



Cost-Share Proposal Form for NorthWestern Energy (NWE) Project 2188 TAC Funds

Project 2188 (Madison-Missouri River) License Protection, Mitigation and Enhancement (PM&E) projects are required to offset impacts to river resources from the continued operation of one or more of NWE's nine hydro developments (Hebgen, Madison, Hauser, Holter, Black Eagle, Rainbow, Cochrane, Ryan and Morony Dams). PM&E projects need to be prioritized toward in-river or on-the-ground measures that directly benefit fisheries and/or wildlife populations and their habitats:

Priority 1: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats within the main stem Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir)

Priority 2: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats in primary tributaries or on adjacent lands and, in doing so, provide PM&E for Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir) resources.

Priority 3: 2188 License PM&E projects which meet License Article requirements by providing scientific or other tangible PM&E benefits to Madison-Missouri River fisheries or wildlife populations or their habitats. These projects must be located in the greater Missouri River drainage upstream from Fort Peck Reservoir, but not necessarily located on the main stem Madison River or Missouri River or their adjacent lands or primary tributaries.

All TAC project proposals must include the following information:

Project Title: **2188 Operations and Personnel**

Date: **October 2023**

Explain how this Project addresses a specific Project 2188 License Article(s): **Funding is for the wages and operations of FWP 2188 project personnel that identify, develop, assess, monitor, and implement projects that meet the FERC 2188 license conditions.**

Provide justification for Priority 1, 2 or 3 (above) that you selected: **MFWP 2188 Project Personnel will be involved in all three priority levels.**

Project Sponsor (submitted by): **-MFWP**

Location of Proposed Project: **Ennis, Madison River drainage**

Narrative: **The Ennis Field Office was established to identify, develop, assess, and implement fisheries monitoring and enhancement projects as described in the 6/29/2018 MOA between NorthWestern Energy and FWP and in the FERC 2188 license. This proposal will fund staff time and operations required to comply with 2188 Articles 404, 408, 409, 412, 413, and 412. NorthWestern Energy, FWP, and partners are pursuing large-scale projects in the coming years to improve spawning and recruitment for Brown and Rainbow Trout in the Madison River, which will require monitoring, analysis, and reporting in addition to routine monitoring, ongoing projects, and monitoring related to the Hebgen Dam gate failure. FWP 2188 project personnel Travis Lohrenz and Jenna Dukovic will conduct monitoring, enhancement, and reporting activities under the direction of FWP R3 Hydropower Program Supervisor Matt Jaeger.**

Geocode (in decimal degrees ex 46.89743) Lat: _____ Long: _____

Total Project Cost: **\$222,308**

TAC Funds (Cost-Share) Requested for Project:

- I. Introduction; brief statement of project to be completed with pertinent background information.
This proposal will fund staff time and operations required to comply with 2188 Articles 404, 408, 409, 412, 413, and 412 as described in the 6/29/2018 MOA between NorthWestern Energy and FWP.
- II. Objectives; explicit statement(s) of what is intended to be accomplished.
This proposal will fund staff time and operations required to comply with 2188 Articles 404, 408, 409, 412, 413, and 412 as described in the 6/29/2018 MOA between NorthWestern Energy and FWP.
- III. Methods; description of how Project objectives will be accomplished.
FWP 2188 project personnel Travis Lohrenz and Jenna Dukovic will conduct monitoring and enhancement activities required to comply with Articles 404, 408, 409, 412, 413, and 412 under the direction of Matt Jaeger FWP R3 Hydropower Program Supervisor.
- IV. Schedule; when the Project work will begin and end.
Jan 1, 2024 - June 30, 2025
- V. Personnel; who will do the work? Identify Project leader or principal investigator.
FWP 2188 project personnel Travis Lohrenz and Jenna Dukovic will conduct the monitoring and enhancement activities specified in the 6/29/2018 MOA between NorthWestern Energy and FWP under the direction of Matt Jaeger FWP R3 Hydropower Program Supervisor.
- VI. Project budget must include amounts for the following:
 - Direct Labor
 - Travel and Living
 - Materials
 - Other Direct Expenses
 - Direct Overhead*
 - All cost-share sources and amounts, including estimation of “in-kind” contributions

Staff	Item	FTE	Hours	Pay rate including benefits	Amount	Amount
2188 Monitoring & Enhancement Activities						
TL - 37331	F&W Tech	1.00	2080	40.40		\$84,032
JD - 37322	F&W Tech	1.00	2080	33.88		\$70,470
MJ - 13363	Program Supervisor	0.17	356	56.40		\$20,078
	Travel				\$6,000	
	Operations				\$15,000	
	Subtotal	2.17	4516		\$21,000	\$174,580
	Indirect (15.31%)					\$26,728
	Subtotal of	2.17	4516		\$21,000	\$201,308
Total						\$222,308

***NorthWestern Energy TAC funds will not be used for agency overhead on projects that do not fund personnel. Applications for materials and equipment should not contain overhead.**

VII. Deliverables: describe work product (reports, habitat restoration, etc.) which will result from this Project. How will “success” for this project be monitored or demonstrated? **Preparation and submission of an annual report to NWE describing the work of the previous year’s activities as described in the 6/29/2018 MOA between NorthWestern Energy and FWP and how they meet FERC article requirements.**

VIII. Cultural Resources. Cultural Resource Management (CRM) requirements for any activity related to this Project must be completed and documented to NWE as a condition of any TAC grant. TAC funds may not be used for any land-disturbing activity, or the modification, renovation, or removal of any buildings or structures until the CRM consultation process has been completed. Agency applicants must submit a copy of the proposed project to a designated Cultural Resource Specialist for their agency. Private parties or non-governmental organizations are encouraged to submit a copy of their proposed project to a CRM consultant they may have employed. Private parties and non-governmental organizations may also contact the NWE representative for further information or assistance. Applications submitted without this section completed, will be held by the TAC, without any action, until the information has been submitted.

Summarize here how you will complete requirements for Cultural Resource Management:

IX. Water Rights. For projects that involve development, restoration or enhancement of wetlands, please describe how the project will comply with the Montana DNRC’s “Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities”, issued by the Water Resources Division on 9 March 2016.

Summarize here how you will comply with Montana water rights laws, policies and guidelines:

All TAC Project proposals should be 7 pages or less and emailed (as a WORD file) to each of:

- Andrew.Welch@NorthWestern.com
- Jon.Hanson@Northwestern.com
- Grant.Grisak@Northwestern.com

Further questions about TAC proposals or Project 2188 license requirements or related issues may be addressed to:

Andy Welch

Manager, Hydro License Compliance

Andrew.Welch@NorthWestern.com

☎ 406-444-8115

☎ 406-565-7549

208 N. Montana Ave

Suite 205

Helena, MT 59601



Cost-Share Proposal Form for NorthWestern Energy (NWE) Project 2188 TAC Funds

Project 2188 (Madison-Missouri River) License Protection, Mitigation and Enhancement (PM&E) projects are required to offset impacts to river resources from the continued operation of one or more of NWE’s nine hydro developments (Hebgen, Madison, Hauser, Holter, Black Eagle, Rainbow, Cochrane, Ryan and Morony Dams). PM&E projects need to be prioritized toward in-river or on-the-ground measures that directly benefit fisheries and/or wildlife populations and their habitats:

Priority 1: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats within the main stem Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir)

Priority 2: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats in primary tributaries or on adjacent lands and, in doing so, provide PM&E for Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir) resources.

Priority 3: 2188 License PM&E projects which meet License Article requirements by providing scientific or other tangible PM&E benefits to Madison-Missouri River fisheries or wildlife populations or their habitats. These projects must be located in the greater Missouri River drainage upstream from Fort Peck Reservoir, but not necessarily located on the main stem Madison River or Missouri River or their adjacent lands or primary tributaries.

All TAC project proposals must include the following information:

Project Title: **Ennis Office Rent**

Date: **December 4, 2023**

Explain how this Project addresses a specific Project 2188 License Article(s):

Provides office, shop and storage for the FWP 2188 Madison Fisheries program

Provide justification for Priority 1, 2 or 3 (above) that you selected:

Provides office, shop, and storage for 2188 operations, which addresses all three priority levels.

