

GOVERNOR
STEVE BULLOCK
STATE OF MONTANA

Governor's Executive Budget
Fiscal Years 2022 – 2023

Renewable Resource Grant and
Loan Program

Department of Natural Resources
and Conservation

Conservation and Resource
Development Division



Volume 6



Renewable Resource Grant and Loan Program

Project Evaluations and Funding Recommendations
For the 2023 Biennium

and

2021 Biennium Status Report

Prepared by the

Montana
Department of Natural Resources
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January 2021

CONTENTS

Contents	i
List of Abbreviations	v
Alphabetical Index of Projects	vii

CHAPTER I

The Renewable Resource Grant and Loan Program	1
Background	1
Purpose	1
Project and Applicant Eligibility	1
Renewable Resource Grants and Loans	1
Funding Limitations	2
Funding Authority	2
Program Implementation	2
Rule-Making Authority	3
Program Goals	3

CHAPTER II

Renewable Resource Grants to Public Entities	5
Application Administration and Project Review Procedures	5
Project Solicitation	5
Application Review	5
Project Ranking Criteria	9
Funding Recommendations	9
Project Management	9
Project Monitoring	9
Project Evaluation	10

CHAPTER III

Coal Severance Tax Loans to Public Entities	97
Application Administration and Project Review Procedures	97
Project Solicitation	97
Application Review	97
Funding Recommendations	97
Availability of Loan Funds	97
Loan Repayment	98
Current Loans	98
Interest Rates	99
Project Management	100
Project Monitoring	100

CHAPTER IV

Renewable Resource Grants and Loans to Private Entities	101
Grant Application Administration and Project Review Procedures	101
Grant Project Solicitation.....	101
Grant Application Review	101
Grant Funding Recommendations	101
Grant Project Management.....	101
Grant Project Monitoring	102
Grant Project Evaluation	102
Private Loan Application and Project Review Procedures.....	102
Loan Project Solicitation.....	102
Loan Application Review.....	102
Loan Funding Recommendations	103
Availability of Loan Funds	103
Interest Rates	103
Loan Project Management.....	103
Loan Project Monitoring	104
Loan Project Evaluation	104
Private Loan Projects Previously Funded	104

CHAPTER V

Irrigation Development Grants	105
Background	105
Project Solicitation and Review.....	105

CHAPTER VI

Emergency Grants and Loans	107
Project Solicitation.....	107
Application Review	107
Funding Recommendations	107
Project Management	108
Emergency Grant and Loan Applications in FYs 2019 and 2020	108
Authorized Emergency Grant Projects.....	108

CHAPTER VII

Renewable Resource Project Planning Grants	111
Application Administration and Project Review Procedures	111
Project Solicitation.....	111
Application Review	111
Project Management	111
Authorized Projects	111

CHAPTER VIII

Renewable Resource Watershed Management Grants	115
Application Administration and Project Review Procedures	115
Project Solicitation.....	115
Application Review	115
Grant Management	115
Authorized Projects	115

CHAPTER IX

Septic Loan Grants	117
---------------------------------	------------

CHAPTER X

Summary of Grants to Public Entities, October 1, 2016 – September 30, 2020	119
Grant Projects Completed Since October 1, 2018.....	119
Active Grant Projects	123
Authorized Grant Projects Not Yet Executed.....	133
Terminated Grant Projects	134

List of Tables

Table 1: 2020 Grant Applications by Order of Ranking Recommendation	11
Table 2: Coal Severance Tax/RRGL Public Loan Balances as of June 30, 2020	99
Table 3: Private Grant Applications Approved FYs 2019 and 2020.....	102
Table 4: Private Loan Applications to Individuals Approved FYs 2019 and 2020	104
Table 5: Irrigation Development Grants Approved During the 2021 Biennium to October 1, 2020.....	105
Table 6: Project Planning Grants Approved During the 2021 Biennium to October 1, 2020.....	113
Table 7: Watershed Management Grants Approved During the 2021 Biennium.....	116

List of Figures

Figure 1: Flowchart of Grant Application Review and Ranking Process.....	7
Figure 2: Requested Funding by Project Type.....	17
Figure 3: 2020 RRGL Applications – Location Map	19

LIST OF ABBREVIATIONS

AC	asbestos cement
AOC	Administrative Order on Consent
BRIPD1	Buffalo Rapids Irrigation Project District, Phase 1
BRIPD2	Buffalo Rapids Irrigation Project District, Phase 2
CARDD	Conservation and Resource Development Division
CD	Conservation District
CDBG	Community Development Block Grant
cfs	cubic feet per second
CST	Coal Severance Tax
DEQ	Montana Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
DMWUA	Delphia Melstone Water Users Association
DNRC	Montana Department of Natural Resources and Conservation
FBIP	Fort Belknap Irrigation Project
FDB	Financial Development Bureau
FEMA	Federal Emergency Management Agency
FPIP	Fort Peck Irrigation Project
FWP	Montana Fish, Wildlife & Parks
FY	Fiscal Year
gpm	gallons per minute
GVFD	Grass Valley French Ditch
HDPE	high-density polyethylene
I&I	infiltration and inflow
ID	Irrigation District
IDG	Irrigation Development Grants
JBOC	Joint Board of Control
LYIP	Lower Yellowstone Irrigation Project
MCA	Montana Code Annotated
MCE	Montana Correctional Enterprises
MDC	Mutual Ditch Company
MDD	maximum daily demand
MPDES	Montana Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PCCRC	Pondera County Canal and Reservoir Company
PER	Preliminary Engineering Report
PVC	polyvinyl chloride
RCP	reinforced concrete pipe
RD	USDA Rural Development
RDB	Resource Development Bureau
RRGL	Renewable Resource Grant and Loan
SCADA	supervisory control and data acquisition
SRF	State Revolving Fund
SSRA	state special revenue account
TCCC	Teton Coop Canal Company
TN	total nitrogen
TP	total phosphorus
TSEP	Treasure State Endowment Program
TSS	total suspended solids
UMWUA	Upper Musselshell Water Users Association
USFS	U.S. Forest Service
USBR	U.S. Bureau of Reclamation, U.S. Department of the Interior
UV	ultraviolet
VCP	vitrified clay tile pipe
WMG	Watershed Management Grant

WRDA Water Resources Development Grant
WSD Water and Sewer District
WTP Water Treatment Plant
WUA Water Users Association
WUIC Water Users Irrigation Company
WWTF Wastewater Treatment Facility
WWTP Wastewater Treatment Plant

ALPHABETICAL INDEX OF PROJECTS
Applications for Funding During the 2021 Biennium

This index provides an alphabetical list (by applicant) of the 76 grant and loan proposals submitted in 2020 that have requested funds for the 2021 biennium. Page numbers correspond to the project evaluation contained in this report.

Alberton, Town of	
Water System Improvements.....	81
Alfalfa Valley Irrigation District	
East Flynn Canal Rehabilitation, Phase 2.....	75
Beaverhead Conservation District	
Irrigation Efficiency and Water Measurement.....	57
Belgrade School District	
Ridge View Elementary Solar Project.....	93
Big Mountain County Sewer District	
Wastewater Collection System Improvements	43
Big Sandy, Town of	
Stormwater System Improvements.....	92
Big Timber, City of	
Water System Improvements.....	80
Bitterroot Conservation District	
Bitterroot River Irrigation Management Study.....	45
Bitter Root Irrigation District	
Water Efficiency, Modernization and Planning Study	56
Buffalo Rapids Irrigation Project District 1	
BRIPD1 Irrigation System Automation.....	69
Buffalo Rapids Irrigation Project District 2	
BRIPD2 Lateral 1.6 Pipeline Conversion, Phase 2.....	72
Butte-Silver Bow Government	
Basin Creek Dam #1 Rehabilitation	32
Carbon County Conservation District	
Mutual Ditch Siphon Replacement.....	66
Choteau, City of	
Water System Improvements.....	84
Circle, Town of	
Water System Improvements, Phase 3	62
Clinton Irrigation District	
Schoolhouse Lateral Pipeline Conversion	64

Cooke City Water and Sewer District	
Wastewater Collection and Treatment System Project	24
Darby, Town of	
Wastewater System Improvements	36
Deer Lodge, City of	
Wastewater Collection System Improvements	33
East Helena, City of	
Wastewater System Improvements	55
Ekalaka, Town of	
Water System Improvements.....	67
Fairfield, Town of	
Water System Improvements.....	85
Flaxville, Town of	
Water System Improvements.....	70
Fort Belknap Indian Community	
Milk River Diversion Gate Automation	50
Fort Benton, City of	
Water System Improvements.....	91
Fort Peck Tribes	
Frazer and Wiota Pump Automation and Monitoring.....	52
Fort Smith Water and Sewer District	
Wastewater System Improvements	25
Gardiner Park County Water and Sewer District	
Wastewater System Improvements	22
Glasgow Irrigation District	
Spaniard Check Structure	77
Glen Lake Irrigation District	
Infrastructure Modernization Study	79
Glen Lake Irrigation District	
Rolling Hills Canal Rehabilitation	68
Greenfields Irrigation District	
Arnold Coulee Hydroelectric Project.....	23
Greenfields Irrigation District	
Spring Coulee Headworks Replacement	41
Greenfields Irrigation District	
SRS-71 Headworks and SRS Re-Regulation	39

Harlowton, City of	
Water System Improvements, Phase 5	74
Havre, City of	
Clear Creek Court-Sanitary Sewer System Improvements	47
Helena Valley Irrigation District	
Lateral 11.9 Canal Conversion and Gate Rehabilitation.....	42
Helena Valley Irrigation District	
Terminal Wasteway and Lateral Automation and Measurement.....	30
Hill County	
Beaver Creek Dam Improvements.....	54
Huntley Project Irrigation District	
Yellowstone River Bank Stabilization.....	86
Hysham Irrigation District	
Intake Improvements.....	82
Joliet, Town of	
Water System Improvements.....	89
Lewis and Clark Conservation District	
Beaver Creek Restoration, Phase 2	27
Lewistown, City of	
Ditch Rehabilitation	88
Lewistown, City of	
Water System Improvements.....	78
Libby, City of	
Wastewater System Improvements	37
Lockwood Water and Sewer District	
CS3-1 Collection System Improvements, Phase 3.....	28
Lower Musselshell Conservation District	
DMWUA Main Canal Diversion Gate Automation.....	44
Lower Willow Creek Irrigation District	
Lower Willow Creek Reservoir Toe Drain Repair	53
Lower Yellowstone Irrigation Project	
Lateral V Check Structure and Lateral W Headgate Rehabilitation.....	60
Malta Irrigation District	
Main Canal Lining – Wagner Ranch	76
Manhattan, Town of	
Water Reclamation Facility Improvements, Phase 1	29

Milk River Joint Board of Control	
St. Mary Diversion Dam and Headworks Design Completion	21
Missoula, City of	
Rattlesnake Creek Wilderness Dams Project	48
Missoula County Community of Buena Vista	
Buena Vista Wastewater System Improvements, Phase 2	49
Montana Department of Corrections	
Powell Dam Rehabilitation	26
Montana Department of Natural Resources and Conservation – Water Resources Division	
Ackley Lake Outlet Canal Rehabilitation	38
Montana Department of Natural Resources and Conservation – Water Resources Division	
Deadman’s Supply Canal Rehabilitation, Phase 2	59
Montana Department of Natural Resources and Conservation – Water Resources Division	
Two Dot Canal Rehabilitation	61
North Valley Water and Sewer District	
Water System Improvements, Phase 1	71
Paradise Valley Irrigation District	
Milk River Bank Stabilization.....	94
Petroleum County Conservation District	
Petrolia Dam Outlet Works Headgate Replacement	73
Phillips County	
Buffalo Trail Water System Construction	95
Pondera County Conservation District	
Dupuyer Creek Diversion Automation.....	34
Richey, Town of	
Water System Improvements, Phase 1	90
Roundup, City of	
Water Main Improvements, Phase 6.....	63
Shelby, City of	
Water Infrastructure System Improvements	51
Stillwater Conservation District	
Mendenhall Ditch Intake and Drop Structure Rehabilitation	58
Sunburst, Town of	
Water Supply, Storage, and Distribution System Improvements.....	96
Sweet Grass County Conservation District	
Post-Kellogg Ditch Headworks Improvement	87

Ten Mile Creek Estates/Pleasant Valley Water and Sewer District	
Wastewater System Improvements	65
Teton Conservation District	
Eureka Dam Safety Improvements	35
Thompson Falls, City of	
Wastewater System Improvements	31
Three Forks, City of	
Water System Improvements.....	83
Valier, Town of	
Wastewater System Improvements, Phase 3	40
Wolf Point, City of	
Wastewater Collection System Improvements	46

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 Montana Department of Natural Resources and Conservation (DNRC). RRGL project grants recommended to the 2021 Legislature for funding are described in **Chapter II**.

Background

The RRGL Program is the product of two earlier resource management programs: (1) Renewable Resource Development Program established in 1975; and (2) 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 (RDB) assumed responsibility for administering the RRGL Program as stipulated under Title 85, part 6, Montana Code Annotated (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: (1) Reclamation and Development Grants Program; and (2) 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. Projects funded under this program primarily include 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 to 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 State Government) and private entities (individuals, associations, corporations, and other for profit or non-profit 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 use the majority 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 2021 biennium.

Public Loans are backed by Coal Severance Tax (CST) 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 2021 biennium.

Private Grants and Loans are available to non-government entities only. These projects must benefit or develop a renewable resource and provide a public benefit. **Chapter IV** describes grants and loans active during the 2021 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 2021 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 2021 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 2021 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 2021 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 2021 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 CST Bonds. The 2019 Legislature authorized to fund loans backed by CST in HB 8.

The 2019 Legislature appropriated the following from the natural resource projects SSRA and General Obligation Bond proceeds: \$9,465,000 for renewable resource project grants; \$1,100,000 was appropriated for planning grants, \$300,000 for irrigation development grants, \$100,000 for emergency grants, \$75,000 for private grants and \$300,000 for watershed management grants. The General Obligation Bonds were authorized in HB 652.

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. 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 the legislative appropriations bill.

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. DNRC cannot expand or limit the mission of the RRGL 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 insure State tax monies are used for the purposes outlined in this report and in-house 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 using multiple funding sources, facilitate a uniform application process for infrastructure projects, and to award funds without duplication.
- Solicit public comment and suggestions for improvements to the program.
- Evaluate grant projects on 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 Montana 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. The 2020 Application deadline was extended until June 1, 2020 due to the COVID-19 shut-down. Applications are submitted through *Webgrants*, the Montana Grant and Loan website: <https://funding.mt.gov>. This website provides grant program information and on-line application services for seven Montana state agencies.

Project Solicitation

DNRC solicits project applications from 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 user 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 June 2020 requesting a total of \$9,470,788. In the previous 2018 application cycle, 76 applicants were received requested \$9,464,863 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 of 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 required additional materials. The DNRC distributed the applications to a team of reviewers for evaluation. These primary reviewers included DNRC staff, engineers, and consultants. Contracted reviewers were procured by DNRC. Projects were assigned based on the reviewer's area of expertise.

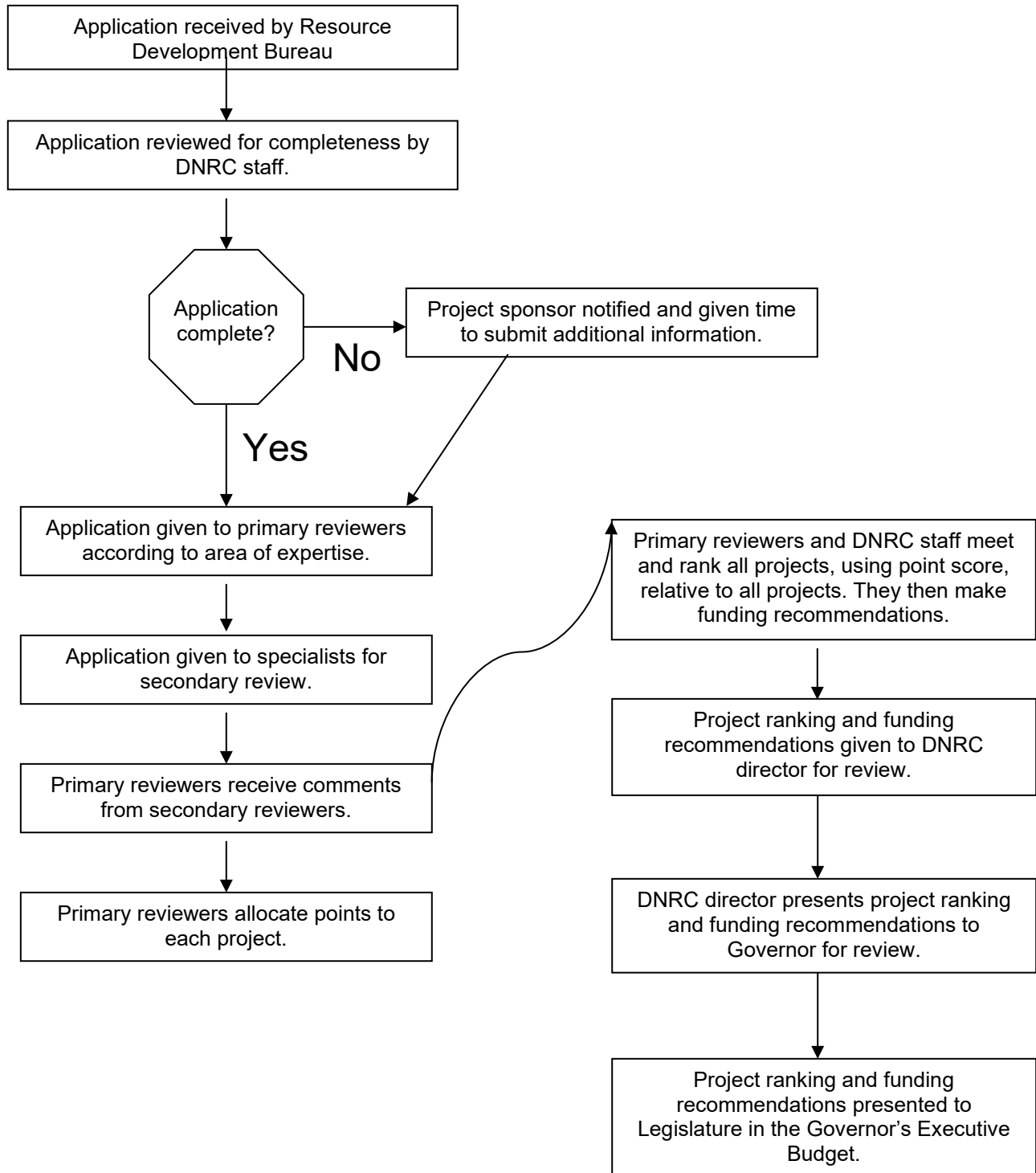
Applications also underwent one or more secondary reviews. Secondary reviewers provided information on regulatory requirements, existing natural resource management plans, and specialized technical issues. Secondary reviewers included staff from DNRC, other government agencies, specialized nonprofits,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

project review, the reviewers were directed to request additional detailed technical and financial information from applicants to clarify applications. Primary reviewers assessed and documented the merits of each proposal based on standard review criteria outlined in review guidance with the results of their own evaluations and comments from secondary reviewers.

DNRC also sought views of interested and affected parties during the application review. 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

DNRC developed review guidance containing review instructions and guidelines to obtain objective application evaluations. 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.

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 meet after scoring 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 June 2020 are presented to the Legislature as part of this report (**Table 1**).

Grant applications from **Table 1** include six (6) 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

DNRC will notify applicants of their funding status after an appropriations bill is enacted to authorize grants and loans. 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 within DNRC.

Project Monitoring

Procedures for monitoring projects are governed by a grant contract agreement between DNRC and the project sponsor. Five (5) 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 may 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 if 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.

Table 1 2020 Grant Applications by Order of Ranking Recommendation

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended RRG Loan Funding
1	Milk River Joint Board of Control St. Mary Diversion Dam and Headworks Design Completion	\$125,000	\$125,000	
2	Gardiner Park County Water and Sewer District Wastewater System Improvements	\$125,000	\$250,000	
3	Greenfields Irrigation District Arnold Coulee Hydroelectric Project	\$125,000	\$375,000	
4	Cooke City Water and Sewer District Wastewater Collection and Treatment System Project	\$125,000	\$500,000	
5	Fort Smith Water and Sewer District Wastewater System Improvements	\$125,000	\$625,000	
6	Montana Department of Corrections Powell Dam Rehabilitation	\$125,000	\$750,000	
7	Lewis and Clark Conservation District Beaver Creek Restoration, Phase 2	\$125,000	\$875,000	
8	Lockwood Water and Sewer District CS3-1 Collection System Improvements, Phase 3	\$125,000	\$1,000,000	
9	Manhattan, Town of Water Reclamation Facility Improvements, Phase 1	\$125,000	\$1,125,000	
10	Helena Valley Irrigation District Terminal Wasteway and Lateral Automation and Measurement	\$125,000	\$1,250,000	
11	Thompson Falls, City of Wastewater System Improvements, Phase 3	\$125,000	\$1,375,000	
12	Butte-Silver Bow Government Basin Creek Dam #1 Rehabilitation	\$125,000	\$1,500,000	
13	Deer Lodge, City of Wastewater Collection System Improvement	\$125,000	\$1,625,000	
14	Pondera County Conservation District Dupuyer Creek Diversion Automation	\$125,000	\$1,750,000	
15	Teton Conservation District Eureka Dam Safety Improvements	\$125,000	\$1,875,000	
16	Darby, Town of Wastewater System Improvements	\$125,000	\$2,000,000	
17	Libby, City of Wastewater System Improvements	\$125,000	\$2,125,000	

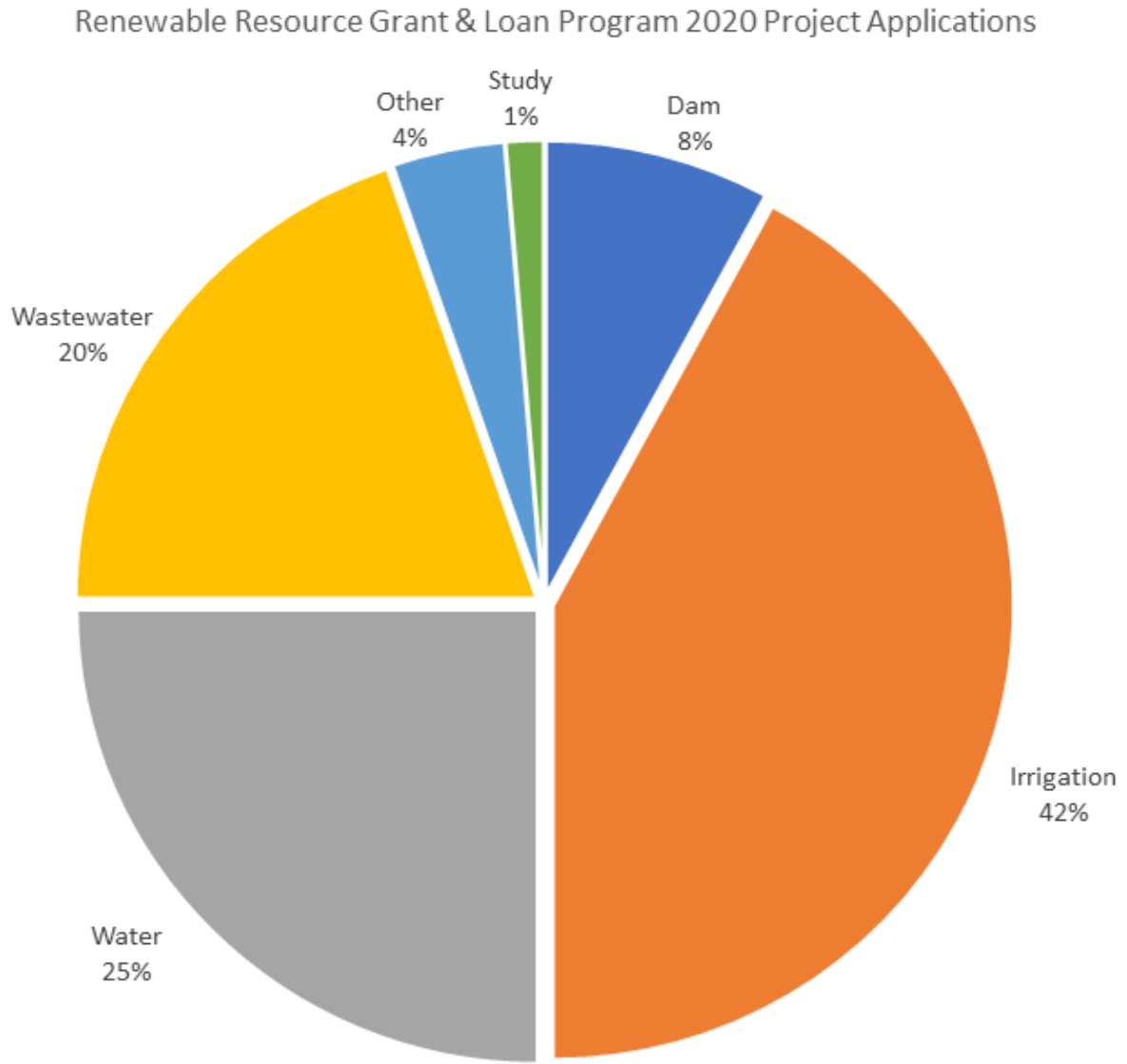
Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended RRG Loan Funding
18	Montana Department of Natural Resources and Conservation – Water Resources Division Ackley Lake Outlet Canal Rehabilitation	\$125,000	\$2,250,000	
19	Greenfields Irrigation District SRS-71 Headworks and SRS Re-Regulation	\$125,000	\$2,375,000	
20	Valier, Town of Wastewater System Improvements, Phase 3	\$125,000	\$2,500,000	
21	Greenfields Irrigation District Spring Coulee Headworks Replacement	\$125,000	\$2,625,000	
22	Helena Valley Irrigation District Lateral 11.9 Canal Conversion and Gate Rehabilitation	\$125,000	\$2,750,000	
23	Big Mountain County Sewer District Wastewater Collection System Improvements	\$125,000	\$2,875,000	
24	Lower Musselshell County Conservation District DMWUA Main Canal Diversion Gate Automation	\$125,000	\$3,000,000	
25	Bitterroot Conservation District Bitterroot River Irrigation Management Study	\$125,000	\$3,125,000	
26	Wolf Point, City of Wastewater Collection System Improvements	\$125,000	\$3,250,000	
27	Havre, City of Clear Creek Court-Sanitary Sewer System Improvements	\$125,000	\$3,375,000	
28	Missoula, City of Rattlesnake Creek Wilderness Dams Project	\$125,000	\$3,500,000	
29	Missoula County Buena Vista Wastewater System Improvements, Phase 2	\$125,000	\$3,625,000	
30	Fort Belknap Indian Community Milk River Diversion Gate Automation	\$125,000	\$3,750,000	
31	Shelby, City of Water Infrastructure System Improvements	\$125,000	\$3,875,000	
32	Fort Peck Tribes Frazer and Wiota Pump Automation and Monitoring	\$125,000	\$4,000,000	
33	Lower Willow Creek Irrigation District Lower Willow Creek Reservoir Toe Drain Repair	\$125,000	\$4,125,000	\$153,000

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended RRG Loan Funding
34	Hill County Beaver Creek Dam Improvements	\$125,000	\$4,250,000	
35	East Helena, City of Wastewater System Improvements	\$125,000	\$4,375,000	
36	Bitter Root Irrigation District Water Efficiency, Modernization and Planning Study	\$125,000	\$4,500,000	
37	Beaverhead Conservation District Irrigation Efficiency and Water Measurement	\$125,000	\$4,625,000	
38	Stillwater Conservation District Mendenhall Ditch Intake and Drop Structure Rehabilitation	\$125,000	\$4,750,000	
39	Montana Department of Natural Resources and Conservation – Water Resources Division Deadman’s Supply Canal Rehabilitation, Phase 2	\$125,000	\$4,875,000	
40	Lower Yellowstone Irrigation Project Later V Check Structure and Lateral W Headgate Rehabilitation	\$125,000	\$5,000,000	
41	Montana Department of Natural Resources and Conservation – Water Resources Division Two Dot Canal Rehabilitation	\$125,000	\$5,125,000	
42	Circle, Town of Water System Improvements, Phase 3	\$125,000	\$5,250,000	
43	Roundup, City of Water Main Improvements, Phase 6	\$125,000	\$5,375,000	
44	Clinton Irrigation District Schoolhouse Lateral Pipeline Conversion	\$125,000	\$5,500,000	
45	Tenmile Creek Estates/Pleasant Valley Water and Sewer District Wastewater System Improvements	\$125,000	\$5,625,000	
46	Carbon County Conservation District Mutual Ditch Siphon Replacement	\$125,000	\$5,750,000	
47	Ekalaka, Town of Water System Improvements	\$125,000	\$5,875,000	
48	Glen Lake Irrigation District Rolling Hills Canal Rehabilitation	\$125,000	\$6,000,000	
49	Buffalo Rapids Irrigation Project District 1 BRIPD1 Irrigation System Automation	\$125,000	6,125,000	
50	Flaxville, Town of Water System Improvements	\$125,000	6,250,000	

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended RRG Loan Funding
51	North Valley County Water and Sewer District Water System Improvements, Phase 1	\$125,000	6,375,000	
52	Buffalo Rapids Irrigation Project District 2 BRIPD2 Lateral 1.6 Pipeline Conversion, Phase 2	\$125,000	6,500,000	
53	Petroleum County Conservation District Petrolia Dam Outlet Works Headgate Replacement	\$105,742	6,605,742	
54	Harlowton, City of Water System Improvements, Phase 5	\$125,000	\$6,730,742	
55	Alfalfa Valley Irrigation District East Flynn Canal Rehabilitation, Phase 2	\$125,000	\$6,855,742	
56	Malta Irrigation District Main Canal Lining – Wagner Ranch	\$125,000	\$6,980,742	
57	Glasgow Irrigation District Spaniard Check Structure	\$125,000	\$7,105,742	
58	Lewistown, City of Water System Improvements	\$125,000	\$7,230,742	
59	Glen Lake Irrigation District Infrastructure Modernization Study	\$125,000	\$7,355,742	
60	Big Timber, City of Water System Improvements	\$125,000	\$7,480,742	
61	Alberton, Town of Water System Improvements	\$125,000	\$7,605,742	
62	Hysham Irrigation District Intake Improvements	\$125,000	\$7,730,742	
63	Three Forks, City of Water System Improvements	\$125,000	\$7,855,742	
64	Choteau, City of Water System Improvements	\$125,000	\$7,980,742	
65	Fairfield, Town of Water System Improvements	\$125,000	\$8,105,742	
66	Huntley Project Irrigation District Yellowstone River Bank Stabilization	\$125,000	\$8,230,742	
67	Sweet Grass County Conservation District Post-Kellogg Ditch Headworks Improvement	\$125,000	\$8,355,742	
68	Lewistown, City of Ditch Rehabilitation	\$125,000	\$8,480,742	
69	Joliet, Town of Water System Improvements	\$125,000	\$8,605,742	
70	Richey, Town of Water System Improvements, Phase 1	\$125,000	\$8,730,742	
71	Fort Benton, City of Water System Improvements	\$125,000	\$8,855,742	

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended RRG Loan Funding
72	Big Sandy, Town of Stormwater System Improvements	\$125,000	\$8,980,742	
73	Belgrade School District Ridge View Elementary Solar Project	\$115,046	\$9,095,788	
74	Paradise Valley Irrigation District Milk River Bank Stabilization	\$125,000	\$9,220,788	
The projects listed below were not recommended for funding.				
75	Phillips County Buffalo Trail Water System Construction	\$0	\$9,220,788	
76	Sunburst, Town of Water Supply, Storage, and Distribution System Improvements	\$0	\$9,220,788	

Figure 2 Requested Funding by Project Type



Project No. 1

Applicant Name	Milk River Joint Board of Control		
Project Name	St. Mary Diversion Dam and Headworks Design Completion		
Amount Requested	\$ 125,000		
Other Funding Sources	\$2,396,924	Applicant	
	\$ 901,438	USBR	
	<u>\$ 75,000</u>	St. Mary Working Group	
Total Project Cost	<u>\$3,498,362</u>		
Amount Recommended	\$ 125,000		

Project History

The Milk River Joint Board of Control (JBOC), encompasses eight (8) irrigation districts from Fresno Dam (Havre) to Vandalia Dam (Glasgow). The Milk River JBOC, the State of Montana, U.S. Bureau of Reclamation (USBR), Tribal Water Rights and municipalities make up the majority of water users throughout the Milk River Basin, an area covering over 300 miles and encompassing over 140,000 irrigated acres. For over 100 years, the St. Mary Canal and Conveyance Works (Canal) has augmented the Milk River Basin water supply. This system was built by the USBR to provide supplemental irrigation water along the Milk River but has evolved into a multi-use project which includes municipalities, recreation and wildlife habitats. During a typical irrigation season, approximately 50% of Milk River flows near Havre originate from the Canal; in a dry year, 90% of flows are transferred into the Milk River. Additionally, Milk River water provides municipal sources for seven communities in Canada and across the Hi-line.

