



# 319 Nonpoint Source Final Application

FY2017 Final Applications are due Monday, September 26, 2016 by 2:00 pm

## Section I: General Information

Project Title Upper Ninemile Creek Placer Mine Reclamation

### Project Sponsor Information

Sponsor Name Trout Unlimited

Registered with the Secretary of State? Yes

Registered with SAM? Yes

County Missoula

Website www.tu.org

Tax Identification # 38-1612715

DUNS # 051698132

Primary Contact Paul Parson, PE

Signatory Paul Parson, PE

Title Middle Clark Fork Restoration Coordinator

Title Middle Clark Fork Restoration Coordinator

Address 111 N. Higgins, Suite 500

Address 111 N. Higgins, Suite 500

City Missoula State Montana Zip Code 59802

City Missoula State Montana Zip Code 59802

Phone Number 406-543-1192

Phone Number 406-543-1192

Fax Number 406-543-6080

Fax Number 406-543-6080

E-mail Address pparson@tu.org

E-mail Address pparson@tu.org

Signature \_\_\_\_\_

Signature \_\_\_\_\_

### Project Location

12 Digit HUC #(s) 170102040302

(1) Waterbody Name from 2016 List of Impaired Waters Ninemile Creek

(1) Probable cause(s) of impairment to be addressed (ex. metals) Sedimentation/Siltation

(2) Waterbody Name from 2016 List of Impaired Waters N/A

(2) Probable cause(s) of impairment to be addressed (ex. metals) N/A

(3) Waterbody Name from 2016 List of Impaired Waters N/A

(3) Probable cause(s) of impairment to be addressed (ex. metals) N/A

Activity 1 Name Ninemile Creek Reclamation Latitude (1) 47.209361° Longitude (1) -114.623813°

Activity 2 Name \_\_\_\_\_ Latitude (2) \_\_\_\_\_ Longitude (2) \_\_\_\_\_

Activity 3 Name \_\_\_\_\_ Latitude (3) \_\_\_\_\_ Longitude (3) \_\_\_\_\_

### Nonpoint Source (NPS) Information

Which WRP does the project implement? Ninemile Creek What is the WRP status? DEQ-Accepted

Does the project address impairments identified in a TMDL? Yes Waterbody Type River/Stream

Functional Category Sediment Control

1st Pollution Category Resource Extraction (Placer Mining) Percent of Total (%) 100

2nd Pollution Category \_\_\_\_\_ Percent of Total (%) \_\_\_\_\_

3rd Pollution Category \_\_\_\_\_ Percent of Total (%) \_\_\_\_\_

4th Pollution Category \_\_\_\_\_ Percent of Total (%) \_\_\_\_\_

## Project Funding

319 Funds Requested	<input type="text" value="\$300,000.00"/>	Does the project sponsor have any open 319 contracts?	<input type="text" value="Yes"/>
Matching Funds		Project Title	<input type="text" value="Upper Ninemile Abandoned Placer Mine Reclamation"/>
<i>State Cash Match</i>	<input type="text" value="\$325,000.00"/>	DEQ Contract Number	<input type="text" value="216004"/>
<i>Local Cash Match</i>	<input type="text" value="\$5,000.00"/>	319 Award	<input type="text" value="\$225,000.00"/>
<i>In-Kind Match</i>	<input type="text" value="\$20,000.00"/>	Projected Closing Date	<input type="text" value="12/31/2017"/>
Total Match	<input type="text" value="\$350,000.00"/>	Project Title	<input type="text"/>
Other Federal Funds	<input type="text" value="\$50,000.00"/>	DEQ Contract Number	<input type="text"/>
Total Project Budget	<input type="text" value="\$700,000.00"/>	319 Award	<input type="text"/>
Administrative Fee	<input type="text" value="\$15,000.00"/>	Projected Closing Date	<input type="text"/>

## Section II: Project Description

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

The goal of the Upper Ninemile Creek Placer Mine Reclamation project is to reduce sediment input caused by historic mining practices along a 3,500 foot reach of Ninemile Creek. The objectives of the project are to reconnect Ninemile Creek to the floodplain through regrading of approximately 131,000 cubic yards of dredge tailings, to establish naturally functioning floodplain, wetlands and channels approximating reference conditions and to decrease sediment loading to Ninemile Creek by an estimated 316.8 tons per year. The larger goal of the project is to lead to the removal of the Ninemile from the state's list of impaired waters by implementing a partnership driven strategically planned multi-year, multi-phased approach to reclaiming the five miles of placer damage along Ninemile Creek.

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

Trout Unlimited will implement the completed TMDLs for Ninemile Creek by:

(1) finalizing design plans for a mine reclamation project on private land in Upper Ninemile Creek (2) reclaiming approximately 3,500 feet of stream channel and floodplain altered by historic mining activity (3) regrading approximately 131,000 cubic yards of placer mine overburden to create appropriate floodplain dimensions and fill existing dredging damage throughout approximately 15 acres (4) reconnecting Burnt Fork Creek and Twin Creek along this Ninemile Creek Reach (5) re-vegetating the reclamation project with native riparian and upland plants.

Post reclamation, the project will continue to be monitored for potential failures and successes. Failures will be addressed by the project team.

### Summary: Provide a brief summary of the project.

There is a long history of mining, agriculture and resource extraction in the Ninemile Creek valley and tributaries. Records indicate that a gold boom occurred on Ninemile Creek between 1874 and 1877. Placer mining, including large scale dredge mining, continued in the watershed until the 1940s and then resurfaced in the 1970s and 1980s. As a result of this activity, mainstem Ninemile Creek has been severely altered and the floodplain is dominated by large placer tailings piles and dredge ponds. Many tributaries were also significantly affected by this mining activity. Sediment from this mining history affects downstream landowners water quality and stream function.

The proposed Upper Ninemile Placer Mine Reclamation Project is the third phase of a five phase multi-year effort to mitigate sediment loading caused by historic placer mining along Ninemile Creek. The project team successfully completed the first phase in 2014 providing a template for placer mine reclamation along the remaining sediment loading reaches of Ninemile Creek. Phase two will be completed in the Fall of 2016 and includes the creation of 3,300 feet of Ninemile Creek, floodplain, wetlands and the reconnection of two previously reclaimed tributaries, Martina Creek and Mattie V Creek. This proposed third phase will pick up where the second phase is finishing and move downstream 3,500 feet to the confluence with the previously reclaimed tributary, Twin Creek. The project will create approximately 15 acres of floodplain and riparian area.

The final two phases will continue the work through the placer mine damage downstream as funding allows.

## Section III: Background Information

### Statement of Project Need and Intent

Nearly five miles of Ninemile Creek and the confluence areas with four major tributaries - estimated at more than 500 acres - have been dredged and placer mined, starting in the late 1930s until as recently as the early 1980s. Problems include piles of placer mine tailings that range from 6 to 40 feet tall, a lack of floodplain connectivity and excessive erosion. Large settling ponds dot the landscape and riparian vegetation throughout the site is insufficient to maintain adequate bank stability, provide shade, and filter out sediments and other pollutants from the stream. The valley bottom was essentially turned upside down during the mining process. Because subsurface fines and small gravels were washed away downstream as part of the processing, what remains are large piles of coarse cobble and boulders which confine the stream channel and have been slow to revegetate. Bank erosion surveys show that an estimated 2,850 tons per year of sediment is entering the stream due to mining impacts. The intent of the project is to reclaim the mine damage and return Ninemile Creek, its tributaries, floodplain and wetlands to a self maintaining, naturally functioning system that will protect water quality.

### Describe the pre-project planning that has already occurred.

Project planning continues throughout this multi-phased project. LiDAR data was collected along the placer mine damaged reaches of Ninemile Creek in 2012. Mapping and grading plans were developed using the LiDAR points and on the ground surveys. The mapping includes both land and water formations and wetland and vegetation locations. The grading plan and mapping has been instrumental in strategically planning the reclamation work to implement the most cost effective approach to this large scale project.

Trout Unlimited continues to work with the landowners along the project reach and has developed a longterm trusting relationship. In addition, throughout the planning process the project partners have continued to apply lessons learned from the previous mine reclamation projects in the Ninemile Valley.

The project team continues to "fine tune" the design and construction process to achieve the desired results in the most cost effective way. Pre-project monitoring is already in place for much of the proposed project.

### Collaborative Effort: Describe the collaborative effort you have engaged in to ensure support from all appropriate partners.

Trout Unlimited will lead the project team which consists of partners from various state and federal agencies, the University of Montana, consultants and most importantly the landowners along the project and landowners throughout the Ninemile Valley. Trout Unlimited, the Lolo National Forest, and Missoula County began a campaign to clean up abandoned mine sites on public and private land in the Ninemile watershed in 2004. Since that time, the project team has successfully raised and managed more than \$2.8 million dollars for mine reclamation and stream restoration activities in the Ninemile Creek watershed.

The group has also developed partnerships with the Missoula Conservation District, Montana, Fish Wildlife and Parks, the University of Montana and multiple private landowners in the area. As a result, eight mine sites have been reclaimed and two other projects are currently in the design or implementation phases.

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

Partner	Role
Lolo National Forest	Planning, fundraising, biological monitoring, project labor and technical support
Missoula County	Planning, fundraising, and landowner relationships
Montana FWP	Assessment, permitting, biological monitoring and technical support
University of Montana	Education, outreach and monitoring. Project labor through vegetative planting.
Landowners	Land management, outreach and education and project development

## Technical and Administrative Qualifications

Trout Unlimited has experience with managing reclamation projects throughout the West. The project team will be lead by Paul Parson, a Civil Engineer with over 12 years of experience surveying, designing, permitting and managing the construction of stream, floodplain and mining reclamation projects. Trout Unlimited also has two additional project managers in the Missoula office to provide support and additional Trout Unlimited staff are being added to assist the project managers with administrative duties, billing, record keeping and accounting. Trout Unlimited has proven success in raising and leveraging funding to maximize project potential.

Additional planning and management efforts from the Lolo National Forest and Missoula County have been instrumental in the cleanup of abandoned mine sites on public and private land in the Ninemile watershed since 2004. Traci Sylte, a Civil Engineer and the Soils and Water Program Manager for the Lolo National Forest is the lead contact and technical advisor for the Forest Service. Collaborative planning has led to the implementation of eight mine reclamation sites within the Ninemile Valley while providing active management of those sites after reclamation construction.

The design team includes River Design Group and Geum Environmental. This team has successfully implemented large scale projects in the Ninemile Valley and throughout Montana, including the Milltown Dam removal and the ongoing Mike Horse mine reclamation.

