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Loan Program

Department of Natural Resources
and Conservation

Conservation and Resource
Development Division



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Renewable Resource Grant and Loan Program

Project Evaluations and Funding Recommendations
For the 2021 Biennium

and

2019 Biennium Status Report

Prepared by the

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Resource Development Bureau

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LIST OF ABBREVIATIONS

AC	asbestos cement
AVID	Alfalfa Valley Irrigation District
BBWA	Billings Bench Water Association
BIA	Bureau of Indian Affairs
BMWUA	Broadwater Missouri Water Users Association
BNSF	Burlington Northern Santa Fe
BOD	biochemical oxygen demand
BRID	Bitter Root Irrigation District
BRIPD1	Buffalo Rapids Irrigation Project District, Phase 1
BRIPD2	Buffalo Rapids Irrigation Project District, Phase 2
BSD	Big Springs Ditch
CARDD	Conservation and Resource Development Division
CDBG	Community Development Block Grant
cfs	cubic feet per second
CST	Coal Severance Tax
CVFD	Cascade Volunteer Fire Department
cy	cubic yards
DEQ	Montana Department of Environmental Quality
DES	disaster and emergency services
DMWUA	Delphia Melstone Water Users Association
DNRC	Montana Department of Natural Resources and Conservation
EPA	U.S. Environmental Protection Agency
FBIC	Fort Belknap Indian Community
FBID	Fort Belknap Irrigation District
FBIP	Fort Belknap Irrigation Project
FSID	Fort Shaw Irrigation District
FWP	Montana Fish, Wildlife & Parks
FY	Fiscal Year
GDC	Golden Ditch Company
GID	Glasgow Irrigation District
GPIA	Glacier Park International Airport
GVFD	Grass Valley French Ditch
HCC	Horse Creek Coulee
HDPE	high-density polyethylene
HVID	Helena Valley Irrigation District
I&I	infiltration and inflow
ID	Irrigation District
IDG	Irrigation Development Grants
LYIP	Lower Yellowstone Irrigation Project
MCA	Montana Code Annotated
MCL	maximum contaminant levels
MPDES	Montana Pollutant Discharge Elimination System
MRL	Montana Rail Link
NCWUA	Nevada Creek Water Users Association
NRCS	Natural Resources Conservation Service
O&G	Oil and Gas
PCCRC	Pondera County Canal and Reservoir Company
PER	Preliminary Engineering Report
PVC	polyvinyl chloride
RD	Rural Development
RDB	Resource Development Bureau
RRGL	Renewable Resource Grant and Loan
SCADA	supervisory control and data acquisition
SID	Savage Irrigation District

SRF State Revolving Fund
SSRA..... state special revenue account
SWID Sidney Water Users Irrigation District
TN..... total nitrogen
TP..... total phosphorus
TSEP Treasure State Endowment Program
TSS total suspended solids
USBR U.S. Bureau of Reclamation, U.S. Department of the Interior
UV ultraviolet
WCFC..... Willow Creek Feeder Canal
WCR..... Willow Creek Reservoir
WSD Water and Sewer District
WTP Water Treatment Plant
WWTF Wastewater Treatment Facility
WWTP Wastewater Treatment Plant

ALPHABETICAL INDEX OF PROJECTS
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CHAPTER I

The Renewable Resource Grant and Loan Program

This report provides general information about the Renewable Resource Grant and Loan (RRGL) program administered by the Montana Department of Natural Resources and Conservation (DNRC). RRGL project grants recommended to the 2019 Legislature for funding are described in Chapter II.

Background

The Renewable Resource Grant and Loan program is the product of two earlier resource management programs: the Renewable Resource Development program established in 1975 and the Water Development program established in 1981. In 1993, the two natural resource grant programs were combined to form the RRGL program. At that time, the DNRC Resource Development Bureau assumed responsibility for administering the RRGL program as stipulated under Title 85, part 6, MCA. Combining the two programs streamlined program administration but did not change applicant and project eligibility criteria.

RRGL grants are funded by revenue generated from resource extraction taxes. Portions of the following sources of revenue are deposited in the natural resource projects state special revenue account (SSRA): the resource indemnity groundwater assessment tax, the oil and gas production tax, and interest earnings from the resource indemnity trust fund. Funds from the natural resource projects SSRA are shared by DNRC's two natural resource grant programs: the Reclamation and Development Grants program and RRGL program.

Purpose

The purpose of the RRGL program is to further the state's policies, set forth in Section 85-1-101, MCA, regarding the conservation, development, and beneficial use of renewable resources and to invest in renewable resource projects that will preserve for the citizens of Montana the economic and other benefits of the state's natural heritage.

Project and Applicant Eligibility

Grants and loans are available for projects that conserve, manage, develop, or preserve the state's water, land, vegetation, fish, wildlife, recreation, and other renewable resources. The majority of projects funded under this program are water resource projects followed by forestry, soil conservation, renewable energy, and solid waste projects. Project funding is available for construction, research, design, demonstration, and planning.

The legislature established that *this long-term renewable resource grant and loan program provide financial and administrative assistance to private for-profit, private, nonprofit, local government, state government, and Tribal government entities for renewable resource grant and loan projects.* (85-1-601 MCA). For the purposes of RRGL grants, eligible applicants include public entities (cities, towns, counties, irrigation districts, conservation districts, school districts, Tribal governments, and the Montana state government) and private entities (individuals, associations, corporations, and other for profit or nonprofit organizations.) Grant programs described in this report provide grants to public and/or private entities. See specific grant and loan program descriptions for applicant eligibility requirements.

Renewable Resource Grants and Loans

Project Grants are available to government entities up to \$125,000. These projects are the primary purpose of and use most of the appropriated funds for the RRGL program. Grants must be individually approved by the Montana Legislature. Chapter II provides more information about the program and about grants active during the 2019 biennium.

Public Loans are backed by the coal severance tax and are available to public entities. These loans and their interest rates must be individually approved by the Montana Legislature. Chapter III provides more information about the program and about loans active during the 2019 biennium.

Private Grants and Loans are available to nongovernment entities only. These projects must benefit or develop a renewable resource and provide a public benefit. Chapter IV describes private grants and loans active during the 2019 biennium.

Irrigation Development Grants assist producers and irrigation system managers with projects that would increase crop value or expand irrigated acreage in Montana. Chapter V provides more information about the program and irrigation development grant projects active during the 2019 biennium.

Emergency Grants and Loans are available to governmental entities to resolve water-related emergencies that, if delayed until the next regular legislative session, would result in substantial damages. Chapter VI of this report provides more information about the program and describes emergency assistance provided during the 2019 biennium.

Planning Grants provide funding to governmental entities for activities that lead to a well-prepared RRGL project grant application or assist a community with infrastructure planning or project prioritization. Chapter VII provides more information about the program and planning grants active during the 2019 biennium.

Watershed Management Grants support the development and implementation of locally led watershed resource management activities. Chapter VIII provides more information about the grant program and watershed management projects active during the 2019 biennium.

Septic Loan Grants were available to Montana counties willing to set up a revolving loan program to subsidize conversions from septic to a central wastewater treatment facility. Chapter IX describes grants active during the 2019 biennium.

Funding Limitations

The law does not impose specific limitations on the amount of grant funding that the Legislature may provide for renewable resource projects proposed by governmental entities. Grant recommendations presented by DNRC to the Legislature Joint Subcommittee for Long-Range Planning are for limited amounts up to \$125,000. DNRC put these grant limits in place to obtain optimal public benefit from the investment of public funds. However, the Legislature has the authority to appropriate grants and loans in amounts the Legislature deems appropriate.

Funding Authority

The public and private renewable resource loan programs are funded through the issuance of general obligation and coal severance tax bonds. The 2017 Legislature did not grant authority to fund loans backed by coal severance taxes.

In 2017, the Legislature appropriated the following from the natural resource projects state special revenue account: \$3,231,640 for renewable resource project grants, \$800,000 for planning grants, \$300,000 for irrigation development grants, \$50,000 for emergency grants, and \$300,000 for watershed management grants.

Program Implementation

DNRC's role in the management of the RRGL program is specified in Part 6 of Title 85. By statute (85-1-605, MCA), DNRC only makes project-funding recommendations. The Legislature appropriates funding for project grants and authorizes loans to governmental entities that it finds consistent with the policies and purposes of the program. In presenting recommendations to the Legislature, DNRC provides information about each project for legislative consideration. All public grant requests are ranked by DNRC to demonstrate the potential value of a given project compared to all other grant requests. Grant requests that do not meet minimum technical and financial standards are not recommended by DNRC for funding. DNRC manages the grants and loans according to conditions set out in the DNRC report to the Legislature (this report) and in legislation appropriating funds for RRGL projects.

DNRC provides the staffing necessary to administer the RRGL program. DNRC publicizes the statutes and rules that govern these loans and sets application deadlines. Private entities also comply with additional eligibility criteria, as set forth in 85-1-609 and 610, MCA.

Rule-Making Authority

DNRC may propose and adopt rules to clarify statutory requirements however DNRC cannot expand or limit the mission of the RRGL program beyond legislative intent. DNRC does not have the authority to narrow the range of eligible grants based on DNRC priorities. Title 85, MCA, directs DNRC to adopt rules that prescribe the application fee and content for grant and loan applications. DNRC also determines the ranking criteria used to evaluate and prioritize public grant applications and the process for awarding grants and loans to private entities according to statute. DNRC authority provides for the servicing of loans and determination of the terms and conditions for making grants and loans.

Program Goals

DNRC seeks to meet program purpose through the following practices:

- Effectively administer grants and loans to ensure that funds are used for allowable costs and that projects are executed in accordance with conditions set by the Legislature and in compliance with Title 85, MCA, and other applicable laws, without undue burden to the recipient.
- Conduct project oversight to ensure state tax monies are used for the purposes outlined in this report and in legislative bills appropriating funds for RRGL projects.
- Inform the public and private sectors that grant and loan funding for water and other renewable resource projects is available, that certain applicant eligibility criteria for obtaining funds exist, and that projects that meet the purposes of Title 85, MCA, qualify for funding.
- Coordinate with other state and federal agencies to support projects that rely on multiple funding sources, facilitate a uniform application process for infrastructure projects, and award funds without duplication.
- Solicit public comment and suggestions for improvements to the program.
- Evaluate grant projects on the basis of technical merit and the resource benefits established in statute.
- Offer loans at the most affordable rates available through the sale of bonds.
- Adequately secure loans to protect the investment of public funds.
- Advise the Legislature concerning DNRC efforts to effectively administer the program according to statute and legislative intent.

CHAPTER II

Renewable Resource Grants to Public Entities

Application Administration and Project Review Procedures

The Department of Natural Resources and Conservation (DNRC) Resource Development Bureau accepts applications for public grants and loans submitted or postmarked by May 15 of each even-numbered year. Applications are submitted through Webgrants, the Montana Grant and Loan website: <https://fundingmt.org>. This website provides grant program information and on-line application services for seven Montana state agencies.

Project Solicitation

DNRC solicits project applications from all eligible applicants for all eligible project types. DNRC maintains an extensive mailing list to promote the program and to solicit applications from eligible applicants. Mailing lists include Montana county governments, cities and towns, the university system, state agencies, environmental organizations, water users associations, irrigation districts, water and sewer districts, Tribal governments, and conservation districts. In addition, DNRC staff conduct workshops and present at conferences to advertise funding opportunities to local governments and other eligible entities. Application guidelines are available in hard copy and online on the DNRC website.

DNRC received 76 applications in May 2018 requesting a total of \$9,464,863. In the previous 2016 application cycle, 95 applicants were received, requesting \$11,555,800 in grant funding.

The RRGL application requests the following information for each project:

- A proposal abstract summarizing the project and its merits;
- A technical narrative describing the project's purpose, history, and prior efforts; specific goals and objectives, as well as a discussion of project alternatives; and documentation supporting the technical narrative;
- A financial narrative and budget forms describing the project's funding structure;
- Affordability data used to evaluate the local financial commitment for infrastructure projects, including a description of the applicant's ability to pay, such as potential to generate revenue through fees or taxes;
- A project management plan;
- A discussion of public and natural resource benefits achieved by the proposed project; and
- An environmental checklist identifying adverse environmental impacts that may occur as a result of the project.

Those projects that most closely meet statutory priorities rank the highest. Projects that meet program purpose to a lesser extent and appear to be less feasible than others tend to rank the lowest.

Application Review

All applications received by the deadline were evaluated for completeness. The DNRC notified applicants concerning missing documentation, application fees, or other basic requirements and provided time for applicants to submit additional material. The DNRC then distributed the applications to a team of reviewers for evaluation. These primary reviewers included DNRC staff, engineers, and consultants procured by DNRC. Projects were assigned based on the reviewer's area of expertise.

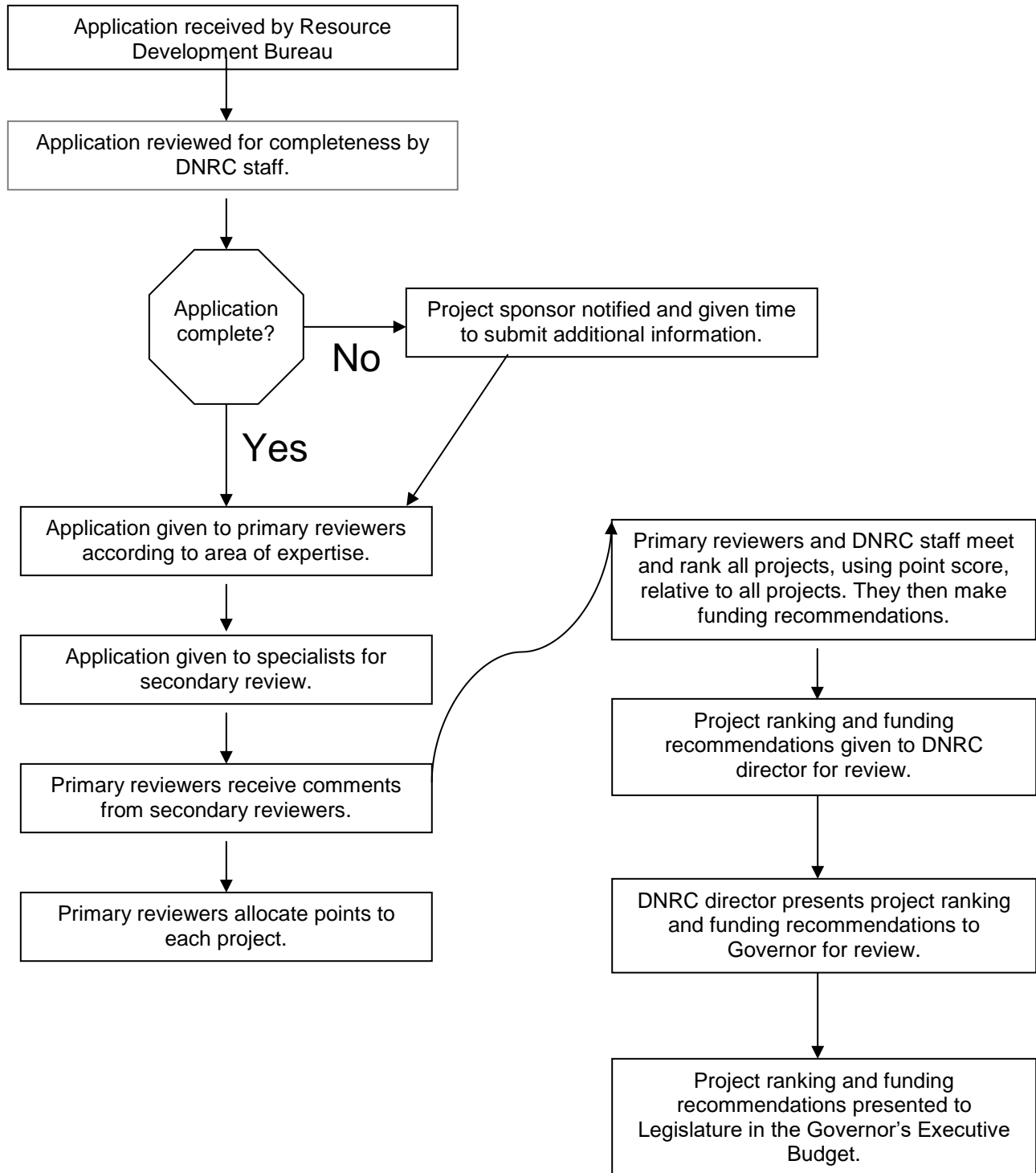
Applications also underwent one or more secondary reviews. Secondary reviewers provided information on regulatory requirements, existing natural resource management plans, and specialized technical issues. Secondary reviewers included staff from DNRC, other government agencies, specialized nonprofits, and contracted specialists.

Figure 1 shows the flow of the grant application review and ranking process. The technical review team evaluated each application to ensure that the proposal was technically and financially feasible. During project review, the reviewers were directed to request additional detailed technical and financial information from applicants to clarify applications. With the results of their own evaluations and comments from

secondary reviewers, primary reviewers assessed and documented the merits of each proposal based on standard review criteria outlined in review guidance.

During application review, DNRC also sought views of interested and affected parties. Local, state, and federal agencies, environmental groups, private organizations, and universities are solicited for input during the technical review of applications. DNRC developed guidelines specifically for application review to ensure a consistent basis for reviewing applications.

FIGURE 1 Flowchart of Grant Application Review and Ranking Process



Project Ranking Criteria

To obtain an objective evaluation of all applications, DNRC developed review guidance containing review instructions and guidelines. Each key reviewer completes a ranking form for each application to document the merits of the proposal and the resulting score.

Each primary reviewer assigns a score to reflect project merit under the following five primary categories:

- Resource and Citizen Benefits;
- Technical Feasibility;
- Project Management and Implementation;
- Financial Feasibility; and
- Environmental Impact.

After scoring, primary reviewers meet to discuss the technical merits and deficiencies of the projects and reconcile scores for project feasibility. Discussion by the entire review committee increases ranking fairness by minimizing inconsistencies between scores given by individual reviewers. After project feasibility scores are reconciled, DNRC staff meets to evaluate applications based on the degree to which a project will conserve, develop, or preserve renewable resources. Finally, DNRC staff develops a ranked list based on all scoring criteria (feasibility plus how well the project meets program purpose) for recommendation to the DNRC director.

Funding Recommendations

All eligible grant requests were ranked according to standard criteria to select those that would meet the program's purpose as defined in state statute. Funding recommendations for project applications submitted in May 2018 are presented to the Legislature as part of this report (**Table 1**).

In April 2017, the Legislature appropriated \$3,206,195 to fund 26 RRGL project grants. After the November 2017 Special Legislative Session, \$2.05 million was transferred from the project state special revenue account to the General Fund, effectively defunding 7 RRGL and 3 Reclamation and Development Grants projects. DNRC notified the applicants of the lowest priority funded projects that funds would not be available for their projects, but they could request reconsideration by the 2019 Legislature without preparing a new application. Four of the seven RRGL projects submitted requests for reconsideration. The projects that did not request consideration either found another funding source or decided not to move forward with their projects at this time. **Table 2** lists projects from applicants that originally submitted in 2016 but have requested reconsideration. These projects show the rank they received when compared to the list of 2018 applications in **Table 1**.

Grant applications from both **Tables 1 and 2** include six types of projects (**Figure 2**): drinking water, wastewater, irrigation, dams, studies and research, and water management. A map showing project locations is presented as (**Figure 3**).

These recommendations do not impose limits on the amount of funding the Legislature may provide to any governmental entity for a single grant project.

Project Management

After an appropriations bill is enacted to authorize grants and loans, DNRC will notify applicants of their funding status. Sponsors of funded projects are reminded that work on their projects may not begin before entering into a grant or loan agreement with DNRC. DNRC will not reimburse any project cost incurred before legislative authorization is given and before a formal funding agreement is executed.

Project Monitoring

Procedures for monitoring projects are governed by a grant contract agreement between DNRC and the project sponsor. Four DNRC staff oversee 300–400 active projects at any given time. DNRC attempts to make site inspection visits to all large projects during the construction phase. Site visits are made to spot check for problems or to respond to a request for assistance from the project sponsor. Budget and staffing constraints preclude DNRC site visits for every project.

Grant agreements require progress reports, expenditure reports, and a final report. Program staff document decisions and conversations that affect ongoing projects. DNRC is flexible when considering scope changes as long as the project achieves the goals described in this document's project write-up. Amendments to grant agreements are prepared and issued in response to any problems that require changes to the timeline or budget.

Project sponsors submit claims and obtain reimbursement of allowable costs from DNRC. Invoices may be submitted monthly, and all costs must be fully supported by an invoice or receipt.

Project Evaluation

DNRC evaluates the ultimate success of renewable resource grants through a final report. Upon project completion, DNRC requires a report that documents project history and results of the expenditure of grant dollars. Evaluation through a final project report enables DNRC to measure how well the project implemented program goals. Projects are considered successful if they complete the scope of work outlined in the grant agreement and achieve predicted renewable resource benefits.

Projects Appropriated by the 2017 Legislature that Lost Funding after the 2017 Special Session

Six projects funded by the 2017 Legislature in House Bill 6 lost funding after the 2017 Special Session. Four these projects were submitted for reconsideration by the 2019 Legislature. These projects are recommended for funding regardless of rank shown in Table 1.

Table 1 2018 Grant Applications by Order of Ranking Recommendation

(shaded applications were 2017 Projects that lost funding and submitted for reconsideration)

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended RRG Loan Funding
1	Seeley Lake – Missoula County Sewer District Wastewater Improvements, Phase 2	\$125,000	\$125,000	
2	Granite County Flint Creek Dam Rehabilitation	\$125,000	\$250,000	
3	Whitefish, City of Wastewater Treatment System Improvements	\$125,000	\$375,000	
4	Missoula, City of Rattlesnake Creek Dam Removal	\$125,000	\$500,000	
5	Montana Department of Natural Resources and Conservation Water Resources Division Douglas Canal Rehabilitation	\$125,000	\$625,000	
6	Flathead Conservation District Trumbull Creek Restoration and Aquifer Protection	\$125,000	\$750,000	
7	Canyon Creek Irrigation District Canyon Lake Dam Rehabilitation	\$125,000	\$875,000	\$154,218
8	Harlowton, City of Roundhouse Wetland Restoration	\$125,000	\$1,000,000	
9	Thompson Falls, City of Wastewater System Improvements, Phase 1	\$125,000	\$1,125,000	
10	Montana Department of Natural Resources and Conservation Water Resources Division Broadwater Missouri Canal System Master Plan	\$125,000	\$1,250,000	
11	Winnett, Town of Wastewater System Retrofit	\$125,000	\$1,375,000	
12	Bitter Root Irrigation District Como Dam Water Resource Enhancement	\$125,000	\$1,500,000	
13	Harlowton, City of Wastewater Improvements	\$125,000	\$1,625,000	
14	Milk River Joint Board of Control St. Mary Canal Drop 2 Replacement	\$125,000	\$1,750,000	
15	Whitehall, Town of Water Treatment Plant Improvements	\$125,000	\$1,875,000	
16	Lewis and Clark Conservation District Willow Creek Feeder Canal Rehabilitation	\$125,000	\$2,000,000	
17	Fort Belknap Indian Community Three Mile Creek Pump Station Rehabilitation	\$125,000	\$2,125,000	
18	Malta Irrig. Dist. (Reconsideration) Exeter Siphon Replacement	\$125,000	\$2,250,000	

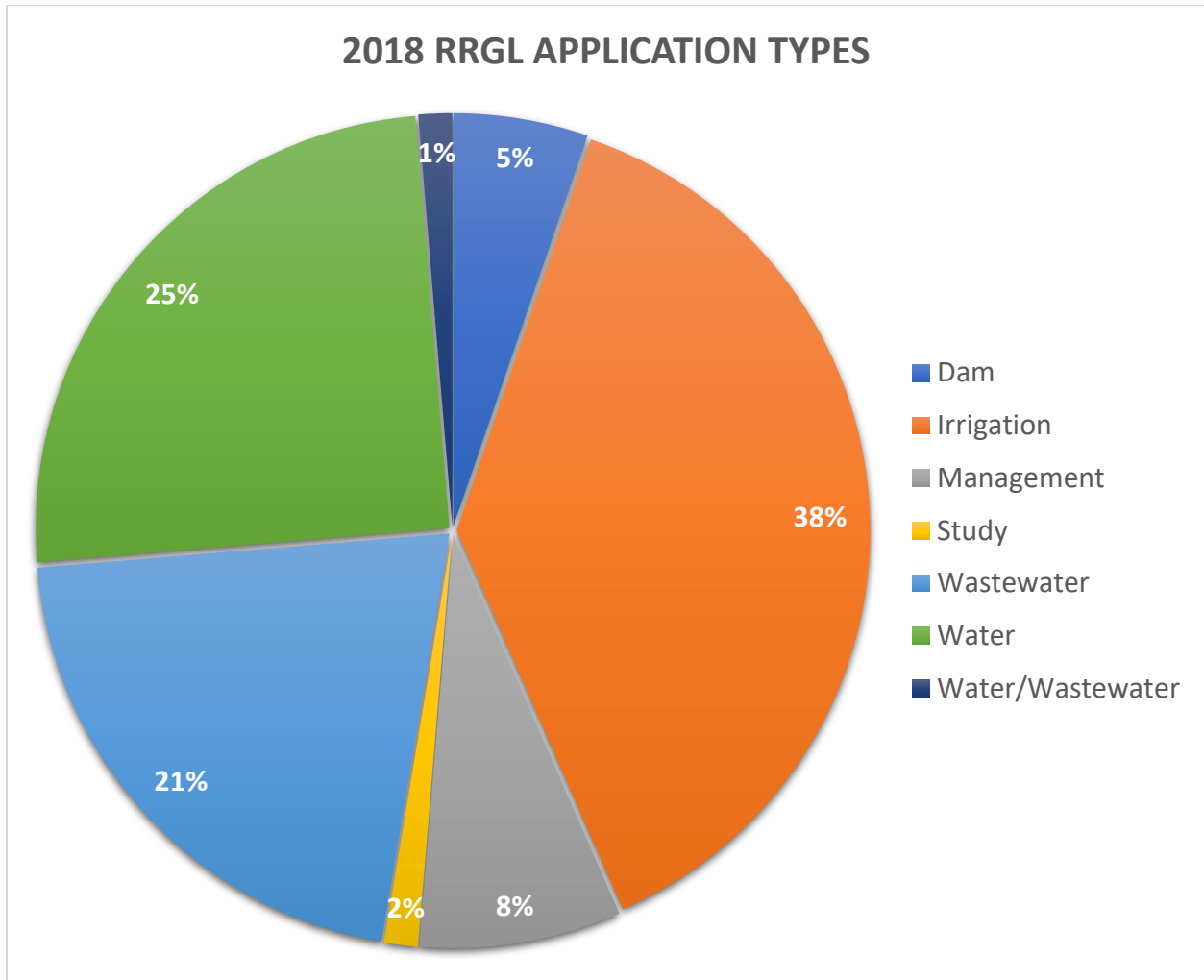
Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended RRG Loan Funding
19	Roundup, City of Water System Improvements	\$125,000	\$2,375,000	
20	Glasgow Irrigation District V-63 Lateral Conversion	\$125,000	\$2,500,000	
21	Broadwater Conservation District Big Springs Ditch Water Conservation, Phase 2 (Reconsideration)	\$125,000	\$2,625,000	
22	Pondera County Conservation District Swift Dam Rehabilitation	\$125,000	\$2,750,000	
23	Simms County Sewer District Wastewater System Improvements, Phase 2	\$125,000	\$2,875,000	
24	Malta Irrigation District Costin Lateral Pipeline Conversion	\$125,000	\$3,000,000	
25	Power-Teton County Water and Sewer District Water System Improvements, Phase 1	\$125,000	\$3,125,000	
26	Scobey, City of Water System Improvements, Phase 2	\$125,000	\$3,250,000	
27	Bigfork County Water and Sewer District Wastewater System Improvements	\$125,000	\$3,375,000	
28	Buffalo Rapids Irrigation Project District 2 Lateral 1.6 Pipeline Conversion	\$125,000	\$3,500,000	
29	Sidney Water Users Irrigation District 3 (Reconsideration) Main Canal Pipeline Conversion, Phase 1	\$125,000	\$3,625,000	
30	Hill County Beaver Creek Dam Spillway Improvements	\$125,000	\$3,750,000	
31	Sidney Water Users Irrigation District 3 Main Canal Pipeline Conversion, Phase 2	\$125,000	\$3,875,000	
32	Flathead Conservation District Krause Creek Restoration	\$125,000	\$4,000,000	
33	Alfalfa Valley Irrigation District East Flynn Canal Rehabilitation	\$125,000	\$4,125,000	
34	Lower Musselshell Conservation District Delphia Melstone WUA Irrigation Efficiency and Pump Station Rehabilitation	\$117,050	\$4,242,050	
35	Buffalo Rapids Irrigation Project District 2 (Reconsideration) Shirley Main Canal Rehabilitation	\$125,000	\$4,367,050	
36	Columbia Falls, City of Water System Improvements	\$125,000	\$4,492,050	

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended RRG Loan Funding
37	Buffalo Rapids Irrigation Project District 1 Lateral 1.7 Pipeline Conversion	\$125,000	\$4,617,050	
38	Hardin, City of Wastewater Treatment Plant Improvements	\$125,000	\$4,742,050	
39	Dillon, City of Water Transmission and Distribution Main Replacement	\$125,000	\$4,867,050	
40	Helena Valley Irrigation District Lateral 14.8 Headgate Rehabilitation	\$125,000	\$4,992,050	
41	Polson, City of Wastewater System Improvement, Phase 2	\$125,000	\$5,117,050	
42	Carbon County Conservation District Golden Ditch Company Clarks Fork Diversion Rehabilitation	\$125,000	\$5,242,050	
43	Savage Irrigation District Infrastructure Rehabilitation	\$125,000	\$5,367,050	
44	Petroleum County Conservation District Horse Creek Coulee Water Storage, Phase 1	\$125,000	\$5,492,050	
45	Wibaux, Town of Wastewater Treatment System Improvements	\$125,000	\$5,617,050	
46	Alberton, Town of Water System Improvements	\$125,000	\$5,742,050	
47	Geraldine, Town of Wastewater System Improvements	\$125,000	\$5,867,050	
48	Missoula, City of Caras Park Outfall Stormwater Treatment Retrofit, Phase 2	\$125,000	\$5,992,050	
49	Black Eagle-Cascade County Water and Sewer District 2019 Water and Sewer System Improvements	\$125,000	\$6,117,050	
50	East Helena, City of Water System Improvements	\$125,000	\$6,242,050	
51	Plentywood, City of Wastewater Collection Improvement, Phase 2	\$125,000	\$6,367,050	
52	Missoula County Lewis & Clark Subdivision Wastewater Improvements, Phase 2	\$125,000	\$6,492,050	
53	Wilsall Water District Water System Improvements	\$125,000	\$6,617,050	
54	Lower Yellowstone Irrigation Project Crane Wasteway and Pump Station Rehabilitation	\$125,000	\$6,742,050	

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended RRG Loan Funding
55	Missoula Conservation District Grass Valley French Ditch Clark Fork Diversion Rehabilitation	\$125,000	\$6,867,050	
56	Montana Bureau of Mines and Geology Reducing Mobilization of Oil-Brine Salt to Streams	\$125,000	\$6,992,050	
57	Winifred, Town of Water System Improvements	\$125,000	\$7,117,050	
58	Hysham, Town of Wastewater System Improvements, Phase 1	\$125,000	\$7,242,050	
59	Vaughn Cascade County Water and Sewer District Water Improvements	\$125,000	\$7,367,050	
60	Stillwater Conservation District Yanzick/Brey-Riddle Ditches Irrigation System Improvements, Phase 2	\$125,000	\$7,492,050	
61	Lockwood Water and Sewer District Drinking Water System Improvements	\$125,000	\$7,617,050	
62	Circle, Town of Water System Improvements	\$125,000	\$7,742,050	
63	Yellowstone County Disaster and Emergency Services BBWA Main Canal Rehabilitation, Phase 1	\$125,000	\$7,867,050	
64	Hysham Irrigation District Re-Lift Canal Improvement	\$125,000	\$7,992,050	
65	Clyde Park, Town of Water System Improvements	\$125,000	\$8,117,050	
66	Libby, City of Water System Improvements	\$125,000	\$8,242,050	
67	Chinook, City of Water System Improvements	\$125,000	\$8,367,050	
68	Cut Bank, City of Water System Improvements	\$125,000	\$8,492,050	
69	North Havre County Water District Water System Improvements	\$125,000	\$8,617,050	
70	Plains, Town of Wastewater System Improvements	\$125,000	\$8,742,050	
71	Montana Bureau of Mines and Geology Measuring Groundwater Recharge in Flood to Pivot Irrigation Conversions	\$125,000	\$8,867,050	
72	Cascade, Town of Water System Improvements	\$125,000	\$8,992,050	
73	Fallon County Baker Lake Restoration	\$100,000	\$9,092,050	
74	Pondera County Conservation District Kingsbury Turnout Automation	\$125,000	\$9,217,050	

	Tin Cup County Water and Sewer District			
75	Water Conservation	\$125,000	\$9,342,050	
	Clancy Water and Sewer District			
76	Water System Improvements	\$125,000	\$9,467,050	

Figure 2 Requested Funding by Project Type



Project No. 1

Applicant Name	Seeley Lake – Missoula County Sewer District	
Project Name	Wastewater Improvements, Phase 2	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	\$ 500,000	WRDA
	\$1,415,250	RD Grant
	<u>\$3,738,250</u>	RD Loan
Total Project Cost	\$6,528,500	
Amount Recommended	\$ 125,000	

Project History

Seeley Lake is a community that currently has individual septic tanks and drain fields. There are about 400 individual on-site wastewater treatment systems in total within the district. Small lot size makes replacing existing on-site wastewater treatment systems challenging at best to nearly impossible. Constructing a centralized system for treatment and collection is the preferred alternative and will begin to reverse the groundwater degradation due to on-site septic systems in and around Seeley Lake.

