MINNESOTA POLLUTION CONTROL AGENCY
520 Lafayette Road North
St. Paul, MN 55155-4194

Antidegradation assessment

Water Quality Certification Applicants

401 Certification

Doc Type: 401 Certification

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

Applicant name/Project name/USACE ID number: Alta Vista Township / Alta Vista 27 Road Retention / MVP-2026-00313-TRS

Date submitted (mm/dd/yyyy): 5/8/2026

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

Minnesota Administrative Rules 8820.9920 provides minimum design standards for rural roads based on Average Daily Traffic (ADT) volumes. Reconstruction of this township intersection with 0-49 ADT requires inslopes at a recoverable 3:1, driving lane widths of 12', and 30 mph design speed. Permanent wetland impacts were minimized by using 3:1 inslopes as 2:1 slopes are too steep for motorist safety and does not satisfy DNR Dam Safety requirements. Erosion control measures are incorporated into the Plans to reduce impacts to aquatic resources. Stream realignment was purposely placed outside the delineated wetland boundary.

Minimization practices were implemented for all components of the proposed project. This results in the minimum quantities required for construction, and thus, the minimum cost for construction and minimum impacts upon wetlands and other natural resources.

One alternative would have been to replace the existing culvert without including any retention capabilities. If the existing 8'x 8' box culvert were to be replaced without including temporary floodwater storage/retention, and taking into consideration the significant precipitation changes of Altas 14 for this watershed (19.3% increase of the 100-year occurrence), a 132"-diameter round concrete culvert, or 11'-diameter, would be needed. To provide the minimum amount of cover over the culvert (half the diameter), 5.5' of added fill would be necessary. To calculate the minimum 3:1 slopes based on fill height and wider driving lane width, the toe of the inslope would be 65 feet from the centerline of the intersection and would require a culvert barrel length of 130'. (Existing culvert length is 76'). Due to the size of the culvert (11'), outlet velocities would be 10.34 feet per second (fps) for the 100-year storm, and 9.16 fps for the 25-year storm, which would require a scour hole/plunge pool to dissipate the energy and prevent erosive damage to the channel and road inslopes. Outlet velocities near or exceeding 10 cfs are recommended to have scour holes. The outflow volume of the 11' culvert would be 717 cubic feet per second (cfs) and would require a considerably larger scour hole area than the 75' x 70.5' scour hole for the proposed 66" culvert with an outflow volume of 538 cfs.

Another alternative would be installing a culvert that is the same size and length as the existing culvert. This alternative is not practicable as the short culvert length has caused the inslope instability, downstream erosion, and road safety issues. Lengthening the culvert is required which includes providing 3:1 recoverable inslopes and raising the elevation of the intersection.

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 impact of the proposed project on the stream has been minimized by keeping the footprint of the inslopes to the smallest possible extent while still achieving the 3:1 slope requirement for road safety. Stream realignment was placed outside the wetland boundary to avoid impacts. Within the Specifications for construction as well as the Plans, erosion control measures are identified to prevent surface water impacts. A certified construction inspector is onsite for the majority of construction activity and ensures that erosion control and pollution prevention measures are in place. With more than one acre disturbed, a NPDES permit is required and a Stormwater Pollution Prevention Plan (SWPPP). Long-term Operation and Maintenance activities and costs will be the responsibility of Alta Vista Township who is aware of this obligation as the local road authority. The anticipated life of the project is a minimum of 50 years with proper O&M activities. The chosen alternative provides the least degradation of the existing water resources, provides significant reduction of sediment and TSS, and meets the project objectives and satisfies the state grant providing 90% cost-share funding.

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 unnamed tributary upon which the project will be constructed is not currently listed for any impairments. Turbidity (TSS) would be the concern and the focus of preventative measures.

The downstream receiving stream, Unnamed Creek to Yellow Medicine River: 07020004-796, is a tributary to the Yellow Medicine River and is impaired for aquatic life - Aquatic Life - Benthic macroinvertebrates bioassessments (2023). The Yellow Medicine River is impaired for Aquatic Consumption - Mercury in Fish Tissue (2020); Aquatic Life - Turbidity (2020); Aquatic Recreation - E.coli.

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 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**
ex.)	*Seelye Brook – Headwaters to Rum River 07010207-528*	*2Bg, 3, 4A, 4B, 5, 6*	*Livestock and wildlife watering, navigation*	*Dissolved Oxygen (DO) meets levels for existing use*
ex.)	*Wetland 1 (wetlands do not have WIDs)*	*2D, 3, 4A*	*Flood prevention, stormwater retention, wildlife habitat*	
	Yellow Medicine River: 07020004-784	2Bg - General Warm Water	Livestock and wildlife watering	Dissolved Oxygen (DO) meets levels for existing use
	Unnamed Creek to Yellow Medicine River: 07020004-796	2Bg - General Warm Water	Livestock and wildlife watering	DO meets levels for existing use
	Unnamed Creek (sections 27 & 23 of Alta Vista Township)	2Bg, 3, 4A, 4B, 5, 6	Livestock and wildlife watering	DO meets levels for existing use