## Past and Current Projects

Funding Organization	Award Amount	Project Description	Project Status	Contact Information
Montana DEQ	\$700,400.00	- Placer mine reclamation on Little McCormick Creek - Hardrock mine reclamation on St Louis Creek - Placer mine reclamation design on Josephine Creek and development of Ninemile Creek WRP - Placer mine reclamation Phase 1 Ninemile Creek -Placer mine reclamation on Martina Creek and Phase 2 Ninemile Creek Reclamation	Completed Completed Completed Completed In Progress	Eric Trum 406-444-0531
Montana DNRC	1,490,000	- Placer mine reclamation on Mattie V Creek - Hardrock mine reclamation on St Louis Creek - Placer mine reclamation on Twin Creek and survey and design activities on Ninemile Creek - Placer mine reclamation on Sawpit Creek and Phase 1 Ninemile Creek -Placer mine reclamation on Martina Creek and Phase 2 Ninemile Creek Reclamation	Completed Completed Completed Completed In Progress	Stephanie Hester 406-444-0547
Montana Fish, Wildlife and Parks	\$171,000.00	-Placer mine reclamation on Eustache Creek -Placer mine reclamation on Little McCormick Creek -Hardrock mine reclamation on St Louis creek -Fish screen installation on Sixmile Creek -Placer mine reclamation on Sawpit Creek -Placer mine reclamation on Martina Creek and Phase 2 Ninemile Creek Reclamation	Completed Completed Completed Completed Completed In Progress	Ladd Knotek 406-542-5506
Lolo National Forest	1,130,000	-Hardrock mine reclamation on St Louis Creek -Kennedy Creek Mine Reclamation - Sediment Reduction Project Cedar Creek Road Relocation and Floodplain Creation with LWD -Placer mine reclamation on Sawpit Creek and Phase 1 Ninemile Creek -Placer mine reclamation on Martina Creek and Phase 2 Ninemile Creek Reclamation	Completed Completed Completed Completed In Progress	Traci Sylte 406-329-3896
National Fish and Wildlife Foundation	325,000	- Fish habitat improvement and watershed planning in Middle Clark Fork River  - Native fish restoration, irrigation inventory and mine reclamation in Clark Fork River watershed  -Native fish restoration and project planning in Middle Clark Fork River watershed	Completed  Completed  Completed	Michelle Katz 202-857-0166

## Section IV: Scope of Work

Task 1 Title Complete final design and permitting for the Upper Ninemile Creek Placer Mine Reclamation

**Description**

The final design for the project will include final engineering drawings and design specifications for permitting and construction. More specifically, the design team will build upon the existing grading plan for reach 4 to develop the construction documents. The final design for reach 4A and portions of reach 4B will also incorporate confluence designs for two tributaries, Burnt Fork Creek and Twin Creek. TU and partners will also evaluate vegetation salvage areas, identify soil borrow sources, delineate jurisdictional wetlands, develop a construction phasing plan and prepare bid documents, required permitting and contracting procedures. The final design will focus on cost effective reclamation implementation to provide a self sustaining, naturally functioning river corridor.

**Deliverables**

Task 1 deliverables include the final construction documents in both hard copy and electronic format for the Ninemile Creek reclamation project within reach 4. The construction documents will include the final design construction plans, vegetation salvage identification, construction phasing plan, engineer's estimate, permits and construction bid documents.

**Task 1 Funding**

319 Funds	\$26,000.00
Non-Federal Match	\$25,000.00
Other Federal Funds	\$10,000.00
Total Cost	\$61,000.00
Is Match Secured?	No

Timeline July 2017 - June 2018

Match Source Montana DNRC, Lolo NF

Task 2 Title Implement on-the-ground activities at the Upper Ninemile Creek Placer Mine Reclamation project

**Description**

The project implementation will include regrading of approximately 131,000 cubic yards of dredge tailings, based upon the conceptual design and preliminary grading plan within the identified areas of reach 4. Approximately 3,500 feet of stream channel will be reconstructed with an average slope of 1% and a belt width of 125 to 300 feet. The channel will be a C3-4 stream type with a sinuosity of 1.4 to 1.5. The project will also include reclamation work on Burnt Fork Creek at the confluence with Ninemile Creek and will tie in to the existing reclaimed confluence with Twin Creek.

The implementation will be similar to the current phase 2 reclamation on Ninemile Creek directly upstream of this reach. The initial work on the project will include woody debris and stream substrate salvage while simultaneously regrading the existing mine waste piles and dredge ponds into the new valley and floodplain configuration. The project will include stable channel construction with large woody debris for stability and habitat and appropriate vegetative remediation including sod and brush transplants, willow cuttings, pine, larch and cottonwood seedlings, and native nursery container stock.

**Deliverables**

Deliverables for Task 2 include the creation of floodplain through the regrading of placer mine piles and dredge ponds and the construction of approximately 3,500 feet of Ninemile Creek. The deliverable will also include the reconnection of Burnt Fork creek and Twin creek with revegetation and creation of off-channel wetland areas.

**Task 2 Funding**

319 Funds	\$230,000.00
Non-Federal Match	\$300,000.00
Other Federal Funds	\$50,000.00
Total Cost	\$580,000.00
Is Match Secured?	No

Timeline June 2018 - November 2019

Match Source Montana DNRC/Missoula County, Montana FWP, Lolo NF, TU

Task 3 Title Monitoring

Description

The monitoring component of the project will include post-project sediment load calculations. The project team has completed bank erosion surveys for nearly 5 miles of the Upper Ninemile Creek mining area. Post-project monitoring will be compared to pre-project data to estimate sediment load reductions. Vegetative success will also be monitored along streambank, riparian and wetland transects.

A collaborative effort with the University of Montana is currently underway to establish long term monitoring of reference, reclaimed and disturbed reaches on the mainstem of Ninemile Creek. The monitoring includes macro-invertebrate sampling, habitat structure (quantity and quality), temperature evaluation and substrate analysis.

Deliverables

Monitoring deliverables include bank erosion surveys to provide post project sediment load results. Additional deliverables will include vegetative success and results obtained through efforts with the University of Montana. These efforts include macro invertebrate population analysis, habitat structure surveys, temperature and substrate analysis.

Task 3 Funding

319 Funds	<input type="text" value="\$15,000.00"/>
Non-Federal Match	<input type="text"/>
Other Federal Funds	<input type="text" value="\$10,000.00"/>
Total Cost	<input type="text" value="\$25,000.00"/>
Is Match Secured?	<input type="text"/>

Timeline July 2017 - November 2019

Match Source USFS in kind

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Task 4 Title Education and Outreach

Description

TU will work with local organizations and press to educate the community about the project through site tours, presentations and earned media. The WRP for Ninemile Creek also identifies a need for landowner outreach and project development on private land. Under this grant, TU will contact landowners to further develop projects that focus on establishing riparian buffers and other water quality improvement projects on agricultural and residential properties.

In addition, TU will continue to coordinate efforts with several programs from the University of Montana including restoration ecology and stream entomology.

Deliverables

TU will conduct site tours to showcase past projects and existing damage within the project area to show reclamation success and future projects. TU will also provide presentations to local community groups, landowners and government officials. Trout Unlimited will work with agricultural landowners to provide best practice solutions and technical support.

While working with the University of Montana, TU will help coordinate field trips, labs, guest lecturing, mentoring and evaluating monitoring proposals.

Task 4 Funding

319 Funds	<input type="text" value="\$10,000.00"/>
Non-Federal Match	<input type="text" value="\$5,000.00"/>
Other Federal Funds	<input type="text"/>
Total Cost	<input type="text" value="\$15,000.00"/>
Is Match Secured?	<input type="text" value="No"/>

Timeline July 2017- December 2019

Match Source University of Montana

Task 5 Title Operation and Maintenance (O & M)

Description

The Upper Ninemile Creek mine reclamation project is part of a long term campaign to reclaim the Upper Ninemile Creek watershed impacted by past mining activity. As such, the project team has experience with multi-year projects completed on both public and private land and the associated operation and maintenance issues. TU has included post-project maintenance in all project reclamation plans. For example, on the Mattie V Creek, Twin Creek and Ninemile Creek Phase 1 projects, TU and the Lolo NF set up water sprinklers on the project site, fenced the project to protect against wildlife browsing and dedicated staff to post-project weed treatment and soil amendment as required by periodic monitoring and field inspection. Furthermore, the project team continues to monitor revegetation success and geomorphic change on these projects. TU has full time staff dedicated to project planning and these maintenance activities.

The Upper Ninemile Abandoned Placer reclamation activities will take place on private land, as well as portions of land managed by the Lolo National Forest. The Lolo National Forest completed a comprehensive Environmental Assessment for the project, which outlines the agencies adaptive management goals and strategy over a ten year time-frame. For portions of the project occurring on private land, landowners will be required to engage in property management plans over an approximately 20 year time-frame that protect the resources affected by the reclamation activities.

Deliverables

Task 5 deliverables include installation of water sprinklers, wildlife fencing and continued monitoring vegetative and streambank success. If vegetation or streambanks are unsuccessful, the project team will address those issues.

Task 5 Funding

319 Funds	<input type="text" value="\$4,000.00"/>
Non-Federal Match	<input type="text" value="\$2,500.00"/>
Other Federal Funds	<input type="text"/>
Total Cost	<input type="text" value="\$6,500.00"/>
Is Match Secured?	<input type="text" value="No"/>

Timeline July 2017- July 2020

Match Source Trout Unlimited - In Kind

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Task 6 Title Contract Administration

Description

Contract administration will include project management, contracting, billing and grant reporting.

Deliverables

Task 6 deliverables include status reports, annual reports, final report as well as billing and contract management.

Task 6 Funding

319 Funds	<input type="text" value="\$15,000.00"/>
Non-Federal Match	<input type="text"/>
Other Federal Funds	<input type="text"/>
Total Cost	<input type="text" value="\$15,000.00"/>
Is Match Secured?	<input type="text" value="No"/>

Timeline July 2017- December 2018

Match Source \_\_\_\_\_



**Project Milestone Table:** Complete the following Project Milestone Table by entering task numbers and titles in the left hand column, then check the box(es) for the appropriate quarter(s) and years(s) in which you will be working on the task.

Milestone	Spring 2017	Summer 2017	Fall 2017	Winter 2017	Spring 2018	Summer 2018	Fall 2018	Winter 2018	Spring 2019	Summer 2019	Fall 2019
Task 1 - Complete final design for Upper Ninemile Creek Phase 3 reclamation project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Task 2 - Implement on-the-ground activities at Upper Ninemile Creek mine reclamation project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Task 3 - Monitoring	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Task 4 - Outreach and education	<input checked="" type="checkbox"/>										
Task 5 - Operation and Maintenance	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
Task 6 - Administration	<input checked="" type="checkbox"/>										
	<input type="checkbox"/>										
	<input type="checkbox"/>										
	<input type="checkbox"/>										
	<input type="checkbox"/>										
	<input type="checkbox"/>										

Submit **project map(s)** and **letters of support (at least 3)** along with the Final Project Proposal form. If your organization is not the author of the WRP you hope to implement, you must request a letter of support from the original authoring entity. If the authoring entity refuses to provide a letter of support, use the additional space at the end of the application to describe their response. If design drawings are available, provide those as well. For on-the-ground work, include copies of applicable permits if available.