Project Sponsor (submitted by): **MFWP**

Location of Proposed Project: : **Ennis**

Narrative: **The office will provide a local base of operations for MFWP 2188 fisheries personnel in the Madison Drainage.**

Geocode (in decimal degrees ex 46.89743) Lat; _____ Long: _____

Total Project Cost: **\$7,200**

TAC Funds (Cost-Share) Requested for Project: **\$7,200**

- I. Introduction; brief statement of project to be completed with pertinent background information.
One year office and shop space for MFWP Madison 2188 fisheries personnel

- II. Objectives; explicit statement(s) of what is intended to be accomplished. **Provide a local base of operations for 2188**
- III. Methods; description of how Project objectives will be accomplished.
Normal billing and payment
- IV. Schedule; when the Project work will begin and end.
2023 billing cycle
- V. Personnel; who will do the work? Identify Project leader or principal investigator.
FWP 2188 project personnel
- VI. Project budget must include amounts for the following:
- Direct Labor
 - Travel and Living
 - Materials
 - Other Direct Expenses
 - Direct Overhead*
 - All cost-share sources and amounts, including estimation of “in-kind” contributions

***NorthWestern Energy TAC funds will not be used for agency overhead on projects that do not fund personnel. Applications for materials and equipment should not contain overhead.**

- VII. Deliverables; describe work product (reports, habitat restoration, etc.) which will result from this Project. How will “success” for this project be monitored or demonstrated?
- VIII. Cultural Resources. Cultural Resource Management (CRM) requirements for any activity related to this Project must be completed and documented to NWE as a condition of any TAC grant. TAC funds may not be used for any land-disturbing activity, or the modification, renovation, or removal of any buildings or structures until the CRM consultation process has been completed. Agency applicants must submit a copy of the proposed project to a designated Cultural Resource Specialist for their agency. Private parties or non-governmental organizations are encouraged to submit a copy of their proposed project to a CRM consultant they may have employed. Private parties and non-governmental organizations may also contact the NWE representative for further information or assistance. Applications submitted without this section completed, will be held by the TAC, without any action, until the information has been submitted.

Summarize here how you will complete requirements for Cultural Resource Management:

- IX. Water Rights. For projects that involve development, restoration or enhancement of wetlands, please describe how the project will comply with the Montana DNRC’s “Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities”, issued by the Water Resources Division on 9 March 2016.

Summarize here how you will comply with Montana water rights laws, policies and guidelines:

All TAC Project proposals should be 7 pages or less and emailed (as a WORD file) to each of:

- Andrew.Welch@NorthWestern.com
- Jon.Hanson@Northwestern.com
- Grant.Grisak@Northwestern.com

Further questions about TAC proposals or Project 2188 license requirements or related issues may be addressed to:

Andy Welch
Manager, Hydro License Compliance

Andrew.Welch@NorthWestern.com

○ 406-444-8115

○ 406-565-7549

208 N. Montana Ave

Suite 205

Helena, MT 59601

Cost-Share Proposal Form for NorthWestern Energy (NWE) Project 2188 TAC Funds

Project 2188 (Madison-Missouri River) License Protection, Mitigation and Enhancement (PM&E) projects are required to offset impacts to river resources from the continued operation of one or more of NWE's nine hydro developments (Hebgen, Madison, Hauser, Holter, Black Eagle, Rainbow, Cochrane, Ryan and Morony Dams). PM&E projects need to be prioritized toward in-river or on-the-ground measures that directly benefit fisheries and/or wildlife populations and their habitats:

Priority 1: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats within the main stem Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir)

Priority 2: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats in primary tributaries or on adjacent lands and, in doing so, provide PM&E for Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir) resources.

Priority 3: 2188 License PM&E projects which meet License Article requirements by providing scientific or other tangible PM&E benefits to Madison-Missouri River fisheries or wildlife populations or their habitats. These projects must be located in the greater Missouri River drainage upstream from Fort Peck Reservoir, but not necessarily located on the main stem Madison River or Missouri River or their adjacent lands or primary tributaries.

All TAC project proposals must include the following information:

Project Title: 2024 Custer Gallatin NF's seasonal technician funding

Date: 11/27/2023

Explain how this Project addresses a specific Project 2188 License Article(s):

This project would partially fund one Custer Gallatin National Forest Fish Technician to assist NWE, MFWP, and USFS biologists with multiple projects including monitoring and surveys during the 2024 field season. General duties that address the following articles include: population & habitat monitoring for species of special concern (population estimates, presence/absence surveys, nonnative removals, collection of genetic material, temperature monitoring, riparian & stream channel monitoring, etc.); assisting with stream and lake enhancement projects; and, fish barrier site identification, reconnaissance, and maintenance.

ARTICLE 408

7) Monitor fish species of special concern (i.e., Arctic grayling and westslope cutthroat trout).

ARTICLE 409

3) Fish habitat enhancement both in main stem and tributary streams, including enhancement for all life stages of fishes.

6) Inclusion or exclusion of fish barriers.

ARTICLE 412

4) Protect and aid the recovery of threatened and endangered fish species and other aquatic species of special concern, including Arctic grayling, in Madison Reservoir and the lower Madison River.

Provide justification for Priority 1, 2 or 3 (above) that you selected:

Priority 2: The USFS technicians would assist with projects which meet License Article requirements and PM&E for fisheries populations and their habitats in primary tributaries and provide PM&E for Madison River resources, as directed by USFS, MFWP and NWE fisheries personnel.

Project Sponsor (submitted by): Allison Stringer, Custer Gallatin National Forest, Bozeman and Hebgen Lake Ranger District's

Location of Proposed Project: Upper Madison River and tributaries

Total Project Cost:

GS-5 Technician TAC \$173 x 40 days	\$ 6920
GS-5/6/7 Permanent Tech In-Kind Contribution \$218.21 x 40 days	\$ 8728.40
Overhead (1.0%)	\$ 69
Total	= \$15,717.4

TAC Funds (Cost-Share) Requested for Project:
\$6920+ \$69 (1% overhead) = \$6,989

I. Introduction; brief statement of project to be completed with pertinent background information.

This funding request is for cost sharing USFS Fisheries Technician salaries. The USFS Region 1 Fisheries Program has undergone considerable reductions. Limited resources are available to local FS biologists to obtain the seasonal work force required to assist NWE and MFWP in implementing the Fisheries, Wildlife, and Water Quality Protection, Mitigation and Enhancement Plan in the Madison River drainage as part of FERC licensing requirements for Project 2188.

II. Objectives; explicit statement(s) of what is intended to be accomplished.

The FS technicians would aid State, Federal, and NWE biologist during the summer field season with the following:

- Instream flow reservations
- Riparian vegetation and stream channel monitoring
- WCT population monitoring
- Thermograph deployment and retrieval
- WCT genetics collection
- Amphibian surveys and monitoring
- Assist MFWP and NWE staff with their annual program of work on Madison River, Hebgen and Ennis Reservoir as needed.

III. Methods; description of how Project objectives will be accomplished.

Forest Service seasonal technicians would work cooperatively with NWE and MFWP crews throughout the summer field season to accomplish the fisheries objectives outlined above within the Madison River drainage.

IV. Schedule; when the Project work will begin and end.

May 2024 – October 2024

V. Personnel; who will do the work ? Identify Project leader or principal investigator.

One GS-5 Fisheries Technician. Project lead is Allison Stringer, CGNF West Zone Fisheries Biologist

VI. Project budget must include amounts for the following:

Direct Labor	=	\$6,920
Travel and Living		
Materials		
Other Direct Expenses		
Direct Overhead	=	\$69

All cost-share sources and amounts, including estimation of “in-kind” contributions

VII. Deliverables; describe work product (reports, habitat restoration, etc.) which will result from this Project. How will “success” for this project be monitored or demonstrated?

The success of this project will be demonstrated by reporting the field work days spent and annual accomplishments related to Articles 408, 409 and 412 in the Madison River drainage, reservoirs, and tributaries.

VIII. Cultural Resources. Cultural Resource Management (CRM) requirements for any activity related to this Project must be completed and documented to NWE as a condition of any TAC grant. TAC funds may not be used for any land-disturbing activity, or the modification, renovation, or removal of any buildings or structures until the CRM consultation process has been completed. Agency applicants must submit a copy of the proposed project to a designated Cultural Resource Specialist for their agency. Private parties or non-governmental organizations are encouraged to submit a copy of their proposed project to a CRM consultant they may have employed. Private parties and non-governmental organizations may also contact the NWE representative for further information or assistance. Applications submitted without this section completed, will be held by the TAC, without any action, until the information has been submitted.

Summarize here how you will complete requirements for Cultural Resource Management:

N/A

IX. Water Rights. For projects that involve development, restoration or enhancement of wetlands, please describe how the project will comply with the Montana DNRC's "Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities", issued by the Water Resources Division on 9March2016.

Summarize here how you will comply with Montana water rights laws, policies and guidelines:

N/A

All TAC Project proposals should be 7 pages or less and emailed (as a WORD file) to each of:

- Andrew.Welch@Northwestern.com
- Jon.Hanson@Northwestern.com
- Grant.Grisak@Northwestern.com

Further questions about TAC proposals or Project 2188 license requirements or related issues may be addressed to: Andy Welch, Leader Hydro License Compliance, NorthWestern Energy, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.



Cost-Share Proposal Form for NorthWestern Energy (NWE) Project 2188 TAC Funds

Project 2188 (Madison-Missouri River) License Protection, Mitigation and Enhancement (PM&E) projects are required to offset impacts to river resources from the continued operation of one or more of NWE’s nine hydro developments (Hebgen, Madison, Hauser, Holter, Black Eagle, Rainbow, Cochrane, Ryan and Morony Dams). PM&E projects need to be prioritized toward in-river or on-the-ground measures that directly benefit fisheries and/or wildlife populations and their habitats:

Priority 1: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats within the main stem Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir)

Priority 2: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats in primary tributaries or on adjacent lands and, in doing so, provide PM&E for Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir) resources.

