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Department of Natural Resources and Conservation

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Reclamation and Development Grants Program

Project Evaluations and Funding Recommendations for the
2027 Biennium and 2019 through 2025 Biennium Status Report

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LIST OF ABBREVIATIONS

AOC..... Areas of Concern
AMD..... Acid Mine Drainage
AML ..... Abandoned Mine Land
BLM ..... Bureau of Land Management, U.S. Department of the Interior
BMP/BMPs ..... Best Management Practice/s
CARDD..... Conservation and Resource Development Division
CD ..... Conservation District
CECRA ..... Comprehensive Environmental Cleanup and Responsibility Act of 1989, also known as State Superfund Program
CFS ..... Cubic Feet per Second
DEQ..... Montana Department of Environmental Quality
DNRC ..... Montana Department of Natural Resources and Conservation
EECA..... Montana Pollutant Discharge Elimination System
EPA ..... United States Environmental Protection Agency
FEMA..... Federal Emergency Management Agency
FWP..... Montana Fish, Wildlife and Parks
HB..... House Bill
MCA..... *Montana Code Annotated*
MEPA ..... Montana Environmental Policy Act
MIW ..... Mine Impacted Water
MPDES..... Montana Pollutant Discharge Elimination System
MRH ..... Milwaukee Roundhouse Facility
MT ..... Montana
NEPA……...National Environmental Policy Act
PER ..... Preliminary Engineering Report
RBCG ..... Risk-based Cleanup Goals
RDG/RDGP ..... Reclamation and Development Grants Program
RIGWA ..... Resource Indemnity Groundwater Assessment Tax
RIT..... Resource Indemnity Trust
RRGL..... Renewable Resource Grant and Loan Program
SSRA..... State Special Revenue Account
StAGE..... Stream and Gage Explorer
SWPB ..... State Water Projects Bureau
US..... United States of America
USACE.....United States Army Corps of Engineers
USFWS.....United States Fish and Wildlife Service
USFS.....United States Forest Service
VCRA..... Voluntary Cleanup and Redevelopment Act
WMB..... Water Management Bureau
XRF ..... X-ray Fluorescence

PROJECT APPLICATIONS SUBMITTED FOR THE 2027 BIENNIUM

The following is a list of projects submitted for funding in the 2027 biennium. For easy reference, the list is alphabetized by the names of the project sponsors. However, in Chapter 2 the project assessments and recommendations are presented in the order of their ranking by the Montana Department of Natural Resources and Conservation (DNRC) and the Governor.

CHAPTER 1
Program Description and Procedures

The Reclamation and Development Grants Program (RDGP) is a state-funded grant program designed to fund projects that, *"Indemnify the people of the state for the effects of mineral development on public resources and that meet other crucial state needs serving the public interest and the total environment of the citizens of Montana* (90-2-1102, MCA)". The program, established by the 1987 Montana Legislature, is administered by the Montana Department of Natural Resources and Conservation (DNRC).

The RDGP Act (90-2-1112, MCA) requires that the Governor submit, by the first day of each regular session of the Legislature, a list of all grant proposals received along with their recommended priorities for funding (Table 1). Administrative rules (ARM 36.19.304) further provide that the DNRC must furnish to the Legislature a status report on previously funded projects (Chapter 3). This document fulfills the requirements of those directives.

Funding Authority

RDGP grants are funded by revenue generated from resource extraction taxes. Portions of the following sources of revenue are deposited in the natural resource projects State Special Revenue Account (SSRA): the Resource Indemnity Groundwater Assessment Tax (RIGWA), the Oil and Gas Production Tax, and interest earnings from the Resource Indemnity Trust fund (RIT). Funds from the natural resource projects SSRA are shared by DNRC's two natural resource grant programs: the RDGP and the Renewable Resource Grant and Loan Program (RRGL).

The 2025 Legislature approved $3,653,345 for 10 projects In House Bill (HB) 7 appropriated through the natural resource projects account. Chapter 3 provides a status update on these projects.

The 2025 Legislature authorized $2,000,000 in project planning grant funding. Chapter 4 describes DNRC's role in the administration of planning grants and lists the 15 planning grants that were approved for funding, since the Governor's Executive Budget Fiscal Years 2023 - 2025, updated as of October 2022.

Project Solicitation

In February 2024, DNRC notified all Montana communities, counties, the university system, conservation districts (CDs), state agencies, state legislators, and others who might benefit by program participation that the grant application for 2024 was available electronically. The application deadline was May 15, 2024. DNRC received 17 applications for RDGP funding totaling over $7.1 million. These projects are listed alphabetically by applicant on page iii. A map of the proposed projects is included at the end of this chapter. Project assessments and recommendations are presented in Chapter 2.

Project Eligibility

The following excerpt from the RDGP Act establishes project eligibility criteria:

1. To be eligible for funding under the RDGP, the proposed project must provide benefits in one or more of the following categories:
   a. Reclamation of land, water, or other resources adversely affected by mineral development;
   b. Mitigation of damage to public resources caused by mineral development;
   c. Research, demonstration, or technical assistance to promote the wise use of Montana minerals, including efforts to make processing more environmentally compatible;
   d. Investigation and remediation of sites where hazardous wastes or regulated substances threaten public health or the environment; and,
   e. Research to assess existing or potential environmental damage resulting from mineral development.

2. If a crucial state need exists to protect Montana's environment, the DNRC may evaluate, and the Governor may recommend that the Legislature approve funding for projects in addition to those described above.

Applicant Eligibility

In accordance with 90-2-1111, MCA, any department, agency, board, commission, or other division of state government or any city, county, or other political subdivision or Tribal government within the state may apply for a grant from the RDGP.

Funding Limits

No grant may exceed $500,000, and there is no minimum funding limit. An applicant proposing more than one project may submit a separate application for each. Match funding is not required but is considered by DNRC when evaluating a projects technical and financial feasibility.

Application Review and Ranking Procedures

Grant applications are evaluated for the technical and financial feasibility of proposed projects, provision of public benefits, need and urgency, and impacts on the environment. Reviewers include DNRC staff members within DNRC's Conservation and Resource Development Division (CARDD); contracted engineering and consulting firms; and federal, state, and university personnel with expertise in specific project areas. For each application, project reviewers submit a descriptive project assessment incorporating their concerns, ideas, and comments.

More funds are requested than are available. Therefore, the department ranks feasible projects so that it can recommend funding priorities and levels to the Governor and Legislature. Evaluation criteria established by the 1987 Legislature include, but are not limited to:

1. The degree to which the project will provide benefits in its eligibility category or categories;
2. The degree to which the project will provide public benefits;
3. The degree to which the project will promote, enhance, or advance the policies and purposes of the RDGP;
4. The degree to which the project will provide for the conservation of natural resources;
5. The degree of need and urgency for the project;
6. The extent to which the project sponsor or local entity is contributing to the costs of the project or is generating additional non-state funds;
7. The degree to which jobs are created for persons who need job training, receive public assistance, or are chronically unemployed; and

8. Any other criteria DNRC considers necessary to carry out the policies and purposes of the RDGP.

Grant applications are scored and ranked based on the degree to which they meet evaluation criteria listed above. DNRC is statutorily required to give priority to abandoned mine reclamation projects in the amount of $800,000 (90-2-1113 [3] MCA). These projects may not include personnel costs or operating expenses.

Recommendations

After ranking the projects and recommending funding, the DNRC presents recommendations to the Governor for final ranking of the proposed projects (Table 1), along with funding recommendations.

An appropriations bill listing the Governor's recommendations regarding all projects in Table 1 will be introduced to the 2027 Legislature. By appropriation or other means, the Legislature may approve grants for those projects it finds consistent with the policies and purposes of the RDGP.

The appropriations bill will also contain a request for RDGP planning grant funds. These funds, to be administered by DNRC, can be accessed by local governments statewide to assist in planning and developing local natural resource projects within their jurisdictions.

Table 1. Ranking and Funding Recommendations for RDGP Applications Received May 2024.

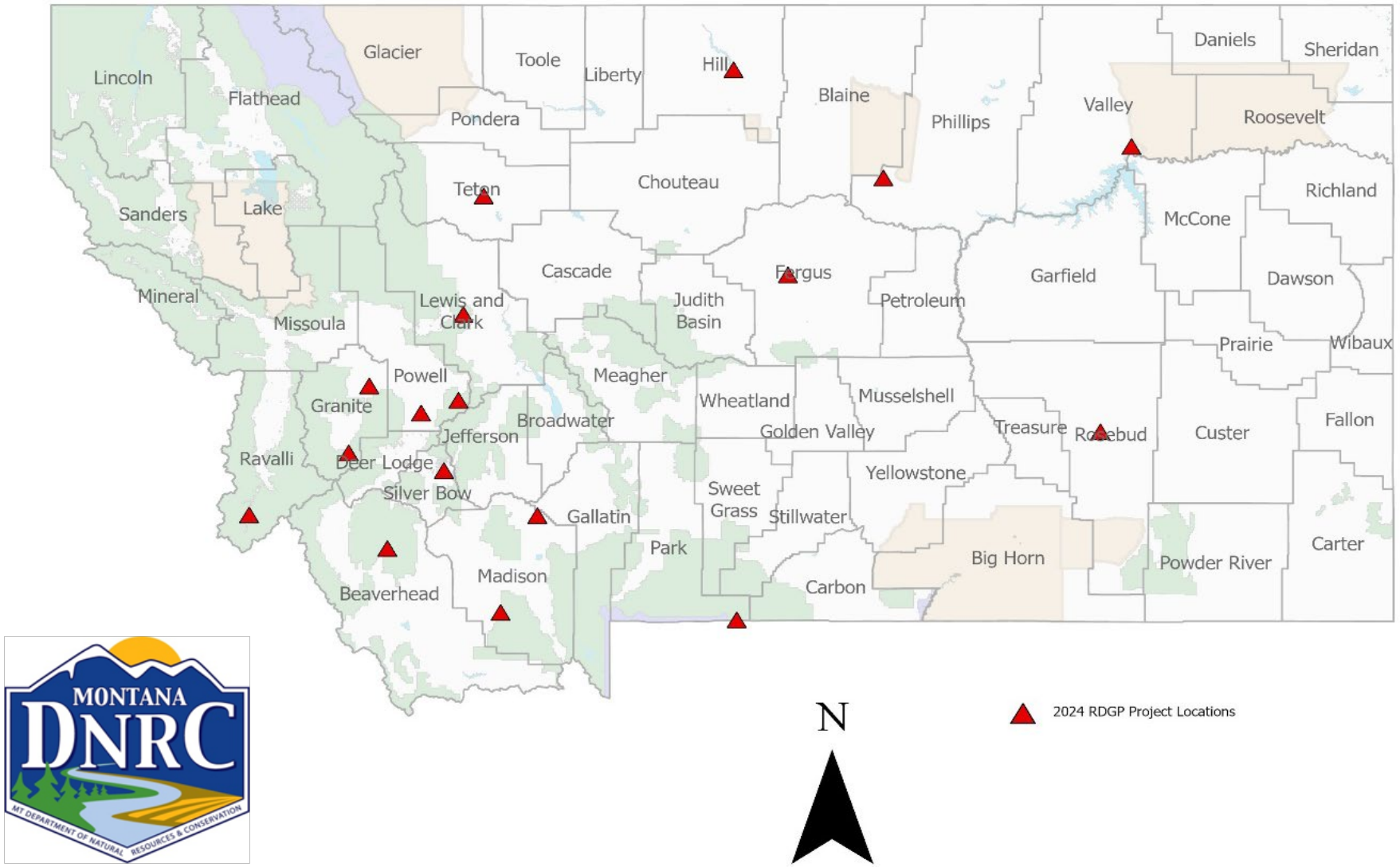
Rank	Applicant	Project Name	County	RDG Grant Requested	Total Match	Total Project Cost
1	Powell County	Upper Little Blackfoot Watershed Mine Reclamation Project	Powell	$495,123	$2,875,000	$3,370,123
2	Lewis and Clark County	Upper Blackfoot Mining Complex Water Treatment Plant Upgrades	Lewis and Clark	$479,085	$13,992	$493,077
3	Montana Department of Environmental Quality	DEQ Landusky Biological Treatment Plant Improvement	Phillips	$500,000	$271,425	$771,425
4	Powell County	Milwaukee Roundhouse Soil Remediation Phase 2	Powell	$500,000	$12,000	$512,000
5	Cooke Pass, Cooke City, Silver Gate Sewer District	Cooke City Wastewater System	Park	$500,000	$14,178,996	$14,678,996
6	*Beaverhead Conservation District*	*Elkhorn Mine and Mill Remedy and Restoration*	Beaverhead	$300,000	$2,744,676	$3,044,676
7	DNRC Water Resources Division	DNRC Painted Rocks Dam Rehabilitation Phase 1	Ravalli	$500,000	$24,030,000	$24,530,000
8	DNRC Water Resources Division	DNRC East Fork of Rock Creek Dam Rehabilitation	Granite	$500,000	$20,971,828	$21,471,828
9	Montana Department of Environmental Quality	DEQ CR Kendall Mine Long-term Seep Water Management	Fergus	$290,352	$4,478	$294,830
10	Ruby Valley Conservation District	Upper Ruby River Habitat Rehabilitation Demonstration	Madison	$458,700	$0	$458,700
11	DNRC Water Resources Division	DNRC Willow Creek Dam Rehabilitation	Madison	$500,000	$26,835,000	$27,335,000
12	Granite County	Flint Creek Watershed Resiliency and Drought Mitigation	Granite	$300,000	$150,000	$450,000
13	Milk River Joint Board of Control	Milk River Joint Board of Control Fresno Dam and Spillway Rehabilitation Project	Hill	$500,000	$2,000,000	$2,500,000
14	Glasgow, City of	Glasgow Levee Improvements	Valley	$243,445	$62,000	$305,445