- Project Map
- Letters of Support
- Design Drawings
- Applicable Permits
- Draft of amended WRP (if applicable)
- Photos
- Landowner Agreements

**Use the space provided for any additional information that may not have been captured elsewhere in this Final Project Proposal**

The third phase of the Upper Ninemile Abandoned Placer Mine Reclamation Project will address some of the most critical mining damage along the total project area. The calculated, long term approach to fixing the Upper Ninemile drainage requires multiple phased funding and construction time frames. This will be the third of five phases and will be reclaiming some of the worst placer mine damage in the valley. The project team works diligently to apply the reclamation work in the most cost and time efficient manner possible. Past success in the drainage has brought forth good faith in the community and Trout Unlimited will continue to bring successful reclamation and to Ninemile Creek.



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**Paul Parson, PE**

*Clark Fork Restoration Coordinator*

September 26, 2016

Robert Ray  
Watershed Protection Section Supervisor  
Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

Dear Mr. Ray:

Enclosed is a copy of the FY 2017 319 grant application including:

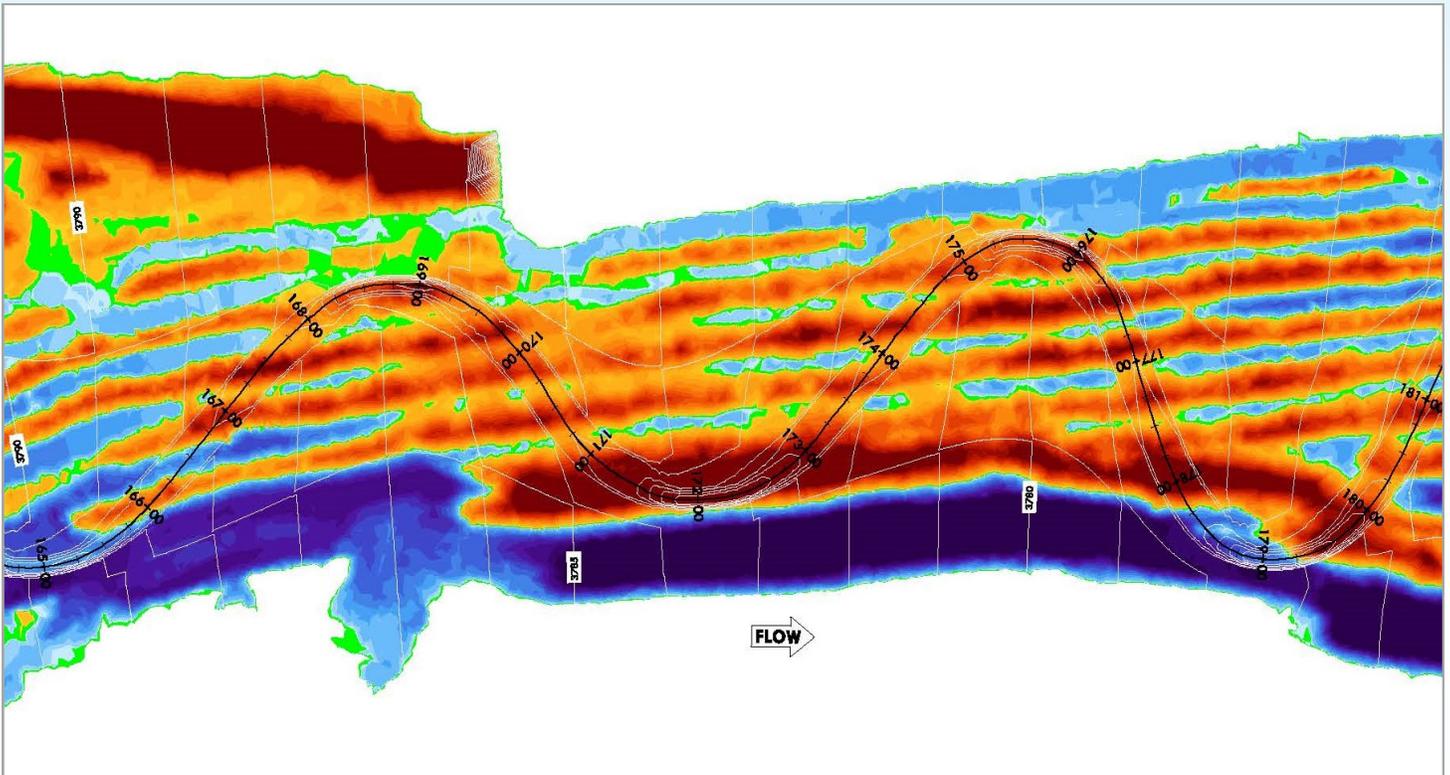
- Signed Application Form
- Photographs of the project area
- Project Map
- Design Drawings
- Letters of Support

If I can be of further assistance, please contact me directly at 406-543-1192 or via email at [pparson@tu.org](mailto:pparson@tu.org).

Kindest Regards,

Paul Parson

# UPPER NINEMILE CREEK PLACER MINE RECLAMATION PROJECT PHASE III



**MONTANA 319 NONPOINT SOURCE PROJECT**

**NINEMILE VALLEY  
MISSOULA COUNTY  
MONTANA**





# 319 Nonpoint Source Final Application

FY2017 Final Applications are due Monday, September 26, 2016 by 2:00 pm

## Section I: General Information

Project Title Upper Ninemile Creek Placer Mine Reclamation

### Project Sponsor Information

Sponsor Name Trout Unlimited

Registered with the Secretary of State? Yes

Registered with SAM? Yes

County Missoula

Website www.tu.org

Tax Identification # 38-1612715

DUNS # 051698132

Primary Contact Paul Parson, PE

Signatory Paul Parson, PE

Title Middle Clark Fork Restoration Coordinator

Title Middle Clark Fork Restoration Coordinator

Address 111 N. Higgins, Suite 500

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City Missoula State Montana Zip Code 59802

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Phone Number 406-543-1192

Phone Number 406-543-1192

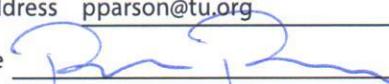
Fax Number 406-543-6080

Fax Number 406-543-6080

E-mail Address pparson@tu.org

E-mail Address pparson@tu.org

Signature 

Signature 

### Project Location

12 Digit HUC #(s) 170102040302

(1) Waterbody Name from 2016 List of Impaired Waters Ninemile Creek

(1) Probable cause(s) of impairment to be addressed (ex. metals) Sedimentation/Siltation

(2) Waterbody Name from 2016 List of Impaired Waters N/A

(2) Probable cause(s) of impairment to be addressed (ex. metals) N/A

(3) Waterbody Name from 2016 List of Impaired Waters N/A

(3) Probable cause(s) of impairment to be addressed (ex. metals) N/A

Activity 1 Name Ninemile Creek Reclamation

Latitude (1) 47.209361°

Longitude (1) -114.623813°

Activity 2 Name \_\_\_\_\_

Latitude (2) \_\_\_\_\_

Longitude (2) \_\_\_\_\_

Activity 3 Name \_\_\_\_\_

Latitude (3) \_\_\_\_\_

Longitude (3) \_\_\_\_\_

### Nonpoint Source (NPS) Information

Which WRP does the project implement? Ninemile Creek

What is the WRP status? DEQ-Accepted

Does the project address impairments identified in a TMDL? Yes

Waterbody Type River/Stream

Functional Category Sediment Control

1st Pollution Category Resource Extraction (Placer Mining)