Priority 3: 2188 License PM&E projects which meet License Article requirements by providing scientific or other tangible PM&E benefits to Madison-Missouri River fisheries or wildlife populations or their habitats. These projects must be located in the greater Missouri River drainage upstream from Fort Peck Reservoir, but not necessarily located on the main stem Madison River or Missouri River or their adjacent lands or primary tributaries.

All TAC project proposals must include the following information:

Project Title: 2024 Beaverhead-Deerlodge NF Seasonal Technician Funding Request

Date: 11/14/2023

Explain how this Project addresses a specific Project 2188 License Article(s):

This project would partially fund USFS Fisheries Technicians to assist USFS and MFWP biologists on multiple projects and monitoring efforts in field season 2024. General duties that address the following articles include: population monitoring for species of special concern (population estimates, presence/absence surveys, nonnative removals, collection of genetic material); assisting with tributary stream habitat enhancement projects; fish barrier site identification, reconnaissance, and barrier maintenance; and assist NWE & MFWP fisheries personnel with their 2024 program of work (monitoring and project) as needed in the upper Madison River drainage.

Provide justification for Priority 1, 2 or 3 (above) that you selected:

Priority 2: The USFS technicians would assist with projects which meet License Article requirements and PM&E for fisheries populations and their habitats in primary tributaries and provide PM&E for Madison River resources, as directed by USFS, MFWP and NWE fisheries personnel.

Project Sponsor (submitted by): Patrick Luckenbill, USFS Fisheries Biologist & Monica Berreman, USFS Madison/Jefferson Ranger District Fisheries Biologist

Location of Proposed Project: Upper Madison River and associated tributaries
 Narrative

Geocode (in decimal degrees ex 46.89743) Lat: _____ Long: _____

Total Project Cost:	\$56,427
TAC B-D GS/6 Technician \$173.45/day x 20 days	=\$3,469
B-D GS/6 Tech USFS Contribution \$173.45/day x 100 days	=\$17,345
TAC B-D GS/5 Technician \$155.54/day x 20 days	=\$3,110
B-D GS/5 Tech USFS Contribution \$155.54/day x 100 days	=\$15,554
TAC Field Gear for Technicians	=\$ 800
TAC Funds (Cost-Share) Requested for Project:	=\$7,379

I. Introduction; brief statement of project to be completed with pertinent background information.

This funding request is for cost sharing USFS Fisheries Technician salaries in 2024. The USFS Region 1 has undergone considerable budget reductions. Limited resources are available to local FS biologists to obtain the seasonal work force required to assist NWE and MFWP in implementing the Fisheries, Wildlife, and Water Quality Protection, Mitigation and Enhancement Plan in the Madison River drainage as part of FERC licensing requirements for Project 2188. The requested funding would augment internal dollars and enable hiring of one GS/5 and one GS/6 Fisheries Technician to support work on the Madison Ranger District.

II. Objectives; explicit statement(s) of what is intended to be accomplished.

Lower WF Madison Stream Habitat Enhancement Project Outline
 Bear Creek Days Fish Dissections
 Wigwam and Teepee Creek Habitat Monitoring

Saint Joe and Jourdain Creek Habitat Survey and Sampling
 Inventory and Monitoring of Westslope Cutthroat Trout in the Madison River drainage
 Annual WCT Genetics Collection and Population Monitoring on tributaries to the Madison River
 Sensitive Amphibian Surveys and Monitoring
 Aquatic Invasive Species (AIS) Inventory and Monitoring in the Madison River drainage High Risk Waters
 Assist MFWP and Custer-Gallatin NF with 2024 field work in the Madison River drainage
 Evaluate water delivery and fish passage at road/stream crossings on BDNF tributaries to the Madison River
 Create AOP priority list for future culvert replacement on tributaries to the Madison River

III. Methods; description of how Project objectives will be accomplished.

Forest Service seasonal technicians would work cooperatively with NWE and MFWP crews throughout the FY24 field season to accomplish the fisheries program of work and associated PM&E projects in the Madison River drainage.

IV. Schedule; when the Project work will begin and end.

May 2024 – November 2024

V. Personnel; who will do the work? Identify Project leader or principal investigator.

Two Fisheries Technicians (GS/5 and GS/7), project lead is USFS Fisheries Biologist

VI. Project budget must include amounts for the following:

- Direct Labor =\$6,579
- Travel and Living
- Materials =\$800
- Other Direct Expenses
- Direct Overhead*
- All cost-share sources and amounts, including estimation of “in-kind” contributions

***NorthWestern Energy TAC funds will not be used for agency overhead on projects that do not fund personnel. Applications for materials and equipment should not contain overhead.**

VII. Deliverables; describe work product (reports, habitat restoration, etc.) which will result from this Project. How will “success” for this project be monitored or demonstrated?

The success of this project will be demonstrated by reporting the field workdays spent and annual accomplishments related to Articles 408, 409 and 412 in the Madison River drainage, reservoirs, and tributaries.

VIII. Cultural Resources. Cultural Resource Management (CRM) requirements for any activity related to this Project must be completed and documented to NWE as a condition of any TAC grant. TAC funds may not be used for any land-disturbing activity, or the modification, renovation, or removal of any buildings or structures until the CRM consultation process has been completed. Agency applicants must submit a copy of the proposed project to a designated Cultural Resource Specialist for their agency. Private parties or non-governmental organizations are encouraged to submit a copy of their proposed project to a CRM consultant they may have employed. Private parties and non-governmental organizations may also contact the NWE representative for further information or assistance. Applications submitted without this section completed, will be held by the TAC, without any action, until the information has been submitted.

Summarize here how you will complete requirements for Cultural Resource Management:

Not Applicable - cultural resource management is not required as part of this proposal.

IX. Water Rights. For projects that involve development, restoration or enhancement of wetlands, please describe how the project will comply with the Montana DNRC’s “Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities”, issued by the Water Resources Division on 9 March 2016.

Summarize here how you will comply with Montana water rights laws, policies and guidelines: N/A

All TAC Project proposals should be 7 pages or less and emailed (as a WORD file) to each of:

- Andrew.Welch@NorthWestern.com
- Jon.Hanson@Northwestern.com
- Grant.Grisak@Northwestern.com

Further questions about TAC proposals or Project 2188 license requirements or related issues may be addressed to:

Andy Welch

Manager, Hydro License Compliance

Andrew.Welch@NorthWestern.com

☎ 406-444-8115

☎ 406-565-7549

208 N. Montana Ave

Suite 205

Helena, MT 59601

2024 Cost-Share Proposal Form for NorthWestern Energy (NWE) Project 2188 TAC Funds

Project 2188 (Madison-Missouri River) License Protection, Mitigation and Enhancement (PM&E) projects are required to offset impacts to river resources from the continued operation of one or more of NWE's nine hydro developments (Hebgen, Madison, Hauser, Holter, Black Eagle, Rainbow, Cochrane, Ryan and Morony Dams). PM&E projects need to be prioritized toward in-river or on-the-ground measures that directly benefit fisheries and/or wildlife populations and their habitats:

Priority 1: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats within the main stem Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir)

Priority 2: 2188 License projects which meet License Article requirements and PM&E for fisheries or wildlife populations or their habitats in primary tributaries or on adjacent lands and, in doing so, provide PM&E for Madison River (Hebgen Reservoir to Three Forks) or Missouri River (Hauser Reservoir to Fort Peck Reservoir) resources.

Priority 3: 2188 License PM&E projects which meet License Article requirements by providing scientific or other tangible PM&E benefits to Madison-Missouri River fisheries or wildlife populations or their habitats. These projects must be located in the greater Missouri River drainage upstream from Fort Peck Reservoir, but not necessarily located on the main stem Madison River or Missouri River or their adjacent lands or primary tributaries.

All TAC project proposals must include the following information:

Project Title: Emergency/contingency fund

Date: 11/11/2023

Explain how this Project addresses a specific Project 2188 License Article(s): Priority 1: This fund will be used for, but not be limited to, emergency purchasing of equipment, scoping potential stream rehab proposals, and support of 2024 approved proposals.

Provide justification for Priority 1, 2 or 3 (above) that you selected: During ongoing operations and proposal work there are times when this approved proposal would allow for immediate funding of equipment, stream restoration assessments or other conditions that may require immediate attention. This proposal will eliminate (within the \$10,000 limit) the need for TAC approval of a new proposal for spending of TAC funds.

Project Sponsor (submitted by): Jon Hanson

Location of Proposed Project: Within TAC approved proposals.

Total Project Cost: \$10,000

TAC Funds (Cost-Share) Requested for Project: \$10,000

- I. Introduction; Contingency funding to be used in emergency situations
- II. Objectives; To have TAC approved funding for emergency situations as noted above.
- III. Methods; Funding will used for situations as noted above.
- IV. Schedule; Used when needed during 2024
- V. Personnel; NWE will determine and report usage of funding.

