GOVERNOR
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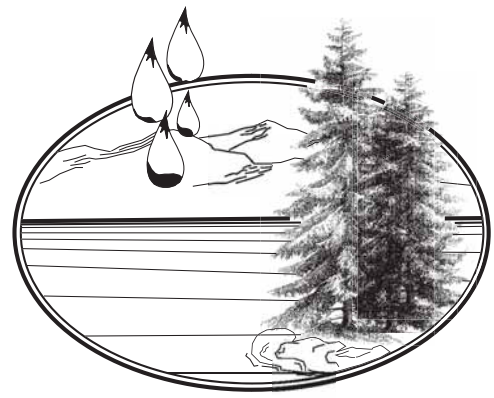
STATE OF MONTANA

Governor's Executive Budget
Fiscal Years 2016 – 2017

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 2017 Biennium

and

2015 Biennium Status Report

Prepared by the

Montana
Department of Natural Resources
and Conservation

Conservation and Resource Development Division
Resource Development Bureau

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LIST OF ABBREVIATIONS

AC ..... asbestos cement
AIS..... aquatic invasive species
AOC..... Order on Consent
BHR..... Big Hole River
BHWC ..... Big Hole Watershed Committee
BMP..... Best Management Practices
BNR..... biological nutrient removal
BOD..... biochemical oxygen demand
BRDD ..... Buffalo Rapids Drain Ditch
BRID..... Bitter Root Irrigation District
BRIPD1 ..... Buffalo Rapids Irrigation Project District, Phase 1
BRIPD2 ..... Buffalo Rapids Irrigation Project District, Phase 2
BVTP ..... Buena Vista Trailer Project
CCHD ..... City County Health Department
CARDD..... Conservation and Resource Development Division, DNRC
CD ..... Conservation District
CDBG ..... Community Development Block Grant
cfs..... cubic feet per second
CFR ..... Clark Fork River
CID ..... Clinton Irrigation District
CIP ..... Capital Improvements Plan
CIPP ..... cast-in-place pipe
CPP ..... corregated polyethelene pipe
CST ..... Coal Severance Tax
cy..... cubic yards
DDID..... Daly Ditches Irrigation District
DEQ..... Montana Department of Environmental Quality
DIP ..... ductile iron pipe
DNRC ..... Montana Department of Natural Resources and Conservation
DOC ..... Montana Department of Commerce
EBID ..... East Bench Irrigation District
EPA ..... U.S. Environmental Protection Agency
EPDM ..... ethylene propylene diene monomer
EWM..... Eurasian Watermilfoil
EWUC ..... Ereaux Water Users Company
FBC ..... Flathead Basin Commission
FPIP ..... Fort Peck Irrigation Project
FSID ..... Fort Shaw Irrigation District
FWP ..... Montana Fish, Wildlife and Parks
FY..... Fiscal Year
GID ..... Greenfields Irrigation District
GIS ..... Geographic Information Systems
GLID ..... Glen Lake Irrigation District
gpd ..... gallons per day
gpm ..... gallons per minute
GWUDISW ..... Groundwater Under the Direct Influence of Surface Water
HDPE ..... high-density polyethylene
HDS..... high density sludge
HID ..... Hysham Irrigation District
HP ..... high pressure
HPID..... Huntley Project Irrigation District
HVAC ..... heating, ventilating, and air-conditioning
HVID..... Helena Valley Irrigation District

I&I ..... infiltration and inflow
I&P ..... interception and pumping
ID ..... Irrigation District
IWRP ..... Integrated Water Resource Plan
JBOC ..... Joint Board of Control
JVCD ..... Jefferson Valley Conservation District
KW ..... kilowatt
kWh ..... kilowatt-hours
LAS ..... lagoon system
LID ..... Lockwood Irrigation District
LiDAR ..... Light Detection and Ranging
LMCD ..... Lower Musselshell Conservation District
LUST ..... leaking underground storage tank
LYIP ..... Lower Yellowstone Irrigation Project
MBMG ..... Montana Bureau of Mines and Geology
MCA ..... Montana Code Annotated
MDT ..... Montana Department of Transportation
mg ..... million gallons
mg/l ..... milligrams per liter
MID ..... Malta Irrigation District
MLNWR ..... Medicine Lake National Wildlife Refuge
MPDES ..... Montana Pollutant Discharge Elimination System
MRWS ..... Montana Rural Water Systems
MTTOT ..... Montana Time-of-Travel
NCMRWA ..... North Central Montana Regional Water Authority
NEPA ..... National Environmental Policy Act
NFWF ..... National Fish & Wildlife Foundation
NRCS ..... Natural Resources Conservation Service, U.S. Department of Agriculture
O&M ..... operation and maintenance
PCCRC ..... Pondera County Canal and Reservoir Company
PER ..... Preliminary Engineering Report
PPL ..... Pacific Power and Light
PRV ..... pressure reducing valves
PVC ..... polyvinyl chloride
RAC ..... Resource Advisory Council
R&B ..... reputation and betterment
RBC ..... rotating biological contractor
RD ..... Rural Development
RDB ..... Resource Development Bureau
RRGL ..... Renewable Resource Grant and Loan
RSID ..... Rural Special Improvement District
SCADA ..... supervisory control and data acquisition
SGCCD ..... Sweet Grass County Conservation District
SMDC ..... Snowy Mountain Development Corporation
SRF ..... State Revolving Fund
SRWG ..... Sun River Watershed Group
SSRA ..... State Special Revenue Account
SWPB ..... State Water Projects Bureau
TID ..... Toston Irrigation District
TIFID ..... Tax Increment Finance Industrial District
TMDL ..... Total Maximum Daily Load
TN ..... Total Nitrogen
TSEP ..... Treasure State Endowment Program
TSS ..... total suspended solids
TU ..... Trout Unlimited

ULRR..... Upper Lower River Road
USACE..... U.S. Army Corps of Engineers
USBR ..... U.S. Bureau of Reclamation, U.S. Department of the Interior
USFS..... U.S. Forest Service
USFWS ..... U.S. Fish and Wildlife Service, Department of the Interior
USGS ..... U.S. Geological Survey
US HUD ICDBG ..... Indian Community Development Block Grant Program
UV ..... ultraviolet
VCP ..... vitrified clay pipe
VFD ..... variable frequency drive
WQA..... Water Quality Act
WQD..... Water Quality District
WRD..... Water Resources Division
WRP..... Watershed Restoration Plan
WSD..... Water and Sewer District
WTP ..... water treatment plant
WUA..... Water Users Association
WWTF ..... wastewater treatment facility
WWTP..... wastewater treatment plant

ALPHABETICAL INDEX OF PROJECTS

Applications for Funding During the 2017 Biennium

This table provides an alphabetical list (by applicant) of the 101 grant and loan proposals submitted in 2014 that have requested funds during the 2017 biennium. Page numbers correspond to the project evaluation contained in this report.

INTRODUCTION

The RRGL provides funding for projects that conserve, manage, develop, or preserve renewable resources in Montana. Governmental entities may apply to the program to obtain funding for resource-related projects. Past projects have included municipal water and sewer system improvements, irrigation system rehabilitation, geothermal energy investigations, watershed restoration, resource studies, and engineering and feasibility studies for eligible projects. Applications are due May 15 of each even-numbered year. DNRC staff review and rank proposals from public entities and then presents a list of projects recommended for funding to the Governor. Recommendations to the Montana State Legislature for the 2015 legislative session and the status of current projects are contained in this report.

This biennium, grants were available to fund the planning of renewable resource projects and other eligible planning efforts. Applications for planning grants must meet program statutory criteria. This year watershed planning grants were offered as a part of the planning grant program.

Irrigation Development grants were also available this biennium. Both private and public entities are eligible to apply for grants of up to $15,000 per irrigation project.

Capacity grants were available to conservation districts and watershed groups to assist them with building their capabilities, knowledge, and resources in order to fulfill their mission. Grants were limited to $20,000 per district.

Private entities are also eligible for both grant and loan funding for water-related projects under the RRGL. Montana's Constitution prohibits the Legislature from appropriating funds directly to private entities. Therefore, selection of projects occurs under a different process that involves review by DNRC staff and final approval by DNRC's director. Loan applications from private entities may be submitted anytime during the biennium. Private grants for water resource development or improvements are limited to $2,500 or 25% of the entire projects cost, whichever is less.

CHAPTER I
The Renewable Resource Grant and Loan Program

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

The 2007 Legislature revised the funding structure of the RRGL Program by establishing two Natural Resources SSRAs: the Natural Resources Projects SSRA and the Natural Resources Operations SSRA. The Projects SSRA receives revenue to be used exclusively for grant projects and programs authorized in statute. Funds from this account are shared by the RRGL and the Reclamation and Development Grants Program. The Natural Resources Operations SSRA funds expenses necessarily incurred in the administration of these two grant programs.

Purpose
The purpose of the RRGL 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 natural resource projects that will preserve for the citizens of Montana the economic and other benefits of the state's natural heritage.

Project and Applicant Eligibility
Grants and loans are available for projects that conserve, manage, develop, or preserve the state's water, land, vegetation, fish, wildlife, recreation, and other renewable resources. The majority of projects funded under this program are water resource projects, but forestry, soil conservation, renewable energy, and solid waste projects also have received funding. Project funding is available for construction, research, design, demonstration, and planning. Watershed projects that preserve and improve water quality and projects that help plan for future management and protection of water sources (such as groundwater assessment studies) have received funding in the past. Chapters II and III of this report present information on RRGL loans and grants to public entities. Chapter IV describes loans and grants to private entities. Chapter V presents the Irrigation Development Grant Program for public and private entities, and Chapter VI describes emergency grants and loans to public entities. Chapter VII presents the Planning Grant program for public entities. Chapter VIII describes the new Capacity Grant program, and Chapter IX of this report summarizes public grants and projects funded by previous Legislatures.

Private Entities
Private entities can also receive funding through the RRGL Private Grant and Loan Program and through the Irrigation Development Grant Program described below. Applicants such as individuals, associations, partnerships, for-profit, and nonprofit corporations can apply for grants and loans for water-related projects that conserve, manage, develop, or preserve the state's water. Projects must also provide public benefits in addition to any private benefits. In 2013, the Legislature appropriated $100,000 for grants to private entities. By law, grant funding for a single project may not exceed 25% of the total estimated cost, or 5% of the total appropriation, whichever is less. Private loans must be secured with real property and are made only to applicants who are credit worthy and willing to enter into a contract for loan repayment. Loans up to $3 million are available to organizations such as WUAs and ditch companies.

DNRC manages private grant and loan applications under a process separate from state and local government entities. The Montana Constitution prohibits the Legislature from appropriating funds directly to a private entity. Therefore, funds appropriated by the Legislature are used to issue individual awards to private grantees. Criteria for the award of funds to private entities are specified in the law. Each application is reviewed and, based on statutory criteria; funding recommendations are made to the DNRC director. The director has final authority over grants to private entities.

Irrigation system improvements, such as the conversion from flood irrigation to sprinkler irrigation, are the most common type of projects funded through private loans. Loans have also been provided for the development and improvement of rural water supply systems. Chapter IV of this report provides more examples of previously funded private loan projects.

Irrigation Development Program
The Irrigation Development Program was initiated to assist producers with projects that would grow high-value crops such as potatoes and sugar beets and to expand the development of irrigated acreage in Montana. Grants up to $15,000 per irrigation project for both private and public applicants are available through this program. The 63rd Legislature appropriated $300,000 for irrigation development grants. Chapter V of this report provides more information about irrigation development grant projects funded in 2013 and 2014.

Emergency Grants
Statute allows DNRC to request up to 10% of the funds available for grants in a biennium to be used for emergency grants. DNRC may provide up to $30,000 in a single emergency grant out of a total of $100,000 to governmental entities to resolve water-related emergencies. Emergency funds may be granted for projects that, if delayed until the next regular legislative session, would result in substantial damages or legal liability. Requests for emergency funds are reviewed by DNRC staff and approved by the DNRC director. The 2013 Legislature also appropriated $250,000 in Emergency Grant money for wastewater system improvements at Ten Mile Estate WSD. Chapter VI of this report provides information about applications for emergency assistance received in 2013 and 2014.

Planning Grants
Project planning grants provide funding to governmental entities for activities that lead to a better RRGL grant application or assist a community with infrastructure planning. These grants range in value from $5,000 to $15,000 depending on the type of planning grant and have no match requirements. Types of planning activities funded include: PERs, feasibility studies, CIPs, and growth policies. This biennium, watershed planning grants were established as part of the planning grant program. Watershed planning grants were available for up to $75,000. Four grants were funded for a total of $250,000 and are reported on in Chapter VII. Applicants must explain how the project would contribute to the conservation, management, development, or preservation of renewable resources in Montana. The grants are given on an "open-cycle" basis. The 63rd Legislature appropriated $1,062,000 for planning grants for the 2015 biennium. Chapter VII of this report provides information about grants awarded for those years.

Capacity Grants
The Capacity Grant Pilot Program was established by the 2013 Legislature to support conservation districts and watershed groups to build their capabilities, knowledge, and resources in order to fulfill their mission. The program is not being recommended for further funding in the 2015 biennium because the program better fit into the CD Bureau's mandate and a new program has been established in that Bureau. Chapter VIII will provide further information about these grants.

Other Funding
The 2013 Legislature authorized two renewable resource management projects for activities with statewide implications. House Bill 6 includes an appropriation of $200,000 to the DNRC to update the State Water Plan. House Bill 6 also appropriates $1,270,000 for use by Jefferson County to control the uppermost occurrence of EWM in the Missouri River system through restoration of the Big Pipestone Creek and aquatic invasive species control in the Jefferson Slough. The status of these projects is further described under the heading "Active Grant Projects" in Chapter IX.

The 2013 Legislature in HB 6 also included funding of $3 million to be deposited in the Peoples Creek minimum flow account provided for in 85-20-1007 MCA, for implementation of the Fort Belknap Indian Community-Montana water rights compact; and $14 million deposited in the Blackfeet Tribe water rights compact infrastructure for water-related infrastructure projects within the exterior boundaries of the Blackfeet Indian Reservation.

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 to the Long-Range Planning Subcommittee by DNRC are for limited amounts. This year, project grant limits have been increased from $100,000 to $125,000 due to the rising cost of project needs. This is the first increase in the grant ceiling since program inception in 1993. Grant limits are put in place to obtain optimal public benefit from the investment of public funds. Proposed funding levels do not constrain legislative authority to appropriate grants and loans in amounts the Legislature deems appropriate based on testimony presented in legislative hearings and consistent with current legislative priorities.

Funding Authority
The public and private renewable resource loan programs are funded through the issuance of general obligation and coal severance tax bonds.

In 2013, the Legislature appropriated $8,967,632 for Renewable Resource Grants; $1,062,000 was appropriated for planning grants, $300,000 for irrigation development grants, $100,000 for private grants, $350,000 for emergency grants (including the $250,000 grant to Ten Mile Estates WSD for wastewater system improvements), $200,000 for capacity building grants for CDs, $200,000 for the State Water Plan, $1,273,686 for restoration projects involving the Big Pipestone Creek/Jefferson River Slough and $3 million to be deposited in the Peoples Creek minimum flow account, and $14 million deposited in the Blackfeet Tribe water rights compact account.

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 the actual awards of those grants and loans to governmental entities that it finds consistent with the policies and purposes of the program. In presenting recommendations to the Legislature, DNRC provides information about each project for legislative consideration. All public grant requests are ranked by DNRC to show the Legislature 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. All recommendations made by DNRC may be rejected by the Legislature in favor of other considerations that the Legislature holds as higher priorities. Once the Legislature makes an award, DNRC manages the authorized grants and loans according to conditions set out in the DNRC report to the Legislature and in the legislative appropriations bill.

DNRC provides the staffing necessary to administer state and local government assistance under the RRGL Program. DNRC administers grants and loans to private entities within specific parameters for the award of these funds (85-1-606-614, MCA). DNRC publicizes the statutes and rules that govern these loans and sets application deadlines. Private entities are only eligible to apply for water-related projects. 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 limit the amount of public grants or 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's goals for administering the RRGL program are carried out through solicitation of applications; evaluation of applications to provide the Legislature with a basis for the selection of projects that best support the purposes and stipulations of Title 85, MCA; and administration of grants and loans to comply with conditions of the authorization and applicable laws.

DNRC seeks to achieve the following specific program goals:

1. 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. To promote the program, DNRC provides specific information:

    a. about the grant and loan program to state and local governmental entities most likely to sponsor projects eligible for funding. Information is provided through press releases, news articles, brochures mailed directly to potential applicants, presentations at conferences and other association events, and workshops conducted in communities across the state.
    b. to targeted private entities to obtain applications for grant funds that will result in natural resource and public benefit. Information is provided through press releases and direct contact. DNRC also coordinates with local government agencies to identify private grant needs.

2. Coordinate with other state and federal agencies to provide information about government funding sources for water and other renewable resource projects, to facilitate a uniform application process, and to award funds without duplication.

3. Solicit public comment and suggestions for improvements to the program through administrative rule-making and legislative processes, during the solicitation for grant applications, and throughout the review of projects for funding.

4. Evaluate grant projects on the basis of technical merit and the resource benefits established in statute.

5. 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.

6. Offer loans at the most affordable rates available through the sale of bonds.

7. Adequately secure loans to protect the investment of public funds.

8. 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 DNRC RDB accepts applications for public grants and loans submitted or postmarked by May 15 of each even-numbered year. DNRC requires a $250 fee with each application.

Project Solicitation
DNRC solicits project applications broadly because it seeks to maintain the competitive nature of the program. Those projects that most closely meet statutory priorities rank the highest and are most likely to rank above the cut-off point for available funding. Projects that do not rank competitively and fall below the projected funding line are less likely to receive legislative approval.

DNRC maintains an extensive mailing list to promote the program and to solicit applications from eligible applicants. Mailing lists were originally obtained from divisions within DNRC and from other state agencies. The lists include contacts from the university system, state agencies, municipalities, environmental organizations, water users associations, irrigation districts, water and sewer districts, Tribal leaders, CDs, and federal agencies.

Promotion for the 2014 application cycle began with press releases in February. DNRC sent postcards to local government and nonprofits with general program information, a telephone number, e-mail address, and mailing address to request more information and application forms and guidelines. In addition, DNRC staff conducted workshops and made presentations to publicize funding opportunities through the RRGL.

The DNRC received 105 applications in May 2014. Four of those applications, along with the corresponding application fee, were returned to the applicants because the applications did not meet the RRGL's eligibility requirements. There were 101 eligible applications totaling over $12.5 million. In the previous cycle, 91 applicants requested $8.9 million in grant funding.

The RRGL application requested the following information for each project:

- A proposal abstract describing the project's 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 which outlines the steps that will be made to ensure successful project implementation;
- A discussion of public and natural resource benefits achieved by the proposed project; and
- An environmental checklist of the extent of any adverse environmental impacts that may occur as a result of the project.

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

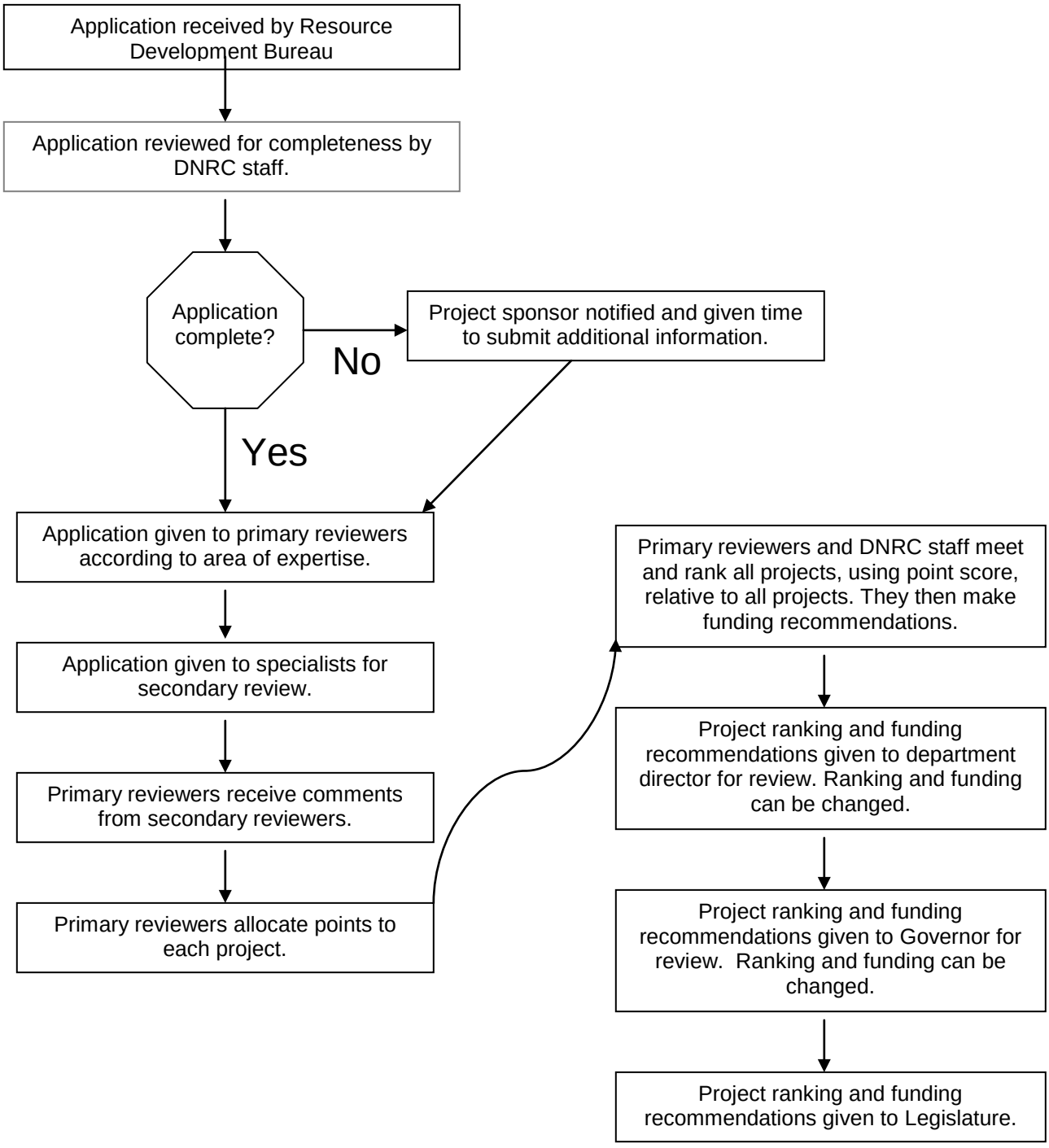
The primary reviewers assigned each application a secondary reviewer. These secondary reviewers provided information on regulatory requirements, existing natural resource management plans, and highly specialized, technical issues. Secondary reviewers included staff from DNRC and other state agencies.

Figure 1 shows the flow of the grant application review and ranking process. The technical review team evaluated each application by project type to ensure that the proposal was technically and financially feasible. During project review, the reviewer could request additional detailed technical and financial information from applicants. With the results of their own evaluations and comments from secondary reviewers, key reviewers assessed and documented the merits of each proposal based on standard review criteria outlined in the ranking form.

Each project was evaluated for the potential to cause adverse environmental impacts. In the event that long-term environmental impacts could occur as a result of the project, contingencies were attached to the funding recommendations to minimize impacts and to ensure that appropriate steps would be taken to protect the environment.

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

FIGURE 1 Flowchart of Grant Application Review and Ranking Process



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

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

1. **Resource and Citizen Benefits**
This criterion carries the heaviest weight when scoring a project, and evaluates how well the project meets program purpose as set forth in 85-1-101, MCA, regarding the conservation, development, and beneficial use of water resources. Resource and citizen benefits associated with each application are evaluated on the basis of the following:

A. How the project would measurably enhance renewable resources in Montana through implementing resource conservation, development, preservation, and/or management practices;
B. How the project would contribute to economic development in Montana or help existing businesses;
C. How the project increases understanding of how a renewable resource would benefit Montana citizens;
D. How the project coordinates with ongoing or planned actions;
E. How the project benefits multiple uses; and
F. Evidence of public support such as letters, records of comment at public meetings, and citizen group support.

2. Technical Feasibility
Each application is evaluated based on:

A. Compliance with application requirements;
B. Adequacy of the alternatives analysis;
C. Adequacy of cost estimates for potential alternatives and the preferred alternative;
D. Soundness of the basis used in selecting the preferred alternative;
E. Feasibility of the project's implementation schedule; and
F. The quality of supporting technical data.

3. Project Management and Implementation
How well the application provides for the management of the proposed project. Applicants are expected to address staffing and coordination, public involvement, and contract management, contracts with consultants, and construction contracts.

4. Financial Feasibility
Is the budget reasonable, is the project affordable to the users, is the funding package feasible?

5. Environmental Impact
Key reviewers score project applications individually based on the criteria listed above, then meet to compare like projects (such as irrigation projects, for example). Key reviewers discuss the merits and deficiencies of all like projects and reconcile scores. Discussion by the entire review committee increases ranking fairness by minimizing inconsistencies between scores given by individual reviewers. After scores are reconciled, DNRC staff develop a final ranked list for recommendation to the DNRC director.

DNRC's ranking system is used to determine the relative merit of every proposal submitted for grant funding. Ranking scores are used as a guide for the staff to select projects that best serve the programs objectives as stipulated by statute. Staff ranking scores are not binding.

Either DNRC's director or the Governor may make adjustments to the recommendations to reflect their assessment of natural resource and other policy priorities. An appropriations bill containing project ranking recommendations is drafted and introduced to the Legislature. Actual funding decisions are made by the Legislature. Not bound by DNRC's review criteria or the Governor's final ranking, the Legislature ultimately authorizes funding for the projects in the order of priority and in the amounts it judges will best serve the state.

Funding Recommendations
All feasible grant requests were ranked according to standard criteria to select those that would meet the program's purpose as defined in state statute. In conjunction with its recommendation for funding priority, DNRC made its recommendations concerning the amount of funding to be awarded each project **(Figure 2**). The grant applications recommended for funding during the 2015 biennium included seven types of projects **(Figure 3)**.

With the Governor's approval, final funding recommendations are presented to the Legislature as part of this report. These recommendations do not impose limits on the amount of funding the Legislature may provide to any governmental entity for a single grant project.

Although grant funding for public projects is not limited by statute, in the past the Legislature has limited its grant funding awards to a maximum of $100,000 per project. This funding cycle, the grant ceiling has been increased to $125,000 to meeting increasing project costs. This is the first increase in the project grant ceiling since program inception in 1993.

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

Project Monitoring
Procedures for monitoring projects are governed by a grant contract agreement between DNRC and the project sponsor. The equivalent of four full-time staff administers the active construction, planning, research, and public information grants. RRGL staff typically oversees 350–400 active projects at any given time.

DNRC attempts to make site inspection visits to all projects during the construction phase. Site visits are made to spot check for problems or to respond to a request for assistance from the project sponsor. Budget and staffing constraints preclude DNRC site involvement at every project site.

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

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

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

FIGURE 2 2014 Grant Applications by Order of Ranking Recommendation

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended Loan Funding
1	**Bitterroot Conservation District** Supply Diversion Improvement	$125,000	$125,000	
2	**Whitefish, City of** Whitefish I&I Mitigation	$125,000	$250,000	
3	**White Sulphur Springs, City of** Wastewater System Improvements, Phase 2	$125,000	$375,000	
4	**Polson, City of** Wastewater System Improvements	$125,000	$500,000	
5	**Livingston, City of** Wastewater Treatment Plant Upgrades	$125,000	$625,000	
6	**Cascade, Town of** Missouri River Reclamation	$125,000	$750,000	
7	**Bitter Root Irrigation District** Siphon 1 Improvements, Phase 3	$125,000	$875,000	$1,773,976
8	**Westby, Town of** Wastewater System Improvements	$125,000	$1,000,000	
9	**Bainville, Town of** Wastewater System Improvements	$125,000	$1,125,000	
10	**Fallon County Water and Sewer District** Wastewater Collection System	$125,000	$1,250,000	
11	**Sidney, City of** Wastewater System Improvements, Phase 2	$125,000	$1,375,000	
12	**Terry, Town of** Wastewater Treatment Upgrades	$125,000	$1,500,000	
13	**Montana Department of Natural Resources and Conservation-Water Resources Division State Water Projects Bureau** Musselshell Basin Instrumentation	$125,000	$1,625,000	
14	**Pondera County Conservation District** Wasteway Rehabilitation and Water Quality Improvements	$125,000	$1,750,000	
15	**Upper and Lower River Road Water and Sewer District** Water and Sewer System Improvements, Phase 5	$125,000	$1,875,000	
16	**Missoula County** Mill Creek Restoration	$125,000	$2,000,000	
17	**Flaxville, Town of** Wastewater System Improvements	$125,000	$2,125,000	
18	**Milk River Irrigation Project Joint Board of Control** Hydrometric Gauging Station Expansion and Upgrade	$125,000	$2,250,000	
19	**Missoula, City of** Caras Park Outfall-Stormwater Treatment Retrofit, Phase 1	$125,000	$2,375,000	
20	**Chester, Town of** Wastewater System Improvements	$125,000	$2,500,000	
21	**Hysham, Town of** Water System Improvements	$125,000	$2,625,000	

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding		Recommended Loan Funding
22	**Simms County Sewer District** Wastewater System Improvements	$125,000	$2,750,000	
23	**Ten Mile Creek Estates/Pleasant Valley Sewer District** Wastewater System Improvements, Phase 3	$125,000	$2,875,000	
24	**Laurel, City of** Water System Improvements	$125,000	$3,000,000	
25	**Pondera County Conservation District** C-5 Canal Conversion	$125,000	$3,125,000	
26	**Fromberg, Town of** Wastewater System Improvements	$125,000	$3,250,000	
27	**Jefferson County** Whitehall Sugar Beet Row Wastewater System Improvements	$125,000	$3,375,000	
28	**Sweet Grass County Conservation District** Electric Light Ditch Irrigation Diversion Rehabilitation	$125,000	$3,500,000	
29	**Butte-Silver Bow City County Government** Moulton Reservoir: Reclamation and Protection	$125,000	$3,625,000	
30	**Rocker County Water and Sewer District** Rocker Sewer Connection to Tax Increment Finance Industrial District Wastewater Pipeline	$125,000	$3,750,000	
31	**Tri-County Water District** Water System Improvements	$125,000	$3,875,000	
32	**Neihart, Town of** Water System Improvements	$125,000	$4,000,000	
33	**Cut Bank, City of** Wastewater Treatment Improvements	$125,000	$4,125,000	
34	**Missoula County** Buena Vista Trailer Community Wastewater Improvements, Phase 1	$125,000	$4,250,000	
35	**Denton, Town of** Water System Improvements	$125,000	$4,375,000	
36	**Buffalo Rapids Irrigation Project District 1** Lateral 19.3 Pipeline Conversion, Phase 1	$125,000	$4,500,000	
37	**Winifred, Town of** Water System Improvements	$125,000	$4,625,000	
38	**Highwood Water and Sewer District** Wastewater System Improvements	$125,000	$4,750,000	$47,022
39	**Lower Yellowstone Irrigation Project** Wasteway Project	$65,000	$4,815,000	
40	**Montana Department of Natural Resources and Conservation-Water Resources Division State Water Projects Bureau** East Fork Rock Creek Main Canal Lining	$125,000	$4,940,000	
41	**Riverside Water and Sewer District** Wastewater Facility Plan	$125,000	$5,065,000	
42	**Lewistown, City of** Riverdale Subdivision Wastewater Collection System	$125,000	$5,190,000	
43	**East Clark Street Water and Sewer District** Wastewater Collection System	$125,000	$5,315,000	

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended Loan Funding
44	**Daly Ditches Irrigation District** Preservation and Conservation of Resources	$125,000	$5440000	
45	**Buffalo Rapids Irrigation Project District 2** Main Canal Rehabilitation	$125,000	$5,565,000	
46	**Sidney Water Users Irrigation District** High Canal Rehabilitation, Phase 5	$125,000	$5,690,000	
47	**Lower Musselshell Conservation District** Deadman's Basin Water Users Association South Canal Pre-Tunnel Lining	$125,000	$5,815,000	
48	**Clinton Irrigation District** Main Canal Wasteway Rehabilitation	$125,000	$5,940,000	
49	**Roundup, City of** Water System Improvements	$125,000	$6,065,000	
50	**Missoula County Weed District** Montana Biological Weed Control Coordination	$100,500	$6,190,000	
51	**Jordan, Town of** Wastewater System Improvements	$125,000	$6,315,000	
52	**Crow Tribe of Indians** Wastewater Collection System Improvements	$125,000	$6,440,000	
53	**Helena Valley Irrigation District** Irrigation Efficiency and Water Conservation	$125,000	$6,565,000	
54	**Fort Shaw Irrigation District** Reduce Waste	$125,000	$6,690,000	
55	**Hysham Irrigation District** Re-lift Canal Improvement	$125,000	$6,815,000	
56	**South Wind Water and Sewer District** Water Distribution and Wastewater Collection Study	$125,000	$6,940,000	
57	**Bainville, Town of** Water System Improvements	$125,000	$7,065,000	
58	**Black Eagle-Cascade County Water and Sewer District** Wastewater Collection System Rehabilitation, Phase 2	$125,000	$7,190,000	
59	**Yellowstone Boys and Girls Ranch Water and Sewer District** Wastewater Improvements	$125,000	$7,315,000	$750,000
60	**Fort Peck Tribes** Lateral L-42M Rehabilitation, Phase1	$125,000	$7,440,000	
61	**Toston Irrigation District** Canal Rehabilitation	$125,000	$7,565,000	
62	**Hot Springs, Town of** Wastewater System Improvements	$125,000	$7,690,000	
63	**Lockwood Irrigation District** Pump Station Rehabilitation	$125,000	$7,815,000	
64	**Missoula, City of** Buckhouse Bridge Outfall – Stormwater Treatment Retrofit	$125,000	$7,940,000	
65	**Harlowton, City of** Water System Improvements, Phase 3	$125,000	$8,065,000	

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended Loan Funding
66	**Greenfields Irrigation District** J-Lake Rehabilitation and Water Quality Improvement	$125,000	$8,190,000	
67	**Malta Irrigation District** Exeter Siphon Replacement	$125,000	$8,315,000	
68	**Garfield County Conservation District** Little Dry Water User's Association: Infrastructure Improvements	$125,000	$8,440,000	
69	**Gallatin County Compliance Department** Septic System Repair Assistance Program	$125,000	$8,565,000	
70	**Flaxville, Town of** Water System Improvements	$125,000	$8,690,000	
71	**Glasgow, City of** Water System Improvements	$125,000	$8,815,000	
72	**Conrad, City of** Water System Improvements	$100,500	$8,915,500	
73	**Missoula Irrigation District** Water Conservation	$125,000	$9,040,500	
74	**Malta Irrigation District** Peoples Creek Diversion Dike Rehabilitation	$125,000	$9,165,500	
75	**East Bench Irrigation District** Main Canal Gate Automation	$125,000	$9,290,500	
76	**Dillon, City of** Water System Improvements	$125,000	$9,415,500	$5,000
77	**Medicine Lake, Town of** Wastewater System Improvements	$125,000	$9,540,500	
78	**Kevin, Town of** Wastewater System Improvement	$125,000	$9,665,500	
79	**Montana Department of Environmental Quality** Montana Time-of-Travel: Interactive Web Map Application for Montana	$125,000	$9,790,500	
80	**Liberty County Conservation District** Marias River Bank Stabilization, Phase 2	$125,000	$9,915,500	
81	**Foys Lakeside Estates County Water and Sewer District** Water System Improvements, Phase 2	$125,000	$10,040,500	
82	**Ruby Valley Conservation District** Smith Slough/Smith Ditch Fisheries Enhancement	$125,000	$10,165,500	
83	**Green Mountain Conservation District** Improving Water Quality and Fish Habitat in the Vermillion River Watershed	$120,248	$10,285,748	
84	**Glen Lake Irrigation District** Costich Drop Rehabilitation	$125,000	$10,410,748	
85	**Lincoln County** Measuring and Modeling the Effects of Mining and Associated Reclamation Activities on Selenium and Nitrate Inputs to Lake Koocanusa	$110,500	$10,521,248	

Ranked Order	Project Sponsor/Project Name	Recommended Grant Funding	Cumulative Recommended	Recommended Loan Funding
86	**Petroleum County Conservation District** Musselshell Watershed Prioritized Projects Initiative	$125,000	$10,646,248	
87	**Big Sandy, Town of** Water System Improvements	$125,000	$10,771,248	
88	**RAE Subdivision County Water and Sewer District No. 313** Woodland Park Well	$125,000	$10,896,248	
89	**Judith Gap, Town of** Wastewater System Improvements, Phase 2	$125,000	$11,021,248	
90	**Gore Hill County Water District** Water System Improvements	$125,000	$11,146,248	
91	**Montana Department of Natural Resources and Conservation – Flathead Basin Commission** Flathead Basin Watershed Plan	$125,000	$11,271,248	
92	**Huntley Project Irrigation District** Feasibility Study	$125,000	$11,396,248	
93	**Crow Tribe of Indians** Renewable Energy Technology Wastewater Treatment Facility	$117,500	$11,513,748	
94	**Park County Conservation District** Upper Shields River Fish Barrier and Road Improvements	$120,000	$11,633,748	
95	**Bozeman, City of** Sourdough Canyon Water Storage Assessment	$125,000	$11,758,748	
96	**Montana Department of Natural Resources and Conservation-Water Resources Division State Water Projects Bureau** Willow Creek Access Road Rehabilitation	$125,000	$11,883,748	
97	**Sanders County** Middle Clark Fork River, Plains Reach – Channel Stabilization	$125,000	$12,008,748	
98	**Thompson Falls, City of** Water System Improvements	$125,000	$12,133,748	
99	**Shelby, City of** Stormwater System Improvements	$125,000	$12,258,748	
100	**Mile High Conservation District** Blacktail Creek Nonpoint Nutrient Management	$125,000	$12,383,748	
	The project listed below was not recommended for funding.			
101	**Hill County** Beaver Creek Watershed Study	$0.00	$12,383,748	$755,000