Rank	Applicant	Project Name	County	RDG Grant Requested	Total Match	Total Project Cost
15	Forsyth, City of	Forsyth Slaughterhouse Creek Flood Mitigation	Rosebud	$500,000	$8,879,000	$9,379,000
16	*DNRC Water Resources Division*	*DNRC Front Range Flood Preparedness*	Teton, Glacier, Pondera, Lewis and Clark	$310,000	$0	$310,000
17	Montana Technological University	Phytomining Remediation and Minerals Recovery Demonstration	Silver Bow	$234,270	$18,000	$252,270
Total				**$7,110,975**	**$103,046,395**	**$110,157,370**

Note: The first two projects are ranked based on a statutory requirement, “[T]he department shall give priority to grant requests not to exceed a total of $800,000 for the biennium for abandoned mine reclamation projects (90-2-1113 [3] MCA).”

Italics indicates the project received a RDGP planning grant for the proposed project.

Figure 1. Location of 2027 Biennium Reclamation Development Project Grant Applications.



CHAPTER 2
Project Evaluations and Recommendations for the 2027 Biennium

This chapter combines summary evaluations of 17 projects submitted for funding consideration. The cumulative requested amount for the projects is $7,110,975. The 17 projects recommended for funding are presented in the order of their ranking in this chapter.

To find a particular evaluation quickly, refer to the alphabetical listing of projects by applicant name on page iii.

For projects recommended for Reclamation and Development Grant Program (RDGP) funding, “Total Project Cost” is the sum of “Other Funding Sources” plus the “Amount Requested.”

Powell County
Upper Little Blackfoot Watershed Mine Reclamation Project

Project Ranking: 1

County: Powell

Project Type: Reclamation

PROJECT INFORMATION:

Powell County, along with project partners US Forest Service and Trout Unlimited, proposes to reclaim several abandoned mines in the Upper Little Blackfoot mining complex. This reclamation project is located on the Little Blackfoot River, south of Elliston.

Project History

The Upper Little Blackfoot mining complex in the historic Elliston mining district includes nearly a dozen abandoned mines. In 2008, the Cooney Tunnel/Golden Anchor adit blew out, sending a plume of orange, metals-laden water down the Little Blackfoot River, coloring it for miles downstream. Legacy hardrock mining directly impacts human health, water quality, and fisheries. The Little Blackfoot River has seven tributaries, including the upper segment of the Little Blackfoot River, that are listed as impaired on the State 303(d) list for metals exceedances. Surface water runoff and wind erosion of the mine sites have transported contaminants off-site and into Tramway Creek and the Little Blackfoot River.

Proposed Solution

The proposed project would remove contaminated waste rock from the Golden Anchor, Julia and Mountain View mine sites. The Golden Anchor and Mountain View mine sites are listed as priorities 59 and 65, respectively, on the Montana Abandoned Mine Priority List. Mine waste will be hauled and placed at the Luttrell Repository and disturbed areas will be amended with topsoil and revegetated. Reclamation and revegetation of the mine sites also includes restoration of stream channels and surrounding hillslopes.

The project goal is to protect human health and the environment by removing contaminated waste rock and soils from the Upper Little Blackfoot Watershed and restore soils, vegetation, and stream channels to improve ecological functions.

Tasks or Activities

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Planning, Design, Permitting and Bidding
Task 2: Construction: Mine Waste Removal and Site Restoration
Task 3: Monitoring

Monitoring Plan:

The mine site removal areas and repository will be monitored for three years post-project. Monitoring involves yearly site inspections of vegetation, weeds, and existing infrastructure. Maintenance for revegetation performed as needed. Photo points will record and document the revegetation success.

Resource and Benefit Analysis
The project will have certain and long-term beneficial impacts to soil and surface water quality by removing contaminated materials that erode into the Little Blackfoot and tributaries. The project has anticipated beneficial impacts to vegetation and fish and wildlife habitat by removing metal contamination from the environment. The project is anticipated to result in long-term beneficial impacts to public health and safety by eliminating physical hazards and removing contaminated soils and sediments from a popular recreation area.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Grant Administration	$5,000	$7,000	$12,000
Planning, Design, Permitting and Bidding	$0	$10,000	$10,000
Construction: Mine Waste Removal and Site Restoration	$490,123	$2,775,000	$3,265,123
Monitoring	$0	$48,000	$48,000
Project Management	$0	$35,000	$35,000
Project Total	**$495,123**	**$2,875,000**	**$3,370,123**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$495,123	Recommended Funding 2027 Legislature
US Forest Service	$2,843,000	Committed
Trout Unlimited- In Kind	$30,000	Committed
Powell County	$2,000	Committed
Project Total	**$3,370,123**	

The project budget is reasonable given the estimated quantities of tailings to be removed. If waste volumes exceed the estimated quantities, funding will not be adequate to address all the mine waste rock present at the mine sites and future actions will be needed.

Funding Recommendation
DNRC recommends grant funding of $495,123. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Grant agreement is contingent upon the recipient providing: 1) a project management plan that addresses roles and responsibilities of the entity and participating organizations; and 2) an executed Memorandum of Understanding between the recipient and the sponsored entity clarifying the roles, responsibilities and shared project costs.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	36.75
Natural Resource Benefits	50.5
Technical Feasibility	38.25

Financial Feasibility	36.75
Organizational Capacity	39.75
Total Score (Total Points)	**202**
Overall RDG Rank	**1**

Lewis and Clark County
UBMC Water Treatment Plant Powerline Relocation and Infrastructure Protection

Project Ranking: 2

County: Lewis and Clark

Project Type: Reclamation

PROJECT INFORMATION:

Lewis and Clark County is sponsoring a grant for the Department of Environmental Quality (DEQ) to relocate and protect a powerline that serves the Mike Horse Water Treatment Plant. This reclamation project ensures the continued treatment of water contaminanted by historic mining in the Upper Blackfoot Mining Complex (UBMC) located in Lewis and Clark County, near Lincoln, Montana.

Project History

Lead mining began at the Mike Horse Mine in the early 1900s. An earthen-berm tailings impoundment lies at the confluence of Mike Horse and Beartrap creeks. The tailings contain toxic levels of aluminum, arsenic, cadmium, copper, iron, lead, manganese, and zinc. Mining ceased in the 1950s. In 1975, Mike Horse dam breached, washing approximately 200,000 cubic yards of contaminated sediment downstream and causing significant damage to the Blackfoot River headwaters and adjoining floodplain.

In 2003, DEQ listed surface water as impared and the Mike Horse water treatment plant became operational in 2009. The on-site water treatment plant collect and treats metals-laden mine water, discharging the treated water into the Upper Blackfoot River. Remediation and restoration activities at the Upper Blackfoot Mining Complex were completed in 2020 and road maintainence of Mike Horse Mine Road has ceased. The existing powerline runs along Mike Horse Mine Road, a primitive road experiencing erosion, road conditions threaten the power supply to the treatment facilities. A loss of functionality at these facilities would result in increased operating costs because of a reliance on a back-up system, as well as potential recontamination of the Upper Blackfoot River endangering aquatic habitat and sensitive species.

Proposed Solution

The proposed project would install a new powerline within the existing Meadow Creek Road utilities corridor, which runs from Highway 200 to the Meadow Creek Road intersection with Mike Horse Mine Road. The goal of the project is to preserve the power source to the water treatment facility to ensure ongoing operation which preserves and protects surface water quality in the Upper Blackfoot River, as well as riparian and wetland vegetation, macroinvertebrate health, and fisheries.

<u>Tasks or Activities</u>

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Project Management and Grant Administration
Task 2: Construction

Monitoring Plan

The project will be successful once the at-risk section of existing powerline is abandoned and the new powerline is servicing the water treatment facilities. New construction conforms to applicable provisions of the National Electric Code, National Electrical Safety Code, Federal Energy Regulatory Commission, State of Montana rules and regulations, city and county ordinances and codes, rules on file with or issued by the Public Service Commission. Monitoring consists of a one-year inspection for deficiencies; DEQ will also inspect the installation route for surficial deficiencies.

Resource and Benefit Analysis

The project likely results in long-term benefits to soils, water quality, vegetation, fish, wildlife and public safety by preventing the re-contamination of the Blackfoot River. The project may also result in regional economic benefits by preserving the Blackfoot River, an important recreational resource.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Project Management and Administration	$0	$13,993	$13,993
Construction	$479,085	$0	$479,085
Project Total	**$479,085**	**$13,993**	**$493,078**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$479,085	Recommended Funding 2027 Legislature
Montana DEQ	$13,993	Discussed/Not Applied
Project Total	**$493,078**	

The project budget is reasonable given the estimate for the powerline construction. If construction costs increase, funding will not be adequate to complete the project and additional funds are needed.

