

**Instructions:** This form provides general guidance on information that may be necessary for antidegradation review. The Minnesota Pollution Control Agency (MPCA) reserves the right to request information from the applicant in addition to that provided in this form.

Section 401 of the Clean Water Act requires any applicant for a federal license or permit that authorizes an activity that may result in a discharge to Waters of the United States to obtain certification from the state or tribe in which the discharge originates to ensure compliance with applicable water quality standards. In addition to completing the Joint Application Form, <https://bwsr.state.mn.us/joint-application-form>, applicants whose proposed projects may require an MPCA Individual 401 Water Quality Certification for work in aquatic resources must also provide the information necessary to demonstrate compliance with the Minnesota antidegradation water quality standards (Minn. R. 7050.0265, <https://www.revisor.mn.gov/rules/7050.0265/>). Applicants should review the antidegradation requirements in Minn. R. 7050.0285 (<https://www.revisor.mn.gov/rules/7050.0285/>) prior to completing this form.

The purpose of the antidegradation requirements is to achieve and maintain the highest possible quality in surface waters of the state. To accomplish this purpose, antidegradation requires:

- A. The protection of existing uses and the level of water quality necessary to protect existing uses;
- B. The minimization of degradation of high water quality, and only to extent necessary to accommodate important economic or social development;
- C. The protection of outstanding resource value waters; and
- D. Consideration of thermal discharges.

### Applicant information

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Applicant name/Project name/USACE ID number: Cannon River Fish Passage Project / MVP-2025-01338-SSC

Date submitted (mm/dd/yyyy): 3/28/2026

#### 1. Environmental Assessment Worksheet (EAW)/Environmental Impact Statement (EIS)

**Note:** The MPCA cannot make any certification decision until the Environmental Review process is complete.

Is environmental review (Environmental Assessment Worksheet or Environmental Impact Statement) required for this project?  Yes  No

If yes, include the date it was completed and the decision: \_\_\_\_\_

#### 2. Analysis of alternatives to project design that avoid or minimize degradation

(This does not include the Preferred Alternative discussed below)

Describe your analysis of at least two prudent and feasible alternative project designs that would avoid or minimize degradation and avoid or minimize net increases in loading of pollutants or other causes of degradation to surface water (such as wetlands, lakes, stream, etc.). The analysis of each alternative must include a description of how impacts to surface waters are avoided and/or minimized; information on any design considerations and constraints; expected performance, construction, operation, and maintenance costs; and reliability for each alternative. [Minn. R. 7050.0280, subp. 2](#)

##### Cannon River Rock Riffle

**No-build alternative:** Taking no action and leaving conditions as they are along Cannon River within the project boundaries does not improve fish passage or connectivity within the river corridor, it also risks future damage to and failure of the dam structures. These dams are degraded and are beyond their design life. Additionally, low head dams create dangerous hydraulic undertows known as “drowning machines”. By leaving the dams in place, this leaves unsafe conditions for visitors.

**Weir design alternative:** Additional weirs were considered for each of the rock riffle structures. This would have resulted in a larger project footprint, resulting in more impacts. The dams have little headwater-tailwater differentials indicating a downstream control. Therefore, the number of weirs only need to handle the water surface differential. Based on communication with MnDNR and hydraulic modeling, additional weirs were not needed. Thus, the proposed design was selected to sufficiently handle the water

surface differential.

### **Dodd Road Culvert**

No-build alternative: Taking no action to replace the Dodd Road culvert would leave the culvert undersized and insufficient. This could result in erosion around the culvert. The culvert would also remain a fish passage barrier.

Culvert alternative: This alternative would replace the existing arch culvert with two 16'x4' box culverts and two 36" RCP culverts, with restricted dam and weirs width of 40'. This alternative would undesirably lower the water levels of Cannon River at this location, including Gorman Lake at higher flow events, more than the proposed design. Additionally, this alternative would extend further into Cannon River and adjacent wetlands, unnecessarily impacting these resources.

