-12-29	54056.53323	0		34.5000 C	S,CA	R	MADE ABSOLUTE
95CW0283	1998-12-31	1995-12-29	54056.53323	0		90.0000 C	S,C	R	
98CW0295	1998-12-31	1998-06-30	54237.00000	0		184.0000 C	S,C	0	STORAGE IN OVID RES
02CW0320	2002-12-31	2002-12-31	55882.00000	0		116.0000 C	O,C,EX	12379RW	EXCH FM LOWER SOUTH PLATTE AUG REACH
03CW0209	2003-12-31	2003-04-30	56002.00000	0		87.8000 C	S,C	AR	
03CW0209	2003-12-31	2003-04-30	56002.00000	0		22.2000 C	S	AR	
03CW0209	2003-12-31	2003-04-30	56002.00000	0		30.0000 C	S,C,EX	12379AR	EXCH OF EXCESS REP WTR
11CW0245	2003-12-31	2003-04-30	56002.00000	0		7.1900 C	S,CA	AR	MADE ABSOLUTE
03CW0450	2003-12-31	2003-12-31	56247.00000	0		90.0000 C	S,C	R	
15CW3155	2003-12-31	2003-12-31	56247.00000	0		34.5000 C	S,CA	R	MADE ABSOLUTE
03CW0450	2006-12-31	2006-01-26	57004.00000	0		30.0000 C	S,C,EX	RW	EXCH FM JID IMPACT REACH 2
03CW0450	2006-12-31	2006-01-26	57004.00000	0		30.0000 C	S,C,EX	RW	EXCH FM JID IMPACT REACH 3
03CW0450	2006-12-31	2006-01-26	57004.00000	0		30.0000 C	S,C,EX	RW	EXCH FM JID IMPACT REACH 4

Water Rights -- Net Amounts

Adjudication Date	Appropriation Date	Administration Number	Order Number	Priority/Case Number	Rate (CFS)			Volume (Acre-Feet)		
					Absolute	Conditional	AP/EX	Absolute	Conditional	AP/EX
1907-10-26	1895-03-01	17846.16496	0	CA0944	164.0000	0	0			
1972-12-31	1926-10-01	44559.28032	0	W7161	50.0000	0	0			
1990-12-31	1989-05-02	51134.50891	0	97CW0385	35.0000	30.0000	0			
1998-12-31	1995-12-29	54056.53323	0	15CW3155	34.5000	55.5000	0			
1998-12-31	1998-06-30	54237.00000	0	98CW0295	0	184.0000	0			
2002-12-31	2002-12-31	55882.00000	0	02CW0320	0	0	116.0000			
2003-12-31	2003-04-30	56002.00000	0	11CW0245	29.3900	80.6100	30.0000			
2003-12-31	2003-12-31	56247.00000	0	15CW3155	34.5000	55.5000	0			
2006-12-31	2006-01-26	57004.00000	0	03CW0450	0	0	90.0000			

Irrigated Acres Summary -- Totals From Various Sources

GIS Total (Acres):	6784.063	Reported:	2010
Diversion Comments Total (Acres):	8648	Reported:	2007
Structure Total (Acres):		Reported:	

Irrigated Acres From GIS Data

Year	Land Use	Acres Flood	Acres Furrow	Acres Sprinkler	Acres Drip	Acres Groundwater	Acres Total
1956	***Year Total***	7004.35	0	0	0	4649.22	7004.35
1956	ALFALFA	718.29	0	0	0	441.40	718.29
1956	CORN	3449.37	0	0	0	2295.01	3449.37
1956	DRY_BEANS	298.85	0	0	0	140.62	298.85
1956	GRASS_PASTURE	330.40	0	0	0	157.87	330.40
1956	SMALL_GRAINS	19.60	0	0	0	0	19.60
1956	SUGAR_BEETS	2187.84	0	0	0	1614.32	2187.84
1976	***Year Total***	6660.82	0	181.83	0	5966.16	6842.65
1976	ALFALFA	717.13	0	0	0	578.53	717.13
1976	CORN	3328.83	0	48.51	0	3044.94	3377.34
1976	DRY_BEANS	217.79	0	0	0	178.50	217.79
1976	GRASS_PASTURE	322.96	0	0	0	160.55	322.96
1976	SMALL_GRAINS	19.60	0	0	0	19.60	19.60
1976	SUGAR_BEETS	2054.50	0	133.33	0	1984.04	2187.82
1987	***Year Total***	6447.09	0	112.11	0	5715.80	6559.20
1987	ALFALFA	64.62	0	0	0	28.44	64.62
1987	CORN	4575.15	0	112.11	0	4149.74	4687.26
1987	DRY_BEANS	1074.60	0	0	0	1000.81	1074.60
1987	GRASS_PASTURE	262.85	0	0	0	168.47	262.85
1987	SMALL_GRAINS	334.58	0	0	0	247.33	334.58
1987	SUGAR_BEETS	135.29	0	0	0	121.02	135.29
1997	***Year Total***	6523.95	0	142.51	0	5903.10	6666.46
1997	ALFALFA	160.12	0	0	0	133.88	160.12
1997	CORN	5981.32	0	142.51	0	5510.31	6123.83
1997	DRY_BEANS	58.09	0	0	0	0	58.09
1997	GRASS_PASTURE	279.26	0	0	0	222.46	279.26
1997	SUGAR_BEETS	45.16	0	0	0	36.46	45.16
2001	***Year Total***	6223.55	0	253.75	0	5810.17	6477.30
2001	ALFALFA	288.51	0	0	0	221.39	288.51
2001	CORN	5398.01	0	253.75	0	5192.39	5651.77
2001	DRY_BEANS	458.18	0	0	0	317.55	458.18
2001	SMALL_GRAINS	62.50	0	0	0	62.50	62.50
2001	SUGAR_BEETS	16.35	0	0	0	16.35	16.35
2005	***Year Total***	5092.59	0	1322.43	0	5289.16	6415.02
2005	ALFALFA	353.37	0	0	0	151.05	353.37
2005	CORN	3866.03	0	1192.90	0	4358.78	5058.92
2005	DRY_BEANS	405.27	0	64.04	0	287.93	469.31
2005	SMALL_GRAINS	373.00	0	0	0	330.98	373.00
2005	SUGAR_BEETS	94.92	0	65.50	0	160.42	160.42
2010	***Year Total***	3870.13	0	2913.93	0	5771.92	6784.06
2010	ALFALFA	119.03	0	73.69	0	141.79	192.72
2010	CORN	3047.42	0	2544.75	0	5011.30	5592.17
2010	GRASS_PASTURE	432.05	0	0	0	139.71	432.05
2010	WHEAT_FALL	271.63	0	295.49	0	479.12	567.12

Diversion Summary in Acre-Feet - Total Water Through Structure

Year	FDU	LDU	DWC	Maxq & Day	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Total
1950	1950-03-17	1950-10-07	179	103 06-22	0	0	0	0	1022	1922	2614	2787	2079	1500	2458	347	14727
1951	1950-11-07	1951-10-13	128	95 08-08	149	0	0	0	766	1519	496	0	895	3366	841	764	8795
1952	1952-05-02	1952-10-04	135	103 06-15	0	0	0	0	0	0	722	3243	1855	2045	2021	167	10052
1953	1953-04-22	1953-10-10	172	88 08-04	0	0	0	0	0	625	1712	1494	1795	2142	990	292	9049
1954	1954-04-07	1954-10-30	123	31 05-06	0	0	0	0	0	906	1230	397	0	0	319	702	3554
1955	1954-11-07	1955-10-31	143	36 04-18	415	0	0	0	270	1418	601	1093	387	0	0	952	5135
1956	1955-11-01	1956-10-31	136	81 08-05	248	0	0	0	278	1006	278	571	329	1196	0	599	4505
1957	1956-11-01	1957-10-05	154	95 07-30	173	0	0	99	692	504	760	1299	3080	3299	2344	117	12367
1958	1958-05-04	1958-09-26	110	74 07-31	0	0	0	0	0	0	789	1204	1496	1837	1194	0	6520
1959	1959-04-22	1959-10-03	127	47 06-15	0	0	0	0	0	575	1222	1583	797	248	448	65	4939
1960	1960-04-17	1960-10-15	107	48 07-06	0	0	0	0	0	902	1271	980	803	32	56	545	4590
1961	1961-04-28	1961-09-09	72	100 06-30	0	0	0	0	0	139	430	883	1837	1751	664	0	5705
1962	1962-04-24	1962-09-29	108	80 07-24	0	0	0	0	0	488	607	307	2531	1845	2269	0	8047
1963	1963-04-20	1963-10-10	115	42 05-05	0	0	0	0	0	672	994	458	12	313	746	284	3479
1964	1964-05-12	1964-10-31	41	30 06-04	0	0	0	0	0	0	343	454	79	0	0	63	940
1965	1964-11-01	1965-09-17	81	70 08-03	258	0	0	0	0	484	34	42	0	2339	1142	0	4298
1966	1966-05-01	1966-09-27	105	26 09-27	0	0	0	0	0	0	742	506	149	530	627	0	2553
1967	1967-03-26	1967-10-14	153	42 07-15	0	0	0	0	200	1025	474	0	1460	1882	1682	833	7557
1968	1968-04-10	1968-10-05	124	48 06-24	0	0	0	0	0	849	462	1238	79	492	700	99	3919
1969	1969-04-15	1969-09-24	115	60 07-08	0	0	0	0	0	444	99	103	2850	1390	655	0	5542
1970	1970-05-09	1970-10-09	129	59 05-09	0	0	0	0	0	0	1285	222	2344	1248	744	357	6200
1971	1971-06-10	1971-10-22	89	30 07-08	0	0	0	0	0	0	0	480	1277	38	397	208	2400
1972	1972-04-03	1972-09-29	117	37 08-29	0	0	0	0	0	1051	738	706	0	244	421	0	3160
1973	1973-06-18	1973-09-21	90	76 07-19	0	0	0	0	0	0	0	224	3749	2624	641	0	7238
1974	1974-04-29	1974-10-15	98	110 05-10	0	0	0	0	0	167	3666	1585	16	0	1267	278	6978
1975	1975-05-01	1975-08-25	75	70 05-13	0	0	0	0	0	0	2208	496	2398	538	0	0	5639
1976	1976-04-05	1976-09-27	57	28 06-15	0	0	0	0	0	109	373	549	0	0	109	0	1141
1977	1977-05-12	1977-09-27	102	50 07-30	0	0	0	0	0	0	807	1428	331	823	706	0	4096
1978	1978-04-08	1978-10-26	89	40 06-24	0	0	0	0	0	998	516	764	0	0	0	436	2713
1979	1979-04-23	1979-09-12	143	88 08-02	0	0	0	0	0	159	1216	1599	3412	4007	1603	0	11994
1980	1980-05-26	1980-10-31	152	94 07-02	0	0	0	0	0	0	428	2507	3658	1472	2598	1906	12569
1981	1980-11-01	1981-10-31	244	60 11-06	3451	2947	2521	1139	0	444	1434	1194	1443	1793	658	190	17215
1982	1981-11-01	1982-10-07	285	51 07-10	1904	1968	1230	754	0	377	1275	1200	1961	2113	1598	278	14657
1983	1983-06-01	1983-10-31	116	60 08-03	0	0	0	0	0	0	0	298	2525	3049	1573	1091	8535
1984	1983-11-01	1984-10-31	184	75 06-25	1031	0	0	0	0	0	387	1742	2467	3186	1765	1313	11891
1985	1984-11-01	1985-09-24	225	70 07-06	1309	1353	305	0	0	742	1367	2382	2356	2075	1486	0	13375
1986	1986-05-07	1986-09-30	147	88 07-08	0	0	0	0	0	0	1289	2339	4455	4151	2027	0	14261
1987	1987-04-28	1987-09-30	111	110 07-01	0	0	0	0	0	155	309	1755	4360	2932	1218	0	10730
1988	1988-05-10	1988-09-27	121	103 06-20	0	0	0	0	0	0	829	2482	3227	2355	2031	0	10924
1989	1989-04-28	1989-09-10	125	95 08-04	0	0	0	0	0	264	1930	2250	1802	2567	952	0	9764
1990	1990-05-14	1990-10-03	143	96 08-10	0	0	0	0	0	0	1166	1856	2086	3355	3566	119	12149
1991	1991-04-09	1991-10-07	143	75 08-14	0	0	0	0	0	257	1515	607	2599	2711	1765	278	9731
1992	1991-11-21	1992-10-31	226	85 07-12	201	180	1	64	335	68	1182	214	2993	2295	426	572	8532
1993	1993-05-12	1993-10-22	164	58	0	0	0	0	0	0	1163	2008	2510	2034	1331	835	9881
1994	1994-04-19	1994-10-31	191	42	0	0	0	0	0	323	817	1658	1118	912	587	786	6199
1995	1994-11-01	1995-10-16	185	101	181	0	0	0	0	76	503	301	3082	4228	2912	339	11623
1996	1996-02-23	1996-10-31	216	82 08-28	0	0	0	62	152	121	762	186	2122	2506	467	187	6565
1997	1996-11-01	1997-10-31	218	96 07-10	147	26	0	0	98	578	1341	181	2841	3574	2161	123	11070
1998	1997-11-01	1998-10-05	194	101 08-10	167	0	0	0	0	1485	1344	2039	3085	3550	974	34	12677
1999	1999-01-16	1999-10-15	263	88	0	0	157	262	232	571	1019	1153	3748	2214	1498	155	11010
2000	1999-11-23	2000-10-31	236	54 04-26	61	0	42	137	173	716	1486	1236	89	240	1117	1165	6462
2001	2000-11-01	2001-10-31	263	86	216	49	0	0	922	1842	2782	2438	3088	3006	2767	2765	19875
2002	2001-11-01	2002-10-31	258	65	1387	0	0	0	629	2361	1823	1407	2012	1695	900	1013	13225

