

Attachment A

Minnesota Pollution Control Agency
Antidegradation Assessment for Section 401
June 30, 2020

Minnesota Pollution Control Agency (MPCA) Antidegradation Assessment for Section 401
Water Quality Certification Applicants
7.18.17

Northshore Mining Company
Section 401 Certification Application
June 30, 2020

In addition to completing the [Joint Application Form for Activities Affecting Water Resources in Minnesota](#), applicants whose proposed projects may require an MPCA Individual 401 Water Quality Certification for work in aquatic resources must also provide the information requested below. This will facilitate the MPCA's review of the proposed project for compliance with the antidegradation water quality standards (Minn. R. 7050.0250 to 7050.0335). Section 401 of the Clean Water Act requires any applicant for a federal license or permit to conduct an activity that may result in a discharge to waters of the United States to obtain certification from the state in which the discharge originates to ensure compliance with state water quality standards. The antidegradation assessment is not required for all projects; if you know that your project will qualify for a U.S. Army Corps of Engineers 404 General Permit or Letter of Permission (LOP), you do not need to fill out this form. If the information requested below is already provided in your Joint Permit Application (JPA), please indicate where.

Environmental Assessment Worksheet (EAW)/Environmental Impact Statement (EIS)

Identify whether an EAW or EIS was prepared (or will be required) for this project, and include the EAW/EIS process completion date.

The proposed project for which Northshore Mining Company ("NSM") seeks the MPCA's Section 401 Certification, and which is the subject of NSM's MVP-2015-02528-MMW Section 404 application ("Project Wetland Permit Application") to the U.S. Army Corps of Engineers ("USACE"), is the discharge of dredged and fill material directly impacting 280.24 acres of wetlands (includes diversion ditch), 8,570 lin. ft. of stream, and 29.57 acres of deepwater habitat ("Proposed Project"). Note that the impact estimates have been updated from the Project Wetland Permit Application based on subsequent discussions with the Corps and MPCA and are anticipated to be reconciled after review with USACE and MPCA. The Proposed Project is consistent with the preferred alternative identified and evaluated in the 1976 State Environmental Impact Statement (EIS) and the 1977 USACE EIS. On March 17, 2017, the Minnesota Department of Natural Resources (MNDNR) finalized its Needs Determination for NSM's Proposed Project. MNDNR's determination reads as follows:

MNDNR has determined that preparation of a supplemental EIS for the proposed Mile Post 7 Railroad Realignment and Tailings Basin Progression Project is not required. The project does not appear to result in substantial changes that affect the potential significant adverse environmental effects of current and future tailings management through closure and reclamation. The project also does not appear to generate significant environmental effects that have not been considered in the previous EIS, nor would it significantly affect the availability of prudent and feasible alternatives with lesser environmental effects.

The USACE is completing its NEPA evaluation at this time. For additional background information on the Proposed Project, please see Section 2 of the Project Wetland Permit Application (Attachment A). The amount of wetland impacts subject to review under MPCA's antidegradation program in each subwatershed are summarized below:

| Subwatershed | Wetland Impact Area (ac) | Overall Wetland Condition Rating | | | | | |
|--|--------------------------|----------------------------------|------------|---------------|------------|-------------|-----------|
| | | High | | Moderate | | Low | |
| | | Area (ac) | % | Area (ac) | % | Area (ac) | % |
| Beaver River Subwatershed Direct Impacts | 13.56 | 1.36 | 10% | 12.20 | 90% | 0 | 0% |
| East Branch Beaver River Subwatershed direct Impacts | 263.66 | 141.00 | 53% | 122.66 | 47% | 0 | 0% |
| Little 39 Creek Subwatershed Indirect Impacts | 3.02 | 3.02 | 100% | 0 | 0% | 0 | 0% |
| Total | 280.24 | 145.38 | 52% | 134.86 | 48% | 0.00 | 0% |

Analysis of Non-Preferred Alternatives That Avoid and Minimize Degradation

Describe prudent and feasible alternatives that would minimize degradation and avoid or minimize surface water impacts (such as wetlands, lakes, streams, etc.). An analysis of each alternative must include a description of how impacts to surface waters are avoided and/or minimized, and include information on any design considerations and constraints, expected performance, construction, operation, and maintenance costs, and reliability for each alternative.