### **Minimization**

Minimization was achieved by various activities to reduce impacts to the river and wetlands. Previous project design called for longer rock riffles which extended further downstream to tie into the river channel bottom; however, the proposed design is not as long and rely in part on the tailwater from the mild-sloped river which reduced the rock riffle footprint, impacting less wetlands and river. Proposed design also uses a 3:1 side slope along the outer edge of the rock riffle structures. This steeper slope prevents further impact to adjacent wetlands.

Temporary impacts to wetlands around Gorman Dam and Dodd Road were minimized by reducing project limits, narrowing limits along Dodd Road and the park access road. This will prevent the contractor from unnecessarily impacting wetlands and ensure erosion control measures prevent any indirect impacts.

Wetlands that will be temporarily impacted will be returned to original conditions. They will be seeded with native seed mix 34-265 Riparian South & West.

The project area will utilize standard erosion control methods to prevent sedimentation within wetlands. Erosion and sediment control measures will be taken and will remain in place until construction activities are completed.

## **3. Preferred alternative project design**

Describe the analysis of your preferred alternative project design that avoids or minimizes net increases in loading of pollutants or other causes of degradation. The analysis must include a description of how impacts to surface waters are avoided and/or minimized; information on any design considerations and constraints; expected performance, construction, operation, and maintenance costs; and reliability for each alternative. In addition, the analysis must verify that the preferred alternative is the least degrading prudent and feasible alternative for surface water. [Minn. R. 7050.0280, subp.2](#)

The rock riffle structures will be designed and implemented to provide fish passage at the Gorman Dam site. Each riffle will be constructed with a 3% slope and rock materials will be laid in specified patterns and groupings. The design of the rapids has been coordinated with the River Ecology and Stream Restoration staff of the MN DNR. The rocks used to construct the rock rapids have been designed to withstand velocities and shear stresses generated during a wide range of floods—including the 100-year flood. For rock arch rapids, the boulders used for the weir construction will be oversized and embedded into the rocks below. Final placement of boulders and rocks will also be coordinated with the DNR. Boulders and rocks will be adjusted to maximize fish and aquatic species passage.

The riffle will convey all streamflow from low flows through floods and will provide upstream water levels within Gorman Lake that are similar to existing conditions. Water levels downstream from each of the project sites are not expected to be significantly affected and will continue to rise and fall naturally. The contractor will be responsible for water control and dewatering of the riffle sites during construction. Heavy equipment will operate within the streambed for grading, compaction, and placement of base rock and to contour and construct the boulder weirs. The two dam locations will be accessed through existing easement maintenance roads and will remain within project limits. Construction is estimated to take between six and eight weeks at each dam site.

Currently, the Dodd Road culvert is a 62-linear foot 12'6" x 7'11" CSP-arch. This culvert crossing is undersized and a hydraulic restriction that has a significant influence on the Gorman Lake water levels. The project proposes to replace this culvert with two 50-linear foot 4'X12' concrete box culverts and two 30" RCP floodplain culverts. A fine filter aggregate bedding will be placed 2' below the box culverts, and a minimum of 3' thick clay cap will be placed around both ends of the new culverts.

*See Construction Plans (Attachment 1) for more project details.*

## **4. Water quality parameters of concern**

List the water quality parameters of concern for the project.

Examples: Total Suspended Solids (TSS), Dissolved Oxygen (DO), Mercury (Hg), Temperature, PCBs, etc.

The wetlands impacted by the project activities are not monitored, so there are no known water quality parameters of concern. The Cannon River (07040002-542) and Gorman Lake (40-0032-00) are listed as impaired and will be discussed in Sections 5 through 8. Some water quality parameters of concern are, nutrients, turbidity, Total Suspended Solids, from potential suspended solids during construction.