Percent of Total (%) 100

2nd Pollution Category \_\_\_\_\_

Percent of Total (%) \_\_\_\_\_

3rd Pollution Category \_\_\_\_\_

Percent of Total (%) \_\_\_\_\_

4th Pollution Category \_\_\_\_\_

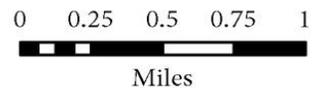
Percent of Total (%) \_\_\_\_\_

# Attachments

1. Project Map
2. Letters of Support
3. Design Drawings
4. Photos

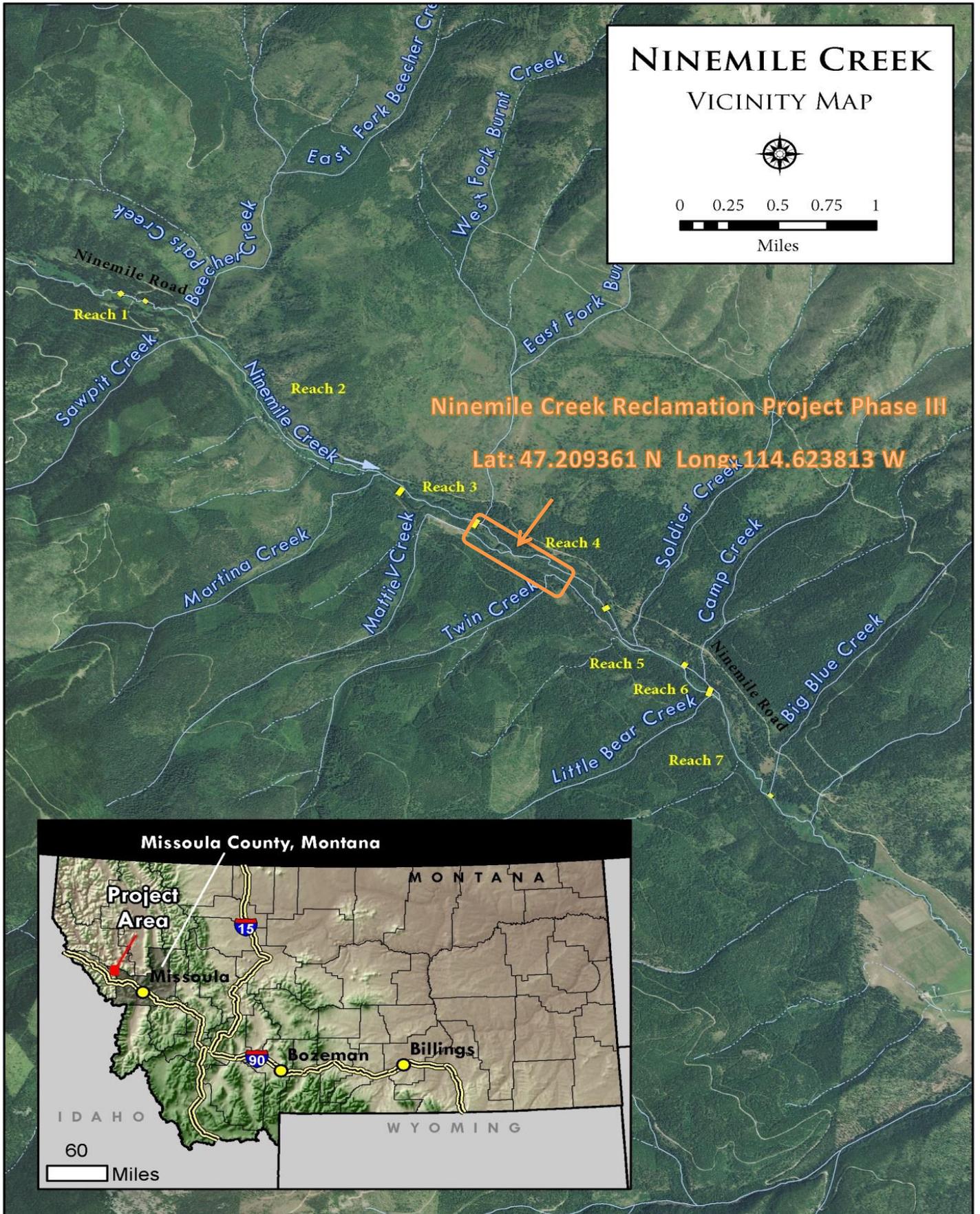
# Project Maps

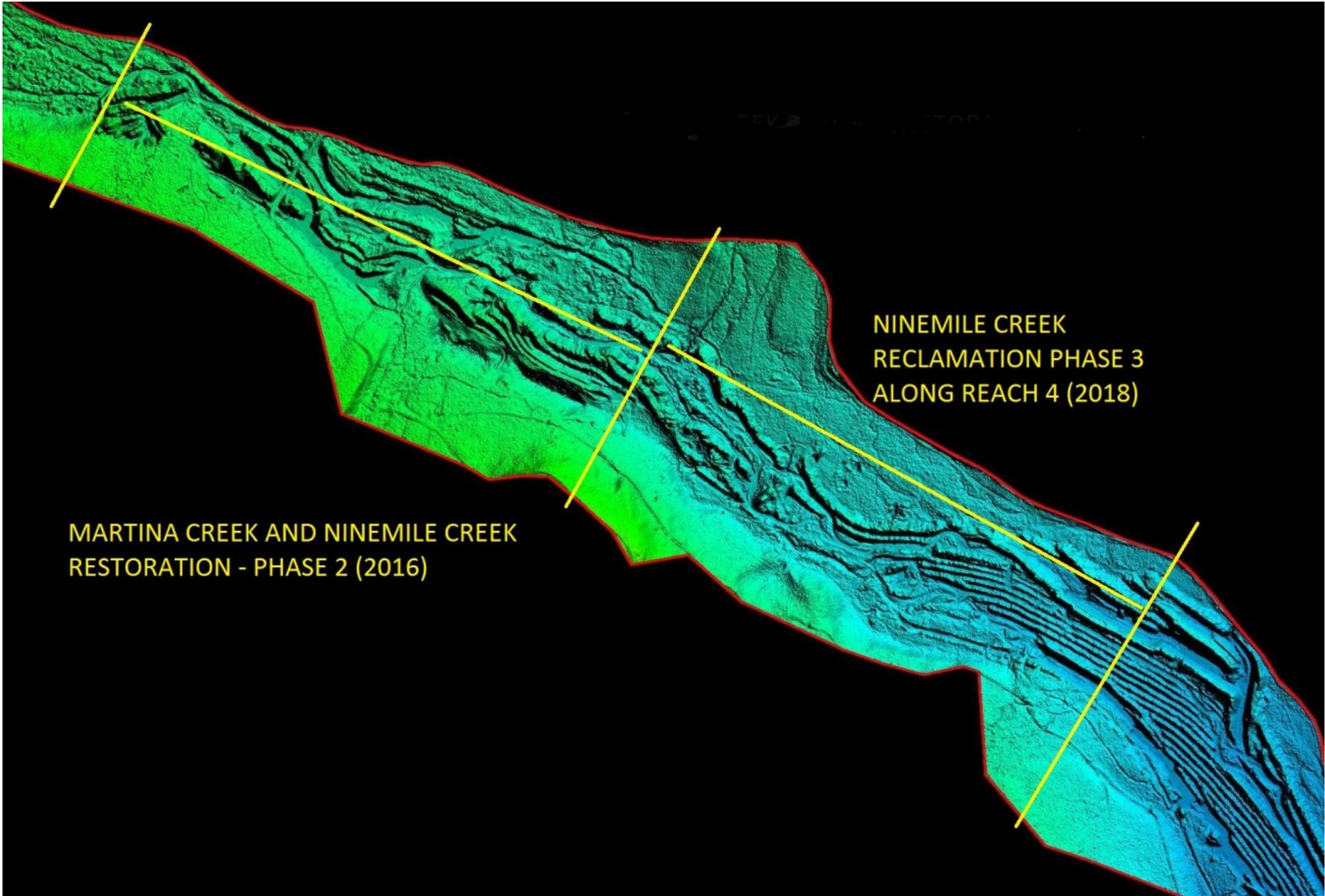
# NINEMILE CREEK VICINITY MAP



## Ninemile Creek Reclamation Project Phase III

Lat: 47.209361 N Long: 114.623813 W





MARTINA CREEK AND NINEMILE CREEK  
RESTORATION - PHASE 2 (2016)

NINEMILE CREEK  
RECLAMATION PHASE 3  
ALONG REACH 4 (2018)

NINEMILE CREEK  
RECLAMATION PHASE 3  
ALONG REACH 4 (2018)

# Letters of Support

John A. Johnston  
33075 Nine Mile Rd.  
Huson, MT 59846

Robert Ray  
Water Quality Planning Bureau  
Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

September 20, 2016

Dear Mr. Ray:

Please accept this letter as the Johnston family endorsement of the third phase of the Upper Ninemile Creek reclamation project in the Ninemile Creek watershed. Trout Unlimited is applying for grant funds from the Clean Water Act Section 319 Nonpoint Source (NPS) Program to work with the US Forest Service and private landowners to improve these mine sites, which have severe impacts from historical mining activity, including impaired water quality, altered stream geomorphology and altered hydrology.

The Johnston family has been in residence at the above address for almost 40 years. We have seen the Nine Mile stream move from being a quality fish habitat in the early 1980s to a stream that has had a substantial declining fish population due to the placer mining that went on earlier and into the mid 1980s by Clay Lewis. We have had the pleasure to meet Paul Parson of Trout Unlimited and see some of his earlier work and believe his knowledge, dedication and persistence in leading this project is moving the Nine Mile stream back to great water for the proliferation of trout and other fishlife.

Trout Unlimited (TU), Missoula County and the Lolo National Forest have been working on cooperative projects in the Ninemile Creek drainage for over a decade. This broad-based group also includes private landowners, state agencies, watershed groups, volunteers, and other conservation organizations. To date, the cooperative effort has led to the reclamation and reconnection of eight tributary streams and two reclamation phases on Ninemile Creek, with survey and design efforts on two other tributaries ongoing. TU has dedicated staff time and financial resources to these and other projects in the drainage and raised more than \$1.5 million for mine reclamation and watershed restoration in the area.

Planning, monitoring, and data collection on mainstem Ninemile Creek have been ongoing for nearly nine years, and this grant continues the large scale implementation effort to rehabilitate nearly five miles of the creek. Funds from the NPS Program are essential to completing on-the-ground reclamation projects and will be matched by state, federal and private funds.

The Johnston family believes this request for funding is needed and necessary to keep this worthwhile stream project moving forward.

Sincerely,



John A. Johnston

Workphone: 513-396-8749

Email address: [jajohnsto@udfinc.com](mailto:jajohnsto@udfinc.com)

Bryan McElligott  
1404 Mt. Pleasant Rd.  
Kelso Wa. 98626

Robert Ray  
Water Quality Planning Bureau  
Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

September 20, 2016

Dear Mr. Ray:

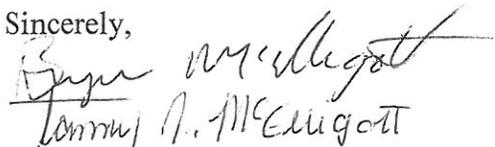
Please accept this letter as our endorsement of the third phase of the Upper Ninemile Creek reclamation project in the Ninemile Creek watershed. Trout Unlimited is applying for grant funds from the Clean Water Act Section 319 Nonpoint Source (NPS) Program to work with the US Forest Service and private landowners to improve these mine sites, which have severe impacts from historical mining activity, including impaired water quality, altered stream geomorphology and altered hydrology.

We happen to be one of the private landowners working with Trout Unlimited. Having the opportunity and privilege to witness the results of this restoration work has been amazing. In the past two years, we have seen an unhealthy stream become alive and healthy. Not to mention, an increase in wildlife.

Planning, monitoring, and data collection on mainstem Ninemile Creek have been ongoing for nearly nine years, and this grant continues the large scale implementation effort to rehabilitate nearly five miles of the creek. Funds from the NPS Program are essential to completing on-the-ground reclamation projects and will be matched by state, federal and private funds.

In our eye's this has been money well spent. The work that Trout unlimited is doing, benefits much more than the fish. Everyone, everything benefits as well as future generations. The full benefits to the environment will only be evident in the completion of all phases of this project. It is our hope that this work continues.

Sincerely,



*Bryan McElligott*  
Tammy A. McElligott

Bryan and Tammy McElligott

Ralph and Betty Thisted  
28850 Ninemile Rd  
Huson, MT 59846

Robert Ray  
319 Grant Program  
Montana DEQ  
1520 E. Sixth Avenue  
P.O. Box 200901  
Helena, MT 59620-0901

Dear Mr. Ray,

As owners of a patented mining claim on Josephine Creek and Ninemile Creek, we are keenly aware of the impact historic mining has had in the Ninemile Creek watershed. We have been working with Trout Unlimited and partners for a number of years to reclaim the land and water affected by past mining activities. Although the mining disturbances were caused by past owners and operators, and we are interested in restoring the land to its previous condition to benefit fisheries and water quality.

We have worked with Trout Unlimited on past successful projects in the Ninemile Creek watershed, including the Mattie V Creek and Twin Creek mine reclamation projects. We believe that TU's work to reclaim historic mining areas is important to this valley and are encouraged by their initial efforts to develop further opportunities for restoration on private lands.

Thank you very much for your time and cooperation. Please let me know if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Ralph and Betty Thisted". The signature is written in dark ink and is positioned above the typed name.

Ralph and Betty Thisted

David D. Pontrelli  
28235 Ninemile Road  
Huson, MT 59846

Robert Ray  
Water Quality Planning Bureau  
Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

September 20, 2016

Dear Mr. Ray:

Please accept this letter as our endorsement of the third phase of the Upper Ninemile Creek reclamation project in the Ninemile Creek watershed. Trout Unlimited is applying for grant funds from the Clean Water Act Section 319 Nonpoint Source (NPS) Program to work with the US Forest Service and private landowners to improve these mine sites, which have severe impacts from historical mining activity, including impaired water quality, altered stream geomorphology and altered hydrology.

Trout Unlimited (TU), Missoula County, several private consulting firms, including Streamside Services, LLC., as well as the Lolo National Forest have been working on cooperative projects in the Ninemile Creek drainage for over a decade. This broad-based group also includes private landowners, state agencies, watershed groups, volunteers, and other conservation organizations. To date, the cooperative effort has led to the reclamation and reconnection of eight tributary streams and two reclamation phases on Ninemile Creek, with survey and design efforts on two other tributaries ongoing. TU has dedicated staff time and financial resources to these and other projects in the drainage and raised more than \$1.5 million for mine reclamation and watershed restoration in the area.