NSM considered several alternatives to minimize direct and indirect impacts to wetlands and streams in an updated alternatives analysis most recently provided to the USACE on November 7, 2019, later supplemented with additional information on May 6, 2020, both of which are included with this document as Attachment B. That analysis suggests the proposed project location as the LEDPA. USACE’s Project Manager Ryan Malterud explained by email on June 5, 2020 the following: “As I said the 404(b)(1) Guidelines is a substantive process that results in LEDPA determination. We have not made that official determination at this time. However, we have been pursuing tribal consultation and SHPO coordination under the assumption that the Mile Post 7 site will be the LEDPA in order to expeditiously move the permitting process along. There is always a possibility that those things would need to be done if a different LEDPA is identified. I also pointed out that if we were feeling a different alternative was more likely to be the LEDPA we would have communicated that with you already.” Therefore, for the purposes of consultation with MPCA for the 401 Certification process, the same Mile Post 7 alternative that was presented in the original application should be used during MPCA’s review.

Preferred Alternative

Provide a description of and justification for the preferred alternative, and verify that the preferred alternative is the least degrading prudent and feasible alternative for surface water. Note: Information in Attachment C of the Joint Application Form for Activities Affecting Water Resources in Minnesota (Application) may be used to help determine if the preferred alternative, relative to other available prudent and feasible alternatives, is appropriate.

Please see the *Alternatives Analysis* included with this document as Attachment B for a complete evaluation. Section 6.1 of the *Alternatives Analysis* highlights the basis for choosing the preferred alternative as follows:

The proposed project has suitable tailings storage capacity and sufficient Plant Aggregate for construction of the dams for which suitable geology and adequate existing integrity is present to support future development. All necessary infrastructure is in place to operate the proposed basin except the need for relocating the rail line for transport of dam building Plant Aggregate. The water supply source and delivery infrastructure are also in place. There would be no impacts to public infrastructure such as roads, transmission lines, or pipelines. The proposed project is expected to directly impact 280.24 acres of wetlands and 29.57 acres of deepwater habitats along with 8,570 linear feet of streams. The stated wetland impacts include impacts to the diversion ditch/Wetland 17b constructed following Section 404 approval and Section 401 certification in 2005. The diversion ditch was delineated as Wetland 17b and the project will impact 3.27 acres. The 2005 permit authorizations allowed for the construction of 0.57 acre of the diversion ditch within forested, shrub, and shallow marsh wetlands, for which wetland mitigation was provided for 0.34 acre via the use of 0.34 acre of wet meadow, shrub, forested, and shallow marsh wetland bank credits from the Cliffs Embarrass River Wetland Bank located in Bank Service Area 1. No trout streams would be impacted and no stream diversions would be required. No state-listed species or habitats of biodiversity significance would be impacted by the project.

Beneficial Uses

Describe the current existing beneficial uses of the surface waters impacted by the project and how the beneficial uses will be protected during and after the project. Review Minnesota Rules 7050.0410-0430 for the classification that fits the existing beneficial uses of the waters impacted by your project.

<https://www.revisor.mn.gov/rules/?id=7050>

Wetlands that will be physically altered by the Proposed Project are not listed under Minnesota Rules, part 7050.0470. Accordingly, as unlisted wetlands, they are classified under Minnesota Rules, part 7050.0425 as Class 2D, 3D, 4C, 5, and 6 waters and are protected for the designated beneficial uses associated with each class. Streams that will be physically altered by the Proposed Project are listed on the *Beneficial Use Designations for Stream Reaches: Lake Superior – South Watershed* (MPCA, 2017) as follows:

| Reach Name and Description | AUID | Uses |
|---|--------------|---------------------------|
| Unnamed creek (Little Thirtynine Creek Tributary) – Little Thirtynine Cr to T56 R8W S29, south line | 04010102-B52 | 1B, 2Ag, 3B, 4A, 4B, 5, 6 |
| Unnamed creek (Big Thirtynine Creek Tributary) – Big Thirtynine Cr to T56 R8W S29, south line | 04010102-B53 | 1B, 2Ag, 3B, 4A, 4B, 5, 6 |
| Unnamed creek (Big Thirtynine Creek Tributary) – T56 R8W S32, north line to Unnamed Cr | 04010102-B54 | 2Bg, 3C, 4A, 4B, 5, 6 |

In addition, per Minn. Rule 7050.0410 LISTED WATERS, the three reaches identified above are listed in Minn. Rule 7050.0470 which means they are also classified as Class 3C waters. There are no known existing uses in the wetlands or streams beyond those protected by these classes.