Funding Recommendation

DNRC recommends grant funding of $479,085. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Grant agreement is contingent upon 1) A project management plan that addresses roles and responsibilities of the entity and participating organizations; and 2) An executed Memorandum of Understanding between the recipient and the sponsored entity clarifying the roles, responsibilities and shared project costs.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	39.5
Natural Resource Benefits	43.75
Technical Feasibility	32.5
Financial Feasibility	35.25
Organizational Capacity	32.5
Total Score (Total Points)	**183.5**
Overall RDG Rank	**2**

Montana Department of Environmental Quality
DEQ Landusky Biological Treatment Plant Improvement Project

Project Ranking: 3

County: Phillips

Project Type: Reclamation

PROJECT INFORMATION:

The Montana Department of Environmental Quality (DEQ) proposes to update and repair the bioreactor treatment plant at the Zortman-Landusky Mine in Philips County, Montana. This reclamation project will ensure the bioreactor treatment plant continues to treat mine impacted water before it discharges into Montana Gulch.

Project History

The Landusky Mine operated from 1979 to 1998, employing a harmful method called cyanide heap leaching to extract gold. After the mine's closure and subsequent bankruptcy in 1999, the state environmental agency (DEQ) took over the site in 2001. DEQ constructed a water treatment plant to address the contamination, specifically targeting selenium and nitrate pollution. The treatment plant utilizes a biological method involving three large tanks filled with carbon media and inoculated with microbial colonies. These microbes were designed to consume the pollutants and clean the water. However, over time, the effectiveness of the bioreactors has diminished due to the aging of the media and bacterial colonies. Additionally, the corrosive nature of hydrogen sulfide gas, a byproduct of the biological process, has accelerated the deterioration of the tanks. A decade ago, the tanks underwent refurbishment to address the corrosion issue. However, the severity of the damage suggests that further repairs may not be feasible. Furthermore, one of the tanks has already started leaking in 2023. Given the persistent elevated levels of nitrate and selenium, continued water treatment is imperative to prevent contaminated water from entering local water sources and potentially impacting the downstream town of Landusky.

Proposed Solution

The goals of this project are extending the operational life of the system and the continued treatment of leach pad water to remove nitrate and selenium. The proposed project would replace three 250,000-gallon bioreactor tanks with tiered 100,000-gallon in-ground/open-air reactors, replacing carbon media with plastic media, and inoculating the reactors with existing microbes. The open-air reactors will eliminate the issues with hydrogen sulfide build-up, the subsequent corrosion of the tanks, and increase the overall lifespan of the system.

Tasks or Activities

The goals and objectives of this project will be accomplished through the tasks described below:

- Task 1: Procure Materials
- Task 2: Disposal of Existing System and Construction of New System
- Task 3: Install Media and Project Closeout

Monitoring Plan

Success will be measured by comparing analytical results of water quality data. Comparing data from the monitoring locations gathered after the completion of the project with data from those

locations collected prior to project initiation, both within the bio-reactor cells, at the point of discharge to surface water, and further downstream.

Resource and Benefit Analysis

The project's benefits are certain and long-term removal of nitrate and selenium from water in the closed mine's leaching circuit prior to its discharge. Restoring treatment efficacy will prevent the annual release of approximately 44 million gallons of contaminated water to Montana Gulch, maintaining human health standards for selenium and nitrate. Adequate treatment of this water is a direct beneficial impact on the health of residents who rely on domestic wells near this stream, users of the Montana Gulch Campground and adjacent recreational areas, and anyone else who utilizes this water.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Procure Materials	$243,000	$12,000	$255,000
Disposal of Existing System and Construction of New System	$257,000	$240,500	$497,500
Install Media and Project Closeout	$0	$16,000	$16,000
Administration	$0	$2,925	$2,925
Project Total	**$500,000**	**$271,425**	**$771,425**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$500,000	Recommended Funding 2027 Legislature
Montana DEQ	$271,425	Discussed/Not Applied
Project Total	**$771,425**	

Funding Recommendation

DNRC recommends grant funding of $500,000. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	44.5
Natural Resource Benefits	43.25
Technical Feasibility	39.5
Financial Feasibility	28.25
Organizational Capacity	38.5
Total Score (Total Points)	**194**
Overall RDG Rank	**3**

Powell County
Milwaukee Roundhouse MRA Soil Remediation – Phase 2

Project Ranking: 4

County: Powell

Project Type: Reclamation

PROJECT INFORMATION:

Powell County proposes to remove contaminated soils at the Milwaukee Roundhouse Facility, a high priority Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) State Superfund site. This reclamation project is located in Deer Lodge, adjacent to the Clark Fork River and its tributary, Tin Cup Joe Creek.

Project History

The Milwaukee Roundhouse site was owned and operated by Chicago, Milwaukee, St. Paul and Pacific Railroad from 1908 to 1980. Railroad operations, including locomotive repair and refueling, led to widespread metal and petroleum contamination. Since the railroad's bankruptcy, the site has remained vacant and unusable. Investigations conducted by the Environmental Protection Agency (EPA) and the Montana Department of Environmental Quality (DEQ) have identified groundwater contamination with metals, petroleum products, and chlorinated solvents. Additionally, arsenic, cadmium, lead, chlorinated solvents, and petroleum hydrocarbons have been detected in stream sediments of Tin Cup Joe Creek.

Proposed Solution

The goal of this project to remediate the site to the point where DEQ can remove it from the Superfund list, allowing the potential for redevelopment. The project will excavate and remove contaminated soil from the site and dispose of it at an approved facility. This will mitigate the contamination affecting surface soils, subsurface soils, groundwater, wetlands, stream and river sediments, and surface water, which have all been adversely impacted by the historic railroad operations.

Tasks or Activities

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Design, Permitting and Bidding
Task 2: Soil Removal and Revegetation

Monitoring Plan

Laboratory confirmation of soil samples will be used to ensure the soils meet clean-up standards and all contamination is removed.

Resource and Benefit Analysis

The project will have certain and long-term beneficial impacts to soil and surface water quality by removing contaminated materials that erode into Tin Cup Joe Creek and the Clark Fork River. The project has anticipated beneficial impacts to vegetation and fish and wildlife habitat by removing metal contamination from the environment. The project is anticipated to result in

long-term beneficial impacts to public health and safety by eliminating physical hazards and removing contaminated soils and sediments from the city center. Permanent removal of metal-contaminated soils will reclaim and mitigate environmental damage from historic development.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Permitting and Bidding	$25,000	$0	$25,000
Soil Removal and Revegetation	$448,445	$0	$448,445
Project Management and Administration	$26,555	$12,000	$38,555
Project Total	**$500,000**	**$12,000**	**$512,000**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$500,000	Recommended Funding 2027 Legislature
Powell County	$12,000	Committed
Project Total	**$512,000**	

Funding Recommendation

DNRC recommends grant funding of $500,000. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Grant agreement is contingent upon the recipient providing a project management plan that adequately addresses: 1) DEQ issued CECRA requirements; 2) quarterly meetings with DNRC to review progress reports; and recipient and contractor responsibility with designation of prime contractor.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	38.75
Natural Resource Benefits	53
Technical Feasibility	34.25
Financial Feasibility	29.5
Organizational Capacity	35.25
Total Score (Total Points)	**190.75**
Overall RDG Rank	**4**

Cooke Pass, Cooke City, Silver Gate Sewer District
Cooke City Sewer System

Project Ranking: 5

County: Park

Project Type: Other Crucial State Need

PROJECT INFORMATION:

Cooke City, Cooke Pass, and Silver Gate Sewer District proposes to consolidate the varied on-site wastewater systems into a single wastewater collection system. Cooke City is a small unincorporated community adjacent to Soda Butte Creek. This Crucial State Need project will address septic issues and improve human health and safety.

Project History

Cooke City is remote and accessible by a single highway. The 2020 population of Cooke City was 77 residents in 45 households. Between May and October of 2023, approximately 271,000 visitors accessed Yellowstone National Park through Cooke City. System failures and hydraulic overloading of drainfields occur regularly through the summer season, potentially impacting public health and the water quality of Soda Butte Creek. Businesses documented wastewater effluent oozing to the surface, exposing the public to fumes and raw sewage, and resulting in business closures and loss of revenue. This circumstance jeopardizes the groundwater aquifer and community water supply, creating a public-health concern.

Proposed Solution

This project will replace the individual septic systems with a centralized wastewater collection system. This new system will protect public health by reducing direct contact exposure to untreated sewage; prevent contamination of Soda Butte Creek and the local aquifer; and enhance the community's ability to accommodate visitors and businesses. This project is the last of three phases, whereas Phase 1 (PER development) Phase 2 (final design) are complete.

Tasks or Activities

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Land Acquisition
Task 2: Construction Inspection Engineering
Task 3: Construction: Collection System, Lift Station, Force Main and Drainfield.

<u>Monitoring Plan</u>

The Cooke City Sewer District will own and operate the new system, which will comply with DEQ community wastewater system requirements.

Resource and Benefit Analysis

The project will have certain and long-term beneficial impacts to surface and groundwater quality by removing septic contamination that can flow into Soda Butte Creek. The project is anticipated to have short- and long-term beneficial impacts to public health and safety by reducing the health risks associated with direct contact with untreated sewage. Cooke City, a

key access point to Yellowstone National Park, is anticipated to experience short- and long-term beneficial impacts to the economy by providing safe, reliable wastewater to local residents and visitors.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Land Acquisition	$0	$328,140	$328,140
Construction Inspection Engineering	$0	$1,095,808	$1,095,808
Construction	$500,000	$10,458,076	$10,958,076
Contingency	$0	$2,191,972	$2,191,972
Administration	$0	$105,000	$105,000
Project Total	**$500,000**	**$14,178,996**	**$14,678,996**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$500,000	Recommended Funding 2027 Legislature
Montana Coal Endowment Program (MCEP)	$750,000	Committed
SRF A Loan	$640,000	Committed
SRF B Loan	$663,996	Committed
WRDA	$12,125,000	Applied; Uncommitted
Project Total	**$14,678,996**	

Funding Recommendation

DNRC recommends grant funding of $500,000. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Grant award will require that the recipient provide a site title opinion and right-of-way prior to DNRC approving reimbursement of construction expenses.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	26
Natural Resource Benefits	43
Technical Feasibility	31
Financial Feasibility	34
Organizational Capacity	27
Total Score (Total Points)	**161**
Overall RDG Rank	**5**

Beaverhead Conservation District
Elkhorn Mine and Mill Remedy and Restoration

Project Ranking: 6

County: Beaverhead

Project Type: Reclamation

PROJECT INFORMATION:

The Beaverhead Conservation District, in partnership with USFS and the Big Hole Watershed Committee, proposes to restore the historic Elkhorn Mine and Mill site, located in the Pioneer Mountains. This reclamation project aims to protect the environment by removing contaminated materials and preserve the site's historical significance.

Project History

The Elkhorn Mine site has a long history of mining and milling activities, which have resulted in significant environmental damage. Soil samples from the site confirmed the presence of arsenic, cadmium, copper, lead, and zinc exceeding risk-based cleanup goals. Previous remediation efforts were unsuccessful in fully addressing the contamination issues. The site is currently closed to the public due to safety concerns and environmental hazards.

