



Environment and Natural Resources Trust Fund

M.L. 2021 Approved Work Plan

General Information

ID Number: 2021-238

Staff Lead: Michael Varien

Date this document submitted to LCCMR: July 21, 2021

Project Title: Morrison County Performance Drainage and Hydrology Management II

Project Budget: \$197,000

Project Manager Information

Name: Shannon Wettstein

Organization: Morrison Soil and Water Conservation District

Office Telephone: (320) 631-3553

Email: shannon.wettstein@morrisonswcd.org

Web Address: <https://morrisonswcd.org/>

Project Reporting

Date Work Plan Approved by LCCMR: July 20, 2021

Reporting Schedule: December 1 / June 1 of each year.

Project Completion: October 31, 2023

Final Report Due Date: December 15, 2023

Legal Information

Legal Citation: M.L. 2021, First Special Session, Chp. 6, Art. 6, Sec. 2, Subd. 03j

Appropriation Language: \$197,000 the first year is from the trust fund to the commissioner of natural resources for an agreement with the Morrison Soil and Water Conservation District to complete the Morrison County culvert inventory started in 2016 to help solve landowner conflicts, protect wetlands, improve water quality, and design additional water storage throughout the county.

Appropriation End Date: June 30, 2024

Narrative

Project Summary: Complete the Morrison County culvert inventory started in 2016 to help solve landowner conflicts, protect wetlands, improve water quality, ensure road safety and design additional water storage throughout the county.

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

Morrison County, like other agricultural counties, has experienced a vast increase in drainage. Thousands of acres are being tiled with no approval or oversight. The water moving across the landscape has altered drainage capacity of county and township roads, as well as created major conflict between neighbors and road authorities' due to impacts of standing water on agricultural fields and topping of public roads. Morrison SWCD historically has taken the lead in managing drainage, county wide, through the administration of the Wetland Conservation Act (WCA) guiding private landowners and the local road authorities through WCA laws and regulation relating to ditching and draining. This leadership role was taken a step further when in 2016, the district was awarded a LCCMR grant to hire a hydrology technician and conduct an initial culvert inventory along township roads. This previous grant supported the completion of two thirds of the counties township centerline and driveway culverts. Due to the sheer amount of culverts and the time necessary to inventory them the previous grant was not sufficient to complete the entire county.

What is your proposed solution to the problem or opportunity discussed above? i.e. What are you seeking funding to do? You will be asked to expand on this in Activities and Milestones.

Morrison SWCD is committed to serving the public through a leadership role in managing drainage and sharing a more complete understanding of drainage infrastructure within the county. The way to do this is by completing the county wide culvert inventory which was started in 2016 and by sharing this information with our partners, the public and local drainage authorities. This information will assist local authorities in making decisions about upcoming project areas based on complete hydrology and storm water information which ultimately improves public road safety and saves taxpayers money by allowing townships to take a more systematic approach to improving infrastructure. This information will help reduce conflict between landowners experiencing flooding or drainage issues by painting a clearer picture of what is actually happening on the landscape. This information will protect wetland habitats from accidental drainage when contractors or private landowners replace pipes at incorrect elevations. Finally, this information will allow Morrison SWCD to solve drainage issues not by just pushing water onto someone else but by identifying and designing water storage projects so they can be adopted on the landscape using federal, state or local funds.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

Conduct culvert inventories on approximately 4,000 culverts along township roads, county road culvert information would be gathered by Morrison County Highway Department. This information would then:

- Create and maintain a database of all culvert elevations throughout the county.
- Provide updated culvert inventory data to Morrison County for publication on Morrison County Beacon GIS site.
- Prioritize and rank inventory work based on watershed and safety considerations.
- Provide updated culvert inventory data and prioritization suggestions to road authorities at the Township and County level as well as Camp Ripley, MN DNR and FEMA
- Identify locations for water storage throughout the county.

Project Location

What is the best scale for describing where your work will take place?

Region(s): Central

What is the best scale to describe the area impacted by your work?

Region(s): Central

When will the work impact occur?