In March 2016, the MNDNR removed the above-listed remnant tributaries of Big and Little Thirtynine Creeks from the list of designated trout streams, because the channels were no longer tributaries to the existing Big and Little Thirtynine Creeks. The flow that remains in them continues to travel toward the tailings basin, where water impounds against one side of the railroad grade that forms the western boundary of the tailings basin. In July 2016, the MNDNR also removed the remnant tributaries from the Public Waters Inventory.

Existing beneficial uses of the wetlands and streams that will be physically altered will be maintained and protected via compensatory mitigation, in accordance with Minnesota Rules, part 7050.0265 subpart 3.

NSM is proposing compensatory mitigation involving the purchase of wetland credits and restoration of degraded streams. Please see Section 7.4 of the Project Wetland Permit Application (Attachment A) for details regarding the plan for compensatory mitigation for wetlands, and for the information required by Minnesota Rules, part 7050.0285 subpart 2.B thru 2.E pertaining to surface waters in which mitigation will occur. A compensatory stream mitigation plan was submitted separately to MPCA on June 30, 2020. Note that MNDNR's WCA authorization for this project has required mitigation for the remnant stream features as wetlands and not as streams.

Please also see the April 2020 *Watershed Assessment* provided for download to the MPCA on May 1, 2020, which provides a more in-depth evaluation and discussion of the current watershed setting and overall effects to the watershed as a result of the proposed project.

Indirect Impacts

Where partial alteration of a surface water will occur, describe the potential indirect impacts to the remaining surface water, and the potential impact to nearby wetlands, stream, lakes, etc. When the entire function/acreage of a surface water is lost, describe the impacts to nearby wetlands, streams, lakes, etc. Indirect impacts can include changes in hydrology, aquatic species health or population, changes in vegetation or macroinvertebrate (bug) populations, etc.

Since submittal of the Project Wetland Permit Application, NSM has further refined its analysis of the watershed and proposed impacts which are most accurately described in the April 2020 *Watershed Assessment*, provided for download to the MPCA on May 1, 2020. NSM anticipates providing an addendum to its application to update a final reconciliation of proposed wetland and stream impacts. The above and any other required updates will be included in that addendum. Indirect impacts are discussed in the April 2020 *Watershed Assessment*. Specifically, see the following sections:

- Section 5.2.4 Indirect Impacts to Streams, Rivers, Ditches, Streamflow, and Floodplains in the Beaver River subwatershed
- Section 5.3.5 Indirect Impacts to Streams, Rivers, Ditches, Streamflow, and Floodplains in the East Branch Beaver River subwatershed
- Section 6.1.2 Indirect Impacts to wetland resources in the Beaver River subwatershed
- Section 6.2.2 Indirect Impacts to wetland resources in the Each Branch Beaver River subwatershed
- Section 7.1.2 Indirect Impacts to lakes and deepwater habitat in the Beaver River subwatershed
- Section 7.2.2 Indirect Impacts to lakes and deepwater habitat in the Each Branch Beaver River subwatershed
- Section 8.5 Indirect Impacts to Biological Resources

An *Indirect Wetland Impact Monitoring Plan* was also included as Appendix G in the April 2020 *Watershed Assessment*.

Loading and Degradation to Surface Waters

Describe any anticipated net increases in loading and other causes of degradation expected in surface waters that are not directly filled or dredged when your proposed project preferred alternative is fully implemented.

No new or increased discharges to surface waters authorized under other permit programs will be required to support the Proposed Project. There are no Prohibited Outstanding Resource Value Waters (per Minn. R. 7050.0335, Subp 3.) that will be affected by this project. Lake Superior the only listed Restricted Outstanding Resources Value Water under Minn. R. 7050.0335 Subp. 1.

The Proposed Project will result in watershed changes within the Beaver River HUC10 watershed, which eventually drains to Lake Superior. Approximately 1.8 square miles of drainage area that was previously diverted to the East Branch Beaver River at the onset of the tailings basin construction in the late-1970s will become part of the tailings basin subwatershed, where its flow will ultimately be routed to the Beaver River as it was in pre-settlement conditions. Rainfall and runoff within the 7.1 square mile tailings basin will be utilized in the NSM operations or will be discharged through the WTP, as is currently the case. The watershed area draining to the East Branch Beaver River will be reduced to 48.4 square miles, which is a 0.2 percent decrease from historic conditions, or a 4 percent increase from current conditions. Therefore, the relatively small change of watershed area due to the Proposed Project (<7%)¹ is not anticipated to adversely affect the natural hydrology of the streams, and will maintain geomorphology, water quality, connectivity and biology.