Planning, monitoring, and data collection on mainstem Ninemile Creek have been ongoing for nearly nine years, and this grant continues the large scale implementation effort to rehabilitate nearly five miles of the creek. Funds from the NPS Program are essential to completing on-the-ground reclamation projects and will be matched by state, federal and private funds.

Sincerely,

David D. Pontrelli-*owner of Streamside Services, LLC.*

*Ninemile Landowner and Fisheries Consultant*



# The University of Montana

Department of Ecosystem and Conservation Sciences  
College of Forestry and Conservation  
The University of Montana  
Missoula, MT 59812-0596

Phone: (406) 243-5272  
FAX: (406) 243-4557

Robert Ray  
Water Quality Planning Bureau  
Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

September 22, 2016

Dear Mr. Ray:

I am writing to enthusiastically endorse the Upper Ninemile Creek reclamation project in the Ninemile Creek watershed. Trout Unlimited is applying for grant funds from the Clean Water Act Section 319 Nonpoint Source (NPS) Program to work with the US Forest Service and private landowners to improve these mine sites, which have severe impacts from historical mining activity, including impaired water quality, altered stream geomorphology and altered hydrology.

Trout Unlimited (TU), Missoula County and the Lolo National Forest have been working on cooperative projects in the Ninemile Creek drainage for nearly a decade. This broad-based group also includes private landowners, state agencies, watershed groups, volunteers, and other conservation organizations. To date, the cooperative effort has led to the reclamation and reconnection of eight tributary streams, with survey and design efforts on two other tributaries ongoing. TU has dedicated staff time and financial resources to these and other projects in the drainage and raised more than \$1.5 million for mine reclamation and watershed restoration in the area.

Planning, monitoring, and data collection on mainstem Ninemile Creek have been ongoing for nearly seven years, and this grant continues the large-scale implementation effort to rehabilitate nearly five miles of the creek. Funds from the NPS Program are essential to completing on-the-ground reclamation projects and will be matched by state, federal and private funds.

Sincerely,

Dr. Cara R. Nelson  
Associate Professor, Ecosystem Science and Restoration Program



Diana Six, PhD  
Professor of Forest Entomology  
Chair, Department of Ecosystem and Conservation Sciences  
University of Montana, Missoula  
Diana.six@cfc.umt.edu

September 23, 2016

Robert Ray  
Water Quality Planning Bureau  
Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

Dear Mr. Ray:

Please accept this letter supporting the reclamation project in the Ninemile Creek watershed. Trout Unlimited is applying for grant funds from the Clean Water Act Section 319 Nonpoint Source (NPS) Program to work with the US Forest Service and private landowners to improve these mine sites, which have severe impacts from historical mining activity, including impaired water quality, altered stream geomorphology and altered hydrology.

As you are aware, planning, monitoring, and data collection on the main stem of Ninemile Creek have been ongoing for nearly nine years. Uninterrupted data collection is integral to the success of the project. It is also integral to adaptive management and restoration approaches.

I am currently participating in the project as part of my aquatic invertebrate ecology course and the ecological restoration major at the University of Montana. We are using the Ninemile restoration site to train undergraduates in our restoration ecology and wildlife biology programs on the use of macroinvertebrates to assess stream quality and efficacy and value of restoration efforts. This project is an integral part of the lab of my course as well as for the capstone and practicum training which combines training in taxonomy and ecology with field experience. We are using DEQ protocols and will be monitoring the project over the long term (assessments will be made annually, we hope, for at least ten years). Support for this project will allow us to continue our monitoring and education efforts. In turn, our data sets and analyses will be shared with TU to support the project.

Sincerely,



September 21, 2016

Lisa Eby  
Associate Professor of Aquatic Ecology  
Ecosystem Science and Restoration Program Director  
University of Montana, Missoula  
Lisa.eby@umontana.edu

Robert Ray  
Water Quality Planning Bureau  
Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

September 22, 2016

Dear Mr. Ray:

Please accept this letter as our endorsement of the third phase of the Upper Ninemile Creek reclamation project in the Ninemile Creek watershed. Trout Unlimited is applying for grant funds from the Clean Water Act Section 319 Nonpoint Source (NPS) Program to work with the US Forest Service and private landowners to improve these mine sites, which have severe impacts from historical mining activity, including impaired water quality, altered stream geomorphology and altered hydrology.

Trout Unlimited (TU), Missoula County and the Lolo National Forest have been working on cooperative projects in the Ninemile Creek drainage for over a decade. This broad-based group also includes private landowners, state agencies, watershed groups, volunteers, and other conservation organizations. To date, the cooperative effort has led to the reclamation and reconnection of eight tributary streams and two reclamation phases on Ninemile Creek, with survey and design efforts on two other tributaries ongoing. TU has dedicated staff time and financial resources to these and other projects in the drainage and raised more than \$1.5 million for mine reclamation and watershed restoration in the area.

Planning, monitoring, and data collection on mainstem Ninemile Creek have been ongoing for nearly nine years, and this grant continues the large scale implementation effort to rehabilitate nearly five miles of the creek. Funds from the NPS Program are essential to completing on-the-ground reclamation projects and will be matched by state, federal and private funds. In addition to the excellent restoration work associated with this project, Trout Unlimited has been an integral partner with UM's Restoration Capstone classes. A group of Ecological Restoration students have been using Ninemile Creek to develop macroinvertebrate monitoring protocols, collect data on pre- and post-treatment stream health, and design a volunteer data collection plan. We also have UM volunteer days (planting) and tours of the site this fall associated with our 200-level Elements of Restoration Class that are open to any UM student. The site provides UM students with excellent opportunities to learn about mine reclamation, stream restoration, and monitoring. Support for this project will allow future Ecological Restoration students to learn from the site.

Sincerely,



Lisa Eby



## **Montana Fish, Wildlife & Parks**

3201 Spurgin Road  
Missoula, MT 59804  
Phone 406-542-5506  
E-mail [lknotek@mt.gov](mailto:lknotek@mt.gov)  
Fax 406-542-5529

Robert Ray  
Water Quality Planning Bureau  
Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

September 20, 2016

Dear Mr. Ray:

Please accept this letter of support for the third phase of the Upper Ninemile Creek reclamation project in the Ninemile Creek watershed. Trout Unlimited is applying for grant funds from the Clean Water Act Section 319 Nonpoint Source (NPS) Program to work with the US Forest Service and private landowners to improve these mine sites, which have severe impacts from historical mining activity, including impaired water quality, altered stream geomorphology and altered hydrology.

Trout Unlimited (TU), Missoula County and the Lolo National Forest have been working on cooperative projects in the Ninemile Creek drainage for over a decade. This broad-based group also includes private landowners, state agencies, watershed groups, volunteers, and other conservation organizations. To date, the cooperative effort has led to the reclamation and reconnection of eight tributary streams and two reclamation phases on Ninemile Creek, with survey and design efforts on two other tributaries ongoing. TU has dedicated staff time and financial resources to these and other projects in the drainage and raised more than \$1.5 million for mine reclamation and watershed restoration in the area.

Planning, monitoring, and data collection on mainstem Ninemile Creek have been ongoing for nearly nine years, and this grant continues the large scale implementation effort to rehabilitate nearly five miles of the creek. Funds from the NPS Program are essential to completing on-the-ground reclamation projects and will be matched by state, federal and private funds.

Sincerely,

A handwritten signature in black ink, appearing to read "Ladd", is written over the printed name.

William Ladd Knotek  
Fisheries Management Biologist



SEPTEMBER 20, 2016

Robert Ray  
Water Quality Planning Bureau  
Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

September 20, 2016

Dear Mr. Ray:

Please accept this letter as our endorsement of the third phase of the Upper Ninemile Creek reclamation project in the Ninemile Creek watershed. Trout Unlimited is applying for grant funds from the Clean Water Act Section 319 Nonpoint Source (NPS) Program to work with the Lolo National Forest and private landowners to improve these mine sites, which have severe impacts from historical placer mining activity, including impaired water quality, altered stream geomorphology and altered hydrology.

Trout Unlimited (TU), Missoula County and the Lolo National Forest have been working on cooperative projects in the Ninemile Creek drainage for over a decade. This broad-based group also includes private landowners, state agencies, watershed groups, volunteers, and other conservation organizations. To date, the cooperative effort has led to the reclamation and reconnection of eight tributary streams and two reclamation phases on Ninemile Creek, with survey and design efforts on two other tributaries ongoing. TU has dedicated staff time and financial resources to these and other projects in the drainage and raised more than \$1.5 million for mine reclamation and watershed restoration in the area.

Planning, monitoring, and data collection on mainstem Ninemile Creek have been ongoing for nearly nine years, and this grant continues the large scale implementation effort to rehabilitate nearly five miles of the creek. Funds from the NPS Program are essential to completing on-the-ground reclamation projects and will be matched by state, federal and private funds.

Thank you very much for all the support that DEQ has provided to our previous work and for this funding opportunity. With your continued support we will carry on our great success towards our goals of native fish connectivity, habitat improvement, and further contributing towards our TMDL responsibilities.

Sincerely,

TIMOTHY GARCIA  
Forest Supervisor



200 West Broadway Street  
Missoula, Montana 59802-4292



**Parks, Trails  
& Open Lands**

MISSOULA COUNTY 

Robert Ray  
Water Quality Planning Bureau  
Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

September 22, 2016

Dear Mr. Ray:

Please accept this letter in support of the third phase of the Upper Ninemile Creek reclamation project in the Ninemile Creek watershed. Trout Unlimited is applying for grant funds from the Clean Water Act Section 319 Nonpoint Source (NPS) Program to work with the US Forest Service and private landowners to improve these mine sites, which have severe impacts from historical mining activity, including impaired water quality, altered stream geomorphology and altered hydrology. Missoula County along with Trout Unlimited has applied for funding from the Montana Department of Natural Resources Reclamation and Development Grant Program for the implementation of this project.

Missoula County has worked with Trout Unlimited on planning, fundraising, and implementation of numerous, successful mine reclamation projects in the Ninemile Creek watershed. This joint project between Trout Unlimited, Missoula County, and the Lolo National Forest will build on previous efforts of this group which to date have led to the reclamation and reconnection of eight tributary streams. In addition, survey and design efforts on two other tributaries are ongoing. Trout Unlimited has been an outstanding partner, dedicating staff time and financial resources to these projects and raising more than \$1.5 million for mine reclamation and watershed restoration. Their time and energy on these projects has been crucial to the high level of success that has been achieved to date.

Funding from the 319 program for the third phase of the Upper Ninemile Creek reclamation project would contribute to the large scale effort to rehabilitate nearly five miles of Ninemile Creek, is essential to completing on the ground projects, and would be matched by state, federal, and private funds. Thank you for the funding opportunity and your continued work for conserving natural resources. Please do not hesitate to contact me if you have questions.