Proposed Solution

Specific tasks include:

- Complete final design for replacement of the St. Mary diversion dam and canal headworks with fish passage and screening.

Resource and Citizen Benefits Analysis

The St. Mary Diversion Dam diverts water out of Sherburne Reservoir and the St. Mary River for natural flow supplement of the Milk River. Renewable resource benefits are significant and include conservation and management of surface water, preservation of groundwater, arable land, aquatic and wildlife habitat, and wetland areas throughout the Milk River corridor.

The citizen benefits of the project are significant and statewide and include economic, recreational and public health and safety.

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	Gardiner Park County Water and Sewer District	
Project Name	Wastewater System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 150,000	Resort Tax
	\$1,000,000	Other
	\$2,841,900	SRF Loan
	<u>\$ 50,000</u>	Applicant In-kind
Total Project Cost	<u>\$4,166,900</u>	
Amount Recommended	\$ 125,000	

Project History

The Gardiner Water District voted in 2008 to take over the problematic wastewater collection and treatment system run as a Rural Special Improvements District by Park County. Gardiner Park County Water and Sewer District (WSD) is now the owner and operator of the system.

The 2017 Preliminary Engineering Report (PER) found the violations at the treatment facility were due to changes in seasonal loading and high infiltration & inflow (I&I) coming from Yellowstone National Park (YNP). The PER focused on the best way to remove and dispose of accumulated sludge which cannot be land applied due to its high arsenic content from geothermal fluids. Ninety-five percent of all arsenic entering the system originates from the Park; specifically, from geothermal fluids with high concentrations of arsenic. In 2017, the district made a claim for damages against the National Park Service for the high cost of remove the arsenic-contaminated sludge and demanded the Park Service resolve its I&I issues.

Proposed Solution

Specific tasks include:

- Dewater, remove, and dispose of the sludge;
- Line the lagoons;
- Line approximately 1,000 feet of 18-inch gravity sewer main that passes within 250 feet of water supply wells;
- Replace or use cured-in-place pipe to fix approximately 800 feet of clay tile pipe;
- Make minor improvements to the blower system;
- Replace and improve the dewatering system; and
- Install new aeration system.

Resource and Citizen Benefits Analysis

The project aims to preserve resources in the project area. The district will eliminate all permit violations by completing the specific tasks. The project will preserve of water quality in both groundwater and the Yellowstone River. Benefits are statewide due to the proximity to YNP and headwaters of the Yellowstone River. Completion of the project will also conserve energy by replacing old equipment and preserve soil quality by fixing leaking collection mains and leaking arsenic in groundwater.

This project will affect the public by health and safety high arsenic levels near drinking water wells and removing arsenic laden sludge on the banks of the Yellowstone 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. 3

Applicant Name	Greenfields Irrigation District	
Project Name	Arnold Coulee Hydroelectric Project	
Amount Requested	\$ 125,000	
Other Funding Sources	\$2,943,360	Applicant In-kind
	\$1,500,000	USBR WaterSMART
	\$ 500,000	RD Grant
	<u>\$ 300,000</u>	Other Grant
Total Project Cost	<u>\$5,368,360</u>	
Amount Recommended	\$ 125,000	

Project History

The Greenfields Irrigation District (ID) is in Teton, Cascade, and Lewis & Clark Counties and consists of a large gravity distribution system with several large storage reservoirs. The extensive distribution system consists of approximately 500 miles of canals and laterals and 250 miles of drains to provide water to 83,230 acres. The main source of water for the Greenfields ID is the Sun River. The Pishkun Supply Canal conveys water diverted from the Sun River at the Sun River Diversion Dam to the Arnold Coulee Drop and then on to Pishkun Reservoir. The Arnold Coulee Drop is at a location of significant elevation drop in the canal. The drop structure was constructed in 1910 and was designed to dissipate the energy and high velocities that occur due to the large elevation drop. The existing drop structure has exceeded its design life and is experiencing significant degradation. This degradation has led to seepage occurring at this location, resulting in permanent water losses for the system. A structural failure of this drop structure would be a catastrophic event that would result in the supply canal being shut down for a significant portion of time. The replacement of the Arnold Coulee Drop will not only allow the Greenfields ID to replace an aging piece of infrastructure, but also affords the opportunity for the installation of a hydroelectric facility at this location.

Proposed Solution

Specific tasks include:

- Replace the Arnold Coulee Drop structure with new bypass/intake structure, overflow spillway and penstock;
- Develop a new 2.5 MW hydroelectric facility; and
- Construct 10.5 miles of new overhead electric transmission main.

Resource and Citizen Benefits Analysis

The project will have multiple benefits to two (2) resources. The project will develop hydropower energy and cropland by increasing production with surface water (2,989 acre-feet annually) from the Sun River stored in Gibson Reservoir. Completion of the project will also preserve air quality by creating green energy in lieu of fossil fuels. There will be preservation of aquatic habitat by leaving water in Gibson and Willow Creek Reservoirs later in the season.

Economic benefits include generating revenue with hydropower and increased crop production on a regional scale and increased tax revenue on both hydropower and crop production to a lesser extent. Annual revenue increase was estimated to be a sustainable \$523,338.

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	Cooke City Water and Sewer District	
Project Name	Wastewater Collection and Treatment System Project	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 10,000	Applicant
	<u>\$ 165,000</u>	Other
Total Project Cost	\$ 300,000	
Amount Recommended	\$ 125,000	

Project History

Cooke City is an unincorporated community located in Park County in south central Montana along U.S. Highway 212, surrounded by the Custer-Gallatin and Shoshone National Forests. The census population of Cooke City is 41 residents, however over 250,000 people pass through the community throughout the summer as they visit Yellowstone National Park (YNP). The Cooke City Water and Sewer District provides services to the Cooke City community. The community does not have a centralized wastewater collection and treatment system. Wastewater is treated by individual septic tanks and drain fields. Many businesses and residential homes do not have room for replacement drain fields with some leasing space from the U.S. Forest Service (USFS) surrounding the community. The USFS has agreed to temporary lease drain fields and will discontinue leases if a long-term solution is not developed. Other septic systems and drain fields do not meet the current DEQ requirements and are regularly hydraulically overloaded due to inadequate sizing. Cooke City heavily relies on tourism for the local economy and if the current individual wastewater systems fail, businesses would be required to shut down due to unsanitary conditions. The chances of the local economy being severely hit by wastewater systems failures and the unsanitary conditions have prompted the community to plan for a centralized wastewater collection and treatment system.

The proposed project will be completed in two phases. Phase 1 will include the sampling, data collection and modeling required to complete the non-degradation analysis and obtain the groundwater discharge permit. This phase will determine the design parameters of the community wastewater treatment system. This phase will also include completing the studies and surveys necessary to acquire the lands from the USFS. Phase 2 will design and construct the centralized wastewater collection and treatment system.

Proposed Solution

Specific tasks include:

- Complete data collection and studies necessary for a DEQ Groundwater Discharge Permit;
- Complete studies and surveys to acquire permanent land for a treatment/disposal system from the USFS; and
- Secure funding sources to complete the wastewater collection and treatment system.

Resource and Citizen Benefits Analysis

This project will preserve surface and groundwater quality, and aquatic and riparian habitats in Soda Butte Creek and downstream into the Lamar River in YNP by eliminating leaking and undertreated wastewater from septic tanks. Soda Butte Creek and the downstream Lamar River are an important recreational resource as well critical aquatic and terrestrial habitat.

This project will protect public health and safety lowering risk of septic failure or backup. The project will also benefit the local and regional economy by allowing new development in Cooke City to benefit tourism in the 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.

Project No. 5

Applicant Name	Fort Smith Water and Sewer District	
Project Name	Wastewater System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	\$1,564,515	RD Grant
	<u>\$2,012,185</u>	RD Loan
Total Project Cost	<u>\$4,451,700</u>	
Amount Recommended	\$ 125,000	

Project History

In 1961, the Towns of Fort Smith and Yellowtail were created as temporary housing during the construction of the Yellowtail Dam. After construction of the dam was completed in 1967, the land was transferred into private ownership. The two towns are separated by Montana Highway 313 and each has their own wastewater collection and treatment system. The 1961 Fort Smith and Yellow Tail wastewater system consists of mainly 4-inch polyvinyl chloride, six (6) clay tile pipe gravity collection mains, open and several manholes, buried railroad cars for septic tanks and a single holding lagoon. Both systems are leaking raw sewage into the area groundwater and nearby irrigation canals. Treatment consists of a failed drain field for one half of the system and a leaking single cell lagoon. Both the collection mains and wastewater treatment construction will protect shallow groundwater and surface water from future contamination.

This project consists of replacement of the Yellowtail collection system and a portion of the Fort Smith collection. The two collection systems will be combined, and the wastewater will flow via gravity to a centralized lift station that will pump the waste by forcemain to a new treatment lagoon system. The facultative lagoons will treat the wastewater until it can be land applied by a new irrigation sprinkler system.

Proposed Solution

Specific tasks include:

- Replace 9,800 linear feet of Yellowtail collection system;
- Replace 4,200 linear feet of a portion of the Fort Smith collection system with 8-inch conventional gravity sewers;
- Install 64 concrete manholes;
- Install new wastewater treatment system which includes new facultative lagoon system and land application by spray irrigation;
- Install new centralized lift station; and
- Install 2,600 linear feet 4-inch force main.

Resource and Citizen Benefits Analysis

The benefits to renewable resources are identified as preservation of surface water quality, groundwater quality and aquatic and wildlife habitat. The project will also develop irrigation with the land application of treated water.

This project has significant public health and safety benefits regarding the open and unsafe and unidentified manholes.

Funding Recommendation

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

Project No. 6

Applicant Name	Montana Department of Corrections	
Project Name	Powell Dam Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 213,000	Applicant
	\$ 517,940	FEMA
	<u>\$ 587,090</u>	Anaconda Job Corps
Total Project Cost	\$1,443,030	
Amount Recommended	\$ 125,000	

Project History

Powell Dam is an off-stream storage reservoir about six (6) miles southwest of Deer Lodge. It is owned and operated by Montana Correctional Enterprises (MCE) and provides water storage for irrigation and livestock on the MCE ranch. The dam currently has high leakage rates and steep slopes. The purpose of the proposed action is to comply with state dam safety standards and allow continued agricultural use of the water resource by MCE. This water resource has a high value because MCE uses the water not only for the self-supporting production of agricultural products ranging from beef, dairy, hay, and grain, but also to sustain the ranch while training and rehabilitating inmates. The use of stored water in dams has allowed MCE over the last few decades to utilize its water resources much more efficiently in agricultural production.

Proposed Solution

Specific tasks include:

- Strip, salvage, and stockpile topsoil;
- Flatten the downslope and upstream embankment and add earth fill;
- Extend the low-level outlet pipe;
- Install a toe drain;
- Armor the upstream embankment; and
- Revegetate disturbed areas.

Resource and Citizen Benefits Analysis

This proposed project will result in multiple benefits to multiple resources. The improvements to aging infrastructure will result in conservation of arable land, preservation of surface water quality, and development of additional acres of increased crop production.

The agricultural community will see an economic benefit with the additional flows, added acres and increase crop production. The local economy will see a benefit by sustained and increase and improved recreational opportunities. The public will see increased safety and prevention of loss of life events from embankment stabilization. The public will also see regional and statewide benefits by reducing downstream hazards and increase the food production at the Anaconda Job Corps.

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	Lewis and Clark Conservation District	
Project Name	Beaver Creek Restoration, Phase 2	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 50,000	Future Fisheries Program
	\$ 350,000	Northwestern Energy
	\$ 9,000	Trout Unlimited
	<u>\$ 38,460</u>	Forest Service
Total Project Cost	\$ 572,460	
Amount Recommended	\$ 125,000	

Project History

Beaver Creek is a tributary to the Missouri River between Hauser Dam and Holter Reservoir. The stream has been degraded historically by channelization, removal of riparian vegetation and over grazing. The Lewis and Clark Conservation District in partnership with the Helena and Lewis and Clark National Forest to restore 1.2 miles of Beaver Creek creating a new channel with habitat structures and restoring the stream connectivity to the former floodplain. The project will also construct wetland habitat and restore riparian soils. Beaver Creek has the potential to provide important spawning habitat for rainbow and brown trout residing in the Missouri River as well as a resident trout population.

Proposed Solution

Specific tasks include:

- Reconnect former floodplain surfaces;
- Reconnect abandoned oxbow channels;
- Construct a new riffle/pool channel that will connect with the former floodplain at high flow;
- Convert existing channel to off channel wetlands or side channels; and
- Implement streambank, bankfull floodplain and riparian upland vegetation prescriptions to increase the cover of woody riparian shrubs and trees.

Resource and Citizen Benefits Analysis

The project will preserve surface water quality by reducing sediment and temperature. Reconnecting Beaver Creek to its floodplain will increase groundwater storage for release during late season. Restoration of the stream and floodplain will preserve soil quality, riparian and aquatic habitat as well as improve wildlife habitat. Construction of wetlands will benefit soils and wildlife habitat. The project is designed to restore fish habitat to Beaver Creek to allow for stocking in the Missouri River corridor, an important recreation fishery.

The project will benefit recreation as well as preserve the important recreation-based economy of the region. The project will preserve irrigated lands downstream by contributing to water quantity and improving 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.

Project No. 8

Applicant Name	Lockwood Water and Sewer District	
Project Name	CS3-1 Collection System Improvements, Phase 3	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	<u>\$ 9,889,000</u>	SRF Loan
Total Project Cost	\$10,764,000	
Amount Recommended	\$ 125,000	

Project History

The Lockwood area of Billings represents one of the largest contiguous populations being served entirely by on-site wastewater treatment systems. This project represents the third phase of the Lockwood Water and Sewer District (WSD) installation of a collection sewer system with treatment furnished by the City of Billings on 361 lots/parcels and 415 structures. A majority of drainfields in Lockwood have failed or are predicted to fail within the next few years. The extensive number of septic and drainfield systems are contributing to high nitrate levels in groundwater. The Lockwood WSD is paying the City of Billings a large annual reserve capacity fee. This fee is based on reserving enough capacity for the needs of the Lockwood WSD.

Proposed Solution

Specific tasks include:

- Install 31,500 linear feet of 8-inch gravity sewer mains;
- Install 900 linear feet of 12-inch gravity sewer mains;
- Install 2,400 linear feet of 15-inch gravity sewer mains;
- Install two (2) sanitary sewer lift stations, 2,500 linear feet of 4-inch force main; and
- Install 120 concrete manholes.

Resource and Citizen Benefits Analysis

The project will preserve groundwater and soils by eliminating the need for additional on-site subsurface wastewater systems and removing the existing failing onsite subsurface wastewater systems. It will also preserve surface water quality by reducing excess nutrients (phosphorus and nitrogen) that make its way downgradient to nearby creeks and the Yellowstone River.

The project will benefit the public health and safety by reducing and eventual elimination of the discharge of wastewater effluent and accumulations of nitrates, phosphates, and other pollutants in the local groundwater. The local economy will improve with the installation of a public sewage treatment system.

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	Manhattan, Town of	
Project Name	Water Reclamation Facility Improvements, Phase 1	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	<u>\$6,918,000</u>	SRF Loan
Total Project Cost	\$7,793,000	
Amount Recommended	\$ 125,000	

Project History

The Town of Manhattan is in northern Gallatin County near the Gallatin River. The regional wastewater system serves approximately 2,350 people, including both Manhattan and the Amsterdam-Churchill Sewer District. Acceptable treatment efficiency of the town's water reclamation facility is critical to the health and safety of the public as well as maintaining the quality of the local aquifer, Dita Ditch, and the Gallatin River. Manhattan draws potable water exclusively from groundwater. Recent population growth in Gallatin County resulted in capacity issues at the water reclamation facility. A simulation of the facility found that due to the upcoming permit limits, the facility is essentially at capacity with the current flow

Seasonal numeric nutrient standards for surface water dischargers adopted by the Montana Department of Natural Resources and Conservation (DEQ) will result in strict total nitrogen (TN) and total phosphorus (TP) limitations in the upcoming Montana Pollutant Discharge Elimination System permit. The existing plant was not designed for TN or TP removal. The town would benefit from groundwater discharge to avoid the seasonal nutrient limits for surface water discharge.

Proposed Solution

Specific tasks include:

- Retrofit the existing treatment trains with an internal mixed liquor recycle;
- Construct blower building;
- Addition of a third, redundant blower;
- Addition of media for biofilm growth;
- Replace the existing bag filters with a sludge dewatering building complete with screw press;
- Restore Dita Ditch; and
- Construct a groundwater discharge system, consisting of a lift station, force main, equalization basin, and rapid infiltration beds.

Resource and Citizen Benefits Analysis

The resource benefits of this project are preservation of surface water and habitat. Decreasing the erosion in Dita Ditch and improving the treatment system will improve the water quality of the Gallatin River which impacts habitat and wetlands. This project will decrease contaminants to surface water and provides a safe wastewater discharge system.

The water quality of the Gallatin River provides public benefits to local outdoor enthusiasts, fish habitats, and waterfowl. Upgrades to the water reclamation facility are necessary to ensure effective biochemical oxygen demand and nutrient removal to protect the surrounding ecosystem and public health and safety. The goal of Manhattan's Phase 1 Water Reclamation Facility Improvements project is to address the natural resource issues, meet DEQ discharge requirements, and allow for future water reclamation facility capacity increases that allow for anticipated growth of the Manhattan community.

Funding Recommendation

DNRC recommends grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package. DNRC indicated that expansion of the Water Right is possible with mitigation through aquifer recharge with groundwater discharge

Project No. 10

Applicant Name Helena Valley Irrigation District
Project Name Terminal Wasteway and Lateral Automation and Measurement

Amount Requested \$ 125,000
Other Funding Source \$ 214,915 Applicant
Total Project Cost \$ 339,915

Amount Recommended \$ 125,000

Project History

The U.S. Bureau of Reclamation constructed the Helena Valley water delivery system between 1957 and 1959 as part of the Canyon Ferry Dam project. The irrigation infrastructure has deteriorated as expected over the past 61 years as the design life of each piece is being reached, and the Terminal Wasteway is no exception. The water flows throughout the Helena Valley and is discharged into the north end of Lake Helena by way of the Terminal Wasteway. Helena Valley Irrigation District (ID) staff must manually inspect wasteway to determine the amount of water flowing out of the system. These inspections require 30-mile round trips to visually determine discharge flows, and then make the necessary adjustments at the Helena Valley Regulating Reservoir. The implementation of a real-time measuring device with supervisory control and data acquisition (SCADA) components will allow the Helena Valley ID to accurately and instantaneously monitor flows being discharged into Lake Helena. From these readings, the Helena Valley ID will be able to use the already in place SCADA automation system at the Helena Valley Regulating Reservoir to change flows as necessary.

The proposed project would improve management by reducing the time it takes to determine discharge flows and make the necessary adjustments from 2.5 hours each day to less than five minutes. The Lateral 10.1, 20.7, and 27.8 turnout gates are in dire need of replacement. Additionally, the gates have aged so heavily that they are unable to close completely and limited staff resources during the irrigation season means the Helena Valley ID is not always able to make the necessary gate adjustments. Implementing the rehabilitation and gate automation project will allow the Helena Valley ID to remotely monitor and control water levels and flows in the laterals almost instantaneously.

Proposed Solution

Specific tasks include:

- Obtain regulatory permits;
- Construct turnout structures and retrofit with the proposed Rubicon SlipGate with a SCADA System; and
- Training for the SCADA system.

Resource and Citizen Benefits Analysis

The installation of a SCADA system on the Terminal Wasteway and replacement and SCADA integration of the headgates on Laterals 10.1, 20.7, and 27.8 will reduce the volume of water wasted due to lag times from manual operation of the diversion structures and measurement of outflows. Measurements at the Terminal Wasteway occur less frequently than the automated outlet works at the Helena regulating reservoir. Similarly, because of the more remote locations of the lateral diversions, these laterals do not always get adjusted in a timely manner and with less accuracy than necessary. Implementation of these improvements will increase delivery efficiencies to Helena Valley ID's 18,000 acres.

Helena Valley ID estimates that the increased efficiencies in deliveries increase production by 4.9% for the 5,600 acres served by the laterals and 3.9% for Helena Valley ID's remaining 12,400 acres.

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. 11

Applicant Name	Thompson Falls, City of	
Project Name	Wastewater System Improvements, Phase 3	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	\$3,293,315	RD Loan
	\$2,761,685	RD Grant
	<u>\$ 18,000</u>	Applicant In-kind
Total Project Cost	<u>\$6,948,000</u>	
Amount Recommended	\$ 125,000	

Project History

Located on the Clark Fork River, the City of Thompson Falls is approximately halfway between Missoula, and Sand Point, Idaho, on US Highway 200. The city operates a wastewater collection system to serve a portion of the community, with a vast majority of the system relying on individual onsite treatment and disposal systems. Many of the sites are simply cesspools that discharge poorly treated wastewater directly into the soil and more likely into groundwater and the Clark Fork River.

The applicant is in the process of implementing a phased project to provide wastewater utility service to the entire community. Phases 1 and 2 consist of installing collection system infrastructure in two areas of the community and significant upgrades to the wastewater treatment system. Phase 3 consists of providing sewer service to the next area of the community, with Phase 4 intended to complete the project by providing sewer service to remaining areas.

Proposed Solution

Specific tasks include:

- Construct 11,697 linear feet of 8-inch polyvinyl chloride sewer main;
- Construct 16,200 linear feet of 4-inch gravity sewer service line;
- Install 26 grinder pump service units;
- Construct lift station No. 3;
- Construct 1,400 linear feet 4-inch force main;
- Install 40 manholes; and
- Complete surface restoration activities.

Resource and Citizen Benefits Analysis

The project will preserve regional water quality by eliminating wastewater discharge into the Clark Fork River. The project will also remove the potential of nutrient contamination to soils and ground and surface water due to raw sewage exfiltration in residential lots to achieve and maintain water quality standards. The lack of a centralized sewer collection and treatment system in the city has impacts beyond threats to the environment and public health and safety. By completing the project, the applicant will eliminate the discharge of poorly treated wastewater into the soils of the area and potentially into the Clark Fork River.

The project will provide economic benefits through stabilizing residential and business infrastructure development reliant on a safe community wastewater treatment system.

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	Butte-Silver Bow Government	
Project Name	Basin Creek Dam #1 Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	<u>\$1,405,052</u>	Applicant In-kind
Total Project Cost	\$2,030,052	
Amount Recommended	\$ 125,000	

Project History

Basin Creek Dam #1 is a curved masonry core dam impounding Basin Creek Reservoir 10 miles south of Butte. The dam was constructed in 1897 as a 75-foot tall curved masonry dam with a crest elevation of 5876 feet. The dam was constructed using solid granite blocks that were quarried nearby. The dam was modified in the 1913 and in the 1930s by the Anaconda Mining Company. In 1992 Butte -Silver Bow (BSB) purchased the dam for the public water supply system. The dam provides water to the Basin Creek Water Treatment Plant (WTP) on a gravity system, which minimizes the need to pump and reduces the cost and energy consumption related to pumping. Since the Basin Creek WTP became operational in May 2017, BSB has drawn approximately 60% of the city's water from Basin Creek Reservoir. Deterioration on the concrete cap and parapet wall has progressed over the past few years to the point of requiring rehabilitation. If left unaddressed, the deterioration would likely result in DNRC Dam Safety Program imposing a reservoir Montana Department of Natural Resources and Conservation imposing a reservoir level restriction to lower the reservoir to reduce the risk of the dam failure.

The proposed Basin Creek Dam #1 rehabilitation project includes full removal and replacement of the parapet wall, a structural concrete overlay over the dam face, and installation of post-tensioned anchorages through the mass concrete into the masonry core. The Big Hole River serves as a backup source for drinking water. Failure of the Basin Creek Dam would increase the usage of the water source which would reduce flows in the Big Hole and require more energy for pumping to meet the community's water needs.

Proposed Solution

Specific tasks include:

- Remove and replace parapet wall;
- Overlay dam face with structural concrete;
- Install post-tensioned anchorages through the mass concrete into the masonry core;
- Remove and replace handrail; and
- Remove and replace walkway.

Resource and Citizen Benefits Analysis

This project will preserve surface water quality and quantity, preserve aquatic and riparian habitat in the Big Hole River, and preserve irrigated lands in the Big Hole Valley. Protecting the Basin Creek Reservoir as the public drinking water source will result in energy conservation by reducing pumping water from the Big Hole River to Butte. Higher reservoir levels in the Basin Creek Reservoir benefit aquatic and riparian habitat. The goal of the project is to protect public health and safety by preventing a dam breach during an extreme flood event and preserve water levels in the reservoir to serve the Basin Creek WTP.

This project will preserve the agricultural and recreation-based economy in the Big Hole.

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	Deer Lodge, City of	
Project Name	Wastewater Collection System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 60,000	Applicant
	\$ 500,000	TSEP
	<u>\$ 415,000</u>	SRF Loan
Total Project Cost	\$1,100,000	
Amount Recommended	\$ 125,000	

Project History

The City of Deer Lodge is an incorporated city and the county seat of Powell County. The city provides centralized water and sewer service to approximately 3,200 residences and local businesses. Deer Lodge wastewater system consists of approximately 25 miles of gravity collection sewer mains, a lift station (replaced in 2003), and the recently constructed wastewater treatment plant (WWTP). The original collection system dates to the 1920's and is comprised of clay, concrete, cast iron, steel, bituminous fiber, and polyvinyl chloride. Excessive inflow and infiltration (I&I) (up to 75% of the water entering the wastewater collection system) affects the efficiency of the WWTP and quality of effluent discharged to the Clark Fork River. Sources of I&I include roof drains, leaking service lines, partially open water main joints, and numerous sump pumps that all discharge to the sewer collection system. Portions of the city's collection system was replaced or has undergone rehabilitation (2009 and 2014) to reduce the amount of I&I entering the wastewater collection system.