This project is the second phase of a four-phase wastewater improvement project. Groundwater monitoring conducted by Montana Bureau of Mines and Geology has documented the decline in groundwater quality near Seeley Lake to the point where human health standards are exceeded. Not only does this pose a human health hazard to residents on domestic wells, it also poses a risk to the community drinking water system that draws from Seeley Lake due to near-shore groundwater/surface water interaction. The effects of contaminated groundwater and its influence on surface water can be observed as far downstream as Salmon Lake, which is experiencing algal blooms due to excessive nutrients.

Proposed Solution

Specific tasks include:

- Install 15,000 linear feet of 8-inch polyvinyl chloride (PVC) sewer main;
- Install 4,400 linear feet of 4-inch PVC force main;
- Install 12,000 linear feet of 4-inch sewer service main;
- Install 95 sewer service connections;
- Install one highway crossing;
- Install 45 manholes; and
- Install two submersible lift stations with emergency power.

Resource and Citizen Benefits Analysis

This project will improve groundwater quality by reducing nutrient loading of groundwater as existing on-site sewer systems (septics) are replaced with service connections to the community treatment system from Phase 1. It will protect the quality of surface water and aquatic life in Seeley Lake.

The project will benefit the health and safety of Seeley Lake citizens and recreationists on Seeley Lake. It will also benefit the local economy by improving wastewater management.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 2

Applicant Name Granite County
Project Name Flint Creek Dam Rehabilitation

Amount Requested \$ 125,000
Other Funding Source \$ 307,300 Applicant
Total Project Cost \$ 432,300

Amount Recommended \$ 125,000

Project History

Flint Creek Dam on Georgetown Lake provides water for irrigated agriculture, lake recreation, and powers the Flint Creek Hydroelectric Facility downstream of the dam. Aging concrete in both the spillway and upstream dam face is in poor condition. The goal of this project is to design and construct repairs on the dam and spillway to ensure safe long-term operation of the dam.

Proposed Solution

Specific tasks include:

- Finish project design and solicit bids for a construction contractor;
- Remove existing concrete in the spillway approach slab and replace with 10 cubic yards (cy) of new reinforced concrete;
- Rehabilitate the upstream dam face with 65 cy of new reinforced concrete and a steel jacket anchored into the existing concrete;
- Complete minor repairs including cleaning and sealing spillway joints, grinding excess concrete from a spillway slab, and repairing spalled and delaminated areas;
- Perform associated testing and administrative tasks; and
- Close out the project by developing record drawings and a final project report and close out the grant process.

Resource and Citizen Benefits Analysis

Rehabilitation of the dam face and spillway will enable Granite County to continue to operate a two-megawatt hydropower plant at Flint Creek Dam and ensure continued storage of water for both irrigation in the Flint Creek watershed and fishery and other recreational use of Georgetown Lake. The project will also insure continued control of flow from Georgetown Lake. Dam-regulated flows reduce spring flood risk along Flint Creek and ensure adequate instream flow in the late summer and early fall that both preserves the fishery in Flint Creek and meets irrigation demand. Controlled flow releases also reduce the risk of scouring and sediment loading in Flint Creek. In summary, this project preserves water quality in Flint Creek, preserves fish habitat in Flint Creek and Georgetown Lake (ranked number nine in Montana for fishery usage), sustains development of renewable energy (hydropower), sustains the economy of Granite County through recreation, flood control, and hydropower development, and ensures ongoing access to properties by way of a road across the dam that would otherwise close without this project.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 3

Applicant Name	Whitefish, City of	
Project Name	Wastewater Treatment System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	\$ 697,024	Applicant – City Reserves
	<u>\$16,681,585</u>	SRF Loan
Total Project Cost	<u>\$18,253,609</u>	
Amount Recommended	\$ 125,000	

Project History

Whitefish has a complex wastewater collection system that has over 58 miles of sewer main and 16 lift stations, with portions of the system over 100 years old. Wastewater treatment is provided by an aerated lagoon system followed by a flocculating clarifier, with discharge of treated effluent to the Whitefish River. The system has been modified several times over the last 35 years and much of the plant is at the end of its useful design life. The city is under enforcement action through an Administrative Order on Consent from Montana Department of Environmental Quality as a result of poor performance of the wastewater treatment facility (WWTF) and violations of discharge permit limits. The city's WWTF cannot consistently meet the new limitations for ammonia and will have difficulty in meeting the limits for total nitrogen as the service area densifies and more users are added. The city must complete major wastewater treatment improvements to meet the permit limits. The goal of the project is to preserve surface water by protecting it from pollution resulting from the discharge of inadequately treated wastewater.

Proposed Solution

Specific task includes:

- Construct an enhanced sequencing batch reactor treatment system on the site of the city's existing treatment facility site.

Resource and Citizen Benefits Analysis

The resource benefits of this project are surface and groundwater. The city's current discharge to the Whitefish River exceeds water quality standards for ammonia. Also, the current lagoons are leaking to groundwater. This project will preserve the quality of groundwater underlying the city of Whitefish by eliminating the sewage lagoon and enabling more citizens to use a centralized wastewater system instead of septic system. It will also preserve the quality of Whitefish Lake which is currently exhibiting impacts from whitefish wastewater nutrients.

The project will protect the health and safety of Whitefish residents by providing adequate wastewater infrastructure and benefit the local economy by accommodating population growth.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 4

Applicant Name	Missoula, City of	
Project Name	Rattlesnake Creek Dam Removal	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 108,804	Applicant
	\$ 67,450	Trout Unlimited
	\$ 369,578	FEMA Hazard Mitigation Grant
	\$ 320,000	Hewlett Open Rivers Fund
	\$ 8,308	FWP Future Fisheries Program
	\$ 50,000	Missoula Conservation District
	\$ 25,000	Northwest Energy
	\$ 25,000	Patagonia
	\$ 40,000	Conservation Alliance
	\$ 50,000	Lolo National Forest
	<u>\$ 200,000</u>	USFWS Fish Passage
Total Project Cost	\$1,389,140	
Amount Recommended	\$ 125,000	

Project History

The lower Rattlesnake Creek Dam was constructed in 1901 approximately 3.5 miles upstream of the confluence with the Clark Fork River. At that time the creek was used as the primary water source for the settlement of Missoula. In 1983 the dam was rendered inoperable and the city's water supply transitioned to groundwater wells. At more than 100 years old, the dam has become a public safety hazard and a financial burden for the city to maintain. Additionally, Rattlesnake Creek is listed as critical bull trout habitat and the dam creates a partial fish barrier for upstream migration. This project will remove the dam and restore 2,400 linear feet of the creek that was channelized and five acres of floodplain and riparian habitats.

Proposed Solution

Specific tasks include:

- Remove full infrastructure including spillway, earthen embankment, cabin, reservoir, retaining walls, reservoir intake structure, and all other on-site structures;
- Reconstruct portions of Rattlesnake Creek to pre-disturbance conditions; and
- Revegetate disturbed areas and project monitoring.

Resource and Citizen Benefits Analysis

This project will preserve surface water quality by eliminating risk of dam spillway or reservoir failure which would result in sediment releases and impacts to the natural flow regime on Rattlesnake Creek. The project would increase aquatic habitat in 26 additional stream miles improving fish passage and habitat conditions that support all life stages of native fish and aquatic organisms, including threatened species. Additional habitat restoration and reconnection of the stream channel to the floodplain will increase capacity for high flow dispersion and groundwater recharge, thereby increasing Missoula's resiliency during drought and flood conditions.

Citizen benefits include reduction of operations and maintenance costs and improving public safety by elimination of hazards and/or potential liability hazards of the existing infrastructure. This effort will open the dam and surrounding 45 acres of open space to public use in the city of Missoula's Rattlesnake Greenbelt with two miles of new trails.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 5

Applicant Name	Montana Department of Natural Resources and Conservation Water Resources Division	
Project Name	Douglas Canal Rehabilitation	
Amount Requested	\$ 124,332	
Other Funding Source	\$ 10,000	NCWUA Funding
	<u>\$ 25,241</u>	Applicant and NCWUA In-kind
Total Project Cost	\$ 159,573	
Amount Recommended	\$ 125,000	

Project History

The Nevada Creek Water project and the Douglas Canal System provide irrigation water for 6,100 acres near Helmville in Powell County. Historically low water levels in Nevada Creek Reservoir have prompted the Nevada Creek Water Users Association (NCWUA) to find ways to improve water conservation. Currently, there is no way to accurately monitor and control the amount of water diverted into Douglas Canal. Also, there is degradation of the stream banks upstream of the headgate, and the headgate is in an advanced state of decay, compromising its structural integrity. The Douglas Canal Rehabilitation Project proposes to install water measurement systems, rehabilitate and replace dilapidated and/or failing structures in the Douglas Canal System, and rehabilitate sections of stream bank along Nevada Creek. The proposed project aims to improve management of water resources, protect local infrastructure, and improve the aquatic habitat.

Proposed Solution

Specific tasks include:

- Replace the existing headgate;
- Install stream and canal water measurement systems; and
- Rehabilitate a section of Nevada Creek upstream of Douglas Canal diversion.

Resource and Citizen Benefits Analysis

This proposed project will result in multiple benefits to multiple resources. The replacement of aging infrastructure and installation of measuring equipment will result in development of additional acres for increased crop production. In addition to the infrastructure repairs, the stream bank rehabilitation will result in preservation of fish and wildlife habitat and increased surface water flows and quality.

The agricultural community will see an economic benefit with the additional flows, added acres, and increased crop production. The local economy will see a benefit by sustained, increased, and improved recreational opportunities.

Funding Recommendation

While the application listed \$124,332 as its request, DNRC recommends full grant funding of \$125,000. Any funds remaining following completion of this project will be returned to the Natural Resource Projects Account to fund future applications.

Project No. 6

Applicant Name	Flathead Conservation District	
Project Name	Trumbull Creek Restoration and Aquifer Protection	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 15,263	Applicant
	\$ 25,808	Private
	\$ 31,500	Flathead County
	<u>\$ 225,808</u>	Glacier Park International Airport
Total Project Cost	\$ 423,379	
Amount Recommended	\$ 125,000	

Project History

Trumbull Creek is a small tributary to Whitefish Creek and is approximately six miles southwest of Columbia Falls. The stream has been significantly altered in the past, is intermittent in some locations, and causes minor flooding during periods of high groundwater and runoff. Trumbull Creek also flows beneath Glacier Park International Airport (GPIA) and causes impounding of water, which creates safety concerns because of bird strikes by aircraft and possible groundwater contamination.

Proposed Solution

Specific tasks include:

- Regrading and reconstructing about 7,150 feet of Trumbull Creek;
- Removing a small on-line dam; and
- Replacing undersized culverts.

Resource and Citizen Benefits Analysis

The proposed project will improve drainage, provide year-round flows, improve habitat for fish and wildlife, restore floodplain habitat and function, and protect groundwater quality.

The project will preserve the regional economy by developing a regional aquifer and alleviate water ponding related delays at GPIA.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 7

Applicant Name	Canyon Creek Irrigation District	
Project Name	Canyon Lake Dam Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 125,000	Applicant In-kind
	<u>\$ 154,218</u>	RRGL Loan
Total Project Cost	\$ 404,218	
Amount Recommended	\$ 125,000	

Project History

Canyon Lake Dam is an earth and rock embankment west of Hamilton that serves over 1,000 acres of irrigated land in the Bitterroot Valley. High seepage rates from the dam (54-78 gallons per minute) are observed when the reservoir is near full pool. The dam’s silty sand embankment soils are prone to internal erosion caused by this seepage. This internal erosion could in turn lead to sinkholes or a dam breach failure. The Canyon Lake Dam Rehabilitation project involves lining the upstream embankment slope with an impermeable geomembrane liner to minimize seepage.

Proposed Solution

Specific tasks include:

- Install and anchor an impermeable geomembrane liner on upstream embankment;
- Place a heavyweight non-woven geotextile as a protective cover; and
- Replace upstream riprap.

Resource and Citizen Benefits Analysis

The proposed project will both conserve water quantity and preserve fish habitat by improving Canyon Creek Irrigation District’s ability to manage irrigation releases. The project will preserve westslope cutthroat trout and bull trout fisheries and habitat in Canyon Creek and the Bitterroot River during low flow periods. The project will reduce seepage rates and water piping potential to the dam, conserving water for irrigation, recreation, and habitat. Stabilizing the dam also preserves soil, water quality, and aquatic and riparian habitat along Canyon Creek and the Bitterroot River.

The project will preserve a regional resource-based economy and a local irrigation economy. The project will protect property and human safety in the Bitterroot Valley by controlling flows from the Canyon Lake Dam.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 8

Applicant Name	Harlowton, City of	
Project Name	Roundhouse Wetland Restoration	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 63,000	Applicant
	\$ 28,245	DEQ Brownfields Program
	<u>\$ 12,000</u>	FWP Future Fisheries Program
Total Project Cost	\$ 228,245	
Amount Recommended	\$ 125,000	

Project History

Harlowton is currently remediating petroleum and metals contamination at the Harlowton Roundhouse Facility, a railroad maintenance and refueling station formerly owned and operated by the Chicago, Milwaukee, St. Paul, and Pacific Railroad from 1900 to 1979. Remediation efforts involve removing soils contaminated with petroleum hydrocarbons and heavy metals from the Roundhouse facility to meet human health standards while improving water quality in an area owned by the city and adjacent to the Musselshell River. At the completion of earlier remedial actions, the city chose to seek additional local benefits from the restoration efforts by restoring wetland habitat and developing a trail system through the facility that ties into the city's existing rails-to-trails system to encourage the public's use and appreciation of this historic facility.

Proposed Solution

Specific tasks include:

- Excavate and remove 30,000 cubic yards of material on the approximately 7-acre wetland site including three to four small open water sites;
- Place six inches of topsoil on the excavated and graded site;
- Seed the disturbed area with native grass and forb species;
- Plant live cottonwoods, sedges, and bulrush and willow cuttings; and
- Construct trails through wetland that link with existing trails.

Resource and Citizen Benefits Analysis

The primary purpose of this project is to restore a functioning wetland that maximizes ecological value of the site following remediation efforts at the Harlowton Roundhouse Facility. The restored wetland builds upon the remediation efforts by developing a site that will be ecologically valuable to aquatic and terrestrial wildlife that would otherwise not be accomplished through remediation efforts alone. The project will preserve Musselshell River water quality and reduce flood risks for the city of Harlowton.

The project will also develop a local resource-based recreation economy and improve public health and safety of the citizens of Harlowton.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 9

Applicant Name	Thompson Falls, City of	
Project Name	Wastewater System Improvements, Phase 1	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	\$ 450,000	CDBG
	\$3,748,500	RD Loan
	<u>\$1,606,500</u>	RD Grant
Total Project Cost	<u>\$6,680,000</u>	
Amount Recommended	\$ 125,000	

Project History

A large portion of the community of Thompson Falls is served by private septic systems, including approximately 560 residential homes and three schools. These systems are often not in compliance with today's regulations and are beginning to fail. Current size limitations for septic system installations prevent replacement with compliant on-site systems. The Sanders County sanitarian has reported instances of substandard installations incapable of reducing nutrients and pathogens to safe levels. This threatens Montana's high-quality waters and creates a significant human health and safety issue. The unsewered areas of the city need to be connected to the central sewer system.

The city's existing sewer collection system mains date to 1948 and are suffering from root intrusion and settling, which can result in increased infiltration from groundwater and inflow from surface run-off and sewer backups. Additionally, the main lift station does not have permanent backup power and poses a potential for system backups and overflows.

Proposed Solution

Specific tasks include:

- Construct new sewer mains to connect public schools and 180 households to the city's treatment plant;
- Improve the existing wastewater system; and
- Construct a lift station to pump sewage to the treatment plant.

Resource and Citizen Benefits Analysis

Leakage from local cess pools and septic systems are a public health and safety concern and impact the local community and Clark Fork River water users. The project will preserve the quality of groundwater and the Clark Fork River. It will improve public health and safety within Thompson Falls and improve recreation on the Clark Fork River.

The project will benefit the local community economically by providing dependable wastewater management infrastructure and room for growth.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 10

Applicant Name	Montana Department of Natural Resources and Conservation Water Resources Division	
Project Name	Broadwater Missouri Canal System Master Plan	
Amount Requested	\$ 124,580	
Other Funding Sources	\$ 18,390	Applicant and BMWUA In-kind Services
	<u>\$ 20,000</u>	BMWUA Funding
Total Project Cost	\$ 162,970	
Amount Recommended	\$ 125,000	

Project History

The Broadwater Missouri Canal is part of the Broadwater Missouri Project owned by DNRC and maintained/operated by the Broadwater Missouri Water Users Association (BMWUA). The main canal is 1.5 miles long and carries 342 cubic feet per second (cfs); the east canal is 34.3 miles long and carries 262 cfs; the west canal is 12.4 miles long and carries 90 cfs. In addition to being the longest canal system owned by the DNRC, it is also the most complex. The major features that contribute to the system complexity are two steel siphons and six creek crossings. There are over 200 timber, steel, and concrete structures; these include turnouts, bridges, wasteways, check structures, pumps, and drop structures. The canal system was constructed 78 years ago and has since experienced deterioration, inefficiency, and modifications. Multiple large issues are known to exist on the canal system, particularly with water delivery efficiency.

The goal of the master plan is to develop a strategy to address the large-scale system problems by identifying and prioritizing structure rehabilitation and data collection needs on medium and small scales. The master plan is intended to be a roadmap that shows how the BMWUA and the DNRC can move from the current condition to one where the irrigation system operates efficiently. The Broadwater Missouri Canal Master Plan will be a comprehensive plan addressing flow-monitoring needs, infrastructure rehabilitation prioritization will be strategies for water conservation

Proposed Solution

Specific tasks include:

- Evaluate the overall system and prioritize structure repairs;
- Provide a comprehensive operation and maintenance manual, including water measurement; and
- Install water measurement devices to develop a complete water measurement system.

Resource and Citizen Benefits Analysis

This project is for the development of a master plan to identify areas of improvement in the Broadwater Missouri Canal System; it does not result in an immediate realization of resource benefits. However, the study is necessary for planning intentional, systematic improvements to the system. This master plan will prioritize improvements that maximize efficiency affecting surface water, arable land, and renewable energy (hydropower). The master plan will serve as a road map to improve surface water delivery to arable land in a local economy dominated by agriculture. At the regional scale, water delivery efficiency improvements will allow increased volumes of water to flow through the hydropower facility at Toston and, potentially, hydropower facilities downstream as far as Great Falls. The increased volume of water-generating electricity at Toston will result in additional revenue for the DNRC-Water Projects Bureau, benefiting projects through the state.

Funding Recommendation

While the application listed \$124,580 as its request, DNRC recommends full grant funding of \$125,000 upon approval of the final scope of work, administration, budget, and funding package.

Project No. 11

Applicant Name	Winnett, Town of	
Project Name	Wastewater System Retrofit	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 450,000	CDBG
	\$ 625,000	TSEP
	\$ 123,500	RD Grant
	<u>\$ 370,500</u>	Other Funding Source
Total Project Cost	<u>\$1,694,000</u>	
Amount Recommended	\$125,000	

Project History

The town of Winnett uses aerated lagoons to treat wastewater. Both the collection and treatment systems are severely impaired resulting in a series of Montana Department of Environmental Quality (DEQ) violations for discharges to McDonald Creek. Winnett received an Administrative Order on Consent in 2010 for significant biological oxygen demand (BOD) violations at the town's Wastewater Treatment Facility (WWTF). In 2012 the town was issued a new individual Montana Pollutant Discharge Elimination System permit including stringent ammonia limits. In May 2018, DEQ issued a new permit to the town allowing Winnett to continue to discharge elevated levels of ammonia into McDonald Creek. McDonald Creek is listed as an impaired stream that does not fully support aquatic life.

An inspection of the town's sewer mains indicated that clay sewer pipe should be replaced. The lift station needs upgrades and the lagoon leaks through the existing clay liners. The aeration system and blowers have reached the end of their useful design life and warrant replacement and upgrading. Concrete aggregate is exposed in the effluent manhole. All three lagoon cells have significant sludge buildup and require sludge removal. The goal of the project is to replace a portion of the existing clay pipe in the collection system, upgrade the WWTF, and upgrade the existing lift station.

Proposed Solution

Specific tasks include:

- Replace approximately 1,180 linear feet of clay sewer mains with polyvinyl chloride mains;
- Remove and dispose of an estimated 607,000 gallons of lagoon sludge;
- Install a new effluent structure and emergency bypass at the lift station;
- Install synthetic liner in cells two and three and replace aeration system; and
- Install new interpond piping and structures.

Resource and Citizen Benefits Analysis

The proposed project benefits water quality of McDonald Creek and groundwater resources. Completion of the project will preserve fish habitat and water quality in McDonald Creek. The proposed improvements are intended to improve services to the entire community and provide safe and sanitary services to all residential/commercial facilities connected to the sewer system. The project will also benefit the local economy by enabling Winnett to add users as needed.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 12

Applicant Name	Bitter Root Irrigation District	
Project Name	Como Dam Water Resource Enhancement	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 300,000	WaterSMART Grant
	<u>\$ 886,270</u>	Applicant
Total Project Cost	\$1,311,270	
Amount Recommended	\$ 125,000	

Project History

Bitter Root Irrigation District (BRID) is part of a large irrigation system encompassing a reservoir, a dam, and a large canal system with infrastructure. Lake Como provides storage water to the BRID's approximately 16,665 acres along a 72-mile canal throughout the Bitterroot Valley. Leaks have developed in two valves in the outlet pipe resulting in a 3.3 cubic-feet per second loss and recent inspections found a dramatic decline in the condition of the 108-year old valves. There are two situations that could occur with valve failure: the valve could fail in the open position or the closed position. Valve failure in the closed position would require the use of temporary and expensive pumping systems to deliver irrigation and fishery waters. Valve failure in the open position would result in uncontrolled releases that could scour the toe of the dam potentially resulting in dam failure. This could also result in the uncontrolled draining of the reservoir, which would have a detrimental impact to 16,665 irrigated acres and aquatic life that rely on that water along the Bitterroot River.

Montana Fish, Wildlife & Parks has 3,000 acre-feet of reservoir water used to augment late season flows in the Bitterroot River for aquatic life. The fish storage water was obtained through a State-sponsored dam modification project to raise the dam crest.

Proposed Solution

Specific tasks include:

- Replace the existing 66-inch regulating and guard valves in the Lake Como Dam outlet works.

Resource and Citizen Benefits Analysis

This project preserves arable land and fish habitat benefits associated with Lake Como and the Bitterroot River. The project will also conserve surface water lost in storage and prevent potential public safety issues.

The current condition of the reservoir and valves puts public safety in jeopardy due to the high potential for failure and downstream flooding. The project will preserve a regional resource-based recreation economy and a local irrigation economy.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 13

Applicant Name	Harlowton, City of	
Project Name	Wastewater Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	\$ 193,500	RD Grant
	<u>\$ 451,511</u>	RD Loan
Total Project Cost	\$1,395,011	
Amount Recommended	\$ 125,000	

Project History

The city of Harlowton is a community of approximately 1,000 residents that has been working to address issues with its wastewater system over the past several years in anticipation of new Montana Pollutant Discharge Elimination System permit limits for discharge of treated effluent to the Musselshell River. As the result of a Preliminary Engineering Report (PER) submitted in 2012, the city has conducted replacement/rehabilitation on selected portions of the wastewater collection system to reduce infiltration and inflow (I&I). Results of the I&I reduction project have been significant and satisfactory, yet the existing wastewater treatment facility is still not capable of meeting new limits for *E. coli* and total chlorine residual. Harlowton is currently under an Administrative Order on Consent regarding the new permit limits. The proposed Harlowton Wastewater System project includes construction of a new ultraviolet (UV) lagoon effluent disinfection system along with lagoon sludge removal and disposal via land application. The new UV disinfection system will enable the city to meet the new discharge limits for residual chlorine along with the new limits for *E. coli*. In addition, the existing treatment cells have accumulated large amounts of sludge which decreases hydraulic retention time within the treatment facility, increases effluent biochemical oxygen demand (BOD) and total suspended solids (TSS) levels, and provides nutrients for algae blooms. To ensure the effectiveness of the new UV disinfection system, and to improve the hydraulic retention time of the treatment facility, sludge removal/disposal is necessary for success of the project.

Proposed Solution

Specific tasks include:

- Construct a new UV effluent disinfection system;
- Remove sludge from existing lagoon cells; and
- Dispose of lagoon sludge via land application.

Resource and Citizen Benefits Analysis

This project will benefit water quality and fish habitat in the Musselshell River by reducing *E.coli*, TSS, and BOD concentrations in discharges from the wastewater treatment plant. The project also benefits the health and safety of the citizens of Harlowton and benefits recreational use near and downstream from the treatment plant discharge.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 14

Applicant Name	Milk River Joint Board of Control		
Project Name	St. Mary Canal Drop 2 Replacement		
Amount Requested	\$ 125,000		
Other Funding Sources	\$1,137,841	Applicant	
	\$ 474,551	USBR	
	\$ 10,000	RRGL Planning Grant	
	<u>\$ 75,000</u>	St. Mary Rehabilitation Working Group	
Total Project Cost	<u>\$1,822,392</u>		
Amount Recommended	\$ 125,000		

Project History

The Milk River Joint Board of Control in cooperation with DNRC, U.S. Bureau of Reclamation (USBR), and the St. Mary Rehabilitation Working Group, have secured funding and prepared alternative analysis and a 30% design for the replacement of the Drop 2 structure on the St. Mary Canal. The St. Mary Canal and associated infrastructure were constructed in the early 1900s. There are five drop structures upstream from the confluence with the North Fork of the Milk River that dissipate energy for a vertical loss of 281 feet in the final two canal miles. The St. Mary Canal infrastructure is inspected twice annually by the USBR before start-up and following shut down. Due to a large void in the stilling basin, severe cracking and exposed rebar with major concrete spalling, and an unknown earthen stability under the structure, full replacement of the Drop 2 structure has been prioritized by all parties. The St. Mary canal provides from 50 to 90 percent of the Milk River flows during irrigation season and provides critical flows for municipalities, recreation enthusiasts, and wildlife habitat.

Proposed Solution

Specific tasks include:

- Complete final design and bidding;
- Replace the existing drop structure approximately 150 feet east of the existing structure;
- Complete construction during the summer season as the existing drop structure will remain in use;
- Construct a 34-foot wide by 37-foot long concrete intake structure, a 12-foot wide by 160-foot long concrete chute, and a standard USBR stilling basin; and
- Abandon the existing chute and stilling basin with an earthen fuse plug at the existing intake structure when the new drop structure has been tested and approved for use.

Resource and Citizen Benefits Analysis

This project will result in region-wide benefits to multiple renewable resources. The drop structure is in danger of catastrophic failure that would result in the loss of the 50 to 90 percent of the Milk River flows across the Hi-Line of the state. The project would allow continued use of deep structures to dissipate energy in St. Mary Canal thereby preserving water quality in the Milk River through reduction of sediment load. Continued use of the St. Mary Canal provides water for irrigation, livestock, fisheries and wildlife, municipalities, and recreationists.