During the Project and In the Future

Activities and Milestones

Activity 1: Inventory culverts within Morrison County, specifically township road centerline and private driveways

Activity Budget: \$197,000

Activity Description:

Complete township centerline and driveway culverts in ten townships in order to comprehend the hydrology and storm water management for the county. The hydrology technician afforded through this capacity funding would work with township and county road authorities as well as Camp Ripley to identify culvert locations so drainage infrastructure can be inventoried. This inventory data will then be used to make improvements to drainage ways such as restoring surface water connectivity, fixing problem areas susceptible to washouts and establishing water storage areas on the landscape to slow surface water down. The inventory data will also be used to ensure proper culvert replacement occurs to keeps wetlands intact.

Over time, culvert locations have been lost, have fallen into disrepair or in most cases are improperly replaced. This combined with additional surface water being added to drainage infrastructure from subsurface tile drainage puts enormous pressure on road authorities to find solutions when flooding, washouts or property is affected. Surface water and wetlands often fall victim while trying to resolve these conflicts. This data gives road authorities information which can be used to make better decisions and ultimately protect wetlands and surface water.

Activity Milestones:

Description	Completion Date
Create and maintain a database of all culvert elevations throughout the county	October 31, 2022
Conduct culvert inventories on approximately 4,000 culverts	October 31, 2022
Provide updated culvert inventory data to Morrison County for publication on Morrison County Beacon GIS	January 31, 2023
Identify and design water storage locations throughout the county	February 28, 2023
Prioritize and rank inventory work based on watershed and safety considerations	February 28, 2023
Provide updated culvert inventory data to Camp Ripley, DNR and FEMA.	April 30, 2023
Provide updated culvert inventory data and prioritization suggestions to road authorities and share with partners	April 30, 2023

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
West Central Technical Service Area Engineers	Technical Service Area II	Provide engineering services and design work for water storage when identified by Morrison SWCD.	Yes
Camp Ripley Environmental	Department of Military Affairs (DMA)	Accompany Morrison SWCD when down range on camp training locations so culvert locations which flow into Morrison County can be documented. Work with Morrison SWCD to identify locations for water storage and wetland restorations.	No
Township Road Authorities	Morrison County Townships	Provide locations of known culverts along township roads so these can be surveyed and documented.	No
Morrison County Land Services	Morrison County	Provides the platform for all of the publicly accessible culvert inventory data on their Morrison County Beacon, the interactive GIS mapping service of the county.	No
Morrison County Highway Department	Morrison County	Simultaneously working on completing a culvert inventory on all county roads throughout the county using the same methods and equipment as Morrison SWCD so a more complete picture of the county drainage infrastructure can be formed. Work with Morrison SWCD to identify potential water storage locations.	No

Dissemination

Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.

Reports of the culvert inventory data will be supplied to township officials as both a hard copy and an electronic copy. Maps detailing locations of culverts by sections along with the data which in an Excel spreadsheet format will be included as will a key for the information. Reports will also include locations and elevation data for centerline and private drive culverts along township roads. The reports will also detail material size, type, shape and conditions of pipes and flow direction. Culverts will then be rated based on their current conditions and recommended maintenance activities will be noted.

We will present to the County Board, the annual Township Association meetings, and to other smaller groups to demonstrate the project. The county board will be kept in the loop continually to take feedback. The whole project is very closely aligned with the County Public Works Department and DNR to make sure we have an overall project that serves each agency as well and any and all users. A subset of the data from the inventory will be made available for public viewing on the Morrison County interactive GIS system, Beacon. Full data sets will be shared with FEMA, DNR, Camp Ripley, Morrison County Public Works and US Fish and Wildlife Service.

Potential locations identified through the inventory for wetland restoration and water storage will be shared and discussed at the Morrison Technical Evaluation Panel. If the property owner, be it landowners, township governments, Camp Ripley or Morrison County are interested, engineers from WCTSA will design wetland restoration or water storage solutions for future implementation.

The Environment and Natural Resources Trust Fund will be acknowledged on the Morrison SWCD website through use of the trust fund logo and attribution language. Credit will also be given to the ENRTF on project print and electronic media shared between Morrison SWCD and the partners involved in the project including Morrison County, Morrison County townships, Camp Ripley, and other partners who request printed or electronic data of the inventory. Any future

publication about the project including articles published by the Morrison County Record or any other news or radio outlet will include acknowledgement of public funds received through the ENRTF.