## 5. Existing uses and level of water quality necessary to protect uses

Antidegradation requires the protection of existing uses and the protection of the water quality necessary to protect those uses ([Minn. R. 7050.0265, subp. 2](#)). Existing use is defined as *those uses actually attained in the surface water on or after November 8, 1975* ([Minn. R. 7050.0255 subp. 15](#)).

**Example 1:** A surface water is in pristine condition on November 28, 1975, but development or other impacts have degraded that same water and it is no longer a high quality surface water. The existing use is the pristine water.

**Example 2:** A stream is highly degraded for several decades until it is restored to a trout stream in 1990. The existing use is the restored trout stream.

### In the table below:

Identify streams, rivers, and lakes within a mile radius of the project location by Waterbody Identification Number (WID). WIDs, and other information, can be found by using the map at: [EDA: Surface water data](#). Identify the use classification and existing use for **all** surface waters potentially impacted by this project. Include surface waters that are not directly within the project area, but may be *potentially impacted*. Review Minn. R. 7050.0415 – 7050.0430 for the use classification that fits the waters potentially impacted by your project. Use classifications are also located at <https://www.revisor.mn.gov/rules/?id=7050>.

Also, identify the existing water quality of each surface water for the water quality parameters of concern. The methods for determining existing water quality are found in [Minn. R. 7050.0260](#).

### Streams and rivers

If the waterbody is a stream/river and not listed in *Beneficial use designations for streams reaches* the beneficial uses are 2Bg, 3, 4A, 4B, 5 and 6.

### Lakes and wetlands

To find beneficial use designations for lakes and wetlands, check [Minn. R. 7050.0470](#). Waterbodies described in both documents are arranged by major watershed basins in this document. If the waterbody is a wetland and not listed in Minn. R. 7050.0470, the beneficial uses are 2D, 3, 4A, 4B, 5 and 6. If the waterbody is a lake and not listed in Minn. R. 7050.0470 the beneficial uses are 2B, 3, 4A, 4B, 5 and 6.

Exceptions: Water bodies in the Boundary Waters Canoe Area Wilderness and in Voyageurs National Park **that are not listed**, may have different Use Classifications (Beneficial use designations).

Name of surface water/Waterbody and Waterbody Identification Number (AUID), if applicable.	Use classification	Existing use (highest quality attained from November 28, 1975 to present)	Existing water quality
Gorman Lake (40-0032-00)	2B	Aquatic life and recreation, aesthetic value and navigation	Impairments: Nutrients and Mercury in fish tissue
Cannon River (07040002-542)	2Bg	Aquatic life and recreation, aesthetic value and navigation	Impairments: Benthic macroinvertebrates bioassessments, Dissolved oxygen, E. coli
Wetland 1A	2D, 4A, 4B, 5 and 6	Flood prevention, aquatic life and recreation, wildlife habitat, aesthetic value	Unknown
Wetland 1B	2D, 4A, 4B, 5 and 6	Flood prevention, aquatic life and recreation, wildlife habitat, aesthetic value	Unknown
Wetland 1C	2D, 4A, 4B, 5 and 6	Flood prevention, aquatic life and recreation, wildlife habitat, aesthetic value	Unknown

## 6. Water quality comparison before and after project

For each surface water listed in Section 5, describe the anticipated water quality after the project is fully complete and operational. If any portion of the surface area of a water resource will be permanently impacted, a Mitigation Plan will be required (see Section 12).

Name of surface water/Waterbody and Waterbody Identification Number (AUID), if applicable.	Anticipated Water Quality
Gorman Lake (40-0032-00)	Size reduction will occur. Water quality is expected to remain the same.
Cannon River (07040002-542)	Size reduction will occur. Water quality is expected to improve due to rock riffle structure increasing dissolved oxygen.
Wetland 1A	This wetland will be partially filled (rock). Remaining wetland water quality is expected to remain the same.
Wetland 1B	This wetland will be partially filled (rock). Remaining wetland water quality is expected to remain the same.
Wetland 1C	This wetland will be partially filled (rock). Remaining wetland water quality is expected to remain the same.