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
Yellow Medicine River: 07020004-784	With a controlled outlet installed on the unnamed tributary, water quality improvements are anticipated for turbidity (TSS) due to sediment capture, and less erosion along the stream channel. Reductions of total phosphorus are also anticipated.
Unnamed Creek to Yellow Medicine River: 07020004-796	Improvements to the water quality are anticipated as the project will control the high velocity flows that now occur. Lower velocities will reduce the erosion occuring in the creek, reducing the TSS.
Unnamed Creek (sections 27 & 23 of Alta Vista Township)	Improved water quality is anticipated as the project will control the high velocity flows that now occur. Lower velocities will reduce the erosion occuring in the creek, reducing the TSS. Temporary storage of floodwater will allow sediment to settle out and not be carried further downstream. The project will create stable 3:1 inslopes with no more sloughing of the inslopes that add sediment to the.

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)
Yellow Medicine River: 07020004-784	Aquatic Consumption - Mercury in Fish Tissue (2020); Aquatic Life - Turbidity (2020); Aquatic Recreation - E.coli (2020)	☒ Yes ☐ No
Unnamed Creek to Yellow Medicine River: 07020004-796	Aquatic Life - Benthic macroinvertebrates bioassessments (2023)	☐ Yes ☒ No
Unnamed Creek (sections 27 & 23)	No information available	☐ Yes ☒ 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
Unnamed Creek (section 27)	Stream fill - upstream	300.64 lineal feet (0.03 acres)	Permanent
Unnamed Creek (section 23)	Stream fill - downstream	181 lineal feet (94 inslope, 12 culvert, 75 riprap)	
Wetland 1 (section 23)	Fill	0.05 acres for inslope and plunge pool construction	Permanent
Wetland 2 (section 27)	Fill	0.12 acres for inslope construction and culvert	Permanent
	Excavation	121.28 lineal feet for realignment of stream channel; no impact as depth <8.2'	

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.

The unnamed tributary will partially be altered by the new inslopes, longer length of culvert, and the realignment of the stream channel upstream of the intersection. Surface water upstream of the intersection will be unchanged. Surface water downstream of the intersection on the unnamed tributary will see water quality improvements for reduced turbidity (TSS) due to sediment settlement occuring with the temporary floodwater retention and stable 3:1 inslopes. The downstream receiving stream and Yellow Medicine River are anticipated to also see improvements to water quality with TSS and total phosphorus reductions. The hydrograph of the unnamed tributary will be extended, thus delaying the peak timing of flows reaching the Yellow Medicine River. Flow reductions will result in reduced flooding and less streambank and channel erosion. No impacts to aquatic species, vegetation or macroinvertebrates are anticipated. Fish passage will be improved as the current crossing at the intersection on the unnamed tributary is perched with no fish passage possible. The new culvert structure design and plunge pool will allow for fish passage.

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.

Once the project is completed, there will be no net increase in turbidity (TSS) loading. A net decrease in loading is anticipated as the high velocity flows will now be controlled with settlement of sediments, and associated phosphorus that binds to sediments, encouraged by the temporary flood pool. The realigned stream will have stable 3:1 slopes, unlike the existing incised creek.

From the Flow Reduction Data Sheet provided with this application, flow volume and velocity are reduced at every recurrence level as listed below:

1-Year: inflow of 127 cfs is reduced 2.4% to 124 cfs, storing 1 acre-ft of the 59 acre-ft inflow volume.

5-Year: inflow of 258 cfs is reduced 24.4% to 154 cfs, storing 4 acre-ft of the 115 acre-ft inflow volume.

10-Year: inflow of 337 cfs is reduced 34.4% to 195 cfs, storing 29 acre-ft of the 159 acre-ft inflow volume.

25-Year: inflow of 458 cfs is reduced 45.2% to 251 cfs, storing 56 acre-ft of the 230 acre-ft inflow volume.

50-Year: inflow of 562 cfs is reduced 29.4% to 397 cfs, storing 80 acre-ft of the 292 acre-ft inflow volume.

100-Year: inflow of 730 cfs is reduced 26.3% to 538 cfs, storing 96 acre-ft of the 358 acre-ft inflow volume.

In terms of water quality, the project will annual reduce 971 tons of sediment, which is 41% of the Upper Yellow Medicine River TSS reduction goal of 2,373 tons/year. The confluence with the North Branch Yellow Medicine River is 3 miles downstream of the project location.

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)

This project will bring labor, construction and materials to this portion of northeast Lincoln County. With an estimated construction cost of $774,125, there is an anticipated gain to the economic conditions by employing a local contractor who will utilize a local workforce and locally-supplied fuel and construction materials. The project is being cost-shared 90% by a MN Board of Water and Soil Resources (Water Quality and Storage) grant and 10% by Alta Vista Township. Beyond the economic stimulus to the area, the 100-year storm flow will be reduced 26.3% (192 cfs) and will temporarily store 96 acre-feet for 36 hours. Additionally, this project will prevent 971 tons/year of sediment from entering the Yellow Medicine River, which is 41% of the 2,373 tons/year load reduction needed for the TMDL. These reductions will greatly benefit the receiving streams and watershed environment.