FIGURE 3 Requested Funding by Project Type

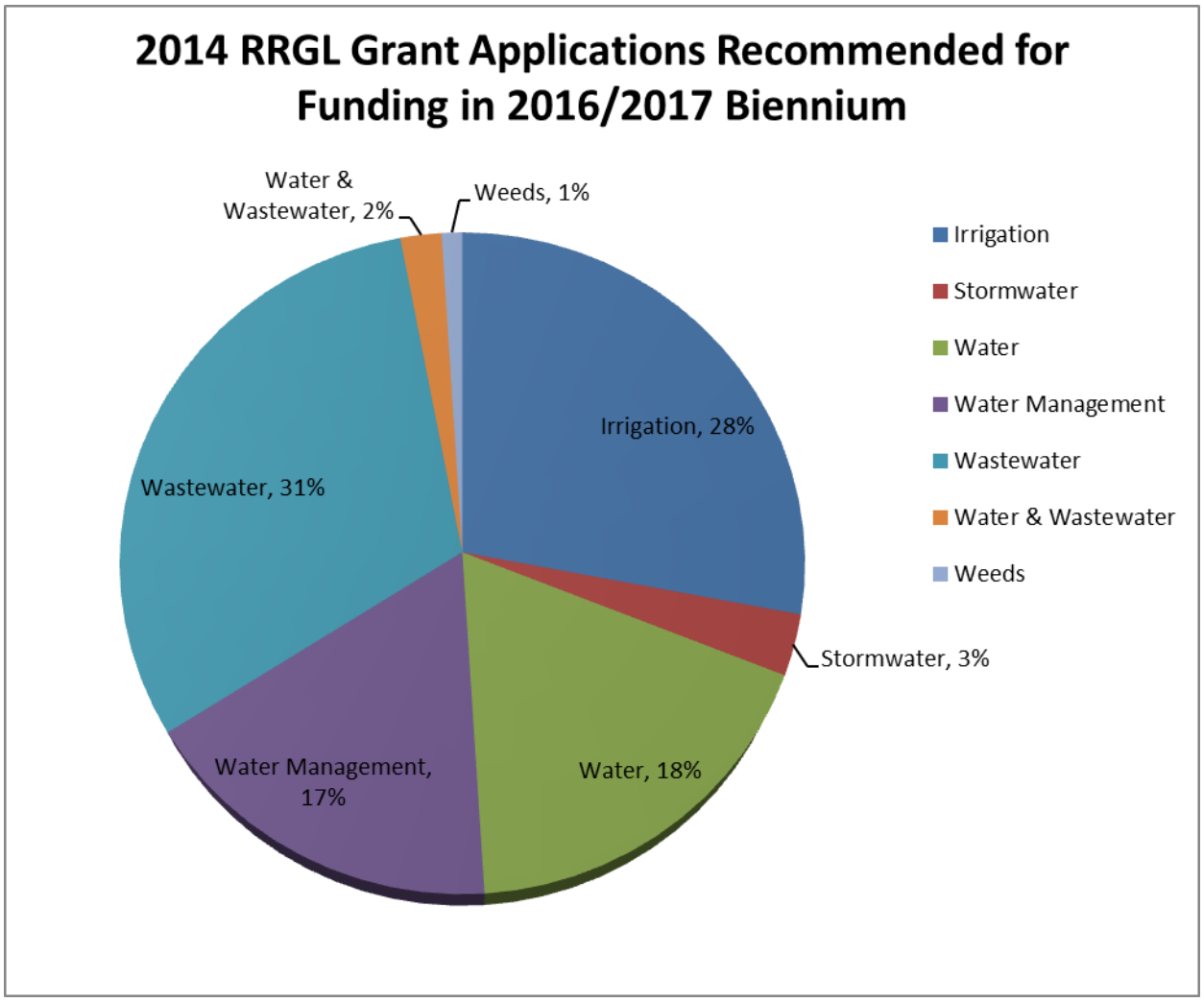
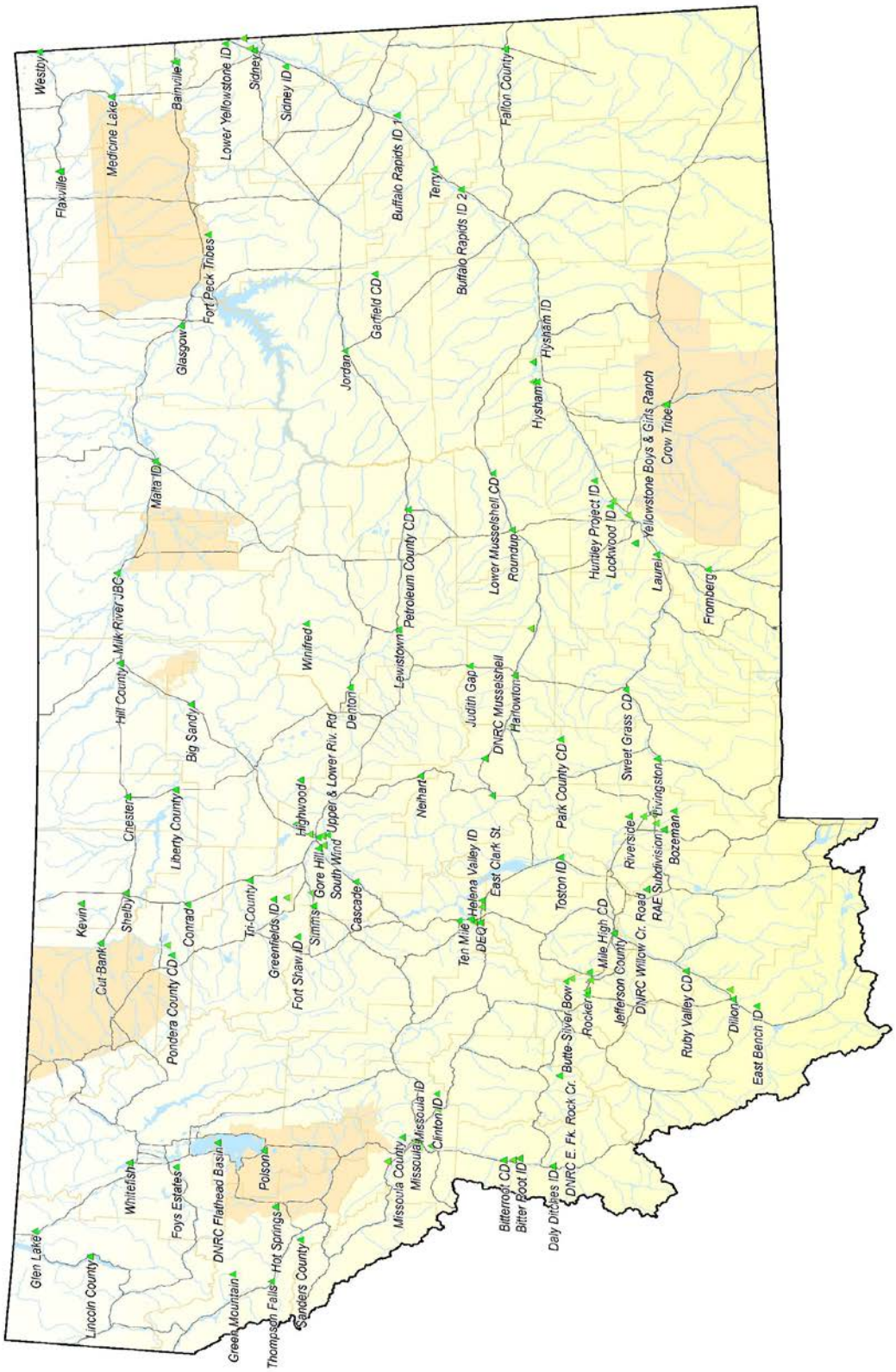


FIGURE 4 2014 RRGL Applications – Location Map



Project No. 1

Applicant Name	Bitterroot Conservation District	
Project Name	Supply Diversion Improvement	
Amount Requested	$ 125,000	
Other Funding Sources	$ 30,000	Supply Ditch Association
	$ 100,000	Recreation Boating Safety Program
	$ 40,000	FWP
	$ 145,862	Legislative Request/Private Fundraising Efforts
	$ 10,000	Bitterroot CD
	$ 7,500	FWP In-kind
	$ 15,000	Supply Ditch
Total Project Cost	$ 473,362	
Amount Recommended	$ 125,000	

Project History
The supply diversion is a low-head diversion dam in a high-use area of the Bitterroot River. The hydraulic condition created by the low-head diversion is extremely dangerous and has resulted in one drowning and a number of other boating incidents. The goal of the project is to modify the diversion to improve public safety while sustainably supplying irrigation water to supply ditch users on approximately 7,500 irrigated acres.

Proposed Solution
- Construct a steepened rock ramp to remove the hydraulic roller condition;
- Install a low-gradient boat/fish chute wide enough for floaters to pass through safely; and
- Place a log grate in front of the headgates to prevent debris and floater entry.

Resource and Citizen Benefits Analysis
The most significant benefit to citizens from this project is increased safety. The hydraulic condition created by the dam is extremely dangerous and both experienced and novice river users often misjudge the severity of the diversion. Even with a life jacket, a person may have difficulty staying afloat. Improving this diversion will remove a significant hazard to boaters in one of the most popular reaches of the Bitterroot River.

Because the diversion dam has limited access to the Bitterroot River, FWP has implemented temporary closures in this reach due to the risk of an accident. This project will improve access through increased safety and allow a greater number of people the opportunity for natural-resource-based recreation.

The low-gradient boat chute will improve fish passage and improves management of the resource water.

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

Project No. 2

Applicant Name	Whitefish, City of	
Project Name	Whitefish I&I Mitigation	
Amount Requested	$ 125,000	
Other Funding Sources	$ 500,000	TSEP
	$ 113,700	Applicant
	$ 402,300	SRF Loan
Total Project Cost	$1,141,000	
Amount Recommended	$ 125,000	

Project History
The Whitefish wastewater system has over 58 miles of sewage main, 17 lift stations, and serves 2,703 households (2000 census). Much of the collection system is made of older piping materials or was installed with poor construction practices. Consequently, clear water enters the collection system through leakage areas resulting in over 16% clear water flow into the WWTP per year. Additionally, the outdated WWTP is not anticipated to meet new regulatory standards to be implemented by DEQ within the next five years, and a new plant is required by a mandated compliance schedule. Reduction in the average and peak flow volume by removing the clear water could significantly reduce the future cost of the new treatment plant.

Proposed Solution
- Rehabilitate manholes;
- Install manhole seals;
- Elevate manhole rings;
- Seal connecting sewers; and
- Direct surface flow away from manhole structures.

Resource and Citizen Benefits Analysis
It is estimated this project could reduce inflow to the wastewater plant by 100,000 gpd to the plant. This represents almost 10% of the current annual average daily flow. A corresponding reduction in chemical use and energy savings in the WWTP and collection system would occur. The improved performance also results in better water quality for the Whitefish River. The project results in the preservation of groundwater through less exfiltration of wastewater, preservation of fish and aquatic habitat through reduction in ammonia at the treatment plant, conservation of energy through reduced pumping and treatment of wastewater, and a better capability to manage hydraulic overloads. The project has regional impacts and benefits including protecting the Whitefish River, a tributary of the Flathead River. The project demonstrates public health and safety benefits, 10 bonus points were awarded.

The project identifies reasonable funding and provides an adequate contingency. The project also meets environmental guidelines and has described mitigation procedures for any identified adverse environmental impacts.

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	White Sulphur Springs, City of	
Project Name	Wastewater System Improvements, Phase 2	
Amount Requested	$ 125,000	
Other Funding Sources	$ 750,000	TSEP
	$1,556,550	SRF Loan
Total Project Cost	$2,431,550	
Amount Recommended	$ 125,000	

Project History
White Sulphur Springs' wastewater treatment system was constructed in 1959 and consists of a two-cell facultative lagoon with discharge to a tributary of the Smith River. There have been continual violations of the discharge permit (BOD_5 and TSS). In 2012, the city began Phase 1 of the project, which rehabilitated 8,800 lineal feet of sewer mains to drastically reduce I&I to the system. Phase 2 of the project will address the issues with the treatment. The city is subject to a DEQ AOC (WQ-10-27), which requires the city to take action on the insufficient treatment at the wastewater lagoons. The proposed improvements with this phase will address the conditions of the AOC and improve treatment in the system.

Proposed Solution
- Implement a two-cell, aerated treatment facility;
- Construct a seasonal effluent storage pond; and
- Construct a spray irrigation system for effluent disposal.

Resource and Citizen Benefits Analysis
Improvements to White Sulphur Springs' wastewater system will conserve, manage, develop, and preserve water resources, water quality, and wildlife habitat. The conservation of resources will occur through the use of treated effluent for irrigation purposes, a beneficial reuse of a natural resource. Management of the resource comes with the enhanced ability to control and administer the disposal of the effluent by utilizing spray irrigation. Advanced controls will allow flexibility and control for timely irrigation. Development of a resource is achieved through the reuse of the treated effluent in a crop irrigation capacity. Preservation of a resource is achieved through the elimination of inadequately treated effluent into a tributary of the Smith River.

Citizen benefits are clearly shown by improving the treatment of wastewater, eliminating discharge of poorly treated wastewater, which eliminates contamination of the Smith River tributary. This shows a clear benefit to the health, safety, and well-being of the citizens. The funding proposed for this project does not put undue hardship on the residents.

Town residents have been notified of the proposed project including the costs per user through public hearings. There are also many letters of support for the project contained in the application.

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	Polson, City of	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 750,000	TSEP
	$ 450,000	CDBG
	$17,664,081	SRF Loan
Total Project Cost	$18,989,081	
Amount Recommended	$ 125,000	

Project History
Polson's existing LAS was constructed in 1981 and has served the city for over 30 years. Major improvements to the aeration system and sludge removal in 2001 cost residents over $1 million. Although the city has been proactive in the management of this system, pending new discharge permit requirements for disinfection and nutrient removal (nitrogen and phosphorous numeric standards) will require a complete replacement of the wastewater treatment system.

In order to provide nutrient removal capability, the existing lagoons must be completely replaced with a mechanical WWTP. The plant will include several bioreactors that will biologically remove nitrogen and phosphorous compounds from the water. A membrane filtration system will be used to clarify the treated effluent resulting in nearly undetectable levels of pollutants. The membrane system will also provide an opportunity for the beneficial reuse of treated effluent in future years, should the city require alternative sources of nonpotable water.

Proposed Solution
- Construct new headworks, equalization tank, and overflow pond;
- Install a new MBR treatment system;
- Construct new aerobic sludge digestion and dewatering facilities;
- Construct a new UV light disinfection system; and
- Provide engineering design and construction engineering of the proposed project.

Resource and Citizen Benefits Analysis
The proposed project will improve and preserve water quality in the Flathead River. Aquatic life, including fish, as well as recreationists will benefit from this project.

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

Project No. 5

Applicant Name	Livingston, City of	
Project Name	Wastewater Treatment Plant Upgrades	
Amount Requested	$ 125,000	
Other Funding Sources	$12,490,000	SRF Loan
	$ 750,000	TSEP
Total Project Cost	$13,365,000	
Amount Recommended	$ 125,000	

Project History
Livingston's WWTP consists of an attached-growth biological treatment system consisting of headworks, primary and secondary clarifiers, rotating RBCs, UV disinfection, and chlorine disinfection. Treated wastewater is discharged into the Yellowstone River. Most of the treatment equipment and structures at the existing treatment plant are at least 30 years old. The plant is also reaching its loading capacity for treating BOD and TSS. The city's wastewater discharge permit expired on October 31, 2014. The next discharge permit issued to the city by DEQ will include new limits for ammonia. Subsequent discharge permits will have effluent limits for nitrogen and phosphorous. The treatment plant will not be able to comply with these limits without an upgrade to its wastewater treatment system to address the deficiencies with the existing wastewater treatment system.

Proposed Solution
- Install secondary treatment system upgrades;
- Upgrade disinfection facilities;
- Install digester improvements;
- Install influent pump station electrical improvements;
- Add additional composting vessels;
- Install digester roof access improvements;
- Install solids handling improvements (new pumps and flow meter); and
- Create administration building expansion and roof access improvements.

Resource and Citizen Benefits Analysis
Completion of the proposed wastewater treatment system improvements will provide for a higher-quality effluent that will help preserve the water quality of the Yellowstone River. The removal of ammonia from the wastewater effluent will protect and conserve the fishery and aquatic life in the river. The proposed improvements will allow the city to better manage its wastewater treatment system and will increase its loading capacity to provide for future population and economic growth. The benefits to the Yellowstone River are regional, but the overall beneficial impacts to the river are small in scale.

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. 6

Applicant Name	Cascade, Town of
Project Name	Missouri River Reclamation
Amount Requested	$ 125,000
Total Project Cost	$ 125,000
Amount Recommended	$ 125,000

Project History
Cascade intends to conduct cleanup and rehabilitation of three infrastructure-related sites that threaten to degrade natural resources. The three sites include the PPL Cascade Town Park, an island east of town in the Missouri River that formerly hosted the city wastewater treatment lagoons, and an abandoned municipal water-supply line attached to a bridge crossing the Missouri River. The town park is located on a former landfill, and debris is protruding from the bank in areas of erosion. The island that formerly contained the wastewater lagoons contains old infrastructure that poses a safety hazard and degrades wildlife habitat. The abandoned water-supply line is deteriorated and could fall into the river or create a conduit for contaminants to enter soil or groundwater.

Proposed Solution
- Complete survey, design, and bidding to complete the project;
- Armor the left bank of the Missouri River at the site of the town park to protect against erosion and contain the old waste. Options include natural stream bank restoration or armoring with rock and plantings. Natural stream bank restoration would provide the best resource benefits, but is also the mostly costly alternative;
- Remove the unused wastewater infrastructure on the island, and rehabilitate and revegetate the area to improve public safety, remove erosion hazards, and improve wildlife habitat; and
- Remove the abandoned water-supply pipeline to improve public safety and remove a potential conduit for contaminants to enter soil or groundwater. Reinforcing the pipeline was considered as an alternative, but complete removal would be more cost-effective and would eliminate the potential problem.

Resource and Citizens Benefit Analysis
This project will develop wetland habitat, wildlife habitat, and improve plant diversity as part of the wastewater lagoon reclamation. This project would also preserve surface water and groundwater by removing potential contamination sources, and would preserve agricultural land from erosion by reinforcing stream banks at sites of erosion.

The resource benefits are generally estimated, although some benefits can be quantified, such as the land area restored through car body removal and WWTP reclamation. The resource benefits are mostly local, but will affect the Missouri River.

This project would improve aesthetics and natural resources on the island, provide improved public access to the island, increase surface water recreation by removing hazards (car bodies), increase plant and animal diversity, and improve water quality for downstream users. The project will also provide public safety and health benefits by removing potential hazards such as car bodies and aging infrastructure, and prevention of further landfill erosion.

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	Bitter Root Irrigation District	
Project Name	Siphon 1 Improvements, Phase 3	
Amount Requested	$ 125,000	
Other Funding Sources	$1,773,976	RRGL Loan
	$ 300,000	Applicant
	$ 500,000	USACE
Total Project Cost	$2,698,976	
Amount Recommended	$ 125,000	

Project History
This project will replace a major siphon and supporting bridge structure spanning the Bitterroot River and associated floodplain. The original siphon and bridge have long surpassed design life, creating maintenance problems, unreliable water delivery, and public safety issues for boaters. The BRID supplies irrigation water through a 72-mile system serving approximately 16,665 acres. Due to the size and cost of siphon replacement, this is a multiphase project spanning multiple years.

Proposed Solution
- Replacement of an 877-foot section of the siphon with welded steel pipe and a self-supporting pipe bridge.

Resource and Citizen Benefits Analysis
This project will preserve existing water supply to irrigation district homes, ranches, and farms, and provide economic benefit to the region. The current siphon is increasingly leaky and when a leak occurs, the siphon must be drained so that repairs can be made. This results in extended periods without the ability to irrigate. A catastrophic failure of the siphon resulting in the loss of an entire irrigation season and water delivery to irrigated land would have an estimated economic impact of $9 million per year.

Additionally, the project enhances natural resource-based recreation by removing failing infrastructure and replacing it with a structure that free-spans the active channel. Piers in the active channel present serious obstacles and require skilled maneuvers to avoid them; this hazard increases with debris and high water.

This project will improve the ability of the BRID to control and administer other components of the surface water delivery system, since much of the current effort is focused on siphon maintenance. The existing siphon and bridge is maintained on an annual basis resulting in average labor and materials costs of $34,000 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. 8

Applicant Name	Westby, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 625,000	TSEP
	$ 589,500	RD Grant
	$ 589,500	RD Loan
Total Project Cost	$1,929,000	
Amount Recommended	$ 125,000	

Project History
Westby's wastewater collection system and three-cell facultative lagoons were built in 1973. This system was designed to be a facultative lagoon, with total retention and total evaporation for wastewater disposal. Over time, the lagoon liners have eroded and now fail to properly contain wastewater. Because of the faulty liners, the lagoons leak over 5.5 mg of raw and partially treated wastewater into the ground yearly. The lagoons are undersized to handle wastewater flows produced by the town, which continues to use total retention and total evaporation for disposal.

Proposed Solution
- Rehabilitate the north lagoon for use as the primary treatment cell;
- Rehabilitate the middle and south lagoons to create a storage cell meeting DEQ Circular 2 requirements; and
- Install an irrigation pump and center pivot for irrigation of treated effluent.

Resource and Citizen Benefits Analysis
This project will preserve the local groundwater by eliminating the excessive leakage of raw and undertreated wastewater from the existing lagoons. The soils in the project area provide a direct hydraulic connection between groundwater and surrounding surface water. Because this project will eliminate the contamination of groundwater, it will also eliminate the possible contamination of nearby surface water. The USFWS has identified the nearby Alkali Lake as critical wildlife habitat. The project area is also within the Prairie Pothole Region, one of North America's most important areas for duck reproduction. Completion of this wastewater system improvements project will preserve critical waterfowl habitat.

The project will develop a new beneficial use of wastewater effluent through land application, using a center pivot irrigation system. The center pivot will irrigate approximately 10 acres of cropland.

There have been two public hearings regarding this project and the PER was completed for the town. Public support appears strong. Additionally, four public letters of support and 31 signatures were included on a support petition submitted with the funding application.

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	Bainville, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$1,212,000	Governor's Aid Package
	$ 28,800	Applicant
	$ 321,200	Impact Fees
Total Project Cost	$1,687,000	
Amount Recommended	$ 125,000	

Project History
Bainvillle is in the heart of the Bakken oil boom. The population has increased exponentially, growing from 150 in 2008 to an estimated 858 by the end of 2014. A new wastewater lagoon was constructed in 2008 that was hydraulically overloaded by 2010. Bainville placed a moratorium on new construction in 2010 and as of March 2013, 50 building permit applications could not be accommodated. Primary wastewater lagoon cells stayed septic well into summer with huge odor problems. A private developer recently added an additional cell for his "man camp." The town now has impact fees of $7,300 per connection, the highest in Montana. The moratorium is now lifted due to the new lagoon cell. However, more development is imminent, which will be problematic for Bainville. Septage from regional "man camps" is being disposed of illegally in the region, some of it finding its way into Bainville. Nearly all towns in the area will not accept septage, and illegal dumping is a regional environmental problem. No housing is available in Bainville, yet the need for labor is extreme.

Proposed Solution
Recommended improvements include:

- Upgrade lift station from 55 to 150 gpm; and
- Provide aerated lagoon and take advantage of storage pond and irrigation system provided by private developer.

Resource and Citizen Benefits Analysis
The project provides modest resource conservation benefits. Improvements may provide an alternative for "man camps" and allow for legal disposal of wastewater in lieu of illegal practices being utilized, thus preserving water quality in a small regional area. Expansion of this system will provide for orderly development and will reduce the impetus for scattered "on-site" systems. The project should improve groundwater quality and conserve groundwater on a somewhat regional level. The wastewater work will assist in managing odors and adds controls to lift station pumps that may manage energy resources. The project will provide for community growth and environmentally sound development. Some regional benefit is provided because the system may take pressure off RD proposals. An adequate wastewater system is necessary to provide sound regional environmental health, and public support for the project is strong.

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

Project No. 10

Applicant Name	Fallon County Water and Sewer District	
Project Name	Wastewater Collection System	
Amount Requested	$ 125,000	
Other Funding Sources	$ 680,000	TSEP
	$1,000,000	Applicant
Total Project Cost	$1,805,000	
Amount Recommended	$ 125,000	

Project History
The Fallon County WSD, which serves the Stanhope Subdivision, has substantial problems with its septic systems. The silty clays cannot absorb the wastewater from the septic tanks, and the wastewater pools on the surface throughout the area. The district has an agreement with the Baker to connect to the city for proper wastewater treatment and subsequent reuse of the water for irrigation. In this, both surface water and groundwater are protected. The project will also provide protection to public health of the district's 110 residents, especially children that might play in the pooled sewage.

Proposed Solution
- Construction of a gravity-type collection system with 7,200 feet of 8-inch gravity sewer pipe and 27 manholes;
- Abandonment of septic tank systems; and
- Approximately 45 new 4-inch diameter and 50-foot long service connections.

Resource and Citizen Benefits Analysis
Pooled septic water from the failed septic systems pollutes water reaching Montana waters. This wastewater, currently a hazard, will be sent to the existing and upgraded Baker treatment system nearby where it will be properly treated before use in irrigation.

Benefits to resources include: 1) protection of state waters by avoiding continued pollution to the tributaries (high nitrogen and phosphorous); 2) protection of groundwater and soils; 3) effluent from the Baker treatment system can be used for irrigation; and 4) the new system will be far easier to manage since all wastewater will be accounted for and added to an existing treatment system.

Benefits to more than one resource (soils and water) are substantial and multiple. Due to severity and movement of waste by runoff to streams, it is also considered potentially beneficial to the region.

The applicant succinctly notes:
"These ponds, or pools, can be mistaken as runoff or surface drainage and harmless, when in fact they contain waste that the soils have been unable to absorb. In an effort to differentiate these areas, the residents have utilized orange traffic cones to prevent pedestrians and cars from entering sewage contaminated areas."

Citizen benefits are multiple, including: 1) elimination of plugged drain fields and sewage backups and; 2) elimination of wastewater rising to the surface, where children play; 3) elimination of odors; 4) elimination of contaminated soils; 5) elimination of sewage flow from one property to another and eventually into tributaries; and 6) elimination of the need for enforcement.

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	Sidney, City of	
Project Name	Wastewater System Improvements, Phase 2	
Amount Requested	$ 125,000	
Other Funding Sources	$2,500,000	Governor's Aid Package
	$4,800,000	SRF Loan
Total Project Cost	$7,425,000	
Amount Recommended	$ 125,000	

Project History
In 1959 the city constructed a two-cell lagoon wastewater treatment system that discharged to the Yellowstone River. When construction was completed, the second cell did not hold water. The system does not meet state design criteria. In the 1980s the city was required to construct monitoring wells around the lagoons to determine the degree of contamination reaching the groundwater. The city has been collecting water-quality data through these monitoring wells. Since the wells were constructed, several studies have been conducted, but no actions have been taken to remedy the wastewater system. The city has grown approximately 25% in the last two years and 50% since 2010, due to the Bakken oil boom. In April 2012, the lagoon went completely septic. To restore the treatment capability of the lagoon, the city ceased accepting septage delivered to the system from septic tank pumpers, and three weeks later the lagoon recovered. In January 2013, the city was put on an AOC and must come into compliance within four years. The city cannot meet its wastewater discharge permit without completely rebuilding its treatment system.

Proposed Solution
The proposed project is phased as follows:

Phase 1 (in progress):
- Reduce the I&I in the collection system; and
- Construct infiltration ponds.

Phase 2 (this grant):
- Construct four aerated ponds;
- Construct UV system; and
- Construct the blower building.

Phase 3 (future phase):
- Remove sludge from existing lagoon cell;
- Construct and line storage cell;
- Construct headworks; and
- Construct lift station.

Resource and Citizen Benefits Analysis
The new plant will protect water quality in local groundwater aquifers underlying the wastewater treatment facilities, as well as surface water in the nearby Yellowstone River. The new system will significantly improve the city's ability to manage wastewater treatment through controlled discharges to properly designed unit processes. The disinfection system will improve the public's health and safety by eliminating the potential for human contact with pathogens. Given the large population growth in eastern Montana, the provision of an acceptable WWTF will enable the city to provide for improved housing and the overall economic benefit of its citizens.

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	Terry, Town of	
Project Name	Wastewater Treatment Upgrades	
Amount Requested	$ 125,000	
Other Funding Sources	$1,025,000	SRF Loan
	$ 750,000	TSEP
Total Project Cost	$1,900,000	
Amount Recommended	$ 125,000	

Project History
Terry's wastewater system includes a two-cell facultative LAS and gravity collection system. The lagoons discharge into the BRDD and ultimately the nearby Yellowstone River. The town's collection system was upgraded in 1996 and 1998. The collection system is generally in good condition but there is still an issue with rainwater infiltration occurring in three manholes on the main trunk line to the lagoons. The town's facultative wastewater treatment lagoons were constructed in 1965, and with the exception of performing sludge removal and routine maintenance, they have not needed an upgrade. DEQ design standards and discharge permit effluent limits have become more stringent subsequent to construction of the treatment system. The town plans to undertake a wastewater system improvements project to address the deficiencies with its wastewater system.

Proposed Solution
- Expand the LAS by adding another cell;
- Add influent and effluent flow metering;
- Repair and upgrade flow-control structures and piping between cells;
- Install a disinfection system;
- Construct a new discharge pipeline to move the discharge point to the mainstem of the Yellowstone River; and
- Repair the manholes that allow stormwater to enter the collection system.

Resource and Citizen Benefits Analysis
The completion of the proposed wastewater improvements, which include adding a third cell to the LAS and installing disinfection, will provide for a higher quality effluent, which will also preserve the water quality of the Yellowstone River and conserve fish habitat. Undisinfected wastewater will no longer be discharged into BRDD and the Yellowstone River, safeguarding the health of river users and ditch maintenance personnel. The installation of flow-monitoring stations for the lagoon influent and effluent will allow system operators' to detect leakage from the lagoons should the liner become compromised in the future and increase the operators ability to manage the wastewater treatment system. The benefits to the Yellowstone River and BRDD are local and small in scale.

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	Montana Department of Natural Resources and Conservation Water Resources Division – State Water Projects Bureau	
Project Name	Musselshell Basin Instrumentation	
Amount Requested	$ 125,000	
Other Funding Source	$ 50,000	Applicant In-kind
Total Project Cost	$ 175,000	
Amount Recommended	$ 125,000	

Project History
Bair, Martinsdale, and Deadman's Basin Dams in the Musselshell River Basin are managed by SWPB. The reservoirs supply over 60,000 acre-feet of contracted water to 93 ranches and three municipal water systems. Existing data collection instrumentation at the reservoirs is antiquated or nonexistent. Inflow and outflow from each reservoir, as well as the reservoir elevation at Bair Dam, must be measured onsite or downloaded directly from data loggers at the sites. Telemetered near-real-time data is available only for the reservoir elevations at Martinsdale and Deadman's Basin Dams. The lack of consistent, up-to-date data limits the efficiency with which the dams can be operated. The fundamental project goal is to collect data to effectively manage water flow throughout the Musselshell Basin.

Proposed Solution
- Replace outdated equipment with automated instrumentation to measure reservoir elevations, inflows, and outflows;
- Install telemetry systems to relay near-real-time data to SWPB; and
- Test project components and put into service.

Resource and Citizen Benefits Analysis
Data collected through completion of this project will be used to provide a management benefit to the water resource in the Musselshell Basin. Efficient dam operation will, to a lesser extent, potentially conserve water for beneficial uses, while preserving stream flows, cropland, and aquatic and wildlife habitat. An additional anticipated benefit of the project is the capability to identify and repair defective irrigation infrastructure, which would result in additional water conservation. Benefits are considered regional in scope.

Efficient water management will help preserve the natural resource-based recreational opportunities at the reservoirs. Recreational activities provide an economic benefit to citizens across the region; in fact, the applicant estimates that anglers spend over $1.3 million each year to fish at the three reservoirs. Near-real-time data provides a significant dam safety, and data could potentially be used to operate the dams improvement in to downstream effects of flood events.

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

Project No. 14

Applicant Name	Pondera County Conservation District	
Project Name	Wasteway Rehabilitation and Water Quality Improvements	
Amount Requested	$ 125,000	
Other Funding Source	$ 170,374	Applicant In-kind
Total Project Cost	$ 295,374	
Amount Recommended	$ 125,000	

Project History
The PCCRC serves 80,400 acres of irrigated lands, delivering 62,820 acre-feet of water to over 400 users annually. Through a large-scale planning effort, PCCRC identified projects to improve efficiency of the irrigation water-delivery system. Reducing the loss of 20,000 acre-feet of water annually through wasteways is a top priority. Of this amount, 5,000 acre-feet is lost through the K-Blowoff, with excess flow into the Dry Fork of the Marias River. The K-Blowoff wasteway contributes significant sediment to this Marias River tributary. The project goal is to conserve water resources while improving water quality in the receiving water bodies.

Proposed Solution
- Installation of a storage reservoir and pump-back system to save up to 3,100 acre-feet of water annually for use by downstream irrigators.

Resource and Citizen Benefits Analysis
The project will conserve approximately 3,100 acre-feet of irrigation water. The proposed reservoir will allow ditch managers to store and later reuse conserved water to better manage the distribution and application of irrigation within the canal company's service area. Water quality will be preserved in receiving the Marias River by reducing erosion and nutrient loading. The project will develop additional wetland acres around the reservoir perimeter, but will also impact some existing wetlands within the reservoir footprint and possibly downstream through capture of surface flows. Net wetland gain is estimated to be 3.5 acres (not been verified).

Economic benefits will accrue to the agriculture-based community through jobs and increased crop production. Some recreational benefits may result, but these will be minimal as the project site does not have public access. The project has no apparent health or safety benefits.

Funding Recommendation
DNRC recommends grant funding of $125,000 upon DNRC approval of the project scope of work, administration, budget, and funding package.

Project No. 15

Applicant Name	Upper and Lower River Road Water and Sewer District	
Project Name	Water and Sewer System Improvements, Phase 5	
Amount Requested	$ 125,000	
Other Funding Sources	$ 340,000	TSEP
	$ 277,712	SRF Loan
Total Project Cost	$ 742,712	
Amount Recommended	$ 125,000	

Project History
In 1917 the ULRR-WSD began developing its first subdivision plat. Eight different subdivisions and five mobile home parks exist in the district with onsite water and wastewater systems. There is a long history of water-quality problems due to shallow groundwater and failing septic systems. Major system deficiencies include the lack of safe and reliable water and wastewater service to significant portions of the district. The DEQ and the CCHD prepared a groundwater study in the area in 1997–98, finding high levels of nitrate and ammonia in drinking-water wells. A WSD was formed in 2003 to provide adequate water and sewer service to the area. Since four areas of the district (Phases 1-4) have received funding to provide water and sewer service to Great Falls. The Phase 5 project would include providing water and sewer utilities to portions of the remaining unserved north district area.

Proposed Solution
- Install approximately 1,705 lineal feet of eight inch water main, six fire hydrants, 2,185 lineal feet of eight inch sewer main, nine manholes, and 17 water and sewer services; and
- Install water meters (a requirement of annexation into Great Falls and connection to water and sewer utilities).

Resource and Citizen Benefits Analysis
Public benefits include residents no longer having to be concerned about consuming with local contaminated groundwater. Recreationists will be able to use the Missouri River with less concern regarding biological and chemical contaminants from septic systems. Lastly, local residents and area businesses/contractors will benefit through lifting of the moratorium on development.

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	Missoula County	
Project Name	Mill Creek Restoration	
Amount Requested	$ 125,000	
Other Funding Source	$ 1,500	Applicant
Total Project Cost	$ 126,500	
Amount Recommended	$ 125,000	

Project History

The Mill Creek restoration project will restore a 450-foot reach of Mill Creek where continual stream bank erosion threatens a county road critical to public safety and local travel. Mill Creek, an important local fishery, is a tributary to the CFR just downstream from Missoula; it provides spawning habitat for CFR trout. The stream banks have eroded over 30 feet horizontally in the last two years, contributing more than 790 cy of sediment and threatening a county road.

The eroded material has filled in one of two culverts recently installed by Missoula County under a RSID using tax dollars from local residents. The reduced capacity of the culverts has created a fish passage barrier, preventing fish access to 73% of the drainage. This project will stabilize the stream banks using bioengineering and revegetation techniques, rehabilitate the culverts to simulate the natural streambed, and provide for the long-term function of this stream reach. The project will also ensure the long-term sustainability of local farming and ranching operations by maintaining and preserving agricultural properties.

Proposed Solution

- Restore 450 feet of stream bank using soft bioengineering techniques via placement of conifer fascines in front of the bank and create a new bank line using vegetated soil lifts with willow plantings;
- Install riparian plants on the overbank;
- Install a vegetative log-crib wall on the upper stream bank for added protection;
- Recondition two culverts by removing excess debris and accumulated sediment; and
- Install flow-control structures in the culverts to improve sediment transport through the culverts.

Resource and Citizen Benefits Analysis

The project will preserve renewable resources (water quality and fish/wildlife habitats) and protect a critical county road and valuable agricultural lands. Upon completion, the culverts will no longer block fish passage. Restoring Mill Creek and the county road culverts will improve water quality, floodplain and channel function, recreational opportunities, and protect agricultural lands for the long-term enjoyment of Montana citizens.

The project enhances public health/safety by protecting the access road to a residential area. Protecting the road is critical to the resident's safety and serves as the sole public access for residences, emergency vehicles, and recreationists. Other public/citizen benefits are improved water quality, fish and wildlife habitat, recreation, and long-term resource protection. Citizen benefits are local, and the project does not provide statewide benefits.

The project will benefit the local citizens and is supported by several organizations. TU, the community of Frenchtown, Missoula County, and FWP support the project. The project's small size limits its economic value to the area, but protection of the road provides long-term economic value via public safety and recreational access.

Funding Recommendations

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	Flaxville, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 625,000	TSEP
	$ 345,000	RD Grant
	$ 345,000	RD Loan
	$ 5,000	Applicant
Total Project Cost	$1,445,000	
Amount Recommended	$ 125,000	

Project History
The town's wastewater treatment system was constructed in 1975 and consists of a two-cell facultative lagoon with disposal through an I&P basin. No improvements have been made since the original construction. The PER for the wastewater system indicated several deficiencies that require action. There is erosion on the banks of the second cell, excessive vegetation leading to a burrowing animal problem on the banks and compromising the clay liner, and excessive leakage in both cells (up to 31 inches per year, five times allowable by DEQ).

Proposed Solution
- Remove the sludge from the existing lagoons;
- Install a new PVC liner in the primary treatment cell; and
- Expand the second treatment cell and line it with a PVC liner for use as an evaporation basin.

Resource and Citizen Benefits Analysis
Improvements to Flaxville's wastewater system will conserve, manage, and preserve water resources, water quality, and wildlife habitat. The conservation of resources will occur through the use of an evaporation basin for effluent disposal. The evaporation basin requires no power which conserves energy that would otherwise be needed with alternative disposal methods. The management of resources occurs by eliminating a known source of nitrate from the groundwater, where tests have indicated levels above the EPA maximum allowable concentration of 10 mg/l. Preservation also occurs by eliminating a contamination source for groundwater drinking wells in the area.

Citizen benefits are clearly shown by improving the treatment of wastewater, eliminating leakage, and eliminating contamination of water supplies. This demonstrates a clear benefit to the health, safety, and well-being of the citizens. The funding proposed for this project does not put undue hardship on the residents. Town residents have been notified of the proposed project including the costs per user through public hearings.

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	Milk River Irrigation Project Joint Board of Control	
Project Name	Hydrometric Gauging Station Expansion and Upgrade	
Amount Requested	$ 125,000	
Other Funding Source	$ 21,349	Applicant
Total Project Cost	$ 146,349	
Amount Recommended	$ 125,000	

Project History

The Milk River Irrigation Project JBOC encompasses eight irrigation districts from Fresno Dam near Havre to Vandalia Dam near Glasgow. The project covers over 300 square miles and 140,000 irrigated acres. To manage the water supply and distribution of water within the Milk River Project, the JBOC has partnered with the USBR and DNRC to install remote gauging stations that serve as a river management and accounting tool to keep track of each district's diversions and water allotments. The JBOC is responsible for operating and maintaining 11 gauging stations along the Miler River Project. The JBOC is proposing to expand this system to 15 gauging stations to provide flow information within several critical sections of the system to increase water user communication, forecast water demands, and track water-conservation measures.

Proposed Solution

- Install four new gauging stations at the Nelson Reservoir north outlet.