Proposed Solution

The goal of the project is to remove contaminated soils and improve the water quality in groundwater and Elkhorn Creek. Project work will include excavation of approximately 51,000 cubic yards of contaminated soil and waste rock from three identified areas; storage of contaminated material in a secure, lined, and capped on-site repository; and restoration of the site by planting native vegetation and creating a safe and accessible public space.

Tasks or Activities

The goals and objectives of this project will be accomplished through the tasks below:

Task 1: Project Construction: Repository, Excavation, and Rehabiliation

Monitoring Plan

Construction oversight will ensure all of the contaminated materials are excavated and removed to the repository. Soil and water confirmation samples will be collected and an XRF device used on site to ensure removal of all surface contaminants.

Resource and Benefit Analysis

This project will have a certain and long-term beneficial impact on water quality, fish and wildlife habitats, and human health by removing contaminated materials from the floodplain. Reducing exposure to hazardous materials will increase the ability of Elkhorn Creek to provide suitable habitat for aquatic species, and provide a safer environment for both wildlife and humans. There is a potential direct beneficial impact to recreation in the area by reopening the site to public use.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Project Construction	$299,184	$2,614,070	$2,913,254
Project Management	$0	$52,170	$52,170
Administration	$816	$78,436	$79,252
Project Total	**$300,000**	**$2,744,676**	**$3,044,676**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$300,000	Recommended Funding 2027 Legislature
USFS Partnership Agreement	$550,000	Committed
USFS LWCF or Other	$2,000,000	Discussed/Not Applied
DNRC RDG Planning Grant 30% Design	$50,000	Committed
DNRC RDG Planning Grant Biofiltration	$75,000	Committed
DNRC RDG Planning Grant Repository	$50,000	Committed
USFS Staff Time and Travel	$19,676	Committed
Project Total	**$3,044,676**	

Funding Recommendation

DNRC recommends grant funding of $300,000. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Grant agreement is contingent upon the recipient providing: 1) a project management plan that addresses roles and responsibilities of the entity and participating organizations; 2) an executed Memorandum of Understanding between the recipient and the sponsored entity clarifying the roles, responsibilities and shared project costs; and 3) a procurement plan demonstrating compliance with local procurement laws/rules as well as the Montana Procurement Act.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	40.75
Natural Resource Benefits	49.25
Technical Feasibility	33.5
Financial Feasibility	23.5
Organizational Capacity	30.5
Total Score (Total Points)	**177.5**
Overall RDG Rank	**6**

Department of Natural Resources and Conservation, State Water Projects Bureau – Water Resources Division
Painted Rocks Dam Rehabilitation – Phase 1

Project Ranking: 7

County: Ravalli

Project Type: Crucial State Need – High Hazard Dam

PROJECT INFORMATION:

The Department of Natural Resources and Conservation's State Water Projects Bureau proposes to replace the aging spillway and associated structures of the Painted Rocks Dam. This Crucial State Need project on a High Hazard Dam is located on the West Fork of the Bitterroot River.

Project History

Built in 1940, the Painted Rocks Dam has been in operation for over 80 years. The dam's primary function is to regulate water flow for irrigation, recreation, and fish conservation. The reservoir provides essential water resources for the region. Over time, the dam's infrastructure has deteriorated, and the spillway has become a major concern. A potential dam failure could have devastating consequences, including flooding, property damage, and harm to aquatic life.

Proposed Solution

The project will mitigate flood risks by reducing the likelihood of a catastrophic failure, ensuring a reliable water supply for future generations, and will preserve the health of the Bitterroot River ecosystem. A Feasibility Study of the Painted Rocks Water Project developed alternatives for remediation of the spillway, outlet works, and access to the lower embankment spillway. The Study found the need for replacement of the spillway; replacement of outlet gates, guard gate, lining and extending the downstream conduit; construction of an access road to toe of the dam; and instrumentation and automation of embankment, outlet, and reservoir monitoring. Reconstruction requires demolition of the existing crest, chute, and stilling basin structures. A new crest, chute, and stilling basin will be built of reinforced concrete in nearly the same location as the existing structures.

Tasks or Activities

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Feasibility Study
Task 2: Engineering Design, Bid Documents and Oversight
Task 3: Construction: Spillway and Outlet Works

Monitoring Plan

DNRC-SWPB's project engineers, section supervisor, and bureau chief will monitor design progress and ensure the consultant delivers acceptable products per contract specifications.

Resource and Benefit Analysis

Repairing the spillway of Painted Rocks Dam will have a beneficial impact on irrigation and fisheries by providing water and instream flow, especially in the late summer when natural flows slow. Dam rehabilitation primarily benefits the users of surface water for agricultural irrigation. Use of the reservoir and river for recreation may have a potential beneficial impact to the economy by generating income from tourism, fishing, and related industries. Dam rehabilitation will provide long-term beneficial impacts to human health and safety by reducing the threat of failure and protecting downstream residents.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Feasibility Study	$0	$1,400,000	$1,400,000
Engineering Basic Services	$500,000	$420,000	$920,000
Engineering Resident Project Representative Services	$0	$1,000,000	$1,000,000
Construction	$0	$25,100,000	$25,100,000
Contingency	$0	$380,000	$380,000
Administration	$0	$230,000	$230,000
Project Total	**$500,000**	**$28,530,000**	**$29,030,000**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$500,000	Recommended Funding 2027 Legislature
FEMA High Hazard Potential Dam (2022)	$300,000	Application Submitted
FEMA High Hazard Potential Dam (2024)	$10,000,000	Application Submitted
DNRC RRGL Loan	$15,000,000	Application Submitted
DNRC State Water Projects Bureau	$500,000	Committed
DNRC State Water Projects Bureau	$2,730,000	Committed
Project Total	**$29,030,000**	

Funding Recommendation

DNRC recommends grant funding of $500,000. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

The grant agreement will require that, upon completion of project construction, the recipient must submit as-builts and a detailed operations and maintenance plan for the facility.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	33
Natural Resource Benefits	36.75
Technical Feasibility	40
Financial Feasibility	32.25
Organizational Capacity	34.5
Total Score (Total Points)	**176.5**
Overall RDG Rank	**7**

Department of Natural Resources and Conservation, State Water Projects Bureau – Water Resources Division
East Fork of Rock Creek Dam Rehabilitation – Seepage Mitigation

Project Ranking: 8

County: Granite

Project Type: Crucial State Need – High Hazard Dam

PROJECT INFORMATION:

The Department of Natural Resources and Conservation's State Water Projects Bureau proposes to address conduct rehabiliation for seepage issues of the East Fork of Rock Creek Dam, near Philipsburg in Granite County. This Crucial State Need project on a High Hazard Dam will address a significant risk to public satefy and environmental health by ensuring the long-term safety and reliability of the dam.

Project History

East Fork of Rock Creek Dam was built in 1938 and shows signs of aging. Significant seepage has been observed in various locations in and around the dam. Over the years, the dam has experienced significant deterioration including seepage water leaking through the dam's foundation, inadequate spillway capacity to handle large flood events, and deterioration of aging concrete and control valves. These issues pose a serious threat to the dam's integrity and the safety of the surrounding communities. A potential dam failure could have devastating consequences, including flooding, erosion, and loss of water supply.

Proposed Solution

The goal of this project is to extend the safe operation and rehabilitation of East Fork Dam. Safe operation of the reservoir is paramount to maintaining surface water resources in Flint Creek, protecting 1,300 people and the Rock Creek ecosystem from a dam breach, and preserving critical bull trout habitat in East Fork Reservoir. Three objectives of the rehabilitation will accomplish the project goal: replacing the concrete spillway, installing relief wells on the downstream embankment toe to conrol seepage, and replacing the control valves inside the discharge conduit.

Tasks or Activities

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Environmental Consultation and Permitting
Task 2: Investigations and Construction Design
Task 3: Construction: Spillway Replacement, Seepage Mitigation, Outlet Works Rehabilitation, Instrumentation System Installation, Spillway Bridge Construction, and Upstream Embankment Riprap Repairs

Monitoring Plan

Project outcomes are monitored through construction management. Construction progress will be monitored by the design engineer and contract management staff from DNRC SWPB. Construction closeout includes a site visit. DNRC SWPB monitors the dam monthly during most of the year and daily or weekly during the spring or during significant runoff events, with a

prescribed procedure. An annual inspection will be completed and documented for all structures. Every five years, an engineering inspection of the dam will be completed and submitted to the Montana Dam Safety Program.

Resource and Benefit Analysis
Rehabilitation of East Fork Dam will have a beneficial impact on irrigation and fisheries by providing water and instream flow, especially in the late summer when natural flows slow. Dam rehabilitation primarily benefits the users of surface water for agricultural irrigation. Use of the reservoir and river for recreation may have a potential beneficial impact to the economy by generating income from tourism, fishing, and related industries. Dam rehabilitation will provide long-term beneficial impacts to human health and safety by reducing the threat of failure and protecting downstream residents.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Environmental Consultation and Permitting	$0	$98,265	$98,265
Design and Construction Engineering	$0	$2,219,610	$2,219,610
Spillway Replacement and Construction	$0	$15,852,727	$15,852,727
Seepage Mitigation	$500,000	$97,584	$597,584
Outlet Works Rehabilitation	$0	$1,198,557	$1,198,557
Instrumentation System Installation	$0	$1,167,000	$1,167,000
Spillway Bridge Construction	$0	$733,878	$733,878
Upstream Embankment Riprap Repairs	$0	$837,461	$837,461
Contingency	$0	$3,112,793	$3,112,793
Administration	$0	$400,000	$400,000
Project Total	**$500,000**	**$25,717,875**	**$26,217,875**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$500,000	Recommended Funding 2027 Legislature
Flint Creek Water Users Association	$2,500,000	Committed
USFS LWCF or Other	$2,000,000	Committed
RRGL Loan – 2023 Legislative Session HB8	$20,000,000	Committed
DNRC SWPB Account	$2,317,875	Committed
DNRC SWPB In-Kind	$400,000	Committed
Project Total	**$26,217,875**	

Funding Recommendation
DNRC recommends grant funding of $500,000. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Upon completion of project construction, the recipient must submit as-builts and a detailed operations and maintenance plan for the facility.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	34.25
Natural Resource Benefits	36
Technical Feasibility	42.5
Financial Feasibility	28.25
Organizational Capacity	32
Total Score (Total Points)	**173**
Overall RDG Rank	**8**

Montana Department of Environmental Quality
DEQ CR Kendall Mine Reclamation Site – Long-term Seep Water Management

Project Ranking: 9

County: Fergus

Project Type: Reclamation

PROJECT INFORMATION:

The Department of Environmental Quality proposes to protect water resources in several drainages emanating from the North Moccasin Mountains in Fergus County. This reclamation project will collect and treat mine impacted water (MIW) at the CR Kendall Mine site.

Project History

Early mining activity began in 1895, focused on underground and surface gold and silver deposits. Gold and silver deposits were mined with open-pit and cyanide heap leaching. Waste material accumulated in waste-rock dumps, which were largely located in drainage bottoms. Surface and groundwater sampling at the site found violatations of the Water Quality Act, with high levels of thallium and selenium. A seepage collection systems was constructed in four drainages emanating from the site. At each of seepage collection point, MIW is collected via French drain into a culvert or cistern. The condition of the collection systems varies by site, and cisterns at two seepage points deteriorated and need repaired or replaced.