2003	2002-11-01	2003-10-31	202	47	10-18	1833	1548	271	0	1559	390	995	1547	69	0	205	1688	10105
2004	2003-11-01	2004-10-31	283	79	10-15	1444	1056	0	443	1782	1470	968	1552	713	767	1320	1744	13258
2005	2004-12-01	2005-10-31	232	90	04-14	0	1095	0	714	1518	2281	2054	0	2169	1996	1807	1667	15303
2006	2005-11-01	2006-10-31	305	66	03-13	1930	717	2310	954	2926	2000	1728	867	0	221	1406	1867	16926
2007	2006-11-01	2007-10-31	291	71		1302	522	0	0	1568	1297	2293	2801	1896	2091	2225	2501	18497
2008	2007-11-01	2008-10-31	250	76		2925	1023	0	160	0	1502	1864	2086	0	2434	2295	3536	17824
2009	2008-11-01	2009-10-31	274	82	06-01	2938	0	0	465	2429	1549	3629	2376	2750	2523	2143	1648	22451
2010	2009-11-01	2010-10-31	339	69	03-29	2850	1259	988	241	2781	2940	2006	1416	2709	2948	3047	3048	26234
2011	2010-11-01	2011-10-31	298	76	08-09	2001	961	0	0	2838	3731	2912	1935	2487	3523	2704	2583	25674
2012	2011-11-01	2012-10-31	255	72	03-31	2269	28	0	0	2901	2970	2383	1691	624	184	686	1846	15582
2013	2012-11-01	2013-10-31	286	58	05-05	1563	545	0	468	1113	1519	1904	719	207	690	780	1958	11467
2014	2013-11-01	2014-10-31	343	84		3417	426	695	697	2382	4218	3129	2992	2817	3097	2217	2053	28139
2015	2014-11-01	2015-10-31	365	83	07-12	2123	1629	996	1782	3116	3486	2491	2470	2801	2903	2471	2750	29018
2016	2015-11-01	2016-10-31	366	61	05-03	2019	852	271	180	1470	2302	3255	2571	2067	1780	2464	2884	22115
		Minimum:	26			0	0	0	0	0	0	0	0	0	0	0	0	940
		Maximum:	110			3451	2947	2521	1782	3116	4218	3666	3243	4455	4228	3566	3536	29018
		Average:	71			596	271	146	129	510	866	1260	1271	1746	1775	1301	777	10647

67.00 years with diversion records

Notes: The average considers all years with diversion records, even if no water is diverted.
The above summary lists total monthly diversions.
* = Infrequent Diversion Record. All other values are derived from daily records.
Average values include infrequent data if infrequent data are the only data for the year.

Diversion Comments

IYR	NUC Code	Acres Irrigated	Comment
1950		8648	
1951		8648	
1952		8648	
1953		8648	
1954		8648	
1955		8640	
1956		8648	
1957		8648	
1958		8648	
1959		8648	
1960		8648	
1961		8648	
1962		8648	
1963		8648	
1964		8648	
1965		8648	
1966		8648	
1967		8648	
1968		8648	
1969		8648	
1970		8648	
1971		8648	
1972		8648	
1973		8648	
1974		8648	
1975		8648	
1976		8648	
1977		8648	
1978		8648	
1979		8648	
1980		8648	
1981		10003	
1982		8648	
1983		8448	
1984		8648	
1985		8648	
1986		8	
1987		8648	
1988		8648	
1989		8648	
1990		8648	
1991		8648	
1992	Water available, but not taken	8648	
1993	Water available, but not taken	8648	
1994		8648	
1995		8648	
1996		8648	
1997		8648	
1998		8648	
1999		8648	IRR
2000		8648	IRR

2001	8648	IRR
2002	8648	IRR
2003	8648	IRR
2004	8648	IRR
2005	8648	IRR
2006	8648	IRR
2007	8648	IRR

Note: Diversion comments and reservoir comments may be shown for a structure, if both are available.

Appendix C
Financial Statements and Budgets

JULESBURG IRRIGATION DISTRICT

TO: Division of Local Government
1313 Sherman Street, Room 521
Denver, CO 80203

Enclosed is the 2017 budget for the Julesburg Irrigation District, Colorado, submitted pursuant to Section 29-1-113, CRS. This budget was adopted on the 14th day of November, 2016. If there are any questions on the budget, please contact:

Pamela Ornelas, Secretary
Sedgwick County Court House
Julesburg, Colorado 80737
PHONE: 970) 474-3737

The levy for the 2017 water fees certified to the County is $23.50 per acre on 19,134.23 acres. The revenue subject to statutory limitations, is $449,655.

I hereby certify that the enclosed is a true and accurate copy of the budget.

SECRETARY

December 15, 2016

JULESBURG IRRIGATION DISTRICT

ADOPTED BUDGET

2017

JULESBURG IRRIGATION DISTRICT
BUDGET MESSAGE
2017 BUDGET

The Julesburg Irrigation District maintains an irrigation dam and irrigation canals and supplies irrigation water to area farmers. Some significant items included in the 2017 budget are as follows:

The District is operating as an enterprise upon the advice of legal council. Therefore, the District is not subject to Tabor limitations.

The fees for water for 2017 are set at $23.50 per acre on 19,134.23 acres of land within the District. The total amount of fees collectable is $449,655.

The Budget is prepared on the accrual basis of accounting.

Robert McClary
Director

Director

Director

JULESBURG IRRIGATION DISTRICT- JULESBURG, COLORADO
Budget Summary
Budget Year, 2017

	2015	2016		2017	
	ACTUAL	CURRENT TO DATE	YEAR ESTIMATED AMOUNT	BUDGET PROPOSED	YEAR APPROVED
EXPENDITURES					
General Government	109,166	83,477	110,323	125,114	125,114
System Maintenance	199,957	168,249	208,656	225,342	225,342
Other Operating Expenses	86,887	110,320	137,798	129,600	129,600
Capital Outlay	212,327	38,000	262,000	83,700	113,700
Debt Service	54,346	48,909	88,092	98,092	98,092
Total Expenditures	662,683	448,955	806,869	661,848	691,848
REVENUE OTHER THAN PROPERTY TAX					
Proceeds - Constrution Loan			203,616		
Proceeds- Capital Lease	124,841				
Water Assessments	10,043				
Petersen		11,044	11,044	11,044	11,044
Harmony		4,900	4,900	4,900	4,900
Interest on Investments	458	259	300	300	300
Refunds & Miscellaneous	31,655	25,684	26,000	26,000	26,000
Annual Lease Payment	53,895	54,623	54,623	54,623	54,623
Augmentation	91,027	91,027	91,027	91,027	91,027
Delinquennt and Interest on Taxes	301		300	300	300
Total Other Revenue	312,220	187,537	391,810	188,194	188,194
AMOUNT NECESSARY TO BE RAISED BY ACRE FT ASSESSEMENT	449,528	443,845	449,655	449,655	449,655
BEGINNING BALANCE	602,990	702,055	702,055	736,651	736,651
Total Available	1,364,738	1,333,437	1,543,520	1,374,500	1,374,500
ENDING BALANCE	702,055	884,482	736,651	712,652	682,652

JULESBURG IRRIGATION DISTRICT - JULESBURG, COLORADO
Expenditures
Budget Year, 2017

Schedule A	2015 ACTUAL	2016 CURRENT Sept. 30	2016 YEAR ESTIMATED AMOUNT	2017 BUDGET PROPOSED	2017 YEAR APPROVED
GENERAL GOVERNMENT					
Superintendent Salary	48,559	37,512	50,003	51,516	51,516
Directors' Fees	1,320	1,080	1,440	1,600	1,600
Attorney	3,641	600	1,000	10,000	10,000
General Expenses					
Office Supplies/Expense	2,952	2,335	3,113	4,000	4,000
Utilities and Phone	12,124	7,551	10,065	12,000	12,000
Rentals	1,560	3,453	4,383	3,000	3,000
Payroll Taxes	5,597	4,188	5,583	5,760	5,760
Secretary's Salary	22,366	17,278	23,032	23,728	23,728
Worker's Comp Ins	3,710	2,727	3,635	5,500	5,500
Audit/Budget Assistance	4,500	4,600	5,200	5,000	5,000
Retirement Plan	2,837	2,153	2,870	3,010	3,010
Total General Government	109,166	83,477	110,323	125,114	125,114
CONSERVATION & WATER RESOURCES					
System Maintenance					
Assisstant Sup. &					
Ditch Riders					
Salary	128,982	99,043	132,024	136,312	136,312
Workmans Comp Ins.	6,747	5,079	6,770	10,500	10,500
Payroll Taxes	10,178	7,964	10,616	10,430	10,430
Retirement Plan	5,159	4,000	5,332	5,500	5,500
Expense Allowance	3,000	2,250	3,000	2,600	2,600
Maintenance					
Reservoir	477		1,000	10,000	10,000
Intake	191	3,600	3,600	15,000	15,000
Highline	31,289	30,037	30,037	22,000	22,000
Settlers	4,465	7,068	7,068	5,000	5,000
Peterson	1,362	4,091	4,091	5,000	5,000
Harmony	8,107	5,117	5,117	3,000	3,000
Total System Maintenance	199,957	168,249	208,656	225,342	225,342
Other Operating Expense					
Fuel & oil	27,958	21,480	28,568	40,000	40,000
Equip Repair/Supplies				50,000	50,000
Vehicle Expenses	27,278	56,308	74,890	10,000	10,000
Insurance and Bonds	26,662	26,717	28,000	26,600	26,600
Miscellaneous	4,989	1,591	2,116	3,000	3,000
Consulting/Use					
Analysis-Recharge		4,224	4,224		
Water and Well Issues					
Total Other Operating Expense	86,887	110,320	137,798	129,600	129,600
Capital Outlay					
Capital Outlay-Gen	212,327	38,000	38,000		
With Director approval:					
Equipment & Vehicles				58,700	88,700
Directors' Contingent				25,000	25,000
Construction Costs			224,000		
Total Capital Outlay	212,327	38,000	262,000	83,700	113,700
Debt Service:					
CWCB loan-Outlet	20,278	20,278	20,278	20,278	20,278
CWCB Loan-Inlet	28,631	28,631	28,631	28,631	28,631
CBCB LOAN - P/L	5,437	0	5,437	5,437	5,437
CWCB LOAN - Harmony				10,000	10,000
Capital lease			33,746	33,746	33,746
Total Debt Service	54,346	48,909	88,092	98,092	98,092
Total Expenditures	662,683	448,955	806,869	661,848	691,848

JULESBURG IRRIGATION DISTRICT

RESOLUTION TO ADOPT BUDGET

A RESOLUTION SUMMARIZING EXPENDITURES AND REVENUES FOR THE DISTRICT, AND ADOPTING A BUDGET FOR THE CALENDER YEAR BEGINNING ON THE 1ST DAY OF JANUARY, 2017 AND ENDING ON THE LAST DAY OF DECEMBER, 2017.

WHEREAS, the Board of Directors of the Julesburg Irrigation District has received a proposed budget on October 21, 2016 for it's consideration, and;

WHEREAS, upon due and proper notice, published or posted in accordance with the law, said proposed budget was open for inspection by the public at a designated place, a public hearing was held on the 14th day of November 2016, and interested taxpayers were given the opportunity to file or register any objections to said proposed budget, and;

WHEREAS, whatever increases may have been made in the expenditures, like increases were added to the revenues so that the budget remains in balance, as required by law.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE JULESBURG IRRIGATION DISTRICT, COLORADO:

Section 1. That estimated expenditures and the estimated revenues for each fund are as shown on the budget summary which is hereby attached and made part of this resolution.

Section 2. That the budget as submitted, amended, and hereinabove summarized by fund, be, and the same hereby is approved and adopted as the budget of the Julesburg Irrigation District for the year stated above.

Section 3. That the budget hereby approved and adopted shall be signed by Chairman and Secretary, and made a part of the public records of the District.

ADOPTED, this 14th day of November, 2016.

Robert J. McClary
CHAIRMAN

ATTEST:

Pamela Pamelar
SECRETARY

JULESBURG IRRIGATION DISTRICT

RESOLUTION TO APPROPRIATE SUMS OF MONEY

A RESOLUTION APPROPRIATING SUMS OF MONEY IN THE AMOUNT AND FOR THE PURPOSES AS SET FORTH BELOW, FOR THE JULESBURG IRRIGATION DISTRICT, FOR THE BUDGET YEAR 2017.