VI. Project budget must include amounts for the following:

Direct Labor
Travel and Living
Materials...yes
Other Direct Expenses...yes
Direct Overhead
All cost-share sources and amounts, including estimation of "in-kind" contributions

VII. Deliverables; describe work product (reports, habitat restoration, etc.) which will result from this Project. Spending will be reported at annual meeting.

VIII. Cultural Resources. Cultural Resource Management (CRM) requirements for any activity related to this Project must be completed and documented to NWE as a condition of any TAC grant. TAC funds may not be used for any land-disturbing activity, or the modification, renovation, or removal of any buildings or structures until the CRM consultation process has been completed. Agency applicants must submit a copy of the proposed project to a designated Cultural Resource Specialist for their agency. Private parties or non-governmental organizations are encouraged to submit a copy of their proposed project to a CRM consultant they may have employed. Private parties and non-governmental organizations may also contact the NWE representative for further information or assistance. Applications submitted without this section completed, will be held by the TAC, without any action, until the information has been submitted. Generally NA but maybe used for this if needed

Summarize here how you will complete requirements for Cultural Resource Management: NA

IX. Water Rights. For projects that involve development, restoration or enhancement of wetlands, please describe how the project will comply with the Montana DNRC's "Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities", issued by the Water Resources Division on 9 March 2016. NA

Summarize here how you will comply with Montana water rights laws, policies and guidelines:
NA

All TAC Project proposals should be 7 pages or less and emailed (as a WORD file) to each of:

- Andrew.Welch@Northwestern.com
- Jon.Hanson@northwestern.com
- Grant.Grisak@Northwestern.com

Further questions about TAC proposals or Project 2188 license requirements or related issues may be addressed to: Andy Welch, Leader Hydro License Compliance, NorthWestern Energy, 1315 N Last Chance Gulch, Helena, MT 59601; 406-444-8115 (office); 406-565-7549 (cell); Andrew.Welch@northwestern.com.

Project Title: O'DELL CREEK PHASE 19
STREAM AND WETLAND RESTORATION PROJECT IMPLEMENTATION

Date: November 17, 2023

Applicability to Project 2188 License Article(s)

O'Dell Creek Phase 19 implementation will offset impacts to river resources associated with Project 2188 (Madison-Missouri River). The project meets the purpose and intent of License Article 408, 409 and 412, which require: 1) developing plans to restore and protect important riparian areas; 2) enhancing fish habitat both in main stem and tributary streams to the Madison River, for all life stages of fish; 3) restoring riparian habitat; and 4) protecting and aiding in the recovery of threatened and endangered fish species including Arctic grayling. NorthWestern Energy continues to monitor prior phases of work to assess the effectiveness of previously implemented projects, including the benefits to stream temperature, streamflow quantity, fish densities, avian species richness and numbers, sensitive plants, and acres of restored/enhanced wetlands.

Justification for Priority 2 Classification

The O'Dell Creek Phase 19 Stream and Wetland Restoration Project classifies as a Priority 2 2188 license project. The project is located on O'Dell Creek, a major cold-water spring creek tributary to the Madison River, within 0.3 miles of the Madison River, and will address limiting factors related to degraded wildlife, wetland and aquatic resources.

Project Sponsor(s): NorthWestern Energy, Inc.
Granger Ranches, L.P.
Madison River Foundation
River Design Group, Inc.

Location of Proposed Project

The project is located in Madison County approximately three miles south of the town of Ennis, Montana. The project is located on Granger Ranches, a working cattle ranch. The legal description of the project area is Sections 16 and 17, Township 6 South, Range 1 West. Please refer to Figure 1.

Geocodes: 25-0423-16-1-01-01-0000

Latitude: 45.316; **Longitude:** -111.741

Total Project Cost: \$120,000

MadTAC Funds (Cost-Share) Requested for Project: \$10,000

I. INTRODUCTION

O'Dell Spring Creek and floodplain wetlands are important ecological resources to the Madison River. Over the past 18 years, 17 major phases of restoration work have culminated in the restoration of 16 miles of spring creek and approximately 900 acres wetlands. Restoration suitability, willing landowners, and private-public partnerships are the reasons for the success of this large-scale, comprehensive restoration project. In 2018, NorthWestern Energy, Granger Ranches, Longhorn Ranch, and the US Fish and Wildlife Service received the *Society for Ecological Restoration Northwest Restoration Project of the Year Award*. The award recognizes the important wildlife habitat gains resulting from permanently protecting and restoring wetland habitats. Accomplishments include:

- Restoring complex riffle and pool sequences throughout the 16-mile project area, including the mainstem O'Dell Creek and East and West Branch of O'Dell Creek.
- Increasing the distribution and availability of adult holding, spawning and juvenile rearing habitat (e.g. deep pools, complex undercut banks) on 16 miles of stream channel, with an estimated ten-fold increase compared to pre-restoration conditions.
- Reduction in stream water temperatures due to improvement to channel morphology and hyporheic exchange between surface water and groundwater.
- Approximately 900 acres of restored wetlands, with over 265 wetland plant taxa detected on restored floodplain surfaces, representing 20% of Montana's wetland flora including 5 rare species. A range of wetland types and wetland plant communities including fens, saline meadows, open water and emergent complex.

This project proposal furthers restoration and conservation efforts on the Granger and Longhorn Ranches, working cattle ranches owned by the Laszlo and Wellington families, respectively. Phase 19 includes approximately 3,950 feet of stream restoration and associated wetland habitat restoration (Figure 1).

In 2018, the NorthWestern WildTAC funded a master plan to identify and prioritize restoration opportunities on O'Dell Creek from Fever Point (end of Phase 16 project) to Highway 287 near Ennis, Montana. The west branch O'Dell Creek was identified as a high priority segment for restoration actions. In 2020 and 2021, the upper 1.5 miles of the west branch was restored. This proposal for Phase 19 will complete restoration implementation on the remainder of the west branch, or approximately 0.75 miles of spring creek and floodplain riparian area. Completing restoration work on the west branch O'Dell Creek will be a significant accomplishment and milestone, as articulated in the master plan.

The purpose of this project is to improve aquatic habitat conditions of O'Dell Creek and associated stream and floodplain functions. This will be accomplished by restoring the proper channel and floodplain dimensions and creating off-channel, disconnected wetlands. Specifically, the goals of this project include: 1) improving aquatic habitat conditions for focal fish species including rainbow trout and brown trout; 2) establishing complex riffle and pool habitat units; 3) lowering channel width to depth ratios to decrease stream temperature; 4) restoring streambank conditions that support complex habitat conditions including undercut banks and deep lateral scour pools; 5) increasing channel sinuosity by reactivating abandoned meander oxbows characterized by wetland in over-widened channel sections as well as isolating wetlands from the channel to lower stream temperature.