## 7. Impaired waters and Total Maximum Daily Loads (TMDL)

Identify ALL surface waters listed in Section 5 that are listed on the Minnesota Impaired Waters List (<https://www.pca.state.mn.us/water/minnesotas-impaired-waters-list>). List the impairment for each surface water identified and state whether or not a total maximum daily load study (TMDL) has been completed for the waterbody.

Name of waterbody	Impairment	TMDL completed? (Y/N)
Gorman Lake (40-0032-00)	Nutrients and Mercury in fish tissue	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Cannon River (07040002-542)	Benthic macroinvertebrates bioassessments, Dissolved oxygen, E. coli	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

## 8. Physical alterations of surface waters

Identify ALL surface waters listed in Section 5 that are listed on the Minnesota Impaired Waters List (<https://www.pca.state.mn.us/water/minnesotas-impaired-waters-list>). List the physical alteration and the extent of the alteration, also state if the alteration will be permanent (longer than one year) or temporary.

Name of waterbody	Physical alteration	Extent of alteration	Temporary or permanent
Wetland 1A	Disturbance	0.06 ac	Temporary
Wetland 1A	Fill	243 sqft	Permanent
Wetland 1B	Disturbance	0.21 ac	Temporary
Wetland 1B	Fill	0.05 ac	Permanent
Wetland 1C	Disturbance	0.26 ac	Temporary
Wetland 1C	Fill	360 sqft	Permanent
Cannon River (M-048)	Disturbance	258-lf (0.89-ac)	Temporary
Cannon River (M-048)	Fill	253-lf (0.67-ac)	Permanent
Gorman Lake (Basin ID: 14446)	Disturbance	90-lf (0.06-ac)	Temporary
Gorman Lake (Basin ID: 14446)	Fill	65-lf (0.03-ac)	Permanent

## 9. Indirect impacts

For all surface waters where partial physical alteration of the function or acreage of the surface water will occur, describe the potential indirect impacts to the remaining surface water and the potential indirect impacts to nearby surface waters. For all surface waters where physical alteration will affect the entire function or acreage of the surface water, describe the potential indirect impacts to nearby surface waters. Indirect impacts may include changes in water source timing, water quality (including temperature), aquatic species health or population, vegetation or macroinvertebrate (bug) populations, etc.

- Wetland 1A will be partially altered. Water quality may be temporarily impacted due to construction disturbances, such as turbidity, TSS, and nutrients. No anticipated long-term indirect impacts to nearby surface waters.
- Wetland 1B will be partially altered. Water quality may be temporarily impacted due to construction disturbances, such as turbidity, TSS, and nutrients. No anticipated long-term indirect impacts to nearby surface waters.
- Wetland 1C will be partially altered. Water quality may be temporarily impacted due to construction disturbances, such as turbidity, TSS, and nutrients. No anticipated long-term indirect impacts to nearby surface waters.
- The Cannon River will be partially altered. This may result in water quality improvements downstream (lowering turbidity and improving dissolved oxygen). The existing condition of the dam does not provide high quality riparian habitat due to the break in fish passage and concrete substrate.
- Gorman Lake will be partially altered. Reconstructing a lake outlet by replacing a traditional dam with a rock riffle structure can indirectly improve lake water quality by restoring more natural hydrology and enhancing ecological function. Rock riffles allow gradual, stable water-level management that supports clearer water, healthier aquatic vegetation, and reduced sediment resuspension. They also create oxygen-rich habitat. Although short-term construction may temporarily increase turbidity. The long-term effects typically favor improved clarity, reduced internal nutrient loading, and a more resilient aquatic ecosystem.
- Erosion control measures will be in place surrounding the construction activities.
- Temporary impacts of wetlands will be reseeded with native seed mixes.
- Coordination with USFWS has occurred to ensure no wildlife impacts will occur. The NHIS letter from MNDNR was received and no impacts to any state threatened or endangered species is anticipated. A copy of the USFWS coordination, Natural Heritage Review, and Cultural Resources Report are included in folder Attachment 4.