Resource and Citizen Benefits Analysis

Implementation of the proposed gauging station installation and monitoring project will lead to improved monitoring and water management throughout the Milk River Irrigation Project. The renewable resource benefits for the project include the management and conservation of water as well as energy conservation. The citizen benefits include economic benefits to agricultural users at both local and regional levels, as well as recreational benefits to citizens of the region for increased water availability at recreational sites such as Fresno Reservoir and Vandalia Reservoir, along with recreation on the Milk River itself. The project received overwhelming support from local communities, businesses, CDs, state legislators, congressional representatives, and irrigators within 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. 19

Applicant Name	Missoula, City of	
Project Name	Caras Park Outfall – Stormwater Treatment Retrofit, Phase 1	
Amount Requested	$ 125,000	
Other Funding Sources	$ 25,000	Missoula Valley WQD
	$ 25,000	Missoula Parking Commission
	$ 21,062	Missoula Redevelopment Agency
Total Project Cost	$ 196,062	
Amount Recommended	$ 125,000	

Project History
The CFR runs through downtown Missoula and the downtown stormwater system discharges to the river near a recreation site called Brennan's Wave, adjacent to Caras Park. This untreated stormwater from a 62-acre drainage area is discharged to the river through a 30-inch concrete pipe.
The stormwater is contaminated with grease, bacteria, sediment, metals, and garbage. The proposed project includes installation of two HDS in-line treatment systems. An HDS will remove 50–80% of the TSS from the stormwater in addition to sediment-attached metals and phosphorous and municipal garbage.

Proposed Solution
- Finalize the specifications of the HDS;
- Finalize the design of the HDS installation including existing storm pipe removal and installation of new storm piping; and
- Construct improvements including installation of the HDS, removal of unneeded storm pipe, and the installation of new storm pipe.

Resource and Citizen Benefits Analysis
The CFR in the Caras Park area is a 303(d) listed stream impaired by copper, iron, lead, nitrogen, sewage indicators, and phosphorous. As noted above, this project will reduce TSS discharge to the river and will likely reduce the amount of metals and phosphorus discharged to the CFR. This will benefit all users of the CFR. The public benefits of this project are region wide because of the beneficial effect to the CFR, a regionally used river.

The project will have both a short-term economic benefit resulting from the proposed construction work and possible long-term economic benefits from increased public use (local and visitor) of the area near the Caras Park Outfall. This project will decrease the visible and odiferous discharge from the outfall. The installation of the HDS is the first phase of a planned two-phase end-of-pipe stormwater run-off retrofit. The second phase is a designed infiltration gallery not yet funded. This project has both state agency and local support.

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	Chester, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 500,000	TSEP
	$ 496,650	RD Loan
	$ 212,850	RD Grant
	$ 3,000	Applicant
Total Project Cost	$1,337,500	
Amount Recommended	$ 125,000	

Project History
Chester operates a public wastewater system consisting of a collection system, four lift stations, and a three-cell facultative, LAS that periodically discharges treated wastewater into Cottonwood Creek when conditions allow, usually in the spring and fall. The collection system, consisting of VCP, unreinforced concrete, and DIP, was installed approximately 70 years ago. The lift stations and lagoon were constructed in 1984. Due to age and deterioration, the collection system is susceptible to I&I, resulting in less-than-optimal facultative treatment. Additionally, lift station controls need upgrades and automation, and the lagoon needs upgrades to address odor control in the spring and in the fall. This project will provide surface water quality preservation and energy development and conservation benefits.

Proposed Solution
- Replace or rehabilitate, through the use of CIPP, critical segments of the existing wastewater collection system piping;
- Upgrade the controls for the collection system's lift stations to include emergency alarms and the technology to monitor system operation from a remote location; and
- Install a solar-powered mixer in the LAS's primary treatment cell to reduce objectionable odors in the spring and fall, when the untreated wastewater "turns over" due to surface water temperature changes.

Resource and Citizen Benefits Analysis
The proposed project will provide for the preservation of surface water quality in the ephemeral Cottonwood Creek drainage by reducing treatment demands on the facultative lagoon treatment facility, thereby improving the quality of discharge from the lagoons to Cottonwood Creek. This will be accomplished by reducing inflow and infiltration to the collection system piping through a combination of rehabilitation and replacement of deteriorated pipe. The project will also provide for the development of solar energy with the installation of a solar-powered mixer in the treatment facility's primary treatment cell. The installation of mixing equipment will provide odor control and improve air quality in the spring and in the fall. Additionally, the installation of remote pump controls and alarms in the system's lift stations will provide electrical energy conservation and will enable the system to operate more economically and more efficiently.

The grant application included letters of support from the general public and the business community. By providing and maintaining a safe and reliable wastewater system, Chester is providing the economic environment for growth and reasonable development within the 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.

Project No. 21

Applicant Name	Hysham, Town of	
Project Name	Water System Improvements	
Amount Requested	$125,000	
Other Funding Source	$ 9,850	Applicant In-kind
Total Project Cost	$134,850	
Amount Recommended	$125,000	

Project History
The HID proposed this project to improve irrigation water delivery and management for seven irrigators and approximately 2,000 acres of row crops, small grains, and hay. Three 350 HP pumps deliver water from the Yellowstone River to the main canal, and a second pump station lifts a portion of its water right into its secondary re-lift canal using three 100 HP pumps. Currently, the canal is poorly graded, resulting in seepage losses and inefficient water deliveries. Additionally, the lack of control structures creates difficulties in providing water-surface elevation control. There is only a single check structure for a series of five irrigation turnouts over 5,500 feet of canal. The proposed project aims to improve water delivery and efficiency.

Proposed Solution
- Regrade 8,600 feet of the re-lift canal to a continuous positive slope;
- Increase freeboard along the bank as necessary;
- Install two additional concrete check structures;
- Adjust a 60-inch diameter irrigation culvert to maintain proper flow hydraulics; and
- Adjust five irrigation turnouts to maintain adequate irrigation deliveries to adjacent landowners.

Resource and Citizen Benefits Analysis
The project will conserve surface water through improved flow characteristics in the project reach. Improved flow characteristics should lead to reduced seepage losses. The estimated reduction in seepage loss over the project reach is 0.8 to 2.8 cfs. The project locally impacts the Yellowstone River, a significant and renewable resource, by creating a more efficient system for irrigation. With an anticipated seepage loss savings, a net reduction in energy demand related to pumping could be realized with appropriate water management by the HID. The district could realize energy savings of anywhere from 10,000 kWh to 42,000 kWh over the course of an irrigation season.

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	Simms County Sewer District	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 500,000	TSEP
	$ 190,000	RD Grant
	$ 190,000	RD Loan
Total Project Cost	$1,005,000	
Amount Recommended	$ 125,000	

Project History
The existing facultative lagoon, constructed in 1979, consists of two primary cells and one secondary cell with a spray irrigation system for the treated effluent. The secondary treatment cell has rarely received wastewater from the two primary cells and the irrigation system has never been used. The original six-inch bentonite liners in the primary cells have deteriorated over time and leak partially treated wastewater into the aquifer system. The DEQ sanitary survey determined that the lagoons are leaking about 10 times the state's allowable rate. Water balance calculations provided in the PER indicate the lagoons are leaking approximately eight times the allowable rate. A recent television inspection of select collection mains indicates that a number of pipe gaskets are separated and potentially leaking raw sewage into the groundwater.

Proposed Solution
Phase 1 (addressed in this funding cycle):

- TV inspection of the entire collection system to determine other areas of potential leakage;
- Replace leaking collection mains; and
- Pump station rehabilitation: replace undersized generator, auto transfer switch, replace HVAC equipment, phone dialer, new coatings, and replace valves.

Phase 2 (to be completed in a later funding cycle):

- Remove nearly 40 years of accumulated sludge from the lagoons and land-apply the material on nearby agricultural land, providing nutrients to crops;
- Modify the lagoon piping and interpond control structures;
- Line the lagoons to reduce leaking to state allowable rates; and
- Construct a new spray irrigation system on adjacent agricultural lands for the treated effluent.

Resource and Citizen Benefits Analysis
The project will benefit the safety, health, and welfare of the residents in and around Simms. The project will correct the potential for groundwater contamination of a shallow aquifer by replacing leaking sewer collection main piping. This aquifer is utilized by all the residents in and around the community of Simms for drinking water.

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

Project No. 23

Applicant Name	Ten Mile Creek Estates/Pleasant Valley Sewer District	
Project Name	Wastewater System Improvements, Phase 3	
Amount Requested	$ 125,000	
Other Funding Sources	$ 500,000	TSEP
	$2,919,655	SRF Loan
Total Project Cost	$3,544,655	
Amount Recommended	$ 125,000	

Project History
Constructed by a developer in 1978, the wastewater collection and treatment system for the Ten Mile Creek Estates and Pleasant Valley subdivisions in the Helena Valley consists of a gravity-collection system, a recently completed lift station, and a dysfunctional and leaking three-cell lagoon initially designed as a total retention treatment facility. Upgrades to the collection system, a new lift station, and a force main to the existing lagoon site were completed early in 2014 as project Phases 1 and 2. This project is for the replacement of the existing lagoon cells with a functioning three-cell total retention treatment facility. The replacement of the will provide groundwater protection to the Helena Valley aquifer, as well as Prickly Pear Creek and Lake Helena.

Proposed Solution
- Replace the wastewater treatment LAS with a new three-cell total retention lagoon facility; and
- Reclaim and reutilize lagoon site for two new primary treatment cells.

Resource and Citizen Benefits Analysis
The three-cell LAS serving the Ten Mile Creek Estates and Pleasant Valley subdivisions are dysfunctional. The facility leaks approximately 70,000 gallons of untreated or partially treated sewage to the aquifer each day. Additionally, a portion of the leakage discharges directly into Prickly Pear Creek through a subgrade drainage system designed to control the level of groundwater under the lagoons.

By replacing the facility with a new three-cell total retention LAS, surface water discharges will be eliminated, thereby preserving the water quality of Prickly Pear Creek and downstream receiving waters in the Helena Valley. In addition, leakage to the groundwater aquifer will be eliminated.

The application included letters of support from the residents of the community. By providing and maintaining a safe and reliable wastewater system, the affected subdivisions will be contributing to a safe and healthful environment in the Helena Valley as well as a functional and regulatory-compliant wastewater system for the residents of the two affected subdivisions and surrounding local 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. 24

Applicant Name	Laurel, City of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 500,000	TSEP
	$3,362,747	SRF Loan
	$1,500,000	Applicant
Total Project Cost	$5,487,747	
Amount Recommended	$ 125,000	

Project History

Laurel's original distribution system was installed in 1908, followed by the sedimentation basins in the mid- to late-1930s. With exception of the Clearwell Building installed in 1997, the remainder of the treatment plant was constructed in the 1950s. The city has been working to upgrade components of both the WTP and distribution system; however, major deficiencies remain. The flocculation and sedimentation basins at the city's WTP are falling apart and provide no redundancy. The basins are uncovered, which leaves them exposed to excessive freeze/thaw cycles and makes them vulnerable to contamination, especially with the plant's close proximity to the Cherry Hills, Inc. Refinery. Sedimentation basins must be taken out of service for manually cleaning. There is insufficient flow to the filters from the sedimentation basins and limited mixing capabilities; the filters are not adequately sized to meet projected residential and industrial flows. Additionally, the backwash water and sludge pond is not lined and has no redundancy. The backwash water storage tank has holes and is in need of replacement. The existing plant also contains several pieces of equipment at the end of their useful lives. The water plant lacks adequate ventilation in existing buildings, and it is in an unsecured location, leaving it vulnerable to trespassers. The city's water storage tank and booster stations are not sufficient to maintain adequate system pressure throughout the city's distribution system. Upgrades to the system are necessary.

Proposed Solution

- Replace the flocculation and sedimentation basins with covered basins;
- Install automatic sludge removal in the sedimentation basins;
- Install settled water pumping station to serve industrial uses; and
- Relocate the Cherry Hills booster station.

Additional alternatives may be completed as funding allows and may include all or portions of the following:

- Replace the backwash/sludge ponds;
- Replace the 250,000-gallon backwash water storage tank;
- Complete miscellaneous improvements at the WTP; and
- Install security improvements including moving the road and installing fencing, door security, and cameras.

Resource and Citizen Benefits Analysis

The proposed improvements will conserve, manage, and preserve surface water of the Yellowstone River. The system improvements are estimated to conserve 20 mg of surface water alone during high demand in the summer. Basin redundancy and the automatic sludge removal will significantly aid in overall management of the system, allowing more production time, better treatment, and less down time for cleaning. Further management benefits include the city's ability to reduce the load on the filters, which allows for better use of the filtered water and the ability to meet the future projected water system demands.

Preservation of the drinking water supply is an important benefit of this project. The proposed project includes provisions to cover the new flocculation and sedimentation basins, which will help to preserve the source water supply quality. In addition, the project will relocate a booster station to accommodate a larger area of underpressurized mains within the distribution system, eliminating the risk of contamination due to negative pressure.

The proposed project will not directly contribute to economic development in Montana. Public support for the project appears very strong. Two public hearings were held in April 2014. No negative feedback was received at either hearing. Additionally, 11 public letters of support for the project were included with the application along with signatures of 18 members of the public indicating support.

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	Pondera County Conservation District	
Project Name	C-5 Canal Conversion	
Amount Requested	$ 125,000	
Other Funding Source	$ 188,825	Applicant
Total Project Cost	$ 313,825	
Amount Recommended	$ 125,000	

Project History
The PCCRC serves 80,400 acres of irrigated lands, delivering 62,820 acre-feet of water to over 400 users annually. The PCCRC has proactively addressed many of the large-scale problems throughout the irrigation system and is now seeking to improve water conservation and irrigation efficiency. A 6,500-foot section of the C-5 Canal near Lake Frances loses 179 acre-feet of water annually due to porous soils, resulting in only 295 of a possible 600 acres being irrigated. The project goal is to conserve water resources to allow irrigation of more cropland and to improve irrigation efficiency by converting 6,500 feet of the C-5 Canal from an open channel to a closed pipe. This will virtually eliminate seepage losses while also increasing head pressure for greater irrigation pump efficiency.

Proposed Solution
- Install 6,500 feet of 18-inch diameter plastic irrigation pipe with a clean-out and air release valve (construction services will be provided using PCCRC staff and equipment); and
- Complete final checkout, test all system components, and complete as-built drawings.

Resource and Citizen Benefits Analysis
The project will conserve up to 179 acre-feet of water annually and provide up to 30% conservation of electricity by increasing head for irrigation pumps. An estimated 305 acres of irrigated farmland will be developed through water savings provided by the piped canal. Piping water will also reduce sediment entrainment and deposition in Lake Frances, which will preserve water quality in the lake (though there are no estimates of current sedimentation or proposed sediment reductions).
Economic benefits from increased crop production will accrue to the agriculture-based community. Public safety could be enhanced by eliminating open-water hazards and boggy soils caused by canal leakage, but potential danger is questionable/negligible. No records of public safety incidents associated with the canal were provided.

Funding Recommendation
DNRC recommends grant funding of $125,000 upon DNRC approval of the project scope of work, administration, budget, and funding package.

Project No. 26

Applicant Name	Fromberg, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 750,000	TSEP
	$ 450,000	CDBG
	$ 995,000	RD Grant
	$ 995,000	RD Loan
	$ 4,000	Applicant
Total Project Cost	$3,319,000	
Amount Recommended	$ 125,000	

Project History
Fromberg's collection system and lagoon cell one were installed in 1961. The pump station was replaced with a lift station and cells two and three were added in 1990. No major improvements have been made to the collection system since installation. The lift station pumps are operating at half of their design flow and regularly become plugged. The constriction is suspected to be caused by the deterioration of the check valves in the valve vault. The plugged pumps must be pulled and screens manually cleaned every few months as they completely shut down. This existing lift station does not have a back-up generator.

The lagoons rarely discharge despite being designed for that purpose. Leak testing showed the lagoons to be leaking as much as 4.1 mg per year above the allowable rate. The majority of the leakage is from cell one. This is particularly concerning as it means raw and partially treated wastewater is leaking directly to area groundwater and potentially the adjacent Clarks Fork of the Yellowstone River.

The problems with the wastewater system can be summarized as follows: collection system condition is unknown, lift station is not functioning properly, and lagoons leak significantly.

Proposed Solution
- Cleaning and video inspection of the collection system;
- Rehabilitation of the lift station;
- Construction of a two-cell, partially mixed aerated LAS followed by a coarse gravel bed reactor;
- Addition of UV disinfection; and
- Continuation of discharging of treated effluent.

Resource and Citizen Benefits Analysis
The project will provide renewable energy resource benefits, because the new pump will be more efficient. It will save power and add VFDs to motors thereby increasing energy efficiency. The common wellbeing of Montana citizens will be improved on a regional scale through this project.

Other benefits will be achieved by reducing pollution to the Clarks Fork Yellowstone through elimination of leakage from wastewater ponds and improving water quality. Improvement to downstream water quality several miles downstream is expected and the project will protect the regional quality of an important blue-ribbon trout stream.

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	Jefferson County	
Project Name	Whitehall Sugar Beet Row Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 51,700	RD Loan
	$ 133,300	RD Grant
Total Project Cost	$ 310,000	
Amount Recommended	$ 125,000	

Project History
The residential community along Sugar Beet Road includes 15 residential properties adjacent to the southern boundary of the Whitehall town limits. It is not connected to the municipal wastewater system. While the community discharged its wastewater to a drain field in the 1980s, the drain field failed and the community now discharges directly to Big Pipestone Creek, a tributary of the Jefferson River. The DEQ notified homeowners in 1982 that the disposal does not meet the Montana WQA requirements; however, no improvements have been made. The proposed project aims to connect the residents to the Whitehall municipal wastewater system. The Whitehall wastewater system was updated in 2012 and has the capacity to accept the additional wastewater from the community.

Proposed Solution
- Line 1,800 linear feet of the existing eight-inch collection main; and
- Install 800 lineal feet of new transmission main to connect the Sugar Beet Row community wastewater flow to the town of Whitehall's municipal wastewater system.

Resource and Citizen Benefits Analysis
The unpermitted wastewater discharge is degrading Big Pipestone Creek and creates a public health and safety hazard. The creek was listed on the 1996 and 2002 303(d) list for probable impaired uses including aquatic life support, cold water fishery, industrial, and primary contact. The project will protect groundwater and surface water resources and protect fish and aquatic habitat. The project demonstrates public health and safety benefits.

The project also meets environmental guidelines and has described mitigation procedures for any identified adverse environmental impacts. A secondary reviewer suggested that a 30 day DEQ review and approval is optimistic, and that residents may need to rewrite their existing Certificates of Subdivision Approval if the parcels were platted after 1961.

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	Sweet Grass County Conservation District
Project Name	Electric Light Ditch Irrigation Diversion Rehabilitation
Amount Requested	$ 125,000
Total Project Cost	$ 125,000
Amount Recommended	$ 125,000

Project History
The SGCCD proposes to conduct improvements to an instream diversion structure on the Boulder River near Big Timber. The structure supplies water to the Electric Light Ditch, which diverts up to 25 cfs and serves approximately 530 acres of agricultural, domestic, and public land. The existing structure consists of a small rock diversion and headgate, which, due to stream energies at high-flow conditions, requires annual maintenance and reconstruction within the Boulder River channel. As a result, the system cannot divert its full water right during low flow conditions. The goals of the proposed project are to provide the Electric Light Ditch with a diversion structure to ensure reliable water delivery to the system during all flow conditions, minimize impacts to the Boulder River, improve fish habitat at the point of diversion, and reduce annual maintenance costs.

Proposed Solution
- Installation of a rock vane J-Hook weir to divert irrigation water into the Electric Light Ditch during low flow conditions;
- Stabilize the bank immediately downstream from the headgate; and
- Remove large boulders upstream from the headgate that have impacted stream flow.

Resource and Citizens Benefit Analysis
This project has multiple benefits to multiple resources including preservation of fish/aquatic habitat and water quality, conservation of cropland, and economic benefit to the region through recreational opportunities and continued agricultural production. The proposed diversion would create habitat depth and diversity and holding cover for fish through the formation of scour pools downstream from the diversion.

The project will also preserve the function and location of the Electric Light Ditch headgate and irrigation system, providing reliable and effective delivery of water to its users. Proposed improvements to the Electric Light Ditch preserve the value of cropland that depends on this water for irrigation, as the value of irrigated versus nonirrigated cropland is approximately double. The current diversion cannot meet its full water right during low flow conditions.

Water from this structure is also used to irrigate and maintain playing and practice fields at Sweet Grass County High School. These fields provide recreation opportunity for a number of citizens 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. 29

Applicant Name:	Butte-Silver Bow City County Government	
Project Name:	Moulton Reservoir: Reclamation and Protection	
Amount Requested	$ 125,000	
	$ 254,380	Applicant
Total Project Cost	$ 379,380	
Amount Recommended	$ 125,000	

Project History
Butte's urban area cannot access groundwater drinking sources due to the mining impacts in the area. In 1992, Butte-Silver Bow County purchased the Butte Water Company to service potable water needs. The county immediately made improvements to the 100-year-old water system. By 1994, Butte water users had spent $30 million on essential improvements to the system. In particular, the county invested $5 million to rehabilitate the Moulton Dam and spillway and build a new treatment plant to filter the water source. The proposed project is part of an effort to protect an essential public water source.

The county will be protecting source water supply for the city of Butte and improving recreational opportunities through the proposed reservoir reclamation and protection project. The project is designed to minimize sediment-loading sources to the reservoir, one of Butte's vital sources of public drinking water, and provide improved and safe public access. The project is six miles north of Butte.

Proposed Solution
- Reclaim approximately 4.2 acres of eroding upland hill slope;
- Eliminate direct connection of sediment delivery to the reservoir by removing boat launch and gravel pile;
- Riprap shoreline as needed;
- Improve approximately 1,600 linear feet of road surface and parking area and install culverts as needed; and
- Repair approximately 6,900 square feet of the east face of the dam with geotextile and riprap cover.

Resource and Citizen Benefits Analysis
The project proposes to conserve a public water supply and preserve the water supply infrastructure by reducing sedimentation into the reservoir by stabilizing the east face of the reservoir and preserving 4.2 acres of the upland surface. There is 5.5 miles of pipe that conveys water to the treatment plant. The water from the reservoir serves 10% of Butte water users.

Public supply and recreational opportunities will also be improved through this project. No legal public access to the site exists, and the project proposes to enhance public accessibility by installing signage, culvert crossing, walking access and fencing, and other park amenities.

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

Project No. 30

Applicant Name	Rocker County Water and Sewer District	
Project Name	Rocker Sewer Connection to Tax Increment Finance Industrial District Wastewater Pipeline	
Amount Requested	$ 125,000	
Other Funding Sources	$ 323,000	Applicant
	$ 156,000	Applicant In-kind
Total Project Cost	$ 604,000	
Amount Recommended	$ 125,000	

Project History
Rocker's WWTF was constructed in 1985. The facility was upgraded in 1997 at the request of the DEQ to address recurring discharge permit violations. The 1997 upgrade enabled the district's wastewater plant to operate in compliance with discharge permit limits until October 2006 when a new discharge permit was issued with more restrictive effluent limits. In 2007 the district began to experience occasional discharge permit violations, and has entered into an AOC agreement with the DEQ. The AOC requires the district to take the steps necessary to achieve compliance with the discharge permit. The proposed project consists of closing down the district's WWTF and conveying the district's untreated wastewater to Butte-Silver Bow's Metro WWTP.

Proposed Solution
- Upgrade the sewage lift station to pump wastewater to Butte-Silver Bow's Metro Treatment Plant instead of the district's treatment plant;
- Install an approximately 2,600-foot long force main pipeline to connect the district's sewage lift station to Butte-Silver Bow's TIFID wastewater pipeline; and
- Demolish and reclaim the site of the existing WWTF while salvaging anything of use.

Resource and Citizen Benefits Analysis
The project has preservation benefits of eliminating discharge of approximately 40,000 gpd of poorly treated wastewater to surface water (Silver Bow Creek). The project will also preserve fish and wildlife habitat through reduction of pollutants in the receiving stream. Because Silver Bow Creek drains into the CFR, the preservation benefits have a regional impact. Eliminating the WWTF and connecting to the Butte treatment plant will result in a conservation of energy, approximately 700 kWh per day. The project provides multiple benefits to surface water, with regional impact and conservation of energy.

The project will mitigate risks to human health and safety and bonus points were awarded for those benefits. The public benefits are improved water quality in Silver Bow Creek which provides fishing, swimming, and recreational opportunities. The benefits are regional in scope.

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	Tri-County Water District	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 661,000	TSEP
	$ 536,000	Applicant
Total Project Cost	$1,322,000	
Amount Recommended	$ 125,000	

Project History
The Tri-County Water District was incorporated on July 13, 1981 located in north-central Cascade County, eastern Teton County, and western Chouteau County. The public water system stretches from northeast of Fairfield, to Dutton, over Benton Lake National Wildlife Refuge and approximately 15 miles northwest of Great Falls. The district encompasses a rural service area of approximately 760 square miles.

Construction of the majority of the district's public water system was completed in 1982. The original project consisted of one pump house and infiltration gallery/wet well, a 191,000-gallon storage tank, and distribution piping for roughly 153 services. Since 1982, approximately 21 users have been added to the system and in 1987 the infiltration gallery was extended 200 feet. In 2006, a PER was completed, which resulted in installation of a new source of well supply, booster station, and replacement of roughly 3.5 miles of distribution piping. Numerous issues exist with the district's water system, from lack of proper water system controls to a leaky water storage tank to inadequate water pressure and/or flows.

Proposed Solution
- Install a gate valve on the common header;
- Install a sampling hydrant downstream from the common header;
- Install a sampling hydrant before first customer for chlorine sampling;
- Install screens at vent openings for critter/contamination control;
- Install backup chlorine cylinder's vacuum regulator;
- Install a digital meter for monitoring;
- Replace both well pumps in well house #1;
- Install a 275,000-gallon tank and take 191,000-gallon tank out of service; and
- Upsize existing mains with 48,857 feet of two-inch diameter water main and 21,171 feet of four-inch diameter water main.

Resource and Citizen Benefits Analysis
The proposed project will benefit renewable resources by conserving drinking water. Development and conservation of the district's water resource will be improved with the installation of the new well pumps. The current pumps have outlived their design life and the new pumps will be more energy efficient, and will provide the district with a more reliable pump to keep the water source viable.

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	Neihart, Town of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 385,280	CDBG
	$ 500,000	TSEP
	$ 175,720	SRF Loan
Total Project Cost	$1,186,000	
Amount Recommended	$ 125,000	

Project History:
Neihart currently obtains its drinking water from two surface water sources, O'Brien Creek and Shorty Creek. Water is treated in a surface WTP before entering the storage and distribution system. High turbidity levels are experienced in the source water from the O'Brien Creek drainage during spring runoff. This has resulted in violations of the Safe Drinking Water Act. A temporary intake was constructed on Shorty Creek a few years ago to provide an alternate water source during spring runoff, because this drainage does not see increased turbidity during runoff. The town is now under an AOC from DEQ to construct a permanent intake on Shorty Creek. The town's storage tank is inadequate to meet domestic and fire needs. The distribution system is old, undersized, and experiences significant unaccounted for water loss. The goal of the project is improved drinking water quality, elimination of wasted water, and improved fire protection.

Proposed Solution
- Construct a new intake at Shorty Creek to meet DEQ and EPA requirements;
- Construct a new 120,000-gallon water storage tank to meet fire and domestic demands; and
- Replace 900 lineal feet of distribution main.

Resource and Citizen Benefits Analysis
The project will result in conservation of water and energy. The water system currently has 85% of unaccounted for water, approximately 30,000 gpd. A shallow line in the system is allowed to run year round to prevent freezing. This line will be replaced so the freezing potential will be eliminated. The estimated water to be conserved is quantified and can be assumed to be significant, but only locally. The energy needed to produce the unaccounted for water will be reduced at the treatment plant. The project will also develop a new permanent water source. The project provides multiple benefits to water and also provides energy conservation.

The distribution system improvements and new storage tank will result in improved fire protection, a benefit for the entire community. The new water intake, mandated by EPA and DEQ, is needed for a health issue. The project provides multiple public benefits, significant locally. The application contained 18 letters of support.

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	Cut Bank, City of	
Project Name	Wastewater Treatment Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 625,000	TSEP
	$ 3,563,500	RD Grant
	$ 7,516,200	RD Loan
Total Project Cost	$11,829,700	
Amount Recommended	$ 125,000	

Project History
The Cut Bank wastewater system consists of gravity collection, two lift stations, and a discharging accelerated (aerated) facultative LAS. The LAS dates to approximately 1958. Cell one (south lagoon) is 16.5 acres and cell two (north lagoon) is 25.3 acres. The gravity collection system dates to the early part of the 20th century. Mains range from 6 inches to 21 inches in size, with the majority of system clay tile pipe. The northwest lift station was constructed in the 1930s, and the southwest lift station in 1958. System updates occurred in 1989 and 1996.

The wastewater lagoons discharge to Old Maids Coulee under a MPDES permit, which sets the effluent limits that the city must meet and also dictates the monitoring and reporting requirements. The current permit was reissued on March 1, 2012. DEQ completed an analysis of the discharge and determined the conditions (discharge limits, monitoring requirements, etc.) of the new permit, which includes an ammonia limit of one mg/l at the discharge pipe and a compliance schedule for the city to meet the limit. Typical wastewater LAS are not capable of treating ammonia to the permit limit. The city must complete major wastewater treatment and disposal system improvements to meet the permit limit.

The collection system is in fair to good shape. The mains have sufficient flow capacity to serve the collection system. Two main sections require attention. One section is shallow and has frozen on at least one occasion and a second has flow constriction because of faulty joint installation. The city reports that backups have occurred and insurance claims have been filed against the city.

Proposed Solution
- Construct a BNR treatment system on the site of the city's existing treatment facility.

Resource and Citizen Benefits Analysis
The proposed improvements will preserve surface water by protecting it from pollution. Enhanced treatment and nutrient removal will preserve downstream surface water resources. The project may preserve fish and wildlife habitat through reduction of pollutants in the receiving stream, as well as reducing TN which could reduce the incidence of nuisance algae growth. Old Maids Coulee is impaired for nutrients and ammonia (among other pollutants) so removal of ammonia and nitrogen is expected to have a beneficial effect upon ambient water quality. Addition of disinfection should reduce direct-contact health risks for recreational users of the receiving stream(s).

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	Missoula County	
Project Name	Buena Vista Trailer Community Wastewater Improvements, Phase 1	
Amount Requested	$ 125,000	
Other Funding Sources	$ 166,463	SRF Loan
	$ 38,000	Missoula County WQD
Total Project Cost	$ 329,463	
Amount Recommended	$ 125,000	

Project History
The BVTP is at 6300 Highway 10 West in Missoula. The trailer court contains 38 units for full-time residents. The community has a single eight-inch gravity collection main that bisects the trailer court and runs 1,100 feet to an unlined, three-cell LAS in the bottom of an unnamed ephemeral drainage. The collection main has two cleanouts and has a splitter box down-gradient from the collection system that controls wastewater flow to the LAS. Untreated or inadequately treated sewage leaks directly into the natural drainage with eventual discharge to Warm Slough on the CFR, approximately 3.5 miles downstream. Probable contamination of shallow groundwater with untreated or inadequately treated wastewater poses a risk to public health and safety, especially where groundwater is used as a potable water source. The proposed solution aims to improve water quality in the CFR and mitigate public health and safety issues associated with the current wastewater system.

Proposed Solution
- Install a package dual pump lift station and accessories;
- Install approximately 1,200 feet of four-inch HDPE force main;
- Install 25 KW backup generator and transfer (future phase);
- Abandon, remove sludge, and regrade existing lagoons (future phase); and
- Install a sewer service for a commercial building in the trailer court currently using septic/drain field (future phase).

Resource and Citizen Benefits Analysis
Benefits of the project include water conservation by eliminating water lost to evaporation in the lagoons and the preservation of groundwater and surface water quality. The project eliminates the risk of contamination of shallow groundwater thereby, improving public health and safety.

A public hearing for the project was held in May 2014 in the Buena Vista Trailer Court. About 18 people from the BVTP community attended the public meeting. They demonstrated support for the project.

A secondary reviewer recommends that the community conduct monitoring to confirm actual flow rates before final design and mentions that SRF/DEQ may require most of the work to be done in a single phase to ensure completion.

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	Denton, Town of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 625,000	TSEP
	$1,065,000	RD Loan
	$ 671,000	RD Grant
Total Project Cost	$2,486,000	
Amount Recommended	$ 125,000	

Project History
The original Denton water system was constructed in the early 20th century. The water system consists of a deep well, developed spring, a concrete water storage tank, and distribution system. The original wood stave transmission main from the concrete storage tank to the town was replaced with a cast iron main approximately 60 years ago. A significant portion of the original cast iron distribution system was replaced with PVC mains in the late 1980s. In 2012, Denton's spring water was classified as GWUDISW. The water is being retested to verify the GWUDISW determination.

The transmission main from the existing water storage tank to the distribution system probably the main source of the 60% unaccounted for water loss in the system. Denton is under an AOC from DEQ, as a result of the GWUDISW determination, which also requires repairs to the 93-year-old storage tank's roof and wall seal.

Proposed Solutions
- Construct a new 290,000-gallon buried concrete water tank approximately half a mile south of town;
- Construct 5,080 feet of new 12-inch transmission main from the new tank to the distribution system;
- Replace the existing 10-inch cast iron transmission main with 17,400 feet of 6-inch PVC main from supply to the distribution system; and
- Install a new radio telemetry system.

Resource and Citizen Benefits Analysis
The project will allow Denton to conserve energy and reduce groundwater usage by reducing the volume of water pumped to and leaking from its existing transmission main. Citizen benefits include reduced operation costs and improved fire-fighting capabilities.

The project will provide direct economic development in Montana mainly through construction jobs. Denton conducted a needs assessment and public meeting that 15 people attended. Letters of support came from the Denton Public Schools, MDT, Farmers State Bank, the Denton Park District, and form letters from 34 private and business people.

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	Buffalo Rapids Irrigation Project District 1	
Project Name	Lateral 19.3 Pipeline Conversion, Phase 1	
Amount Requested	$ 125,000	
Other Funding Source	$ 110,300	Applicant
Total Project Cost	$ 235,300	
Amount Recommended	$ 125,000	

Project History
The BRIPD1, working in with the local NRCS, completed an overall system assessment of the irrigation infrastructure within the district. The NRCS measured water delivery efficiency and seepage losses along with ranking the laterals for repair/rehabilitation. Over the last 15 years, BRIPD1 has worked with the NRCS, DNRC, and USBR to replace more than 80% of the open lateral delivery systems with closed pipeline networks to conserve water and improve management. The next priority for the BRIPD1 is the conversion of Lateral 19.3, which irrigates 1,600 acres. Installation of the proposed improvements will eliminate seepage and conveyance losses, improve water resource management, preserve water quality in the Yellowstone River, and conserve energy at the Glendive Pump Station.

Proposed Solution
- Replace existing lateral with 3,000 feet of 30-inch diameter plastic irrigation pipe; and
- Install flow meters on lateral and turnouts.

Resource and Citizen Benefits Analysis
This project will have conservation benefits to surface water and energy by eliminating an estimated 4.3 cfs (373 mg) being lost to seepage. Irrigation water is delivered to the system through the Glendive Pump Station. This project will conserve energy at the pump station through the increased irrigation delivery and on-farm application efficiencies. This project will have management benefits though the addition of flow meters at the lateral inlet and at each turnout allowing the irrigators to manage the surface water. Preservation of surface water will be achieved by decreasing the amount of irrigation runoff, thus also decreasing contaminants into the Yellowstone improving 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 $252,400 annually, equaling a present worth of $3.23 million over 30 years. The grant application received public and citizen benefit points for the economic value of the project.

Letters of support for this project were received from local landowners and irrigators, a local bank, and the Dawson County Commissioners.

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

Project No. 37

Applicant Name	Winifred, Town of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 450,000	CDBG
	$ 625,000	TSEP
	$ 75,000	Applicant
	$ 22,500	SRF Loan
Total Project Cost	$1,297,500	
Amount Recommended	$ 125,000	

Project History
Winifred's water system serves approximately 208 users in central Montana. The water system consists of four- and six-inch asbestos cement pipe distribution lines throughout town, constructed beginning in 1952; two public supply wells approximately five miles south of town; and a 50,000-gallon metal storage tank installed in 1977. The first of the two public supply wells was drilled in 1988 and new four-inch PVC transmission piping was installed from the new well to the town's distribution system. The second public supply well south of town was drilled in 1998. Updates to the distribution piping in town have been minimal and only small sections of pipe have been replaced during repair. The water storage tank is much too small to provide adequate fire protection to the community. The well pump house is aging, unsafe, and does not provide metering of all water pumped from the wells. Individual customers' service lines are also not metered.

Proposed Solution
- Construct a 170,000-gallon reinforced concrete water tank about one-half mile west of town;
- Construct 2,400 feet of new 10-inch diameter PVC transmission main to connect the new water tank to the distribution system; and
- Upgrade pump house and install water meters at each service line (105 meters).

Resource and Citizen Benefits Analysis
The project will produce better conservation, management, and preservation of local groundwater through metering of the individual connections. Metering will enable better management by identifying significant differences between measurement of the water produced and the water consumed. Metering will also promote conservation by charging customers for water consumed instead of charging a flat monthly rate. Customers will be encouraged to monitor their own use and identify leaks on their own property; e.g. leaking toilets. An overall reduction in water use will help preserve the groundwater so there is a better chance it will be available when needed.

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

Project No. 38

Applicant Name	Highwood Water and Sewer District	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Source	$ 60,000	RRGL Loan
Total Project Cost	$ 185,000	
Amount Recommended	$ 125,000	

Project History
The Highwood WSD operates a wastewater collection and treatment system originally constructed in 1973. The system gravity flows to a lift station that pumps effluent to a three-cell system of lagoons. The primary and secondary cells are both aerated; the tertiary/storage cell includes a single mixer, providing partial mixing for odor control and tertiary treatment. From the storage cell, effluent flows through a UV filter and discharges into Highwood Creek. The current lagoons were constructed in 1999. All cells are lined with polypropylene liners. Liners in the primary and secondary cells have failed and leak excessively. The district proposes to dredge sludge from each of the cells and replace the failed liners. Under current operation, the cells cannot be filled and treatment is short-circuited, resulting in discharge violations and the leakage of untreated wastewater to the groundwater aquifer.

Proposed Solution
- Remove wet sludge from the primary and secondary treatment cells and dispose of it in accordance with regulatory requirements;
- Replace the failed and leaking polypropylene liners in the primary and secondary treatment cells with new polypropylene liners; and
- Replace failed valves and level control structure components at the lagoon facility.

Resource and Citizen Benefits Analysis
In its current state, the LAS is unable to function properly, since the primary and secondary treatment cells cannot be filled to design pool levels for acceptable and complete treatment. The proposed project will provide for the preservation of surface water quality in Highwood Creek by facilitating longer detention times in the lagoon and more complete biological treatment of wastewater. Also, by preserving the quality of the treated effluent discharged into Highwood Creek, nutrient loading will be reduced and aquatic habitat enhanced.

The current state of the primary cell liners allows excessive leakage of untreated wastewater to the groundwater aquifer, presenting potential health issues to those drawing water from wells in the local area. By providing and maintaining a safe and reliable wastewater system, the Highwood WSD is providing a healthful environment for the community and the local area.

