

Section I: General Information

Project Title Improving Water Quality and Native Fish Habitat in the Vermilion River

Project Sponsor Information

Name	<u>Green Mountain Conservation District (GMCD)</u>	Tax Identification Number	<u>81-0390069</u>
Address	<u>P. O. Box 1329</u>	Website	<u>www.greenmountaincd.org</u>
City	<u>Trout Creek</u>	State	<u>Montana</u>
		Zip Code	<u>59874</u>
		County	<u>Sanders</u>
Primary Contact	<u>Leona Gollen</u>	Signatory	<u>Kent Wilby</u>
Title	<u>GMCD District Administrator</u>	Title	<u>Chair, GMCD Board of Supervisors</u>
Phone Number	<u>406-827-4833</u>	Phone Number	<u>406-827-4833</u>
Fax Number	<u></u>	Fax Number	<u></u>
E-mail Address	<u>GMCD@blackfoot.net</u>	E-mail Address	<u>GMCD@blackfoot.net</u>
Signature	<u></u>	Signature	<u></u>

Project Funding

319 Funds Requested	<u>\$185,000.00</u>	Does the project sponsor have any open 319 contracts?	<u>Yes</u>
Matching Funds		Project Title	<u>Dry Ck & Bull R Sediment Reduction/Re-vegetation</u>
State Cash Match	<u>\$40,000.00</u>	DEQ Contract Number	<u>214012</u>
Local Cash Match	<u>\$85,000.00</u>	319 Award	<u>\$290,000.00</u>
In-Kind Match	<u>\$8,500.00</u>	Projected Closing Date	<u>June 30, 2017</u>
Total Match	<u>\$133,500.00</u>	Project Title	<u></u>
Other Federal Funds	<u>\$69,600.00</u>	DEQ Contract Number	<u></u>
Total Project Budget	<u>\$388,100.00</u>	319 Award	<u></u>
Administrative Fee	<u>\$18,500.00</u>	Projected Closing Date	<u></u>

Project Location

Which WRP does this project implement?	<u>Lower Clark Fork</u>	What is the status of the WRP?	<u>DEQ Accepted</u>
Does the project address impairments in a TMDL?	<u>Yes</u>	12 Digit HUC #(s)	<u>170102130802</u>
(1) Waterbody Name from 2014 List of Impaired Waters	<u>Vermilion River</u>	Activity 1 Name	<u>Miner's Gulch stream and floodplain restoration</u>
(1) Probable Cause(s) of Impairment to be addressed (ex. metals)	<u>Alteration in stream-side or littoral vegetative cover</u>	Latitude (1)	<u>47.8699</u>
(2) Waterbody Name from 2014 List of Impaired Waters	<u></u>	Longitude (1)	<u>-115.391931</u>
(2) Probable Cause(s) of Impairment to be addressed (ex. metals)	<u></u>	Activity 2 Name	<u></u>
	<u></u>	Latitude (2)	<u></u>
	<u></u>	Longitude (2)	<u></u>

Section II: Project Description

Goals and Objectives: Describe the overall goal and specific objectives for this project.

The overall goal of the project is to restore a degraded segment of stream channel and floodplain to move the Vermilion River toward de-listing and fully supporting its beneficial uses. The project objective is to address a largely non-functional and altered riparian zone and a low amount of large woody debris. This will be accomplished by: re-shaping 1,500 feet of stream channel for bank protection and grade control; installing 18 in-stream grade control and 11 in-stream large woody debris structures; re-contouring the floodplain; installing 14 floodplain large woody debris structures; and planting native trees and shrubs in the 11-acre floodplain along 2,260 feet of stream.

Methods: Describe the approach selected to address/correct the problem(s), e.g. types of BMPs to be installed, and other important activities.

The project will correct critical problems in Reach 6 that include: channel instability, sedimentation, lack of in-stream habitat complexity (pools and large woody debris), and a degraded, non-functioning riparian area. Detailed surveys and logistical planning have taken place and project design has been developed by the Forest Service that employs proven on-the-ground techniques to improve bank stability, riparian function and in-stream habitat. Measures include re-shaping of the stream channel and floodplain; bank protection; installation of large woody debris structures, and an aggressive riparian planting program. A Hydrologic Investigation Report details restoration alternative analysis, rationale for the preferred alternative, proposed structure drawings and planform maps, monitoring and evaluation plans, and a site-specific re-vegetation plan. The report and appendices will be attached to the 319 Final Project Proposal.

Summary: Provide a brief summary of the project.