The intersection will become a safer transporation route that provides access to the farm/homestead immediately west of the intersection, to the home/farmstead 1/2-mile north of the intersection, to the township hall/county recycling collection site 1/2-mile south of the intersection, and for the school bus route. This intersection is heavily used during harvest to access County Road 18 to the south, and County Road 8 to the east, to haul harvested grains to the local elevators.

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.

Wetland impacts are being mitigated through the Local Government Road Wetland Replacement Program as approved by the TEP on 3/13/2026. Wetland 1 impacts of 0.08 ac and Wetland 2 impacts of 0.13 ac were identified with Fresh (Wet) Meadow being the existing plant community type for both wetlands.

The permanent surface water impacts occur upon the unnamed tributary where the culvert replacement project will be constructed. The impacts to the stream and the wetlands are as follows:

Downstream Wetland 1 - embankment and riprap fill of 0.05 acres.

Upstream Wetland 2 - embankment fill of 0.12 acres, culvert fill of 175.83 SF, channel realignment excavation of 0.01 ac (121.28 LF) but not impact as depth is less than 8.2 feet.

Upstream stream - embankment fill of 0.03 ac (300.64 LF). 400 feet of realigned channel is provided to compensate for the 300.64 feet of channel filled by the embankment footprint. The new stream channel will have a 4' bottom, 16' top, 2:1 side slopes and depth of 3'.

Downstream stream - embankment fill of 0.01 ac (94 LF), culvert fill of 174.56 SF (12 LF), and riprap fill of 0.01 ac (75 LF).

Describe mitigation proposed for permanent surface water impacts.

Wetland mitigation will be provided by the Local Government Road Wetland Replacement Program.

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).

The proposed mitigation of purchased credits will adequately replace the Type 2 Fresh (Wet) Meadow wetlands at an assumied 2:1 replacement ratio. No mitigation for the temporary floodpool is required.

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.

No monitoring is required with purchased wetland credits as mitigation.

Applicant signature

Print name: Kerry Netzke Title: Agent for Alta Vista Township

Phone: 507-537-6369 Email: kerry.netzke@area2.org Date: 5/8/2026

Signature: 

AREA II

MINNESOTA RIVER BASIN PROJECTS

FLOW REDUCTION DATA SHEET

Project Name: Alta Vista 27 Road Retention
County: Lincoln
Location: NE Corner of Section 27 - 4 miles SW of Taunton
Drainage Area: 1064 Acres

Date: 11/24/2021
Landowner: Alta Vista Township
Notes: Unnamed stream
Stream is a DNR Protected Water.
DNR dam safety permit is needed.

Storm	Rain Amount (inches)	Peak Inflow (cfs)	Total Inflow (acre-ft)	Peak Elevation		Peak Storage (acre-ft)		Peak Pool Area (acres)		Peak Outflow (cfs)		Reduction inflow-outflow (cfs)		% Flow Reduction		Time (hours) Above Base Flow	
				As Is	Proposed	As Is	Proposed	As Is	Proposed	As Is	Proposed	As Is	Proposed	As Is	Proposed	As Is	Proposed
1-Year	2.31	127	59	1292.7	1294.6	0.1	1	0.2	0.8	127	124	0	3	0.0%	2.4%	17	17
2-Year	2.69	172	78	1293.5	1296.9	0.4	4	0.4	1.9	172	154	0	18	0.0%	10.5%	18	18
5-Year	3.37	258	115	1294.9	1300.7	1.2	15	1	3.9	257	195	1	63	0.4%	24.4%	20	19
10-Year	3.99	337	159	1296	1303.7	2.6	29	1.5	5.8	334	221	3	116	0.9%	34.4%	27	28
25-Year	4.91	458	230	1297.5	1307.6	5.4	56	2.1	8.2	451	251	7	207	1.5%	45.2%	34	34
50-Year	5.68	562	292	1298.7	1310.2	8.3	80	2.7	10	551	397	11	165	2.0%	29.4%	35	35
100-Year	6.5	730	358	1300.3	1311.7	13.2	96	3.6	11.1	725	538	5	192	0.7%	26.3%	35	36

100-Year Peak Pool Elevation = 1311.7 Added Hours Above Base Flow (100-Yr) = 1 100-Year Storage/Runoff = 26.8%

As Is Conditions:

Stream runs SW to NE through the interesection of 360th St. and 260th Ave.
Existing pipe is 8' x 8' concrete box with inlet elevation 1289.44
Cable guardrails protect road because of short culvert
Existing low point of road is at approximately elevation 1300

Proposed Conditions:

Raise top of road to elevation 1313.5
66" RCP main culvert with inlet elevation 1286.78
108" concrete manhole riser with top at elevation 1309
48" low flow culvert with inlet elevation 1288.4
Will require relocation of about 220' of stream on inlet end

Average % Storm Reduction / Year =	14.8%	
Average Storm Flow Reduction / Year =	41.5	cfs
Average Storm Storage/ Year =	22.2	acre-feet