The entire municipal, rural, and agricultural community of the Hi-Line benefits economically by having a dependable source for irrigation, drinking water, and recreation.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 15

Applicant Name	Whitehall, Town of	
Project Name	Water Treatment Plant Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	\$ 450,000	CDBG
	\$ 218,380	RD Grant
	\$ 509,550	RD Loan
	<u>\$ 3,000</u>	Local Contribution
Total Project Cost	\$2,055,930	
Amount Recommended	\$ 125,000	

Project History

The applicant operates two water supply wells that were drilled in 1952 (Well No.2) and 1974 (Well No.1). The older well is equipped with an emergency power generator. The existing 500,000-gallon water storage tank is being recoated, and the elimination of dead-end mains in the distribution system is in progress. High gross alpha levels detected during routine water sampling led to the Montana Department of Environmental Quality (DEQ) to require monitoring for uranium. Uranium test results exceeded the maximum contaminant level of 30 micrograms per liter, and has resulted in the issuance of a violation, a corrective action plan, and execution of an Administrative Order on Consent to achieve compliance. Arsenic is also a contaminant of concern, but sampling efforts since 2011 have not resulted in a violation.

While Whitehall's drinking water does not exceed drinking water standards for arsenic, arsenic levels in the town's wastewater pose a risk to aquatic life. Whitehall's wastewater treatment lagoons discharge treated water to a field near Big Pipestone Creek, a waterbody currently listed by DEQ as impaired due to elevated arsenic concentrations.

Proposed Solution

Specific tasks include:

- Install an ion exchange treatment system to remove uranium and arsenic from the water supply;
- Replace Well No.2 with a new well that produces from an aquifer that meets drinking water standards;
- Replace the pump in Well No.1 and rehabilitate the well, as needed based on a video inspection;
- Construct raw water transmission pipelines to connect the wells to the new treatment system; and
- Construct a water pipeline to connect the new treatment system to the distribution system;

Resource and Citizen Benefits Analysis

This project develops a new source of drinking water for the town of Whitehall. It also, increases health and safety by tapping an aquifer containing acceptable levels of uranium and arsenic, and could preserve the quality of surface water (Big Pipestone Creek) that potentially receives arsenic-rich runoff from the wastewater treatment facility.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package. A completion of a grant agreement may need approval from DNRC – Water Rights Bureau.

Project No. 16

Applicant Name	Lewis and Clark Conservation District
Project Name	Willow Creek Feeder Canal Rehabilitation
Amount Requested	\$ 125,000
Other Funding Source	<u>\$ 792,354</u> Local Contribution
Total Project Cost	\$ 125,000
Amount Recommended	\$ 125,000

Project History

Authorized in 1902, the Sun River project was designed to provide irrigation water to over 93,000 acres of irrigated agricultural land along the Sun River. Approximately 82,000 acres are within the Greenfield Irrigation District (ID) with approximately 10,000 acres located in the Fort Shaw Irrigation District (FSID). The irrigation water sources are the North and South Forks of the Sun River along the eastern Rocky Mountain Front.

To store and distribute irrigation water, three reservoirs were constructed; Pishkun, Gibson, and Willow Creek. Pishkun Reservoir is used to supply water to the Greenfield ID, while the Willow Creek Reservoir (WCR) is used to supply late summer water to the FSID. Water released from the WCR returns water to the Sun River so the FSID can divert irrigation water from the Sun River without drying up the river.

Water is diverted out of the Gibson Reservoir into the Willow Creek Feeder Canal (WCFC). The WCFC consists of 7.5 miles of constructed canal and 8.5 miles of natural channel that was originally a small tributary to Willow Creek. Currently, bank erosion on the WCFC entrains sediment deposited in the Willow Creek Reservoir which adversely impacts water quality and fish habitat in the reservoir. In addition, unstable banks scour arable land and result in irrigation delivery losses.

To reduce the bank erosion in the upper reaches of the natural channel section of the WCFC, approximately 7,600 lineal feet of rock revetment bank stabilization using U.S. Bureau of Reclamation (USBR) standard designs are proposed. Overall length of the channel banks within the natural channel reach proposed for treatment is approximately 40,600 linear feet. Approximately 20 percent of the channel length would be treated during this project.

Proposed Solution

Specific tasks include:

- Install USBR design rock revetment along 7,600 linear feet of channel bank in the natural channel section of the WCFC;
- Reduce channel and bank erosion at the locations of the rock revetment installation; and
- Provide the Greenfield ID the ability to consistently fill WCR annually.

Resource and Citizen Benefits Analysis

This project will increase production of irrigated land, reduce sediment load to Willow Creek Reservoir, improve fish habitat, and reduce loss of arable land to bank scouring.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 17

Applicant Name	Fort Belknap Indian Community
Project Name	Three Mile Creek Pump Station Rehabilitation
Amount Requested	\$ 125,000
Other Funding Source	\$ <u>6,185</u> Applicant
Total Project Cost	\$ 131,185
Amount Recommended	\$ 125,000

Project History

The Fort Belknap Irrigation Project (FBIP) is along the Milk River within the Fort Belknap Indian Community (FBIC) in Blaine County. The FBIP serves approximately 9,000 acres and consists of a series of canals and laterals that are operated and managed by the Bureau of Indian Affairs (BIA). The pump station which provides water to Three Mile Reservoir is a vital component in the overall irrigation system and has been identified by the FBIC as a structure of critical concern. Approximately 6,400 acres has been negatively impacted due to the recent failure of the pump station. The failure of the pump has resulted in insufficient water volume in the Three Mile Reservoir, resulting in crop damage and environmental impacts to the riparian area. The proposed project intends to replace the existing pump and building structure to restore pumping capabilities, increase energy efficiency, and mitigate the safety hazards.

Proposed Solution

Specific tasks include:

- Complete final design of the pump station;
- Replace the pump and motor;
- Install electrical switchgear; and
- Replace the pump house structure.

Resource and Citizen Benefits Analysis

The project will conserve energy, improve system management, preserve a natural fishery and recreation opportunities, increase crop production, and provide safety around the pump station. The rehabilitation of the pump site will maintain irrigation to existing lands served by the Fort Belknap Irrigation District (FBID) as well as allowing for improved crop yields and cattle production. FBID estimates that this project will result in increased yields of 1-2 tons/acres for alfalfa and 0.25-0.5 tons/acre for hay on 6,400-acres. Cattle production is estimated to increase by 500 head. The project will also reduce energy consumption at the site by 5,500 kWh/year (\$660/year). Three Mile Reservoir, which is served by the pumps, also provides habitat and recreational benefits.

The project appears to be located within sage grouse habitat designated for conservation under Executive Orders 12-2015 and 21-2015. If funded, the applicant will need to document consultation with the Montana Sage Grouse Habitat Conservation Program. Approval by the Montana Sage Grouse Oversight Team may be required before contracting with DNRC for grant funds.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Reconsideration Project

Project No. 18

Applicant Name	Malta Irrigation District	
Project Name	Exeter Siphon Replacement	
Amount Requested	\$ 125,000	
Other Funding Source	<u>\$ 640,228</u>	Applicant
Total Project Cost	\$ 765,228	
Amount Recommended	\$ 125,000	

Project History

As part of the Milk River Project, the Exeter Siphon was constructed in 1914. The siphon is a 64-inch diameter, 400-foot long cast-in-place concrete structure buried beneath Exeter Creek. It is experiencing leakage problems in the barrel because of old and deteriorating concrete, and it is too small to pass the full canal flow without spilling excess water over the inlet and causing erosion along the bank of Exeter Creek. Water losses due to leakage and spillage have been estimated to be as high as 2,500 acre-feet over an irrigation season. A Preliminary Engineering Report concluded that the preferred alternative is to replace the failing siphon with a crossing comprising a section of lined canal on top of engineered fill material with culverts under the canal that will be sized to pass the 100-year flood of Exeter Creek. The project goals are to eliminate leakage in the conveyance structure and spillage into Exeter Creek, preserve and better manage irrigation water, and improve the water quality in the Milk River.

Proposed Solution

Specific tasks include:

- Select and hire an engineering firm to complete the final engineering design, prepare construction documents, secure environmental regulatory permits, and conduct construction oversight and administration;
- Construct the new replacement canal and stream crossing; and
- Develop record drawings and a final project report.

Resource and Citizen Benefits Analysis

This project will benefit multiple resources. By repairing the siphon, the district will conserve up to 2,500 acre-feet of Milk River Project water lost during transmission for the purpose of increasing crop production. Part of this project includes rehabilitation of the scoured Exeter Creek bed to benefit surface water and aquatic habitat. The Milk River, a chronically dewatered surface water source, will have a stabilized diversion schedule that will assist in maintaining flows during the irrigation season and low flow summer months.

The local economy will benefit with increased revenues and spending in the communities related to a reliable irrigation water source.

The Exeter Siphon will also create a safety benefit by slowing and retaining potential flood waters that impact U.S. Highway 2 during spring run-off and high precipitation events.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

* This project lost funding after the 2017 Special Legislative Session and has been resubmitted for consideration by the 2019 Legislature. *

Project No. 19

Applicant Name	Roundup, City of	
Project Name	Water System Improvements, Phase 5	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	\$ 450,000	CDBG
	\$ 409,000	SRF Loan Forgiveness
	\$ 409,000	SRF Loan
	<u>\$ 300,000</u>	Applicant
Total Project Cost	\$2,443,000	
Amount Recommended	\$ 125,000	

Project History

Roundup's drinking water is supplied by groundwater. The original distribution system was installed in 1908 utilizing cast-iron pipe. In 2012, the city began a five-phased approach to a cast-iron main replacement project to address the system deficiencies related to the corroded condition of the cast-iron water mains. Despite numerous water main replacements over the years, totaling approximately 23,400 lineal feet, approximately 18,100 lineal feet of cast iron mains remain in use. The city has completed 58% of the water main replacement project totaling 8.83 million dollars.

The aged and deteriorated cast iron pipes have resulted in serious health and safety problems. The city is currently losing 25% (24 million gallons) of pumped water through leakage in the old pipes. Over 27 percent of the distribution system is unable to deliver acceptable fire flows. Approximately 10 percent of valves are inoperable. Iron concentrations have been recorded at 68 times the maximum contaminant level specified in the National Secondary Drinking Water Quality Regulations.

Proposed Solution

Specific tasks include:

- Replace the remaining 18,100 lineal feet of cast-iron pipe in the city;
- Replace three blocks of 4-inch polyvinyl chloride (PVC) water main with 8-inch PVC pipes; and
- Replace approximately 7,000 lineal feet of the remaining cast-iron pipe, including new services to the curb stops, fire hydrants, valves, and fittings.

Resource and Citizen Benefits Analysis

The project will conserve energy and lower groundwater usage by reducing the volume of pumped water leaking from its distribution system. By replacing all 38,000 feet of deteriorated water mains, it is estimated that Roundup will reduce water loss by up to 20 million gallons per year and save the city an estimated \$5,800 in energy costs after all five phases are completed.

The project will provide direct economic development in Montana through construction jobs. The project will improve local public health and safety by delivering clean drinking water and meeting fire regulations and meeting fire flow requirements.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 20

Applicant Name	Glasgow Irrigation District
Project Name	V-63 Lateral Conversion
Amount Requested	\$ 125,000
Other Funding Sources	\$ 16,695
	<u>\$ 7,250</u>
Total Project Cost	\$ 148,945
Amount Recommended	\$ 125,000

Project History

Glasgow Irrigation District (ID) operates an irrigation water delivery system with about 132 miles of canals and laterals serving about 18,400 irrigated acres. The V-63 Canal contains a 2,770-foot reach that is losing an estimated 287 acre-feet of water per year to seepage. This seepage loss has created an irrigation water shortage on about 265 acres resulting in reduced crop production by about 25 percent. Past pipe and liner efforts have been ineffective to reduce the seepage losses. The proposed project is to convert the canal to a closed pipeline with plastic irrigation pipe.

Proposed Solution

Specific tasks include:

- Salvage and replace existing topsoil in the project area;
- Install and backfill 2,770 lineal feet of 24-inch diameter plastic irrigation pipe;
- Construct concrete inlet and outlet structures for the pipeline; and
- Restore the project area with revegetation.

Resource and Citizen Benefits Analysis

The conversion of this canal segment to pipeline will reduce water loss due to seepage and evaporation. Glasgow ID estimates that this project will reduce losses by 3.4 cubic feet per second (287 acre-feet per year) and result in a 25% increase in wheat yields on 265 acres. The project will also reduce erosion from the canal and subsequent deposition of sediment into the Milk River.

The project appears to be within sage grouse habitat designated for conservation under Executive Orders 12-2015 and 21-2015. If funded, the applicant will need to document consultation with the Montana Sage Grouse Habitat Conservation Program. Approval by the Montana Sage Grouse Oversight Team may be required before contracting with DNRC for grant funds.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Reconsideration Project

Project No. 21

Applicant Name	Broadwater Conservation District		
Project Name	Big Springs Ditch Water Conservation, Phase 2		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 300,000	USBR WaterSMART	
	\$ 50,000	FWP	
	<u>\$1,103,836</u>	Applicant	
Total Project Cost	\$1,578,836		
Amount Recommended	\$ 125,000		

Project History

Since the 1860s, Big Springs Ditch (BSD) has been used to convey irrigation water from Big Springs downstream to approximately 2,646 acres of irrigated agricultural lands. Located along the bank of the Missouri River, Big Springs has consistently delivered 52 cubic feet per second (cfs) into the BSD over the past 150 years. Originally built as an open canal, the ditch has begun experiencing maintenance issues related to seepage and bank stability. A portion of the Montana Rail Link (MRL) east-west mainline runs along a portion of the BSD.

To address both the seepage and bank stability issues, BSD will replace 6,300 linear feet of open canal with steel reinforced polyethylene pipe. Two of the primary benefits of converting the open channel canal to a pipe system would be the additional water available to downstream water users and the potential to divert additional water into a spawning and rearing side channel constructed and maintained by Montana Fish, Wildlife & Parks (FWP).

Proposed Solution

Specific tasks include:

- Convert 6,300 linear feet of open canal ditch to a pipeline system;
- Deliver water to the most distant downstream water users;
- Eliminate bank stability issues in sections of the canal immediately adjacent to the MRL mainline; and
- Divert water into the fish spawning and rearing channel constructed and maintained by FWP.

Resource and Citizen Benefits Analysis

The proposed project allows for more efficient delivery of water for irrigation and conserves an estimated 5-cfs of water. Overall annual water savings is approximately 1,832 acre-feet per year of Missouri River water to be reused for irrigation and for preserving fish habitat in the Big Springs spawning channel. In addition, the district should realize significant energy and cost savings due to reduced pumping requirements and elimination of labor intensive annual canal maintenance. Finally, the quantity of end-system wastewater flow will be reduced, resulting in less sediment and other contaminants entering the river. The project will result in an economic benefit to irrigators by reducing the amount of water purchased for irrigation. The canal lining will reduce the risk of bank failure resulting in a benefit to water quality.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package. Funding for this project is contingent on finalization of an agreement with FWP to provide water for fish spawning areas.

* This project lost funding after the 2017 Special Legislative Session and has been resubmitted for consideration by the 2019 Legislature. *

Project No. 22

Applicant Name	Pondera County Conservation District	
Project Name	Swift Dam Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Source	<u>\$ 26,516</u>	Pondera County Canal and Reservoir Company
Total Project Cost	\$ 151,516	
Amount Recommended	\$ 125,000	

Project History

The Pondera County Canal and Reservoir Company (PCCRC) operates a gravity irrigation delivery system that includes an extensive delivery complex comprising approximately 500 miles of canals and laterals and has a service area of approximately 80,480 acres and 350 shareholders. Lake Frances and Swift Dam supply the canal and lateral system with irrigation water. The current configuration of Swift Dam’s outlet structure requires on-site monitoring and adjustment. The remote location of Swift Dam, approximately 40 miles southwest of Valier, causes significant operational inefficiencies in water adjustment delays and the operation and maintenance efforts from the frequent trips required by PCCRC staff between Valier and the dam site. The proposed project will involve automation of the Swift Dam outlet works that will provide the capability of remote monitoring and control of outflows and water levels at Swift Dam.

Proposed Solution

Specific tasks include:

- Complete final design of the supervisory control and data acquisition (SCADA) system;
- Install the SCADA system; and
- Perform testing and training on the newly installed SCADA system.

Resource and Citizen Benefits Analysis

The installation of a SCADA system on the dam outflow will reduce the volume of water wasted due to lag times from manual operation of the structure. Currently, it takes approximately 12 hours between receiving orders and implementation at the dam. Implementation of the remote monitoring and operation of the outflow diversion will increase delivery efficiencies to the acres served by PCCRC. PCCRC estimates that automating the gate will make an additional 1,735 acre-feet per year available for use, resulting in a 4.3% increase in crop yields. The dam provides habitat and public recreational benefits associated with the reservoir, as well as flood protection downstream. This project will also be beneficial to public safety by reducing response times in cases of emergency.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 23

Applicant Name	Simms County Sewer District	
Project Name	Wastewater System Improvements, Phase 2	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	\$ 450,000	CDBG
	\$ 89,500	RD Grant
	<u>\$ 268,400</u>	RD Loan
Total Project Cost	<u>\$1,682,900</u>	
Amount Recommended	\$ 125,000	

Project History

The applicant operates a collection system and wastewater lagoons originally constructed in 1979. Deficiencies in the collection system were addressed as the first phase of the improvements project. The existing facultative lagoons consist of two primary cells and a secondary cell with spray irrigation to land-apply the treated effluent. The primary ponds have sustained damage due to erosion, and excessive leakage was confirmed based on the results of a water balance analysis. The secondary pond has rarely received wastewater, and the irrigation system has never been required to operate because of the rate of pond leakage. Residents utilize shallow groundwater wells, and the leaking lagoons increase the potential for contamination of the drinking water in the area.

Proposed Solution

Specific tasks include:

- Remove accumulated sludge from existing lagoons and apply material on nearby agricultural land;
- Modify the lagoon piping and replace structures to control the diversion of water between the lagoon ponds;
- Line the lagoons properly to prevent seepage from the ponds and comply with allowable leakage rates; and
- Construct a new spray irrigation system on adjacent agricultural land to dispose of the treated wastewater.

Resource and Citizen Benefits Analysis

This project eliminates the risk of sewage leakage to the near-surface aquifer. The aquifer is 5 to 20 feet below ground and used as a drinking water source by residential wells and a public supply well in Simms. There is no record of coliform contamination in Simms wells to date and the sampling history is unknown. In summary, this project reduces the risk of coliform contamination to a near-surface aquifer and transportation by the aquifer to the Sun River. It also improves health and safety in the community of Simms by protecting a drinking water source.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package. The budget must be updated to account for the two-year delay in the project implementation schedule. A final work plan must include sampling and analysis of three near-lagoon downgradient wells for coliform before and after project implementation.

Project No. 24

Applicant Name	Malta Irrigation District	
Project Name	Costin Lateral Pipeline Conversion	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 46,288	Applicant In-kind
Total Project Cost	\$ 171,288	
Amount Recommended	\$125,000	

Project History

The Malta Irrigation District (ID) operates and maintains an irrigation system in the Milk River Basin that provides water to approximately 44,600 acres. The proposed project specifically addresses the Costin Lateral which conveys water to approximately 180 acres within the Malta ID via an open channel lateral. The Costin Lateral is 4,120 feet long with a capacity of 30 cubic feet per second (cfs). The natural topography of the land is generally flat farmland consisting of clay loamy soils with high permeability. Due to the permeable nature of the soils, the Costin Lateral loses much of the conveyed irrigation water to seepage. Additionally, erosion and significant vegetative overgrowth have added to the inadequate condition of the current water delivery system, resulting in inefficient delivery of water to 180 acres within the Malta ID. Mitigation of these problems will be achieved by replacing the existing open channel ditch with a new pipeline.

Proposed Solution

Specific tasks include:

- Design final pipeline design and develop construction plans;
- Obtain regulatory approval from all applicable local, state, and federal agencies; and
- Construct and install pipeline.

Resource and Citizen Benefits Analysis

The conversion of this canal segment to pipeline will reduce water loss due to seepage and evaporation. Malta ID estimates that this project will reduce losses by 0.59 cfs (175 acre-feet per year) and result in increased alfalfa yields of 1 ton/acre on 180 acres. The project will also reduce erosion from the canal and subsequent deposition of sediment into the Milk River.

The project appears to be located within sage grouse habitat designated for conservation under Executive Orders 12-2015 and 21-2015. If funded, the project will need to document consultation with the Montana Sage Grouse Habitat Conservation Program. Approval by the Montana Sage Grouse Oversight Team may be required before contracting with DNRC for grant funds

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 25

Applicant Name Power-Teton County Water and Sewer District
Project Name Water System Improvements, Phase 1

Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	\$ 469,250	RD Grant
	<u>\$1,407,750</u>	RD Loan
Total Project Cost	\$2,627,000	
Amount Recommended	\$ 125,000	

Project History

The Power-Teton County Water and Sewer District was formed in 1969. The water source for the new plant is Muddy Creek, and it draws 14,000,000 gallons per year. A new water treatment plant, a new 150,000-gallon water storage tank, and water distribution system upgrades were finished in 2008.

The existing system has multiple deficiencies. The last three years has unaccounted water loss averaging 46.7 percent. The 150,000-gallon storage tank does not have enough capacity for 24 hours of average day demand. The biggest issue facing the district is the raw water source and water treatment plant. On at least 26 days in the last three years, Muddy Creek has exceeded the water right allowable diversion. Muddy Creek contributes water to the Benton Lake National Wildlife Refuge and currently impacts flows to wetlands critical for the nation's waterfowl population. The Fairfield Bench aquifer has the capacity to serve the district. After sampling various wells, it was determined that the groundwater meets primary standards and will be used to supply the drinking water system and replace the current system entirely.

Proposed Solution

Specific tasks include:

- Install new shallow groundwater wells on the Fairfield Bench aquifer;
- Connect the wells to the existing water distribution system;
- Negotiate a new water right for the district;
- Abandon the existing water treatment plant; and
- Chlorinate the well water.

Resource and Citizen Benefits Analysis

This project will result in the conservation of water and aquatic habitat in Muddy Creek and at Benton Lake National Wildlife Refuge. The project will develop a groundwater drinking water source and eliminate Muddy Creek as the water supply due to very poor quality and intermittent flows.

This project will also protect public health and safety by creating a clean and reliable source of municipal water.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package. A new water right would have to be acquired from DNRC before this project could move forward.

Project No. 26

Applicant Name	Scobey, City of	
Project Name	Water System Improvements, Phase 2	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	\$ 300,000	Applicant
	\$3,055,000	RD Loan
	<u>\$ 900,000</u>	RD Grant
Total Project Cost	<u>\$4,880,000</u>	
Amount Recommended	\$ 125,000	

Project History

Scobey’s water system was originally constructed in 1919. Much of the original cast-iron main installed is in service. These pipes have badly deteriorated over time and city personnel repair an average of five to eight leaks each year. The city loses an average of 34% (23 million gallons) of their pumped water annually. Corrosion in the mains has led to high levels of iron, manganese, sulphur, and total dissolved solids in the drinking water. Area soils have also eaten away at the cast-iron mains, creating “hot spots” where major leaks occur. In addition, many valves in the system are rusted into the open position and another 80 are needed, making it difficult to isolate sections of the system to repair leaks. Sixteen fire hydrants are also inoperable, and another 32 hydrants need to be added to the system to meet Montana Department of Environmental Quality (DEQ) DEQ Circular-1 and National Fire Protection Association fire code regulations. An eight-block area in the middle of the city does not have coverage from hydrants and fire flows cannot be met in over 53% of the city, including downtown and the school. The city is currently replacing approximately half of the cast-iron mains with Phase 1 of the project. Therefore, the remaining cast-iron mains need to be replaced along with new valves and fire hydrants.

Proposed Solution

Specific tasks include:

- Replace 18,600 linear feet of cast-iron main with polyvinyl chloride and upsize the mains to a minimum 8-inch diameter pipe;
- Install new fire hydrants and valves; and
- Replace water services from the main to the curb stop.

Resource and Citizen Benefits Analysis

This project will ensure an adequate and reliable drinking water supply and protect public health and safety. The project will conserve groundwater leaking from pipes and conserve energy used in groundwater pumping. This project will lead to the better management of the city’s groundwater resources.

The project will also improve local health and safety by meeting fire regulations and fire flow requirements.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 27

Applicant Name	Bigfork County Water and Sewer District	
Project Name	Wastewater System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	<u>\$2,142,800</u>	SRF Loan
Total Project Cost	<u>\$2,767,800</u>	
Amount Recommended	\$ 125,000	

Project History

The original wastewater system for Bigfork was installed by Flathead County in the early 1960s. The Bigfork County Water and Sewer District was formed in 1984 and a treatment facility constructed in 1987. The treatment facility was updated in 2012. The sewer collection system has numerous mains with difficult access, sags in the lines that require frequent cleaning, and infiltration and inflow (I&I). Many of the sewer mains are at or near their capacity and several lift stations require rehabilitation. The highest priority in the wastewater system is the replacement of the Bay Sewer Main, which runs along the edge of Bigfork Bay on Flathead Lake. This main frequently traps grease and other solids from the downtown restaurants, increasing the chances of an overflow into the lake. Access to the main is very poor and extensive efforts are needed to conduct maintenance. Service lines connected to this main appear to be leaking and could result in raw wastewater reaching the lake.

Proposed Solution

Specific tasks include:

- Construct a new lift station and force main and remove the existing Bigfork Bay Sewer Main and Lift Station from service;
- Install new grinder pumps for 30 individual services; and
- Construct a new low-pressure sewer main.

Resource and Citizen Benefits Analysis

New mains would preserve groundwater and Flathead Lake water quality by reducing leaking sewage and would conserve energy by reducing the amount of I&I pumped during high groundwater elevation. New collection piping along with a new lift station would reduce the likelihood of sewage backup, thus reducing additional groundwater and surface water contamination. The project would improve the livability and health and safety of the community and visitors, improve recreational resources (beach) by reducing possible sewer backups, and create jobs during construction.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 28

Applicant Name Buffalo Rapids Irrigation Project District 2
Project Name Lateral 1.6 Pipeline Conversion

Amount Requested \$ 125,000
Other Funding Source \$ 639,150 Applicant
Total Project Cost \$ 764,150

Amount Recommended \$ 125,000

Project History

Buffalo Rapids Irrigation Project District 2 (BRIPD2) proposes to convert 13,200 feet of Lateral 1.6 from an open channel delivery system to a closed pipeline network. Lateral 1.6 provides irrigation water for 440-acres of farmland. Vegetative overgrowth, seepage loss, conveyance loss, and poor water management cause the system to lose up to 3.66 cubic feet per second, or 355 million gallons annually. Additionally, saline seeps affect 19 acres in the district which could be returned to production through implementation of this project. Since 2001, the BRIPD2 project has replaced over 80 percent of open laterals with closed conduit pipeline delivery systems. The Lateral 1.6 conversion project represents a key part of the irrigation district's long-range plan to improve water conservation and water resource management.

Completion of the project tasks will meet the intended goals and objectives of the project, which are to eliminate seepage losses, improve conveyance, improve irrigation management, and eliminate a saline seep on adjacent land. Also, public safety will be improved by removing an open ditch near the county fairgrounds.

Proposed Solution

Specific tasks include:

- Design and engineer the pipeline design;
- Obtain permits to meet all regulatory requirements;
- Review pipeline design for engineering and legal concerns;
- Install 13,200 feet of pipeline according to specifications; and
- Develop as-built plans to document installation specifications for construction closeout.

Resource and Citizen Benefits Analysis

Irrigation water is delivered to the system through the Glendive Pump Station. This project will conserve energy at the pump station through the increased irrigation delivery and on-farm application efficiencies. This project will also lead to more efficient use of irrigation water through addition of flow meters at the lateral inlet and at each turnout. Preservation of surface water will be achieved by decreasing the amount of irrigation runoff, thus decreasing contaminants entering the Yellowstone River and improving water quality. This project will affect the public well-being through increased agricultural revenues produced from increased irrigation efficiency. An economic analysis calculates this project to generate an additional \$108,723 annually. The project also improves safety by converting open water to pipeline. The project has received strong local support, especially due to safety concerns with open channels adjacent to the county fairgrounds, and equipment challenges due to the saline seep.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Reconsideration Project

Project No. 29

Applicant Name Sidney Water Users Irrigation District 3
Project Name Main Canal Pipeline Conversion, Phase 1

Amount Requested \$ 125,000
Other Funding Source \$ 124,804 Applicant
Total Project Cost \$ 249,804

Amount Recommended \$ 125,000

Project History

The infrastructure for the Sidney Water Users Irrigation District (SWUID) was constructed in the 1930s as part of the federal Works Progress Administration. The project was owned by DNRC until it was transferred to the SWUID in 1995. The SWUID has completed several canal-to-pipeline conversion projects in its Districts 1 and 2, and now is moving to its District 3 Main Canal to implement more canal-to-pipeline projects. This project comprises Phase 1 of the Main Canal conversion. A Preliminary Engineering Report was completed, and the alternatives analysis concluded that the preferred alternative is the installation of 3,044 linear feet of polyvinyl chloride (PVC) irrigation pipe. The goals of the project are to reduce or eliminate conveyance leakage, improve water management in the system, reduce power consumption by reducing the volume of water to be pumped, and to reduce irrigation diversions in the Yellowstone River.

Proposed Solution

Specific tasks include:

- Select and hire an engineering firm or contract with the local Natural Resources Conservation Service (NRCS) engineer; and
- Construct 3,044 linear foot PVC pipeline.

Resource and Citizen Benefits Analysis

The proposed project will increase efficient delivery of water for irrigation and save an estimated 4.8 cubic feet per second of water during irrigation season, equating to an overall annual water savings of approximately 1,312-acre-feet per year of Yellowstone River water for increased irrigation development. The district should also realize energy and cost savings due to reduced pumping requirements and elimination of labor-intensive annual canal maintenance. The quantity of end-system wastewater flow will be reduced resulting in preservation of surface water due to less sediment and other contaminants entering the Yellowstone River.

The project will result in short-term economic benefits associated with proposed construction. More important, the project will provide economic benefits including the local tax base associated with more productive cropland served by this final phase of the Main Canal project. The project will also allow individual landowners to better control irrigation practices on their cropland, allowing higher crop yields and perhaps more diverse crop options.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

* This project lost funding after the 2017 Special Legislative Session and has been resubmitted for consideration by the 2019 Legislature. *

Project No. 30

Applicant Name	Hill County
Project Name	Beaver Creek Dam Spillway Improvements
Amount Requested	<u>\$124,600</u>
Total Project Cost	\$124,600
Amount Recommended	\$125,000

Project History

Beaver Creek Dam was constructed in 1974 and is located in Hill County. Beaver Creek Dam is used as a water-storage facility that provides irrigation water, flood control, recreation, and a fishery for citizens of Montana. The dam and appurtenances were designed and constructed under the guidance and expertise of the Natural Resources Conservation Service, U.S. Department of Agriculture. Because of its age, the dam and its components are in need of repair. This project will complete repairs in and around the principal spillway and outlet channel. The most serious and costly repair is for erosion and scouring where the principal spillway stilling basin and the base of the irrigation outlet channel intersect. Any further scouring could endanger the safety of the dam and the water resource it impounds. The project will “recess” the outlet channel away from the stilling basin and any effects from the erosive forces in the stilling basin would not damage the outlet channel. New erosion control measures include new articulated concrete block mat and additional riprap to stabilize the outlet channel.