Sincerely,

Kali Becher  
Rural Landscape Scientist

Missoula County Community and Planning Services | Parks, Trails & Open Lands Program  
Office Address: 323 West Alder, Missoula, MT 59802 | Telephone (406) 258-3432 | FAX (406) 258-3920



Robert Ray  
Water Quality Planning Bureau  
Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620-0901

September 20, 2016

Dear Mr. Ray:

The board of the Ninemile Wildlife Workgroup would like your support for the third phase of the Upper Ninemile Creek reclamation project in the Ninemile Creek watershed. The Ninemile Wildlife Workgroup is a group of local citizens whose mission is to promote knowledge and stewardship of local wildlife and habitat within the communities and public lands of the Ninemile, Huson, and Alberton region. You can learn about our organization by visiting our website at <http://www.ninemilewildlife.org/>.

Trout Unlimited is applying for grant funds from the Clean Water Act Section 319 Nonpoint Source (NPS) Program to work with the US Forest Service and private landowners to improve these mine sites, which have severe impacts from historical mining activity, including impaired water quality, altered stream geomorphology and altered hydrology.

Trout Unlimited (TU), Missoula County and the Lolo National Forest have been working on cooperative projects in the Ninemile Creek drainage for over a decade. This broad-based group also includes private landowners, state agencies, watershed groups, volunteers, and other conservation organizations. To date, the cooperative effort has led to the reclamation and reconnection of eight tributary streams and two reclamation phases on Ninemile Creek, with survey and design efforts on two other tributaries ongoing. TU has dedicated staff time and financial resources to these and other projects in the drainage and raised more than \$1.5 million for mine reclamation and watershed restoration in the area.

Planning, monitoring, and data collection on mainstem Ninemile Creek have been ongoing for nearly nine years, and this grant continues the large scale implementation effort to rehabilitate nearly five miles of the creek. Funds from the NPS Program are essential to completing on-the-ground reclamation projects and will be matched by state, federal and private funds.

The Ninemile Wildlife Workgroup Board urges you to support this grant that would restore more of the Ninemile Valley to a fully functioning ecosystem. It supports our mission, complements past restoration efforts, and contributes to the local economy and our quality of life.

Thank you for your consideration.

Sincerely,

Pat Sweeney  
Ninemile Wildlife Workgroup Chairperson  
P.O. Box 183  
Frenchtown, MT 59834



P.O. Box 7186 Missoula, MT 59807 (406) 543-0054 www.montanatu.org

21 September 2016

Robert Ray  
Water Quality Planning Bureau  
Montana Department of Environmental Quality  
P.O. Box 200901  
Helena, MT 59620

Re: 319 grant Ninemile Creek Restoration

Robert:

Montana Trout Unlimited heartily endorses the application for Clean Water Act Section 319 funding submitted by the watershed restoration team of our national organization for the third phase of its Upper Ninemile Creek Reclamation Project. We, the grassroots side of TU, work hand in glove with our national restoration staff, and highly value the investment they have made in improving watershed and water quality conditions in the Ninemile Creek drainage. Our investment in the watershed reaches back to small restoration ventures we contributed to back in the early 1990s. The Ninemile Creek watershed was also where we negotiated and implemented the first lease in Montana of a private consumptive water right for instream flows. The Ninemile Creek Reclamation Project has built on those early efforts, but at several orders of magnitude in scale.

The cooperative nature of this project, involving private landowners, the U.S. Forest Service, Missoula County, Montana FWP, Montana DEQ, the local conservation district and watershed group has produced measurable and significant improvements in water quality and fish habitat. This includes reclamation and reconnection of eight tributary streams that were significantly damaged by placer mining, as well as restoration of damaged channel on two large reaches of Ninemile Creek. The phase that this 319 grant will fund will improve an additional five miles of Ninemile Creek. Importantly, the 319 grant will enable us to leverage significant private, county and state funding.

The Ninemile ventures have proven to be excellent investments in reclamation, restoration and water quality improvements. The improvements have been measurable. This phase will build on the popular success of years of good work. We urge DEQ to fully fund the request.

By all means contact me if you have questions.

Sincerely,

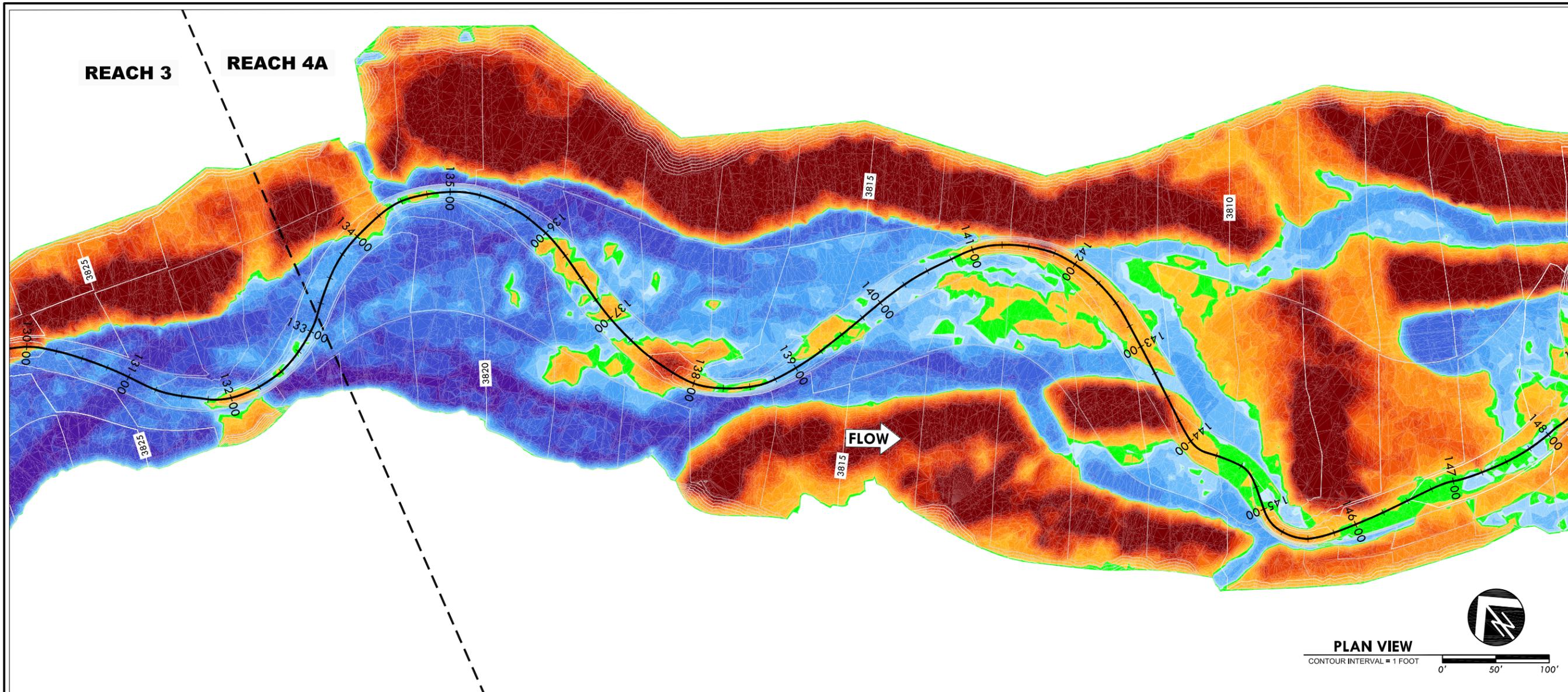
A handwritten signature in black ink that reads "Bruce Farling".

Bruce Farling  
Executive Director

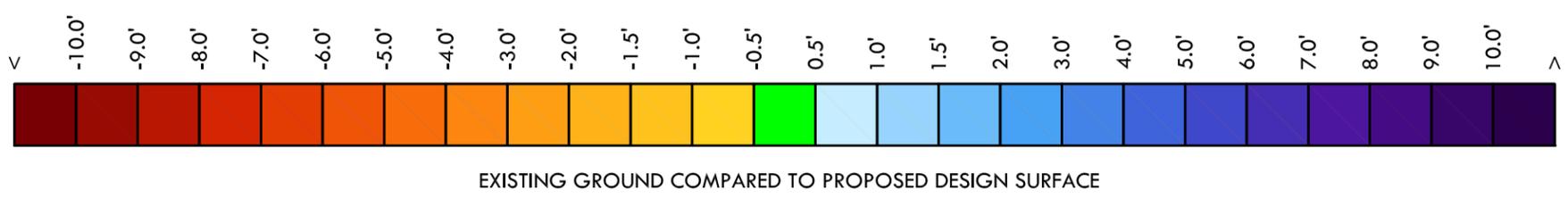
# Design Drawings







# GRADING PLAN REACH 3 & 4A



EARTHWORK VOLUMES			
STATION START	STATION END	CUT (CY)	FILL (CY)
132+00	134+00	4,203	2,489
134+00	136+00	8,473	5,939
136+00	138+00	7,171	3,840
138+00	140+00	9,940	2,795
140+00	142+00	12,443	1,676
142+00	144+00	7,974	735
144+00	146+00	10,945	647
146+00	148+00	12,512	1,344
TOTAL		73,661	19,465
		<b>54,196 CY NET CUT</b>	