WHEREAS, the Board of Directors has adopted the annual budget in accordance with the Local Government Budget Law on the 14th day of November, 2016, and;

WHEREAS, the Board of Directors has made provision therein for revenue in an amount equal or greater than the total proposed expenditures as set forth in said budget, and;

WHEREAS, it is not only required by law, but also to appropriate the revenues provided in the budget to and for the purposes described below:

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE JULESBURG IRRIGATION DISTRICT, COLORADO:

Section 1. That the amount of $682,652 is hereby appropriated from revenue of the District for the purpose of paying costs of operations.

ADOPTED, this 14th day of November, 2016

Robert McClary
CHAIRMAN

ATTEST:
Pamela Pruett
SECRETARY

JULESBURG IRRIGATION DISTRICT

RESOLUTION TO LEVY FOR 2017 WATER FEES

A RESOLUTION LEVYING THE WATER FEES FOR THE YEAR 2017, TO HELP DEFRAY THE COSTS OF GOVERNMENT FOR THE JULESBURG IRRIGATION DISTRICT, COLORADO, FOR THE 2017 BUDGET YEAR.

WHEREAS, the Board of Directors of the Julesburg Irrigation District has adopted the annual budget in accordance with the Local Government Budget Law, on the 14th day of November, 2016, and;

WHEREAS, the amount of money necessary to balance the budget for the general operating expenses is $449,655, and;

WHEREAS, the assessed 2017 acres of property for the Julesburg Irrigation District, Colorado is 19,134.23 acres.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE JULESBURG IRRIGATION DISTRICT, COLORADO:

Section 1. That for the purpose of meeting all general operating expenses of the Julesburg Irrigation District, Colorado, during the 2017 budget year, there is levied a fee of $23.50 per acre for the 19,134.23 acres served by the District.

Section 2. That the chairman is hereby authorized and directed to immediately certify to the County Commissioners of Sedgwick County, Colorado, the levy for the Julesburg Irrigation District, Colorado, as hereinabove determined and set.

Adopted, this 14th day of November, 2016.

Robert McClary
CHAIRMAN

ATTEST:
Pamela Carlson
SECRETARY

JULESBURG IRRIGATION DISTRICT

ADOPTED BUDGET

2016

JULESBURG IRRIGATION DISTRICT
BUDGET MESSAGE
2016 BUDGET

The Julesburg Irrigation District maintains an irrigation dam and irrigation canals and supplies irrigation water to area farmers. Some significant items included in the 2016 budget are as follows:

The District is operating as an enterprise upon the advice of legal council. Therefore, the District is not subject to Tabor limitations.

The fees for water for 2016 are set at $23.50 per acre on 19,134.23 acres of land within the District. The total amount of fees collectable is $449,655.

The Budget is prepared on the accrual basis of accounting.

Robert McClary
Director

Mike McKinley
Director

Director

JULESBURG IRRIGATION DISTRICT- JULESBURG, COLORADO
Budget Summary
Budget Year, 2016

	2014	2015		2016	
	ACTUAL	CURRENT TO DATE	YEAR ESTIMATED AMOUNT	BUDGET PROPOSED	YEAR APPROVED
EXPENDITURES					
General Government	111,636	81,652	108,744	127,323	127,323
System Maintenance	169,686	163,529	206,821	216,867	216,867
Other Operating Expenses	120,993	92,550	123,369	119,400	119,400
Capital Outlay	58,681	87,486	87,486	56,000	76,000
Debt Service	54,346	48,909	54,346	54,346	54,346
Total Expenditures	515,342	474,126	580,766	573,936	593,936
REVENUE OTHER THAN PROPERTY TAX					
Water Assessments	9,803				
Petersen		9,543	9,543	9,543	9,543
Harmony		4,900	4,900	4,900	4,900
Interest on Investments	628	344	400	400	400
Refunds & Miscellaneous	28,473	20,992	25,000	25,000	25,000
Annual Lease Payment	52,479	53,895	53,895	53,895	53,895
Augmentation	84,937	84,937	84,937	85,000	85,000
Delinquennt and Interest on Taxes	1,280		300	300	300
Total Other Revenue	177,600	174,611	178,975	179,038	179,038
AMOUNT NECESSARY TO BE RAISED BY ACRE FT ASSESSEMENT	449,528	445,148	449,655	449,655	449,655
BEGINNING BALANCE	602,990	714,776	714,776	762,640	762,640
Total Available	1,230,118	1,334,535	1,343,406	1,391,333	1,391,333
ENDING BALANCE	714,776	860,409	762,640	817,397	797,397

JULESBURG IRRIGATION DISTRICT - JULESBURG, COLORADO
Expenditures
Budget Year, 2016

Schedule A	2014 ACTUAL	2015 CURRENT Sept. 30	2015 YEAR ESTIMATED AMOUNT	2016 BUDGET PROPOSED	2016 YEAR APPROVED
GENERAL GOVERNMENT					
Superintendent Salary	49,447	36,419	48,547	50,015	50,015
Directors' Fees	1,360	1,160	1,546	1,600	1,600
Attorney	4,779	520	693	15,000	15,000
General Expenses					
Office Supplies/Expense	3,940	2,428	3,237	4,000	4,000
Utilities and Phone	11,535	10,080	13,437	12,000	12,000
Rentals	1,560	300	1,200	3,000	3,000
Payroll Taxes	5,585	4,187	5,581	5,600	5,600
Secretary's Salary	21,301	16,775	22,361	23,036	23,036
Insurance and Benefits			0		
Worker's Comp Ins	4,954	3,155	4,206	5,150	5,150
Audit/Budget Assistance	4,350	4,500	5,100	5,000	5,000
Retirement Plan	2,825	2,128	2,837	2,922	2,922
Total General Government	111,636	81,652	108,744	127,323	127,323
CONSERVATION & WATER RESOURCES					
System Maintenance					
Assisstant Sup. &					
Ditch Riders					
Salary	103,916	96,736	128,949	132,767	132,767
Insurance and Benefits					
Workmans Comp Ins.	7,274	6,407	8,541	10,400	10,400
Payroll Taxes	8,202	7,633	10,175	11,000	11,000
Retirement Plan	4,148	3,869	5,157	5,300	5,300
Expense Allowance	2,590	2,250	2,999	2,400	2,400
Maintenance			0		
Reservoir	2,263	34	1,000	10,000	10,000
Intake	2,492	191	1,000	10,000	10,000
Highline	5,039	31,290	32,000	22,000	22,000
Settlers	8,331	4,465	5,000	5,000	5,000
Peterson	1,451	2,607	3,000	5,000	5,000
Harmony	23,980	8,047	9,000	3,000	3,000
Equipment Rental			0		
Total System Maintenance	169,686	163,529	206,821	216,867	216,867
Other Operating Expense					
Fuel & oil	50,895	27,669	36,883	40,000	40,000
Equip Repair/Supplies					
Vehicle Expenses	37,357	34,733	46,299	50,000	50,000
Insurance and Bonds	25,420	26,992	35,980	26,400	26,400
Miscellaneous	7,321	3,016	4,020	3,000	3,000
Consulting/Use					
Analysis-Recharge		140	187		
Water and Well Issues					
Total Other Operating Expense	120,993	92,550	123,369	119,400	119,400
Capital Outlay					
Capital Outlay-Gen	58,681	87,486	87,486		
With Director approval:					
Equipment & Vehicles				50,000	50,000
Directors' Contingent				6,000	26,000
Constr.-Initial Costs					
Total Capital Outlay	58,681	87,486	87,486	56,000	76,000
Debt Service:					
CWCB loan-Outlet	20,278	20,278	20,278	20,278	20,278
CWCB Loan-Inlet	28,631	28,631	28,631	28,631	28,631
CBCB LOAN - P/L	5,437	0	5,437	5,437	5,437
Total Debt Service	54,346	48,909	54,346	54,346	54,346
Total Expenditures	515,342	474,126	580,766	573,936	593,936

JULESBURG IRRIGATION DISTRICT

RESOLUTION TO LEVY FOR 2016 WATER FEES

A RESOLUTION LEVYING THE WATER FEES FOR THE YEAR 2016, TO HELP DEFRAY THE COSTS OF GOVERNMENT FOR THE JULESBURG IRRIGATION DISTRICT, COLORADO, FOR THE 2016 BUDGET YEAR.

WHEREAS, the Board of Directors of the Julesburg Irrigation District has adopted the annual budget in accordance with the Local Government Budget Law, on the 9th day of November, 2015, and;

WHEREAS, the amount of money necessary to balance the budget for the general operating expenses is $449,655, and;

WHEREAS, the assessed 2016 acres of property for the Julesburg Irrigation District, Colorado is 19,134.23 acres.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE JULESBURG IRRIGATION DISTRICT, COLORADO:

Section 1. That for the purpose of meeting all general operating expenses of the Julesburg Irrigation District, Colorado, during the 2016 budget year, there is levied a fee of $23.50 per acre for the 19,134.23 acres served by the District.

Section 2. That the chairman is hereby authorized and directed to immediately certify to the County Commissioners of Sedgwick County, Colorado, the levy for the Julesburg Irrigation District, Colorado, as hereinabove determined and set.

Adopted, this 9th day of November, 2015.

Robert McClary
CHAIRMAN

ATTEST:

Pamela Pinelas
SECRETARY

JULESBURG IRRIGATION DISTRICT

RESOLUTION TO APPROPRIATE SUMS OF MONEY

A RESOLUTION APPROPRIATING SUMS OF MONEY IN THE AMOUNT AND FOR THE PURPOSES AS SET FORTH BELOW, FOR THE JULESBURG IRRIGATION DISTRICT, FOR THE BUDGET YEAR 2016.

WHEREAS, the Board of Directors has adopted the annual budget in accordance with the Local Government Budget Law on the 9th day of November, 2015, and;

WHEREAS, the Board of Directors has made provision therein for revenue in an amount equal or greater than the total proposed expenditures as set forth in said budget, and;

WHEREAS, it is not only required by law, but also to appropriate the revenues provided in the budget to and for the purposes described below:

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE JULESBURG IRRIGATION DISTRICT, COLORADO:

Section 1. That the amount of $593,936 is hereby appropriated from revenue of the District for the purpose of paying costs of operations.

ADOPTED, this 9th day of November, 2015

Robert McClary
CHAIRMAN

ATTEST:
Pamela Pinelas
SECRETARY

JULESBURG IRRIGATION DISTRICT

APPROVED BUDGET

2015

JULESBURG IRRIGATION DISTRICT

TO: Division of Local Government
1313 Sherman Street, Room 521
Denver, CO 80203

Enclosed is the 2015 budget for the Julesburg Irrigation District, Colorado, submitted pursuant to Section 29-1-113, CRS. This budget was adopted on the 8th day of December, 2014. If there are any questions on the budget, please contact:

Pamela Ornelas, Secretary
Sedgwick County Court House
Julesburg, Colorado 80737
PHONE: 970) 474-3737

The levy for the 2015 water fees certified to the County is $23.50 per acre on 19,134.23 acres. The revenue subject to statutory limitations, is $449,655.

I hereby certify that the enclosed is a true and accurate copy of the budget.

Pamela Ornelas
SECRETARY

December 8, 2014

JULESBURG IRRIGATION DISTRICT
BUDGET MESSAGE
2015 BUDGET

The Julesburg Irrigation District maintains an irrigation dam and irrigation canals and supplies irrigation water to area farmers. Some significant items included in the 2015 budget are as follows:

The District is operating as an enterprise upon the advice of legal council. Therefore, the District is not subject to Tabor limitations.

The fees for water for 2015 are set at $23.50 per acre on 19,134.23 acres of land within the District. The total amount of fees collectable is $449,655.

The Budget is prepared on the accrual basis of accounting.