Proposed Solution

The goals of this project are to maintain and improve water quality in drainages emanating from the CR Kendall Mine site and to establish a long-term, cost-effective water management system that will ensure environmental stability of the site. These goals will be achieved through the design and construction of a replacement water management system at the CR Kendall Mine site. DEQ proposes to direct all collected MIW, except for pad seepage, to a new treatment facility constructed in the Mule Shoe Pit. This new system will use zeolite adsorption for thallium and selenium removal.

Tasks or Activities

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Field Surveying and Final Engineering Design
Task 2: Construction: Seepage Collection Cistern Replacement
Task 3: Cosntruction: Zeolite Adsorption Plant

Monitoring Plan

DEQ personnel will inspect the site during construction. Project outcomes will be measured with monthly water sampling following construction of the new facilities. The ongoing water monitoring program includes sampling from multiple locations within the North Moccasin Mountains watershed. Analytical results will be compared to applicable water quality criteria.

Resource and Benefit Analysis

The proposed project will have certain and long-term beneficial impacts to water quality, human health and safey, fish and wildlife, and terrestrial and aquatic habitats by removing water contaminants. Without treatment, MIW would be transported to high-quality surface and groudnwaters adjacent to the mine site, adversely impacting domestic cattle production, wildlife habitat, and human health.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Data Collection and Engineering	$46,540	$0	$46,540
Seepage Collection Cisterns	$68,217	$0	$68,217
Zeolite Adsorption Plant	$143,730	$0	$143,730
Administration	$8,136	$4,112	$12,248
Adjustment for Inflation	$23,729	$366	$24,095
Project Total	**$290,352**	**$4,479**	**$294,830**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$290,830	Recommended Funding 2027 Legislature
Montana DEQ	$4,478	Committed
Project Total	**$294,830**	

Funding Recommendation

DNRC recommends grant funding of $290,352. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	24.75
Natural Resource Benefits	32
Technical Feasibility	34.25
Financial Feasibility	28.25
Organizational Capacity	33
Total Score (Total Points)	**152.25**
Overall RDG Rank	**9**

Ruby Valley Conservation District
Upper Ruby River Habitat Rehabilitation Demonstration Project

Project Ranking: 10

County: Madison

Project Type: Crucial State Need – Drought

PROJECT INFORMATION:

The Ruby Valley Conservation District, with project partner Turner Enterprises, proposes to improve water quality and quantity, increase biodiversity of aquatic and riparian ecosystems, enhance flood mitigation and drought resilience, and support sustainable agricultural practices in southwestern Montana. This Crucial State Need Drought project will reconnect floodplains, enhance riparian vegetation, and recreate channel complexity to the Ruby River on Snowcrest Ranch.

Project History

Historically, the Upper Ruby River Valley was characterized by a dynamic ecosystem featuring multiple meandering channels, extensive wetlands, and thriving beaver populations that maintained habitat diversity. However, significant alterations began in the 19th century with beaver trapping, leading to the loss of these natural "ecosystem engineers." By the 20th century, agriculture and ranching intensified, and widespread use of bank armoring (riprap) to control erosion further simplified the river system. These changes resulted in increased stream power and erosion while disconnecting the river from its floodplain.Currently, the Ruby River faces several interconnected issues. Floodplain disconnection caused by bank armoring has prevented natural channel migration and habitat formation. Higher water velocities during runoff events accelerate bank erosion, while reduced groundwater recharge impacts agricultural productivity and water supply. The simplified channel structure has also led to a decline in biodiversity within aquatic ecosystems.

Proposed Solution

The project proposes a comprehensive restoration strategy for approximately two miles of the Ruby River. Restoration activities include removing or modifying bank armoring to allow natural channel migration, planting native species for bank stabilization and habitat provision, introducing in-stream structures to diversify flow patterns.

<u>Tasks or Activities</u>

The goals and objectives of this project will be accomplished through four tasks described below:

Task 1: Administration and Reporting
Task 2: Permitting, Bid Documents, and Contractor Procurement
Task 3: Stream Restoration Construction
Task 4: Monitoring

Monitoring Plan

Photo points and aerial imaging will document riparian and stream changes over time to demonstrate the restoration of streambanks and reconnection of floodplain. The project will be monitored annually, and additional funding sources will support future monitoring.

Resource and Benefit Analysis

The Ruby River restoration project has certain and long-term beneficial impacts on water quality and quantity, soils, vegetation, and terrestrial and aquatic species by increasing floodplain connectivity and groundwater recharge. Reconnecting the floodplain and increasing the ability to retain water in the aquifer directly promotes diverse habitats and enhances riparian vegetation, which indirectly benefits wildlife.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Administration and Reporting	$5,000	$0	$5,000
Permitting, Bid Documents, and Contractor Procurement	$6,700	$0	$6,700
Stream Restoration Construction	$375,600	$0	$375,600
Monitoring	$5,900	$0	$5,900
Contingency	$65,500	$0	$65,500
Project Total	**$458,700**	**$0**	**$458,700**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$458,700	Recommended Funding 2027 Legislature
Project Total	**$458,700**	

Funding Recommendation

DNRC recommends grant funding of $458,700. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Applicant is required to submit draft plans and specifications to DNRC prior to bid document development. DNRC will review and provide approval before the applicant can proceed with bidding and construction of the project.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	30.5
Natural Resource Benefits	31.75
Technical Feasibility	36.5
Financial Feasibility	24.5
Organizational Capacity	28.75

Total Score (Total Points)	**152**
Overall RDG Rank	**10**

Department of Natural Resources and Conservation, State Water Projects Bureau – Water Resources Division
DNRC Willow Creek Dam Rehabilitation

Project Ranking: 11

County: Madison

Project Type: Crucial State Need – High Hazard Dam

PROJECT INFORMATION:

The Department of Natural Resources and Conservation's State Water Projects Bureau proposes to replace the aging spillway and associated structures of the Willow Creek Dam, located near Harrison in Madison County. This Crucial State Need project on a High Hazard Dam will address a significant risk to public satefy and environmental health by ensuring the long-term safety and reliability of the Dam.

Project History

Since construction in 1938, multiple investigations, inspections, repairs, and studies have been completed on the Willow Creek Dam. In 2018, a maximum reservoir operating level restriction was enacted, reducing impoundment capacity to mitigate the poor conditions of the spillway structure, which include concrete deterioration, delamination, structural cracks, and voids beneath spillway slabs. Annual repairs are not a safe, economical, long-term solution. If the spillway capacity doesn't meet requirements, DNRC Dam Safety will not issue future operating permits.

Proposed Solution

The goal of this project is to increase safety downstream by rehabilitating the dam spillway, extending the life of the dam.

Tasks or Activities

The goals and objectives of this project will be accomplished through the three tasks described below:

Task 1: Feasibility Study
Task 2: Engineering and Desgin
Task 3: Construction

Monitoring Plan

DNRC-SWPB will review design milestones and solicit comments from regulatory authorities. DNRC-SWPB's project engineers, section supervisor, and bureau chief will monitor progress and ensure acceptable products per contract specifications.

Resource and Benefit Analysis

Rehabilitation of Willow Creek Dam will have a beneficial impact on irrigation and fisheries by providing water and instream flow, especially in the late summer when natural flows slow. Dam rehabilitation primarily benefits the users of surface water for agricultural irrigation. Use of the reservoir and river for recreation may have a beneficial impact to the economy by generating income from tourism, fishing licenses, and related industries. Dam rehabilitation will provide

long-term beneficial impacts to human health and safety by reducing the threat of failure and protecting downstream residents.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Feasibility Study	$0	$1,105,000	$1,105,000
Engineering	$0	$2,000,000	$2,000,000
Construction	$500,000	$23,000,000	$23,500,000
Contingency	$0	$500,000	$500,000
Administration	$0	$230,000	$230,000
Project Total	**$500,000**	**$26,835,000**	**$27,335,000**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$500,000	Recommended Funding 2027 Legislature
FEMA High Hazard Potential Dam	$10,000,000	Application Submitted
DNRC RRGL Loan	$14,000,000	Application Submitted
DNRC RDG Project Grant (2023)	$500,000	Committed
General Funds HB2 (2023)	$500,000	Committed
DNRC SWPB Hydro	$1,605,000	Committed
DNRC SWPB	$230,000	Committed
Project Total	**$27,335,000**	

Funding Recommendation

DNRC recommends grant funding of $500,000. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Upon completion of project construction, the recipient must submit as-builts and a detailed operations and maintenance plan for the facility.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	30
Natural Resource Benefits	32.75
Technical Feasibility	35.5
Financial Feasibility	26.75
Organizational Capacity	29.75
Total Score (Total Points)	**154.75**
Overall RDG Rank	**11**

Granite County
Flint Creek Watershed Resiliency and Drought Mitigation Project

Project Ranking: 12

County: Granite

Project Type: Crucial State Need – Drought

PROJECT INFORMATION:

Granite County, with project partners Trout Unlimited, Department of Environmental Quality, Montana Natural Resource Damage Program, and Montana Fish, Wildlife and Parks, propose to enhance ecological resilience and mitigate drought impacts in the Flint Creek Watershed, a tributary of the Clark Fork River near Drummond. This Crucial State Need project for drought will improve water quality, restore degraded habitats, and increase floodplain storage capacity. These efforts will promote watershed resiliency and address challenges posed by changing hydrological conditions.

Project History

This project builds on recent restoration efforts that improved a 1.5-mile reach of Flint Creek and its surrounding floodplain and wetland habitats. The recent work has enhanced diversity of native riparian species, improved water quality, and increased aquatic habitat quality. Currently, conditions in the project area include impaired water quality and degraded stream channel and floodplain habitats due to grazing and agricultural practices that have diminished riparian habitat. This reduction has led to decreased streambank stability, increased erosion, soil compaction, and loss of water retention. The resulting lack of water availability in soils negatively impacts vegetative growth and biodiversity in riparian vegetation, further diminishing wetland presence. Additionally, the loss of riparian vegetation contributes to increased sedimentation and nutrient loading from livestock waste. Flint Creek faces annual water shortages, with these impacts worsening during dry periods. In 2012, DEQ listed Flint Creek as impaired due to excess nutrients and sedimentation loads. Multiple assessments have identified this reach as a high priority for restoration.

Proposed Solution

The goals of this project are to enhance water availability, restore aquatic and riparian habitats, protect water quality, promote community engagement, and build climate resilience. Goals will be achieved through floodplain reconnection, revegetation efforts, riparian restoration, streambank rebuilding, installation of riparian fencing, and landowner education opportunities. The project will restore a 1-mile reach of Flint Creek along with 3 acres of aquatic, wetland, and floodplain habitats while improving groundwater recharge and further reducing sediment and nutrient loads to conserve water resources.

<u>Tasks or Activities</u>

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Project Management and Construction Oversight
Task 2: Construction: Floodplain Regrading, Stream Restoration, Revegetation, and Fence Installation

Monitoring Plan

The project team will develop a monitoring plan during the pre-project phase. Sediment, phosphorus, and nitrogen load will be assessed for one year post-construction with a goal of 50% reduction. Vegetation cover will be monitored for two years post-construction with a goal of 70% survival. Wetland areas will be monitored for one year post-construction with a goal of no net loss. Floodplain and channel improvements will be monitored for one year post-construction. Fisheries composition and densities will be monitored in five-year increments for up to 30 years, with the goals of sustained composition of native fish, increased native fish, and increased diversity of age classes.