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this be funded?

Once the drainage inventory is complete Morrison SWCD will continue to staff a hydrology technician in-house for assistance to township officials, Morrison County, landowners and Camp Ripley as requested and work with each of these entities to keep the inventory up to date. Ongoing culvert inventory data would be maintained by Morrison SWCD and would be accessible electronically through the Morrison County Beacon GIS system. This completed inventory will also identify locations for water storage throughout the county. Morrison SWCD would work with our engineers to design and implement these structures through various federal, state or local sources.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Morrison County Performance Drainage and Hydrology Management	M.L. 2016, Chp. 186, Sec. 2, Subd. 04r	\$209,000
Oak Wilt Suppression at its Northern Edge	M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 06b	\$100,000

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Engineering Technician		Survey culvert locations, elevations and conditions; Provide hydrologic assessments; provide technical assistance to drainage authorities, Camp Ripley and private landowners			33%	3		\$167,500
							Sub Total	\$167,500
Contracts and Services								
West Central Technical Service Area (WCTSA) Engineers	Sub award	WCTSA provides engineering services to SWCDs within a twelve county region in central Minnesota. WCTSA would work with Morrison SWCD once a project location had been identified to design water storage capacity on the landscape. These plans could then be implemented once additional funding is secured.				0.09		\$20,000
							Sub Total	\$20,000
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								

	Miles/ Meals/ Lodging	Approximately 17,000 miles within Morrison County	Providing transportation in and around townships and Camp Ripley to conduct the inventory					\$9,500
							Sub Total	\$9,500
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
							Sub Total	-
							Grand Total	\$197,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
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Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
In-Kind	SWCD Local Capacity dollars provided through the Clean Water Fund.	Morrison SWCD staff time for administration of the grant including reporting and grant management. Staff time sharing culvert inventory information with agency partners and at local township and county government meetings.	Pending	\$25,000
			State Sub Total	\$25,000
Non-State				
In-Kind	Morrison County and Township tax base.	Township Supervisor per diem for semiannual township meeting, time and mileage to identify culverts, submit culvert replacement forms and go over inventory data with SWCD staff; County Public Works time to inventory and mark culverts, host and attend meetings where the information is presented, submit culvert replacement information; County Land Services and GIS Departments time to update Beacon the interactive GIS mapping; County Commissioner per diem to attend and speak at meetings where the information is presented; Marking flags for townships to identify culvert locations during their annual road and bridge drive.	Pending	\$32,000
			Non State Sub Total	\$32,000
			Funds Total	\$57,000

Attachments

Required Attachments

Visual Component

File: [bc09a41b-05b.pdf](#)

Alternate Text for Visual Component

Map showing Morrison County with remaining townships and Camp Ripley to be inventoried. Also shows all of the culvert locations inventoried since 2016 when the project started....

Board Resolution or Letter

Title	File
Morrison SWCD Resolution	d984e3b3-b0d.docx

Optional Attachments

Support Letter or Other

Title	File
Representative Kresha Support Letter	ad177cbf-20e.pdf
Senator Gazelka Support Letter	ec3e257b-ce5.pdf
Camp Ripley Support Letter	d44e325e-064.doc

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

Changes made based on comments from LCCMR staff 2/10/21.

Additional Acknowledgements and Conditions:

The following are acknowledgements and conditions beyond those already included in the above workplan:

Do you understand and acknowledge the ENRTF repayment requirements if the use of capital equipment changes?

N/A

Do you agree travel expenses must follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?

Yes, I agree to the Commissioner's Plan.

Does your project have potential for royalties, copyrights, patents, or sale of products and assets?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

N/A

Does your project include original, hypothesis-driven research?