Funding Recommendation
DNRC recommends grant funding of $125,000 and loan funding of $60,000 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 39

Applicant Name	Lower Yellowstone Irrigation Project	
Project Name	Wasteway Project	
Amount Requested	$ 125,000	
Other Funding Source	$ 56,360	Applicant In-kind
Total Project Cost	$ 181,360	
Amount Recommended	$ 65,000	

Project History
The LYIP is planning for the design and construction of two wasteway rehabilitation projects. One wasteway terminal is in Richland County and the other (Ferry Coulee) is in Dawson County, North Dakota. The proposed improvements will retrofit two wasteway structures with new gates to improve management of the irrigation system, conserve water diverted from the Yellowstone River, preserve the water quality of return discharge to the Missouri River, and improve control of the flow within the irrigation system. The LYIP has identified the two wasteway rehabilitation projects as high priorities within its canal system. Proposed improvements could conserve approximately 559.8 mg of water diverted from the Yellowstone River per year. The wasteways are in remote areas hard to access, with wood check boards that require manual operation, making them very dangerous and difficult to operate. The water level is kept intentionally low to ensure the safety of operators and protect the structural integrity of the canal from drastically changing flow conditions.

Proposed Solution
- Retrofit the Terminal and Ferry Coulee wasteways with new Langemann gates and WT-200 medium-lift gate actuators; and
- Provide automated gate controls compatible with the existing SCADA automation system for remote operation capabilities.

Resource and Citizen Benefits Analysis
The proposed project would significantly benefit Montana's renewable resources through conservation, management, and preservation of the LYIP's water resources. The proposed improvements will benefit to the water resource by better controlling water at the end of the system and allowing more water to remain in the system for irrigation. The benefit of preservation to water quality of return discharge to the Missouri River occurs by reducing wastewater velocity and quantity. The project provides the benefit of improved management of the water resource with installation of remote operators on the wasteways that will automatically react to varying flow in the canal system. The improvements will improve the safety for workers by eliminating the need to remove check boards. Users of the irrigation system would have additional water available for irrigation. However, because the system includes users in North Dakota, the benefits to Montana citizens was not determined in the application. Overall, the benefits are local.

Funding Recommendation
DNRC recommends grant funding of $65,000 upon development and approval of the final scope of work, administration, budget, and funding package for the wasteway structure within Montana's boundaries only.

Project No. 40

Applicant Name	Montana Department of Natural Resources and Conservation Water Resources Division – State Water Projects Bureau	
Project Name	East Fork Rock Creek Main Canal Lining	
Amount Requested	$ 125,000	
Other Funding Source	$ 25,817	Applicant In-kind
Total Project Cost	$ 150,817	
Amount Recommended	$ 125,000	

Project History

The East Fork Rock Creek Main Canal is southwest of Philipsburg in Granite County. The 7.7-mile-long main canal is part of the Flint Creek Water Project which also includes the East Fork Rock Creek Dam and Reservoir, and four other delivery canals. The project is owned by DNRC and operated by the Flint Creek WUA. The canal was constructed in 1938 to supply irrigation water to the Flint Creek Valley. Water from the canal irrigates nearly 38% of the land under irrigation in the Flint Creek Valley, making it vital to the region's economy. Water from the canal irrigates ranch and farmland, recharges the flow of Flint Creek, supports local wildlife habitat, provides trout fisheries, and offers a recreational resource to hunters and fishermen. Data collected in 2010 and 2011 shows seepage loss in the reach of canal from the headgate to the East Fork Siphon can be as high as 30 acre-feet per day, with a seasonal average of 15 to 20 acre-feet per day. This considerable quantity of water is lost through the highly pervious canal berm. Water lost through seepage dissipates into the ground with no beneficial use. The proposed project would install canal liner along a 1,200-foot pervious section of the canal. A grant for this project was approved during the 2013 legislative cycle; however, before DNRC could begin the project, the siphon below this canal section floated out of the ground. Exigency measures were used to authorize using the 2013 grant to make the emergency repairs to the siphon.

Proposed Solution

- Line 1,200 lineal feet of the canal with EPDM rubber material where most of the seepage occurs.

Resource and Citizen Benefits Analysis

The proposed project will provide a conservation benefit to the water resource by significantly reducing seepage in an area of pervious canal bank material. It will also provide a preservation benefit to the aquatic habitat in Flint Creek and the East Fork Rock Creek Reservoir by maintaining more water in the system. The benefit will be local in nature.

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	Riverside Water and Sewer District	
Project Name	Wastewater Facility Plan	
Amount Requested	$ 125,000	
Other Funding Sources	$ 254,000	Applicant
	$1,107,000	SRF Loan
Total Project Cost	$1,486,000	
Amount Recommended	$ 125,000	

Project History
The district's WWTF was constructed in 1975. The WWTF consists of an aerated lagoon (with five helixor aerators), storage cell, package plant with a rapid sand filter and gas chlorination, a polishing pond, and discharge through spray irrigation. The original lagoon construction has never been upgraded. The lift station received some improvements, including a new lid in 2011. The WWTF has not operated as designed for at least the last 11 years. Over the past 11 years no wastewater has accumulated in the storage cell; therefore, the filters, chlorination, polishing pond, and spray irrigation have not been used.

In 2011, DEQ conducted an O&M inspection report. The report concluded that only one of the five aerators in the aeration pond was operating with only one point of air release. In addition, no water was reaching the holding pond. The DEQ report estimated leakage of seven mg of partially treated wastewater to the groundwater. This groundwater influences the East Gallatin River, classified as an impaired body of water. It is the primary goal of the applicant to eliminate partially treated sewage contamination of the local aquifer and reduce infiltration of groundwater into the collection system.

Proposed Solution
- Disconnect sump pumps from the sanitary sewer system; and
- Construct a 0.75-mile pipeline to connect to the city of Bozeman's wastewater collection system.

Resource and Citizen Benefits Analysis
Disconnecting local sump pumps from the collection system will allow the Riverside WSD to conserve energy by reducing groundwater pumping through the lift station. No quantities were provided for decreases in pumping volume or associated energy use. In addition to the reduction in groundwater infiltration, redirecting raw wastewater to Bozeman WWTF will preserve the shallow aquifer by eliminating approximately seven mg of partially treated wastewater from leaking into the groundwater annually. Leakage volume quantities were estimated and justified. Points were awarded for the public health benefits of this project.

The project will provide temporary economic development in Montana through construction jobs. The application did not include or reference a CIP or any other planning document, so coordination with other planning is unknown.

Citizen participation was encouraged during the planning process via two public meetings. Nearly 40 residents attended the first meeting with 20 at the second. Information was sent to customers and newspaper and internet articles also described the local system deficiencies.

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	Lewistown, City of	
Project Name	Riverdale Subdivision Wastewater Collection System	
Amount Requested	$ 125,000	
Other Funding Sources	$ 500,000	TSEP
	$ 368,800	INTERCAP Loan
	$ 19,500	Applicant
Total Project Cost	$1,013,300	
Amount Recommended	$ 125,000	

Project History
The Riverdale Subdivision within Lewistown has 40 permanent residences with municipal water service and metering. This subdivision is the last remaining area within the city with individual on-site septic systems for wastewater disposal. Lot sizes are too small for drain field replacement areas, and shallow groundwater and nearby Big Spring Creek are vulnerable to septic pollution.

Proposed Solution
- Construct 3,350 lineal feet of new 8-inch sewer pipe;
- Install 10 new sanitary sewer manholes;
- Test new pipe and manholes;
- Connect to city sewer main; and
- Connect about 40 existing homes to new collection system with new services.

Resource and Citizen Benefits Analysis
The proposed project will preserve groundwater with advanced treatment of the Riverdale Subdivision's wastewater at the Lewistown WWTP. The surface water, Big Spring Creek, will also be preserved, as it is very near the subdivision. Groundwater, as well as Big Spring Creek via groundwater, may be receiving untreated (or undertreated) sewage from the existing septic tanks.

Support has been documented for the project during the public outreach. The application was submitted with 21 letters of support.

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	East Clark Street Water and Sewer District	
Project Name	Wastewater Collection System	
Amount Requested	$ 125,000	
Other Funding Sources	$ 536,850	TSEP
	$ 411,850	SRF Loan
Total Project Cost	$1,073,700	
Amount Recommended	$ 125,000	

Project History
East Clark Street WSD consists of 25 property parcels with a 2010 census population of 223 in an unincorporated area immediately east of East Helena. Development within the district includes single and multifamily residences, including three mobile home courts, and a few light commercial and small business facilities. The development relies on on-site wastewater treatment and disposal systems.
Many of the wastewater systems are aged or of poor quality and may not be functioning properly. One of the systems serving a trailer court is currently operating under a Lewis and Clark County Health Department notice of violation. The questionable treatment provided by the system threatens water supply wells both within and down-gradient of the district. In addition, several of the parcels do not have adequate undeveloped space to allow replacement of the wastewater system, should it fail.

Proposed Solution
- Create a new gravity sewer system to collect and convey wastewater to the East Helena sewer system for treatment and disposal at the recently constructed municipal WWTF; and
- Construct improvements including conventional gravity sewers and services including manholes as needed; restoration of existing roads, fencing, and other improvements, and connection to the East Helena wastewater lift station.

Resource and Citizen Benefits Analysis
The proposed project will provide the means to ensure that wastewater generated within the district will be treated and disposed of in accordance with state requirements. In doing so, groundwater both within and surrounding the district will be protected from degradation due to the impacts associated with the infiltration of an estimated 31,500 gpd of poorly treated wastewater into the underlying aquifer. In addition, the proposed project will further protect the public by eliminating periodic sewer backups and potential surface seepage of wastewater.

The project will result in short-term economic benefits associated with proposed construction. More important, the project will preserve economic benefits including the local tax base associated with the 97 residential units and commercial development within the district.

Preserving the three mobile home courts is especially important as they provide critically needed low-income housing which is in short supply in the Helena and East Helena areas.

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	Daly Ditches Irrigation District	
Project Name	Preservation and Conservation of Resources	
Amount Requested	$ 125,000	
Other Funding Source	$ 51,120	Applicant In-kind
Total Project Cost	$ 176,120	
Amount Recommended	$ 125,000	

Project History

The DDID in Ravalli County operates the Hedge Canal, which serves 700 homes and farms and 6,108 irrigated acres (42% of the irrigation district). Hedge Canal is one of DDID's largest canals. The canal improvement project will include installation of approximately 2,425 feet of canal liner along a section of Hedge Canal, currently leaking irrigation water. This section of the canal is also on a very steep slope with slope instabilities along the downhill side. By lining this section of the canal, seepage will be eliminated, thus decreasing the risk of a catastrophic slope failure and loss of surface water delivery to irrigated lands. During the 2008 irrigation season, DDID tried several times to repair the weak canal bank in the vicinity of this project. The canal had five major slides within a three-mile section in a two-month period. One of these slides almost breached the canal berm between it and the river. According to DDID, this area was repaired twice using 64 labor hours and $87,000 dollars, of which $20,000 dollars came from a DNRC emergency grant. This project will also place a staff gauge near the upstream extent of this project, so DDID can better measure and manage flows in the canal. A fish screen was installed on Hedge Canal in 2010 just upstream from this project. This fish screen diverts an unknown portion of the flows out of the canal and back into the Bitterroot River. The DDID has no means to measure the amount of flow downstream from the fish screens. This leaves with no indication of how to operate the fish screen and how to manage irrigation water. This project has been identified as a high priority by the DDID staff and board of commissioners. By completing this project, DDID will conserve water lost to seepage, preserve the ability to deliver water by stabilizing ditch banks, and increase ability to manage flows.

Proposed Solution

- Install approximately 2,425 feet of canal liner.

Resource and Citizen Benefits Analysis

This project will provide multiple benefits to multiple resources. The project will conserve or promote more efficient use of water, up to 3.75 cfs over the length of repaired canal. The project will also help preserve the bank of the Bitterroot River through reduced seepage-caused erosion. By eliminating seepage, this project will reduce the risk of ditch bank instabilities that could result in a complete loss of sections of the canal. The installation of a staff gauge in this portion of the canal provides management of 140 cfs of the surface water, a renewable resource equaling over 43,000 acre-feet annually. The project will provide citizen benefits through ensuring a viable water supply to 700 users and 6,108 irrigated acres and the continued economic benefit associated with the water use. The public will benefit from a stabilized bank along the Bitterroot River through improved water quality and fisheries habitat.

Funding Recommendation

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

Project No. 45

Applicant Name	Buffalo Rapids Irrigation Project District 2	
Project Name	Main Canal Rehabilitation	
Amount Requested	$ 125,000	
Other Funding Source	$ 77,413	Applicant
Total Project Cost	$ 202,413	
Amount Recommended	$ 125,000	

Project History
BRIPD2 identified a portion of its main canal with severe leakage resulting in loss of diverted water and loss of approximately nine acres of production due to oversaturation from seepage. Installation of the proposed improvements will eliminate seepage and conveyance losses; improve water resource management through the installation of new turnouts and flow measurement devices; and bring nine acres of farmland into production.

Proposed Solution
- Regrade canal;
- Install 3,960 feet of canal liner;
- Replace irrigation turnouts; and
- Install flow measurement devices and new turnouts.

Resource and Citizen Benefits Analysis
This project will have surface water conservation benefits by eliminating an estimated 6 to 16 cfs of water lost to seepage during the irrigation season. This project has management renewable resource benefits by increasing delivery efficiency of surface water to 2,000 acres through the regrading and shaping of the canal. The project also provides renewable resource management benefits through the installation of flow measurement devices at three irrigation turnouts. This project has renewable resource development benefits through reclamation and development of nine acres into irrigated land. The land is impeded by seepage from the canal.

The Main Canal Rehabilitation Project will help the BRIP2 to conserve water, improve water resource management, preserve soil quality, and develop acres damaged over the years. Implementation of the project is projected to generate an additional $166,700 annually in increased production of irrigation land. This increase in production and revenue generation will benefit the local and state economies. Implementation of the Main Canal Rehabilitation Project will help ensure the sustainability of the BRIPD2 and agricultural production within the lower Yellowstone Basin. The grant application received public and citizen benefit points for the economic value of the project.

Letters of support for this project were received from local land owners and irrigators, a local bank, and the Prairie County Economic Development Council.

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	Sidney Water Users Irrigation District	
Project Name	High Canal Rehabilitation, Phase 5	
Amount Requested	$ 125,000	
Other Funding Sources	$ 100,000	USBR
	$ 41,515	Applicant
	$ 4,640	Applicant In-kind
Total Project Cost	$ 271,155	
Amount Recommended	$ 125,000	

Project History
Sidney Water Users ID provides irrigation water to 4,753 acres of cropland on the east side of the Yellowstone River south of Sidney. The High Canal Project was implemented in 2006 to reduce inefficiencies associated with the open canal distribution system utilized to convey water within the district. When complete, the project when complete will result in conversion from an open to a closed system. Phase 5, the final phase of the High Canal Project, will replace 2.5 mile of canal serving 441 acres of farmland.

Proposed Solution
- Convert 9.8-mile open main canal with a 7.8-mile closed pipeline distribution system.

Resource and Citizen Benefits Analysis
The proposed project will not only allow more efficient delivery of water for irrigation, but is also estimated to conserve up to 4.5 cfs of water, equating to an overall annual water savings of approximately 400 mg of Yellowstone River water. In addition the district should realize significant energy and cost savings due to reduced pumping requirements and elimination of labor intensive annual canal maintenance. Finally, the quantity of end-system wastewater flow will be reduced resulting in less sediment and other contaminants entering the river.

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

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

Project No. 47

Applicant Name	Lower Musselshell Conservation District	
Project Name	Deadman's Basin Water Users Association South Canal Pre-Tunnel Lining	
Amount Requested	$ 125,000	
Other Funding Source	$ 5,000	Applicant
Total Project Cost	$ 130,000	
Amount Recommended	$ 125,000	

Project History
The LMCD is applying for funds from the RRGL Program for the design and construction of an irrigation R&B project for the South Canal, part of the Deadman's Basin WUA irrigation project. The proposed irrigation R&B project would provide Deadman's Basin WUA with seepage control, increased water management efficiency, water conservation, and increased crop yield. A 1,600-foot-long section of the Pre-Tunnel South Canal has been identified as the initial irrigation canal lining R&B project by Deadman's Basin WUA. The proposed canal lining project would include the design and construction of approximately 74,000 square feet of geomembrane canal liner. The estimated seepage reduction would be approximately 10% for the 1,600-foot-long canal section proposed for lining or 500 acre-feet/year.

Proposed Solution
- Install 1,600-feet of geomembrane canal liner.

Resource and Citizen Benefits Analysis
This project will have conservation benefits to surface water by eliminating an estimated 1.4 cfs or 500 acre-feet lost annually to seepage. Preservation benefits to soil quality will be realized by eliminating a cause of highsoil salinity. This project will have development benefits by eliminating the seepage that has caused a loss in 25 acres of cropland due to highsoil salinity. Through prevention of seepage, the cropland can be reclaimed and placed back into production, resulting in the development of irrigated land.

This project includes public and citizen benefits through protecting and redeveloping local cropland lost to highsoil salinity from the seepage in the canal. The development of cropland will result in an increase in agricultural revenue for the area. In addition, the conservation of water can lead to economic benefits.

Letters of support for this project were received from the Musselshell Watershed Coalition, area WUAs, Montana's Congressional delegation, and the LMCD.

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	Clinton Irrigation District	
Project Name	Main Canal Wasteway Rehabilitation	
Amount Requested	$ 125,000	
Other Funding Source	$ 24,035	Applicant In-kind
Total Project Cost	$ 149,035	
Amount Recommended	$ 125,000	

Project History:
The CID delivers irrigation water from the CFR to irrigators, serving 812 acres in Missoula County. This project seeks to rehabilitate the wasteway structure at the main canal intake and install 900 feet of liner in the intake canal. The wasteway structure utilizes stop logs, which only allow for incremental water level adjustments and hampers management efforts. The main canal is prone to seepage according to estimates by the contracted engineer who reviewed the application. The goals of the project are to reduce seepage in the intake canal, reduce seepage and erosion around the wasteway structure, and improve surface water management.

Proposed Solution
- Rehabilitate the wasteway structure with new concrete structure and overshot gate; and
- Install 900 feet of liner in intake canal.

Resource and Citizen Benefits Analysis
This project provides conservation of surface water through lining of the canal and improved operation of the wasteway structure. Water conservation of an estimated 80 mg per irrigation season will be accomplished with the lining of the intake canal. This amount of water conservation is about 0.8 cfs. Water conservation of approximately 69.2 mg or 0.7 cfs is obtained through management efficiencies with improved adjustment accuracy from wasteway rehabilitation. Water conservation was estimated by the engineer with no flow measurement to support the calculations. Surface water management benefits will occur from wasteway rehabilitation for. The application received bonus points for safety through replacement of stop logs with an overshot gate, which is safer to operate. It is unclear if this project will impact the local economy. No evidence or estimation was submitted to support economic benefits, although it is likely that the project will provide public and citizen benefits through conserved water reaching the CFR.

Several letters of public support were provided including letters from Senator John Walsh and Representative Steve Daines. Comment letters from FWP or other agencies interested in water conservation and aquatic organisms were not provided with the application.

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	Roundup, City of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 500,000	TSEP
	$ 450,000	CDBG
	$ 164,500	Local Contribution
Total Project Cost	$1,239,500	
Amount Recommended	$ 125,000	

Project History
The original Roundup water distribution system was constructed of cast iron pipe in 1908. Past pipe replacement projects have reduced the total amount of original cast iron pipe still in use to slightly over 38,000 feet. The remaining cast iron pipes are badly deteriorated with numerous leaks and scale build-up on the interior of the pipes that reduces effective diameter and contributes to excessive iron in the domestic water. Water loss in the Roundup distribution system is estimated to be up to 25%. The scale buildup in the cast iron pipes not only reduces the effective pipe diameter, but it reduces fire flows available at fire hydrants. Also, the buildup can break free during fire flows which can plug and damage firefighting equipment.

The improvements will reduce water loss and pumping energy use.

Proposed Solutions
- Replace 3,600 feet of cast iron water main with 8-inch PVC water main;
- Replace 100 feet of cast iron water main with 8-inch ductile iron water main;
- Install 10 new fire hydrants;
- Install 16 new gate valves;
- Replace 63 services with new corp and curb stops and service lines.

Resource and Citizen Benefits Analysis
The project will allow Roundup to conserve energy and reduce groundwater usage by reducing the volume of water pumped to and leaking from its distribution system. By replacing all 38,000 feet of deteriorated water mains, it is estimated that Roundup will reduce water loss by up to 20 mg per year and save the city an estimated $2,500 in energy costs. This project is the next phase in replacing Roundup's old water distribution system. Points were awarded for the public health benefits.

The project will provide direct economic development in Montana mainly through construction jobs. There is economic growth area from in the form of coal mine development, but that is not related to completion of this project.

Roundup conducted one public meeting with 11 attendees. Letters of support came from the Musselshell County Volunteer Fire Department and the SMDC.

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	Missoula County Weed District	
Project Name	Montana Biological Weed Control Coordination	
Amount Requested	$ 100,500	
Other Funding Sources	$ 80,000	Applicant
	$ 15,000	CD 223 Grant
Total Project Cost	$ 195,500	
Amount Recommended	$ 100,500	

Project History

The Montana Biological Weed Control Coordination Project was established to provide the leadership, coordination, and education necessary to enable land managers across Montana to successfully incorporate biological weed control into their noxious weed management programs. Noxious weeds infest about 8 million acres of Montana, about 9% of the state, with knapweed alone costing approximately $42 million per year in direct and indirect costs. Biological weed control (biocontrol) is the deliberate release of specialized natural enemies from the weed's native range to reduce the weed's abundance or spread in its introduced range. Unlike most weed control, most expenses related to biocontrol (approx. $1–2 million/insect species) go to prerelease studies where each insect is thoroughly tested to ensure that they will not cause damage to native or beneficial species. Once approved and released, biocontrol insects spread at no cost to the landowner, with established insects like those for spotted knapweed providing $8 of benefit to agriculture for every $1 spent on prerelease research. In comparison, landowners see a return of $2.50 for every $1 spent on herbicide control. Biocontrol is an underutilized renewable resource capable of improving the quality of many of Montana's public resources. The objectives of this project are to organize the distribution of biocontrol insects of Montana, establish an online mapping program for location of insect releases and insect distribution, establish a statewide monitoring system, and assist land managers in implementation of the monitoring system for the lands they manage.

Proposed Solution

- Gather mapping data, train land managers to use standardized monitoring protocol, provide general education, and assist in collection and distribution of biocontrol agents;
- Compile mapping data gathered from land managers and develop a statewide mapping program; and
- Continue support with monitoring the permanently established transects, education, assistance in collection and distribution of insects, and training for data entry of distribution information into the mapping program.

Resource and Citizen Benefits Analysis

The renewable resource benefits are indirect since this project is designed to set up a measurable framework for the efficient and sustainable management and use of biological weed control agents across the state. The use of biocontrol is a long-term, nontoxic, and cost-effective approach to managing noxious weeds. Once the program is established and bioagents released, direct benefits will be gained by the public, water, wildlife, rangeland, and forests.

Citizen benefits include the economic and the natural resource-based recreation benefits of controlling noxious weeds and the economic, health, and safety benefits of reducing agricultural chemical use on range, riparian, and forest lands.

Funding Recommendation

DNRC recommends grant funding $100,500 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 51

Applicant Name	Jordan, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 500,000	TSEP
	$ 450,000	CDBG
	$1,225,000	SRF Loan
Total Project Cost	$2,300,000	
Amount Recommended	$ 125,000	

Project History
Jordan provides centralized sewer service to approximately 386 residents and local businesses. A wastewater collection system was constructed in 1951, with updates in 1968 and 1986. The most recent wastewater system improvement was designed and constructed in 2008, and created a three-cell lagoon configuration to address lagoon flow, expand the lagoon, and upgrade the pump systems. Due to wastewater entering the community wastewater system from industrial users, the facility has been in non-compliance with its discharge permit standards since it came online in 2009. Due to noncompliance, DEQ issued an AOC to Jordan to correct all violations.

Proposed Solution
- Construct a facultative treatment cell;
- Construct a new evaporation cell;
- Eliminate surface water discharge to Big Dry Creek; and
- Install a new lift station to pump treated water to the new evaporation cell.

Resource and Citizen Benefits Analysis
This wastewater treatment upgrade project will preserve the surface water quality of Big Dry Creek by eliminating surface water discharge. Additionally, elimination of the surface water discharge will preserve land and soils in and around Big Dry Creek, since this creek does not flow year round.

Two public meetings were held and the PER was completed. Public support appears favorable. Additionally, four letters of support were included with the funding application.

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	Crow Tribe of Indians	
Project Name	Wastewater Collection System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 200,000	Coal Board
	$ 450,000	CDBG
	$ 900,000	US HUD ICDBG
	$1,524,000	RD Loan
	$ 750,000	TSEP
Total Project Cost	$3,949,000	
Amount Recommended	$ 125,000	

Project History
Failures of the Crow Agency wastewater collection system have resulted in raw sewage surfacing, as well as sewer backups into homes. The failing lines are being replaced through a multiphase project approach. The East Frontage Road lift station serves the hospital, nursing home, day care, police department, casino, and four private businesses. During the flood event in May 2011, the East Frontage Road lift station was inundated with flood water and rendered inoperable and inaccessible for repairs. All facilities served by the East Frontage Road lift station were without sewer service for 10 days. Patients in the hospital and residents of the nursing home had to be evacuated. The goal of the project is to eliminate the public health and safety issues associated with the failing sewer mains and the flooding potential at the lift station.

Proposed Solution
- Replace approximately 6,720 linear feet of 8- to 10-inch clay tile wastewater pipe with 8- to 12-inch PVC pipe; and
- Construct a new East Frontage Road lift station in a location outside of the flood-prone area.

Resource and Citizen Benefits Analysis
The project will eliminate the potential for raw sewage to reach surface water, and result in preservation of water, fish, and wildlife habitat. There is one benefit preservation to multiple renewable resources demonstrated through this project. Resource benefits are significant, but mostly locally. The benefits cannot be quantified, although a previous significant flood and surfacing of raw sewage is documented.

The project will mitigate risks to human health and safety. The lift station serves critical health care facilities and other businesses and supports over 200 jobs. The project will ensure that the sewer system continues support the jobs and tax base. The project has multiple regional public and citizen benefits.

The project will implement community planning efforts. The Tribe has demonstrated long-term commitment to community planning to develop and prepare improvements to its wastewater system. The application contained 25 letters of support.

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	Helena Valley Irrigation District	
Project Name	Irrigation Efficiency and Water Conservation	
Amount Requested	$ 125,000	
Other Funding Source	$ 154,746	Applicant
Total Project Cost	$ 279,746	
Amount Recommended	$ 125,000	

Project History
The HVID system was constructed between 1956 and 1958 to reclaim lands lost or destroyed by the backup of water from Canyon Ferry Dam. The canal system serves a dual purpose: it provides irrigation water throughout the Helena Valley and it provides supplemental drinking water for the city of Helena. The proposed project will address major seepage out of the initial outflow of Lake Helena through a lateral conversion to plastic irrigation pipe.

Proposed Solution
- Convert initial 4,600-foot section to a closed pipe delivery system;
- Clear all vegetation and debris from the lateral;
- Demolish a 550-foot concrete drop structure;
- Grade the canal bottom to the proposed pipe elevation; and
- Eliminate the seepage.

Resource and Citizen Benefits Analysis
The project proposes to conserve an irrigation water supply and preserve the irrigation acres that would be available for the farmers in the Helena Valley. A preservation benefit would assist fish and wildlife habitat.

This project would assist the Helena Valley farmers who currently use this canal by allowing more water to flow through it. That should help farmers increase their production and also their profits, which will help boost the Helena area economy.

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

Project No. 54

Applicant Name	Fort Shaw Irrigation District	
Project Name	Reduce Waste	
Amount Requested	$ 125,000	
Other Funding Sources	$ 125,000	Applicant In-kind
	$ 20,000	SRWG
Total Project Cost	$ 270,000	
Amount Recommended	$ 125,000	

Project History
The FSID distributes irrigation water in the Sun River drainage to approximately 11,600 acres on 177 farms. Much of the irrigation system needs to be replaced or repaired. This project seeks to restore stability to a major wasteway and line approximately 2,100 feet of canal. The SRWG has identified water quality issues within the Sun River as a result of irrigation wastewater. The goals of the project are to reduce seepage from the canal, prevent the erosion and degradation of the wasteway, and improve water quality of wasteway water into the Sun River.

Proposed Solution
- Install six gabion drop structures in the steepest segments of the wasteway;
- Regrade the wasteway channel with stable dimensions and slopes between drop structures; and
- Install 2,100 feet of liner material.

Resource and Citizen Benefits Analysis
The project will conserve an estimated 9.3 acre-feet of water per day during the irrigation season. Over the 180-day irrigation season this could conserve 1,668 acre-feet of surface water or approximately 3% of the FSID's 54,000 acre-feet diversion amount. The amount of water conserved is based on estimates not verified with flow measurements. The project will also provide benefits to water quality preservation in the Sun River through the prevention of erosion and runoff into the river. These water quality benefits are not quantified; however, the Sun River Watershed Group has identified wasteways as a source of contamination. Local public benefits are related to improvement in the Sun River. Although it is assumed this project will impact the local economy, no evidence or estimation is provided.

The FSID, beginning in 1996, has been implementing improvements to the irrigation system including automation of gates, canal lining, conversion from open ditch to pipeline, and installation of measurement devices in canals and turnouts. One support letter was included in the application.

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	Hysham Irrigation District	
Project Name	Re-lift Canal Improvement	
Amount Requested	$ 125,000	
Other Funding Source	$ 9,850	Applicant In-kind
Total Project Cost	$ 134,850	
Amount Recommended	$ 125,000	

Project History
The HID is in Treasure County near Hysham. The district plans to complete the proposed project to improve irrigation water delivery and management for seven irrigators and approximately 2,000 acres of row crops, small grains, and hay. Three 350-HP pumps deliver water from the Yellowstone River to the main canal, and a second pump station lifts a portion of the water right into their secondary re-lift canal using three 100-HP pumps. The canal is poorly graded, resulting in seepage losses and inefficient water deliveries. Additionally, the lack of control structures creates difficulties in providing water surface elevation control. There is only a single check structure for a series of five irrigation turnouts over 5,500 feet of canal. The proposed project aims to improve water delivery and efficiency.

Proposed Solution
- Regrade 8,600 feet of the re-lift Canal to a continuous positive slope;
- Increase free board along the bank as necessary;
- Install two additional concrete check structures;
- Adjust a 60-inch diameter irrigation culvert to maintain proper flow hydraulics; and
- Adjust five irrigation turnouts to maintain adequate irrigation deliveries to adjacent landowners.

Resource and Citizen Benefits Analysis
The project will conserve surface water throughout improved flow characteristics through the project reach. Improved flow characteristics should lead to reduced seepage losses. The estimated reduction in seepage loss is 0.8 to 2.8 cfs. The project locally impacts the Yellowstone River, a significant and renewable resource, by creating a more efficient system for irrigation. With an anticipated seepage loss savings, a net reduction in energy demand related to pumping could be realized with appropriate water management by the HID. It is estimated that the district could realize energy savings of anywhere from 10,000 kWh to 42,000 kWh in an irrigation season.

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	South Wind Water and Sewer District
Project Name	Water Distribution and Wastewater Collection Study
Amount Requested	$ 125,000
Total Project Cost	$ 125,000
Amount Recommended	$ 125,000

Project History
Located adjacent to southwest Great Falls, the mobile home park originally known as Trailer Terrace was privately constructed to provide housing for construction crews and their families working on the final phase of Minuteman Missile facilities associated with Malmstrom Air Force Base. Constructed as a temporary facility, sewer and water utilities were substandard even for their time, and they have not performed satisfactorily for many years. In recent years, those owning the mobile homes have purchased the facility, and formed South Wind WSD to financially facilitate improvements to the water and sewer systems. No "as-constructed" plans exist for either system; buried utility locations are not known; there is no way to measure leakage in the water lines or to inspect or clean the sewer lines; and the sizes and materials for the piping systems are not known. The purpose of this project is to perform work under the guidance of a professional engineer to investigate the existing systems and obtain the baseline data necessary for routine maintenance and design improvements to bring the system up to required standards for the next 20 years.

Proposed Solution
- Install manholes as necessary to provide access to the sewer collection system for inspection and cleaning;
- Clean and inspect the sewer lines;
- Determine the extent of inflow and infiltration occurring in the sewer lines;
- Conduct a study to determine leakage in the water distribution system;
- Verify size and location of piping and appurtenances;
- From the information collected, prepare "as-constructed" drawings for the system and any improvements made during the course of this project; and
- From the information collected, prepare a plan for phased upgrades to both the water and sewer systems.

Resource and Citizen Benefits Analysis
The proposed project will result in the conservation of renewable energy by eliminating leakage in the water system, thereby reducing pumping requirements. The project will also result in the preservation of the groundwater aquifer by eliminating the leaking of untreated sewage from the deteriorated wastewater collection system. The determination of existing conditions and the preparation of "as-constructed" drawings for the systems will provide a management tool for the district to efficiently and effectively upgrade its systems through an affordable phased approach, thus providing efficient use and protection of the groundwater resource.

This project, along with other ongoing improvements to the community's water and sewer systems, is widely supported. When complete, the district will own water and sewer facilities that meet federal and state regulatory criteria and provide a safe and healthful environment for the residents of the community, now and for the next 20 years.

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	Bainville, Town of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 450,000	CDBG
	$ 625,000	TSEP
	$ 773,000	SRF Loan
	$ 45,000	Applicant
Total Project Cost	$2,018,000	
Amount Recommended	$ 125,000	

Project History
Bainvillle lies in the heart of the Bakken oil boom. The population has increased exponentially, from 150 in 2008 to an estimated 858 by the end of 2014. As of March 2013 applications for 50 building permits could not be accommodated. The design population is 1,500, or an increase of 900% in the short-term planning period. The town's current 100,000-gallon water storage tank is too small and too low in elevation to accommodate growth and does not provide adequate pressure or fire flow to the existing community, let alone provide for double-digit growth. The distribution system of mostly four- and six-inch pipe is too small to provide fire flows near the school, pressures are below 30 pounds per square inch and hydrant flows are 150 gpm, about 15% of what is required.

Proposed Solution
- Replace water storage tank with a 350,000-gallon buried concrete tank; and
- Replace approximately 4,000 feet of undersized and corroded 4 and 6 inch cast iron pipe.

Resource and Citizen Benefits Analysis
The project provides modest resource benefits not quantified in the application. The application identifies conservation benefits derived from replacing leaking water mains, and resource management benefits by way of the ability to better manage the water resource. The town is metered and demands are fairly low in comparison to similar communities. Providing acceptable water pressure and fire protection while enabling well-planned growth in an area experiencing uncontrolled growth with "man camp" development outside town would provide numerous citizen and public health/welfare benefits. This project will provide a safe and healthful alternative, housing alternative to poorly planned, operated, and maintained "man camps", and thus provides some regional benefit.

Public support is strong. The town has a new CIP, a new wastewater system installed in 2008 already undersized, a rate study and new water rates as of 2012, an updated needs assessment, and new growth policy.

More public and citizen benefits exist than resource benefits through improving water system security, management, and reliability.

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	Black Eagle-Cascade County Water and Sewer District	
Project Name	Wastewater Collection System Rehabilitation, Phase 2	
Amount Requested	$ 125,000	
Other Funding Sources	$ 24,280	Applicant
	$ 5,000	DNRC Planning Grant
	$ 15,000	TSEP
Total Project Cost	$ 169,280	
Amount Recommended	$ 125,000	

Project History
Sewage from the Black Eagle community is treated by the Great Falls WWTP. The Black Eagle sewer collection system was originally constructed by the Anaconda Copper Mining Company in the 1920s with VCP. Many of the VCP mains need rehabilitation to prevent sewer infiltration into the groundwater table. This proposed project is intended for rehabilitation of selected mains.

Proposed Solution
- Rehabilitate approximately 4,324 lineal feet of gravity collection mains using CIPP lining;
- Rehabilitate 15, 48-inch manholes with CIPP lining;
- Replace approximately 668 lineal feet of 8-inch gravity collection piping; and
- Replace approximately 414 lineal feet of 12-inch gravity collection piping.

Resource and Citizen Benefits Analysis
Protection/prevention of groundwater degradation from leaking sewer mains is a resource and public benefit. Some pipes in the collection system are more than 80 years old. Based on previous repair some of these old sewer mains are cracked or broken and could be leaking wastewater into the groundwater aquifer; however, this has not been quantified. The project will contribute to economic development in Montana, generally localized to Black Eagle and likely extending to Great Falls.

This project is coordinated with EPA remedial cleanup in Black Eagle. Selective rehabilitation/replacement of gravity sewer mains and manholes is an on-going coordinated effort within the district. The application and PER addressed community engagement, but documentation of public support was not provided.

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	Yellowstone Boys and Girls Ranch Water and Sewer District	
Project Name	Wastewater Improvements	
Amount Requested	$ 125,000	
Other Funding Source	$ 750,000	RRGL Loan
Total Project Cost	$ 875,000	
Amount Recommended	$ 125,000	

Project History
This project proposes improvements to a failing wastewater treatment system. Primary outcomes would be: 1) eliminating sewage seeping into groundwater; and 2) increasing sewage treatment so it meets DEQ discharge limits for TN, BOD, TSS, *E.Coli*, etc. into Canyon Creek.

Proposed Solution
- Remove and dispose of sludge in facultative lagoons;
- Replace damaged facultative lagoon liners;
- Install aeration system within facultative lagoons; and
- Install limestone rock filter to facilitate nutrient removal.

Resource and Citizen Benefits Analysis
Renewable resource benefits include protection of surface and groundwater from contamination.

Public and citizen benefits are to reduce risk to human health by minimizing exposure to untreated sewage downstream from the treatment plant and in groundwater.

Funding Recommendation
DNRC recommends grant funding of $125,000 upon development and approval of the final scope of work, administration, budget, and funding

Project No. 60

Applicant Name	Fort Peck Tribes	
Project Name	Lateral L-42M Rehabilitation, Phase 1	
Amount Requested	$ 125,000	
Other Funding Source	$ 36,881	Applicant In-kind
Total Project Cost	$ 161,881	
Amount Recommended	$ 125,000	

Project History

The FPIP lies along the Milk and Missouri Rivers in Roosevelt and Valley counties within the southeastern corner of the Fort Peck Indian Reservation. This project involves lining Lateral L-42M, which is supplied with water from the main canal and provides irrigation to the southwestern third of the Wolf Point Frazer Unit. Lateral L-42M is one of the largest laterals within the unit and supplies water to multiple smaller branch laterals whose primary functions are to deliver water to the area's fields. Lateral L-42M has an approximate capacity of 110 cfs and an approximate length of 13.75 miles. The canal and lateral delivery systems experience significant water loss through seepage into permeable soils throughout a major portion of the unit. Brush and trees have overgrown portions of the canal banks, contributing to seepage and additional water loss from the canals and laterals. The fields on both sides of the canal have lost irrigable land due to oversaturation of the soil. This combination of seepage and vegetative water losses are substantial within the Phase 1 project area.

The downstream portion of Lateral L-42M is difficult to manage, with surface water losses reducing the level of water above turnouts and requiring more surface water to be pumped from the Missouri River to make up for the canal losses. This project is part of an overall effort to improve Lateral L-42M functionality and to support beneficial use of the water pumped from the Missouri River.

Proposed Solution

- Line 0.5 miles of Lateral L-42M, which is supplied with water from the main canal and provides irrigation to the southwestern third of the Wolf Point Frazer Unit.

Resource and Citizen Benefits Analysis

This project will provide multiple benefits to multiple resources. The project will conserve and promote more efficient use of water, up to about two cfs over the length of the lined section. Reduced seepage would improve efficiency of the conveyance and delivery system making more water available for irrigation. Reduction in seepage would provide an economic benefit since about 30 acres adjacent to the canal could be returned to crop production with elimination of saturated soils.