## 10. Loading and degradation to surface waters

For all surface waters where physical alterations are proposed, describe all anticipated net increases in loading and other causes of degradation expected in each surface water when your preferred alternative project design is fully implemented.

*Example 1: Filling of a wetland that causes another wetland to backup and inundate, (the inundated wetland can be on or off the project site).*

*Example 2: A discharge from the project site that increases flow to another surface water on or off the project site.*

*Example 3: Impervious surface increases in a subwatershed to the extent water quality becomes degraded.*

- Wetland 1A will be partially excavated and filled due to construction activities for the Dodd Road culvert replacement. No additional stormwater/discharge will go to this wetland. Water quality is anticipated to be the same pre and post project.
- Wetland 1B will be partially excavated and filled due to construction of Gorman Dam rock riffle structure and Dodd Road culvert replacement. No additional stormwater/discharge will go to this wetland. Water quality is anticipated to be the same pre and post project.
- Wetland 1C will be partially excavated and filled due to construction of Gorman Dam rock riffle structure and Dodd Road culvert replacement. No additional stormwater/discharge will go to this wetland. Water quality is anticipated to be the same pre and post project.
- The Cannon River will be partially altered. Water quality is anticipated to improve downstream. No additional stormwater/discharge will go to the river.
- Gorman Lake will be partially altered. No additional stormwater/discharge will go to this wetland. Water quality is anticipated to be the same pre and post project.

There is no anticipated change in hydrology upstream or downstream of the proposed rock riffle structures and culvert replacement.

See *Hydraulic Analysis (Attachment 5)* for more project details.

## 11. Comparison of existing and expected economic conditions and social services

Provide a comparison of existing and expected economic conditions and social services when the proposed project (preferred

alternative) is fully implemented. Include a description of economic gains or losses attributable to the proposed activity; contribution to social services; prevention/remediation of environmental or public health threats; trade-offs between environmental media; the value of the water resources; and other relevant environmental, social, and economic impacts of the proposed activity. [Minn. R. 7050.0265, subp. 5\(B\)](#)

When Gorman Dam is reconstructed as a rock riffle structure, the economic and social conditions of the county park are expected to improve substantially compared with existing conditions. The current low-head dam provides limited recreational value, requires ongoing maintenance, and poses well-documented public safety hazards, while also degrading ecological function through fish-passage blockage, sediment accumulation, and reduced water quality. Converting the structure to a rock riffle eliminates the hydraulic “drowning machine” risk, reduces long-term infrastructure liability, and restores a naturalized river channel that supports healthier aquatic habitat and improved water quality. These changes are anticipated to generate economic gains through increased park visitation, expanded recreational opportunities such as wading, angling, and paddling, and associated local spending, while also lowering long-term maintenance and emergency-response costs. Social services are strengthened as the restored reach becomes an accessible outdoor classroom for environmental education, youth programming, and community events, enhancing public engagement with natural resources. The project also prevents or remediates environmental and public-health threats by removing a hazardous dam, improving dissolved oxygen levels, and re-establishing ecological connectivity. Although the impoundment-style habitat upstream will transition to a more riverine system, this trade-off yields greater ecological function, climate resilience, and long-term water-resource value.

Impervious surfaces within a watershed are considered to have direct relationships to stream conditions, and impact the physical, chemical and biological measures.<sup>1</sup> The Cannon River Fish Passage Improvements do not increase impervious surfaces in the Cannon River watershed, so there won't be any impervious surface related effects to the Cannon River or associated waters and wetlands.