The project is located on public land in the Kootenai National Forest, within the 106 square-mile Vermilion River watershed near Trout Creek, Montana. A tributary to the Lower Clark Fork River, the Vermilion is considered one of the primary bull trout spawning strongholds in the Lower Clark Fork drainage. A strong population of native westslope cutthroat trout also inhabits the Vermilion within the project reach. Impacts from historic land uses (placer mining, timber harvest, riparian vegetation removal and road construction) have altered--and continue to alter--stream flows, channel stability, fish habitat and the riparian plant community in the Vermilion drainage. DEQ classifies the Vermilion as only partially supporting 2 important beneficial uses (aquatic life support and cold water fishery) and lists the river as impaired by alteration in stream-side or littoral vegetative cover. Vermilion watershed assessments indicate that Reach 6 produces the greatest quantities of sediment in the mainstem, and the Lower Clark Fork WRP designates Reach 6 as the highest priority for restoration. Starting upstream, the 1st WRP priority in the reach was Chapel Slide, where restoration using similar techniques was completed in 2012 and post-project monitoring shows success to date (resilience to sustained bankfull flows, improved channel stability and good growth/survival of riparian plants). The 2nd WRP priority was Little Joe Slide, which is stabilizing and considered too difficult to access for restoration work. The 3rd priority is Miner's Gulch, which is the focus of this project.

Monitoring: Describe the monitoring you will conduct to measure project effectiveness.

Sediment, physical habitat and fish population monitoring will inform project evaluation. When on-the-ground work begins, baseline data on sediment, flows, physical habitat, and fish populations will have been established. The Forest Service is conducting sediment and flow monitoring, which will continue over the long term (20+ years). Monitoring of fish populations will be conducted before and after implementation through redd surveys and electro-fishing at key stream sections. Vertical and lateral channel stability will be measured through 8 permanent cross sections, a permanent longitudinal profile, and photo monitoring, to be established immediately following restoration. Monitoring of plantings will occur through a series of photo-points to measure height, cover and survival rate.

Education and Outreach: Briefly describe the education and outreach component of this project and the target audience.

Since there are few private landowners in the Vermilion River watershed, education and outreach efforts will target the broader community of Lower Clark Fork river valley residents and visitors. The Vermilion watershed is well known and well used for fishing and a variety of recreational opportunities, so public interest already exists--and can be readily elevated. A video highlighting Miner's Gulch and the benefits of this project will be used in conjunction with website postings and presentations to community organizations, recreational clubs and schools to increase awareness about Vermilion River's water quality, native fish and positive effects of restoration.

Partners and Roles: Identify the project partners and their roles.

Partner	Role
U. S. Forest Service, Cabinet Ranger District	Planning/design, SAP/QAPP, monitoring, sub-contracting, field inspections, effects analysis
Avista	Matching funds, monitoring, effects analysis
Montana Fish, Wildlife & Parks	Matching funds, monitoring, effect analysis
Lower Clark Fork Watershed Group	Project coordination, outreach, updates, reporting
Green Mountain Conservation District	Project contractor, sub-contracting oversight, reporting, grant administration
LCF Technical Advisory Committee	In-kind technical assistance with project coordination, planning, evaluation and outreach

Section III: Scope of Work

Task 1 Title Project Coordination

319 Funds	<input type="text" value="\$5,000.00"/>
Non-Federal Match	<input type="text" value="\$1,500.00"/>
Other Federal Funds	<input type="text"/>
Total Cost	<input type="text" value="\$6,500.00"/>

Timeline June 2016 through Dec 2017

Description

The Contractor (GMCD) will maintain coordination with the Kootenai National Forest and other project partners to carry out this project. Coordination meetings and regular project-related communications and updates will take place during completion of the NEPA planning process, finalization of project designs, the permitting process, the sub-contractor selection process, on-the-ground implementation, project outreach, and monitoring to evaluate the effectiveness of all on-the-ground work associated with this project.

Task 2 Title Operation and Maintenance Plan

319 Funds	<input type="text" value="\$1,000.00"/>
Non-Federal Match	<input type="text" value="\$500.00"/>
Other Federal Funds	<input type="text" value="\$1,000.00"/>
Total Cost	<input type="text" value="\$2,500.00"/>

Timeline June 2016 through July 2016

Description

The Contractor (GMCD) will enter into an agreement with the Kootenai National Forest to ensure completion, maintenance and monitoring of all on-the-ground work. The agreement will identify responsible parties, methods and procedures for project design, project implementation, re-vegetation of disturbed areas, operation and maintenance (including monitoring), and site access. The Contractor will submit a copy of the agreement to DEQ for review and comment prior to signature.

Task 3 Title Pre-implementation Planning and Design

319 Funds	<input type="text" value="\$1,000.00"/>
Non-Federal Match	<input type="text" value="\$500.00"/>
Other Federal Funds	<input type="text" value="\$14,000.00"/>
Total Cost	<input type="text" value="\$15,500.00"/>

Timeline June 2016 through July 2016

Description

The Contractor (GMCD) will work closely with the Kootenai National Forest to obtain all necessary permits for completion of on-the-ground work, finalize engineering design plans, and solicit and select sub-contractors to undertake on-the-ground work as detailed in the final design plans. Deliverables to be submitted to DEQ will include copies of all permits; a draft copy of the project design for review and comment; and a final copy of project designs.