Director

Director

Director

JULESBURG IRRIGATION DISTRICT- JULESBURG, COLORADO
Budget Summary
Budget Year, 2015

	2013	2014		2015	
	ACTUAL	CURRENT TO DATE	YEAR ESTIMATED AMOUNT	BUDGET PROPOSED	YEAR APPROVED
EXPENDITURES					
General Government	116,766	72,556	124,199	127,079	127,079
System Maintenance	207,822	98,503	203,247	202,241	202,241
Other Operating Expenses	118,742	74,607	151,132	146,400	146,400
Capital Outlay	24,418	44,746	60,600	91,000	91,000
Debt Service	54,346	48,909	54,346	54,346	54,346
Total Expenditures	522,094	339,321	593,524	621,066	621,066
REVENUE OTHER THAN PROPERTY TAX					
Water Assessments					
Petersen	9,303	8,993	8,993	9,000	9,000
Harmony	500	500	500	500	500
Interest on Investments	440	256	400	400	400
Refunds & Miscellaneous	26,917	17,103	25,000	25,000	25,000
Annual Lease Payment	51,050	52,479	52,479	52,479	52,479
Augmentation	83,164	74,118	85,000	85,000	85,000
Delinquennt and Interest on Taxes	1,656	0	1,000	1,000	1,000
Total Other Revenue	173,030	153,449	173,372	173,379	173,379
AMOUNT NECESSARY TO BE RAISED BY ACRE FT ASSESSEMENT	449,524	161,921	449,655	449,655	449,655
BEGINNING BALANCE	461,484	561,944	561,944	591,447	591,447
Total Available	1,084,038	877,314	1,184,971	1,214,481	1,214,481
ENDING BALANCE	561,944	537,993	591,447	593,415	593,415

JULESBURG IRRIGATION DISTRICT - JULESBURG, COLORADO
Expenditures
Budget Year, 2015

Schedule A	2013 ACTUAL	2014 CURRENT AUGUST 31	2014 YEAR ESTIMATED AMOUNT	2015 BUDGET PROPOSED	2015 YEAR APPROVED
GENERAL GOVERNMENT					
Superintendent Salary	46,304	34,031	51,047	48,559	48,559
Directors' Fees	1,320	920	1,600	1,600	1,600
Attorney	10,019	647	15,000	15,000	15,000
General Expenses					
Office Supplies/Expense	4,412	2,785	4,178	4,000	4,000
Utilities and Phone	15,832	6,664	9,996	15,000	15,000
Rentals	1,260	240	3,000	3,000	3,000
Payroll Taxes	4,659	3,674	5,511	5,426	5,426
Secretary's Salary	16,603	14,201	21,302	22,366	22,366
Insurance and Benefits	7,519	0	0	0	0
Worker's Comp Ins	2,454	3,206	4,809	5,000	5,000
Audit/Budget Assistance	4,200	4,350	5,000	5,000	5,000
Retirement Plan	2,184	1,838	2,757	2,128	2,128
Total General Government	116,766	72,556	124,199	127,079	127,079
CONSERVATION & WATER RESOURCES					
System Maintenance					
Assisstant Sup. &					
Ditch Riders					
Salary	105,590	63,971	111,171	128,189	128,189
Insurance and Benefits	13,831	0	0	0	0
Workmans Comp Ins.	4,514	6,411	9,617	10,000	10,000
Payroll Taxes	8,569	4,872	7,308	9,806	9,806
Retirement Plan	4,017	2,436	3,654	3,846	3,846
Expense Allowance	3,000	1,600	2,400	2,400	2,400
Maintenance					
Reservoir	8,260	285	6,000	8,000	8,000
Intake	0	1,247	20,000	10,000	10,000
Highline	11,831	5,039	30,000	20,000	20,000
Settlers	11,824	4,994	5,000	5,000	5,000
Peterson	7,710	65	98	2,000	2,000
Harmony	18,201	7,583	8,000	3,000	3,000
Equipment Rental	10,475	0	0	0	0
Total System Maintenance	207,822	98,503	203,247	202,241	202,241
Other Operating Expense					
Fuel & oil	42,522	35,395	40,000	40,000	40,000
Equip Repair/Supplies					
Vehicle Expenses	42,630	33,858	75,000	75,000	75,000
Insurance and Bonds	24,876	606	29,132	28,900	28,900
Miscellaneous	8,714	4,748	7,000	2,500	2,500
Consulting/Use					
Analysis-Recharge					
Water and Well Issues					
Total Other Operating Expense	118,742	74,607	151,132	146,400	146,400
Capital Outlay					
Capital Outlay-Gen					
With Director approval:					
Equipment & Vehicles	24,418	44,746	55,000	60,000	60,000
Directors' Contingent			5,600	31,000	31,000
Total Capital Outlay	24,418	44,746	60,600	91,000	91,000
Debt Service:					
CWCB loan-Outlet	20,278	20,278	20,278	20,278	20,278
CWCB Loan-Inlet	28,631	28,631	28,631	28,631	28,631
CBCB LOAN - P/L	5,437	0	5,437	5,437	5,437
Total Debt Service	54,346	48,909	54,346	54,346	54,346
Total Expenditures	522,094	339,321	593,524	621,066	621,066

Appendix D
CWCB Loan Application

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Water Project Loan Program

Application Type

☐ Prequalification *(Attach 3 years of financial statements)* ☑ Loan Approval *(Attach Loan Feasibility Study)*

Agency/Company Information

Company / Borrower Name: ***Julesburg Irrigation District***

Authorized Agent &Title: ***Larry Frame, Superintendent***

Address: ***315 Cedar Street, Suite 150, Julesburg, Colorado 80737***

Phone: (***970***) ***474-3737*** | Email: ***supt.jid@pctelcom.coop***

Organization Type: ☐ Ditch Co, ☑ District, ☐ Municipality ☐ Other:_____ | Incorporated? ☐ YES ☑ NO

County: ***Sedgewick*** | Number of Shares/Taps: ***110 Shareholders***

Water District: ***Division 1, District 64*** | Avg. Water Diverted/Yr ***54,421*** acre-feet

Number of Shareholders/Customers Served: | Current Assessment per Share $ ***23.50*** (Ditch Co)

Federal ID Number: | Average monthly water bill $ ***N.A*** (Municipality)

Contact Information

Project Representative: ***Larry Frame***

Phone: (***970***) ***474 3737*** | Email: ***supt.jid@pctelcom.coop***

Engineer: ***John G. Gauthiere, P.E. - Gauthiere Engineering, Inc.***

Phone: (***970***) ***330 0855*** | Email: ***john@gauthiere-engineering.com***

Attorney: ***Dan Brown - Fischer, Brown, Bartlett & Gunn, P.C.***

Phone: (***970***) ***407 9000*** | Email: ***danbrown@fbgpc.com***

Project Information

Project Name:

Brief Description of Project: (Attach separate sheets if needed)

Replace 320' Petersen Ditch Diversion Structure and 30' Ditch Gate Structure - See Feasibility Study.

(Other costs shown below are for project management, administration, quality control and testing.)

General Location: (Attach Map of Area)

Existing Structure is approximately 1.4 miles West of Sedgwick, Colorado (See Map)

Estimated Engineering Costs: ***$ 137,844*** | Estimated Construction Costs: ***$ 3,032,563***

Other Costs (Describe Above): ***$ 137,844*** | Estimated Total Project Costs: ***$3,308,250***

Requested Loan Amount: ***$3,308,250*** | Requested Loan Term (10, 20, or 30 years): ***30*** Years

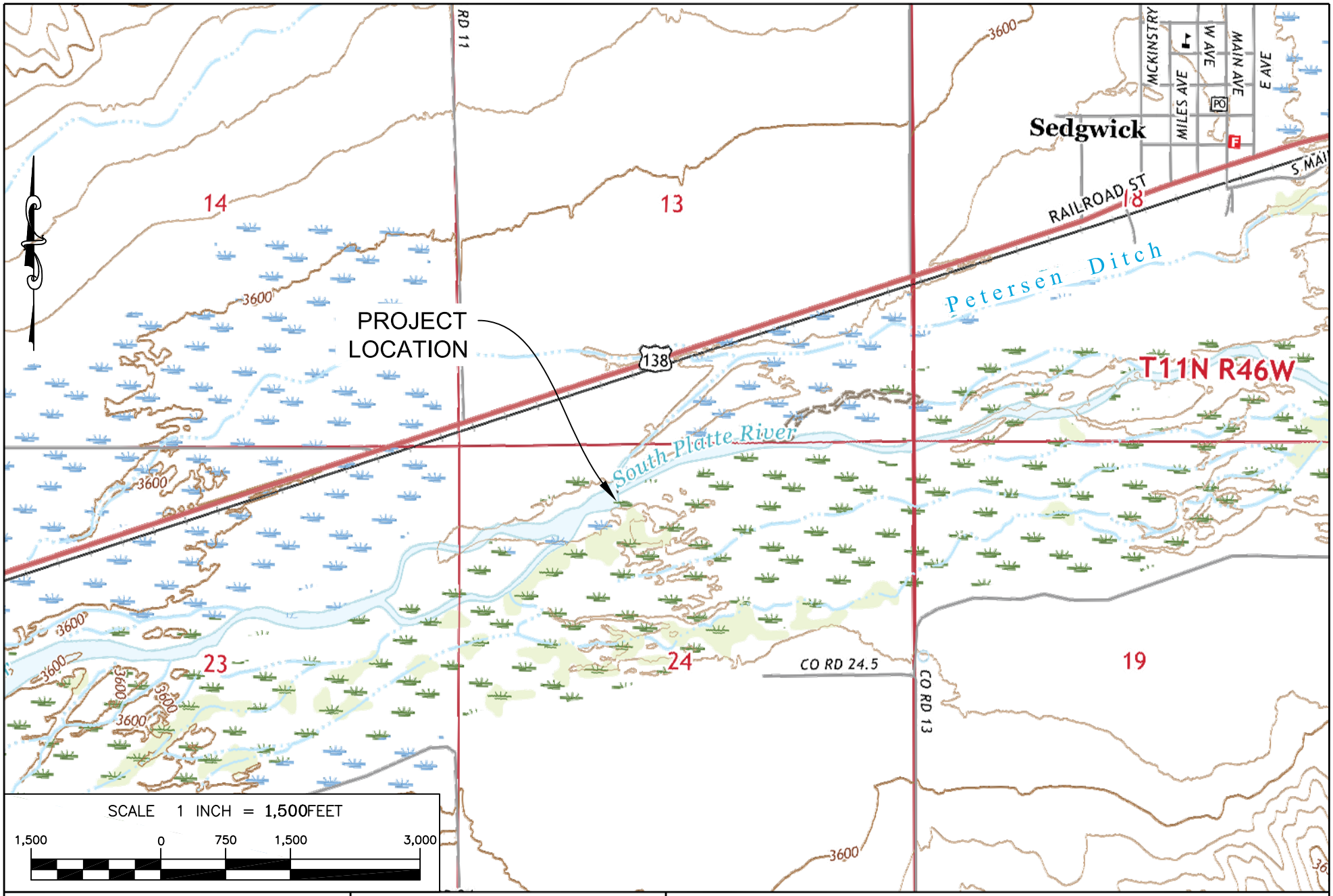
Project Start Date(s) Design: ***April 1, 2018*** Construction: ***September 1, 2018***

Signature

Supt 1-31-18

Signature / Title Date

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



GAUTHIERE ENGINEERING, INC. 2157 Buena Vista Drive Greeley, Colorado 80634 Phone: (970) 330-0855 E-mail: john@gauthiere-engineering.com	Scale: 1" =1,500'	JULESBURG IRRIGATION DISTRICT PETERSEN DITCH DIVERSION REPLACEMENT PROJECT NW $\frac{1}{4}$ OF THE NE $\frac{1}{4}$ OF THE NW $\frac{1}{4}$ SEC 24 T 11N R47 W OF THE 6TH PM
	Drawn By: JGG	
	File: JID	Date: JAN. 25, 2018 — FIGURE 1 - LOCATION MAP

Appendix E
Loan Amortization Schedule

Colorado Water Conservation Board
Construction Fund Loan Program

Repayment Schedule

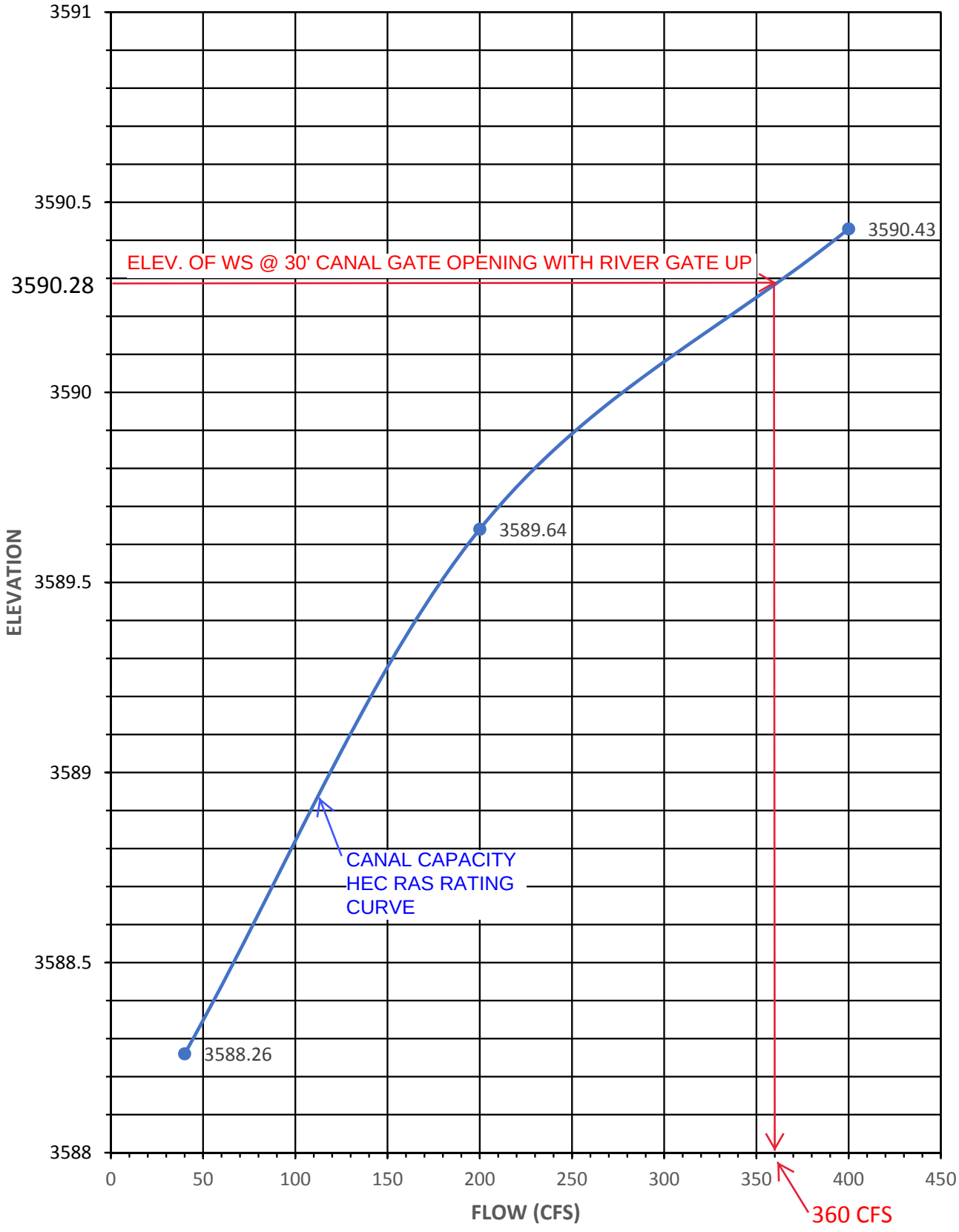
Contract #:
Borrower: Julesburg Irrigation District
Project: Petersen Ditch Diversion Structure Replacement Project
Principal: $3,341,333
Interest: 1.70%
Term: 30 years