The city is under an Administrative Order on Consent with DEQ that requires improvements to the wastewater system in order to meet the zero nutrient discharge limit in the effluent during the summer months. The proposed project will reduce the I&I by replacing portions of the collection system in order to improve efficiency of the wastewater treatment plant to meet the discharge limits to the Clark Fork.

Proposed Solution

Specific tasks include:

- Sewer main replacement at Rainbow Avenue;
- Sewer main rehabilitation at Taylor Creek, Lift Station South and Montana Avenue;
- Manhole rehabilitation at California Avenue, Taylor Creek, Lift Station South and Rainbow Avenue;
- Stormwater collection system improvements at Milwaukee Avenue and Main Street;
- Sewer service connection replacements at California Avenue; and
- Lift wet well improvements.

Resource and Citizen Benefits Analysis

New and rehabilitated sewer mains would preserve groundwater and Clark Fork surface water quality by reducing leaking sewage and reducing nutrients and other contamination in the WWTP effluent. The project would conserve energy by reducing the amount of I&I pumped during high groundwater and stormwater runoff.

New and repaired sewer mains would protect public health and safety by reducing the potential for drinking water contamination and sewer backups. Preserving surface water quality in the Clark Fork river benefits aquatic and floodplain habitats, water quality for irrigation and protects the recreation economy in the region.

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	Pondera County Conservation District	
Project Name	Dupuyer Creek Diversion Automation	
Amount Requested	\$ 125,000	
Other Funding Source	\$ <u>72,390</u>	Pondera County Canal and Reservoir Company
Total Project Cost	\$ 197,390	
Amount Recommended	\$ 125,000	

Project History

The Pondera County Canal and Reservoir Company (PCCRC) operates a gravity delivery system that contains a large canal and lateral system with over 500 miles of main canal. The system is supplied by two reservoirs, Lake Frances and Swift Reservoir, within Pondera County near Valier. The PCCRC's system delivers irrigation water to a service area of 72,000 acres and 350 shareholders.

The current diversion structure feeds the PCCRC's main D-Canal that fills Lake Frances. The PCCRC currently operates the diversion manually on a daily basis during the irrigation season. The project proposal is to automate the gate controls, install several flow monitoring stations, and install a supervisory control and data acquisition (SCADA) system that can be monitored and controlled from the PCCRC office. The project would allow for the annual conservation of 4,460 acre-feet of water within Birch Creek Reservoir and 535 acre-feet within Lake Frances.

Proposed Solution

Specific tasks include:

- Complete the final design of the SCADA system;
- Install the SCADA system; and
- Test and training of the SCADA system.

Resource and Citizen Benefits Analysis

The proposed project will involve the automation of the Dupuyer Creek Diversion structure's gates and remote monitoring of stream and canal flows both upstream and downstream of the diversion. Primary purpose of this project is to improve water management, delivery, and timing of Dupuyer Creek water and Birch Creek (Swift Dam) water. There will be one benefit, management, to two resources, Dupuyer Creek and Birch Creek. PCCRC claims there will be an increase of 0.74 inches of water per acre, a 7% increase in crop production. The benefit is regional since PCCRC irrigates 72,000 acres.

The project would provide significant irrigation efficiency improvements, increase crop productions, reduced operation and maintenance requirements, and preservation of Lake Frances' ability to supply municipal water to the communities of Valier, Conrad, and Brady.

The PCCRC will maintain the interim source of drinking water, Lake Frances, for Conrad and Brady by increasing reservoir levels. Higher reservoir levels will benefit recreation and fishing in Birch Creek Reservoir and Lake Frances.

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	Teton Conservation District	
Project Name	Eureka Dam Safety Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 31,509	Teton Cooperative Canal Company
	\$ 24,977	DES/FEMA HHPD Grant
	<u>\$ 100,000</u>	SRF Loan
Total Project Cost	\$ 281,486	
Amount Recommended	\$ 125,000	

Project History

Eureka Dam was constructed in 1937, creating Eureka Reservoir which provides irrigation water to more than 17,000 acres of farmland. Water is diverted from the Teton River into Eureka Reservoir, located 7 miles northwest of Choteau. The dam has operated with several upgrades since its original construction; however, the dam was classified as a high hazard during a 1980 inspection report, which was confirmed by the State of Montana in 1990. The dam has a history of seepage which has likely persisted since the dam's creation, and sand boils have recently been observed near the toe of the dam. Uplift was evaluated for the dam in 2018, and results show that the existing dam is below the minimum required factor of safety and could be at risk of failure.

The project would potentially help conserve water by intercepting water lost through infiltration and making it available for use later in the irrigation season. The project would also help develop crop production by increasing the usable capacity of Eureka Reservoir, which has operated under restrictions that limit the maximum storage level due to safety issues. The project would also help preserve the recreation and fisheries benefits of Eureka Reservoir by keeping the dam in compliance with the DNRC Dam Safety Program.

Proposed Solution

Specific tasks include:

- Install a 10-foot toe drain and toe berm to reduce high uplift pressures and seepage below the toe of the dam.

Resource and Citizen Benefits Analysis

The dam is experiencing excessive seepage of 0.47-cubic feet per second (cfs) per day and sand boils. The DNRC Dam Safety Program has identified this as a serious concern and listed it as a high hazard dam. Without the dam safety improvements, Teton Coop Canal Company (TCCC) will have to operate under water restrictions and reduce their storage level. The proposed improvements will consist of excavating and constructing a toe drain to control seepage and a toe berm to provide resistance.

There will be two benefits to one resource. The project would development and preserve the surface water of the Teton River (Eureka Reservoir) upon completion of this project. Development benefits are local, 20 water users on 7,650 acres, in order to sustain irrigation. Preservation of aquatic habitat in reservoir is regional due to large numbers of fish stocking and angler days.

TCCC will lose 39% of their irrigation water without the needed repairs. They currently lose enough water to seepage the increase in crop production alone would be an annual increase of \$418,000. This will provide a significant public benefit by removing the risk of failure of a high hazard 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. 16

Applicant Name	Darby, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 450,000	CDBG
	\$ 248,300	RD Grant
	\$ 372,296	RD Loan
	\$ 625,000	TSEP
	<u>\$ 33,000</u>	Applicant
Total Project Cost	\$1,853,596	
Amount Recommended	\$ 125,000	

Project History

The Town of Darby is in the Bitterroot River Basin in Ravalli County. The town is facing significant amounts of infiltration within the collection system during the summer months. The lift station is near capacity with existing pumps and the pumps clog during the year related to inorganics. The town's wastewater treatment lagoon is at times not meeting discharge permit limits related to total suspended solids (TSS) and biochemical oxygen demand. Past studies by DEQ and their contractor have documented the need for sludge removal in Cell No. 1 given its total depth of only 4.5 feet and a sludge depth over 1.2 feet. Existing infrastructure at the lagoon facility is not functioning as designed or is plugged or inoperable.

Proposed Solution

Specific tasks include:

- Replace four leaking manholes, five (5) leaking service connections and repair two (2) leaking sewer mains;
- Clean sewer main sections;
- Video the force main between the lift station and "Y" configuration at the treatment lagoon;
- Replace a few blocks of hydraulically limited sewer main and manholes;
- Install a mechanical screen in an underground concrete vault ahead of the lift station;
- Remove sludge from all three lagoon cells and dispose of the sludge through land application;
- Construct a new flow control manhole;
- Install new control valves throughout the lagoon system;
- Modify outlet structure between cell No. 2 and cell No. 3; and
- Modify Cell No. 3 discharge structure.

Resource and Citizen Benefit Analysis

The proposed improvements to the collection system will address reductions amounts of infiltration in the summer months and sewage leakage in the winter months. This project will preserve surface water quality and the blue-ribbon stream health for recreational activities and the agriculture in the Bitterroot Region.

Public health and safety issues will be mitigated by preventing contaminated water being used for other municipalities and homes that are currently susceptible to raw sewage. The citizen benefit is regional.

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	Libby, City of		
Project Name	Wastewater System Improvements		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 464,000	TSEP	
	<u>\$ 450,000</u>	CDBG	
Total Project Cost	\$1,039,000		
Amount Recommended	\$ 125,000		

Project History

Libby is an incorporated municipality in Lincoln County. Libby’s wastewater system consists of a series of gravity sewer mains throughout the city and three (3) lift stations that transport raw wastewater to the Wastewater Treatment Facility (WWTF) on the banks of the Kootenai River. Treated wastewater is discharged to the river. The wastewater collection and treatment systems have numerous identified deficiencies. The city has chosen to address the highest priority system needs. The controls at the WWTF are outdated and past their usable lives. Replacement of the current control system is needed to prevent critical items from failing which would result in the need to manually operate the treatment facility. Several sections of gravity sewer main are failing and structurally deficient. These mains are leaking untreated wastewater into the groundwater aquifer and need to be replaced.

The goals of the project are to improve both water and energy efficiency at the WWTF and provide better management of the facility through the replacement of the controls system. Replacing failing sewer mains will eliminate leakage of untreated wastewater to the groundwater aquifer and preserve the water quality of the local shallow aquifer.

Proposed Solution

Specific tasks include:

- Replace approximately 820 linear feet of gravity sewer mains; and
- Replace the existing WWTF control system with a new modern Supervisory Control and Data Acquisition (SCADA) system.

Resource and Citizen Benefits Analysis

The purpose of the project is to upgrade the WWTF controls and wastewater mains in order to mitigate the risk of critical failure, mainly to the WWTF control system. The control system is at high risk of failure which would cause raw sewage to backup into collection system and homes and untreated/partially treated wastewater discharged into the Kootenai River. They will add a SCADA system to better manage the WWTF and replace collapsed mains that leak untreated wastewater into the local aquifer.

Benefits upon completion of this project include conservation, management, and preservation to energy, groundwater, and surface water (Kootenai River) respectively. The city will conserve energy efficiency by upgrading the WWTF controls, manage source water by adding a SCADA system, and preserve water quality in the local aquifer and ultimately into the Kootenai River by reducing leaked wastewater.

The public health benefits will be a reduction of contaminants in surface water and groundwater.

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. 18

Applicant Name	Montana Department of Natural Resources and Conservation Water Resources Division	
Project Name	Ackley Lake Outlet Canal Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Source	\$ <u>35,047</u>	Applicant In-kind
Total Project Cost	\$ 160,047	
Amount Recommended	\$ 125,000	

Project History

The Ackley Lake Outlet Canal Rehabilitation is part of the Ackley Lake State Water Conservation Project which is owned by DNRC, managed by the Ackley Lake Water Users Association (WUA), and located in the Judith River Basin, five miles southwest of Hobson. The outlet canal is a critical conveyance canal for the system, providing water to 4,500 acres of farmland and facilitating the quick release of flows from Ackley Lake. A 2,850-foot section of the canal is constructed on porous granular soils, allowing water to seep from the canal bottom and side slopes and causing flooding in Philbrook Cemetery and Hobson Philbrook Road during sustained canal use.

The inability to rely on the canal to reduce water levels in Ackley Lake has forced the Ackley Lake WUA to maintain lower lake levels throughout the irrigation season to leave available storage space, preventing water users from utilizing their full allotment of water for irrigation. The primary project goal is to mitigate the excessive seepage that occurs along this stretch of the canal.

Proposed Solution

Specific tasks include:

- Reshape and grade canal to a consistent cross-sectional geometry and gradient;
- Remove vegetation; and
- Install canal liner.

Resource and Citizen Benefits Analysis

The project will preserve surface water quality in the Judith River by allowing excess flows from Ackley Lake to be conveyed directly into the Judith River rather than being wasted in the laterals. This project will benefit both aquatic and riparian habitats. Additionally, storing water to capacity in Ackley Lake benefits surface water temperatures as well as aquatic and riparian habitats. The project also benefits Ackley Lake by preserving arable lands by providing irrigation water throughout the entire irrigation season.

Preserving agriculture is an important part of the regional 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. 19

Applicant Name	Greenfields Irrigation District	
Project Name	SRS-71 Headworks and SRS Re-Regulation	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	\$1,432,585	Applicant In-kind
	<u>\$1,500,000</u>	USBR WaterSmart
Total Project Cost	<u>\$3,557,585</u>	
Amount Recommended	\$ 125,000	

Project History

The Greenfields Irrigation District (ID) is a large system servicing over 83,000 acres with more than 500 miles of canals and 250 miles of drains. The district has a strong history of progressively prioritizing and implementing maintenance projects on the irrigation system. The system currently experiences management and delivery issues downstream of the Pishkun Reservoir, which are complicated by a manual control system that delays delivery to downstream users.

This project would replace the existing headworks and check structure, as well as construct a new re-regulating area to improve management at the downstream end of the canal system. The project would conserve water by providing a more efficient delivery system to downstream users, improve management by installing an automated control system, help preserve flows in the source area (Sun River), and potentially develop increased crop production through development of new water resources, or develop wetland with the creation of the re-regulating area.

Proposed Solution

- Replace the SRS-71 headworks;
- Remove the existing SRS check structure;
- Construct a new SRS check structure with automated gates; and
- Construct a 940 acre-feet re-regulating area upstream of the new SRS check structure.

Resource and Citizen Benefits Analysis

There will be two benefits to two resources. The project would development and preservation arable land and aquatic habitat. The benefits are regional because Greenfields ID irrigates 83,230 acres. The Greenfields ID would realize an additional 2,800 acre-feet of water annually for crops and reduce water delivery times. There is also preservation of aquatic habitat by leaving more water in Gibson and Willow Creek Reservoirs later in the season.

Economic benefits include increased crop production on a regional scale. The applicant claims an increase of half million dollars, or 2% boost in annual agriculture production. This project will yield a sustainable revenue for the 30-year design life of the 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. 20

Applicant Name	Valier, Town of	
Project Name	Wastewater System Improvements, Phase 3	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	<u>\$1,265,000</u>	RD Loan
Total Project Cost	\$2,015,000	
Amount Recommended	\$ 125,000	

Project History

Valier is an incorporated town in central Pondera County on the north shore of Lake Frances. Valier provides water supply and sanitary sewer service to a population of approximately 577 people in 238 households. Valier built a new wastewater treatment lagoon system in 1999 and made improvements in 2015 including division of each cell with a baffle curtain; installation of floating lateral fine bubble diffusers; installation of a floating modular cover; and, construction of a small building to house two positive displacement blowers. While the town made significant improvements, the treatment system still lacks influent screening. This regularly exposes operators to hazardous conditions by requiring the physical removal of debris, which often includes hypodermic needles, from the lagoons. The treatment system also has not had sludge removed since it was originally built in 1999.

The accumulated sludge reduced the total lagoon treatment volume affecting the treatment efficiency. Along with the treatment issues, the town still has numerous sections of clay pipe installed between 1908 and 1910 that are undersized, cracked, and have leaking joints and/or offset joints. This pipe is prone to plugging and backing up sewage into homes and other buildings.

Proposed Solution

Specific tasks include:

- Install influent screening at the treatment facility;
- Remove accumulated sludge from the lagoon cells;
- Replace 1,900 linear feet of collection main with new 8-inch main; and
- Install three (3) new manholes.

Resource and Citizen Benefits Analysis

The resource benefits of this project are preservation of groundwater and conservation of energy. The upgrades would mitigate the potential of effluent and infiltration leaking into the confined aquifer and would save energy from decreased pumping. There is a risk of sewage contaminating other surface water sources.

The project will benefit public health and safety by mitigating potential contamination of the aquifer and associated risks to human health and safety. The citizen benefits are 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. 21

Applicant Name	Greenfields Irrigation District	
Project Name	Spring Coulee Headworks Replacement	
Amount Requested	\$ 125,000	
Other Funding Source	<u>\$ 131,474</u>	Applicant In-kind
Total Project Cost	\$ 256,474	
Amount Recommended	\$ 125,000	

Project History

The U.S. Bureau of Reclamation (USBR) Sun River project was authorized by the Secretary of the Interior under the 1902 Reclamation Act on February 26, 1906. The project uses water from the Sun River through its two main tributaries, the North Fork and South Fork that is stored and regulated by Gibson and Willow Creek Reservoirs for irrigating 83,230 acres of land along the Sun River. The Spring Coulee headworks structure was constructed in the 1930s to convey excess water into the Spring Coulee drainage and prevent overtopping of the GM-100 canal as the area is a confluence of an irrigation canal and a field drain. The existing headworks is old and unable to effectively control flows into the coulee as the spill elevations in each bay are controlled by concrete weirs that overtop when the water surface reaches the fixed weir elevation. Replacing the structure and increasing the operational flexibility of J-wasteway would allow the Greenfields Irrigation District (ID) operators to be able to adjust the spill elevation of the J-wasteway and reduce the amount of water lost through the Spring Coulee drainage. These reduced flows through Spring Coulee would mitigate the erosion and sediment transport issues that have been experienced in Spring Coulee, Muddy Creek, and the Sun River.

Proposed Solution

Specific tasks include:

- Develop the final structure design and J-wasteway berm configuration;
- Obtain regulatory permits; and
- Install control structure.

Resource and Citizen Benefits Analysis

There will be two benefits to two resources. The project will develop and preserve arable land and the surface water of the Sun River. Greenfields ID would realize an additional 5,471 acre-feet of water annually for crops from the additional storage. This project will preserve water quality in the Sun River by reducing sedimentation (1,700 tons per year) due to highly erodible banks in Spring Coulee and Muddy Creek. There is also preservation of aquatic habitat by leaving more water in Gibson and Willow Creek Reservoirs later in the season.

Economic benefits include increased crop production on a regional scale. The applicant claims an increase of \$471,000 annually, a sustainable revenue for the 30-year design life of the 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. 22

Applicant Name	Helena Valley Irrigation District	
Project Name	Lateral 11.9 Canal Conversion and Gate Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	USBR WaterSMART
	<u>\$ 432,580</u>	Applicant
Total Project Cost	\$1,057,580	
Amount Recommended	\$ 125,000	

Project History

The U.S. Bureau of Reclamation (USBR) constructed the Helena Valley water delivery system between 1957 and 1959 as part of the Canyon Ferry Dam project. The USBR immediately transferred the system to the Helena Valley Irrigation District (ID) for operation and maintenance. The irrigation infrastructure has deteriorated over the past 61 years as the design life of each piece is being reached. The Lateral 11.9 headgate is part of the original Helena Valley ID system and is manually operated with a hand-crank system. The Helena Valley ID's limited resources preclude the constant monitoring of water levels in the canal. As a result, constantly changing water demands within the Helena Valley ID system are not always met. Users have days where water is wasted or there is a shortage. Lateral 11.9 traverses through residential areas and the Fox Ridge Golf Course while conveying flows to irrigation users. The porous soils within the project area are allowing seepage to occur, which is causing large quantities of water to be lost each year. The seepage is also raising groundwater depths, which is causing flood damage to houses with basements adjacent to the lateral.

The proposed project will improve the management efficiency of the Lateral 11.9 turnout by allowing the Helena Valley ID to remotely monitor and control flows within the canal in real-time, which will optimize water usage and provide users with adequate water supply. Furthermore, the proposed closed pipeline system will eliminate seepage by not allowing water to come in contact with the porous soils. The canal conversion portion of the project will greatly increase water delivery efficiency.

Proposed Solution

Specific tasks include:

- Install canal pipeline and turnout structures with the Rubicon SlipGate;
- Install supervisory control and data acquisition (SCADA) system; and
- Install the buried pipeline.

Resource and Citizen Benefits Analysis

The replacement and SCADA integration of the Lateral 11.9 headgate will reduce the volume of water wasted due to lag times from manual operation of the diversion structures and measurement of outflows. During peak irrigation season, Helena Valley ID is not always able to make adjustments as often as needed for efficient water delivery. There is also significant seepage, which requires additional water to be diverted at the headgate.

Implementing these improvements will increase delivery efficiencies to approximately 400 acres. Helena Valley ID estimates that the increased efficiencies in deliveries will result in increased yields of 0.5 tons/acre for alfalfa on these lands. Conversion of the lateral to a buried pipeline will also alleviate flooding concerns to nearby homes.

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	Big Mountain County Sewer District	
Project Name	Wastewater Collection System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	\$ 232,640	SRF Loan
	<u>\$ 142,360</u>	Local Reserves
Total Project Cost	\$1,000,000	
Amount Recommended	\$ 125,000	

Project History

Big Mountain County Sewer District is in Flathead County, roughly five miles north of the City of Whitefish, within the Flathead Lake drainage basin and just northeast of Whitefish Lake. The district owns and maintains a sewer collection system serving the Whitefish Mountain community which includes approximately 350 permanent residents, 500 employees and as many as 7,500 to 8,000 visitors during the winter season. The district’s sewer system collects wastewater and conveys it 3.9 miles downhill to Whitefish which charges the district based on gallons of wastewater received. The wastewater collection system was originally constructed in 1976. Treatment of the wastewater is provided by Whitefish via a metered point of connection and a volumetric rate. System monitoring indicates excessive wastewater flow from infiltration and inflow (I&I) with estimates to be as much as 49% of the total wastewater conveyed by the system.

Proposed Solution

Specific tasks include:

- Rehabilitate 7,761 linear feet of 8-inch sewer main with cured-in-place pipe;
- Replace 388 linear feet of existing sewer main with 8-inch polyvinyl chloride pipe;
- Rehabilitate 20 manholes;
- Replace three (3) manholes;
- Reinstate 136 service connections; and
- Complete surface restoration activities.

Resource and Citizen Benefits Analysis

This project will conservation energy and groundwater and preserve surface water. The excessive flow results in unnecessary treatment by Whitefish, and lower influent flow temperatures that negatively affects the performance of the wastewater treatment process. The applicant intends to reduce the amount of I&I, and in turn, reduce the overall charges assessed for treatment and improve wastewater treatment process performance. The city’s current discharge to the Whitefish River exceeds water quality standards for ammonia.

In addition, the project will protect the public health and safety of the region by providing wastewater treatment and be able to meet the needs of economic growth and tourism.

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. 24

Applicant Name	Lower Musselshell Conservation District	
Project Name	DMWUA Main Canal Diversion Gate Automation	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 91,343	Applicant
Total Project Cost	\$ 216,343	
Amount Recommended	\$ 125,000	

Project History

The Delphia Melstone Water Users Association (DMWUA) irrigation canal system is in central-eastern Montana along the Lower Musselshell River in Musselshell and Rosebud Counties, near the towns of Melstone and Musselshell. The water delivery system provides irrigation water to approximately 6,100 acres and 51 farms and ranches. The existing gate requires manual operation of a hand crank to adjust the slide gate system on each diversion. During peak irrigation season when the DMWUA staff member is very busy, it is not unusual for the gates to go unadjusted for several days, leading to wasted water or insufficient amounts of water within the canals and inefficient water delivery. Implementation of the proposed improvements will consist of installing a supervisory control and data acquisition (SCADA) system to control and monitor each diversion structure.

The proposed gate automation will provide a means for the DMWUA to more efficiently control the flow of water within the delivery system. The proposed diversion gates automation project would allow the DMWUA to conserve 593 million gallons of water during their historical irrigation season by precisely controlling flows into the system, save over 528 man-hours per year by automating the gates and eliminating travel to and from the gates to manually operate them, preserve fish and aquatic species habitats in the Musselshell River, and allow more precise control of water being diverted from the Musselshell River by eliminating the age-old practice of diverting extra water and wasting it if it is not needed.

Proposed Solution

Specific tasks include:

- Install new gate actuators and headgates;
- Install the SCADA system; and
- Perform testing and training on the newly installed SCADA system.

Resource and Citizen Benefits Analysis

The installation of remote monitoring/telemetry system on the headgates 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 Deadmans Basin reservoir upstream for use later in the season. DMWUA estimated that 1,820 acre-feet per year can be stored and used to extend the growing season for 6,100 acres, increasing crop yields by 8%. The change in operation will reduce flows in the Musselshell River between Deadmans Reservoir and the DMWUA diversion in May through June, but will increase river flows in August and September, when flows are at critical levels.

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	Bitterroot Conservation District	
Project Name	Bitterroot River Irrigation Management Study	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 6,250	Applicant
Total Project Cost	\$ 131,250	
Amount Recommended	\$ 125,000	

Project History

The Bitterroot River serves 20 irrigation systems within the project area. When combined, these irrigation systems divert up to 750 cubic feet per second from the river. Management of flows throughout the irrigation season, especially in late summer, is challenging and compromised by the lack of flow measurement, inefficient irrigation headworks infrastructure, river channel migration, and irrigation flow impediments. The proposed study will assess irrigation management and efficiency of diversions, irrigation intakes, and flow measurement between Painted Rock Reservoir and Bell Crossing, spanning 60 miles of the Bitterroot River. The results will assist Bitterroot water users in organizing and implementing improvements to better manage surface water, resulting in conservation benefits for irrigators and aquatic habitat in the river.

Proposed Solution

Specific tasks include:

- Collect and review existing reports, planning documents, maps, survey information, water rights and measurement records, water commissioner records, and other source data;
- Complete a control survey and a survey of typical elevations of each structure;
- Develop a standardized inventory assessment form;
- Prioritize turnouts for further analysis;
- Develop a hydraulic model for each priority turnout;
- Run alternative improvement concepts through the model;
- Prepare a technical memorandum summarizing the results of the hydraulic modeling for each turnout, and provide a numerical priority ranking for each alternative considered;
- Develop conceptual engineering designs and cost estimates;
- Identify funding potential funding sources; and
- Summarize tasks in an irrigation management plan that prioritizes potential projects based on the area of influence, potential to conserve surface water, compliance, and other relevant factors.

Resource and Citizen Benefits Analysis

This study will assess the irrigation system intake diversions and associated flow measurement devices to optimize surface water management, surface water conservation and preservation of wildlife and aquatic habitat.

The study will aid in the management of surface water by providing a planning tool to implement prioritized repairs over time. With improvements in flow measurement, headgates and diversion, the irrigators will ensure they are diverting their allocated amount of water from the Bitterroot River.

The renewable resource benefits from the implementation of this plan are conservation of surface water quantity and quality, arable land and aquatic and wildlife habitat.

Funding Recommendation

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

Project No. 26

Applicant Name	Wolf Point, City of	
Project Name	Wastewater Collection System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	\$ 450,000	CDBG
	\$3,250,000	EDA Grant
	\$ 300,000	RD Grant
	<u>\$ 300,000</u>	RD Loan
Total Project Cost	\$5,050,000	
Amount Recommended	\$ 125,000	

Project History

The City of Wolf Point’s wastewater system was built in the 1930’s in Roosevelt County and consisted of a collection system, lift stations, and lagoons to serve 2,743 residents. The city is experiencing problems with the existing collection system include corroding of the steel sewer mains and deteriorating of the concrete, clay, and polyvinyl chloride sewer mains. The infiltration of groundwater through cracks in the pipe increases the electrical and demands of the lift station pumps. Exfiltration of sewer effluent through holes, cracks, and fractures in the sewer pipe causes the discharge of untreated sewer to the surrounding soils and groundwater. Large areas of root and deposit buildups create sewer backups. The wastewater lift station sluice gates are rusted, the building has ventilation issues, and the generator is outdated.

Proposed Solution

Specific tasks include:

- Replace 3,700 linear feet of sewer main;
- Install 9,600 linear feet of 8-inch cured-in-place pipe; and
- Rehabilitate the main lift station.

Resource and Citizen Benefits Analysis

This project will preserve groundwater from the exfiltration of wastewater. The wastewater system will be managed more efficiently and conserve energy by decreasing the workload demand of lift station pumps eliminating infiltration into the system.

The project will benefit public health and safety by eliminating sewer backups caused by root and deposit buildups.

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. 27

Applicant Name	Havre, City of		
Project Name	Clear Creek Court-Sanitary Sewer System Improvements		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 310,000	CDBG	
	\$ 20,000	Local Contribution	
Total Project Cost	\$ 455,000		
Amount Recommended	\$ 125,000		

Project History

The Clear Creek Court mobile home community is within the corporate limits of the City of Havre. The sanitary sewer collection system for Clear Creek Court serves approximately 95 individuals, 37 active dwellings (56 mobile home spaces). The gravity sewer collection lines are constructed of aging vitrified clay tile pipe and old polyvinyl chloride (PVC) pipe. Most of the system was constructed in 1974.

The collection system has suffered many backups, blockages and spilled sewage. The state of disrepair in the existing collection system may result in degradation of the aquifer and wells that currently supply potable water to Havre. The proposed solution is to replace the existing private collection system and individual services that currently do not meet the DEQ design requirements with a new public gravity collection system connected to Havre’s wastewater system.

Proposed Solution

The improvements will consist of the following:

- Install 6-inch and 8-inch public sewer mains;
- Install 4-inch PVC service lines; and
- Install concrete manholes at all terminus points, at bends, and at connections to the existing public sewer system.

Resource and Citizen Benefit Analysis

This project eliminates the risk of sewage leakage to an aquifer and nearby city wells preserving the groundwater.

The project protects health and safety of residents by eliminating surface seepage of sewage and soils contamination.

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	Missoula, City of	
Project Name	Rattlesnake Creek Wilderness Dams Project	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 50,500	Applicant
	\$ 30,500	Trout Unlimited
	\$ 5,000	FWP
	\$ 49,000	Hewlett Foundation, Open Rivers Fund
	\$ 25,000	Montana Future Fisheries Program
	<u>\$ 30,245</u>	National Fish and Wildlife Foundation
Total Project Cost	\$ 315,245	
Amount Recommended	\$ 125,000	

Project History

Rattlesnake Creek is a tributary to the Clark Fork River in Missoula with an 82 square mile drainage that originates in the Rattlesnake Wilderness and is a tributary to the Clark Fork River. The City of Missoula acquired ten dams in the Rattlesnake Wilderness area that were built in the 1920s as part of the Rattlesnake Creek Water Supply. The dams have not been used for water delivery in more than 30 years and are largely inoperative.