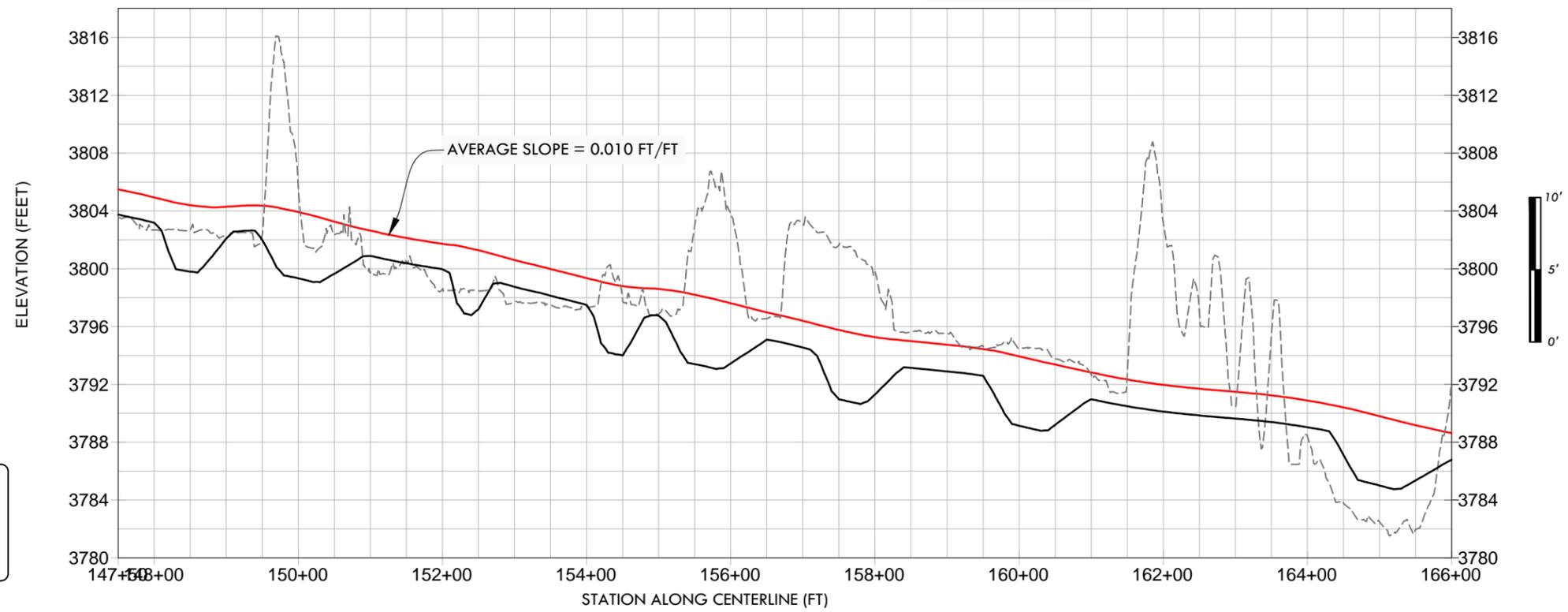
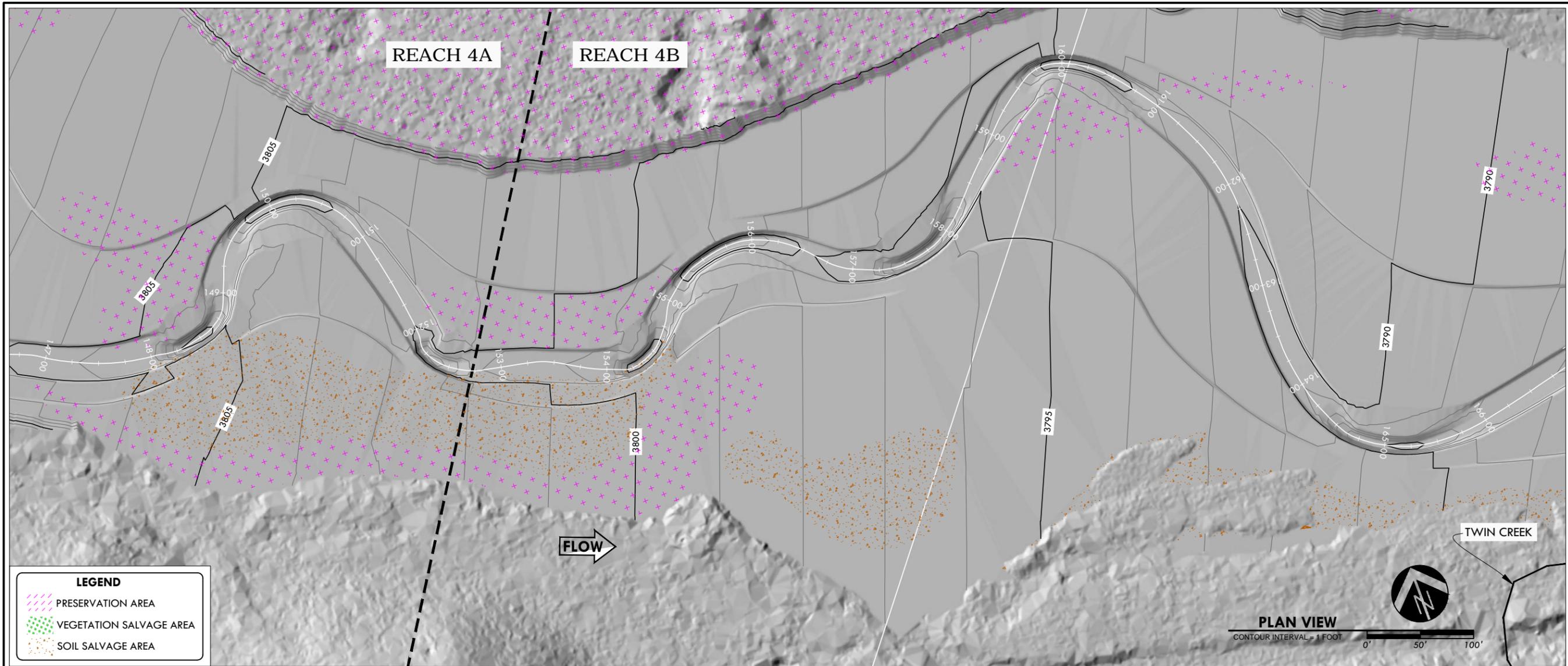
NOTE: REPORTED VOLUMES ARE NEATLINE

NO.	DATE	BY	DESCRIPTION	CHK
1	03-15-14	NW	GRADING PLAN DESIGN	MD

PROJECT NUMBER  
RDG-13-001

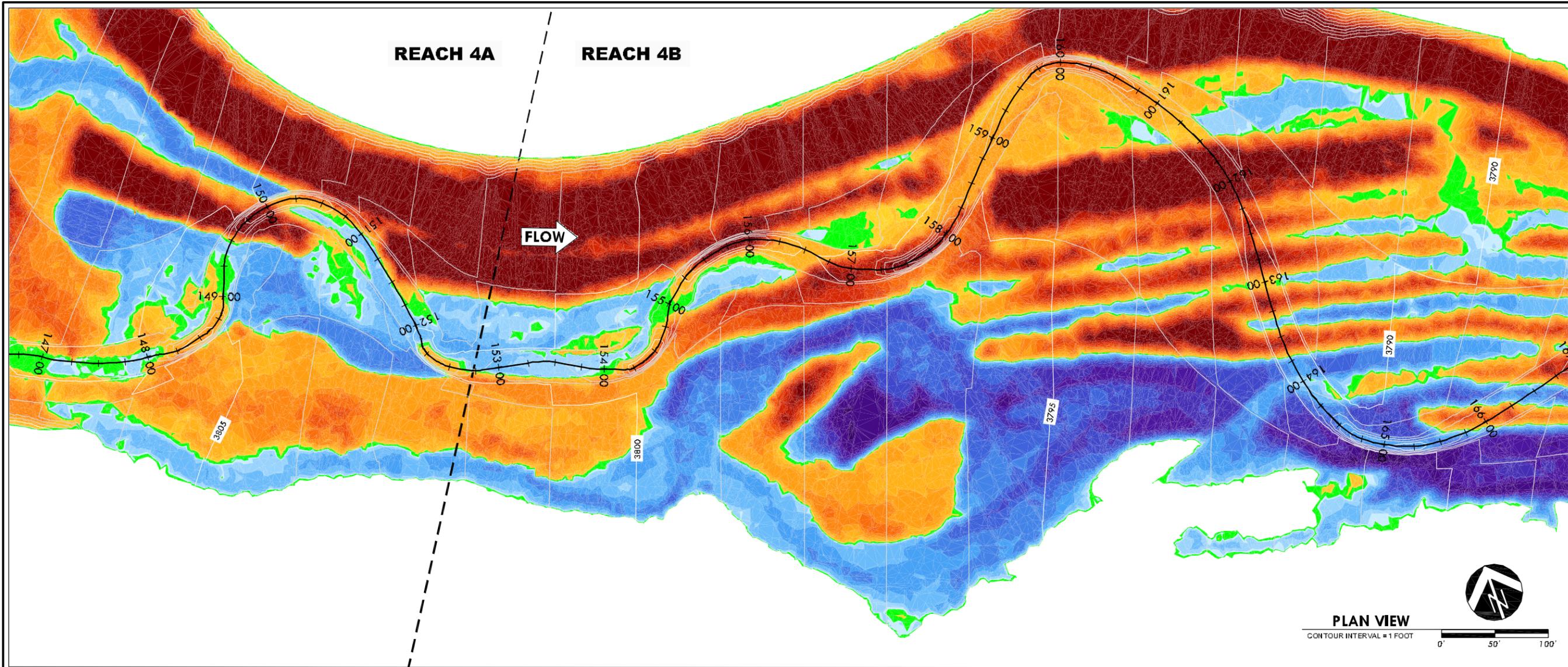
SHEET NUMBER

# 6.2



**PLAN AND PROFILE - REACH 4A & 4B**

NO.	DATE	BY	DESCRIPTION	CHK
1	03-15-14	NW	GRADING PLAN DESIGN	MD



EARTHWORK VOLUMES			
STATION START	STATION END	CUT (CY)	FILL (CY)
148+00	150+00	4,192	460
150+00	152+00	8,412	1,236
152+00	154+00	11,591	869
154+00	156+00	8,457	1,614
156+00	158+00	13,089	4,167
158+00	160+00	7,442	3,162
160+00	162+00	14,841	3,360
162+00	164+00	7,298	1,403
164+00	166+00	9,814	3,968
<b>TOTAL</b>		<b>85,136</b>	<b>20,240</b>
		<b>64,896 CY NET CUT</b>	