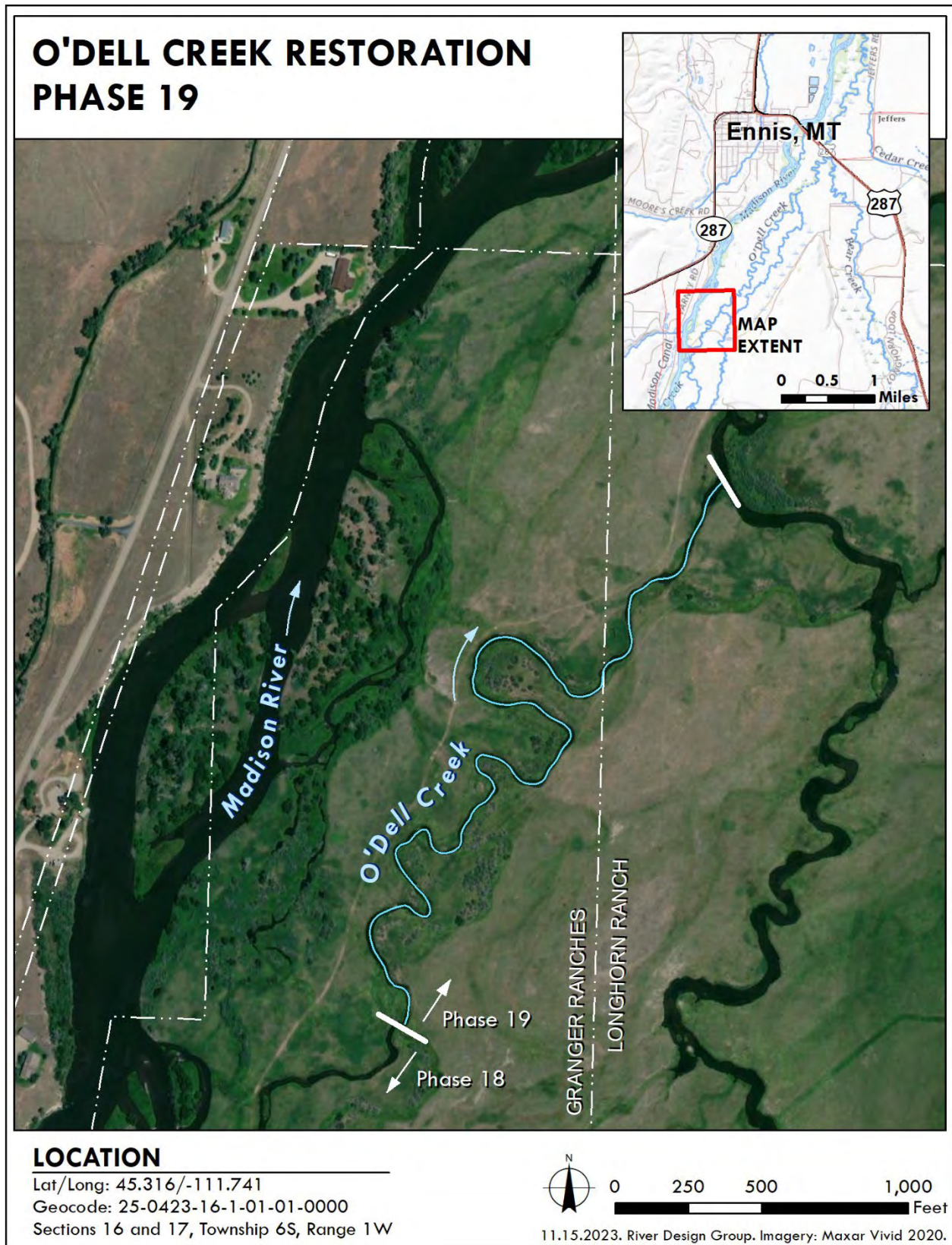


Figure 1. Phase 19 Project Location Map.

II. Objectives

The following objectives have been developed for the Phase 19 project area in conjunction with the project partners and landowners:

1. Produce clean water consistent with supporting aquatic life and beneficial uses in the O’Dell Creek watershed and downstream receiving waterbody, the Madison River;
2. Create complex aquatic habitat components such as depth, velocity, substrate, cover, and pools that support populations of wild trout and other aquatic organisms;
3. Construct a stream channel that is connected to and interacts with the floodplain in terms of hyporheic flow and nutrient exchange; and
4. Create a more complex matrix of wetlands in over-widened channel sections by creating backwater areas, open water wetlands, and new floodplain surfaces that support emergent and scrub-shrub wetland communities.

III. Methods

Field assessment and survey work, as well as engineering, design, and permit preparation tasks have been contracted previously with NorthWestern Energy and Granger Ranches. This cost-share proposal is for project construction and oversight for a Spring/Early Summer 2024 implementation schedule.

Given the sensitive resource conditions, construction specifications will require the use of low-pressure ground equipment including a 14 cubic yard articulated truck with flotation tires, tracked excavators, an All Surface Vehicle, and harrow for de-compacting soils and construction access roads. The excavators will be GPS compatible to ensure the project is implemented in accordance with the design specifications and drawings. RDG will oversee construction and ensure compliance with permits and all drawings and specifications. Construction will be completed by TNT Excavating, Inc.

IV. Schedule

The following project schedule has been developed for a timely spring/early summer 2024 construction period (Table 1). Following contract award, RDG will ensure all project components, including permit applications and approvals, are in place for construction utilizing the in-water work window. A cultural resources investigation will be coordinated by NorthWestern Energy.

Table 1. Project schedule for the Phase 19 Restoration Implementation Project (2024).

Task	January	February	March	April	May	June
Task 1. Project Management						
Task 2 & 3. Construction						
Task 4. Direct Costs						

V. Personnel

Similar to past phases of restoration on O’Dell Creek, the project will be implemented under the auspices of a diverse group of stakeholders including NorthWestern Energy, Madison River Foundation, and Granger Ranches, LP. As a team, we have established a track record of successful collaboration on 17 projects on O’Dell Creek. Our continued collaboration and history working on this project underscores the importance we place on offering a team that will continue to be compatible with the community and stakeholders.

RDG is an approved consultant on NorthWestern Energy’s Qualified Vendor’s List for stream and wetland restoration services. RDG has prepared and implemented all previous phases of restoration on O’Dell Creek with the exception of Phases 1 and 2. John Muhlfeld will serve as the project oversight manager and technical lead on behalf of the design team. Nate Wyatt, P.E., with RDG, will serve as the project engineer. To comply with NorthWestern Energy’s Cultural Resource Management Plan, a cultural resources investigation will be conducted prior to ground-disturbing activities.

VI. Budget

Table 2 includes a not-to-exceed cost estimate to perform the Scope of Work (SOW). The total cost to perform the SOW is \$120,000. Because benefits to both fisheries and wildlife habitats are anticipated, this application assumes a \$90,000 match from WildTAC (75%), and an additional \$20,000 from Granger Ranches and Madison River Foundation (17%). Funds requested from WildTAC total \$10,000, or 8% of the total project cost.

Table 2. O'Dell Creek Phase 19 Cost Estimate.	
Task	Cost
1. Project Management	\$ 1,500.00
Coordination with NWE, Owners, Stakeholders	\$ 1,500.00
2. Construction Management	\$ 15,000.00
Construction Management (RDG)	\$ 15,000
3. Construction	\$ 100,550
Excavator Class 320 with GPS	\$ 28,000
Excavator Class 320 with GPS	\$ 28,000
14 CY Articulated Off Road Truck with Flotation Tires	\$ 18,250
All Surface Vehicle	\$ 11,300
Mobilization and Demobilization	\$ 5,500
Per Diem and Lodging for Contractor (4 Person Crew)	\$ 7,000
Construction Mats	\$ 2,500
4. Direct Costs	\$ 2,950
Mileage	\$ 1,550
Per Diem	\$ 600
Lodging	\$ 800
Total Project Cost	\$ 120,000
*Cash Match (Granger Ranches and Madison River Foundation)	\$ 20,000
*WildTAC Match (NorthWestern Energy)	\$ 90,000
Total MadTAC Funds Requested	\$ 10,000

VII. Deliverables

Project deliverables will include the following:

- Construction implementation - approximately 3,950 feet of spring creek; and
- +/- 30 acres of improved and/or enhanced wetland functions and values.

RDG will submit a monitoring plan as a component of the Section 404 permit application. As with past phases, RDG will monitor project success through repeat survey of channel cross-sections, fixed photo points, redd counts, and streambank stability using a modified Bank Erosion Hazard Index rapid assessment.

VIII. Cultural Resources

NorthWestern Energy will coordinate the necessary cultural resources investigations.

IX. Water Rights

Appropriate analysis will be performed to demonstrate that the project complies with the intent of Montana DNRC's "*Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities*", issued by the Water Resources Division on March 9, 2016. DNRC guidelines state that "any wetland project (restoration) whose final design approximates the natural characteristics of adjacent natural wetlands or approximates something smaller in magnitude does not require a water right". The guidelines also state that restored wetlands should have characteristics similar to other natural wetlands in the area and should function entirely in the absence of artificial controls and diversions of water that intentionally appropriate water for wetland use.

This Phase 19 project intends to restore wetland habitat by enhancing existing wetlands through grading and revegetation. The restored wetlands will have identical hydrologic and vegetative characteristics to existing wetlands in the immediate area. Some Riverine channel habitat will be converted to shallow open water and emergent wetlands by narrowing of the current over-widened stream channel. Wetlands will be located within the floodplain and will be very similar in size and habitat characteristics to pre-settlement open water wetlands in the area. The small open water wetlands will not involve the construction of any berms, dams, or dikes; will not involve any diversion of water; will partially offset the loss of riverine wetland habitat; and will not increase water consumption.

MEMORANDUM



TO: Jonathan Hanson, Northwest Energy
FROM: Tom Parker and Alyssa Gulley, Geum Environmental Consulting
DATE: November 17, 2023
RE: Storey Loop Side Channel – Proposed Project for MadTAC funding

This memo outlines restoration design concepts for construction of a floodplain side channel near Storey Loop Road on a mix of private land and Bureau of Land Management (BLM) land. The purpose of this memo is to provide information to support funding requests, permitting and internal scoping by project partners. Restoration concepts presented here are preliminary and were developed based on a site visit, aerial imagery interpretation and analysis of LiDAR data. The project is located at latitude 45.070969, longitude -111.657361.

The Project Area can be accessed from Ennis, MT by travelling south on Highway 287 for approximately 20 miles, then turn right onto Storey Loop Road. Travel on Storey Loop Road for approximately 0.5 miles then turn left onto an unnamed road; continue on the unnamed road for approximately 0.4 miles down to the river floodplain. The Project Area is located on an inside meander bend of the Madison River floodplain.

Existing Conditions and Project Goals

The Project Area is located on the right bank of the Madison River upstream of the McAtee Bridge. Within this reach a floodplain swale exists that is dominated by wetland vegetation in the downstream end with surface water present at the bottom of the swale. The floodplain swale extends along the base of a terrace feature on the inside meander bend and water seeps out of the swale into the main river channel at the downstream end. This topographic feature is uncommon along the Madison River and historically could have functioned as a side channel that would receive surface flow for certain portions of the year, providing off channel habitat and aquatic habitat complexity. Due to the altered flow regime as a result of Hebgen Dam, this feature is no longer hydrologically connected to the Madison River surface flows.