A Feasibility Study in 2018 recommended multiple dams in the Rattlesnake Wilderness area be evaluated for decommissioning. Among those, McKinley Lake Dam was the primary candidate for immediate decommissioning and is a severe hazard. McKinley Lake is a glacial cirque lake at an elevation of 6,609 feet. It was an earthen embankment originally built at the outlet in 1923, which now has a 16-acre footprint and an estimated lake volume of 211 acre-feet at full pool. The McKinley Lake Dam has a headcut in the emergency spillway that potentially threatens the dam's stability, seepage at the toe of the dam in multiple locations and would require extensive modifications or a rebuild to meet U.S. Forest Service (USFS) standards. The lake supports a wild rainbow trout fishery and primitive campsites on the dam crest. This project is a pilot for a larger dam decommission project in the Rattlesnake wilderness area.

Proposed Solution

Specific tasks include:

- Breach a portion of the McKinley Lake Dam;
- Construct a new steam channel to convey a 100-year or larger flood event;
- Reclaim head cut in spillway;
- Install control sill to reduce sediment releases;
- Remove existing outlet gates and gate tower; and
- Backfill and seed the disturbed areas.

Resource and Citizen Benefits Analysis

The project will protect natural resources through dam decommissioning; restoration of stream, floodplain and hillslope processes; and revegetation activities; which will result in five acres of wetland and floodplain development and remove a source of non-native fish in the watershed. The resource benefits of this project are preservation of surface water and habitat.

The dam is accessible to the public and declared a significant hazard by USFS. Decommissioning the dam will eliminate current and future local economic impacts and maintenance requirements, remove an environmental and public safety threat, and improve natural resource conditions at the site. The citizen benefit is regional.

Funding Recommendation

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

Governor's Budget

Project No. 29

Applicant Name	Missoula County Community of Buena Vista		
Project Name	Buena Vista Wastewater System Improvements, Phase 2		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 125,000	WRDA	
	\$ 450,000	CDBG	
	\$ 243,000	SRF Loan Forgiveness	
	<u>\$ 324,000</u>	SRF Loan	
Total Project Cost	<u>\$1,267,000</u>		
Amount Recommended	\$ 125,000		

Project History

The wastewater system at the Buena Vista Community consists of approximately 1,100 feet of 8-inch gravity collection main that bisects the trailer court. The collection main has two cleanouts along the main and terminates at a splitter box down gradient from the collection system that diverts wastewater to the City of Missoula lift station. The community completed a project in 2020 to install the lift station; which now pumps wastewater to the Missoula’s wastewater system; and rehabilitate the original lagoon system that is no longer in use as a result of the wastewater improvements. However, due to costs, the lagoons were not completely rehabilitated, and the collection system was not replaced. This project is the next phase of these improvements. The existing clay pipe collection system is failing and needs replacement to limit groundwater contamination, exfiltration of raw sewage, and the high potential of sanitary sewer overflows into residents’ homes and yards. The sludge in the abandoned existing lagoon Cell No. 3 has been drying since 2020 and has not been removed since initial construction. The sludge needs to be removed from the lagoon prior to the site being reclaimed.

Proposed Solution

Specific tasks include:

- Install 2,500 linear feet of new 8-inch polyvinyl chloride sewer mains;
- Install nine (9) new manholes;
- Reconnect 35 services;
- Connect the new collection system to two existing manholes; and
- Remove, rehabilitate, and seed the existing lagoon Cell No. 3.

Resource and Citizen Benefits Analysis

The project will preserve water quality by eliminating wastewater discharge into an ephemeral tributary to Lavelle Creek. The project will also remove the potential of contamination due to exfiltration of raw sewage from leaking pipe into the groundwater.

The local community public health and safety will benefit from the removal and treatment of sludge for land redevelopment. The sludge can include potential harmful bacteria, viruses, and excess nitrates or chlorides and can be a possible surface contaminate if left untreated. With the sludge removed, the community may develop 12 additional trailer homes and improve 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. 30

Applicant Name	Fort Belknap Indian Community	
Project Name	Milk River Diversion Gate Automation	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 63,747	Applicant
Total Project Cost	\$ 188,747	
Amount Recommended	\$ 125,000	

Project History

The Fort Belknap Irrigation Project (FBIP) is a system of canals, laterals, and ditches in Fort Belknap Indian Community in North Central Montana in the Milk River Valley in Blaine and Phillips County. The main diversion for the FBIP is in the community of Fort Belknap, on the Milk River. The water delivery system of the FBIP provides irrigation water to approximately 9,000 acres and 43 farms and ranches. The Milk River Diversion is a concrete structure constructed in the 1950s with all manual controls and needs to be replaced. Constantly changing water demands within the FBIP system coupled with the dynamic flow variations in the Milk River require the gates to be changed multiple times per day during the irrigation season. The FBIP proposes to install gate actuators and supervisory control and data acquisition (SCADA) components at the Milk River Diversion to allow real-time monitoring and control of the diversion gates.

Proposed Solution

Specific tasks include:

- Remove checkboard structure;
- Install new actuators, gates, and SCADA system; and
- Perform testing and training of the new SCADA system.

Resource and Citizen Benefits Analysis

The installation of a new gate and automated controls and integration with a SCADA system will reduce the water wasted due to lag times from traveling to the site and improve water management and delivery to irrigated land.

FBIP estimates that this project will result in increased yields of 0.1-0.5 tons/acres for hay and 0.8 bushel per acre for wheat on 6,400 acres. Cattle production is estimated to increase by 130 head. Threemile and White Bear reservoirs, as well as the adjacent wetland complexes, provide 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.

Project No. 31

Applicant Name	Shelby, City of	
Project Name	Water Infrastructure System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	\$ 450,000	CDBG
	<u>\$ 125,000</u>	Applicant In-kind
Total Project Cost	\$1,325,000	
Amount Recommended	\$ 125,000	

Project History

The City of Shelby is in Toole County and serves 3,180 residents. The city operates a water system originally constructed around 1940. Numerous improvements have been made to the water system, which consists of 13 active wells, two pumping systems, five storage tanks, an ultraviolet light disinfection system, and distribution network. Challenges with the aging system include increasing main breaks, unaccounted for water percentages exceeding 24%, a lack of backup power at various facilities, inadequate system metering, and insufficient pressure and fire flow in the vicinity of the airport. The applicant intends to complete a leak study and address the hydraulic conditions near the airport by replacing an aging asbestos cement (AC) pipe with frequent break history. The remaining issues will be addressed in a subsequent phase.

Proposed Solution

Specific tasks include:

- Finalize design and acquire necessary permits;
- Construct 3,500 linear feet of 8-inch polyvinyl chloride (PVC) pipe;
- Install 740 linear feet of 8-inch PVC pipe through existing casing pipe under Interstate 15;
- Dispose of 800 feet of AC pipe;
- Replace the altitude vault for the storage tank the provides fire flow to the airport area; and
- Complete surface restoration activities.

Resource and Citizen Benefits Analysis

The project will conserve groundwater and energy by reducing leakage and water losses in the distribution system as well as metering to locate leaks. Shelby provides the drinking water for the North Central Regional Water System, reducing leaks within the city distribution system will benefit the regional water system by keeping energy usage low and reducing water losses. This project will also improve public safety for the city by providing adequate water for fire flows. Providing adequate water within the city will allow for expansion of the industrial area near the airport which will benefit the local and regional economy.

The project will provide public health and safety benefits by providing adequate drinking water supply to Shelby.

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	Fort Peck Tribes	
Project Name	Frazer and Wiota Pump Automation and Monitoring	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 4,055	Applicant
Total Project Cost	\$ 129,055	
Amount Recommended	\$ 125,000	

Project History

The Fort Peck Irrigation Project (FPIP) is along the Missouri River in Valley and Roosevelt Counties within the southern portion of the Fort Peck Indian Reservation. The FPIP is comprised of two separate irrigation units: the Wiota Unit consisting of approximately 19 water users on 6,000 irrigated acres; and the Wolf Point-Frazer Unit, consisting of approximately 60 water users on 13,000 irrigated acres. Both Units pump water from the Missouri River into their respective Main Canals, which transfers water to the extensive canal, lateral, and wasteway system. The pump stations are also vulnerable to vandalism and safety hazards due to unreliable cellular communication service.

The proposed pump automation and monitoring project is classified as the design and construction of a supervisory control and data acquisition (SCADA) to remotely monitor flows and remotely operate pumps for the Frazer and Wiota pump stations and to remotely monitor flows in the delivery system. Additionally, a buried fiber optic communication line will be installed to each pump station to facilitate the installation of security cameras and communication with the SCADA components.

Proposed Solution

Specific tasks include:

- Install SCADA system;
- Install flow measurement station;
- Install fiber optic communication lines;
- Install cellular antenna;
- Install security cameras; and
- Install telephone.

Resource and Citizen Benefits Analysis

The installation of remote operation and monitoring equipment on the FPIP diversion pumps will significantly increase the Fort Peck Water Users Association ability to manage and conserve surface water diverted for the use of irrigation within the project boundary. The ability to respond in a timely manner will significantly reduce unnecessary diversion of 2,400 acre-feet. The Missouri River is home to two endangered species, the Piping Plover and the Pallid Sturgeon which will benefit with additional flow in the river.

The project has local economic public and citizen 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.

Project No. 33

Applicant Name	Lower Willow Creek Irrigation District	
Project Name	Lower Willow Creek Reservoir Toe Drain Repair	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 40,000	Applicant
	\$ 271,000	WRDA Grant
	<u>\$ 153,000</u>	RRGL Loan
Total Project Cost	\$ 589,000	
Amount Recommended	\$ 125,000	

Project History

The Lower Willow Creek Reservoir (LWCR) is located in Lower Willow Creek, a tributary to Flint Creek within the Upper Clark Fork River Basin. The LWCR provides water to 14 landowners to irrigate 5,400 acres of agriculture land.

During the 2016 periodic inspection of Lower Willow Creek Dam, deficiencies included the impaired condition of the right toe drain. This concern had been noted in previous dam safety inspection reports. In 2018, a toe drain investigation and study showed that the right toe drainpipe is well beyond its design life, is corroded, and is in danger of failing. If the toe drainpipe collapses and fails, the stability of the dam could be compromised and DNRC could require reduction in the pool elevation and volume of water stored in the reservoir. Reduction of the volume stored in the reservoir would substantially reduce the volume of water available to existing users, reduce flows to Lower Willow Creek, impact recreational users, wildlife, and habitat associated with the reservoir and Lower Willow Creek.

The proposed solution will use standard excavation techniques to excavate and install access manholes, then slip line the toe drain conduit, install access manholes and backfill the manhole excavations. There is no additional operation and maintenance cost associated with this project and the project is expected to reduce long-term inspections and monitoring costs.

Proposed Solution

Specific tasks include:

- Collect design data, if required;
- Excavate dam toe;
- Install 6-inch diameter perforated high-density polyethylene pipe to slip-line the existing conduit;
- Install the manholes and access ways;
- Place and compact all fill in accordance with standard dam construction practices; and
- Reclaim and revegetate the dam face and all areas disturbed.

Resource and Citizen Benefits Analysis

Replacing the failing toe drain on the dam will maintain irrigation to the existing 5,400 acres that rely upon the reservoir. The proposed project would provide a permanent repair of the toe drain system that would ensure the continued availability of the resources and provide continued economic benefits to the users.

The dam provides habitat and recreational benefits associated with the reservoir, as well in the creek downstream.

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

Project History

Beaver Creek Reservoir is 10 miles south of Havre and is managed for flood control, irrigation and recreation. The dam and reservoir are located within Beaver Creek Park which is a major recreational center for north central Montana. The park is 17 miles long and one mile wide and features several campgrounds, hiking trails, and picnic areas. Beaver Creek, Beaver Creek Reservoir, and Bear Paw Lake are also popular destinations for anglers. Beaver Creek is a tributary of the Milk River. The reservoir provides flood control protection for the area and is a recreational destination.

A 2019 dam safety inspection recommended several action items related to reservoir management and safety. The reservoir is in need of an appropriate measurement device to measure the lake level, the inflow from Beaver Creek, and the irrigation outflow to inform with great precision the management of reservoir levels for irrigation, recreation, and flood control while protecting aquatic and riparian habitat and wetlands within the Beaver Creek watershed. Additionally, the measurement device is needed so the dam-tender can provide important data to DNRC on the water level and seepage pressure within the dam. Lake level management to measure the pressure and seepage of the reservoir are critical to downstream safety and natural resource protection.

Proposed Solution

Specific tasks include:

- Repair piezometer curb stop valves;
- Install an electronic reservoir level measurement device;
- Install an electronic irrigation outflow measurement device; and
- Inspect and repair 10-inch air vent at irrigation outlet.

Resource and Citizen Benefits Analysis

The natural resource benefits of this project are management and preservation of surface water and habitat. Beaver Creek Reservoir water levels will be managed with the installation of new measuring devices. The regulation of water from the reservoir will help preserve water quality and wetland/habitat on Beaver Creek.

Public health and safety benefits will result from the management and control of reservoir levels. The dam is classified as high hazard by DNRC dam safety program causing a threat to human safety upon failure and requires mitigation. The citizen benefit is regional.

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. 35

Applicant Name	East Helena, City of	
Project Name	Wastewater System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	<u>\$2,502,400</u>	SRF Loan
Total Project Cost	\$3,252,400	
Amount Recommended	\$ 125,000	

Project History

The City of East Helena an incorporated town in Lewis and Clark County serves 935 households. The wastewater system was originally constructed in the 1930s with several expansions and improvements to accommodate growth and discharge requirements. The collection system consists of clay tile and polyvinyl chloride pipe and four lift stations. Wastewater treatment consists of an extended aeration activated sludge process with ultraviolet light disinfection and filtration for metals removal, with operational challenges primarily related to the influent pumps and headworks facility. The collection system experiences excessive wastewater flow from infiltration and inflow (I&I), and a lift station is in a relatively busy intersection, creating unsafe work conditions for employees when maintenance is required. The applicant intends to reduce the amount of I&I, proceed with relocation of a lift station, and address operations and maintenance issues related to the inlet screen, grit removal equipment, and influent pumps.

Proposed Solution

Specific tasks include:

- Rehabilitate portions of the collection system contributing I&I using cured-in-place pipe;
- Install a new mechanical bar screen and related equipment;
- Install a vortex grit removal system;
- Rehabilitate the influent screw pumps;
- Purchase land for relocation of the Montana Avenue Lift Station; and
- Complete surface restoration activities.

Resource and Citizen Benefits Analysis

Rehabilitated sewer mains would preserve groundwater and Prickly Pear Creek surface water quality by reducing leaking sewage and reducing nutrients and other contamination in the wastewater treatment plant effluent. The project would conserve energy by reducing the amount of I&I pumped during high groundwater and stormwater runoff. New and repaired sewer mains would protect public health and safety by reducing the potential for drinking water contamination and sewer backups.

Relocating the lift station would provide public safety benefits.

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. 36

Applicant Name	Bitter Root Irrigation District	
Project Name	Water Efficiency, Modernization and Planning Study	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 6,250	Applicant
Total Project Cost	\$ 131,250	
Amount Recommended	\$ 125,000	

Project History

The Bitter Root Irrigation District (ID) manages 16,665 irrigated acres and serves approximately 1,500 water users through the 72-mile long Big Ditch irrigation system, which was constructed over 100 years ago. The system faces issues with urbanization, inefficient wasteways, operational safety, aging infrastructure, and lack of modernization. On average, the district is short 4.5 days from the target end of season delivery date. The goal of the proposed project is to identify opportunities to conserve and more efficiently manage surface water to improve delivery to irrigated lands.

The study will recommend and prioritize flow monitoring and management strategies, infrastructure improvement projects with conceptual designs and estimated costs, and approaches for addressing delivery and urbanization issues; all of which will help to meet the stated project goal.

Proposed Solution

Specific tasks include:

- Interview water users and managers, and inventory existing information;
- Develop a Survey Work Plan and Quality Control Plan, then complete a control survey, topographic survey, and structure surveys of the irrigation system;
- Create topographic maps and plan and profile sheets from the survey data;
- Prepare infrastructure assessment protocols;
- Use assessment records and survey data to develop recommendations;
- Prioritize recommendations; and
- Compile the inventory and recommendations into a long-term implementation plan.

Resource and Citizen Benefits Analysis

This study will design a water efficiency use, modernization and planning guide for the Bitter Root ID. This design study will identify the most effective means of conserving, managing, and preserving water resources and the irrigation infrastructure. The Study will result in increased surface water use efficiency and conservation by investigating the development and impact of capital improvements throughout the 72-mile Big Ditch Canal and on 16,665 arable acres within the district boundary.

The crops produced by and on the lands within Bitter Root ID have a significant impact on the local economy.

Funding Recommendation

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

Project No. 37

Applicant Name	Beaverhead Conservation District	
Project Name	Irrigation Efficiency and Water Measurement	
Amount Requested	\$ 125,000	
Other Funding Source	<u>\$ 106,232</u>	Applicant
Total Project Cost	\$ 231,232	
Amount Recommended	\$ 125,000	

Project History

The Water Users Irrigation Company (WUIC) owns and operates an irrigation system along the Red Rock River near the towns of Lima and Dell in Beaverhead County. The WUIC irrigation system includes approximately 52 miles of ditches that divert water from 42 separate diversions along the Red Rock River. In 2015, Natural Resources Conservation Service staff inventoried WUIC distribution system and determined that the system does not have adequate flow measurement devices to efficiently manage flows within the highly regulated basin. The current standard practice is to discharge additional water to cover the demands of the water users. During times of peak irrigation demand, the WUIC diverts its full water right (when available) to satisfy the irrigation demands of its users. During this time, there is very little wasted water. However, during periods outside of peak demand which encompasses the entire irrigation season except for 2-3 weeks in duration, the water use can be inefficient. The water measurement system would make it easy for WUIC personnel to obtain flow readings, record the data, and over time, provide a record of flows diverted from the Red Rock River.

Proposed Solution

Specific task includes:

- Install 37 cutthroat flumes.

Resource and Citizen Benefits Analysis

The proposed project benefits surface water conservation within the WUIC system, Red Rock River, and Lima Reservoir by maximizing irrigation efficiency for the WUIC users. Additional benefits of the project will conserve energy through the increased effectiveness of the delivery system.

The local agricultural community will benefit by having an efficient delivery system with a potential increase in crop production or an increase in irrigated acres.

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	Stillwater Conservation District		
Project Name	Mendenhall Ditch Intake and Drop Structure Rehabilitation		
Amount Requested	\$ 125,000		
Other Funding Source	\$ 12,968	Private	
Total Project Cost	\$ 137,968		
Amount Recommended	\$ 125,000		

Project History

The Mendenhall Ditch Company was constructed by local homesteaders in 1892 and presently serves 13 water users and approximately 900 acres of irrigable land near Absarokee. The existing headgate control structure is outdated and must be manually operated. Additionally, the measurement flume is downstream of the headgate, which results in a labor-intensive practice of measuring and adjusting flow in the canal. The headgate, flume, conveyance system, and drop structures are all aging, which is creating scour and erosion issues around the infrastructure and creating water loss due to leakage. Periodic maintenance has been performed on the system, yet the current condition of the system now warrants a more complete upgrade to improve efficiency and management.

The project aims to replace three deteriorating drop structures, add a fourth drop structure, and relocate flume in order to reduce erosion, sediment loading, and improve water delivery efficiency.

Proposed Solution

Specific tasks include:

- Replace existing intake structure with manually operated gates; and
- Replace existing drop structures with new corrugated steel pipe.

Resource and Citizen Benefits Analysis

The Mendenhall Ditch Company diverts water from the Stillwater River for irrigation. There will be two benefits to two resources. The project will develop and preserve the Stillwater River (12.1 miles) and Rosebud Creek (0.9 miles). It will also decrease erosion and consequent sediment loading in two blue-ribbon trout streams, Stillwater River and Rosebud Creek.

This project will provide an additional \$18,396 annually in crop revenue due to an additional 60 acres receiving full-service rather than partial service irrigation.

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	Montana Department of Natural Resources and Conservation Water Resources Division	
Project Name	Deadman’s Supply Canal Rehabilitation, Phase 2	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 35,051	Applicant In-kind
Total Project Cost	\$ 160,051	
Amount Recommended	\$ 125,000	

Project History

The Deadman’s Basin State Water Project supports approximately 21,000 acres of irrigated agriculture in Wheatland, Golden Valley, Musselshell, and Rosebud Counties. Currently the capacity of the Deadman’s Supply Canal is limited to approximately 350-cubic feet per second (cfs) due to excessively shallow grades and insufficient canal prism area. The water right associated with the canal allows for a maximum diversion rate of 600-cfs.

The goal of the project is to regain the ability to capture 76,820 acre-feet of high spring flows from the Musselshell River so that it can be stored in Deadman’s Basin Reservoir and released later in the season. During Phase 1 of the project, DNRC completed rehabilitation of a 4,200 linear feet section of the canal immediately up-canal from the Phase 2 project area. To remedy the problem, engineers determined the canal bottom needs to be excavated to a width of 21 feet and the grade of the canal needs to be deepened between 0 and 1.5 feet.

Proposed Solution

Specific tasks include:

- Widen and grade 5,457 linear feet of canal.

Resource and Citizen Benefits Analysis

The project will result in surface water conservation and management. The ability to store water at capacity of the water right will enable the DNRC and Delphia Melstone Water Users Association (DMWUA) to release stored water in a timely and effective manner that will preserve aquatic and wildlife habitat, surface water quality and arable acres. Additionally, late season stored water will allow for increased crop production.

The project has significant local and regional economic 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 grand funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 40

Applicant Name Lower Yellowstone Irrigation Project
Project Name Lateral V Check Structure and Lateral W Headgate Rehabilitation

Amount Requested \$ 125,000
Other Funding Source \$ 39,080 Applicant
Total Project Cost \$ 164,080

Amount Recommended \$ 125,000

Project History

The Lower Yellowstone Irrigation Project (LYIP) Lateral V Check Structure and Lateral W Headgate Rehabilitation Project includes the replacement of two (2) concrete irrigation structures and the installation of new automated gates. The proposed projects are within the Lower Yellowstone Irrigation District (ID) #1, which is managed by the LYIP, in Richland County. The LYIP has identified the Lateral V Check Structure and Lateral W Headgate as critical water distribution infrastructure that needs rehabilitation due to water management concerns, safety hazards, leakage, and deteriorating structures. Currently, the structures cannot efficiently convey water to the users because the deterioration of each structure, use of manually operated wooden check boards at the check structure, and the dilapidated headgate structure.

Proposed Solution

Specific tasks include:

- Construct new headgate;
- Install new automated gate controls; and
- Install new check structure.

Resource and Citizen Benefits Analysis

The installation of new structures and automated gate controls at the Lateral V Check and Lateral W headgate will reduce the water wasted due to lag times from traveling to the sites and improve water management and delivery to irrigated land. LYIP estimates that this project will increase crop yields by 10% on 1,700 acres directly impacted. The project will also reduce erosion from the canal and subsequent deposition of sediment into the Missouri River. The proposed improvements could conserve approximately 437.2 million gallons of water diverted from the Yellowstone River per year.

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	Montana Department of Natural Resources and Conservation Water Resources Division	
Project Name	Two Dot Canal Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 10,000	UMWUA
	<u>\$ 35,047</u>	Applicant and UMWUA In-Kind
Total Project Cost	\$ 170,047	
Amount Recommended	\$ 125,000	

Project History

The 32-mile long Two Dot Canal System supplies irrigation water to farms and ranches surrounding the communities of Two Dot and Harlowton. The Upper Musselshell Project is owned and managed by the DNRC State Water Projects Bureau and is maintained and operated by the Upper Musselshell Water Users Association (UMWUA). The project was built in 1939 and consists of two storage reservoirs (Blair and Martinsdale) two supply canals, one outlet canal, and two distribution canals. Water from the project is primarily used for agriculture irrigation, water-based recreation, and the regulation of stream flows.

The existing Mexican John Creek Section of the system experiences significant seepage losses due to permeable soils in the area. The primary purpose of the proposed project is to mitigate seepage losses, therefore improving irrigation delivery efficiency, water conservation, management of the system and agricultural production. The project involves rehabilitating a segment of canal that seeps irrigation water.

Proposed Solution

Specific tasks include:

- Regrade segments of the canal to prepare for liner;
- Install a quarter mile of canal liner;
- Install 8-inch thick gravel ballast on liner; and
- Restore site.

Resource and Citizen Benefits Analysis

The project's resource benefits include management and development of water in the Two Dot canal and preservation of soil. Preventing seepage would allow for more instream flows that can be managed to provide more water for irrigators downstream. This project would also decrease erosion and sediment deposits to the Musselshell River.

The citizen economic benefit is an increase to local crop production.

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	Circle, Town of		
Project Name	Water System Improvements, Phase 3		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 750,000	TSEP	
	\$ 450,000	CDBG	
	\$ 89,100	SRF Loan Forgiveness	
	<u>\$ 89,100</u>	SRF Loan	
Total Project Cost	<u>\$1,503,200</u>		
Amount Recommended	\$ 125,000		

Project History

The Town of Circle's is in McCone County with a population of 613. The water distribution system was installed in the 1930s and '40s and was comprised of asbestos cement and cast-iron main. The pipes are undersized, deteriorated, and fragile, causing excessive leaks and inadequate fire flow. The system has water loss of 29% (10.9 million gallons) of produced water annually. Fire flows are not met in 72% of town. Some water services are copper with lead soldering, exposing residents to lead. Insufficient pressures are observed in high areas of town. The town has insufficient storage capacity to meet fire flow at the school.

Proposed Solution

Specific tasks include:

- Replace 3,300 linear feet of water main;
- Install eight (8) new hydrants;
- Install 11 new valves; and
- Replace water services.

Resource and Citizen Benefits Analysis

The proposed project will result in preservation of groundwater and conservation of groundwater and energy. Replacing leaking water mains preserves groundwater quality by preventing chlorinated water from entering the groundwater. Water and energy are conserved by decreases leakage and the amount of water being pumped.

Localized improvements to the drinking water system will protect the public health and safety of the residents by adds fire hydrants, increases pressure for fire flows and efficiently distributing reliable drinking water free of contaminants. 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. 43

Applicant Name	Roundup, City of		
Project Name	Water Main Improvements, Phase 6		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 750,000	TSEP	
	\$ 450,000	CDBG	
	<u>\$ 445,000</u>	Applicant – Cash Reserves	
Total Project Cost	<u>\$1,770,000</u>		
Amount Recommended	\$ 125,000		

Project History

The City of Roundup’s original distribution system was installed in 1908 and despite significant pipeline replacement over the years, almost 11,440 feet of the original cast iron pipe remains in use. The water system Preliminary Engineering Report documented this and numerous deficiencies in the city’s water system, including: the old cast iron pipe has 0.36 leaks per mile of main, well above the National American Water Works Association standard of 0.15; losses of up to 22% (21 million gallons) of pumped water annually from leaking mains; inadequate fire flow within the existing distribution system; 15 inoperable valves and inadequately spaced valves (71 needed) on the original distribution system; inoperable and inadequately spaced fire hydrants resulting in loss of property during fire events; iron concentration 68 times as high as the secondary maximum contaminant level from the source and 11,000 times as high during hydrant flushing; lead leaching from services lines due to tuberculation in cast iron water mains found in four of 10 homes tested; and a 1-inch layer of rust inside the cast iron mains which reduces the capacity of mains, increases pumping costs, and reduces fire flow.

The preferred alternative is to replace all cast iron water mains, plus replace three blocks of 4-inch thin walled polyvinyl chloride (PVC) water main with a minimum diameter 8-inch PVC. Because of the size of the project, water main replacement has been phased due to funding limitations.

Proposed Solution

Specific tasks include:

- Replace up to 6,000 feet of main;
- Install 10 new fire hydrants;
- Install 37 new gate valves; and
- Update services from the main to the curb stop.

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 11,440 feet of deteriorated water mains, it is estimated that Roundup will reduce water loss by 22% per year and save the city an estimated \$20,000 per year 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 both 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. 44

Applicant Name	Clinton Irrigation District	
Project Name	Schoolhouse Lateral Pipeline Conversion	
Amount Requested	\$ 125,000	
Other Funding Source	\$ <u>9,194</u>	Applicant
Total Project Cost	\$ 134,194	
Amount Recommended	\$ 125,000	

Project History

The Clinton Irrigation District (ID) is in western Montana approximately 20 miles east of Missoula near the community of Clinton and provides irrigation water to approximately 812 acres. The canal system begins at a point of diversion from the Clark Fork River approximately ½-mile west of the confluence of Rock Creek and the Clark Fork River. The canal system runs approximately 6.5 miles northwest generally following Interstate 90.

The Schoolhouse Lateral is a primary lateral within the Clinton ID experiencing significant water losses due to seepage and evapotranspiration. The lateral runs through Clinton, a 20-lot trailer park, and through the Clinton Elementary School property. This open water canal creates hazards for the lot owners as well as school children. Downstream users of the lateral are not currently receiving any water for irrigation of their croplands.

Proposed Solution:

Specific tasks include:

- Complete final design of the pipeline conversion; and
- Install 1,900 feet of 18-inch plastic irrigation pipe.

Resource and Citizen Benefits Analysis

The proposed project would conserve approximately surface water, preserve aquatic habitat and recreational opportunities.