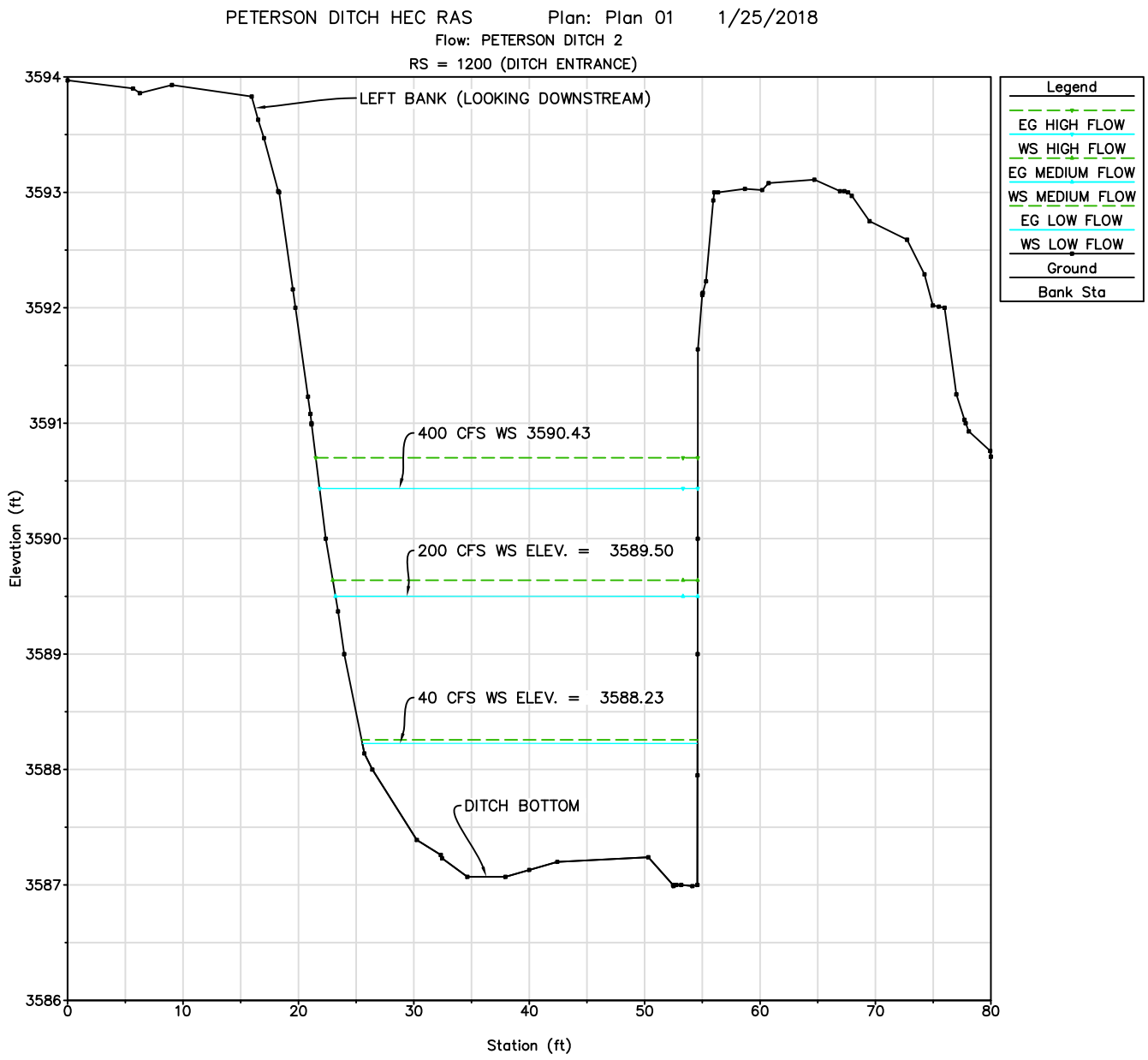
1st Payment Due $2,019.00
Annual Payment: $143,106.83
Total Loan Payout $4,293,204.88

Period	Year	Loan Balance	Annual Payment	Amount to Interest	Amount to Principal
1	2018	$3,341,333.00	143,106.83	$56,802.66	$86,304.17
2	2019	3,255,028.83	143,106.83	$55,335.49	$87,771.34
3	2020	3,167,257.49	143,106.83	$53,843.38	$89,263.45
4	2021	3,077,994.04	143,106.83	$52,325.90	$90,780.93
5	2022	2,987,213.11	143,106.83	$50,782.62	$92,324.21
6	2023	2,894,888.90	143,106.83	$49,213.11	$93,893.72
7	2024	2,800,995.18	143,106.83	$47,616.92	$95,489.91
8	2025	2,705,505.27	143,106.83	$45,993.59	$97,113.24
9	2026	2,608,392.03	143,106.83	$44,342.66	$98,764.17
10	2027	2,509,627.86	143,106.83	$42,663.67	$100,443.16
11	2028	2,409,184.70	143,106.83	$40,956.14	$102,150.69
12	2029	2,307,034.01	143,106.83	$39,219.58	$103,887.25
13	2030	2,203,146.76	143,106.83	$37,453.49	$105,653.34
14	2031	2,097,493.42	143,106.83	$35,657.39	$107,449.44
15	2032	1,990,043.98	143,106.83	$33,830.75	$109,276.08
16	2033	1,880,767.90	143,106.83	$31,973.05	$111,133.78
17	2034	1,769,634.12	143,106.83	$30,083.78	$113,023.05
18	2035	1,656,611.07	143,106.83	$28,162.39	$114,944.44
19	2036	1,541,666.63	143,106.83	$26,208.33	$116,898.50
20	2037	1,424,768.13	143,106.83	$24,221.06	$118,885.77
21	2038	1,305,882.36	143,106.83	$22,200.00	$120,906.83
22	2039	1,184,975.53	143,106.83	$20,144.58	$122,962.25
23	2040	1,062,013.28	143,106.83	$18,054.23	$125,052.60
24	2041	936,960.68	143,106.83	$15,928.33	$127,178.50
25	2042	809,782.18	143,106.83	$13,766.30	$129,340.53
26	2043	680,441.65	143,106.83	$11,567.51	$131,539.32
27	2044	548,902.33	143,106.83	$9,331.34	$133,775.49
28	2045	415,126.84	143,106.83	$7,057.16	$136,049.67
29	2046	279,077.17	143,106.83	$4,744.31	$138,362.52
30	2047	140,714.65	143,106.83	$2,392.15	$140,714.68
		Totals	$4,293,204.88	$951,871.87	$3,341,333.03

Appendix F
HEC-RAS Hydraulic Model Exhibits

PETERSEN DITCH CAPACITY
WS ELEV. VS. FLOW (CFS)

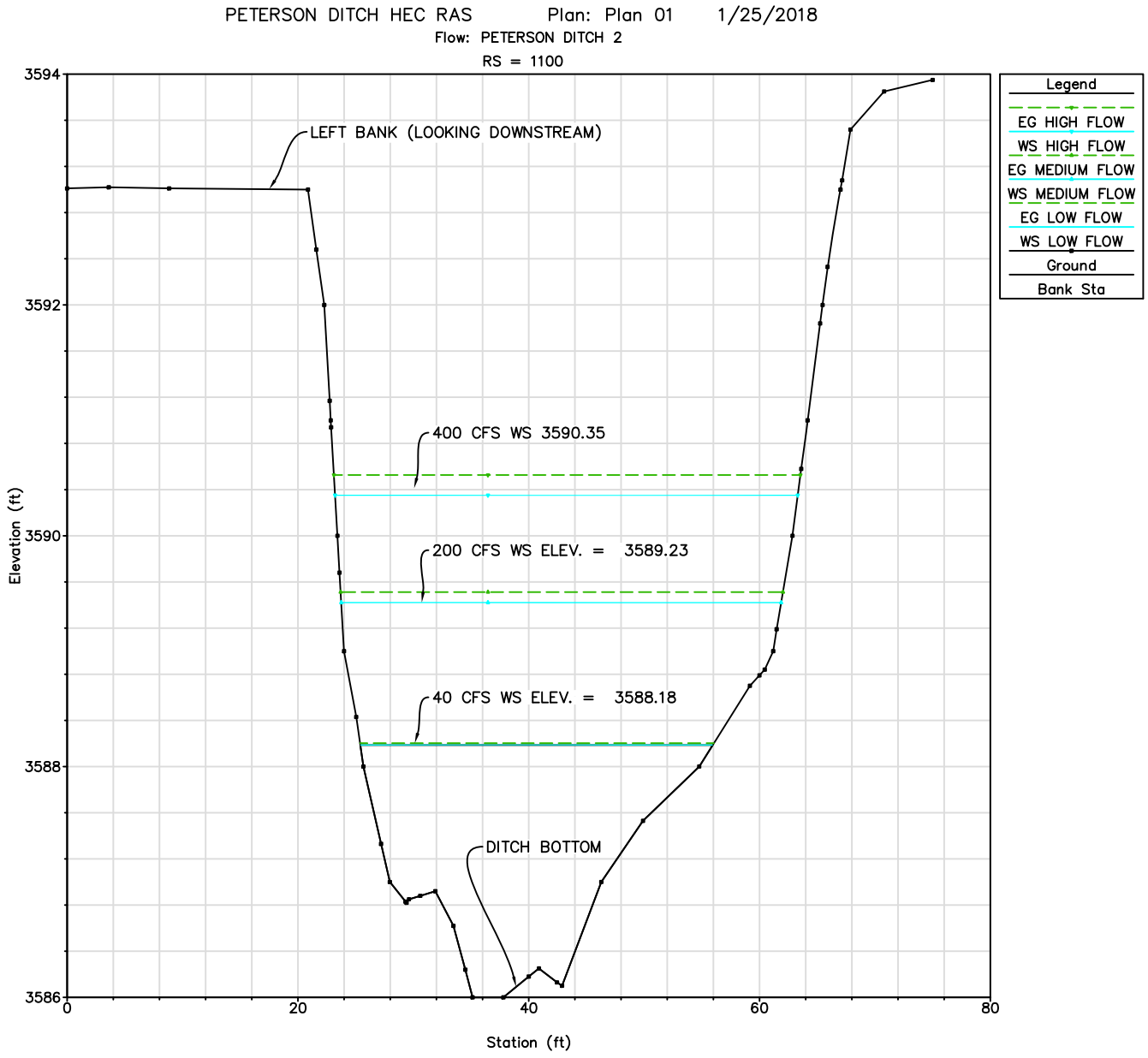




GAUTHIERE ENGINEERING, INC.
2157 Buena Vista Drive Greeley, Colorado
80634 Phone: (970) 330-0855
E-mail: john@gauthiere-engineering.com

JULESBURG IRRIGATION DISTRICT
PETERSEN DITCH DIVERSION REPLACEMENT PROJECT
HEC-RAS FLOW STUDY STATION 12+00 (DITCH ENTRANCE)