## 12. Description of the Compensatory Mitigation Plan [Minn. R. 7050.0285, subp. 2 \(A-E\)](#)

The applicant may propose to mitigate the project's permanent wetland impacts through an approved wetland bank if the proposed mitigation is for the same resource quality type surface water (“type-for-type”) AND the proposed mitigation is located in the same major watershed (<https://www.pca.state.mn.us/water/watersheds>). The applicant may propose to mitigate other surface water resource types with on-site, project-specific mitigation if the mitigation is of the same resource type as the impacted water resource.

Describe any proposed permanent surface water impacts. Include the name of the surface water and AUID if appropriate, the type of impact, and the extent of the impact.

This project proposes permanent impact of 0.13-acres to WCA jurisdictional wetlands, 253-lf (0.89-ac) to public watercourse, and 215-lf (0.1-ac) to public water basins within the project area. These impacts are associated with dam modifications, grading, riffle rock placement, and culvert replacement. Permanent wetland impacts qualify under the wildlife habitat exemption rule because this project improves aquatic life habitat. The dam modifications and riffle rock structures will allow fish passage and reconnect 23-miles of the Cannon River. The rapids will provide important habitat, especially for fish spawning. Rough surfaces will allow small fishes and benthic invertebrates passage. The culvert replacement design used the geomorphic assessment, guided by the DNR, to improve fish passage as well. Erosion control measures will be in place to prevent any sedimentation or debris flowing into adjacent wetlands and downstream. Disturbed areas will be reseeded with native seed mix 34-265.

No mitigation is proposed for the permanent impacts to surface waters. The impacts are exempt and are covered under USACE Nationwide Permits.

### **Gorman Dam**

Temporary wetland impacts total 0.29 ac (Wetland 1B and 1C) at the Gorman dam location and are associated with vegetation disturbance, equipment access, and staging. Permanent impacts to wetlands (Wetland 1B and 1C) total 0.06-ac at this location due to the placement of riprap, boulders, and grading. Cannon River impacts (below the OHWM) total 70-lf (0.30-ac) of temporary impacts and 130-lf (0.31-ac) of permanent impacts, due to the same activities occurring to the wetlands at this location. Gorman Lake impacts (above the dam) total 90-lf (0.06-ac) of temporary impacts and 65-lf (0.03-ac) of permanent impacts, that are associated with the riffle rock placement and equipment access.

### **Dodd Road Culvert**

Along Dodd Road, temporary impacts to wetlands (Wetland 1A and 1C) total 0.11-ac due activities associated with equipment access for the culvert replacement. Permanent impacts to wetlands (Wetland 1A and 1C) total 0.01-acres and are associated with grading required for the culvert replacement. Cannon River impacts (below OHWM) total 68-lf (0.16-ac) of temporary impacts and 25-lf (0.03-ac) of permanent impacts, which are associated with drainage and culvert replacement.

<sup>1</sup> [Urbanization - Stormwater Runoff | US EPA](#) accessed 3-27-2026

See Joint Application for impact details and figures (Attachment 2).

Describe mitigation proposed for permanent surface water impacts.

No mitigation is proposed. Wetland impacts are exempt through MN Rules Chapter 8420.0420 – Subpart 9 Wildlife Habitat. USACE impacts will be permitted through Nationwide Permit 27 and Transportation Regional General Permit.

For each surface water listed above, describe how the proposed compensatory mitigation will replace existing uses and maintain the current level of water quality at the proposed project site (e.g., wetland types, replacement ratio, water monitoring data if available).

N/A

Describe how the compensatory mitigation will be maintained and the monitoring activities that will be conducted to ensure the proposed mitigation is viable over the long-term. Include a timeline for reporting progress and an intervention/remediation plan to be implemented if the mitigation fails.

N/A

**Applicant signature**

Print name: Jennifer Tonko Title: Executive Director  
Phone: 507-786-3913 Email: jennifer@cleanriverpartners.org Date: 03/30/2024  
Signature: 