Resource and Benefit Analysis

The project has certain and long-term beneficial impacts to water quantity and quality, soils, vegetation, and terrestrial and aquatic species by improving ecological resiliency. The frequency of drought is increasing, threatening fish and wildlife populations, agricultural producers, and the outdoor economy. There will be direct beneficial impacts to environmental and human health from improved ecological resiliency in the watershed, and indirect beneficial impacts to riparian vegetation and aquatic species.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Project Management and Oversight	$18,300	$68,750	$87,050
Construction	$259,500	$240,000	$499,500
Administration	$22,200	$12,650	$34,850
Project Total	**$300,000**	**$321,400**	**$621,400**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$300,000	Recommended Funding 2027 Legislature
Montana DEQ Grant	$180,000	Committed
Montana NRDP Grant	$68,750	Committed
Trout Unlimited	$12,650	Committed
Montana FWP Grant	$60,000	Application Submitted
Project Total	**$621,400**	

Funding Recommendation

DNRC recommends grant funding of $300,000. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Grant agreement is contingent upon the recipient providing the following: 1) a project management plan that addresses roles and responsibilities of the entity and participating organizations; and 2) an executed Memorandum of Understanding between the recipient and the sponsored entity clarifying the roles, responsibilities and shared project costs.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	27
Natural Resource Benefits	33.75
Technical Feasibility	33.75
Financial Feasibility	33.5
Organizational Capacity	25.75
Total Score (Total Points)	**153.75**
Overall RDG Rank	**12**

Milk River Joint Board of Control
Milk River Joint Board of Control: Safeguarding Fresno Dam and Spillway

Project Ranking: 13

County: Hill

Project Type: Crucial State Need – High Hazard Dam

PROJECT INFORMATION:

The Milk River Joint Board of Control, in partnership with Bureau of Reclamation, proposes to address safety concerns of the Fresno Dam, located on the Milk River near Havre. This Crucial State Need project on a High Hazard Dam will modernize the spillway, enhance operational efficiency, maintain public safety, and ensure reliable water delivery.

Project History

Fresno Dam and Reservoir are essential components of the Milk River Project in north-central Montana. Constructed in the 1930s to provide irrigation, the reservoir spans approximately 8,000 acres and has a storage capacity of over 98,000 acre-feet. Over the years, aging infrastructure has led to significant deterioration, particularly in the concrete spillway. This deterioration poses risks to downstream communities and ecological habitats. To address these issues, the Bureau of Reclamation has initiated a dam safety modification project, highlighting the importance of maintaining Fresno Dam and Reservoir for irrigation, municipal water supply, and flood control in the region.

Proposed Solution

The goal of this project is to restore the Fresno Dam Spillway to a structurally sound and fully functional state, thereby mitigating the risk of dam failure and ensuring continued safe operation. To achieve this goal, the concrete spillway will be repaired.

Tasks or Activities

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Finalize Designs and Bid Package
Task 2: Construction Activities
Task 3: Grant Administration and Reporting

Resource and Benefit Analysis

Rehabilitation of the Fresno Dam will have a beneficial impact on irrigation and fisheries by providing water and instream flow, especially in the late summer when natural flows slow. Dam rehabilitation primarily benefits the users of surface water for agricultural irrigation. Use of the reservoir and river for recreation may have a beneficial impact to the economy by generating income from tourism, fishing, and related industries. There are direct and indirect benefits to municipalities, as several towns rely on Milk River water as their sole source for drinking water. Dam rehabilitation will provide long-term beneficial impacts to human health and safety by reducing the threat of failure and protecting downstream residents.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Finalize Designs and Bid Package	$62,473	$249,891	$312,364
Construction Activities	$435,017	$1,740,066	$2,175,083
Grant Administration and Reporting	$2,510	$10,043	$12,553
Project Total	**$500,000**	**$2,000,000**	**$2,500,000**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$500,000	Recommended Funding 2027 Legislature
Bureau of Reclamation	$855,250	Committed
St. Mary Rehabilitation Working Group	$400,000	Discussed/Not Applied
Milk River Joint Board of Control	$371,955.66	Discussed/Not Applied
Milk River Pump Contracts	$105,264	Discussed/Not Applied
Milk River M&! Contracts	$32,566.05	Discussed/Not Applied
Fort Belknap Tribal Community Contracts	$234,964.29	Discussed/Not Applied
Project Total	**$2,500,000**	

Funding Recommendation

DNRC recommends grant funding of $500,000. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Grant agreement is contingent upon the recipient providing an executed Memorandum of Understanding between the recipient and the sponsored entity clarifying the roles, responsibilities and shared project costs. Upon completion of project construction, the recipient must submit as-builts and a detailed operations and maintenance plan for the facility.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	22.5
Natural Resource Benefits	30
Technical Feasibility	29.5
Financial Feasibility	27.25
Organizational Capacity	27.25
Total Score (Total Points)	**136.5**
Overall RDG Rank	**13**

City of Glasgow
City of Glasgow Levee Improvements Project
Project Ranking: 14
County: Valley
Project Type: Other Crucial State Need

PROJECT INFORMATION:
The City of Glasgow proposes a flood risk mititgation project on the Glasgow-Cherry Creek and Milk River levees, in the City of Glasgow. This Crucial State Need project will elevate a low spot on the levee to protect the city from a potential flood.

Project History
Constructed in 1928, The Glasgow-Cherry Creek Left Bank and Milk River Left Bank levees span over 2 miles. As a levee system ages, maintenance becomes increasingly challenging. A recednt floodplain mapping project initiated by the City of Glasgow, DNRC, and FEMA identified potential areas of flooding throughout the city. Failure of the levee system would damage critical infrastructure, including emergency response services, government facilities, and the regional hospital. It would also result in significant ecological damage to the Milk River within and downstream of Glasgow.

Proposed Solution
The goal of this project is to protect public health and safety and minimize the environmental impacts as a result of flooding. To achieve this goal, the project will elevate and raise a low spot in the levee, complying with federal design standards to prevent overtopping by a 100-year flood.

Tasks or Activities
The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Engineering Services and Permitting
Task 2: Operations and Maintenance Updates
Task 3: Construction

Monitoring Plan
The project manager monitors the project and certifies that it followed the USACE Design Standards. The contracted engineer will prepare an as-built drawing of the constructed project and confirm the project was designed as stipulated in the Section 408 permit. Once the project is complete, the USACE may have a close-out meeting with the city and the project manager to conduct an inspection to document the as-built conditions.

Resource and Benefit Analysis
The project has potential beneficial impacts on soils, water quality, fish and wildlife habitat, and vegetation by reducing flood risk within the City of Glasgow. Flooding could contaminate water quality, soils, and fish and wildlife habitat downstream. There are potential beneficial impacts to public health and the economy by reducing the probability of flooding and thereby protecting housing, businesses, and critical facilities.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Engineering Services and Permitting	$73,210	$8,000	$81,210
Operations and Maintenance Updates	$10,000	$0	$10,000
Construction	$113,145	$54,000	$167,145
Project Total	**$243,445**	**$62,000**	**$305,445**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$243,445	Recommended Funding 2027 Legislature
City of Glasgow	$62,000	Committed
Project Total	**$305,445**	

Funding Recommendation

DNRC recommends grant funding of $243,445. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Grant award will require the following: 1) An adequate alternatives analysis that evaluates the environmental impact of each alternatives as well as cost; 2) detailed budget narrative for the preferred alternative; and, 3) updated Operation and Maintenance Plan.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	27.75
Natural Resource Benefits	27.5
Technical Feasibility	27.75
Financial Feasibility	17.5
Organizational Capacity	27.25
Total Score (Total Points)	**127.75**
Overall RDG Rank	**14**

City of Forsyth
City of Forsyth – Slaughterhouse Creek Flood Mitigation

Project Ranking: 15

County: Rosebud

Project Type: Other Crucial State Need

PROJECT INFORMATION:

The City of Forsyth proposes to plan and design a flood risk mitigation project on Slaughterhouse Creek in Rosebud County, Montana to address a crucial state need. This Crucial State need project increases the capacity of the Slaughterhouse Creek channel and replaces four undersized stream crossings, to move water quickly down the Creek during a flood event.

Project History

In 2019, DNRC and FEMA initiated floodplain mapping for several watersheds in southeast Montana, including Slaughterhouse Creek. The floodplain maps show a significant area of the City of Forsyth within the 100-year floodplain. The floodplain map added approximately 1,122 structures into the floodplain, indicating a flood event could submerge much of the city in up to six feet of water. The culverts at I-94, Front Street, and Rosebud Street are undersized and the stream channel downstream of Front Street lacks the capacity to contain a 100-year flood. At each of the stream crossings, water would back up, overtopping banks, flowing laterally into Forsyth, and causing flooding. Such an event would adversely impact the Yellowstone River downstream of Forsyth, as flood waters would contain heavy metals, volatile organic compounds, raw sewage, debris, and other hazardous waste.

Proposed Solution

The City of Forsyth, will plan, design, permit and construct a flood mitigation project to protect the public health and safety of residents from the impacts of flooding. Flood reduction measures include culvert replacements, bridge crossings, and levee installation on Slaughterhouse Creek. To remove Forsyth from the 100-year floodplain, capacity at all crossings must be increased and the channel downstream of Front Street be enlarged.

<u>Tasks or Activities</u>

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Environmental Permitting
Task 2: Mitigation Study
Task 3: Cultural and Geotechnical Investigations
Task 4: Wetland Mitigation
Task 5: Engineering, Design, and Construction Management
Task 6: Construction

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<u>Monitoring Plan</u>

Project contractor will certify that construction followed required design standards. Contractor will also prepare a Conditional Letter of Map Revision (CLOMR) as required by FEMA once the proposed project is completed. The CLOMR will reflect the changes between the draft floodplain

and the floodplain reflected by the proposed mitigation project. Upon completion of the project a Letter of Map Revision (LOMR) will be submitted to FEMA.

Resource and Benefit Analysis
The project has potential beneficial impacts on soils, water quality, fish and wildlife habitat, and vegetation by reducing the probability of flood inundation in the City of Forsyth. Flooding has the potential to contaminate water sources and adversely impacts water quality, soils, and fish and wildlife habitat downstream. There are potential beneficial impacts to public health and the economy by reducing the probability of flooding and thereby protecting housing, businesses, and critical facilities.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Environmental Permitting	$0	$110,000	$110,000
Mitigation Study	$0	$90,000	$90,000
Cultural and Geotechnical Investigations	$0	$99,000	$99,000
Wetland Mitigation	$0	$200,000	$200,000
Engineering	$0	$894,500	$894,500
Construction	$485,000	$6,772,000	$7,257,000
Administration	$15,000	$54,000	$69,000
Project Total	**$500,000**	**$8,879,000**	**$9,379,000**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$500,000	Recommended Funding 2027 Legislature
Montana Coal Board	$500,000	Discussed/Not Applied
USDA Rural Development	$1,219,750	Discussed/Not Applied
FEMA Flood Mitigation Assistance	$7,034,250	Application Submitted
Applicant	$125,000	Discussed/Not Applied
Project Total	**$9,379,000**	

Funding Recommendation
DNRC recommends grant funding of $500,000. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Grant agreement is contingent upon the recipient providing the following: 1) adequate alternatives analysis that evaluates the environmental impact of each alternatives as well as cost; and 2) detailed budget narrative for the preferred alternative.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	25.5
Natural Resource Benefits	32
Technical Feasibility	22.5

Financial Feasibility	27
Organizational Capacity	22.75
Total Score (Total Points)	**129.75**
Overall RDG Rank	**15**

Department of Natural Resources and Conservation, State Water Projects Bureau – Water Resources Division
DNRC Front Range Flood Preparedness Plan

Project Ranking: 16

County: Glacier, Lewis and Clark, Pondera and Teton

Project Type: Other Crucial State Need

PROJECT INFORMATION:

DNRC Water Operations Bureau proposes to develop a Flood Preparedness Plan for the Rocky Mountain Front areas in Glacier, Lewis and Clark, Pondera and Teton Counties including the Blackfeet Indian Reservation. This cruicial state need project will coordinate flood preparation and recovery efforts across the region.