Proposed Solution

Specific tasks include:

- Contract with an engineering firm to conduct hydraulic analyses and secure necessary permits;
- Repair fence post and drain pipe settlement;
- Repair damaged curb and spillway wall cracking;
- Repair concrete damage in spilling basin;
- Reseal spillway joints,
- Realign irrigation outlet chute; and
- Develop record drawings and a final project report.

Resource and Citizen Benefits Analysis

The rehabilitation of the spillway will maintain irrigation to existing land that relies on the reservoir as well as reducing erosion and subsequent deposition of sediment to Beaver Creek. The dam provides habitat and recreational benefits associated with the reservoir, as well as flood protection for downstream communities.

Funding Recommendation

While the application listed \$124,600 as its request, DNRC recommends full grant funding of \$125,000. Any funds remaining following completion of this project will be returned to the Natural Resource Projects Account to fund future applications.

Project No. 31

Applicant Name	Sidney Water Users Irrigation District 3
Project Name	Main Canal Pipeline Conversion, Phase 2
Amount Requested	\$ 125,000
Other Funding Source	<u>\$ 166,375</u>
Total Project Cost	\$ 291,375
Amount Recommended	\$ 125,000

Project History

The Sidney Water Users Irrigation District (SWUID) owns and operates an irrigation water delivery system that spans about 13 miles and delivers irrigation water to about 4,733 acres. Phase 1 of this project is also being resubmitted for funding after losing awarded funding in the 2017 legislative special session. This project, Phase 2, is about 3,900 lineal feet long where an estimated 1,312 acre-feet of water is lost per year. This seepage loss results in less efficient irrigation practices due to available irrigation water which also reduces crop production by an estimated 27 percent on the 936 acres directly served by the main canal. The SWUID has completed several canal-to-pipeline conversion projects in the last decade. The project will convert the canal to a closed pipeline with plastic irrigation pipe.

Proposed Solution

Specific tasks include:

- Install and backfill 3,900 lineal feet of 24-inch diameter plastic irrigation pipe;
- Install concrete thrust blocks;
- Install four turnouts and flow meters;
- Install three air relief valves;
- Install 24-inch isolation valve; and
- Restore project area with revegetation.

Resource and Citizen Benefits Analysis

The project will improve water development and management as well as preserve water quality in the Yellowstone River. The project has the potential to increase revenue generation within the district by as much as \$10 million over the 30-year design life of the project. Implementation of the proposed improvements will develop water use, preserve water quality in the Yellowstone River, improve water management, increase on-farm irrigation efficiency and crop production, and benefit local and state economies.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 32

Applicant Name	Flathead Conservation District	
Project Name	Krause Creek Restoration	
Amount Requested	\$ 124,303	
Other Funding Source	\$ 4,050	Applicant In-kind
Total Project Cost	\$ 128,353	
Amount Recommended	\$ 125,000	

Project History

Krause Creek is an intermittent stream that arises in the Swan Mountains north of Bigfork and flows into Echo Lake, south of Bigfork. Krause Creek drains a highly erodible watershed and contributes high volumes of sediment to the drainage. Historically, the stream broke into a series of channels as it crossed an alluvial fan on the valley floor and emptied into Echo Lake. As the drainage area in the valley was developed, private landowners have, over time, put Krause Creek into a single channel. These efforts have caused down-cutting and soil erosion and the sediment is transported to Echo Lake, a public fishery and recreation area. The goal of the project is to stabilize a 625-foot reach of the most actively eroding portion of Krause Creek and reduce the sediment load flowing into Krause Creek. The applicant is requesting \$124,303 to be matched with \$4,050 in In-kind services by the Flathead Conservation District.

Proposed Solution

Specific tasks include:

- Project design, survey, and permitting;
- Replace an undersized culvert that is contributing to down-cutting and sedimentation;
- Excavate and construct 625 feet of inset floodplain in the most actively eroding reach of Krause Creek;
- Install grade controls on the 625-foot reach to assist in stabilization;
- Plant cottonwood seedlings in the inset floodplain; and
- Utilize the restored reach of Krause Creek as an example to the other private land-owners along the creek and stimulate the formation of a watershed group for future restoration efforts on Krause Creek.

Resource and Citizen Benefits Analysis

The proposed project will protect riparian habitat and reduce bank erosion and create a restoration plan. The Krause Creek Restoration project will preserve natural resources by stabilizing the stream channel, restoring hydrological function of the stream to allow for future flood events, and addressing the continual sediment loading maintenance. Restoration activities will also reduce the amount of sediment reaching Echo Lake, a valuable recreational site and fishery. The restored creek will also enhance wildlife habitat and provide connectivity between Echo Lake and nearby public lands.

Funding Recommendation

While the application listed \$124,303 as its request, DNRC recommends full grant funding of \$125,000. Any funds remaining following completion of this project will be returned to the Natural Resource Projects Account to fund future applications.

Project No. 33

Applicant Name	Alfalfa Valley Irrigation District	
Project Name	East Flynn Canal Rehabilitation	
Amount Requested	\$125,000	
Other Funding Source	<u>\$ 4,806</u>	Applicant In-kind
Total Project Cost	\$129,806	
Amount Recommended	\$125,000	

Project History

The Alfalfa Valley Irrigation District (AVID) is in Blaine County near Battle Creek. The AVID is part of the Milk River Basin which spans multiple counties in Montana and parts of Alberta and Saskatchewan in Canada. The proposed project includes the rehabilitation of approximately 1,520 linear feet of the East Flynn Canal, approximately four miles east of Chinook. The East Flynn Canal extends for approximately 28 miles north of the Milk River and has a capacity flow of 25 cubic feet per second (cfs). The canal provides irrigation water to approximately 340 acres of farmland. Due to highly permeable soils within the project area, the AVID's East Flynn Canal experiences a significant amount of water loss. Furthermore, the canal's proximity to Battle Creek is causing severe erosion and the river's migration pattern threatens to wash out the East Flynn Canal. The goals of the proposed project are to conserve water and preserve the AVID's water delivery by relocating and lining a 1,520-foot section of the canal that experiences severe seepage and erosion. Additional project goals include development of agricultural land within the AVID and improved management of the water delivery system.

Proposed Solution

Specific tasks include:

- Complete final design of canal realignment and lining;
- Realign, shape, and grade the canal to the proposed alignments and grading from final design; and
- Install 1,520 linear feet of new canal liner.

Resource and Citizen Benefits Analysis

The lining and realignment of this canal segment will reduce seepage and provide protection from future canal washouts to Battle Creek. AVID estimates that this project will reduce losses by 0.33 cfs (99 acre-feet per year) and result in increased alfalfa yields of 0.5 tons/acre on 340 acres. The project will also reduce erosion from the canal and subsequent deposition of sediment into the Milk River.

The project appears to be located within sage grouse habitat designated for conservation under Executive Orders 12-2015 and 21-2015. If funded, the applicant will need to document consultation with the Montana Sage Grouse Habitat Conservation Program. Approval by the Montana Sage Grouse Oversight Team may be required before contracting with Montana Department of Natural Resources and Conservation for grant funds.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 34

Applicant Name	Lower Musselshell Conservation District	
Project Name	DMWUA Irrigation Efficiency and Pump Station Rehabilitation	
Amount Requested	\$ 117,050	
Other Funding Source	\$ 7,775	Applicant
Total Project Cost	\$ 124,825	
Amount Recommended	\$ 117,050	

Project History

The Delphia Melstone Water Users Association (DMWUA) operates a gravity irrigation delivery system that supplies water to 6,100 irrigated acres via 65 miles of canal mainline and laterals. The system is fed by the Musselshell River, an over-appropriated water body with very low flows in late summer. Due to the size of the canal and lateral system and uncertainty in knowing how much water is flowing at various points in the system, ditch riders have traditionally diverted excess water to ensure adequate flows to all users. Excess water is then wasted if not needed, resulting in a daily loss of up to 24 acre-feet, or up 876 million gallons of water during irrigation season.

The proposed project will install telemetry and water measurement devices to remotely monitor flows at seven strategic locations in the canal system to render unnecessary the practice of diverting extra water and wasting it if not needed. Saved water will be stored in Deadman's Basin Reservoir and released at a rate of up to 12 cubic feet per second through the Musselshell River during late August and early September. This will allow water users to extend the irrigation season by 18 days and increase crop production by up to 10%.

Proposed Solution

Specific tasks include:

- Design water measurement system;
- Acquire regulatory permits; and
- Install water measurement and telemetry systems.

Resource and Citizen Benefits Analysis

The telemetry devices will: improve operation and efficiency of the main canal system; improve measurement throughout the entire system; preserve late-season fish and aquatic species habitats in the Musselshell River; allow more precise control of water diverted from the Musselshell River; and save approximately 140 man-hours of ditch rider time per year.

The installation of remote monitoring/telemetry system on the canals will reduce the volume of water wasted due to lag times from traveling to existing recording stations. The reduction in lag times will allow for additional water to be stored in Deadman's Basin Reservoir upstream for use later in the season. DMWUA estimated that 2,688 acre-feet per year can be stored and used to extend the growing season for 6,100 acres, increasing crop yields by 10%. The change in operation will reduce flows in the Musselshell River between Deadman's Reservoir and the DMWUA diversion in May through July but will increase river flows in August and September when flows are at critical levels.

Funding Recommendation:

DNRC recommends grant funding of \$117,050 upon development and approval of the final scope of work, administration, budget, and funding package.

Before contracting this grant, the applicant must provide documentation of consultation with the U.S. Army Corps of Engineers to determine whether a Clean Water Act Section 404 permit will be required, and with Montana Department of Fish, Wildlife & Parks regarding the value of this project to the Musselshell River Fishery.

Reconsideration Project

Project No. 35

Applicant Name Buffalo Rapids Irrigation Project District 2
Project Name Shirley Main Canal Rehabilitation

Amount Requested \$ 125,000
Other Funding Source \$ 83,463 Applicant
Total Project Cost \$ 208,463

Amount Recommended \$ 125,000

Project History

Buffalo Rapids Irrigation District (BRIPD2) proposes to rehabilitate 0.75 miles of the Shirley Canal within the “Jenny Reach” by lining the canal and replacing the existing headgate structures. The area has historically experienced significant seepage loss due to high permeability soils and poor condition of the ditch. It is estimated that up to 16 cubic feet per second (4,400 acre-feet) of water are presently lost through seepage which could be conserved with the installation of a canal liner. Additionally, a saline seep occurs adjacent to the canal due to seepage, affecting nine acres which could be returned to production through implementation of this project.

Completion of the project tasks will meet the intended goals and objectives of the project, which are to eliminate seepage losses, improve conveyance, improve irrigation management, and eliminate a saline seep on adjacent land.

Proposed Solution

Specific tasks include:

- Install a geo-composite liner in the identified 0.75-mile reach experiencing severe seepage losses;
- Remove organic material from channel bottom;
- Reshape channel bottom to desired dimensions;
- Replace three existing headgates under guidance of project engineer;
- Install ¾ mile of canal liner according to specifications;
- Install 6-inch ballast layer on top of liner; and
- Return flows to channel during irrigation season and monitor effectiveness.

Resource and Citizen Benefits Analysis

The renewable resource benefits are surface water development by increasing delivery efficiency of irrigation water to 2,000 acres through the regrading, shaping, and lining of the canal. The project would also conserve arable land through saline seep reclamation of nine acres into irrigated land. There will also be a small energy savings by reduced pumping. Project implementation is estimated to generate an additional \$166,700 annually in increased production of irrigation land. This increase in production and revenue generation will benefit the local economy. Implementation of the Main Canal Rehabilitation project will help ensure the sustainability of the irrigation district and agricultural production within the lower Yellowstone Basin and improve safety by reducing saturated canal banks.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

* This project lost funding after the 2017 Special Legislative Session and has been resubmitted for consideration by the 2019 Legislature. *

Project No. 36

Applicant Name	Columbia Falls, City of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 799,718	Applicant
	<u>\$ 613,000</u>	SRF Loan
Total Project Cost	<u>\$1,537,718</u>	
Amount Recommended	\$ 125,000	

Project History

Drinking water for Columbia Falls is supplied by two wells, both of which are completed in the Flathead Valley Deep Alluvial Aquifer. The existing water supply capacity does not meet current state standards, even if system leakage is significantly reduced. An additional well is needed to increase water supply capacity to meet system demands. If leakage cannot be reduced, the city will need more than one new well. Water loss from the distribution system in Columbia Falls is significant. Approximately 45 percent of the source water is being lost and previous leak detection efforts have been unsuccessful in identifying the areas contributing to the extensive water loss.

The goal of the project is to develop additional water supply capacity through construction of a new well. The project will identify the location of leaks in the distribution system through a water loss control program.

Proposed Solution

Specific tasks include:

- Initiate a water loss control program utilizing flow measurement devices to locate areas where leakage is occurring;
- Develop a new water supply well;
- Construct a new pump house building with associated piping, meter, and mechanical equipment;
- Install a new transmission main to connect the new well to the existing distribution system; and
- Complete water rights permitting.

Resource and Citizen Benefits Analysis

The primary purpose of this project is to improve public health and safety by meeting state public drinking water supply standards. In addition, identifying and reducing system leakage will conserve energy and increase water available to meet system demands.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 37

Applicant Name	Buffalo Rapids Irrigation Project District 1	
Project Name	Lateral 1.7 Pipeline Conversion	
Amount Requested	\$ 125,000	
Other Funding Source	<u>\$ 366,825</u>	Applicant
Total Project Cost	\$ 491,825	
Amount Recommended	\$ 125,000	

Project History

Buffalo Rapids Irrigation Project District 1 (BRIPD1) proposes to convert 8,150 feet of Lateral 1.7 from an open channel delivery system to a closed pipeline network. Lateral 1.7 provides irrigation water for 332 acres of farmland. Vegetative overgrowth, seepage loss, conveyance loss, saline seep areas, and poor water management cause the system to lose up to 0.84 cubic feet per second, or 81 million gallons annually. Additionally, a saline seep affects 25 acres in the district which could be returned to production through implementation of this project. Since 2001, the BRIPD1 project has replaced over 80% of open laterals with closed conduit pipeline delivery systems. The Lateral 1.7 conversion project represents a key part of the irrigation district's long-range plan to improve water conservation and water resource management.

Completion of the project tasks will meet the intended goals and objectives of the project, which are to eliminate seepage losses, improve conveyance, improve irrigation management, and eliminate a saline seep on adjacent land.

Proposed Solution

Specific tasks include:

- Design and engineer the pipeline design;
- Obtain permits to meet all regulatory requirements;
- Review pipeline design for engineering and legal concerns;
- Procure materials from suppliers for construction;
- Install 8,150 feet of pipeline according to specifications; and
- Develop as-built plans to document installation specifications for construction closeout.

Resource and Citizen Benefits Analysis

Irrigation water is delivered to the system through the Glendive Pump Station. This project will conserve energy at the pump station through the increased irrigation delivery and on-farm application efficiencies. This project will also lead to a more efficient use of irrigation water through the addition of flow meters at the lateral inlet and at each turnout. Preservation of surface water will be achieved by decreasing the amount of irrigation runoff, thus decreasing contaminants into the Yellowstone River and improving water quality.

This project will affect the public well-being through increased agricultural revenues produced from increased irrigation efficiency. An economic analysis calculates this project to generate an additional \$85,360 annually. The project also improves safety by converting open water to pipeline.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 38

Applicant Name	Hardin, City of		
Project Name	Wastewater Treatment Plant Improvements		
Amount Requested	\$	125,000	
Other Funding Sources	\$	625,000	TSEP Grant
	\$	450,000	CDBG Grant
		<u>\$10,100,236</u>	SRF Loan
Total Project Cost		\$11,300,236	
Amount Recommended	\$	125,000	

Project History

The applicant operates a mechanical wastewater treatment facility comprising an oxidation ditch that was originally constructed in 1978. Given the age of the existing treatment system and the need to comply with updated Environmental Protection Agency and Montana Department of Environmental Quality standards, several components are in need of replacement and various upgrades are necessary. System deficiencies include lack of grit and grease removal systems, failing pumping systems and mechanical equipment, inadequate treatment capacity to handle surge flows, no redundancy with respect to the ultraviolet (UV) light disinfection system and blower for the aerobic digester, inability to receive septage, absence of backup power generation, and numerous operational challenges.

Proposed Solution

Specific tasks include:

- Replace the headworks facility with a new system equipped with a bypass;
- Convert the treatment process to a continuous flow sequencing batch reactor;
- Upgrade monitoring capabilities and install a new control system;
- Repurpose existing facilities to provide flow equalization, increased flexibility, and improved performance;
- Provide UV light disinfection system and aerobic digester redundancy;
- Install a back-up power generator;
- Add a septage receiving station and new plant water supply well; and
- Construct an administration building addition.

Resource and Citizen Benefits Analysis

The project would preserve surface water by essentially eliminating contaminated wastewater discharge to surface water (Big Horn River). The project would conserve energy with the upgrade of aging existing equipment to more efficient/lower horsepower equipment along with upgraded intelligent system monitoring and controls. The project would improve the health and safety of the community and visitors by providing a wastewater treatment system that treats wastewater to meet discharge standards. This project would also create jobs during construction.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 39

Applicant Name	Dillon, City of	
Project Name	Water Transmission and Distribution Main Replacement	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP Grant
	<u>\$3,369,225</u>	SRF Loan
Total Project Cost	<u>\$3,994,225</u>	
Amount Recommended	\$ 125,000	

Project History

Water mains within the Dillon water distribution system, dating to the 1920s in some cases, are approaching the end of acceptable service. Specifically, two parallel 10-inch cast iron transmission mains connecting the west side reservoir and two supply wells to the water distribution system installed in the late 1940s cross the Beaverhead River in an uninsulated covered bridge. In addition to leakage and alignment issues associated with the pipe bridge, in other areas these mains are exposed to the ground surface. These transmission mains have suffered from numerous and repeated leaks, and other water mains within the older areas of the city are also experiencing unacceptable leakage. Water pumped but not accounted for by the metering system amounts to roughly 35 percent of the water pumped from the four supply wells, or roughly 100 million gallons of lost water per year.

Proposed Solution

Specific tasks include:

- Install 650 linear feet of 18-inch high-density polyethylene (HDPE) transmission main west of river;
- Bore and jack 200 linear feet of 18-inch transmission main within a casing pipe under river;
- Install 6,500 linear feet of 18-inch HDPE transmission main east of river;
- Remove abandoned 10-inch west side transmission main; and
- Replace up to 7,020 linear feet of old water main and replace with new 8- to 10-inch polyvinyl chloride water distribution main including associated valves, services, fire hydrants, and pavement.

Resource and Citizen Benefits Analysis

Replacing the drinking water transmission main currently running over the Beaverhead River and replacing portions of the drinking water distribution system would help preserve surface water and groundwater quality from leaking chlorinated water. In addition, the project would reduce the chance of wasted drinking water resulting from a transmission line failure. This project would improve the livability in the community by reducing the potential for chlorinated drinking water contamination of the surface water and groundwater by creating jobs during construction. The project would increase community health and safety by stabilizing Dillon’s drinking water supply.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 40

Applicant Name	Helena Valley Irrigation District	
Project Name	Lateral 14.8 Headgate Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 31,693	Applicant In-kind
Total Project Cost	\$ 156,693	
Amount Recommended	\$ 125,000	

Project History

The Helena Valley Irrigation District (HVID) is in Lewis and Clark County. Currently, the Lateral 14.8 diversion structure is difficult to operate, unable to control water levels, and is in poor condition, creating an excess flow of six cubic feet per second that goes unused. The HVID Lateral 14.8 Rehabilitation project involves replacing an old, deteriorating diversion gate system and installing an electronic supervisory control and data acquisition (SCADA) system that will allow the HVID to control and monitor the new gate remotely. The proposed project aims to conserve water, improve management of water resources, develop water uses, and preserve crop production within the HVID.

Proposed Solution

- Demolish existing gate;
- Construct new diversion structure to fit a new gate; and
- Install a new gate with a SCADA system.

Resource and Citizen Benefits Analysis

The installation of a SCADA system on Lateral 14.8 will reduce the volume of water wasted due to lag times from manual operation of the diversion structure. During peak irrigation season, it isn't unusual for the gate to go unadjusted for several days, leading to wasted water or insufficient amounts of water within the lateral and inefficient water delivery. The proposed improvements conserve approximately 2,549 acre-feet (830 million gallons) of water and save over 115 man-hours for operation and maintenance per year. Implementation of the remote monitoring and operation of the diversion will increase delivery efficiencies to approximately 5,000 acres, representing 28% of HVID lands. HVID estimates that the increased efficiencies in deliveries will result in increased yields of 0.28 tons/acre for alfalfa, 0.21 tons/acre for hay, and 6.3 bushels/acre for wheat.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 41

Applicant Name	Polson, City of		
Project Name	Wastewater System Improvement, Phase 2		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 750,000	TSEP	
	<u>\$ 625,000</u>	SRF Loan	
Total Project Cost:	\$ 1,500,000		
Amount Recommended:	\$ 125,000		

Project History

Polson is currently replacing its wastewater treatment plant (WWTP) with a new facility for an estimated \$17.6 million. As this work nears completion, the city is focusing on repairing portions of its wastewater collection system. Repeated incidences of sewage backups in homes, yards, and alleys have caused ongoing insurance claims against the city for damages, resulting in high liability insurance premium cost. Much of the piping system has separated joints and significant root intrusion, grease blockage, misalignment, and disintegration issues. The condition of the collection main results in a direct risk to human health and safety due to potential human exposure to untreated wastewater. Soil and groundwater is also subject to contamination when wastewater flow is reduced or stopped entirely due to blockages, resulting in overflows. Work will occur in three, high-priority locations in the community where sewage backups are most frequent and severe: Browns Line, Church Line, and Riverside Addition North. The work will not eliminate backups in the system but is expected to significantly reduce the extent and frequency. The city also has other projects planned to address collection system problems outside the scope of this project.

Proposed Solution

Specific tasks include:

- Replace approximately 6,200 linear feet of deteriorated collection main;
- Install new manholes and service connections; and
- Relocate utilities as needed.

Resource and Citizen Benefits Analysis

This project would preserve groundwater by reducing sewage leaking into groundwater and preserve surface water (Flathead Lake) quality by reducing sewage contaminated groundwater and sewage overflow running into the lake. This project would conserve energy by reducing the amount of inflow and infiltration pumped through the WWTP during high groundwater elevation and will help reduce groundwater and surface water contamination.

The project would improve the health and safety of the community and visitors, and would improve recreation features by reducing sewer backups and would create some jobs during construction.

Funding Recommendation:

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 42

Applicant Name	Carbon County Conservation District		
Project Name	Golden Ditch Company Clarks Fork Diversion Rehabilitation		
Amount Requested	\$ 125,000		
Other Funding Source	\$ <u>222,275</u>	Applicant	
Total Project Cost	\$ 347,275		
Amount Recommended	\$ 125,000		

Project History

The Golden Ditch Company (GDC) is in southeastern Montana starting approximately five miles north of Belfry and continuing north to Bridger. The GDC supplies approximately 1,505 acres of land with irrigation water from the diversion structure spanning the Clarks Fork of the Yellowstone River. The GDC main canal runs along the northwest side of the Clarks Fork of the Yellowstone River for approximately 9.6 miles. The existing diversion structure is a 200-foot long concrete weir across the river with two rectangular openings on the northwest end that help to flush sediment that collects behind the weir. The inlet to the main canal consists of two headgates, each five feet wide by four feet tall. The diversion structure has been prioritized for rehabilitation due to its poor existing physical condition as well as water transport inefficiencies.

Proposed Solution

Specific tasks include:

- Replace existing diversion structure;
- Install new headgate; and
- Install riprap downstream of diversion structure.

Resource and Citizen Benefits Analysis

Rehabilitation of the diversion structure will help to conserve water, improve public safety, increase efficiency, improve management, preserve the integrity of the diversion structure, and increase agricultural development throughout the GDC. The replacement of the existing diversion structure will maintain irrigation to existing lands served by the GDC as well as allowing for improved yields. The deterioration of the existing structure resulted in reduced diversions and the new structure will allow for an increase in diverted flows (within the rate claimed on the company's water right). The project will also reduce erosion in the river downstream of the diversion works.

The project appears to be located within sage grouse habitat designated for conservation under Executive Orders 12-2015 and 21-2015. If funded, the applicant will need to document consultation with the Montana Sage Grouse Habitat Conservation Program. Approval by the Montana Sage Grouse Oversight Team may be required before contracting with DNRC for grant funds.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 43

Applicant Name	Savage Irrigation District
Project Name	Infrastructure Rehabilitation
Amount Requested	\$ 125,000
Other Funding Source	\$ 115,855 Applicant
Total Project Cost	\$ 240,855
Amount Recommended	\$ 125,000

Project History

The Savage Irrigation District (SID) consists of a 12-mile long main canal and five miles of laterals to provide irrigation water above the Lower Yellowstone Irrigation Project Main Canal near Savage. The SID system serves approximately 2,168 acres of fertile land along the west bank of the Yellowstone River. The proposed project will involve replacing three old, deteriorating structures: the SID Auto Check Structure, the Seeve Wasteway, and the Terminal Wasteway. The proposed project has been identified by the SID as a priority due to increasing operation and maintenance costs, water conservation struggles, inefficient management of the system, the potential for increased crop production, and safety concerns. The existing SID infrastructure is difficult to operate, unable to control water levels, and is in poor condition. The proposed project will conserve water, improve management, preserve water quality, maximize development within the SID, and improve safety for SID personnel and the public.

Proposed Solution

Specific tasks include:

- Complete final design of the wasteways and check structure;
- Construct a new check structure, two wasteway structures, and install Langemann Gates;
- Install the supervisory control and data acquisition (SCADA) system; and
- Perform SCADA system training on the new gate automation system.

Resource and Citizen Benefits Analysis

With the rehabilitation of diversion and check structures, two wasteways, and the installation of automation equipment, the district will conserve an estimated 1,414 acre-feet that will be used to increase crop production. The rehabilitation of the two wasteways will reduce sediment loading to the Yellowstone by approximately 61 cubic yards, preserving surface water and fish and wildlife habitat.

The local economy and area agriculture producers will see a benefit from increased crop production and additional acres of irrigation. Area and visiting recreationists will benefit from a higher quality fish and wildlife habitat.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 44

Applicant Name	Petroleum County Conservation District		
Project Name	Horse Creek Coulee Water Storage, Phase 1		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 228,000	USBR	
	\$ 107,500	In-Kind Match	
	<u>\$ 7,500</u>	RRGL Planning Grant for Measuring Devices	
Total Project Cost	\$ 468,000		
Amount Recommended	\$ 125,000		

Project History

The Horse Creek Coulee (HCC) is on the south side of the Delphia-Melstone Canal in east-central Montana, approximately 2.5 miles east of the town Melstone. Lower reaches of the Musselshell River in this area have been adversely affected by low water flows and drought. The river was designated a “chronically dewatered stream” under the Montana Water Measurement Program Act of 1991. Also, the Musselshell Basin has experienced dramatic and damaging flooding, with historic floods in 2011, 2013, 2014, and 2018. User groups have worked together since 1998 to improve district water conservation and accomplish a comprehensive assessment for 70 miles of the Musselshell River. This irrigation project proposes to develop an off-stream storage site in the HCC to improve management of low flows in the Lower Musselshell River during times of high irrigation demand.

The applicant poses a two-phased approach. Phase 1 consists of a water balance and salinity investigation, geotechnical engineering, construction design, permitting, and improvements to the Delphia-Melstone Canal (this project). Phase 2 will include the construction of a dam and reservoir with 3,572 acre-feet storage capacity to supply 45 users.

Proposed Solution

Specific tasks include:

- Complete water balance and salinity study;
- Complete final geotechnical engineering, construction specifications, and outlet structure design;
- Complete a seepage analysis and design solution;
- Install culverts; and
- Complete required regulatory permitting and compliance.

Resource and Citizen Benefits Analysis

This water storage project will promote drought resilience, improve management of water resources, and reduce flood risk. The project will benefit the irrigation community with supplemental irrigation and may create additional fish and wildlife habitat.

The local producers will benefit economically with additional acres and increased crop production and the tourist and recreation economy may see a benefit with enhanced fishing and recreating opportunities.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 45

Applicant Name	Wibaux, Town of	
Project Name	Wastewater Treatment System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	<u>\$1,321,000</u>	SRF Loan
Total Project Cost	\$2,196,000	
Amount Recommended	\$ 125,000	

Project History

Wibaux completed upgrades to its wastewater system in 2011. The upgrades included a new wastewater treatment facility (WWTF) designed as a total retention/evaporation system. Although the system was designed as a non-discharging system, the evaporation cells reached capacity and an improvised discharge method was required by July 2013. The population and system flows utilized in the design appear to have been underestimated. As a result, the existing wastewater treatment system does not meet Montana Department of Environmental Quality’s design standards and current or anticipated discharge permit limits. Inadequately treated wastewater is currently being discharged from the WWTF. The goal of the project is to eliminate discharge of inadequately treated wastewater. A new land-application disposal system with pivot irrigation will be constructed and the treated effluent will be beneficially utilized for crop irrigation.

Proposed Solution

Specific tasks include:

- Construct a land-application disposal system with pivot irrigation;
- Modify the storage cell system to meet winter storage requirements; and
- Add disinfection, flow monitoring, and effluent sampling systems.

Resource and Citizen Benefits Analysis

The proposed project will protect surface water from inadequately treated effluent discharged to Beaver Creek that currently contains elevated nutrients and *E.coli*. The project will improve the health and safety of the residents of Wibaux and benefit the local economy by expanding wastewater treatment capability for additional users.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 46

Applicant Name	Alberton, Town of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Source	<u>\$ 43,500</u>	Applicant – Cash Reserves
Total Project Cost	\$ 168,500	
Amount Recommended	\$ 125,000	

Project History

Alberton is in Mineral County along the Clark Fork River, roughly 30 miles west of Missoula. The population served by the water system is approximately 423 people. The water system utilizes a gravity spring and municipal well that both feed a 300,000-gallon metal storage tank.