Funding Recommendation

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

Project No. 61

Applicant Name	Toston Irrigation District	
Project Name	Canal Rehabilitation	
Amount Requested	$ 125,000	
Other Funding Sources	$ 8,460	Applicant In-kind
	$ 36,850	Applicant
Total Project Cost	$ 170,310	
Amount Recommended	$ 125,000	

Project History
The TID, in Broadwater County south of Townsend, provides water to 33 ranches and farms, irrigating 6,200 acres. The system was constructed by the USBR in the early 1950s and turned over to the TID in 1965. Water is supplied to the system by the Crow Creek Pumping Plant, on the Missouri River about one mile upstream from Toston Dam. From the river, water is pumped through a 52-inch conduit, into a tunnel, and then into a canal that feeds the Toston and Lombard Canals. About 1.5 miles of this feeder canal experiences significant water losses due to seepage. The TID received funding to rehabilitate the first half-mile of canal and the TID is now applying for funds to line the second half-mile stretch. The application proposes lining the second 2,640 feet to eliminate seepage, thus conserving water, enhancing downstream fish and wildlife habitat, and providing a reliable and sustainable supply of irrigation water to downstream users.

Proposed Solution
- Perform preliminary engineering and design tasks necessary to produce a bid package for the installation of a geosynthetic liner on 2,640 feet of the canal feeding the Toston and Lombard Canals.

Resource and Citizen Benefits Analysis
This project is both a water conservation and economic enhancement project. Additionally, the project will enable the TID to better manage flows within the system without varying seepage losses. The project will enhance aquatic habitat in the Warm Springs Creek drainage, near the end of the Toston Canal.

Broadwater County's economy is based heavily on agriculture. TID provides essential irrigation water to 33 farm and ranch operations, as well as enhancing aquatic and wildlife habitat, wetlands, and groundwater recharge. To reduce seepage and enhance conservation and beneficial use of water from the Missouri River provides not only measurable conservation benefits but also contributes to the economic health of Townsend and Broadwater County.

Numerous letters of support from irrigators, local businesses, and Chamber of Commerce were submitted.

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

Project No. 62

Applicant Name	Hot Springs, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 103,000	TSEP
	$ 450,000	CDBG
	$ 217,000	RD Loan
Total Project Cost	$ 895,000	
Amount Recommended	$ 125,000	

Project History
Hot Springs' original wastewater system was installed in the 1940s and includes approximately 31,000 linear feet of PVC, clay pipe, and non-reinforced concrete pipe. In 1985 the town rehabilitated parts of the collection system, installed a new lift station, and installed a new WWTF. The WWTF consists of a lined, three-cell lagoon, static tube aerators, tablet chlorination, and a rectangular weir for effluent flow measurement.

The town has a significant I&I problem that could result in a sanitary sewer overflow or a sewer backup into residences. In addition, the Hot Springs lift station is not adequately sized for large infiltration/inflow. Inflow and effluent monitoring systems are antiquated and probably not very accurate. The town also has severe ragging problems at the lift station because of no screening facilities. Larger debris conveyed through the lift station creates maintenance issues with treatment facility equipment and infrastructure. The blowers and inter-lagoon control valves have exceeded design life and should be replaced.

Proposed Solutions
- Rehabilitate sewer mains, manholes, and service line/connections suspected of infiltration;
- Install a flow meter at the lift station;
- Install a vertical grinder auger in the lift station wet well to remove rags and system debris;
- Replace broken blower motor;
- Replace effluent weir with an appropriately sized weir;
- Replace interlagoon control valves;
- Repair failing air piping supports; and
- Install dechlorination system.

Resource and Citizen Benefits Analysis
Rehabilitating sewer mains will conserve energy the lift station and the WWTF. Estimates for peak energy use have been quantified; however, monthly and annual savings are not provided. Groundwater will be preserved by eliminating mixing it with raw sewage. Preservation quantities are vaguely estimated. Surface water preservation through dechlorination and reduced wastewater flows will occur and discharge volumes receiving improved treatment are estimated. Finally, accurate and instantaneous flow monitoring entering and discharging from the WWTF will result in improved operational management through more immediate process adjustments and repairs.
The project will provide temporary economic development in Montana through construction jobs. Two public meetings April 2014 presented project details, costs, and user rate impacts to the citizens.

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	Lockwood Irrigation District
Project Name	Pump Station Rehabilitation
Amount Requested	$ 125,000
Other Funding Source	$ 31,500
Total Project Cost	$ 156,500
Amount Recommended	$ 125,000

Project History

The LID serves approximately 1,500 members including residential, commercial, industrial, and agricultural use. The LID consists of three districts that total 2,113 acres of irrigable lands. Through the Lockwood Pump Station, the LID diverts water out of the Yellowstone River south of the Interstate 90 Bridge between Billings and Lockwood. The maximum design capacity of the pump station is 19,500 gpm. In 2009, the LID completed an assessment of irrigation system infrastructure and facility to develop a deferred maintenance priority list and recommendations to improve water conservation and management. The assessment identified the following concerns with the pump station: age of the pumps, excess capacity of the pump station, outdated electrical systems, lack of potential variable speed drives, and lack of flexibility in pump capacity to optimize water delivery and energy consumption. The Lockwood Pump Station consists of three pumps (two primary pumps and one backup) which supply water to two delivery canals. The pumps were last upgraded in the 1980s and are at the end of their useful life. An energy audit by Northwestern Energy found that the pump station is inefficient due to the oversized pumps and the power requirement of the existing equipment. Pump 1 supplies far more water than demand and large portions are wasted through the system to prevent the canal from overtopping.

Proposed Solution

- Contract with an engineering firm to develop a final replacement design and assist with construction management and inspection;
- Procure a replacement VFD pump and corresponding equipment;
- Hire a contractor to install the pump and equipment; and
- Install replacement pump and corresponding electrical equipment in the Lockwood Pump Station.

Resource and Citizen Benefits Analysis

This project will provide multiple benefits to multiple resources. An energy audit estimated that about 60,000 kWh could be saved per year with the replacement of one pump with a VFD pump. A secondary benefit is water conservation. With a VFD pump, the pumping rate can be optimized to better match demands and prevent canal overtopping and wasting. The water savings is estimated at 207 mg per year. The project will provide economic benefit through energy savings and the continued use of untreated water for the LID users.

Funding Recommendation

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

Project No. 64

Applicant Name	Missoula, City of	
Project Name	Buckhouse Bridge Outfall – Stormwater Treatment Retrofit	
Amount Requested	$ 125,000	
Other Funding Sources	$ 20,000	Missoula Valley WQD
	$ 90,096	MDT
Total Project Cost	$ 235,096	
Amount Recommended	$ 125,000	

Project History
Stormwater from two busy four-lane highways and a 74-acre drainage field in the surrounding area is served by an undersized detention basin. The basin creates an anaerobic environment that retains some amount of sediment, which is then resuspended and flushed into the Bitterroot River during rain. The stormwater is contaminated with grease, bacteria, sediment, metals, nitrogen, phosphorous, and garbage. The proposed project will replace the basin by installing a HDS in-line treatment system. An HDS is expected to remove from 50% to 80% of the TSS from the stormwater, as well as the amount of sediment-attached metals, phosphorous, and garbage discharged into the Bitterroot River.

Proposed Solution
- Finalize specifications of the HDS and regulating structure;
- Finalize installation design of the HDS, regulating structure, and new storm piping;
- Notify the public of the proposed project; and
- Construct improvements including installation of the HDSs, removal of unneeded storm pipe, and installation of new storm pipe.

Resource and Citizen Benefits Analysis
The Bitterroot River is a 303(d) listed stream impaired by lead, sediment, temperature, and stream bank alteration. This project will reduce TSS discharge to the river and will likely reduce the amount of metals, phosphorous, and garbage discharged into the Bitterroot River. This will benefit all users of the Bitterroot River. The public benefits of this project are regionwide because of the beneficial effect to the river, a regionally used body of water.

The project will have both a short-term economic benefit from the proposed construction work and also possible long-term economic benefits from increased public use (local and visitor) of the access site across the river and an adjacent soon-to-be-finished bicycle/pedestrian trail. This project will decrease the visible and odiferous discharge from the outfall and eliminate the settling basin's smell and mosquito breeding ground.

This project has both state agency and local support.

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	Harlowton, City of	
Project Name	Water System Improvements, Phase 3	
Amount Requested	$ 125,000	
Other Funding Sources	$ 750,000	TSEP
	$ 347,500	SRF Loan
	$ 347,500	SRF 50% Loan Forgiveness
Total Project Cost	$1,570,000	
Amount Recommended	$ 125,000	

Project History
The original Harlowton water distribution system was constructed of cast iron pipes in the 1930s. Approximately 25,000 feet of the original deteriorated and undersized cast iron water distribution pipes are still in service. Phase 1 of the water system upgrades, completed in 2011, consisted of constructing a new 590,000-gallon water storage tank and booster station and replacing about 2,000 feet of old pipe with 12-inch water mains. Phase 2, completed in 2013, replaced approximately 5,500 feet of 6- and 10-inch water mains and includes rehabilitating a water production well.

Other system problems include numerous water main breaks due to the increase in water pressure of the new higher water storage tank (62 breaks in about 26 months), unaccounted water losses estimated at 30% to 40%, chlorine gas storage at one of the water production well building rooms that also contains telemetry and electrical controls.

Proposed Solutions
- Replace 4,800 feet of cast iron water main within a LUST Trust Fund site with DIP using nitrile gaskets;
- Install 15 new gate valves;
- Install 10 new fire hydrants. Replace 100 services with new corp and curb stops and service lines; and
- Upgrade chlorine gas storage facilities at the Thompson well house.

Resource and Citizen Benefits Analysis
The project will allow Harlowton to conserve energy and reduce groundwater usage by reducing the volume of water pumped to and leaking from the distribution system. By replacing all 25,000 feet of deteriorated water mains, the PER estimated that Harlowton will reduce water loss by up to 35 mg per year and save the city an estimated 94,907 kWh per year in energy costs. Because of an error in calculations, the energy savings could be closer to 49,000 kWh per year. Points were awarded for the public health benefits of this project.

The project will provide direct economic development in Montana mainly through construction jobs.

One public meeting attracted 16 people. Letters of support came from Wheatland Memorial Healthcare, the SMDC, and five form letters from residents.

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

Project No. 66

Applicant Name	Greenfields Irrigation District	
Project Name	J-Lake Rehabilitation and Water Quality Improvement	
Amount Requested	$ 125,000	
Other Funding Sources	$ 100,000	USBR
	$ 259,950	Applicant In-kind
Total Project Cost	$ 484,950	
Amount Recommended	$ 125,000	

Project History
GID provides Sun River water to over 83,000 acres of irrigated cropland. The district distribution system includes over 500 miles of supply canal and 250 miles of waste flow drains. Water delivery to the far end of the district takes up to four days, and unforeseen or unscheduled shutdown of water by individual water users can result in large wasteway flows. In particular, wasteway flow into Muddy Creek has averaged more than 50,000 acre-feet over the last 10 years. J-Lake is a small interim storage reservoir on the upper reaches of Spring Coulee designed and built to capture a portion of the waste flow from Lateral GM-100 for reuse further down-gradient in the distribution system. Some of the drains flowing into Muddy Creek first discharge into highly erodible natural coulees. Erosion in these coulees and Muddy Creek itself result in significant sediment and nutrient loading to the Sun River downstream from its confluence with Muddy Creek and the Missouri River downstream from its confluence with Muddy Creek. The proposed project will increase the storage capacity of J-Lake to allow capture and reuse of water lost to a wasteway drain that discharges to Spring Coulee.

Proposed Solution
- Finalize design of the proposed improvements;
- Develop construction plans;
- Procure concrete and flow control gates; and
- Construct improvements using district equipment and employees including demolishing flow control structures, building new flow control structures, and raising reservoir embankment.

Resource and Citizen Benefits Analysis
The proposed project will not only allow more efficient use of water within the district, but is also estimated to reduce wasteway flows into Muddy Creek by an estimated 2,735 acre-feet. This reduction in waste flow discharge into Muddy Creek should reduce both sediment and nutrient loading to the Sun and Missouri Rivers. These reductions, estimated at 600 tons of sediment, should improve water quality and aquatic and riparian habitat in both the Sun and Missouri Rivers.

The additional water will be available to other users within the district. This is especially critical during spring and during a dry year. In some years, it may even result in decreased diversion of water from the Sun River.

While the project will result in short-term economic benefits associated with the proposed construction work, more importantly it will preserve the economic benefits including the local tax base associated with the cropland served by the district.

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

Project No. 67

Applicant Name	Malta Irrigation District	
Project Name	Exeter Siphon Replacement	
Amount Requested	$ 125,000	
Other Funding Source	$ 518,000	Applicant
Total Project Cost	$ 643,000	
Amount Recommended	$ 125,000	

Project History

The MID operates and maintains an irrigation system in the Milk River Basin that provides water to approximately 44,600 acres. The proposed project specifically addresses the Exeter Siphon, which conveys water through the Dodson North Canal supplying water to the northern portion of the MID. The Exeter Siphon, built in 1914, is 400 feet long with a capacity of 102 cfs that spans Exeter Creek, a seasonal stream. Many times over the past 100 years, the MID has acted to maintain/repair the siphon. These repairs include the siphon pipe inlet, multiple pipe repairs, and replacement of materials at the Exeter Creek crossing. The siphon is severely degraded and leaks at multiple locations. At over 100 years of service, the siphon needs to be replaced. Mitigation of these problems will be achieved by replacing the siphon with a new Exeter Creek bypass that will build an elevated canal over Exeter Creek and bypass the stream flows under the canal through a box culvert. Implementation of the improvement project will conserve up to 30 acre-feet of water per day, increase crop production, and improve irrigation delivery efficiency for 8,920 acres.

Proposed Solution

- Remove degraded structure; and
- Build a new elevated canal across Exeter Creek, and bypass Exeter Creek flows under the new canal through a box culvert.

Resource and Citizen Benefits Analysis

Implementation of the proposed rehabilitation will conserve up to 30 acre-feet per day of water. Conservation of water in the system will improve water delivery to irrigators below the project area. The project will have significant impact in drought years by minimizing water diverted from the Milk River, maximizing beneficial use of diverted flows, and preserving in-stream flows in the river. Resource benefits to the project are water conservation, increased management efficiency, and preservation of farmland that could be lost if the siphon failed. Impacts were local and generally estimated. Citizen resources for the project included economic impact to local producers.

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	Garfield County Conservation District
Project Name	Little Dry Water User's Association: Infrastructure Improvements Improvements
Amount Requested	$ 125,000
Other Funding Source	$ 120,280
Total Project Cost	$ 245,280
Amount Recommended	$ 125,000

Project History

The Little Dry WUA is a reorganization of one of the earliest irrigation developments in Montana, dating back to 1908. Numerous expansions and improvements have occurred over the years, most notably in the 1970s with the construction of several siphons and turnouts. Although regular maintenance and repair preserved the system over the past 40 years, it is exhibiting certain inefficiencies that must be addressed to maximize benefits to the water, soil, and cropland. The proposed project will conserve water, soil, and crop resources by addressing factors responsible for flow loss from the system. Current inefficiencies of the system prevent 30% or about 400 acres from being irrigated. The Little Dry WUA contracted with the NRCS and a private engineering firm to develop recommendations for system rehabilitation. Recommendations and conceptual-level designs were developed at eight sites.

Proposed Solution

Design:

- Collect additional field survey data;
- Verify hydraulic models to assess hydraulic performance for the existing and proposed conditions;
- Size replacement pipes based on hydraulic models;
- Verify embankment treatment extents and material volumes based on calculated headwater elevations from the hydraulic models;
- Quantify impacts to waters of the United States for Section 404 permitting at Site 1; and
- Produce final design plans, specifications, cost estimates, and bid documents.

Construction:

- Complete improvements to the Diversion Dam including rock riprap of eroding bank, sediment removal from bottom of outlet works, and address health and safety concerns for users through a new ladder and stop board guides;
- Install pipe upgrade at Tom's Crossing and heighten roadway and spillway;
- Widen ditch and increase ditch height downstream from Tom's Crossing;
- Rehabilitate siphon through head increase at Antelope Siphon;
- Replace turnout at Alfred's Turnout;
- Install pipe upgrade and increased height of roadway at Alfred's Crossing;
- Rehabilitate Gilmore Siphon through head increase; and
- Repair infrastructure at B&G wastewater drain.

Resource and Citizen Benefits Analysis

The project identifies capacity and hydraulic deficiencies throughout the conveyance and delivery system. When corrected, irrigation potential on all 1,416 acres of farmland, including 400 acres not currently served in normal years will be maximized. The project promotes economic benefit through increased production. The project stabilizes soil and promotes water quality through reduced erosion at the diversion dam. Health and safety issues at the diversion dam are also improved.

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	Gallatin County Compliance Department
Project Name	Septic System Repair Assistance Program
Amount Requested	$ 125,000
Total Project Cost	$ 125,000
Amount Recommended	$ 125,000

Project History
Since 1966, Gallatin County has approved 16,600 septic permits. Over 66% of these are at the end of their expectant life. An average septic system connected to a household can treat up to 300 gallons of household waste every day. This aging infrastructure in Gallatin County is creating a problem that must be addressed.

Proposed Solution
- Create a revolving loan program; and
- Provide funding to upgrade noncompliant septic systems.

Resource and Citizen Benefits Analysis
The project proposes to create a revolving loan fund to assist Gallatin County residents who need to replace a failing septic system but can't afford to do so.

This project would preserve groundwater quality since the leaking septic tanks will be fixed.

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	Flaxville, Town of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Source	$ 37,000	SRF Loan
Total Project Cost	$ 162,000	
Amount Recommended	$ 125,000	

Project History
Flaxville's water distribution system was first constructed in 1957 and consists of four wells, a 25,000-gallon storage tower, a treatment plant with softening and nitrate removal media, asbestos cement distribution mains ranging from 4- to 8-inch in diameter, radio-read water meters, and hydrants for fire protection. The town has recently replaced old fire hydrants, installed new radio-read water meters, and installed new media in the WTP. The town's water distribution system still has other deficiencies not addressed. It lacks a secondary power source to the wells and treatment facility, the interior and exterior surfaces of the water storage tank need to be coated, and pump #1 needs replaced since it is at the end of its useful life. These issues reduce the town's ability to adequately provide clean, safe drinking water.

Proposed Solution

- Install backup power at the wells, treatment plant, and the water tower;
- Install a cage around the water tower access ladder and a handrail around the water tower landing;
- Sandblast and recoat the inside and outside surfaces of water tower; and
- Install a new pump in well #1.

Resource and Citizen Benefits Analysis

The town's elevated water tank needs substantial repair to keep it from completely corroding, which will cause contamination in the system and remove the town's storage capacity. By repairing the tank, the town will be better able to manage and preserve the water within its distribution system.

Development and conservation of the town's water resource will improve with installation of the new well pump. The current pump is over 50 years old; it has far outlived its design life, and failure is imminent. The new pump will be more energy efficient and reliable, keeping the town's water supply safe and viable.

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	Glasgow, City of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 500,000	TSEP
	$2,595,335	RD Grant
	$4,145,794	RD Loan
	$ 200,000	Applicant
Total Project Cost	$7,566,129	
Amount Recommended	$ 125,000	

Project History

Glasgow's source water comes from the Missouri River. Boeing owns and operates the intake structure and pump stations. However, the city has an agreement with Boeing for shared use of these facilities. The city's WTP was built in 1966 and later modified for surface water treatment in 1987. But many of the treatment system components are well over 30 years old and past their useful life. The city maintains a water distribution system consisting predominantly of asbestos cement (transite), cast iron, and PVC piping. The majority of the piping was installed before the 1960s. An extensive water main replacement project was completed in 1967. Water storage is provided by a 1.5 million-gallon semiburied concrete tank and a 1-mg elevated steel tank. This water system improvements project will both conserve the Missouri River surface water that the city depends on as its water source and it will improve the city's ability to more efficiently and effectively manage the water within the city's system.

Proposed Solution

- Install contact adsorption clarifier equipment;
- Construct a new media filter building addition, including new media, equipment, valves, and piping;
- Upgrade electrical and plant control system (including back-up power supply);
- Upgrade chlorine disinfection system;
- Upgrade high lift pumps;
- Upgrade heating and lighting;
- Modify the sludge pump station;

- Upgrade bulk water station;
- Upgrade backwash pumps; and
- Upgrade components of the water distribution system (including booster pump station, storage reservoirs, and roughly 550 feet of 4-inch water line replaced with 6-inch PVC).

Resource and Citizen Benefits Analysis
The proposed water system improvements project will not only support the existing system users and provide them with safe and reliable potable water, but it will also meet the demands associated with predicted growth and expansion in the area. System redundancy will allow for a reliable source of water even during power outages. The improvements will help promote conservation of both water and energy by providing more efficient and more effective treatment. Support for the project is strong and is expressed in a number of support letters received from local residents, businesses, affected property owners, and elected officials.

Funding Recommendation
DNRC recommends grant funding of $125,000 contingent upon the city completing a new alternatives analysis including hooking into the regional water system as an alternative and upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 72

Applicant Name	Conrad, City of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 500,000	TSEP
	$1,657,858	SRF Loan
	$ 1,500	Applicant
Total Project Cost	$2,284,358	
Amount Recommended	$ 125,000	

Project History
Construction of Conrad's water distribution system started in the early 1950s. The original system was constructed of asbestos cement pipe, ranging in size from 4 to 16 inches in diameter. The distribution system has nearly 10,500 feet of four-inch diameter asbestos cement pipe, which does not meet DEQ minimum sizing requirements. The city's drinking water comes from Lake Frances, and is pumped to the WTP by a pump station reconstructed in 2006. The city's WTP was upgraded in 2002; since then it has above average backwash frequency during the winter due to air binding at the filters. The city also has two, 1-million-gallon storage tanks installed in 1979 and 1984, respectively. The exteriors of these tanks show signs of corrosion and rust, and require recoating. Replacement of the undersized and leaking water mains and fire hydrants will provide large areas of the city with increased fire protection and bring the distribution system into compliance with DEQ requirements.

Proposed Solution
- Replace approximately 8,900 feet of asbestos cement distribution lines with six-inch PVC water lines;
- Replace undersized hydrants to assure sufficient fire flows and water flow;
- Make chemical adjustments to the WTP to eliminate filter air binding; and
- Recoat both water tanks to avoid permanent corrosion damage.

Resource and Citizen Benefits Analysis
The proposed improvements will conserve surface water and energy. Implementation of chemical adjustments at the city's WTP is estimated to decrease the number of backwash cycles by approximately 6.3 cycles per week. Energy will be conserved through the elimination of these excessive backwashes. During backwash cycles, approximately 4.6% of the water produced by the treatment plant is wasted. Therefore, a reduction in the number of backwashes required at the WTP during the winter months will decrease the amount of surface water pumped from Lake Frances.

Replacing 8,900 feet of four-inch diameter asbestos cement water mains along with undersized fire hydrants will increase the fire flow and provide a safer, more reliable fire flow in several critical areas of the city including the high school, the shopping center, RV park, the north industrial park, and three heavily populated residential areas. Recoating the water storage tanks will preserve the city's infrastructure investment and extend the useful life of both water storage tanks.

Public support for the project appears strong. Public hearings were conducted February 26, 2014, and April 15, 2014. No negative feedback was received. Additionally, 10 letters of public support were included with the application.

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	Missoula Irrigation District	
Project Name	Water Conservation	
Amount Requested	$ 125,000	
Other Funding Sources	$ 2,000	Applicant In-kind
	$ 12,400	Applicant
Total Project Cost	$ 139,400	
Amount Recommended	$ 125,000	

Project History
The Missoula ID serves the greater Missoula area, mostly within Missoula City limits and partially within Missoula County. The proposed project specifically affects a section of the delivery laterals between Gharrett Street and County Club Lane, as well as a segment near the intersection of 3rd Street and Preston Street. The district infrastructure, constructed in 1901, diverts water from the CFR delivering it to the city of Missoula for both agricultural and residential irrigation. Both laterals are in poor condition, adversely graded and retrofitted with corroded half-pipe corrugated pipe sections. Rehabilitation and stabilization of the laterals will include installation of corrugated plastic half-pipe to eliminate seepage in the area and improve irrigation efficiency. Implementation of the rehabilitation project will minimize water diverted from the CFR, increase crop production, and improve irrigation delivery efficiency.

Proposed Solution
- Install 1,100 feet of CPP half-pipe in the laterals.

Resource and Citizen Benefits Analysis
Implementation of the proposed rehabilitation measures will conserve between 0.13 and 0.26 cfs of water annually. Conservation of water in the system will improve water delivery for irrigation to irrigators in the project area. The project will have a significant impact in drought years by minimizing water diverted from the CFR and maximizing the beneficial use of all diverted flows. The rehabilitation project will protect housing developments and public health and safety. The proposed project will provide a multitude of citizen benefits to the local area including mosquito control, protection from flooding, and economic impacts to local producers. The conservation measures will ensure the stability and continued use of the

Gharrett Street and 3rd Street laterals, as well as preserve irrigation and agricultural production in the Missoula 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. 74

Applicant Name	Malta Irrigation District
Project Name	Peoples Creek Diversion Dike Rehabilitation
Amount Requested	$ 125,000
Total Project Cost	$ 125,000
Amount Recommended	$ 125,000

Project History
The MID is sponsoring the Peoples Creek Diversion Dike Rehabilitation project for the neighboring EWUC (now forming). The proposed project will conserve water, preserve cropland/soil quality, and improve public safety through flood mitigation. The purpose of the dike is to divert Peoples Creek from its natural drainage to the northwest, where it enters the Milk River upstream from the Dodson Diversion Dam. The dike has experienced four failures. These failures have led to flooding of cropland within the proposed area of the EWUC, as well as flooding over U.S. Highway 2 and the MID's Dodson Main Canal. Dike failure has negatively impacted nearly 1,000 acres of cropland. Repair of the dike is necessary to effectively route People's Creek and its floodwaters along its intended diversion path into the Milk River. The project will allow the optimization of production on nearly 1,000 acres of cropland resulting in a positive annual economic effect of $97,500 in increased revenue generation.

Proposed Solution
- Rebuild the dike at the failure locations, using design considerations and construction materials to control seepage through the dike and in the dike foundation.

Resource and Citizen Benefits Analysis
The proposed project will provide a conservation benefit to the water resource by directing the water to its intended location of the Milk River upstream from the Dodson Diversion Dam. The water can then benefit the users of water serviced by the Dodson Main Canal. The project also provides a preservation benefit to cropland and soil quality by preventing the flooding of about 1,000 acres. An added public safety benefit will minimize or eliminate flooding of U.S. Highway 2. The bridge at U.S. Highway 2 where the diverted Peoples Creek crosses is designed for appropriate flood flows; the flow structure at the location normally protected from flood flows by the dike is not designed for flood flows. The 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. 75

Applicant Name	East Bench Irrigation District	
Project Name	Main Canal Gate Automation	
Amount Requested	$125,000	
Other Funding Source	$ 561	Applicant
Total Project Cost	$125,561	
Amount Recommended	$125,000	

Project History
The EBID completed a CIP, condition assessment, and a prioritization of improvement ranking for its irrigation facilities. Priorities are rehabilitation of check structures and gates on the main canal. The district has rehabilitated three check structures on the main canal and has realized water conservation in the two seasons since installation of the previous project. EBID has identified three additional check structures for improvements. Installation during the proposed improvements will conserve an estimated 500 acre-feet annually, improve water management, and save personnel time through the automation of the check structure gates.

Proposed Solution
- Install one overshot gate at one check station;
- Install gate controllers at three check stations;
- Install gate automation at two check stations; and
- Install two solar power sources.

Resource and Citizen Benefits Analysis
This project will have conservation benefits through better use of approximately 500 acre-feet of water annually that normally would be spilled at the end of the canal. The automation of the check structure gates will increase the efficiency allowing for better management of the surface water. Both conservation and management benefits are estimated by the engineer reviewer based on engineering assumptions. Although considered minor, citizen benefits will be gained by eliminating the potential for overtopping of the ditch by preventing water surge through the system during power outages. The project will help the EBID to conserve water and improve water management.

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

Project No. 76

Applicant Name	Dillon, City of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 5,000	DNRC Loan
	$ 625,000	TSEP
	$ 757,574	RD Grant
	$ 757,574	RD Loan
	$ 289,039	Applicant
Total Project Cost	$2,559,187	
Amount Recommended	$ 125,000	

Project History
Forty percent of Dillon's water supply and 57% of Dillon's water storage is provided by wells and reservoirs across the Beaverhead River from the city. Two 10-inch cast iron pipes within a pipe bridge crossing the river are major components of the city's water supply. The pipe bridge and mains are old and in poor condition. During spring runoff and seismic events, the mains and bridge are in danger of significant damage. The pipes are exposed to potential freezing; in the past lead joints separated causing minor leaks. The goal of this project is to eliminate the pipe bridge and replace the 10-inch cast iron pipes.

Project Solution
- Replace two critical 10-inch water transmission mains with one 18-inch main; and
- Relocate mains out of a floodplain and directional drill the mains under the Beaverhead River to avoid pipe bridges and flooding.

Resource and Citizen Benefits Analysis
The project may conserve water by preventing catastrophic failure and water loss if the pipe bridge is destroyed by flooding. The pipeline is downstream from a wellfield and a one 1 million-gallon water supply reservoir feeding the town.

The PER amendment proposes a new pipeline route outside of the Beaverhead River Floodplain and along a county road, thus opening potential opportunities for new connection to the pipeline for additional municipal, commercial, or industrial water use. No additional users or development concepts are proposed in the application. Benefits are not quantified and the proposal was discussed at one public hearing without formal letters of support.

Improving water system security, management, and reliability provides more public and citizen benefits for this project than there are resource 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. 77

Applicant Name	Medicine Lake, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 500,000	TSEP
	$ 656,000	SRF Loan
Total Project Cost	$1,281,000	
Amount Recommended	$ 125,000	

Project History

Medicine Lake's collection system was constructed in the 1940s and consists of 8- and 10-inch mains. The two-cell facultative treatment system with clay liner was constructed in 1970 and placed in service in 1971. Before construction of the treatment lagoon, the sewer mains discharged directly into Big Muddy Creek. A new lift station was constructed in 1988 to pump the wastewater into the cells.

Flow measurements indicate that untreated wastewater may enter groundwater between the treatment lagoon and Big Muddy Creek. Big Muddy Creek is directly adjacent to the treatment lagoons and flows into the USFWS MLNWR. The lagoons on the north and west banks have excessive erosion and are in danger of failing if deterioration continues. The lagoon piping does not allow operational flexibility. The lift station does not have an auto dialer for the alarm system. The discharge flow measurement system must be improved to meet applicable design standards because the present system is not accurate. The lagoons have not been upgraded in their 45-year existence. The proposed solution is to rehabilitate the facultative LAS system to meet present-day design standards.

Proposed Solution

- Remove and land apply accumulated solids;
- Recontour and rebuild damaged dikes;
- Install a membrane line;
- Install riprap on leeward dikes to reduce wind damage;
- Replace piping from the lift station to the lagoons;
- Install yard piping to allow operational flexibility;
- Install a new meter vault at the outflow of #2; and
- Repair and upgrade the lift station.

Resource and Citizen Benefits Analysis

Proposed improvements will preserve surface water (Big Muddy Creek Diversion Ditch) by protecting the ditch from pollution. Enhanced treatment through the increased detention time, as well as reducing the likelihood of a dike failure, will preserve downstream surface waters and the lower reach of the Medicine Lake National Wildlife Refuge.

The project may preserve fish and wildlife habitat through reduction of pollutants in the receiving stream. The reviewer notes that the receiving stream (Big Muddy Creek Diversion Ditch) enters the MLNWR very near the lake's outlet and contamination due to poorly treated effluent or a catastrophic dike failure would have to travel up-gradient to affect the wildlife refuge itself. Proximity to the refuge justifies additional environmental benefit consideration.

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. 78

Applicant Name	Kevin, Town of	
Project Name	Wastewater System Improvements	
Amount Requested	$ 125,000	
Other Funding Source	$ 5,000	Applicant
Total Project Cost	$ 130,000	
Amount Recommended	$ 125,000	

Project History
Kevin, in Toole County, serves a population of 154. The proposed project specifically addresses the installation of a UV disinfection system for the town's wastewater system. The wastewater treatment system was constructed in 2005 for $860,000. Since construction of the new system, the town has received numerous DEQ notices of violation and is now operating under an AOC. The intent of the original design was to install a UV disinfection system before discharge of wastewater from the treatment system. However, this system was not installed as part of the 2005 system upgrades. Due to the violations and the AOC, the DEQ is requiring installation of a UV disinfection system. In addition, the town plans to fence the dry lake bed where the wastewater system discharges.

Proposed Solution
- Install a UV disinfection system and fence the dry lake bed where the current wastewater system discharges.

Resource and Citizen Benefits Analysis
Implementation of the preferred alternative provides preservation of downstream fish and wildlife habitat, protects public health and safety, and preserves wetlands. Reducing the unnecessary risk of discharging active fecal coliform will protect the general public from disease and poor health conditions. Implementation of the improvements will also be one step closer to bringing the system into compliance with DEQ regulations.

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. 79

Applicant Name	Montana Department of Environmental Quality	
Project Name	Montana Time-of-Travel: Interactive Web Map Application for Montana	
Amount Requested	$ 125,000	
Other Funding Source	$ 125,000	USGS
Total Project Cost	$ 250,000	
Amount Recommended	$ 125,000	

Project History

This project is to develop a management tool to help protect renewable resources and public resources in the event of contaminant spill(s) into Montana's streams and rivers. This tool would be a web-based application in which a user can log on and input a spill location on a stream or river. The application will then identify downstream vulnerable areas in the hydraulic network, such as headgates and municipal water supply intakes. The application will also calculate the estimated time for the spilled contaminant to reach these vulnerable areas. This information will then be used to notify the managers of these facilities so they can take precautions before to the contaminants reach their facilities.

Proposed Solution

- Coordinate project activities between DEQ and USGS;
- Develop a user interface for the application;
- Develop StreamStats tools for use by MTTOT;
- Develop the primary computational program;
- Develop program reporting;
- Define limitations and provide user warnings; and
- Launch the completed MTTOT application so it can be used on the internet.

Resource and Citizen Benefits Analysis

Benefits to the public provided by this tool would be improved emergency response performance by the DEQ Public Water and Subdivision Bureau and response coordinators throughout the state. It would be used as a management tool by water-resource managers, planners, floodplain coordinators, irrigation districts, and municipal water supply personnel to minimize the threat of contamination through the hydrologic network down-gradient of a spill. As a response planning web-based application, this tool would have statewide impact.

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. 80

Applicant Name	Liberty County Conservation District
Project Name	Marias River Bank Stabilization, Phase 2
Amount Requested	$ 125,000
Total Project Cost	$ 125,000
Amount Recommended	$ 125,000

Project History
Liberty County CD is applying for funding for the design and construction of a river bank stabilization project along the Marias River approximately four miles downstream from Tiber Dam. The project is the second phase of work to armor and protect approximately 700 feet of the north bank of the river adjacent to the Pugsley Bridge. Over time, approximately 60,000 cy of material have eroded from the bank, threatening historic Pugsley Bridge and a segment of what is known as Pugsley Road. The goal of this project is to stabilize the bank, eliminate erosion and channel migration, protect soils from erosion, prevent water quality degradation in the Marias River during high flow, and, most important, to protect Pugsley Bridge and Road from failure due to erosion.

Proposed Solution
- Grade existing eroded bank structure and install a combination of rock riprap armoring, root wads, and flow-deflecting barbs to prevent additional erosion for approximately 350 feet of riverbank in proximity to Pugsley Bridge.

Resource and Citizen Benefits Analysis
When complete, the project will provide significant reduction to erosion headcutting the north bank of the Marias River immediately downstream from the Pugsley Bridge, endangering the structural integrity of the Pugsley Road, and introducing silt to the river during high flow. By protecting the road and bridge from potential failure, local farmers and ranchers retain a reliable transportation route between their homes and small towns in north-central Montana.

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. 81

Applicant Name	Foys Lakeside Estates County Water and Sewer District	
Project Name	Water System Improvements, Phase 2	
Amount Requested	$ 125,000	
Other Funding Sources	$ 157,150	TSEP
	$ 32,150	SRF Loan
Total Project Cost:	$ 314,300	
Amount Recommended:	$ 125,000	

Project History

The Foys Lakeside Estates WSD is proposing a project to complete upgrades to its water system. A PER has been completed and offers recommendations for improvements to ensure protection of public health and safety and compliance with state and federal standards. The original water system was constructed in 1994. No accurate record drawings of the system exist and piping was not properly installed, resulting in numerous problems over recent years, including low pressures and leakage. In 2011, the district received $100,000 in RRGL Grant funds to complete the Phase 1 water system improvements project: replacing the decaying distribution system. The proposed Phase 2 improvements will complete this replacement and also address the district's problems with leaking, pressure, and flow deficiency.

Proposed Solution

- Replace remaining old distribution main;
- Replace leaking service connection;
- Install service meters; and
- Install a new well.

Resource and Citizen Benefits Analysis

The proposed improvements will conserve water through metering and reduction of leakage. With a reduction in unaccounted for water, pumping costs should decline through reduced energy use. The meters will allow the district to better manage the system by being able to monitor both water supply and water used. A rate structure based on actual usage is more equitable to the district's users. Reducing leakage and low pressure will minimize potential for introduction of contaminants into the water system through cross connections and also provide public health and safety benefits. Resource benefits were not accurately quantified in the engineering analysis provided with the grant application.

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. 82

Applicant Name	Ruby Valley Conservation District	
Project Name	Smith Slough/Smith Ditch Fisheries Enhancement	
Amount Requested	$ 125,000	
Other Funding Sources	$ 50,000	FWP
	$ 190,000	Landowner
	$ 30,000	DEQ
Total Project Cost	$ 395,000	
Amount Recommended	$ 125,000	

Project History
The lower BHR suffers from chronic dewatering, elevated summer water temperatures, and an absence of spawning tributaries for trout. The Smith Slough/Smith Ditch diversion was ranked No. 3 of 32 diversions needing replacement as evaluated by the BHWC. The slough/ditch system has the potential to provide significant spawning habitat for trout, as well as habitat for resident trout.

Proposed Solution
- Complete final design and acquire necessary permits;
- Construct river diversion structure 500 feet upstream from old structure;
- Relocate and replace Smith Ditch headgate;
- Install fish ladder at Smith Ditch headgate;
- Realign and deepen Smith Slough;
- Install 1,600 feet of spawning enhancements in Smith Ditch; and
- Relocate 950 feet of the upper Smith ditch and reroute irrigation returns to an existing ditch lateral.

Resource and Citizen Benefits Analysis
The project will develop 1,600 feet of spawning habitat in Smith Ditch for BHR trout, develop and enhance trout habitat and wildlife habitat in Smith Slough, reduce summer thermal input to the BHR from the slough/ditch system, and eliminate the need for annual gravel bulldozing to divert water from the river to the slough/ditch system. The project will also conserve water by switching from flood irrigation to sprinklers in the system. The project has a broad range of support including the Big Hole Watershed Committee, adjacent landowners, and sportsmen organizations.