For areas that are not already covered under NSM's existing NPDES Permit, NSM will also apply for coverage under the construction stormwater general permit for effective control of any sediment generated as part of the Proposed Project.

Please also see the April 2020 *Watershed Assessment* which was provided for download to the MPCA on May 1, 2020 and provides a more in-depth evaluation and discussion of overall effects to the watershed as a result of the proposed project.

Water Quality Comparison Before and After Project

Compare and describe the existing water quality at the project site with the anticipated water quality after the project is fully complete and operational. If the surface area of a water resource will be completely filled, this step is not necessary, but must be addressed in the Mitigation Plan below.

No new or increased discharges to surface waters authorized under other permit programs will be required to support the Proposed Project. For all direct and indirect impacts associated with physical alteration of wetlands and streams, NSM is proposing to provide compensatory mitigation, as described in the Mitigation Plan, below.

The Lower Beaver River and East Branch Beaver River are listed as designated trout streams, and understood to be high-quality waters as defined in Minnesota Rules part 7050.0255 subp. 21. The Project is not expected to alter existing water quality in these streams, because there will be no Project discharges to these waters. The change in watershed area (<7%, as described above) will not adversely affect the natural hydrology of the streams, and will maintain geomorphology, water quality, connectivity and biology, based on the 10% threshold in the MnDNR 2016 Definitions and Thresholds for Negative Impacts to Surface Waters¹.

Lake Superior, located downstream of the Project, is designated as a restricted outstanding resource value water in Minn. R. part 7050.0335 subp. 1. The 7% diversion of flow from the East Branch Beaver River watershed will become the 1% of flow added to the Lower Beaver River watershed, both of which meet approximately 5 miles downstream before discharging to Lake Superior. Therefore, no changes are anticipated to affect the existing water quality necessary to maintain and protect the exceptional characteristics for which Lake Superior was designated.

¹ Based on DNR research, a less than 10% change in stream hydrologic regime is not likely to be detectable. Minnesota Department of Natural Resources. 2016. Report to the Minnesota State Legislature: Definitions and Thresholds for Negative Impacts to Surface Waters. January 2016.

Please also see Section 9.0 of the April 2020 *Watershed Assessment* which was provided to MPCA for download on May 1, 2020 and provides a more in-depth evaluation and discussion of overall water quality effects to the watershed as a result of the proposed project.

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 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.

The Proposed Project will allow mining and processing to continue for the life of the Peter Mitchell ore body, which is projected to have ore reserves for several decades, generating beneficial economic and social effects by sustaining the facility production and associated jobs and tax revenue. NSM began operation in the 1950s and has operated nearly continuously since that time. NSM produces approximately 6 million long tons of iron ore pellets annually for North American steel mills located in the eastern United States. NSM is a major contributor to northeastern Minnesota's economy, providing approximately 567 jobs and over \$78.6 million dollars in yearly employment costs. NSM annually spends over \$300 million dollars in state and local taxes and millions of additional dollars in equipment, goods, and services purchased from Minnesota companies. Currently, NSM is one of the largest private sector employers in St. Louis and Lake Counties.

Description of the Mitigation Plan

If the applicant will mitigate the project's permanent surface water impacts via an approved wetland bank AND the mitigation is type-for-type AND located in the same major watershed (<https://www.pca.state.mn.us/water/watersheds>) the applicant does not need to complete this portion.

Using the project information provided 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).

NSM plans to use credits from the EIP Lake Superior Bank (Account S7700-1609) for satisfying compensatory mitigation requirements of Minnesota Rule 7050.0265. The EIP Lake Superior Bank credits are based on a mix of restoration as well as enhancement. The enhancement was recognized by the US Army Corps of Engineers as well as the Board of Soil and Water Resources because of the watershed-scale of the project that is expected to provide improved hydrology, ecologic functional lift, habitat, and water quality improvements.

Compensatory mitigation for the physical alteration of streams is proposed through the restoration of degraded streams. A compensatory stream mitigation plan was submitted separately to MPCA on June 30, 2020.

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

Compensatory mitigation for physical alteration of wetlands is proposed through debit of credits from a wetland bank as detailed in Section 7.4 of the Project Wetland Permit Application (Attachment A), thus no maintenance or monitoring is required.

The compensatory mitigation for stream impacts will be maintained through anticipated permit conditions specifying performance standards, monitoring, and maintenance along with recording of a permanent conservation easement. See NSM's Stream Mitigation Plan, submitted on June 30, 2020 for further details on timelines.