No

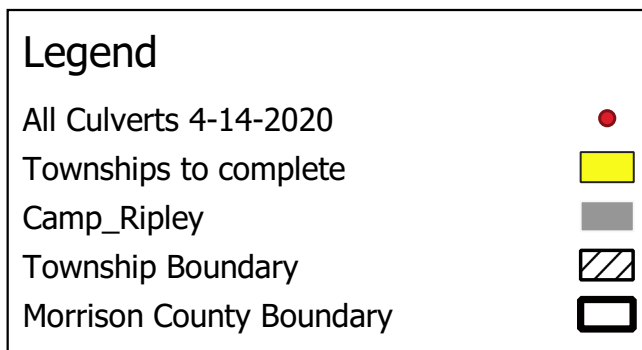
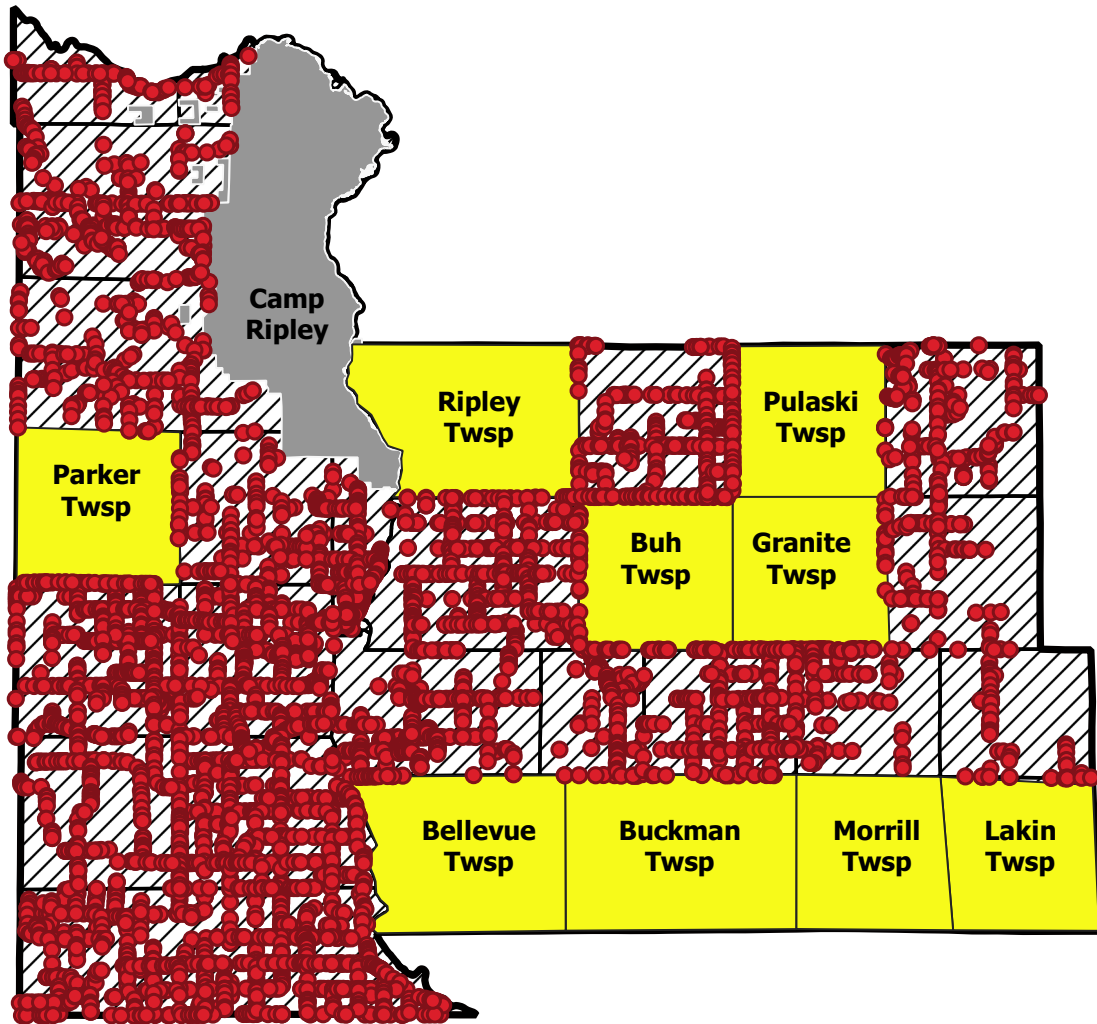
Does the organization have a fiscal agent for this project?

No

Morrison SWCD Culvert Inventory

Morrison County

4-14-2020



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Created on: 04/14/2020