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

Project No. 83

Applicant Name	Green Mountain Conservation District	
Project Name	Improving Water Quality and Fish Habitat in the Vermillion River Watershed	
Amount Requested	$ 120,248	
Other Funding Sources	$ 30,000	FWP
	$ 85,000	Avista
	$ 70,000	NFWF
	$ 35,048	Sanders County RAC
Total Project Cost	$ 340,296	
Amount Recommended	$ 120,248	

Project History
The effects of substantial historic placer mining, upstream riparian timber harvest, clear-cut logging, and road construction have altered stream flow, channel stability, fish habitat, and riparian plant communities in the Vermillion River, a tributary of the CFR. To prioritize restoration in the drainage, the USFS conducted a comprehensive assessment of the watershed and identified the Miner's Gulch reach of the river as the next highest priority for restoration. The Vermillion River is core habitat for the Bull Trout and the project reach is the most important spawning area in the watershed for Bull Trout. This project is the second restoration effort and follows the successful upstream Chapel Slide project.

Proposed Solution
- Conduct NEPA, acquire necessary permits, complete contracts with manager and construction contractor;
- Complete channel construction work in floodplain and stream channel;
- Plant floodplain vegetation and install drip systems; and
- Evaluate project components.

Resource and Citizen Benefits Analysis
The project will reduce soil erosion in a 1,500-foot degraded section of the Vermillion River, improve spawning habitat for bull trout and cutthroat trout, expand the riparian vegetative community, and restore and protect stream function in the project reach. Planting and maintaining riparian vegetation will create wildlife habitat.

Funding Recommendation
DNRC recommends grant funding of $120,248 upon development and approval of the final scope of the work, administration, budget, and funding package.

Project No. 84

Applicant Name	Glen Lake Irrigation District	
Project Name	Costich Drop Rehabilitation	
Amount Requested	$ 125,000	
Other Funding Sources	$ 15,384	Applicant In-kind
Total Project Cost	$ 140,384	
Amount Recommended	$ 125,000	

Project History
Costich Lake retains water for use on 1,171 irrigable acres within the GLID. The lake's outlet structure feeds the main canal via an approximately 1,800-foot pipeline. The pipeline leaks significantly. The proposed project consists of replacing a section of the 36-inch HDPE pipeline from the lake's outlet structure to a point 650 feet downstream with 36-inch reinforced concrete pipe. The goal of the project is to restore flow capacity to the pipeline, prevent leakage, and reduce the potential for catastrophic failure of the dam and/or pipeline. Improvements to the pipeline are also important from a water quality standpoint because bull trout have been found in the irrigation system.

Proposed Solution
- Replace 650 linear feet of 36-inch HDPE pipeline with 36-inch reinforced concrete pipe, starting at the lake's outlet structure.

Resource and Citizen Benefits Analysis
The project demonstrates multiple benefits to multiple renewable resources including: the benefit of development of the water resource lost to seepage; a benefit of preservation of the fisheries resource by maintaining water in Costich Lake and potentially improving water quality and increasing water quantity downstream from the irrigation system (assuming not all water will be consumed); and the benefit of preservation of cropland by maintaining irrigation water quantity in the system. The benefits will have an impact locally. The development of irrigation water was quantified in the application by presenting dollar values for increased crop yield and decreased O&M costs. The preservation of cropland was also quantified by presenting revenue that could be lost due to failure of the pipeline. Maintaining the integrity of the pipeline will help with the preservation of bull trout found in the system.

The application mentions the potential of millions of dollars of damage to homes downstream from Costich Dam in the event of a catastrophic failure of the pipeline and dam, along with the likelihood of mental and physical harm to downstream residents. Although not addressed by the applicant, at least one of the support letters mentioned economic benefit to the local economy due to the revenue of GLID members. Numerous letters of support from GLID members, farmers/ranchers of unknown affiliation, and political office holders were included.

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. 85

Applicant Name	Lincoln County	
Project Name	Measuring and Modeling the Effects of Mining and Associated Reclamation Activities on Selenium and Nitrate Inputs to Lake Koocanusa	
Amount Requested	$ 110,500	
Other Funding Sources	$ 100,000	USGS
	$ 50,000	DEQ
Total Project Cost	$ 260,500	
Amount Recommended	$ 110,500	

Project History

Large-scale mountain top coal mining in southeastern British Columbia is degrades water quality and fisheries in Lake Koocanusa, a large reservoir located primarily in northwestern Montana in Lincoln County. During 2012, selenium loads to the reservoir from coal mining exceeded 29,000 pounds, a five-fold increase in loadings since 1992. The DEQ listed Lake Koocanusa as threatened by selenium and listed the water body under Section 303 (d) of the U.S. Clean Water Act. Also, of concern are increasing nitrate loads to Lake Koocanusa associated with explosive residues from mining. Mine expansions in southeastern British Columbia are likely to increase selenium and nitrate loads to Lake Koocanusa beyond current levels. Based on data collected by FWP, current selenium loads appear to be accumulating in resident fish populations in Lake Koocanusa. Communities and tribes have requested intervention by state and federal governments to address both the current impairment of Lake Koocanusa and increased threats from future mine expansions.

The overall objective of the proposed project is to utilize new and existing monitoring sites in Lake Koocanusa and the contributing watershed to model selenium and nitrate loads entering and leaving the reservoir, as well as estimating the concentration of these constituents within the reservoir.

Proposed Solution

- Model daily selenium and nitrate loads entering and leaving Lake Koocanusa;
- Model the distribution (concentration) of selenium in Lake Koocanusa; and
- Develop a publically accessible web page to display and summarize load and reservoir modeling results.

Resource and Citizen Benefits Analysis

Runoff and waste from mining and proposed expansion of five open-pit coal mines along the Elk River in British Columbia has the potential to significantly impact fish, wildlife, and water quality in this riparian corridor that includes Lake Koocanusa. The Transboundary Kootenai River Basin is one of the most treasured watersheds in the northwestern United States, containing critical habitat for the threatened bull trout, genetically pure westslope cutthroat, and endangered white sturgeon.

Lake Koocanusa is also a heavily used recreational with economic value to the state. This study is the first step in understanding the degree of selenium and nitrate loads accumulating in Lake Koocanusa. The information gleaned will direct future efforts.

Funding Recommendation

DNRC recommends grant funding of $110,500 upon development and approval of the final scope of the work, administration, budget, and funding package.

Project No. 86

Applicant Name	Petroleum County Conservation District	
Project Name	Musselshell Watershed Prioritized Projects Initiative	
Amount Requested	$ 125,000	
Other Funding Source	$ 1,200	Applicant In-kind
Total Project Cost	$ 126,200	
Amount Recommended	$ 125,000	

Project History
The Musselshell Watershed Prioritized Projects Initiative (MWPPI) will produce four PERs for projects that are critical for the management of Musselshell River water resources. The MWPPI effort is part of the Musselshell Watershed Coalition's (MWC) effort to address natural resource, agricultural, and infrastructure damages from the extensive and devastating 2011 floods. Consequently, the MWC developed the Musselshell Watershed Plan (MWP) to identify potential projects within the watershed and to prioritize them according to their importance, feasibility, and benefits/impacts to the watershed's beneficial resources. The objective of the project is to improve water quality and water quantity in the Musselshell Watershed through collaboration among private and public partners, while building on past water enhancement projects. As a result, water quantity and quality, fisheries, wildlife, flood mitigation, and river function could be positively impacted by the results of this initiative.

Proposed Solution
- Complete the MWP to identify potential projects within the watershed and to prioritize them according to their importance, feasibility, and benefits/impacts;
- Provide DNRC with the project ranking criteria and prioritization of all MWP identified projects;
- Coordinate with DNRC on the number and type of projects selected for PER production; and
- Generate PERs for construction projects that are critical for the management of the Musselshell River Basin's water, agricultural, and recreational resources.

Resource and Citizen Benefits Analysis
The development of PERs will be a management tool for renewable resources of the Musselshell. Since the individual projects for PER production have not been selected, the benefits to renewable resources are not quantifiable. However, the proven track record of the MWC and the evaluation team members (Musselshell River Assessment Triage Team) have clearly demonstrated their ability to develop, prioritize, and implement projects benefiting renewable resources.

The project will have a regional influence and will include approximately 300 miles of the Musselshell River and its tributaries, which is an important agricultural and popular recreational area. The project area covers approximately 80,000 acres and includes over 100 ranches and farms. Public/citizen benefits could be improved through water quality, instream flow, fish and wildlife habitat, and long-term resource protection depending on the PER projects selected. Bonus points were not awarded, because this is a project to develop PERs (manage resources), and therefore the citizen benefits are not quantifiable.

The project is supported by numerous government entities, nongovernmental organizations, the agricultural community, and local interest groups and entities. Numerous letters of support were provided. The project's large size contributes to its economic value to the region, and the Musselshell River Basin is a critically important economic, agricultural, recreational, and public resource.

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

Project No. 87

Applicant Name	Big Sandy, Town of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 750,000	TSEP
	$ 196,750	RD Grant
	$ 459,073	RD Loan
	$ 1,000	Applicant
Total Project Cost	$1,531,823	
Amount Recommended	$ 125,000	

Project History
Big Sandy has problems with its water supply and distribution system. The town has chosen to wait for the NCMRWA to bring increased water, rather than spend money on new wells. However, the town has old four-inch mains serving hydrants and six dead-end mains requiring attention.

Proposed Solution
- Construction of 10,837 feet of water mains and appurtenances;
- Construction of seven new fire hydrants; and
- Improvement of the bulk facility/fill station.

Resource and Citizen Benefits Analysis
This project will assist in the overall management of the public water system by providing reliable distribution throughout the town. As stated in the PER, the town has six dead-end mains that should be looped to prevent water from becoming stagnant. The mains do not meet DEQ standards. This project will correct this problem, improve water quality, and conserve water by eliminating leaks.

Public benefits include better fire protection and replacement of dead-end mains that could pose a health problem for citizens 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. 88

Applicant Name	RAE Subdivision County Water and Sewer District No. 313
Project Name	Woodland Park Well
Amount Requested	$ 125,000
Other Funding Source	$ 188,750
Total Project Cost	$ 313,750
Amount Recommended	$ 125,000

Project History
RAE WSD Woodland Park Well would provide increased source capacity for the subdivision west of Bozeman. The RAE subdivision is growing and projected population increase for new annexations and planned development is estimated at 2,200. This number may be reached by 2021. To meet these demands on the system, the district must increase source capacity by 400 gpm. Average capacity for the district's five wells is 102 gpm; approximately four new wells will be required to meet the DEQ source capacity standard for groundwater. This well is the first of the new wells and it will be put into service in 2016. A test well was constructed at the site in 2013, partially funded by a DNRC planning grant as a technical study. The well site contained favorable aquifer materials, although further testing to better assess yield potential of the aquifer will be completed during summer 2014. It is expected the well site will be found suitable for the Woodland Park Well.

Proposed Solution
- Retain drilling contractor services through a public bidding process;
- Construct and test the well;
- Prepare and submit well completion plans and specifications to DEQ for approval;
- Retain general contractor services through a public bidding process; and
- Complete the well including, its building and water system connection.

Resource and Citizen Benefits Analysis
The goal of this project is to responsibly develop groundwater resources to serve Montana citizens and enable the district to meet source capacity standards promulgated by DEQ. The project will conserve the resource through a metered rate structure, preserve the resource through Source Water Protection Planning, and manage the resource through the state's water right permitting process and implementation.

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. 89

Applicant Name	Judith Gap, Town of	
Project Name	Wastewater System Improvements, Phase 2	
Amount Requested	$ 125,000	
Other Funding Source	$ 125,000	TSEP
Total Project Cost	$ 250,000	
Amount Recommended	$ 125,000	

Project History
In 2010, Judith Gap began a major water and wastewater improvements project using DNRC, TSEP, CDBG, and RD grant and loan funding. Over 8,000 feet of sewer main were improved under the 2010 project. Some problems with the sewage collection system remains, such as structural damage, plugging, sewage backup, and evidence of clay tile debris in sewer system mains; inadequate and unsafe access into manholes; and probable exfiltration of raw sewage into groundwater.

Proposed Solution
- Replace 1,860 feet of 8-inch sewer main;
- Replace 5 manholes; and
- Replace 27 service connections.

Resource and Citizen Benefits Analysis
Local groundwater will benefit from reducing contamination from leaking sewer mains. Leakage amount is unquantified, but it is assumed that shallow groundwater quality will be benefit, along with associated reduced risk to potential contamination of deeper aquifers. The benefit is derived through preservation of groundwater quality.

The potential for direct human contact with raw sewage represents a public health risk. TV inspection records from the portion of sewer main proposed for replacement indicate areas of plugged main because of tree roots, and a variety of other defects, including cracks and joint separation, that can lead to backups. Bonus points were awarded for public health protection.
Re-establishment of the integrity of the sewer system for Judith Gap has local benefits to area citizens. Public support includes 19 support letters and a signed petition with 42 signatures.

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. 90

Applicant Name	Gore Hill County Water District	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Source	$ 3,000	Applicant
Total Project Cost	$ 128,000	
Amount Recommended	$ 125,000	

Project History
The Gore Hill County Water District's water system consists of two wells, a treatment system for each well that removes arsenic and iron, four partially buried 50,000-gallon storage tanks, and a distribution system. The distribution system is pressurized with a system of four booster pumps that pump through a PRV. The system serves a population of 562 with 225 connections.

The water system has the following issues:

- No telemetry system for communication between system components and to relay alarm conditions to the system operators;
- Back-up generator must be started manually during a power outage, which means the system is down until someone can get to the generator. The distribution system is pressurized with booster pumps unable to deliver water in a power outage;
- Booster pumps move through a PRV into the distribution system to maintain a safe system pressure, which is not energy efficient;
- No soft starters on the well pumps, resulting in high electrical demands on start-up of the pumps;
- The screen on one of the wells becomes encrusted with mineral build-up; and
- No security fencing around one of the wells.

The goal of the proposed project is to improve the management and operation of the water system and to conserve electrical energy, which would save the district significant operational costs.

Proposed Solution

- Install variable speed drives on the distribution system booster pumps to eliminate the PRV and reduce electrical energy consumption;
- Install ramp starters on the well pumps to slowly ramp the pump up to full operational speed, thus reducing the electrical energy to start the pumps and reducing the electrical charges from the electrical utility; and
- Install an automatic transfer switch on the generator to ensure no interruptions in water service during a power outage.

The district plans to replace the problematic well and install security fencing in a future project.

Resource and Citizen Benefits Analysis
Installation of the ramp starters on the well pumps and variable speed drives on the booster pumps will conserve a significant amount of electrical energy. The applicant estimates that it will reduce electrical consumption by 90,000 kWh of electricity per year, resulting in an annual savings to the district of an estimated $11,000. Installation of the telemetry system and automatic transfer switch on the generator will allow the district to better manage the day-to-day operation of its water system. Alarm conditions will be relayed to the system operators and communication provided between the major components of the water system. Operation of the system will become more efficient and operational manpower hours will be reduced. Public health and safety benefits will be provided because interruption in water service will no longer occur and the pressure in the distribution system will be maintained during a power outage. This project will conserve energy and improve the management of the district's water system locally. One

public hearing was held to discuss the merits of the project. Two letters of support were included in the application.

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. 91

Applicant Name	Montana Department of Natural Resources and Conservation-Flathead Basin Commission	
Project Name	Flathead Basin Watershed Protection Projects	
Amount Requested	$ 125,000	
Other Funding Source	$ 19,500	Applicant
Total Project Cost	$ 144,500	
Amount Recommended	$ 125,000	

Project History
The FBC proposes to complete two elements of the FBC Strategic Plan. These tasks are designed to protect Flathead Lake from nutrient loading and to control the occurrence of AIS. The FBC proposes to develop a strategy to reduce nutrient loads based on the results of the Flathead Lake TMDL evaluation. In addition, the FBC proposes to expand their current AIS control efforts by assisting the State with boat inspections and public education efforts.
The FBC was created in 1983 by the Montana Legislature to protect water quality and natural resources in the Flathead watershed. The 23 member Commission represents a cross-section of citizens and local, state, tribal, federal and provincial agency representatives who strive to identify the Basin's water quality and natural resources problems and work collectively to implement the most effective solutions. Based upon its Strategic Plan, the FBC has identified two projects for implementation.

Proposed Solution
- Task 1. Develop and Publish a Wastewater Strategy for Flathead Lake:
  Working with the Flathead Regional Wastewater Management Group, the FBC will develop a strategy to reduce nutrient loading to Flathead Lake. The FBC wastewater management strategy will be based on findings and recommendations in the DEQ Flathead Lake TMDL evaluation report and will be the product of collaboration with stakeholders responsible for implementing management practices outlined in the Wastewater Strategy report. Project subtasks include: (1) identify and engage stakeholders potentially responsible for nonpoint source pollution loads (2) characterize pollution loads from septic systems, waste land application sites, agricultural practices and storm water runoff in terms of location and pollution contribution (3) develop options for reducing pollutant load in collaboration with individuals and organizations that would be responsible for implementing solutions. Matching funds provided by the USBR Watersmart grant will ensure that this project is adequately funded and staffed.
- Task 2 Implement the Flathead Basin AIS Prevention Plan:
  In 2009, the FBC convened the Flathead AIS Work Group to develop a collaborative AIS Strategic Prevention Plan for the Basin. This Strategic Plan was adopted in 2010, and called for a combination of watercraft inspection stations, monitoring, education/ outreach efforts, and rapid response planning. This task will continue to implement the prevention plan by implementing a volunteer watercraft inspection program at boat launches; supporting the State of Montana AIS curriculum; and establish a pet store and nursery certification program. Matching funds provided by the USBR Watersmart grant will support additional elements outlined in the Flathead AIS Strategic Plan.

Resource and Citizen Benefits Analysis
This project will protect water quality and fish and aquatic habitat by reducing nutrient loading through better management of wastewater discharges to Flathead Lake and by controlling the occurrence of AIS.

Funding Recommendation
DNRC recommends grant funding of $125,000. To avoid duplication of efforts and to direct funding to high priority activities, DNRC requires that these efforts will be coordinated through Montana's Fish, Wildlife and Parks for AIS-related efforts, and with the DEQ for nutrient control efforts. DNRC's contract with the project sponsor on this project will be conditional on receipt of the following documentation:

- A work plan that includes a scope, schedule and budget that meets grant contracting requirements for the RRGL Program.
- An adequate funding package in place to achieve stated deliverables. This includes the WaterSmart funding from USBR referenced in the sponsor's application;
- A support statement from the TMDL program for work plan activities that address Task 1;
- A support statement from Montana's AIS coordinator for work plan activities that address Task 2;
- A support statement from the Montana state agency responsible for implementing AIS school curriculum and nursery certification program; and
- Support statements from primary stakeholders responsible for implementing nutrient reduction strategies that may be developed by use of this grant.

Project No. 92

Applicant Name	Huntley Project Irrigation District	
Project Name	Feasibility Study	
Amount Requested	$ 125,000	
Other Funding Source	$ 25,500	Applicant
	$ 15,000	USBR
Total Project Cost	$ 165,500	
Amount Recommended	$ 125,000	

Project History
The HPID, in Yellowstone County, encompasses the towns of Huntley, Worden, Ballantine, and Pompeys Pillar. The HPID system, under USBR oversight, is over 100 years old and includes a rock-fill and concrete diversion dam, 32 miles of main canal, 22 miles of carriage canals, 202 miles of laterals, 186.5 miles of drains, a pumping station with two hydraulic driven pumps, and an auxiliary electric pumping plant. The HPID encompasses 29,421 irrigable acres and serves approximately 784 landowners. The primary crops are sugar beets, small grains, alfalfa, other hay crops, and irrigated pasture. RRGL funding is requested to perform an engineering feasibility study for capital improvements to ensure the continued viability and operational performance of this irrigation system. Due to the age and lack of data, this study will identify and prioritize future work on the system.

Proposed Solution

- Perform an engineering feasibility study of irrigation system; and
- Prepare a CIP.

Resource and Citizen Benefits Analysis
This project will have direct management benefits to surface water by providing HPID with a valuable tool to better understand and improve its aging system. This project will also have indirect conservation, development, and preservation benefits by recommending and prioritizing projects to improve the system. Information is not available to quantify these benefits, but it is estimated that 200 cfs is lost throughout the system due to seepage alone. The increased understanding provided by this project will give HPID a prioritized list of projects ranked by renewable resources and public benefits.

The implementation of the projects identified in the CIP will increase crop yield and system efficiencies, as well as put local businesses to work performing the work. The combination of these benefits will be a source of economic development for this region; however, many of these benefits are indirect and rely on implementation of future projects.

Letters of support were received from water users and area residents.

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

Project No. 93

Applicant Name	Crow Tribe of Indians
Project Name	Renewable Energy Technology Wastewater Treatment Facility
Amount Requested	$ 117,500
Total Project Cost	$ 117,500
Amount Recommended	$ 117,500

Project History
The WWTF for Crow Agency operated since November 2011, and the UV disinfection building is coming on-line, thus increasing the electrical demand for wastewater treatment. The proposed project focuses on design and construction of an alternative energy source(s) at the WWTP to offset the electrical consumption required for treatment of the wastewater stream, specifically for operation of the blowers used for aeration.

Proposed Solution
- Install six pole-mounted photovoltaic arrays, each containing eight 255W panels;
- Include micro inverters for each panel to convert the direct current to alternating current; and,
- Install associated wiring, switches, and appurtenances.

Resource and Citizen Benefits Analysis
The average annual energy cost of operating the blower for the aerated lagoon for the years 2012-13 was $27,925 (average 345,440 kWh). The tribe is proposing to install photovoltaic or solar equipment at the lagoon to defray annual energy costs. The proposed project will conserve about 15,600 kWh per year and $1,272/year (today's dollars), or approximately 4.5% of the annual energy consumption of the blower operation. Over the entire 30-year lifetime of the project, the expected energy savings are $38,160 (or 468,000 kWh).

The project demonstrates one benefit, development, to one renewable resource, energy. This benefit is quantified and measured as discussed in the application. The project does not contribute to economic development in Montana. The project will be coordinated through grant management with the DNRC.

Cost savings to the Tribe, because of reduced power usage, is a direct local citizen benefit, significant locally. The application includes 10 letters of support.

Funding Recommendation
DNRC recommends grant funding of $117,500 upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 94

Applicant Name	Park County Conservation District	
Project Name	Upper Shields River Fish Barrier and Road Improvements	
Amount Requested	$ 120,000	
Other Funding Sources	$ 129,775	FWP
	$ 162,000	USFS
	$ 34,225	NFWF
	$ 5,000	TU
	$ 5,000	MAFS
Total Project Cost	$ 456,000	
Amount Recommended	$ 120,000	

Project History

The Upper Shields River Basin has long been a stronghold for nonhybridized Yellowstone cutthroat trout a species of concern in Montana. Extensive sampling in the Upper Shields River Basin in 2009 found that brook trout were invading the upper watershed and occupying streams where they had been rare or absent 30 years before. Brook trout present a primary threat to cutthroat trout in headwater streams and the cutthroat in the Upper Shields River Basin are in peril. The Gallatin National Forest is of upgrading the road in the drainage and replacement of a bridge with a removable upstream fish barrier is part of this process. This project will create a barrier to upstream movement of brook trout. Combined with mechanical removal of brook trout in the drainage upstream from the barrier, the population of Yellowstone cutthroat trout upstream will be protected.

Proposed Solution

- Conduct NEPA compliance, secure necessary permits;
- Complete final design and contract documents;
- Complete contract solicitation and award;
- Construct bridge and fish barrier; and
- Inspect finished project.

Resource and Citizen Benefits Analysis

The project will protect over 25 miles of connected Yellowstone cutthroat trout stream habitat in the upper-Shields River watershed from invasion of brook trout. Yellowstone cutthroat trout are a species of concern in Montana and preservation of this population will be crucial to the survival and management of this species.

Funding Recommendations

DNRC recommends grant funding of $120,000 upon development and approval of the final scope of the work, administration, budget, and funding package.

Project No. 95

Applicant Name	Bozeman, City of	
Project Name	Sourdough Canyon Water Storage Assessment	
Amount Requested	$ 125,000	
Other Funding Source	$ 55,000	Applicant
Total Project Cost	$ 180,000	
Amount Recommended	$ 125,000	

Project History
Bozeman is investigating methods of providing long-term water supply to its residents, including development of new water storage in Sourdough Canyon, one of three municipal watersheds. The Bozeman City Commission recently adopted an IWRP, defining water needs for the next 50 years. This project will assess the technical feasibility and environmental suitability of enhancing the natural capacity of a forested environment to store water to help meet Bozeman's long-range municipal water demands. The project intends to assess capacity enhancement measures that are innovative and environmentally conscious to preserve the character of the natural habitat and ecosystem. The goal is to augment water supply availability during periods of reduced stream flows and provide greater flexibility in management of the water. Additional storage capacity may also reduce flooding severity and destruction of property to downstream residents.

Proposed Solution
- Characterize the hydrologic and ecologic conditions of the watershed and develop an alternatives analysis that evaluates the potential effectiveness of various storage enhancement methods;
- Construct a small pilot project to evaluate the effectiveness of the selected natural storage method;
- Monitor the pilot project to provide data and produce a project effectiveness report; and
- Develop and implement an outreach and education campaign to promote and educate the public about the natural storage enhancement concept.

Resource and Citizens Benefit Analysis
This project has multiple indirect benefits (preservation and management) to multiple resources (surface water, groundwater, fisheries, natural character of canyon). The benefits are generally estimated and cannot be quantified until after the study is completed; however, a project effectiveness report which quantifies the effectiveness of natural storage enhancement will be produced. The impact is local in scale (Bozeman area primarily) and supports the local IWRP and the regional Upper Missouri River plan, which calls for increased storage capacity to support municipal demand. The project has letters of support from the Upper Missouri Basin Advisory Council, Bozeman Water Resources Office (DNRC), Gallatin National Forest, Gallatin Local WQD, and the Greater Gallatin Watershed Council.

This project would help preserve outdoor recreation and the natural character of a popular area close to town. Sourdough Canyon is a significant local resource with many users. The preferred alternative (natural storage enhancement) would preserve recreation and the natural character of the canyon as an alternative to a large dam.

This study would increase the understanding of natural storage enhancement as an alternative means of providing water for municipal users while reducing infrastructure costs and maintaining the natural character of a watershed.

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. 96

Applicant Name	Montana Department of Natural Resources and Conservation Water Resources Division – State Water Projects Bureau	
Project Name	Willow Creek Access Road Rehabilitation	
Amount Requested	$ 125,000	
Other Funding Sources	$ 3,482	Applicant
	$ 10,580	Applicant In-kind
Total Project Cost	$ 139,062	
Amount Recommended	$ 125,000	

Project History
Willow Creek Reservoir is a State Water Project in Madison County 10 miles upstream from the town of Willow Creek. Willow Creek Dam is a 105-foot high earth-filled dam constructed in 1938. Based on the potential for loss of life should the dam fail, it has been designated as a high-hazard dam. The access road to the dam outlet works is a six-mile long poorly constructed, two-track dirt road. Access to the dam via this road during early spring and after heavy storms ranges from difficult to nearly impossible. As these periods of poor accessibility tend to coincide with high spring runoff, the ability to inspect and/or maintain the outlet works during high overflow can be comprised.

Proposed Solution
- Reconstruct and improve 1.62 miles of the access road with the most problems.

Resource and Citizen Benefits Analysis
The proposed project will allow the state to provide maintenance to protect the integrity of the Willow Creek Dam to reduce the potential for loss of life associated with possible dam failure. The project will also help preserve an important water storage and supply reservoir that presently supplies up to 11,900 acre-feet of irrigation water each year to 151 users. In addition the project will allow the state to continue to supply 15 cfs of in-stream flow in Willow Creek and maintain a recreational fishery at the 12,000-acre reservoir that provides over 5,000 days of fishing.

While the project will result in short-term economic benefits associated with the proposed construction, more importantly the project will preserve the existing economic benefits, including the local tax base arising from the continued irrigation of over 12,000 acres of cropland.

Implementation of this project will accomplish several of the policy considerations as directed in 85-1-101 MCA, and will achieve one of the recommendations in the Montana water plan section on water storage by improving safety of the existing dam and its water delivery 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. 97

Applicant Name	Sanders County
Project Name	Middle Clark Fork River, Plains Reach – Channel Stabilization
Amount Requested	$ 125,000
Total Project Cost	$ 125,000
Amount Recommended	$ 125,000

Project History
Since the 1997 floods river banks along the CFR near Plains have accelerated rates of erosion that threaten public infrastructure, businesses, and private property. Sanders County received a DRNC grant to conduct an assessment and restoration prioritization of eight miles of the CFR. The study identified the bank near the Plains WWTP outfall as the highest priority for stabilization. Portions of this bank have retreated up to 742 feet since 1995. The goal of this project is to stabilize this river bank to protect the WWTP outfall and adjacent lands.

Proposed Solution
- Design bank stabilization for 1,115 feet of eroding bank on the CFR upstream and downstream from Plains;
- Utilize of hard armor (riprap) and vegetative treatments; and
- Revegetate 32 acres of floodplain with native plants.

Resource and Citizen Benefits Analysis
The project will result in a design package that provides a management tool as the primary benefit to the CFR, a significant natural resource. Because this is strictly a design project, other resource and citizen benefit will not accrue until the project is constructed.

Funding Recommendation
DNRC recommends grant funding of $125,000 with the contingency that a funding package for the construction of the project is secured and upon development and approval of the final scope of work, administration, budget, and funding package.

Project No. 98

Applicant Name	Thompson Falls, City of	
Project Name	Water System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$ 499,000	TSEP
	$ 374,000	Applicant
Total Project Cost	$ 998,000	
Amount Recommended	$ 125,000	

Project History
The Northern Pacific Railway constructed the original Thompson Falls water distribution system in the late 1800s. The water system consists of a developed spring, groundwater wells, two storage reservoirs, and a three-pressure-zone distribution system. Thompson Falls prepared a Water Master Plan in 1996, a Master Plan update in 2005, and amendments in 2006 and 2010. Based on these resources, Thompson Falls prioritized recommendations and made numerous improvements to its system.

During the 2010 update amendment, it was noted that there was a significant pressure drop in the west end of the upper pressure district occurred when water was transferred from one storage tank to the other. The problem has been traced to the 6-inch/8-inch asbestos cement transmission main between the two tanks.

Proposed Solutions
- Replace 8,050 feet of 6-inch/8-inch asbestos cement transmission main within 10-inch C-900 PVC pipe;
- Install two gate valves; and
- Install three fire hydrants.

Resource and Citizen Benefits Analysis
The project will allow Thompson Falls to conserve energy and decrease groundwater usage by reducing the volume of water pumped to and leaking from the water tank transfer main. The project will also benefit Thompson Falls' citizens and elementary and middle schools by improving water pressures in the upper pressure district.

The project will provide direct economic development in Montana mainly through construction jobs.

Thompson Falls conducted two public meetings attended by six people. Letters of support came from the Thompson Falls Public Schools, Volunteer Fire Department, and the Sanders Community Development Corporation.

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

Project No. 99

Applicant Name	Shelby, City of	
Project Name	Stormwater System Improvements	
Amount Requested	$ 125,000	
Other Funding Sources	$1,366,799	SRF Loan
	$ 625,000	TSEP
Total Project Cost	$2,116,799	
Amount Recommended	$ 125,000	

Project History
Records are vague for Shelby's storm drainage infrastructure and some of the oldest sewer and water mains date to the 1920s. The stormwater facility is generally of paved curbs and gutter streets that convey stormwater to stormwater inlets and ditches. Minimal detention facilities are included as part of the system, and they are limited to newer commercially developed areas. All stormwater runoff is conveyed to the dry unnamed tributary of the Marias River approximately 6.5 miles south of Shelby.

A PER was prepared in 2012 evaluating the stormwater system. Inlets, undersized stormwater pipes, and inefficient detention ponds pose a serious threat to public health and safety. Runoff from the pipes cannot pass the two-year event without causing water to back up—running over roads, railroad tracks, and/or flooding businesses and homes.

Proposed Solution
- Install storm sewer ranging in size from 18-inch to 48-inch diameter;
- Install storm sewer manholes associated with new stormwater main line;
- Improve existing detention ponds; and
- Improve stormwater ditches.

Resource and Citizen Benefits Analysis
The applicant describes project benefits that include preservation, conservation, and management and development of renewable resources. Due to the nature of this project, points can be awarded only for management of the renewable resource surface water. Installation of this system allows the city to manage stormwater during runoff events.

This implementation of this project will have public and citizen benefits associated with health, safety, and economic value. The project will reduce flooding, which alleviates public safety issues associated with it. The project also provides economic value associated with preventing damage to homes and businesses. In addition, flooding can disconnect or limit traffic between portions of town. This project works to solve the issues associated with flooding. Bonus points were awarded for public health and safety.

This project involves a significant increase in water rates; through review of meeting minutes, it appears the public was not made aware of this increase.

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. 100

Applicant Name	Mile High Conservation District	
Project Name	Blacktail Creek Nonpoint Nutrient Management	
Amount Requested	$ 125,000	
Other Funding Source	$ 15,000	Applicant In-kind
Total Project Cost	$ 140,000	
Amount Recommended	$ 125,000	

Project History
Blacktail Creek near Butte has exhibited elevated nutrient concentrations of nitrogen and phosphorous in past monitoring efforts. The area is historically known for metals contamination from mining activity, but nutrient concentrations are a growing concern for aquatic health. These nutrient concentrations could lead to accelerated plant growth, algae blooms, low dissolved oxygen, and death of fish or aquatic invertebrates. Potential nutrient sources include point sources such as wastewater treatment facilities, stormwater runoff, or industrial discharges, and nonpoint sources such as runoff from fertilized lawns and agricultural land, and leaking septic systems. This project aims to evaluate nutrient concentrations in Blacktail Creek at all flow levels, identify potential areas with nonpoint sources of nutrient contamination, develop BMPs to reduce nutrient loading, and explore nutrient trading potential between nonpoint and point sources unable to meet water quality standards through conventional treatment methods.

Proposed Solution
- Evaluate nutrient loading to Blacktail Creek during high, low, and normal flows through completion of a surface water sampling program;
- Identify sources of nutrient loading and develop BMPs to minimize the impact of nutrients on Blacktail and Silver Bow Creeks;
- Develop ranking system based on BMP effectiveness, cost, practical applicability, and long-term benefits;
- Calculate point and nonpoint source contributions to Blacktail Creek; and
- Explore nutrient trading potential of nonpoint sources with point sources impacting the watershed based on the implementation of BMPs for nonpoint sources along Blacktail Creek.

Resource and Citizens Benefit Analysis
This project would preserve water quality and aquatic life in Blacktail Creek by reducing nutrient loads, preserve groundwater quality by identifying areas with faulty septic tanks, preserve water quality to downstream users (Silver Bow Creek, CFR), and improve management of surface water resources by providing framework for nutrient trading and increased knowledge of nutrient sources in the area.

This project will improve recreational opportunities on Blacktail Creek through improved water quality and fishing opportunities, restore the stream to a more natural state, and provide opportunities for nutrient trading that could reduce tax burden by eliminating costly improvements to point sources. Nutrient trading could provide framework for other opportunities around the state.

Limited resource benefits would be realized during the implementation phase of the project. However, nutrients are a documented impact to water quality and aquatic life in the area, and the results of this project will provide important information for management decisions by local, state, and federal regulatory entities.

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. 101

Applicant Name	Hill County
Project Name	Beaver Creek Watershed Study
Amount Requested	$ 125,000
Total Project Cost	$ 125,000
Amount Recommended	$ 0

Project History

The Beaver Creek Watershed Assessment project proposes to produce a WRP for Beaver Creek Park. The park has been studied in the past (1967, 1983, and 1999), and only a few projects have been implemented from these studies. The project study area includes only Beaver Creek Park and two water storage/irrigation impoundments (17.7 stream miles). There are approximately 25 miles of channel downstream and over 5 miles of channel upstream from the proposed study area. This equates to well over 50 stream miles and less than 35% are being addressed in the assessment. The basin area is approximately 54,000 acres and the park encompasses only 10,000 acres, which means less than 25% of the basin's area will be assessed. Upstream from the park/study area, Beaver Creek flows through the Rocky Boy's Indian Reservation and contains a potentially critical reservoir for water and recreational management.

Approximately six miles of stream channel downstream from the project area was heavily damage during the high and sustained flood in 2011. The loss of agricultural ground and impacts to natural resources are far greater in the reach downstream from Beaver Creek Park than within the park. The reaches downstream of the park are primarily in private ownership and may provide a greater return on the investment by restoring these reaches, especially concerning floodplain constrictions, flooding potential, and flood damage. The WRP does not address long-term channel stability, channel or floodplain function, land management, and/or reducing the probability of flooding in Havre.

Proposed Solution

- Hold stakeholder meetings to develop support for the WRP;
- Develop a WRP that addresses: 1) stakeholder meetings; 2) reservoir management plan; 3) flood mitigation along Beaver Creek; 4) stream channel dynamics; 5) sedimentation sources and mitigation; 6) forestry management; 7) grazing management; 8) riparian management; 9) infrastructure impacts; 10) recreation management; and 11) assessment report; and
- Produce an assessment report or WRP for Beaver Creek.

Resource and Citizen Benefits Analysis

The project will produce a WRP, which may be used to develop solutions to numerous problems (fluvial changes/channel instability, reservoir management, water quality, recreation, grazing management, timber management, etc. It is uncertain whether the WRP will develop solutions for flood control and public safety. The WRP will not meet EPA requirements, and therefore further studies will be needed to produce a final WRP. The basin has been well studied and a few publically funded projects have been implemented from these studies. The WRP's data collection and management plans lack sufficient detail to thoroughly evaluate its adequacy. No specifics are provided on methods, locations, distances, number of sampling sites, etc. for the fluvial data collection methods; timber, riparian, grazing and recreation management data collection methods; and/or descriptions of reservoir management data needs and collection methods. The WRP does not address channel or floodplain function, flooding up- or downstream from the park, and/or reducing the probability of flooding in the Havre.

The project will develop a WRP and therefore does not address public/citizen health or safety. The citizen benefits are only local in nature, and the project does not provide statewide benefits. There are approximately 25 miles of channel downstream and over 5 miles of channel upstream from the proposed study area.

The Beaver Creek Basin contains well over 50 stream miles and encompasses 54,000 acres and unfortunately < 35% of the stream miles and < 25% of the basin's area will be assessed/addressed in the WRP. Bonus points were not awarded, because this is a project to develop a WRP (manage resources), and therefore citizen benefits are not quantifiable.

The project will benefit local citizens, but support was not well identified. No letters of support were included. The Tribes are not involved in the WRP assessment. The project's small size limits its economic value to the area. Since the basin has been studied in the past and few projects have been implemented from these studies, it is unknown whether the project could be successfully implemented. The WRP does not address long-term channel stability, channel or floodplain function, flooding downstream from the park, and/or land management. The project's preferred alternative does not provide for the best long-term solutions or for reasonable costs.

Funding Recommendations
DNRC does not recommend this grant for funding. DNRC recommends that the applicant apply for a watershed planning grant after goals and objectives are clearly defined and the WRP meets EPA requirements.

CHAPTER III
Coal Severance Tax Loans to Public Entities

Application Administration and Project Review Procedures
Applications for public loans are accepted by DNRC's RDB until May 15 of each even-numbered year at the same time other applications are due from public applicants under this program. A $250 fee is required with each application. These loans are provided with proceeds from the sale of CST-secured bonds and frequently are 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 other public grant and loan 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 by DNRC, DOC, and DEQ at the local level. The same application form is used for both grant and loan applications.

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

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

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 percent of the CST revenue allocated to the trust, plus 50 percent of the loan repayments received from local government borrowers.

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

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

Proceeds that exceed the subsidy payments and reserve requirement are transferred to the CST school bond contingency account. This fund was established to provide security to school bonds issued during the 1993 biennium. The remaining proceeds are then transferred into the Treasure State Endowment Fund and the CST Permanent Fund, which retains the remaining 80 percent of this income.