The economic benefits will result due to increased crop production. The conversion from canal to pipe will increase public safety of the community of Clinton and the elementary school.

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	Ten Mile Creek Estates/Pleasant Valley Water and Sewer District
Project Name	Wastewater System Improvements
Amount Requested	\$ 125,000
Total Project Cost	\$ 125,000
Amount Recommended	\$ 125,000

Project History

The Ten Mile Creek Estates/Pleasant Valley Subdivision in Lewis and Clark County were both constructed in the early 1970s. The sewer system for both subdivisions was constructed, managed, and operated privately by the developer. Through court proceedings the sewer system was transferred to the district homeowners in 2007. The district serves 310 households with a population of approximately 744 people. The district experiences both infiltration and inflow (I&I) regularly. Infiltration has been identified to be occurring from the district's manholes. The leaking manholes are 25 feet east of Ten Mile Creek. An average I&I of five gallons per minute (gpm)/manhole is estimated to contribute to I&I at approximately 65,000-gpm for the nine highest manholes.

Proposed Solution

Specific task includes:

- Replace nine (9) manholes in Ten Mile Creek Estates.

Resource and Citizen Benefits Analysis

The project will preserve the shallow groundwater aquifer and the surface water of Ten Mile Creek. During low groundwater levels effluent leaks out of the manholes into the groundwater and eventually down-gradient into the nearby Creek. Energy will be conserved by the reduction of additional water inflow treated during high groundwater levels.

The project will benefit the public's health and safety with the elimination of leaking effluent into the groundwater from manholes that are close to the creek and reduce the risk of the lagoons overflowing into the creek.

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	Carbon County Conservation District	
Project Name	Mutual Ditch Siphon Replacement	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 12,000	Applicant
	\$ 43,560	WaterSMART Grant
Total Project Cost	\$ 180,795	
Amount Recommended	\$ 125,000	

Project History

The Mutual Ditch Siphon is a critical component in the irrigation supply provided by the Mutual Ditch Company (MDC) near Silver Tip Creek in Carbon County. Approximately 4,000 acres of prime farmland are irrigated by the MDC and the initial capacity of the system is approximately 160-cubic feet per second (cfs). The Mutual Ditch Siphon is a square concrete structure built in the early 1900's. In addition, large cottonwood trees along Silver Tip Creek lie above the siphon further increasing the strain on the structure and make it susceptible to increased seepage and water losses. The MDC have identified the over a century old siphon as key infrastructure that needs replacement for the continued reliability of irrigating the surrounding area, conserving water, improving water management, and preserving water quality. Inspection of the siphon found a deteriorated concrete structure that is nearing the end of its useful life. Installation of the proposed improvements will eliminate leakage losses and conveyance limitations currently experienced at the structure.

Proposed Solution

Specific tasks include:

- Remove existing concrete siphon, and
- Install a new 60-inch diameter steel reinforced polyethylene pipe.

Resource and Citizen Benefits Analysis

Replacing the existing siphon will reduce leakage and will maintain irrigation to existing lands served by the MDC as well as allowing for improved yields. The deterioration of the existing structure resulted in a choke point on the delivery system and the new siphon and alignment will allow for increased flows within the canal (within the rate claimed on the company's water right). The project will reduce erosion from the canal and subsequent deposition of sediment in Silver Tip Creek and the Clarks Fork Yellowstone River.

The project has the potential to increase revenue generation within the area and have a present value of approximately \$7,387,649 over the 50-year design life of the project.

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. 47

Applicant Name	Ekalaka, Town of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	\$ 373,500	RD Grant
	<u>\$ 373,500</u>	RD Loan
Total Project Cost	\$1,372,000	
Amount Recommended	\$ 125,000	

Project History

The Town of Ekalaka is in Carter County and has a population of 297 people. The applicant operates a water system originally constructed in the 1930s. The system has experienced several improvements since 1986 and currently consists of six (6) wells, two (2) storage tanks, and a water distribution network. The age of the system is contributing to an excessive number of leaks, specifically on cast iron water main, causing increased maintenance activities and costs. Other challenges include undersized water mains and the inability to meet required fire flow to larger buildings, such as the high school, hospital, and courthouse. The applicant intends to reduce the number of leaks in the system and replace aging pipe in the distribution system. The issue of insufficient fire flow to the large buildings will be addressed in a subsequent phase.

Proposed Solution

Specific tasks include:

- Construct 3,110 linear feet of 8-inch polyvinyl chloride (PVC) pipe to replace undersized and aging cast iron pipe and improve looping in the distribution system;
- Construct 2,030 linear feet of 8-inch PVC pipe to replace undersized and aging cast iron water main; and
- Complete surface restoration activities.

Resource and Citizen Benefits Analysis

The projects resource benefits are conservation and preservation of groundwater and conservation of energy. The decreased pressure makes the system susceptible to biofilm and backflow.

The increased pressure will provide adequate fire flow and prevent contamination from backflow. 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. 48

Applicant Name	Glen Lake Irrigation District	
Project Name	Rolling Hills Canal Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 18,020	Applicant
Total Project Cost	\$ 143,020	
Amount Recommended	\$ 125,000	

Project History

The Glen Lake Irrigation District (ID) is in the Tobacco Valley approximately seven miles south of the Canadian border. The irrigation system originates in a mountainous region with a diversion from Grave Creek, approximately 8.7 miles southeast of Eureka, and runs generally northwest, ending in the valley bottom approximately three miles northwest of Eureka. The Glen Lake ID's primary water delivery infrastructure is the Main Canal. The Glen Lake ID was formed in 1910 and currently provides irrigation and stock water to 334 farmers, ranchers, and households. The Main Canal of the Glen Lake ID's irrigation system is the only canal that transports water to all turnouts and six laterals. The canal delivers water to 3,345 acres of crops, of which 3,323 acres (99%) are downstream of the proposed project area.

The primary project goal is to mitigate the excessive canal seepage by installing an impermeable liner system. This will conserve water and energy, improve the management of the Glen Lake ID water delivery system, develop additional pastureland, increase production on existing irrigated acres, and preserve riparian habitat in Costich Lake. This proposed project is for the second phase of ditch lining.

Proposed Solution

Specific tasks include:

- Strip all organic material from within the canal and reshape the canal geometry to the desired dimensions;
- Install 2,500 linear feet of geomembrane liner; and
- Place gravel ballast on the liner at bottom of canal.

Resource and Citizen Benefits Analysis

The reshaping and grading of the existing canal to a consistent cross-sectional geometry and gradient, removal of vegetation, and installation of liner will significantly reduce the amount of diverted water waste through seepage in the main canal.

The project will enable the district to provide reliable water that will increase crop production, allow for the development of 20 acres of arable land, conserve energy with reduced pumping, and preservation of water quality and aquatic and wildlife habitat. The project has local economic and recreational benefits.

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. 49

Applicant Name Buffalo Rapids Irrigation Project District 1
Project Name BRIPD1 Irrigation System Automation

Amount Requested \$ 125,000
Other Funding Source \$ 245,704 Applicant In-kind
Total Project Cost \$ 370,704

Amount Recommended \$ 125,000

Project History

The Buffalo Rapids Irrigation Project District 1 (BRIPD1) lies in southeastern Montana spanning from Miles City to Glendive, covering nearly 64 miles. BRIPD1 supplies nearly 23,000 acres with irrigation water from two districts. District 1 is between Glendive and Fallon along the north side of the Yellowstone River, where the project is located. The water delivery system for District 1 consists of a 34-mile Main Canal, 24 laterals, and 26 drains. The project is considered a flow monitoring and water management project to conserve, control and manage the water diverted from the Yellowstone River and optimize beneficial use and delivery to users within the district.

Inefficiencies within sections of canals and laterals as well as limited quantifiable information about usage of water has made it difficult to conserve and monitor water usage and losses throughout the system. By automating the spillway, the BRIPD1 would reduce seepage losses, improve delivery efficiency, improve water management, reduce operation and maintenance, and conserve water.

Proposed Solution

Specific tasks include:

- Obtain permits;
- Install dynamic flowmeter/mobile automatic read installation; and
- Install any system retrofits needed for construction.

Resource and Citizen Benefits Analysis

Implementation of the proposed improvements will result in conservation of water, improvement of water management, preservation of surface water quality in the Yellowstone River, increased on-farm irrigation efficiency and crop production, and be a benefit to the local and state economies.

This project will lead to a more efficient use of irrigation water through the addition of automation devices for level control and flow monitoring throughout the district. Flow measurement will increase water resource management by providing the district with real-time flow information to better manage inefficiencies in the system which will lead to optimization of crop production. 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 \$7,470,638 over the 20-year design life of the 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. 50

Applicant Name	Flaxville, Town of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 450,000	CDBG
	\$ 1,000	Applicant
	\$ 484,700	SRF Loan
	\$ 484,700	SRF Loan Forgiveness
	<u>\$ 500,000</u>	TSEP
Total Project Cost	\$2,045,400	
Amount Recommended	\$ 125,000	

Project History:

The Town of Flaxville is an agricultural community in Daniels County, in northeast Montana. The town is home to approximately 100 residents and has a total of 61 water hookups. In the past, the town has struggled with issues related to their water quality and distribution system and has steadily worked to conserve the current system. Flaxville has an antiquated water system with components that date to the original installation in 1957. The current water system consists of five (5) wells, a treatment facility, distribution system, elevated storage reservoir, and water meters, all of which are in need of repairs. There are two aquifers that the town relies on; the shallow aquifer that serves as the main source and is high in nitrates, while the deeper aquifer is high in iron and manganese, giving the water a brown color.

The water sources for the town have had chronic nitrate issues, and the current water treatment system has a limited life expectancy. The system is expected to be connected to the Dry Prairie Rural Water system in 2020, which would be completed prior to construction of the proposed water improvement project; however, the delivery system needs updated to correctly utilize and manage the new water connection.

Proposed Solution:

- Replace distribution system with 8,600 linear feet of new 8-inch polyvinyl chloride water mains;
- Replace 34 gate valves and install 11 additional hydrants;
- Install a backup power source at the existing water tower;
- Recoat and conduct general repairs and safety upgrades to the existing storage tank; and
- Replace all meters within the system with a new meter reading system.

Resource and Citizen Benefits Analysis

The project would help conserve groundwater and preserve energy by improving the metering system and reducing water loss through leakage.

The public health and safety benefits include water storage and pressure for fire flows, back-up power for outages that delay water delivery or lead to freezing conditions in the storage tank, and remove nitrates and health concerns from the drinking water source. The residents will see economic benefits as their monthly water bills will be more aligned with community income rates.

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 North Valley Water and Sewer District
Project Name Water System Improvements, Phase 1

Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	\$ 450,000	CDBG
	\$ 150,000	SRF Loan Forgiveness
	<u>\$ 150,000</u>	SRF Loan
Total Project Cost	<u>\$1,500,000</u>	
Amount Recommended	\$ 125,000	

Project History

North Valley Water and Sewer District is in Valley County and serves 598 residents of St. Marie. St. Marie's original distribution system was installed in the late 1950's, and almost 38,606 feet of the original asbestos cement (AC) water main remains in use. The district experiences an average annual water loss of 43% (10.1 million gallons) of the water purchased from Dry Prairie Rural Water (DPRW), inoperable fire hydrants and meters, and residents can be exposed to pathogens from low pressure events when water breaks occur. The district also faces the lack of a mixer in the existing water tank which allows tank freezing issues and increases the residence time of the chloramines in the water causing the residual to decrease.

Proposed Solution

Specific tasks include:

- Install a new solar-powered mixer on the existing tank;
- Install new heads on the existing meters;
- Replace 3,800 linear feet of AC main with polyvinyl chloride (PVC) main;
- Install three (3) new sampling stations to monitor chloramine concentrations; and
- Abandon and plug 17,902 linear feet of dormant water main.

Resource and Citizen Benefits Analysis

Replacement of the watermain will have a regional effect for the DPRW system, conserving water and energy by producing and pumping less water needed for the system. Replacing the heads on the existing water meters allows the district to better manage its system.

The water main replacement will remove AC pipe from the distribution system providing reliable healthy clean water for the district.

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. 52

Applicant Name	Buffalo Rapids Irrigation Project District 2	
Project Name	BRIPD2 Lateral 1.6 Pipeline Conversion, Phase 2	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 19,297	Applicant In-kind
Total Project Cost	\$ 144,297	
Amount Recommended	\$ 125,000	

Project History

The Buffalo Rapids Irrigation District 2 (BRIPD2) recently worked with the Natural Resource and Conservation Service (NRCS) on an overall system assessment of the BRIPD2 system. The assessment provided an analysis of all irrigation infrastructure throughout District 2 and measured water delivery efficiency and seepage losses. The assessment produced a ranking of all laterals based on the collected information and Lateral 1.6 was recommended for repair or rehabilitation. Over the last 25 years, the BRIPD2 has worked with the NRCS, DNRC, and U.S. Bureau of Reclamation (USBR) to replace over 80% of the open lateral delivery system with closed pipeline networks to conserve water and improve management. The proposed project would consist of converting 5,000 feet of Lateral 1.6 to a closed pipeline system. Lateral 1.6 provides irrigation water to approximately 530 acres of agricultural land. The existing lateral is overgrown with vegetation, experiences severe seepage and conveyance losses, has salinity issues, and results in difficult management of the system.

The proposed conversion project will replace 5,000 feet of open lateral with a closed pipeline system, therefore eliminating seepage losses, improving water resource management, improving water quality in the Yellowstone River, repair saline seep damaged soil, and conserve energy. Rehabilitation of Lateral 1.6 will help to conserve water, reduce annual maintenance, increase on-farm efficiency and crop production, improve water management, and preserve water quality.

Proposed Solution

Specific tasks include:

- Replace open lateral with closed pipe; and
- Install 5,005 feet of 18-inch irrigation pipe.

Resource and Citizen Benefits Analysis

The conversion of this canal segment to pipeline will reduce water loss due to seepage and evaporation. BRIPD2 estimates that this project will reduce losses by 1.28 cubic feet per second and result in increased delivery efficiencies up to 90% on 530 acres. 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 benefit public well-being through increased agricultural revenues produced from increased irrigation efficiency. An economic analysis calculates this project to generate an additional \$5,534,030 over the 30-year design life of the 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. 53

Applicant Name Petroleum County Conservation District
Project Name Petrolia Dam Outlet Works Headgate Replacement

Amount Requested \$ 105,742
Other Funding Source \$ 7,250 Applicant
Total Project Cost \$ 112,992

Amount Recommended \$ 105,742

Project History

The Petrolia Dam is a crucial component in the Petrolia Irrigation District (ID). Petrolia Dam is on Flat Willow Creek in Petroleum County approximately seven miles east and six miles south of Winnett. Construction of the dam was originally completed in 1951 and was rehabilitated in 1995 and 1996. There are two gatehouses at the outlet of the dam along the eastern side of Petrolia Lake. The upper and lower gatehouses at the outlet of Petrolia Dam are critical components to the irrigation of approximately 4,863 acres within the Petrolia ID and specifically the sluice gates inside the gatehouses servicing both the high line and low line Canals. The high line canal has an initial capacity of 20-cubic feet per second (cfs) and the low line canal has an initial capacity of 90-cfs. The Petrolia ID is proposing a new headgate and lift system for the Low Line Canal.

Per recent dam safety inspection reports, the existing headgate for the low line canal was identified as severely corroded and in need of replacement. With corrosion and deterioration of the headgate and lifting mechanism the system experiences leakage. Installation of the proposed improvements will eliminate leakage and water losses, improve water resource management, preserve the wildlife and fishery habitat through consistent water level management within the lake, and a benefit to the local and state economies.

Proposed Solution

Specific tasks include:

- Complete final design of the outlet works; and
- Install new headgate with manual lift.

Resource and Citizen Benefits Analysis

The current condition of the Petrolia Dam outlet headgate results in the loss of 0.11-cfs up to 46.9 acre-feet of water. The design and replacement of the outlet headgate and canal lift system will have several renewable resource benefits. The new headgate will increase surface water management, preserve fish and wildlife habitat, surface water quality and 4,863 acres of arable land.

The project will have local economic 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 grand funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 54

Applicant Name Harlowton, City of
Project Name Water System Improvements, Phase 5

Amount Requested	\$ 125,000	
Other Funding Sources	\$ 450,000	CDBG
	\$ 625,000	TSEP
	\$ 357,000	SRF Loan
	<u>\$ 357,000</u>	SRF Loan Forgiveness
Total Project Cost	\$1,914,000	
Amount Recommended	\$ 125,000	

Project History

The City of Harlowton’s water distribution system is primarily comprised of aged iron water lines. Aggressive soil conditions have pitted and deteriorated pipes which were not replaced in prior phases. With the addition of a new water storage tank several replacement phases ago, increased system pressures have exacerbated the thinned pipe and increased both the severity of common system leakage as well as major line breaks. Unaccounted for water exceeds 50% over the last three years. Main breakage results in an imminent public health and safety problem when low or zero static pressures allow for the inflow, backflow, and infiltration of potential contaminants, such as petroleum hydrocarbons derived from the Mager leaking underground storage tank (LUST) Trust Fund Site.

Proposed Solution

Specific tasks include:

- Replace 7,200 linear feet of cast iron and asbestos cement pipe with 6-inch polyvinyl chloride main;
- Replace 700 linear feet of pipe with 6-inch ductile iron pipe; and
- Replace 12 fire hydrants.

Resource and Citizen Benefits Analysis

This project will conserve water resources and energy used for water treatment. The city would save additional energy with the proposed connection to the Central Montana Regional Water Authority.

The project will improve public health and safety with better pressure and flows for fire hydrants and eliminate possible contamination from pipe breaks in the Mager LUST site 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.

Project No. 55

Applicant Name	Alfalfa Valley Irrigation District	
Project Name	East Flynn Canal Rehabilitation, Phase 2	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 37,050	Applicant
Total Project Cost	\$ 162,050	
Amount Recommended	\$ 125,000	

Project History

The East Flynn Canal is one component in the Alfalfa Valley Irrigation District (ID) near Battle Creek in Blaine County. The East Flynn Canal is approximately four miles east of Chinook to the south of Battle Creek. The canal provides irrigation water to approximately 340 acres of farmland. Currently, the project area exhibits severe seepage and conveyance losses due to the poor condition of the canal and the makeup of the soils it was built on. The proposed improvements will benefit Alfalfa Valley ID by conserving water, improving the management of the area’s water resources, delivering water more efficiently, increasing crop production, and improving water quality in the Milk River. This proposed project is for the second phase of canal rehabilitation.

Proposed Solution

Specific tasks include:

- Strip canal side slopes of organic matter and topsoil;
- Grade and shape canal in preparation for liner;
- Install 1,760 linear feet of geomembrane liner;
- Place gravel ballast on the liner at bottom of canal; and
- Install water flow measurement devices at each turnout.

Resource and Citizen Benefits Analysis

The lining of this canal segment will reduce seepage and improve water delivery to irrigated land. Alfalfa Valley ID estimates that this project will reduce losses by 0.38 cubic feet per second (114 acre-feet per year) and result in increased alfalfa yields of 0.5 ton/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 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. 56

Applicant Name	Malta Irrigation District	
Project Name	Main Canal Lining–Wagner Ranch	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 37,000	Applicant
Total Project Cost	\$ 162,000	
Amount Recommended	\$ 125,000	

Project History

The Malta Irrigation District (ID) is in northeastern Montana supplying water to approximately 44,600 acres of irrigable acres within the Milk River Project. The Wagner Reach of the Malta ID system is along the southern side of the Milk River approximately six miles west of Malta.

Over the last 20 years Malta ID has worked to rehabilitate open lateral delivery systems to conserve water and improve water management. Malta ID has prioritized the rehabilitation of the 1,460-foot-long section of the Wagner Reach Canal which provides irrigation for 951 acres. Inspection of the system found the canal in poor condition. The existing canal is experiencing substantial seepage loss, conveyance losses, erosion with vegetative overgrowth and poor water management. The seepage losses cause the system to lose up to 1.04-cubic feet per second (cfs) (101 million gallons annually).

Proposed Solution

Specific tasks include:

- Grade canal;
- Install a quarter-mile (1,460 feet) of canal liner using a geo-composite liner;
- Install 6-inch thick gravel ballast on liner; and
- Restore site.

Resource and Citizen Benefits Analysis

MID estimates that this project will reduce losses by 1.04-cfs (310 acre-feet per year) and result in increased yields of 0.4 tons per acre for alfalfa, 15 bushels per acre for corn, and nine bushels per acre for small grains on 951 acres. Milk River surface water will be preserved by reducing canal erosion. This project involves reducing seepage in a section of the Wagner Reach Canal for the purpose of water conservation.

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. 57

Applicant Name	Glasgow Irrigation District	
Project Name	Spaniard Check Structure	
Amount Requested	\$ 125,000	
Other Funding Resource	\$ 9,460	Applicant
Total Project Cost	\$ 134,460	
Amount Recommended	\$ 125,000	

Project History

The Spaniard Check is about three miles west of Glasgow at the approximate midpoint of the 46-mile long main canal. The existing structure is deteriorated due to age resulting in water loss and management challenges. The replacement check structure will address surface water management and arable land management while also providing safety upgrades. The structure's condition compromises worker safety and causes excessive leaking. Water losses and an unsafe environment have caused major irrigation inefficiencies, decreased crop production, and increased operation and maintenance costs.

Proposed Solution

Specific tasks include:

- Replace the check structure;
- Install new stainless-steel slide gates;
- Install new checkboard weir; and
- Install new grated walkway with railings.

Resource and Citizen Benefits Analysis

The replacement of the Spaniard check structure will reduce leakage through the check and improve water delivery to irrigated land. The project will also preserve surface water quality in the Milk River through a reduction in erosion from the canal.

Glasgow Irrigation District (ID) estimates that this project will result in at least a 35% increase in alfalfa yields on 150-acres immediately affected, as well as improving operations in the Glasgow ID system.

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	Lewistown, City of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 500,000	TSEP
	\$1,500,000	Local
	<u>\$2,735,909</u>	SRF Loan
Total Project Cost	<u>\$4,860,909</u>	
Amount Recommended	\$ 125,000	

Project History

The City of Lewistown is in Fergus County with a population of 5,883. Since 2010, water samples testing positive for total coliform bacteria have been collected throughout the city’s water distribution system. To address the water quality violations related to the positive coliform bacteria samples, the city entered into an Administrative Order on Consent with the DEQ. As part of the disinfection mandate set forth by DEQ, the city has a December 2022 deadline to implement a full-time disinfection system. The water system’s lower pump station houses a 20-inch actuated valve that is aged, leaking and in need of replacement. This valve is considered one of the most critical components of the water distribution system. The booster pump station that serves the Castle Ridge Acres Subdivision is undersized, aging and needs to be replaced. Some of the distribution system mains have exceeded their service life and are in need of replacement. The city’s current telemetry/supervisory control and data acquisition (SCADA) control system is dated and parts to repair the unit are becoming obsolete.

Proposed Solution

Specific tasks include:

- Provide disinfection of the public water system with the injection of chlorine at the source (Big Springs), and boosting of chlorine at the lower pump station and the Castle Ridge Acres booster station;
- Replace the 20-inch control valve at the lower pump station along with removing some old pumps and making some piping changes;
- Replace the Castle Ridge Acres booster pump station;
- Replace the SCADA system; and
- Replace approximately 1,600 linear feet of failing water mains.

Resource and Citizen Benefits Analysis

There will be two benefits to two resources. The project will conserve and manage energy in Big Springs Creek. Upgrading the city’s drinking water system by installing a new SCADA system will create a more efficient system and reduce energy consumption.

The public health and safety of residents will benefit by eliminating coliform bacteria in the distribution system. The project will protect public health and safety through the implementation of full-time disinfection of the water system. The other proposed system upgrades will improve the overall reliability of the water system.

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	Glen Lake Irrigation District	
Project Name	Infrastructure Modernization Study	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 12,000	Applicant – In-kind
Total Project Cost	\$ 137,000	
Amount Recommended	\$ 125,000	

Project History

Glen Lake Irrigation District (ID) delivers water to ranches through 26-miles of canals and laterals in Lincoln County near the Town of Eureka. Glen Lake ID has recognized for several years that its aging infrastructure is experiencing more frequent failures and higher maintenance costs, which can result in less water reliability for the ranches the district serves. Specific issues include seepage and water loss in the main canal, particularly along the Doxie Slough and the Rolling Hills Section; inefficient water delivery in laterals due to pipe sizing; poor condition of the Glen Lake Dam outlet headgate and left abutment, which limit storage capacity in Glen Lake; and energy usage and pumping cost from individual pumps.

The proposed feasibility study is a planning project that will analyze Glen Lake ID's existing water delivery infrastructure and evaluate one or more alternatives for modernizing that infrastructure. The study will develop a strategy to address problems and resource concerns.

Proposed Solution

Specific tasks include:

- Complete geographic information system mapping;
- Assess water loss;
- Perform light detection and ranging survey of topography;
- Model hydrology;
- Evaluate potential for energy conservation and generation;
- Develop System Improvement Plan; and
- Develop modernization strategy.

Resource and Citizen Benefits Analysis

The district currently loses 50% of its flow in the main canal due to seepage, keeping it from providing reliable water for irrigation to its members. The Plan will develop opportunities to conserve, manage and sustainably develop surface water in the irrigation system, Grave Creek, Therriault Creek and Glen Lake. With the increase in water conservation, the district will continue to develop arable acres within the district boundary. Additionally, the study will address the development and use of hydro-electric energy to reduce its dependency on fossil fuel created energy. The study will evaluate opportunities to improve the district ability to protect fish and fish habitat in Grave Creek which is the only bull trout spawning tributary to Lake Kooanusua in Montana.

The project will benefit local economy and recreational 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. The applicant must meet the following conditions prior to initiating a contract with the DNRC:

- All applicable lands and permits are required to be secured.
- All DNRC water rights requirements and approval secured for any proposed changes.

Project No. 60

Applicant Name	Big Timber, City of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	\$ 377,500	SRF Loan Forgiveness
	<u>\$ 377,500</u>	SRF Loan
Total Project Cost	\$1,505,000	
Amount Recommended	\$125,000	

Project History

The City of Big Timber is in Sweet Grass County nestled between the confluence of the Yellowstone and Boulder Rivers. The water distribution system was initially constructed using cast iron pipe and serves 1,517 citizens. The original portions of the distribution system were installed as early as the 1920's, prior to when the city's existing source was developed. Over the years, the city has been chipping away at water line replacements, upsizing to 8-inch polyvinyl chloride (PVC). However, there are still many 4-inch and 6-inch cast iron mains throughout the system that are 70-100 years old. Some of the existing smaller size cast iron mains have low available fire flow. The water mains are expected to be leaking and severely tuberculated, reducing the capacity of the water mains to convey water. This project aims to increase fire flow and reduce water loss from leaking water mains by replacing the aging existing water mains.

Proposed Solution

Specific tasks include:

- Install 3,920 linear feet of new 8-inch PVC distribution mains;
- Install eight (8) new fire hydrant assemblies;
- Bore and Jack 160 linear feet underneath the railroad track;
- Install 20 new gate valves; and
- Install 68 service reconnections.

Resource and Citizen Benefit Analysis

This project will result in conservation of surface water by reducing leakage of treated water. The water conservation allows a savings in energy consumption in pumping treated water.

The project will improve health and safety by enhancing flow for fire protection and assure water quality by eliminating the possibility of contamination and stagnant water.

Funding Requirements

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	Alberton, Town of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 750,000	TSEP
	\$ 150,000	Applicant – Town Reserves
	<u>\$ 876,480</u>	SRF Loan
Total Project Cost	\$1,901,480	
Amount Recommended	\$ 125,000	

Project History

Alberton is in northwest Montana in Mineral County and has two water sources: a spring and a well; one 300,000-gallon at-grade steel storage tank, an 8-inch diameter transmission main from the storage tank to town, and a distribution network of 3/4-inch to 6-inch mains. Much of the town’s water distribution system is undersized and combined with a lack of watermain looping results in the system being incapable of delivering adequate domestic demand and minimum required fire flows to the community. Portions of the distribution system are subject to high static pressures whereas other areas, typical demand conditions result in low system pressures. A majority of the individual water meters are non-functional due to age, encouraging excessive water use.

The town’s main water source is a spring collection system. Part of the spring system are deteriorated and need to be upgraded to ensure continued use of the water supply. In addition, a lack of security measures at the spring site subject the water source to potential vandalism and contamination.

Proposed Solution

Specific tasks include:

- Loop dead end water mains;
- Replace approximately 9,900 linear feet of undersized water mains;
- Install 16 fire hydrants;
- Construct a new pressure reducing valve station;
- Replace all water meters; and
- Rehabilitate the existing spring source.

Resource and Citizen Benefits Analysis

The resources that benefit from this project are groundwater and energy. The groundwater resource will benefit through conservation of water by metering and the elimination of persistent system leaks. Reductions in water usage and unaccounted-for losses will decrease usage of the groundwater well pump, thereby reducing energy consumption.

Localized improvements to the drinking water system will protect the public health and safety of the residents by increasing pressure for fire flows and efficiently distributing reliable drinking water free of contaminants.

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	Hysham Irrigation District	
Project Name	Intake Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 318,970	FEMA
	\$ 8,880	Applicant
Total Project Cost	\$ 452,850	
Amount Recommended	\$ 125,000	

Project History

The Hysham Irrigation District (ID) is in Treasure County and operates an irrigation system that consists of approximately 27 miles of canals and laterals and provides water to 6,300 acres of row crops, small grains, and hay. The main headgate diverts irrigation water from the Yellowstone River into a single diversion facility. The irrigation system headworks facility that supplies the Hysham ID with water includes the intake structure with headgate, supply canal, and a pump station approximately 0.3-mile downgradient in the supply canal.