Project History

Montana's Rocky Mountain Front Range spans approximately 5,000 square miles of extremely variable landscapes and relatively sparse population centers. The Front Range is susceptible to large flooding events such as the 1964 flooding event in which a storm produced an intense, high-volume rain-on-snow event, inundating the basins above Swift and Two Medicine dams. Both dams failed, with little to no warnings for downstream communities, resulting in the loss of 32 lives on the Blackfeet Reservation. Failed telecommunications, eroded roads and bridges, and physical isolation created barriers to transportation and communication, which left downstream communities with no warning.

Floods on the Front Range have resulted in severe erosion and deposition of debris, silt, and weed seeds which impacted farmland. Sedimentation, erosion, and scouring impacted habitat for fish and wildlife. In the event of a major flood on the Front Range, vital transportation infrastructure, like roads and bridges, are at great risk, potentially disconnecting communities from emergency services.

Proposed Solution

DNRC, through contracted professional services will prepare a Flood Preparedness Plan. The goal of the Plan is to create a proactive approach to mitigate the impacts from flooding.

Tasks or Activities

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Facilitate Watershed-level Management through a Stream Corridor Easement Program
Task 2: Stream Gage, SNOTEL and SCADA on High Hazard Dams data collection
Task 3: Dam and Irrigation Infrastructure Inventory
Task 4: Update Emergency Action Plans and/or Emergency Operation Plans for Front Range Dams
Task 5: FEMA Floodplain Mapping
Task 6: Improve Emergency Alert Notification and Communication
Task 7: Incident Command Centers Efficiency
Task 8: Develop the Front Range Flood Preparedness Plan Web Application Tool

Monitoring Plan
The launching of the Front Range Flood Preparedness Web Application Tool for public, local, and state use will be the mark of success. The success of this GIS tool can be monitored based on the amount of people with access to it.

Resource and Benefit Analysis
The Flood Preparedness Plan may have long-term beneficial impacts; however those benefits are not certain given that the Plan would have to be implemented through on-the-ground efforts. Potential benefits could include preservation of soil and water quality, preservation of fish and wildlife habitat, and public health and safety.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Facilitate Watershed-level Management through a Stream Corridor Easement Program	$60,000	$0	$60,000
Stream Gage, SNOTEL and SCADA on High Hazard Dams data collection	$10,000	$0	$10,000
Dam and Irrigation Infrastructure Inventory	$35,000	$0	$35,000
Update Emergency Action Plans and/or Emergency Operation Plans for Front Range Dams	$20,000	$0	$20,000
FEMA Floodplain Mapping	$20,000	$0	$20,000
Improve Emergency Alert Notification and Communication	$60,000	$0	$60,000
Incident Command Centers Efficiency	$40,000	$0	$40,000
Develop the Front Range Flood Preparedness Plan Web Application Tool	$65,000	$0	$65,000
Project Total	**$310,000**	**$0**	**$310,000**

Funding Recommendation
DNRC recommends grant funding of $310,000. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Grant agreement is contingent upon the recipient providing a detailed budget narrative and definitive deliverables for each of the project goals and objectives.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	28.25
Natural Resource Benefits	30.75
Technical Feasibility	11
Financial Feasibility	9.75
Organizational Capacity	17.75

Total Score (Total Points)	**97.5**
Overall RDG Rank	**16**

Montana Technological University
Phytomining Remediation and Minerals Recovery Demonstration

Project Ranking: 17

County: Silver Bow

Project Type: Reclamation

PROJECT INFORMATION:

Montana Tecnological University (MTU) proposes a project to study the ability of native plants to remediate mine impacted soils in greenhouse studies at the campus in Butte, Montana and in field trials at sites in Montana. This reclamation project aims to verify the application of a new mining and restoration technique with plants native to Montana.

Project History

This project is a collaborative effort by MTU to evaluate a new mining and cleanup method for abandoned mine sites in Montana. Phytomining, a process that utilizes plants to absorb metals into their stems, roots, and leaves, is an emerging technology for extracting metals from soils, sediments, waters, and ore. The proposed project assesses the capability of native plants to accumulate metals in sufficient quantities to allow for direct recovery and mining or site reclamation. By absorbing metals through their roots, plants can concentrate nickel, copper, gold, and other valuable minerals, providing a cost-effective and environmentally friendly mining technology.

The phytomining process involves seeding contaminated areas are seeded with plant species capable of accumulating metals in their tissues; growth and harvesting the hyperaccumulator plant species; burning: plants to produce ash; and smelting the ash to extract metals. This process has potential to yield metals that are otherwise challenging or economically infeasible to extract. Phytomining has the potential to rehabilitate degraded lands, mining areas, and brownfield sites, offering a sustainable alternative to traditional mining practices and reclamation.

Proposed Solution

The goal of this project is to determine if phytomining with native plant species can be used at contaminated sites in Montana to harvest metals that are otherwise unable to be extracted. The objectives to meet this goal are to develop a comprehensive database of native plant species suitable for phytomining and site rehabilitation, establish optimal growth conditions for those plant species, and evaluate the effectiveness of the plants to extract target metals. A series of laboratory and field experiments will be performed to evaluate the efficacy of phytomining.

<u>Tasks or Activities</u>

The goals and objectives of this project will be accomplished through the tasks described below:

Task 1: Experimental Design, Site Assessment, and Native Plant Selection
Task 2: Greenhouse Trial Data Collection and Analysis
Task 3: Field Trial Implementation
Task 4: Community Engagement and Outreach
Task 5: Project Management

Monitoring Plan

During the experiments, the following key metrics will be measured:

- Metal Uptake Efficiency: The concentration of target metals in plant tissues will be quantified to assess the effectiveness of phytomining techniques.
- Plant Growth and Survival: The growth and survival rates of different plant species will be monitored to identify the most suitable candidates for phytomining.
- Soil and Water Quality: Changes in soil and water quality will be tracked to measure the reduction in metal concentrations.
- Ecosystem Health: Biodiversity, ecosystem functions, and overall ecosystem health will be monitored to assess the long-term impacts of metal removal.
- Stakeholder Satisfaction: Feedback from collaborators, local communities, and regulatory agencies will be collected to gauge their satisfaction with the process, research, and technique.
- Long-Term Sustainability: The persistence of metal accumulation in native plants, the stability of remediated sites, and the continued benefits to surrounding ecosystems and communities will be evaluated to assess the long-term sustainability of phytomining efforts.

Resource and Benefit Analysis

If successful, phytomining has the potential for long-term beneficial impacts to soil and water quality by removing metal contamination from the environment. The project also has the potential to provide economic benefits by reducing costs associated with mine reclamation and generate revenue for metal recovery for reprocessing.

BUDGET:

Funding Category	RDGP Grant Request	Match	Total
Study Design, Site Assessment, Plant Selection	$53,068	$6,300	$59,368
Greenhouse Trial Data Collection and Analysis	$32,059	$2,700	$34,759
Field Trial Implementation	$60,631	$4,500	$65,131
Community Engagement and Outreach	$38,770	$4,500	$43,270
Project Management	$20,130	$0	$20,130
Administration	$29,612	$0	$29,612
Project Total	**$234,270**	**$18,000**	**$252,270**

Funding Source	Funding Amount	Funding Status
RDG Grant Requested	$234,270	Recommended Funding 2027 Legislature
Montana Technological University	$18,000	Discussed/Not Applied
Project Total	**$252,270**	

Funding Recommendation

DNRC recommends grant funding of $234,270. DNRC will provide an award letter to successful applicants. The applicant will be responsible for providing the documentation necessary to meet

startup conditions within the timeframe identified in the award letter, including approval of project scope of work, administration, budget, and funding package. Failure to meet startup conditions within a 24-month timeframe may result in a rescinded award.

Grant agreement is contingent upon the recipient providing: 1) adequate project management plan;
2) A detailed budget narrative; and 3) verification of matching fund sources. The grant agreement will require that the Study Design be submitted to DNRC prior to authorizing any other tasks in the grant application. The Study Design must include peer review and university approval before submission to DNRC.

RANKING DETAILS:

Scoring Category	Application Score
Need, Severity, Urgency	18.5
Natural Resource Benefits	22.75
Technical Feasibility	15.25
Financial Feasibility	8.75
Organizational Capacity	17
Total Score (Total Points)	**82.25**
Overall RDG Rank	**17**

CHAPTER 3
Status Report of Active Project Grants

This chapter briefly summarizes the status (as of October 30, 2024) of active projects and projects completed this biennium. Projects approved by the 2023 Legislature are presented in the order of their relative funding priority, and projects approved by all prior Legislative sessions are presented in alphabetical order.

Projects Grants Approved by the 2023 Legislature – House Bill 7

1. Beaverhead Conservation District – Grasshopper Creek Mine Tailings Stream Bank Stabilization – $419,180
Improve water quality in Grasshopper Creek by repairing a tailings berm and restoring eroded streambanks; the project includes outreach of reclamation activities. The project is anticipated to be completed by September 2025.

2. Montana Department of Natural Resources and Conservation, State Water Projects Bureau – Willow Creek Dam Rehabilitation Project – $500,000
Rehabilitate Willow Creek Dam, reducing risk for residents downstream of the reservoir and increasing regional water storage potential. The project is anticipated to be completed by December 2026.

3. Montana Department of Natural Resources and Conservation, State Water Projects Bureau – East Fork of Rock Creek Dam Rehabilitation – $500,000
Rehabilitate the East Fork of Rock Creek Dam, increasing water storage and economic benefits of the reservoir, while ensuring safety of downstream residents. The project is anticipated to be complete by December 2025.

4. Chester, Town of – Chester Motors Petroleum Cleanup – $300,000
Cleanup and reclamation of petroleum and benzene soil and groundwater contamination at the Chester Motors property. The project is anticipated to be completed in December 2027.

5. Black Eagle Water & Sewer District – Black Eagle Sewer System Improvements 2023 – $125,000
Replace and upgrade deteriorating sewer mains in Black Eagle, thereby providing reliable sanitary sewer services to residents. The project is anticipated to be completed in September 2025.

6. Harlowton, City of – Asbestos Removal, Cleanup, and Restoration of Contaminated Soils at The Harlowton Roundhouse in Harlowton – $500,000
Continue to remove petroleum- and asbestos-contaminated soils at the Harlowton Railyard, as well as remediate contamination of the regional aquifer and nearby wetlands. The project is anticipated to be completed by December 2027.