With the exception of the Treasure State Endowment Fund, the interest earnings associated with all account balances are transferred to the CST income fund. These interest earnings are then transferred to the general funds.

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. The cost of issuing the state's bond also is paid by borrowers.

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

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

Project Monitoring

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

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

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

Figure 5 Coal Severance Tax Loans/Resource Development Public Loan Balances

Applicant	Balance Due		Applicant	Balance Due
Beaverhead County/Red Rock WSD	$835,355		Ruby River Water Users Association	3,176,640
Bitterroot Irrigation District	115,196		Toston Dam	3,000,000
Bitterroot Irrigation District	419,792		Dry Prairie Regional Water Authority	288,400
Brady County Water and Sewer District	128,062		East Bench Irrigation District	110,710
Bridger, Town of	87,311		Fairfield, Town of	75,744
Bridger Pines Water and Sewer District	1,154,065		Forsyth, City of	35,326
Broadwater Power Project	6,090,000		Fort Benton, City of	145,577
Buffalo Rapids Irrigation District	483,902		Huntley Irrigation District 1	227,729
Daly Ditches Irrigation District	167,838		Huntley Irrigation District 2	122,305
Daly Ditches Irrigation District	291,730		Huntley Irrigation District 3	20,349
DNRC/State Water Projects Bureau	---		Huntley Irrigation District 3	55,601
Ackley Lake Dam Rehabilitation	139,461		Huntley Irrigation District 4	44,627
Bair Dam	438,240		Hysham, Town of	243,777
Broadwater-Missouri Pipespan	64,990		Libby, City of	785,258
Deadman's Basin (Barber)	176,437		Libby, Flower Creek Dam	558,797
Deadman's Basin (Canal)	36,026		Lockwood Water and Sewer District	8,643
Deadman's Basin (Outlet)	330,313		Lower Willow Creek Irrigation District	1,069,306
East Fork Rock Creek Dam	176,936		Malta Irrigation District	1,077,709
East Fork Siphon	150,000		Manhattan, Town of	431,644
Martinsdale Reservoir	66,954		Mill Creek Irrigation District	179,044
Nevada Creek Dam Rehabilitation	249,577		St. Ignatius, Town of	186,429
North Fork of the Smith River	278,364		Thompson Falls, City of	198,008
Petrolia Dam	79,344		Tin Cup Water District	62,012
Ruby Dam Rehabilitation	2,000,000		Tongue River	6,953,846
Ruby River Water Users Association	1,727,256			
			Total	**$34,744,630**

Figure 6 Public Loans Authorized in 2013 and Seeking Reauthorization

Applicant	Amount	Rate
MT DNRC CARDD Refinance Existing Debt or Rehabilitation of Water and Sewer Facilities	$3,000,000	Market not to exceed 3.0%
Dry Prairie Regional Water Authority Local Match for Dry Prairie Projects	$6,000,000	Market-not to exceed 4.5%
North Central Regional Water Authority Local Match for North Central Projects	$10,000,000	Market-not to exceed 4.5%

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 nonprofit 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, DNRC 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 WRD of 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 DNRC are evaluated and ranked by DNRC staff according to the extent each application presents a project that is critically needed, will protect public health, provides opportunities for resource conservation and development, and improves the environment. Applications received by Dam Safety and Water Management were reviewed by those bureaus, and submitted to the RDB 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 environmental impacts and to ensure that appropriate steps are taken to protect the environment. Any potable water system project must be approved by DEQ 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 exception of the 2003 session, the Legislature has appropriated $100,000 to DNRC each biennium to fund grants to private entities.

DNRC reviews and screens grant requests to determine whether the proposed projects are technically and financially feasible. DNRC evaluates Dam Safety and Water Management recommendations based on criteria outlined in statute. Within funding constraints, the highest ranked projects will be recommended for funding. 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.

Grant Project Management
DNRC notifies the applicants of their funding status after approval. DNRC does not reimburse any project costs incurred before a formal funding agreement has been executed.

Grant Project Monitoring
The project grant contract agreement between DNRC and the project sponsor includes monitoring procedures to ensure that the project meets the program intent. The equivalent of one full-time staff administers active private grants and all private loans. MRWS has agreed to provide technical support to private grant projects during design and construction phases. Budget and staffing constraints preclude site involvement by DNRC at all projects.

Project sponsors must: (1) pay all project costs, (2) submit a claim and obtain 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 DNRC. These reports must reflect the percentage of the project completed, project costs to date and broken out by task, any problems encountered, and the need for any amendment to the grant contract. In response to changes in project scope of work, time line, 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 project timelines. DNRC approved eleven private grants, totaling $29,214.04, during 2013 and 2014 (Figure 6).

Figure 7 Private Grant Applications Approved During 2013 and 2014

CONTRACT NUMBER	AMOUNT	CONTRACT NUMBER	AMOUNT
PVG-13-0195	$2,500.00	PVG-14-0202	$1,374.00
PVG-13-0196	1,976.00	PVG-14-0203	981.00
PVG-13-0197	510.00	PVG-14-0204	3,125.00
PVG-13-0199	675.00	PVG-14-0205	3,073.08
PVG-14-0200	5,000.00	PVG-14-0206	5,000.00
PVG-14-0201	5,000.00	**TOTAL**	**$29,214.08**

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, NRCS offices, and CDs also promote the program.

Loan Application Review
Loan applications may be submitted at any time. DNRC staff review applications for completeness and request 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, DNRC will closely review the project design and specifications. Financial review is completed by DNRC and includes an evaluation of the applicant's financial strengths, weaknesses, and capacity to properly manage the project. The review also includes an evaluation of the security offered and a determination of the relative security position DNRC will have. 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 to 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 is usually 10 or fewer years.

Availability of Loan Funds
DNRC has the authority to issue up to $30 million in general obligation Renewable Resource bonds to finance private loans. Changes made by the 1995 Legislature allow DNRC to have up to $30 million of general obligation Renewable Resource bonds outstanding. To finance loans, DNRC sells bonds on the open market. Since the program's inception, bonds totaling about $49 million have been issued to finance private loans. Presently, $17 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 9.5%.

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. Because investors demand a higher interest rate on investments when their investments are subject to federal income tax, sale of these taxable bonds resulted in higher interest rates than those of the earlier, tax-exempt bonds.

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 is still 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. Small loans, those less than $10,000, are the exception. For small loans, closing costs outweigh the benefit of DNRC's lower interest rate. DNRC recommends that projects needing less than $10,000 seek funding from other sources.

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

Loans must be secured with real property valued higher than the loan amount requested. According to statute, security equal to at least 125% of the loan value is required. Loans may be secured with a first or second real estate mortgage, an assignment of accounts receivable, certificates of deposit, or similar securities, or other security as accepted by DNRC. To adequately secure the state's interest, DNRC

requires a security equal in value to at least 150% of the loan. For example, a loan application for $100,000 would require real estate security of $150,000. DNRC will accept a second mortgage on property if the state's interest can be adequately secured. DNRC may require an appraisal of real property used for securing a loan. Cost of the appraisal must be paid by the applicant.

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

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

Loan Project Monitoring
Project construction is monitored by NRCS if the project includes a federal cost-share, and by the borrower because s/he has a vested interest in the successful completion of the project. The RDB 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
DNRC conducts ongoing monitoring to evaluate the projects funded under the Renewable Resource Loan Program. DNRC reviews each final report to assess whether the project objectives were successfully completed and whether the objectives outlined in the original application and as specified in the loan agreement have been met.

Private Loan Projects Previously Funded
As of July 1, 2013, 512 private loans had been approved under the Renewable Resource Loan Program. A total of $48,780,444 has been advanced, and $77,340 is committed to projects that have not yet requested disbursements. DNRC approved eight private loans in FY 2013 and FY 2014 (Figure 7). Loans have been used to finance new and refurbished irrigation systems, riprap, irrigation wells, and refurbished private drinking water systems.

Figure 8 Private Loan Applications Approved Since FY 2013 and 2014

Contract Number	Loan Amount
WDL-13-3651	$400,000
WDL-13-3652	174,000
WDL-13-3653	220,500
WDL-14-3661	100,000
WDL-14-3662	80,000
WDL-14-3664	95,000
WDL-14-3665	101,702
WDL-14-3667	80,000
Total	**$1,251,202**

CHAPTER V
Irrigation Development Grants

Background
The Irrigation Development 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 $300 to $15,000 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, GIS, or topographic surveys; or funding of agriculture tours to inform producers on new technology.

The Irrigation Development Program is now in its twelfth year. The program has assisted producers and irrigators throughout the state in development of over 32,000 acres of new irrigation and has played a prominent role in improving the management and conservation of water on over 150,000 acres of sustainable irrigation.

Project Solicitation and Review
To request funds, applicants are required to submit a written document describing 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.

All applications submitted are evaluated for completeness and compliance with the intended purposes of the RRGL Program. Requests for irrigation development funds are reviewed by DNRC staff and funded if appropriate, on a first come basis.

Figure 9 Irrigation Development Grants Awarded in FY 2014 to Date

Project Sponsor	Project	Amount
Deer Lodge Valley Conservation District	Kohrs and Manning Ditch Repairs	$7,500
Fort Shaw Irrigation District	Automation Equipment on Sun River	15,000
Fort Shaw Irrigation District	Remote Internet Interface	1,000
Garfield County Conservation District	Preliminary Engineering Report Infrastructure Improvements	5,000
Greenfields Irrigation District	Preliminary Engineering Report Infrastructure Improvements	5,000
Helena Valley Irrigation District	Hydropower Feasibility Study	10,000
Helena Valley Irrigation District	Montana Water Resources Association Training and Conferences	12,900
Helena Valley Irrigation District	Montana Water Resources Association Agriculture Groups Newsletter	5,612
Helena Valley Irrigation District	1600' Huesker Canal Liner	15,000
Lockwood Irrigation District	Floodplain Study of Intake Canal	5,500
Lower Yellowstone Irrigation Project Board of Control	Flow Meter Purchase	15,000
Malta Irrigation District	Site Topo Survey for Exeter Siphon	5,000
Malta Irrigation District	Eureax Water Users Capital Improvements Plan/Preliminary Engineering Report	15,000
Orchard Homes Ditch Company	Rehabilitation of Intake Structure	12,000
Pondera County Canal and Reservoir Company	Capital Improvements Plan	7,500
Pondera County Canal and Reservoir Company	Flow Monitoring Equipment	15,000
Pondera County Conservation District	Procurement of Data Loggers	7,500
Richland County Conservation District	River Dred O&M	8,995
Sheridan County Conservation District	Groundwater Monitoring Equipment	15,000
Ward Irrigation District	Flow Measurement Study	13,822
	Total	**$197,329**

CHAPTER VI
Emergency Grants and Loans

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

Applications for emergency grants and loans are accepted by DNRC from public entities when an emergency occurs. No application fee is required.

Project Solicitation
No formal solicitation for applications is conducted. Public entities, engineering firms, and other consultants likely to be involved with eligible emergency projects have been informed that emergency funds exist. During presentations to provide information relative to public grant and loan programs, the availability of emergency funding is also discussed.

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

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

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

Requests for emergency funds are reviewed by DNRC staff. DNRC's 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
As discussed in Chapter I, statute allows DNRC to request up to 10 percent of the grant funds available each biennium to fund emergency projects. DNRC typically requests $100,000 for emergency grants. DNRC will again request $100,000 during the 2015 session to fund emergency grants for fiscal years 2016 and 2017.

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 CARDD'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 Renewable Resource Grant and Loan Program.

Emergency Grant and Loan Applications in Fiscal Years 2014 and 2015
Each emergency grant request submitted during fiscal year 2014 and fiscal year 2015 to date was reviewed by DNRC staff and, based on staff recommendation, was approved or denied for funding by DNRC's director. Total funding for all emergency grants may not exceed the legislative biennial appropriation for emergency projects under the RRGL Program. Ten thousand dollars per biennium is available for emergency loans.

Authorized Emergency Grant Projects
In 2013, the Legislature authorized $100,000 for emergency grants. During the 2014-2015 biennium to date, the following emergency grants have been awarded:

White Sulphur Springs, City of **$15,000**
Water Treatment Plant Emergency Improvements
July 2013
White Sulphur Springs owns and operates a slow sand filter water treatment facility as the primary supply for its municipal water system. Two wells serve as a backup source, but they fail to meet regulatory criteria with regard to the quantities of water they produce.

In June 2012, a tornado destroyed the structure that housed the slow sand filter system, but the equipment was left undamaged. Since, the system has relied on the backup wells as its water supply. To utilize the wells requires the operation of pumps; electricity to operate the pumps has been a significant additional cost to the community, since the slow sand filter system is gravity fed and requires no electricity to operate.

The city has obtained loan funding to replace the filter building and enable operation of the slow sand filter. This grant will be used to decrease the required loan amount for the $300,000 project.

Cascade County **$1,500**
Emergency Water Pump Repair for Windy Acres Subdivision
August 2013
On July 30, 2013, the controls for the primary pump supplying water to Windy Acres Subdivision, about four miles north of Great Falls, failed. This left the small subdivision (43 users) with total reliance on a secondary pump with limited capacity. The homeowners' association associated with the subdivision contacted DNRC with a request for emergency funding to offset the $1,800 cost of repairs. Because the homeowners' association is not a governmental entity, it also contacted Cascade County for grant funding.

Flaxville, Town of **$28,500**
Water Storage Reservoir Emergency Repair-2014
January 2014
The elevated water storage reservoir for Flaxville's water system developed a leak in late December 2013. Due to cold temperatures, the reservoir inlet pipe began to freeze and fail structurally, necessitating the draining and removal of the reservoir from the system. An elevated storage tank specialty contractor was hired to repair the tank and replace the standpipe early in January 2014. The total cost of repairs was $61,650, a portion of which was borrowed by the town through the SRF Loan Program.

Judith Gap, Town of **$15,000**
Water Pump Replacement-2014
April 2014
Judith Gap is a small town 18 miles north of Harlowton in Wheatland County. In April 2014, the town's primary source of drinking water, a well with a 28-year-old vertical shaft turbine pump, failed. Total cost of the replacement was $27,000. Work was completed in April.

Roberts, Town of **$15,000**
Emergency Wastewater Bypass-2014
April 2014
The community of Roberts, in Carbon County, experienced a wastewater lift station failure in April, 2014. Replacement pumps were ordered with a two-month delivery requirement. During the interim, it was necessary to rent a trash pump and bypass pump-treated effluent to the holding cell for approximately two months at a cost of $4,000 per week.

Lower Deep Creek Drainage District **$10,000**
Drain Ditch Emergency Rehabilitation
September 2014
Lower Deep Creek Drainage District is responsible for the operation and maintenance of a system of drain ditches constructed in 1951 to lower the groundwater table east of Townsend. The state of disrepair is critical, and the district proposes to clean and reshape critical sections of the system in and around Townsend to prevent flooding and damaging high groundwater levels. Work is to be completed by December 31, 2014.

Emergency Loans Made During the 2014-2015 Biennium

Montana Department of Natural Resources **$3,000,000**
Toston Dam Emergency Repair
July 2013
Toston Dam is a state-owned dam on the Missouri River in Broadwater County. The dam is 56 feet high and 705 feet long. Seven spillway bays with inflatable rubber gates control the reservoir pool elevation. The concrete gravity structure provides water storage for irrigation to 23,600 acres through the Broadwater-Missouri WUA and is also a 10-megawatt hydropower production facility.

In September 2012, the inflatable rubber gate in spillway bay six failed and deflated, causing a reduction in the reservoir pool elevation and the subsequent loss of irrigation water deliveries and hydropower production. The reservoir pool elevation was restored by installing temporary wooden flashboards.

The scope of this project includes replacing all seven inflatable rubber gates and procuring new steel bulkheads to replace wooden flashboards, which are difficult to install under flow conditions and leak excessively. The bulkheads are necessary to dewater the spillway bays while installing or working on the inflatable gates and will be used to maintain or restore the reservoir pool elevation during inflatable gate maintenance operations or in the event of another inflatable gate failure, should that occur again.

CHAPTER VII
Renewable Resource Project Planning Grants

Application Administration and Project Review Procedures
The 2013 Legislature authorized $1,062,000 for Renewable Resource Project Planning Grants. The intent of the program is to fund planning efforts for projects that will measurably conserve, develop, manage, or protect Montana's renewable resources. Planning grant funds must be used for contracted consulting or engineering services.

DNRC accepts applications for planning grants from public entities in cycles. Staff then review and rank the grants. No application fee is required. No match funding is required for planning grants.

Project Solicitation
No formal solicitation for applications is conducted. Engineering firms and other consultants likely to be involved with eligible studies have been informed that planning grant funding exists. During presentations to solicit applications for the regular public grant and loan program, the availability of planning grants is discussed.

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

In this biennium, DNRC has awarded project planning grants to public entities for 90 planning grants. Of the initial $1,062,000 in planning grant money, $316,000 remains as of this date.

Application Review
As with funding for other renewable resource projects, 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 applications submitted are evaluated for completeness and compliance with the intended purposes of the program.

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

Project Management
DNRC staff works closely with project sponsors and consultants during the planning stages of projects. For public facility studies, the applicant must contract with a registered professional engineer to prepare a Preliminary Engineering Report that satisfies the requirements of the Uniform Application Supplement for Montana Public Facility Projects. This application is accepted by all of the state agencies funding water, wastewater, and solid waste projects in Montana, and also by the Montana Rural Development Rural Utilities Service, formerly known as Farmers Home Administration. 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.

Watershed Planning Grants
This biennium, the RRGL Program initiated watershed planning grants as part of the planning grant program. The grants are for watershed planning that would re-establish the structure and function to a watershed. The grants were limited to a maximum of $75,000. Four watershed planning grants have been contracted to date for a total of $250,000.

Authorized Projects
In 2013, the Legislature authorized $1,062,000 for planning grants. The funded project planning grant applications included the following:

Figure 10 Project Planning Grants Approved During the 2015 Biennium

Applicant	Grant Type	Contracted
Alder WSD	Wastewater	$ 2,500
Bainville, Town of	Water	5,000
Belt, Town of	Water	3,000
Belt, Town of	Wastewater	5,000
Bitter Root Irrigation District	Irrigation	5,000
Big Sandy	Water	5,000
Black Eagle-Cascade County Water and Sewer District	Capital Improvement Plan	5,000
Bridger Pines County WSD	Water	3,000
Broadwater County	Watershed	50,000
Buffalo Rapids Irrigation Project District 1	Irrigation	5,000
Buffalo Rapids Irrigation Project District 2	Irrigation	5,000
Butte-Silver Bow	Dam	10,000
Cascade County	Water	15,000
Cascade, Town of	Stream bank	7,000
Clinton Irrigation District	Irrigation	5,000
Crow Tribe	Energy	5,000
Cut Bank, Town of	Wastewater	5,000
Daly Ditches Irrigation District	Irrigation	5,000
Denton, Town of	Water	5,000
Montana Department of Fish, Wildlife & Parks	Wastewater	8,000
Montana Department of Fish, Wildlife & Parks	Irrigation	10,000
East Bench Irrigation District	Irrigation	8,000
Fairfield, Town of	Wastewater	5,000
Fairview, Town of	Wastewater	5,000
Fallon County WSD	Wastewater	5,000
Flaxville, Town of	Wastewater	5,000
Fort Peck Tribes	Irrigation	5,000
Fort Shaw Irrigation District	Irrigation	5,000
Fromberg, Town of	Wastewater	5,000
Gardiner Park County WSD	Wastewater	5,000
Garfield County CD	Irrigation	5,000
Glasgow, City of	Water	5,000
Glen Lake Irrigation District	Irrigation	5,000
Gore Hill Water District	Water	5,000
Greenfields Irrigation District	Irrigation	5,000
Havre, City of	Storm water	5,000
Harlowton, City of	Water	5,000
Helena Valley Irrigation District	Irrigation	5,000
Highwood Water and Sewer District	Wastewater	5,000
Hot Springs, Town of	Wastewater	5,000
Huntley Project Irrigation District	Irrigation	5,000
Hysham Irrigation District	Irrigation	5,000
Hysham, Town of	Water	5,000
Jefferson County	Wastewater	5,000
Judith Gap, Town of	Water and Wastewater	5,000
Lambert County WSD	Wastewater	5,000
Laurel, City of	Water	5,000
Lewistown, City of	Water and Wastewater	5,000
Liberty County CD	Stream bank	5,000

Applicant	Grant Type	Contracted
Livingston, City of	Water	5,000
Lockwood ID	Irrigation	5,000
Lodge Grass, Town of	Site Title Opinion	5,000
Lower Musselshell County CD	Irrigation	5,000
Lower Yellowstone Irrigation Project District 1	Irrigation	5,000
Malta Irrigation District	Irrigation	5,000
Miles City, City of	Flood	5,000
Mile High Conservation District	Watershed	10,000
Missoula County	Stream bank	10,000
Missoula Irrigation District	Irrigation	5,000
Missoula City of	Stormwater	5,000
Missoula Valley Water Quality District	Stormwater	10,000
Petroleum CD	Watershed	75,000
Pondera County CD - Ditch to Pipe	Irrigation	3,000
Pondera County CD-Wasteway Rehabilitation	Irrigation	3,000
Poplar, City of	Wastewater	5,000
RAE Subdivision County WSD No 313	Test Well	5,000
Ruby Valley CD	Restoration	5,000
Ryegate, Town of	Wastewater	5,000
Sanders County	Watershed	75,000
Savage ID	Irrigation	10,250
Sidney Water Users ID	Irrigation	5,000
Sidney, City of	Wastewater	5,000
Simms, Town of	Wastewater	10,000
South Winds WSD	Water and Wastewater	10,000
Sunburst, Town of	Wastewater	5,000
Sweet Grass County CD	Irrigation	10,000
Sweet Grass County CD 2	Stream bank	7,500
Terry, Town of	Wastewater	5,000
Teton County	Watershed assessment	5,000
Tri-County Water District	Water	5,000
Toston Irrigation District	Irrigation	5,000
Upper Lower River Road Phase 5	Water and Wastewater	5,000
Vaughn, Town of	Wastewater	5,000
Virginia City, Town of	Growth policy	5,000
	TOTAL	**$660,250**

CHAPTER VIII
Renewable Resource Capacity Grants

Application Administration and Project Review Procedures
The 2013 Legislature authorized $200,000 for a pilot program for Renewable Resource Project Capacity Grants. The intent of the program was to fund activities which conserve, manage, develop, and preserve Montana's renewable resources, and to support CDs and watershed groups to build their capabilities, knowledge, and resources in order to fulfill their mission.

DNRC accepted applications for capacity grants from CDs quarterly until funding was depleted. Grants were available up to $10,000 per year for a capacity activity. No application fee or match funding was required.

This program is not being recommended for further funding in the 2015 biennium because it fit better under the CD Bureau's mandate. A new program has been established in the CD Bureau.

Project Solicitation
No formal solicitation for applications was conducted. CDs and watershed groups were informed that capacity grant funding existed. During CD area meetings and regular watershed group meetings, availability of capacity grants was discussed.

To request funds, applicants were required to submit an application that described the project, identified the sources and uses of funding, and discussed the activity that developed the organization's core capabilities.

DNRC awarded capacity grants to CDs for 18 capacity grants. In total, $197,000 in capacity grant money was contracted between July 1, 2014 and October 2014.

Application Review
As with funding for other renewable resource projects, capacity grant funds was 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 capacity grant funds. The scope of the proposed activity was evaluated to determine its eligibility for funding under the RRGL Program. The proposed budget was analyzed to assure that proposed costs are feasible.

Project Management
The activity sponsor was notified of the status of the capacity grant agreement. If successful, the applicant and the DNRC entered into a formal contract for the proposed activities. The project was managed in the same manner as other grant and loan projects funded by the RRGL Program.

Authorized Projects
In 2013, the Legislature authorized $200,000 for capacity grants. The funded capacity grant applications included the following:

Figure 11 Capacity Grants Approved During the 2015 Biennium

Conservation District	Watershed Group	Activity Title	Contracted
Bitterroot CD	Bitterroot Water Forum	Host Big Sky Watershed Corps Member in Bitterroot	$10,000
Deer Lodge Valley CD	The Watershed Restoration Coalition	Project Effectiveness Monitoring	$20,000
Flathead CD	Flathead Lakers	Flathead River Steward Pilot Program	$10,000
Gallatin CD	Big Sky Watershed Corps	AmeriCorps Member for GCD E&O Center	$5,000
Garfield County CD		No-Till Disc Drill/Soil Health Project	$5,000
Judith Basin CD		Conservation District Administrator Training	$10,000
Lake County CD		Conservation Forest Initiative	$10,000
Lower Musselshell CD	Musselshell Watershed Coalition	Watershed Coordination and Fund-raising Plan	$20,000
Madison CD	Madison Watershed Partnership	Watershed Capacity in the Madison	$7,000
McCone County CD		Cost Share for Cover Crop Seeds	$5,000
Mile High CD	Upper Clark Fork River Steering Committee	Upper Clark Fork River Steering Committee	$20,000
North Powell CD	Blackfoot Challenge	Blackfoot Water Stewardship	$20,000
Petroleum County CD	NA	Petroleum County CD Education and Outreach Proposal	$20,000
Phillips CD		CMR NWR Community Working Group	$10,000
Phillips CD	Milk River Watershed Alliance	Milk River Watershed Alliance Capacity Building	$5,000
Ruby Valley CD	Ruby Watershed Council	Ruby Valley CD/Ruby Watershed Council Capacity Building	$5,000
Sheridan County CD		Additional Groundwater Monitoring Instrumentation	$5,000
Madison CD	Montana Watershed Coordination Council	Watershed Symposium	$10,000
		Total	**$197,000**

CHAPTER IX
Summary of Grants to Public Entities, October 1, 2012–September 2014

The status of all projects authorized October 2012 through September 2014 is reported here. Project status is indicated by one of three categories: Completed, Active, Authorized, Not Yet Executed, and Terminated.

Grant Projects Completed Since October 1, 2012

Bitter Root Irrigation District
Siphon 1 Improvement, Phase 2
RRG-12-1518
The 2011 Legislature authorized a $100,000 grant for improvements to Siphon 1. The project is complete and $100,000 has been disbursed.

Broadview, Town of
Water System Improvements
RRG-10-1449
The 2009 Legislature authorized a $100,000 grant to construct a water supply, pump house, transmission main line, and install water meters. The project is complete and $100,000 has been disbursed.

Buffalo Rapids Irrigation District 1
Lateral 26.4 Conversion
RRG-12-1515
The 2011 Legislature authorized a $100,000 grant for the conversion of Lateral 26.4 from open ditch to pipeline for the Buffalo Rapids Irrigation District 1. The project included the design and construction of a new distribution route, installation of 2.3 miles of pipeline, and the installation of an additional point of diversion from the main canal. The project is complete and $100,000 has been disbursed.

Bynum Teton County Water and Sewer District
Water System Improvements
RRG-10-1424
The 2009 Legislature authorized a $100,000 grant to locate and develop a new water source and design and construct a new water system for Bynum. The project is complete and $100,000 has been disbursed.

Carbon Conservation District
Hydrogeology and Water Balance of the East/West Bench Aquifers, Phase 1
RRG-08-1341
The 2007 Legislature authorized a $100,000 grant for a baseline study of the hydrogeology and water balance of the aquifers underlying the East and West Bench of Rock Creek, near Red Lodge. The project is complete and $100,000 has been disbursed.

Chippewa Cree Tribe of the Rocky Boy's Reservation
Dry Fork Farms Irrigation Enhancement
RRG-12-1516
The 2011 Legislature authorized a $97,429 grant for the Dry Fork Farms Irrigation Enhancement project on the Dry Fork Farms. The project includes design, purchase, construction, and/or installation of a 125-acre pivot, supply pipeline, and electrical service. The project is complete and $97,429 has been disbursed.

Choteau, City of
Wastewater System Improvements, Phase 2
RRG-14-1533
The 2013 Legislature authorized a $100,000 grant for wastewater system improvements including rehabilitation of sewer collection main and service line connections, construction of new mechanical treatment facility to replace lagoon, and sludge dispersal upgrades. The project is complete and $100,000 has been disbursed.

Culbertson, Town of
Wastewater System Improvements
RRG-12-1519
The 2011 Legislature authorized a $100,000 grant for wastewater system improvements including a new lagoon system. RRGL funds have been disbursed for engineering design, which is in the final stages. The project is complete and $100,000 has been disbursed.

Cut Bank, City of
Wastewater System Improvements
RRG-14-1601
Cut Bank was awarded a $100,000 grant in 2013 for the replacement of 7,200 lineal-ft of wastewater force main. The project is complete and $100,000 has been disbursed.

Daly Ditches Irrigation District
Hedge Canal Bank Stabilization
RRG-12-1482
The 2011 Legislature authorized a $100,000 grant to reshape, stabilize, and line an eroded section of the Hedge Canal in Ravalli County. The project is complete and $100,000 has been disbursed.

Dawson County
Yellowstone River Floodplain Management
RRG-04-1221
The 2003 Legislature authorized a $75,000 grant to update floodplain regulations by adopting a new flood insurance study. A hydrological analysis, floodplain assessment, floodplain delineation, and new flood hazard maps will be made covering 15 miles of the Yellowstone River in and around Glendive. The project is complete and $100,000 has been disbursed.

Dayton Lake County Water and Sewer District
Wastewater System Improvements
RRG-10-1430
The 2007 Legislature authorized a $100,000 grant for design and construction of a wastewater collection and treatment system. Due to funding limitations, the scope was reduced to a study of drinking water, wastewater, and stormwater deficiencies and potential corrective alternatives within Dayton. Following the election of a new board of directors, the study was terminated and $90,000 reverted to the RRGL Program to fund other projects.

Elk Meadows Ranchettes County Water District
Water System Improvements Project, Phase 2
RRG-14-1552
Elk Meadows Ranchettes County Water District was awarded a $100,000 grant in 2013 for the replacement of water distribution lines and the drilling of a third well. The project was completed in 2014 and $100,000 has been disbursed.

Eureka, Town of
Water System Improvements
RRG-10-1457
The 2009 Legislature authorized a $100,000 grant for the design and construction of water system improvements consisting primarily of distribution system replacement and a new concrete storage reservoir. The project is complete and $100,000 has been disbursed.

Fairfield, Town of
Water System Improvements
RRG-12-1502
The 2011 Legislature authorized a $100,000 grant for the repair and upgrade to the Fairfield municipal water system. The project included installation of water meters, well pumps, remote well monitoring system, new main water line, and possible upgrade to the elevated storage tanks. The project is complete and $95,000 has been disbursed.

Flathead Joint Board of Control
Jocko Upper J Canal Diversion Structure
RRG-13-1537
The 2011 Legislature authorized a $100,000 grant to design and construct a replacement for the failing diversion structure in Agency Creek. The project is complete and all grant funds have been expended.

Fort Peck Tribes
Lateral L-2M Irrigation Improvements
RRG-12-1499
The 2011 Legislature authorized a $100,000 grant for rehabilitation of the Lateral L-2M within the FPIP Frazer-Wolf Point Unit. The project included reshaping and lining a portion of the Lateral L-2M. The project is complete and $100,000 has been disbursed.

Fort Shaw Irrigation District
Simms Creek Siphon
RRG-12-1494
The 2011 Legislature authorized a $100,000 grant for enhancement of the FSID. The original project included repair of the Simms Creek Siphon and replacing 7,000 ft of C-K ditch with 2,500 ft of pipeline. The district submitted a request to DNRC to amend the original contract to complete only the Simms Creek Siphon repair portion because bids for far exceeded estimated costs during the application process. The project has been completed and all grant funds have been disbursed.

Fort Smith Water and Sewer District
Water System Improvements
RRG-11-1469
The 2009 Legislature authorized a $100,000 grant for system improvements to the Fort Smith water system. The project consists of a new well house, a 200,000-gallon storage tank, complete replacement of the distribution system, and installation of curb stops and meters on all active services. The project is complete and $100,000 has been disbursed.

Foys Lakeside County Water and Sewer District
Water System Improvements
RRG-13-1533
The 2011 Legislature authorized a $100,000 grant for water system improvements to the transmission mains, well house, and installation of a backflow preventer. The project is complete and $100,000 has been disbursed.

Glacier Conservation District
Marias River Water Quality Improvements
RRG-08-1359
The 2007 Legislature authorized a $100,000 grant to fund the planning, design, and construction of a stream bank stabilization project on the Marias River in Liberty County. The project is complete and $100,000 has been disbursed.

Greater Woods Bay County Sewer District
Wastewater System Improvements
RRG-11-1472
Greater Woods Bay County Sewer District received a $100,000 grant in 2009 for the design and construction of a regional wastewater collection system to convey sewage from the Woods Bay and Sheaver's Creek areas between Woods Bay and Bigfork to Bigfork for treatment. The RRGL grant was used for preliminary and design engineering. Due to funding shortfalls, the project has been delayed indefinitely. The project is complete and $95,000 has been disbursed and $5,000 reverted.

Green Mountain Conservation District
Tuscor Creek Restoration
RRG-12-1488
The 2011 Legislature authorized a $100,000 grant for design and construction of a series of step pools and rehabilitation and revegetation of the riparian area. The project is complete and $84,778 has been disbursed.

Greenfields Irrigation District
Muddy Creek Wastewater and Erosion Reduction
RRG-14-1577
The 2013 Legislature authorized a $100,000 grant to upgrade the open delivery system to an enclosed pipe. The project included design, engineering, and installation of PVC pipe. The project is complete and the DNRC has disbursed all authorized funds.

Greenfields Irrigation District
Big Coulee Wastewater and Erosion Reduction
RRG-12-1498
The 2011 Legislature authorized a $100,000 grant for the rehabilitation of a portion of Beale Canal within the Big Coulee project of the GID. The project included lining of 3,500 ft of canal and reclamation of 200 acres of rangeland. This project will reduce saline seep on adjacent acres and also improve water quality in Big Coulee and the Sun River. The project is complete and DNRC has disbursed all authorized funds.

Hardin, City of
Water Treatment Plant Improvements
RRG-12-1509
The 2011 Legislature authorized a $100,000 grant for the design and construction of water treatment plant improvements. The project is complete and $100,000 has been disbursed.

Hebgen Lake Estates Water and Sewer District
Wastewater System Improvements
RRG-12-1487
The 2007 Legislature authorized a $100,000 grant to replace the system with a Level 2 treatment system and drain field, construct a new lift station, and remove and dispose of sludge from the lagoon. The project is complete and $100,000 has been disbursed.

Helena Valley Irrigation District
Pump No. 2 Rehabilitation
RRG-12-1423
The 2013 Legislature authorized a $100,000 grant to repair a pump. The project is complete and all funds have been expended.

Hill County Water District
Water System Improvements
RRG-13-1528
The 2011 Legislature authorized a $100,000 grant for replacement of water meters to improve water and billing accountability. The project is complete and $100,000 has been disbursed.

Homestead Acres County Water and Sewer District
Water System Improvements
RRG-12-1442
The 2009 Legislature authorized a $100,000 grant for water system improvements. The project included design and construction of two additional wells, installation of a tank, relocation of meters, and improvements to the distribution system. The project is complete and $100,000 has been disbursed.

Huntley Project Irrigation District
Pryor Creek Siphon
RRG-12-1504
The 2011 Legislature authorized a $100,000 grant for canal lining, but after spring 2011 flooding, the district was authorized to change the project to flood rehabilitation. The project is complete and $100,000 has been disbursed.

Hysham Irrigation District
Flow Monitoring System
RRG-11-1470
The 2009 Legislature authorized a $100,000 grant to install dynamic flow meters at sites throughout the system. The project was part of a phased system improvements plan. The project is complete and $100,000 has been disbursed.

Jefferson Valley Conservation District
Jefferson Canal Headgate Replacement
RRG-14-1551
The JVCD received a $100,000 grant in 2013 for the design and construction of a replacement headgate at the Jefferson Canal diversion south of Whitehall. The project is complete and $100,000 has been disbursed.

Kevin, Town of
Water System Improvements, Phase 3
RRG-12-1479
The 2011 Legislature authorized a $100,000 grant for water system improvements. The project included replacement of 12,000 lineal ft of transmission main and installation of wind, solar, and propane powered energy sources for the new chlorination building. The project is complete and $100,000 has been disbursed.

Lockwood Irrigation District
Intake Canal Spillway Replacement
RRG-12-1493
The 2011 Legislature authorized a $100,000 grant to design and replace the spillway. The scope of work was changed due to the flooding in spring 2011. The grant was used for emergency repairs and fixing an embankment. The project is complete and $100,000 has been disbursed.

Lower Musselshell Conservation District
Delphia Melstone Irrigation Structure Rehabilitation Lining
RRG-12-1506
The 2011 Legislature authorized a $100,000 grant for canal lining. The scope of work was changed due to the flooding in spring 2011. The grant funding was used to repair flood damage. The project is complete and $100,000 has been disbursed.

Lower Musselshell Conservation District
East Brewer Irrigation Check
RRG-14-1578
The 2013 Legislature authorized a $100,000 grant for installation of a new gated check structure and 900-ft of canal liner. The project was completed in June 2014 and all grant funds have been expended.

Malta Irrigation District
Installation of Water-Measuring Devices and Structures, Headwalls, and Check Structures
RRG-09-1375
The 2007 Legislature authorized a $100,000 grant for irrigation infrastructure improvements for the MID. The project is complete and $100,000 has been disbursed.

Melstone, Town of
Water System Improvements
RRG-100-1439
The 2009 Legislature authorized a $100,000 grant for construction of new wells and associated facilities to improve the drinking water supply. The project is complete and $100,000 has been disbursed.

Missoula County
LiDAR Mapping
RRG-12-1485
The 2011 Legislature authorized a $50,000 grant for LiDAR mapping of selected Missoula County river floodplains. The project is complete and $50,000 has been disbursed.

Missoula County-Lewis and Clark Subdivision
Water System Improvements
RRG-10-1389
The 2009 Legislature authorized a $100,000 grant for design and construction of water system improvements for Lewis and Clark Subdivision in Clinton. The project consisted of replacing undersized distribution system and installing water meters. The project is complete and $100,000 has been disbursed.

Missoula County Conservation District
Orchard Homes Ditch Company Intake Improvements
RRG-14-1569
The 2013 Legislature authorized a $100,000 grant to complete intake improvements. The project is complete and $99,937.46 has been disbursed.

Missoula Irrigation District
Water Conservation Project
RRG-14-1571
The 2013 Legislature authorized a $100,000 grant to complete ditch lining that will result in water conservation. The project is complete and $100,000 has been disbursed.

Montana Department of Fish, Wildlife & Parks
Chadbourne Diversion Dam Repair and Selective Fish Passage Retrofit
RRG-12-1513
The 2011 Legislature authorized a $99,500 grant for repair and retrofit of the diversion dam for fish passage. The project is complete and $99,500 has been disbursed.

Montana Department of Natural Resources and Conservation
Nevada Creek Canal Design and Construction
RRG-10-1453
The 2009 Legislature authorized a $100,000 grant for delivery canal and drop structures related to Nevada Creek Dam. The project included design and construction of lining for 1,500 ft of the Douglas Canal and construction of drop structures. The project is complete and $98,708.60 has been disbursed.

Montana Department of Natural Resources and Conservation
Hydropower Feasibility Study
RRG-12-1510
The 2011 Legislature authorized a $100,000 grant to investigate the feasibility of hydropower generation on three state-owned dams. The study is complete and $100,000 has been disbursed.