Delivery of irrigation water into the Hysham ID system is in jeopardy because of continued erosion near the intake structure. River migration, erosion, and elevation constraints place the Hysham ID at risk of losing the ability to divert irrigation water into the delivery system. The proposed intake improvements project will rehabilitate areas surrounding the intake structure to minimize erosion along the Yellowstone River, prevent river migration, induce sediment deposition in a beneficial way, and alter the flow of the Yellowstone River as it passes the intake structure. The proposed project will include the use of guide banks, dikes, jetties, or similar flow deflectors. These structures will help guide the river away from historically eroded areas and will help reduce hydrodynamic forces. The proposed project would also consist of fortifying or reconstructing existing rock weirs that were part of a previously completed project.

Proposed Solution

Specific tasks include:

- Install riprap to repair approximately 300 feet bank downstream of the intake;
- Install weirs and toe protection; and
- Repair headgate.

Resource and Citizen Benefits Analysis

This project will preserve irrigated acres in the Hysham ID. By restoring the bank to stable conditions, over 6,000 acres of land will continue to receive reliable water. Rehabilitation of the Hysham ID intake structure will help to preserve irrigation water delivery, reduce annual maintenance, minimize erosion along the Yellowstone River, improve water quality and aquatic habitat, stabilize the riverbank, and reduce seepage.

Economic benefits from this project will contribute \$2.9 million to the local irrigation economy. The improvements will protect the intake structure and stabilize banks from future washouts. Local recreation and public safety will continue in the project 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.

Project No. 63

Applicant Name	Three Forks, City of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	<u>\$2,392,000</u>	SRF Loan
Total Project Cost	\$3,142,000	
Amount Recommended	\$ 125,000	

Project History

The City of Three Forks' water system consists of five active groundwater wells, two water storage tanks, an arsenic water treatment plant with a 200-gallon per minute (gpm) capacity, and a distribution network consisting of various pipe types and sizes. The storage tanks include a one-million-gallon steel water storage tank (constructed in 1916) and a 250,000-gallon concrete tank (constructed in 1986). Both tanks were repaired and given maintenance in 2016 and 2017.

The distribution system was originally built in the 1910's and the most recent system upgrade occurred in 2014. The remaining original mains have exceeded their useful life. The city's distribution system is in good working condition and does not experience frequent breaks or failures; however, the water distribution system does experience moderate to high leakage, but without source water meters, an accurate total water balance cannot be completed to determine the exact amount of system leakage. There are several dead-end mains throughout the distribution system and looping these mains will improve system pressures and fire flow capacities. The city conducts regular system maintenance and has replaced portions of aging and undersized mains.

Proposed Solution

Specific tasks include:

- Construct new wells(s) to replace existing Well No. 2 and expand the system's capacity; and
- Expand existing Arsenic water treatment plant.

Resource and Citizen Benefits Analysis

This project will develop a new groundwater source that will meet U.S. Environmental Protection Agency's secondary standards and satisfy the DEQ maximum daily demand for a future 2% population growth.

The arsenic water treatment plant will be expanded to treat the naturally occurring arsenic in the water, benefiting the public's health and safety and provide for future 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. 64

Applicant Name	Choteau, City of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$2,347,800	RD Loan
	\$ 662,200	RD Grant
	\$ 625,000	TSEP
	<u>\$ 400,000</u>	Applicant
Total Project Cost	<u>\$4,160,000</u>	
Amount Recommended	\$ 125,000	

Project History

The City of Choteau is in the Upper Missouri Basin in Teton County. The city's water distribution system was initially constructed in 1913 and expanded in 1959 with cast iron, ductile iron or asbestos cement pipe. The existing distribution system experiences significant water loss, typically around 40% but as high as 70%. Around 20% of the system consists of 4-inch or smaller piping along with inadequate pipe looping that affects fire flow. The age and small size of much of the water distribution system, along with areas of inadequate fire flow are identified deficiencies.

The city's water supply consists of two groundwater wells that are connected, and both located in the floodplain. A significant flood event would potentially contaminate both wells, leaving the city without water.

Proposed Solution

Specific tasks include:

- Replace 4,200 linear feet of iron pipe with 8-inch polyvinyl chloride (PVC);
- Construct 1,800 linear feet of 8-inch PVC to provide additional looping in the system; and
- Develop a new groundwater supply well along Airport Road and construction of 6,200 linear feet of new 12-inch PVC transmission main to connect the well to the existing system.

Resource and Citizen Benefits Analysis

The proposed project will preserve and conserve groundwater in the Teton River Aquifer. This will provide a clean water source to residents by preventing the contamination of drinking water from sewage and sewage leaking into homes with flooding events.

Water system improvements will protect the public health and safety of the residents by increasing pressure for fire flows and efficiently distributing reliable drinking water free of contaminants. 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. 65

Applicant Name	Fairfield, Town of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	\$ 368,250	RD Grant
	\$1,104,750	RD Loan
	<u>\$ 200,000</u>	Applicant In-kind
Total Project Cost	<u>\$2,423,000</u>	
Amount Recommended	\$ 125,000	

Project History

The Town of Fairfield is approximately 35-miles west of Great Falls on the third bench of the Greenfields Bench Area. Fairfield’s water system was constructed in 1945 and is served by four infiltration galleries and four groundwater wells to provide service to approximately 739 residents through 414 connections. The town operates a water system originally constructed in the 1940s consisting of a combination of eight infiltration galleries and wells, two elevated storage tanks, and the distribution system. The age of the system is contributing to excessive leaks, specifically on copper service lines, corresponding to a relatively large percentage of unaccounted for water. Other challenges include undersized and dead-end water mains, the presence of asbestos cement (AC) pipe, inadequate storage volume, and insufficient disinfection from one of the wells to the first service connection.

The applicant intends to reduce the percentage of unaccounted for water and improve the performance of the distribution system to address fire flow deficiencies. The issue of insufficient storage volume will be addressed in a subsequent phase.

Proposed Solution

Specific tasks include:

- Replace 3,000 linear feet of 4-inch AC pipe with new 6-inch polyvinyl chloride (PVC) pipe;
- Replace 3,500 linear feet of 4-inch and 6-inch AC pipe with new 6-inch and 8-inch PVC pipe;
- Construct 1,040 linear feet of 6-inch PVC pipe to loop dead-end mains;
- Replace 220 linear feet of 6-inch AC pipe with 10-inch PVC pipe to address inadequate disinfection from Well No. 3 to the first service connection; and
- Complete surface restoration activities.

Resource and Citizen Benefits Analysis

The applicant currently has inadequate fire flow which threaten public safety and well-being. The proposed project will provide sufficient fire flow availability to all areas of the town and meet fire suppression standards for at least the next 20 years.

The proposed project will improve the economic viability by creating a safe community with adequate fire flow.

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	Huntley Project Irrigation District	
Project Name	Yellowstone River Bank Stabilization	
Amount Requested	\$ 125,000	
Other Funding Source	<u>\$1,123,688</u>	Applicant
Total Project Cost	\$1,248,688	
Amount Recommended	\$ 125,000	

Project History

The Huntley Project Irrigation District (ID) is in Yellowstone County. The project site is located along the northern bank of the Yellowstone River approximately 3.0 river miles upstream of the Highway 312 bridge near Huntley. The existing diversion and intake structures have served well for over a century, with improvements made to the diversion structure in the 1950s. During the flooding season in the spring of 2018, a significant amount of the northern bank upstream of the Huntley Project ID's diversion dam began to erode allowing the Yellowstone River to migrate north away from the existing irrigation facilities (up to 230 horizontal feet of the existing riverbank was lost to erosion in one flooding season).

Without the reinforcement of the northern bank of the Yellowstone River upstream of the existing structure, the river is likely to bypass these crucial structures and leave Huntley Project ID without the ability to use existing infrastructure to provide irrigation for its users. The losses caused by unmitigated erosion and channel migration could reach over \$13 million in crop production losses each year. Installation of the proposed improvements will eliminate channel migration, preserve existing infrastructure, improve water resource management, and preserve water quality in the Yellowstone River.

Proposed Solution

Specific tasks include:

- Install riprap on riverbank;
- Repair existing low water weir at the overflow channel to the north of the existing diversion structure; and
- Reclaim the disturbed areas.

Resource and Citizen Benefits Analysis

The resource benefits for this project are preservation and conservation of surface water and conservation of energy. The bank stabilization will decrease sedimentation in the Yellowstone River. The weir repair will decrease the amount of water diverted and preserve habitat, which also conserves energy.

The economic benefit from the preserved land provides \$13 million per year in crop production. 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. The applicant must meet the following conditions prior to initiating a contract with the DNRC:

- The applicant consults with the U.S. Army Corps of Engineers whether the project will require mitigation related to bank stabilization.

Project No. 67

Applicant Name	Sweet Grass County Conservation District
Project Name	Post-Kellogg Ditch Headworks Improvement
Amount Requested	<u>\$ 125,000</u>
Total Project Cost	\$ 125,000
Amount Recommended	\$ 125,000

Project History

The Post-Kellogg Ditch point of diversion consists of a headgate structure and rock diversion weir on the west bank of the Boulder River four miles south of Big Timber. The headgate position relative to the flow of the river creates a billowing effect that forces sediment to accumulate in front of the headgate and impedes water passage into the ditch. The headgate structure also accumulates significant amounts of woody debris and other trash that impedes flow and requires frequent maintenance, often with heavy equipment. Due to buildup of sediment material, ditch users are frequently required to place in-stream tarps to convey water to the headgate which threatens the aquatic habitat and recreational use of the Boulder River. Improvements to the Post-Kellogg Ditch point of diversion would reduce maintenance associated with sediment and trash buildup, minimize impacts to the river, and ensure continued fish passage and sediment transport within the immediate reach.

The proposed project consists of removing the existing Post-Kellogg Ditch headgate and installing a new concrete headgate at a pre-determined angle, as well as installing a bypass structure with flashboards at the bottom of the existing weir to divert water to the headgate during low-flow conditions and allow sediment and fish passage to the main Boulder River channel during high flow conditions. Riprap rock will be installed downstream of the headgate structure to reinforce the bank and prevent against erosion.

Proposed Solution

Specific tasks include:

- Remove existing headgate;
- Construct new headgate; and
- Construct new bypass structures.

Resource and Citizen Benefits Analysis

This project will preserve surface water quality by re-aligning the headgate to decrease instream maintenance related to sediment, debris, and trash accumulation at the headgate.

The project will preserve the long-term sustainability of farming and ranching operations along the Ditch. If the ability to control and administer the water resource is not effectively maintained production from approximately 1,400 acres of irrigated land could be reduced by half and negatively impacting the local economy.

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. 68

Applicant Name	Lewistown, City of	
Project Name	Ditch Rehabilitation	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 41,015	Applicant In-kind
Total Project Cost	\$ 132,371	
Amount Recommended	\$ 125,000	

Project History

The 15.5-mile long Lewistown Ditch was constructed in 1891 and diverts up to 125-cubic feet per second (cfs) of irrigation water from Big Spring Creek through the northern part of the City of Lewistown. The Lewistown Ditch was originally constructed in 1891 and was reconstructed in December of 1936. Water is diverted from Big Spring Creek to the Lewistown Ditch through a headgate control structure which is a metal screw gate in a wooden housing located in the river. According to the Irrigation Claim from 1982, the Ditch network consists of 11 ditches which are each controlled with a metal slide gate.

The ditch currently experiences seepage, causing groundwater in the area to rise and flood a nearby lift station, which allows clean water to enter the city’s wastewater treatment system. The applicant proposes to line 578 feet of the ditch with a geocomposite liner material to improve the conveyance of irrigation water, prevent flooding of adjacent structures, reduce property damage, and reduce the amount of clean water entering the city’s wastewater treatment facility. Lining the ditch will also prevent weed growth, maintain water quality, and reduce sediment transport downstream.

Proposed Solution

Specific tasks include:

- Install approximately 580 feet of geocomposite liner at the Joyland road lift station area per the final designs and specifications.

Resource and Citizen Benefits Analysis

There will be two benefits to two resources. The project will conservation and development energy and arable land. The city’s wastewater treatment plant will conserve energy by pumping less water due to seepage loss coming in from the ditch. There are 1,813 acres served by the ditch and the applicant claims increased crop production. 13.9% of irrigation water is lost to seepage along the 1.8 miles of ditch of which 520 would be lined in this project.

Public Health benefit will be a decrease in amount of standing water and localized flooding which is be a breeding ground for mosquitoes and a public health hazard.

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 Joliet, Town of
Project Name Water System Improvements

Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	\$ 450,000	CDBG
	\$ 33,000	Local
	\$ 280,013	RD Grant
	<u>\$ 418,700</u>	RD Loan
Total Project Cost	\$1,931,713	
Amount Recommended	\$ 125,000	

Project History

The Town of Joliet has 655 residents and is in Carbon County. Portions of Joliet’s water system need improvement and replacement before they completely fail and leave the system in an emergency. The partially buried concrete water tank is 84-years old and leaking. The existing water supply wells have a well yield trend that shows a reduction in production for each well until the well requires rehabilitation. The town has a well that has been off-line for several years due to past failures. Proper refurbishing of this well would allow it to be reintegrated into the water system to supplement the current water supply. Some sections of the distribution system are old and undersized and need to be replaced. Inadequate fire flows are available at the school and another distribution line across the highway is needed to improve flow capabilities.

The goals of the project are to develop additional water supply capacity and reliability, upgrade the distribution system to adequately meet system demands, improve fire flow capabilities, and increase the storage capacity in the system.

Proposed Solution

Specific tasks include:

- Refurbish an existing well and integrate it back into the water system;
- Rehabilitate one well house building;
- Replace one well house building;
- Provide an auxiliary power supply at the water source;
- Replace approximately 1,150 linear feet of undersized water mains;
- Install 150 linear feet of new water main under Highway 212; and
- Construct a new 400,000-gallon concrete water storage tank;

Resource and Citizen Benefits Analysis

The resource benefits of this project are preservation of water and conservation of energy. Addressing the systems water loss due to leakage will prevent contamination and decrease pumping and energy use.

This project will provide public health and safety benefits by providing a reliable and clean water source for the town and allowing for adequate fire flow. The citizen benefits are 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. 70

Applicant Name	Richey, Town of		
Project Name	Water System Improvements, Phase 1		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 426,000	SRF Loan	
	\$ 450,000	CDBG	
	<u>\$ 500,000</u>	TSEP	
Total Project Cost	\$1,501,000		
Amount Recommended	\$ 125,000		

Project History

The Town of Richey is an incorporated town in Dawson County. It is approximately 47-miles from Sidney and 49 miles from Glendive and sits at the junction of Highway 200 and Highway 254. Richey is currently still using their original water system that was constructed mostly in the year 1937. The water system consists of approximately 15,000 of mostly 4-inch asbestos cement (AC) water main (65%), with some 6-inch and 8-inch main as well. It also features two (2) water supply wells, a 115,000-gallon water tank, and a 60-gallons per minute treatment system. The town is facing major challenges related to its water system.

This project is Phase 1 of a Phase 5 program to replace aging water pipe and to add a tank, valves and meters to the system. Existing pipe in the town consists of 60 to 80-year old, undersized AC pipe. The existing pipe leaks an estimated 1.75 million gallons per year or 33% of the total water pumped to the town. It is also subject to frequent breaks and resulting repairs and is undersized (4-inch diameter mostly) in comparison to modern Montana Department Environmental Quality standards. As a result of its size, the existing pipe network is unable to supply adequate fire flows and pressures at most locations throughout the town.

Proposed Solution

Specific tasks include:

- Install approximately 3,400 feet of 8-inch diameter polyvinyl chloride pipe;
- Abandon AC pipe in place;
- Install new services from the new main to curb stops; and
- Replace valves, hydrants and miscellaneous fittings along the new pipeline.

Resource and Citizen Benefits Analysis

The project would help conserve up to 23,000 kW-hr per year and 126.5 kW of energy consumption required for pumping and treating lost water.

The pumping reduction will provide local economic benefits to the community. The public health and safety benefits in pressure for fire flows.

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	Fort Benton, City of	
Project Name	Water System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 625,000	TSEP
	\$ 425,000	SRF Loan Forgiveness
	<u>\$ 425,000</u>	SRF Loan
Total Project Cost	\$1,600,000	
Amount Recommended	\$ 125,000	

Project History

The City of Fort Benton, situated along the banks of the Missouri River, is a community of 1,349 people, located in north-central Montana. Fort Benton’s water system consists of an infiltration gallery, pumps, an ultraviolet disinfection system, three storage tanks, and distribution system. The three storage tanks, ranging in age from 45 to over 80-years old, are near the end of their service lives. They need interior and exterior recoating. The tank overflows, access hatches and ladders need to be improved.

The proposed improvements involve the demolition of the three storage tanks, the construction of a new 900,000 gallon on-grade glass-lined steel storage tank, and the installation of a 12-inch and 10-inch transmission main from the new tank to the core of the existing distribution system. The project will address public health issues and deficiencies with the Fort Benton Water Storage System by replacing antiquated facilities with a new efficient water storage tank.

Proposed Solution

Specific tasks include:

- Replace three existing storage tanks;
- Install a new 900,000 gallon on-grade glass-lined steel storage tank;
- Construct a 12-inch and 10-inch transmission main; and
- Install an updated telemetry system to replace the current system.

Resource and Citizen Benefits Analysis

This project will preserve and protect the drinking water quality for residents of Fort Benton. The project will manage groundwater leaking from pipes and energy used in groundwater pumping. This project will lead to the better management of the city’s groundwater resources. The project has minimal renewable resource benefits.

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. 72

Applicant Name	Big Sandy, Town of	
Project Name	Stormwater System Improvements	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 484,671	TSEP
	<u>\$ 359,671</u>	SRF Loan
Total Project Cost	\$ 969,342	
Amount Recommended	\$ 125,000	

Project History

Big Sandy is an incorporated town in north-central Montana, approximately 34-miles southwest of Havre and 77-miles northeast of Great Falls. The towns stormwater collection and conveyance system dates to the 1900's. The system serves the primary commercial area of town and has deteriorated to the point that the system is not capable of adequately collecting and removing storm water from the town's main street and the adjacent streets and alleys. Inadequate stormwater removal has resulted in the flooding of both private and government owned business and has hindered safe access to those and other businesses on several occasions.

The proposed project will reconstruct Johannes Avenue to an inverted crown to collect stormwater along a 6-foot wide concrete barrier located in the middle of the street. The collected stormwater will flow along the center line barrier to several drop inlets equipped with a sediment trap. The stormwater will be conveyed in a new 18-inch reinforced concrete pipe (RCP) main to the existing open stormwater ditch and discharge point. The new system will include two additional 18-inch RCP trunk lines to collect water from outside the Johannes Avenue commercial area. The stormwater collection system was designed to reduce the time the paved street will be subjected to flooding.

Proposed Solution

Specific tasks include:

- Install two (2) 18-inch RCP trunk mains with a total length 820 feet;
- Install 662 feet of 18-inch RCP conveyance main;
- Install three (3) manholes and 14 drop inlets;
- Remove and dispose of all abandoned stormwater pipe and inlets; and
- Reconstruct two blocks (approximately 700 feet) of Johannes Avenue.

Resource and Citizen Benefits Analysis

This project will preserve surface water quality by minimizing the stormwater pollutant contact time and improve safety conditions for the citizens of Big Sandy accessing businesses.

The project will benefit the local economy and public health and safety by providing safe access to businesses and reduce flood damage to the commercial area of Big Sandy.

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	Belgrade School District	
Project Name	Ridge View Elementary Solar Project	
Amount Requested	\$ 125,000	
Other Funding Source	\$ 1,233	Applicant
Total Project Cost	\$ 126,233	
Amount Recommended	\$ 125,000	

Project History

The Belgrade School District is in Gallatin County. The district consists of six (6) schools serving grades K–12 with a total enrollment of approximately 3,362 students. The school district is pursuing a renewable energy project, a solar photovoltaic roof mount at Ridge View Elementary School. Many Montana school districts have chosen to install solar power generation assembly on their schools to reduce power costs and offset the district’s carbon footprint by reducing adverse environment effects associated with traditional combustion power generation.

In addition to reducing power costs and pollution associated with the methods of electrical power generation, the school has plans to use the solar power assembly as an educational resource to teach students, staff and interested citizens of the district about the use, operation, and benefits of solar power generation.

Proposed Solution

Specific tasks include:

- Obtain and install 125 400-watt solar power cells.

Resource and Citizen Benefits Analysis

This project will provide slight benefits to groundwater quality related to offsets to coal mining and development of energy. The project will allow the school district to provide local benefits through education and economic benefits to the community through energy reduction costs.

Funding Recommendation

DNRC recommends grant funding of \$125,000.00 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 74

Applicant Name	Paradise Valley Irrigation District	
Project Name	Milk River Bank Stabilization	
Amount Requested	\$ 125,000	
Other Funding Source	<u>\$ 160,281</u>	Applicant
Total Project Cost	\$ 285,281	
Amount Recommended	\$ 125,000	

Project History

The Sprinkler Lateral is one component in the Paradise Valley Irrigation District (ID) located along the Milk River in Blaine County. The Paradise Valley ID is part of the Milk River Irrigation Project which spans multiple counties in Montana and parts of Alberta and Saskatchewan, Canada. The Milk River Irrigation Project is controlled under several irrigation districts with Paradise Valley ID falling into the Chinook Division.

An eroding riverbank on the Milk River near Chinook, threatens to undermine an irrigation sprinkler lateral that is approximately 35 feet from the riverbank. A condition assessment sponsored by the irrigation district in 2019 documented concerns about bank instability and risk to the sprinkler lateral. The sprinkler lateral serves approximately 1,080-acres and has a maximum design capacity of approximately 40 to 50-cubic feet per second (cfs). The irrigation district recently lined the canal through the project area to reduce seepage and conserve water. Failure of the lateral would impact agricultural production for water users downstream. The project seeks to stabilize the bank with a combination of rock riprap and large tree trunks with the root wads attached.

Proposed Solution

Specific tasks include:

- Obtain all required permits; and
- Install approximately 600 feet of toe-wood bank protection.

Resource and Citizen Benefits Analysis

The project will preserve fishery habitat water quality in the Milk River by reducing sediment from erosion. Estimated economic losses would be a maximum of \$434,160 related to loss of irrigation water delivery if the lateral fails and is not repaired over the 20-year lifespan of the proposed riverbank stabilization treatment.

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 conditional grant funding of \$125,000 upon development and approval of the final scope of work, administration, budget, and funding package. The applicant must meet the following conditions prior to initiating a contract with the DNRC:

- The engineer follows the guidances for bank stabilization using toewood in the Natural Resources Conservation Service National Engineering Handbook Part 650, Chapter 16, Streambank and Shoreline Protection.
- The applicant verifies with the U.S. Army Corps of Engineers whether a delineation will be required. Wetlands are likely to occur along the river bank and will be adversely impacted by the project, and if the project will require wetland mitigation related to this river bank stabilization project.

Project No. 75

Applicant Name	Phillips County	
Project Name	Buffalo Trail Water System Construction	
Amount Requested	\$ 125,000	
Other Funding Sources	\$ 200,000	TSEP
	\$ 84,000	SRF Loan Forgiveness
	<u>\$ 250,000</u>	SRF Loan
Total Project Cost	\$ 659,000	
Amount Recommended	\$ 0	

Project History

The Phillips County Sleeping Buffalo Acres Subdivision, developed in 1980, consists of 25 residential lots 10-miles west of Saco. The subdivision is adjacent to the Sleeping Buffalo Hot Springs Resort and shares the resort’s water system. The water system is classified by DEQ as a transient non-community water system. The water supply is a 94-foot deep well in a sand and gravel aquifer that produces 30 gallons per minute (gpm). The well and distribution system are approximately 60-years old. The water system classification requires the water system be monitored for acute public health contaminants and is not required to include chronic (long term) health contaminants that can cause cancer, liver or kidney problems. The water system has several sanitary deficiencies and does not have an easement on federal land.

A new well must be developed since the U.S. Bureau of Reclamation will not allow the well to remain on federal land permanently. The owner of the resort does not want the residents connected to the resort which is consistent with DEQ’s recommendations for a new separate water supply for the homeowners. The Buffalo Trail Water System Project involves developing a new groundwater source and managing the water system operation.

Proposed Solution

Specific tasks include:

- Install two (2) new wells to reach sand and gravel aquifers;
- Install a new 4-inch transmission main if wells not within district land;
- Construct a 17,000-gallon distribution storage tank;
- Install two (2) distribution pumps;
- Install disinfection equipment; and
- Construct a new well house building with generator for auxiliary power.

Resource and Citizen Benefits Analysis

This project develops a new source of quality, reliable drinking water for the subdivision. The current water system serving the district has several sanitary deficiencies and the loss of the well would be a health risk.

The local economy would see a benefit from the development of a stable water system and associated lot development of the subdivision.

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 does not recommend grant funding of \$125,000 for this project at this time. DNRC recommends reapplication after permitting has been secured.

Project No. 76

Applicant Name	Sunburst, Town of		
Project Name	Water Supply, Storage, and Distribution System Improvements		
Amount Requested	\$ 125,000		
Other Funding Sources	\$ 625,000	TSEP	
	\$ 10,000	Applicant	
	<u>\$ 530,214</u>	SRF Loan	
Total Project Cost	\$1,290,214		
Amount Recommended	\$ 0		

Project History

Sunburst is a central Montana Hi-Line town situated just eight miles south of the Canadian border in Glacier and Toole Counties. The town's water system is supplied by two 75-year old wells sourced from the aquifers below Toole and Glacier County. The public water supply is stored in a 420,000-gallon steel tank and distributed to the region through un-metered service lines.

The town has an un-metered, aging water system, with a diminishing water supply that is need of upgrades. The two wells on the system cannot meet future demands and the two wells run almost continuously in the summer months to keep up with usage demands. If either well loses service, the other well cannot keep up with the system demands. Connection of this well to the water system will increase the reliability of the supply and provide much needed capacity and redundancy to the system. The existing storage tank is experiencing severe deterioration of the coating system, exposing the welded steel and developing rust formation. The distribution system is un-metered which does not encourage water conservation and results in an unequitable rate structure where low volume users end up sharing the costs with high volume users. The town does not currently have a bulk water fill station. Rural users are currently allowed to utilize a connection at town hall or fire hydrants for bulk tank filling. These connections are not equipped with proper backflow prevention which poses a health and safety concern.

Proposed Solution

Specific tasks include:

- Connect an existing well to the town's water system;
- Recoat the interior and exterior of the storage tank and provide a tank mixer;
- Provide a portable auxiliary power source;
- Install water meters on the existing services; and
- Construct a bulk water fill station.

Resource and Citizen Benefits Analysis

The connection of an existing well, rehabilitation of an existing storage tank, and installation of water meters will have limited renewable resource benefits. They include municipal use and conservation of groundwater related to water meter installation. The town also intends to replace a bulk filling station that may result in additional use but is intended as a safety feature for back flow prevention and a tracking feature for billing purposes.

The project has local citizen and safety benefits. The rehabilitation of the storage tank will maintain a safe place for water storage and fire flows.

Funding Recommendation

DNRC does not recommend grant funding of \$125,000 for this project at this time. DNRC recommends reapplication after DEQ approval of the well for the public water supply and the town is legally released from its commitment to connect to North Central Regional Water System.

CHAPTER III

Coal Severance Tax Loans to Public Entities

Application Administration and Project Review Procedures

Applications for public loans are accepted by the Montana Department of Natural Resource and Conservation's (DNRC) Resource Development Bureau usually until May 15 of each even-numbered year at the same time other applications are due from public applicants under this program. In 2020 the due date was moved to June 1st because of the COVID-19 virus. 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 at the local level. The same application form can be 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.

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% 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 revenues if needed.

To implement these repayment provisions, the statute established a fund structure within the permanent coal tax trust fund. 50% 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 2019 Legislature authorized use of CST bonds for projects listed in House Bill 8. As a result, public loans will be granted during the 2021 biennium. DNRC has 42 CST Loans that are currently outstanding as of June 30, 2020 (**Table 2**). The total amount outstanding is \$17,871,525.

**Table 2 Coal Severance Tax/RRGL Public Loan Balances as of
June 30, 2020**

Applicant	Balance Due	Applicant	Balance Due
Beaverhead County – Red Rock Water and Sewer District	\$ 139,444	Lewis and Clark, East Clark Street Water & Sewer District	\$ 183,952
Brady County Water and Sewer District	\$ 95,034	Lewistown, Town of	\$ 43,110
Bridger, Town of	\$ 61,402	Libby, City of	\$ 181,089
Bridger Pines Water and Sewer District	\$ 854,376	Libby, City of	\$ 590,100
Daly Ditches Irrigation District	\$ 95,416	Lima, Town of	\$ 349,469
DNRC-Ackley Lake Dam	\$ 90,025	Lockwood Water & Sewer District	\$ 638,476
DNRC-Bair Dam Rehab	\$ 115,559	Lockwood Water & Sewer District	\$ 260,424
DNRC-Cottonwood Creek Water Users	\$ 619,625	Malta Irrigation District	\$ 425,110
DNRC-Deadman's Basin (Supply Canal)	\$ 409,055	Manhattan, Town of	\$ 786,994
DNRC-Deadman's Basin (Canal)	\$ 18,520	Mill Creek Irrigation District	\$ 266,858
DNRC-Deadman's Basin (Outlet)	\$ 223,652	Moore, Town of	\$ 147,684
DNRC-East Fork Siphon	\$ 142,905	Ronan, Town of	\$ 527,554
DNRC-North Fork of the Smith River	\$ 143,045	St. Ignatius, Town of	\$ 63,094
DNRC-Nevada Creek Dam	\$ 88,773	Sunburst, Town of	\$ 17,609
DNRC-Ruby Dam Rehabilitation	\$1,321,076	Sunburst, Town of	\$ 134,721
DNRC-Ruby River Water Users Association	\$1,216,599	Ten Mile Creek Estates Pleasant Valley	\$ 192,659
DNRC-Ruby River Water Users Association	\$1,635,070	Ten Mile Creek Estates Pleasant Valley	\$ 188,644
Four Corners County Water and Sewer District	\$2,520,872	Thompson Falls, City of	\$ 151,694
Froid, Town of	\$ 137,885	Troy, City of	\$1,519,500
Highwood County Water & Sewer District	\$ 113,201	Upper Musselshell Water Users Association	\$ 40,770
Hysham, Town of	\$ 435,054	Yellowstone Boys and Girls Ranch Water and Sewer District	\$ 685,426
		Total	\$17,871,525

Interest Rates

Loans may be provided at a rate less than the rate at which the state bond is sold for all or part of the term. 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.