7. Deer Lodge, City of – Milwaukee Roundhouse CECRA Site Passenger Refueling Area VCRA Program Remediation – $342,500
Remove contaminated soils and remediate groundwater at Milwaukee Roundhouse Area, to delist the high-priority State Superfund site. The project is anticipated to be completed by December 2025.

8. Town of Philipsburg – Philipsburg Wastewater Project – $316,667
Complete installation of a new lagoon wastewater treatment system, to reduce nutrient contamination into Flint Creek. The project is anticipated to be completed by December 2025.

9. Cascade Conservation District – Muddy Creek Restoration and Resilience Project – $500,000
Improve irrigation infrastructure to reduce erosion and restore a section of lower Muddy Creek, a tributary of the Sun River in central Montana. The project is anticipated to be completed by September 2025.

10. Montana Department of Natural Resources and Conservation, Water Resources Division – Expansion of Water Resources Division Hydrology Data Portal – $150,000
Develop an interactive web application to serve as a centralized and user-friendly portal to house critical water supply and hydrological data. The project is anticipated to be completed by December 2026.

Project Grants Approved in Prior Biennia

Butte-Silver Bow Government – Butte Mining District: Reclamation and Protection Project, Phase V – $224,680
Remediate portions of Anselmo and Steward mine yards and restore buildings and structures to interpret the history of mineral development in Butte. This project is under contract.

Confederated Salish and Kootenai Tribes – Revais Creek Mine Tailings Reclamation – $302,074
Remove contaminated mine tailings near Revais Creek. This project is under contract.

Deer Lodge, City of – Milwaukee Roundhouse CECRA Site Passenger Refueling Area VCRA Program Remediation – $297,000
Remove contaminated soils at this site from historic railroad operations. This project was completed March 2023.

Deer Lodge Valley Conservation District – Upper French Gulch Fish Passage and Restoration Project – $194,832
Restore fish passage to Upper French Gulch and improve water quality through bank stabilization. This project was completed January 2023.

Harlowton, City of – Contaminated Soils and Free Product Removal at the Harlowton Roundhouse in Harlowton, MT, Phase 4 – $500,000
Reclaim surface and subsurface soil, regional groundwater, adjacent wetlands that are affected by petroleum and metal contamination at the historic Harlowton Roundhouse. This project is under contract.

Harlowton, City of – Removal of Contaminated Soils and Free Product at the Harlowton Roundhouse in Harlowton – $300,000
Remove diesel-contaminated soils from the floodplain of the Musselshell River. This project was completed July 2024.

Harlowton, City of – Removal of Contaminated Soils and Free Product at the Harlowton Roundhouse in Harlowton, Phase 3 – $500,000
Cleanup diesel-contaminated soils and groundwater at the Harlowton Roundhouse Facility, thereby improving water quality, restoring a historic wetland, and mitigating flooding along the Musselshell River. This project was completed in April 2023.

Lewis and Clark County – Grizzly Gulch Reclamation Project – $292,611
Reclaim Grizzly Creek to a functional stream and floodplain, improve water quality, increase water quantity, and improve public safety and access. This project is under contract.

Lewistown, City of – Central Post and Treating Company CECRA Facility: Phase 1, Capping and Site Reclamation – $500,000
Construct a protective soil cap to cover contaminated soils, reducing impacts to natural resources. This project is under contract.

Lewistown, City of – Cleanup of the Central Post and Treating Company in Lewistown – $475,000
Remove contaminated soils from the Central Post and Treating Company. This project is under contract.

Mineral County – Interim Remedial Action at Milwaukee Road – Haugan State Superfund Facility – $499,324
Remove fuel waste and contaminated soil from Haugan State Superfund site. This project is under contract.

Mineral County Conservation District – Flat Creek Dispersed Tailings Removal and Restoration – $219,960
Reclaim and restore a reach of Flat Creek by removing mine tailings from the streambank and floodplain. This project is under contract.

Missoula County – Ninemile Creek Placer Mine Reclamation, Phase 6 – $351,000
Restore stream and floodplain functions to a reach of Ninemile Creek, a tributary of the Clark Fork River. This project is under contract.

Missoula County Community and Planning Services – Ninemile Creek Mine Reclamation – $437,000
Reclaim mining impacts, improve water quality, and reconnect previously damaged tributaries. This project is under contract.

Montana Department of Environmental Quality – Cottonwood #2 Acid Mine Drainage Diversion Project – $300,000
Construct a collection system to contain acid mine drainage that affects the town of Stockett. This project was completed June 2023.

Montana Department of Environmental Quality – Landusky Swift Gulch High Flow Treatment System and Stream Rehabilitation – $411,199
Install an acid mine drainage treatment system to improve stream and floodplain functions in a reach of Swift Gulch, a tributary of Little Peoples Creek, near Hays. This project is under contract.

Montana Department of Environmental Quality – Sand Coulee Acid Mine Drainage Source Control – $332,443
Assess mine adit flows and install wells to intercept acid mine drainage. This project was completed May 2024.

Montana Technological University, Montana Bureau of Mines and Geology – Modernization of Montana's Regional Seismic Network – $499,739
Modernize and upgrade analog stations to improve coverage for Montana's seismically active regions, ensure network reliability, and expand capacity to sustain and operate the network. This project is under contract.

Powell County – Milwaukee Roundhouse Area Remediation – $500,000
Remove contaminated soil from the Milwaukee Roundhouse Facility in Deer Lodge. This project is under contract.

Powell County – Milwaukee Roundhouse Area Remediation, Phase 2 – $500,000
Remove and dispose of metals-contaminated soil from the Milwaukee Roundhouse facility. This project is under contract.

Richland Conservation District – Mitigating Impacts to the Fox Hills/Hell Creek Aquifer, Richland County – $493,585
Reduce wasted water by closing free-flowing wells in Richland County. This project is under contract.

Ruby Valley Conservation District – Granite Creek Reclamation Realignment Project – $80,000
Construct a new bridge, realign a portion of Granite Creek, and construction a new fish barrier. This project is under contract.

Ryegate, Town of – Former Ryegate Conoco Groundwater Remediation – $50,000
Remove petroleum-contaminated soil and remediate groundwater from the station's underground tanks. This project was completed February 2023.

Ryegate, Town of – Former Ryegate Conoco Groundwater Remediation – $232,504
Remediate contaminated soil and groundwater at the Conoco site. This project is under contract.

Sunburst, Town of – Suta South Clean Up Project – $185,805
Determine the extent of soil contamination at the Suta South site and permanently remove petroleum contaminants in the soil and groundwater. This project is under contract.

CHAPTER 4
Reclamation and Development Planning Grants

Program Information

RDGP planning grants assist local governments with planning and design of technically feasible, natural resource projects that are eligible for funding consideration under the RDGP. DNRC accepts applications for planning grants in various cycles throughout the biennium. Staff review and rank the applications using a methodology patterned after and conducted similar to the RDGP project grant program. The maximum amount for a planning grant is $75,000. Funding for the planning grant projects has proven invaluable for applicants in preparing and submitting a high quality and competitive project grant application.

The 2023 Legislature authorized $2,000,000 for RDGP project planning grants. DNRC awarded grant funds throughout the biennium for full appropriation available for planning grants. Table 2 shows planning grants awarded since the last publication of the Governor's Budget, including funds appropriated by the 2021 Legislature.

Funding for the 2025 Biennium

Total Available 2025 Biennium	$ 2,000,000.00
Grants Awarded as of October 2024	$ 911,563.00
Amount Remaining 2023 Biennium	$ 1,088,437.00

Table 2. Reclamation Development Planning Grants Awarded between October 2022 - October 2024.

Biennium Funding	Project Sponsor	Project Name	County	Awarded Amount
2023	Beaverhead Conservation District	Elkhorn Mine and Mill 30% Remedy and Biofiltration Design	Beaverhead	$50,000
2023	Beaverhead Conservation District	Elkhorn Mine and Mill: Repository Investigation	Beaverhead	$50,000
2023	Carbon County	Clarks Fork Yellowstone Partnership, Carbon County Channel Migration Zone Mapping and Stream Channel Stability Assessment	Carbon	$48,155
2023	DNRC, Trust Land Management Division	Glacier Gold Limited Phase II ESA	Flathead	$30,000
2023	Granite Conservation District	Williams Gulch Bagdad Mine Site Investigation	Granite	$50,000
2023	Montana State University	Evaluation of microbially generated minerals to mitigate acid mine drainage in the Great Falls-Lewistown coal field	Cascade	$40,585
2023	Montana Technological University	Slash Pile Biochar Technology Device Development	Silver Bow	$50,000
2023	DEQ	Design of a floodplain restoration, flood mitigation, and recreational plan to mitigate erosion, improve riparian habitat and increase floodplain access for the Roundup Reach of the Musselshell River	Musselshell	$30,000
2023	Park County	Park County 2023 Upper Yellowstone Channel Migration Zone Mapping & Flood Mitigation Assessment	Park	$49,790
2023	Petroleum County Conservation District	Musselshell River Floodplain Encroachment Inventory and Assessment	Petroleum	$42,328
2023	Ruby Valley Conservation District	Snowcrest Ranch Ruby River and Floodplain Restoration Pilot Project	Ruby	$50,000
2023	Sanders County	Vermillion River Grant	Sanders	$50,000
2023	Seeley Lake Sewer District	Seeley Lake Sewer District - Wastewater System Improvements	Missoula	$34,500
2023		***Subtotal***		***$575,358***
2025	Beaverhead Conservation District	Biofiltration of Acid Mine Groundwater Seeps at Elkhorn Mine and Mill	Beaverhead	$75,000
2025	Blodgett Creek Irrigation District	High Lake Dam Rehabilitation Planning	Ravalli	$47,268

Biennium Funding	Project Sponsor	Project Name	County	Awarded Amount
2025	Butte-Silver Bow, City-County of	Butte-Silver Bow Drought Management Plan	Silver Bow	$50,000
2025	Deer Lodge, City of	Milwaukee Roundhouse Passenger Refueling Area Planning	Powell	$44,000
2025	DEQ	Basin Creek Mine Revegetation Pilot Project	Powell	$71,628
2025	DEQ	Giffen Mine Site Wetlands Complex Study	Cascade	$61,271
2025	DNRC, Water Resources Division	Rocky Mountain Front Range Flood Preparedness & Mitigation Planning	Glacier, Pondera, Teton, Lewis and Clark	$50,000
2025	Gallatin County	Gallatin Drought and Deluge Adaptive Management Plan	Gallatin	$50,000
2025	Glasgow, City of	System Wide Improvements Framework (SWIF) Update	Valley	$50,000
2025	Lewis & Clark Conservation District	Threemile Dam Planning Project	Lewis and Clark	$62,400
2025	Missoula, City of, Parks and Recreation Department	Fort Missoula Ponds	Missoula	$75,000
2025	Philipsburg, Town of	Stormwater Planning	Granite	$75,000
2025	Powell County	Upper Little Blackfoot Mining Complex - Engineering Design	Powell	$75,000
2025	Saco, Town of	Levee Certification Feasibility Study	Phillips	$50,000
2025	Sunburst, Town of	Sunburst Suta South Petroleum Remedial Investigation	Toole	$74,996
2025		***Subtotal***		***$911,563***

Note: DEQ = Montana Department of Environmental Quality; DNRC = Montana Department of Natural Resources and Conservation

2027

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