Task 4 Title Monitoring

319 Funds	<input type="text" value="\$1,200.00"/>
Non-Federal Match	<input type="text" value="\$3,500.00"/>
Other Federal Funds	<input type="text" value="\$11,800.00"/>
Total Cost	<input type="text" value="\$16,500.00"/>

Timeline June 2016 through Oct 2017

Description

The Contractor (GMCD) will develop a SAP/QAPP to guide the project's monitoring activities, which will include monitoring of sediment levels, physical habitat and fish populations to evaluate project effectiveness. The Contractor will complete monitoring in accordance with the SAP/QAPP. All water quality data will be submitted to DEQ using the most current upload process, and EDDs will be prepared and submitted following the guidance provided in DEQ's MT-eWQX guidance manual. At the conclusion of the project, a written summary report describing monitoring methodology, results and conclusions will be submitted to DEQ.

Task 5 Title Restoration Implementation

319 Funds	<input type="text" value="\$151,300.00"/>
Non-Federal Match	<input type="text" value="\$125,000.00"/>
Other Federal Funds	<input type="text" value="\$40,300.00"/>
Total Cost	<input type="text" value="\$316,600.00"/>

Timeline July 2016 through July 2017

Description

The Contractor (GMCD) will implement on-the-ground work in accordance with designs, permits and other project planning documents completed under Tasks 2 and 3. On-the-ground activities will include: site mobilization, in-channel improvements (including installation of woody debris structures); re-contouring of the floodplain; and planting of native vegetation on the re-established floodplain. Work will be conducted by qualified sub-contractor(s), selected through a competitive process as required by DEQ.

319 Funds	\$2,000.00	Description The Contractor (GMCD) will evaluate and report on the effectiveness of the on-the-ground work. The evaluation will include an estimate of the pollutant (sediment) load reduction achieved as a result of project implementation. In consultation with DEQ's project manager, the Contractor will develop a reasonable method of evaluating and reporting on the effectiveness of the project in addressing water quality issues. Results of the effectiveness evaluation will be included in the final report to DEQ.
Non-Federal Match	\$500.00	
Other Federal Funds	\$500.00	
Total Cost	\$3,000.00	
Timeline	Sept 2017 through Dec 2017	

319 Funds	\$5,000.00	Description The Contractor (GMCD) will conduct the following education and outreach activities: (1) Production of one 5-10 minute video focusing on the need for the project and project benefits. (2) Embedding the video on GMCD and Lower Clark Fork Watershed Group websites and further disseminating the video online and in community presentations. (3) Making 3 presentations to community organizations/local students about the project, the Vermilion watershed and benefits of stream restoration to water quality. (4) Quarterly project updates on GMCD and Lower Clark Fork Watershed Group websites.
Non-Federal Match	\$1,000.00	
Other Federal Funds		
Total Cost	\$6,000.00	
Timeline <u>August 2016 through Dec 2017</u>		

319 Funds	\$18,500.00	<p>Description</p> <p>The Contractor (GMCD) will oversee and be accountable for the completion of all tasks. The Contractor will prepare and submit Attachment B-billing statements, status reports, annual reports, and a final report, and will maintain regular contact with the DEQ project manager. All draft documents will be submitted in electronic format; all final documents will be submitted in both electronic and hard copy formats. The Contractor will work closely with the DEQ project manager and DEQ Grant Contract Coordinator to fulfill all reporting requirements as prescribed by DEQ.</p>
Non-Federal Match	\$1,000.00	
Other Federal Funds	\$2,000.00	
Total Cost	\$21,500.00	
Timeline June 2016 through Dec 2017		

319 Funds		Description
Non-Federal Match		
Other Federal Funds		
Total Cost		
Timeline		

Expected project outcomes. The project will improve the river's ability to support its beneficial uses as follows:

(1) The project will result in a 14% reduction to sediment load (207 tons/year) in Reach 6. Over time, when riparian vegetation is successfully established and stream banks are stabilized, we expect a nearly 100% reduction of sediment delivery from the site. Prior to the repair of Chapel Slide, sediment delivery in Reach 6 was 2,169 tons/year. Following restoration at Chapel Slide, the revised value for sediment in Reach 6 is 1,449 tons/year. Based on watershed characteristics and reference reach conditions, our long-term goal for all of Reach 6 is 30 tons/year. (2) The project will significantly improve fish spawning and rearing habitat. This area of the Vermilion is severely pool limited and lacks adequate in-stream and floodplain large woody debris. Recruitment of large woody debris has been greatly reduced by the unstable, migrating channel that has removed all but a few trees in the riparian area. The project will increase the number of pools from 0 pools/mile to 75 pools/mile and the amount of large woody debris from 25 pieces/mile to 200 pieces/mile. (3) Based on reference reach conditions and success of techniques at other locations in the lower Clark Fork system, we expect a 10% increase in native trout as a result of this project and a 20% increase after 10 years of restoration in the Vermilion watershed.