The basic interest rate on CST loans is determined by the bond market at the time CST bonds are sold. The rate of interest on most loans from the program will 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.

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.

For local government revenue bonds, borrowers must establish a system fund to segregate the revenue of the system or district. Within the system or district fund, the following accounts are generally established: construction account, operating account, revenue bond account, bond reserve account, replacement and reserve account, and surplus account. These accounts ensure that the system's revenue and other funds are properly applied in a manner reasonably satisfactory to DNRC.

Loans are disbursed 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.

CHAPTER IV

Renewable Resource Grants and Loans to Private Entities

Grant Application Administration and Project Review Procedures

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) has chosen to target public water systems operated by private water user associations, small agricultural projects that need help, and individuals mandated to upgrade their present systems. The agricultural projects have included inspection on private high-hazard dams, and water measuring devices on chronically dewatered streams. Dam and water measuring projects were solicited by the Dam Safety Bureau and the Water Management Bureau of the Water Resources Division of the DNRC. In addition to the projects solicited by the above-mentioned organizations, DNRC also accepts applications at any time from any water system. Grantees are given one year to complete the project.

Grant Application Review

All applications received by CARDD are evaluated and ranked by the staff of the Resource Development Bureau (RDB) according to the extent each application presents a project that is critically needed, will protect public health, provides opportunities for resource conservation, and improves the environment. Applications received by the Dam Safety Bureau and Water Management Bureau are reviewed and submitted to the RDB staff with a recommendation. All applicants must hold or be able to acquire all necessary lands other than public lands and interests in the lands and water rights necessary for the construction, operation, and maintenance of the project.

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. Projects that would result in significant impacts would not be recommended for funding until an environmental assessment or an environmental impact study has been completed. Recommendations are made to minimize impacts and to ensure that appropriate steps are taken to protect the environment. Any potable water system project must be approved by the Montana Department of Environmental Quality to ensure that it meets state standards.

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. To provide for private grants, the 1993 Legislature appropriated \$100,000 to DNRC to fund grants for private entities. Since 1993, with the exceptions of the 2003 and 2015 sessions, the Legislature has appropriated funds each biennium for grants to private entities.

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 25% of the total estimated cost of the project up to a maximum amount depending on funding.

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: (1) pay all project costs, (2) submit a claim and obtain a reimbursement of allowable costs from DNRC, or (3) arrange for an advance of funds. Invoices may be submitted monthly, and all costs must be supported by invoices, receipts, or both.

Grant Project Evaluation

Grant agreements require expenditure reports and a final report. During the contract term, the project sponsor must submit quarterly reports to RDB staff. These reports must reflect the percentage of the project completed, project costs to date, any problems encountered, and the need for any amendment to the grant contract. In response to changes in project scope of work, timeline, or budget, amendments to the grant agreement may be prepared and issued. Amendments will continue to be the technique used to modify projects to adjust for changes in scope, budget, or timeliness.

DNRC approved 14 private grants, totaling \$48,250, during FY 2019 and FY 2020 (Table 3).

Table 3 Private Grant Applications Approved FY 2019 and 2020

Location of Project			Location of Project		
City	County	Amount	City	County	Amount
Saco	Phillips	\$5,000	Helena	Lewis and Clark	\$1,986
Stevensville	Missoula	\$1,250	Helena	Lewis and Clark	\$3,621
Helena	Lewis and Clark	\$4,791	Columbia Falls	Flathead	\$1,031
Helena	Cascade	\$5,000	Helena	Lewis and Clark	\$1,198
Helena	Lewis and Clark	\$5,000	Helena	Lewis and Clark	\$1,903
Helena	Lewis and Clark	\$5,000			
Helena	Lewis and Clark	\$5,000			
Helena	Gallatin	\$5,000			
Helena	Park	\$2,470			
				Total	\$48,250

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.

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 Resource Conservation Service (NRCS) offices, and conservation districts also promote the program.

Loan Application Review

Loan applications may be submitted at any time. Financial Development Bureau (FDB) 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. If the project is not designed by a qualified professional, FDB staff will closely review the project design and specifications. Financial review is completed by FDB staff and 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 \$3,000,000 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. The DNRC finances loans by selling bonds. Since the program's inception to June 30, 2020, \$57.5 million in bonds have been issued to finance private loans. Presently, \$4.2 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 1980's.

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 maybe 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, 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 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 because he has a vested interest in the successful completion of the project. The FDB 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.

Loan Project Evaluation

FDB staff conducts ongoing monitoring to evaluate the projects funded under the Renewable Resource Loan program. FDB staff will continue to review each final report that documents whether the project successfully completed the objectives outlined in the original application and as specified in the loan agreement.

Private Loan Projects Previously Funded

As of June 30, 2020, 557 private loans had been approved under the Renewable Resource Loan program. DNRC approved 10 private loans in FY 2019 and FY 2020 (**Table 4**). Loans have been used to finance new and refurbished irrigation systems, and for irrigation wells.

TABLE 4 Private Loan Applications to Individuals Approved FYs 2019 and 2020

City	County	Loan Amount
Townsend	Broadwater	\$ 224,000
Savage	Richland	\$ 208,610
Townsend	Broadwater	\$ 229,973
Deer Lodge	Deer Lodge	\$ 78,000
Power	Teton	\$ 67,781
Toston	Broadwater	\$ 120,000
Glasgow	Richland	\$ 135,000
Glasgow	Richland	\$ 160,000
Harlowton	Wheatland	\$ 350,000
Power	Teton	\$ 170,000
	Total	\$1,743,364

CHAPTER V Irrigation Development Grants

Background

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, geographic information system, or topographic surveys; or funding of agriculture tours to inform producers on new technology.

The IDG Program is now in its twentieth year. The program has assisted producers and irrigators throughout the state in development of over 32,795 acres of new irrigation and continues to play a prominent role in improving the management and conservation of water on over 300,000 acres of sustainable irrigation.

Project Solicitation and Review

Applicants are required to submit an online application through www.funding.mt.gov 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 the Montana Department of Natural Resources and Conservation staff and funded on a competitively ranked basis.

A list of IDG grants awarded during the 2021 Biennium to October 1, 2020 are presented in **Table 5**.

Table 5 Irrigation Development Grants During the 2021 Biennium to October 1, 2020

Project Sponsor	Project	Amount
Blackfoot Challenge	Soil Moisture Monitoring Program	\$ 5,610
Custer County Conservation District	Conservation District Facilitation	\$ 15,000
Glasgow Irrigation District	Check Structures Repair	\$ 15,000
Greenfields Irrigation District	GS-62 Chute Repair	\$ 15,000
Lower Musselshell Conservation District	Delphia Canal Flood Damage Repair	\$ 15,000
Mendenhall Ditch Company	Transmission Pipeline Replacement	\$ 7,725
Pondera County Canal & Reservoir Company	Big Flat Coulee Pipeline	\$ 15,000
Prairie County	Fallon Flats ID Preliminary Engineering Report	\$ 10,000
Fort Peck Tribes	VFD Pump Installation	\$ 18,000
William Gravert	Irrigation Development	\$ 19,715
Lower Musselshell Conservation District	Delphia Check Structure Repair	\$ 20,000
Rosebud Conservation District	Lower Hammond ID Preliminary Engineering Report	\$ 15,000
Sheridan County Conservation District	Groundwater Research and Monitoring	\$ 10,608
Tongue & Yellowstone Irrigation District	Cemetery Check Spill Repair	\$ 16,100
	Total	\$ 197,758

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 available for 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 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.

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 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

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.

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% 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 total amount of funding available 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 2019 and 2020

Each emergency grant request submitted during FY 2019 and FY 2020 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. \$10 million dollars per biennium is available for emergency loans.

Authorized Emergency Grant Projects

During the 2019-2020 biennium to date, the following emergency grants have been awarded:

Medicine Lake, Town of Water Main Replacement May 2019	\$10,000
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The Town of Medicine Lake had a large water main break on December 22, 2018. This took two days to repair. The town hired two contractors to assist with digging up the line and purchased hundreds of dollars of parts to repair the line. This line break was on the intersection of Main Street and Hwy 16. This break put a substantial impact on the town's water fund. Medicine Lake experienced abnormal low temperatures for many days straight as low as -50, which caused many water lines to freeze up. (over 37 business and residential lines froze). On April 6, another water line broke and had to be dug up and repaired on the 400 block of Hammond Street. The town plugged the broken water line to get water on to all its customers except two businesses, the cafe and the bank, that did not have water service. Total cost of the repairs was \$37,653.50.

Plentywood, City of Water Main Line Replacement May 2019	\$10,000
-------------------------------------------------------------------------	-----------------

The City of Plentywood experienced a colder than normal February and as a result had some issues with freezing water mains. On April 17th, the city crew performed an excavation to thaw and fix a section of pipe that they believed was the frozen section of the pipe. Once they fixed this area and turned the water back on to this section, it was noticed that water began rising to the surface over a large stretch of main. It was determined that the extent of the water main failure due to freezing was much greater than they anticipated. The project sponsor used the funds provided to hire a contractor to remove approximately 815 feet of failed 6-inch cast-iron pipe and replaced with the same size and length of polyvinyl chloride (PVC) pipe. Total cost of the repairs was \$86,840.06.

Savage Public School Copper Water Line Replacement June 2019	\$ 2,806
-----------------------------------------------------------------------------	-----------------

The Savage Public School in Richland County has an existing water system and it consists of a well approximately 20 feet southwest of the School. Black poly pipe from a pitless adapter goes into the building then PVC and copper pipe mixed are throughout the rest of the building. Lead and copper test results have shown many exceedances in the drinking water. The school ordered bottled water for staff and students. At the request of the school district a Montana Rural Water Systems representative went to look over the system. Three options were given to solve the lead and copper exceedance problem. They selected the least expensive option; to remove all the copper piping on the cold-water side, except to toilets and non-drinking fixtures, and replace with polyethylene or PVC pipe. Total estimated cost for all the work was close to \$44,000. Because of the high costs the School decided to replace as much as they could with the actual total cost of \$5,362.00.

Greenfields Irrigation District **\$10,000**
Willow Creek Reservoir Outlet Gates Emergency Repair
August 2019

Willow Creek Reservoir in Gallatin County is one of three reservoirs operated and maintained by Greenfields Irrigation District (ID) to support water management and irrigation diversion in the Sun River Watershed. Willow Creek Reservoir is owned by the U.S. Bureau of Reclamation (USBR). The Greenfields ID is responsible for the daily operation, as well as maintenance. On April 30, 2019 the district realized an on-going, progressive failure of the guard gate at the reservoir. While evaluating the issues of the guard gate, a pending failure and deteriorating operational condition of the regulating gate was experienced. An underwater diving team and Remote Operated Vehicle observed the guard gate had much damage to the gate stem guides, a bent guard stem and concrete missing around the gate frame which allowed approximately 40-cubic feet per second (cfs) of leakage when the gate was "closed". In order to make the repairs it was decided to vacate and make the warranted repairs in the "dry". Total cost of the repairs was \$25,107.

Lower Musselshell Conservation District **\$ 7,000**
Delphia-Melstone Emergency Diversion Repair
October 2019

The Delphia-Melstone Water Users Association (WUA) in Musselshell County own and operate a concrete diversion dam/intake on the Musselshell River approximately 14.5 miles east of Roundup. The diversion and intake serve 795 acres of irrigated land. Upon a routine visit to the diversion on July 26, 2019 it was determined that 300-cfs was flowing beneath the dam rather than over. A large scour hole had formed upstream of the diversion in the approximate middle of the river and washed out beneath allowing water to flow under and through. The river was then low enough that the intake would not receive enough water to irrigate. The Board members of the Delphia-Melstone WUA met at the dam and decided to place rock upstream of the diversion to protect it and save the irrigation season. Later in the fall when the water was low, more rock was placed on the downstream side. Total cost of the repairs was \$22,900.

Bridger Pines County Water and Sewer District **\$ 5,000**
Wastewater System Emergency Pipe Repairs
January 2020

In 2013 Bridger Pines County Water and Sewer District in Gallatin County replaced old pumps, lift stations and related piping of their wastewater system. During April, May and June 2019 the district encountered an enormous increase in groundwater infiltration into their wastewater system. Above and below ground infrastructure was investigated by video pipe inspection. They located a cracked pipe in one location and a pipe breach (pipe pulled apart) with a sag at another location. The breached pipe allowed infiltration of groundwater and gravel which ended up damaging impellers on the lift station pump. The cracked pipe location was 10 to 12 feet below grade with multiple utilities (3 phase 240V electrical line, 120V line, 2-inch force main, 6-inch diameter waste 'T' connection and 6-inch diameter water line) crossing above the waste pipe. At the pipe breach location, the district excavated to the breach and sag, straightened the pipe and reattached the pipe breach. The cracked pipe was repaired by fiberglass/epoxy lining approximately 55 feet of pipe. Total cost of repair was \$17,315.

Stillwater County Conservation District **\$ 8,000**
Yanzick/Brey-Riddle Irrigation System - Flanked Diversion Headgates
June 2020

On May 27th the Yanzick/Brey-Riddle Ditches irrigation system had final inspection of two projects; construction of a new headgate and rehab of the Yanzick diversion on the Stillwater River and construction of a new secondary diversion structure for the Brey-Riddle ditch. On May 31, 2020 the Stillwater River discharge rate was 7,140-cfs, the highest ever recorded. The flooding saturated and scoured the recently compacted soils along the east headgate wingwall, flanking the headgate allowing large volumes of water and debris to enter the Yanzick/Brey-Riddle ditch. The ditch became saturated and eroded the recently compacted soils along the west wingwall of the secondary diversion structure, causing bank failure and allowing uncontrolled water to enter the Brey-Riddle Ditch. A contractor stabilized the eroded bank with imported riprap rock and also placed riprap upstream of the headgate to mitigate future bank erosion. Emergency repairs were completed on May 31st. Total cost of all repairs was \$9,463.00.

**Worden Ballantine Water and Sewer District
Elevated Water Storage Tank Standpipe Leak
June 2020**

\$ 8,000

In early July 2020, an operator of the district water system noticed a leak in the standpipe of the 40,000-gallon elevated steel storage water tank. In order to facilitate repairs the tank needs to be drained, cleaned, inspected, then repaired. An inspection of the tank is necessary to ensure additional leaks have not started and that there are no other weak spots in the welds. The repairs will include the existing leak and any other leaks found, or any other suspect welds. The tank does not have a separate drain. To finish draining the tank a drain and/or flushing hydrant needs to be added. A contractor experienced with water tank repairs is scheduled to begin and finish in the Fall of 2020. Repair costs are estimated at \$19,000.

**Milk River Joint Board of Control
St. Mary Canal Drop Structures
August 2020**

**RRGL Planning Grant \$ 8,000
RRGL Project Grant \$125,000**

The St. Mary Storage and Conveyance Facilities were constructed between 1907 and 1923 are entirely within the Blackfeet Reservation near the Canadian border in northcentral Montana. The project provides irrigation water to over 18,000 users covering over 110,000 acres of irrigation and municipal water to several towns in northern Montana along the Milk River. Water is diverted by the St. Mary Diversion Dam just downstream from the outlet of Lower St. Mary Lake and is conveyed to the North Fork of the Milk River through a 29-mile canal, siphon, and drop system. The drop system dissipates energy for a vertical loss of 281 feet with 5 concrete drop chute structures in the final two miles of the canal into the Milk River. The entire drop system is in poor overall condition, near the end of design life, and in need of replacement. The Milk River Joint Board of Control (JBOC) in cooperation with DNRC, USBR, and the St. Mary Rehabilitation Working Group, secured funding and began the planning and design for the replacement of Drop 2.

On May 17, 2020, Drop 5 suffered a catastrophic failure. Flows from St. Mary's facilities were halted. The impacts are numerous and far ranging. Immediate repairs were critical to assure continued agriculture production and drinking water supply. On June 3, 2020, the DNRC authorized a request by the Milk River JBOC to amend the scope of work for Drop 2 to include the engineering assessment, geotechnical investigation and preliminary design of Drop Structure 5. The engineer's contract for the design of Drop 2, was amended to include planning and design of Drop 5. Through Exigency Procurements (ARM 2.5.605, MCA 18-4-133) the Milk River JBOC and USBR negotiated a time and materials contract with a reputable contractor to begin the replacements of Drops 2 and 5. Beginning early June, construction operations started on Drop 2 while simultaneously dewatering and clearing debris on Drop 5. In late September 2020 the concrete chute of Drop 2 was complete. The chute for Drop 5 was completed in October 2020. The Facilities are scheduled to be in operation for Spring 2021.

The contract for engineering services with HRD for the design of Drop 2, was amended to include planning and design of Drop 5. Through Exigency Procurements (ARM 2.5.605, MCA 18-4-133) the Milk River JBOC and USBR negotiated a time and materials contract with Sletten Inc. to begin the replacements of Drops 2 and 5. Beginning early June, construction operations started on Drop 2 while simultaneously dewatering and clearing debris on Drop 5. In late September 2020 the concrete chute of Drop 2 was complete. The chute for Drop 5 was completed in October 2020.

Flows through the St. Mary facilities were restored to the Milk River in October 2020. The total project costs are estimated at \$8 Million. Funding for the drop structure replacement was provided from the Bureau of Reclamation under a qualified emergency, State of Montana bonding funds designated for St. Mary facilities, Montana Department of Agriculture Growth through Agriculture Grants, Milk River JBOC funds from an assessment on irrigated acres, and pumping contracts managed by the Bureau of Reclamation.

CHAPTER VII

Renewable Resource Project Planning Grants

Application Administration and Project Review Procedures

The 2019 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 preserve 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

Planning grant application cycles are announced on DNRC's website, emails to interested parties lists as well through other outlets such as announcements through the Water, Wastewater and Solid Waste Action Coordinating Team. DNRC staff regularly give presentations at meetings and conferences to solicit applications for public grant and loan program, including planning grants.

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. Applications are submitted online through www.funding.mt.gov.

In the 2021 biennium, DNRC has awarded planning grants to public entities for 81 planning grants as of October 1, 2020. Additional funds may be awarded if they become available.

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 state agencies funding water, wastewater, and solid waste projects in Montana, and also by the 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

In 2019, the Legislature authorized \$1,100,000 for planning grants. The funded planning grant applications approved during the 2021 biennium from July 1, 2019 to October 1, 2020 are listed in **Table 6**.

Table 6 Planning Grants Approved During the 2021 Biennium to October 1, 2020

Applicant	Project Type	Amount
Alberton, Town of	Water	\$ 15,000
Alfalfa Valley Irrigation District	Irrigation	\$ 15,000
Beaverhead Conservation District	Irrigation	\$ 5,000
Big Sandy, Town of	Wastewater	\$ 15,000
Big Timber, City of	Wastewater	\$ 15,000
Bitter Root Conservation District	Irrigation	\$ 15,000
Bitter Root Irrigation District	Irrigation	\$ 15,000
Blackfeet Tribe	Engineering Support – St. Mary Drop 2 and 5	\$ 10,000
Buffalo Rapids Irrigation District 1	Irrigation	\$ 15,000
Buffalo Rapids Irrigation District 2	Irrigation	\$ 15,000
Butte Silver Bow	Water Management	\$ 15,000
Butte-Silver Bow County	Water Management	\$ 8,000
Carbon County Conservation District	Irrigation	\$ 15,000
Choteau, City of	Wastewater	\$ 15,000
Clinton Irrigation District	Irrigation	\$ 15,000
Custer County Conservation District	Irrigation	\$ 15,000
East Helena, City of	Wastewater	\$ 15,000
Fairfield, Town of	Wastewater	\$ 15,000
Fairview, Town of	Water	\$ 15,000
Fallon County	Wastewater	\$ 15,000
Fort Belknap Indian Community	Irrigation	\$ 15,000
Fort Belknap Indian Community	Irrigation	\$ 10,000
Fort Peck Tribes	Irrigation	\$ 15,000
Fort Shaw Irrigation District	Irrigation	\$ 15,000
Fort Shaw Irrigation District	Irrigation	\$ 8,000
Fort Smith Water and Sewer District	WW	\$ 15,000
Glasgow Irrigation District	Irrigation	\$ 15,000
Glen Lake Irrigation District	Irrigation	\$ 15,000
Glen Lake Irrigation District	Irrigation	\$ 15,000
Gore Hill County Water District	Water	\$ 15,000
Greenfield Irrigation District	Irrigation	\$ 15,000
Greenfields Irrigation District	Irrigation	\$ 15,000
Greenfields Irrigation District	Irrigation	\$ 15,000
Harlem, City of	Water	\$ 15,000
Harlowton, City of	Water Management	\$ 15,000
Havre, City of	Wastewater	\$ 15,000
Helena Valley Irrigation District	Irrigation	\$ 15,000
Helena Valley Irrigation District	Irrigation	\$ 15,000
Hill County	Wastewater	\$ 8,000
Hill County	Water Management	\$ 15,000
Hobson, Town of	Wastewater	\$ 15,000
Huntley Project Irrigation District	Irrigation	\$ 15,000
Hysham Irrigation District	Irrigation	\$ 15,000
Lewistown, City of	Water	\$ 15,000
Loma County Water and Sewer District	Water	\$ 15,000
Subtotal		\$ 634,000

Table 6 Continued Planning Grants Approved During the 2021 Biennium to October 1, 2020

Lower Musselshell County Conservation District	Irrigation	\$ 15,000
Lower Willow Creek Irrigation District	Irrigation	\$ 8,000
Lower Willow Creek Irrigation District	Irrigation	\$ 15,000
Lower Yellowstone Irrigation Project	Irrigation	\$ 15,000
Malta Irrigation District	Irrigation	\$ 15,000
Montana Department of Corrections	Water Management	\$ 8,000
Montana Department of Corrections	Water Management	\$ 15,000
Montana Department of Natural Resources and Conservation – Water Resources Division – Ackley Lake	Irrigation	\$ 15,000
Montana Department of Natural Resources and Conservation – Water Resources Division – Ruby Reservoir	Irrigation	\$ 15,000
Nashua, Town of	Water	\$ 15,000
North Valley County Water and Sewer District	Water	\$ 15,000
Paradise Valley Irrigation District	Irrigation	\$ 15,000
Petroleum County Conservation District	Irrigation	\$ 8,000
Petroleum County Conservation District	Irrigation	\$ 15,000
Phillips County	Water	\$ 15,000
Pondera County Conservation District	Irrigation	\$ 15,000
Pondera Regional Port Authority	Water Management	\$ 8,000
Power Teton Water and Sewer District	Wastewater	\$ 15,000
Ranch View Water District	Water	\$ 15,000
Red Lodge, City of	Wastewater	\$ 8,000
Richey, Town of	Water	\$ 15,000
Ronan, Town of	Wastewater	\$ 8,000
Sand Coulee	Wastewater	\$ 15,000
Seeley Lake County Sewer District	Wastewater	\$ 15,000
Sidney Water Users Irrigation District	Irrigation	\$ 5,000
Sidney, City of	Wastewater	\$ 15,000
Stillwater Conservation District	Irrigation	\$ 15,000
Sunburst, Town of	Water	\$ 15,000
Ten Mile Creek Estates	Wastewater	\$ 15,000
Teton County Conservation District	Water Management	\$ 15,000
Teton County Conservation District	Water Management	\$ 15,000
Thompson Falls, City of	Wastewater	\$ 8,000
Three Forks, City of	Water	\$ 15,000
Tongue & Yellowstone River Irrigation District	Irrigation	\$ 15,000
Whitehall, Town of	Water	\$ 8,000
Worden-Ballentine Yellowstone County Water and Sewer District	Water	\$ 15,000
	Subtotal	\$ 474,000
	Total	\$ 1,108,000

CHAPTER VIII

Renewable Resource Watershed Management Grants

Application Administration and Project Review Procedures

The 2019 Legislature authorized \$300,000 for the Renewable Resource Watershed Management Grant (WMG) Program. The intent of the program is to fund activities which conserve, manage, develop, and preserve Montana's renewable resources, and watershed related planning and management activities. WMGs serve as a component of the Renewable Resource Grant and Loan (RRGL) Program by supporting partnerships among businesses, local leadership, the state and other stakeholders working on strengthening local watershed groups.

The Montana Department of Natural Resources and Conservation (DNRC) accepted applications for WMGs from public entities, watershed groups, conservation districts, and private applicants. Grants were available up to \$35,000 per biennium for a watershed management activity. No application fee was required.

Project Solicitation

No formal solicitation for applications was conducted. Conservation Districts and watershed groups were informed that watershed management grant funding existed. Availability of WMGs were discussed during CD area meetings, conferences, regular watershed group meetings, and posted on the DNRC website.

Applicants were required to submit an application that described the project, identified the sources and uses of funding, and discussed the activity. Funded activities included development of management strategies, capacity building and planning, and prioritized watershed projects.

DNRC awarded seven (7) WMGs. In total, \$127,480 was contracted between July 1, 2019 and October 2020.

Application Review

WMG funds were used for activities that enhanced 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 reviewed requests for WMG funds with a team of state agency representatives. The scope of the proposed activity was evaluated to determine funding eligibility under the RRGL Program. The proposed budget was analyzed to assure that proposed costs were feasible.

Grant Management

Successful applicants and the DNRC entered into a formal contract for the proposed activities. The grants are managed the same as other grant and loan projects funded by the RRGL Program. All applicants are required to report a progress report prior to reimbursement

Authorized Projects

In 2019, the Legislature authorized \$300,000 for WMGs. Successful applications are listed in **Table 7**.

Table 7 Watershed Management Grants Approved During the 2021 Biennium

Applicant	Activity Title	Contracted Amount
Bitter Root Water Forum	Capacity Building and Project Planning to Improve Water Quality	\$10,330
Gallatin Conservation District	Lower Gallatin Watershed Project Planning and Community Outreach	\$8,900
Gallatin River Task Force	Upper Gallatin Water Supply and Availability Planning	\$35,000
Missoula Valley Water Quality District	From Volunteers to Effective Community Leaders: Coordination for the Lolo Watershed Group	\$10,000
Petroleum County Conservation District	Developing and Implementing Watershed Management Activities in the Musselshell Watershed	\$18,250
Sun River Watershed Group	Sun River Watershed Capacity Building and Project Development	\$10,000
Teton Conservation District	Upper Teton River Assessment	\$35,000
	Total	\$127,480

CHAPTER IX Septic Loan Grants

The Montana Department of Natural Resource's (DNRC) mission to protect Montana's natural resources includes assisting with septic tank failure and associated impacts to water bodies.

There are three (3) ways DNRC has worked with Montanan's to solve this problem:

- Septic Tank Grants to individuals help pay a cost share to replace a septic tank or to hook up a property to a community wastewater treatment system;
- Grants to counties for loans to home owners. Grants have been made to counties to set up a revolving loan fund. The county can make loans to individuals to replace septic tanks or hook on to community treatment services. Once the loan is repaid it can be re-loaned; and
- Loans to cities, districts, and counties to hook up a number of homes and properties to a community treatment system.

The Septic System 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 determine eligibility, the loan interest rate, and other repayment requirements, but needed to match the grant in an amount equal to or greater than the grant amount to establish the program.

- FY 2019 Lincoln County \$40,000
- FY 2020 Gallatin County \$50,000

CHAPTER X

Summary of Grants to Public Entities, October 1, 2018 – September 30, 2020

Most Renewable Resource and Grant Loan project grants are completed within three years of legislative authorization. This section updates the status of all project grants. Project status is indicated by one of five categories: Completed, Active, Authorized but Not Yet Executed, and Terminated.

Grant Projects Completed Since October 1, 2018

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

The 2018 Legislature authorized a \$125,000 grant for water system improvements. The project installed a storage tank and replaced cast iron distribution pipe. The project is complete and was finalized December 2018. All funds have 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 complete and was finalized December 2018. \$111,006.68 has been disbursed.

Belt, Town of
Wastewater Treatment Plant
RRG-14-1631

The 2013 Legislature authorized a \$100,000 grant for wastewater system improvements. This project has constructed a land application irrigation system for discharge, replacement of lift station No. 1 and has rehabilitated lift stations No. 2 and No. 3. The project is complete, and all funds have been disbursed.

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 is complete, and all grant 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 replaced clay pipe with polyvinyl chloride (PVC) pipe and constructed a new lift station. The project was completed in September 2019. All funds have been disbursed.