Montana Department of Natural Resources and Conservation
Smith Lake Dam Rehabilitation
RRG-12-1484
The 2011 Legislature authorized a $100,000 grant for the rehabilitation of Smith Lake Dam, a high-hazard dam in Flathead County. The project also included road and trail improvements to improve public access and allow for the utilization of the small lake as a fishery and recreation site. The project is complete and $100,000 has been disbursed.

Montana Watercourse
Watershed Education for Real Estate Agents
RRG-10-1388
The 2009 Legislature authorized a $19,333 grant to develop online educational material pertaining to water rights and water management for real estate agents in Montana. The project is complete and $19,333 has been disbursed.

Philipsburg, Town of
Wastewater System Improvements
RRG-10-1397
The 2009 Legislature authorized a $100,000 grant for the design and construction of a wastewater treatment facility to replace the lagoon system. Preliminary issues including the acquisition of adequate funding and land delayed the project. Engineering for the project was completed with the RRGL grant and $100,000 was disbursed.

Pondera Conservation District
KB2 Canal Rehabilitation
RRG-14-1596
The 2013 Legislature authorized $100,000 for the design and construction of a rehabilitation project on the KB2 Canal within the PCCRC. The design, construction, and lining of 15,840 ft of the KB2 Canal is complete and all funds have been disbursed.

Pondera Conservation District
Wasteway Rehabilitation and Water Quality Improvement
RRG-12-1525
The 2011 Legislature authorized a $100,000 grant to build a wasteway impoundment reservoir to reduce total wasteway flows. The project is complete and $100,000 has been disbursed.

Ravalli County
LiDAR Mapping, Phase 3
RRG-12-1486
The 2011 Legislature authorized a $75,000 grant for LiDAR mapping of selected river floodplains in Ravalli County. The project is complete and $75,000 has been disbursed.

Roberts Carbon County Water and Sewer District
Wastewater System Improvements
RRG-13-1527
The 2011 Legislature authorized a $100,000 grant for the design and construction of wastewater collection system improvements. The project is complete and $100,000 has been disbursed.

Ronan, City of
Water System Improvements
RRG-10-1462
The 2007 Legislature authorized a $100,000 grant to design and construct a new water tank, booster station, well, and treatment plant. The project is complete and $100,000 has been disbursed.

Roundup, City of
Water System Improvements
RRG-12-1505
The 2011 Legislature authorized a $100,000 grant to replace the transmission and river crossing from the wells to the distribution system, replace a large section of water mains, and install a new chlorination system and pumps in the well house. The project is complete and $100,000 has been disbursed.

Seeley Lake Sewer District
Centralized Wastewater Collection and Treatment System, Phase 1
RRG-07-1289
The 2005 Legislature authorized a $100,000 grant in for the development and construction of Phase 1 of a multiphased wastewater collection and treatment system. The acquisition of federal grants has delayed progress. Preliminary engineering is proceeding and alternatives are being evaluated to facilitate Phase 1 construction. The RRGL grant was used for engineering and other preliminary costs. The project is complete and $100,000 has been disbursed.

Sheaver's Creek County Water and Sewer District
Sheaver's Creek Wastewater Collection System, Phase 1b
RRG-11-1473
The 2009 Legislature authorized a $100,000 grant for the design and construction of a regional wastewater collection system to convey sewage from the Woods Bay and Sheaver's Creek areas for treatment. The grant was used for preliminary and design engineering. Due to funding shortfalls, the project has been delayed indefinitely. The grant was terminated; $95,000 was disbursed, and $5,000 reverted.

Sheridan, Town of
Wastewater System Improvements
RRG-12-1511
The 2011 Legislature authorized a $100,000 grant for the design and construction of Phase 2 improvements to the wastewater system. The project consisted of treatment lagoon upgrades, a force main, a new storage cell, and a spray irrigation system to land-apply treated effluent. The project is complete and $100,000 has been disbursed.

South Chester County Water District System
Water System Improvements
RRG-10-1461
The 2009 Legislature authorized a $100,000 grant for the relocation of the intake, replacement of the chlorinator, installation of UV disinfection equipment, installation of a flow meter, installation of water meters, and replacement of 2.3 miles of undersized line. The project is complete and $100,000 has been disbursed.

Stanford, Town of
Water System Improvements
RRG-12-1521
The 2011 Legislature authorized a $100,000 grant for water system improvements by rehabilitating old wells, drilling a new well, and improving the town's water supply. The project is complete with $97,394 expended.

St Ignatius, Town of
Water System Improvements
RRG-10-1434
The 2009 Legislature authorized a $100,000 grant to develop a third water supply well, replace distribution piping, install a second water main, and conduct a leak survey. The project is complete and $100,000 has been disbursed.

Teton Conservation District
Eureka Dam Rehabilitation, Phase 1
RRG-12-1501
The 2009 Legislature authorized a $100,000 grant for the design and construction of outlet works improvements to Eureka Dam, an earth-fill dam in Teton County north of Choteau and owned by the Teton Cooperative Canal Company, a private entity. The project is complete and $100,000 has been disbursed.

Twin Bridges, Town of
Wastewater System Improvements
RRG-08-1365
The 2007 Legislature authorized a $100,000 grant to design and construct a new facultative lagoon, storage lagoon, and irrigation system, and replace sewer main, manholes, and cleanouts. Water meters will also be installed and the lift stations will be upgraded. The project is complete and $100,000 has been disbursed.

Upper and Lower River Road County Water and Sewer District
Water and Wastewater System Improvements, Phase 4
RRG-12-1477
The 2011 Legislature authorized a $100,000 RRGL grant for Phase 4 of the sewer and water system improvements project. The project is complete and $100,000 has been disbursed.

Whitefish Flathead County Water and Sewer District
Investigation of Septic Leachate to Littoral Areas of Whitefish Lake
RRG-11-1474
The 2009 Legislature authorized a $70,000 RRGL grant to study the effects of septic leachate to littoral (shore zone) areas of Whitefish Lake. The study is complete and $70,000 has been disbursed.

Whitefish, City of
Haskell Basin Watershed Preservation
RRG-13-1526
The 2011 Legislature authorized a $100,000 grant to improve municipal water system diversion and intake structures in Haskill Basin north of Whitefish. The project is complete and $100,000 has been disbursed.

Whitehall, Town of
Wastewater System Improvements
RRG-08-1366
The 2009 Legislature authorized a $100,000 grant to design and construct a new facultative lagoon system, storage cell, and spray irrigation system. The project is complete and $100,000 has been disbursed.

White Sulphur Springs, City of
Wastewater System Improvements, Phase 1
RRG-14-1585
The 2013 Legislature authorized a $100,000 grant for Phase 1 of wastewater system improvements. The project is complete and $100,000 has been disbursed.

Woods Bay Homesites County Water and Sewer District
Wastewater Collection System, Phase 1c
RRG-11-1471
The 2009 Legislature authorized a $100,000 grant for the design and construction of a regional wastewater collection system to convey sewage from the Woods Bay and Sheaver's Creek areas between Woods Bay and Bigfork to Bigfork for treatment. The grant was used for preliminary engineering. Due to funding shortfalls, the project has been delayed indefinitely. The project was terminated and $95,000 has been disbursed

Yellowstone County
Yellowstone River Floodplain Management
RRG-04-1223
The 2003 Legislature authorized a $75,000 grant to update comprehensive floodplain regulations in Yellowstone County by adopting a new flood insurance study. The project is complete and $73,154 has been disbursed.

Active Grant Projects Awarded Since October 2012

Alberton, Town of
Wastewater System Improvements
RRG-14-1589
The 2013 Legislature authorized a $100,000 grant for wastewater system upgrades. The project will construct a UV disinfection facility and install a backup generator. The contractor has been selected and work should be complete by the end of 2014. No disbursements have been made.

Amsterdam-Churchill County Sewer District No. 307
Wastewater System Improvements
RRG-13-1542
The 2011 Legislature authorized a $100,000 grant for wastewater system improvements. The project will hook into the Manhattan wastewater treatment plant. The project has been bid and is expected to be complete by the December 2015.

Beaverhead County Conservation District
Poindexter Slough Fishery Enhancement
RRG-12-1503
The 2011 Legislature authorized a $100,000 grant to improve fish habitat and water quality, install a new control structure at the headgate, and create a grazing management plan. The project is expected to be complete by the June 2015 and $39,747 has been expended.

Beaverhead County Conservation District
Swamp Creek Siphon
RRG-14-1607
The 2013 Legislature authorized a $100,000 grant for installation of a new irrigation siphon, diversion, and fish ladder on swamp creek. The project is under way and no grant funds have been expended.

Belt, Town of
Water System Improvements
RRG-13-1545
The 2011 Legislature authorized a $100,000 grant for water system improvements. This is Phase 1 and includes replacement of the concrete tank, rehabilitation of the steel tank, control system improvements, and water meter installation. The project is nearing completion and $95,000 has been disbursed.

Belt, Town of
Wastewater System Improvements
RRG-14-1631
The 2013 Legislature authorized a $100,000 grant for wastewater system improvements. This project includes construction of a land application irrigation system for discharge, replacement of lift station No. 1, and rehabilitation of lift stations No. 2 and No. 3. The project sponsor is still trying to secure Rural Development funding.

Big Horn County Conservation District
Evaluating the Influence of Irrigation on Groundwater Quality and Quantity
RRG-14-1604
The 2013 Legislature authorized a $100,000 grant for data analysis and collection, model construction, and calibration and production of management tools for irrigators. The project is expected to be complete by the end of 2016 and $1,157 has been disbursed.

Big Sandy, Town of
Wastewater System Improvements
RRG-10-1463
The 2009 Legislature authorized a $100,000 grant for the construction of a new wastewater treatment lagoon facility. The project is complete except for project closeout activities and $95,000 has been disbursed.

Bitter Root Irrigation District
Siphon 1 Improvements, Phase 4
RRG-14-1586
The 2013 Legislature authorized a $100,000 grant for Siphon 1, Phase 4 improvements. The project is complete except for closeout and $88,353.87 has been disbursed.

Black Eagle-Cascade County Water and Sewer District
Wastewater System Improvements
RRG-15-1634
The 2013 Legislature authorized a $100,000 grant for wastewater system improvements. This project includes CIPP lining of 8-inch and 12-inch sewer mains. The project has been bid and is expected to be complete in spring 2015.

Boulder, City of
Wastewater System Improvements
RRG-14-1595
The 2013 Legislature authorized a $100,000 grant for wastewater system improvements. This project includes installing an activated sludge treatment plant to replace the lagoon treatment system, adding UV disinfection for pathogen removal, handling sludge with beneficial reuse for land application, and replacing 1,600-lineal ft of collection main. Project plans and specs have been submitted to DEQ for review. The project is expected to be complete in December 2015.

Bozeman, City of
Bozeman Creek at Bogert Park Enhancement
RRG-14-1608
The 2013 Legislature authorized a $100,000 grant to enhance aquatic habitat by improving sediment transport in an urban setting. The project proposes to realign and reconfigure the channel, stabilize banks, and develop a floodplain. The project is expected to be complete by the December 2014 and $39,915 has been expended.

Buffalo Rapids Irrigation District 1
Lateral 20.6 Conversion
RRG-14-1580
The 2013 Legislature authorized a $100,000 grant for the conversion of Lateral 20.6 from open ditch to pipeline for the Buffalo Rapids Irrigation District 1. The project includes the design and construction of a new distribution route and installation of 18,000 lineal ft of pipeline. The project is expected to be complete by December 31, 2014. No disbursements have been made.

Buffalo Rapids Irrigation District 2
Buffalo Rapids Terry Pump Station Discharge Line
RRG-14-1628
The 2013 Legislature authorized a $100,000 grant to replace 270 ft of discharge lines with the goal of eliminating leakage from the pipes for the BRID2. The project is expected to be complete by December 2014. DNRC has disbursed $9,042 of the authorized grant funds.

Carbon County Conservation District
Groundwater Surface Interaction in Rock Creek Watershed, Phase 2
RRG-14-1603
The 2013 Legislature authorized a $100,000 grant to collect baseline data for future management and land-use changes. Project activities include monitoring wells, springs, and surface water; collection of water quality samples; installation of test wells; aquifer tests; and the creation of usable reports for residents. The project is expected to be complete by December 2016 and $2,906 has been expended.

Cascade, Town of
Wastewater System Improvements, Phase 3
RRG-14-1555
The 2013 Legislature authorized a $100,000 grant for replacing 10,800 ft of failing pipe. Bids went out in the spring 2014 and construction began in 2014. The project will be complete by December 2014 and $79,951 has been disbursed.

Craig County Water and Sewer District
Wastewater System Improvements
RRG-14-1584
The 2013 Legislature authorized a $100,000 grant for construction of a new wastewater system. This project includes construction of 6,925 ft of sewer main, 23 manholes, 5,500 ft of sewer service lines, electrical siting, force main and lift station, influent pumps, process piping, equalization basin, treatment building, emergency power, and a percolating wetland.

Chinook, City of
Water System Improvements
RRG-14-1610
The 2013 Legislature authorized a $100,000 grant for the construction of water treatment plant improvements. The project is in design with construction scheduled for 2015 and $56,779.68 has been disbursed.

Clinton Irrigation District
Clark Fork Diversion Rehabilitation
RRG-14-1598
The 2013 Legislature authorized a $100,000 grant for replacement of irrigation diversion and construction of a new intake channel. The project is expected to be complete by December 2015 and $91,172 has been disbursed.

Crow Tribe of Indians
Crow Agency Wastewater System Improvements
RRG-10-1447
The 2009 Legislature authorized a $100,000 grant for Phase 3 wastewater system improvements at Crow Agency. The project consists of television inspection of lines and replacement of laterals. Project design is in progress. No grant funds have been disbursed.

Crow Tribe of Indians
Crow Agency Water System Improvements
RRG-10-1522
The 2011 Legislature authorized a $100,000 grant for drinking water treatment system improvements at Crow Agency. RRGL funds have been identified for the construction of distribution system upgrades. Work is in progress and $90,000 has been disbursed.

Confederated Salish and Kootenai Tribes
Jocko Upper S Canal
RRG-13-1549
The 2011 Legislature authorized a $100,000 grant to line 4,000 ft of canal. The project is expected to be complete by the end of 2014 and no grant funds have been disbursed.

Daly Ditches Irrigation District
Preservation and Conservation of Resources; Canal Lining
RRG-14-1581
The 2013 Legislature authorized a $100,000 grant for canal rehabilitation and lining for water management. The project is expected to be complete December 2014 and $69,472 has been disbursed.

Dawson County
Wastewater System Improvements
RRG-14-1633
The 2011 Legislature authorized a $100,000 grant for the construction of wastewater system improvements. The proposed project consists of the abandonment of the treatment facility and subsequent connection to the new Glendive treatment plant. The project is in design with construction scheduled for 2015. No grant funds have been disbursed.

Deer Lodge, City of
Wastewater System Improvements
RRG-13-1541
The 2011 Legislature authorized a $100,000 grant for wastewater system improvements to replace the main. The work is substantially complete and $90,000 has been disbursed.

Deer Lodge Valley Conservation District
Kohrs and Manning Ditch Company Infrastructure Improvements
RRG-14-1563
The 2013 Legislature authorized a $100,000 grant to replace the diversion with a structure requiring less maintenance and providing better diversion control. The project includes a topographic survey of the diversion, design, and construction. DNRC has disbursed $88,066 of the authorized grant funds. Project completion date is December 31, 2014.

Deer Lodge Valley Conservation District
Water Efficiency and Energy Conservation
RRG-14-1621
The 2013 Legislature authorized a $100,000 grant to provide a reliable and efficient irrigation water delivery system. The match funding for this project was not realized. DNRC agreed to modify the scope of the project to line a portion of the ditch. The project is expected to be complete by December 2015 and no funds have been expended.

Dutton, Town of
Water System Improvements
RRG-14-1570
The 2013 Legislature authorized a $100,000 grant to replace the transmission main, recoat the storage tank, install new water valves, and upgrade the telemetry system. The project is expected to be complete by the end of 2014 and $36,620 has been expended.

Em-Kayan Water and Sewer District
Water System Improvements, Phase 2
RRG-14-1616
The 2013 Legislature authorized awarded a $100,000 grant in 2013 for distribution system improvements. The project is under construction with completion scheduled for late 2014 and $12,664 has been disbursed.

Eureka, Town of
Water System Improvements
RRG-14-1619
The 2013 Legislature authorized a $100,000 grant in 2013 for the design and construction of a water filtration plant. Pilot testing is in progress with project completion scheduled for late 2014 and $36,054 has been disbursed.

Fergus County Conservation District
Big Spring Creek Stream Restoration at the Machler Conservation Easement
RRG-13-1534
The 2011 Legislature authorized a $100,000 grant to Fergus County to restore one mile of stream, add meander, and create a floodplain and a new trail connecting existing recreation trails. This is Phase 1 of a multiphased project. A contract was executed at the end of 2013 and contract completion is scheduled for December of 2014. No disbursements have been made.

Frenchtown Irrigation District
Main Canal Lining
RRG-14-1615
The 2013 Legislature authorized a $99,978 grant to manage seepage by installing a canal liner.
The project is expected to be completed by April 2015 and $80,945.23 has been expended.

Forsyth, City of
Wastewater System Improvements
RRG-14-1564
The 2013 Legislature authorized a $100,000 grant for sanitary sewer improvements to replace 1,600 ft of sewer main, install new pipe, and install new manholes. The project is scheduled for completion mid-2015 and $5,000 has been disbursed.

Fort Peck Tribes
Lateral L-2M Rehabilitation, Phase 2
RRG-14-1597
The 2013 Legislature authorized a $100,000 grant for the rehabilitation of Lateral L-2M within the FPIP's Frazier-Wolf Point Unit. The project includes engineering design, canal shaping and earthwork, removal and replacement of five headgates, and linear installation of 2,640 ft of Lateral L-2M. Project completion date is December 31, 2014. No funds have been disbursed.

Fort Shaw Irrigation District
A-System Modification
RRG-12-1494
The FSID received a $100,000 grant in 2011 for the identification and rehabilitation of a portion of the distribution system within the FSID boundaries. Tasks include replacement of 2,800 ft of open ditch with pipeline, installation of a geotextile liner on 1,400 ft of open ditch, and installation of two cement turnouts. Project completion date is December 31, 2014. No funds have been disbursed.

Gallatin County
Parade Rest Riparian Restoration/Riders Court PER
RRG-14-1602
The 2013 Legislature authorized a $75,000 grant for irrigation improvements. Funding components were not achieved and the applicant could not move forward with the project as proposed. The project scope was approved for a PER of the wastewater system at Riders Court Mobile Park adjacent to Manhattan. The project is expected to be completed by September 2014. No grant funds have been expended.

Gallatin County Conservation District
Darlington Creek Enhancement Project at Cobblestone Access
RRG-14-1624
The 2013 Legislature authorized a $100,000 grant to enhance channel conditions to improve aquatic habitat and water quality. The project is expected to be completed December 2014 and $50,535 has been disbursed.

Gallatin Gateway County Water and Sewer District
Wastewater System Improvements
RRG-12-1497
The 2011 Legislature authorized a $100,000 grant for a wastewater system for Gallatin Gateway. The project includes a gravity collection system, lift station, and treatment plant. The project delayed because of a lawsuit against the district. The project is expected to be complete by December 2015; $44,000 has been disbursed.

Garfield County Conservation District
Charles M. Russell National Wildlife Range Monitoring Pilot
RRG-14-1583
The 2013 Legislature authorized a $99,994 grant to study a 60,000-acre area to verify that grazing can improve the natural ecosystem and wildlife habitat. Specific tasks to be accomplished include data collection, developing a rangeland management plan, continued monitoring of the rangeland, and revision of management plans based on data collection and analysis. Project completion date is expected to be December 2015 and no funds have been disbursed.

Glasgow Irrigation District
Vandalia Diversion Dam Rehabilitation, Phase 3
RRG-08-1303
The 2007 Legislature authorized a $100,000 grant for Phase 3 of the rehabilitation of Vandalia Dam. The project includes repairing gates, replacing seals, repairing corroded concrete on the surface of the dam, and installing a monitoring system. The project is expected to be complete by December 2015 and $71,751 has been expended.

Glendive, City of
Feasibility Study
RRG-12-1520
The 2011 Legislature authorized a $100,000 grant for a USACE feasibility study to recommend the most viable alternatives to eliminate flood risks, threats to loss of life, and associated problems with the floodplain in Glendive. The project had problems partnering with the USACE and the contract has expired. The contract with DNRC will be completed by December 2014. No grant funds have been disbursed.

Glendive, City of
Wastewater System Improvements
RRG-14-1557
The 2013 Legislature authorized a $100,000 grant for the design and construction of a wastewater treatment plant. Construction is in progress and no grant funds have been disbursed.

Glen Lake Irrigation District
Rolling Hills Section of the Main Canal Rehabilitation
RRG-14-1587
The 2013 Legislature authorized a $100,000 grant for the design and construction of a rehabilitation project on the Rolling Hills section of the Main Canal to replace a headgate. The project includes rehabilitation of the main canal, installation of 1,600 lineal ft of liner, and design and construction of the project. The DNRC has disbursed $81,128. The project completion date is scheduled for December 2015.

Hamilton, City of
Wastewater System Improvements
RRG-15-1636
The 2013 Legislature authorized a $100,000 grant for the design and construction of wastewater system improvements. Design is in progress and no grant funds have been disbursed.

Hamilton City of
Water System Improvements
RRG-15-1637
The 2013 Legislature authorized a $100,000 grant for the design and construction of water system improvements. Design is in progress and no grant funds have been disbursed.

Harlowton, City of
Wastewater System Improvements
RRG-14-1591
The 2013 Legislature authorized a $100,000 grant for the design and construction of wastewater collection system improvements. Construction is in progress and $50,000 has been disbursed.

Havre, City of
Wastewater System Improvements
RRG-15-1635
The 2013 Legislature authorized a $100,000 grant for the design and construction of wastewater treatment plant improvements. Design is in progress and no grant funds have been disbursed.

Hill County
Beaver Creek Dam Improvements Project, Phase 2
RRG-14-1609
The 2013 Legislature authorized a $100,000 grant for the design and construction of improvements to the outlet works for Beaver Creek Dam. Construction is scheduled for late 2014 and $3,314.23 has been disbursed.

Helena Valley Irrigation District
Pump Automation
RRG-14-1593
The 2013 Legislature authorized a $100,000 grant to replace control and monitoring instrumentation and install a SCADA system for the HVID. The project is expected to be complete by December 2015; $1,735 has been disbursed.

Jefferson County
Big Pipestone Creek Remediation
RRG-14-1560
The 2013 Legislature authorized a $99,531 grant to reclaim the eroded lower reach of the Jefferson Canal. Design is in progress and $2,435.36 has been disbursed.

Jefferson County
Big Pipestone/Jefferson River Slough Watershed Restoration Projects
****RRG-14-1561**
****RRG-14-1575**
The 2013 legislature authorized $1,273,686 for five projects in the Big Pipestone Creek watershed and the Jefferson Slough. The primary purpose of the projects is to reduce sediment transport to the Jefferson Slough to eradicate and prevent the growth of EWM, an aquatic invasive plant species. Project implementation will reduce risk of flooding in Whitehall, improve head gate operations, and improve the fishery. *(**The five projects are funded by the next two listed grants.)*

Jefferson County Commission
Big Pipestone Creek Channel Restoration and Development of Management Plans for the Riparian Area and Beaver Management
RRG-14-1561 ($1,096,836)
Seven stretches of Big Pipestone Creek were evaluated for channel restoration in an alternatives analysis and feasibility study. Stakeholders selected alternatives for each stretch. One alternative has been completed. The project is in final design and permitting stage for the remaining stretches. Channel construction will take place in spring 2015. The riparian management and beaver management plans are under development and will be completed in 2015; $197,879.45 has been disbursed.

Jefferson County
Jefferson Slough Hydrology Assessment and Sedimentology Stations
RRG-14-1575 ($176,850)
This grant funded the collection of data necessary for reclamation of the Jefferson Slough to eradicate the growth of EWM. Hydrologic and sediment measuring events began in early spring. Alternatives are under development. A management plan for EWM control in the Slough will be completed by December 2014; $95,401.62 has been disbursed.

Joliet, Town of
Wastewater System Improvements
RRG-14-1627
The 2013 Legislature authorized a $100,000 grant for the design and construction of wastewater collection and treatment system improvements. Design is in progress. No grant funds have been disbursed.

Libby, City of
Flower Creek Dam Replacement
RRG-14-1550
The 2013 Legislature authorized a $100,000 grant, along with an $800,000 RRGL loan, for the replacement of Flower Creek Dam, an aging high-hazard concrete arch dam that impounds water for Libby's municipal water system. Construction is under way. No grant funds have been disbursed.

Lockwood Irrigation District
Intake Canal Headgate Replacement
RRG-14-1592
The 2013 Legislature authorized a $100,000 grant for the replacement of a headgate structure with sluice gates. The district is in the permitting process. The project is expected to be complete by December 2015.

Lodge Grass, Town of
Wastewater System Improvements
RRG-15-1638
The 2013 Legislature authorized a $100,000 grant for wastewater system improvements. The project is to rehabilitate the lagoons. No grant funds have been expended.

Malta Irrigation District
Siphon Replacement
RRG-12-1492
The 2011 Legislature authorized a $100,000 grant to replace two siphons to increase operations efficiency. The project is expected to be complete by December 2014 and $98,371.92 has been expended.

Malta Irrigation District
Dodson South Canal Headgate
RRG-14-1588
The 2013 Legislature authorized a $100,000 grant to replace the Dodson South Canal headgate which supplies irrigation water to the southern portion of MID, as well as Bowdoin National Wildlife Refuge, Nelson Reservoir, and Glasgow ID through Nelson Reservoir. Project completion is set for December 2015. No funds have been disbursed.

Madison County
Moore's Creek Culvert Replacement
RRG-14-1599
The 2013 Legislature authorized a $100,000 grant to replace eight culverts to increase during floods and manage organism passage. The contract is expected to be completed June 2015 and no grant funds have been expended.

Manhattan, Town of
Water System Improvements
RRG-14-1612
The 2013 Legislature authorized a $100,000 grant for water system improvements. The project includes installation of a new storage tank, transmission line, booster station, and telemetry system. The project will be complete by December 2015.

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. Design is in progress and no grant funds have been disbursed.

Montana Department of Natural Resources and Conservation–Flathead Basin Commission
Aquatic Invasive Species Prevention
RRG-14-1573
The 2013 Legislature authorized $100,000 for data collection, outreach, and monitoring of aquatic invasive species in the watershed. The project is expected to be complete by the end of 2014 and $13,847 in grant funds have been expended.

Montana Department of Natural Resources and Conservation–Water Resources Division
2012 Infill Drilling and Piezometer Installation
RRG-13-1629
The 2013 Legislature authorized a $95,580 grant to install piezometers at high-hazard dams for seepage monitoring. The contract is expected to be complete by March 2015. No grants funds have been expended.

Montana Department of Natural Resources and Conservation–Water Resources Division
Clark Fork River Basin Task Force
RRG-13-1547
The 2011 Legislature authorized a $63,000 grant to revise the Clark Fork Basin Watershed Management Plan. The project is expected to be complete in December 2014 and no grant funds have been disbursed.

Montana Department of Natural Resources and Conservation–Water Resources Division
Deadman's Basin Supply Canal Replacement Headgate
RRG-14-1622
The 2013 Legislature authorized a $100,000 grant for an irrigation headgate structure. The project is expected to be completed by the end of 2015. No funds have been expended.

Montana Department of Natural Resources and Conservation–Water Resources Division
Cooney Dam Outlet Canal Weir Replacement and Auto Instrumentation
RRG-14-1562
The 2013 Legislature authorized a $100,000 grant for replacement of a weir outlet at Cooney Dam. Design is complete. The project is expected to be complete by December 2015.

Montana Department of Natural Resources and Conservation–Water Resources Division
East Fork Rock Creek Diversion and Fish Screen
RRG-13-1548
The 2011 Legislature authorized a $100,000 grant for installation of a fish screen on the irrigation diversion. The project is expected to be completed end of 2014. No grant funds have been expended.

Montana Department of Natural Resources and Conservation–Water Resources Division
Martinsdale Supply Canal Headworks Rehabilitation
RRG-13-1508
The 2011 Legislature authorized a $98,688 grant for headgate and trash-rack rehabilitation. The project is expected to be complete September 2014 and $61,433 has 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. Design is in progress and no grant funds have been disbursed.

Moore, Town of
Wastewater System Improvements
RRG-14-1559
The 2013 Legislature authorized a $100,000 grant to rehabilitate existing lagoons, build a third lagoon cell, and install a new center pivot irrigation system and pump. The construction will begin in October of 2014 with final completion in December 2015. No disbursements have been made.

North Havre County Water District
Water System Improvements
RRG-13-1538
The 2011 Legislature authorized a $100,000 grant for water system improvements including updating the pumping system and adding new pumps, installation of a new tank, installation of transmission line, and service line meters. The project is expected to be complete by December 2015 and $95,027 has been disbursed.

Park Conservation District
Park Branch Canal Water Efficiency
RRG-12-1490
The 2011 Legislature authorized a $100,000 grant for canal improvements to address considerable seepage losses and bank failures. The project is expected to be complete by December 2014 and $88,376.35 has been expended.

Park County
Park County Fairgrounds Wastewater System Improvements
RRG-14-1600
The 2013 Legislature authorized a $100,000 grant for sewer collection system upgrades. The project is expected to be complete March 2015 and no grant funds have been expended.

Philipsburg, Town of
Water System Improvements
RRG-14-1614
The 2013 Legislature authorized a $100,000 grant for the design and construction of a water system disinfection facility. Construction is in progress and no grant funds have been disbursed.

Plevna, Town of
Water System Improvements
RRG-14-1620
The 2013 Legislature authorized a $100,000 grant for the design and construction of water storage and distribution system improvements including a new storage reservoir. Construction is in progress and $95,000 has been disbursed.

Polson, City of
Water System Improvements
RRG-13-1543
The 2013 Legislature authorized a $100,000 grant for the design and construction of water distribution system improvements in downtown. Construction is in progress and no grant funds have been disbursed.

Ravalli County
Bitterroot Valley Septic Systems Impact Model, Phase 2
RRG-13-1532
The 2011 Legislature authorized a $73,745 grant to establish monitoring wells to study nitrate concentrations in shallow groundwater. This will enable better assessment of impacts to water quality resulting from new septic systems as the valley is developed. A consultant has been selected and a portion of the project completed. The rest of the project should be complete by the end of 2014. Disbursements of $43,900 have been made.

Richland County
Savage Wastewater System Improvements
RRG-14-1617
The 2013 Legislature authorized a $100,000 grant for improvements to the wastewater system consisting of collection system and lagoon upgrades, lift station installation, and treatment improvements. The project is expected to be completed by December 2015 and no funds have been expended.

Roundup Musselshell Irrigation
Musselshell Watershed Sustainable Irrigation Management Program
RRG-13-1540
The 2011 Legislature authorized a $60,000 grant to start a basinwide water management project. Tasks include setting up a GIS database, purchasing flow-measuring devices, and developing a basinwide decision-making criteria for prioritizing activities that contribute to enhanced stream and riparian function. Due to spring 2011 flooding, this project was delayed but it's back on track. So far, $23,966 has been disbursed and project completion is scheduled for the end of 2014.

Roundup, City of
Water System Improvements, Phase 3
RRG-12-1505
The 2013 Legislature authorized a $100,000 grant to replace all cast iron water mains and some PVC pipe, replace water meters, and upsize the transmission main from the storage tank into the distribution system. Construction is under way. The project will be complete by the end of 2014 and $90,000 has been disbursed.

South Wind Water and Sewer District
South Wind Water and Sewer District Improvements
RRG-14-1623
The 2013 Legislature authorized a $100,000 grant for Phase 1 of water and wastewater infrastructure improvements. To date wells have been drilled for the community and work has begun on hooking the well into the community system. The project is expected to be completed by December 2015 and no grant funds have been disbursed.

Stevensville, Town of
Wastewater System Improvements
RRG-14-1568
The 2013 Legislature authorized a $100,000 grant for the design and construction of wastewater treatment plant improvements. Design is in progress and no grant funds have been disbursed.

Stillwater Conservation District
Assessing Groundwater Resources of Bedrock Aquifers
RRG-14-1605
The 2013 Legislature authorized a $100,000 grant for compilation of water data, collection of water chemistry, and creation of aquifer maps. The project is expected to be completed by December 2016 and $2,821 has been expended.

Sunburst, Town of
Water System Improvements
RRG-08-1357
The 2013 Legislature authorized a $100,000 grant to identify the source of corrosive water that has destroyed the casing on one of the town's supply wells and to develop two existing wells that are not in use. MBMG performed a hydrogeologic investigation and actual distribution system improvements are being designed for construction in 2015; $45,521.94 has been disbursed.

Sun Prairie Village County Water and Sewer District
Water System Improvements
RRG-12-1517
The 2011 Legislature authorized a $100,000 grant for water system improvements including: four groundwater wells, a water treatment plant, a transmission line, a backup generator, distribution system pumps, and radio-read water meters. The project was delayed to establish water rights. The project is expected to be completed by December 2015 and $90,000 has been disbursed.

Sweet Grass Conservation District
Big Timber Creek Channel Stabilization
RRG-14-1566
The 2013 Legislature authorized a $100,000 grant to replace headgate, install bioengineered treatment along the eroding hayfield bank, and remove some riprap from the bank. The bank stabilization project is scheduled for completion at the end of 2014 and $24,543 has been dispersed.

Ten Mile/Pleasant Valley Sewer District
Wastewater System Improvements Project, Phase 2
RRG-14-1556
The 2013 Legislature authorized a $250,000 grant for the design and construction of a wastewater lift station and force main. Construction is complete except for closeout and $215,795.17 has been disbursed.

Toston Irrigation District
Canal Rehabilitation
RRG-14-1606
The 2013 Legislature authorized a $100,000 grant to complete canal rehabilitation. The project is expected to be completed by December 2015 and no grant funds have been expended.

Three Forks, City of
Wastewater System Improvements
RRG-14-1590
The 2013 Legislature authorized a $100,000 grant for the design and construction of wastewater treatment lagoon improvements. Design is in progress and $84,318 has been disbursed. The project is expected to be complete by December 2015.

University of Montana
Algae Bioremediation System for Acidic Industrial Wastewaters
RRG-14-1554
The 2013 Legislature authorized a $100,000 grant for a research project to develop an algae-based treatment system to remove nutrients and metals from acidic wastewater. Broader industrial applications will be researched for other acidic wastewater such as wastes from mining, coal plants, and steel manufacturing. Funds of $25,839 have been disbursed and contract completion is scheduled for the end of 2015.

Valier, Town of
Wastewater System Improvements
RRG-14-1567
The 2013 Legislature authorized a $100,000 to upgrade the wastewater system. The project includes replacement of the aeration system and 5,000 ft of collection piping. Contract completion is scheduled for the end of 2014 and $19,863 has been disbursed.

Vaughn Water and Sewer District
Wastewater System Improvements
RRG-14-1630
The 2013 Legislature authorized a $100,000 grant for the design and construction of a new wastewater treatment facility. Funding and design problems have delayed the project and a portion of the grant was authorized to replace a failed collector line. No grant funds have been disbursed.

Ward Irrigation District
Lost Horse Creek/Ward Canal Improvements
RRG-14-1572
The 2013 Legislature authorized a $100,000 grant to improve facilities of the irrigation district to conserve water, including siphon construction. The project is approximately 38% complete and is expected to be 100% complete by December 2014. Fund of $37,005.64 have been expended.

Winnett, Town of
Wastewater System Improvements
RRG-14-1611
The 2013 Legislature authorized a $100,000 grant for the design and construction of wastewater treatment lagoon improvements. Preliminary engineering is in progress, including the purchase and installation of a flow meter. No grant funds have been disbursed.

Whitefish, City of
Nutrient Reduction Plan
RRG-14-14-1579
The 2013 Legislature authorized a $100,000 grant for nutrient data collection and development of a nutrient trading tool. The project is expected to be completed by the end of 2015 and no grant funds have been expended.

Whitehall, Town of
Wastewater System Improvements
RRG-08-1366
The 2007 Legislature authorized a $100,000 grant to design and construct a facultative lagoon system, storage cell, and spray irrigation system. Construction is under way and the project is almost complete. The project should be complete by the end of 2014 and $86,529 has been dispersed.

Wolf Creek, Town of
Wastewater System Improvements
RRG-10-1417
The 2009 Legislature authorized a $100,000 grant for wastewater system improvements including: construction of a gravity sewer collection system, a lift station, and a treatment plant. The project is expected to be completed by December 2014 and $66,877 has been disbursed.

Authorized Grant Projects Not Yet Executed

Broadwater Conservation District
Big Springs Ditch Water Conservation and Spawning Bed
No Contract
The 2013 Legislature authorized a $100,000 grant to prevent seepage by completing a pipeline.
The project partner, NRCS, is requesting a scope of work change, which has delayed executing a grant contract as scheduled. The grant is expected to contract in October 2014 and be completed by December 2015.

Drummond, Town of
Wastewater System Improvements
No Contract
The 2013 Legislature authorized a $100,000 grant for wastewater lagoon improvements. Due to funding and design issues, the project is delayed.

Fairfield, Town of
Wastewater System Improvements
No Contract
The 2013 Legislature authorized a $100,000 grant for wastewater improvements to the collection mains and treatment system. To date, there has been no activity and no contract is in place for this project.

Flathead County
Big Fork Stormwater Project, Phase 4
No Contract
The 2013 Legislature authorized a $100,000 grant for stormwater conveyance pipes, catch basins, and treatment facilities for improved surface water quality. The project is in the process of obtaining a grant contract and forming a stormwater RSID.

Fort Belknap Indian Community
Main Canal A Underdrain Rehabilitation
No Contract
The 2013 Legislature authorized a $100,000 grant for improvements to the Main Canal A Underdrain along the D-3 Wasteway. The project proposes to design and construct a concrete underdrain. To date, there has been no activity and no contract is in place for this project.

Fort Benton, City of
Wasteway System Improvements
No Contract
The 2013 Legislature authorized a $100,000 grant for wastewater improvements. The project is in the planning phase, including working on a funding package with partners.

Malta, City of
Water System Improvements
No Contract
The 2013 Legislature authorized $100,000 to Malta for replacement of leaking pipe, renovation of three pump houses, and adding a standby power transfer switch to each pump house for use during power outages. The project is scheduled to be funded, designed, and constructed by October 2015.

Pinesdale, Town of
Water System Improvements
No Contract
The 2009 Legislature authorized a $100,000 grant for water treatment system improvements. Due to funding and design issues, the project is delayed.

Sunny Hills Suburban County Water District
Water System improvements
No Contract
The 2013 Legislature authorized a $100,000 grant for water system improvements. This project has not yet been contracted. The district is advertising for an engineer and estimated date for completion is December 2015.

Sweet Grass County
Greycliff Reach of the Yellowstone River
No Contract
The 2013 Legislature authorized a $100,000 grant for bank stabilization. The erosion is threatening not only arable land but also Lower Sweet Grass Road. The USACE has requested federal funding to mitigate the erosion, and as soon as concurrence from USACE is complete, a contract can be executed.

Terminated Grant Projects

Fort Belknap Indian Community
Community Water Conservation
Terminated
The 2011 Legislature authorized a $100,000 grant for the reconstruction and lining of Main Canal C. The grant was terminated because the sponsor lost the match funding available for the project and could not move forward.

Sunset Irrigation District
Irrigation System Improvements
Terminated
The 2007 Legislature authorized a $100,000 grant to convert open ditches to pipelines. Due to funding shortfalls, the project has been terminated and the $100,000 reverted to the RRGL Program. No funds were disbursed.

2015

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