Some primary deficiencies have been listed in the Alberton Water System Technical Report submitted for Renewable Resource Grant and Loan funding. During the winter, the spring source alone supplies enough water to the tank, but during summer, when irrigation occurs, the use of the well source is required to keep the tank full. The spring is disinfected with chlorine gas, which is a dangerous method of chlorination, and the chlorination building does not meet Montana Department of Environmental Quality’s (DEQ) Circular DEQ-1 standards for safety. When the tank is full, the chlorinated spring water still flows into the tank and continuously overflows the tank and is discharged to surface and groundwater. The well source is not disinfected which makes chlorine residuals in the distribution system variable and unreliable during the summer when both sources are utilized. The well system also lacks source control, and therefore when the tank is getting low, the operator is required to hand start the well pump to fill the tank. And finally, flow meters do not exist at either source and system losses cannot be accurately determined, resulting in needed repairs likely going unnoticed.

Other primary deficiencies that will be addressed in future phases of improvements include undersized and dead-end watermains, inadequate storage capacity for fire demands, and lack of security at the spring and tank site.

Proposed Solution

Specific tasks include:

- Install a control system that will monitor tank level and control both sources;
- Install sodium hypochlorite disinfection at both sources;
- Replace faulty diversion valve to allow diversion of spring water; and
- Add flow meters to both sources.

Resource and Citizen Benefits Analysis

The resources that benefit from this project are surface water and groundwater. The project will conserve the city’s groundwater (spring and well) and preserve surface water by eliminating the overflow release of chlorinated water to surface water. The citizen benefit is local.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 47

Applicant Name	Geraldine, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	\$ 450,000	CDBG
	\$ 222,000	RD Grant
	<u>\$ 667,000</u>	RD Loan
Total Project Cost	\$ 1,964,000	
Amount Recommended	\$ 125,000	

Project History

The applicant operates a wastewater collection and two-cell facultative lagoon system. Much of the system was originally constructed in the 1950s and 1960s. Multiple sections of the clay tile collection system are cracked, sagging, or damaged by root intrusion, all of which contribute to sewer backups and excessive rates of infiltration and inflow (I&I). The wastewater treatment system has received permit violations for exceeding pH limits, and the system is not currently capable of meeting permit limits related to disinfection requirements. The pond liner is experiencing subgrade settlement in isolated areas, which could cause stress failures of the lagoon liner and result in leaks and seepage.

Proposed Solution

Specific tasks include:

- Replace approximately 3,360 feet of existing clay tile pipe and associated manholes in the collection system;
- Repair identified areas of the lagoon subgrade to prevent failure of the liner system and seepage from the ponds; and
- Construct a new building to house an ultraviolet light disinfection system and a chemical feed system to adjust the pH of the effluent, as needed, to maintain compliance with the discharge permit.

Resource and Citizen Benefits Analysis

The project would preserve surface water quality by eliminating contaminated treated sewage effluent discharge to surface water (Winchell Springs) and would preserve groundwater quality by reducing sewage leaking from lagoons into groundwater.

The project would benefit the health and safety of the community by improving wastewater infrastructures.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 48

Applicant Name	Missoula, City of	
Project Name	Caras Park Outfall Stormwater Treatment Retrofit, Phase 2	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 323,381	Applicant
	\$ 8,990	Applicant In-kind
Total Project Cost	\$ 457,371	
Amount Recommended	\$ 125,000	

Project History

Caras Park, in downtown Missoula, is adjacent to the Clark Fork River (CFR) and is owned by the city of Missoula. Caras Park is a high use area for public visitation, private events, markets, fundraisers and recreation throughout the year. Stormwater from the downtown Missoula sub-basin is collected and discharged to the river through a 30-inch concrete pipe with the outfall located at the park’s river’s edge. There have been several reported complaints from the public pertaining to the water quality at the outfall. Outfall data from 2014 documented contaminant levels in excess of desired concentrations for total suspended solids (TSS), total phosphorus (TP), total nitrogen (TN), oil and gas (O&G), temperature, and coliform during storm and runoff events. In 2017, a hydrodynamic separation device was installed upstream of the outfall (Phase 1). Phase 2 of the project includes final treatment for stormwater before it is infiltrated into the groundwater adjacent to the river. The infiltration system would be located under a steep hill in the park. The hill would be re-graded to lower its overall height. The infiltration system would likely eliminate excess concentrations of TSS, TP, TN, temperature, bacteria, and coliform discharging directly into the river.

Proposed Solution

Specific tasks include:

- Install approximately 450 lineal feet of 102-inch diameter perforated corrugated metal pipe including access manholes for inspection and maintenance;
- Install approximately 780 cubic yards of coarse drainrock backfill; and
- Regrade the surface over the infiltration system to more gentle slope.

Resource and Citizen Benefits Analysis

This project would help preserve Clark Fork River water quality by diverting stormwater flow into groundwater next to the river using the process of infiltration to reduce metals, TSS, phosphorous, and the temperature of water entering the river. This project would improve public health and safety by reducing contaminated stormwater flowing into a busy recreational area.

This project would create jobs during construction. The project would also provide an economic benefit by improving a recreation area.

Funding Recommendation

DNRC recommends grant funding of \$ 125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

To realize anticipated resource benefits, the system must not be influenced by high groundwater. Before contracting for RRGL funds, the applicant must document that local groundwater conditions are suitable for installation of the project as proposed.

Project No. 49

Applicant Name Black Eagle-Cascade County Water and Sewer District
Project Name 2019 Water and Sewer System Improvements

Amount Requested	\$ 125,000	
Other Funding Sources	\$ 766,450	BNSF Railway
	\$ 645,000	TSEP
	<u>\$ 150,000</u>	RD Loan/Grant
Total Project Cost	\$1,686,450	
Amount Recommended	\$ 125,000	

Project History

The Black Eagle-Cascade County Water and Sewer District (District) water distribution and sewer collection systems were originally constructed in the 1920s by the Anaconda Copper Mining Company. Water is provided from the city of Great Falls with district-owned water lines. District sewage is treated and disposed of by the Great Falls Wastewater Treatment Plant. Sewer mains are in need of rehabilitation and replacement to prevent infiltration to groundwater and sewer backups. The proposed project will rehabilitate a portion of the sewer system and replace a section of sewer main. The water distribution system has six dead-end mains that require looping to properly manage the water resource. The proposed project will install a looping water main. The water main and a portion of the sewer main project will be coordinated with the Montana Department of Environmental Quality, the U.S. Environmental Protection Agency, and Burlington Northern Santa Fe (BNSF) Railway to remove three to five feet of lead and arsenic-contaminated soils from a former railroad bed. The looping water main and sewer main replacement will be installed below this environmental cleanup work.

Proposed Solution

Specific tasks include:

- Install approximately 1,800 lineal feet of looping water main;
- Install six fire hydrants;
- Install approximately 5,700 lineal feet of cured-in-place pipe sewer main;
- Replace four sewer manholes; and
- Excavate and install 840 lineal feet of sewer main.

Resource and Citizen Benefits Analysis

This project would reduce the risk of sewage contamination to near-surface groundwater and potential transportation to the Missouri River. It would also conserve lost drinking water from leaking water mains. There is no estimate for leakage rates and no evidence of discharge of contaminated groundwater to the Missouri River. However, cost savings can be realized when this 90-year old infrastructure, which is vulnerable to failure, is exposed during BNSF Railway site cleanup activities. The project has the potential to preserve water quality and conserve water from possible existing and future sewer and water main leaks.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 50

Applicant Name	East Helena, City of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	\$4,225,000	NRDP
	<u>\$ 736,503</u>	SRF Loan
Total Project Cost	\$5,586,503	
Amount Recommended	\$ 125,000	

Project History

East Helena is at the southern end of the Helena Valley in Lewis and Clark County. The city water system consists of two water sources, both chlorinated: two radial wells near Prickly Pear Creek and three vertical wells north of the city. The system also consists of three water storage reservoirs (storage tanks), two transmission mains, and a telemetry system. The wells are not able to supply the current demand and the reservoirs.

A 1-million gallon buried pre-stressed concrete tank is located southeast of the city. This tank was constructed in 1999 to replace a 312,000-gallon tank built in 1964. In addition, two cast-in-place concrete water storage tanks are located near the radial wells. The storage tanks are deteriorating due to age and leaking an estimated 44,000 gallons per day of finished water.

Two transmission mains connect the city's distribution system to the water sources. The 10-inch main connecting the radial wells to the city was originally constructed in 1928 and re-routed in 2013. The vertical wells are connected to the city through a 10-inch transmission main, replaced in 1999. The system also includes 101 fire hydrants. Approximately 16,760 feet of the distribution system was replaced in 1999. The city's distribution includes three crossings of Prickly Pear Creek. In 2013, one of the crossings was cut and capped due to pipe exposure within the stream. Dead-ends mains also exist in the system.

Proposed Solution

Specific tasks include:

- Remove existing subfloor in the radial well caissons, install a new floor slightly above-grade, install a new building over the caisson, and replace the existing pumps;
- Replace existing telemetry system with a new supervisory control and data acquisition system;
- Construct a new 96-foot diameter, 1-million gallon pre-stressed concrete storage tank with new inlet piping, outlet piping, overflow piping, and valves to replace the existing storage tanks;
- Construct approximately 50 feet of 8-inch polyvinyl chloride (PVC) water main on Main Street under Prickly Pear Creek to reconnect the capped main that is critical to conveying water from one side to town to the other;
- Add approximately 300 feet of 6-inch PVC below Highway 12 to loop the distribution system; and
- Eliminate the dead-end main at 1st Street and West Groschell.

Resource and Citizen Benefits Analysis

This project will provide public health and safety benefits by providing an adequate drinking water supply for East Helena. The project will allow the city to conserve groundwater and energy by eliminating leakage from water storage tanks. This project will also improve public safety for the city by increasing fire protection.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 51

Applicant Name	Plentywood, City of	
Project Name	Wastewater Collection Improvement, Phase 2	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	\$ 110,000	Applicant Reserve Funds
	\$ 400,000	SRF Loan Forgiveness
	<u>\$4,517,500</u>	SRF Loan
Total Project Cost	\$5,902,500	
Amount Recommended	\$ 125,000	

Project History

The purpose of this project is to upgrade the aging wastewater collection infrastructure in Plentywood. In 2016, Plentywood hired a company to clean and video 48,380 linear feet of sewer mains. Approximately 8,000 linear feet of sewer mains and manholes are being upgraded now (Phase 1) and this project is to upgrade approximately 8,000 lineal feet of open dig sewer main, 12,000 linear feet of lining and related manholes (Phase 2). This sewer main upgrade reduces surface water inflows and groundwater infiltration in the improved areas and will reduce wastewater outflows due to broken clay tile pipe and leaking joints into the groundwater in other areas. Flow monitoring indicates that as much as 40 percent of the wastewater entering the lagoon is from groundwater. Reducing the inflows from groundwater will have a direct positive affect on the lift station by reducing the number of pump starts and pump run times. This will reduce electricity demand and increase the life of the pumps. Reducing the inflows will also reduce the possibility of needing to enlarge the lagoons to accommodate the inflows and infiltration, thus saving construction energy and costs. The groundwater contamination from the failing sewer mains has the potential to affect the environment and health of many people in Plentywood and the surrounding area.

Proposed Solution

Specific tasks include:

- Install 11,662 linear feet of gravity sewer with cast-in-place pipe lining;
- Install 7,712 linear feet of 8-inch gravity sewer with open trenching;
- Replace 41 manholes; and
- Bore and jack 140 linear feet of 8-inch gravity sewer under highway.

Resource and Citizen Benefits Analysis

This project will result in multiple benefits to groundwater. The current condition of the waste collection system allows untreated sewage to seep into the groundwater and groundwater to seep back into the transmission system. The additional flows into the system cause a treatment burden on the aging system. By replacing 8,540 feet of main transmission lines the groundwater quality and quantity will be preserved and conserved.

The citizens of Plentywood will benefit from healthful and reliable drinking water.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 52

Applicant Name	Missoula County	
Project Name	Lewis & Clark Subdivision Wastewater Improvements, Phase 2	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 8,000	Applicant In-kind
Total Project Cost	\$ 133,000	
Amount Recommended	\$ 125,000	

Project History

The Lewis & Clark Subdivision’s Wastewater Treatment System is a community system that consists of a 17,500-gallon septic tank, a dosing tank with pumps, and a drain field that has approximately 4,500 feet of lateral perforated piping. The treatment system was constructed in 1977 and the internal dose tank pumps and related equipment were upgraded in 1999. The wastewater collection system is composed of 1,150 feet of 8-inch gravity sewer. The purpose of this project is to replace the existing 17,500-gallon septic tank which is undersized by current Montana Department of Environmental Quality standards. The septic tank is believed to leak into underlying groundwater which likely discharges to the nearby Clark Fork River.

Proposed Solution

Specific tasks include:

- Install 120 linear feet of 8-inch gravity sewer; and
- Install five new 5,500-gallon septic tanks that are manifolded together. This configuration will enable the Lewis & Clark Subdivision to continue to use septic tanks while one or more is serviced.

Resource and Citizen Benefits Analysis

This project would eliminate discharge of untreated sewage into groundwater approximately 18 feet below the leaking tank, thus preserving the quality of near-surface groundwater and improving safety by reducing risk of shallow well contamination. It also reduces the risk of shallow groundwater transporting sewage contaminants to the Clark Fork River, thus having the potential to preserve water quality in the river.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 53

Applicant Name	Wilsall Water District	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	\$ 245,000	SRF Loan
Total Project Cost	\$ 870,000	
Amount Recommended	\$ 125,000	

Project History

The Wilsall Water District has a community water system consisting of two wells, a storage tank, and a distribution system. Portions of the water system are 55 years old. The system meters were updated in 2017, along with a new telemetry system and improvements to the storage tank.

The district’s two wells are located along Flathead Creek. In 1997, an ice jam on the creek resulted in localized flooding near the wells. Shortly thereafter, the town’s drinking water exhibited noticeable turbidity. Water sampling indicated the water was also contaminated with *E.coli* bacteria. The distribution system was flushed to eliminate the turbidity and chlorinated to eliminate the bacterial contamination. However, in response to the poor water samples, Montana Department of Environmental Quality required the district to complete a microscopic particulate analysis which indicated the wells are under the influence of surface water. In accordance with Montana Public Water regulations, the district must either provide appropriate water treatment or develop a new groundwater supply not influenced by surface water.

Proposed Solution

Specific tasks include:

- Conduct a geotechnical investigation of hydrogeologic conditions in the study area to determine water quality and quantity information;
- Select location for two new water supply wells;
- Drill and develop new water supply wells with an anticipated yield of 100 gallons per minute, and an estimated depth of 150 feet;
- Install 1,000 lineal feet of new 8-inch water transmission main from new wells to existing storage tank; and
- Install new water mains and replace existing water mains with 2,850 linear feet of 6-inch pipe and 1,295 lineal feet of 8-inch pipe.

Resource and Citizen Benefits Analysis

This project develops a new source of drinking water for the Wilsall Water District. It increases health and safety by tapping an aquifer not under the influence of surface water. The project will also conserve water through pumping improvements and metering.

The dependable availability of a clean public water supply will benefit the local economy.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package. Completion of a grant agreement may require approval of DNRC – Water Rights Bureau.

Project No. 54

Applicant Name	Lower Yellowstone Irrigation Project	
Project Name	Crane Wasteway and Pump Station Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Source	<u>\$ 170,443</u>	Applicant In-kind
Total Project Cost	\$ 295,443	
Amount Recommended	\$ 125,000	

Project History

Lower Yellowstone Irrigation Project (LYIP) desires to rehabilitate an existing wasteway and pump station in Richland County. The Crane Wasteway is difficult to operate, unable to control water levels, and is in poor condition. The existing single stage pump moves water at a constant rate of 7,000 gallons per minute. The LYIP Crane Wasteway and Pump Station Rehabilitation project will replace an old, deteriorating wasteway and a single-stage pump with a new wasteway structure and gate, a new variable speed pump, and an electronic supervisory control and data acquisition (SCADA) system. The proposed improvements will repair the degraded wasteway and install a pump that will provide only the amount of water needed for irrigation. The project aims to conserve water, improve management of water resources, preserve water quality, and maximize development within the LYIP.

Proposed Solution

Specific tasks include:

- Replace the Crane Wasteway with a new structure that includes new gates and WT-200 medium-lift gate actuators;
- Incorporate gates into LYIP’s existing SCADA system;
- Rehabilitate existing pump with a new variable frequency drive and a high efficiency vertical turbine motor; and
- Install SCADA system on pump.

Resource and Citizen Benefits Analysis

The water conserved with the repairs and new pump will be used to increase agricultural production. The new monitoring and measurement equipment will enable correct and timely amounts of water delivered and less wasted back to the source, resulting in reduced sediment loading in the Missouri River. This will preserve water quality and fish and wildlife habitat. The new pump and equipment will also result in overall energy conservation. LYIP employees will also benefit with a safer working environment.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 55

Applicant Name	Missoula Conservation District	
Project Name	Grass Valley French Ditch Clark Fork Diversion Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Source	<u>\$1,170,430</u>	Grass Valley French Ditch Company
Total Project Cost	\$1,295,430	
Amount Recommended	\$ 125,000	

Project History

This irrigation project proposes to rehabilitate a diversion known as the Grass Valley French Ditch (GVFD) diversion on the Clark Fork River west of Missoula. The original diversion was built in 1905 to divert water from the river into the GVFD system. Today, the GVFD Company has approximately 282 members and irrigates 4,250 acres for alfalfa, wheat, and pasture land for cattle. The existing concrete/wooden crib structure consists of a wooden plan floor supported by wooden beams with concrete piers. A laydown hinged check system is facilitated by an overhead trolley to create a three-to four-foot barrier in the river. The diversion was last refurbished in the 1970s. Significant erosion and undercutting have occurred which threaten the integrity of the structure, make the diversion difficult to operate, pose an operational safety hazard, and render it less effective at controlling water levels. One fatality occurred in 2017 during attempted maintenance. The existing structure creates a three-to four-foot barrier to bull trout and other fish spawning upstream and it makes boat passage impossible. This project proposes to remove the existing structure and replace it with a pneumatic gate and a technical fish passageway with a boat portage.

Proposed Solution

Specific tasks include:

- Engineer a pneumatic gate system;
- Engineer a technical fish passageway and boat portage route;
- Complete required regulatory permitting and compliance;
- Procure a contractor to construct automated pneumatic gate system, technical fish passageway, and boat portage;
- Construct a cofferdam for phased dewatering of the channel;
- Remove existing diversion structure;
- Construct automated pneumatic gate system; and
- Construct fish passageway with dual-slot baffles using vertical piles.

Resource and Citizen Benefits Analysis

The resource benefits from this project are improved fish habitat and recreation by installing a fish and boat passage at the diversion structure. The project would also economically benefit the GVFD water users by improving the reliability of delivered irrigation water. The project benefits the health and safety of system operators and recreationists.

The citizen benefits are regional for bull trout passage and local for recreational boat passage.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 56

Applicant Name	Montana Bureau of Mines and Geology
Project Name	Reducing Mobilization of Oil-Brine Salt to Streams
Amount Requested	\$ 125,000
Other Funding Source	\$ 31,250 Applicant – Montana Tech of the University of MT
Total Project Cost	\$ 156,250
Amount Recommended	\$ 125,000

Project History:

The Musselshell River serves irrigation systems throughout its length. It frequently exceeds the Natural Resources Conservation Service/U.S. Department of Agriculture threshold for salinity in irrigation water, especially in the lower reaches. The Montana Bureau of Mines and Geology proposes to investigate two tributaries (North Willow Creek and Cat Creek) of the Musselshell River to examine one potential source of salinity in the river: oil brine from historic oil and gas development. Historic oil field practices include disposing of drill cuttings and brine water in impoundments near the drill site. This project will study surface and groundwater geochemical markers to determine if the cause of elevated salinity in the tributaries is due to historic oil and gas development known to occur on these two tributaries.

Proposed Solution:

- Install eight new wells on two tributaries: North Willow Creek and Cat Creek;
- Obtain up to 25 total samples from surface and groundwater during the course of two years (three years, if needed based on timing of well development);
- Collect sample data for major and minor inorganic constituents, diesel and gasoline range organics, and isotopes of carbon and strontium;
- Prepare a technical report;
- Sample locations will be:
 - (4 samples) Cat Creek surface water upgradient and downgradient of historic mining development. Two conditions: High Flow and Low Flow.
 - (4 samples) North Willow Creek surface water upgradient and downgradient of historic mining development. Two conditions: High Flow and Low Flow;
 - (8 samples) Groundwater samples from the wells; and
 - (8 samples) If there is a seasonality to the groundwater data, newly drilled eight wells will be sampled again. Otherwise eight existing monitoring wells will be sampled.

Resource and Citizen Benefits Analysis:

The results of this study would be used to help water managers focus on the causes of salinity in the Musselshell and identify impacts to groundwater from oil field brine. If the results of the study indicate that oil field brine contaminates surface or groundwater, the next step would be to clean up waste disposal sites near oil wells. In summary, the project could lead to the preservation of surface and groundwater and mitigate salinity in irrigation water.

Funding Recommendation:

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 57

Applicant Name	Winifred, Town of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 450,000	CDBG Grant
	\$ 850,000	SRF Loan
	<u>\$ 75,000</u>	Applicant
Total Project Cost	\$1,500,000	
Amount Recommended	\$ 125,000	

Project History

Winifred has an inadequate water supply in regards the system’s capacity to protect and grow the community. School has sometimes been cancelled due to a lack of water for operations. Issues to be corrected include the lack of adequate water storage capacity which leads to freezing in winter and lack of water during peak demand with no fire reserve. Violations of Montana Department of Environmental Quality (DEQ) Circular DEQ-1 related to static water pressure and hydrant flows must be addressed. Neither the system’s individual water service lines nor one of the pump house wells are currently metered. The pumphouse is inadequately equipped. There are also two dead-end water mains that require looping to improve circulation and fire flows.

Proposed Solution

Specific tasks include:

- Construct a new 170,000-gallon bolted steel, glass-lined storage tank;
- Build a code compliant pumphouse;
- Install water meters; and
- Install new water main to connect new water tank to existing well supply line.

Resource and Citizen Benefits Analysis

This primary purpose of this project is to address public health and safety concerns related to the drinking water system. The project will address water supply issues with the town and conserve groundwater through pumping improvements and metering. The dependable availability of municipal water will benefit the local economy.

Public health and safety concerns will be addressed through this project by providing adequate fire flows and addressing static water pressure violations.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 58

Applicant Name	Hysham, Town of	
Project Name	Wastewater System Improvements, Phase 1	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 375,000	TSEP
	\$ 154,000	Coal Board
	<u>\$ 100,000</u>	SRF Loan
Total Project Cost	\$ 754,000	
Amount Recommended	\$ 125,000	

Project History

Hysham’s (population 322) wastewater collection system is 80 to 90 years old and the treatment lagoons are over 50 years old. Water treated by the system discharges to a tributary to the Yellowstone River. The system includes two lift stations, installed in 1997, which are in poor condition and in need of replacement. The system experiences a significant amount of inflow and infiltration (I&I) and the lagoons appear to be leaking at a rate exceeding Montana Department of Environmental Quality (DEQ) standards. The project will replace Lift Station 1; rehabilitate Lift Station 2; jet, clean, and map the collection system to further define deficiencies; and conduct a leakage study to quantify the lagoon leakage. Lift station improvements reduce the risk of sewage backups. Study of the collection system and lagoon leakage will lead to Phase 2 improvements to address possible groundwater contamination caused by the lagoon leakage.

Proposed Solution

Specific tasks include:

- Replace Lift Station 1;
- Rehabilitate Lift Station 2 (two new pumps, new controls, new hardware, and lining wet well);
- Clean and video inspect all collection system pipes and manholes;
- Perform a leakage study of the treatment lagoons;
- Rehabilitate a portion of lagoon cell 1 dike;
- Replace three flow control structure lids at treatment facility; and
- Replace five valves at treatment facility.

Resource and Citizen Benefits Analysis

This project may preserve surface water quality in a small tributary to the Yellowstone River by reducing the possibility of sewage overflowing to surface water, preserve groundwater by reducing lagoon leakage, and conserve energy by reducing pumping of excessive I&I. The project would improve the health and safety of the community and would create limited jobs during construction.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 59

Applicant Name	Vaughn Cascade County Water and Sewer District		
Project Name	Water Improvements		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 625,000	TSEP	
	\$ 357,980	SRF Loan Forgiveness	
	<u>\$ 357,980</u>	SRF Loan	
Total Project Cost	\$1,465,960		
Amount Recommended	\$ 125,000		

Project History

The applicant operates two water supply wells, approximately 32,300 feet of water main, and a 90,000-gallon water storage tank to provide water service to 239 accounts. Most of the system was originally constructed in the early 1980s. The storage tank is significantly undersized to meet fire protection requirements. Numerous gate valves are faulty, which causes problems when isolating the distribution system to repair water main breaks. Multiple fire hydrants are also inoperable, increasing risks related to ability to provide fire protection. One of the wells and a chemical feed system need to be replaced, a couple dead-end mains exist in the distribution system, and the telemetry system is not operating properly.

Proposed Solution

Specific tasks include:

- Construct a 150,000-gallon storage tank at grade, adjacent to the existing tank;
- Replace various gate valves and fire hydrants throughout the distribution system;
- Replace a well and chemical feed systems;
- Complete distribution system looping to eliminate dead-end mains; and
- Install a new telemetry system.

Resource and Citizen Benefits Analysis

The Vaughn Cascade County Water and Sewer District system upgrades are necessary to ensure fire protection, improve overall system management, and protect the quality of drinking water potentially affected by dead-end mains. This project will conserve water by repairing water main leaks.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 60

Applicant Name	Stillwater Conservation District
Project Name	Yanzick/Brey-Riddle Ditches Irrigation System Improvements, Phase 2
Amount Requested	<u>\$125,000</u>
Total Project Cost	\$125,000
Amount Recommended	\$125,000

Project History

The Stillwater Conservation District operates the Yanzick and Brey-Riddle Ditches on the south side of the Stillwater River approximately 7.8 miles west of Absarokee. The Yanzick Ditch infrastructure consists of the following structures: a rock diversion dam that spans approximately 70 percent of the Stillwater River channel, a concrete headgate dam, and 1.2 miles of ditch. The Brey-Riddle Ditch infrastructure includes: a rock diversion dam, a severely deteriorated concrete headgate, a flow measurement device, and 2.1 miles of ditch. The headworks for both ditches are nearing the end of their serviceable life. They both impede sediment transport and boater passage within the river channel and are at risk for failure due to their poor condition. The Yanzick and Brey-Riddle Ditches convey a maximum water right of 5.49 and 29.85 cubic feet per second, respectively, and together they irrigate 756 acres of agricultural property located between the river and the Stillwater River county road.

Proposed Solution

Specific tasks include:

- Rehabilitate Yanzick Ditch diversion dam; and
- Install a secondary diversion structure that will measure and manage flows into the Yanzick Ditch and divert water into the Brey-Riddle Ditch further downstream.

Resource and Citizen Benefits Analysis

The project application did not provide enough information to determine the degree to which rehabilitation of one diversion dam and installation of a secondary diversion structure would affect renewable resources. The area agricultural community will benefit from accurate and timely diversions that allow them to fulfill their water right allotments resulting in increased production. Rehabilitation of the Yanzick/Brey-Riddle irrigation system will also reduce annual maintenance, improve management, and possibly maintain sediment transport within the Stillwater River and improve boater passage.

The local economy will benefit by increased number of acres irrigated, increased crop production on exiting acres, and possibly increased crop values.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 61

Applicant Name	Lockwood Water and Sewer District	
Project Name	Drinking Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	\$4,625,000	SRF Loan
	<u>\$1,420,000</u>	Lockwood WSD Capital Contribution
Total Project Cost	\$6,670,000	
Amount Recommended	\$ 125,000	

Project History

Lockwood Water and Sewer District's (WSD) Water Treatment Plant is currently running about 10 percent over recommended loading rates on the filtration system. Both existing filters are required at the peak production rate. The higher rates require more frequent backwashing or water use. Montana Department of Environmental Quality's (DEQ) Circular DEQ-1 requires redundancy with filters therefore, the plant does not currently meet this requirement.

Proposed Solution

Specific tasks include:

- Install third and fourth water filtration trains;
- Expand building to house additional treatment;
- Install additional piping and valves for the additional filters; and
- Connect to existing backwash supply, combine filter effluent, and filter to waste piping.

Resource and Citizen Benefits Analysis

The proposed project will conserve water in the Yellowstone River by expanding the filtration system.

This project is primarily a public health and safety project and will benefit the local economy.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 62

Applicant Name	Circle, Town of		
Project Name	Water System Improvements		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 500,000	TSEP	
	\$ 450,000	CDBG	
	\$ 170,800	SRF Loan	
	<u>\$ 170,800</u>	SRF Forgiven Principal	
Total Project Cost	<u>\$1,416,600</u>		
Amount Recommended	\$ 125,000		

Project History

The town of Circle's original distribution system was installed in the 1930s and 40s and was comprised of asbestos cement (AC) and cast-iron distribution main. Some of these mains, nearly 80 years old, still make up about 73 percent of the overall system (approximately 31,800 linear feet). After Phase 1 is completed in 2018, approximately 27,400 linear feet of the original AC main will remain. This pipe is badly deteriorated, loses roughly 34 percent of the water produced, and city personnel repair an average of four leaks each year. Other specific system problems include: (1) insufficient storage capacity; (2) low system; (3) low system pressures in the elevated part of town; (4) numerous inoperable hydrants and valves throughout the distribution system; and (5) copper services with lead soldering representing a health risk. The goal of the project is to reduce water loss and energy consumption by eliminating leakage from deteriorated distribution piping and to enhance the delivery of safe drinking water to match domestic and fire demands.

The proposed overall solution calls for: (1) installing a new 115,000-gallon storage tank; (2) installing a new booster station for the elevated portion of town, and; (3) replacement of the remaining 31,800 linear feet of AC and cast-iron pipe. Due to the magnitude of the recommended improvements, the town has elected to implement the project in several phases. Phase 1 is expected to be completed in 2018 and includes a portion of the main replacement as well as replacement of the service lines.

Proposed Solution

Specific tasks include:

- Open-cut replacement of 2,000 linear feet of 6-inch cast-iron pipe with 6-inch polyvinyl chloride (PVC);
- Open-cut installation of 1,750 linear feet of 6-inch PVC and abandoning 1,750 linear feet of 4-inch to 6-inch AC pipe;
- Replace 765 linear feet of leaking 6-inch PVC;
- Replace 625 linear feet of 4-inch cast-iron with 6-inch PVC; and
- Test, disinfect, and place the new distribution piping into service.

Resource and Citizen Benefits Analysis

This project will result in preservation of groundwater quality by eliminating leakage of chlorinated water into an aquifer. The project will also conserve water. With lower seepage losses, less water will be diverted to meet the town's current water demands.