Cut Bank, City of
Wastewater Treatment Project
RRG-17-1661

The 2015 Legislature authorized a \$125,000 grant for wastewater system improvements. The project constructed a Biological Nutrient Removal treatment system. The project is complete, and all funds have been disbursed.

**Fairfield, Town of
Wastewater System Improvements
RRG-16-1635**

The 2017 Legislature authorized a \$125,000 grant for wastewater system improvements; sludge disposal, construct center dike; install piping, fencing and mains; construct building for ultraviolet (UV) equipment, and install 3-Phase power to site. The project is complete, and all funds have been disbursed.

**Fort Benton, City of
Wastewater System Improvements
RRG-16-1628**

The 2013 Legislature authorized a \$100,000 grant for wastewater improvements. The project included lagoon improvements, lift station improvements and replaced the force main. The project is complete, and all 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 project rehabilitated the existing lift station, constructed a two-cell, partially mixed lagoon system and added a UV disinfection system. The project is complete, and all funds have been disbursed.

**Gallatin Gateway Water and Sewer District
Gallatin Gateway 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 is complete, and all grant funds have been disbursed.

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

The 2017 Legislature authorized a \$125,000 grant for improvements to the spillway and dam face. The project is complete, and all funds have been disbursed.

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

The 2017 Legislature authorized a \$125,000 grant for irrigation system improvements and installation of the outlet works automation. The project is complete, and all funds have been disbursed.

**Jefferson County Treasurer
Big Pipestone Creek Restoration
RRG-14-1560**

The 2013 Legislature authorized a \$99,531 grant to reclaim the eroded lower reach of the Jefferson Canal. The project is complete, and all funds have 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 complete, and all funds have been disbursed.

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

The 2015 Legislature authorized a \$125,000 grant for wastewater improvements. The project improved waste management and composting at the treatment facility. The project is complete, and all funds have been disbursed.

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

The 2013 Legislature authorized \$100,000 for replacement of leaking pipes, water mains, and 35 fire hydrants. The project is complete, and all funds have been disbursed.

**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 complete, and all funds have been disbursed.

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

The 2017 Legislature authorized a \$125,000 grant for irrigation water gauging system expansion wastewater improvements. The project is complete, and all funds have been disbursed.

**Missoula County Treasurer
Lewis and Clark Subdivision Wastewater Improvements
RRG-20-1717**

The 2019 Legislature authorized a \$125,000 grant to update the wastewater treatment system. The project is complete, and all funds have 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 is complete, and all grant funds have been disbursed.

**Poplar, City of
Sewer Main Renovation
RRG-19-1696**

The 2017 Legislature authorized \$125,000 for sewer line upgrade wastewater system improvements. The project is complete, and all funds have been disbursed.

**Roundup, Town of
Water System Improvements
RRG-20-1748**

The 2019 Legislature authorized \$125,000 for drinking water system improvements which included replacement of cast iron mains and fire hydrants. The project is complete, and all funds have been disbursed.

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

The 2017 Legislature authorized a \$125,000 grant for irrigation system headgate improvements. The project is complete, and all funds have been disbursed.

**Stillwater County Conservation District
Yanzick/Brey-Riddle Ditches Irrigation System Improvements, Phase 2
RRG-20-1752**

The 2019 Legislature authorized a \$125,000 grant for irrigation system improvements of the Yanzick/Brey-Riddle Ditch diversion structures. The project is complete and \$125,000 has been disbursed.

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

The 2013 Legislature authorized a \$100,000 grant for a new booster station and water system improvements. The project is complete, and all funds have 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. The project is complete, and all funds have been disbursed.

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

The 2015 Legislature authorized \$125,000 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 complete, and all funds have been disbursed.

**Townsend, City of
Wastewater System Improvements
RRG-16-1639**

The 2017 Legislature authorized \$125,000 to Townsend for wastewater system improvements including a new lift station, headworks, aeration and UV disinfection system. The project is complete, and all funds have been disbursed.

**Vaughn Cascade County Sewer District
Wastewater System Improvements Project
RRG-14-1630**

The 2013 Legislature authorized a \$100,000 grant for the design and construction of a new wastewater treatment facility. The project is complete, and all funds have been disbursed.

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

The 2017 Legislature authorized a \$125,000 grant for irrigation intake structure improvements. The project is complete, and all funds have been disbursed.

**Yellowstone County Treasurer
Billings Bench Water Users Association – Main Canal Rehab
RRG-20-1721**

The 2019 Legislature authorized a \$125,000 grant for canal lining irrigation improvements to the Billings Bench Water Users. The project is complete, and all funds have been disbursed.

Active Grant Projects

Alberton, Town of Water System Improvements

RRG-20-1745

The 2019 Legislature authorized \$125,000 to install a control system that will monitor tank level, install sodium hypochlorite disinfection, replace a faulty diversion valve to allow diversion of spring water, and add flow meters. Project completion date is December 2020 and \$84,069.30 has been disbursed.

Alfalfa Irrigation District Canal Realignment and Lining

RRG-20-1768

The 2019 Legislature authorized a \$125,000 grant for the re-alignment and lining of the East Flynn Canal that is in danger of washing out due to channel migration of Battle Creek. This project has been delayed and no funds have been dispersed.

Black Eagle-Cascade County Water and Sewer District Sewer System Improvements

RRG-20-1746

The 2019 Legislature authorized a \$125,000 grant to repair and replace drinking water distribution and wastewater collection mains to protect human health and preserve groundwater. The project will be completed late fall 2020 and all funds should be dispersed.

Bigfork County Water and Sewer District Wastewater System Improvements

RRG-20-1771

The 2019 Legislature authorized a \$125,000 grant for wastewater system improvements. The project will install a new lift station and 4-inch force man, replace an existing gravity main and convert 18 services to a low-pressure system. The project has been awarded to the low bid contractor and will start construction in Spring 2021 with completion anticipated Fall 2021. No disbursements have been made.

Bitter Root Irrigation District Como Dam Water Resource Enhancement

RRG-20-1756

The 2019 Legislature authorized a \$125,000 grant for irrigation system improvements to the outlet valves of the Como Dam. The project will be complete Spring 2022. \$25,890.25 has been disbursed.

Butte-Silver Bow 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.

Buffalo Rapids Irrigation Project District 1 Lateral 1.7 Pipeline Conversion

RRG-20-1762

The 2019 Legislature authorized \$125,000 for a pipeline conversion project. The project is in the design phase and no funds have been disbursed.

Buffalo Rapids Irrigation Project District 2 Shirley Main Canal Rehabilitation

RRG-20-1705

The 2019 Legislature authorized \$125,000 for a canal lining and replacement of existing headgate structures. The project is near completion and \$100,716 has been disbursed.

**Canyon Creek Irrigation District
Canyon Lake Dam Rehabilitation
RRG-20-1772**

The 2019 Legislature authorized a \$125,000 grant to install a liner on the upstream dam embankment slope to minimize seepage and complete minor slope and crest improvements. The project is under construction with completion scheduled this Fall 2020. \$121,534.47 has been disbursed.

**Cascade, Town of
Water System Improvements
RRG-20-1720**

The 2019 Legislature authorized a \$125,000 grant to demolish and dispose of two existing 103,000-gallon water storage tanks and build a new 206,000-gallon concrete tank along with additional related piping. The project is under construction with completion anticipated Fall 2020. \$9,572.86 has been disbursed.

**Chinook, City of
Water System Improvements
RRG-20-1730**

The 2019 Legislature authorized a \$125,000 grant to loop a dead-end water main, replace 2,800 linear feet of undersized water main, replace 13 fire hydrants, install 20 isolation valves and construct a new bulk water station. The project is currently advertised for bids. Construction should begin Fall 2020 or the Spring 2021 depending on contractor's schedule with completion Fall 2021. No disbursements have been made.

**Circle, Town of
Water System Improvements
RRG-20-1735**

The 2019 Legislature authorized a \$125,000 grant to replace 2,000 linear feet of 6-inch cast iron pipe with 8-inch PVC pipe, install 1,750 linear feet of 8-inch PVC pipe and abandoning same length of asbestos cement pipe. 12 new fire hydrants and 530 linear feet of new service lines will be installed. The project is under construction and scheduled to be completed December 2020. No disbursements have been made.

**Clancy Water and Sewer District
Water System Improvements
RRG-20-1759**

The 2019 Legislature authorized \$125,000 for a hydrogeological investigation of drinking water test wells. The project is underway and \$20,426 has been disbursed.

**Clyde Park, Town of
Water System Improvements
RRG-20-1711**

The 2019 Legislature authorized \$125,000 for a water systems improvements project. Well house damage has caused the design and construction to be delayed repairs are complete. No funds have been disbursed.

**Crow Tribe
Wastewater Collection System Improvements
RRG-19-1693**

The 2017 Legislature authorized the replacement of approximately 6,720 linear feet of wastewater main and the existing East Frontage Road lift station. Funding shortages have delayed the project and it is expected to begin in 2021. No funds have been disbursed.

**Columbia Falls, City of
Water System Improvements
RRG-20-1767**

The 2019 Legislature authorized \$122,950 to develop additional water supply capacity through construction of a new well and identify the location of leaks in the distribution system through a water loss control program. Project completion is December 2020 and \$122,950.00 has been disbursed.

Cut Bank, City of
Water System Improvements
RRG-20-1712

The 2019 Legislature authorized \$125,000 for a drinking water improvements project that consists of water main and water tank replacement. The city plans on starting construction in Spring 2021. No funds have been distributed.

Dillon, City of
Water Transmission and Distribution Main Replacement
RRG-20-1753

The 2019 Legislature authorized a \$125,000 grant to upgrade the water transmission and distribution mains. The project will install 6,500 linear feet of 18-inch high-density polyethylene (HDPE) transmission main east of the river, 650 linear feet west of the river along with 200 linear feet bored, jacked and cased under the river. 7,020 linear feet of old water main will be replaced with 8- and 10-inch PVC. The project is in the design stage with construction bid advertisement scheduled Winter 2020 and completion anticipated in the Fall 2021. No disbursements have been made.

East Helena, City of
Water System Improvements
RRG-20-1753

The 2019 Legislature authorized a \$125,000 grant to construct a 96-foot diameter 1,000,000-gallon water tank, including new piping, replacing two old tanks. The project will install a new floor over radial well caissons and replace existing pumps. The project is in design but on hold until the new City Council members can review the project. No disbursements have been made.

Fallon County
Baker Lake Restoration
RRG-20-1743

The 2019 Legislature authorized \$125,000 to deepen and oxygenate Baker Lake for fisheries habitat and water quality improvements. Project is under construction and will be complete by December 2021. \$9,265.96 has been disbursed.

Flathead Conservation District
Trumbull Creek Restoration and Aquifer Protection
RRG-20-1750

Reconstruct about 7,150 feet of Trumbull Creek, remove a small on-line dam, and replace undersized culverts. Due to bidding difficulties the project might have to phase the project. Project completion date is December 2021 and no funds have 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 \$112,531.25 have 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 improves 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 2020 and \$61,484.00 has been disbursed.

**Geraldine, Town of
Wastewater System Improvements
RRG-20-1709**

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements that includes replacing pipe and constructing a new UV disinfection. The project is under construction and is scheduled for completion by the end of 2021. There is \$14,160 remaining in the grant.

**Geraldine, Town of
Wastewater System Improvements
RRG-20-1709**

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements that includes replacing pipe and constructing a new UV disinfection. The project is under construction and is scheduled for completion by the end of 2021. There is \$14,160 remaining in the grant.

**Hardin, City of
Wastewater Treatment Plant Improvements
RRG-20-1760**

The 2019 Legislature authorized \$125,000 to upgrade wastewater collection and treatment system to preserve groundwater and surface water resources. Design has begun on Phase 1 which includes the improvements to the collection system to reduce infiltration and inflow. Construction on this phase is scheduled for Spring 2021 and \$18,228 has been disbursed.

**Harlowton, City of
Roundhouse Wetland Restoration
RRG-20-1754**

The 2019 Legislature authorized \$125,000 to remove contaminated soil, restore wetland habitat, and develop a trail system. The project cannot move forward until the remediation and clean-up are complete. Project completion date is December 2021 and no funds have been disbursed.

**Harlowton, City of
Wastewater Improvements
RRG-20-1728**

The 2019 Legislature authorized a \$125,000 grant to construct a new UV effluent disinfection system, remove sludge from existing lagoon cells and disposing via land application, and install new chopper pumps at the lift station. Construction is scheduled for October 2020 and completed Spring of 2021. \$5,842.65 has been disbursed.

**Helena Valley Irrigation District
Lateral 14.8 Rehabilitation, Phase 1
RRG-19-1702**

The 2017 Legislature authorized \$125,000 to rehabilitate Pier 5 including the removal of all damaged concrete and grout, inspection of the embedded metalwork, and replacement of the metalwork to prevent operational failure. Project completion date is December 2020 and \$93,210.04 has been disbursed.

**Helena Valley Irrigation District
Lateral 14.8 Rehabilitation, Phase 2
RRG-20-1742**

The 2019 Legislature authorized \$125,000 to demolish an existing gate, construct a new diversion structure to fit a new gate, and install a new gate with a supervisory control and data acquisition (SCADA) system. Project completion is December 2020 and \$10,493.50 has been disbursed.

**Hill County
Beaver Creek Dam Spillway Improvements
RRG-21-1773**

The 2019 Legislature authorized a \$125,000 grant for improvements to the dam spillway to aid in water management to protect downstream irrigated lands. The design work has begun on this project and construction is expected in the fall of 2021. No funds have been disbursed.

**Huntley Project Irrigation District
Lower Main Canal Lining, Phase 2
RRG-19-1701**

The 2017 Legislature authorized a \$125,000 grant for canal lining on 4,000 linear feet of canal. Funding shortages have delayed this project. Project completion is scheduled for December 2020.

**Hysham Irrigation District
Re-Lift Canal Improvements
RRG-20-1727**

The 2019 Legislature authorized \$125,000 for a re-lift canal improvements project. The design is complete, and construction will begin in the fall of 2020. \$12,052 has been disbursed.

**Hysham Irrigation District
Re-Lift Canal Improvements
RRG-20-1727**

The 2019 Legislature authorized \$125,000 for a re-lift canal improvements project. The design is complete, and construction will begin in the fall of 2020. \$12,052 has been disbursed.

**Hysham, Town of
Wastewater System Rehabilitation, Phase 1
RRG-20-1718**

The 2019 Legislature authorized a \$125,000 grant to replace Lift Station 1, rehabilitate Lift Station 2 and a portion of lagoon cell one. The project will replace flow control structure lids and five (5) valves at the facility and complete a leakage study of the treatment lagoons. The town will go out for bids Spring 2021 with completion scheduled for Fall 2021. \$30,829.65 has been disbursed.

**Granite County
Flint Creek Dam Rehabilitation
RRG-20-1726**

The 2019 Legislature authorized \$125,000 for the rehabilitation of the Flint Creek Dam. The project is substantially complete and there is \$12,500 remaining.

**Glasgow Irrigation District
Glasgow V-63 Lateral Conversion
RRG-20-1757**

The 2019 Legislature authorized \$125,000 for a canal-to-pipeline conversion project. The project design is complete, and the project is scheduled to be complete the Fall of 2021. \$13,019.14 has been disbursed.

**Lewis and Clark Conservation District
Willow Creek Feeder Canal Rehabilitation
RRG-20-1774**

The 2019 Legislature authorized \$125,000 for the rehabilitation of the Willow Creek Feeder Canal. The project is in design phase and no funds have been disbursed.

**Libby, City of
Water System Improvements
RRG-20-1719**

The 2019 Legislature authorized a \$125,000 grant to replace leaking water mains and transmission main. The project will install 1,100 linear feet of 24-inch HDPE treated water main, 2,780 linear feet of 10-inch and 515 linear feet of 8-inch PVC water main. Design is on hold pending commitments from landowners to grant easements. \$26,458.80 has been disbursed.

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

The 2017 Legislature authorized a \$125,000 grant for pumping and power generation of the wastewater system. The project is expected to be completed by December 2020. \$121,756 has been disbursed.

**Lockwood Water and Sewer District
Drinking Water System Improvements
RRG-20-1736**

The 2019 Legislature authorized a \$125,000 grant to install third and fourth water clarification trains, add three UV disinfection reactors, expand the building to house additional piping and valves for the improvements. Construction is scheduled for early Spring 2021 with completion scheduled for Fall 2021. No disbursements have been made.

**Lower Yellowstone Irrigation District
Lateral O Check and Terminal Wasteway
RRG-19-1690**

The 2017 Legislature authorized funding a \$125,000 grant to retrofit the Terminal Wasteway and Lateral O Check Structure with new gates. It is expected to be completed by December 2020. \$112,500 has been disbursed.

**Lower Yellowstone Irrigation Project
Crane Wasteway and Pump Station Rehabilitation
RRG-20-1764**

The 2019 Legislature authorized \$125,000 for the rehabilitation of the Crane Wasteway and Pump Station which includes new gates and SCADA Systems. No funds have been disbursed.

**Malta Irrigation District
Exeter Siphon Project
RRG-20-1755**

The 2019 Legislature authorized funding a \$125,000 grant to rehabilitate the irrigation siphon within the Malta Irrigation District delivery system. This project has been completed and the final invoice will be submitted upon the receipt of a final report.

**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 the collection system. The project is expected to be completed by December 2020. \$112,500 has been dispersed.

**Milk River Joint Board of Control
St. Mary Canal Drop 2 Replacement
RRG-20-1770**

The 2019 Legislature authorized fund a \$125,000 grant for the engineering and design of the St. Mary's drop structures. This project is complete, and a final invoice will be submitted upon receipt of the final report. No grant funds have been disbursed.

Missoula, City of
Caras Park Outfall-Stormwater Treatment Retrofit, Phase 2
RRG-20-1765

The 2019 Legislature authorized \$125,000 for the stormwater infiltration treatment adjacent to the Clark Fork River. The design will be finalized by Spring 2021. Project completion is September 2022 and no funds have been disbursed.

Missoula, City of
Rattlesnake Dam Removal
RRG-20-1741

The 2019 Legislature authorized \$125,000 for the removal of Rattlesnake Dam and the reconstruction and revegetation of the disturbed area. Major construction is complete, and revegetation is underway. Project completion is December 2020 and \$15,812.50 has been disbursed.

Montana Bureau of Mines and Geology
Measuring Groundwater Recharge in Flood to Pivot Irrigation Conversions
RRG-20-1766

The 2019 Legislature authorized \$125,000 to target fields scheduled to be converted to pivot irrigation and install eight monitoring wells on four fields to measure the quality and quantity of recharge to an alluvial aquifer. The project was delayed due to COVID-19 and field work is scheduled for next season. Projected completion is scheduled for September 2023 and \$5,961.57 has been disbursed.

Montana Bureau of Mines and Geology
Reducing Mobilization of Oil Brine Salt to Streams
RRG-20-1763

The 2019 Legislature authorized \$125,000 to 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 two tributaries (North Willow Creek and Cat Creek) of the Musselshell River. The project was delayed due to Covid-19 and projected to start in 2021. Project completion is August 2025 and no funds have been disbursed.

Montana Department of Natural Resource and Conservation- Water Resources Division
Douglas Canal Rehabilitation
RRG-20-1724

The 2019 Legislature authorized \$125,000 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. Project completion is December 2021 and no funds have been disbursed.

Montana Department of Natural Resource and Conservation- Water Resources Division
Broadwater Missouri Canal System Master Plan
RRG-20-1725

The 2019 Legislature authorized a \$125,000 grant for an irrigation master plan detailing the structural and management problems of the canal system. No grant funds have been disbursed.

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

The 2015 Legislature authorized \$125,000 to construct a new intake at Shorty Creek and to construct a new 120,000-gallon water storage tank. Construction is complete on the intake system. Design is complete and construction is underway on the storage tank. The water tank and distribution portion will be complete by the end of 2020. \$20,588.50 has been disbursed.

**North Havre County Water District
Water System Improvements
RRG-20-1731**

The 2019 Legislature authorized a \$125,000 grant to construct a new 50,000-gallon glass-fused storage tank, a 25,000-gallon concrete clear well, a new pumphouse bulk fill depot, and install control system upgrades. Funding expected was not received. The project is on hold to possibly reduce the scope or wait for additional funding. No disbursements have been made.

**Plains, Town of
Wastewater System Protection
RRG-20-1739**

The 2019 Legislature authorized a \$125,000 grant to relocate a wastewater lagoon. The project has completed the design and will begin construction the Spring of 2021. \$25,674.18 has been disbursed.

**Plentywood, City of
Wastewater Collection Upgrade, Phase 2
RRG-20-1734**

The 2019 Legislature authorized a \$125,000 grant to install cured-in-place pipe 13,260 linear feet of gravity sewer pipe, install 7,712 linear feet of 8-inch PVC sewer pipe and replace 41 manholes. The project is under construction and is scheduled for completion Fall 2020. No disbursements have been made.

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

The 2015 Legislature authorized \$125,000 to construct a sequencing batch reactors wastewater treatment facility. The project is near completion and \$112,500 has been dispersed.

**Polson, City of
Wastewater System Improvements
RRG-20-1708**

The 2019 Legislature authorized \$125,000 for improvements to the wastewater collection system. The project is under design with construction likely to begin in 2021. No funds have been dispersed.

**Pondera County Conservation District
Kingsbury Turnout Automation
RRG-20-1713**

The 2019 Legislature authorized \$125,000 for automation of the Kingsbury turnout. Design is complete and the project is under construction. The project is scheduled for completion in December of 2020. \$46,647 has been dispersed.

**Pondera County Conservation District
Swift Dam Rehabilitation
RRG-20-1747**

The 2019 Legislature authorized \$125,000 for rehabilitation of Swift Dam. Design is complete and the project is under construction. The project is scheduled for completion in December of 2020. \$46,840 has been disbursed.

**Rocker County Water and Sewer District
Wastewater System Improvements
RRG-19-1699**

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 of 2018. No grant funds have been disbursed.

**Ryegate, Town of
Wastewater System Improvements
RRG-19-1695**

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. Project is expected to be completed by December 2020. \$112,499.82 has been disbursed.

**Savage Irrigation District
Infrastructure Rehabilitation
RRG-20-1749**

The 2019 legislature authorized a \$125,000 grant for the replacement of control structures with the electronic controls and data acquisition capabilities. This project is scheduled for completion by December 2020. No funds have been disbursed.

**Sidney Water Users Irrigation District
Main Canal Pipeline Conversion, Phase 1
RRG-20-1715**

The 2019 Legislature authorized a \$125,000 grant for the conversion of 3,044 linear feet of open canal ditch to PVC irrigation pipe. The project is under construction and scheduled to be complete this Fall 2020. \$108,715.55 has been disbursed.

**Scobey, City of
Water System Improvements, Phase 2
RRG-20-1729**

The 2019 Legislature authorized a \$125,000 grant to replace 18,600 linear feet of cast-iron main with 8-inch PVC pipe, install new fire hydrants and replace water services from the main to the curb stop. The project is under construction and is scheduled for completion this fall, 2020. \$112,500 has been disbursed.

**Simms County Sewer District
Wastewater System Improvements, Phase 2**

The 2019 Legislature authorized \$125,000 to address deficiencies in two cells of the facultative lagoons, erosion, leakage, and the spray irrigation system. The project is scheduled for completion December 2020. No funds have been distributed.

**Seeley Lake – Missoula County
Seeley Lake Sewer District Wastewater Improvements, Phase 2
RRG-20-1706**

The 2019 Legislature authorized a \$125,000 for wastewater system improvements. The project is the second phase of the project and will include a portion of the collection system. Funding shortages have delayed this project. The project is expected to be completed by December 2022. \$60,266.75 has been disbursed.

**South Wind Water and Sewer District
Water and Wastewater System Improvements, Phase 3
RRG-19-1692**

The 2017 Legislature authorized a \$125,000 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 is expected to be completed by December 2020. \$60,266.75 has been disbursed.

**Stillwater County – Absarokee Sewer RSID
Wastewater System Improvements
RRG-19-1691**

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 is expected to be completed by December 2021. \$107,033.46 has been disbursed.

**Tin Cup County Water and Sewer District
Water Conservation Project
RRG-20-1740**

The 2019 Legislature authorized a \$125,000 grant to install mechanical dam improvements for irrigation purposes. is complete and the project will be closed December 2020. \$116,119.99 has been disbursed. Construction

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

The 2017 Legislature authorized a \$125,000 grant for wastewater improvements. The project has completed the installation of the new pumps and controls and will be complete December 2020. \$123,705.30 been disbursed.

**Thompson Falls, City of
Wastewater System Improvements
RRG-20-1738**

The 2019 Legislature authorized a \$125,000 grant for sewer system upgrades. The project design is complete, and the project has begun construction process. The project will be complete December 2020. No funds have been disbursed.

**Vaughn Cascade County Water and Sewer District
Water System Improvements
RRG-20-1732**

The 2019 Legislature authorized a \$125,000 grant to construct a 150,000-gallon water storage tank, replace gate valves, fire hydrants and complete distribution looping through dead-end mains. The project will replace a well and chemical feed systems and install a new telemetry system. The project is scheduled to advertise for construction bids October 2020, and if awarded, completion anticipated early summer 2020 and \$50,000 has been disbursed.

**Whitefish, City of
Wastewater Treatment System Improvements
RRG-20-1723**

The 2019 Legislature authorized a \$125,000 grant for infiltration and inflow (I&I) and improvements to the wastewater system. The project is under construction and will be complete by December 2021. \$112,500.00 has been disbursed.

**Whitehall, Town of
Water Treatment Plant Improvements
RRG-20-1769**

The 2019 Legislature authorized a \$125,000 grant for drinking water system improvements. With this funding, Whitehall will design and construct a new treatment plant to remove uranium from the drinking water as well as eliminate a source of arsenic to Pipestone Creek. Design work has begun, and construction work is anticipated in 2021. No funds have been disbursed.

**Wibaux, Town of
Wastewater Treatment System Upgrade
RRG-20-1733**

The 2019 Legislature authorized a \$125,000 grant to make improvements to the wastewater system by constructing 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. The project is delayed while the town searches for an engineering firm to complete the design of the project. No disbursements have been made.

**Wilsall Water District
Water System Improvements
RRG-20-1710**

The 2019 Legislature authorized \$125,000 for a drinking water improvements project. The Town will pursue water treatment to their current wells but because of the high cost treatment, the project has been delayed due to funding shortages. The city plans on starting construction in the Spring of 2021. No funds have been disbursed.

**Winifred, Town of
Wastewater System Rehabilitation, Phase 1
RRG-20-1714**

The 2019 Legislature authorized \$125,000 for a wastewater improvements project. The project consists of installation of a new water storage tank, water meters and a new water main. The project is expected to be completed by December 2020 and \$55,469 has been disbursed.

**Winnett, Town of
Wastewater System Retrofit
RRG-20-1707**

The 2019 Legislature authorized \$125,000 for wastewater system improvements. The project will replace sewer mains, remove sludge, install lagoon liners, and install new inter pond piping. The project is expected to be completed by December 2021. No funds have been disbursed.

Authorized Grant Projects Not Yet Executed

**Buffalo Rapids Irrigation Project District 2
BRIPD 2 Lateral 1.6 Pipeline Conversion
No Contract**

The 2019 Legislature authorized the conversion of approximately 13,200 feet of Lateral 1.6 from an open channel delivery system to a closed pipeline network. Funding shortages have delayed the project and it is expected to begin in 2021.

**Carbon County Conservation District
Golden Ditch Diversion Structure Rehabilitation
No Contract**

The 2019 Legislature authorized the funding of a \$125,000 grant for the design and construction of a new diversion structure on the Clarks Fork River. Funding shortages have delayed the contracting of this project; it is anticipated that contracting and construction will begin in 2021.

**Malta Irrigation District
Costin Lateral Pipeline Conversion
No Contract**

The 2019 Legislature authorized the funding of a \$125,000 grant for the conversion of the Costin Lateral from open ditch to pipeline transmission. Funding shortages have delayed the project; it is projected to begin in 2021

**Power-Teton County Water & Sewer District
Drinking Water Improvements
No Contract**

The 2019 Legislature authorized \$125,000 to replace the source drinking water from Muddy Creek to groundwater wells. The funding package is currently being compiled and the project is expected to begin in 2021.

**Petroleum County Conservation District
Horse Creek Coulee Water Storage
No Contract**

The 2019 Legislature authorized funding a \$125,000 grant to develop an off-stream storage site in the Horse Creek Coulee to improve management of low flows in the Lower Musselshell River. The sponsor proposed a change to the project due to the Mosby Musselshell Watershed Group disbanding. They are requesting a conversion to the smaller Delphia-Melstone WUA regulating reservoir. The new proposal is under review.

**Sidney Water Users Irrigation District
District 3 Main Canal Pipeline Conversion, Phase 2**

The 2019 Legislature authorized the conversion of 3,900 linear feet of main canal to pipeline. Funding shortages have delayed the project. The project is expected to begin Fall 2020.

Terminated Grant Projects

**Missoula County Conservation District
Grass Valley French Ditch Clark Fork
No Contract**

The 2019 Legislature authorized funding a \$125,000 grant to rehabilitate the Grass Valley French Ditch (GVFD) diversion on the Clark Fork River west of Missoula. The Board denied the request to reinstate sponsorship due to a lack of engagement from the sponsored entity, GFVD Company.

**Broadwater Conservation District
Big Springs Ditch Water
No Contract**

The 2019 Legislature authorized funding a \$125,000 grant for irrigation system improvements. The project proposed to replace an open-channel ditch with pipe. The applicant requested the termination of this application due to lack of match funding.

2020

Montana Department of Natural Resources and Conservation



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