Goals of restoration within the Project Area include:

- Create spawning and rearing habitat connected to the Madison River;
- Increase aquatic habitat complexity;
- Provide cool-water refugia and thermal cover;
- Increase riparian corridor width and woody vegetation cover;
- Promote primary production and food web support; and
- Increase biodiversity and habitat complexity to support long-term ecosystem resilience.

Restoration Strategies

Restoration strategies include treatments designed to improve ecological function and set the site on a trajectory to achieve project goals. A project overview is shown on Figure 1 and restoration treatments are displayed on Figure 2 and described below.

Side Channel Construction. To create a perennial side channel suitable for spawning and rearing habitat, a channel will be excavated along the existing floodplain swale. Material will be excavated to create an approximately 6-10 foot wide and 1,750 foot long side channel at an elevation that will support perennial flow. The channel bed will consist of either native cobble and gravel or imported substrate with a size gradation suitable for spawning and able to withstand hydraulic forces without being flushed into the Madison River. The final side channel dimensions, habitat features and substrate gradation will be refined with input from biologists, a fluvial geomorphologist and a hydraulic engineer. Woody brush banks with willow cuttings will line both banks of the side channel to provide aquatic habitat complexity, support revegetation and provide overhanging cover. Grade control structures incorporating cobble and large wood will be utilized to maintain a gradient (maximum 0.3%) suitable for maintaining spawning substrate within the reach. The newly constructed side channel will connect to the Madison River at the upstream and downstream end. Excess material removed to create the side channel will be placed in an upland repository against the adjacent terrace. This treatment works with the altered flow regime of the Madison River to create a perennial side channel, a natural feature that would have been present and hydrologically connected prior to Hebgen Dam.

Monitoring and Maintenance

Working with partners including BLM and Montana Fish, Wildlife and Parks (MFWP), the newly constructed side channel and surrounding floodplain will be monitored prior to implementation and periodically after construction to evaluate factors such as spawning and rearing use, sediment dynamics, aquatic habitat complexity and overhanging cover, percent cover of woody riparian vegetation, density of natural vegetation recruitment, and browse from wildlife. Specific monitoring metrics and protocols will be developed in coordination with biologists from Montana Fish, Wildlife and Parks; Bureau of Land Management; and Northwest Energy. Monitoring would also include evaluation of maintenance needs.



Figure 1. Overview of project location and access route.

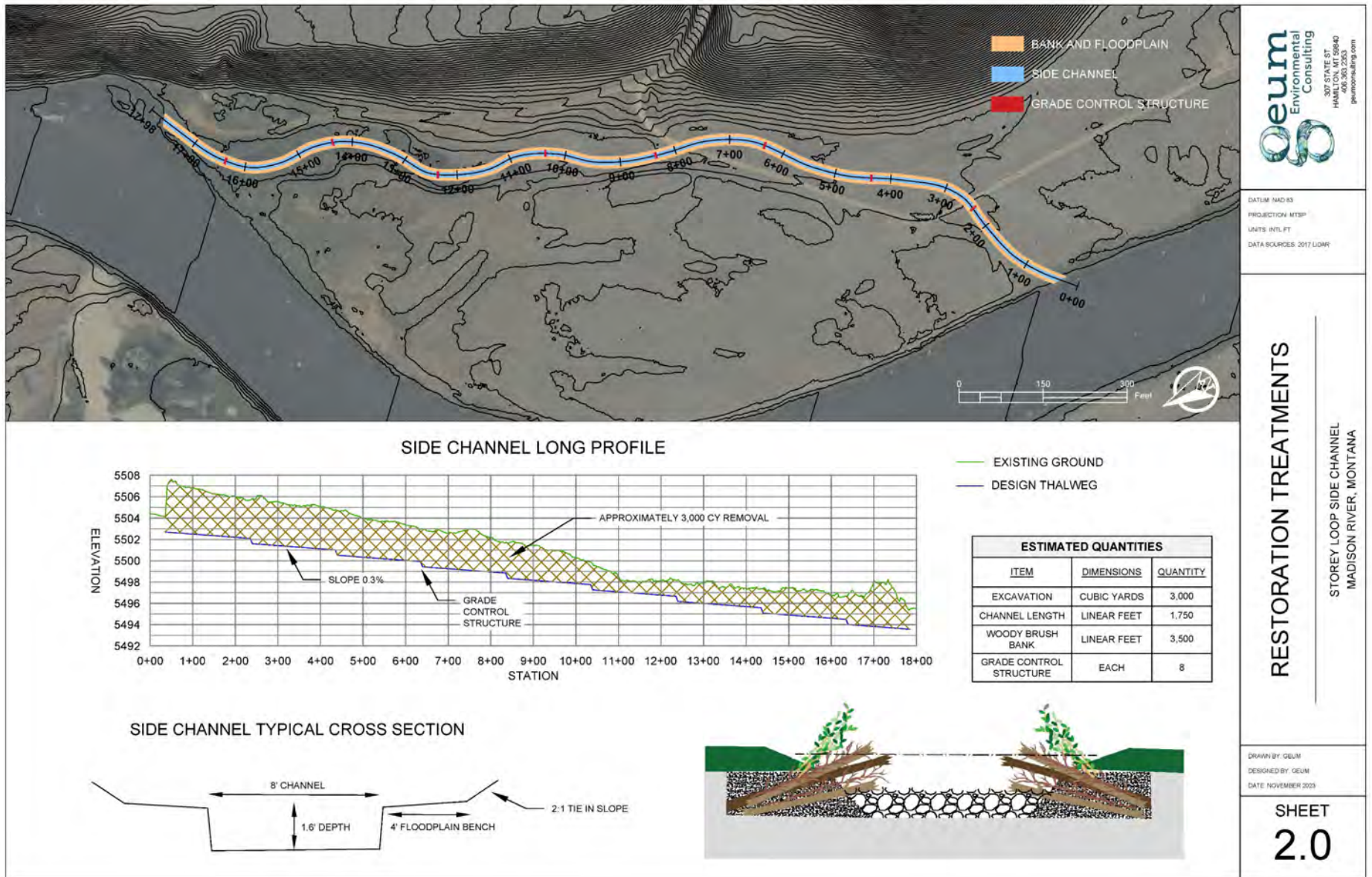


Figure 2. Overview of restoration treatments.

Key Personnel

Project Managers: Jonathan Hanson and Matt Jaeger

Project Design Consultants: Tom Parker and Alyssa Gulley, Geum Environmental Consulting; Karin Boyd, Applied Geomorphology; Chris Nelson, River Design Group

Land Managers: Bureau of Land Management; Storey Loop Homeowners Association

Project Partners: Matt Jaeger, Montana Fish, Wildlife and Parks; Jon Hanson, Northwest Energy; Madison River Foundation

Project Timeline

The proposed project timeline is described below and includes final project design, pre-construction field work and implementation.

Winter 2023- Spring 2024:

- Gather and analyze additional data for final design including hydrology and hydraulics, swale cross section data, existing sediment size gradation, and potential material sources.
- Gather wetland delineation field data including vegetation, soils and hydrology sample points.
- Develop landowner agreements that confirm access for design, construction and monitoring/maintenance in perpetuity.
- Coordinate with project partners, including BLM and MFWP, to develop design components.
- Verify cultural resources and NEPA (BLM).

Late Spring and Summer 2024:

- Develop final design planset describing how treatments will be constructed, to be used to support permit application and to procure bids for construction.
- Prepare construction cost estimate.
- Prepare wetland delineation report and GIS spatial data.
- Host pre-application meeting with permitting agencies.
- Develop and submit Joint Permit Application including floodplain permit supporting information.
- Conduct pre-project weed control as needed.

Deliverables: Design Planset, Wetland Delineation and Joint Permit Application

Fall 2024 or Spring 2025:

- Gather pre-implementation monitoring data.
- Confirm materials sources and gather construction materials.
- Procure contractor.
- Construct project.
- Gather as-built construction data.
- Develop project completion report and document monitoring data.

Deliverable: Project Completion Report

Subsequent Years:

- Annual maintenance and weed control evaluation.
- Annual monitoring data collection and reporting.
- Adaptive management based on maintenance and monitoring data.

Annual Deliverable (frequency may vary after year 3): Monitoring and Maintenance Memo

Cost Estimate

Estimated treatment quantities, design and construction costs are outlined in Table 1. Table 2 includes a detailed breakdown of design and permitting costs. Unit costs for construction fall within ranges seen on recent bid tabulations from similar stream restoration projects in Montana.