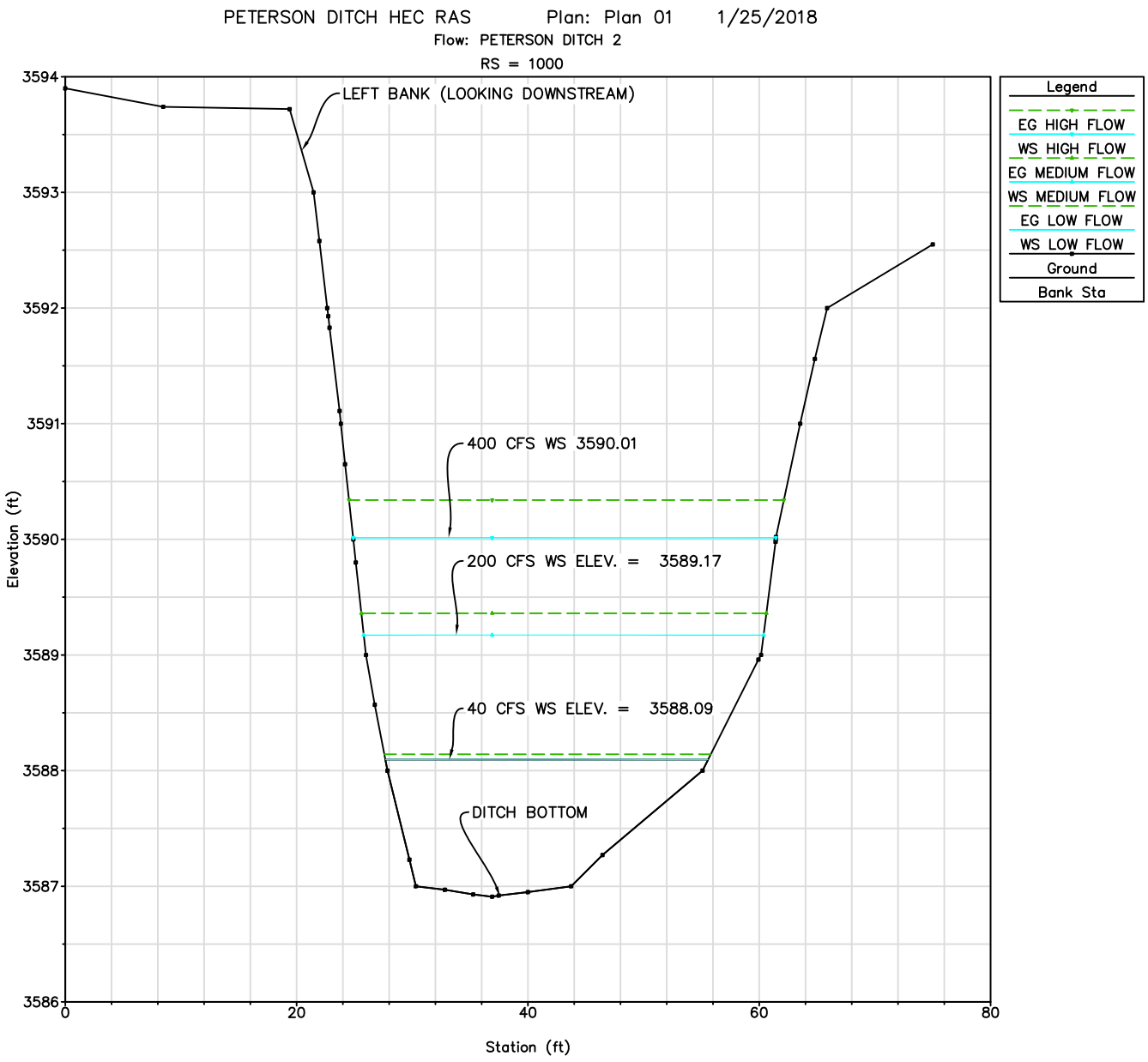
SCALE: N.A.



GAUTHIERE ENGINEERING, INC.
2157 Buena Vista Drive Greeley, Colorado
80634 Phone: (970) 330-0855
E-mail: john@gauthiere-engineering.com

JULESBURG IRRIGATION DISTRICT
PETERSEN DITCH DIVERSION REPLACEMENT PROJECT
HEC-RAS FLOW STUDY STATION 11+00

SCALE: N.A.



GAUTHIERE ENGINEERING, INC.
2157 Buena Vista Drive Greeley, Colorado
80634 Phone: (970) 330-0855
E-mail: john@gauthiere-engineering.com

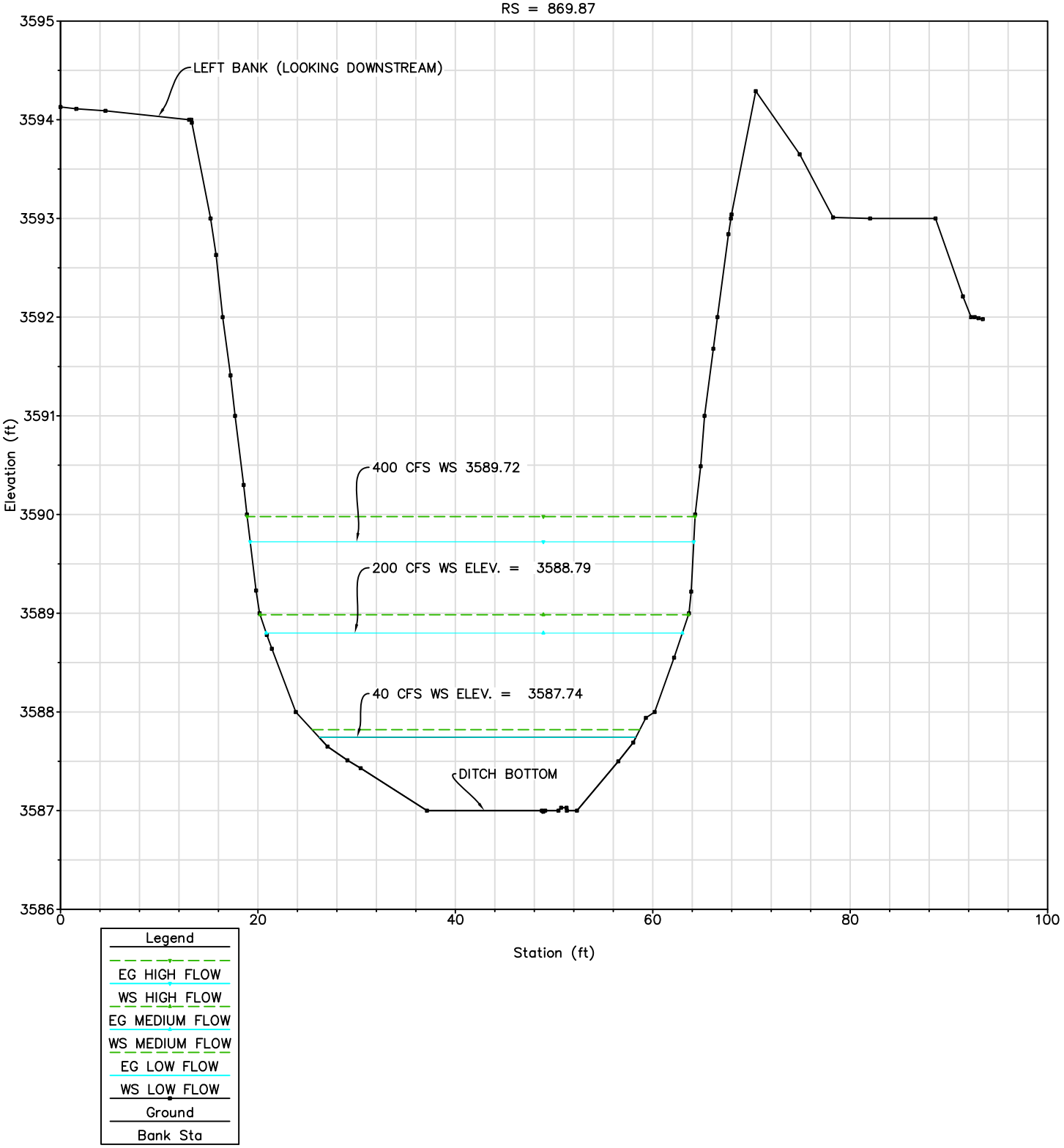
JULESBURG IRRIGATION DISTRICT
PETERSEN DITCH DIVERSION REPLACEMENT PROJECT
HEC-RAS FLOW STUDY STATION 10+00

SCALE: N.A.

PETERSON DITCH HEC RAS Plan: Plan 01 1/25/2018

Flow: PETERSON DITCH 2

RS = 869.87



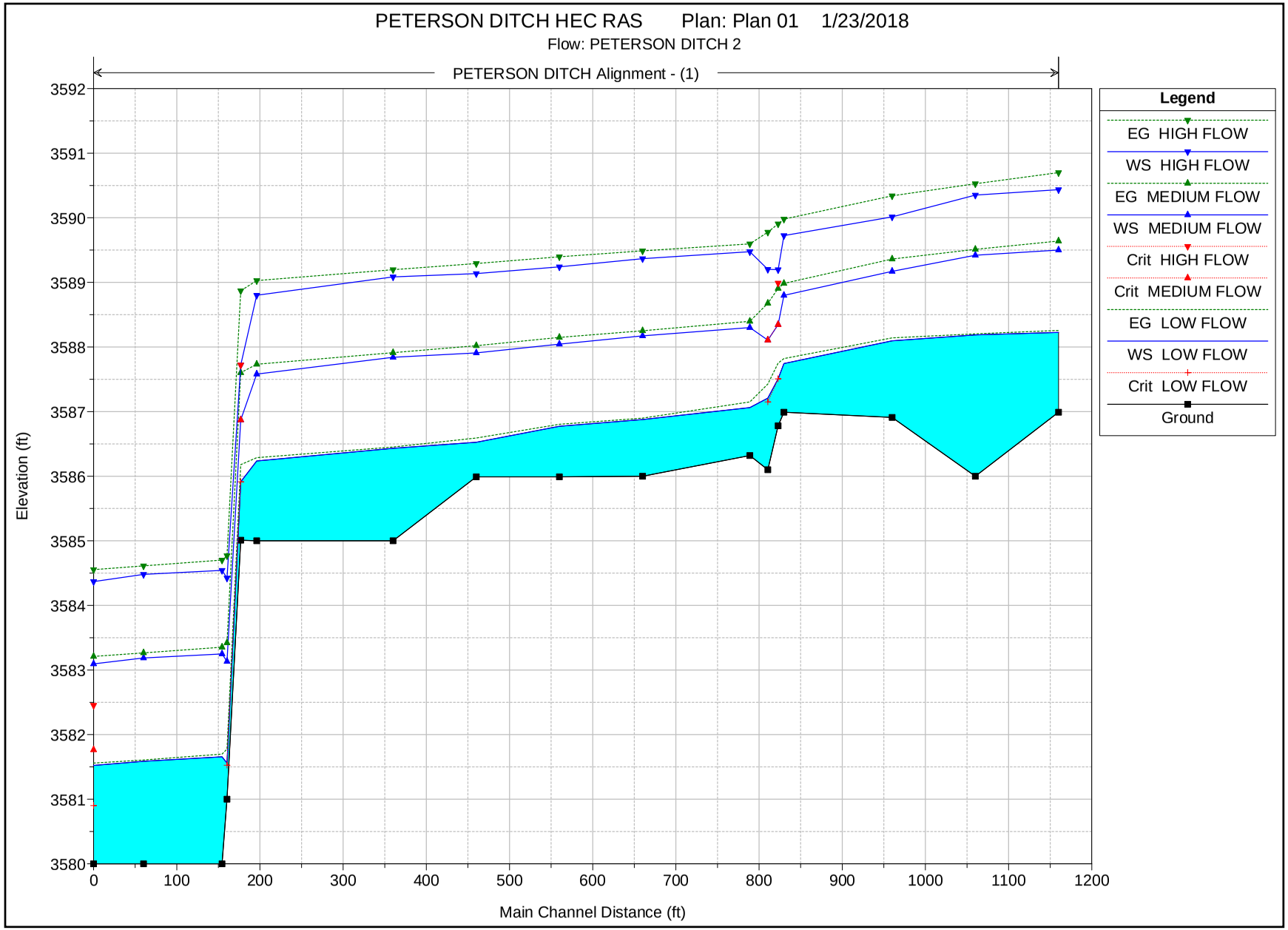
GAUTHIERE ENGINEERING, INC.
2157 Buena Vista Drive Greeley, Colorado
80634 Phone: (970) 330-0855
E-mail: john@gauthiere-engineering.com