NOTE: REPORTED VOLUMES ARE NEATLINE

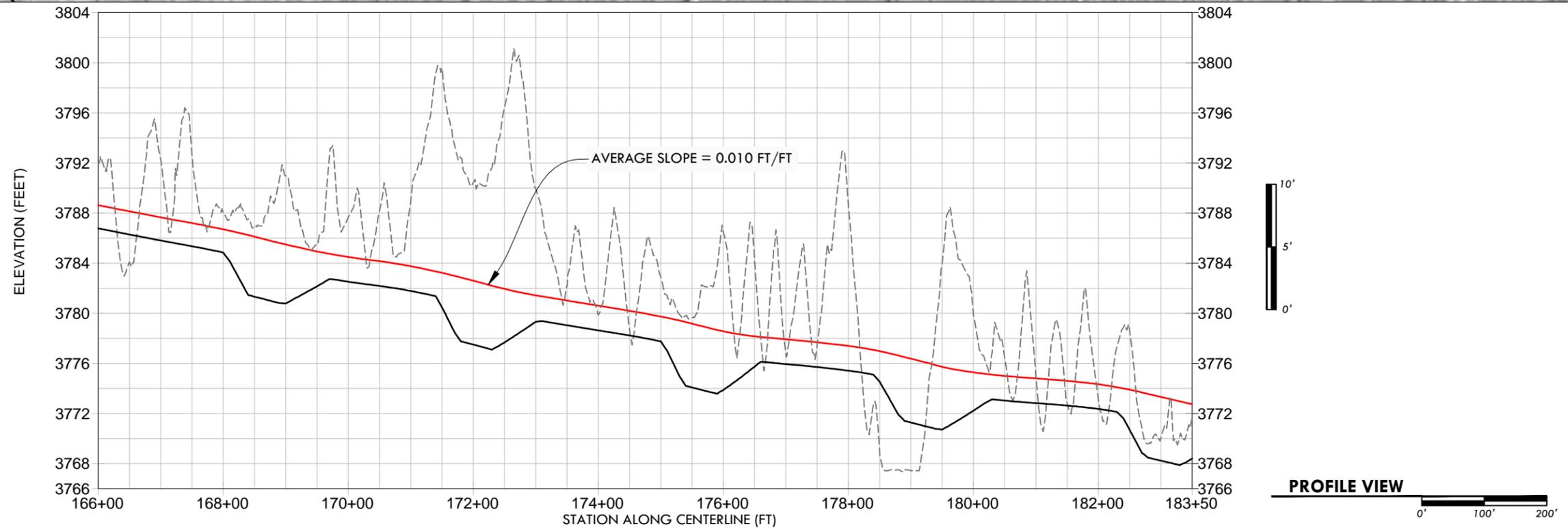
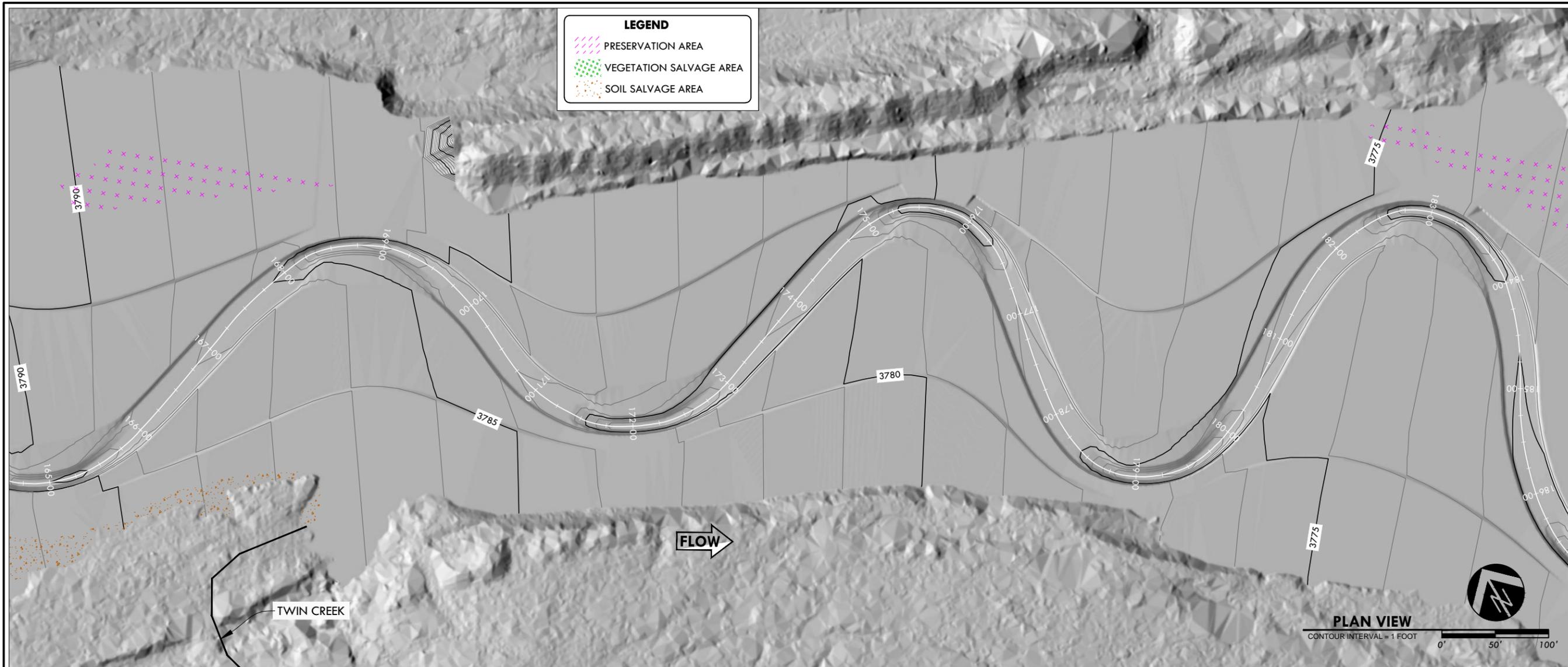
**GRADING PLAN  
REACH 4A & 4B**

NO.	DATE	BY	DESCRIPTION	CHK
1	03-15-14	INW	GRADING PLAN DESIGN	MD

PROJECT NUMBER  
RDG-13-001

SHEET NUMBER

**6.4**



**LEGEND**  
 - - - EXISTING GROUND  
 — DESIGN BANKFULL  
 — DESIGN THALWEG

**RIVER DESIGN GROUP, INC.**  
 5098 Hwy 93 South  
 Whitefish, MT 59937  
 tel: 406.862.4927  
 fax: 406.862.4963

311 SW Jefferson Avenue  
 Corvallis, OR 97333  
 tel: 541.738.9920  
 fax: 541.738.8524

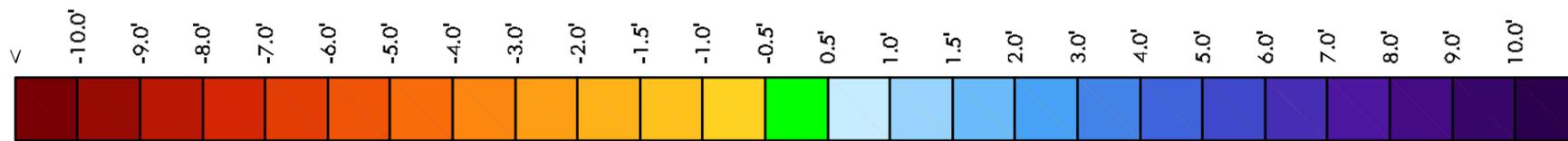
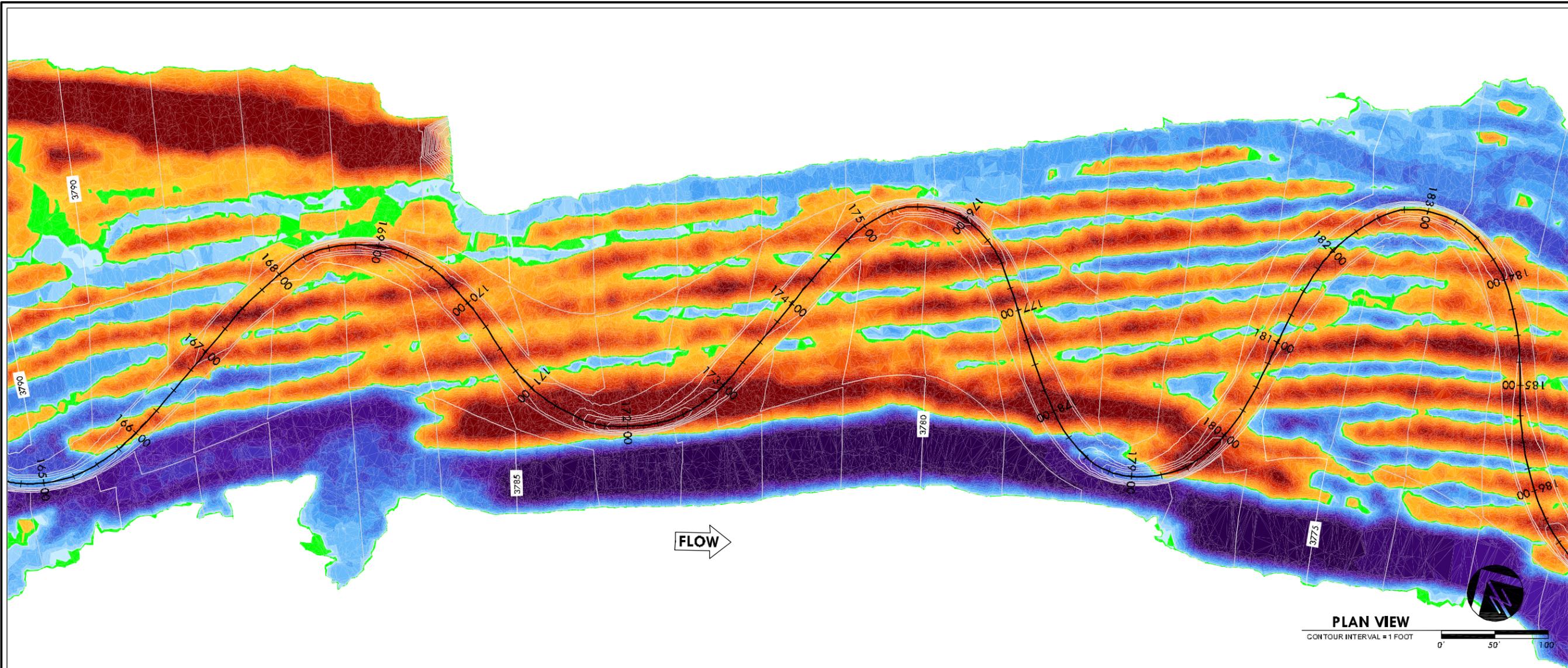
**PLAN AND PROFILE - REACH 4B**

NO.	DATE	BY	DESCRIPTION	CHK
1	03-15-14	NW	GRADING PLAN DESIGN	MD

**PROJECT NUMBER**  
RDG-13-001

**SHEET NUMBER**

**6.5**



EXISTING GROUND COMPARED TO PROPOSED DESIGN SURFACE

EARTHWORK VOLUMES			
STATION START	STATION END	CUT (CY)	FILL (CY)
166+00	168+00	8,812	3,210
168+00	170+00	8,878	3,200
170+00	172+00	5,793	2,898
172+00	174+00	6,045	4,041
174+00	176+00	5,441	4,347
176+00	178+00	3,351	2,321
178+00	180+00	6,520	3,431
180+00	182+00	2,580	2,459
182+00	184+00	4,372	6,113
184+00	186+00	2,562	2,853
TOTAL		54,354	34,873
		19,481 CY NET CUT	

NOTE: REPORTED VOLUMES ARE NEATLINE

**GRADING PLAN  
 REACH 4B**

NO.	DATE	BY	DESCRIPTION	CHK
1	03-15-14	INW	GRADING PLAN DESIGN	MD

PROJECT NUMBER  
RDG-13-001

SHEET NUMBER  
**6.6**

# Photos

# Ninemile Creek Mining Damage on Reach 4



**Dredge Pond Near Twin Creek**



**10' High Placer Pile at Twin Creek Confluence**



**Lack of Floodplain near Twin Creek**



**Dredge Overburden Piles with Invasive Weeds**



**Straightened Reach of Ninemile near Burnt Fork**



**Eroding Placer Mine Pile on Reach 4**

# Ninemile Creek Mining Damage along Housem Placer



Placer Piles along Floodplain Near Burnt Fork



Dredge Overburden Piles in Floodplain



Eroding Placer Pile on Reach 4



Placer Overburden Bank with Invasive Weeds



Eroding Bank along Ninemile Creek



Dredge Pond with Mine Overburden Piles