Table 1. Storey Loop Side Channel Restoration - Cost Estimate November 2023					
	<u>Quantity</u>	<u>Units</u>	<u>Unit Cost</u>	<u>Cost</u>	<u>Personnel</u>
SIDE CHANNEL CONSTRUCTION					
Harvest and Supply Willow Cuttings	17,500	Each	\$1.00	\$17,500.00	Contractor
Provide Woody Brush	7,000	Each	\$1.00	\$7,000.00	Contractor
Construct Brush Banks	3,500	Linear Feet	\$15.00	\$52,500.00	Contractor
Construct Channel Bed	1,750	Linear Feet	\$20.00	\$35,000.00	Contractor
Provide Gravel/ Cobble*	780	Cubic Yards	\$40.00	\$31,200.00*	Contractor
Over Excavation if Cobble Gravel Imported*	780	Cubic Yards	\$5.00	\$3,900.00*	Contractor
Construct Grade Control Structure	8	Each	\$1,500.00	\$12,000.00	Contractor
Haul and Place Material in Repository	3,000	Cubic Yards	\$8.00	\$24,000.00	Contractor
Purchase Seed and Seed Repository	1	Acres	\$350.00	\$350.00	Contractor
SUB TOTAL				\$183,450.00	
OTHER COSTS					
Design and Permitting**				\$31,486.75**	Geum, etc.
Construction Oversight (staking, oversight, travel, lodging, per diem, office support)				\$10,000.00	Geum
Construction Completion Documentation				\$2,000.00	Geum
Monitoring and Maintenance -- 3 years				\$5,500.00	Geum/MRF
Mobilization and Demobilization (10% of estimated construction cost)				\$18,000.00	Contractor
Sediment Control BMPs				\$1,000.00	Contractor
SUB TOTAL				\$67,986.75	
<i>Contingency (20% of estimated construction cost)</i>				\$36,500.00	
TOTAL PROJECT ESTIMATE				\$287,936.75	

**Need for over excavation and import of cobble is dependent on site conditions and will be determined with a pit sample prior to final design and construction.*

***Design and permitting cost estimate detailed in Table 2.*

Table 2. Storey Loop Side Channel Restoration 2023-24 Design and Permitting Budget Estimate				
<i>Cost estimate prepared by Geum Environmental Consulting, Inc. November, 2023 --Tom Parker, Principal Ecologist</i>				
Task 0. Prepare proposal				
Task/Personnel	Hours/Units	Rate	Total Cost	Notes
Tom Parker	6	\$120.00	\$720.00	Prepare content and review proposal
Alyssa Gulley	16	\$90.00	\$1,440.00	Develop proposal-level design, details, quantities and cost estimate
Subtotal			\$2,160.00	
Task 1. Project management and coordination				
Task/Personnel	Hours/Units	Rate	Total Cost	Notes
Tom Parker	16	\$120.00	\$1,920.00	General coordination and communication with Northwest Energy and partners, reporting and communication
Alyssa Gulley	8	\$90.00	\$720.00	Project management support
Subtotal			\$2,640.00	
Task 2. Field work: wetland delineation, survey, meet with project partners				
Task/Personnel	Hours/Units	Rate	Total Cost	Notes
Tom Parker	10	\$120.00	\$1,200.00	Field data collection
Alyssa Gulley	14	\$90.00	\$1,260.00	Field data collection and preparation
Travel	16	\$55.00	\$880.00	One trip: field data collection (2 people)
Supplies	1	\$350.00	\$350.00	RTX daily charge
Lodging	2	\$96.00	\$192.00	One night (2 people)
Per diem	4	\$33.50	\$134.00	Two days (2 people)
Mileage	450	\$0.655	\$294.75	Two round trips Hamilton to Madison Valley
Subtotal			\$4,310.75	
Task 3. Develop design, cost estimate, permit application				
Task/Personnel	Hours/Units	Rate	Total Cost	Notes
Tom Parker	24	\$120.00	\$2,880.00	Permit level design development and review, cost estimate, coordination with permitting agencies
Alyssa Gulley	60	\$90.00	\$5,400.00	Permit level design documents, spatial layout, cost estimate, develop permit application
Karin Boyd (AGI)	24	\$130.00	\$3,120.00	Geomorphology support to develop design
Chris Nelson (RDG)	1	\$8,096.00	\$8,096.00	Lump sum engineering support for floodplain permitting
Subtotal			\$19,496.00	
Task 4. Prepare bid documents				
Task/Personnel	Hours/Units	Rate	Total Cost	Notes
Tom Parker	6	\$120.00	\$720.00	Provide content for and review bid documents
Alyssa Gulley	24	\$90.00	\$2,160.00	Prepare bid documents
Subtotal			\$2,880.00	
Total estimated budget			\$31,486.75	

Project Title: *MADISON RIVER-NORRIS REACH ISLAND ENHANCEMENT DEMONSTRATION PROJECT - 95% FINAL DESIGN DRAWINGS, CONSTRUCTION FEASIBILITY AND REGULATORY PERMITTING*

Date: December 4, 2023

Applicability to Project 2188 License Article(s)

The Madison River-Norris Reach Island Enhancement Project will offset impacts to river resources associated with Project 2188 (Madison-Missouri River). The project meets the purpose and intent of License Articles 408, 409 and 412, which require: 1) developing plans to restore and protect important riparian areas; 2) enhancing fish habitat both in main stem and tributary streams to the Madison River, for all life stages of fish; 3) restoring riparian habitat; and 4) protecting and aiding in the recovery of threatened and endangered fish species.

Justification for Priority 2 Classification

This project classifies as a Priority 2 2188 license project. The project is located on the mainstem Madison River between Warm Springs Creek and Black's Ford, approximately 11 miles downstream from Madison Dam (Figure 1). This project expands upon the results of the Madison River Sediment Mobility Assessment (Pioneer Technical Services, 2022) and Madison River – Norris Reach Master Plan and 75% Design Project (funded in 2023 by MadTAC) and will address limiting factors related to spawning and rearing habitat and overall channel complexity in the Norris Reach of the Madison River.

Project Sponsors: NorthWestern Energy, Inc.
Montana Fish, Wildlife & Parks
River Design Group, Inc.
TNT Excavating, Inc. (Ty Smith, Owner/Operator)

Location of Proposed Project

The project is located in Madison County approximately 18 miles northeast of the town of Ennis, Montana. The project is located on the Madison River 11 downstream of Madison Dam. The legal description of the project area is Section 2, Township 3 South, Range 1 East. Please refer to Figure 1.

Geocodes: Not Applicable (Madison River)

Latitude: 45°35'59.40°N; **Longitude:** 111°34'22.04°W

Total Project Cost: \$30,900

MadTAC Funds (Cost-Share) Requested for Project: \$30,900



Figure 1. Madison River-Norris Reach project vicinity map.

I. INTRODUCTION

NorthWestern Energy and Montana Fish, Wildlife & Parks are interested in pursuing instream aquatic habitat enhancement project on the Madison River. The purpose of these projects would be to enhance mainstem spawning and rearing habitats through the creation and/or enhancement of islands and installation of streambank treatments to reduce current rates of bank erosion and channel enlargement. In 2023, NorthWestern Energy contracted with River Design Group, Inc. to prepare a master plan and 75% design plan set for a demonstration project in the Norris Reach of the Madison River. This project was initiated as part of a comprehensive effort to enhance mainstem spawning and rearing habitat, including:

- 1) constructing new islands;
- 2) enlarging or supplementing existing islands;
- 3) treating eroding streambanks and island margins with vegetated wood matrix structures; and
- 4) evaluating opportunities to connect riparian wetlands and side channels to the main river.

The Master Plan and 75% design drawings are near-completion and will be delivered to NorthWestern Energy in January 2024. For this proposal, RDG has teamed with TNT Excavating, Inc. (TNT), a qualified vendor on NorthWestern Energy’s list of approved contractors for stream and aquatic habitat restoration. TNT will integrate with the RDG design team to address construction feasibility and means and methods for implementation of the Demonstration Project on the Norris Reach of the Madison River. This remaining step is critical to the successful execution of restoration activities. Figure 2 includes the project location and restoration design concepts that are currently being developed to a 75% design level equivalent project.