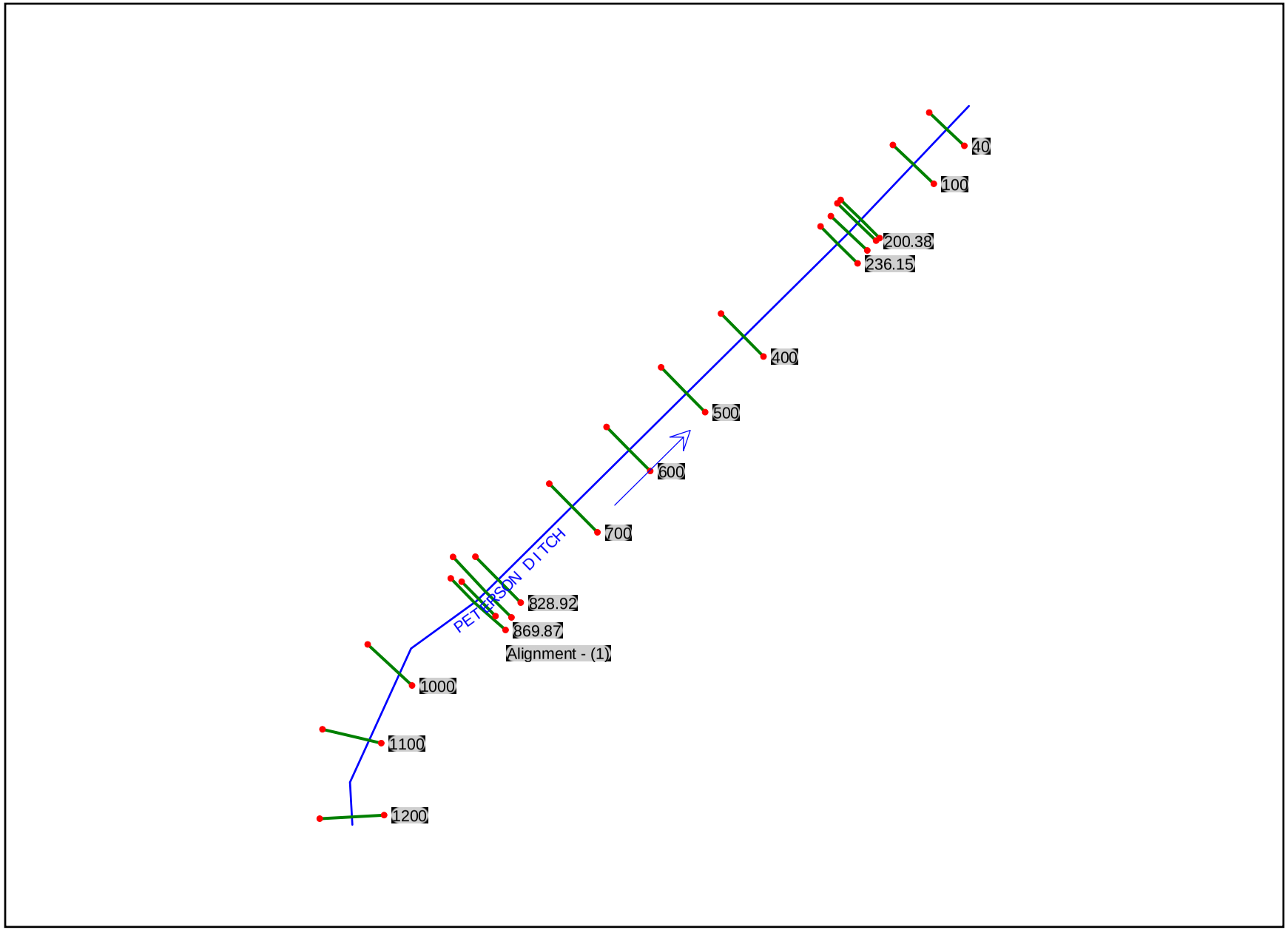
JULESBURG IRRIGATION DISTRICT

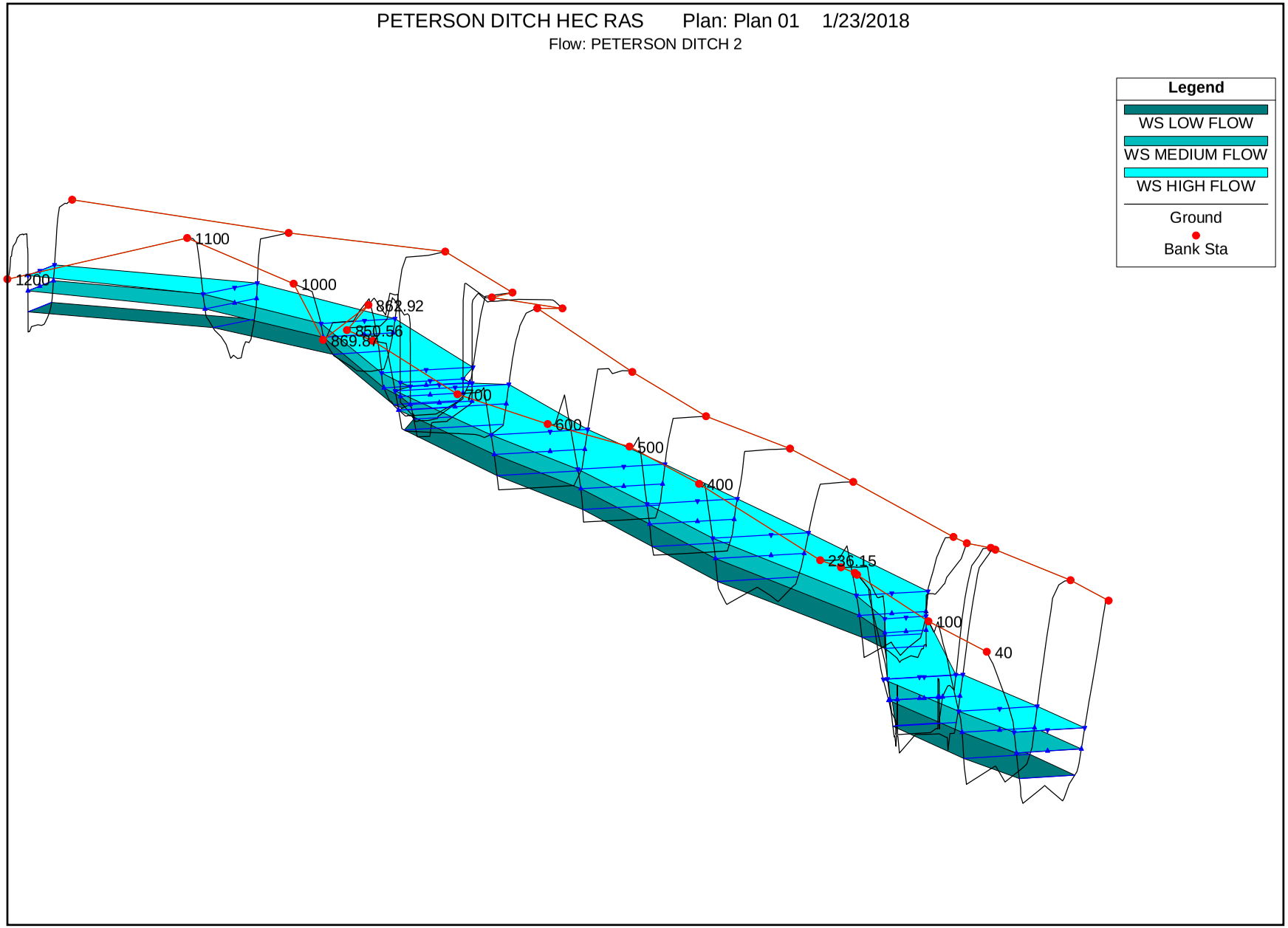
PETERSEN DITCH DIVERSION REPLACEMENT PROJECT

HEC-RAS FLOW STUDY STATION 10+00

SCALE: N.A.


PETERSON DITCH HEC RAS Plan: Plan 01 1/23/2018
Flow: PETERSON DITCH 2
PETERSON DITCH Alignment - (1)
Elevation (ft)
Main Channel Distance (ft)
3592
3591
3590
3589
3588
3587
3586
3585
3584
3583
3582
3581
3580
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
Legend
EG HIGH FLOW
WS HIGH FLOW
EG MEDIUM FLOW
WS MEDIUM FLOW
Crit HIGH FLOW
Crit MEDIUM FLOW
EG LOW FLOW
WS LOW FLOW
Crit LOW FLOW
Ground


40
100
200.38
236.15
400
500
600
700
PETERSON DITCH
828.92
869.87
Alignment - (1)
1000
1100
1200


PETERSON DITCH HEC RAS Plan: Plan 01 1/23/2018
Flow: PETERSON DITCH 2
Legend
WS LOW FLOW
WS MEDIUM FLOW
WS HIGH FLOW
Ground
Bank Sta
1200
1100
1000
862.92
850.56
869.87
700
600
500
400
236.15
100
40

HEC-RAS Plan: Plan 01 River: PETERSON DITCH Reach: Alignment - (1)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Alignment - (1)	1200	LOW FLOW	40.00	3586.99	3588.23		3588.26	0.000916	1.42	28.10	29.05	0.26
Alignment - (1)	1200	MEDIUM FLOW	200.00	3586.99	3589.50		3589.64	0.001509	3.00	66.72	31.38	0.36
Alignment - (1)	1200	HIGH FLOW	400.00	3586.99	3590.43		3590.70	0.001929	4.14	96.73	32.77	0.42
Alignment - (1)	1100	LOW FLOW	40.00	3586.00	3588.19		3588.20	0.000310	1.02	39.32	30.54	0.16
Alignment - (1)	1100	MEDIUM FLOW	200.00	3586.00	3589.42		3589.51	0.000887	2.42	82.70	38.12	0.29
Alignment - (1)	1100	HIGH FLOW	400.00	3586.00	3590.35		3590.53	0.001152	3.36	119.12	40.10	0.34
Alignment - (1)	1000	LOW FLOW	40.00	3586.91	3588.10		3588.14	0.001531	1.71	23.38	27.90	0.33
Alignment - (1)	1000	MEDIUM FLOW	200.00	3586.91	3589.17		3589.36	0.002594	3.49	57.35	34.57	0.48
Alignment - (1)	1000	HIGH FLOW	400.00	3586.91	3590.01		3590.34	0.002812	4.58	87.30	36.55	0.52
Alignment - (1)	869.87	LOW FLOW	40.00	3586.99	3587.74		3587.82	0.004502	2.24	17.84	32.09	0.53
Alignment - (1)	869.87	MEDIUM FLOW	200.00	3586.99	3588.80		3588.99	0.003200	3.45	58.01	42.16	0.52
Alignment - (1)	869.87	HIGH FLOW	400.00	3586.99	3589.72		3589.98	0.002421	4.05	98.65	44.93	0.48
Alignment - (1)	862.92	LOW FLOW	40.00	3586.78	3587.51	3587.51	3587.75	0.017091	3.96	10.10	20.92	1.00
Alignment - (1)	862.92	MEDIUM FLOW	200.00	3586.78	3588.35	3588.35	3588.91	0.013571	6.00	33.32	30.46	1.01
Alignment - (1)	862.92	HIGH FLOW	400.00	3586.78	3589.20	3588.99	3589.91	0.008564	6.76	59.21	30.48	0.85
Alignment - (1)	850.56	LOW FLOW	40.00	3586.10	3587.21	3587.15	3587.43	0.012960	3.76	10.65	18.95	0.88
Alignment - (1)	850.56	MEDIUM FLOW	200.00	3586.10	3588.11	3588.11	3588.68	0.013698	6.05	33.03	29.90	1.02
Alignment - (1)	850.56	HIGH FLOW	400.00	3586.10	3589.20		3589.78	0.006028	6.08	65.82	29.92	0.72
Alignment - (1)	828.92	LOW FLOW	40.00	3586.32	3587.06		3587.15	0.009448	2.38	16.79	48.17	0.71
Alignment - (1)	828.92	MEDIUM FLOW	200.00	3586.32	3588.30		3588.40	0.001503	2.51	79.66	52.40	0.36
Alignment - (1)	828.92	HIGH FLOW	400.00	3586.32	3589.48		3589.60	0.000939	2.80	142.86	55.26	0.31
Alignment - (1)	700	LOW FLOW	40.00	3586.00	3586.88		3586.90	0.000736	1.18	33.96	40.93	0.23
Alignment - (1)	700	MEDIUM FLOW	200.00	3586.00	3588.17		3588.25	0.000835	2.24	89.26	44.10	0.28
Alignment - (1)	700	HIGH FLOW	400.00	3586.00	3589.37		3589.49	0.000759	2.79	143.60	46.91	0.28
Alignment - (1)	600	LOW FLOW	40.00	3585.99	3586.77		3586.80	0.001235	1.42	28.07	37.27	0.29
Alignment - (1)	600	MEDIUM FLOW	200.00	3585.99	3588.05		3588.15	0.001195	2.59	77.24	39.75	0.33
Alignment - (1)	600	HIGH FLOW	400.00	3585.99	3589.24		3589.40	0.001035	3.17	126.33	42.41	0.32
Alignment - (1)	500	LOW FLOW	40.00	3585.99	3586.53		3586.59	0.004152	2.05	19.55	37.78	0.50
Alignment - (1)	500	MEDIUM FLOW	200.00	3585.99	3587.91		3588.02	0.001389	2.68	74.51	41.13	0.35
Alignment - (1)	500	HIGH FLOW	400.00	3585.99	3589.14		3589.29	0.001061	3.16	126.64	43.92	0.33
Alignment - (1)	400	LOW FLOW	40.00	3585.00	3586.43		3586.45	0.000596	1.13	35.54	39.05	0.21
Alignment - (1)	400	MEDIUM FLOW	200.00	3585.00	3587.84		3587.91	0.000691	2.13	93.75	43.19	0.26
Alignment - (1)	400	HIGH FLOW	400.00	3585.00	3589.09		3589.20	0.000658	2.67	149.54	46.59	0.26