The mainline pipeline replacement will remove cast-iron and asbestos pipe from the distribution system resulting in healthy, clean drinking water for residents. The new pipeline will result in lower pumping costs resulting in lower energy consumption costs. The rehabilitated lines and additional storage capacities will assist the town of Circle in meeting fire flows for the residents.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 63

Applicant Name	Yellowstone County Disaster and Emergency Services	
Project Name	BBWA Main Canal Rehabilitation, Phase 1	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 75,000	WaterSMART
Total Project Cost	\$ 200,000	
Amount Recommended	\$ 125,000	

Project History

The Billings Bench Water Association (BBWA) operates an irrigation water delivery system with over 263 miles of main canal and laterals. The BBWA delivers water for irrigation on over 18,000 acres, recreation in reservoirs, and raw water to 113 homes. The BBWA Main Canal flows through the city of Billings where this project is located. This project addresses a 1,550 lineal foot reach of the Main Canal where an estimated 2,425 acre-feet are leaked annually. Seepage losses in the Main Canal limit the volume of water available for irrigation, reduce inflow volumes to Lake Elmo for recreation, and reduce raw water availability.

Proposed Solution

Specific tasks include:

- Excavate and re-shape the canal cross section;
- Prepare the subgrade of the canal for the liner;
- Install a geocomposite liner on 1,550 lineal feet of Main Canal; and
- Add native soil ballast to anchor the liner.

Resource and Citizen Benefits Analysis

This project will improve delivery of water to Billings Bench water users enabling them to increase production of arable land. The project will also provide economic benefits for the local community and provide more flow to Lake Elmo.

The project would improve public health and safety by limiting potential for major canal breaches, caused by irrigation seepage.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 64

Applicant Name	Hysham Irrigation District	
Project Name	Re-Lift Canal Improvement	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 68,235	Applicant - Cash
	\$ 4,270	Applicant In-kind
Total Project Cost	\$ 197,505	
Amount Recommended	\$ 125,000	

Project History

The Hysham Irrigation District serves irrigation water from two canals: (1) Lower Canal and (2) Re-Lift Canal. In order for irrigation water to reach the Re-Lift Canal, which serves 2,000 acres, it is first pumped from the Yellowstone River to the Lower Canal and then pumped a second time into the Re-Lift Canal. An 8,600-foot long stretch of the Re-Lift Canal forms a bottleneck to the system. According to survey data and analysis by the Natural Resources Conservation Service, U.S. Department of Agriculture, this segment of canal is flat or at adverse grade, creating a pond-like situation that seeps water. In addition, the canal cross-section is variable with areas that restrict flow. In this section of canal, water surface control for irrigation deliveries along the project reach is currently accomplished through the use of a single check structure. The combination of canal grading issues with the limited water surface control creates a bottleneck through the project reach that affects irrigation delivery efficiency and is difficult to manage. The project proposes to re-grade 8,600 feet of canal and install additional control structures to provide for improved operating efficiency, reduced seepage losses, and greater management of irrigation deliveries.

Proposed Solution

Specific tasks include:

- Complete final design of the Re-Lift Canal;
- Re-grade 8-600 feet of the Re-Lift Canal; and
- Install a check structure at the beginning of the project area.

Resource and Citizen Benefits Analysis

This project will eliminate up to 660 acre-feet of seepage from the main canal. The conserved water will likely be used to increase crop production on existing fields.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 65

Applicant Name	Clyde Park, Town of
Project Name	Water System Improvements
Amount Requested	\$ 125,000
Other Funding Source	<u>\$ 10,000</u>
Total Project Cost	\$ 135,000
Amount Recommended	\$ 125,000

Project History

Two immediate concerns were identified in the Clyde Park Water System. The first major concern is the condition of the town’s spring water collection system. The spring water collection system was identified to be deficient in June 2014 when the Montana Department of Environmental Quality (DEQ) preformed a sanitary survey. The springs have allowed surface water to infiltrate the spring boxes through the access hatches and the deteriorating concrete covers. Another concern is significant water loss from the distribution system in Clyde Park. The average annual water loss for the 2017 calendar year was 81%. Chlorinated water is being lost through leaks in the distribution system into the ground. This also causes additional energy consumption from running wells to supply the water system. This proposed project includes reusing the existing spring boxes and making the necessary improvements to the spring boxes to minimize surface water infiltrating into the source water. Rehabilitating the spring boxes would bring them up to DEQ-10 design standards as well as preserve a high-quality water source that delivers water to the town by means of gravity and requires no power input to transport water to customers. The proposed project the town’s infrastructure that will be identified as deficient during the leakage testing planned for spring 2018. By conserving water, this alternative will save the town money in annual operation and maintenance costs. In 2017, the town chlorinated approximately 37.5 million gallons that were lost from the distribution system. In addition, the town will have a cost savings by reducing the amount of water needed that has to be pumped from the groundwater wells.

Proposed Solution

Specific tasks include:

- Rehabilitate the spring boxes to minimize surface water infiltrating into the source water to meet DEQ-10 design standards; and
- Replace the town’s infrastructure identified as be deficient during leakage testing in spring 2018.

Resource and Citizen Benefits Analysis

The primary benefit of this project is public health and safety. The public water supply is currently a spring water collection system that does not meet Montana DEQ-10 design standards. Conservation of the town’s water resource will be improved with rehabilitation of spring box covers and installation of new transmission lines will reduce energy consumption. Reducing water leakage from the distribution system will result in groundwater conservation. This project has minimal resource benefits.

This project will provide safe and reliable water storage capacity for Clyde Park.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 66

Applicant Name	Libby, City of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	\$ 450,000	CDBG
	<u>\$ 190,000</u>	Applicant
Total Project Cost	\$ 1,515,000	
Amount Recommended	\$ 125,000	

Project History

Libby has an aging water system. Unaccounted-for water totaled nearly 62 percent of all water produced between 2015 and 2017, likely from both unmetered water use and leaking water mains. The proposed project would replace a leaking and undersized water main in between Minnesota Avenue and Utah Avenue; replace leaking water main and add water main looping along U.S. Highway 2; and replace an aged above-groundwater transmission main in a conventional trench. The water main between Minnesota Avenue and Utah Avenue proposed for replacement and upsizing is within the Libby Ground Water Contamination Superfund site. The city would utilize \$190,000 of its annual International Paper environmental settlement for the proposed project.

Proposed Solution

Specific tasks include:

- Install approximately 515 linear feet of 8-inch polyvinyl chloride (PVC) water main;
- Install approximately 2,780 linear feet of 10-inch PVC water main; and
- Install approximately 1,100 linear feet of 24-inch high-density polyethylene treated water transmission main.

Resource and Citizen Benefits Analysis

This project would conserve a small volume of surface water by reducing water lost from the leaking drinking water main. The new water main would provide Libby with a more reliable drinking water supply. The project would increase safety by increasing the reliability of water to fight fires and replace a leaking transmission line in a pentachlorophenol-contaminated groundwater plume.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 67

Applicant Name	Chinook, City of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	\$ 529,840	RD Grant
	<u>\$1,244,260</u>	RD Loan
Total Project Cost	\$2,399,100	
Amount Recommended	\$ 125,000	

Project History

The majority of the city’s distribution system was constructed before 1957. Transmission mains are undersized, as are several other portions of the distribution system. Not all fire hydrants meet state standards, a 6-inch main breaks frequently, some fire hydrants are inoperable, some isolation valves have decreased functionality, and a care giving residence is supplied by one unlooped portion of the transmission system. There are six known locations where the end of the water distribution main continues out of the city limits and becomes a private line. The city can’t restrict access to the bulk water station at the water treatment plant (WTP) because it is located at the plant, which creates potential security concerns for the WTP. The goals of the project are to improve the reliability of the distribution system, reduce leakage, eliminate backflow potential, and address security concerns at the WTP.

Proposed Solution

Specific tasks include:

- Loop a dead-end water main;
- Replace approximately 2,800 lineal feet of undersized water mains;
- Replace 13 fire hydrants, install 20 isolation valves, install backflow preventers and flow meters on six private water lines; and
- Construct a new bulk water station.

Resource and Citizen Benefits Analysis

This project would help conserve surface water by reducing water losses from water mains. This project would improve livability in the community and create jobs during construction. It would benefit health and safety because a looped line would reduce the likelihood of drinking water contamination and the project would enhance firefighting capability. The project has minimal renewable resource benefits and would not improve public access or recreation features.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 68

Applicant Name	Cut Bank, City of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	SRF loan forgiveness (Uncommitted)
	\$ 754,000	SRF Loan (Uncommitted)
	\$ 750,000	TSEP (uncommitted)
	<u>\$ 250,000</u>	Applicant
Total Project Cost	<u>\$2,379,000</u>	
Amount Recommended	\$ 125,000	

Project History

Cut Bank’s water distribution system was mostly constructed in 1914 with what is now undersized galvanized and cast-iron pipe. A 2013 Preliminary Engineering Report (PER) identified immediate need to replace 19,000 feet of pipe and a long term need to replace 42,000 lineal feet of pipe. About 40 percent of the system has been severely corroded. Cut Bank embarked on a major phased system replacement plan and in three previous replacement projects replaced about 23,200 feet of pipe. The most critical replacement needs have been met in previous phases. The proposed project is Phase 4 of an ongoing replacement program to improve system reliability, reduce maintenance costs, and improve fire flow capability in the business and hospital districts.

Proposed Solution

Specific tasks include:

- Replace 8,800 lineal feet of undersized and corroded pipe with new polyvinyl chloride; and
- Provide maintenance coating /corrosion protection to a one million-gallon steel water storage tank.

Resource and Citizen Benefits Analysis

The replacement of undersized, corroded, and leaking pipe within the distribution system will lower the city’s overall diverted amount of surface water from Cut Bank Creek, resulting in conservation of surface water.

As diversions from the source water are reduced, there will be additional water available for area residents to use for agricultural, recreational, and wildlife purposes. Repair of the distribution and storage systems will increase the chlorination effort within the distribution system resulting in a clean and healthful drinking water source. Fire storage and flows will also see a benefit.

Because the latest PER amendment does not document the amount of leakage or continuing maintenance problems with the water distribution system, the degree to which their benefits will be achieved is uncertain.

Funding Recommendation:

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget and funding package.

Project No. 69

Applicant Name	North Havre County Water District	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 430,000	TSEP
	<u>\$ 310,817</u>	CDBG
Total Project Cost	\$ 865,817	
Amount Recommended	\$ 125,000	

Project History

The North Havre County Water District system needs water system improvements. The district has one storage facility and needs a second storage tank. The clear well is 6,000 gallons and is not adequate to meet peak flow demands at the bulk fill station. The bulk fill station piping configuration to the high service pump is also inadequate during peak flow. The bulk fill station, at its current location, has slow flows and safety concerns about access. The control system has become outdated and cumbersome to operate.

Proposed Solution

Specific tasks include:

- Construct a 50,000-gallon, glass-fused steel storage tank;
- Construct a 25,000-gallon concrete clear well;
- Construct a new pump house bulk fill depot with new access road; and
- Install control system upgrade.

Resource and Citizen Benefits Analysis

The project would minimally conserve drinking water, the source of which is the Milk River by improving the control system and increasing the overall storage capacity of drinking water. A new tank and a new clear well with improved access would improve the health and safety of North Havre by providing needed peak demand storage and more accessible bulk water. The clear well location would be safer and additional water storage would enhance ability to fight fires.

Funding Recommendation:

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 70

Applicant Name	Plains, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP Grant
	\$ 360,800	CDBG
	<u>\$ 123,200</u>	Applicant
Total Project Cost	\$ 1,109,000	
Amount Recommended	\$ 125,000	

Project History

This project would provide improved flood protection for the Plains Wastewater Treatment Facility (WWTF) along the bank of the Clark Fork River. The existing WWTF consists of a 4-cell aerated lagoon facility with ozone disinfection. The existing WWTF is permitted through 2022 and provides an adequate level of treatment. All treatment facilities are above or protected by dikes higher than the declared 100-year flood elevation. Based on recent rates of channel migration, the Preliminary Engineering Report estimated the river will infringe on the nearest treatment lagoon in roughly 13 years, unless preventive steps are taken. Erosion during flooding in early and late spring 2018 would likely reduce this estimate.

Proposed Solution

Specific tasks include:

- Install 250-foot long, 53-foot deep steel sheet pile erosion barrier wall approximately 60 feet inland from the existing river channel;
- Construct a buried 18-foot deep matrix of riprap and root balls along the river side of the sheet piling;
- Remove existing and failing riprap and reshape bank; and
- Reclaim disturbed construction areas and revegetate with riparian suitable shrubs, trees, and ground cover.

Resource and Citizen Benefits Analysis

This project would preserve surface water quality for approximately 15 additional years before the Clark Fork River eroded the bank and reached the water treatment lagoons.

This project would benefit health and safety by reducing the possibility of public contact with partially treated waste water.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 71

Applicant Name Montana Bureau of Mines and Geology
Project Name Measuring Groundwater Recharge in Flood to Pivot Irrigation Conversions

Amount Requested \$ 125,000
Other Funding Source \$ 31,250 Applicant
Total Project Cost \$ 156,250

Amount Recommended \$ 125,000

Project History

Agricultural land in Yellowstone, Carbon, and Big Horn Counties is largely supported by flood irrigation, which has been a significant groundwater recharge source for more than a century. Soil and water conservation efforts are replacing flood irrigation with sprinkler irrigation, resulting in less groundwater recharge to the alluvial aquifer. Implications of this change are well documented in west Billings and the northern Bighorn River Valley. This research project aims to identify characteristics of fields that may make them sensitive to groundwater recharge. The resulting data will be used to develop educational products (presentations, pamphlets, and posters) to present to Conservation Districts (CD) and irrigators to support strategic placement and conversion to pivots that protect rural groundwater resources. This project targets fields scheduled to be converted to pivot irrigation and will install eight monitoring wells on four fields to measure the quality and quantity of recharge to an alluvial aquifer. Field parameters, water level monitoring, full inorganic chemical analysis, and isotope sampling will be conducted on each field at least once before the start of irrigation and during the middle of the irrigation season during each of the three years. The target fields are located in Yellowstone, Carbon, and Big Horn Counties.

Proposed Solution

Specific tasks include:

- Evaluate and select four fields (two pairs) to include in the study;
- Install eight monitoring wells with transducers, and install soil moisture meters;
- Measure changes to groundwater quality and quantity beneath the study fields;
- Measure potential recharge from ditch loss along irrigation ditches near the study fields;
- Monitor soil conditions on study fields annually;
- Publish public information explaining irrigation recharge and pivot siting considerations; and
- Present project findings at public presentations.

Resource and Citizen Benefits Analysis

The benefits from this study are dependent on water users interest in implementing study results when siting center pivots. This study would add to the body of knowledge regarding impact from converting from flood to center pivot and could help irrigators use water more efficiently and protect the availability of rural groundwater supplies. The conversion from flood irrigation to center pivot sprinkler systems is generally considered to increase the consumptive use of water. If the installed pivots required by the study extend beyond the historic footprint of flood irrigation, a water right change application is required to account for the change in place of use. If the new pivots extend outside the historic footprint, consultation with the DNRC Billings Regional Office is required.

The project appears to be located within sage grouse habitat designated for conservation under Executive Orders 12-2015 and 21-2015. If funded, the project will need to document consultation with the Montana Sage Grouse Habitat Conservation Program. Approval by the Montana Sage Grouse Oversight Team may also be required before contracting with DNRC grant funds.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 72

Applicant Name	Cascade, Town of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	\$ 279,414	SRF Loan
	\$ 279,414	SRF Forgiven Principal
	\$ 91,000	Applicant – WPCSRF Loan
Total Project Cost	\$1,274,828	
Amount Recommended:	\$ 125,000	

Project History

The original water system in Cascade was constructed in 1915 and consisted of two spring sources, two 103,000-gallon concrete storage reservoirs, and a distribution system with 4-inch steel and cast-iron pipe. Improvement projects over the past 50 years have added: two supply wells, a 273,000-gallon steel storage tank, emergency generator, and replacement of all pipe in the distribution system with polyvinyl chloride (PVC) pipe. The town contends that the age of the original two concrete tanks (>100 yr.) places them in danger of failure which represents a threat to the town’s ability to provide water to the Cascade Volunteer Fire Department (CVFD). CVFD provides wildland fire suppression services within the Missouri River corridor. The town also contends that limited looping between the east and west sides of the railroad track results in stagnant water and impacts the ability to deliver fire flows on the east side.

Proposed Solution

Specific tasks include:

- Demolish and dispose of the two existing 103,000-gallon concrete tanks;
- Build a new 206,000-gallon pre-stressed concrete tank at the same location;
- Install two new 6-inch diameter PVC, 260 linear feet pipe connections under railroad track; and
- Test and disinfect project components and place into service.

Resource and Citizen Benefits Analysis

The project would conserve groundwater by reducing the risk of loss of water if the old tank(s) failed. This project would benefit the health and safety of local citizens. A looped line would reduce risk of unhealthy drinking water. New tanks would reduce risk posed by fires in town. This project would have minimal renewable resource benefits and would not improve public access or recreation features.

Funding Recommendation:

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 73

Applicant Name	Fallon County
Project Name	Baker Lake Restoration
Amount Requested	<u>\$ 100,000</u>
Total Project Cost	\$ 100,000
Amount Recommended	\$ 100,000

Project History

Lower Baker Lake was constructed by the railroad in 1908 and was later gifted to Fallon County for recreation. This shallow lake has been a venue for boating, swimming and fishing in a water-scarce part of the state. Soils in the drainage area of the lake are high in fine sediments and other materials that result in significant turbidity and sediment flowing into Lower Baker Lake. In 2005, Fallon County dredged the lake to make it deeper and placed the material between Upper Baker Lake and Lower Baker Lake which was a wetland before the dredging action. The Environmental Protection Agency took enforcement action against the county for the unpermitted wetland destruction, which is still being negotiated. The county wishes to create a wetland, remove the fill material, and construct a series of settling ponds to increase the clarity of water flowing into the lake as part of the solution.

In June 2016 a tornado hit Baker and deposited huge amounts of debris into the lake. The county has received \$4 million from the Federal Emergency Management Agency to remove the material. The county wishes to dredge the lake to make it deeper while they are removing the material from the tornado. Fallon County has in excess of \$6 million that it wants to use for making the lake deeper.

This Renewable Resource Grant and Loan (RRGL) project application is for \$100,000 to purchase aeration equipment to increase the dissolved oxygen content of the lake after it has been deepened. Fish kills have occurred in this shallow lake due to elevated biological oxygen demand (BOD) levels that impact fish habitat. For the purposes of this project review, the wetland enforcement action project and the dredging of the lake are considered separate from the RRGL application since they are fully funded and in the case of the dredging, already under way.

Proposed Solution

Specific tasks include:

- Purchase and install the aeration equipment, currently described at the “evaluation level” as a “cascade with air diffusers method”; and
- Operate and maintain the aeration equipment.

Resource and Citizen Benefits Analysis

Very little fishing opportunity exists in the area and Montana Fish, Wildlife, & Parks (FWP) no longer stocks fish at Baker Lake due to depth conditions and lack of viability. When complete some time during 2019, this project will allow FWP to establish a sustainable fish population as a public resource. The renewable resource benefits for this project include conservation of fish habitat and water quality preservation by increasing oxygen content in lake water.

Funding Recommendation

The application workplan was unclear and the technical reviewer was unable to adequately assess project feasibility. If this project is funded, DNRC will require a complete scope of work and budget.

DNRC recommends grant funding of \$100,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 74

Applicant Name	Pondera County Conservation District	
Project Name	Kingsbury Turnout Automation	
Amount Requested	\$ 125,000	
Other Funding Source	<u>\$ 10,256</u>	PCCRC
Total Project Cost	\$ 135,256	
Amount Recommended	\$ 125,000	

Project History

The Pondera County Canal and Reservoir Company (PCCRC) is generally located in central Montana near the town of Valier and its service area encompasses approximately 80,480 acres and 350 shareholders. The Kingsbury Turnout, on Birch Creek, is used to regulate flows into the Kingsbury Canal. The proposed headgate structure replacement with the addition of a supervisory control and data acquisition (SCADA) system has been identified by the PCCRC as a priority for the irrigation delivery system due to significant operation and maintenance costs, safety hazards, and water conservation struggles associated with the Kingsbury Turnout. The existing turnout is in poor condition and leaks approximately one cubic foot per second on a continual basis throughout the irrigation season because of its age and inability to fully close.

Proposed Solution

Specific tasks include:

- Complete final design for the rehabilitation of the turnout;
- Install a new turnout structure and fit the structure with the proposed Waterman headgate;
- Install the SCADA system; and
- Receive training on the new SCADA system.

Resource and Citizen Benefits Analysis

The infrastructure improvements are estimated to conserve 106 acre-feet of water per irrigation season which will be used to increase crop production. The addition of a SCADA system will allow the management to provide water in a timely and efficient manner that will also reduce the amount of wasted water. These system improvements may also improve wildlife habitat along Birch Creek.

The PCCRC will see a safety benefit for its employees by reducing hazardous travel to and from the proposed headgate replacement and the SCADA installation site.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 75

Applicant Name	Tin Cup County Water and Sewer District
Project Name	Water Conservation
Amount Requested	<u>\$ 125,000</u>
Total Project Cost	\$ 125,000
Amount Recommended	\$ 125,000

Project History

Tin Cup Lake Dam at the headwaters of Tin Cup Creek is approximately 14 miles southwest of Darby. The dam stores irrigation water and supplements Tin Cup Creek during late summer. The dam supplies irrigation water to approximately 1,600 acres of farmland. Water released from the dam follows the natural creek to a manual diversion at the head of the district's irrigation ditch. Currently, the manual diversion dam is outdated and is a safety concern to the operators. The irrigation ditch is unlined in some sections and, in other sections, has a failing liner. The Tin Cup Water Conservation project involves installing a mechanical dam and lining a 600-foot section of the ditch.

Proposed Solution

Specific tasks include:

- Construct a concrete under gate system and abutments;
- Install a 40-foot long by 2-foot high adjustable gate panel;
- Remove and dispose of existing failed ditch liner; and
- Install new liner on a 600-foot section of ditch.

Resource and Citizen Benefits Analysis

This project would develop arable land by reducing wasted surface water diverted from the Tin Cup Lake via Tin Cup Creek and allow the water to be used for irrigation of additional acreage. The project would also increase safety for the operator by reducing the chance of a ditch breach.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 76

Applicant Name	Clancy Water and Sewer District		
Project Name	Water System Improvements		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 750,000	TSEP	
	\$ 450,000	CDBG	
	\$ 500,000	SRF Loan Forgiveness	
	<u>\$1,086,358</u>	SRF Loan	
Total Project Cost	<u>\$2,911,358</u>		
Amount Recommended	\$ 125,000		

Project History

The Clancy Water and Sewer District (WSD) currently does not have any facilities to produce or convey drinking water to the residents of the district. Residents of the Clancy WSD currently obtain drinking water from individual privately owned wells. Water tests revealed that 47% of the wells have elevated levels of nitrates (greater than 2 milligrams per liter); 18% of those wells exceeded U.S. Environmental Protection Agency's (EPA) Maximum Contaminant Levels (MCL) of 10 milligrams per liter. The tests also revealed that 37% of the wells exceeded EPA's MCL of uranium of 30 microgram per liter.

Proposed Solution

Specific tasks include:

- Install two new public water supply wells;
- Construct a new 55,000-gallon bolted steel glass-lined storage tank;
- Install 164 lineal feet of new 8-inch transmission main from the new well;
- Install 3,110 lineal feet of new 8-inch transmission main to the new tank;
- Install 6,843 lineal feet of new 6-inch water distribution mains; and
- Install 62 new water services with water meters.

Resource and Citizen Benefits Analysis

A centralized public water supply and distribution system will improve the health and safety of Clancy. With a new metered distribution system, residents will use less water, thus conserving groundwater. This project includes drilling and producing from a new water supply well. The applicant has not yet identified the source aquifer. The project will not be ready to move ahead until the Clancy WSD has received a water right to a potable water supply.

The citizens of Clancy will benefit from a clean, healthful, and reliable drinking water source and a potential for phase-in flows for fire protection.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development of the final scope of work, administration, budget, and funding package.

CHAPTER III

Coal Severance Tax Loans to Public Entities

Applications for public loans are accepted by the Department of Natural Resource and Conservation's (DNRC) Resource Development Bureau until May 15 of each even-numbered year at the same time other applications are due from public applicants under this program. These loans are provided with proceeds from the sale of Coal Severance Tax (CST)-secured bonds and can be offered at a subsidized interest rate. The subsidy is paid with coal tax revenues.

Project Solicitation

Applications for public loans are solicited through the same process DNRC uses to solicit public grant applications described in Chapter II. The availability of low-interest loan funds is widely advertised through direct mailings, press releases in association with commercial newspapers, and contacts made during promotional workshops conducted jointly by DNRC, Montana Department of Commerce, and Montana Department of Environmental Quality (DEQ) at the local level. The same application form is used for both grant and loan applications.

Application Review

All public loan applications received by the deadline are evaluated for completeness. Those missing documentation, application fees, or other basic requirements are notified and allowed time to submit additional material. After applications are reviewed for completeness and any additional information needed has been obtained from the sponsor, completed applications are given to the team of key reviewers for review and evaluation. Loan applications are reviewed to determine financial, environmental, and technical feasibility as well as renewable resource and citizen benefits.

Funding Recommendations

All feasible public loan applications eligible for funding receive a favorable funding recommendation if the applicant demonstrates the ability to repay the loan. DNRC's recommendation includes the amount of financing needed to meet project and financing expenses and the interest rate suggested. There is no maximum allowable funding level. Public loans are limited to the amount an applicant has the ability to repay under standard repayment terms and by DNRC's bonding capacity. Loans can be reauthorized from prior sessions.

Availability of Loan Funds

In 1981, the Legislature adopted Senate Bill 409 to provide up to \$250 million in Montana CST bonds. CST bonds are issued for financing projects and activities in the state specifically authorized by the Legislature. Statutes dictate that loans made from CST bond proceeds are to be administered by DNRC, and that DNRC is to review each project to determine its technical and financial feasibility and RRGL eligibility.

Although the legislation was adopted in 1981, CST loans were not issued for the first few years because the constitutionality of the state's bonding authority under this program was initially challenged. In February 1984, the Montana Supreme Court ruled in the state's favor in *Grossman v. State of Montana*, and the first Montana CST bond was sold to finance loans during that same year.

In September 1985 the board of examiners adopted a general resolution pursuant to which all subsequent CST bonds have been issued. A copy of this resolution may be obtained from DNRC. The general resolution requires that the bonds issued be secured on a parity basis. This means that all subsequent CST bond issues have the same rights on proceeds flowing into the trust fund to pay bondholders. However, to assure bondholders there will always be enough CST revenue to meet debt service payments, the general resolution restricts the cumulative amount of bonds that can be issued. This restriction is more constraining than the \$250 million statutory limit. The general resolution does not allow any additional CST bonds to be issued if annual debt payments exceed 50 percent of the CST revenue allocated to the trust, plus 50% of the loan repayments received from local government borrowers.

Loan Repayment

CST revenue is used to pay the difference between payments received from local government borrowers and the state CST bond payments. Thus, CST bonds are paid with revenue from payments from local government borrowers along with CST proceeds.

To implement these repayment provisions, the statute established a fund structure within the permanent coal tax trust fund. Fifty percent of CST proceeds flowing to the permanent trust fund are first deposited in the CST bond fund. A portion of the proceeds deposited in the bond fund is transferred to the debt service account to pay for the interest rate subsidies. An amount equal to a year's debt service payment on all CST bonds is held in reserve in the bond fund.

The interest earnings are transferred to the CST income fund. These interest earnings are then transferred to the general fund.

Current Loans

The 2017 Legislature did not pass legislation authorizing use of CST bonds for projects listed in House Bill 8. As a result, no RRGL public loans will be granted during the 2019 Biennium. DNRC currently has 44 CST Loans currently outstanding as of June 30, 2018 (Table 2). The total amount outstanding is \$22,726,648.

**Table 2 Coal Severance Tax RRGL Public Loan Balances as of
June 30, 2018**

Applicant	Balance Due	Applicant	Balance Due
Beaverhead County–Red Rock Water and Sewer District	\$ 385,241	East Clark Street Water and Sewer District	\$ 231,651
Belt, Town of	\$ 151,700	Fairfield, Town of	\$ 23,934
Bitter Root Irrigation District	\$1,726,374	Four Corners County Water and Sewer District	\$2,769,479
Brady County Water and Sewer District	\$ 109,591	Froid, Town of	\$ 149,988
Bridger, Town of	\$ 70,563	Hysham, Town of	\$ 504,124
Bridger Pines Water and Sewer District	\$ 973,836	Lewistown, Town of	\$ 45,636
Buffalo Rapids Irrigation	\$ 325,187	Libby, City of	\$ 203,246
Daly Ditches Irrigation District	\$ 56,360	Libby, City of	\$ 659,079
Daly Ditches Irrigation District	\$ 185,943	Lockwood Water and Sewer District	\$ 735,317
DNRC-Ackley Lake Dam Rehabilitation	\$ 107,979	Lockwood Water and Sewer District	\$ 283,272
DNRC-Bair Dam	\$ 226,954	Malta Irrigation District	\$ 662,680
DNRC-Cottonwood Creek Water Users	\$ 716,137	Manhattan, Town of	\$ 898,329
DNRC-Deadman's Basin (Supply Canal)	\$ 447,586	Mill Creek Irrigation District	\$ 327,439
DNRC-Deadman's Basin (Canal)	\$ 24,877	Mill Creek Water and Sewer District	\$ 15,401
DNRC-Deadman's Basin (Outlet)	\$ 262,390	Ronan, Town of	\$ 610,566
DNRC-East Fork Siphon	\$ 154,582	St. Ignatius, Town of	\$ 110,297
DNRC-North Fork of the Smith River	\$ 192,175	Sunburst, Town of	\$ 26,513
DNRC-Nevada Creek Dam	\$ 144,777	Sunburst, Town of	\$ 174,546
DNRC-Ruby Dam Rehabilitation	\$1,563,121	Ten Mile Creek Estates Pleasant Valley	\$ 212,450
DNRC-Ruby River Water Users Association	\$1,402,003	Thompson Falls, City of	\$ 169,419
DNRC-Ruby River Water Users Association	\$2,194,767	Troy, City of	\$1,682,367
DNRC-Upper Musselshell Water Users Association	\$ 50,255	Yellowstone Boys and Girls Ranch Water and Sewer District	\$ 758,517
		Total	\$22,726,648

Interest Rates

During the financial review of each loan application, DNRC prepares a funding recommendation that includes a recommended interest rate. Recommendations are developed to be consistent with past direction provided by the Long-Range Planning Subcommittee of the Legislature.