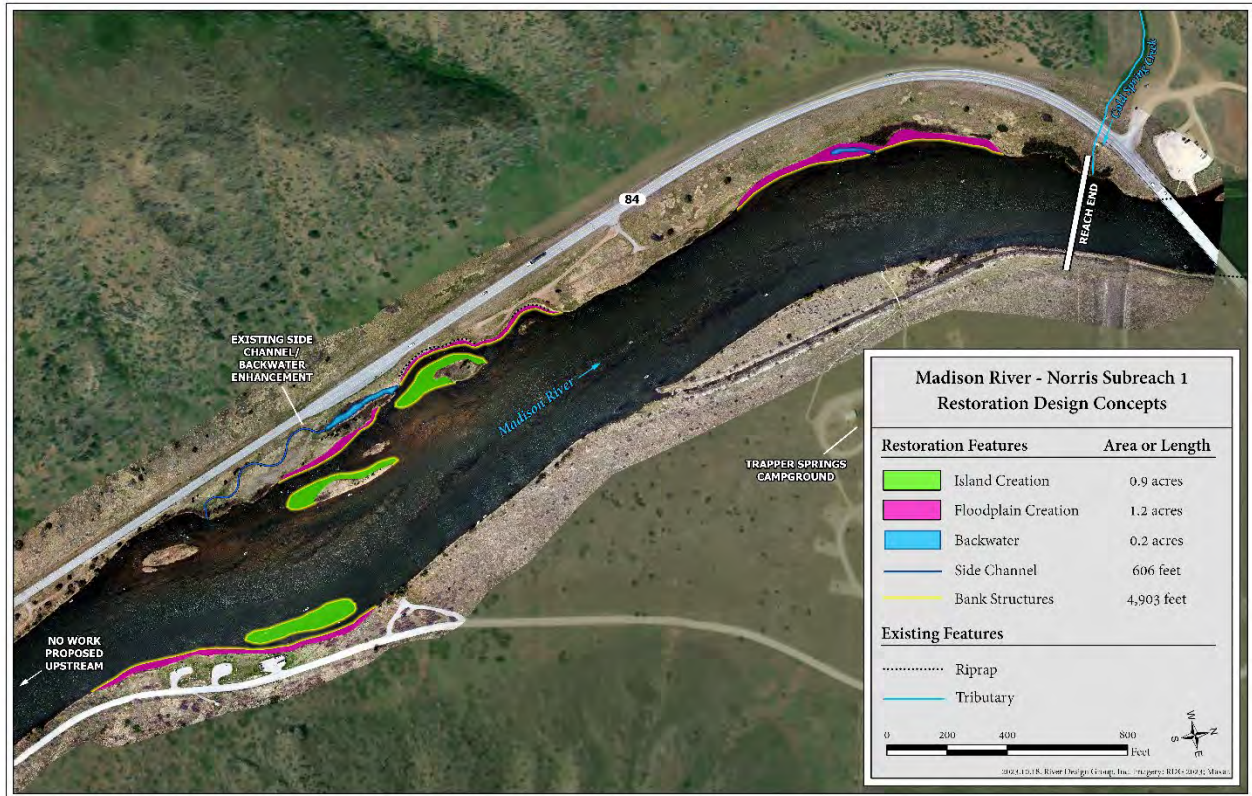


Figure 2. Demonstration Project design concepts in the Norris Reach of the Madison River.

II. Objectives

The following objectives will guide development of this project:

1. Identify material sources, either on-site or in close proximity to the project area, including gravel, wood, and willow cuttings;
2. Perform a routine wetland delineation to meet Army Corps of Engineers Section 404 requirements, including mapping existing wetlands and quantifying both temporary and permanent impacts to riverine, scrub-shrub and emergent wetlands;
3. Update 75% design drawings to 95% final design drawings with detailed construction specifications including access, staging, materials acquisition, dewatering and erosion control plans; and

4. Prepare Joint Permit Application and No Rise Hydraulic Analysis to meet state, federal and local permitting requirements.

III. Methods

Table 2 includes the project scope and tasks that would be executed with this project. A brief description of the tasks and methods to be used are summarized below.

Task 1. Identify Material Sources

- Identify borrow sources for wood, alluvium (cobble, gravel) and willow cuttings. There may be the opportunity to generate some material on-site through bank grading and lowering of low terraces and existing island surfaces, but an alternative source for coarse material will be required to meet material specifications.

Task 2. Perform Routine Wetland Delineation

- Perform wetland delineation in compliance with the USACE Wetland Delineation Manual (1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0).
- Quantify impacts to all wetland types present in the project area, including anticipated temporary and permanent impacts to wetland resources.

Task 3. Prepare 95% Construction Drawings and Cost Opinion

- Develop access, staging and dewatering and erosion control plans in consultation with TNT Excavating, Inc. Perform on-site review of project area. Coordinate material pricing with TNT and develop a construction cost opinion for implementation of the project. This may include a phased approach with implementation spanning several years given the size and complexity of the project.

Task 4. Prepare Joint Permit Application and No Rise Hydraulic Analysis

- Task 4 includes preparing a Joint Permit Application including Section 404 of the Clean Water Act, Montana Department of Environmental Quality 318 Authorization, Natural Streambed and Land Preservation Act (310 Permit) and Floodplain Development Permit.

IV. Schedule

Table 1 includes the proposed project schedule.

Table 1. 2024 Project Schedule.


Task	April	July-August	September-October	November-December
Task 1. Identify Material Borrow Sources				
Task 2. Perform Routine Wetland Delineation				
Task 3. Prepare 95% Construction Drawings				
Task 4. Prepare JPA and No Rise Hydraulic Analysis				

V. Personnel

RDG is an approved consultant on NorthWestern Energy’s Qualified Vendor’s List for river, aquatic habitat, and wetland restoration services. RDG has an 19-year track record of designing and implementing large scale restoration projects on behalf of the NorthWestern Energy Technical Advisory Committees and agency partners. John Muhlfeld will serve as the project manager on behalf of the design team. Chris Nelson and Nate Wyatt will serve as the engineers of record. To comply with NorthWestern Energy’s Cultural Resource Management Plan, a cultural resources investigation will be conducted for the river segment where the Demonstration Project is scheduled to be constructed.

VI. Budget

Table 2 includes a not-to-exceed cost estimate to perform the Scope of Work (SOW). The cost estimate is based on the level of effort anticipated for each major task and sub tasks. The estimated cost to complete the SOW is \$30,900.

Table 3. Cost estimate to complete the Scope of Work		Direct Expense		Erin McGowan Restoration Ecologist	John Muhlfeld Principal Hydrologist and Project Manager	Ty Smith TNT Excavating, Inc.	Chris Nelson, PE, CFM Water Resources Engineer	Nate Wyatt, PE Water Resources Engineer	Loren Smith AutoCAD Technician	Hours Subtotal
		Mileage, Lodging & Per Diem	Equipment							
										
Task 1. Identify Material Borrow Sources										
1.1	Coordinate Materials Acquisition and Pricing									
	1.2.1. Coordination with Local Suppliers	\$500			16	30				46
	1.2.2. Haul Pricing									0
		\$500	\$ -	\$ -	\$ 2,800	\$ 1,500	\$ -	\$ -	\$ -	\$ 4,800
Task 2. Routine Wetland Delineation										
2.1	Wetland Delineation and Reporting									
	2.1.1. Field Delineation			24	4					28
	2.1.2. Data Processing and Mapping			10						10
	2.1.3. Wetland Delineation Report			16						16
		\$ -	\$ -	\$ 5,750	\$ 700	\$ -	\$ -	\$ -	\$ -	\$ 6,450
Task 3. 95% Construction Drawings										
3.1	Access, Staging and Dewatering Plans									
	3.1.1. Drawings and Specifications				8	24		8	16	56
3.2	95% Design Drawings									
	3.2.1. 95% Final Design Drawings and Specifications				8			8	30	46
		\$ -	\$ -	\$ -	\$ 2,800	\$ 1,200	\$ -	\$ 2,560	\$ 5,290	\$ 11,850
Task 4. JPA and No Rise Analysis										
4.1	Prepare Joint Permit Application				8					
4.2	No Rise Hydraulic Analysis^^						40			40
		\$ -	\$ -	\$ -	\$ 1,400	\$ -	\$ 6,400	\$ -	\$ -	\$ 7,800
	Total Cost:	\$500	\$ -	\$ 5,750	\$ 7,700	\$ 2,700	\$ 6,400	\$ 2,560	\$ 5,290	\$ 30,900

^^ This reach of the Madison River is currently in a non-detailed flood study area which requires a standard no-rise hydraulic analysis (1-D model). A detailed flood study is currently being prepared by the DNRC and may be published in 2024. If the updated regulations are adopted, the project area will be mapped Zone AE (detailed flood study area with mapped base flood elevations) and a more detailed analysis including a Conditional Letter of Map Revision and Letter of Map Revision to FEMA would be required. This cost estimate assumes a standard no-rise hydraulic analysis to meet current regulations.

VII. Deliverables

- Routine wetland delineation report and mapping exhibits;
- 95% design drawings and engineered plan set;
- Joint Permit Application and No Rise Hydraulic Analysis; and
- Construction cost opinion.

VIII. Cultural Resources

NorthWestern Energy will coordinate the necessary cultural resources investigations. Cultural resources will be coordinated during the permitting phase of this project, which is anticipated in the fall of 2024.

IX. Water Rights

Appropriate analysis will be performed to demonstrate that the project complies with the intent of Montana DNRC's "*Guidance for Landowners and Practitioners Engaged in Stream and Wetland Restoration Activities*", issued by the Water Resources Division on March 9, 2016. The guidelines are likely not applicable considering they specifically address wetland projects to ensure restored wetlands should function entirely in the absence of artificial controls and diversions of water that intentionally appropriate water for wetland use. This project will not result in the artificial control or diversion of water, therefore the guidance is likely not applicable. Regardless, RDG will coordinate restoration plans with DNRC to ensure compliance with adopted guidelines.