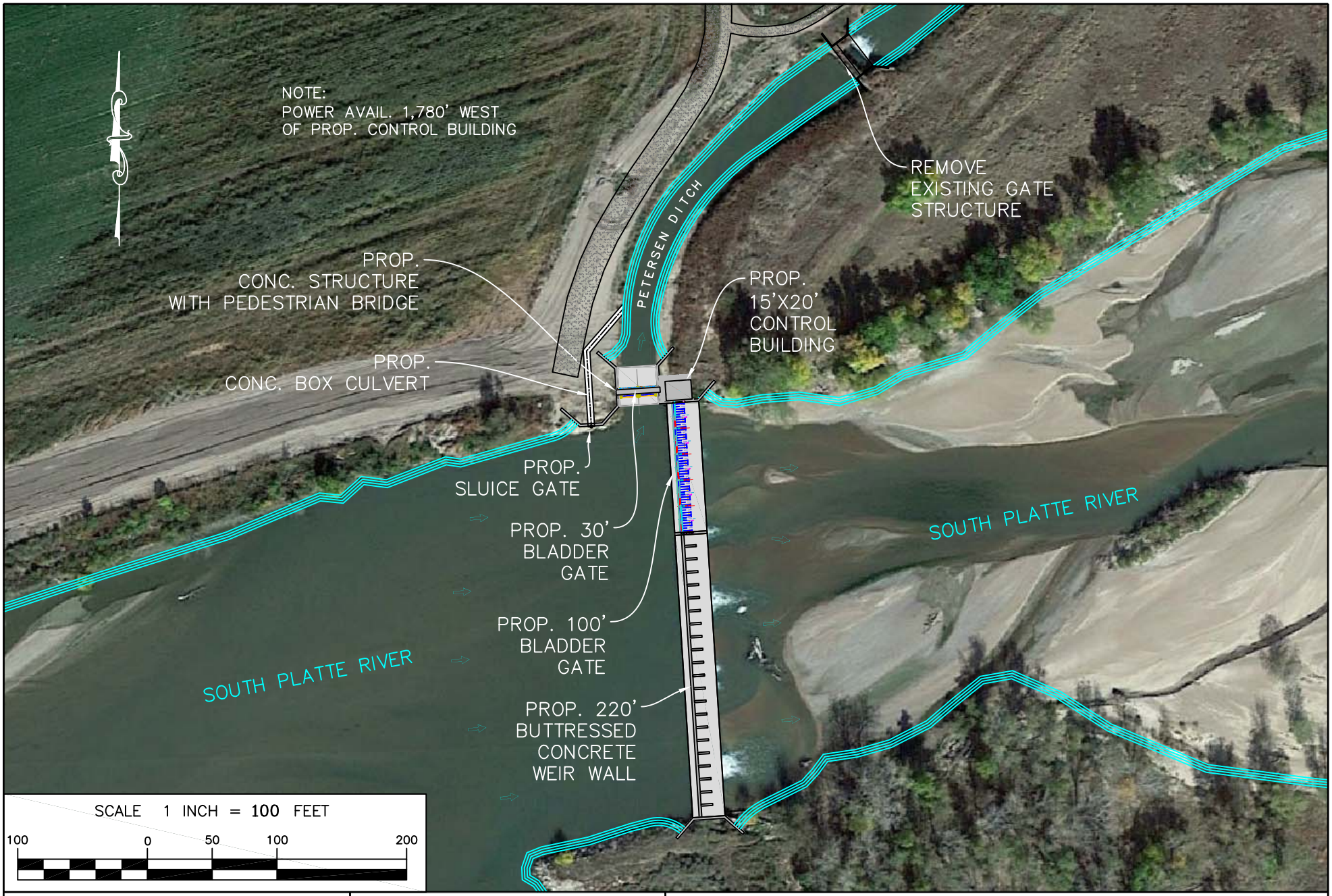
HEC-RAS Plan: Plan 01 River: PETERSON DITCH Reach: Alignment - (1) (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Alignment - (1)	236.15	LOW FLOW	40.00	3585.00	3586.24		3586.29	0.002001	1.81	22.09	29.08	0.37
Alignment - (1)	236.15	MEDIUM FLOW	200.00	3585.00	3587.58		3587.73	0.001748	3.13	63.85	32.50	0.39
Alignment - (1)	236.15	HIGH FLOW	400.00	3585.00	3588.80		3589.03	0.001519	3.81	104.87	34.86	0.39
Alignment - (1)	216.94	LOW FLOW	40.00	3585.01	3585.91	3585.91	3586.18	0.017730	4.12	9.70	19.33	1.03
Alignment - (1)	216.94	MEDIUM FLOW	200.00	3585.01	3586.87	3586.87	3587.60	0.013664	6.86	29.17	20.40	1.01
Alignment - (1)	216.94	HIGH FLOW	400.00	3585.01	3587.72	3587.72	3588.87	0.012711	8.60	46.51	20.42	1.00
Alignment - (1)	200.38	LOW FLOW	40.00	3581.00	3581.56	3581.53	3581.78	0.015422	3.73	10.73	20.33	0.91
Alignment - (1)	200.38	MEDIUM FLOW	200.00	3581.00	3583.13		3583.42	0.005137	4.31	46.42	25.00	0.56
Alignment - (1)	200.38	HIGH FLOW	400.00	3581.00	3584.42		3584.77	0.004256	4.71	84.86	33.60	0.52
Alignment - (1)	194.44	LOW FLOW	40.00	3580.00	3581.66		3581.70	0.001645	1.63	24.60	31.04	0.32
Alignment - (1)	194.44	MEDIUM FLOW	200.00	3580.00	3583.25		3583.35	0.001108	2.60	76.93	34.95	0.31
Alignment - (1)	194.44	HIGH FLOW	400.00	3580.00	3584.54		3584.70	0.001033	3.21	124.72	38.91	0.32
Alignment - (1)	100	LOW FLOW	40.00	3580.00	3581.59		3581.61	0.000563	1.18	33.88	32.56	0.20
Alignment - (1)	100	MEDIUM FLOW	200.00	3580.00	3583.19		3583.27	0.000673	2.25	88.81	35.68	0.25
Alignment - (1)	100	HIGH FLOW	400.00	3580.00	3584.48		3584.61	0.000730	2.93	136.67	38.65	0.27
Alignment - (1)	40	LOW FLOW	40.00	3580.00	3581.52	3580.90	3581.56	0.001102	1.55	25.85	27.29	0.28
Alignment - (1)	40	MEDIUM FLOW	200.00	3580.00	3583.09	3581.77	3583.21	0.001101	2.73	73.17	32.00	0.32
Alignment - (1)	40	HIGH FLOW	400.00	3580.00	3584.37	3582.45	3584.55	0.001100	3.46	115.67	34.72	0.33

HEC-RAS Plan: Plan 01 River: PETERSON DITCH Reach: Alignment - (1) Profile: HIGH FLOW

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Alignment - (1)	1200	HIGH FLOW	400.00	3586.99	3590.43		3590.70	0.001929	4.14	96.73	32.77	0.42
Alignment - (1)	1100	HIGH FLOW	400.00	3586.00	3590.35		3590.53	0.001152	3.36	119.12	40.10	0.34
Alignment - (1)	1000	HIGH FLOW	400.00	3586.91	3590.01		3590.34	0.002812	4.58	87.30	36.55	0.52
Alignment - (1)	869.87	HIGH FLOW	400.00	3586.99	3589.72		3589.98	0.002421	4.05	98.65	44.93	0.48
Alignment - (1)	862.92	HIGH FLOW	400.00	3586.78	3589.20	3588.99	3589.91	0.008564	6.76	59.21	30.48	0.85
Alignment - (1)	850.56	HIGH FLOW	400.00	3586.10	3589.20		3589.78	0.006028	6.08	65.82	29.92	0.72
Alignment - (1)	828.92	HIGH FLOW	400.00	3586.32	3589.48		3589.60	0.000939	2.80	142.86	55.26	0.31
Alignment - (1)	700	HIGH FLOW	400.00	3586.00	3589.37		3589.49	0.000759	2.79	143.60	46.91	0.28
Alignment - (1)	600	HIGH FLOW	400.00	3585.99	3589.24		3589.40	0.001035	3.17	126.33	42.41	0.32
Alignment - (1)	500	HIGH FLOW	400.00	3585.99	3589.14		3589.29	0.001061	3.16	126.64	43.92	0.33
Alignment - (1)	400	HIGH FLOW	400.00	3585.00	3589.09		3589.20	0.000658	2.67	149.54	46.59	0.26
Alignment - (1)	236.15	HIGH FLOW	400.00	3585.00	3588.80		3589.03	0.001519	3.81	104.87	34.86	0.39
Alignment - (1)	216.94	HIGH FLOW	400.00	3585.01	3587.72	3587.72	3588.87	0.012711	8.60	46.51	20.42	1.00
Alignment - (1)	200.38	HIGH FLOW	400.00	3581.00	3584.42		3584.77	0.004256	4.71	84.86	33.60	0.52
Alignment - (1)	194.44	HIGH FLOW	400.00	3580.00	3584.54		3584.70	0.001033	3.21	124.72	38.91	0.32
Alignment - (1)	100	HIGH FLOW	400.00	3580.00	3584.48		3584.61	0.000730	2.93	136.67	38.65	0.27
Alignment - (1)	40	HIGH FLOW	400.00	3580.00	3584.37	3582.45	3584.55	0.001100	3.46	115.67	34.72	0.33

Appendix G
Replacement Structure Details



GAUTHIERE ENGINEERING, INC.
2157 Buena Vista Drive Greeley,
Colorado 80634 Phone: (970) 330-0855
E-mail: john@gauthiere-engineering.com

Scale: 1" =100'

Drawn By: JGG

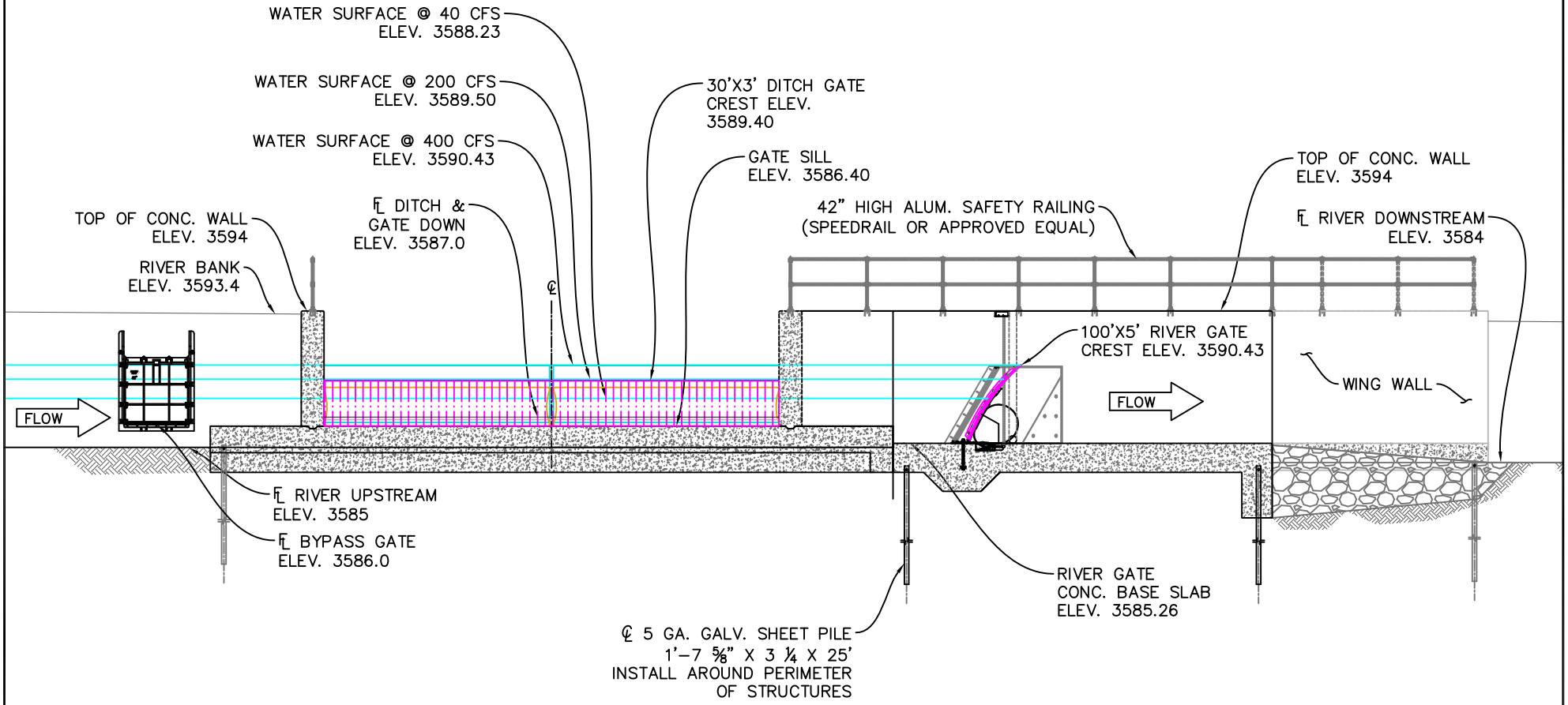
File: JID

JULESBURG IRRIGATION DISTRICT
PETERSEN DITCH DIVERSION REPLACEMENT PROJECT

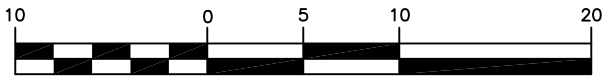
Date: JAN. 25, 2018

FIGURE 3 - PLAN VIEW

NOTE:
1. DITCH GATE SEAL BEAM AND PED BRIDGE NOT SHOW FOR CLARITY
2. FOUNDATION FRICTION PILES NOT SHOWN.



SCALE 1 INCH = 10 FEET



GAUTHIERE ENGINEERING, INC.
2157 Buena Vista Drive Greeley, Colorado
80634 Phone: (970) 330-0855
E-mail: john@gauthiere-engineering.com

Scale: 1" =10'

Drawn By: JGG

File: JID

JULESBURG IRRIGATION DISTRICT
PETERSEN DITCH DIVERSION REPLACEMENT PROJECT

Date: JAN. 25, 2018

FIGURE 4 - CRITICAL ELEVATIONS