DNRC's recommended interest rate on CST loans is determined by the expected bond market at the time CST bonds are sold. Therefore, the rate of interest on most loans from the program vary in accordance with the rate on the state CST bonds. The basic rate of interest for each public loan financed from the proceeds of a single bond issue is the same. Subsidies vary, depending on legislative authorization.

Project Management

DNRC reviews each public loan application to determine whether the project is technically and financially feasible. A project is considered financially feasible if sufficient funds can be made available to complete the project and if sufficient revenue can be obtained to repay the loan and to operate, maintain, and replace the project. After a public loan is authorized by the Legislature and the project sponsor is ready to secure financing, DNRC performs a more thorough review of the applicant's ability to repay the loan. At this time DNRC may require access to the applicant's most recent financial statement, budget documents, and other documentation in order to assess whether the proposed project is truly financially feasible.

If the borrower provides documentation of the ability to repay a loan and all legal requirements to incur debt are met, a loan agreement is prepared and executed to make specific requirements and covenants with respect to the project being financed. Borrowers must acquire all property rights necessary for the project including easements needed for a project's construction, operation, and maintenance. As appropriate, these and other stipulations also are contained in a bond resolution. Unless otherwise authorized, each loan, including principal and interest, shall be payable over a term approved by DNRC not to exceed the term authorized by the Legislature. The cost of issuing the state's bond also is paid by borrowers.

Each borrower must agree not to sell, transfer, lease, or otherwise encumber the project, any portion of the project, or interest in the project without DNRC's prior written consent. Further, the borrower must notify DNRC of any changes or modifications in a project both before and during construction. Borrowers are required to acquire and maintain, with respect to the project, property, casualty, and liability insurance. Insurance policies must name DNRC as a certificate holder for notification purposes.

Loans are disbursed by warrants drawn by the state auditor or by wire transfers authorized by the state treasurer in accordance with the provisions of this rule and the bond resolution. No disbursement of any loan funds shall be made unless DNRC has received from the borrower: 1) a duly adopted and executed bond resolution in a form acceptable to DNRC; 2) an executed bond in a principal amount equal to the loan amount, also in a form acceptable to DNRC; 3) a certificate from an official of the governmental unit stating that no litigation is threatened or pending that would challenge the governmental unit's authority to undertake the project, to incur the loan, to issue the bonds, and to collect revenue; 4) an opinion from the bond counsel that the bond is a valid and binding obligation of the borrower payable in accordance with its terms; and 5) any other closing certificates or documents that DNRC or the bond counsel may require.

Project Monitoring

Borrowers must maintain proper and adequate records of accounts that show the complete and correct entries of all receipts, disbursements and other transactions related to the project and, if applicable, the monthly gross revenue derived from the project's operation. Any segregation and application of the gross revenue resolution must also be shown in such reasonable detail as determined by the borrower to be in accordance with generally accepted accounting practices and principles.

Projects are closely monitored during construction for compliance with approval contract documents and the loan agreement.

The loan agreement requires an annual financial report for the life of the loan. This report includes a statement that details the project's income and expenditures for the fiscal year; the identification of capital expenditures that separate them from operating expenditures; a balance sheet as of the end of the fiscal year; the number of premises connected to the project at the end of the fiscal year; and the amount of cash on-hand in each account of the fund at the end of the fiscal year.

CHAPTER IV

Renewable Resource Grants and Loans to Private Entities

Applications for water-related projects from any individual, association, for-profit corporation, or not-for-profit corporation, may be considered for funding. Only water-related projects may be funded. Projects must have quantifiable benefits that will exceed costs. Projects must also provide public benefits in addition to any private benefits.

Grant Project Solicitation

To solicit applications from private entities that provide significant public benefits, the Montana Department of Natural Resources and Conservation (DNRC) Conservation and Resource Development Division (CARDD) advertises to private water user associations, small agricultural projects that need help, and individuals mandated to upgrade their wastewater systems. The agricultural projects have included inspection on private high-hazard dams used to store irrigation water and water-measuring devices on chronically dewatered streams. In addition to the projects solicited by the above-mentioned organizations, DNRC also accepts applications at any time for any nonpublic water project.

Grant Application Review

All applications are evaluated and ranked by the staff of the Resource Development Bureau (RDB) according to the extent each application presents a project that benefits or uses water resources. Criteria for evaluating private grants are similar to the criteria outlined in Chapter II for public grants. As with public grants, private grants are also evaluated to determine the potential adverse environmental impacts.

Grant Funding Recommendations

According to the Montana Constitution, the Legislature may not appropriate funds to private individuals. However, state entities have the authority to distribute public funds to private individuals. RDB staff reviews and screens grant requests to determine whether the proposed projects are technically and financially feasible and will make recommendations based on criteria outlined in statute. DNRC will not recommend feasibility studies, research, and/or public information projects for funding. By law, grant funding for any project may not exceed 50% of the total estimated cost of the project.

Grant Project Management

RDB staff notifies applicants of their funding status after approval. DNRC does not reimburse any project cost incurred before a formal funding agreement is executed.

Grant Project Monitoring

The project grant contract agreement between DNRC and the project sponsor includes monitoring procedures to ensure that the project meets program intent. The equivalent of one full-time staff administers active private grants and private loans. Budget and staffing constraints preclude site involvement by RDB staff at all projects.

Project sponsors must pay all project costs before submitting a request for reimbursement. All costs must be supported by invoices, receipts, or both.

Private Grant Projects Active FYs 2017 and 2018

DNRC approved 44 private grants, totaling \$99,636, during FY 2017 and FY 2018 (Table 3). This is 23 more grants than were approved in FY 2015 and 2016.

Table 3 Private Grant Applications Approved FYs 2017 and 2018

Location of Project			Location of Project		
City	County	Amount	City	County	Amount
Stevensville	Ravalli	\$5,000	Bozeman	Gallatin	\$2,350
Alberton	Missoula	\$4,052	Bozeman	Gallatin	\$5,000
Anaconda	Deer Lodge	\$978	Bozeman	Gallatin	\$4,850
Anaconda	Deer Lodge	\$874	Clarkston	Gallatin	\$1,736
Anaconda	Deer Lodge	\$1,000	Dayton	Lake	\$4,975
Anaconda	Deer Lodge	\$1,363	East Helena	Lewis and Clark	\$1,313
Anaconda	Deer Lodge	\$684	East Helena	Lewis and Clark	\$3,988
Anaconda	Deer Lodge	\$923	East Helena	Lewis and Clark	\$5,000
Anaconda	Deer Lodge	\$682	East Helena	Lewis and Clark	\$2,434
Anaconda	Deer Lodge	\$1,300	East Helena	Lewis and Clark	\$1,788
Anaconda	Deer Lodge	\$1,500	East Helena	Lewis and Clark	\$2,063
Anaconda	Deer Lodge	\$975	East Helena	Lewis and Clark	\$1,403
Anaconda	Deer Lodge	\$1,238	East Helena	Lewis and Clark	\$5,000
Anaconda	Deer Lodge	\$475	Great Falls	Cascade	\$1,288
Anaconda	Deer Lodge	\$1,045	Great Falls	Cascade	\$2703
Anaconda	Deer Lodge	\$950	Helena	Lewis and Clark	\$5,000
Anaconda	Deer Lodge	\$886	Helena	Lewis and Clark	\$2,250
Anaconda	Deer Lodge	\$878	Helena	Lewis and Clark	\$2,590
Anaconda	Deer Lodge	\$875	Helena	Lewis and Clark	\$3,374
Anaconda	Deer Lodge	\$1,250	Helena	Lewis and Clark	\$5,000
Anaconda	Deer Lodge	\$850	Helena	Lewis and Clark	\$4,318
Anaconda	Deer Lodge	\$872	Three Forks	Gallatin	\$3,127
Bozeman	Gallatin	\$4,438		Total	\$104,638

Private Loan Application and Project Review Procedures

Loan funding became available in 1981 when the Legislature earmarked \$350,000 under the former Renewable Resource Development program to finance loans to private individuals. At the same time, DNRC was given the authority to issue general obligation bonds to finance private loans. Loans to private individuals must promote and advance the beneficial use of water and allow Montana citizens to fully use state waters. Most private loans go to center pivot conversion projects.

Loan Project Solicitation

DNRC solicits applications for loan funds through staff presentations at various industry functions, press releases, public meetings, and word of mouth. Irrigation equipment dealers, Natural Resources Conservation Service (NRCS) offices, and conservation districts also promote the program.

Loan Application Review

Loan applications may be submitted at any time. DNRC staff reviews the application for completeness and requests additional information when needed. Technical aspects of the project are usually completed by NRCS or a private engineer. Financial review includes an evaluation of the applicant's financial strengths, weaknesses, and risk-taking capacity. The review also includes an evaluation of the security offered and a determination of the relative security position. All of these factors are considered in the recommendation to the loan committee.

Loan Funding Recommendations

Projects must be technically and economically feasible and must pay for themselves over the life of the installation through water savings, increased crop production, or other measurable benefits. Applications that meet feasibility and eligibility criteria are funded if the applicant demonstrates the ability to repay the loan.

The maximum loan amount allowable for private individuals under the Renewable Resource Loan program is \$400,000. The 1997 Legislature amended the statute to allow DNRC to accept applications and loan funds to water user associations. These loans are limited to \$3 million rather than the \$400,000 for private individuals. Loans are for a term not longer than either 30 years or the estimated useful life of the equipment purchased, or materials installed. For new irrigation equipment, the allowable term is 15 years; for used irrigation equipment, the term usually is 10 years or shorter.

Availability of Loan Funds

DNRC has the authority to issue up to \$30 million in general obligation Renewable Resource bonds to finance private loans. Changes made by the 1995 Legislature allow DNRC to have up to \$30 million of general obligation Renewable Resource bonds outstanding. To finance loans, DNRC sells bonds on the open market. Since the program's inception, bonds totaling about \$49 million have been issued to finance private loans. Presently, \$12.2 million in bonds is outstanding.

Interest Rates

The rate of interest on the state's general obligation bond determines the interest rate for private loans. The basic rate for private loans has varied from 3.30% to 9.50% since the inception of the program in the 1980s.

Tax law affects the interest rate. Before 1986, state bonds sold to finance DNRC projects were tax-exempt. The tax law of 1986 prohibited the use of tax-free bonds to finance private ventures. Although bond sales to finance private projects are now subject to federal tax, they remain exempt from Montana State tax.

In addition to interest costs, borrowers also pay a share of bond issuance costs proportionate to the percentage of the bond used to finance their loans. Closing costs include a \$150 nonrefundable application fee and title insurance. Higher interest rates and issuance cost charges have made private loans less attractive than those offered when the program first started. Although less attractive, private loans remain competitive with conventional financing because the rate on taxable bonds may be slightly lower than interest rates obtainable from conventional financing. DNRC loans also provide financing at a fixed interest rate for a period longer than that available to borrowers through their local financial institutions.

Longer terms and competitive fixed interest rates, in most cases, continue to make these loans attractive to borrowers interested in long-term financing for major equipment or system purchases.

Loan Project Management

Borrowers must acquire all property rights necessary for the project, including rights-of-way and interest in land needed for the construction, operation, and maintenance of the project. Title insurance, a title opinion, or other documents showing the ownership of the land, mortgages, encumbrances, or other liens must be provided to DNRC.

Loans must be secured with real property valued higher than the loan amount requested. According to statute, security equal to at least 125% of the loan value is required. Loans may be secured with a first or second real estate mortgage, an assignment of accounts receivable, certificates of deposit, or similar securities, or other security as accepted by DNRC. To adequately secure the state's interest, DNRC requires a security equal in value to at least 150% of the loan. For example, a loan application for \$100,000 would require real estate security of \$150,000. DNRC will accept a second mortgage on property if the state's interest can be adequately secured. DNRC may require an appraisal of real property used for securing a loan. Cost of the appraisal must be paid by the applicant.

After an application is approved for financing, interim financing may be secured by the applicant, with interest costs included in the DNRC loan financing. The Renewable Resource Loan program does not refinance existing loans; only new ventures are eligible.

Loans to private entities are disbursed by warrants drawn by the state auditor or wire transfers authorized by the state treasurer. Before disbursement can occur, all loan documents must be properly signed, security documents must be filed with the county clerk and recorder, the final title insurance policy must be in force, and an invoice must be submitted by the borrower to document the use of funds.

Loan Project Monitoring

Project construction is monitored by NRCS if the project includes a federal cost-share, and by the borrower who has a vested interest in the successful completion of the project. DNRC staff monitors project construction through field visits, when possible.

Borrowers must maintain proper and adequate records of accounts that show the complete and correct entries of all receipts, disbursements, and other transactions related to the project. If applicable, borrowers must document the monthly gross revenue derived from project operations. Any segregation and application of the gross revenue resolution also must be shown in such reasonable detail, as may be determined by the borrower in accordance with generally accepted accounting practices and principles.

Private Loan Projects Previously Funded

As of July 1, 2018, 541 private loans had been approved under the Renewable Resource Loan program. DNRC approved 19 private loans in FY 2017 and FY 2018 (Figure 7). Loans have been used to finance new and refurbished irrigation systems and irrigation wells.

Table 4 Private Loan Applications to Individuals Approved FYs 2017 and 2018

City	County	Loan Amount
Ronan	Lake	\$ 40,000
Ronan	Lake	\$ 8,016
Fairfield	Teton	\$ 397,982
Brockton	Richland	\$ 127,000
Simms	Cascade	\$ 15,000
Choteau	Teton	\$ 201,135
Townsend	Broadwater	\$ 75,000
Two Dot	Wheatland	\$ 156,000
Havre	Blaine	\$ 85,885
Helena	Cascade	\$ 125,000
Winnett	Garfield	\$ 133,785
Sidney	Richland	\$ 400,000
Baker	Fallon	\$ 180,000
Choteau	Teton	\$ 142,225
Toston	Broadwater	\$ 168,000
Chinook	Blaine	\$ 50,000
Deer Lodge	Deer Lodge	\$ 225,000
Hamilton	Ravalli	\$ 95,000
Winston	Broadwater	\$ 90,000
	TOTAL	\$2,715,028

CHAPTER V Irrigation Development Grants

The Irrigation Development Grants (IDG) program was initiated by the 1999 Legislature to foster development of new irrigation projects and production of high-value crops. Program staff provides financial and technical assistance to government and private entities in the development and the sustainment of irrigation infrastructure issues throughout the state.

Grants from this program range from \$5,000 to \$20,000 per project. Project examples include sponsoring grant-writing workshops; purchasing water measurement equipment; funding feasibility studies for irrigation system improvements; developing capital improvement plans; developing new irrigation projects and Geographic Information System projects; topographic surveys; and funding agriculture tours to inform producers on new technology.

The IDG program is now in its 18th year. The program has assisted producers and irrigators throughout the state in development of over 32,750 acres of new irrigation and has played a prominent role in improving the management and conservation of water on over 300,000 acres of sustainable irrigation. The 2017 Legislature appropriated \$300,000 in House Bill 6 for the IDG program.

Project Solicitation and Review

Applicants are required to submit an online application through www.fundingmt.org during the funding cycle. The application must describe the proposed project or activity, identify the sources and uses of funding, and discuss the implementation schedule for completion of the project tasks or phases.

Applications are evaluated for completeness and compliance with the intended purposes of the Renewable Resource Grant and Loan program. Requests for irrigation development funds are reviewed by Department of Natural Resources and Conservation staff and funded on a competitively ranked basis.

A list of IDG grants awarded during the 2019 Biennium to October 1, 2018 are presented in (Table 5).

Table 5 Irrigation Development Grants Approved During the 2019 Biennium to October 1, 2018

Project Sponsor	Project	Amount
Billings Bench Water Users Association	Main Canal Hydraulics Study	\$15,000
Clinton Irrigation District	Wasteway Structure Rehabilitation	\$15,000
Fort Shaw Irrigation District	Tracking On-Farm Efficiency	\$15,000
Glasgow Middle School	Rain Water Harvest	\$10,000
Lower Musselshell Conservation District	Irrigation Master Planning	\$15,000
Park County Conservation District	Irrigation Efficiency Monitoring	\$15,000
Western Arboriculture	Tree Farm	\$15,000
DNRC	Fred Burr Lake Intake Repairs	\$20,000
Hinsdale Public Schools	Rain Water Capture System	\$7,820
Milk River Joint Board of Control	Vertical Curtain Lining	\$15,000
Montana Bureau of Mines and Geology	Groundwater Modeling	\$19,750
Sheehey Family Trust	Blixit Creek Reservoir Repair	\$20,000
Sheridan County Conservation District	Groundwater Research and Monitoring	\$5,000
	Total	\$187,570

CHAPTER VI

Emergency Grants and Loans

In addition to the regular funding available during each Renewable Resource Grant and Loan (RRGL) program funding cycle, limited funds are also available for immediate projects necessary to address qualified emergencies. These funds are reserved to help finance emergency projects otherwise eligible for grant or loan funding which, if delayed until legislative approval could be obtained, would result in substantial damages or legal liability for the project sponsor.

Applications for emergency grants and loans are accepted by Montana Department of Natural Resources and Conservation (DNRC) from public entities when an emergency occurs. No application fee is required. The 2017 Legislature appropriated \$100,000 in House Bill 6 for Emergency Grants.

Project Solicitation

Emergency grant applications can be submitted at any time. No formal solicitation for applications is conducted. Public entities are informed of the availability of emergency grants during promotional workshops to provide information about all RRGL grant and loan programs.

To request funds, applicants are required to submit a letter containing:

- A description of the problem;
- A statement of when the problem occurred;
- The proposed solution;
- Cost estimates with documentation; and
- Documentation of the community's financial condition and ability to otherwise pay for the proposed repairs.

Application Review

As with funding for other renewable resource projects, emergency funds must be used for projects that benefit or use renewable resources in the state through conservation, management, development, or preservation; for assessing feasibility or planning; for implementing renewable resource projects; or for similar purposes approved by the Legislature. All applications submitted are evaluated for completeness. Sponsors for those applications needing more documentation are notified and asked to submit additional material immediately.

Requests for emergency funds are reviewed by DNRC staff. DNRC's RRGL engineer investigates the problem to determine feasible alternatives. The project is evaluated to determine its eligibility for funding under the RRGL program. Projects must meet the statutory requirements of 85-1-605 (4), MCA, as a minimum to merit further consideration. Engineers and technical experts from other state agencies may be solicited for technical opinions, guidance, and information.

Funding Recommendations

Statute allows DNRC to request up to 10 percent of the grant funds available each biennium to fund emergency projects. DNRC typically requests \$100,000 for emergency grants.

Funding recommendations are made on a case-by-case basis within the constraint of available funding. As information is gathered and documented, a staff report with funding recommendations is written and presented to Conservation and Resource Development Division's administrator and DNRC's director for an official decision as to whether the project should receive emergency grant or loan funding. The limited amount appropriated for Emergency Grants each biennium dictates close management of funding limits for each emergency project.

Project Management

Based on the decision of DNRC's director, the sponsor is notified of the status of its emergency grant or loan request. If successful, the applicant and DNRC enter into a formal agreement, and the project is managed in the same manner as other grant and loan projects funded by the RRGL program.

Emergency Grant and Loan Applications in Fiscal Years 2017 and 2018

Each emergency grant request submitted during FY 2017 and FY 2018 to date was reviewed by DNRC staff and, based on staff recommendation, was approved or denied for funding by DNRC's director. Total funding for all emergency grants may not exceed the legislative biennial appropriation for emergency projects under the RRGL program. Ten million dollars per biennium is available for emergency loans.

Authorized Emergency Grant Projects

During the 2018-2019 biennium to date, the following emergency grants have been awarded:

Flathead County Water and Sewer District #101 \$20,000

Water System Emergency Repairs

August 2016

Flathead County Water District 101 public water system serves the unincorporated area of Columbia Heights near the junction of U.S. Highway 2 and Montana Route 206 west of downtown Columbia Falls. The area includes both residential and commercial development including a Super 8 motel, small restaurants, and convenience stores. The water system for the area was slowly constructed and expanded beginning in the 1940s. In the 1970s, one of two original wells was abandoned, and a new well was drilled. The system was poorly operated under private ownership until early 2016 when Flathead County Water District 101 was formed and acquired ownership of the system. The system serves 68 single-family residences and seven businesses. The new water district prioritized necessary repairs and identified approximately \$50,000 worth of critical work to keep the system functional. This grant offset the cost of these emergency repairs.

Brady, Town of \$ 8,000

Water System Emergency Repairs

August 2016

On June 21, the district's bulk water keying system was damaged by a lightning strike. Over the July 4th holiday weekend, a leak in the newly installed distribution system developed. The total cost of repairs to Brady's distribution system has exceeded \$20,000, and the district has expended its reserves. The cost of these recent repairs approximates \$10,000.

Sweet Grass Community County Water and Sewer District \$17,000

Water System Emergency Repairs-2016

October 2016

Early in 2016, it was discovered that a significant leak had developed in the water main that delivers water to the district's customers east of Interstate 15. It was apparent that the leak existed in a section of the main lying beneath the Port of Sweet Grass border crossing facility, a heavily used customs station. The specific location and depth were unknown. In May 2016, the district applied for emergency funding, but the cost of the repairs was unknown and was estimated to fall between \$30,000 and \$90,000. At the time, the request to the Renewable Resource Emergency Grant program was denied, and the district was advised to reapply after the repairs had been made and the cost was known. The district reapplied to the program in November 2016. Repairs are complete, and the cost is \$129,000. The purpose of this grant is to offset a portion of the cost of the repair project.

Ramsay Water and Sewer District **\$10,000**
Elevated Water Storage Reservoir Emergency De-icing
January 2017

The Ramsay Water and Sewer District contacted DNRC on January 12, 2017, requesting funding assistance for emergency de-icing of the elevated water storage reservoir that is integral to the normal operation of the system. The de-icing operation was performed by a Sioux Falls, SD, tank specialty contractor, on January 6, 7, and 8 at an approximate cost of \$20,000. During the de-icing process, it was determined that the riser pipe that feeds water to the elevated storage vessel is broken and must be replaced at an estimated cost of \$71,100. The district is working to obtain financing for the riser pipe replacement project.

Lockwood Irrigation District **\$10,000**
Lift Pipe Emergency Repair Project
May 2017

Carl Peters, manager of the Lockwood Irrigation District in Yellowstone County, contacted DNRC on May 12, 2017, requesting funding assistance for a temporary repair to one of the 30-inch lift pipes supplying pumped water from the Yellowstone River to the district's main canal. The failure occurred at the end of the 2016 irrigation season, at which time he had contacted DNRC to discuss potential funding sources for an estimated \$350,000 pipe replacement project. The district decided to make the temporary repair to facilitate operation during the 2017 season and to pursue additional funding for the replacement project. The district obtained a quote from a Billings contractor to repair the failed pipe for approximately \$14,000. Work was completed May 2017.

South Wind Water and Sewer District **\$11,193**
Water Line Emergency Repair Project
July 2017

On June 9, 2017, South Wind Water and Sewer District submitted a request for an emergency grant to locate and repair a leak in the water distribution system operated by that district. The district is in the midst of ongoing work on its recently acquired water and wastewater systems, both of which require extensive upgrades. In early June one of the water lines failed, resulting in surface ponding and lack of service to the district's 84 water users. Repairs were made at cost of \$11,193.

Greenfields Irrigation District **\$8,000**
Johnson Drop Structure Emergency Repair
August 2017

On June 7, 2017, Greenfields Irrigation District discovered a concrete failure and subsequent below-channel piping and erosion along a 760-foot section of concrete chute associated with the Johnson Drop Structure. Flows were immediately shut off, exposing the full extent of the failure. If left unrepaired, the chute would likely have failed, leaving operators without irrigation for weeks and leaving the district with extensive replacement costs. Not including Greenfields Irrigation District labor and equipment, the cost for materials and contracted concrete pumping services was approximately \$39,000.

Canyon Creek Irrigation District **\$15,000**
Canyon Lake Dam Emergency Repairs
September 2017

During the summer of 2017, a sinkhole developed on the upstream face of Canyon Lake Dam, a wilderness dam about 12 miles west of Hamilton. The pool level was immediately lowered to allow for repairs to be made. The irrigation district contacted DNRC in September 2017 and indicated that the repairs would be made as soon as possible. The estimated cost of the project is \$45,000, to be borne in part by the district and in part by this grant.

Dodson, city of
Water Line Emergency Repairs
January 2018

\$9,000

During the fall/winter of 2017 the city of Dodson had multiple water leaks that affected the residents. The citizens were without water for an extended period of time. The breaks were caused by frost heaves rupturing the old water mains. The city is upgrading its water system by working with the State Revolving Loan Program. They contacted DNRC in January 2018 to ask for assistance in their emergency. The total cost of the project was \$19,653.40, to be borne in part by the city and in part by this grant.

Fort Belknap Indian Community
Water Pump Emergency Repairs
March 2018

\$4,000

The Community of Old Hays needed to replace a failing submersible pump. The community has a system of five pressure tanks that are in the housing shop and currently serve approximately 80 users. The failing submersible pump affected the water quality being delivered. The cost to replace the pump was approximately \$10,000, to be borne in part by the community and in part by this grant.

CHAPTER VII

Renewable Resource Project Planning Grants

The 2017 Legislature authorized \$800,000 for Renewable Resource Planning Grants. The intent of the program is to fund planning efforts for projects that will measurably conserve, develop, manage, or protect Montana's renewable resources. Planning grant funds must be used for contracted consulting or engineering services.

Montana Department of Natural Resources and Conservation (DNRC) accepts applications for planning grants from public entities in cycles. Staff reviews and ranks the grants. No application fee is required. No match funding is required for planning grants.

Project Solicitation

The availability of planning grants is advertised on the DNRC website, mass mailings, presentations to associations, and at funding workshops.

To request funds, applicants are required to submit an application that describes the project, identifies the sources and uses of funding, and discusses the implementation schedule for the study.

In this biennium, DNRC has awarded planning grants to public entities for 62 planning grants. Of the initial \$800,000 in planning grant money, \$95,000 remains as of October 1, 2018. These funds will be awarded in early 2019.

Application Review

Planning grant funds must be used to plan projects that enhance renewable resources through conservation, development, management, or preservation; for assessing feasibility or technical planning; or for similar purposes approved by the Legislature. All submitted applications are evaluated for completeness and compliance with the intended purposes of the program and are ranked accordingly.

Requests for planning grant funds are reviewed by DNRC staff. The scope of the project being considered is evaluated to determine funding eligibility under the Renewable Resource Grant and Loan program. The proposed budget is analyzed to assure that the proposed costs are feasible.

Project Management

DNRC staff works closely with project sponsors and consultants during the planning stages of projects. For public facility studies, the applicant must contract with a registered professional engineer to prepare a Preliminary Engineering Report that satisfies the requirements of the Uniform Application Supplement for Montana Public Facility Projects. This application is accepted by all of the state agencies funding water, wastewater, and solid waste projects in Montana, and also by the USDA Montana Rural Development Rural Utilities Service. For all projects, draft submittals of planning documents prepared under this program are submitted to DNRC or other agency professionals for review before interim payments; a final report is required for review and approval before final payment.

Authorized Projects

The funded planning grant applications approved during the 2019 Biennium to October 1, 2018 are listed in (Table 6).

Table 6 Project Planning Grants Approved During the 2019 Biennium to October 1, 2018

Project Types: W-Drinking Water WW-Wastewater IR-Irrigation WM-Water Management

Applicant	Project Type	Amount
Round 1 Application Cycle		
Alfalfa Valley Irrigation District	IR	\$ 10,000
Arlee / Lake County Water and Sewer District	W/WW	\$ 10,000
Bitter Root Irrigation District	IR	\$ 15,000
Buffalo Rapids Irrigation Project District 1	IR	\$ 10,000
Buffalo Rapids Irrigation Project District 2	IR	\$ 10,000
Canyon Creek Irrigation District	IR	\$ 15,000
Cascade, Town of	W	\$ 5,000
Clancy Water and Sewer District	W	\$ 15,000
Cut Bank, City of	WW	\$ 5,000
Flathead Conservation District	WM	\$ 15,000
Fort Belknap Indian Community	W	\$ 15,000
Glasgow Irrigation District	IR	\$ 15,000
Glendive, City of	WW	\$ 5,000
Greenfields Irrigation District	IR	\$ 5,000
Helena Valley Irrigation District	IR	\$ 15,000
Huntley Project Irrigation District	IR	\$ 10,000
Hysham Irrigation District	IR	\$ 5,000
Lewistown, City of	IR	\$ 15,000
Libby, City of	W	\$ 15,000
Liberty County Conservation District	WM	\$ 5,000
Lockwood Water and Sewer District	WW	\$ 5,000
Lower Musselshell County Conservation District	IR	\$ 15,000
Malta Irrigation District	IR	\$ 10,000
Manhattan, Town of	W	\$ 15,000
Manhattan, Town of	WW	\$ 5,000
Milk River Joint Board of Control	IR	\$ 15,000
Missoula County Conservation District	IR	\$ 15,000
Plentywood, City of	WW	\$ 15,000
Pondera County Conservation District	IR	\$ 15,000
Pondera County Conservation District	IR	\$ 10,000
Power-Teton County Water and Sewer District	W	\$ 15,000
Sidney Water Users Irrigation District	IR	\$ 15,000
Teton Conservation District	IR	\$ 15,000
Whitehall, Town of	W	\$ 15,000
Wilsall Water District	W	\$ 5,000
Subtotal		\$ 400,000

Table 6 Continued Project Planning Grants Approved During the 2019 Biennium to October 1, 2018

Project Types: W-Drinking Water WW-Wastewater IR-Irrigation WM-Water Management

Applicant	Project Type	Amount
Round 2 Application Cycle		
Baker, City of	W	\$ 5,000
Confederated Salish and Kootenai Tribes	WM	\$ 10,000
Dawson County	WW	\$ 5,000
Dillon, City of	WM	\$ 5,000
Gardiner Park County Water & Sewer District	W	\$ 15,000
Granite County	IR	\$ 15,000
Harlowton, City of	WM	\$ 15,000
Helena, City of	W	\$ 15,000
Hill County	W	\$ 15,000
Joliet, Town of	W	\$ 15,000
Lewis and Clark Conservation District	WM	\$ 15,000
Lodge Grass, Town of	WW	\$ 5,000
Missoula County	WM	\$ 15,000
Missoula, City of	WM	\$ 10,000
Missoula Valley Water Quality District	WM	\$ 15,000
Salish and Kootenai Housing Authority	WW	\$ 15,000
Savage Irrigation District	IR	\$ 15,000
Seeley Lake - Missoula County Sewer District	WW	\$ 15,000
Ten Mile/Pleasant Valley Sewer District	W	\$ 15,000
Thompson Falls, City of	W/WW	\$ 5,000
Upper Musselshell Conservation District	WM	\$ 15,000
Vaughn Cascade County Water and Sewer District	W	\$ 15,000
Wibaux, Town of	WW	\$ 15,000
Winnett, Town of	WW	\$ 15,000
Yellowstone County DES	IR	\$ 10,000
	Subtotal	\$ 305,000
	Total	\$ 705,000

Note:

CD = Conservation District
 IR = Irrigation
 PER = preliminary engineering report
 SD = Sewer District
 W = drinking water
 WW = wastewater
 WSD = Water and Sewer District
 WM = water management

CHAPTER VIII

Renewable Resource Watershed Management Grants

The 2017 Legislature authorized \$300,000 for the Renewable Resource Watershed Management Grant program. The intent of the program is to fund activities which conserve, manage, develop, and preserve Montana's renewable resources through watershed related planning and management activities. Watershed Management Grants serve as a component of the RRGL program by supporting partnerships among businesses, local leadership, the state and other stakeholders working on strengthening local watersheds.

The Department of Natural Resources and Conservation (DNRC) accept applications for Watershed Management Grants from public entities, watershed groups, conservation districts, and private applicants. Grants are available up to \$20,000 for a watershed management activity. No application fee is required.

Project Solicitation

The availability of Watershed Management Grants is advertised on the DNRC website, mass e-mails, DNRC informational brochures, presentations to user groups such as conservation districts, watershed groups, conferences, and regular watershed group meetings.

Applicants are required to submit an application that describes the project, identifies the sources and uses of funding, and discusses the activity that developed the organization's management strategy to prioritize and implement projects.

During the 2019 biennium, DNRC awarded 23 Watershed Management Grants. In total, \$201,500 was contracted between July 1, 2017 and October 1, 2018.

Application Review

Watershed Management Grant funds are used for activities that enhance renewable resources through conservation, development, management, or preservation; for development of staff or board leadership, financial management, fundraising, assessments of resource issues, development of self-sustaining education or outreach, use of technology, or for similar purposes approved by the Legislature. DNRC evaluated all applications for completeness and compliance with program purposes.

DNRC staff reviews requests for watershed management grant funds and evaluates the scope of the proposed activity to determine funding eligibility under the RRGL program. The proposed budget is analyzed to assure that proposed costs were feasible.

Project Management

Successful applicants and the DNRC enter into a formal contract for the proposed activities. Projects are managed in the same manner as other grant and loan projects funded by the RRGL program.

Authorized Projects

In 2017, the Legislature authorized \$300,000 for Watershed Management Grants. Successful applications are listed in (Table 7).

Table 7 Watershed Management Grants Approved During the 2019 Biennium to October 1, 2018

Applicant	Activity Title	Contracted Amount
Gallatin Local Water Quality District	Continued Development of Surface Water Monitoring Network	\$ 8,000
Blackfoot Challenge	Watershed Monitoring and Volunteer Development	\$ 6,000
Custer County Conservation District	Yellowstone River - Recommended Practices Implementation	\$ 10,000
Lower Clark Fork Watershed Group	Lower Clark Fork Watershed Restoration Plan Update	\$ 10,000
Ruby Valley Conservation District	Ruby Watershed Stewardship, Phase 2	\$ 15,000
Glacier County Conservation District	Big Sky Watershed Corps Member Funding	\$ 7,500
Lake County Conservation District	Big Sky Watershed Corps Member Host Site	\$ 6,000
University of Montana	Clark Fork and Kootenai River Basins Council	\$ 10,000
Cascade Conservation District	Sun River Watershed Updated Mission Outreach and Implementation	\$ 0
Center for Large Landscape Conservation	Restoring Riparian Areas and Protecting Beaver on the Blackfeet Reservation	\$ 10,000
Montana Department of Natural Resources and Conservation	Montana Water Summit	\$ 4,000
Lolo Watershed Group	Building Capacity and Collaboration Between Lolo Watershed Stakeholders, Phase 2	\$ 15,000
Beaverhead Conservation District	Water Availability and Strategic Planning	\$ 8,000
Bitter Root Water Forum, Inc.	Bitter Root Water Forum – Capacity Building to Increase Water Resource Conservation	\$ 3,300
Friends of the Missouri Breaks Monument	Upper Missouri River Breaks Stewardship	\$ 13,200
Gallatin Conservation District	AGAI Growth for Effective and Sustainable Watershed Management in Gallatin County	\$ 18,000
Granite Conservation District	Granite Collaboration and Capacity Building	\$ 5,500
Greater Gallatin Watershed Council	Lower Gallatin Restoration Project Database and Watershed Steward Program Development	\$ 4,400
Jefferson County	Development of Watershed Temperature Evaluation and Mitigation Protocol (Watershed TEMP)	\$ 12,100
Lincoln Conservation District	Lincoln Conservation District Tobacco River Restoration Project Technical Assistance and Grant Writing	\$ 2,800
Park Conservation District	Upper Yellowstone Watershed Drought Planning, Phase 1	\$ 12,000
Trout Unlimited	Building capacity for Project Implementation in the Lower Clark Fork	\$ 13,000
Whitefish Lake Institute	Montana Lakes Conference – Emerging Issues in Montana Lake Science and Management	\$ 7,700
	Total	\$201,500

CHAPTER IX

Septic Loan Grants

The Septic Loan Grant program was established by the 2015 Legislature to help counties in Montana to finance a low-interest loan program for septic system upgrades. The 64th Legislature authorized \$100,000 in grants for the 2017 biennium. DNRC offered grants up to \$50,000 to counties that wish to start a revolving loan fund for the purpose of protecting surface and groundwater resources. Counties would determine eligibility, the loan interest rate, and other repayment requirements, but must match the grant in an amount equal to or greater than the grant amount to establish the program. As of October 1, 2018, no county has applied for a grant from this program, and the program has been terminated.

CHAPTER X

Summary of Grants to Public Entities, October 1, 2016–September 30, 2018

Most RRGL project grants are completed within three years of legislative authorization. This section updates the status of all project grants that were completed or active during the period of October 1, 2016, through September 30, 2018. Project status is indicated by one of five categories: Completed, Active, Authorized but Not Yet Executed, Unfunded After the Special Session, and Terminated.

Grant Projects Completed Since October 1, 2016

Amsterdam-Churchill County Sewer District No. 307

Wastewater System Improvements

RRG-13-1542

The 2011 Legislature authorized a \$100,000 grant for wastewater system improvements. The project will hook into the Manhattan wastewater treatment plant. The project is complete and \$100,000 has been disbursed.

Big Horn County Conservation District

Evaluating the Influence of Irrigation on Groundwater Quality and Quantity

RRG-14-1604

The 2013 Legislature authorized a \$100,000 grant for data analysis and collection, model construction, and calibration and production of management tools for irrigators. The project is complete and \$100,000 has been disbursed.

Bitterroot County Conservation District

Supply Ditch Diversion Dam Improvements

RRG-16-1632

The 2015 Legislature authorized a \$125,000 grant for structural modifications to the supply ditch to alleviate safety threats. The project is complete and \$125,000 has been disbursed.

Bozeman, City of

Bozeman Creek at Bogert Park Enhancement

RRG-14-1608

The 2013 Legislature authorized a \$100,000 grant to enhance aquatic habitat by improving sediment transport in an urban setting. The project realigned and reconfigured the channel, stabilized banks, and developed a floodplain. The project is complete and \$100,000 has been disbursed.

Chinook, City of

Water System Improvements

RRG-14-1610

The 2013 Legislature authorized a \$100,000 grant for the construction of water treatment plant improvements. The project is complete and \$100,000 has been disbursed.

Craig County Water and Sewer District

Wastewater System Improvements

RRG-14-1584

The 2013 Legislature authorized a \$100,000 grant for construction of a new wastewater system. This project included construction of 6,925 feet of sewer main, 23 manholes, 5,500 feet of sewer service lines, electrical siting, force main and lift station, influent pumps, process piping, equalization basin, treatment building, emergency power, and a percolating wetland. This project is complete and \$100,000 has been disbursed.

**Crow Tribe of Indians
Crow Agency Water System Improvements
RRG-12-1522**

The 2011 Legislature authorized a \$100,000 grant for drinking water treatment system improvements at Crow Agency. The project consisted of construction of distribution system upgrades. The project is complete and \$100,000 has been disbursed.

**Dawson County
Wastewater System Improvements
RRG-15-1633**

The 2011 Legislature authorized a \$100,000 grant for the construction of wastewater system improvements. The proposed project consisted of abandonment of the treatment facility and subsequent connection to the new Glendive treatment plant. The project is complete and \$100,000 has been disbursed.

**Eureka, Town of
Water System Improvements
RRG-14-1619**

The 2013 Legislature authorized a \$100,000 grant for the design and construction of a water filtration plant. The project is complete and \$100,000 has been disbursed.

**Fairfield, Town of
Water System Improvements
RRG-15-1640**

The 2013 Legislature authorized a \$100,000 grant for the repair and upgrade to the Fairfield municipal wastewater system. The project included the installation of lagoon liners, fencing, piping, and construction of a building for UV and irrigation equipment. The project is complete and \$100,000 has been disbursed.

**Fallon County
Wastewater System Improvements
RRG-16-1654**

The 2015 Legislature authorized a \$125,000 grant for the repair and upgrades to the wastewater system. The project included installation of gravity sewers and manholes and also extended the gravity collection system to the City of Baker collection system. The project is complete and \$125,000 has been dispersed.

**Fergus County Conservation District
Big Spring Creek Stream Restoration at the Machler Conservation Easement
RRG-13-1534**

The 2011 Legislature authorized a \$100,000 grant to Fergus County to restore one mile of stream, add a meander, and create a floodplain and a new trail connecting existing recreation trails. This is Phase 1 of a multi-phased project. The project is complete and \$100,000 has been dispersed.

**Flaxville, Town of
Wastewater System Improvements
RRG-17-1663**

The 2015 Legislature authorized a \$125,000 grant for wastewater system improvements. The project rehabilitated the existing lagoon and expanded a second treatment cell. The project is complete and \$125,000 has been disbursed.

**Fort Belknap Indian Community
Main Canal A Underdrain Rehabilitation
RRG-16-1635**

The 2013 Legislature authorized a \$100,000 grant for improvements to the Main Canal A Underdrain along the D-3 Wasteway. The project is complete and \$100,000 has been dispersed.

Havre, City of
Wastewater System Improvements
RRG-15-1635

The 2013 Legislature authorized a \$100,000 grant for the design and construction of wastewater treatment plant improvements. The project is complete and \$95,000 has been disbursed.

Hill County
Beaver Creek Dam Improvements Project, Phase 2
RRG-14-1609

The 2013 Legislature authorized a \$100,000 grant for the design and construction of improvements to the outlet works for Beaver Creek Dam. Construction is complete and \$98,321 has been disbursed.

Hysham, Town of
Water System Improvements
RRG-16-1645

The 2015 Legislature authorized a \$125,000 grant for water system treatment, storage, and distribution system improvements. The project is complete and \$125,000 has been disbursed.

Jefferson County
Whitehall Sugar Beet Row Wastewater
RRG-16-1633

The 2015 Legislature authorized \$125,000 for wastewater system improvements including rehabilitating 1,800 feet of collection main and installing 800 feet of new collection main. The project is complete and \$125,000 has been dispersed.

Lodge Grass, Town of
Wastewater System Improvements
RRG-15-1638

The 2013 Legislature authorized a \$100,000 grant for wastewater system improvements. The project was for lagoon rehabilitation. The project was expanded with federal funding to include collection service to outlying housing areas. The project is complete and \$100,000 has been disbursed.

Lower River Road Water and Sewer District
Water and Sewer System Improvements, Phase 5
RRG-16-1638

The 2015 Legislature authorized a \$125,000 grant for a centralized water and wastewater distribution and collection system to connect previously unserved areas of the district. The project is complete and \$125,000 has been disbursed.

Madison County
Moore's Creek Culvert Replacement
RRG-14-1599

The 2013 Legislature authorized a \$100,000 grant to replace eight culverts to increase diverted water during floods and manage fish passage. The project is complete and \$100,000 has been disbursed.

Malta Irrigation District
Dodson South Canal Headgate
RRG-14-1588

The 2013 Legislature authorized a \$100,000 grant to replace the Dodson South Canal headgate which supplies irrigation water to the southern portion of MID, as well as Bowdoin National Wildlife Refuge, Nelson Reservoir, and Glasgow ID through Nelson Reservoir. The project is complete and \$100,000 has been dispersed.

Missoula, City of
Caras Park Outfall Stormwater Treatment Retrofit, Phase 1
RRG-16-1656

The 2015 Legislature authorized a \$125,000 grant for stormwater treatment to the Clark Fork River. The project is complete and \$125,000 has been disbursed.

Missoula County
Mill Creek Restoration
RRG-16-1640

The 2015 Legislature authorized a \$125,000 grant to reduce streambank erosion, improve hydraulic and fish passage and create fish habitat on Mill Creek. The project is complete and \$124,515 has been disbursed.

Moore, Town of
Wastewater System Improvements
RRG-14-1559

The 2013 Legislature authorized a \$100,000 grant to rehabilitate existing lagoons, build a third lagoon cell, and install a new center pivot irrigation system and pump. The project is complete and \$100,000 has been dispersed.

Montana Department of Natural Resources and Conservation–Water Resources Division
Musselshell Basin Instrumentation
RRG-16-1642

The 2015 Legislature authorized a \$125,000 grant for the installation and telemetry for collecting near real-time reservoir elevations and flows at state-owned dams. The project is complete and \$125,000 has been disbursed.

Philipsburg, Town of
Water System Improvements
RRG-14-1614

The 2013 Legislature authorized a \$100,000 grant for the design and construction of a drinking water disinfection facility. The project is complete and \$100,000 has been disbursed.

Pinesdale, Town of
Water System Improvements
RRG-15-1643

The 2013 Legislature authorized a \$100,000 grant for water treatment system improvements including filtration. The project is complete and \$100,000 has been disbursed.

Pondera County Conservation District
C-5 Canal Conversion
RRG-16-1643

The 2015 Legislature authorized \$125,000 for the design and construction of a rehabilitation project on the C-5 Canal within the Pondera County Canal and Reservoir Company. The project is complete and \$125,000 has been dispersed.

Richland County
Savage Wastewater System Improvements
RRG-14-1617

The 2013 Legislature authorized a \$100,000 grant for improvements to the wastewater system consisting of a collection system and lagoon upgrades, lift station installation, and treatment improvements. The project is complete and \$100,000 has been disbursed.

**Sidney, City of
Wastewater Improvements, Phase 2
RRG-16-1636**

The 2015 Legislature authorized a \$125,000 grant to construct four aerated ponds, a UV system, and a blower building. The project is complete and \$125,000 has been dispersed.

**Simms County Sewer District
Wastewater System Improvements, Phase 1
RRG-16-1653**

The 2015 Legislature authorized a \$125,000 grant for wastewater system improvements. This phase consists of television inspection of the collection system and replacement of leaky mains. The project is complete and \$125,000 has been disbursed.

**South Wind Water and Sewer District
South Wind Water and Sewer District Improvements
RRG-14-1623**

The 2013 Legislature authorized a \$100,000 grant for Phase 1 of water and wastewater infrastructure improvements. The project is complete and \$100,000 has been disbursed.

**Stevensville, Town of
Wastewater System Improvements
RRG-14-1568**

The 2013 Legislature authorized a \$100,000 grant for the design and construction of wastewater treatment plant improvements. The project is complete and \$95,000 has been disbursed.

**Stillwater Conservation District
Assessing Groundwater Resources of Bedrock Aquifers
RRG-14-1605**

The 2013 Legislature authorized a \$100,000 grant for compilation of water data, collection of water chemistry, and creation of aquifer maps. The project is complete and \$99,999.44 has been disbursed.

**Sweet Grass County
Grey Cliff Reach of the Yellowstone River
RRG-16-1651**

The 2013 Legislature authorized a \$100,000 grant for bank stabilization. The erosion was threatening not only arable land but also Lower Sweet Grass Road. Construction began in October of 2016 and was completed in December 2017. A total of \$100,000 has been dispersed.

**Ten Mile/Pleasant Valley Sewer District
Wastewater System Improvements, Phase 3
RRG-16-1637**

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. The project is complete and \$125,000 has been disbursed.

**Three Forks, City of
Wastewater System Improvements
RRG-14-1590**

The 2013 Legislature authorized a \$100,000 grant for the design and construction of wastewater treatment lagoon improvements. The project is complete and \$100,000 has been disbursed.

**Toston Irrigation District
Canal Rehabilitation
RRG-14-1606**

The 2013 Legislature authorized a \$100,000 grant to complete canal rehabilitation. The project is complete and \$99,984 has been disbursed.

**Tri-County Water District
Water System Improvements
RRG-16-1655**

The 2015 Legislature authorized a \$125,000 grant to construct a 281,000-gallon storage tank with associated piping. The project is complete and \$125,000 has been disbursed.

**Westby, Town of
Wastewater System Improvements
RRG-17-1652**

The 2015 Legislature authorized \$125,000 to Westby for rehabilitation of lagoons, installation of pumps, and a center pivot for irrigation of treated effluent. The project is complete and \$125,000 has been dispersed.

**White Sulphur Springs, City of
Wastewater System Improvements, Phase 2
RRG-16-1648**

The 2015 Legislature authorized a \$125,000 grant for wastewater system improvements to the treatment and disposal system. The project is complete and \$125,000 has been disbursed.

**Whitefish, City of
Nutrient Reduction Plan
RRG-14-1579**

The 2013 Legislature authorized a \$100,000 grant for nutrient data collection and development of a nutrient trading tool. The project is complete and \$100,000 has been disbursed.

Active Grant Projects

**Bainville, Town of
Wastewater System Improvements
RRG-17-1668**

The 2018 Legislature authorized a \$125,000 grant for water system improvements. The project will install a storage tank and replace cast-iron distribution pipe. The project has started construction and will be finalized December 2018. \$54,945 has been disbursed.

**Beaverhead County Conservation District
Poindexter Slough Fishery Enhancement
RRG-18-1676**

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. The project has restored the final 3,100 feet of stream channel on a three-phased project. The project is substantially complete and will be finalized December 2018. \$99,056.85 has been disbursed.

**Belt, Town of
Wastewater System Improvements
RRG-14-1631**

The 2013 Legislature authorized a \$100,000 grant for wastewater system improvements. This project includes construction of a land-application irrigation system for discharge, replacement of lift station No. 1, and rehabilitation of lift stations No. 2 and No. 3. The project sponsor has secured Rural Development funding. \$50,000 has been disbursed on this project. Project completion is scheduled for late 2018.

**Bozeman, City of
Sunset Hills Cemetery and Lindley Park Water Conservation
RRG-18-1673**

The 2017 Legislature authorized a \$125,000 grant for stream restoration and irrigation improvements. The project had finished design and will go to bid the first quarter of 2019. No grant funds have been disbursed.

Butte-Silver Bow County Government
Moulton Reservoir- Reclamation and Protection
RRG-16-1664

The 2015 Legislature authorized a \$125,000 grant to protect source water supply for the city of Butte and improve recreational opportunities through reservoir reclamation and protection. The project is under design and no funds have been disbursed.

Chester, Town of
Wastewater System Improvements
RRG-18-1685

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. The project design is complete, and construction will begin in 2019. \$17,660 has been disbursed.

Cut Bank, City of
Wastewater System Improvements
RRG-17-1661

The 2015 Legislature authorized a \$125,000 grant for a biological nutrient removal treatment system on the site of the city's existing treatment facility. Project design is complete and it is in the construction phase. Project completion is scheduled for late 2018. \$93,750 has been disbursed.

Fairfield, Town of
Water System Improvements
RRG-15-1640

The 2017 Legislature authorized a \$125,000 grant for wastewater system improvements. The project includes installation of lagoon liners, fencing, piping, and construction of a building for UV and irrigation equipment. So far, \$87,282 has been dispersed and the project is scheduled for completion at the end of 2018.

Fort Benton, City of
Wasteway System Improvements
RRG-16-1628

The 2013 Legislature authorized a \$100,000 grant for wastewater improvements. The project is in the final construction phase and the project completion date is December 2018. \$95,000 has been disbursed.

Froid, Town of
Wastewater System Improvements
RRG-18-1686

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. The project will address issues with the collection system and total retention lagoon system. The project will be finalized December 2020 and no grant funds have been disbursed.

Fromberg, Town of
Wastewater System Improvements
RRG-17-1662

The 2017 Legislature authorized a \$125,000 grant for wastewater system improvements. The repair and upgrade to the Fromberg municipal wastewater system. The project includes rehabilitating the lift station, constructing a two-cell lagoon and a UV disinfection system. \$112,500 has been dispersed and the project is scheduled for completion at the end of 2018.

Gallatin Gateway County Water and Sewer District
Wastewater System Improvements
RRG-12-1497

The 2011 Legislature authorized a \$100,000 grant for a wastewater system for Gallatin Gateway. The project includes a gravity collection system, lift station, and treatment plant. The project was delayed because of a lawsuit against the district. The district has elected to connect with the Four Corners treatment system and the project is currently being designed. \$90,000 has been disbursed.

**Garfield County Conservation District
Charles M. Russell National Wildlife Range Monitoring Pilot
RRG-14-1583**

The 2013 Legislature authorized a \$99,994 grant to study a 60,000-acre area to verify that grazing can improve the natural ecosystem and wildlife habitat. Specific tasks to be accomplished include data collection, developing a rangeland management plan, continued monitoring of the rangeland, and revision of management plans based on data collection and analysis. Project completion date is December 2018 and \$49,997 has been disbursed.

**Granite County
Flint Creek Dam Enhancement
RRG-18-1671**

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. The project will replace the leaky valve and repair damage to the stilling basin. The project will be finalized June 2019. No grant funds have been disbursed.

**Helena Valley Irrigation District
Gate Automation
RRG-18-1675**

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. The project is under design and will be completed by the end of 2018. \$8,878 has been disbursed.

**Jefferson County
Big Pipestone Creek Remediation
RRG-14-1560**

The 2013 Legislature authorized a \$99,531 grant to reclaim the eroded lower reach of the Jefferson Canal. Design is complete and permitting is in process. \$92,099.53 has been disbursed.

**Jefferson County Commission
Big Pipestone Creek Channel Restoration and Development of Management Plans for the Riparian Area and Beaver Management
RRG-14-1561**

The 2013 Legislature authorized \$1,096,836 to implement remediation projects that will address sedimentation in the system, enhance aquatic habitat, protect agricultural lands lost through channel erosion, reduce potential flooding in residential areas, and assist in addressing aquatic invasive species in the system. Permitting is complete and design is under way. The project will be finalized December 2018. \$747,372.16 has been disbursed.

**Laurel, City of
Water System Improvements
RRG-16-1641**

The 2017 Legislature authorized a \$125,000 grant for water system improvements for the water storage system, distribution system, and the pumping stations. The project is under construction and will be complete the end of 2018. No grant funds have been disbursed.

**Lincoln Lewis and Clark County Sewer District
Wastewater System Improvements
RRG-19-1687**

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. The proposed project will rehabilitate pump stations. The project is under way and will begin design. No grant funds have been disbursed.

**Livingston, City of
Wastewater Treatment Plant Improvements
RRG-16-1652**

The 2015 Legislature authorized a \$125,000 grant for wastewater improvements. The project will address deficiencies with the treatment and disinfection systems. The project will be completed the end of 2018 and \$112,500 has been disbursed.

**Malta, City of
Water System Improvements
RRG-15-1647**

The 2013 Legislature authorized \$100,000 for replacement of leaking pipes and water mains and replacing 35 fire hydrants. The project is under construction and \$95,000 has been disbursed.

**Medicine Lake, Town of
Wastewater System Rehabilitation
RRG-18-1680**

The 2017 Legislature authorized a \$125,000 grant for wastewater system improvements. The project will rehabilitate the existing facultative lagoons and discharge treated effluent through land application; dry and land-apply sludge in existing lagoons; rehabilitate existing lift station; and video inspection of the collection system to create a future replacement plan. Construction has begun and no funds have been dispersed.

**Miles City, City of
Wastewater System Improvements
RRG-15-1632**

The 2013 Legislature authorized a \$100,000 grant for the design and construction of wastewater treatment plant improvements. The project is substantially complete and will close December 2018. \$50,000 has been disbursed for this project.

**Milk River Joint Board of Control
Hydromet Gauging Station Expansion and Upgrade
RRG-16-1650**

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. The project is substantially complete and will close the end of 2018. \$71,208.03 has been disbursed.

**Missoula County
Missoula County-Buena Vista Trailer Community Wastewater Improvements, Phase 1
RRG-17-1667**

The 2015 Legislature authorized a \$47,615 grant to eliminate groundwater contamination from sewage and sewage leakage to the Clark Fork River through the Warm Slough by making improvements to storage lagoon and wastewater treatment system. The project construction is under way and will close the end of 2018. \$110.00 has been disbursed.

**Neihart, Town of
Water System Improvements
RRG-17-1657**

The 2015 Legislature authorized \$125,000 to Neihart to construct a new intake at Shorty Creek and to construct a new 120,000-gallon water storage tank. A contract is in place and construction is complete on the intake system. \$1,988 has been disbursed.

**Polson, City of
Wastewater System Improvements
RRG-16-1649**

The 2015 Legislature authorized \$125,000 to construct a sequencing batch reactor wastewater treatment facility. The project is currently under construction with completion scheduled for December 2018. \$112,500 has been dispersed.

**Stillwater County Conservation District
Yanzick/Brey-Riddle Ditches Irrigation System Improvements
RRG-18-1682**

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. The project will improve the irrigation system by installing new diversion structures. The project will be finalized December 2019. \$31,301.96 has been disbursed.

**Sunny Hills Suburban County Water District
Water System Improvements
RRG-15-1646**

The 2013 Legislature authorized a \$100,000 grant for water system improvements. The project will install a new booster station and clear well storage for emergency storage during power outages. This project is expected to be completed by December 2018 and \$47,148.32 has been disbursed

**Sweet Grass County Conservation District
Boe Engle Ditch Diversion Infrastructure Improvements
RRG-18-1672**

The 2017 Legislature authorized a \$125,000 grant for rehabilitation and improvement of the Boe-Engle Ditch headgate and diversion. Engineering design is complete, and construction has begun. \$38,116 has been dispersed.

**Terry, Town of
Wastewater System Improvements
RRG-16-1639**

The 2015 Legislature authorized \$125,000 to Terry for the design and construction of a lagoon system; repair and upgrade of the flow control structures; and design and construction of an outfall pipeline to the Yellowstone River. The project is expected to be complete by December 2018. \$93,750 has been disbursed.

**Thompson Falls, City of
Wastewater System Improvements
RRG-18-1679**

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. Due to funding restrictions, \$44,500 has been contracted with the balance of the grant available as funding allows. The project has completed the installation of the new pumps and controls. \$26,360.18 been disbursed.

**Townsend, City of
Wastewater System Improvements
RRG-18-1683**

The 2017 Legislature authorized \$125,000 to Townsend for wastewater system improvements including a new lift station, headworks, aeration and UV disinfection system. Design is complete and construction has begun. No grant funds have been disbursed.

**Vaughn Water and Sewer District
Wastewater System Improvements
RRG-14-1630**

The 2013 Legislature authorized a \$100,000 grant for the design and construction of a new wastewater treatment facility. Funding and design problems have delayed the project and a portion of the grant was authorized to replace a failed collector line. Construction is in progress for a new mechanical plant and \$90,000 has been disbursed.

**Ward Irrigation District
Canal Intake Improvements
RRG-18-1670**

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. The project will upgrade the irrigation delivery system. The project is under construction and will be finalized June 2019. \$31,844.05 has been disbursed.

Authorized Grant Projects Not Yet Executed

**Crow Tribe
Wastewater Collection System Improvements
No Contract**

The 2017 Legislature authorized the replacement of approximately 6,720 linear feet of wastewater main and replace and relocate the existing East Frontage Road lift station. Funding shortages have delayed the project and it is expected to begin in 2019.

**Huntley Project Irrigation District
Lower Main Canal Lining, Phase 2
No Contract**

The 2017 Legislature authorized a \$125,000 grant for canal lining on 4,000 feet of canal. Funding shortages have delayed this project. The project has not been canceled.

**Lower Yellowstone Irrigation Project
Lateral O Check and Terminal Wasteway
No Contract**

The 2015 Legislature authorized funding a \$125,000 grant to retrofit the Terminal Wasteway and Lateral O Check Structure with new gates. Funding shortages have delayed the project but and it is expected to begin in 2019.

**Poplar, City of
Wastewater System Improvements
No Contract**

The 2017 Legislature authorized \$125,000 for wastewater system improvements. The project consists of new sewer mains and installation of manholes. Funding shortages have delayed this project. The project has not been canceled.

**Rocker County Water and Sewer District
Wastewater System Improvements
No Contract**

The 2015 Legislature authorized a \$125,000 grant for wastewater system improvements. The project consists of the construction of a lift station and force main to the Butte-Silver Bow treatment facility. Design has been delayed due to funding shortages. The project is expected to bid in the fall 2018.

**Ryegate, Town of
Wastewater System Improvements
No Contract**

The 2017 Legislature authorized a \$125,000 grant for wastewater system improvements. The project consists of a new total retention lagoon system. Funding shortages have delayed this project. The project has not been canceled.

**South Wind Water and Sewer District
Water and Wastewater System Improvements, Phase 3
No Contract**

The 2017 Legislature authorized a \$125,000 grant for wastewater system improvements. The project is the final phase of the water and wastewater system improvements and will include new water piping and sewer mains, manholes, and other system improvements. Funding shortages have delayed this project. The project has not been canceled.

**Stillwater County – Absarokee Sewer RSID
Wastewater System Improvements
No Contract**

The 2017 Legislature authorized \$125,000 for wastewater system improvements. The project consists of disinfection system improvements, rehabilitation of lagoons, and treatment system improvements. Funding shortages have delayed this project. The project has not been canceled.

Projects Unfunded after the Special Session

**Broadwater Conservation District
Big Springs Ditch Water Conservation, Phase 1**

**Buffalo Rapids Irrigation District 2
Shirley Main Canal Rehabilitation**

**Fort Shaw Irrigation District
D-System Water Conservation**

**Helena Valley Irrigation District
Lateral 14.8 Rehabilitation, Phase 1**

**Malta Irrigation District
Exeter Siphon Replacement**

**Pondera County Conservation District
Pondera County Canal and Reservoir Company KB2 Canal Rehabilitation**

**Sidney Water Users Irrigation District
Main Canal Pipeline Conversion**

**Thompson Falls, City of
Wastewater System Improvements**

Terminated Grant Projects

**Pondera County Conservation District
Wasteway Rehabilitation
No Contract**

The 2015 Legislature authorized funding a \$125,000 grant to rehabilitate a storage reservoir and other system improvements. Funding shortages have resulted in the cancellation of this project.

2019

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